Company: Xirrus

Test of: 802.11 a/b/g/n Outdoor Wireless LAN Access Point 2x2 MIMO

To: FCC CFR 47 Part 15 Subpart E 15.407

Report No.: XIRR11-U3b Rev A

# TEST REPORT

FROM

MiCOM Labs
opening wireless markets

Test of: Xirrus XR520H

to

To: FCC CFR 47 Part 15 Subpart E 15.407

Test Report Serial No.: XIRR11-U3b Rev A

This report supersedes: NONE

| | |
|---|---|
| Applicant: | Xirrus<br>2101 Corporate Center Drive<br>Thousand Oaks, California 91320<br>USA |
| Product Function: | Outdoor Wireless LAN Access Point |
| Issue Date: | 8th April 2015 |

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

**MiCOM Labs, Inc.**
575 Boulder Court
Pleasanton California 94566
USA
Phone: +1 (925) 462-0304
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A2LA ACCREDITED
TESTING CERT #2381.01

**MiCOM Labs is an ISO 17025 Accredited Testing Laboratory**

# Table of Contents

# 1. ACCREDITATION, LISTINGS & RECOGNITION

## 1.1. TESTING ACCREDITATION

MiCOM Labs, Inc. is an accredited Electrical testing laboratory per the international standard ISO/IEC 17025:2005. The company is accredited by the American Association for Laboratory Accreditation (A2LA) www.a2la.org test laboratory number 2381.01. MiCOM Labs test schedule is available at the following URL; http://www.a2la.org/scopepdf/2381-01.pdf


American Association for Laboratory Accreditation

Accredited Laboratory

A2LA has accredited

MICOM LABS

Pleasanton, CA

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General Requirements for the Competence of Testing and Calibration Laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009*).

Presented this 28th day of February 2014.

President & CEO
For the Accreditation Council
Certificate Number 2381.01
Valid to November 30, 2015

*For the tests or types of tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.*

## 1.2. RECOGNITION

MiCOM Labs, Inc has widely recognized wireless testing capabilities. Our international recognition includes Conformity Assessment Body designation by APEC MRA countries. MiCOM Labs test reports are accepted globally.

| Country | Recognition Body | Status | Phase | Identification No. |
|---|---|---|---|---|
| USA | Federal Communications Commission (FCC) | TCB | - | US0159<br>Listing #: 102167 |
| Canada | Industry Canada (IC) | FCB | APEC MRA 2 | US0159<br>Listing #: 4143A-2<br>4143A-3 |
| Japan | MIC (Ministry of Internal Affairs and Communication) | CAB | APEC MRA 2 | RCB 210 |
| | VCCI | -- | -- | A-0012 |
| Europe | European Commission | NB | EU MRA | NB 2280 |
| Australia | Australian Communications and Media Authority (ACMA) | CAB | APEC MRA 1 | US0159 |
| Hong Kong | Office of the Telecommunication Authority (OFTA) | CAB | APEC MRA 1 | |
| Korea | Ministry of Information and Communication Radio Research Laboratory (RRL) | CAB | APEC MRA 1 | |
| Singapore | Infocomm Development Authority (IDA) | CAB | APEC MRA 1 | |
| Taiwan | National Communications Commission (NCC)<br>Bureau of Standards, Metrology and Inspection (BSMI) | CAB | APEC MRA 1 | |
| Vietnam | Ministry of Communication (MIC) | CAB | APEC MRA 1 | |

EU MRA – European Union Mutual Recognition Agreement.
NB – Notified Body
APEC MRA – Asia Pacific Economic Community Mutual Recognition Agreement. Recognition agreement under which test lab is accredited to regulatory standards of the APEC member countries.

Phase I - recognition for product testing
Phase II – recognition for both product testing and certification

## 1.3. PRODUCT CERTIFICATION

MiCOM Labs, Inc. is an accredited Product Certification Body per the international standard ISO/IEC 17065:2012. The company is accredited by the American Association for Laboratory Accreditation (A2LA) www.a2la.org test laboratory number 2381.02. MiCOM Labs test schedule is available at the following URL; http://www.a2la.org/scopepdf/2381-02.pdf


United States of America – Telecommunication Certification Body (TCB)
Industry Canada – Certification Body, CAB Identifier – US0159
Europe – Notified Body (NB), NB Identifier - 2280
Japan – Recognized Certification Body (RCB), RCB Identifier - 210

## 2. DOCUMENT HISTORY

| Document History | | |
|---|---|---|
| Revision | Date | Comments |
| Draft | 7th Apr 2015 | |
| Rev A | 8th April 2015 | Initial Release |
| . | | |
| . | | |
| . | | |
| . | | |
| . | | |

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

# 3. TEST RESULT CERTIFICATE

**Manufacturer:** Xirrus
2101 Corporate Center Drive
Thousand Oaks, California 91320
USA

**Model:** XR520H

**Type Of Equipment:** 802.11 a/b/g/n Outdoor Wireless LAN Access Point 2x2 MIMO

**S/N's:** XR5233200618C

**Test Date(s):** 6th March – 7th April 2015

**Tested By:** MiCOM Labs, Inc.
575 Boulder Court
Pleasanton
California 94566
USA

**Telephone:** +1 925 462 0304
**Fax:** +1 925 462 0306

**Website:** www.micomlabs.com

| STANDARD(S) | TEST RESULTS |
|---|---|
| FCC CFR 47 Part 15 Subpart E new 15.407 | EQUIPMENT COMPLIES |

MiCOM Labs, Inc. tested the equipment mentioned in accordance with the requirements set forth in the above standards. Test results indicate that the equipment tested is capable of demonstrating compliance with the requirements as documented within this report.

**Notes:**

1. This document reports conditions under which testing was conducted and the results of testing performed.

2. Details of test methods used have been recorded and kept on file by the laboratory.

3. Test results apply only to the item(s) tested.

A2LA ACCREDITED
TESTING CERT #2381.01

**Approved & Released for MiCOM Labs, Inc. by**:

Graeme Grieve
Quality Manager MiCOM Labs, Inc.

Gordon Hurst
President & CEO MiCOM Labs, Inc.

# 4. REFERENCES AND MEASUREMENT UNCERTAINTY

## 4.1. Normative References

| REF. | PUBLICATION | YEAR | TITLE |
|---|---|---|---|
| I | KDB 662911 | Oct 31 2013 | Guidance for measurement of output emission of devices that employ single transmitter with multiple outputs or systems with multiple transmitters operating simultaneously in the same frequency band |
| II | KDB 905462 | August 2014 | Test guidance to demonstrate compliance for U-NII devices subject to DFS requirements. |
| III | KDB 926956 | June 3,2014 | U-NII Device Transition Plan |
| IV | KDB 443999 V01r3 | Sept 23rd 2014 | Approval of DFS UNII The current interim procedures to approve UNII devices operating in the 5470 - 5725 MHz band with radar detection and DFS capabilities |
| V | KDB 789033 D02 | Jun 8 2014 | General UNII Test Procedures New Rules V01 |
| VI | A2LA | April 2014 | Reference to A2LA Accreditation Status – A2LA Advertising Policy |
| VII | ANSI C63.10 | 2013 | American National Standard for Testing Unlicensed Wireless Devices |
| VIII | ANSI C63.4 | 2014 | American National Standards for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz |
| IX | CISPR 22 | 2008 | Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement |
| X | ETSI TR 100 028 | 2001-12 | Parts 1 and 2 Electromagnetic compatibility and Radio Spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics |
| XI | FCC 06-96 | Jun 3 2006 | Memorandum Opinion and Order |
| XII | FCC 47 CFR Part 15.407 | 2014 | CFR Title 47 Part 15.407 – Radio Frequency Devices; Subpart E –Unlicensed National Information Infrastructure Devices |
| XIII | ICES-003 | Issue 5 2012 | Spectrum Management and Telecommunications; Interference-Causing Equipment Standard. Information Technology Equipment (ITE) – Limits and methods of measurement. |
| XIV | M 3003 | Edition 3 Nov. 2012 | Expression of Uncertainty and Confidence in Measurements |
| XV | RSS-210 Annex 9 | 2010 | Radio Standards Specification 210; Low Power License-Exempt Radiocommunication Devices (All Frequency Bands): Category 1 Equipment |
| XVI | RSS-Gen | 2014 | General Requirements and Information for the Certification of Radiocommunication Equipment |
| XVII | KDB 644545 D03 | August 14th 2014 | Guidance for IEEE 802.11ac New Rules v01 |
| XVIII | FCC 47 CFR Part 2.1033 | 2014 | FCC requirements and rules regarding photographs and test setup diagrams. |

## 4.2. Test and Uncertainty Procedure

Conducted and radiated emission measurements were conducted in accordance with American National Standards Institute ANSI C63.4, listed in the Normative References section of this report.

Measurement uncertainty figures are calculated in accordance with ETSI TR 100 028 Parts 1 and 2.

Measurement uncertainties stated are based on a standard uncertainty multiplied by a coverage factor k = 2, providing a level of confidence of approximately 95 % in accordance with UKAS document M 3003 listed in the Normative References section of this report.

# 5. PRODUCT DETAILS AND TEST CONFIGURATIONS

## 5.1. Technical Details

| Details | Description |
|---|---|
| Purpose: | Test of the Xirrus XR520H to CFR Title 47 Part 15.407 – Radio Frequency Devices; Subpart E –Unlicensed National Information Infrastructure Devices |
| Applicant: | Xirrus<br>2101 Corporate Center Drive<br>Thousand Oaks, California 91320 USA |
| Manufacturer: | As Applicant |
| Laboratory performing the tests: | MiCOM Labs, Inc.<br>575 Boulder Court<br>Pleasanton California 94566 USA |
| Test report reference number: | XIRR11-U3b |
| Date EUT received: | 10th February 2015 |
| Standard(s) applied: | FCC CFR 47 Part 15 Subpart E 15.407 |
| Dates of test (from - to): | 6th March – 7th April 2015 |
| No of Units Tested: | 2 |
| Type of Equipment: | 802.11 a/b/g/n Outdoor Wireless LAN Access Point 2x2 MIMO |
| Product Family Name: | XR |
| Model(s): | XR-520H |
| Location for use: | Outdoor |
| Declared Frequency Range(s): | 5250 - 5350 MHz; 5470 - 5725 MHz |
| Primary function of equipment: | Outdoor Wireless LAN Access Point |
| Secondary function of equipment: | Wireless LAN Access Point |
| Type of Modulation: | OFDM |
| EUT Modes of Operation: | 5250 - 5350 MHz: 802.11a; 802.11n HT-20; 802.11n HT-40;<br>5470 - 5725 MHz: 802.11a; 802.11n HT-20; 802.11n HT-40; |
| Declared Nominal Output Power (Ave): | 5250 - 5350 MHz: +23 dBm<br>5470 - 5725 MHz: +23 dBm |
| Transmit/Receive Operation: | Transceiver – Half Duplex |
| Rated Input Voltage and Current: | POE 56Vdc, 0.3A |
| Operating Temperature Range: | Declared Range -20°C to 55°C |
| ITU Emission Designator: | 802.11a 20M0D1D<br>802.11n HT-20 18M9D1D<br>802.11n HT-40 39M4D1D |
| Hardware Rev: | A6 |

## 5.2. Scope Of Test Program

**Xirrus XR520H**

The scope of the test program was to test the Xirrus XR520H, 802.11 a/b/g/n/ac Outdoor Wireless LAN Access Point 2x2 MIMO configurations in the frequency ranges 5250 - 5350 MHz; 5470 - 5725 MHz; for compliance against the following specification:

**FCC CFR 47 Part 15 Subpart E 15.407**
CFR Title 47 Part 15.407 – Radio Frequency Devices; Subpart E –Unlicensed National Information Infrastructure Devices

**Xirrus XR520H**

**FCC OET KDB Implementation**
This test program implements the following FCC KDB – 662911 31st October 2013;

Emissions Testing of Transmitters with Multiple Outputs in the Same Band
The KDB document provides guidance for measurements of conducted output emissions of devices that employ a single transmitter with multiple outputs in the same band, with the outputs occupying the same or overlapping frequency ranges. It applies to EMC compliance measurements on devices that transmit on multiple antennas simultaneously in the same or overlapping frequency ranges through a coordinated process. Examples include, but are not limited to, devices employing beam forming or multiple-input and multiple-output (MIMO.) This guidance applies to both licensed and unlicensed devices wherever the FCC rules call for conducted output measurements. Guidance is provided for in-band, out-of-band and spurious emission measurements.

This guidance does not apply to the multiple transmitters included in a composite device, such as a device that combines an 802.11 modem with a cell phone in one enclosure with each driving its own antenna.

## 5.3. Equipment Model(s) and Serial Number(s)

| Type | Description | Manufacturer | Model | Serial no. | Delivery Data |
|---|---|---|---|---|---|
| EUT | Wireless Access Point | Xirrus | 520H | XR5233200618C | 2nd February 2015 |

## 5.4. Antenna Details

| Type | Manufacturer | Model | Family | Gain (dBi) | BF Gain | Dir BW | X-Pol | Frequency Band (MHz) |
|---|---|---|---|---|---|---|---|---|
| Ext | Laird Technologies | RD2458-5-RTNC | Dipole | 5.0 | - | 360 | - | 5150 - 5725 |

BF Gain - Beamforming Gain
Dir BW - Directional BeamWidth
X-Pol - Cross Polarization

## 5.5. Cabling and I/O Ports

| Port Type | Max Cable Length | # Of Ports | Screened | Conn Type | Data Type |
|---|---|---|---|---|---|
| Ethernet | 100m | 1 | N | RJ-45 | |

## 5.6. Test Configurations

Testing was performed to determine the highest power level versus bit rate. The variant with the highest power was used to exercise the product.

| Operational Mode(s) (802.11a/b/g/n/ac) | Data Rate with Highest Power MBit/s | Channel Frequency (MHz) | | |
|---|---|---|---|---|
| | | Low | Mid | High |
| **5250 - 5350 MHz** | | | | |
| 802.11a | 6 | 5,260.00 | 5,300.00 | 5,320.00 |
| **5470 - 5725 MHz** | | | | |
| 802.11a | 6 | 5,500.00 | 5,580.00 | 5,700.00 |
| **5250 - 5350 MHz** | | | | |
| 802.11n HT-20 | 6.5 | 5,260.00 | 5,300.00 | 5,320.00 |
| **5470 - 5725 MHz** | | | | |
| 802.11n HT-20 | 6.5 | 5,500.00 | 5,580.00 | 5,700.00 |
| **5250 - 5350 MHz** | | | | |
| 802.11n HT-40 | 13.5 | 5,270.00 | - | 5,310.00 |
| **5470 - 5725 MHz** | | | | |
| 802.11n HT-40 | 13.5 | 5,510.00 | 5,550.00 | 5,670.00 |

Results for the above configurations are provided in this report

## 5.7. Equipment Modifications

The following modifications were required to bring the equipment into compliance:
1. NONE

## 5.8. Deviations from the Test Standard

The following deviations from the test standard were required in order to complete the test program:
1. NONE

# 6. TEST SUMMARY

List of Measurements

| Test Header | Result | Data Link |
|---|---|---|
| **Conducted Testing** | | |
| (a) Peak Transmit Power | Complies | View Data |
| (a) 26 dB & 99% Bandwidth | Complies | View Data |
| (a)(5) Power Spectral Density | Complies | View Data |
| (g) Frequency Stability | Complies | View Data |
| **Radiated Testing** | | |
| (b)(2) Radiated Emissions | - | - |
| i).. Radiated Spurious Emissions | Complies | View Data |
| ii).. Restricted Band-Edge Emissions | Complies | View Data |
| iii).. Digital Emissions | Complies | NT[1] |
| 15.207 ac Wireline Emissions | Complies | NT[1] |

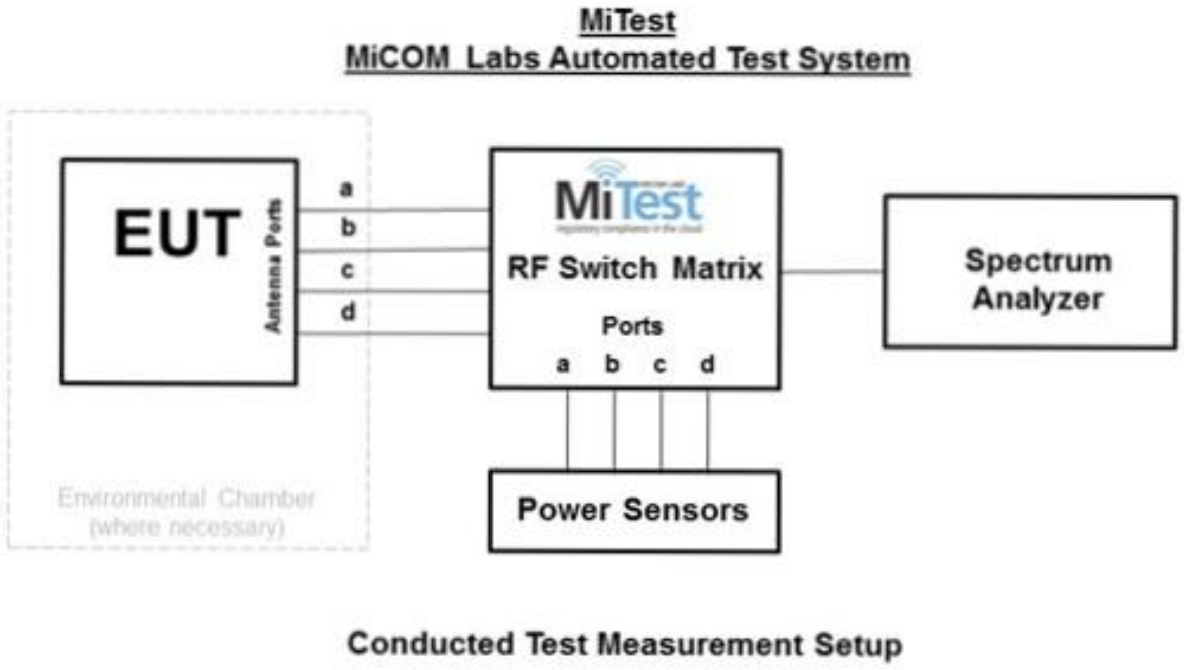
NT[1] – Not Tested, manufacturer supplied 3rd party test reports in lieu of testing

# 7. TEST EQUIPMENT CONFIGURATION(S)

**Conducted**

Conducted RF Emission Test Set-up(s) with Environmental Chamber. The following tests were performed using the conducted test set-up shown in the diagram below.

1. Peak Transmit Power
2. Transmit Power Control
3. 26 dB and 99% Occupied Channel Bandwidth
4. Power Density




**Conducted Test Measurement Setup**

A full system calibration was performed on the test station and any resulting system losses (or gains) were taken into account in the production of all final measurement data.

| Asset# | Description | Manufacturer | Model# | Serial# | Calibration Due Date |
|---|---|---|---|---|---|
| 127 | Power Supply | HP | 6674A | US36370530 | Cal when used |
| 158 | Barometer/Thermometer | Control Company | 4196 | E2846 | 04 Dec 2015 |
| 248 | Resistance Thermometer | Thermotronics | GR2105-02 | 9340 #1 | 30 Oct 2015 |

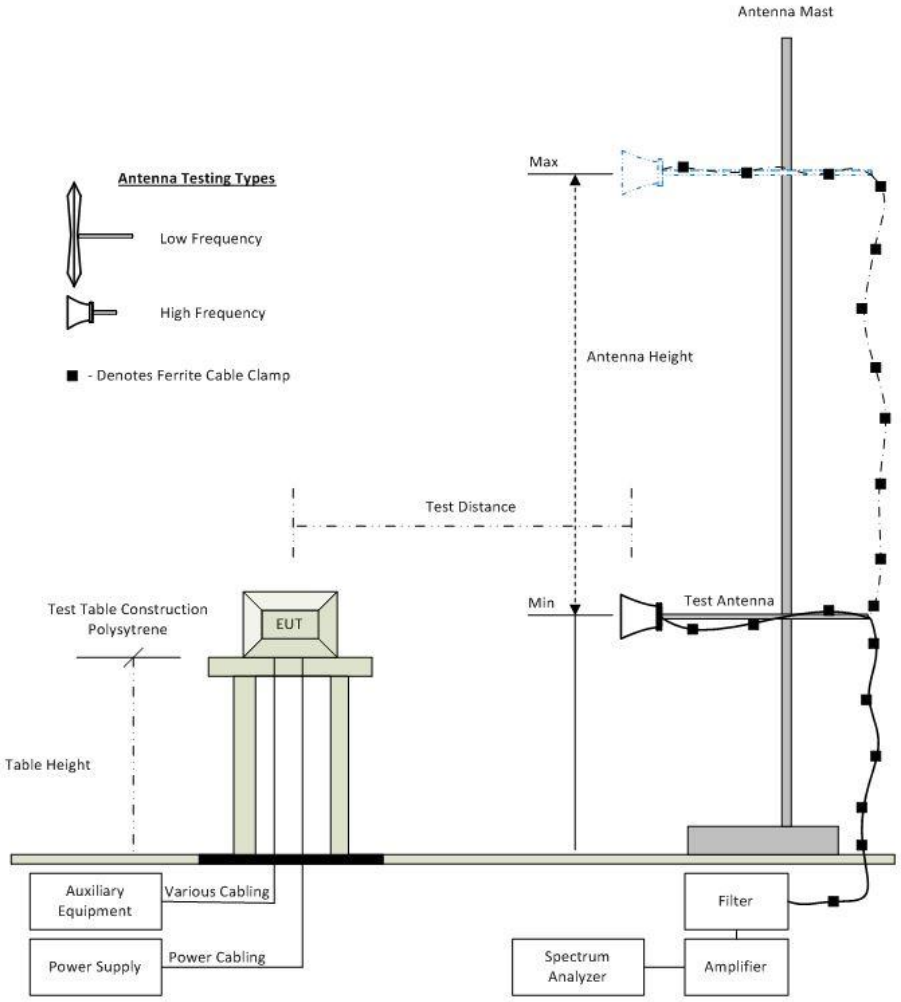
| | | | | | |
|---|---|---|---|---|---|
| 287 | Rohde & Schwarz 40 GHz Receiver | Rhode & Schwarz | ESIB40 | 100201 | 31 Jul 2015 |
| 376 | USB 10MHz - 18GHz Average Power Sensor | Agilent | U2000A | MY51440005 | 28 Oct 2015 |
| 378 | Rohde & Schwarz 40 GHz Receiver with Generator | Rhode & Schwarz | ESIB40 | 100107/040 | 17 Jul 2015 |
| 381 | 4x4 RF Switch Box | MiCOM Labs | MiTest RF Switch Box | MIC002 | 30 Jun 2015 |
| 419 | Laptop with Labview Software | Lenova | W520 | TS02 | Not Required |
| 420 | USB to GPIB Interface | National Instruments | GPIB-USB HS | 1346738 | Not Required |
| 435 | USB Wideband Power Sensor | Boonton | 55006 | 8730 | 31 Jul 2015 |
| 436 | USB Wideband Power Sensor | Boonton | 55006 | 8731 | 31 Jul 2015 |
| 437 | USB Wideband Power Sensor | Boonton | 55006 | 8759 | 31 Jul 2015 |
| 445 | PoE Injector | D-Link | DPE-101GL | QTAH1E2000625 | Not Required |
| 460 | Dell Computer with installation of MiTest executable. | Dell | Optiplex330 | BC944G1 | Not Required |
| 74 | Environmental Chamber Chamber 3 | Tenney | TTC | 12808-1 | 30 Sep 2015 |
| RF#2 GPIB#1 | GPIB cable to Power Supply | HP | GPIB | None | Not Required |
| RF#2 SMA#1 | EUT to Mitest box port 1 | Flexco | SMA Cable port1 | None | 30 Jun 2015 |
| RF#2 SMA#2 | EUT to Mitest box port 2 | Flexco | SMA Cable port2 | None | 30 Jun 2015 |
| RF#2 SMA#3 | EUT to Mitest box port 3 | Flexco | SMA Cable port3 | None | 30 Jun 2015 |
| RF#2 SMA#4 | EUT to Mitest box port 3 | Flexco | SMA Cable port4 | None | 30 Jun 2015 |
| RF#2 SMA#SA | Mitest box to SA | Flexco | SMA Cable SA | None | 30 Jun 2015 |
| RF#2 USB#1 | USB Cable to Mitest Box | Dynex | USB Cable | None | Not Required |

## Radiated Testing

The following tests were performed using the radiated test set-up shown in the diagram below.

10.6.1 Radiated Spurious Emissions
10.6.2 Radiated Restricted Band-Edge Emissions
10.6.3 Radiated Digital Emissions

**Radiated Emission Measurement Setup**




**Radiated Emission Test Setup**

**Assets Utilized for Radiated Emission Testing**

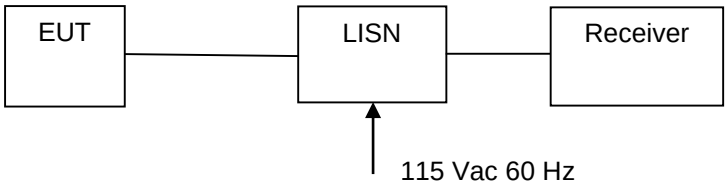
| Asset# | Description | Manufacturer | Model# | Serial# | Calibration Due Date |
|---|---|---|---|---|---|
| 158 | Barometer/Thermometer | Control Company | 4196 | E2846 | 04 Dec 2015 |
| 170 | Video System Controller for Semi Anechoic Chamber | Panasonic | WV-CY101 | 04R08507 | Not Required |
| 287 | Rohde & Schwarz 40 GHz Receiver | Rhode & Schwarz | ESIB40 | 100201 | 31 Jul 2015 |
| 301 | 5470 to 5725 MHz Notch Filter | Microtronics | RBC50704 | 001 | 08 Oct 2015 |
| 302 | 5150 to 5350 MHz Notch Filter | Microtronics | BRC50703 | 002 | 08 Oct 2015 |
| 303 | 5725 to 5875 MHz Notch filter | Microtronics | BRC50705 | 003 | 08 Oct 2015 |
| 310 | SMA Cable | Micro-Coax | UFA210A-0-0787-3G03G0 | 209089-001 | 30 Oct 2015 |
| 338 | Sunol 30 to 3000 MHz Antenna | Sunol | JB3 | A052907 | 14 Aug 2015 |
| 342 | 2.4 GHz Notch Filter | EWT | EWT-14-0203 | H1 | 08 Oct 2015 |
| 343 | 5.15 GHz Notch Filter | EWT | EWT-14-0200 | H1 | 08 Oct 2015 |
| 344 | 5.35 GHz Notch Filter | EWT | EWT-14-0201 | H1 | 08 Oct 2015 |
| 345 | 5.46 GHz Notch Filter | EWT | EWT-14-0202 | H1 | 08 Oct 2015 |
| 377 | Band Rejection Filter 5150 to 5880MHz | Microtronics | BRM50716 | 034 | 08 Oct 2015 |
| 396 | 2.4 GHz Notch Filter | Microtronics | BRM50701 | 001 | 07 Oct 2015 |
| 397 | Amp 10 - 2500MHz | MiCOM Labs | Amp 10 - 2500 MHz | NA | 23 Oct 2015 |
| 399 | ETS 1-18 GHz Horn Antenna | ETS | 3117 | 00154575 | 10 Oct 2015 |
| 406 | Amplifier for Radiated Emissions | MiCOM Labs | 40dB 1 to 18GHz Amp | 0406 | 30 May 2015 |
| 410 | Desktop Computer | Dell | Inspiron 620 | WS38 | Not Required |
| 411 | Mast/Turntable Controller | Sunol Sciences | SC98V | 060199-1D | Not Required |
| 412 | USB to GPIB Interface | National Instruments | GPIB-USB HS | 11B8DC2 | Not Required |
| 413 | Mast Controller | Sunol Science | TWR95-4 | 030801-3 | Not Required |
| 414 | DC Power Supply 0-60V | HP | 6274 | 1029A01285 | Cal when used |
| 415 | Turntable Controller | Sunol Sciences | Turntable Controller | None | Not Required |
| 416 | Gigabit ethernet filter | ETS-Lingren | Gigafoil 260366 | None | Not Required |
| 502 | Test Software for Radiated Emissions | EMISoft | Vasona | Version 5 Build 59 | Not Required |
| 87 | Uninterruptible Power Supply | Falcon Electric | ED2000-1/2LC | F3471 02/01 | Cal when used |

**AC Wireline Emissions**

The following tests were performed using the conducted test set-up shown in the diagram below.

10.7 ac Wireline Conducted Emissions

**Conducted Test Set-Up Pictorial Representation**




Measurement set up for ac Wireline Conducted Emissions Test

**Traceability of Test Equipment Utilized for ac Wireline Emission Testing**

| Asset# | Description | Manufacturer | Model# | Serial# | Calibration Due Date |
|---|---|---|---|---|---|
| 158 | Barometer/Thermometer | Control Company | 4196 | E2846 | 04 Dec 2015 |
| 184 | Pulse Limiter | Rhode & Schwarz | ESH3Z2 | 357.8810.52 | Cal when used |
| 190 | LISN (two-line V-network) | Rhode & Schwarz | ESH3Z5 | 836679/006 | 12 Sep 2015 |
| 193 | Receiver 20 Hz to 7 GHz | Rhode & Schwarz | ESI 7 | 838496/007 | 14 Jan 2015 |
| 307 | BNC-CABLE | Megaphase | 1689 1GVT4 | 15F50B002 | Cal when used |
| 316 | Dell desktop computer workstation | Dell | Desktop | WS04 | Not Required |

# 8. 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)

# 9. TEST RESULTS

## 9.1. Peak Transmit Power

| Conducted Test Conditions for Maximum Conducted Output Power | | | |
|---|---|---|---|
| **Standard:** | FCC CFR 47:15.407 | **Ambient Temp. (ºC):** | 24.0 - 27.5 |
| **Test Heading:** | Maximum Conducted Output Power | **Rel. Humidity (%):** | 32 - 45 |
| **Standard Section(s):** | 15.407 (a) | **Pressure (mBars):** | 999 - 1001 |
| **Reference Document(s):** | 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 (Σ) 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*Log10 ($10^{a/10}$ + $10^{b/10}$ + $10^{c/10}$ + $10^{d/10}$)]
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.

(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.

| Equipment Configuration for Peak Transmit Power |
|---|

| | | | |
|---|---|---|---|
| **Variant:** | 802.11a | **Duty Cycle (%):** | 99 |
| **Data Rate:** | 6.00 MBit/s | **Antenna Gain (dBi):** | 5.00 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y)(dB):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | CC |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Conducted Output Power (dBm) Port(s) | | | | Calculated Total Power | Minimum 26 dB Bandwidth | Limit | Margin | EUT Power Setting |
|---|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | Σ Port(s) dBm | MHz | dBm | dBm | |
| **5260.0** | 16.08 | 18.23 | -- | -- | 20.34 | 30.670 | 24.00 | -3.66 | 15.00 |
| **5300.0** | 18.30 | 18.89 | -- | -- | 21.66 | 31.420 | 24.00 | -2.34 | 15.00 |
| **5320.0** | 18.25 | 18.60 | -- | -- | 21.48 | 28.250 | 24.00 | -2.52 | 15.00 |

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

DCCF - Duty Cycle Correction Factor

| Equipment Configuration for Peak Transmit Power |
|---|

| | | | |
|---|---|---|---|
| **Variant:** | 802.11n HT-20 | **Duty Cycle (%):** | 99 |
| **Data Rate:** | 6.50 MBit/s | **Antenna Gain (dBi):** | 5.00 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y)(dB):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | CC |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Conducted Output Power (dBm) Port(s) | | | | Calculated Total Power | Minimum 26 dB Bandwidth | Limit | Margin | EUT Power Setting |
|---|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | Σ Port(s) dBm | MHz | dBm | dBm | |
| **5260.0** | 17.84 | 18.17 | -- | -- | 21.06 | 27.420 | 24.00 | -2.94 | 15.00 |
| **5300.0** | 18.69 | 19.64 | -- | -- | 22.24 | 30.250 | 24.00 | -1.76 | 15.50 |
| **5320.0** | 18.48 | 18.98 | -- | -- | 21.79 | 28.670 | 24.00 | -2.21 | 15.50 |

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

DCCF - Duty Cycle Correction Factor

| Equipment Configuration for Peak Transmit Power |
|---|

| | | | |
|---|---|---|---|
| **Variant:** | 802.11n HT-40 | **Duty Cycle (%):** | 99 |
| **Data Rate:** | 13.50 MBit/s | **Antenna Gain (dBi):** | 5.00 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y)(dB):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | CC |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Conducted Output Power (dBm) Port(s) | | | | Calculated Total Power | Minimum 26 dB Bandwidth | Limit | Margin | EUT Power Setting |
|---|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | Σ Port(s) dBm | MHz | dBm | dBm | |
| **5270.0** | 18.60 | 18.55 | -- | -- | 21.63 | 67.170 | 24.00 | -0.37 | 15.00 |
| **5310.0** | 18.77 | 19.12 | -- | -- | 22.00 | 73.330 | 24.00 | -0.00 | 15.00 |

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

DCCF - Duty Cycle Correction Factor

| Equipment Configuration for Peak Transmit Power |
|---|

| | | | |
|---|---|---|---|
| **Variant:** | 802.11a | **Duty Cycle (%):** | 99 |
| **Data Rate:** | 6.00 MBit/s | **Antenna Gain (dBi):** | 5.00 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y)(dB):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | CC |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Conducted Output Power (dBm) Port(s) | | | | Calculated Total Power | Minimum 26 dB Bandwidth | Limit | Margin | EUT Power Setting |
|---|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | Σ Port(s) dBm | MHz | dBm | dBm | |
| **5500.0** | 18.15 | 18.20 | -- | -- | 21.23 | 25.250 | 24.00 | -2.77 | 16.00 |
| **5580.0** | 17.18 | 18.17 | -- | -- | 20.76 | 23.920 | 24.00 | -3.24 | 16.00 |
| **5700.0** | 18.17 | 18.22 | -- | -- | 21.25 | 28.080 | 24.00 | -2.75 | 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

| Equipment Configuration for Peak Transmit Power |
|---|

| | | | |
|---|---|---|---|
| **Variant:** | 802.11n HT-20 | **Duty Cycle (%):** | 99 |
| **Data Rate:** | 6.50 MBit/s | **Antenna Gain (dBi):** | 5.00 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y)(dB):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | CC |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Conducted Output Power (dBm) Port(s) | | | | Calculated Total Power | Minimum 26 dB Bandwidth | Limit | Margin | EUT Power Setting |
|---|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | Σ Port(s) dBm | MHz | dBm | dBm | |
| **5500.0** | 18.93 | 19.12 | -- | -- | 22.08 | 29.670 | 24.00 | -1.92 | 16.50 |
| **5580.0** | 17.89 | 18.66 | -- | -- | 21.35 | 29.330 | 24.00 | -2.65 | 16.50 |
| **5700.0** | 17.47 | 17.51 | -- | -- | 20.54 | 26.830 | 24.00 | -3.46 | 16.50 |

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

DCCF - Duty Cycle Correction Factor

| Equipment Configuration for Peak Transmit Power |
|---|

| | | | |
|---|---|---|---|
| **Variant:** | 802.11n HT-40 | **Duty Cycle (%):** | 99 |
| **Data Rate:** | 13.50 MBit/s | **Antenna Gain (dBi):** | 5.00 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y)(dB):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | CC |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Conducted Output Power (dBm) Port(s) | | | | Calculated Total Power | Minimum 26 dB Bandwidth | Limit | Margin | EUT Power Setting |
|---|---|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | Σ Port(s) dBm | MHz | dBm | dBm | |
| **5510.0** | 20.25 | 20.53 | -- | -- | 23.45 | 69.170 | 24.00 | -0.55 | 18.00 |
| **5550.0** | 20.24 | 20.04 | -- | -- | 23.20 | 65.830 | 24.00 | -0.80 | 18.00 |
| **5670.0** | 18.95 | 18.90 | -- | -- | 21.98 | 62.330 | 24.00 | -2.02 | 18.00 |

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

DCCF - Duty Cycle Correction Factor

## 9.2. Transmit Power Control (TPC)

| Conducted Test Conditions for Transmit Power Control (TPC) | | | |
|---|---|---|---|
| **Standard:** | FCC CFR 47:15.407 | **Ambient Temp. (ºC):** | 20.0 - 24.5 |
| **Test Heading:** | Transmit Power Control (TPC) | **Rel. Humidity (%):** | 32 - 45 |
| **Standard Section(s):** | 15.247 (h) | **Pressure (mBars):** | 999 - 1001 |
| **Reference Document(s):** | See Section "Normative References"<br>KDB 789033 - D01 DTS General UNII Test Procedures<br>KDB 662911 - Measurement of Transmitters with Multiple Output, MIMO, Smart Antenna | | |

**Test Procedure for Transmit Power Control**
Transmit power control (TPC). U-NII devices operating in the 5.25-5.35 GHz band and the 5.47-5.725 GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

Transmit Power Control measurement test setup diagram is provided in Section "Test Equipment Measurement Setup \ Conducted RF Emissions".

From the Peak Transmit Power section in this document it was found that the device EIRP was greater than 500 mW therefore Transmit Power Control implementation is required. Testing was performed and the unit TPC function was greater than 6 dB.

## 9.3. 26 dB & 99% Bandwidth

| Conducted Test Conditions for 26 dB and 99% Bandwidth | | | |
|---|---|---|---|
| **Standard:** | FCC CFR 47:15.407 | **Ambient Temp. (ºC):** | 24.0 - 27.5 |
| **Test Heading:** | 26 dB and 99 % Bandwidth | **Rel. Humidity (%):** | 32 - 45 |
| **Standard Section(s):** | 15.407 (a) | **Pressure (mBars):** | 999 - 1001 |
| **Reference Document(s):** | See Normative References | | |

**Test Procedure for 26 dB and 99% Bandwidth Measurement**
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.
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.

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

| Equipment Configuration for 26 dB & 99% Occupied Bandwidth | | | |
|---|---|---|---|
| **Variant:** | 802.11a | **Duty Cycle (%):** | 99.0 |
| **Data Rate:** | 6.00 MBit/s | **Antenna Gain (dBi):** | 5.00 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y)(dB):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | CC |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured 26 dB Bandwidth (MHz) Port(s) | | | | 26 dB Bandwidth (MHz) | | | |
|---|---|---|---|---|---|---|---|---|
| **MHz** | **a** | **b** | **c** | **d** | **Highest** | **Lowest** | | |
| **5260.0** | 30.670 | 33.000 | -- | -- | 33.000 | 30.670 | | |
| **5300.0** | 31.420 | 36.750 | -- | -- | 36.750 | 31.420 | | |
| **5320.0** | 28.250 | 36.330 | -- | -- | 36.330 | 28.250 | | |

| Test Frequency | Measured 99% Bandwidth (MHz) Port(s) | | | | 99% Bandwidth (MHz) | | | |
|---|---|---|---|---|---|---|---|---|
| **MHz** | **a** | **b** | **c** | **d** | **Highest** | **Lowest** | | |
| **5260.0** | 17.512 | 18.655 | -- | -- | 18.655 | 17.512 | | |
| **5300.0** | 17.503 | 19.986 | -- | -- | 19.986 | 17.503 | | |
| **5320.0** | 17.403 | 19.005 | -- | -- | 19.005 | 17.403 | | |

| 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).

| Equipment Configuration for 26 dB & 99% Occupied Bandwidth | | | |
|---|---|---|---|
| **Variant:** | 802.11n HT-20 | **Duty Cycle (%):** | 99.0 |
| **Data Rate:** | 6.50 MBit/s | **Antenna Gain (dBi):** | 5.00 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y)(dB):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | CC |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured 26 dB Bandwidth (MHz) Port(s) | | | | 26 dB Bandwidth (MHz) | | | |
|---|---|---|---|---|---|---|---|---|
| **MHz** | **a** | **b** | **c** | **d** | **Highest** | **Lowest** | | |
| **5260.0** | 28.000 | 27.420 | -- | -- | 28.000 | 27.420 | | |
| **5300.0** | 30.250 | 34.250 | -- | -- | 34.250 | 30.250 | | |
| **5320.0** | 28.670 | 33.330 | -- | -- | 33.330 | 28.670 | | |

| Test Frequency | Measured 99% Bandwidth (MHz) Port(s) | | | | 99% Bandwidth (MHz) | | | |
|---|---|---|---|---|---|---|---|---|
| **MHz** | **a** | **b** | **c** | **d** | **Highest** | **Lowest** | | |
| **5260.0** | 18.217 | 18.228 | -- | -- | 18.228 | 18.217 | | |
| **5300.0** | 18.352 | 18.861 | -- | -- | 18.861 | 18.352 | | |
| **5320.0** | 18.264 | 18.588 | -- | -- | 18.588 | 18.264 | | |

| 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).

| Equipment Configuration for 26 dB & 99% Occupied Bandwidth | | | |
|---|---|---|---|
| **Variant:** | 802.11n HT-40 | **Duty Cycle (%):** | 99.0 |
| **Data Rate:** | 13.50 MBit/s | **Antenna Gain (dBi):** | 5.00 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y)(dB):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | CC |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured 26 dB Bandwidth (MHz) Port(s) | | | | 26 dB Bandwidth (MHz) | | | |
|---|---|---|---|---|---|---|---|---|
| **MHz** | **a** | **b** | **c** | **d** | **Highest** | **Lowest** | | |
| **5270.0** | 67.170 | 76.330 | -- | -- | 76.330 | 67.170 | | |
| **5310.0** | 73.330 | 74.670 | -- | -- | 74.670 | 73.330 | | |

| Test Frequency | Measured 99% Bandwidth (MHz) Port(s) | | | | 99% Bandwidth (MHz) | | | |
|---|---|---|---|---|---|---|---|---|
| **MHz** | **a** | **b** | **c** | **d** | **Highest** | **Lowest** | | |
| **5270.0** | 37.514 | 39.412 | -- | -- | 39.412 | 37.514 | | |
| **5310.0** | 37.561 | 38.840 | -- | -- | 38.840 | 37.561 | | |

| 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).

| Equipment Configuration for 26 dB & 99% Occupied Bandwidth | | | |
|---|---|---|---|
| **Variant:** | 802.11a | **Duty Cycle (%):** | 99.0 |
| **Data Rate:** | 6.00 MBit/s | **Antenna Gain (dBi):** | 5.00 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y)(dB):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | CC |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured 26 dB Bandwidth (MHz) Port(s) | | | | 26 dB Bandwidth (MHz) | | | |
|---|---|---|---|---|---|---|---|---|
| **MHz** | **a** | **b** | **c** | **d** | **Highest** | **Lowest** | | |
| **5500.0** | 25.830 | 25.250 | -- | -- | 25.830 | 25.250 | | |
| **5580.0** | 23.920 | 25.830 | -- | -- | 25.830 | 23.920 | | |
| **5700.0** | 29.330 | 28.080 | -- | -- | 29.330 | 28.080 | | |

| Test Frequency | Measured 99% Bandwidth (MHz) Port(s) | | | | 99% Bandwidth (MHz) | | | |
|---|---|---|---|---|---|---|---|---|
| **MHz** | **a** | **b** | **c** | **d** | **Highest** | **Lowest** | | |
| **5500.0** | 16.961 | 16.885 | -- | -- | 16.961 | 16.885 | | |
| **5580.0** | 16.895 | 16.846 | -- | -- | 16.895 | 16.846 | | |
| **5700.0** | 17.348 | 17.140 | -- | -- | 17.348 | 17.140 | | |

| 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).

| Equipment Configuration for 26 dB & 99% Occupied Bandwidth | | | |
|---|---|---|---|
| **Variant:** | 802.11n HT-20 | **Duty Cycle (%):** | 99.0 |
| **Data Rate:** | 6.50 MBit/s | **Antenna Gain (dBi):** | 5.00 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y)(dB):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | CC |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured 26 dB Bandwidth (MHz) Port(s) | | | | 26 dB Bandwidth (MHz) | | | |
|---|---|---|---|---|---|---|---|---|
| **MHz** | **a** | **b** | **c** | **d** | **Highest** | **Lowest** | | |
| **5500.0** | 29.670 | 30.250 | -- | -- | 30.250 | 29.670 | | |
| **5580.0** | 29.330 | 29.750 | -- | -- | 29.750 | 29.330 | | |
| **5700.0** | 29.580 | 26.830 | -- | -- | 29.580 | 26.830 | | |

| Test Frequency | Measured 99% Bandwidth (MHz) Port(s) | | | | 99% Bandwidth (MHz) | | | |
|---|---|---|---|---|---|---|---|---|
| **MHz** | **a** | **b** | **c** | **d** | **Highest** | **Lowest** | | |
| **5500.0** | 18.471 | 18.425 | -- | -- | 18.471 | 18.425 | | |
| **5580.0** | 18.179 | 18.262 | -- | -- | 18.262 | 18.179 | | |
| **5700.0** | 18.172 | 18.043 | -- | -- | 18.172 | 18.043 | | |

| 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).

| Equipment Configuration for 26 dB & 99% Occupied Bandwidth | | | |
|---|---|---|---|
| **Variant:** | 802.11n HT-40 | **Duty Cycle (%):** | 99.0 |
| **Data Rate:** | 13.50 MBit/s | **Antenna Gain (dBi):** | 5.00 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y)(dB):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | CC |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured 26 dB Bandwidth (MHz) Port(s) | | | | 26 dB Bandwidth (MHz) | | | |
|---|---|---|---|---|---|---|---|---|
| **MHz** | **a** | **b** | **c** | **d** | **Highest** | **Lowest** | | |
| **5510.0** | 74.000 | 69.170 | -- | -- | 74.000 | 69.170 | | |
| **5550.0** | 66.000 | 65.830 | -- | -- | 66.000 | 65.830 | | |
| **5670.0** | 67.000 | 62.330 | -- | -- | 67.000 | 62.330 | | |

| Test Frequency | Measured 99% Bandwidth (MHz) Port(s) | | | | 99% Bandwidth (MHz) | | | |
|---|---|---|---|---|---|---|---|---|
| **MHz** | **a** | **b** | **c** | **d** | **Highest** | **Lowest** | | |
| **5510.0** | 37.715 | 38.151 | -- | -- | 38.151 | 37.715 | | |
| **5550.0** | 37.429 | 37.735 | -- | -- | 37.735 | 37.429 | | |
| **5670.0** | 37.673 | 37.293 | -- | -- | 37.673 | 37.293 | | |

| 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).

## 9.4. Power Spectral Density

| Conducted Test Conditions for Power Spectral Density | | | |
|---|---|---|---|
| **Standard:** | FCC CFR 47:15.407 | **Ambient Temp. (ºC):** | 24.0 - 27.5 |
| **Test Heading:** | Power Spectral Density | **Rel. Humidity (%):** | 32 - 45 |
| **Standard Section(s):** | 15.407 (a) | **Pressure (mBars):** | 999 - 1001 |
| **Reference Document(s):** | 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 (å) 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*Log10 ($10^{a/10} + 10^{b/10} + 10^{c/10} + 10^{d/10}$)]
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.

(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 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.

| Equipment Configuration for Power Spectral Density | | | |
|---|---|---|---|
| **Variant:** | 802.11a | **Duty Cycle (%):** | 99.0 |
| **Data Rate:** | 6 MBit/s | **Antenna Gain (dBi):** | 5.00 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y)(dB):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | CC |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Power Spectral Density Port(s) (dBm/MHz) | | | | Amplitude Summation + DCCF (+0.04 dB) | Limit | Margin |
|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | dBm/MHz | dBm/MHz | dB |
| **5260.0** | 6.928 | 7.353 | -- | -- | 10.155 | 11.0 | -0.9 |
| **5300.0** | 7.278 | 7.838 | -- | -- | 10.560 | 11.0 | -0.5 |
| **5320.0** | 7.202 | 7.561 | -- | -- | 10.382 | 11.0 | -0.6 |

| 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).

| Equipment Configuration for Power Spectral Density | | | |
|---|---|---|---|
| **Variant:** | 802.11n HT-20 | **Duty Cycle (%):** | 99.0 |
| **Data Rate:** | 6.50 MBit/s | **Antenna Gain (dBi):** | 5.00 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y)(dB):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | CC |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Power Spectral Density Port(s) (dBm/MHz) | | | | Amplitude Summation + DCCF (+0.04 dB) | Limit | Margin |
|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | dBm/MHz | dBm/MHz | dB |
| 5260.0 | 6.574 | 6.965 | -- | -- | 9.743 | 11.0 | -1.3 |
| 5300.0 | 7.349 | 8.146 | -- | -- | 10.761 | 11.0 | -0.2 |
| 5320.0 | 7.313 | 7.680 | -- | -- | 10.482 | 11.0 | -0.5 |

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

DCCF - Duty Cycle Correction Factor

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

| Equipment Configuration for Power Spectral Density | | | |
|---|---|---|---|
| **Variant:** | 802.11n HT-40 | **Duty Cycle (%):** | 99.0 |
| **Data Rate:** | 13.50 MBit/s | **Antenna Gain (dBi):** | 5.00 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y)(dB):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | CC |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Power Spectral Density Port(s) (dBm/MHz) | | | | Amplitude Summation + DCCF (+0.04 dB) | Limit | Margin |
|---|---|---|---|---|---|---|---|
| **MHz** | **a** | **b** | **c** | **d** | **dBm/MHz** | **dBm/MHz** | **dB** |
| **5270.0** | 6.355 | 6.469 | -- | -- | 9.412 | 11.0 | -1.6 |
| **5310.0** | 6.610 | 6.784 | -- | -- | 9.573 | 11.0 | -1.4 |

| 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).

| Equipment Configuration for Power Spectral Density |
|---|

| | | | |
|---|---|---|---|
| **Variant:** | 802.11a | **Duty Cycle (%):** | 99.0 |
| **Data Rate:** | 6.00 MBit/s | **Antenna Gain (dBi):** | 5.00 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y)(dB):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | CC |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Power Spectral Density Port(s) (dBm/MHz) | | | | Amplitude Summation + DCCF (+0.04 dB) | Limit | Margin |
|---|---|---|---|---|---|---|---|
| **MHz** | **a** | **b** | **c** | **d** | **dBm/MHz** | **dBm/MHz** | **dB** |
| **5500.0** | 7.140 | 7.287 | -- | -- | 10.191 | 11.0 | -0.8 |
| **5580.0** | 6.411 | 7.341 | -- | -- | 9.911 | 11.0 | -1.1 |
| **5700.0** | 7.262 | 7.273 | -- | -- | 10.276 | 11.0 | -0.7 |

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

DCCF - Duty Cycle Correction Factor

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

| Equipment Configuration for Power Spectral Density | | | |
|---|---|---|---|
| **Variant:** | 802.11n HT-20 | **Duty Cycle (%):** | 99.0 |
| **Data Rate:** | 6.50 MBit/s | **Antenna Gain (dBi):** | 5.00 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y)(dB):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | CC |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Power Spectral Density Port(s) (dBm/MHz) | | | | Amplitude Summation + DCCF (+0.04 dB) | Limit | Margin |
|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | dBm/MHz | dBm/MHz | dB |
| 5500.0 | 7.696 | 7.758 | -- | -- | 10.705 | 11.0 | -0.3 |
| 5580.0 | 6.816 | 7.619 | -- | -- | 10.265 | 11.0 | -0.7 |
| 5700.0 | 6.407 | 6.286 | -- | -- | 9.350 | 11.0 | -1.7 |

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

DCCF - Duty Cycle Correction Factor

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

| Equipment Configuration for Power Spectral Density |
|---|

| | | | |
|---|---|---|---|
| **Variant:** | 802.11n HT-40 | **Duty Cycle (%):** | 99.0 |
| **Data Rate:** | 13.50 MBit/s | **Antenna Gain (dBi):** | 5.00 |
| **Modulation:** | OFDM | **Beam Forming Gain (Y)(dB):** | Not Applicable |
| **TPC:** | Not Applicable | **Tested By:** | CC |
| **Engineering Test Notes:** | | | |

**Test Measurement Results**

| Test Frequency | Measured Power Spectral Density Port(s) (dBm/MHz) | | | | Amplitude Summation + DCCF (+0.04 dB) | Limit | Margin |
|---|---|---|---|---|---|---|---|
| MHz | a | b | c | d | dBm/MHz | dBm/MHz | dB |
| **5510.0** | 6.285 | 6.324 | -- | -- | 9.259 | 11.0 | -1.8 |
| **5550.0** | 6.076 | 6.274 | -- | -- | 9.173 | 11.0 | -1.8 |
| **5670.0** | 4.863 | 4.816 | -- | -- | 7.835 | 11.0 | -3.2 |

| 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).

