Company: Mikrotikls SIA (MikroTik)

Test of: RBwAPGR-5HacD2HnD-US

To: FCC CFR 47 Part 15 Subpart E 15.407

Report No.: MIKO81-U15 Rev B

TEST REPORT

FROM

MiCOM Labs
opening wireless markets

Test of: Mikrotikls SIA (MikroTik) RBwAPGR-5HacD2HnD-US

To: FCC CFR 47 Part 15 Subpart E 15.407

Test Report Serial No.: MIKO81-U15 Rev B

This report supersedes: MIKO81-U15 Rev A

Applicant:	Mikrotikls SIA (MikroTik) Brivibas gatve 214i Riga, LV-1039 Latvia
Product Function:	802.11a/n/ac WLAN access point
Issue Date:	17th April 2019

This Test Report is Issued Under the Authority of:

MiCOM Labs, Inc.
575 Boulder Court
Pleasanton California 94566
USA
Phone: +1 (925) 462-0304
Fax: +1 (925) 462-0306
www.micomlabs.com

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

ilac-MRA A2LA

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 April 2017*).

Presented this 14th day of May 2018.

President and CEO
For the Accreditation Council
Certificate Number 2381.01
Valid to November 30, 2019

For the 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 Listing #: 102167
Canada	Industry Canada (IC)	FCB	APEC MRA 2	US0159 Listing #: 4143A-2 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) 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

Accredited Product Certification Body

A2LA has accredited

MiCOM LABS

Pleasanton, CA

This product certification body is accredited in accordance with the recognized International Standard ISO/IEC 17065:2012 *Requirements for bodies certifying products, processes and services*. This product certification body also meets the *A2LA R322 – Specific Requirements – Notified Body Accreditation Requirements* and *A2LA R308 - Specific Requirements - ISO-IEC 17065 - Telecommunication Certification Body Accreditation Program*. This accreditation demonstrates technical competence for a defined scope and the operation of a management system.

Presented this 14th day of May 2018

President and CEO
For the Accreditation Council
Certificate Number 2381.02
Valid to November 30, 2019

For the product certification schemes to which this accreditation applies, please refer to the organization's Product Certification Scope of Accreditation.

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	4th March 2019	Draft report for client review.
Rev A	10th April 2019	Initial release.
Rev B	17th April 2019	Correction to 5.1 Technical details section.
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In the above table the latest report revision will replace all earlier versions.

3. TEST RESULT CERTIFICATE

Manufacturer:	Mikrotikls SIA (MikroTik) Brivibas gatve 214i Riga, LV-1039 Latvia	**Tested By:**	MiCOM Labs, Inc. 575 Boulder Court Pleasanton California 94566 USA
Model:	RBwAPGR-5HacD2HnD-US	**Telephone:**	+1 925 462 0304
Type Of Equipment:	802.11a/n/ac WLAN access point	**Fax:**	+1 925 462 0306
S/N's:	AD130A0DB485/905/r2		
Test Date(s):	19 - 26 February 2019	**Website:**	www.micomlabs.com

STANDARD(S)	TEST RESULTS
FCC CFR 47 Part 15 Subpart E 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:

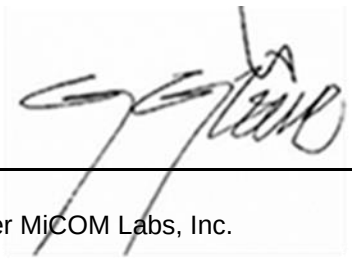
1. This document reports conditions under which testing was conducted and the results of testing performed.

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

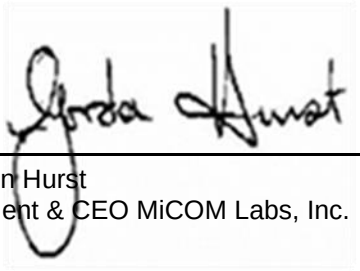
3. Test results apply only to the item(s) tested.