## 9.5. Frequency Stability

**FCC, Part 15 Subpart C §15.407(g)**
**Industry Canada RSS-210 §2.1**

**Test Procedure**

The manufacturer of the equipment is responsible for ensuring that the frequency stability is such that emissions are always maintained within the band of operation under all conditions.

**Manufacturer Declaration**

The frequency stability of the reference oscillator sets the frequency stability of the RF transceiver signals. Therefore all of the RF signals should have ±20ppm stability.

This stability accounts for room temp tolerance of the crystal oscillator circuit, frequency variation across temperature, and crystal ageing.

±20ppm at 5.250 GHz translates to a maximum frequency shift of ±105 KHz. As the edge of the channels is at least one MHz from either of the band edges, ±105 KHz is more than sufficient to guarantee that the intentional emission will remain in the band over the entire operating range of the EUT.

## Specification

## Limits

| |
|---|
| **§15.407 (g)** Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual. |

## 9.6. Radiated Emissions

**FCC, Part 15 Subpart C §15.407(b)(2), §15.205(a)/15.209(a)**
**Industry Canada RSS-210 §A9.3(2); §2.2; §2.6; RSS-Gen §4.7**

**Test Procedure**
Testing was performed in a 3-meter anechoic chamber. Preliminary radiated emissions were measured on every azimuth and with the receiving antenna in both horizontal and vertical polarizations. Preliminary emissions were recorded with in Spectrum Analyzer mode, using a maximum peak detector while in peak hold mode. Depending on the frequency band spanned a notch filter and/or waveguide filter was used to remove the fundamental frequency.

Emissions nearest the limits were chosen for maximization and formal measurement using a CISPR compliant receiver. Emissions above 1000 MHz are measured utilizing a CISPR compliant average detector with a tuned receiver, using a bandwidth of 1 MHz. Emissions from 30 MHz – 1000 MHz are measured utilizing a CISPR compliant quasi-peak detector with a tuned receiver, using a bandwidth of 120 kHz. Only the highest emissions relative to the limit are listed.

**Field Strength Calculation**

The field strength is calculated by adding the Antenna Factor and Cable Loss, and subtracting Amplifier Gain from the measured reading. All factors are included in the reported data.

**FS = R + AF + CORR – FO**

FS = Field Strength
R = Measured Spectrum analyzer Input Amplitude
AF = Antenna Factor

**CORR = Correction Factor = CL – AG + NFL**

CL = Cable Loss
AG = Amplifier Gain
FO = Distance Falloff Factor
NFL = Notch Filter Loss or Waveguide Loss

Field Strength Calculation Example:

Given receiver input reading of 51.5 dBμV; Antenna Factor of 8.5 dB; Cable Loss of 1.3 dB; Falloff Factor of 0 dB, an Amplifier Gain of 26 dB and Notch Filter Loss of 1 dB. The Field Strength of the measured emission is:

FS = 51.5 + 8.5 + 1.3 - 26.0 +1 = 36.3 dBμV/m

Conversion between dBμV/m (or dBμV) and μV/m (or μV) are done as:

Level (dBμV/m) = 20 * Log (level (μV/m))

40 dBμV/m = 100 μV/m
48 dBμV/m = 250 μV/m

The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength (dBμV/m);

$$E = 1000000 \times \sqrt{30P} / 3 \ \mu V/m$$

where P is the EIRP in Watts

Therefore: -27 dBm/MHz = 68.23 dBuV/m

**Note:** The data in this Section identifies that the EUT is in compliance with the -27dBm/MHz EIRP limit (68.23 dBμV/m) for out of band emissions. All out of band emissions are less than 68.23 dB μV/m.

**Specification**

**Radiated Spurious Emissions**

**15.407 (b)(2).** All emissions outside of the 5,150-5,350MHz band shall not exceed an EIRP of -27dBm/MHz.

**FCC §15.205 (a)** Except as shown in paragraph (d) of 15.205 (a), only spurious emissions are permitted in any of the frequency bands listed.

**FCC §15.205 (a)** Except as shown in paragraphs (d) and (e) of this section, the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

**FCC §15.209 (a)** Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table.

**RSS-210 §A9.3(2)** For transmitters operating in the 5250-5350 MHz band, all emissions outside the 5150-5350 MHz band shall not exceed -27 dBm/MHz e.i.r.p. Devices operating in the 5250-5350 MHz band that generate emissions in the 5150-5250 MHz band shall not exceed out of band emission limit of 27 dBm/MHz e.i.r.p. in the 5150-5250 MHz band in order to operate indoor/outdoor, or alternatively shall comply with the spectral power density for operation within the 5150-5250 MHz band and shall be labeled “for indoor use only”.

**RSS-Gen §4.7** The search for unwanted emissions shall be from the lowest frequency internally generated or used in the device (local oscillator, intermediate of carrier frequency), or from 30 MHz , whichever is the lowest frequency, to the 5th harmonic of the highest frequency generated without exceeding 40 GHz.

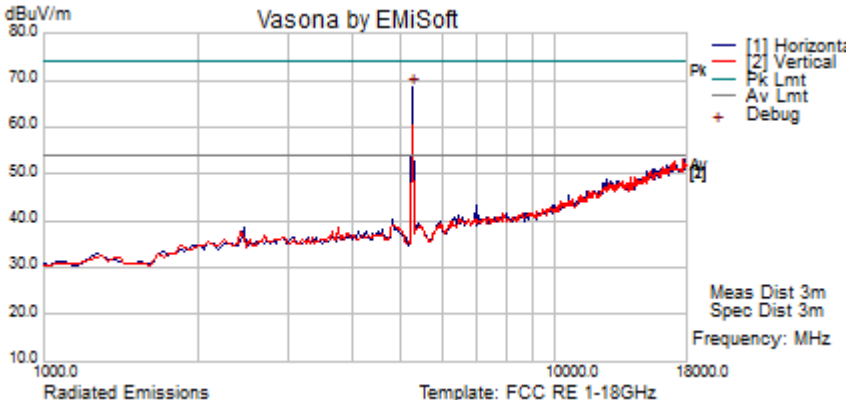
**RSS-Gen §6** Receiver Spurious Emission Standard
If a radiated measurement is made, all spurious emissions shall comply with the limits of the following Table. The resolution bandwidth of the spectrum analyzer shall be 100 kHz for spurious emission measurements below 1.0 GHz and 1.0 MHz for measurements above 1.0 GHz

**Table 1: FCC 15.209 Spurious Emissions Limits**

| Frequency (MHz) | Field Strength (µV/m) | Field Strength (dBµV/m) | Measurement Distance (meters) |
|---|---|---|---|
| 30-88 | 100 | 40.0 | 3 |
| 88-216 | 150 | 43.5 | 3 |
| 216-960 | 200 | 46.0 | 3 |
| Above 960 | 500 | 54.0 | 3 |

### 9.6.1. Radiated Spurious Emissions

| | | | |
|---|---|---|---|
| **Test Freq.** | 5260 MHz | **Engineer** | SB |
| **Variant** | 802.11a; 6 Mbs | **Temp (ºC)** | 18.5 |
| **Freq. Range** | 1000 MHz - 18000 MHz | **Rel. Hum.(%)** | 34 |
| **Power Setting** | 15 | **Press. (mBars)** | 1004 |
| **Antenna** | 5.0 dBi | **Duty Cycle (%)** | 99 |
| **Test Notes 1** | | | |
| **Test Notes 2** | | | |

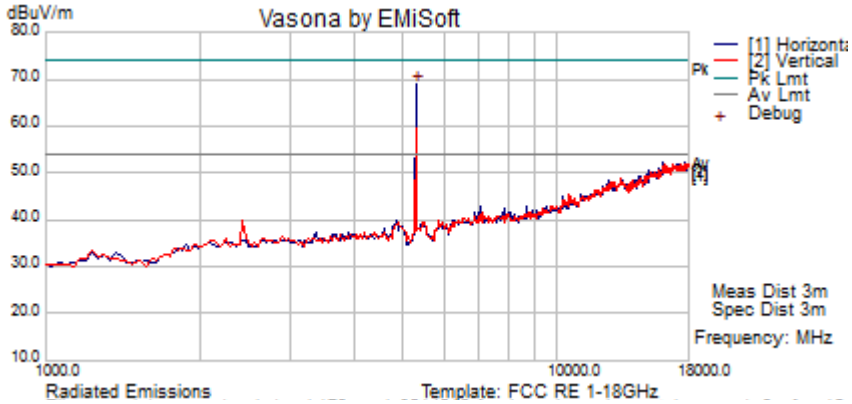



## Formally measured emission peaks

| Frequency MHz | Raw dBuV | Cable Loss | AF dB | Level dBuV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBuV/m | Margin dB | Pass /Fail | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5258.517 | 64.8 | 5.9 | -2.2 | 68.5 | Peak [Scan] | H | 100 | | | | | FUND |

| | |
|---|---|
| Legend: | TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission |
| | NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205 |

| | | | |
|---|---|---|---|
| **Test Freq.** | 5300 MHz | **Engineer** | SB |
| **Variant** | 802.11a; 6 Mbs | **Temp (ºC)** | 18.5 |
| **Freq. Range** | 1000 MHz - 18000 MHz | **Rel. Hum.(%)** | 34 |
| **Power Setting** | 15 | **Press. (mBars)** | 1004 |
| **Antenna** | 5.0 dBi | **Duty Cycle (%)** | 99 |
| **Test Notes 1** | | | |
| **Test Notes 2** | | | |

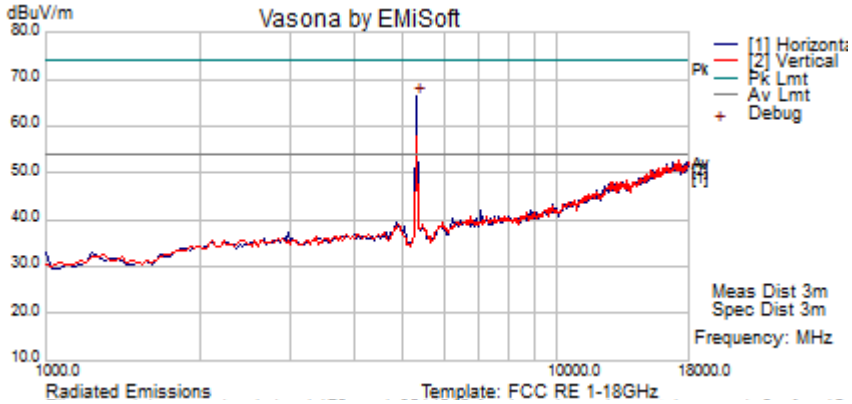



## Formally measured emission peaks

| Frequency MHz | Raw dBuV | Cable Loss | AF dB | Level dBuV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBuV/m | Margin dB | Pass /Fail | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5292.585 | 64.9 | 6.0 | -2.1 | 68.8 | Peak [Scan] | H | 150 | | | | | FUND |

| | |
|---|---|
| Legend: | TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission |
| | NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205 |

| | | | |
|---|---|---|---|
| **Test Freq.** | 5320 MHz | **Engineer** | SB |
| **Variant** | 802.11a; 6 Mbs | **Temp (ºC)** | 18.5 |
| **Freq. Range** | 1000 MHz - 18000 MHz | **Rel. Hum.(%)** | 34 |
| **Power Setting** | 15 | **Press. (mBars)** | 1004 |
| **Antenna** | 5.0 dBi | **Duty Cycle (%)** | 99 |
| **Test Notes 1** | | | |
| **Test Notes 2** | | | |

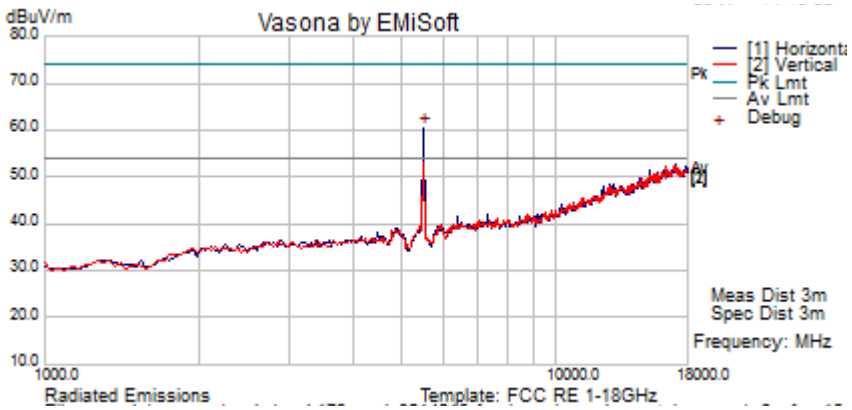



## Formally measured emission peaks

| Frequency MHz | Raw dBuV | Cable Loss | AF dB | Level dBuV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBuV/m | Margin dB | Pass /Fail | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5326.653 | 62.3 | 6.0 | -1.9 | 66.4 | Peak [Scan] | H | 150 | | | | | FUND |

| | |
|---|---|
| Legend: | TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission |
| | NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205 |

| | | | |
|---|---|---|---|
| **Test Freq.** | 5500 MHz | **Engineer** | SB |
| **Variant** | 802.11a; 6 Mbs | **Temp (ºC)** | 18.5 |
| **Freq. Range** | 1000 MHz - 18000 MHz | **Rel. Hum.(%)** | 34 |
| **Power Setting** | 16 | **Press. (mBars)** | 1004 |
| **Antenna** | 5.0 dBi | **Duty Cycle (%)** | 99 |
| **Test Notes 1** | | | |
| **Test Notes 2** | | | |

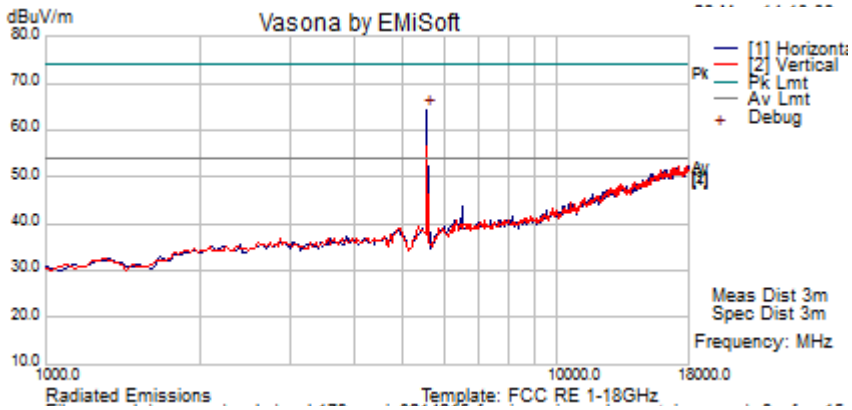



## Formally measured emission peaks

| Frequency MHz | Raw dBuV | Cable Loss | AF dB | Level dBuV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBuV/m | Margin dB | Pass /Fail | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5496.994 | 56.5 | 6.1 | -2.0 | 60.5 | Peak [Scan] | H | 100 | | | | | FUND |

| | |
|---|---|
| Legend: | TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission |
| | NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205 |

| | | | |
|---|---|---|---|
| **Test Freq.** | 5580 MHz | **Engineer** | SB |
| **Variant** | 802.11a; 6 Mbs | **Temp (ºC)** | 18.5 |
| **Freq. Range** | 1000 MHz - 18000 MHz | **Rel. Hum.(%)** | 34 |
| **Power Setting** | 16.5 | **Press. (mBars)** | 1004 |
| **Antenna** | 5.0 dBi | **Duty Cycle (%)** | 99 |
| **Test Notes 1** | | | |
| **Test Notes 2** | | | |

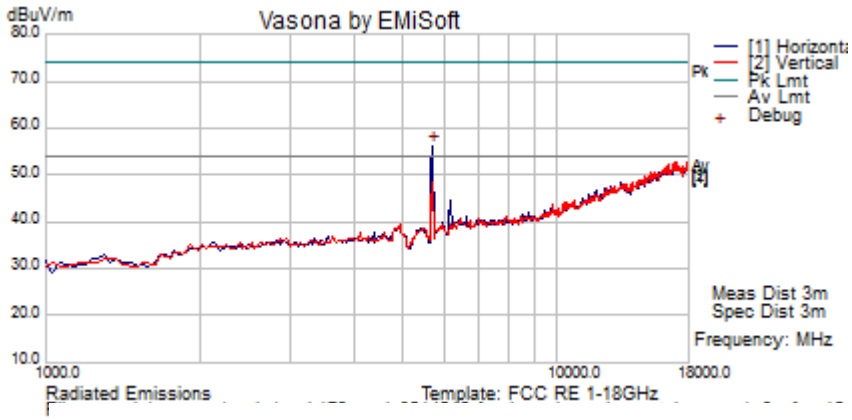



## Formally measured emission peaks

| Frequency MHz | Raw dBuV | Cable Loss | AF dB | Level dBuV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBuV/m | Margin dB | Pass /Fail | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5565.130 | 60.5 | 6.1 | -2.1 | 64.5 | Peak [Scan] | H | 100 | | | | | FUND |

| | |
|---|---|
| Legend: | TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission |
| | NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205 |

| | | | |
|---|---|---|---|
| **Test Freq.** | 5700 MHz | **Engineer** | SB |
| **Variant** | 802.11a; 6 Mbs | **Temp (ºC)** | 18.5 |
| **Freq. Range** | 1000 MHz - 18000 MHz | **Rel. Hum.(%)** | 34 |
| **Power Setting** | 18 | **Press. (mBars)** | 1004 |
| **Antenna** | 5.0 dBi | **Duty Cycle (%)** | 99 |
| **Test Notes 1** | | | |
| **Test Notes 2** | | | |




## Formally measured emission peaks

| Frequency MHz | Raw dBuV | Cable Loss | AF dB | Level dBuV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBuV/m | Margin dB | Pass /Fail | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5701.403 | 52.1 | 6.2 | -2.0 | 56.3 | Peak [Scan] | H | 100 | | | | | FUND |

| | |
|---|---|
| Legend: | TX = Transmitter Emissions; DIG = Digital Emissions; FUND = Fundamental; WB = Wideband Emission |
| | NRB = Non-Restricted Band. Limit = 68.23 dBuV/m; RB = Restricted Band. Limits per 15.205 |

### 9.6.2. Restricted Band-Edge Emissions

**Radiated Band-Edge**

Peak Limit 74.0 dBµV, Average Limit 54.0 dBµV

| | | 5350 MHz | | |
|---|---|---|---|---|
| | | dBµV | | Power Setting |
| Operational Mode | Operating Frequency (MHz) | Peak | Average | |
| a | 5320.0 | 64.74 | 53.49 | 15.0 |
| n HT-20 | 5320.0 | 64.72 | 53.93 | 15.5 |
| n HT-40 | 5310.0 | 66.25 | 53.85 | 15.0 |

| | | 5470 MHz | | |
|---|---|---|---|---|
| | | dBµV | | Power Setting |
| Operational Mode | Operating Frequency | Peak | Average | |
| a | 5500.0 | 62.37 | 50.68 | 16.0 |
| n HT-20 | 5500.0 | 62.66 | 46.50 | 16.5 |
| n HT-40 | 5510.0 | 68.13 | 50.81 | 18.0 |

### 9.6.3. Digital Emissions

**FCC, Part 15 Subpart C §15.205/ §15.209**
**Industry Canada RSS-210 §2.2**

**Test Procedure**

Testing 30M-1 GHz was performed in a 3-meter anechoic chamber using a CISPR compliant receiver. Preliminary radiated emissions were measured on every azimuth and with the receiving antenna in both horizontal and vertical polarizations. To further maximize emissions the receive antenna was varied between 1 and 4 meters. The emissions are recorded with receiver in peak hold mode. Emissions closest to the limits are measured in the quasi-peak mode with the tuned receiver using a bandwidth of 120 kHz. Only the highest emissions relative to the limit are listed. The anechoic chamber test set-up is identified in Section 6 Test Set-Up Photographs.

The EUT had two methods of powering on ac/dc converter and Power over Ethernet (POE). Both modes were tested for emissions below 1GHz.

**Field Strength Calculation**

The field strength is calculated by adding the Antenna Factor and Cable Loss, and subtracting Amplifier Gain from the measured reading. In this test facility, the Antenna Factor, Cable Loss, and Amplifier Gains are loaded into the Rohde & Schwarz Receiver and the corrected field strength can be read directly on the receiver.

$$FS = R + AF + CORR$$

where:

FS = Field Strength
R = Measured Receiver Input Amplitude
AF = Antenna Factor
CORR = Correction Factor = CL – AG + NFL
CL = Cable Loss
AG = Amplifier Gain

For example:
Given a Receiver input reading of 51.5dBμV; Antenna Factor of 8.5dB; Cable Loss of 1.3dB; Falloff Factor of 0dB, an Amplifier Gain of 26dB and Notch Filter Loss of 1dB. The Field Strength of the measured emission is:

$$FS = 51.5 + 8.5 + 1.3 - 26.0 + 1 = 36.3 dB\mu V/m$$

Conversion between dBμV/m (or dBμV) and μV/m (or μV) are done as:

$$Level\ (dB\mu V/m) = 20 * Log\ (level\ (\mu V/m))$$

40 dBμV/m = 100μV/m
48 dBμV/m = 250μV/m

**Digital Emissions**
In lieu of testing manufacturer supplied 3rd party test report.

Test Laboratory: ADT
Test Report No.: RF130514C29-1
Model No.: XR520H
FDD ID.: SK6-XR520H
Report Issued Date: 3rd July 2013

**Specification**

**Limits**

**§15.205 (a)** Except as shown in paragraph (d) of 15.205 (a), only spurious emissions are permitted in any of the frequency bands listed.

**§15.205 (a)** Except as shown in paragraphs (d) and (e) of this section, the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

**§15.209 (a)** Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table.

**§15.209 (a)** and **RSS-Gen §2.2** Limit Matrix

| Frequency(MHz) | Field Strength (μV/m) | Field Strength (dBμV/m) | Measurement Distance (meters) |
|---|---|---|---|
| 30-88 | 100 | 40.0 | 3 |
| 88-216 | 150 | 43.5 | 3 |
| 216-960 | 200 | 46.0 | 3 |
| Above 960 | 500 | 54.0 | 3 |

**Laboratory Measurement Uncertainty for Radiated Emissions**

| | |
|---|---|
| Measurement uncertainty | +5.6/ -4.5 dB |

**Traceability**

| Method |
|---|
| Measurements were made per work instruction WI-03 'Measurement of Radiated Emissions' |

## 9.7. ac Wireline Conducted Emissions (150 kHz – 30 MHz)

**FCC, Part 15 Subpart C §15.207**
**Industry Canada RSS-Gen §7.2.2**

**Test Procedure**
The EUT is configured in accordance with ANSI C63.4. The conducted emissions are measured in a shielded room with a spectrum analyzer in peak hold in the first instance. Emissions closest to the limit are measured in the quasi-peak mode (QP) with the tuned receiver using a bandwidth of 9 kHz. The emissions are maximized further by cable manipulation. The highest emissions relative to the limit are listed.

**Measurement Results for AC Wireline Conducted Emissions (0.150 – 30 MHz)**

Ambient conditions.
Temperature: **Error! Reference source not found.** °C
Relative humidity: **Error! Reference source not found.** %
Pressure: **Error! Reference source not found.** mbar

**ac Wireline Emissions**
In lieu of testing manufacturer supplied 3rd party test report.

Test Laboratory: ADT
Test Report No.: RF130514C29-1
Model No.: XR520H
FDD ID.: SK6-XR520H
Report Issued Date: 3rd July 2013

## Specification

### Limit

**§15.207 (a)** Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μΩ line impedance stabilization network (LISN), see §15.207 (a) matrix below. Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal.

**RSS-Gen §7.2.2**
The radio frequency voltage that is conducted back into the AC power lines in the frequency range of 0.15 MHz to 30 MHz shall not exceed the limits shown in the table below. The tighter limit applies at the frequency range boundaries.

**§15.207 (a)** and **RSS-Gen §7.2.2** Limit Matrix
The lower limit applies at the boundary between frequency ranges

| Frequency of Emission (MHz) | Conducted Limit (dBμV) | |
|---|---|---|
| | Quasi-peak | Average |
| 0.15-0.5 | 66 to 56* | 56 to 46* |
| 0.5-5 | 56 | 46 |
| 5-30 | 60 | 50 |

* Decreases with the logarithm of the frequency

### Laboratory Measurement Uncertainty for Conducted Emissions

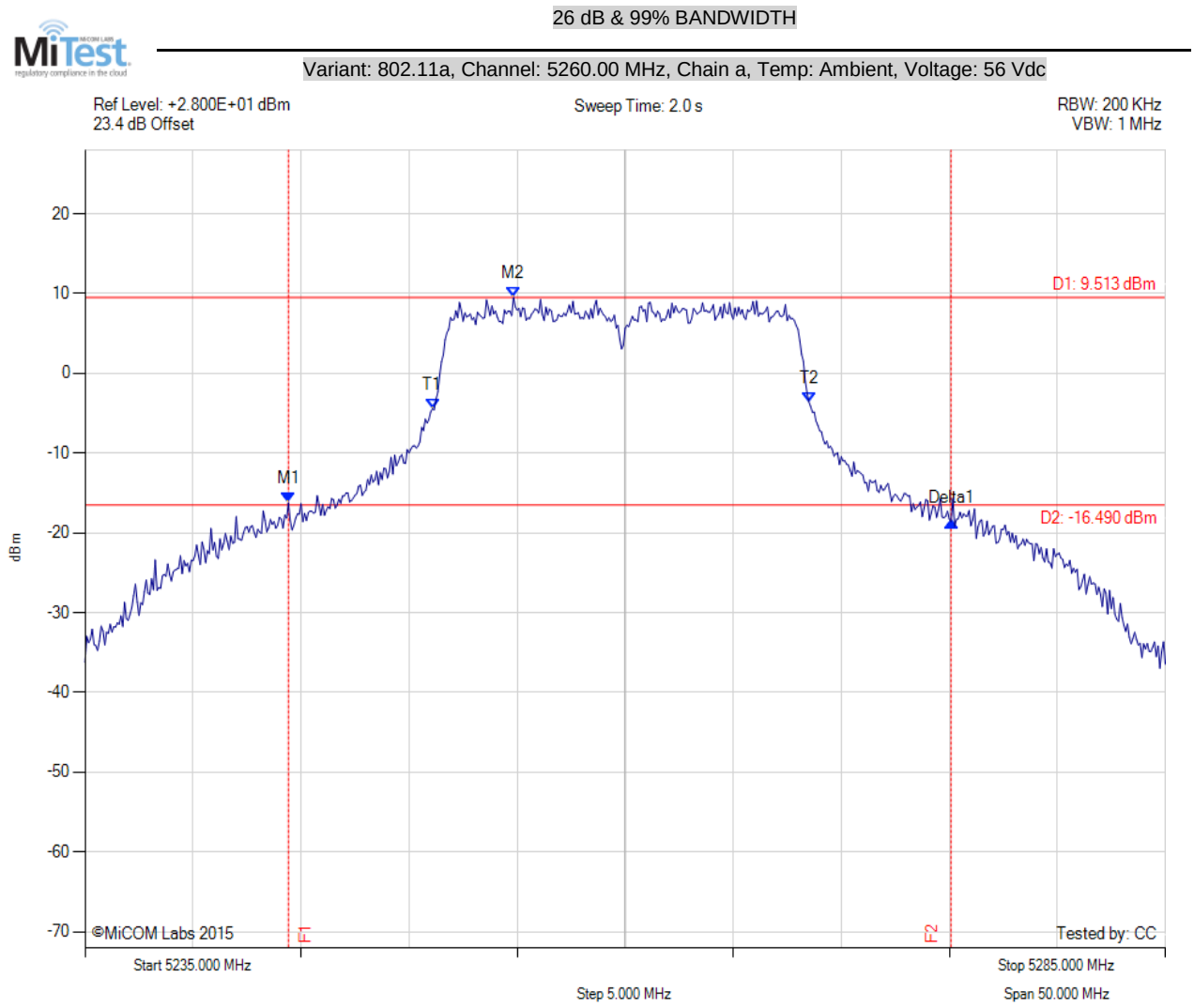
| | |
|---|---|
| Measurement uncertainty | ±2.64 dB |

### Traceability

| Method |
|---|
| Measurements were made per work instruction WI-EMC-01 'Measurement of Conducted Emissions' |

# A. APPENDIX - GRAPHICAL IMAGES

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

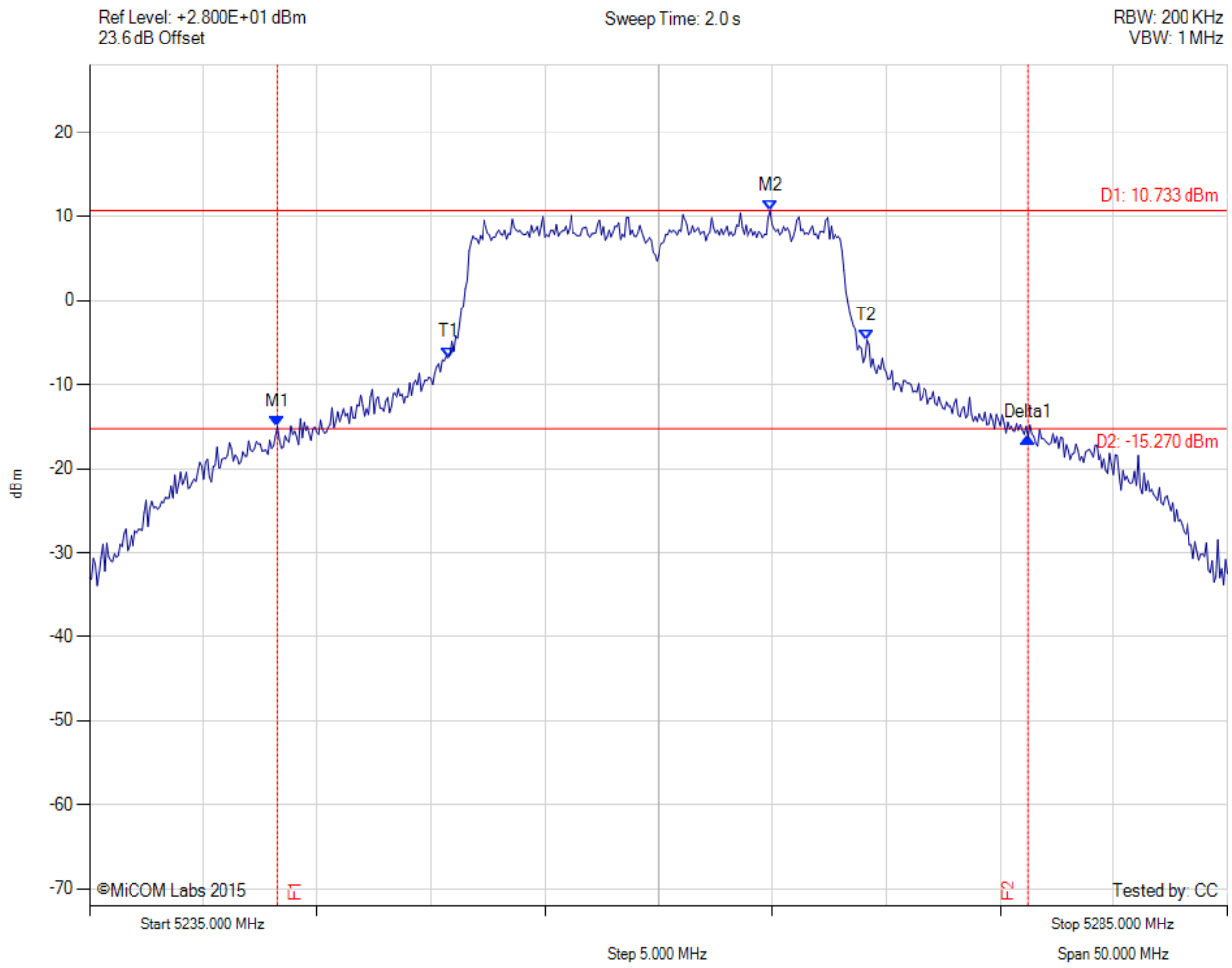



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5244.420 MHz : -16.215 dBm<br>M2 : 5254.830 MHz : 9.513 dBm<br>Delta1 : 30.670 MHz : -2.337 dB<br>T1 : 5251.083 MHz : -4.432 dBm<br>T2 : 5268.500 MHz : -3.552 dBm<br>OBW : 17.512 MHz | Measured 26 dB Bandwidth: 30.670 MHz<br>Measured 99% Bandwidth: 17.512 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5260.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

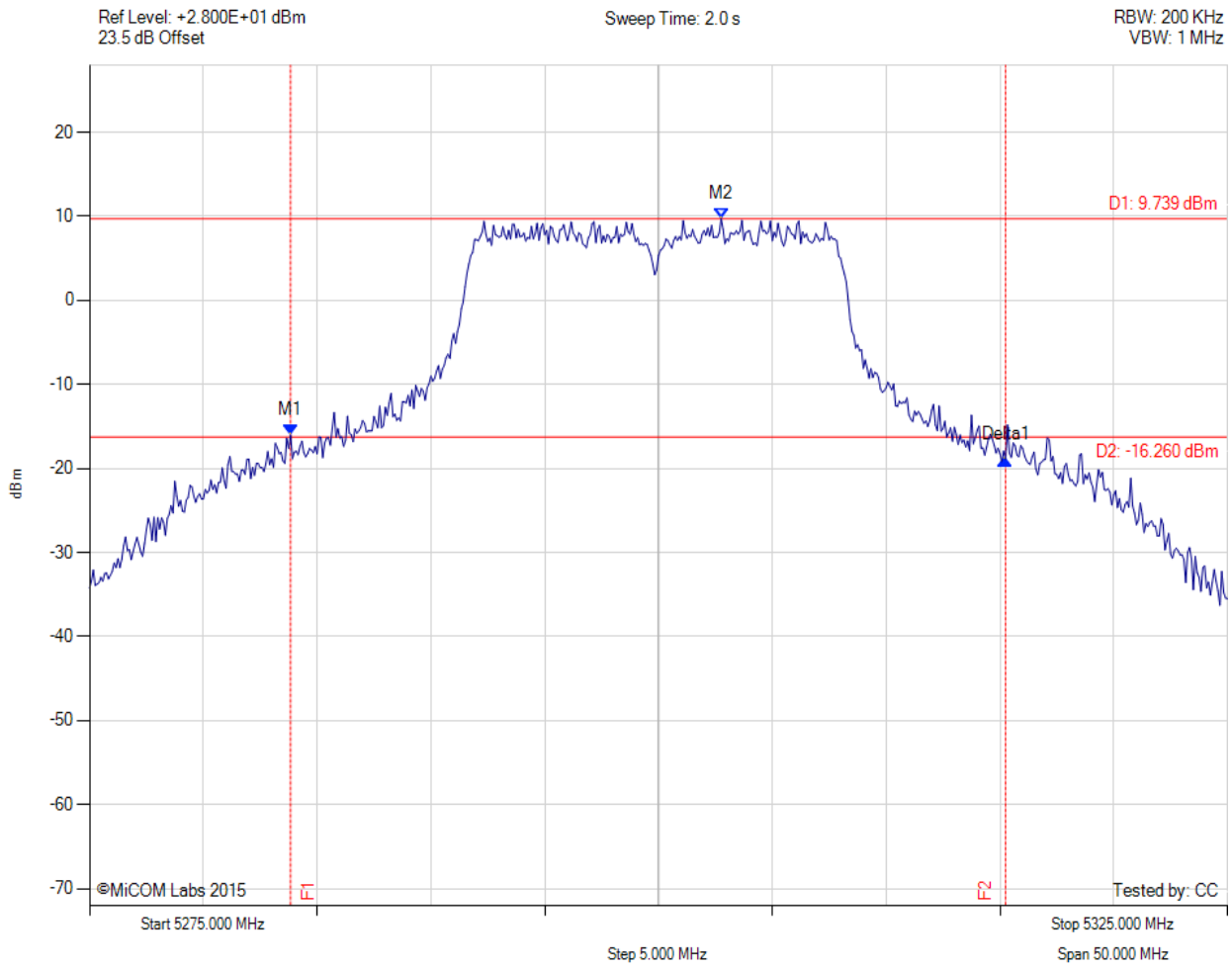



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5243.250 MHz : -15.037 dBm<br>M2 : 5264.920 MHz : 10.733 dBm<br>Delta1 : 33.000 MHz : -1.313 dB<br>T1 : 5250.750 MHz : -6.806 dBm<br>T2 : 5269.167 MHz : -4.718 dBm<br>OBW : 18.655 MHz | Measured 26 dB Bandwidth: 33.000 MHz<br>Measured 99% Bandwidth: 18.655 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5300.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

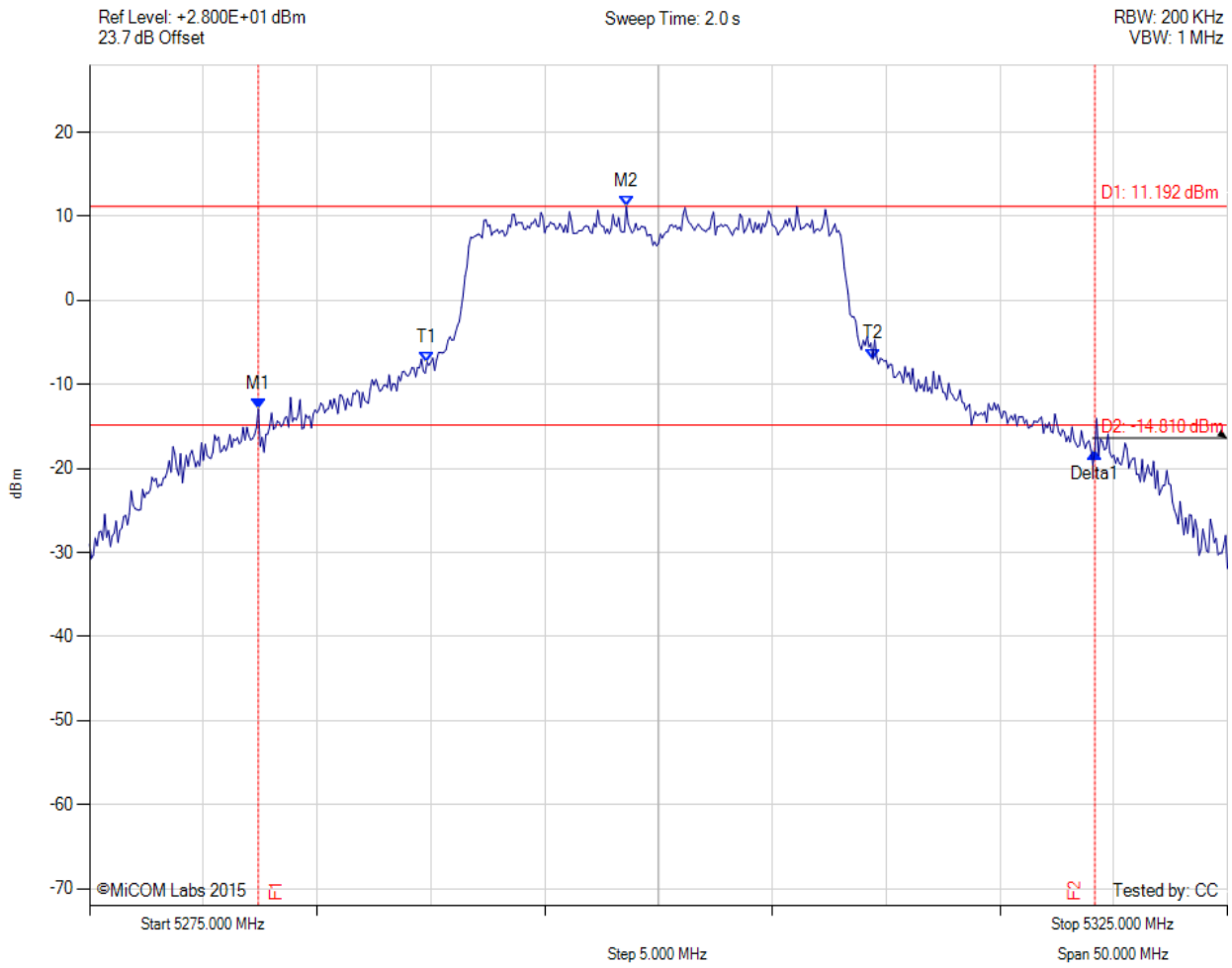



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5283.830 MHz : -16.001 dBm<br>M2 : 5302.750 MHz : 9.739 dBm<br>Delta1 : 31.420 MHz : -2.908 dB<br>T1 : 0 Hz : 0.000 dBm<br>T2 : 0 Hz : 0.000 dBm<br>OBW : 17.503 MHz | Measured 26 dB Bandwidth: 31.420 MHz<br>Measured 99% Bandwidth: 17.503 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5300.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

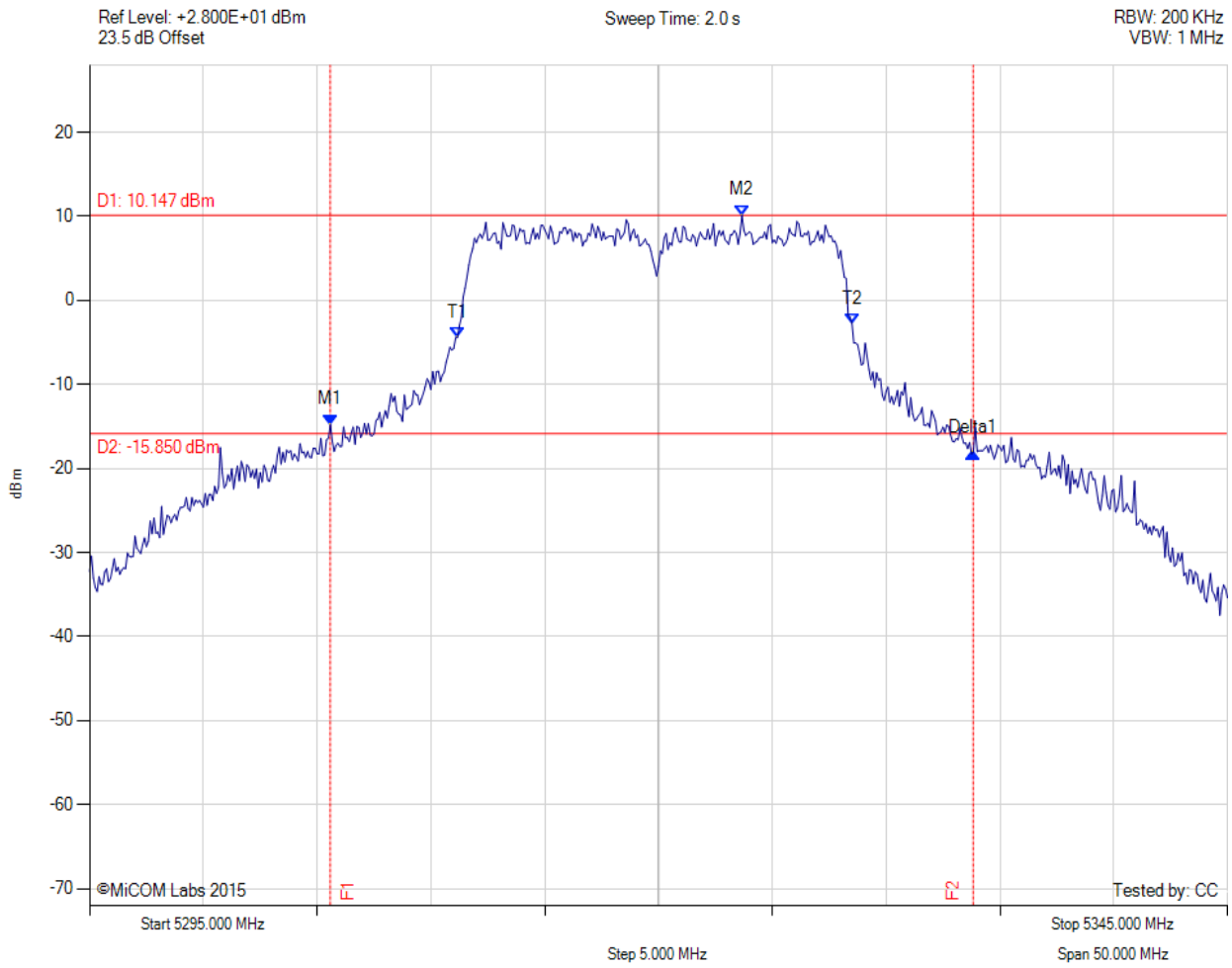



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5282.420 MHz : -12.909 dBm<br>M2 : 5298.580 MHz : 11.192 dBm<br>Delta1 : 36.750 MHz : -5.193 dB<br>T1 : 5289.833 MHz : -7.339 dBm<br>T2 : 5309.417 MHz : -6.964 dBm<br>OBW : 19.986 MHz | Measured 26 dB Bandwidth: 36.750 MHz<br>Measured 99% Bandwidth: 19.986 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5320.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

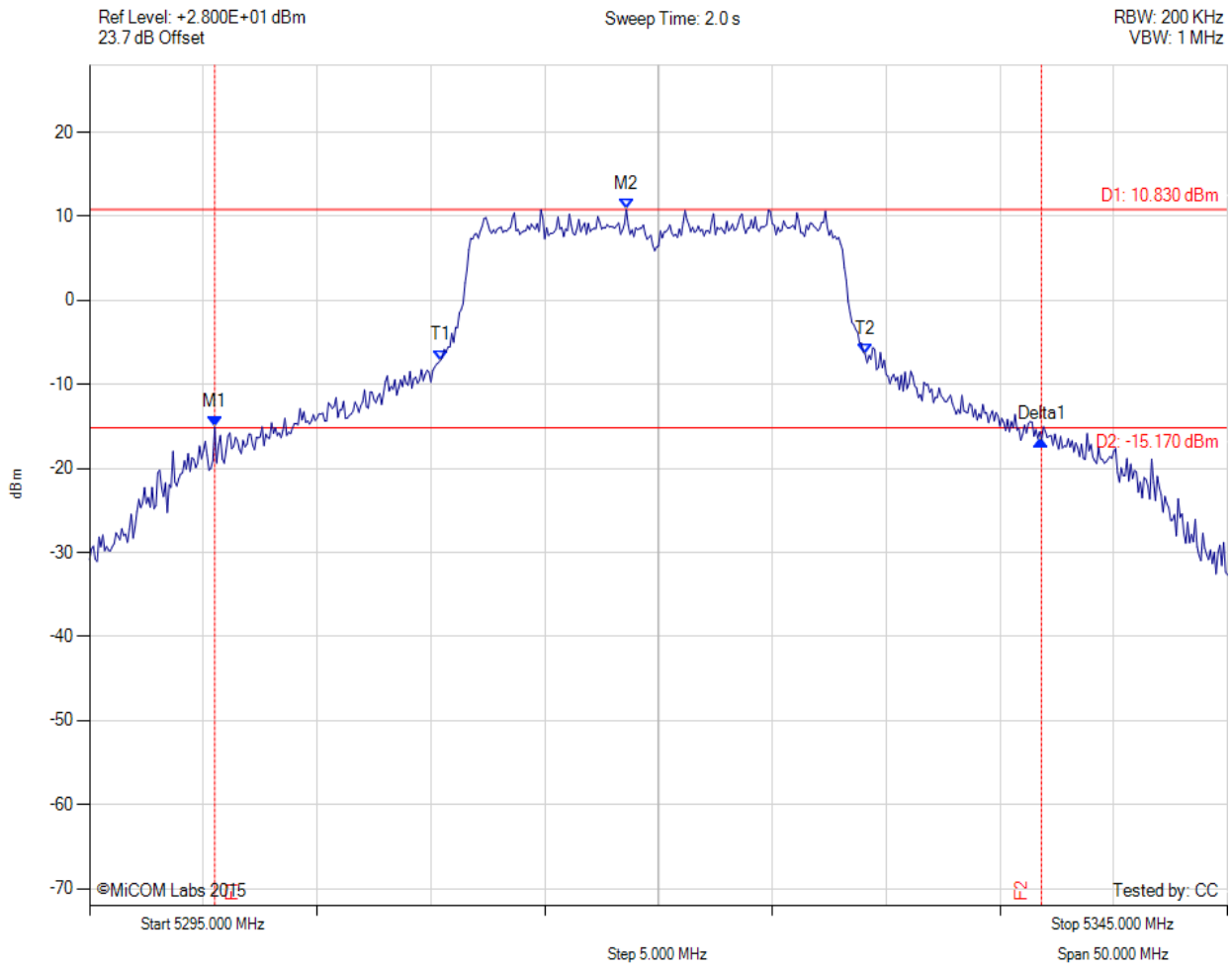



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5305.580 MHz : -14.785 dBm<br>M2 : 5323.670 MHz : 10.147 dBm<br>Delta1 : 28.250 MHz : -3.303 dB<br>T1 : 5311.167 MHz : -4.393 dBm<br>T2 : 5328.500 MHz : -2.737 dBm<br>OBW : 17.403 MHz | Measured 26 dB Bandwidth: 28.250 MHz<br>Measured 99% Bandwidth: 17.403 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5320.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

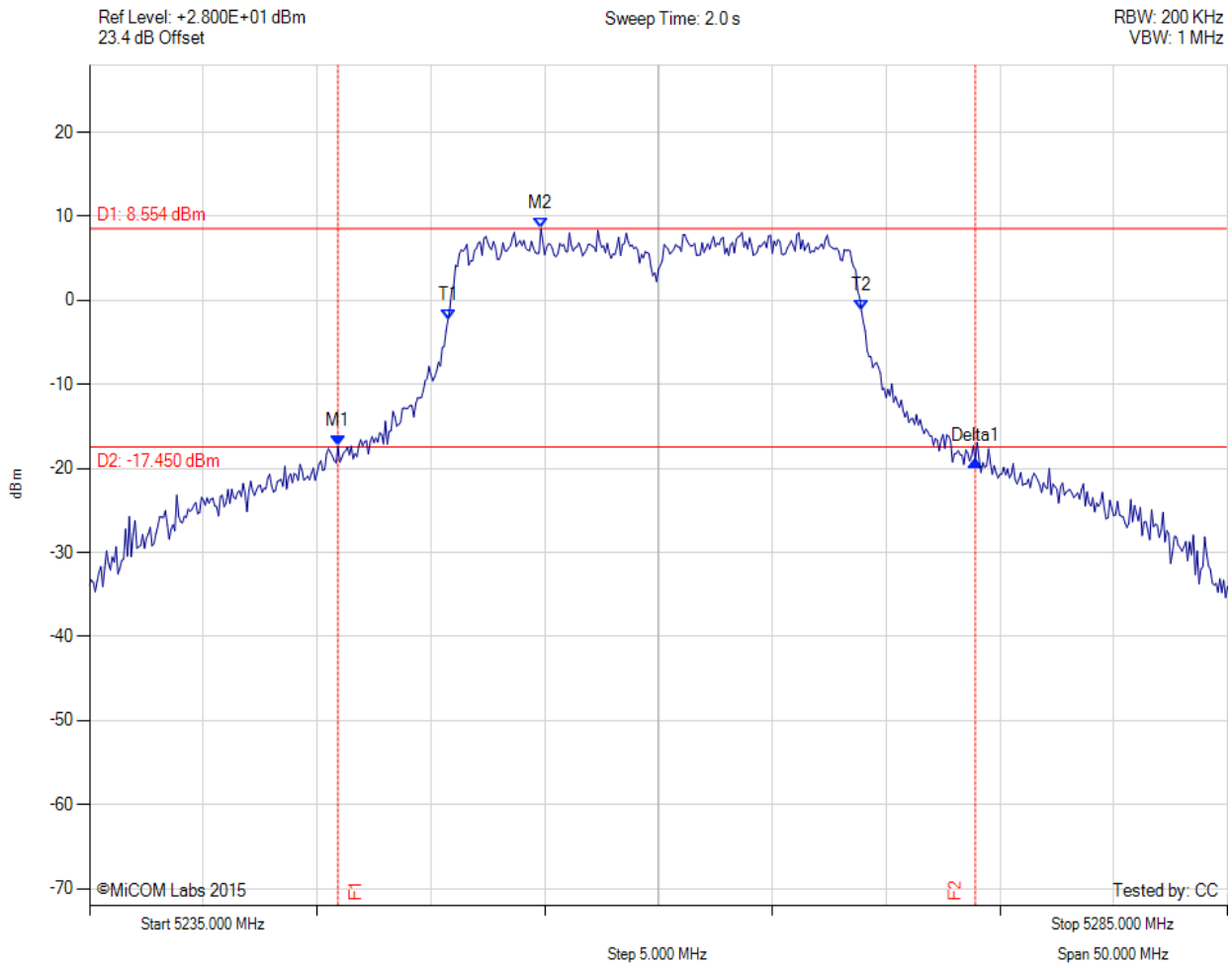



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5300.500 MHz : -15.078 dBm<br>M2 : 5318.580 MHz : 10.830 dBm<br>Delta1 : 36.330 MHz : -1.483 dB<br>T1 : 5310.417 MHz : -7.125 dBm<br>T2 : 5329.083 MHz : -6.405 dBm<br>OBW : 19.005 MHz | Measured 26 dB Bandwidth: 36.330 MHz<br>Measured 99% Bandwidth: 19.005 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5260.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

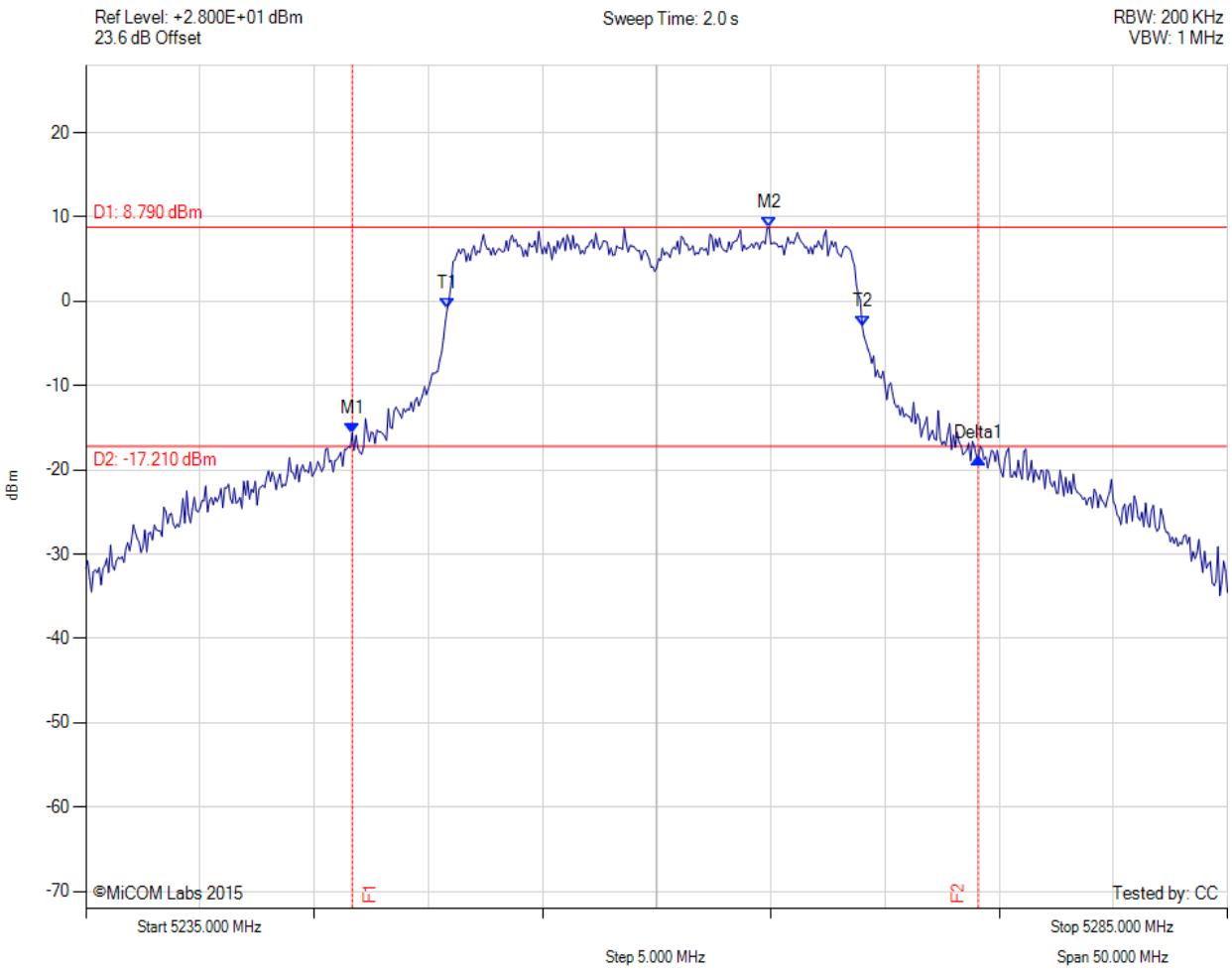



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5245.920 MHz : -17.335 dBm<br>M2 : 5254.830 MHz : 8.554 dBm<br>Delta1 : 28.000 MHz : -1.721 dB<br>T1 : 5250.750 MHz : -2.289 dBm<br>T2 : 5268.917 MHz : -1.231 dBm<br>OBW : 18.217 MHz | Measured 26 dB Bandwidth: 28.000 MHz<br>Measured 99% Bandwidth: 18.217 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5260.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

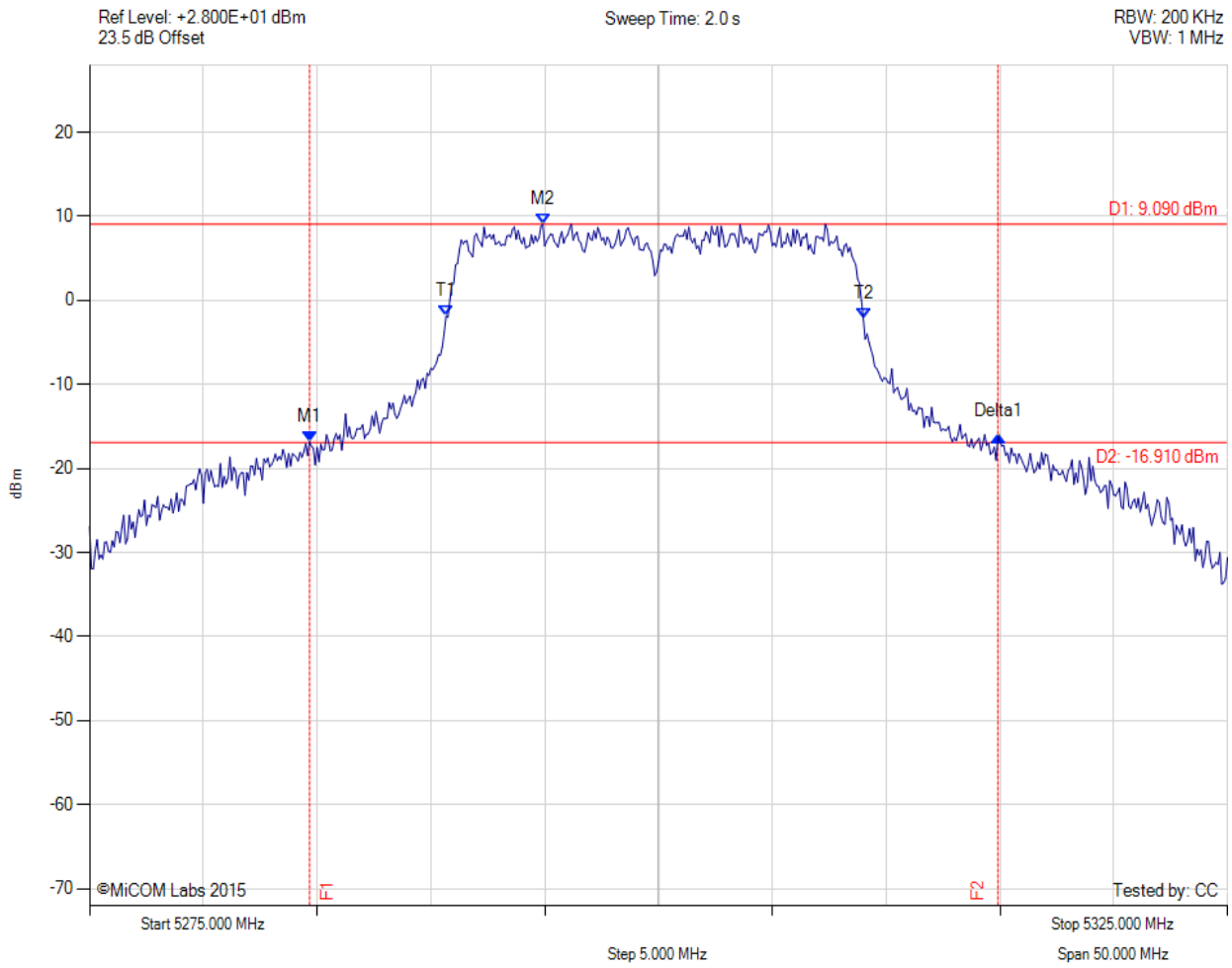



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5246.670 MHz : -15.633 dBm<br>M2 : 5264.920 MHz : 8.790 dBm<br>Delta1 : 27.420 MHz : -2.956 dB<br>T1 : 5250.833 MHz : -0.834 dBm<br>T2 : 5269.000 MHz : -2.927 dBm<br>OBW : 18.228 MHz | Measured 26 dB Bandwidth: 27.420 MHz<br>Measured 99% Bandwidth: 18.228 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5300.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

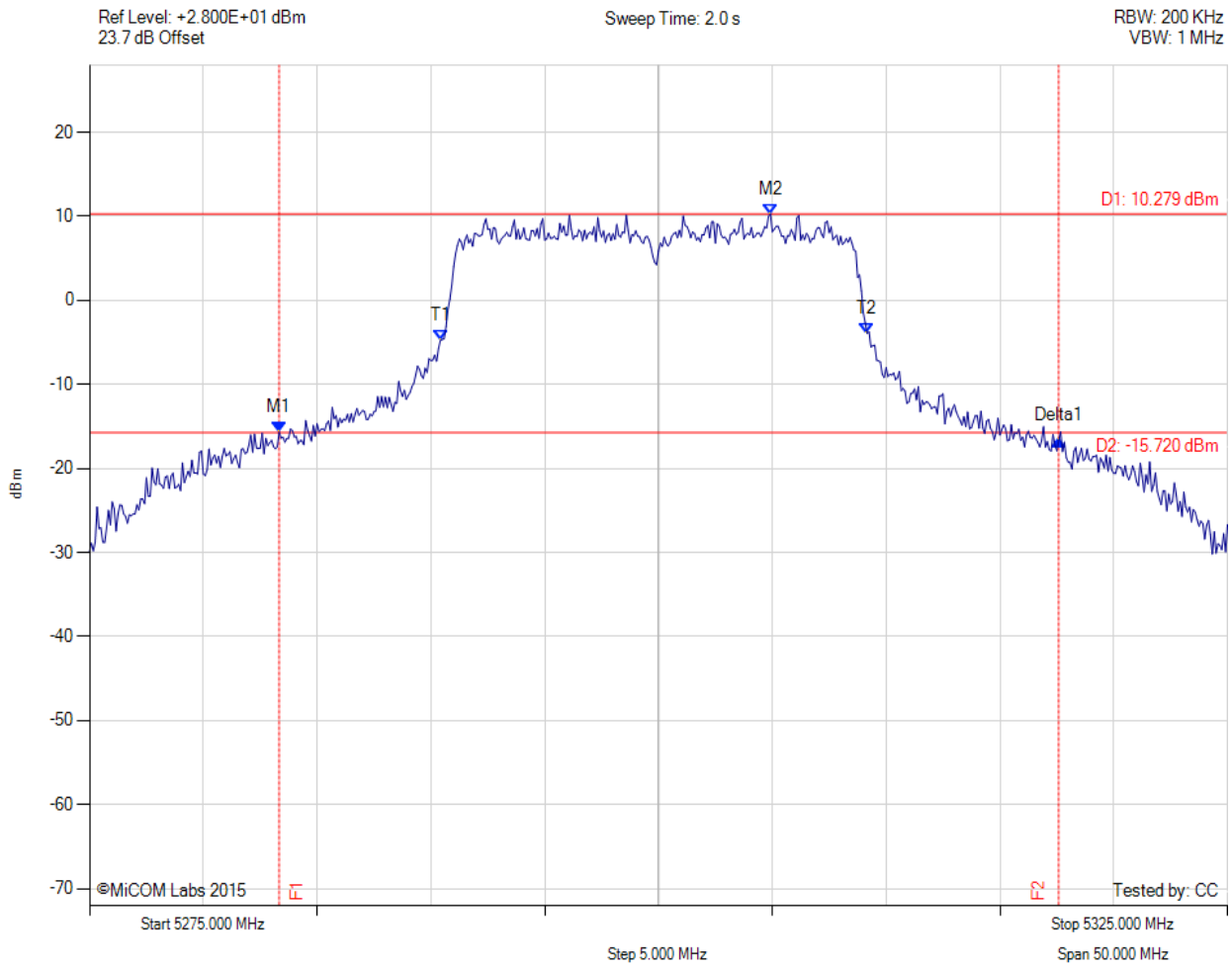



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5284.670 MHz : -16.782 dBm<br>M2 : 5294.920 MHz : 9.090 dBm<br>Delta1 : 30.250 MHz : 0.636 dB<br>T1 : 5290.667 MHz : -1.874 dBm<br>T2 : 5309.000 MHz : -2.210 dBm<br>OBW : 18.352 MHz | Measured 26 dB Bandwidth: 30.250 MHz<br>Measured 99% Bandwidth: 18.352 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5300.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

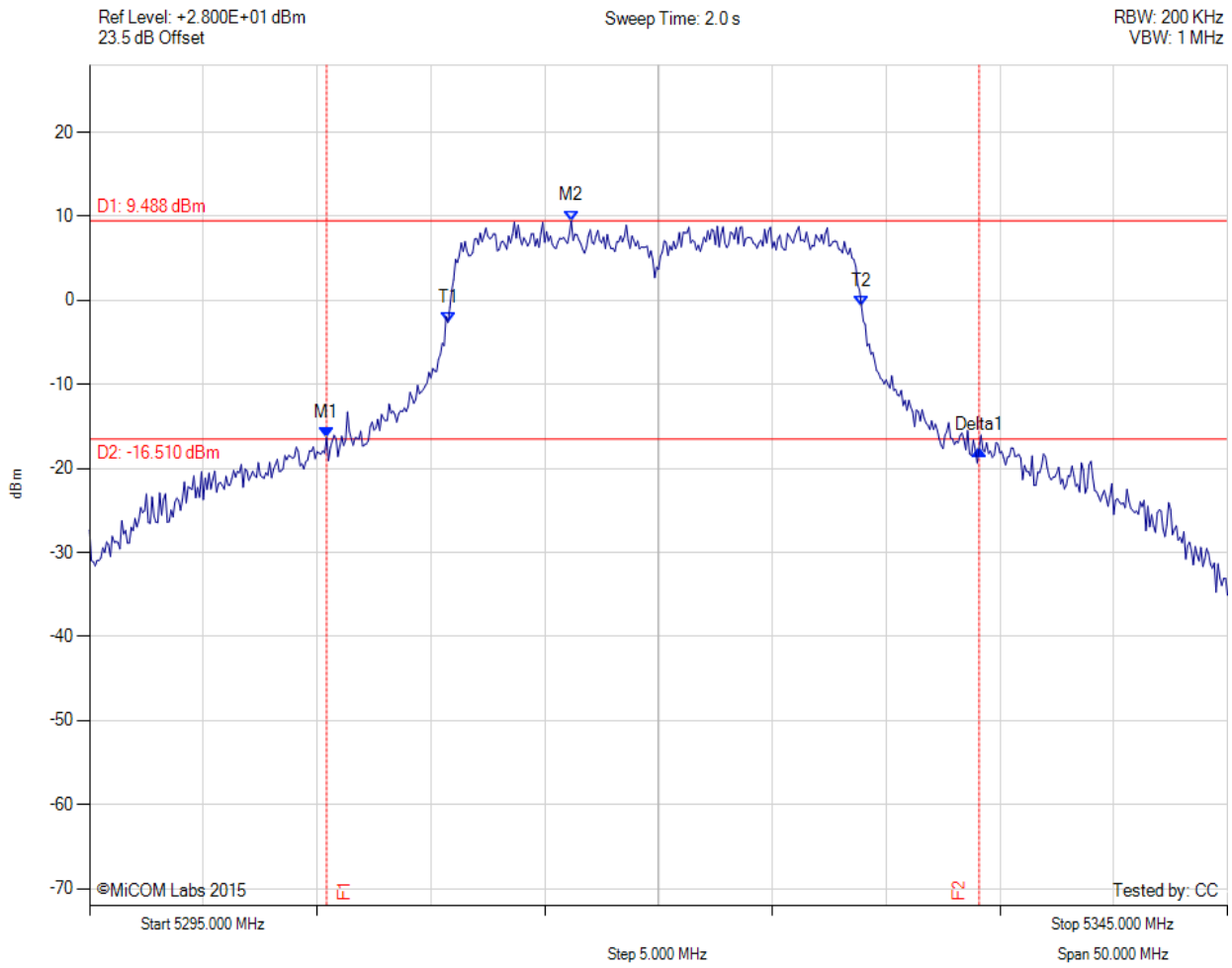



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5283.330 MHz : -15.682 dBm<br>M2 : 5304.920 MHz : 10.279 dBm<br>Delta1 : 34.250 MHz : -0.968 dB<br>T1 : 5290.417 MHz : -4.761 dBm<br>T2 : 5309.167 MHz : -3.938 dBm<br>OBW : 18.861 MHz | Measured 26 dB Bandwidth: 34.250 MHz<br>Measured 99% Bandwidth: 18.861 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5320.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

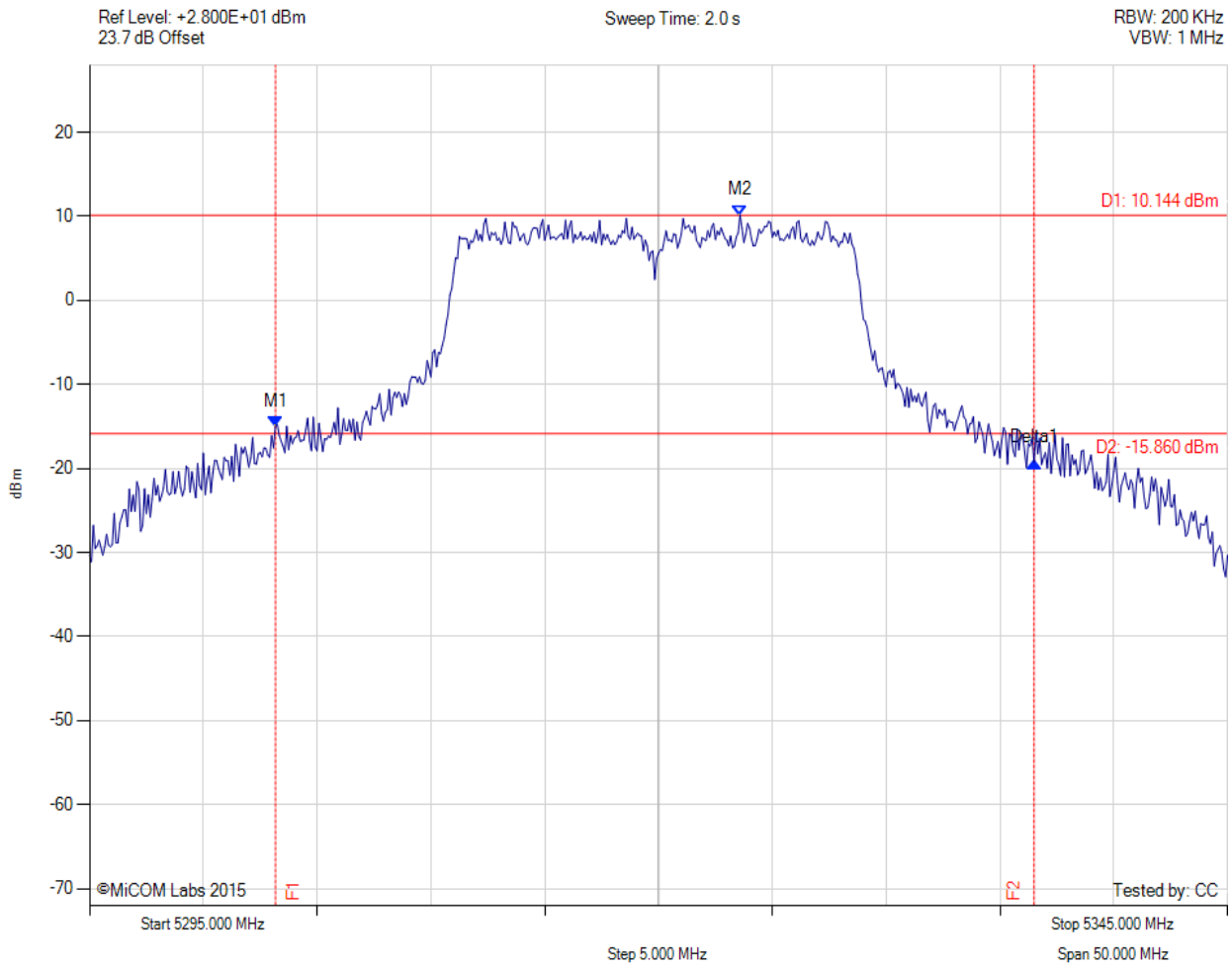



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5305.420 MHz : -16.332 dBm<br>M2 : 5316.170 MHz : 9.488 dBm<br>Delta1 : 28.670 MHz : -1.391 dB<br>T1 : 5310.750 MHz : -2.645 dBm<br>T2 : 5328.917 MHz : -0.686 dBm<br>OBW : 18.264 MHz | Measured 26 dB Bandwidth: 28.670 MHz<br>Measured 99% Bandwidth: 18.264 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5320.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

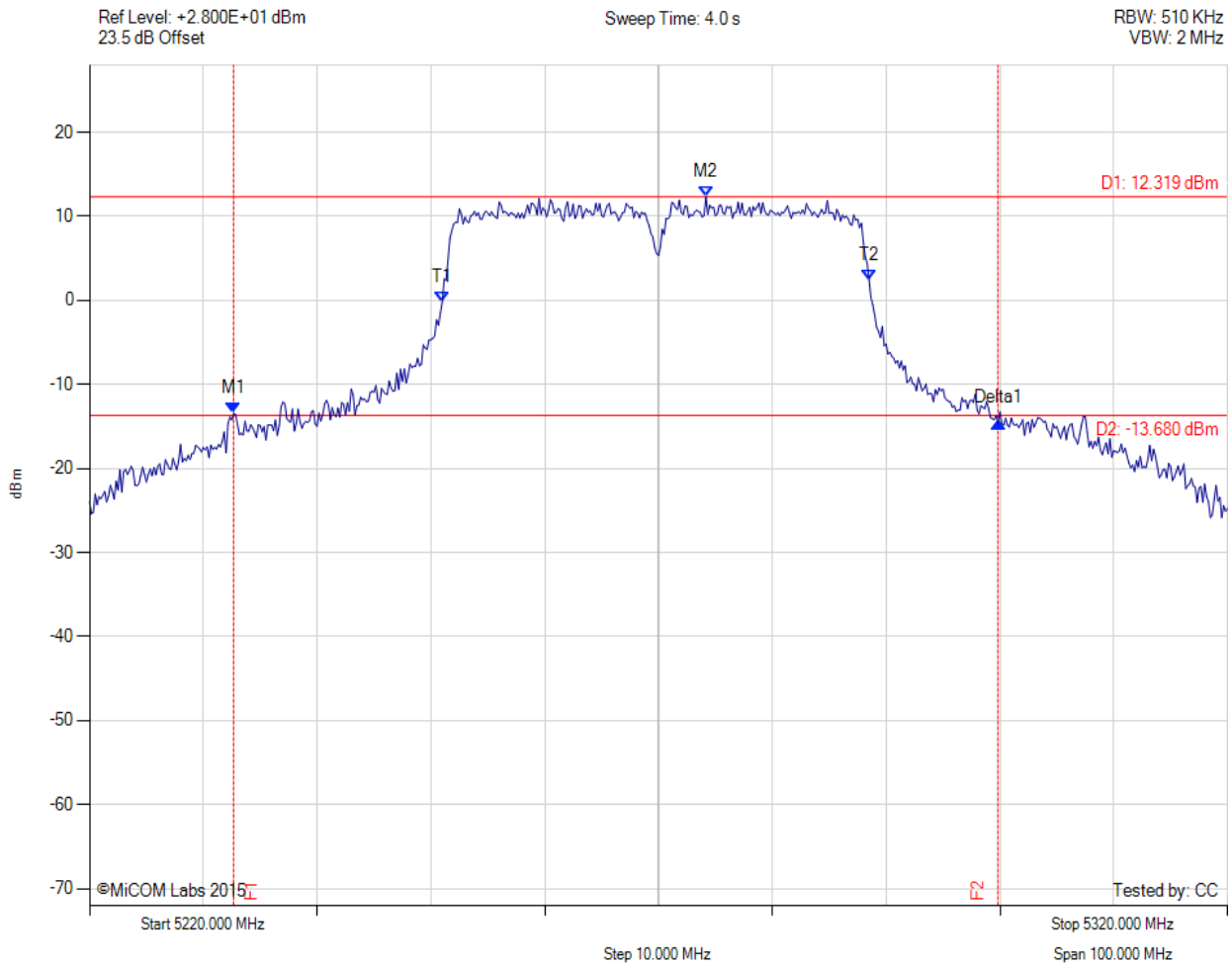



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5303.170 MHz : -14.961 dBm<br>M2 : 5323.580 MHz : 10.144 dBm<br>Delta1 : 33.330 MHz : -4.283 dB<br>T1 : 0 Hz : 0.000 dBm<br>T2 : 0 Hz : 0.000 dBm<br>OBW : 18.588 MHz | Measured 26 dB Bandwidth: 33.330 MHz<br>Measured 99% Bandwidth: 18.588 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5270.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

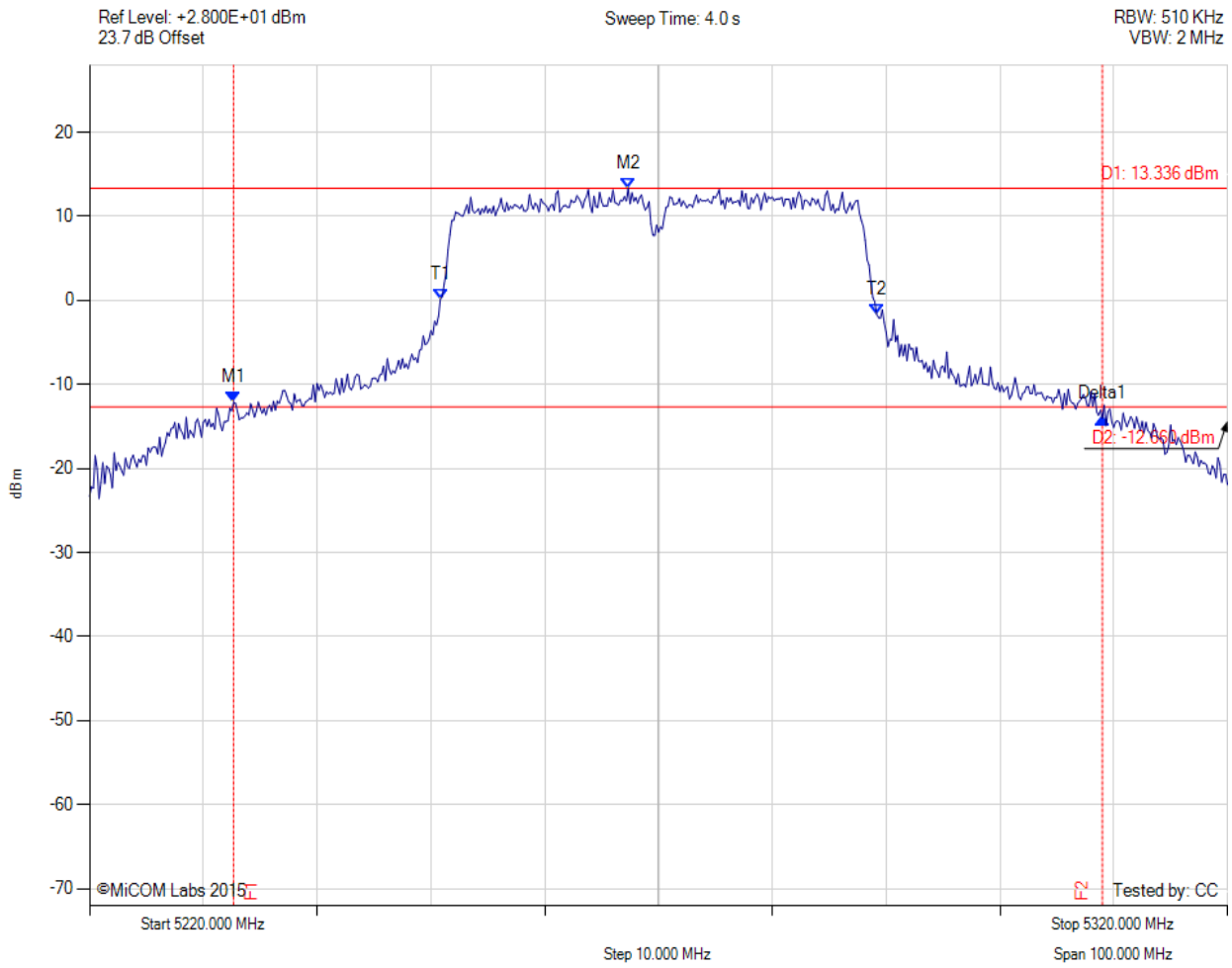



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5232.670 MHz : -13.433 dBm<br>M2 : 5274.170 MHz : 12.319 dBm<br>Delta1 : 67.170 MHz : -1.143 dB<br>T1 : 5251.000 MHz : -0.154 dBm<br>T2 : 5288.500 MHz : 2.475 dBm<br>OBW : 37.514 MHz | Measured 26 dB Bandwidth: 67.170 MHz<br>Measured 99% Bandwidth: 37.514 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5270.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

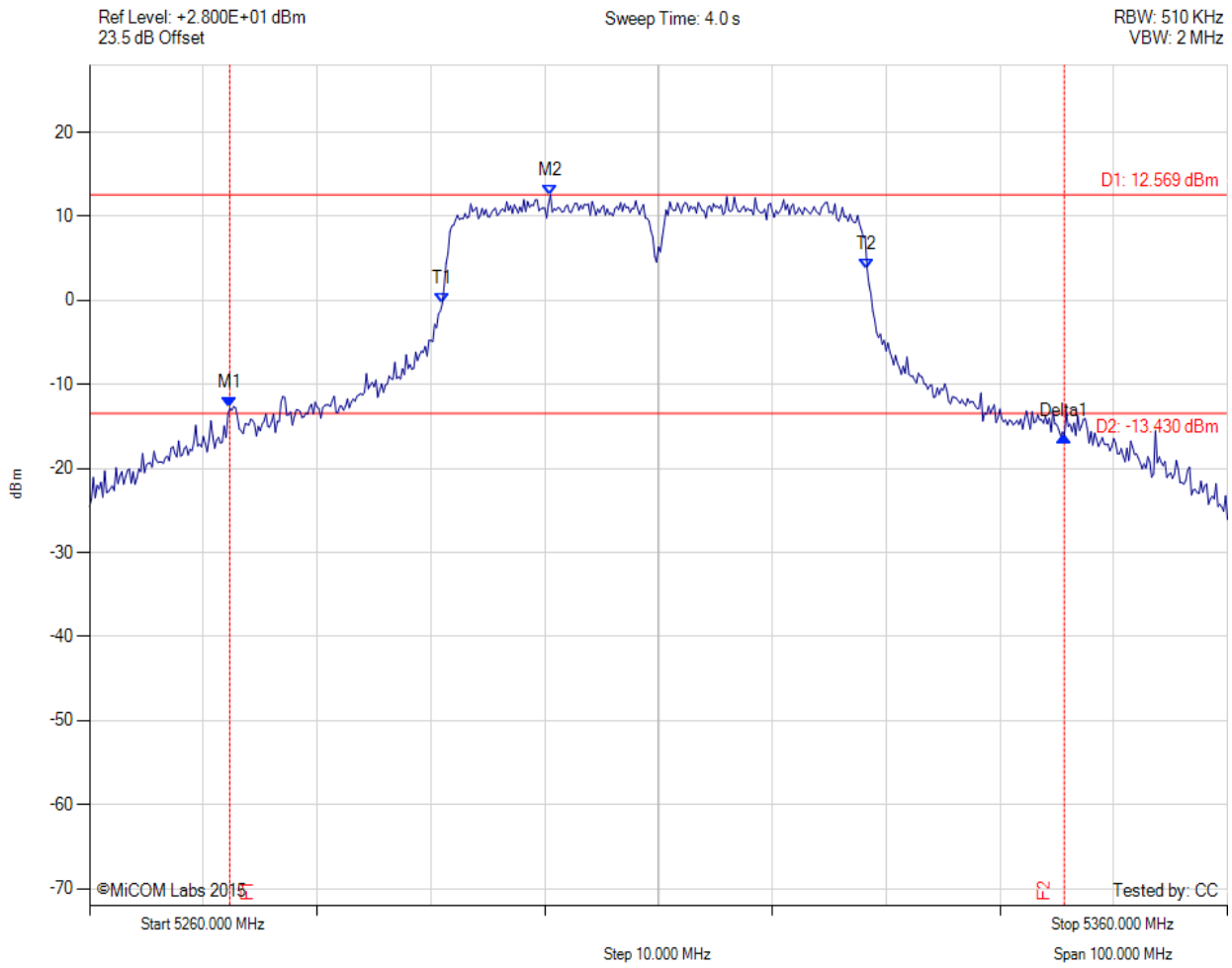



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5232.670 MHz : -12.093 dBm<br>M2 : 5267.330 MHz : 13.336 dBm<br>Delta1 : 76.330 MHz : -1.918 dB<br>T1 : 5250.833 MHz : 0.163 dBm<br>T2 : 5289.167 MHz : -1.647 dBm<br>OBW : 39.412 MHz | Measured 26 dB Bandwidth: 76.330 MHz<br>Measured 99% Bandwidth: 39.412 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5310.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

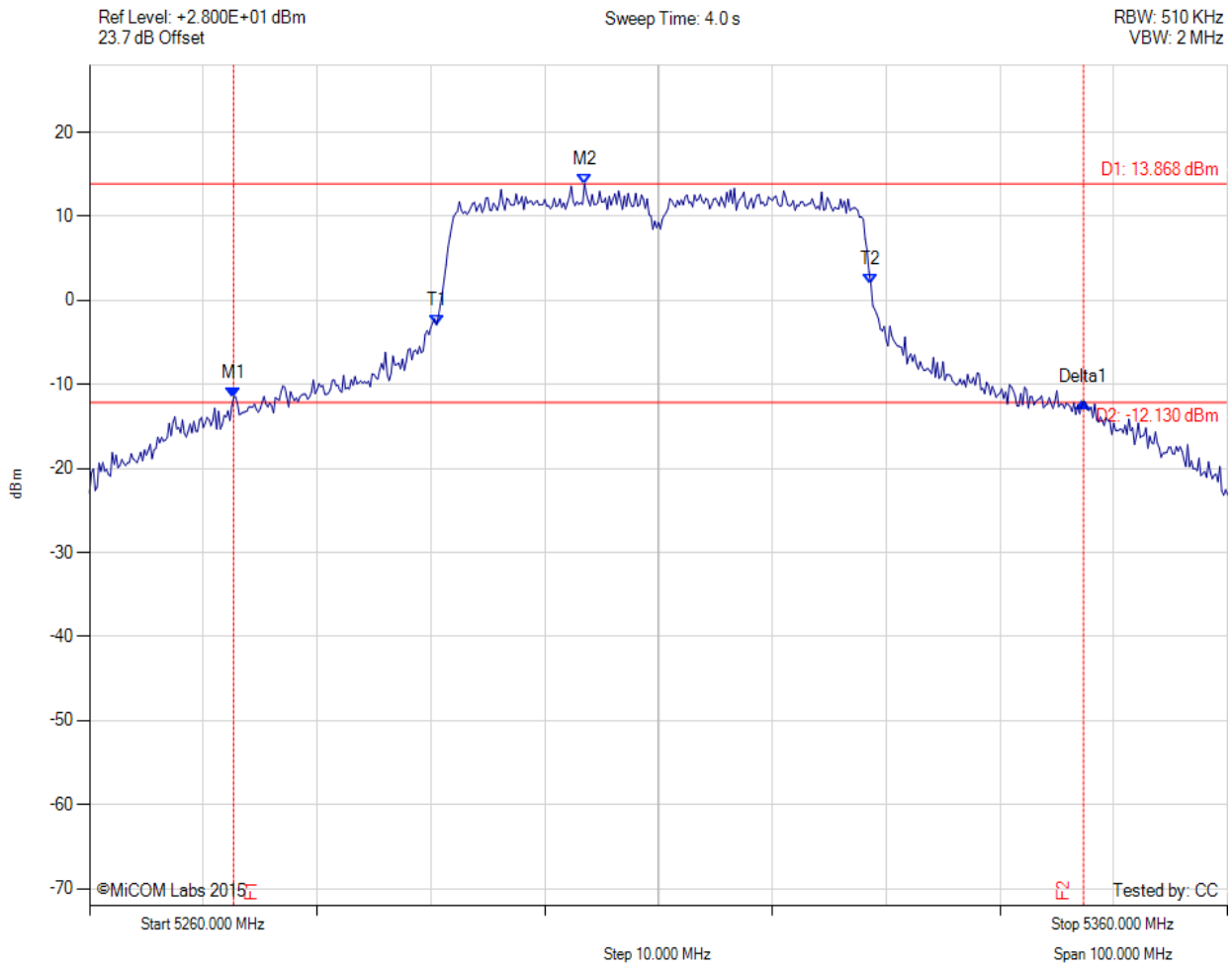



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5272.330 MHz : -12.793 dBm<br>M2 : 5300.500 MHz : 12.569 dBm<br>Delta1 : 73.330 MHz : -3.301 dB<br>T1 : 5291.000 MHz : -0.388 dBm<br>T2 : 5328.333 MHz : 3.772 dBm<br>OBW : 37.561 MHz | Measured 26 dB Bandwidth: 73.330 MHz<br>Measured 99% Bandwidth: 37.561 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5310.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

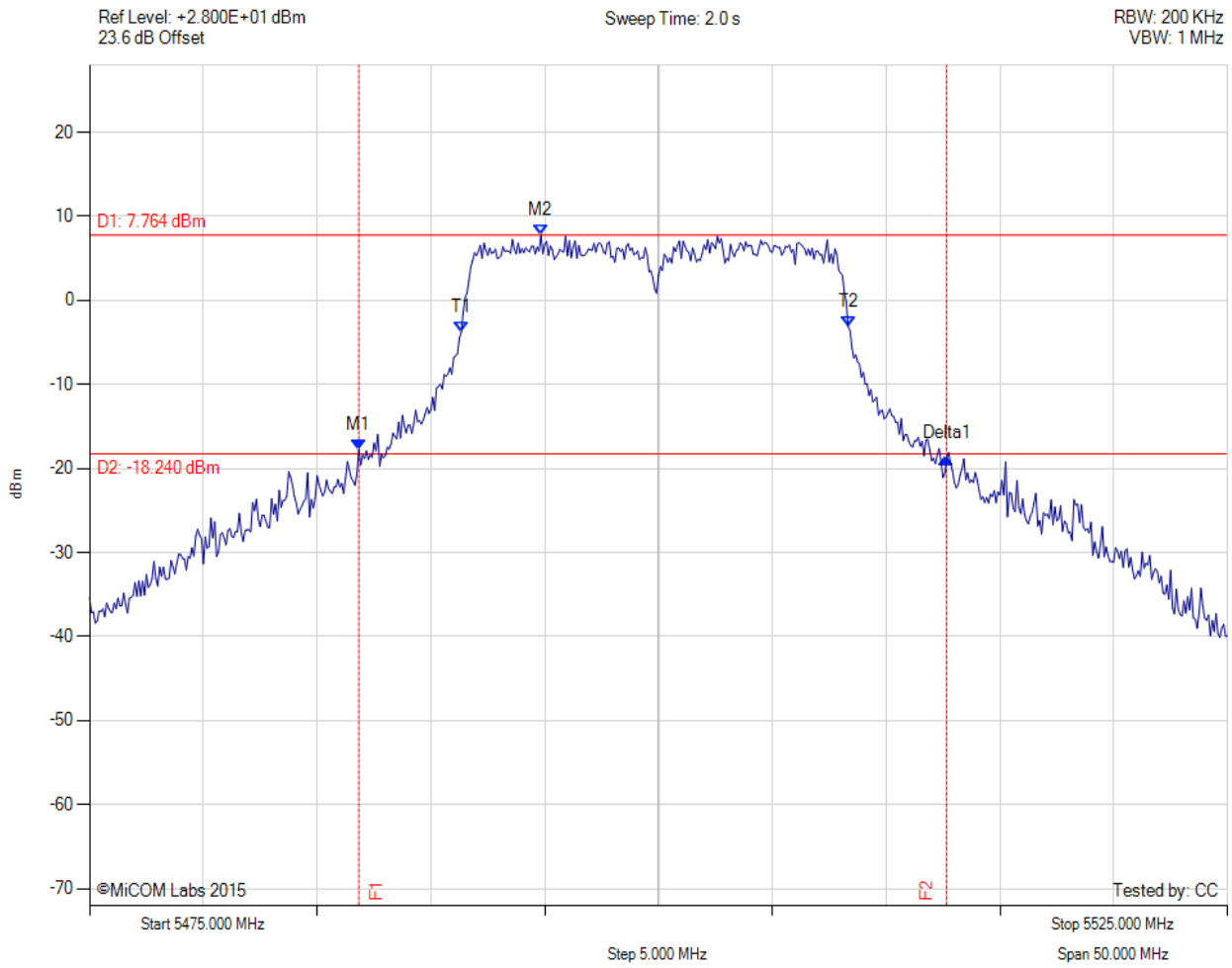



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5272.670 MHz : -11.541 dBm<br>M2 : 5303.500 MHz : 13.868 dBm<br>Delta1 : 74.670 MHz : -0.504 dB<br>T1 : 5290.500 MHz : -2.920 dBm<br>T2 : 5328.667 MHz : 1.975 dBm<br>OBW : 38.840 MHz | Measured 26 dB Bandwidth: 74.670 MHz<br>Measured 99% Bandwidth: 38.840 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5500.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

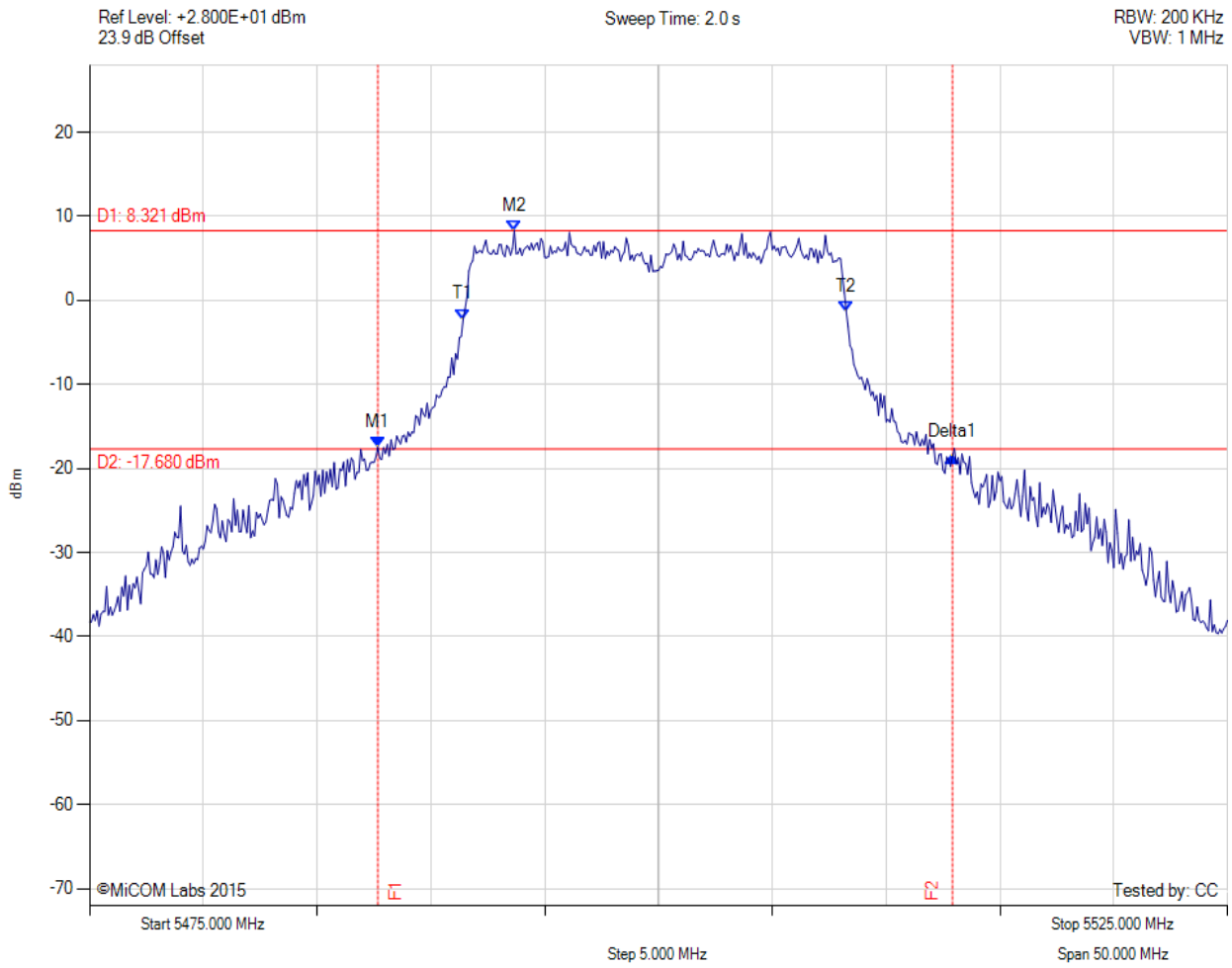



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5486.830 MHz : -17.736 dBm<br>M2 : 5494.830 MHz : 7.764 dBm<br>Delta1 : 25.830 MHz : -1.009 dB<br>T1 : 5491.333 MHz : -3.769 dBm<br>T2 : 5508.333 MHz : -3.132 dBm<br>OBW : 16.961 MHz | Measured 26 dB Bandwidth: 25.830 MHz<br>Measured 99% Bandwidth: 16.961 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5500.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

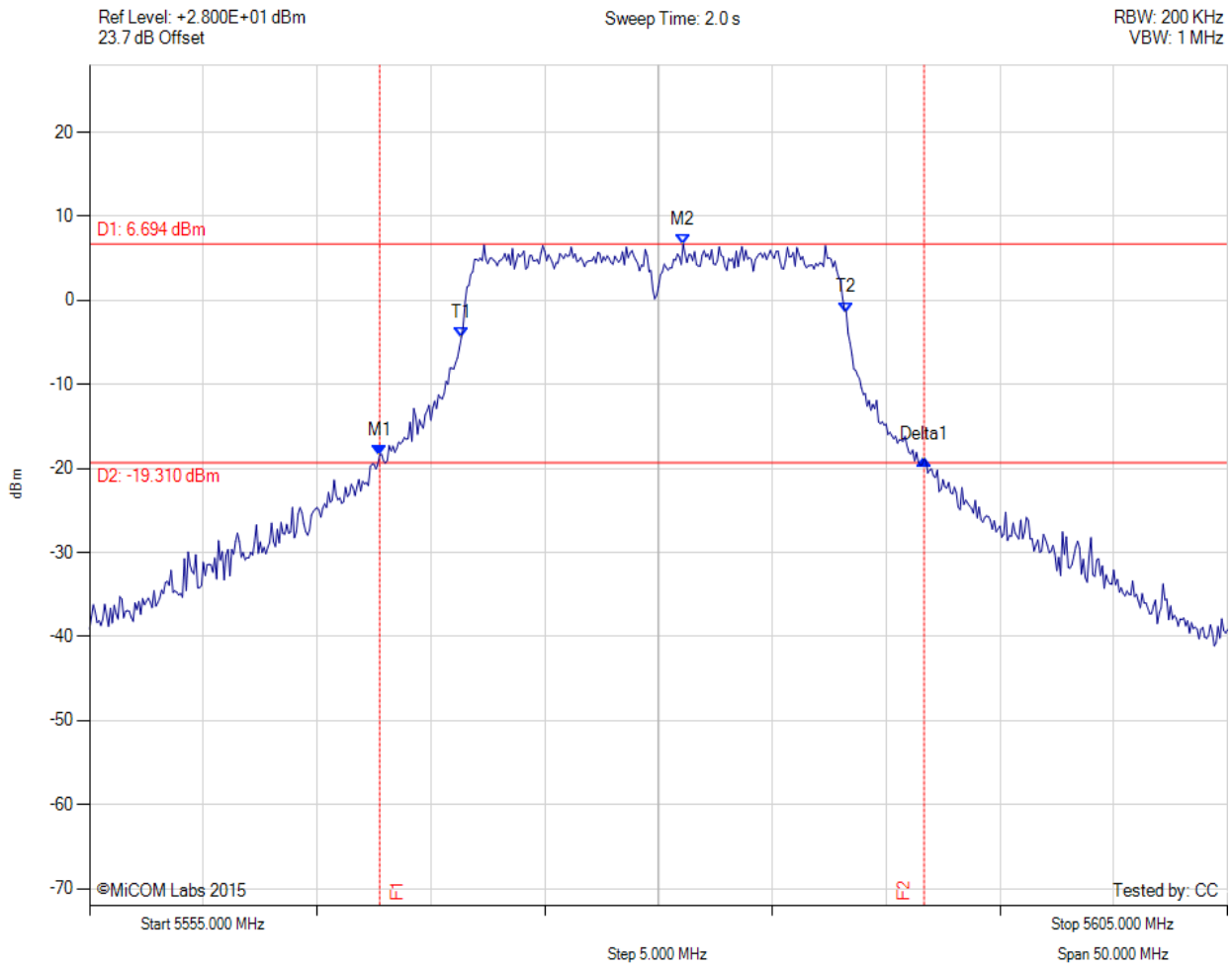



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5487.670 MHz : -17.449 dBm<br>M2 : 5493.670 MHz : 8.321 dBm<br>Delta1 : 25.250 MHz : -1.141 dB<br>T1 : 5491.417 MHz : -2.229 dBm<br>T2 : 5508.250 MHz : -1.340 dBm<br>OBW : 16.885 MHz | Measured 26 dB Bandwidth: 25.250 MHz<br>Measured 99% Bandwidth: 16.885 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5580.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

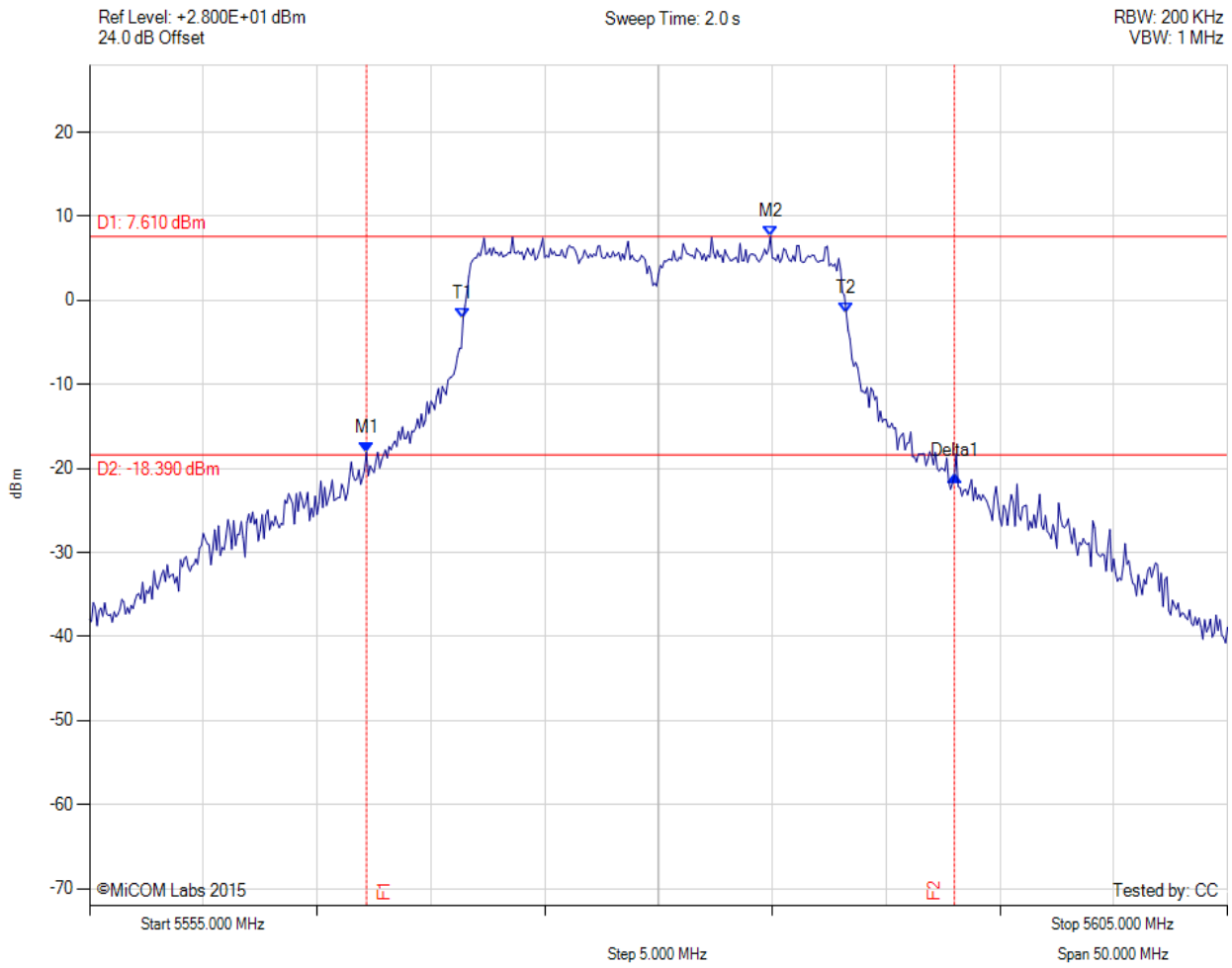



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5567.750 MHz : -18.395 dBm<br>M2 : 5581.080 MHz : 6.694 dBm<br>Delta1 : 23.920 MHz : -0.497 dB<br>T1 : 5571.333 MHz : -4.417 dBm<br>T2 : 5588.250 MHz : -1.421 dBm<br>OBW : 16.895 MHz | Measured 26 dB Bandwidth: 23.920 MHz<br>Measured 99% Bandwidth: 16.895 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5580.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