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 D01 & D02	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 D07 v02	22nd August 2016	Test guidance to demonstrate compliance for U-NII devices subject to DFS requirements.
III	KDB 926956 D01 v02	22nd August 2016	U-NII Device Transition Plan
IV	A2LA	August 2018	R105 - Requirement's When Making Reference to A2LA Accreditation Status
V	ANSI C63.10	2013	American National Standard for Testing Unlicensed Wireless Devices
VI	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
VII	CISPR 32	2015	Electromagnetic compatibility of multimedia equipment - Emission requirements
VIII	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
IX	FCC 06-96	Jun 30 2006	Memorandum Opinion and Order
X	FCC 47 CFR Part 15.407	2016	Radio Frequency Devices; Subpart E –Unlicensed National Information Infrastructure Devices
XI	ICES-003	Issue 6 Jan 2016; Updated April 2017	Information Technology Equipment (Including Digital Apparatus) – Limits and methods of measurement.
XII	M 3003	Edition 3 Nov.2012	Expression of Uncertainty and Confidence in Measurements
XIII	RSS-247 Issue 2	Feb 2017	Digital Transmission Systems (DTSs), Frequency Hopping System (FHSs) and Licence-Exempt Local Area Network (LE-LEN) Devices
XIV	RSS-Gen Issue 5	April 2018	General Requirements for Compliance of Radio Apparatus
XV	FCC 47 CFR Part 2.1033	2016	FCC requirements and rules regarding photographs and test setup diagrams.
XVI	KDB 905462 D02 v02	April 8 2016	Compliance Measurement Procedures for Unlicensed National Information Infrastructure devices operating in the 5250 to 5350 MHz and 5470 to 5725 MHz bands incorporating Dynamic Frequency Selection.
XVII	KDB 789033 D02 V02r01	14th December, 2017	Guidelines For Compliance Testing Of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E

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 Mikrotikls SIA (MikroTik) RBwAPGR-5HacD2HnD-US to FCC CFR 47 Part 15 Subpart E 15.407.
Applicant:	Mikrotikls SIA (MikroTik) Brivibas gatve 214i Riga, LV-1039 Latvia
Manufacturer:	Mikrotikls SIA (MikroTik)
Laboratory performing the tests:	MiCOM Labs, Inc. 575 Boulder Court Pleasanton California 94566 USA
Test report reference number:	MIKO81-U15 Rev B
Date EUT received:	18th February 2019
Standard(s) applied:	FCC CFR 47 Part 15 Subpart C 15.407
Dates of test (from - to):	19 - 26 February 2019
No of Units Tested:	2
Product Family Name:	RouterBOARD
Model(s):	RBwAPGR-5HacD2HnD-US
Location for use:	Both
Declared Frequency Range(s):	5150 - 5250 MHz; 5725 - 5850 MHz.
Type of Modulation:	OFDM
EUT Modes of Operation:	802.11a; ac-80; HT-20; HT-40;
Declared Nominal Output Power (dBm):	5150 - 5250 MHz: 24 dBm 5725 - 5850 MHz: 24 dBm
Transmit/Receive Operation:	Duplex
Rated Input Voltage and Current:	18VDC – 57VDC
Operating Temperature Range:	-10 to +40 ^{o}C
ITU Emission Designator:	802.11a: 17M3D1D 802.11ac-80: 76M3D1D 802.11n HT-20: 18M3D1D 802.11n HT-40: 37M7D1D
Equipment Dimensions:	7,3x3,4x1,2 inches (185 x 85 x 30 mm)
Weight:	13 oz
Hardware Rev:	r2
Software Rev:	ROS v6.43.1