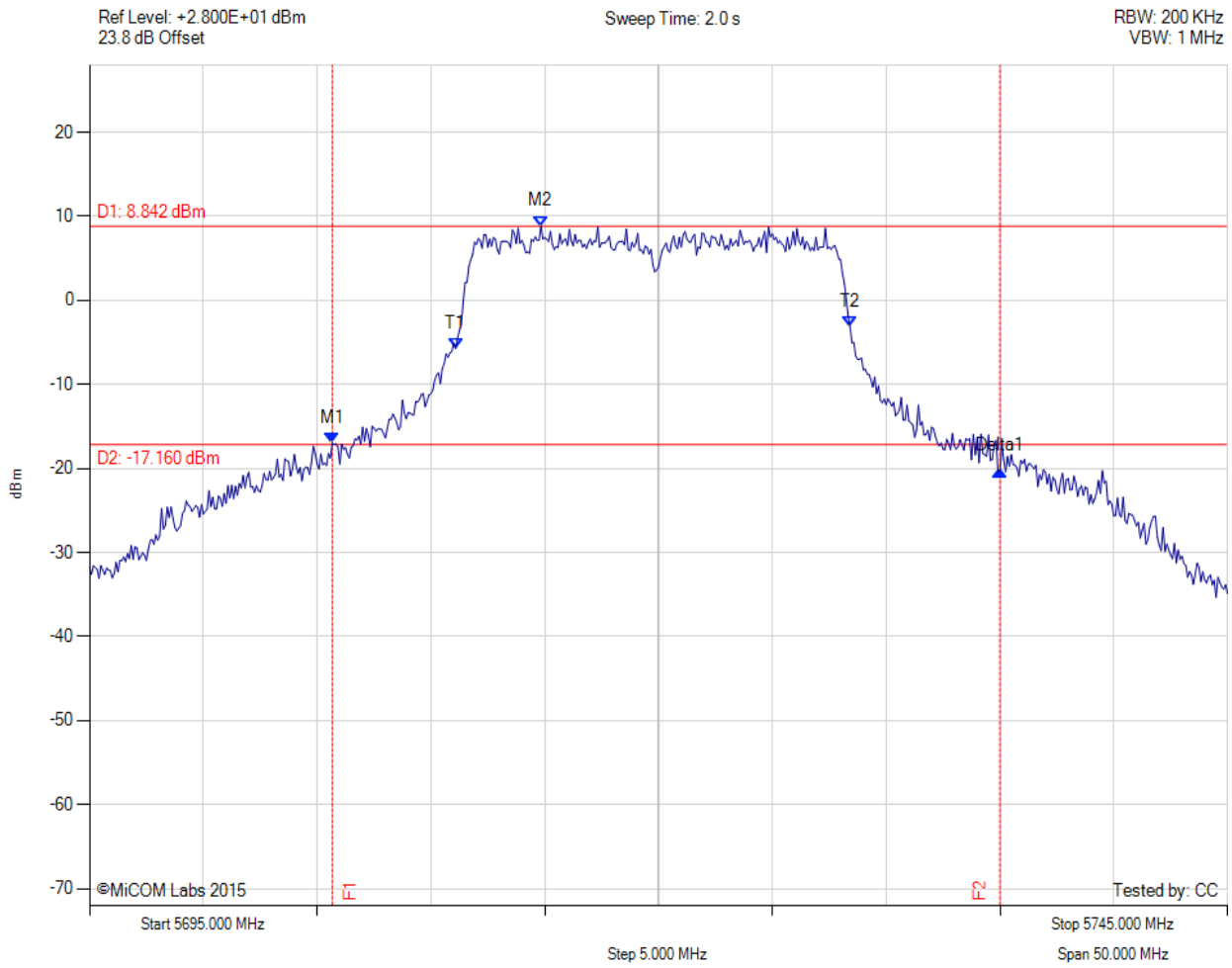



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5567.170 MHz : -18.055 dBm<br>M2 : 5584.920 MHz : 7.610 dBm<br>Delta1 : 25.830 MHz : -2.811 dB<br>T1 : 5571.417 MHz : -2.092 dBm<br>T2 : 5588.250 MHz : -1.484 dBm<br>OBW : 16.846 MHz | Measured 26 dB Bandwidth: 25.830 MHz<br>Measured 99% Bandwidth: 16.846 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5720.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

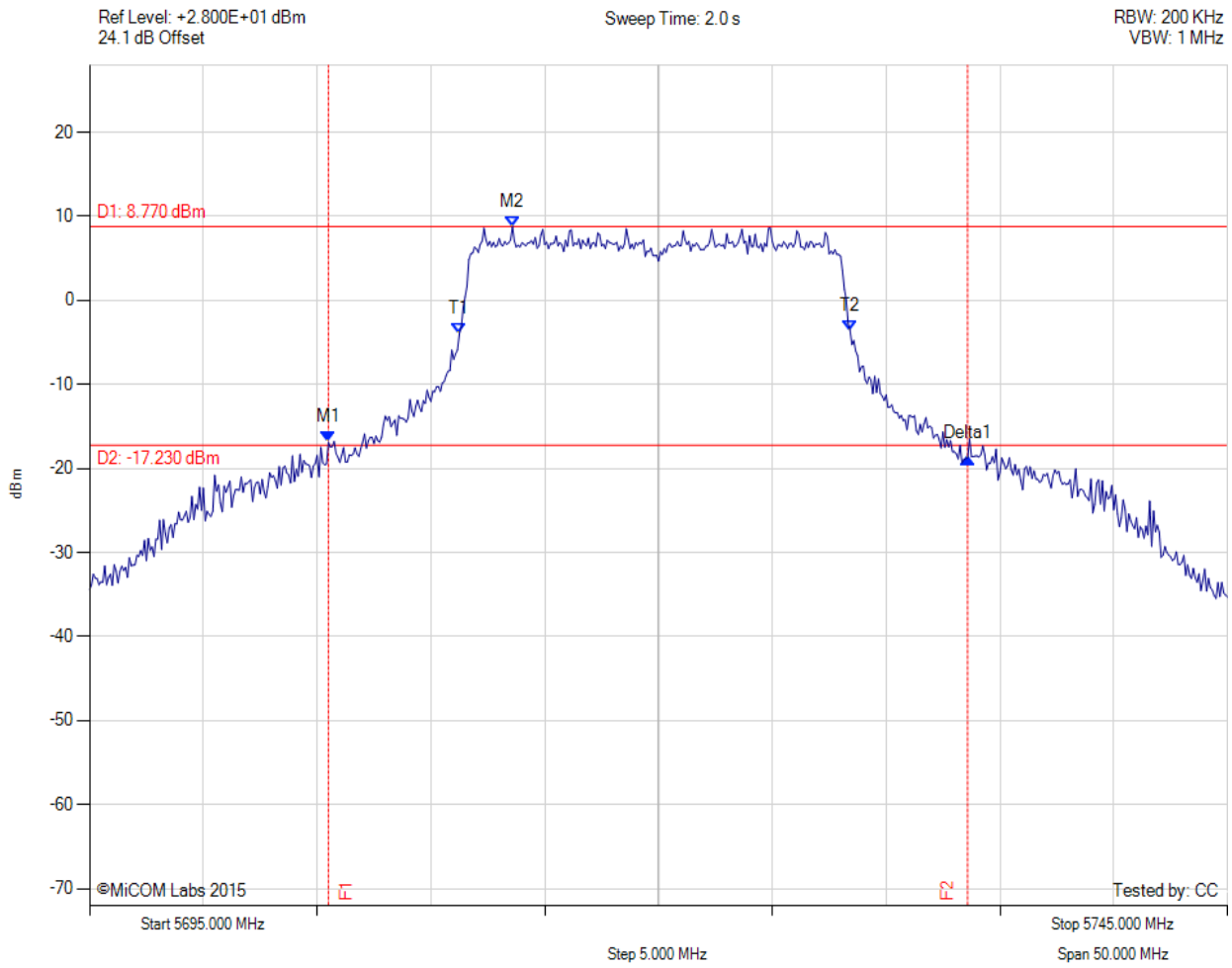



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5705.670 MHz : -16.957 dBm<br>M2 : 5714.830 MHz : 8.842 dBm<br>Delta1 : 29.330 MHz : -3.287 dB<br>T1 : 5711.083 MHz : -5.719 dBm<br>T2 : 5728.417 MHz : -3.182 dBm<br>OBW : 17.348 MHz | Measured 26 dB Bandwidth: 29.330 MHz<br>Measured 99% Bandwidth: 17.348 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5720.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

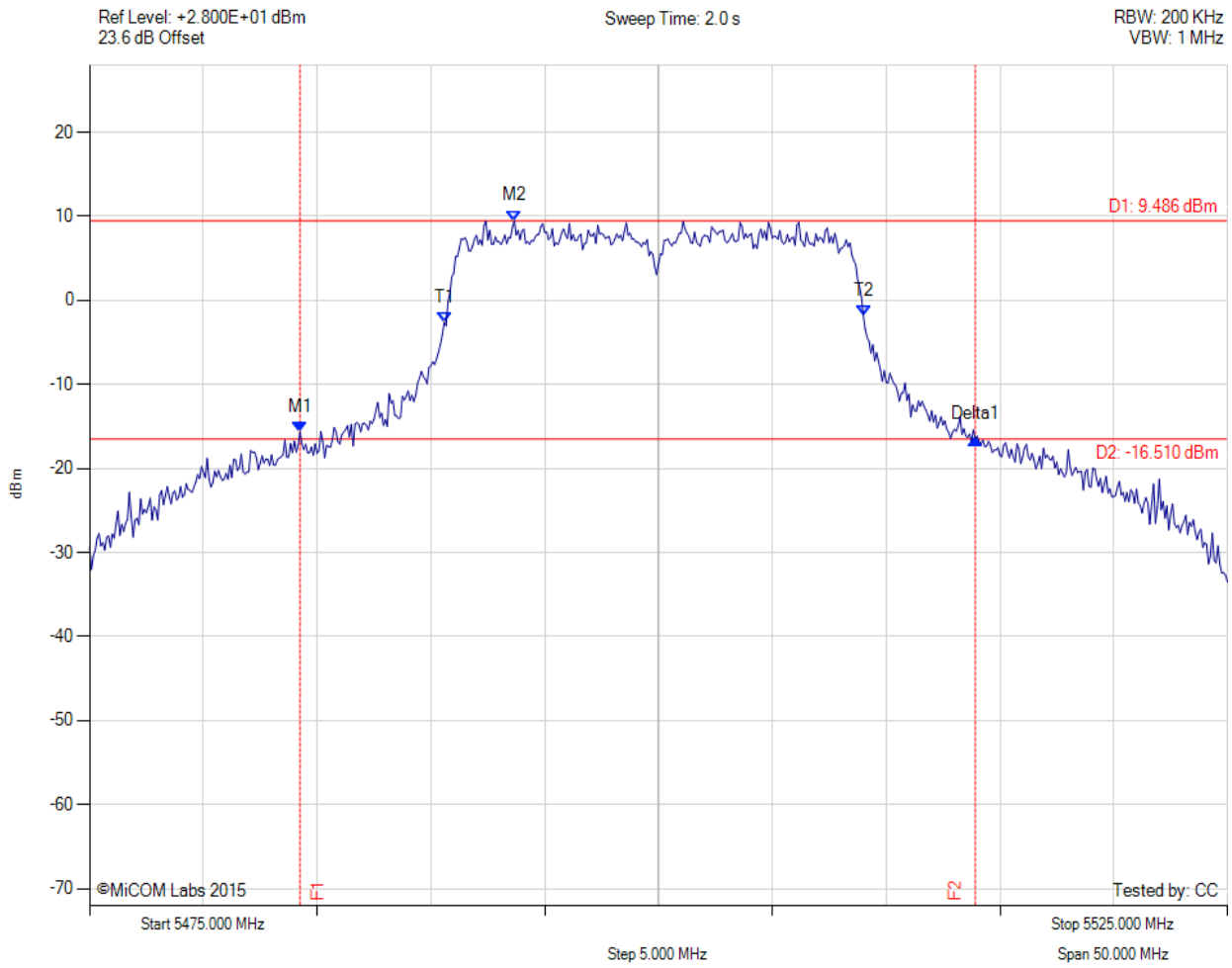



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5705.500 MHz : -16.859 dBm<br>M2 : 5713.580 MHz : 8.770 dBm<br>Delta1 : 28.080 MHz : -1.872 dB<br>T1 : 5711.250 MHz : -3.947 dBm<br>T2 : 5728.417 MHz : -3.550 dBm<br>OBW : 17.140 MHz | Measured 26 dB Bandwidth: 28.080 MHz<br>Measured 99% Bandwidth: 17.140 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5500.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

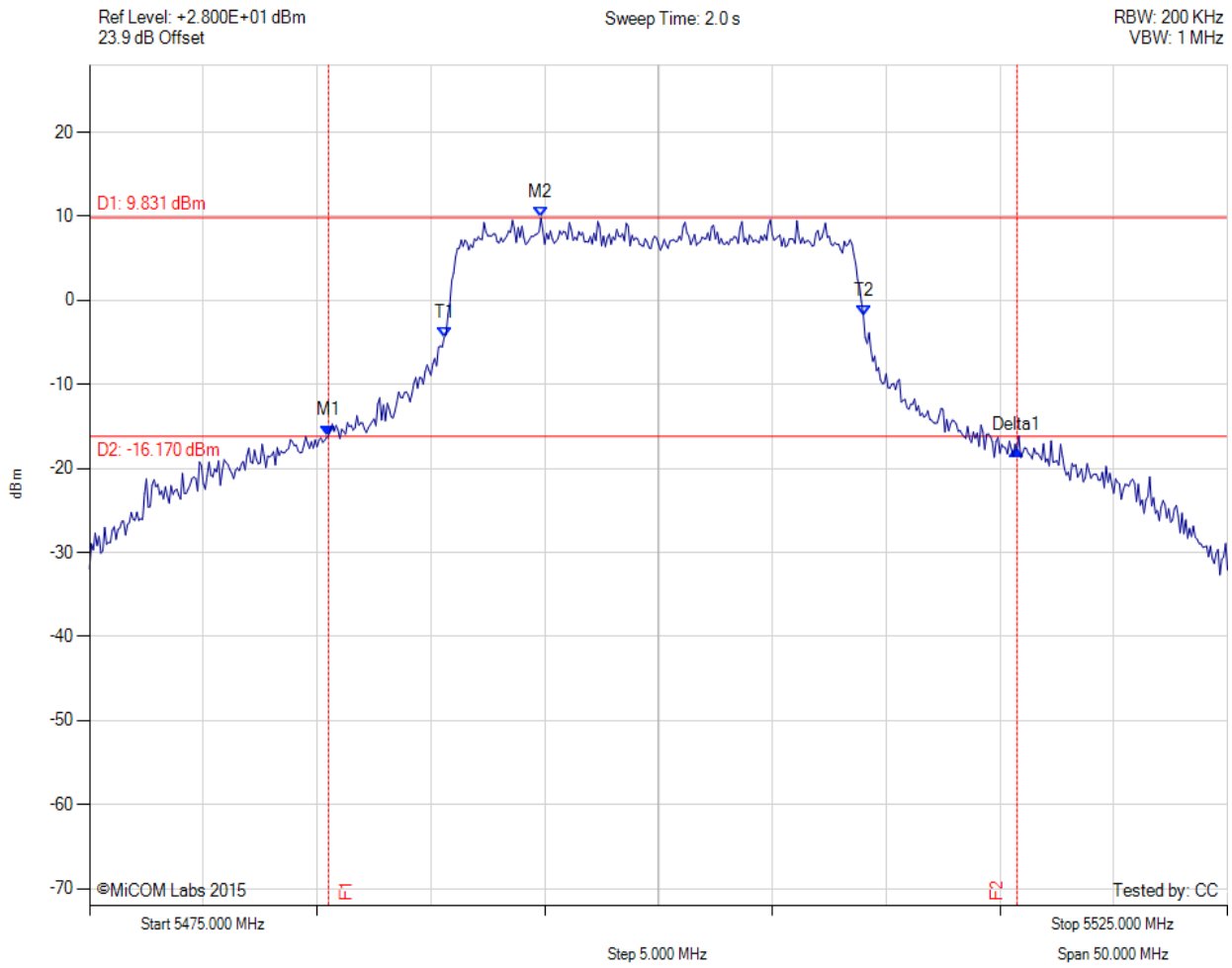



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5484.250 MHz : -15.669 dBm<br>M2 : 5493.670 MHz : 9.486 dBm<br>Delta1 : 29.670 MHz : -0.787 dB<br>T1 : 5490.583 MHz : -2.595 dBm<br>T2 : 5509.000 MHz : -1.827 dBm<br>OBW : 18.471 MHz | Measured 26 dB Bandwidth: 29.670 MHz<br>Measured 99% Bandwidth: 18.471 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5500.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

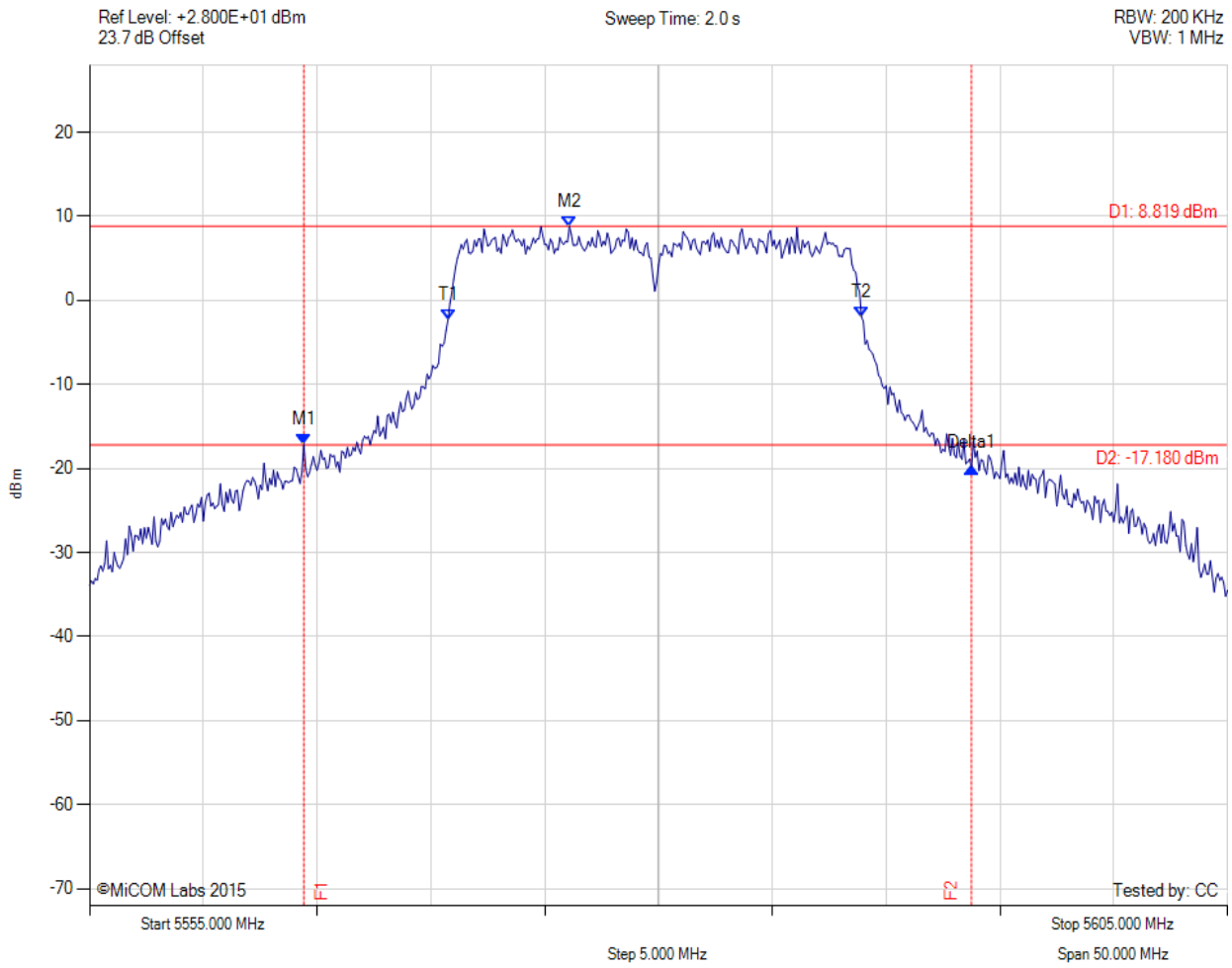



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5485.500 MHz : -16.083 dBm<br>M2 : 5494.830 MHz : 9.831 dBm<br>Delta1 : 30.250 MHz : -1.764 dB<br>T1 : 5490.583 MHz : -4.383 dBm<br>T2 : 5509.000 MHz : -1.788 dBm<br>OBW : 18.425 MHz | Measured 26 dB Bandwidth: 30.250 MHz<br>Measured 99% Bandwidth: 18.425 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5580.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

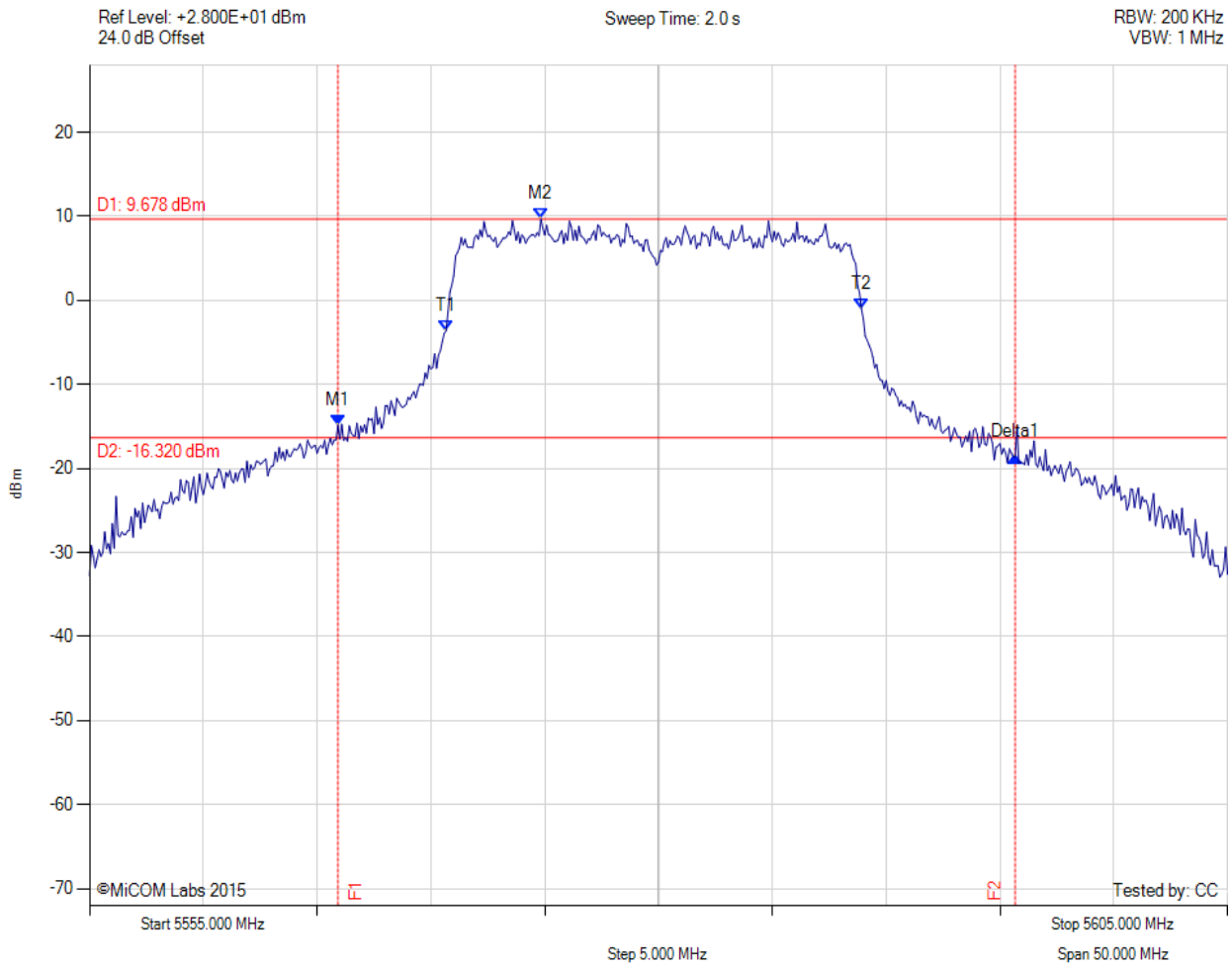



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5564.420 MHz : -17.173 dBm<br>M2 : 5576.080 MHz : 8.819 dBm<br>Delta1 : 29.330 MHz : -2.683 dB<br>T1 : 5570.750 MHz : -2.311 dBm<br>T2 : 5588.917 MHz : -1.961 dBm<br>OBW : 18.179 MHz | Measured 26 dB Bandwidth: 29.330 MHz<br>Measured 99% Bandwidth: 18.179 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5580.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

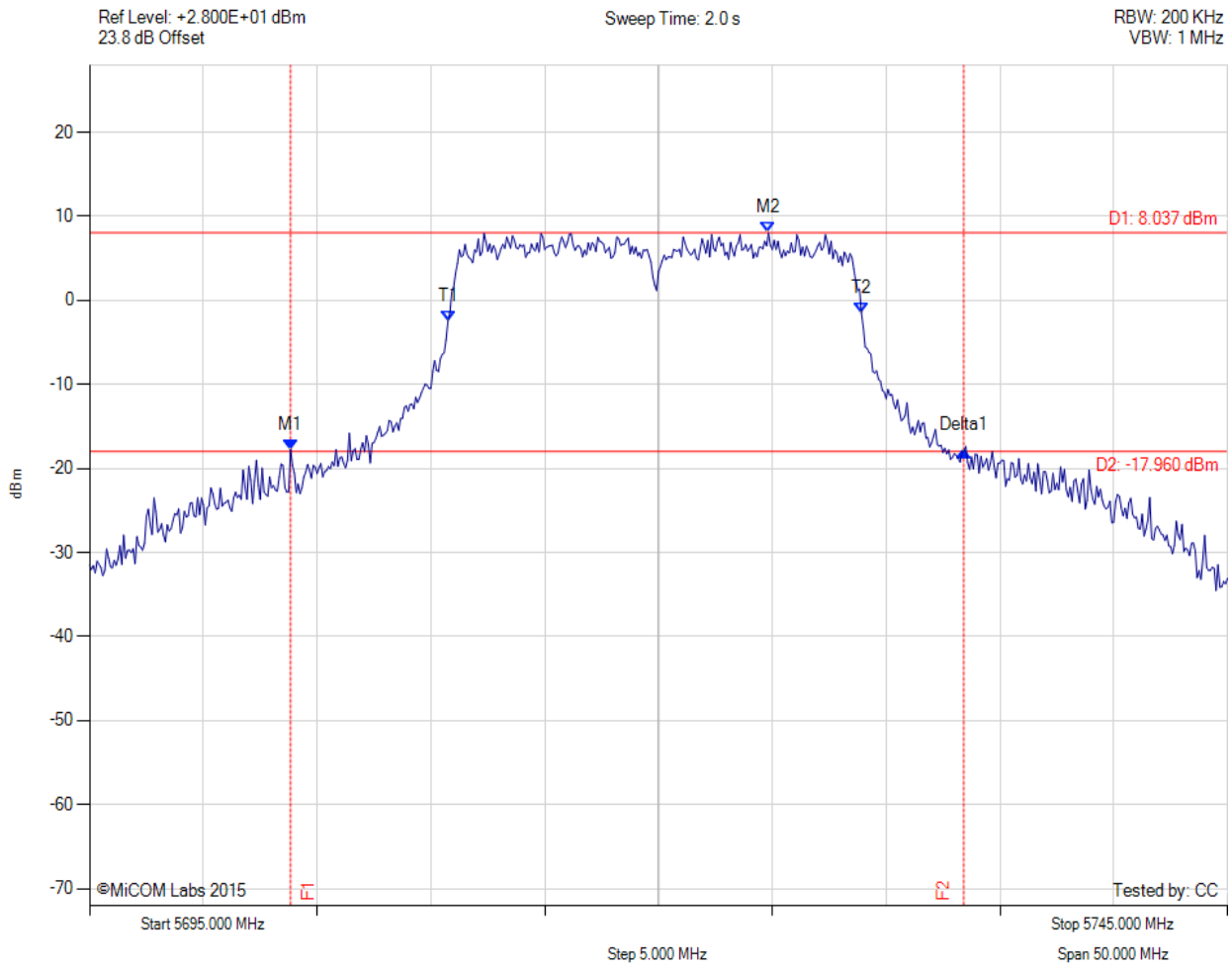



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5565.920 MHz : -14.829 dBm<br>M2 : 5574.830 MHz : 9.678 dBm<br>Delta1 : 29.750 MHz : -3.846 dB<br>T1 : 5570.667 MHz : -3.617 dBm<br>T2 : 5588.917 MHz : -1.034 dBm<br>OBW : 18.262 MHz | Measured 26 dB Bandwidth: 29.750 MHz<br>Measured 99% Bandwidth: 18.262 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5720.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

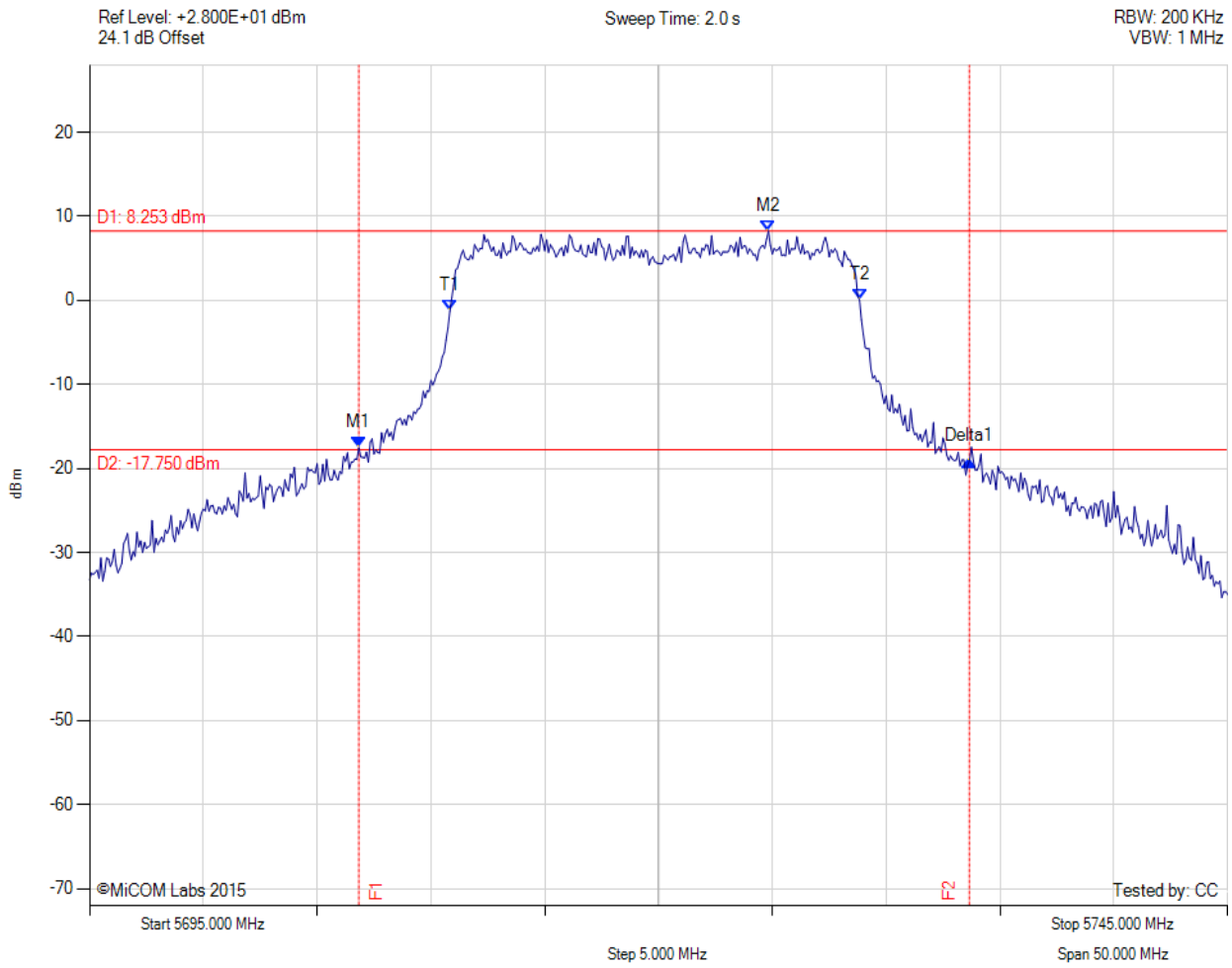



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5703.830 MHz : -17.747 dBm<br>M2 : 5724.830 MHz : 8.037 dBm<br>Delta1 : 29.580 MHz : -0.129 dB<br>T1 : 5710.750 MHz : -2.409 dBm<br>T2 : 5728.917 MHz : -1.518 dBm<br>OBW : 18.172 MHz | Measured 26 dB Bandwidth: 29.580 MHz<br>Measured 99% Bandwidth: 18.172 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5720.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

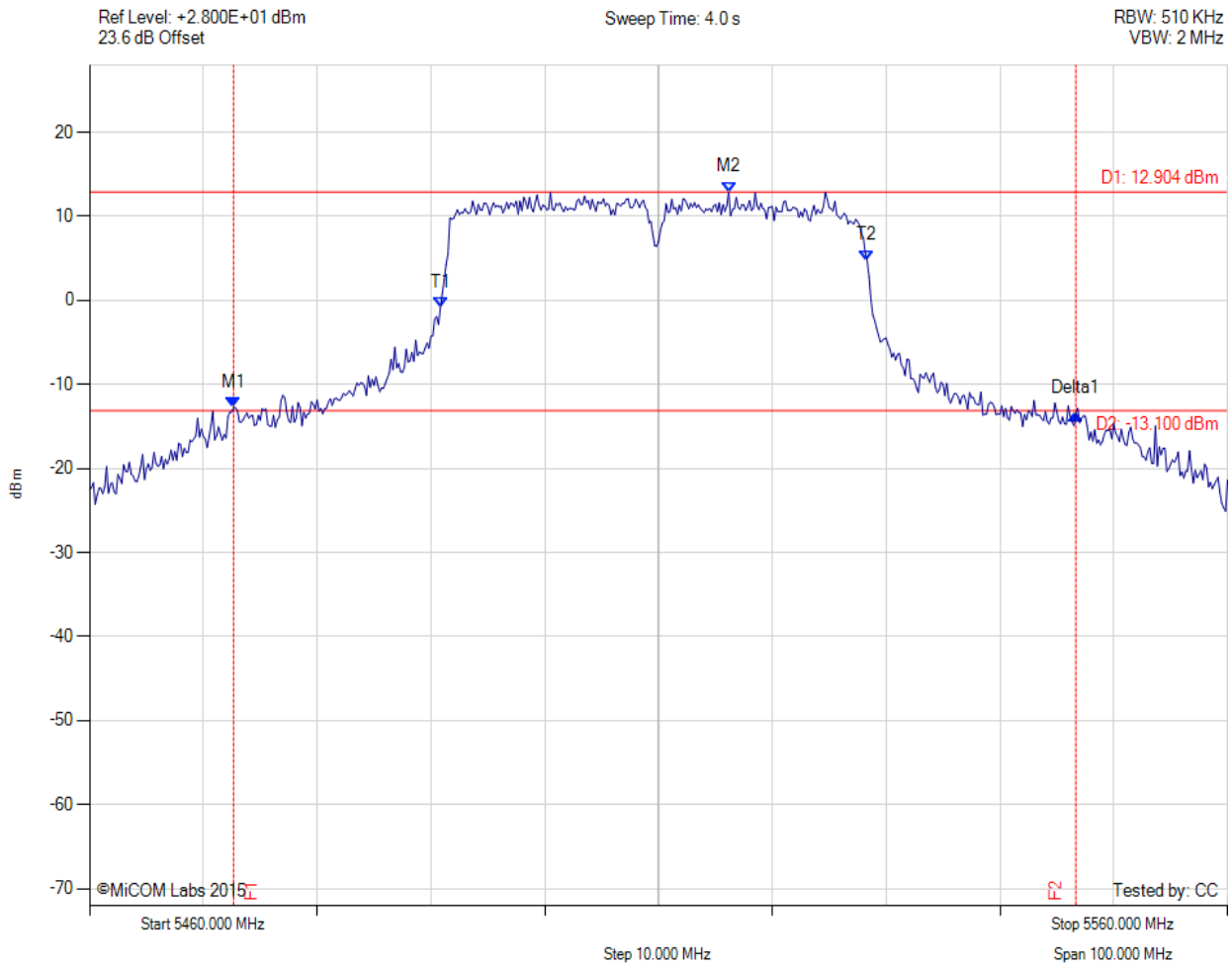



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5706.830 MHz : -17.521 dBm<br>M2 : 5724.830 MHz : 8.253 dBm<br>Delta1 : 26.830 MHz : -1.515 dB<br>T1 : 5710.833 MHz : -1.231 dBm<br>T2 : 5728.833 MHz : 0.060 dBm<br>OBW : 18.043 MHz | Measured 26 dB Bandwidth: 26.830 MHz<br>Measured 99% Bandwidth: 18.043 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5510.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

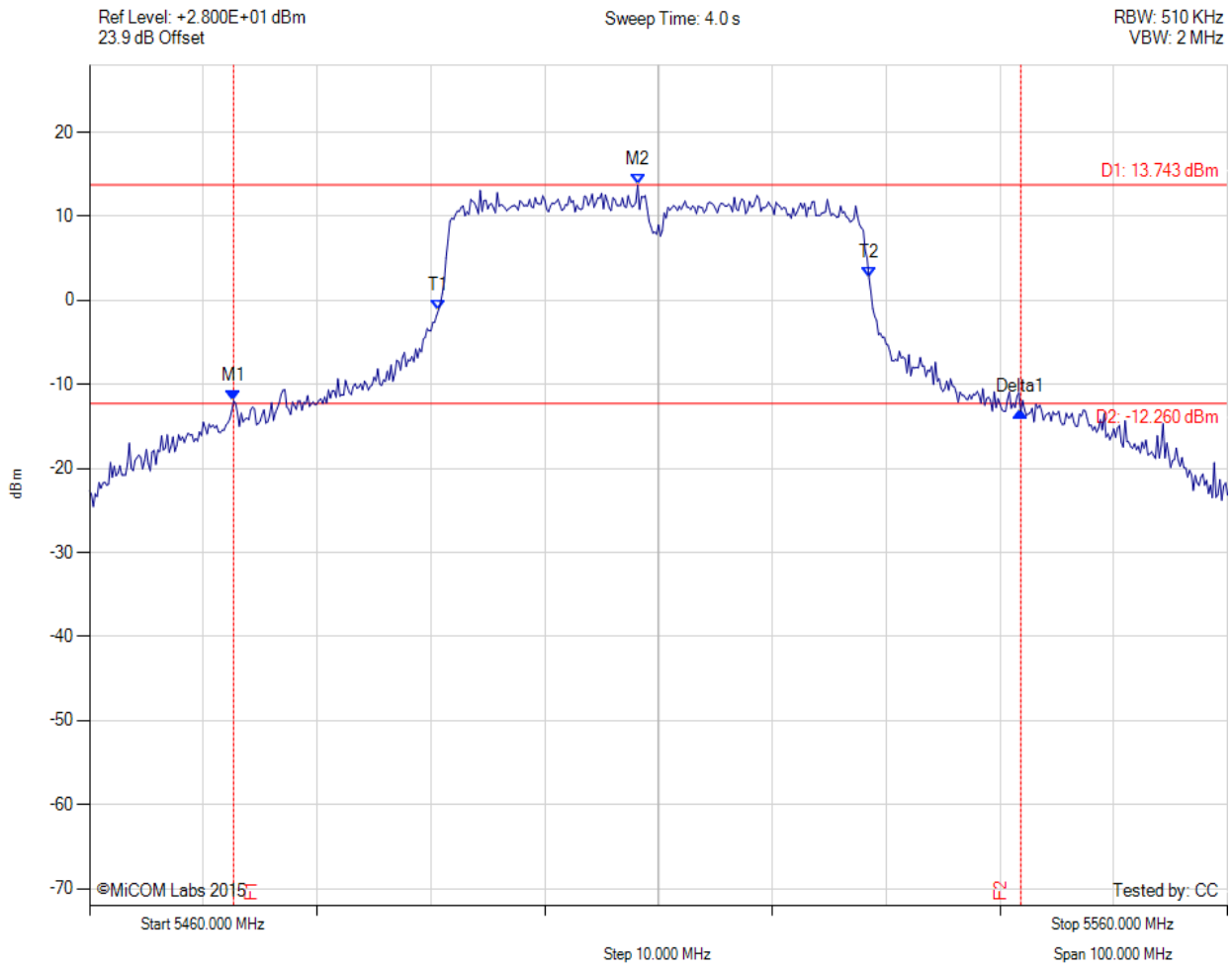



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5472.670 MHz : -12.715 dBm<br>M2 : 5516.170 MHz : 12.904 dBm<br>Delta1 : 74.000 MHz : -0.759 dB<br>T1 : 5490.833 MHz : -0.906 dBm<br>T2 : 5528.333 MHz : 4.773 dBm<br>OBW : 37.715 MHz | Measured 26 dB Bandwidth: 74.000 MHz<br>Measured 99% Bandwidth: 37.715 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5510.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

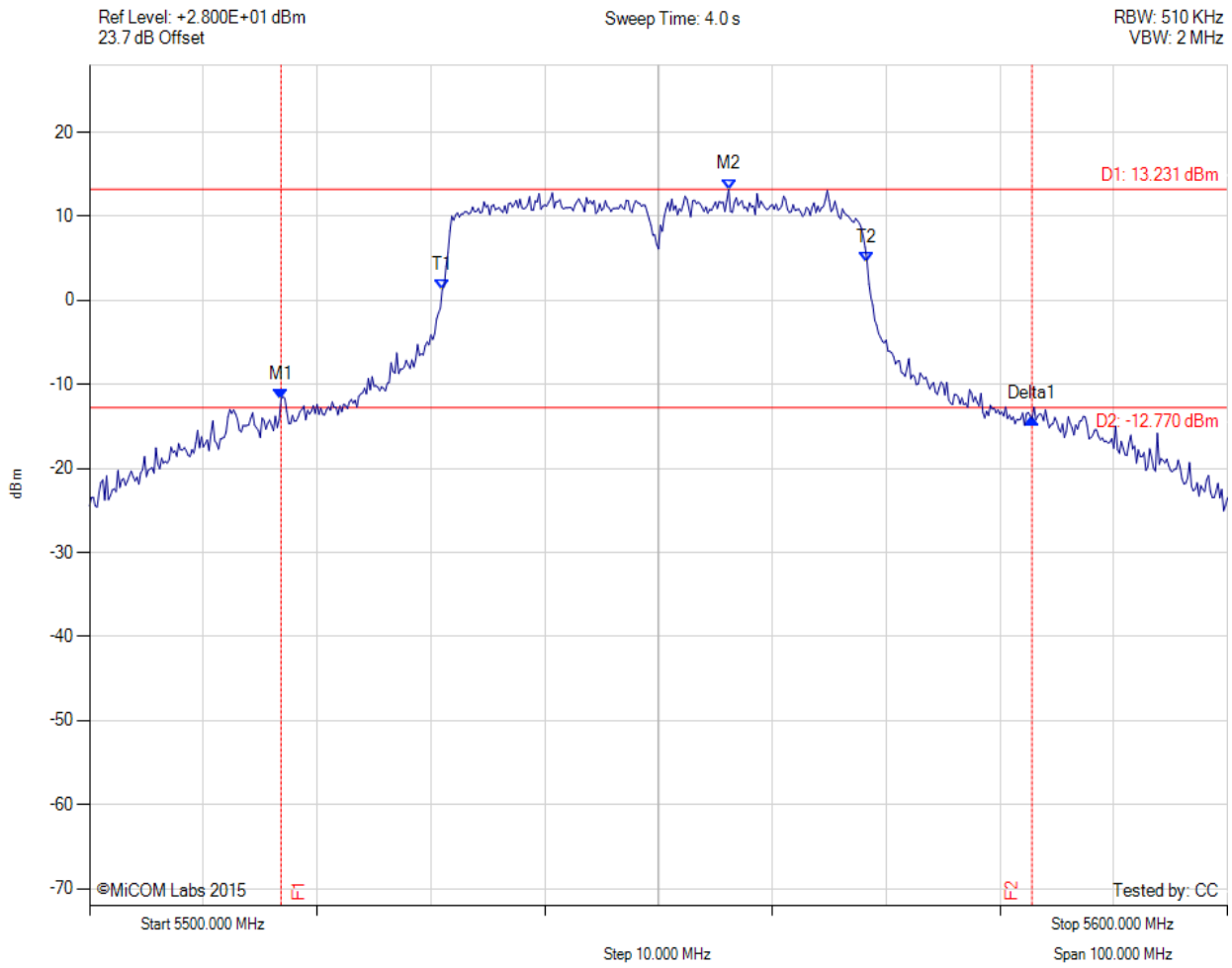



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5472.670 MHz : -11.949 dBm<br>M2 : 5508.170 MHz : 13.743 dBm<br>Delta1 : 69.170 MHz : -1.260 dB<br>T1 : 5490.667 MHz : -1.145 dBm<br>T2 : 5528.500 MHz : 2.688 dBm<br>OBW : 38.151 MHz | Measured 26 dB Bandwidth: 69.170 MHz<br>Measured 99% Bandwidth: 38.151 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5550.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

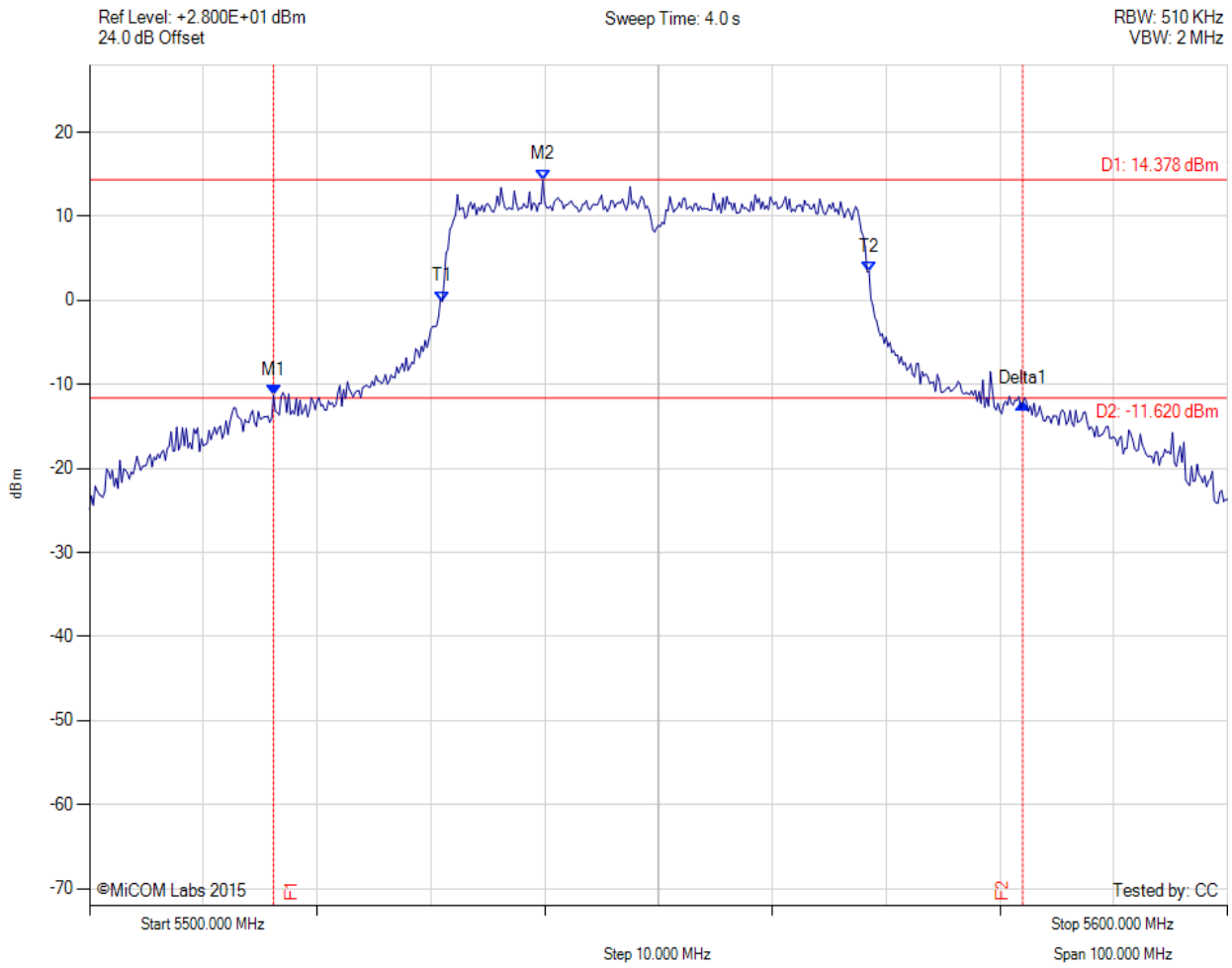



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5516.830 MHz : -11.755 dBm<br>M2 : 5556.170 MHz : 13.231 dBm<br>Delta1 : 66.000 MHz : -2.341 dB<br>T1 : 5531.000 MHz : 1.334 dBm<br>T2 : 5568.333 MHz : 4.517 dBm<br>OBW : 37.429 MHz | Measured 26 dB Bandwidth: 66.000 MHz<br>Measured 99% Bandwidth: 37.429 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5550.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

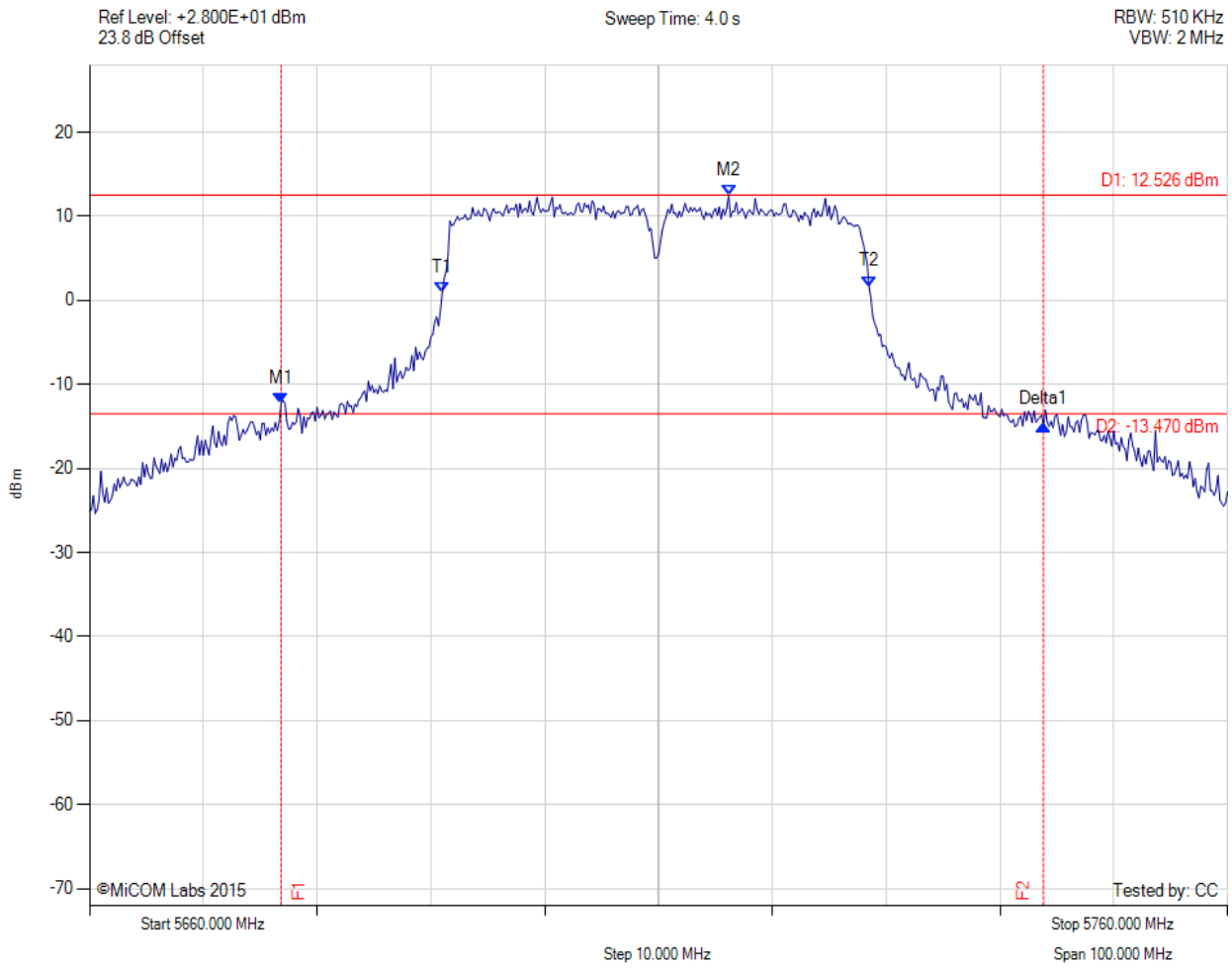



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5516.170 MHz : -11.300 dBm<br>M2 : 5539.830 MHz : 14.378 dBm<br>Delta1 : 65.830 MHz : -1.010 dB<br>T1 : 5531.000 MHz : -0.121 dBm<br>T2 : 5568.500 MHz : 3.412 dBm<br>OBW : 37.735 MHz | Measured 26 dB Bandwidth: 65.830 MHz<br>Measured 99% Bandwidth: 37.735 MHz |

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5710.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

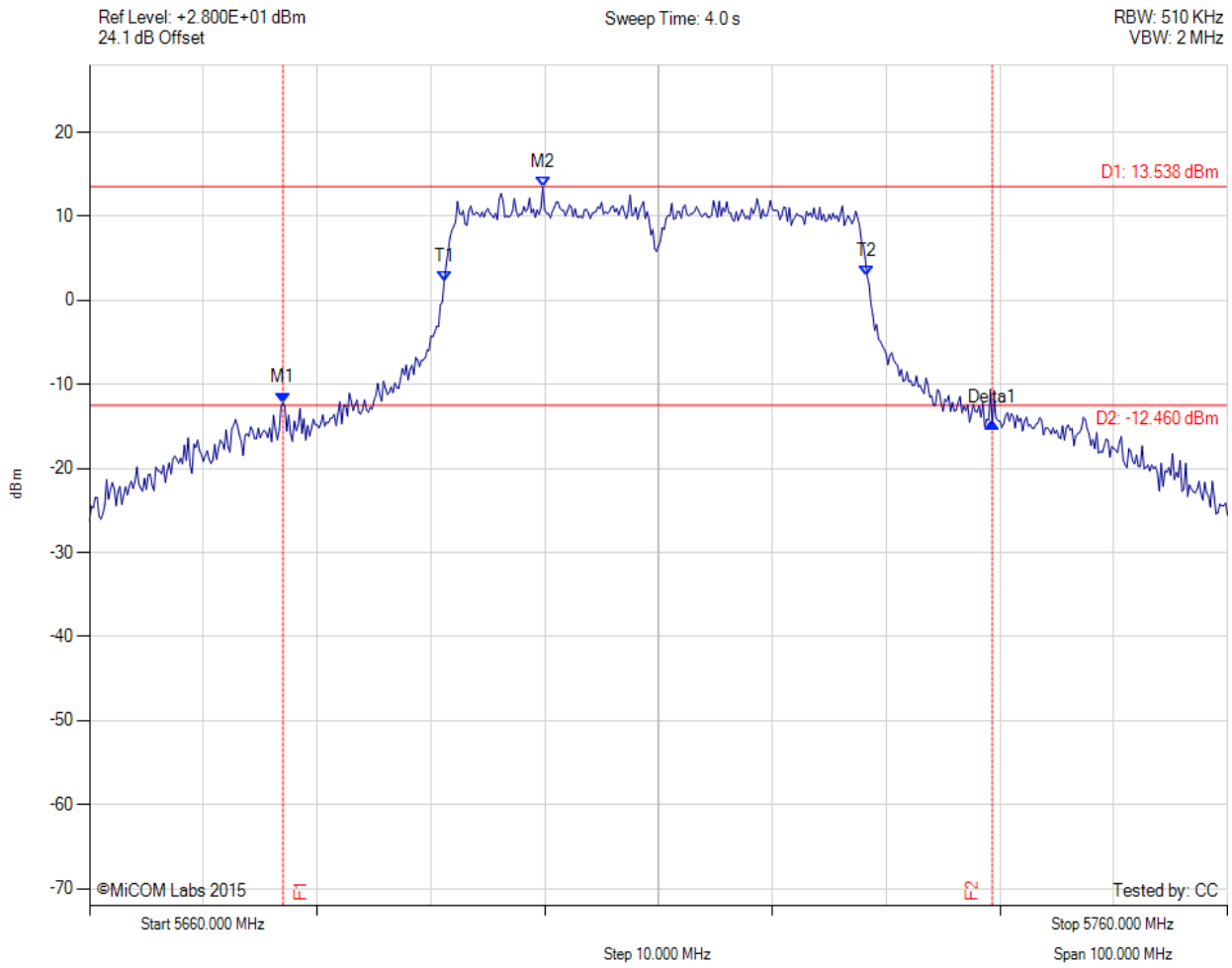



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5676.830 MHz : -12.288 dBm<br>M2 : 5716.170 MHz : 12.526 dBm<br>Delta1 : 67.000 MHz : -2.493 dB<br>T1 : 5691.000 MHz : 0.957 dBm<br>T2 : 5728.500 MHz : 1.664 dBm<br>OBW : 37.673 MHz | Measured 26 dB Bandwidth: 67.000 MHz<br>Measured 99% Bandwidth: 37.673 MHz |

back to matrix

26 dB & 99% BANDWIDTH

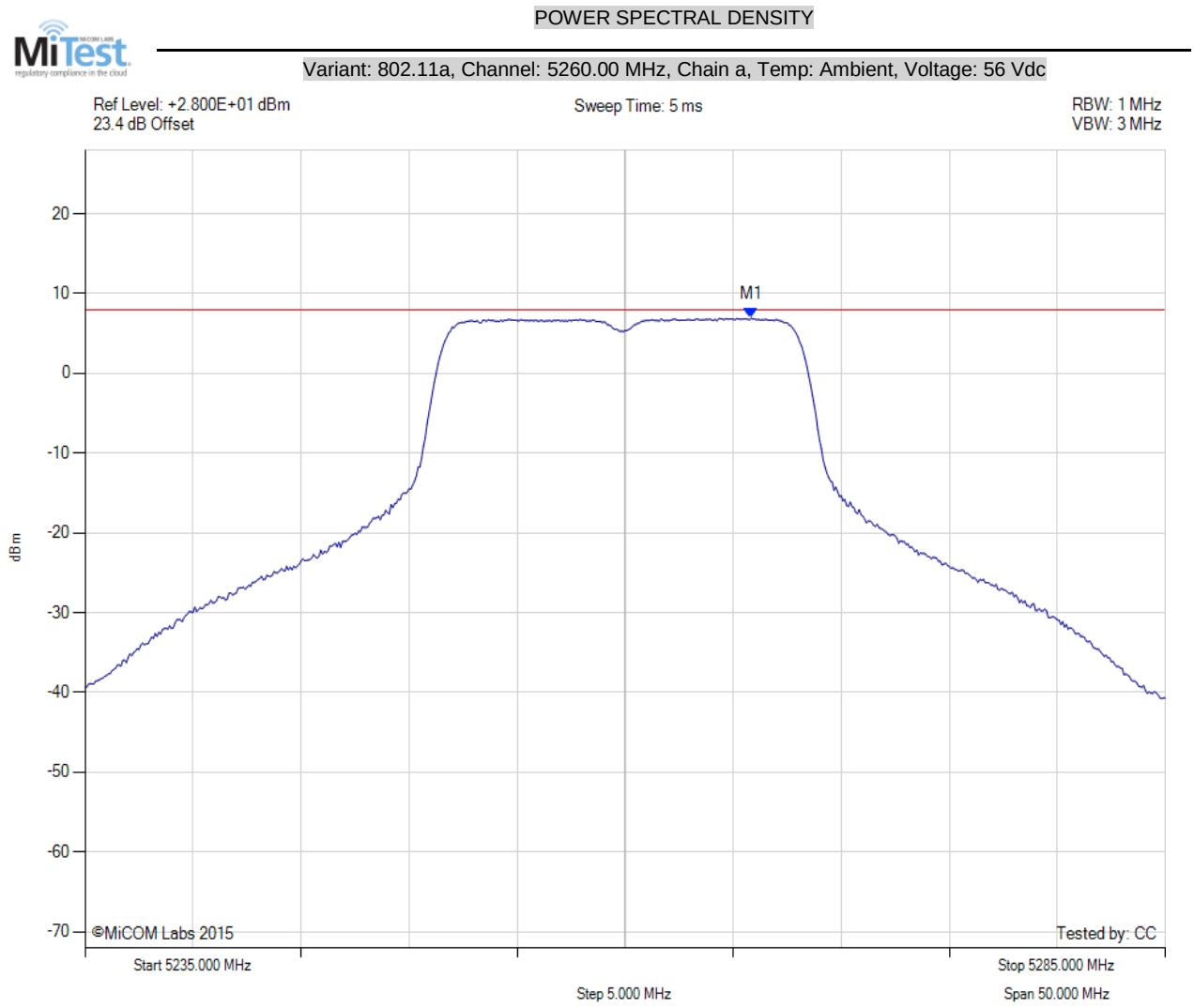
Variant: 802.11n HT-40, Channel: 5710.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc




| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = POS<br>Sweep Count = 0<br>RF Atten (dB) = 20<br>Trace Mode = MAXH | M1 : 5677.000 MHz : -12.173 dBm<br>M2 : 5699.830 MHz : 13.538 dBm<br>Delta1 : 62.330 MHz : -2.419 dB<br>T1 : 5691.167 MHz : 2.299 dBm<br>T2 : 5728.333 MHz : 2.905 dBm<br>OBW : 37.293 MHz | Measured 26 dB Bandwidth: 62.330 MHz<br>Measured 99% Bandwidth: 37.293 MHz |

back to matrix

## A.2. Power Spectral Density

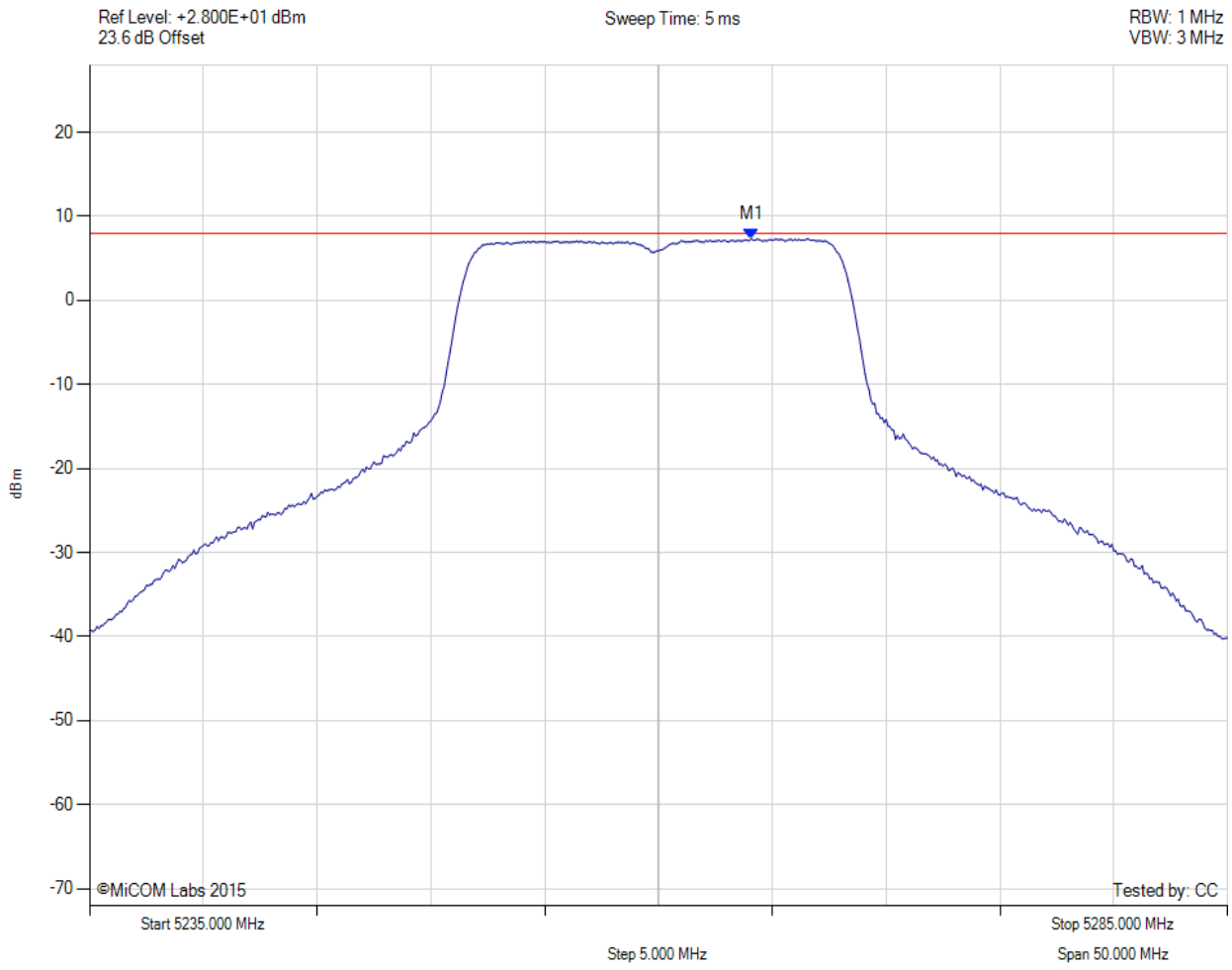



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5265.830 MHz : 6.928 dBm | Limit: ≤ 7.990 dBm |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5260.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

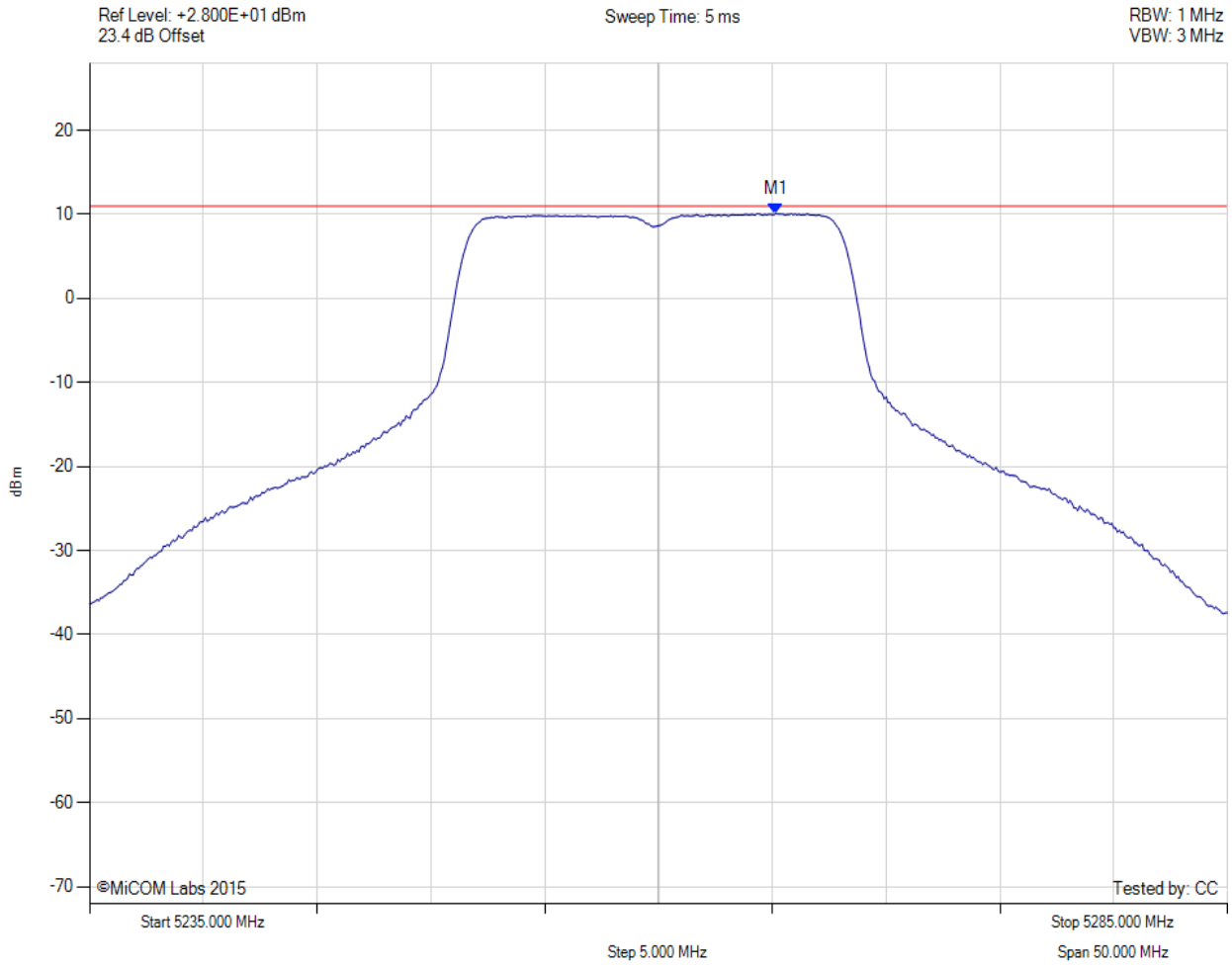



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5264.080 MHz : 7.353 dBm | Limit: ≤ 7.990 dBm |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5260.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

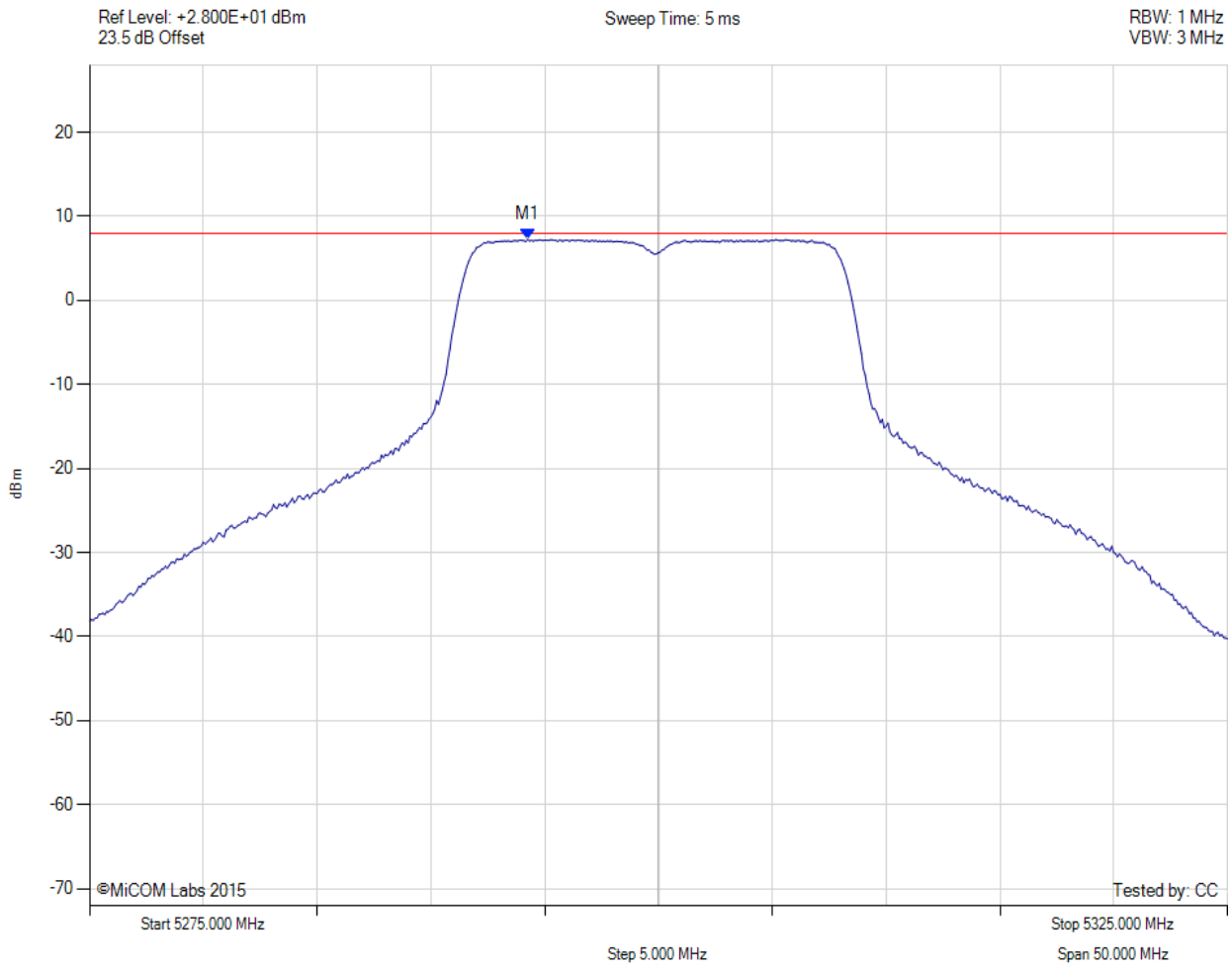



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5265.200 MHz : 10.111 dBm<br>M1 + DCCF : 5265.200 MHz : 10.155 dBm<br>Duty Cycle Correction Factor : +0.04 dB | Limit: ≤ 11.0 dBm<br>Margin: -0.9 dB |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5300.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

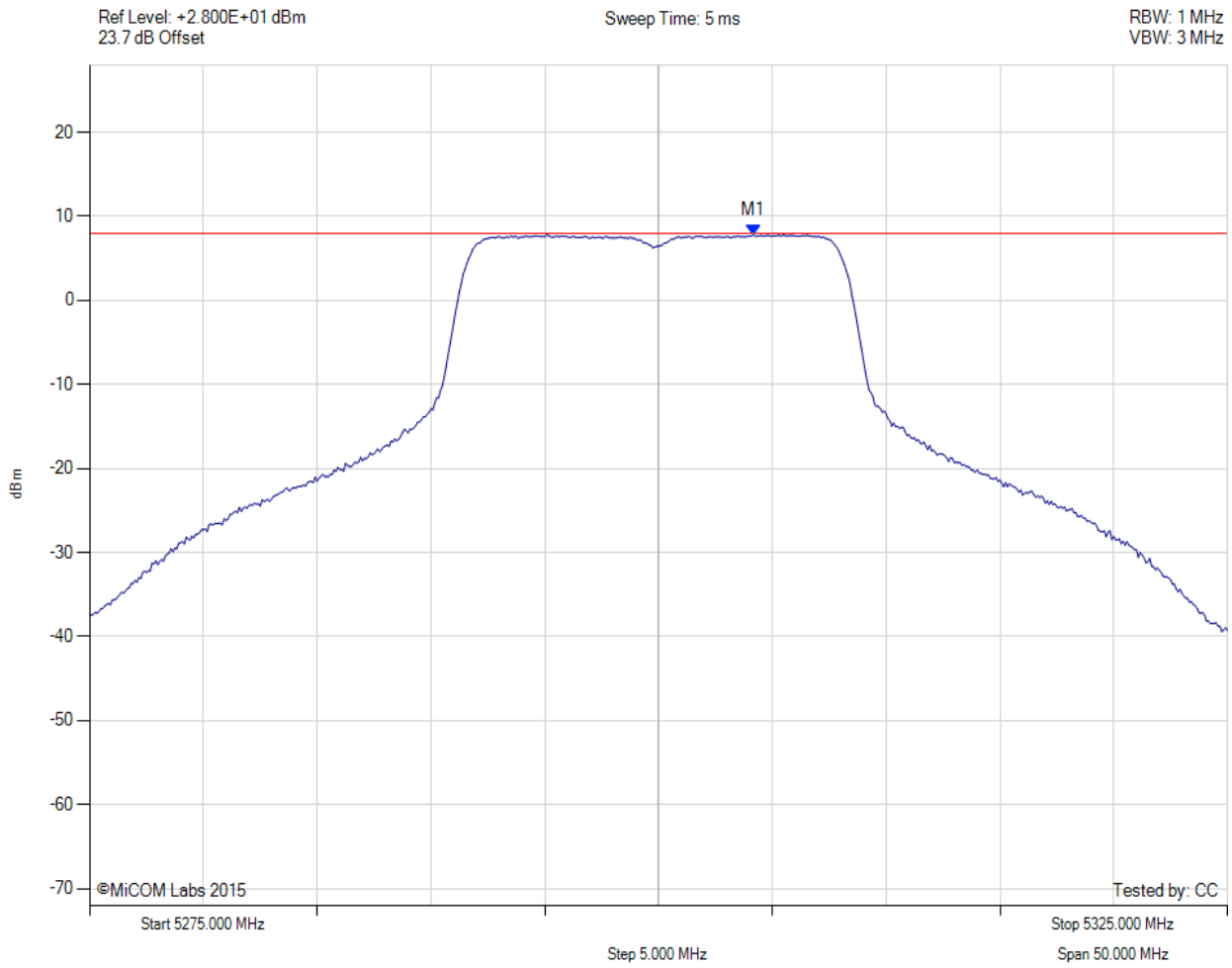



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5294.250 MHz : 7.278 dBm | Limit: ≤ 7.990 dBm |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5300.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

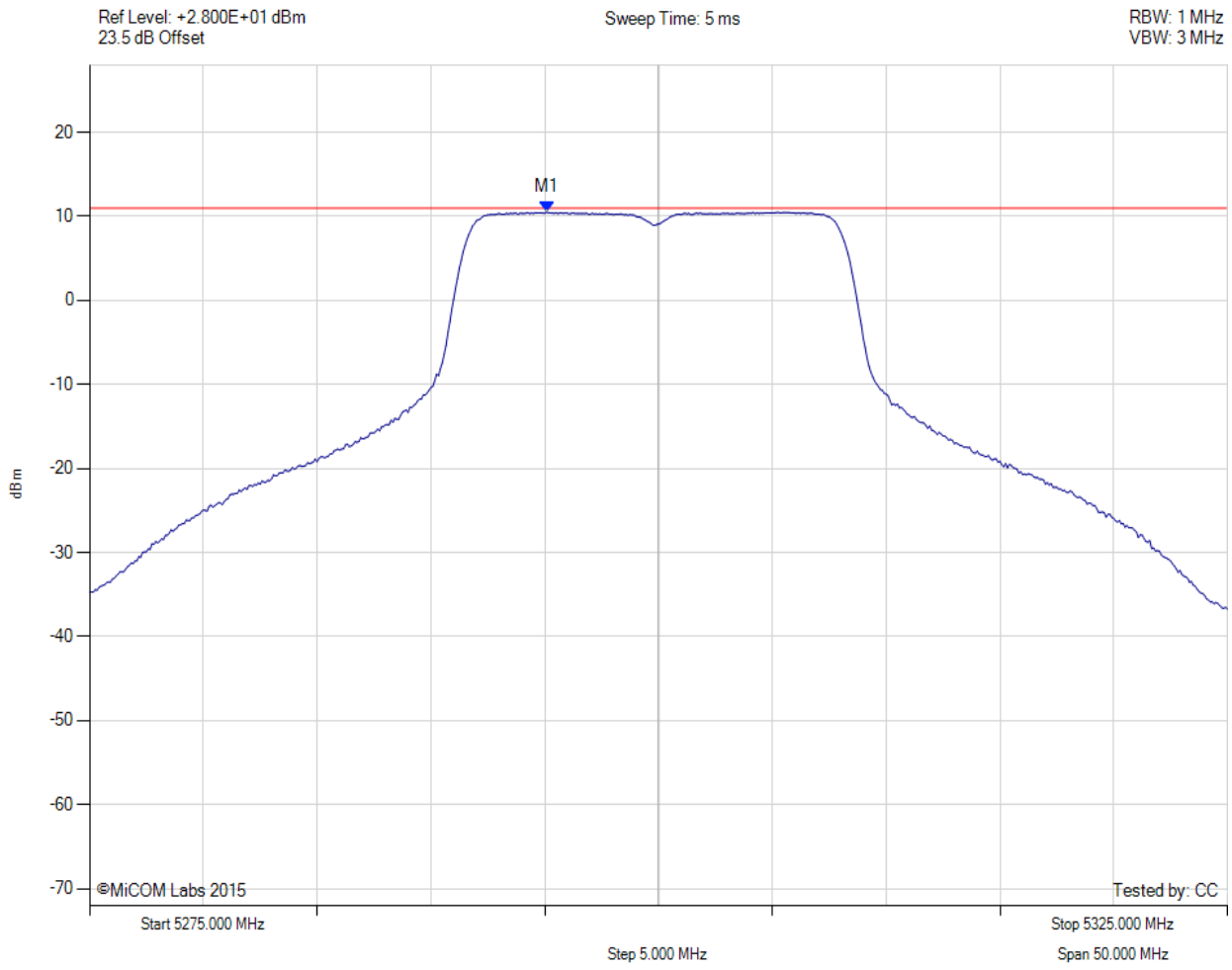



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5304.170 MHz : 7.838 dBm | Channel Frequency: 5300.00 MHz |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5300.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

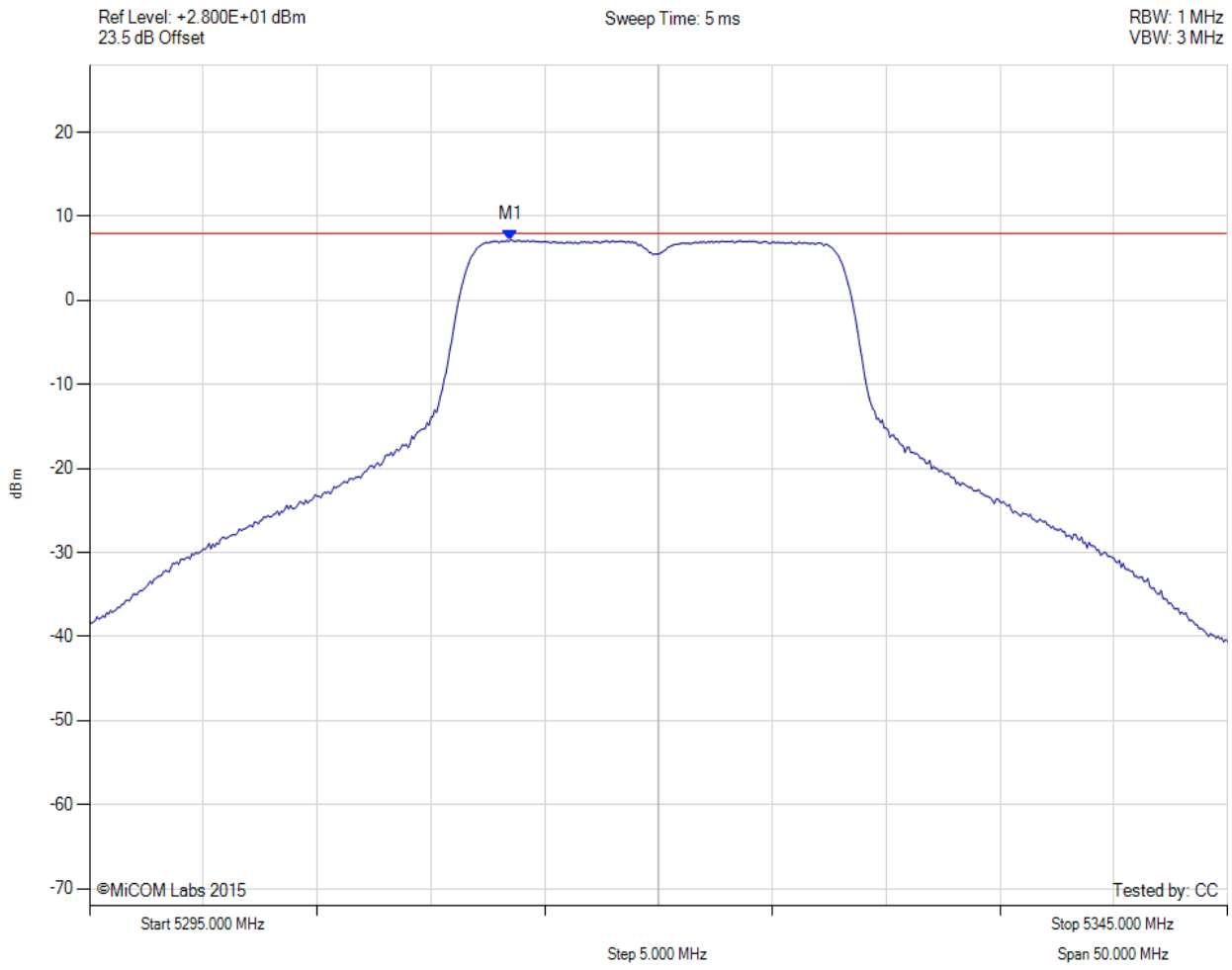



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5295.100 MHz : 10.516 dBm<br>M1 + DCCF : 5295.100 MHz : 10.560 dBm<br>Duty Cycle Correction Factor : +0.04 dB | Limit: ≤ 11.0 dBm<br>Margin: -0.5 dB |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5320.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

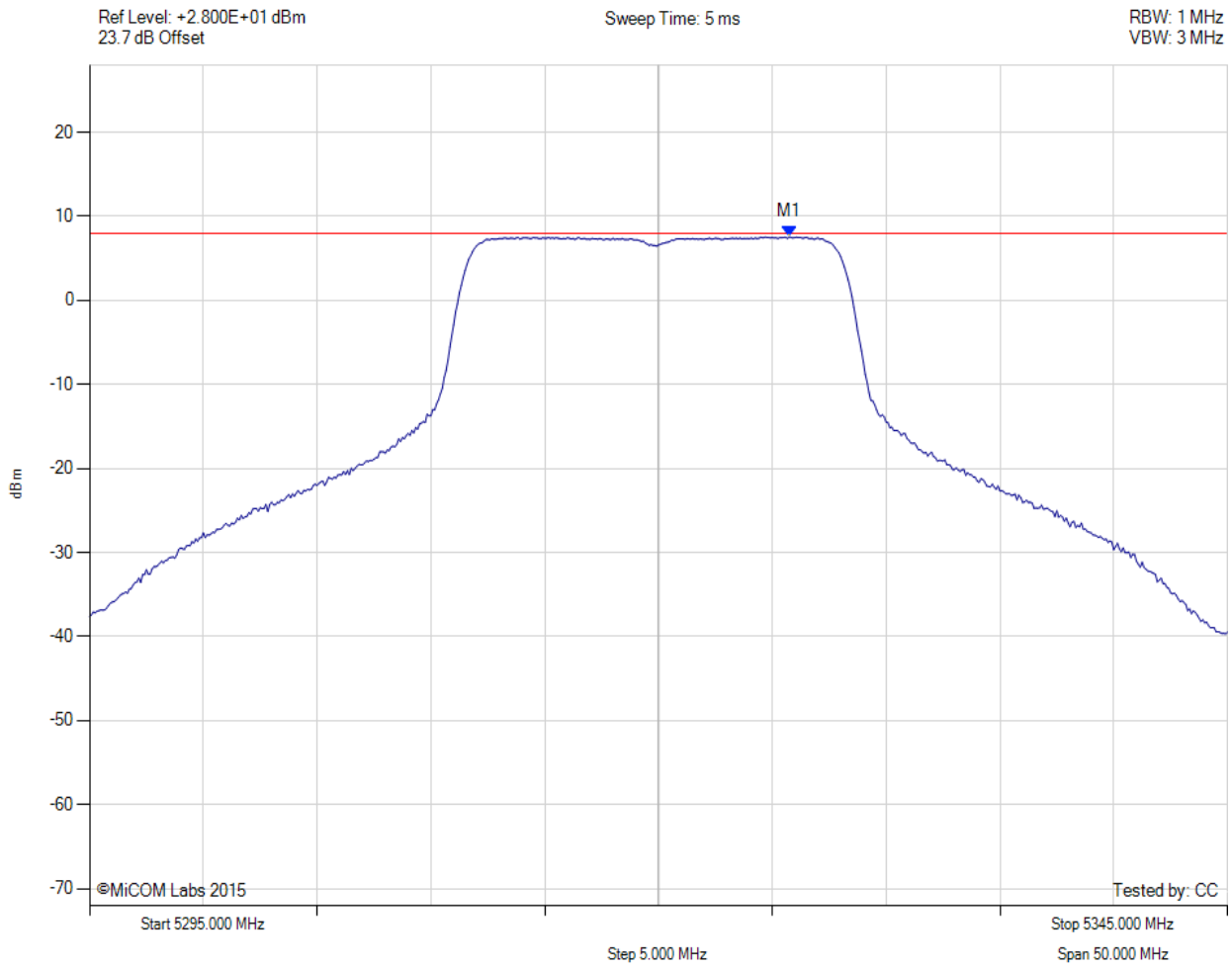



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5313.500 MHz : 7.202 dBm | Limit: ≤ 7.990 dBm |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5320.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

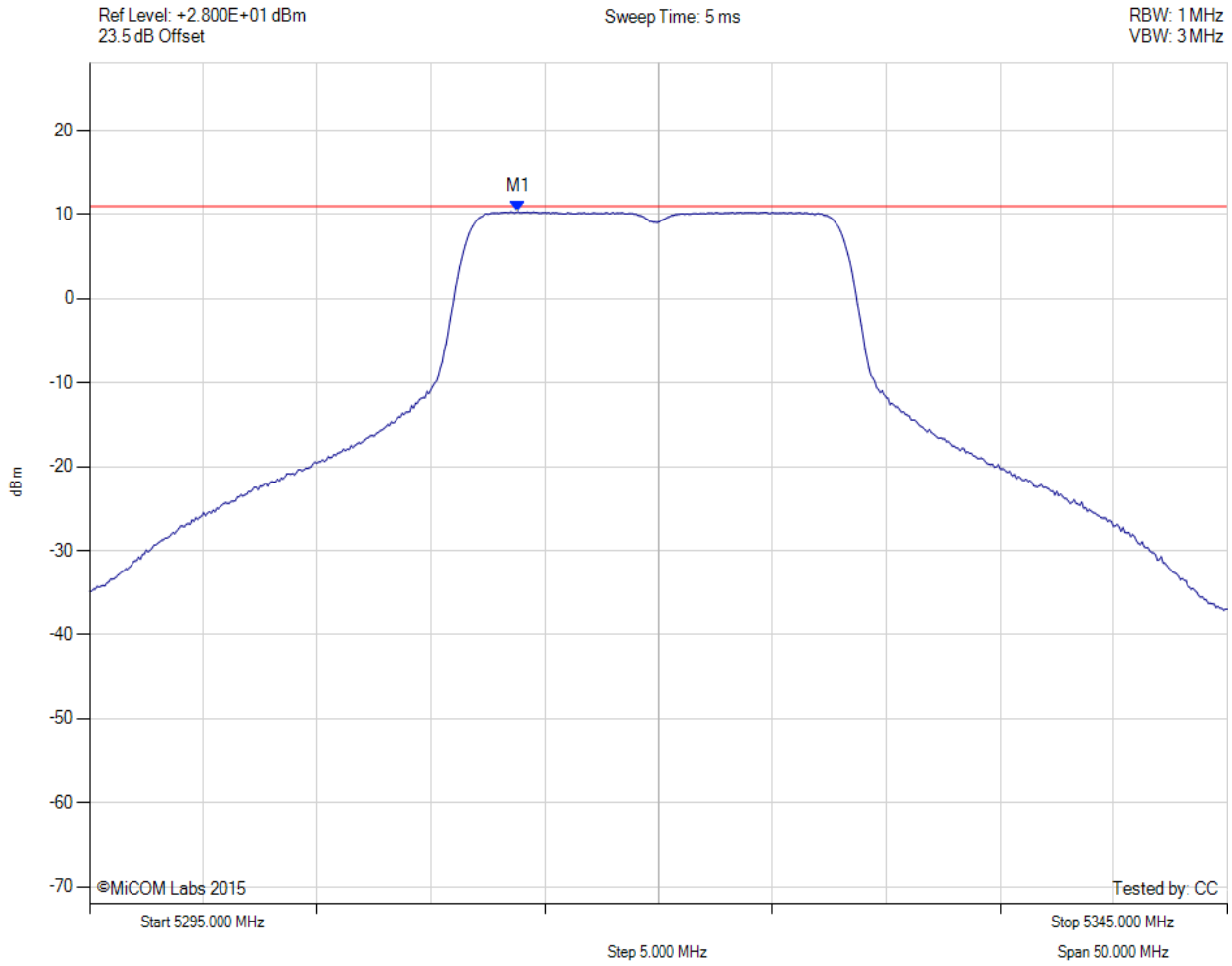



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5325.750 MHz : 7.561 dBm | Limit: ≤ 7.990 dBm |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5320.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

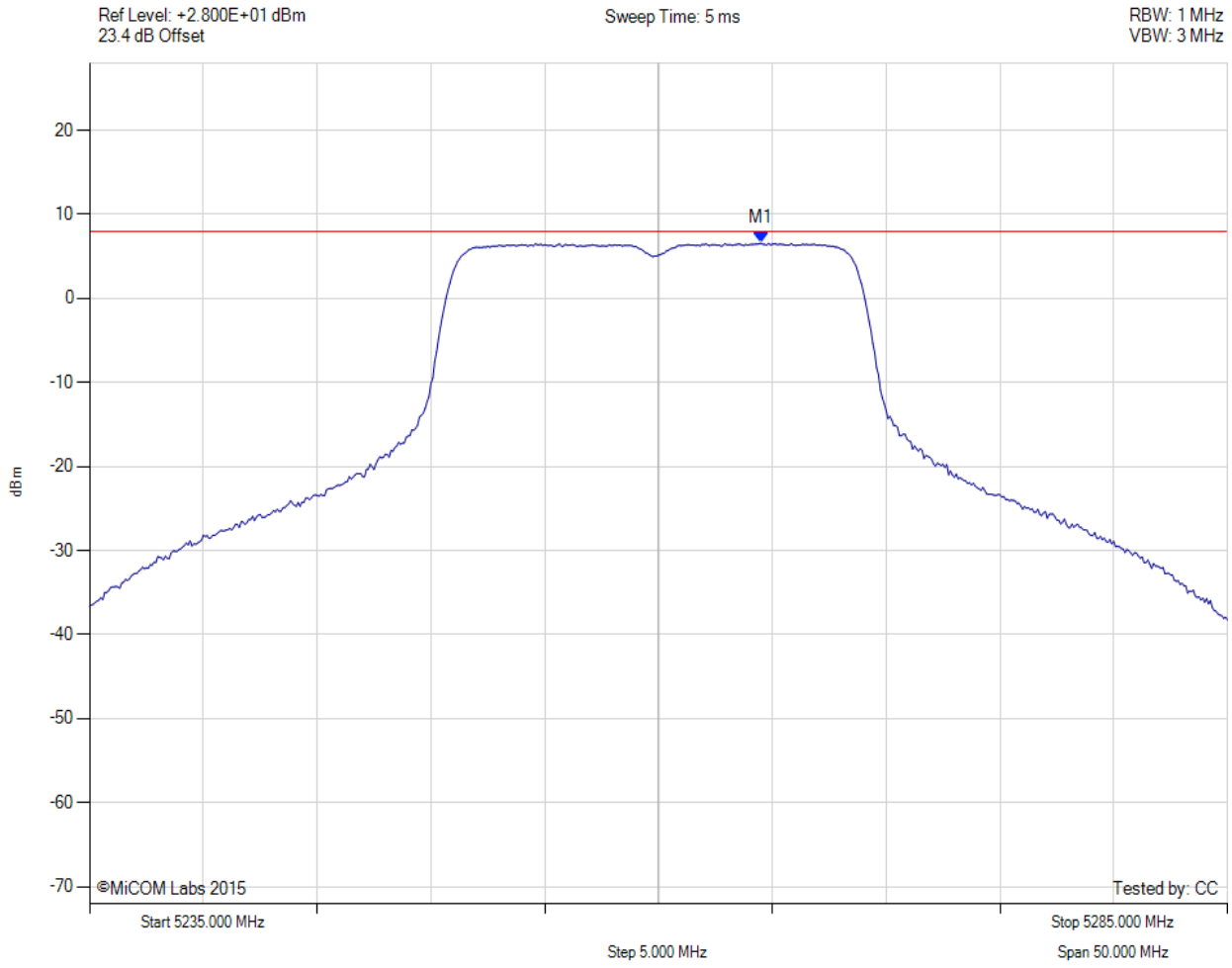



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5313.800 MHz : 10.338 dBm<br>M1 + DCCF : 5313.800 MHz : 10.382 dBm<br>Duty Cycle Correction Factor : +0.04 dB | Limit: ≤ 11.0 dBm<br>Margin: -0.6 dB |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5260.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

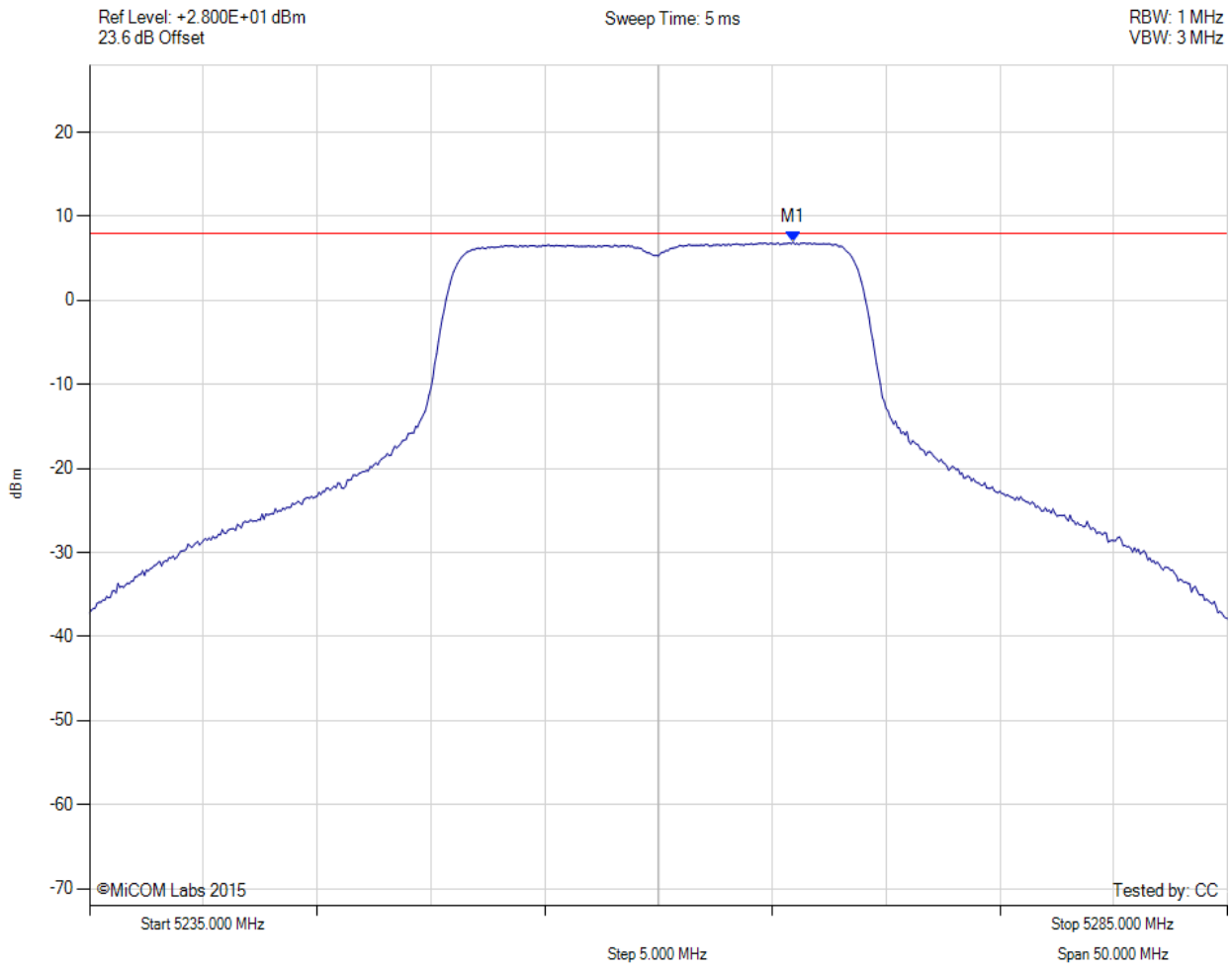



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5264.500 MHz : 6.574 dBm | Limit: ≤ 7.990 dBm |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5260.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