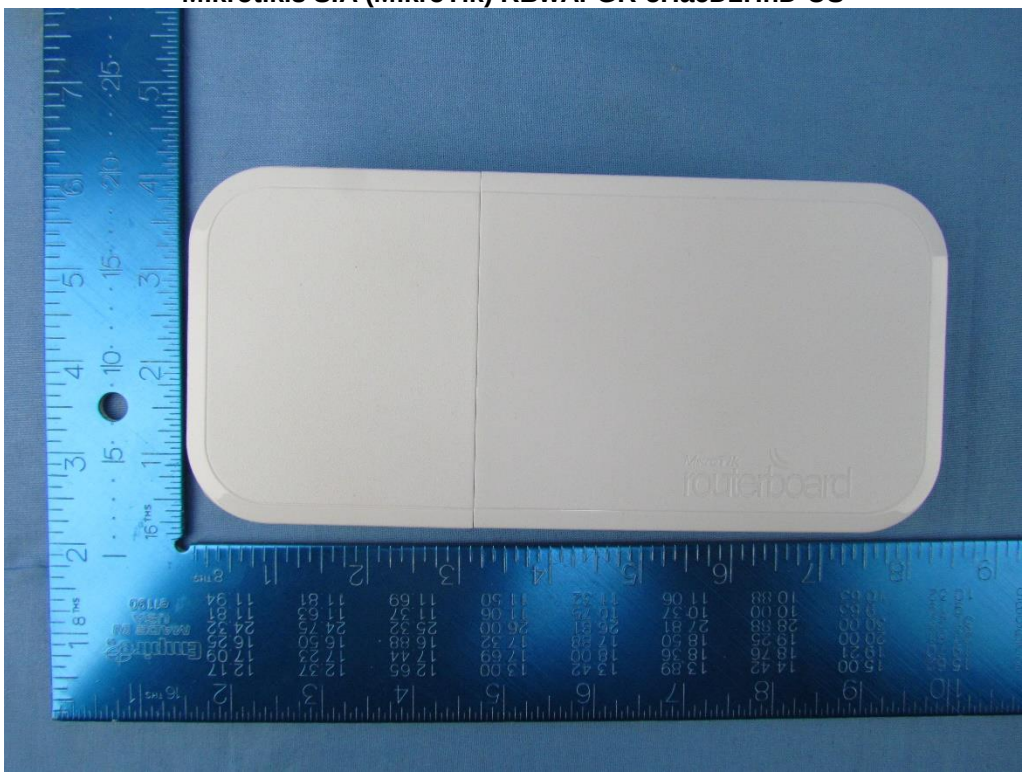
5.2. Scope Of Test Program

Mikrotikls SIA (MikroTik) RBwAPGR-5HacD2HnD-US

The scope of the test program was to test the Mikrotikls SIA (MikroTik) RBwAPGR-5HacD2HnD-US 802.11 configurations in the frequency ranges 5150 - 5250 MHz; 5725 - 5850 MHz; for compliance against the following specification:

FCC CFR 47 Part 15 Subpart E 15.407
Compliance Measurement Procedures for Unlicensed National Information Infrastructure devices operating in the 5150 - 5250 MHz; 5725 - 5850 MHz.

Mikrotikls SIA (MikroTik) RBwAPGR-5HacD2HnD-US



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

Type (EUT/ Support)	Equipment Description	Mfr	Model No.	Serial No.
EUT	Access Point	Mikrotikls SIA	RBwAPGR-5HacD2HnD-US	AD130A0DB485/905/r2
Support	Laptop	Dell		

5.4. Antenna Details

Type	Manufacturer	Model	Family	Gain (dBi)	BF Gain	Dir BW	X-Pol	Frequency Band (MHz)
integral	integral	integral	Dipole	2.5	-	360	-	5150 - 5250
integral	integral	integral	Dipole	2.5	-	360	-	5250 - 5350
integral	integral	integral	Dipole	2.5	-	360	-	5470 - 5725
integral	integral	integral	Dipole	2.5	-	360	-	5725 - 5850

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
Ethernet	3-10m	1	Yes
Ethernet (POE)	3-10m	1	Yes
DC Jack	< 3m	1	No

5.6. Test Configurations

Results for the following configurations are provided in this report:

Operational Mode(s) (802.11a/b/g/n/ac)	Data Rate with Highest Power MBit/s	Channel Frequency (MHz)		
		Low	Mid	High
5150 - 5250 MHz				
a	6	5,180.00	5,200.00	5,240.00
ac-80	29.3	5,210.00	--	--
HT-20	6.5	5,180.00	5,200.00	5,240.00
HT-40	13.5	5,190.00	--	5,230.00
5725 - 5850 MHz				
a	6	5,745.00	5,785.00	5,825.00
ac-80	29.3	5,775.00	--	5,775.00
HT-20	6.5	5,745.00	5,785.00	5,825.00
HT-40	13.5	5,755.00	--	5,795.00

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

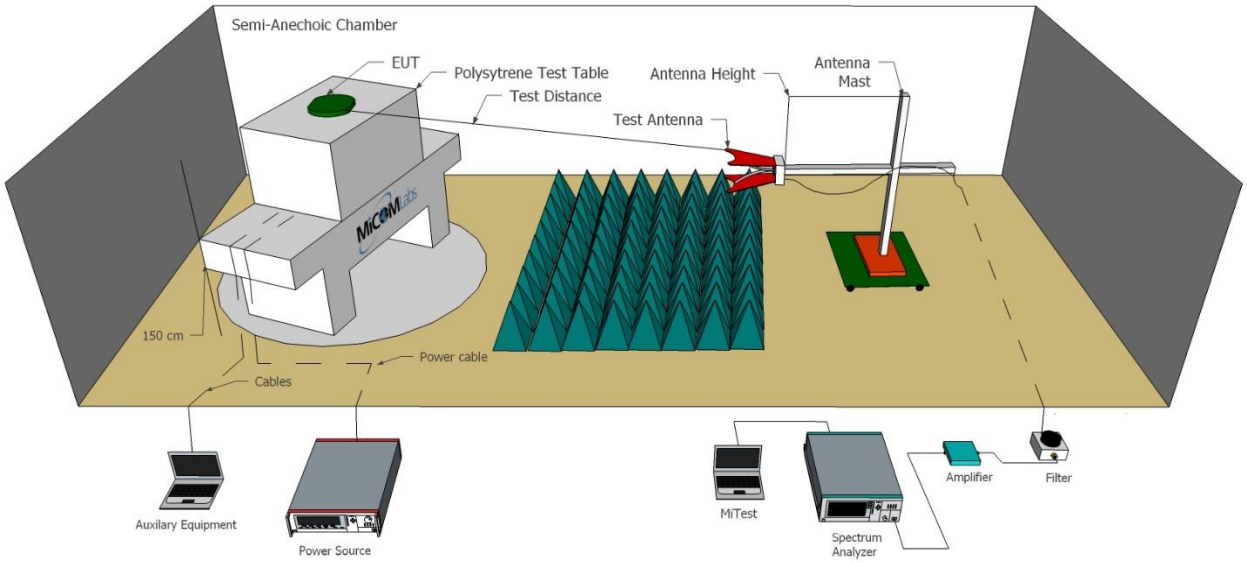
Test Header	Result	Data Link
Peak Transmit Power	Complies	View Data
26 dB & 99% Bandwidth	Complies	View Data
6 dB & 99% Bandwidth	Complies	View Data
Power Spectral Density	Complies	View Data
Radiated	Complies	-
TX Spurious & Restricted Band Emissions	Complies	-
integral	Complies	View Data
Restricted Edge & Band-Edge Emissions	Complies	-
integral	Complies	View Data

7. TEST EQUIPMENT CONFIGURATION(S)

7.1. Radiated Emissions - 3m Chamber

The following tests were performed using the radiated test set-up shown in the diagram below.Radiated emissions below 1GHz.Radiated Emissions above 1GHz.