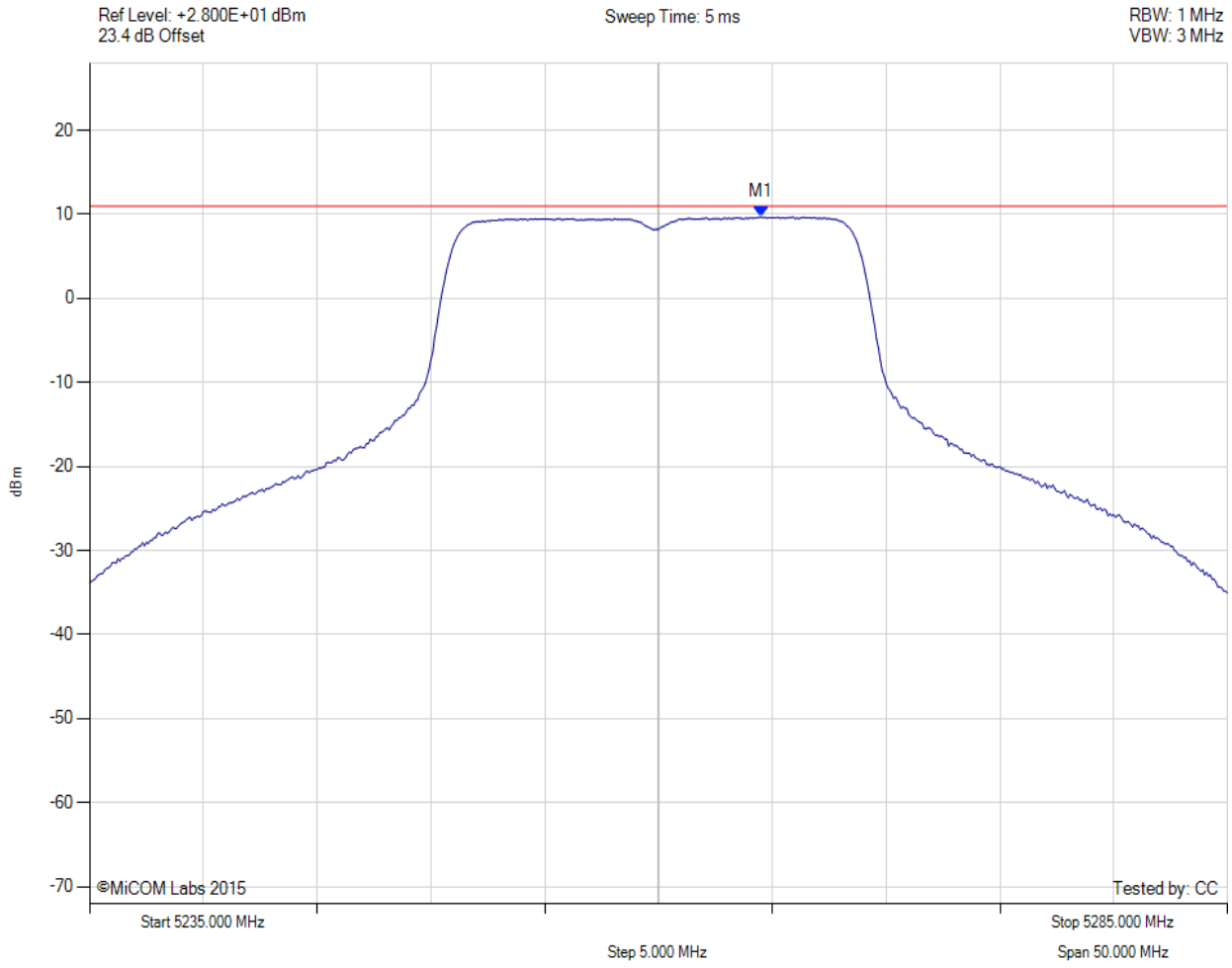



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5265.920 MHz : 6.965 dBm | Limit: ≤ 7.990 dBm |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5260.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

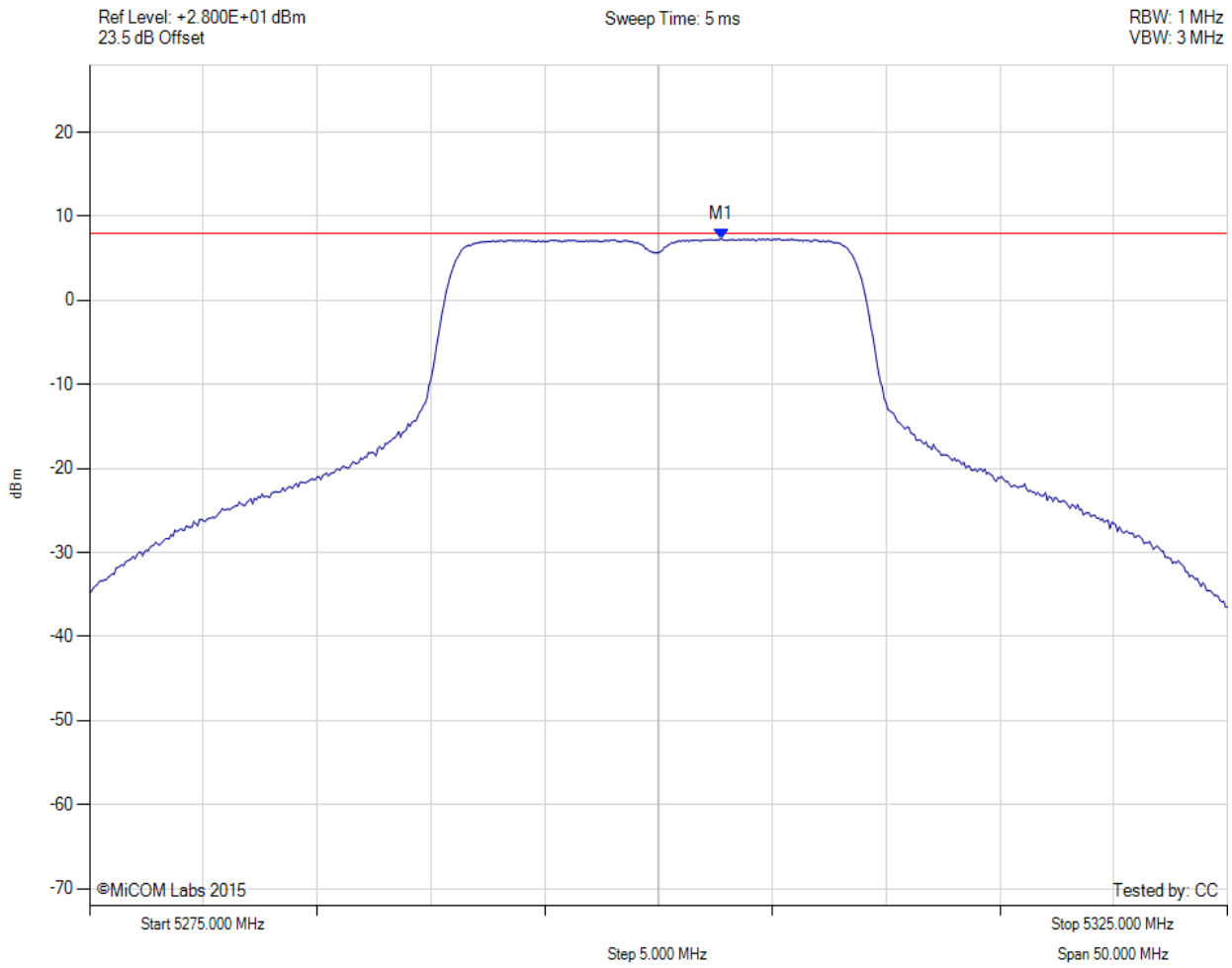



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5264.500 MHz : 9.699 dBm<br>M1 + DCCF : 5264.500 MHz : 9.743 dBm<br>Duty Cycle Correction Factor : +0.04 dB | Limit: ≤ 11.0 dBm<br>Margin: -1.3 dB |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5300.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

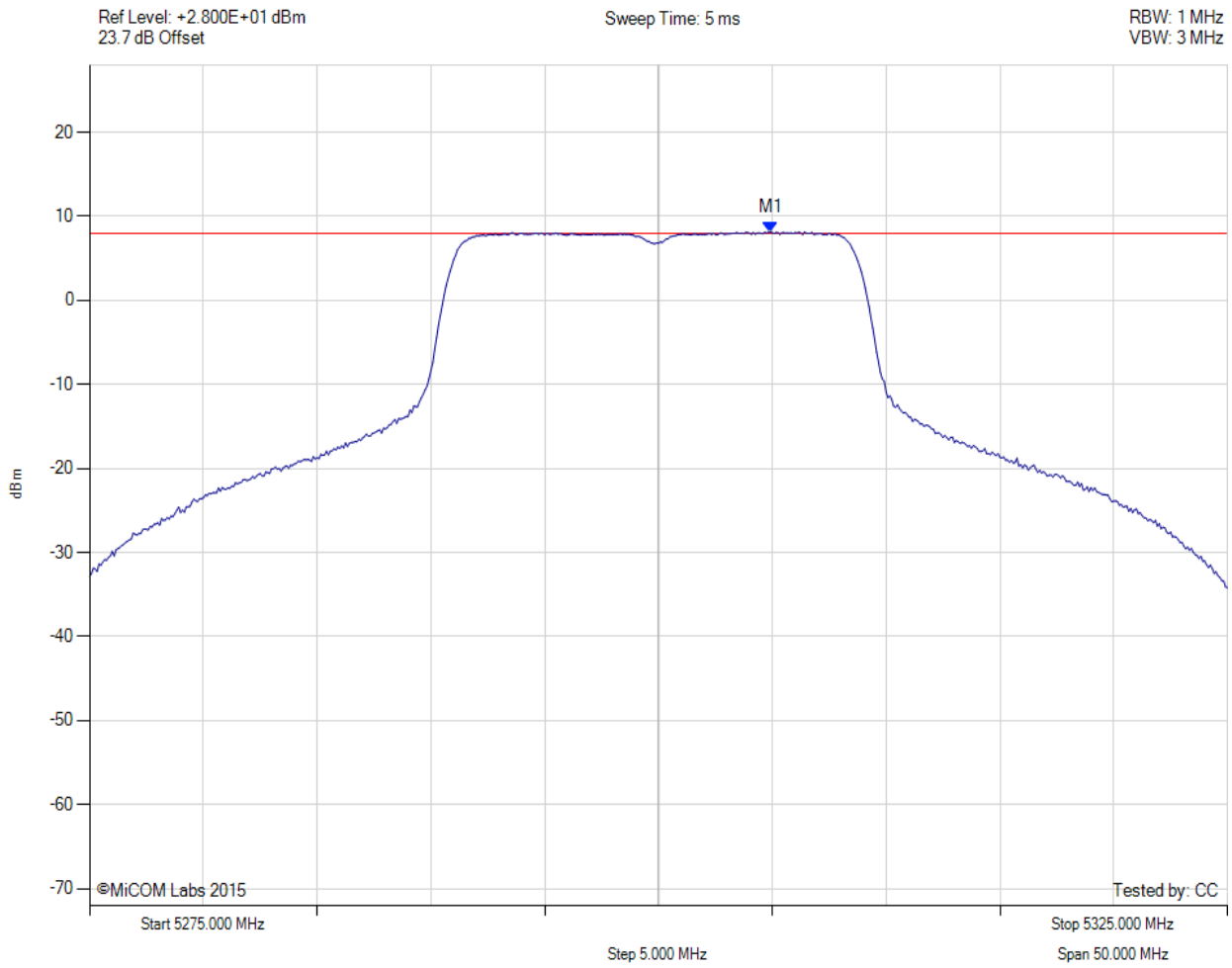



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5302.750 MHz : 7.349 dBm | Limit: ≤ 7.990 dBm |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5300.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

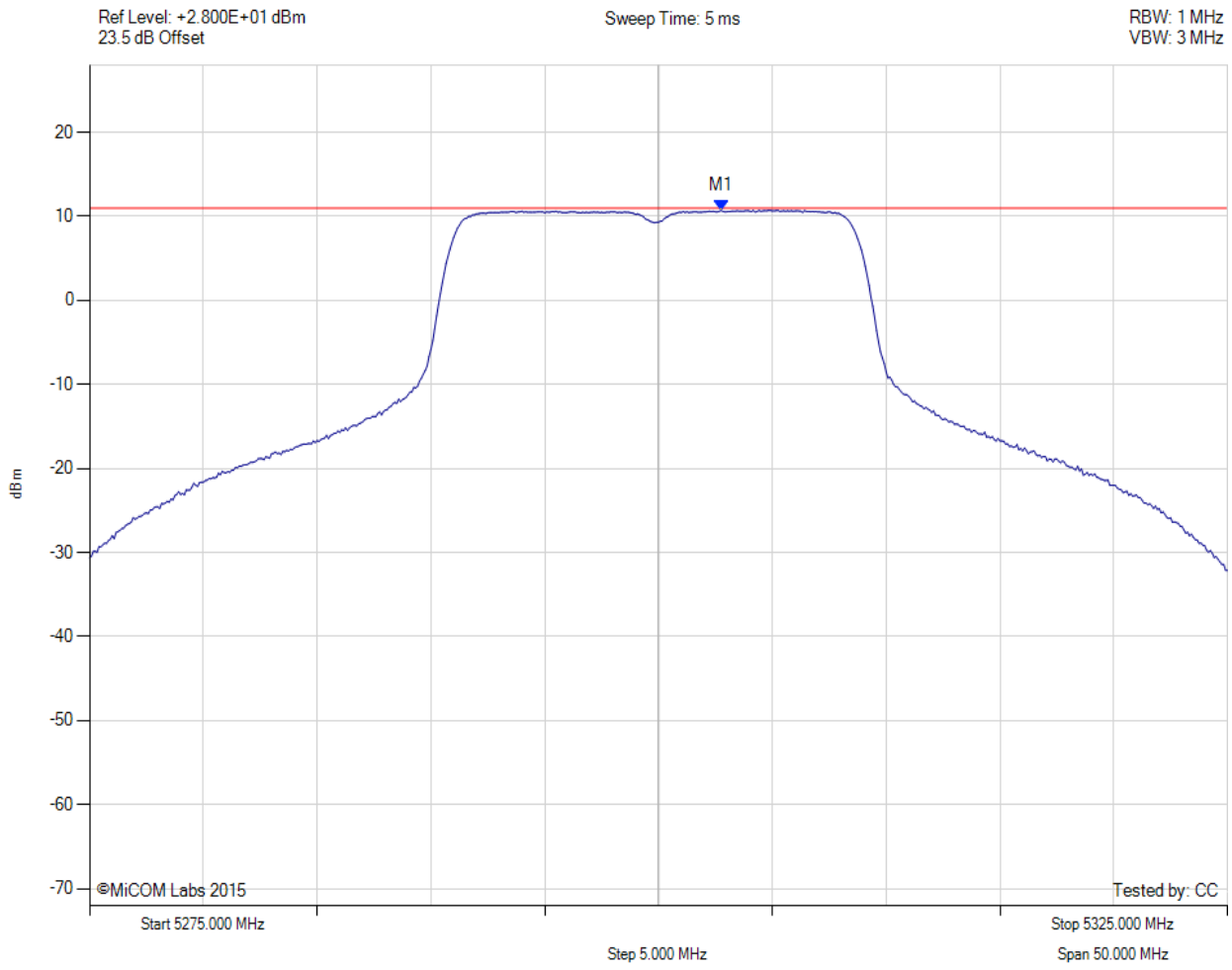



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5304.920 MHz : 8.146 dBm | Channel Frequency: 5300.00 MHz |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5300.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

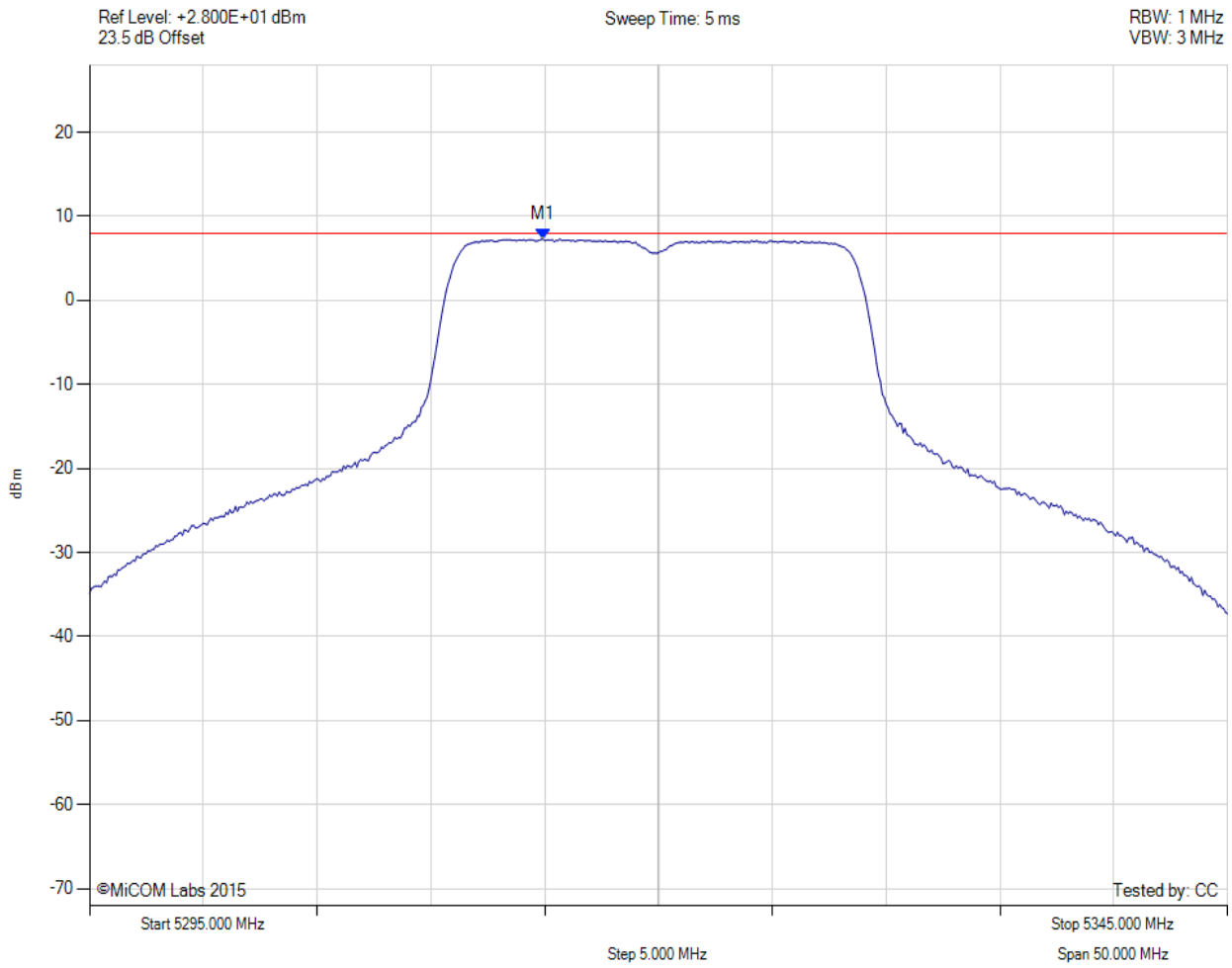



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5302.800 MHz : 10.717 dBm<br>M1 + DCCF : 5302.800 MHz : 10.761 dBm<br>Duty Cycle Correction Factor : +0.04 dB | Limit: ≤ 11.0 dBm<br>Margin: -0.2 dB |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5320.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

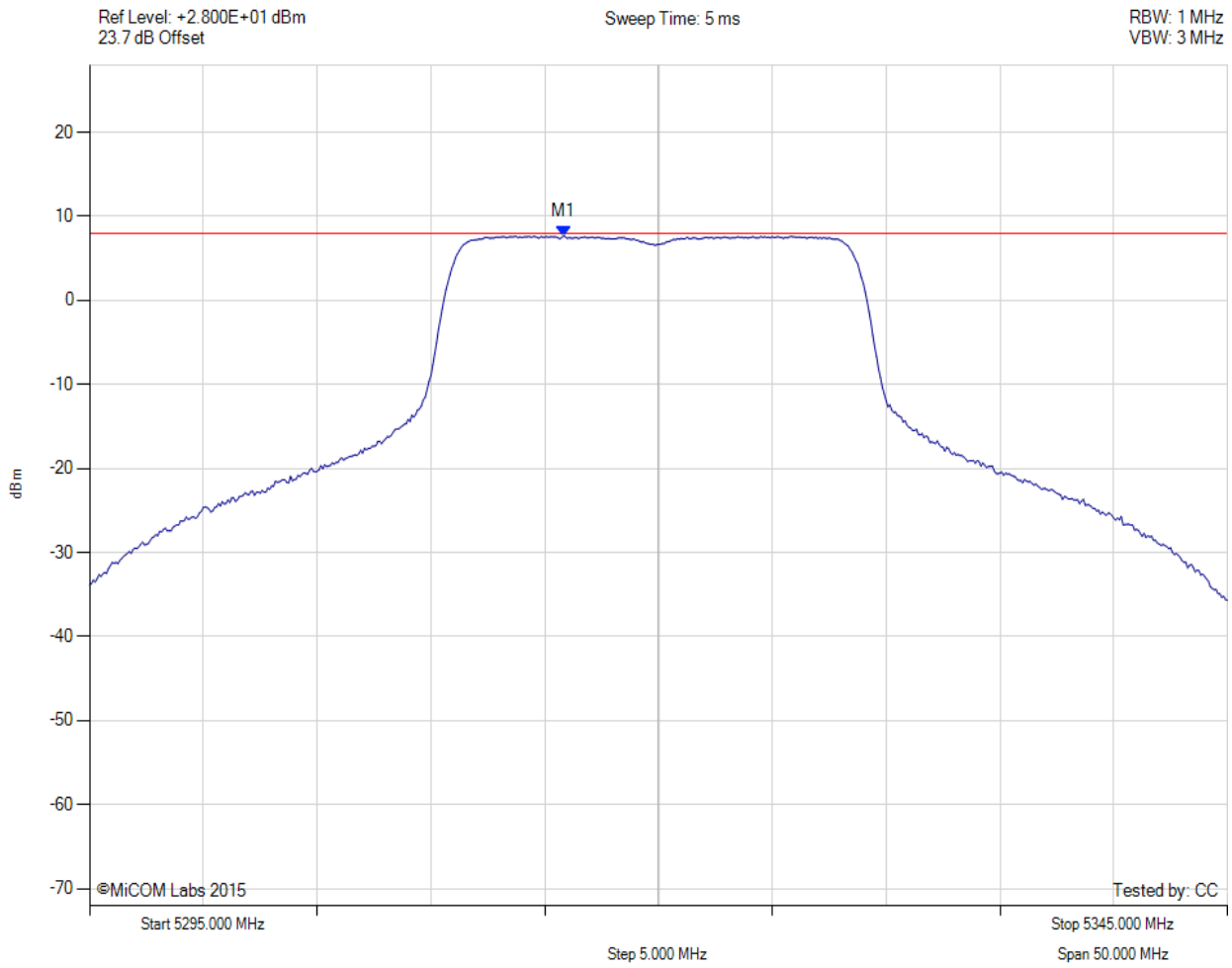



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5314.920 MHz : 7.313 dBm | Limit: ≤ 7.990 dBm |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5320.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

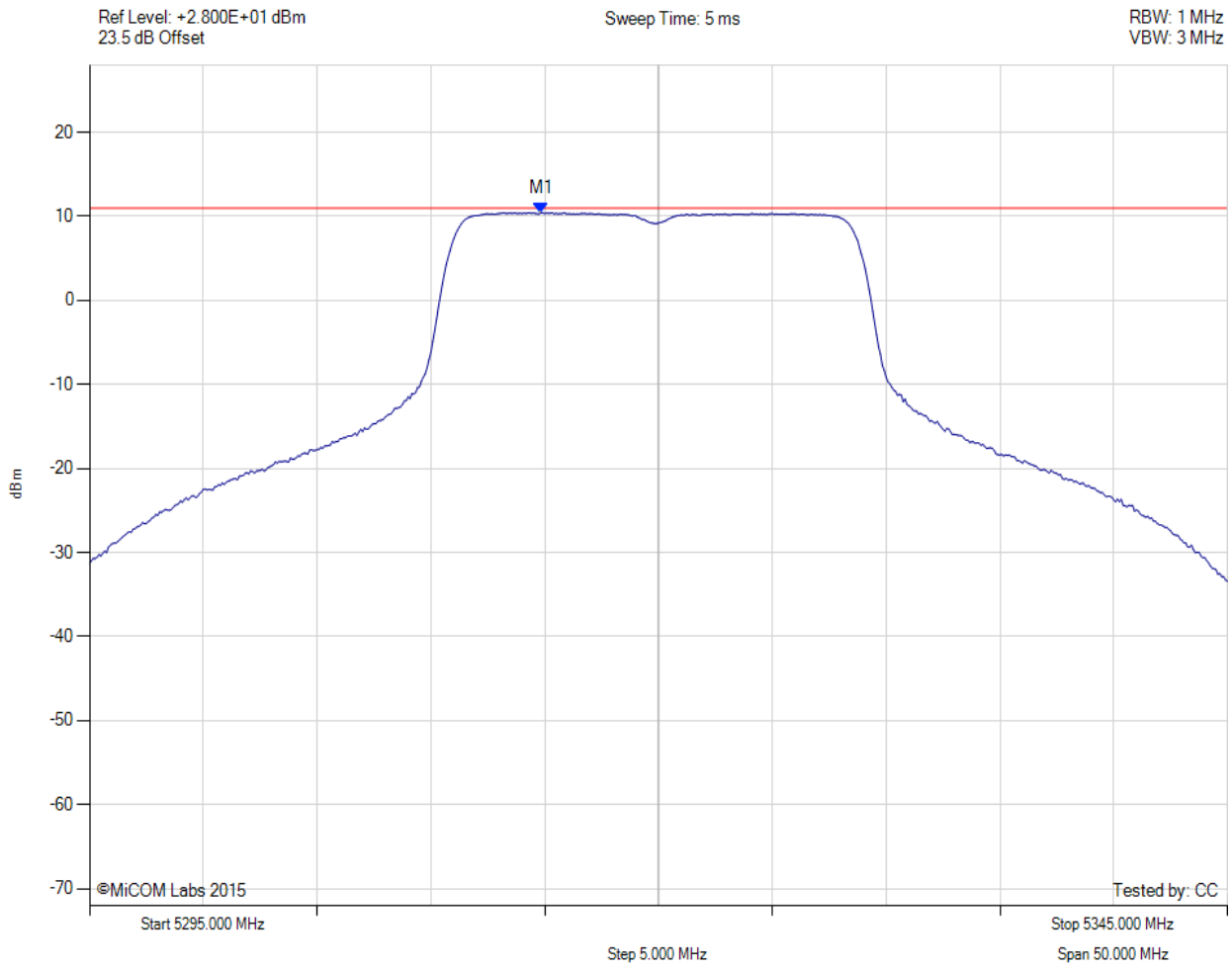



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5315.830 MHz : 7.680 dBm | Limit: ≤ 7.990 dBm |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5320.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

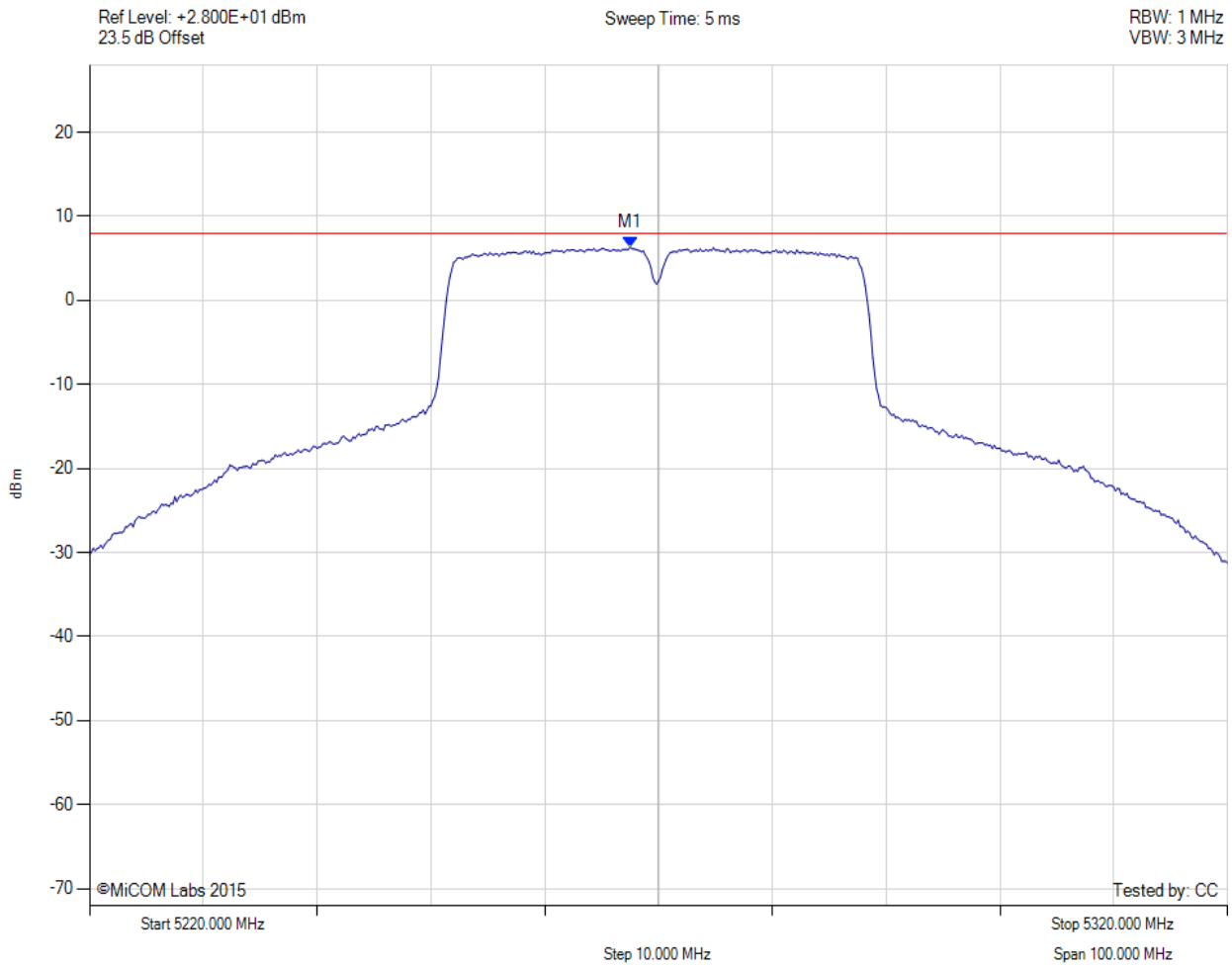



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5314.800 MHz : 10.438 dBm<br>M1 + DCCF : 5314.800 MHz : 10.482 dBm<br>Duty Cycle Correction Factor : +0.04 dB | Limit: ≤ 11.0 dBm<br>Margin: -0.5 dB |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5270.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

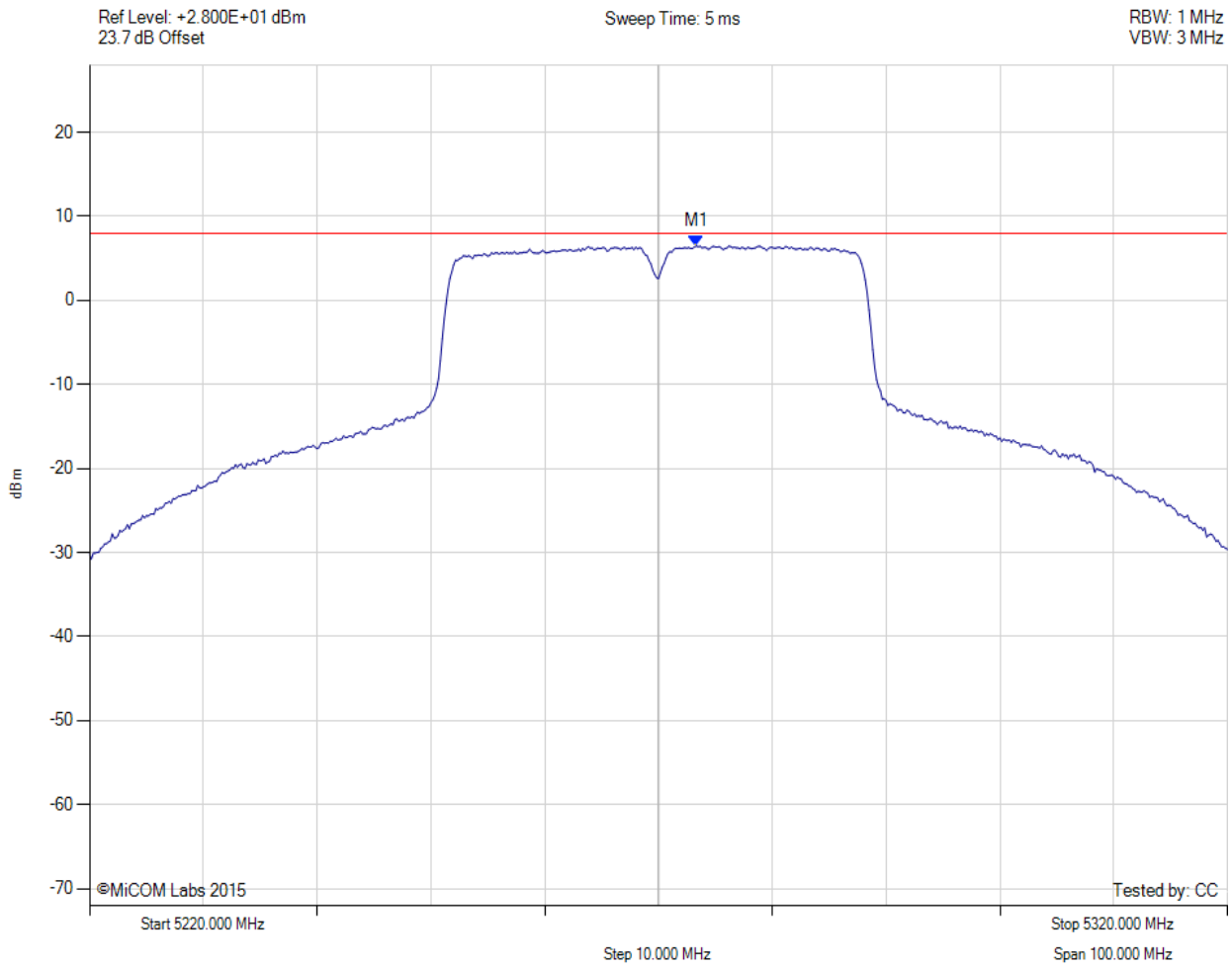



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5267.500 MHz : 6.355 dBm | Limit: ≤ 7.990 dBm |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5270.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

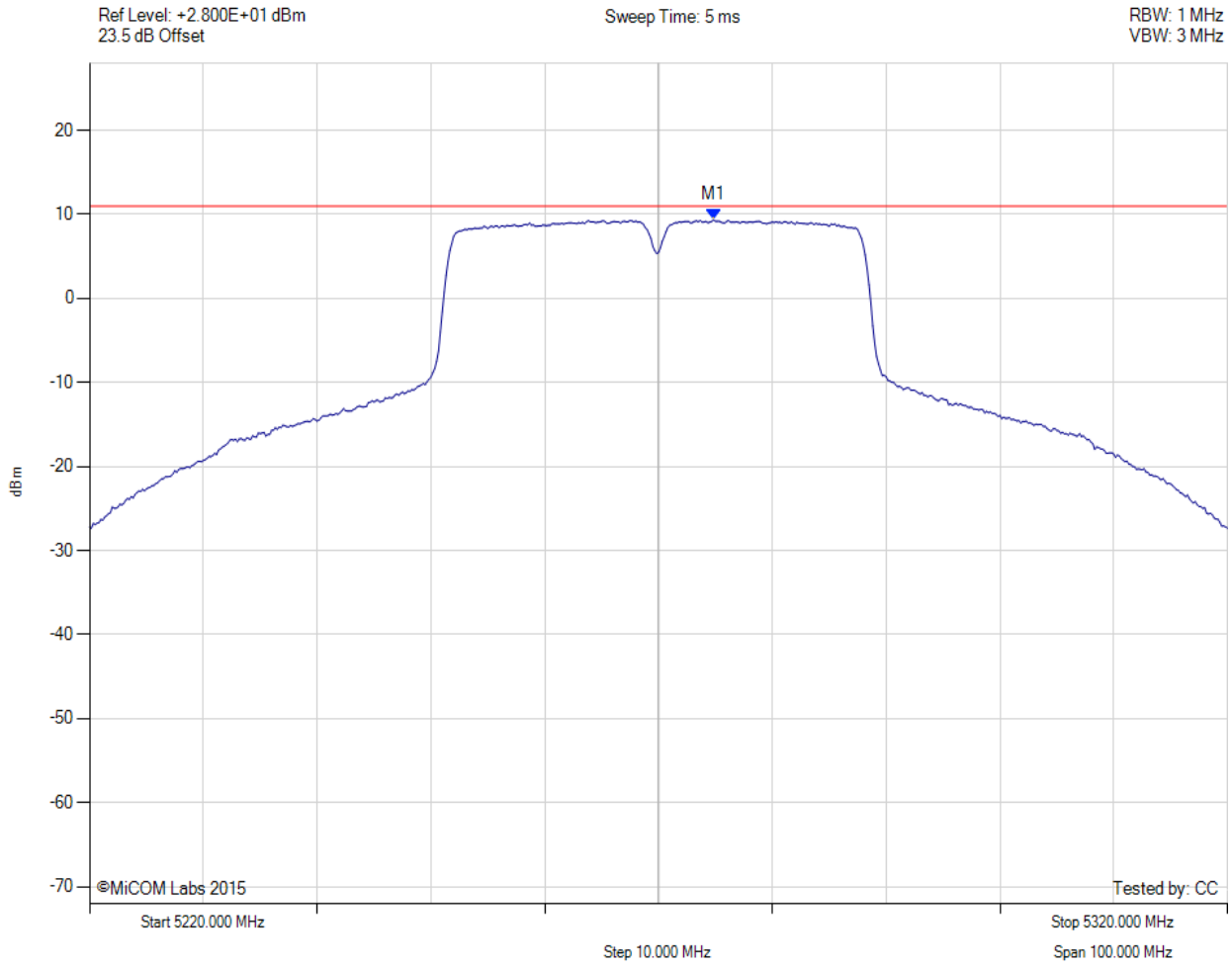



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5273.330 MHz : 6.469 dBm | Limit: ≤ 7.990 dBm |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5270.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

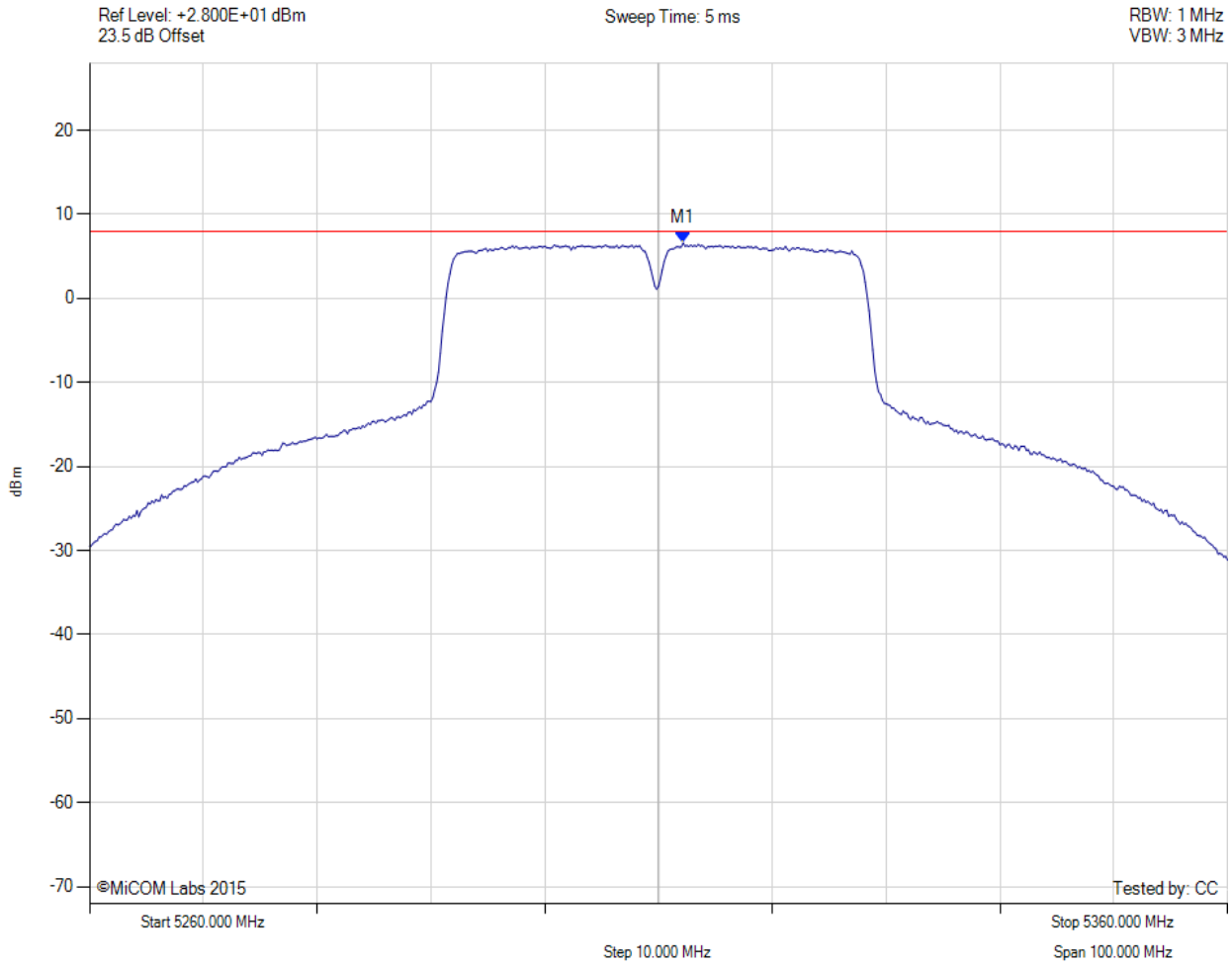



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5274.800 MHz : 9.368 dBm<br>M1 + DCCF : 5274.800 MHz : 9.412 dBm<br>Duty Cycle Correction Factor : +0.04 dB | Limit: ≤ 11.0 dBm<br>Margin: -1.6 dB |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5310.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

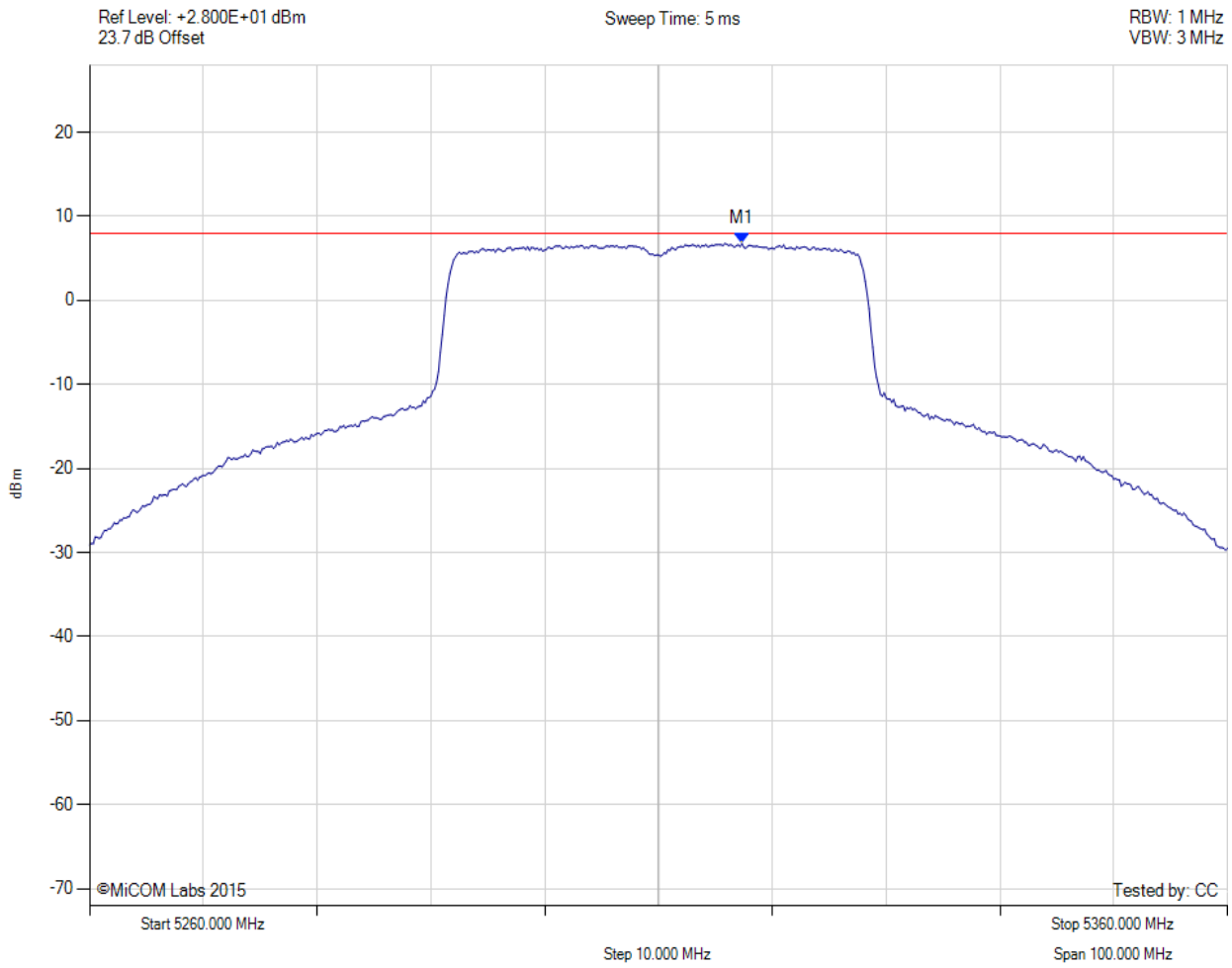



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5312.170 MHz : 6.610 dBm | Limit: ≤ 7.990 dBm |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5310.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

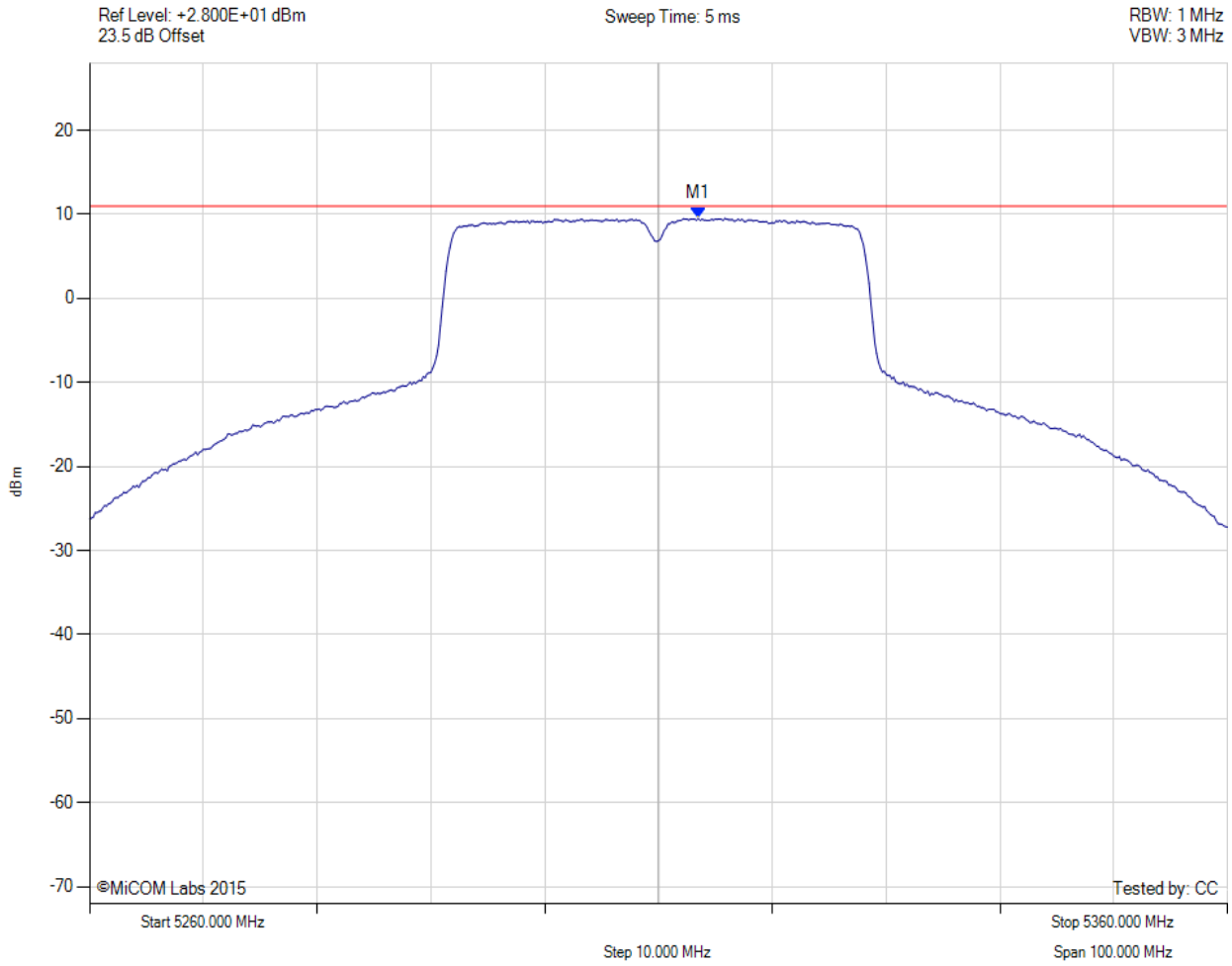



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5317.330 MHz : 6.784 dBm | Limit: ≤ 7.990 dBm |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5310.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

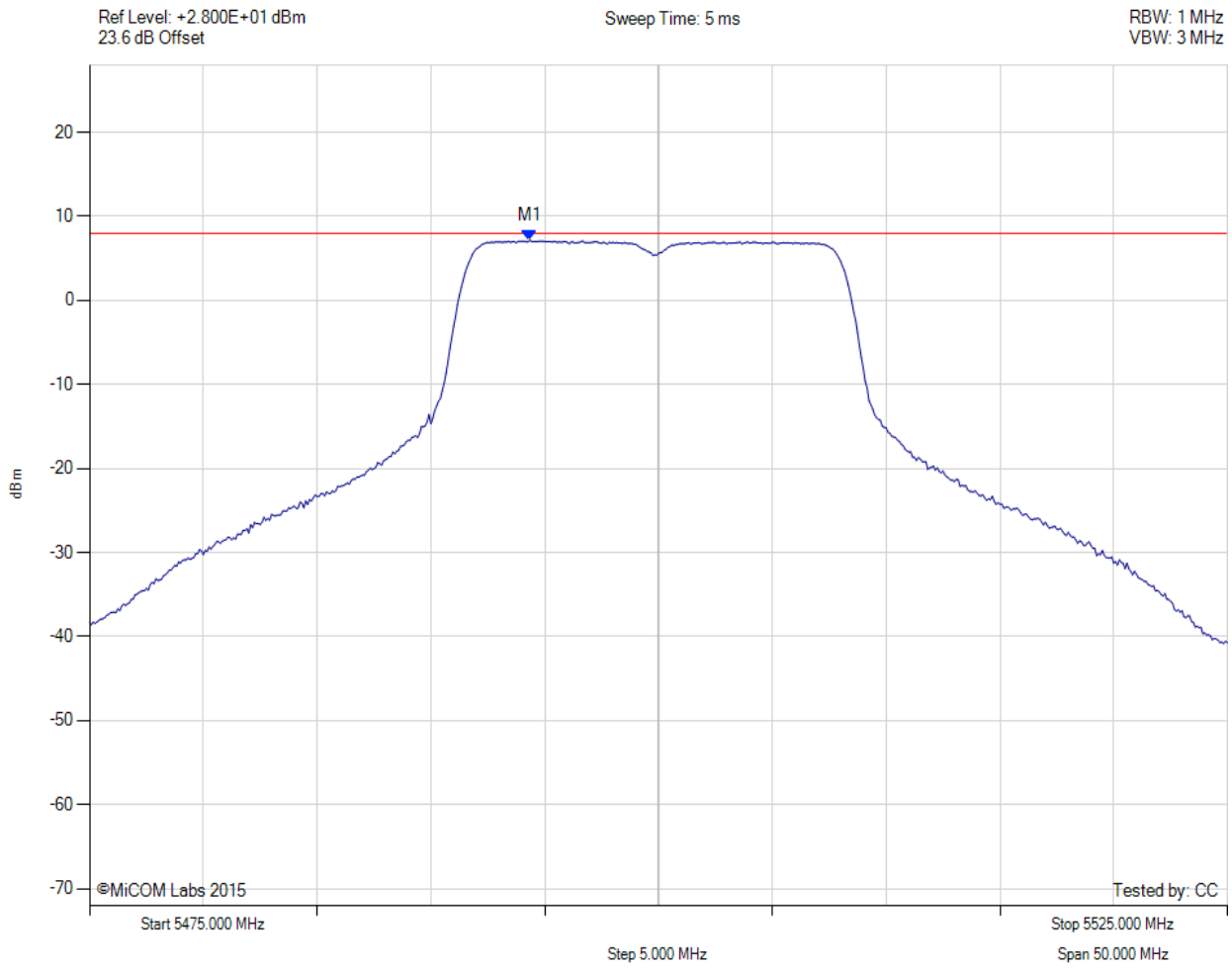



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5313.500 MHz : 9.529 dBm<br>M1 + DCCF : 5313.500 MHz : 9.573 dBm<br>Duty Cycle Correction Factor : +0.04 dB | Limit: ≤ 11.0 dBm<br>Margin: -1.4 dB |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5500.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

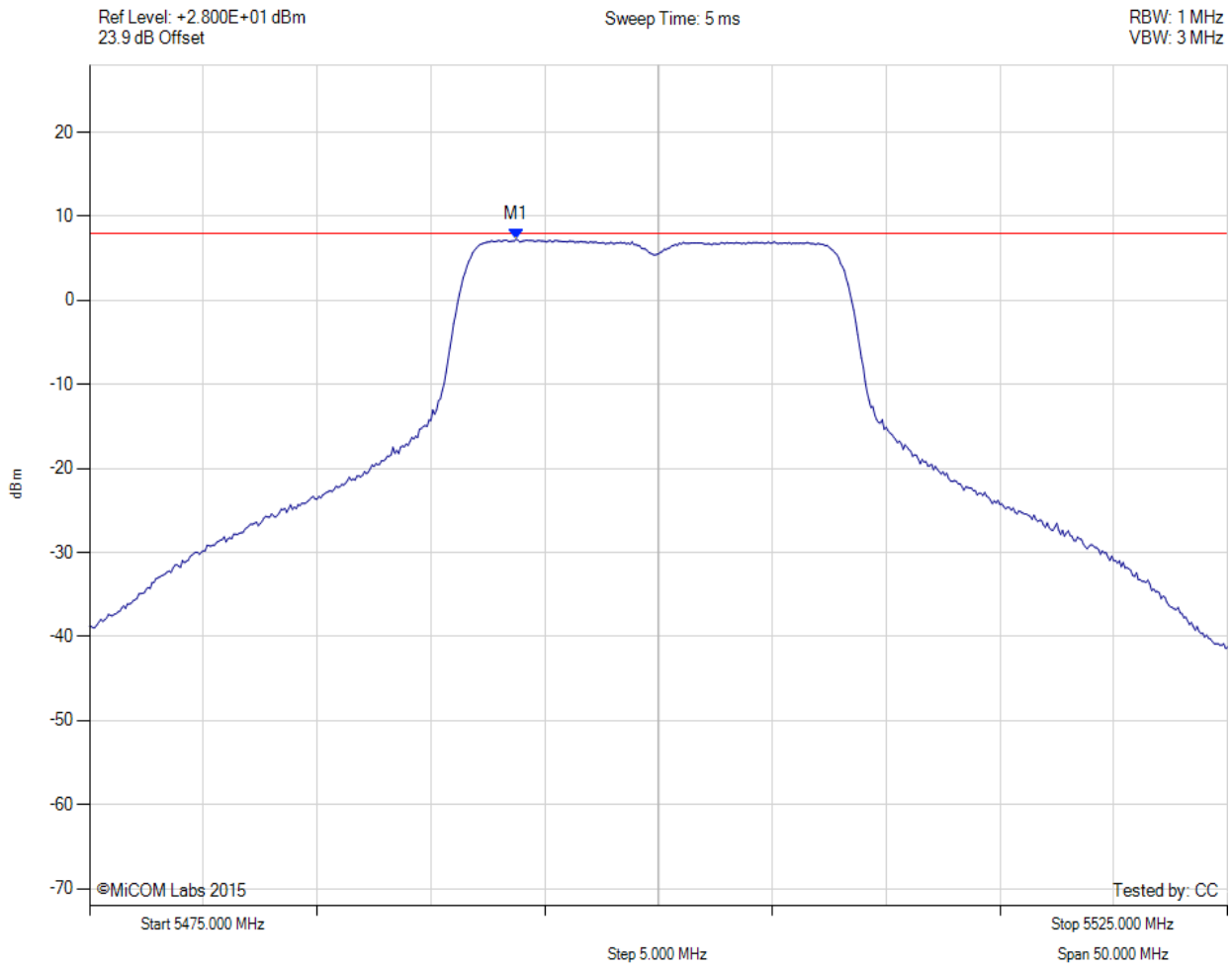



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5494.330 MHz : 7.140 dBm | Limit: ≤ 7.990 dBm |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5500.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

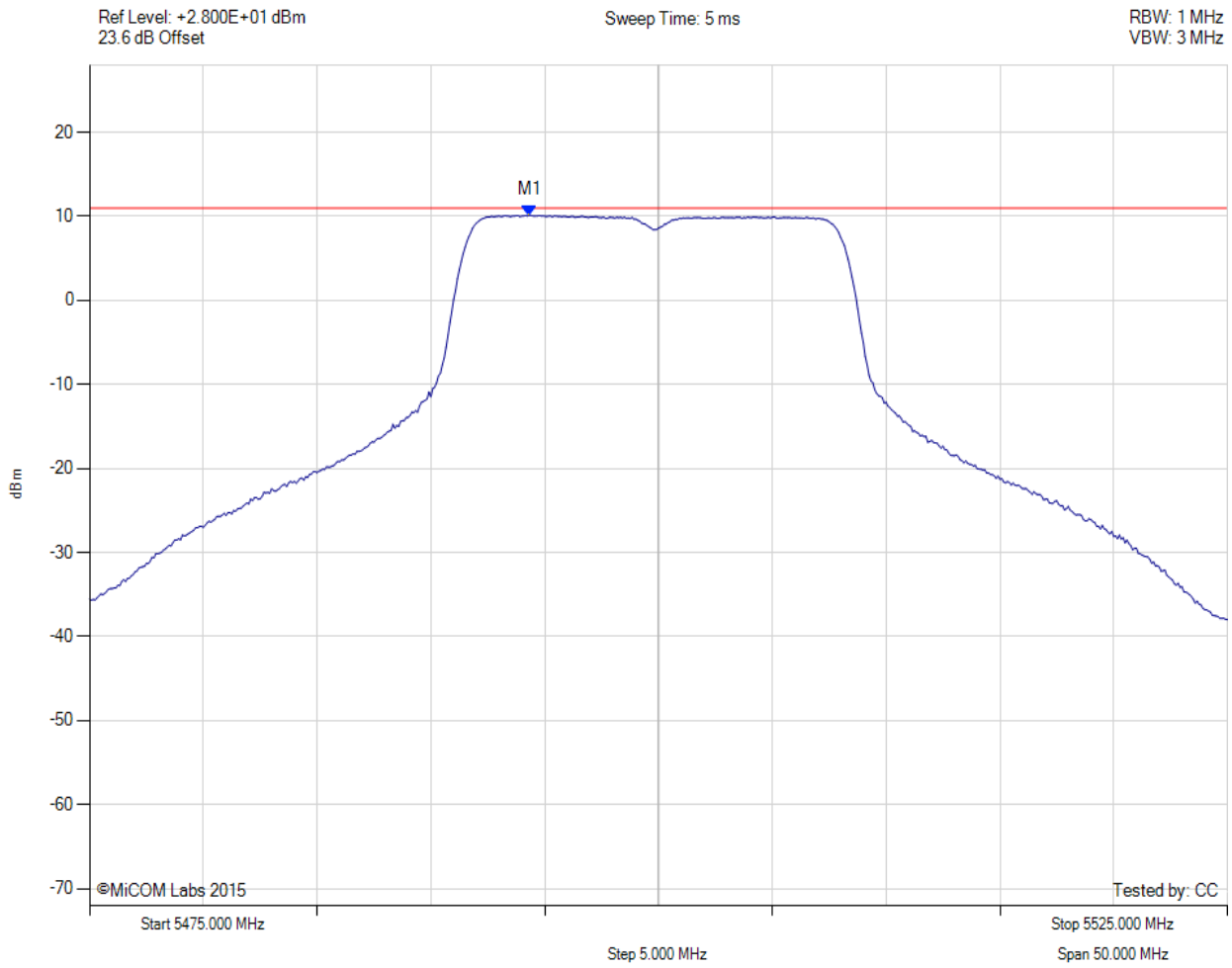



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5493.750 MHz : 7.287 dBm | Limit: ≤ 7.990 dBm |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5500.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

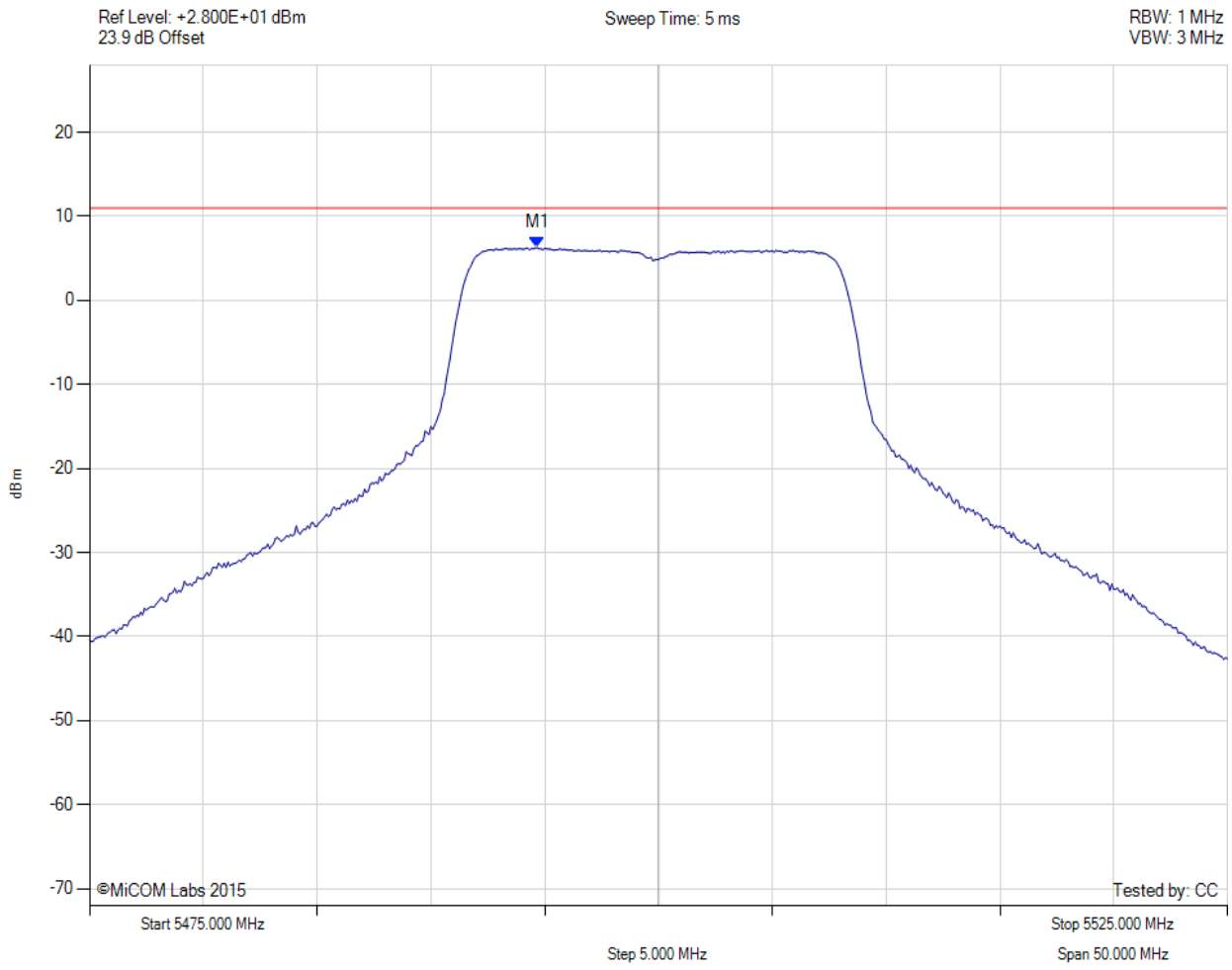



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5494.300 MHz : 10.147 dBm<br>M1 + DCCF : 5494.300 MHz : 10.191 dBm<br>Duty Cycle Correction Factor : +0.04 dB | Limit: ≤ 11.0 dBm<br>Margin: -0.8 dB |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5500.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

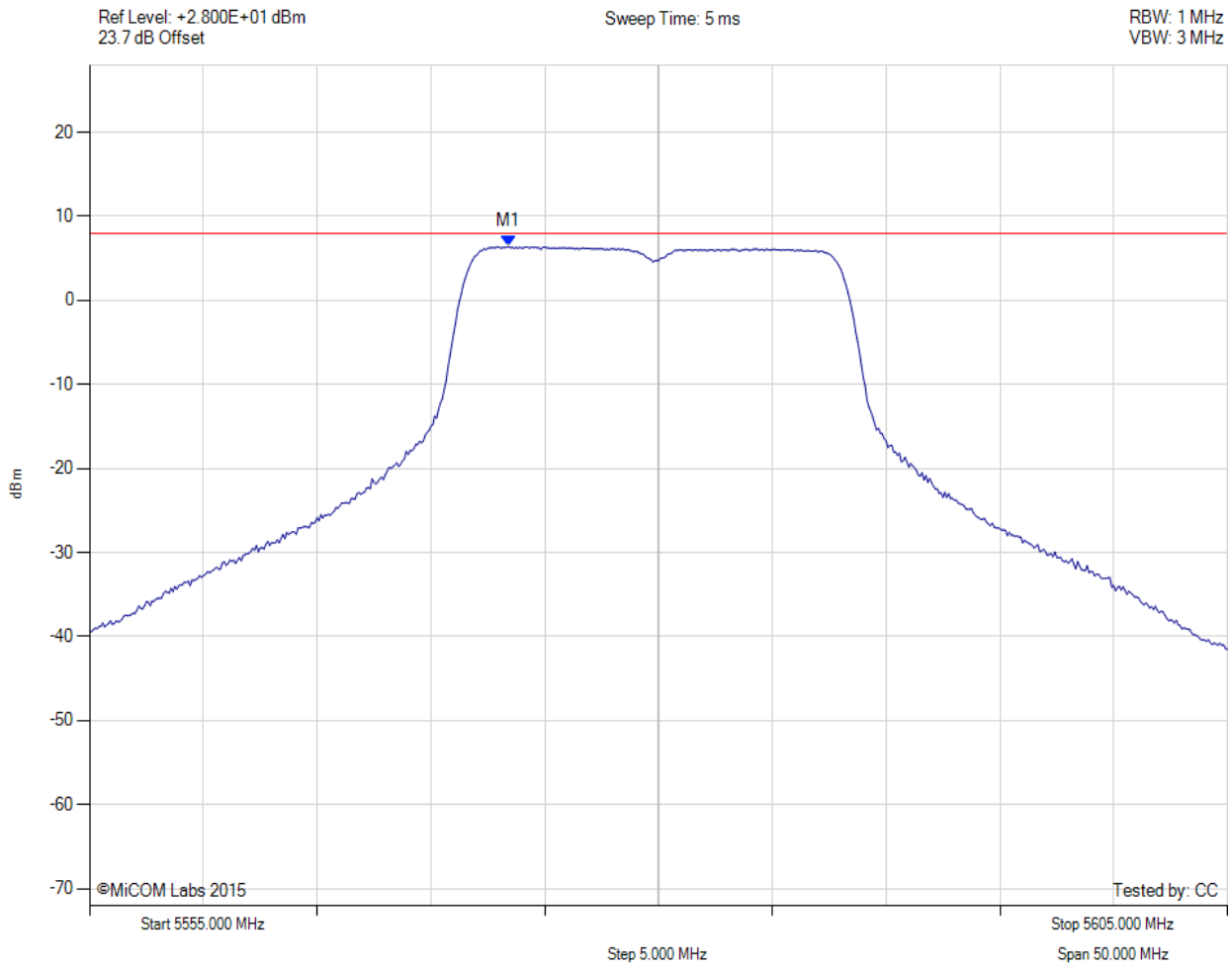



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5494.700 MHz : 6.272 dBm<br>M1 + DCCF : 5494.700 MHz : 6.316 dBm<br>Duty Cycle Correction Factor : +0.04 dB | Limit: ≤ 11.0 dBm<br>Margin: -4.7 dB |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5580.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

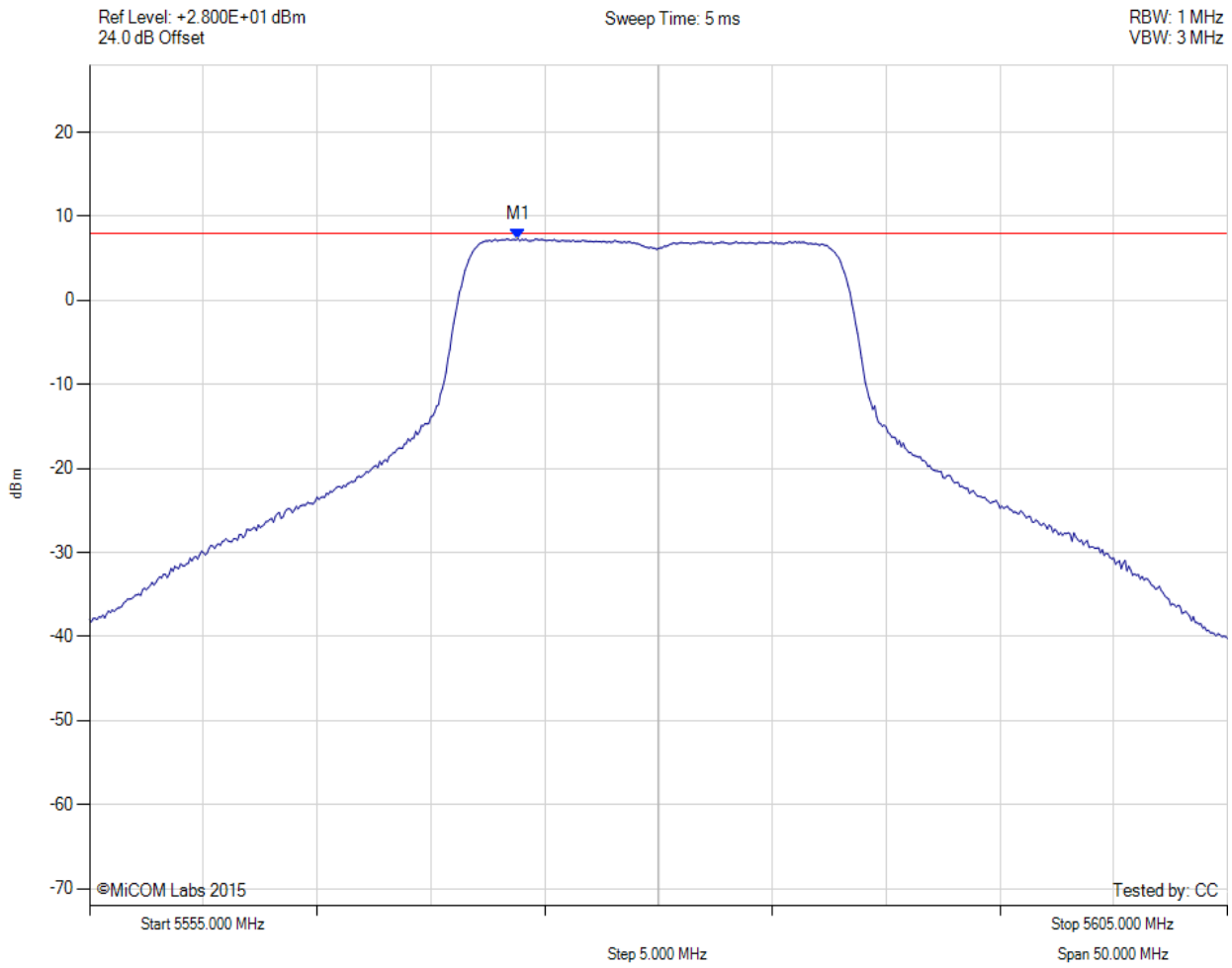



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5573.420 MHz : 6.411 dBm | Limit: ≤ 7.990 dBm |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5580.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

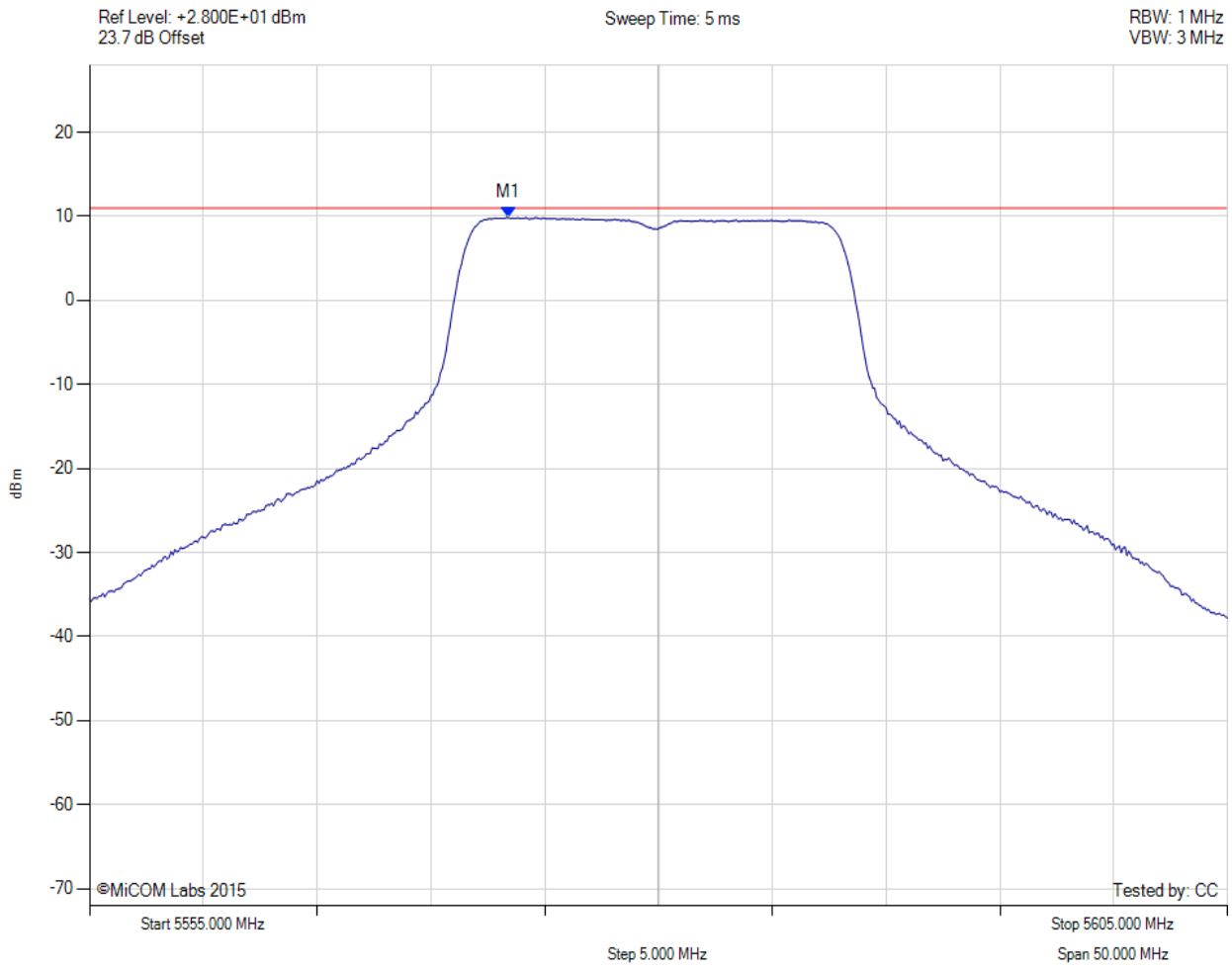



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5573.830 MHz : 7.341 dBm | Channel Frequency: 5580.00 MHz |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5580.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

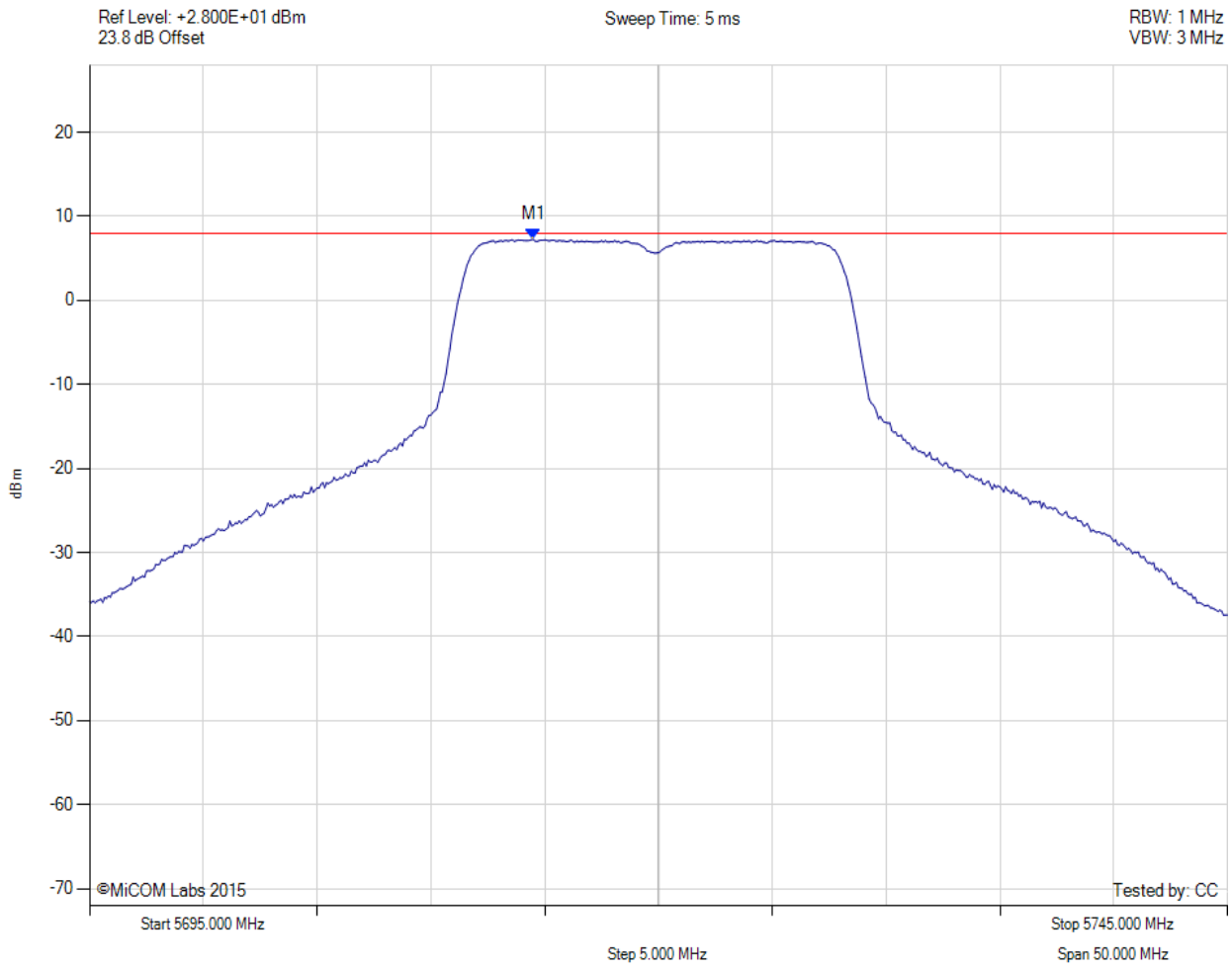



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5573.400 MHz : 9.867 dBm<br>M1 + DCCF : 5573.400 MHz : 9.911 dBm<br>Duty Cycle Correction Factor : +0.04 dB | Limit: ≤ 11.0 dBm<br>Margin: -1.1 dB |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5720.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

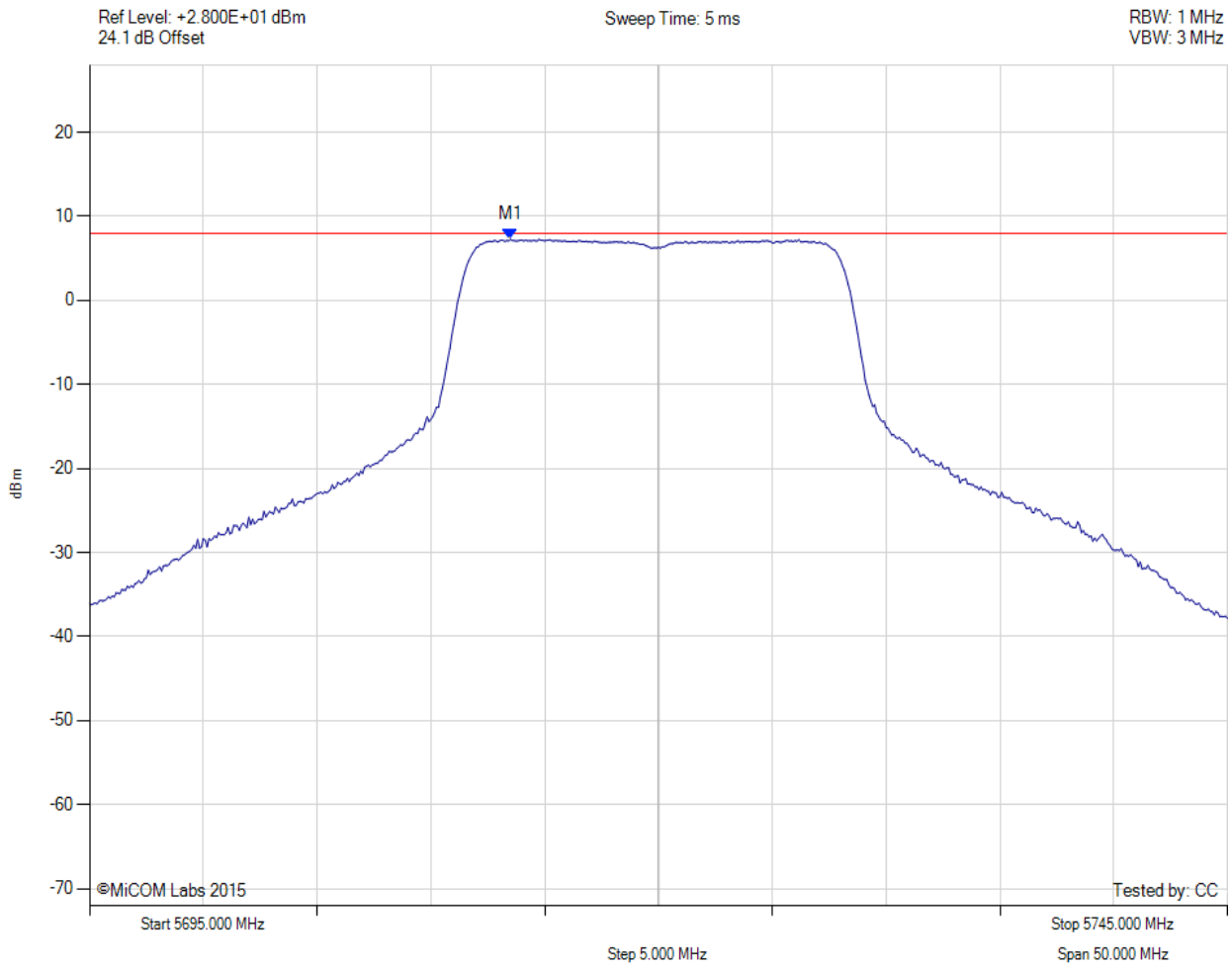



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5714.500 MHz : 7.262 dBm | Limit: ≤ 7.990 dBm |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5720.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

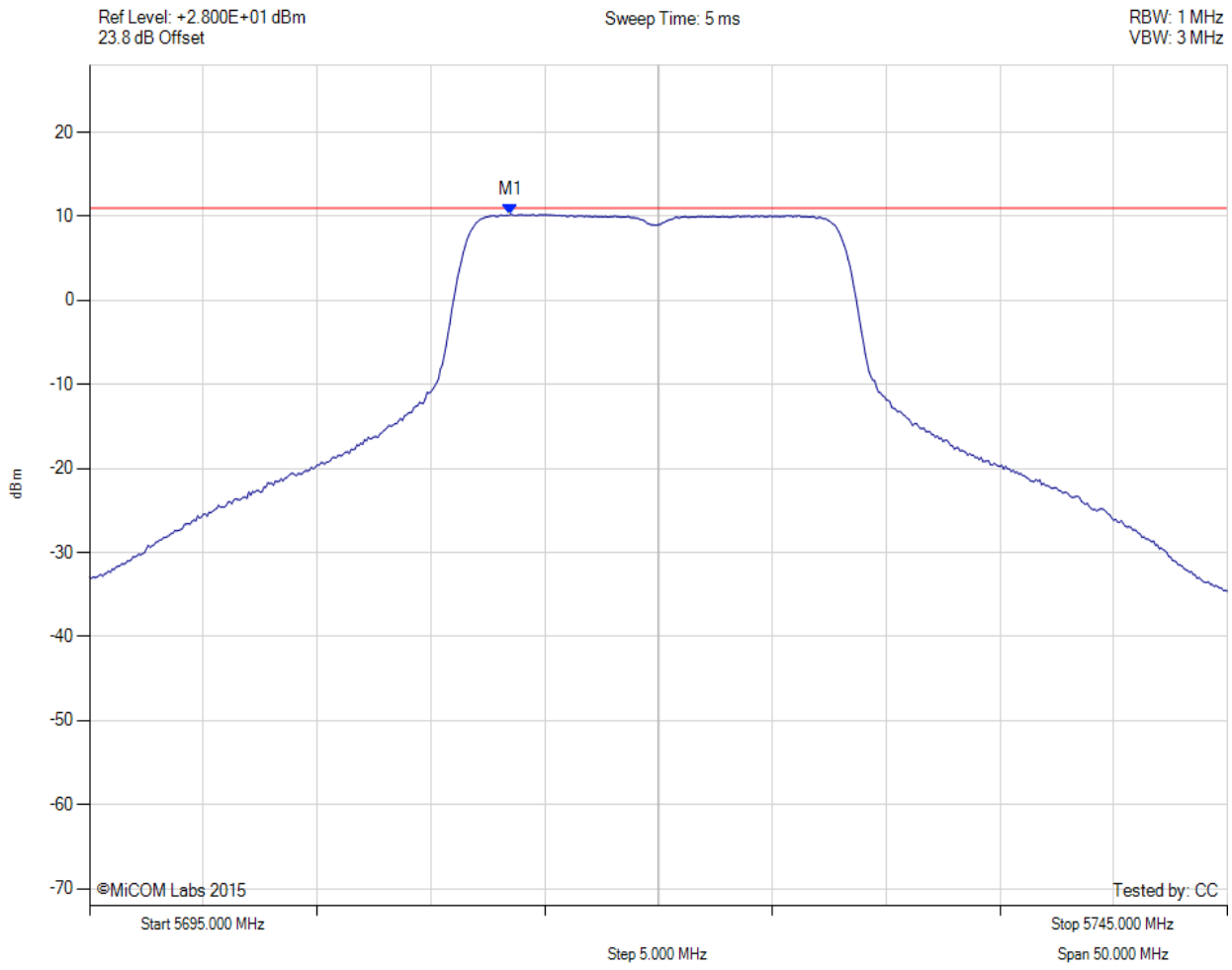



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5713.500 MHz : 7.273 dBm | Limit: ≤ 7.990 dBm |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5720.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

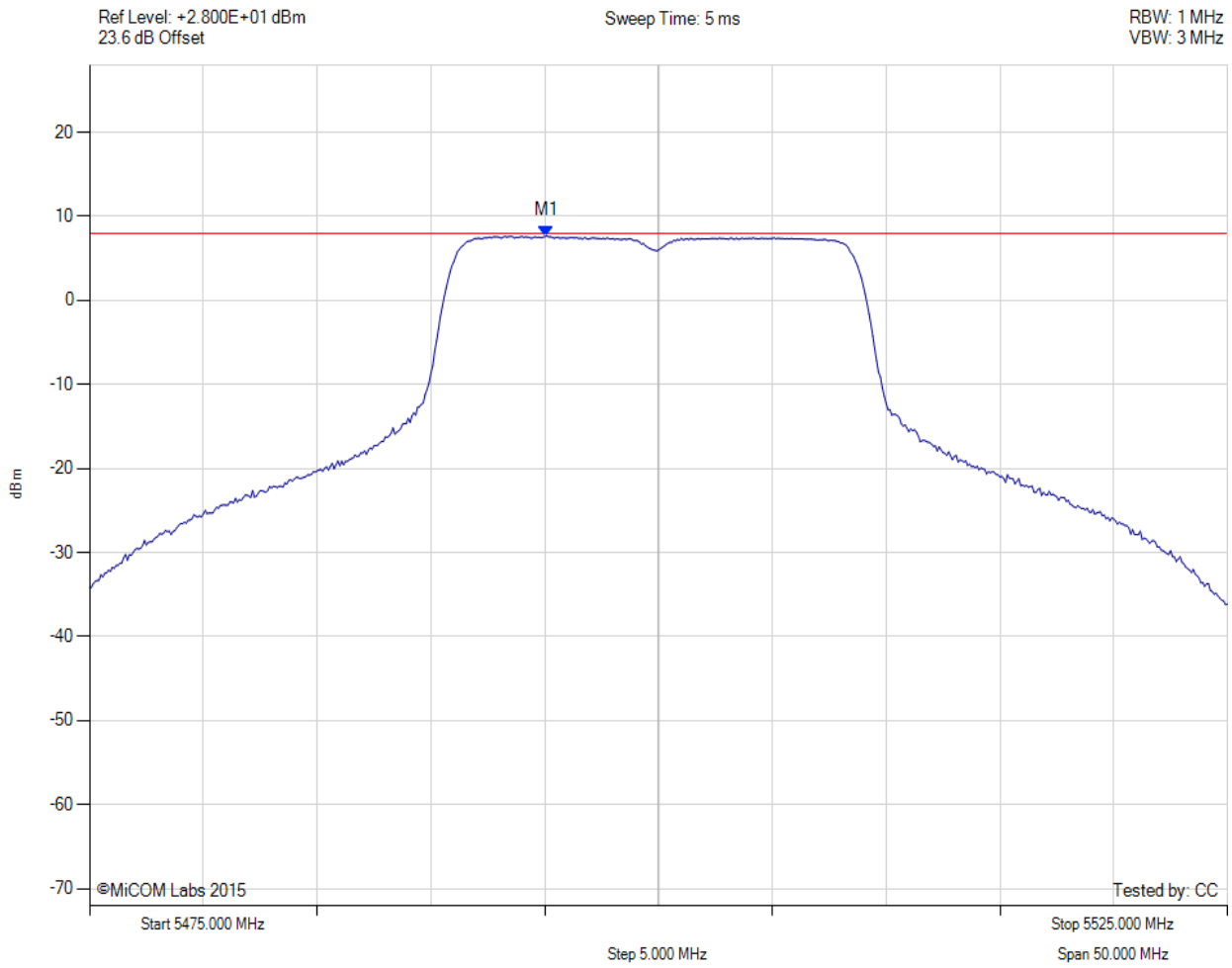



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5713.500 MHz : 10.232 dBm<br>M1 + DCCF : 5713.500 MHz : 10.276 dBm<br>Duty Cycle Correction Factor : +0.04 dB | Limit: ≤ 11.0 dBm<br>Margin: -0.7 dB |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5500.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

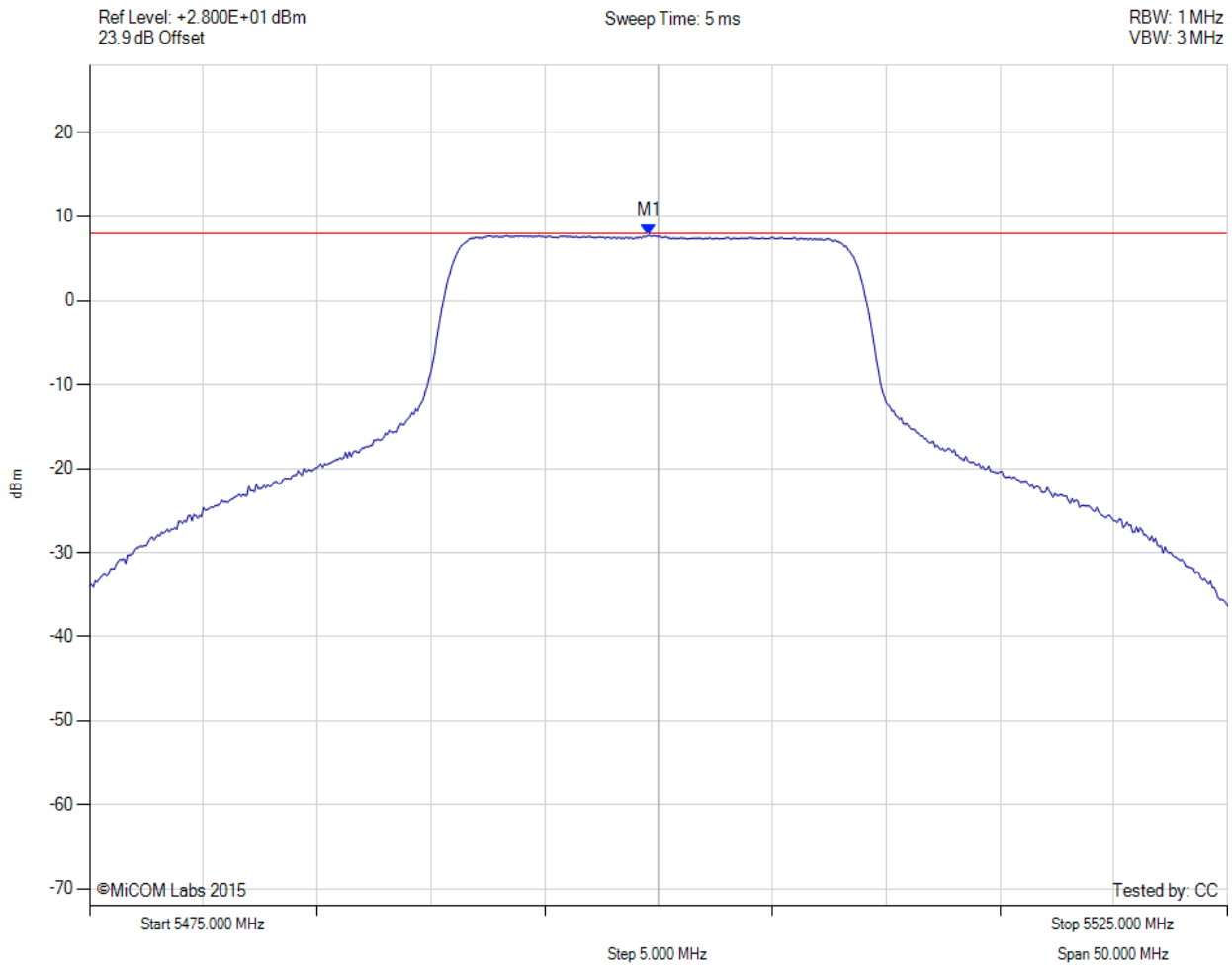



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5495.080 MHz : 7.696 dBm | Limit: ≤ 7.990 dBm |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5500.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc




| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5499.580 MHz : 7.758 dBm | Limit: ≤ 7.990 dBm |

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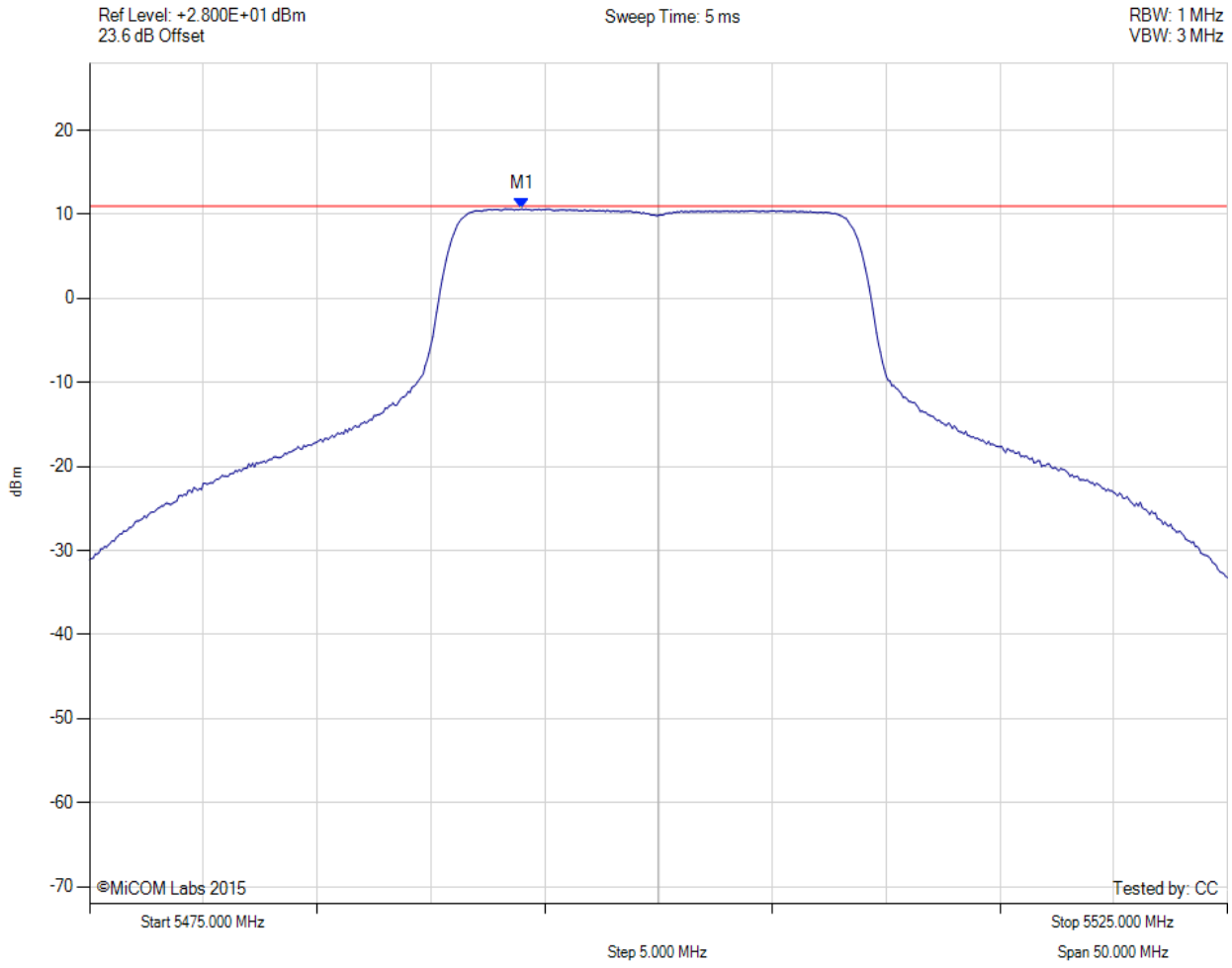
POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5500.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc




| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5494.000 MHz : 10.661 dBm<br>M1 + DCCF : 5494.000 MHz : 10.705 dBm<br>Duty Cycle Correction Factor : +0.04 dB | Limit: ≤ 11.0 dBm<br>Margin: -0.3 dB |

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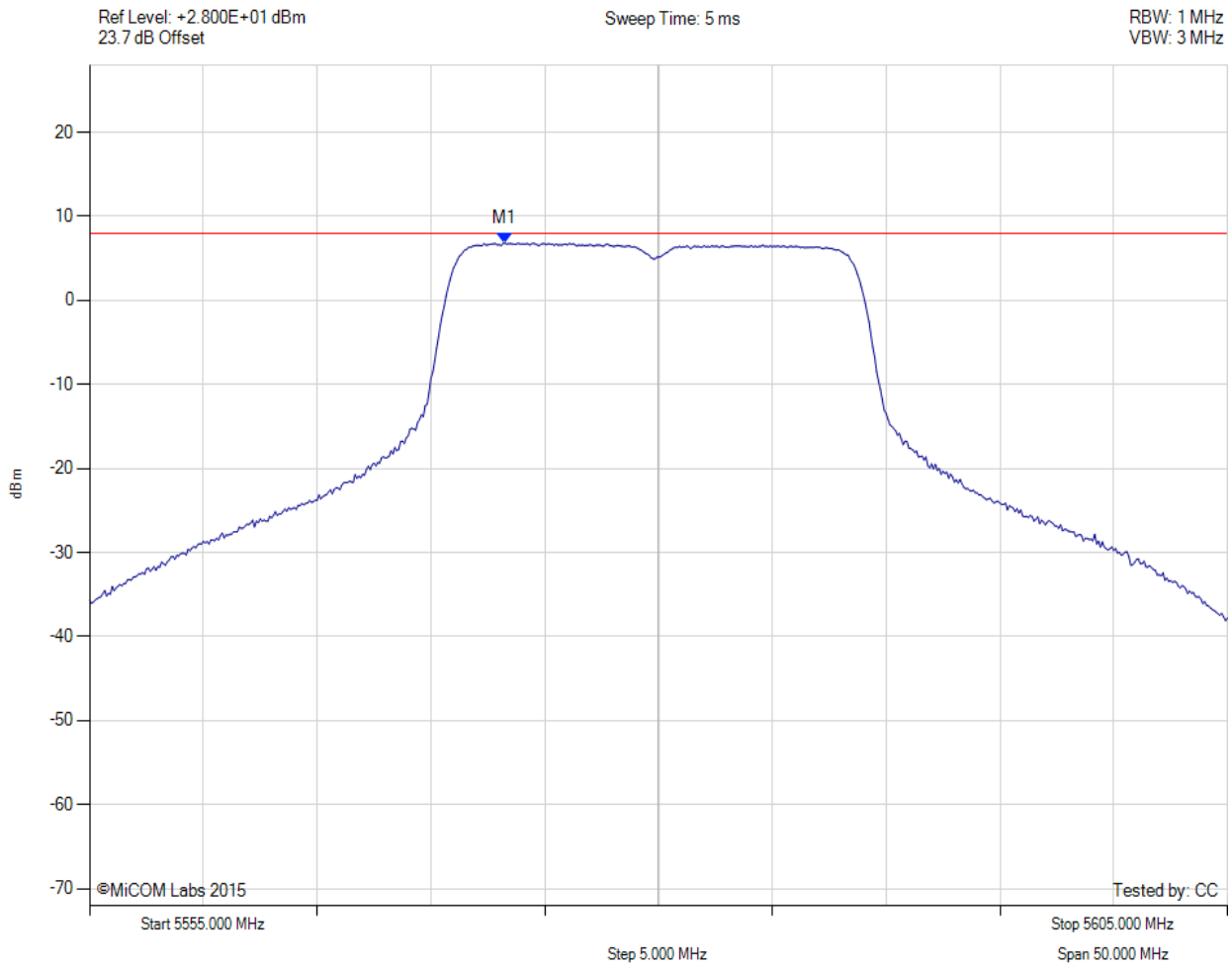
POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5580.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc




| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5573.250 MHz : 6.816 dBm | Limit: ≤ 7.990 dBm |

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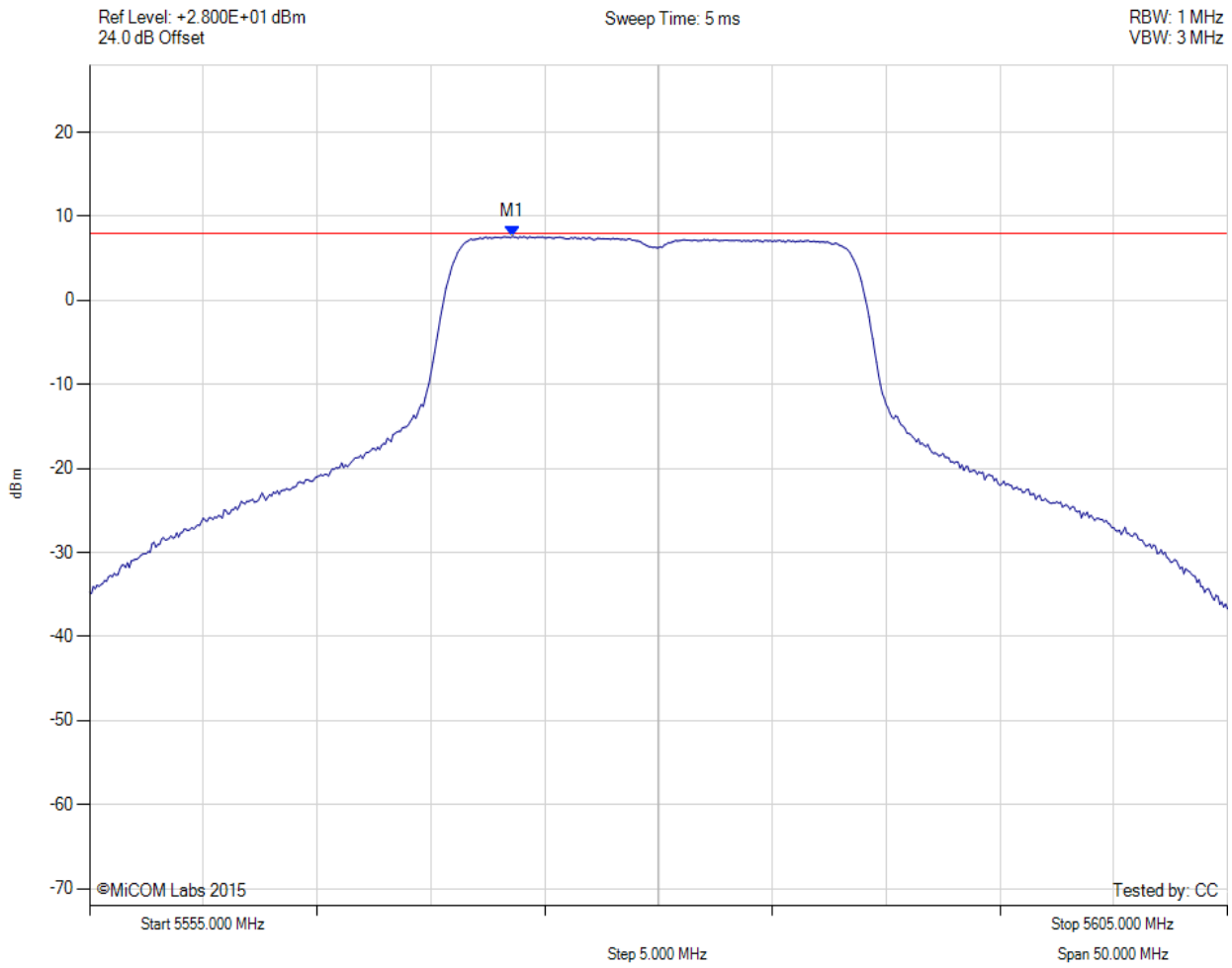
POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5580.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc




| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5573.580 MHz : 7.619 dBm | Channel Frequency: 5580.00 MHz |