Radiated Emissions Above 1GHz Test Setup

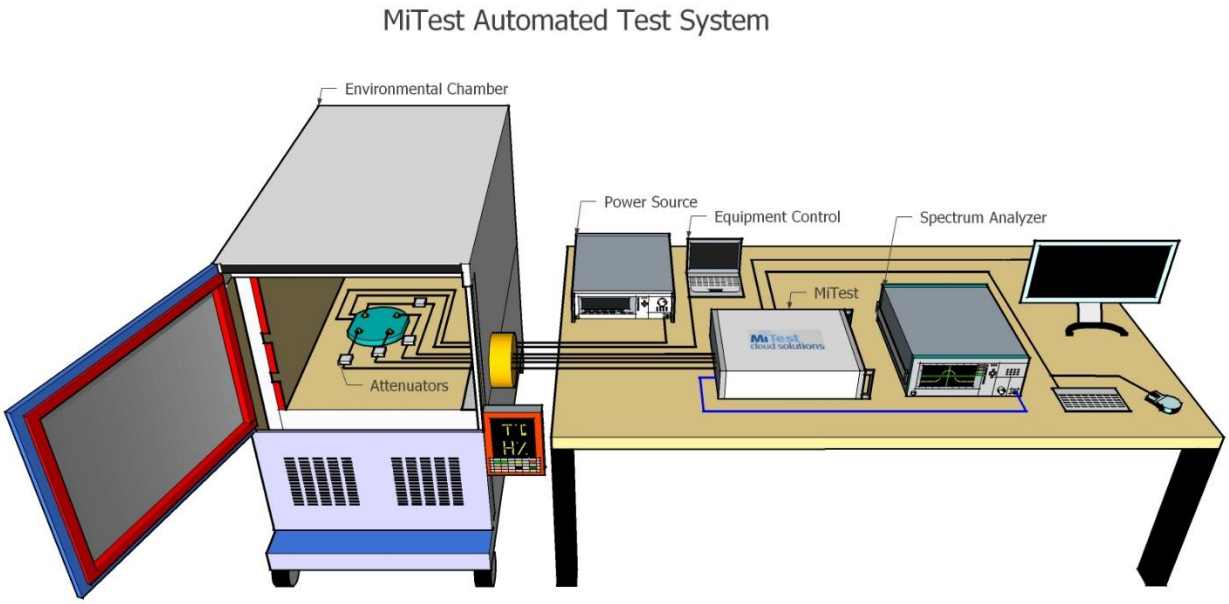


A full system calibration was performed on the test station and any resulting system losses (or gains) were taken into account in the production of all final measurement data.

Asset#	Description	Manufacturer	Model#	Serial#	Calibration Due Date
170	Video System Controller for Semi Anechoic Chamber	Panasonic	WV-CU101	04R08507	Not Required
298	3M Radiated Emissions Chamber Maintenance Check	MiCOM	3M Chamber	298	21 Mar 2019
330	Variac 0-280 Vac	Staco Energy Co	3PN1020B	0546	Cal when used
336	Active loop Ant 10kHz to 30 MHz	EMCO	EMCO 6502	00060498	29 Nov 2019
338	Sunol 30 to 3000 MHz Antenna	Sunol	JB3	A052907	4 Apr 2019
342	2.4 GHz Notch Filter	EWT	EWT-14-0203	H1	8 Oct 2019
343	5.15 GHz Notch Filter	EWT	EWT-14-0200	H1	8 Oct 2019
373	26III RMS Multimeter	Fluke	Fluke 26 series III	76080720	21 Sep 2019
377	Band Rejection Filter 5150 to 5880MHz	Microtronics	BRM50716	034	9 Oct 2019