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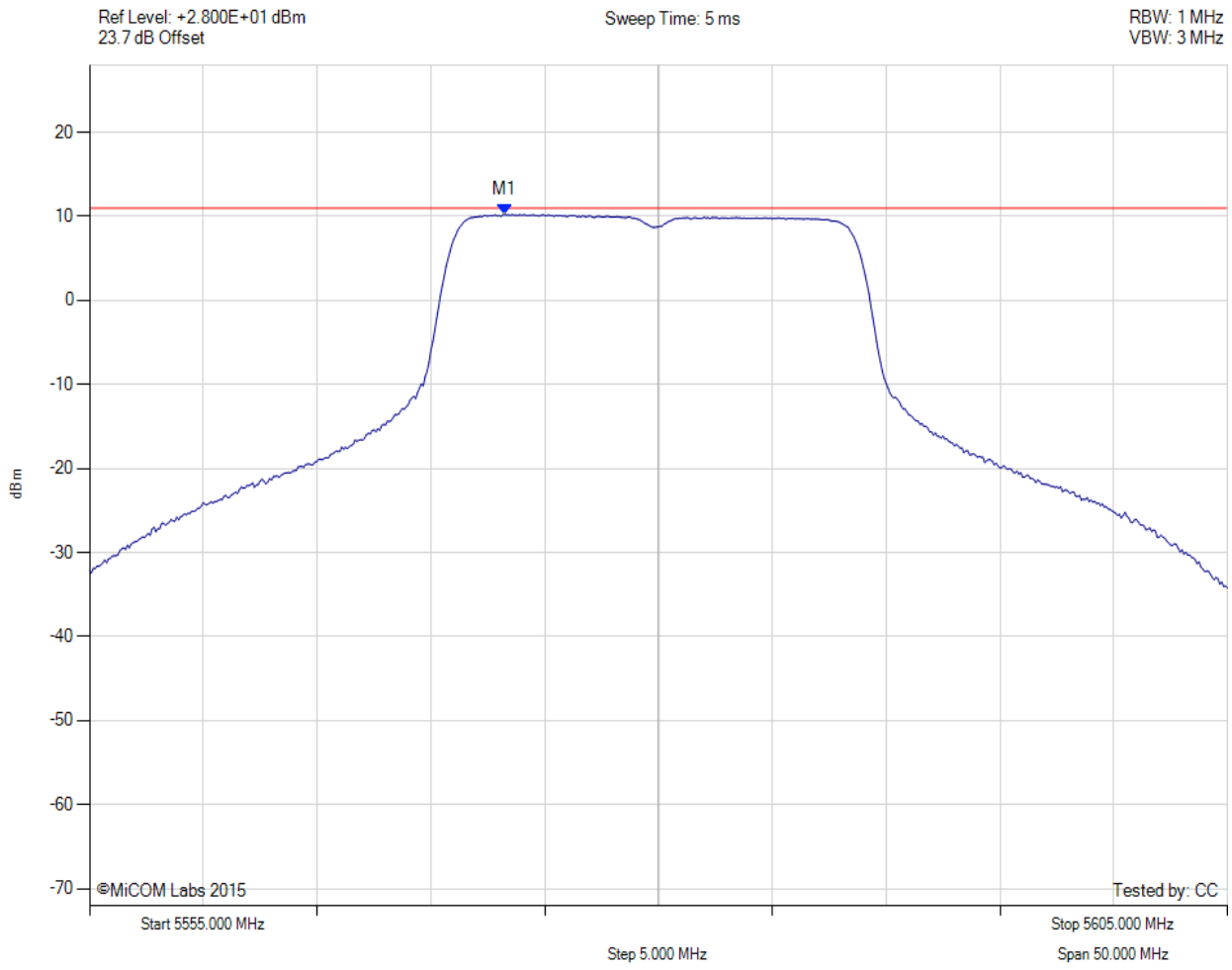
POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5580.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

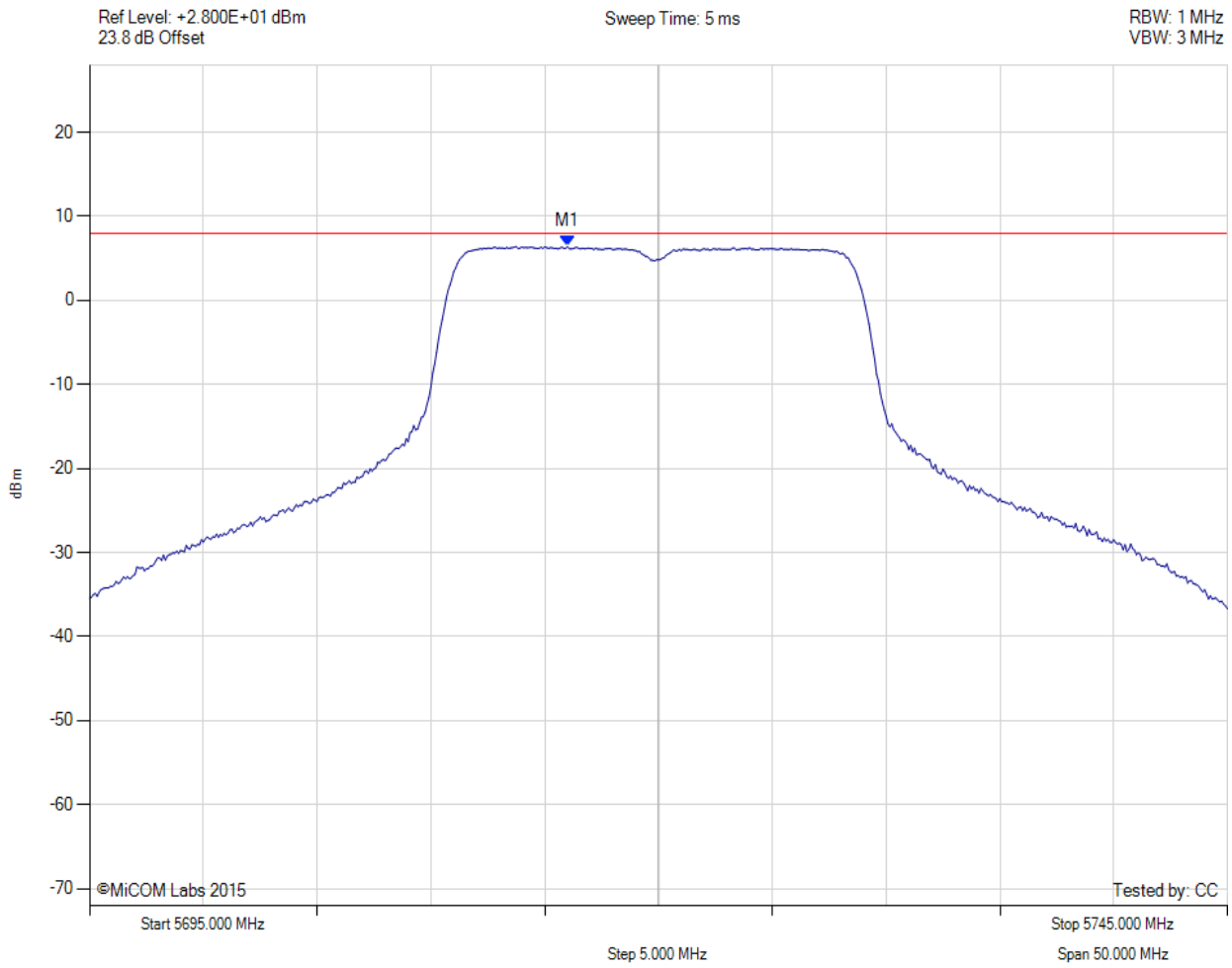



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5573.300 MHz : 10.221 dBm<br>M1 + DCCF : 5573.300 MHz : 10.265 dBm<br>Duty Cycle Correction Factor : +0.04 dB | Limit: ≤ 11.0 dBm<br>Margin: -0.7 dB |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5720.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc




| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5716.000 MHz : 6.407 dBm | Limit: ≤ 7.990 dBm |

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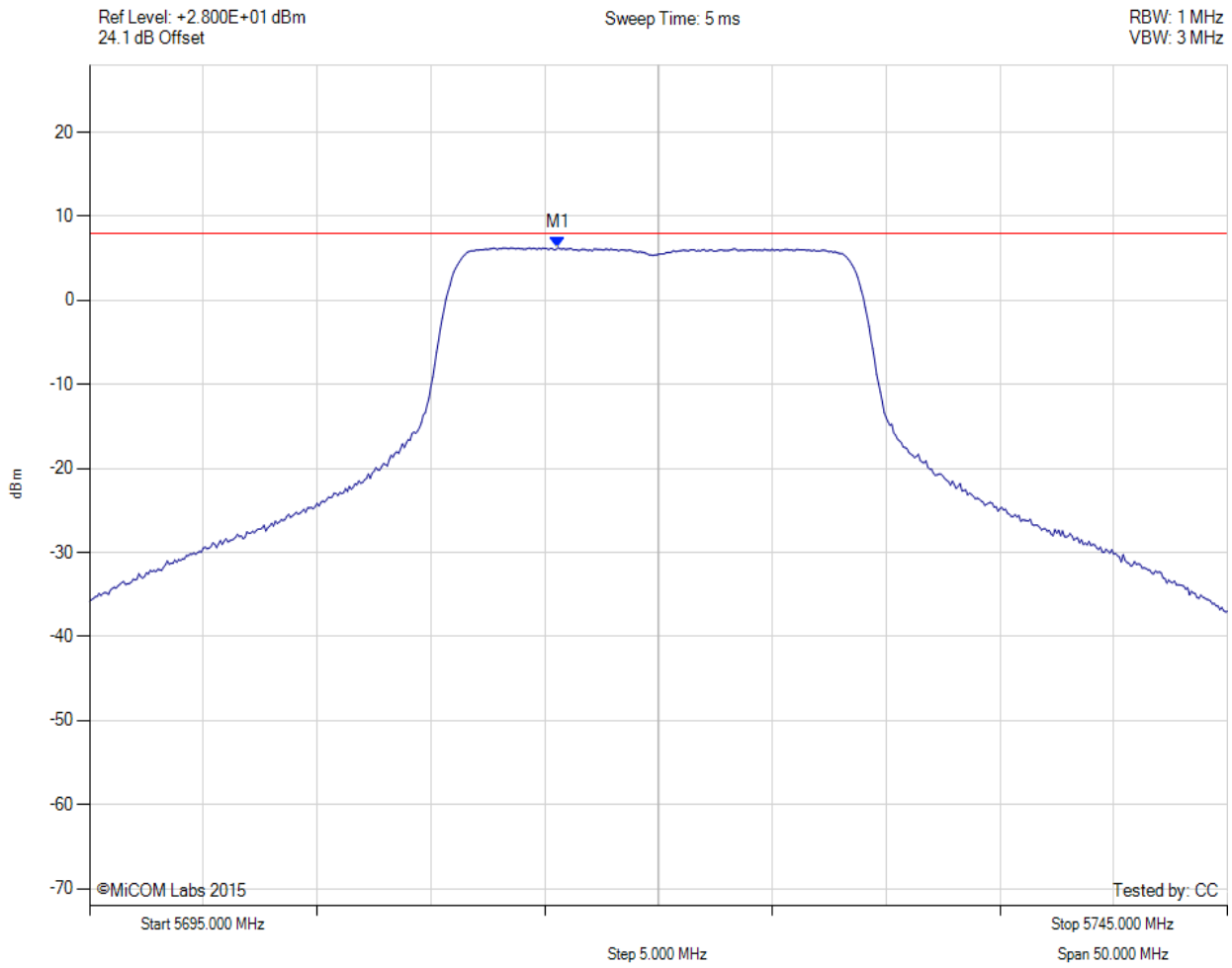
POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5720.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc




| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5715.580 MHz : 6.286 dBm | Limit: ≤ 7.990 dBm |

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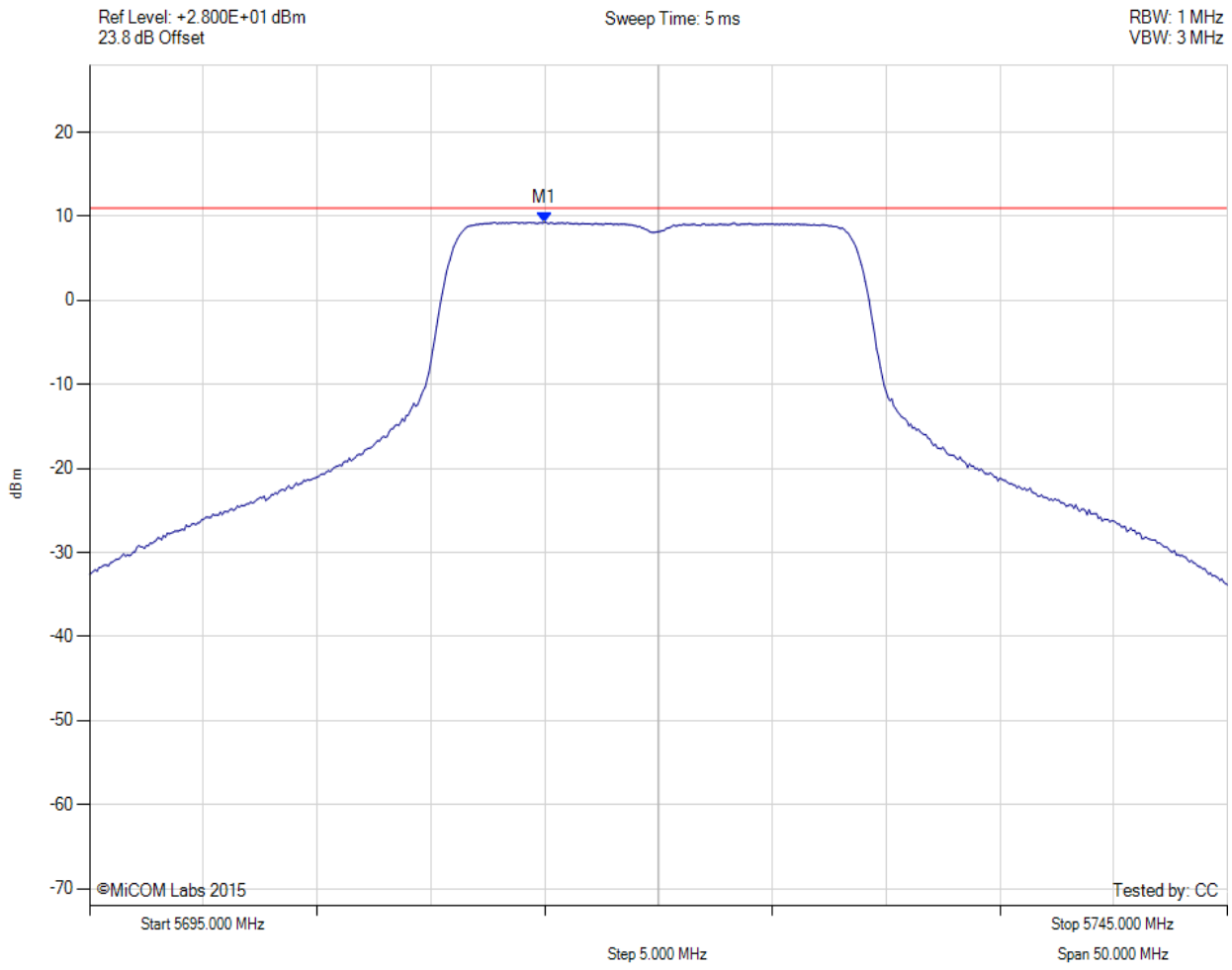
POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5720.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc




| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5715.000 MHz : 9.306 dBm<br>M1 + DCCF : 5715.000 MHz : 9.350 dBm<br>Duty Cycle Correction Factor : +0.04 dB | Limit: ≤ 11.0 dBm<br>Margin: -1.7 dB |

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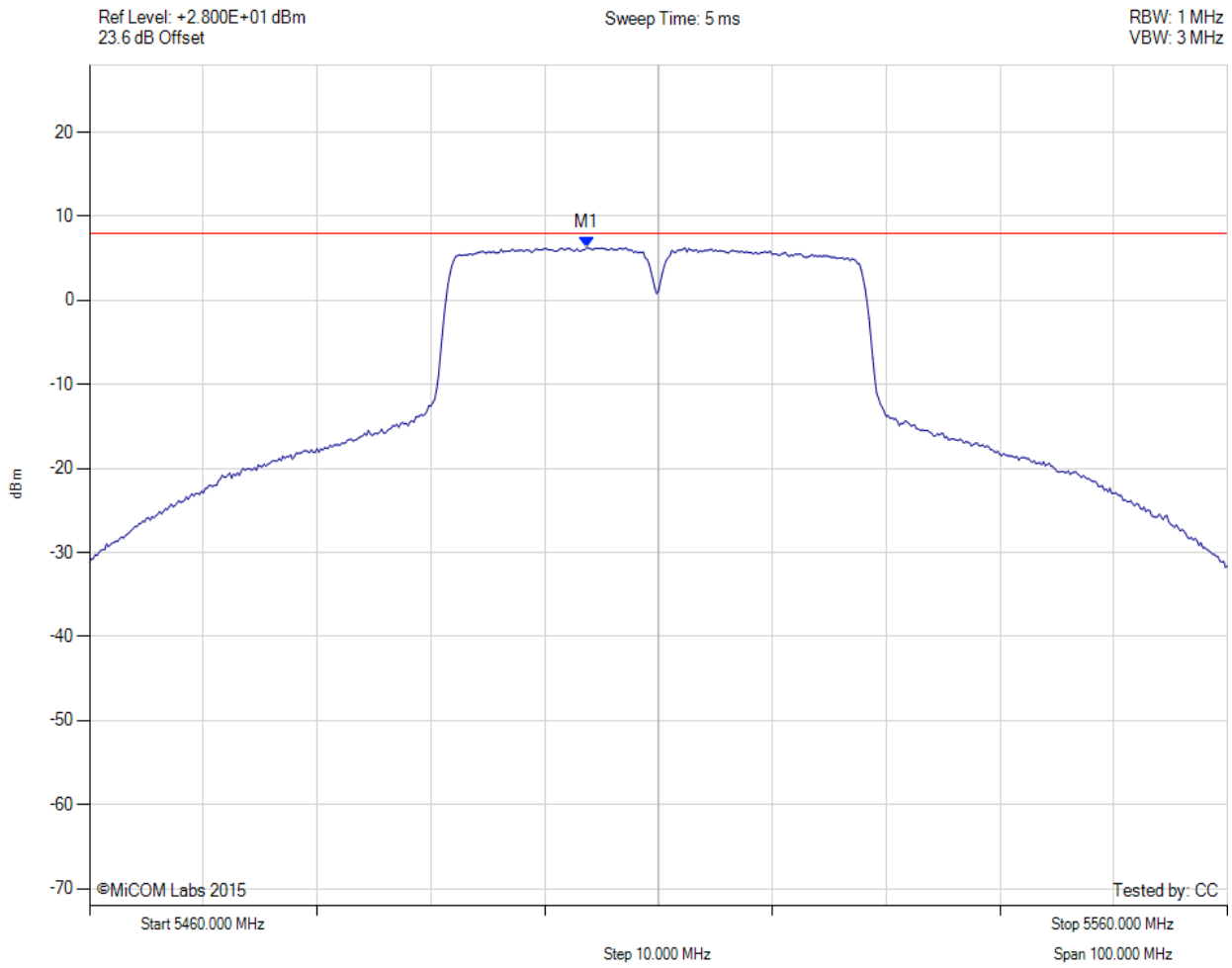
POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5510.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc




| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5503.670 MHz : 6.285 dBm | Limit: ≤ 7.990 dBm |

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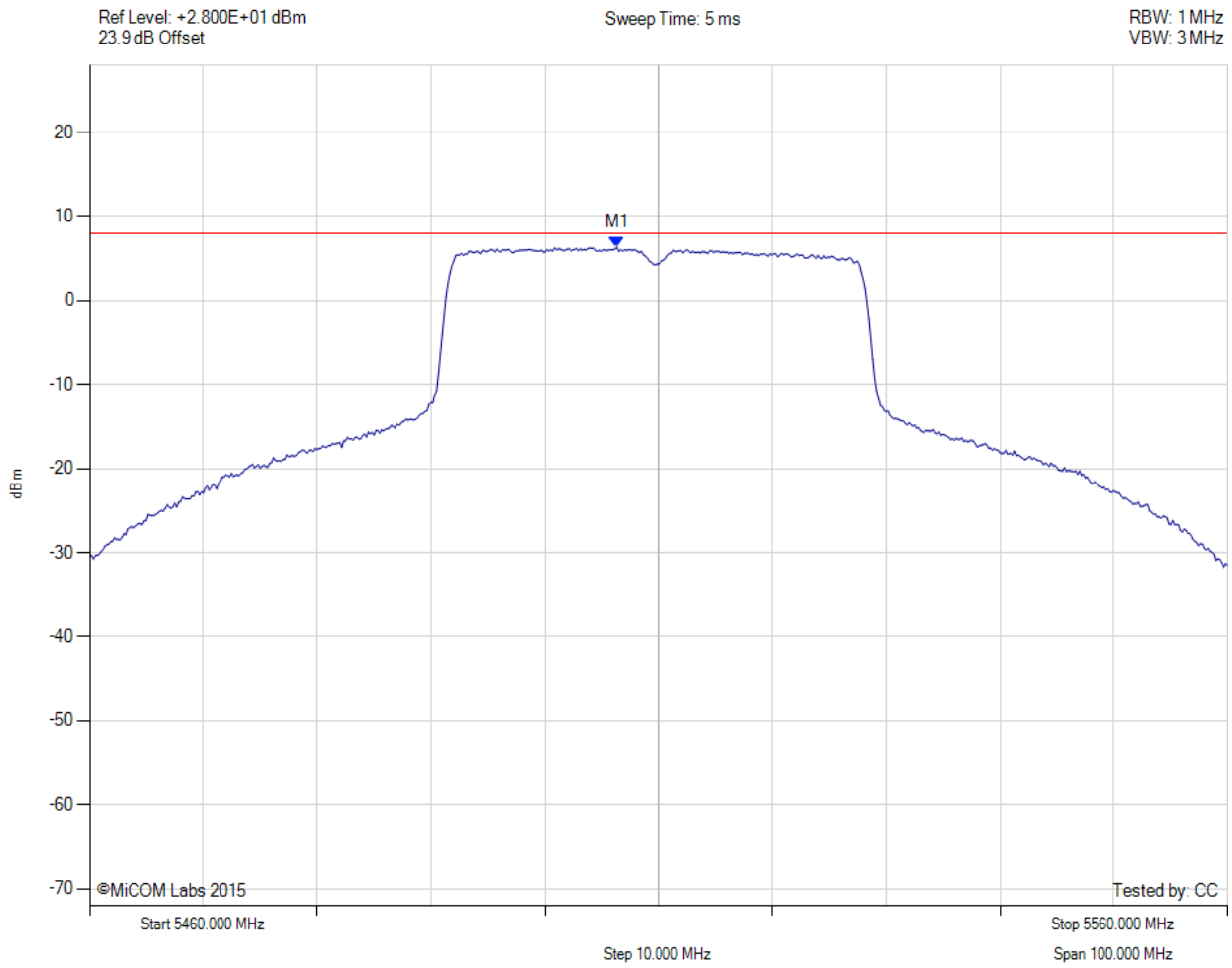
POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5510.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc




| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5506.330 MHz : 6.324 dBm | Limit: ≤ 7.990 dBm |

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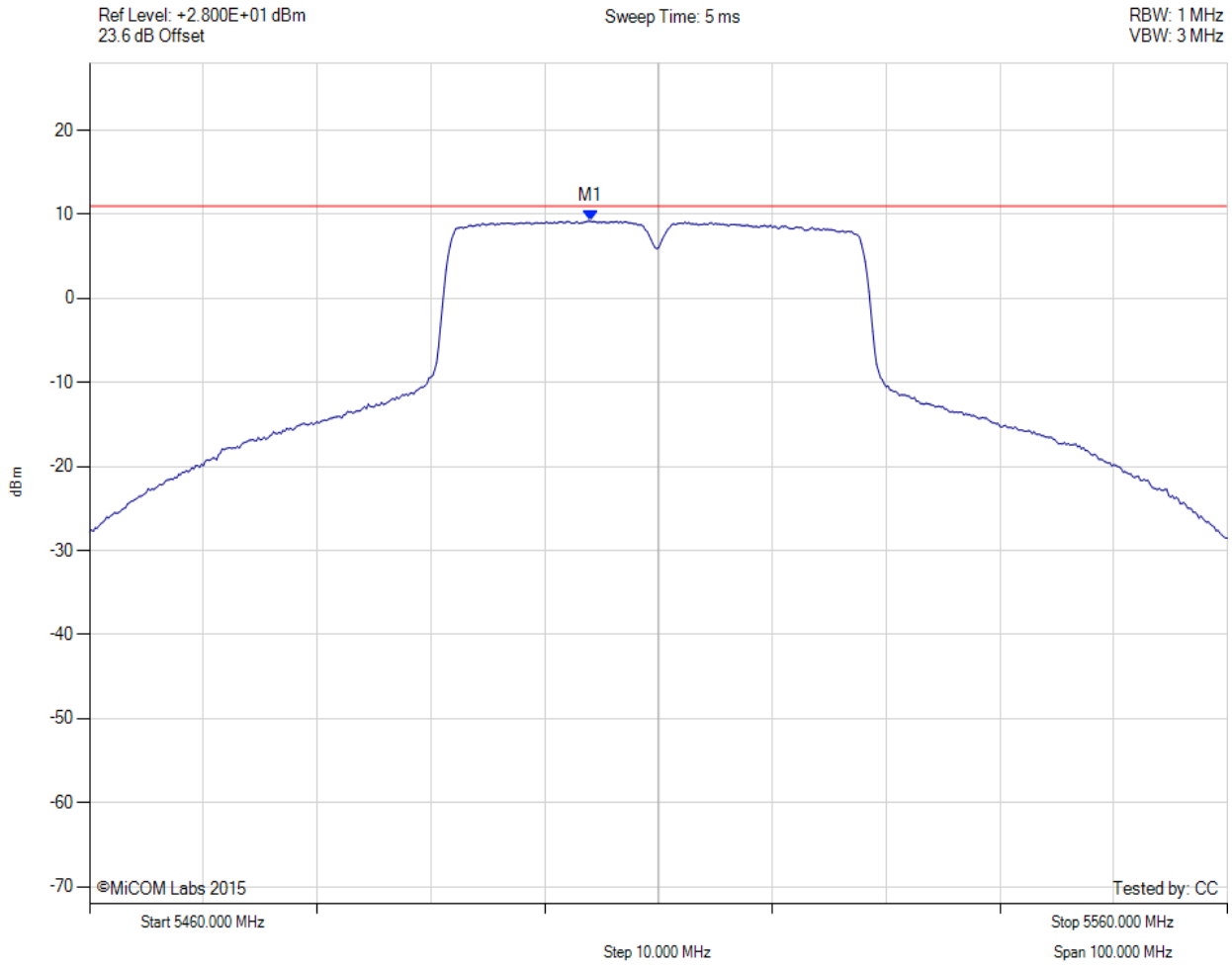
POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5510.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

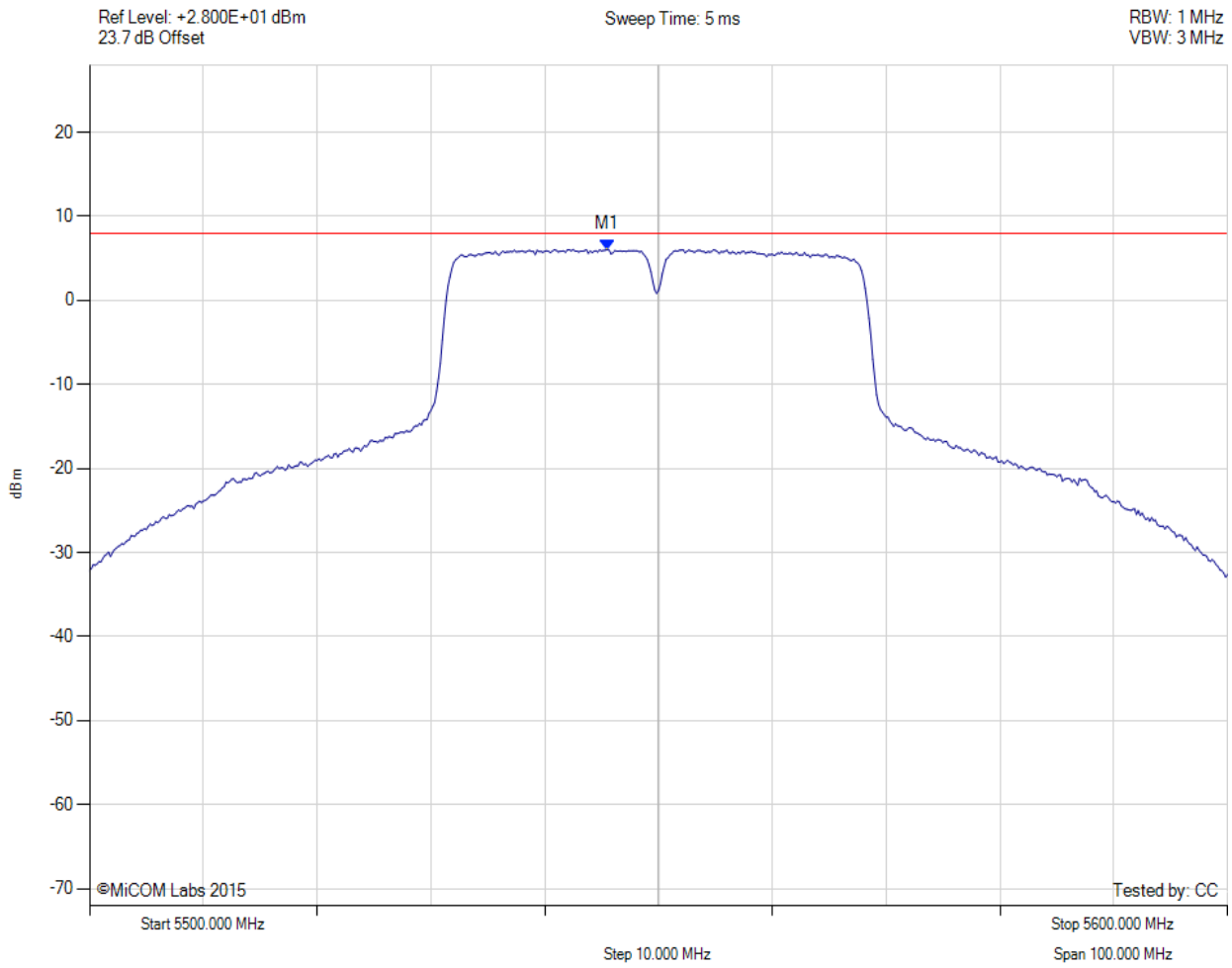



| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5504.000 MHz : 9.215 dBm<br>M1 + DCCF : 5504.000 MHz : 9.259 dBm<br>Duty Cycle Correction Factor : +0.04 dB | Limit: ≤ 11.0 dBm<br>Margin: -1.8 dB |

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5550.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc




| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5545.500 MHz : 6.076 dBm | Limit: ≤ 7.990 dBm |

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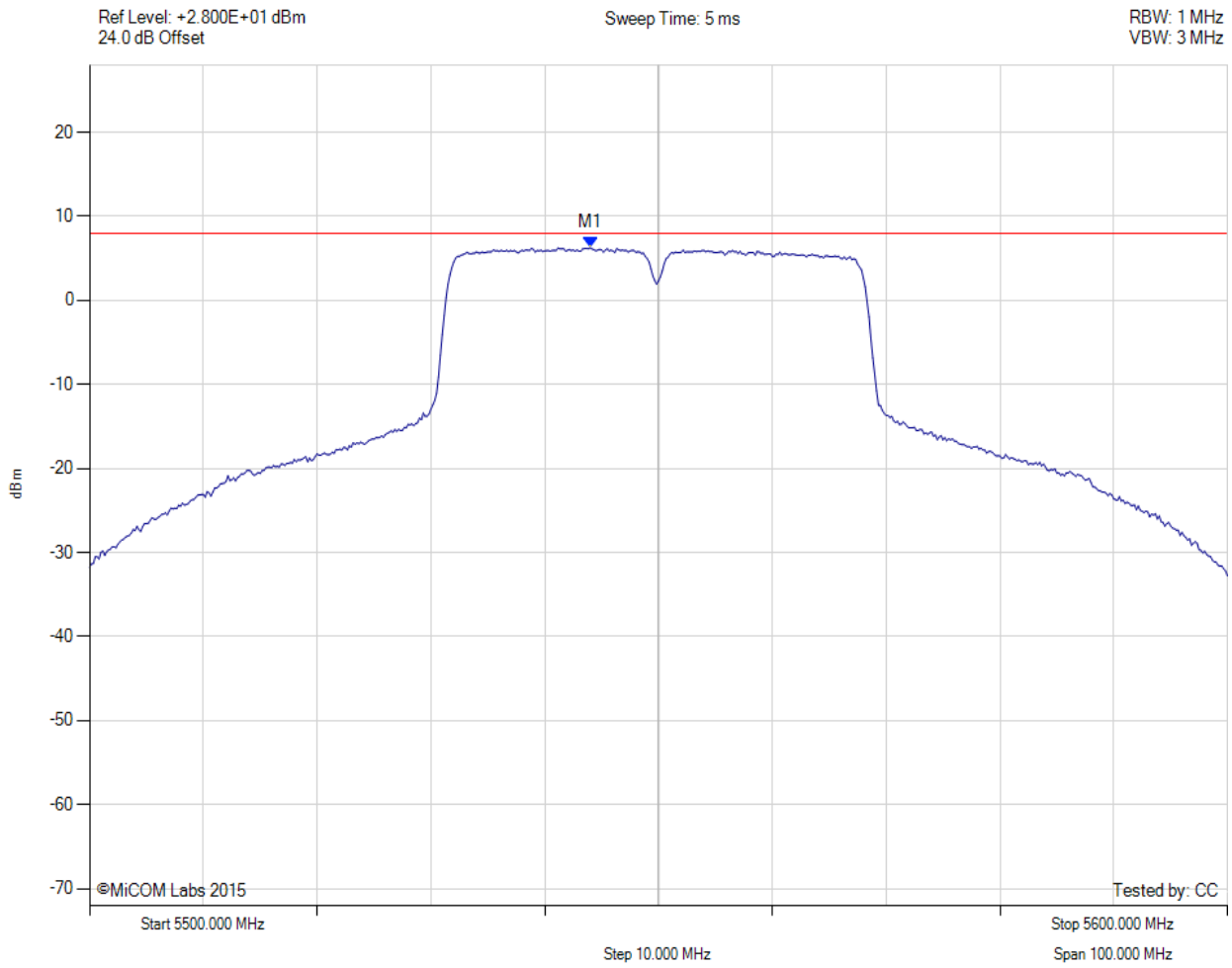
POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5550.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc




| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5544.000 MHz : 6.274 dBm | Channel Frequency: 5550.00 MHz |

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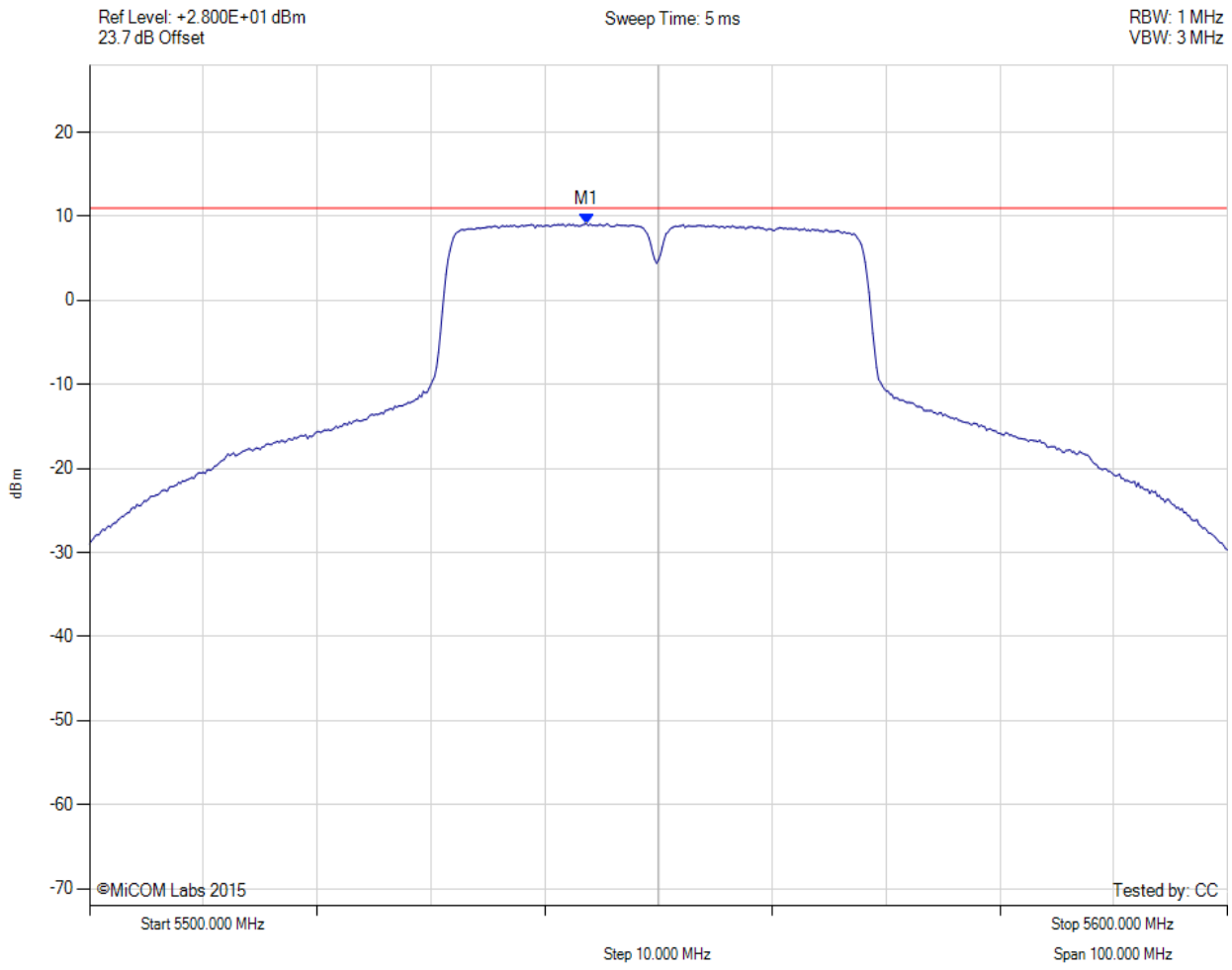
POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5550.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc




| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5543.700 MHz : 9.129 dBm<br>M1 + DCCF : 5543.700 MHz : 9.173 dBm<br>Duty Cycle Correction Factor : +0.04 dB | Limit: ≤ 11.0 dBm<br>Margin: -1.8 dB |

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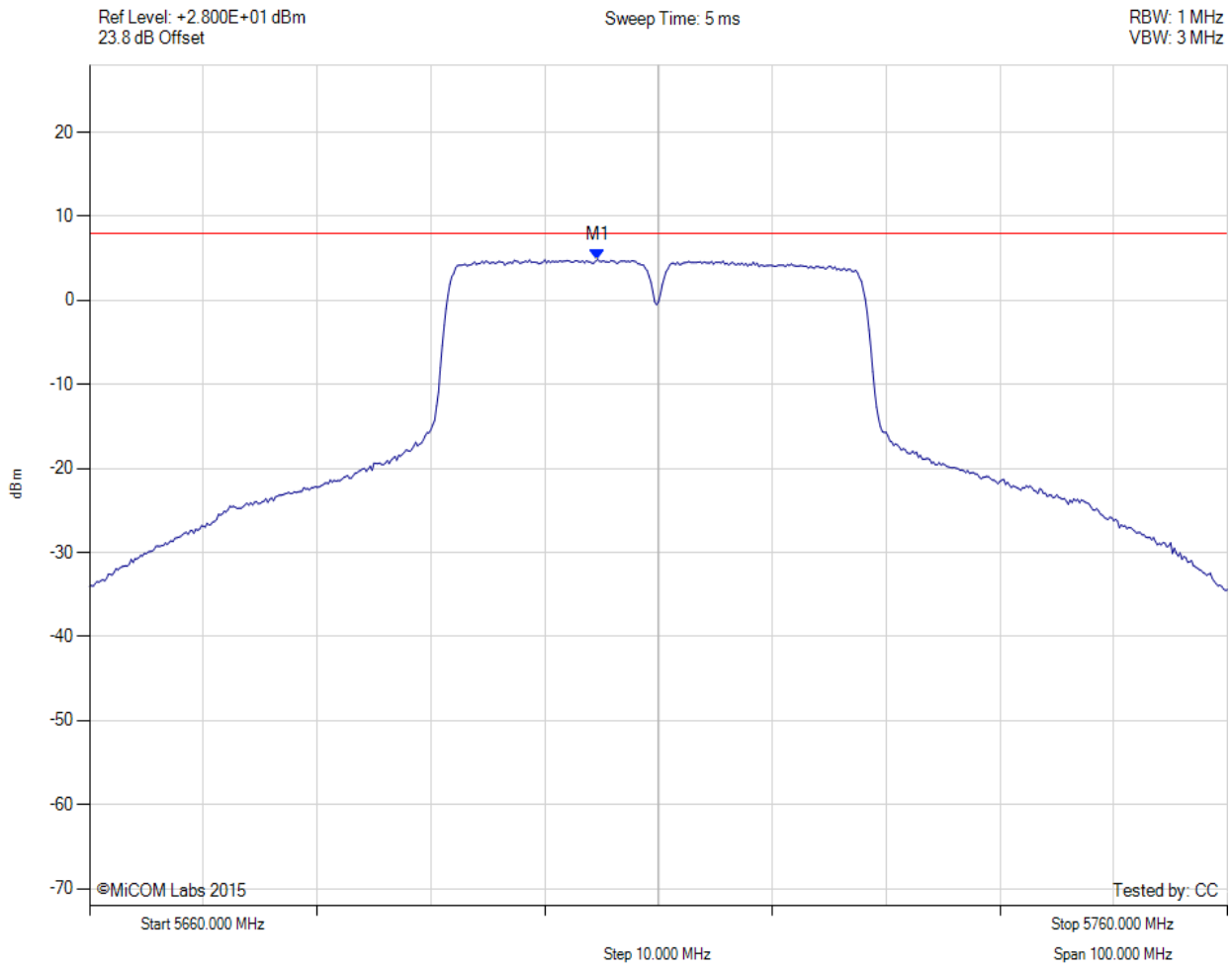
POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5710.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc




| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5704.670 MHz : 4.863 dBm | Limit: ≤ 7.990 dBm |

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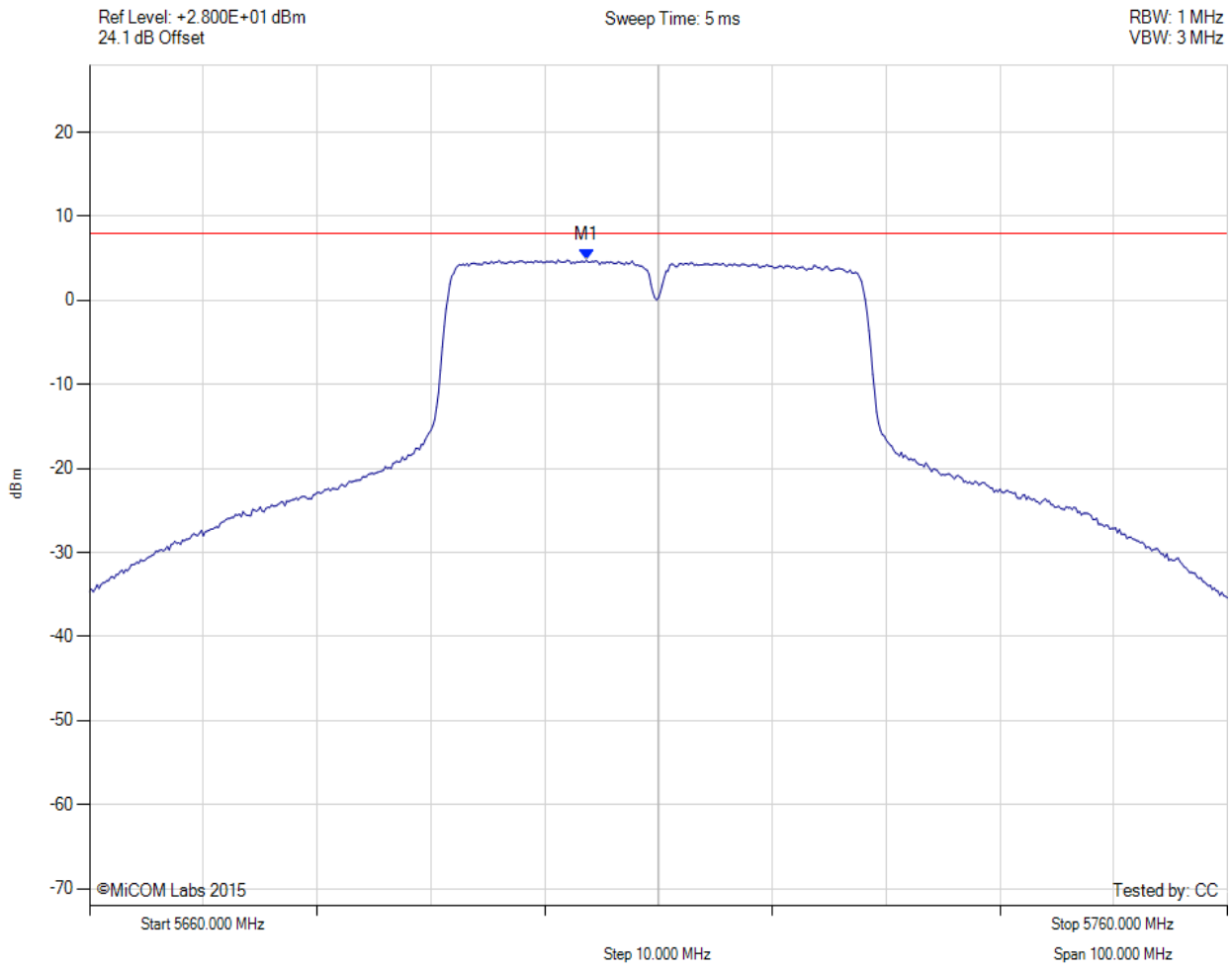
POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5710.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc




| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5703.670 MHz : 4.816 dBm | Limit: ≤ 7.990 dBm |

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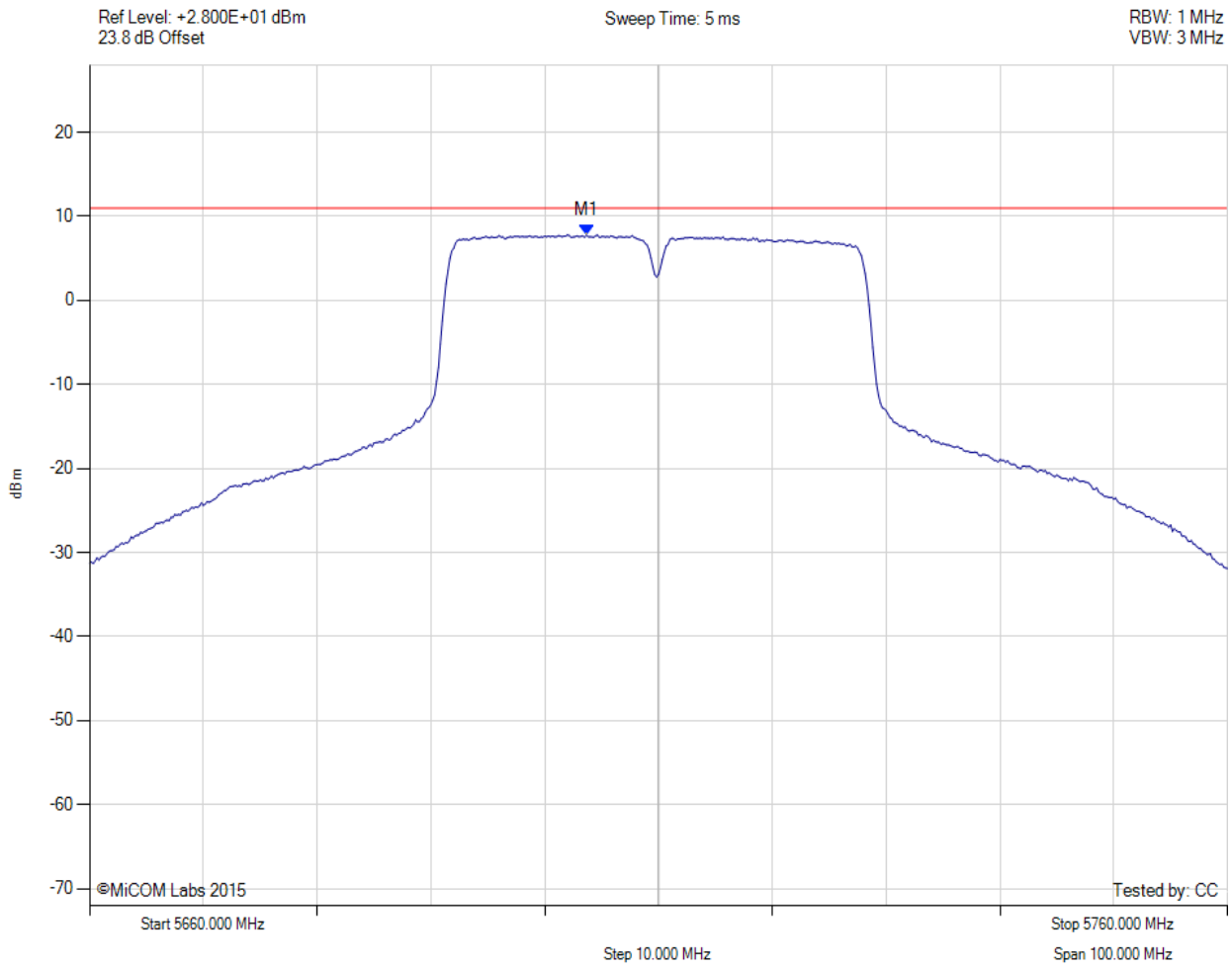
POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5710.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc




| Analyser Setup | Marker:Frequency:Amplitude | Test Results |
|---|---|---|
| Detector = AVER<br>Sweep Count = +100<br>RF Atten (dB) = 20<br>Trace Mode = VIEW | M1 : 5703.700 MHz : 7.791 dBm<br>M1 + DCCF : 5703.700 MHz : 7.835 dBm<br>Duty Cycle Correction Factor : +0.04 dB | Limit: ≤ 11.0 dBm<br>Margin: -3.2 dB |

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