378	Rohde & Schwarz 40 GHz Receiver with Generator	Rhode & Schwarz	ESIB40	100107/040	12 Oct 2019
393	DC - 1050 MHz Low Pass Filter	Microcircuits	VLFX-1050	N/A	8 Oct 2019
396	2.4 GHz Notch Filter	Microtronics	BRM50701	001	8 Oct 2019
397	Amp 10 - 2500MHz	MiCOM Labs	Amp 10 - 2500 MHz	NA	12 Apr 2019
399	ETS 1-18 GHz Horn Antenna	ETS	3117	00154575	12 Oct 2019
406	Amplifier for Radiated Emissions	MiCOM Labs	40dB 1 to 18GHz Amp	0406	12 Apr 2019
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
447	MiTest Rad Emissions Test Software	MiCOM	Rad Emissions Test Software Version 1.0	447	Not Required
462	Schwarzbeck cable from Antenna to Amplifier.	Schwarzbeck	AK 9513	462	9 Oct 2019
463	Schwarzbeck cable from Amplifier to Bulkhead.	Schwarzbeck	AK 9513	463	9 Oct 2019
464	Schwarzbeck cable from Bulkhead to Receiver	Schwarzbeck	AK 9513	464	9 Oct 2019
465	Low Pass Filter DC-1000 MHz	Mini-Circuits	NLP-1200+	VUU01901402	9 Oct 2019
480	Cable - Bulkhead to Amp	SRC Haverhill	157-3050360	480	24 Aug 2019
481	Cable - Bulkhead to Receiver	SRC Haverhill	151-3050787	481	24 Aug 2019
510	Barometer/Thermometer	Control Company	68000-49	170871375	11 Dec 2019
518	Cable - Amp to Antenna	SRC Haverhill	157-3051574	518	24 Aug 2019
87	Uninterruptible Power Supply	Falcon Electric	ED2000-1/2LC	F3471 02/01	Cal when used

7.2. Conducted



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
#3 SA	MiTest Box to SA	Fairview Microwave	SCA1814-0101-72	#3 SA	20 Mar 2019
#3P1	EUT to MiTest box port 1	Fairview Microwave	SCA1814-0101-72	#3P1	20 Mar 2019
#3P2	EUT to MiTest box port 2	Fairview Microwave	SCA1814-0101-72	#3P2	20 Mar 2019
#3P3	EUT to MiTest box port 3	Fairview Microwave	SCA1814-0101-72	#3P3	20 Mar 2019
#3P4	EUT to MiTest box port 4	Fairview Microwave	SCA1812-0101-72	#3P4	20 Mar 2019
249	Resistance Thermometer	Thermotronics	GR2105-02	9340 #2	30 Oct 2019
361	Desktop for RF#1, Labview Software installed	Dell	Vostro 220	WS RF#1	Not Required
378	Rohde & Schwarz 40 GHz Receiver with Generator	Rhode & Schwarz	ESIB40	100107/040	12 Oct 2019
398	MiTest RF Conducted Test Software	MiCOM	MiTest ATS	Version 4.1	Not Required
405	DC Power Supply 0-60V	Agilent	6654A	MY4001826	Cal when used

408	USB to GPIB interface	National Instruments	GPIB-USB HS	14C0DE9	Not Required
436	USB Wideband Power Sensor	Boonton	55006	8731	14 Sep 2019
440	USB Wideband Power Sensor	Boonton	55006	9178	22 Sep 2019
441	USB Wideband Power Sensor	Boonton	55006	9179	20 Sep 2019
442	USB Wideband Power Sensor	Boonton	55006	9181	6 Oct 2019
445	PoE Injector	D-Link	DPE-101GL	QTAH1E2000625	Not Required
461	Spectrum Analyzer	Agilent	E4440A	MY46185537	20 Sep 2019
510	Barometer/Thermometer	Control Company	68000-49	170871375	11 Dec 2019
515	MiTest Cloud Solutions RF Test Box	MiCOM	2nd Gen with DFS	515	20 Mar 2019
75	Environmental Chamber	Thermatron	SE-300-2-2	27946	24 Feb 2020

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 (%):**	99.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	2.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
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	dB	
5180.0	17.60	16.71			20.19		30.00	-9.81	21.00
5200.0	18.63	17.85			21.27		30.00	-8.73	22.00
5240.0	18.34	18.37			21.37		30.00	-8.63	22.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	±1.33 dB

The above measurements are true pulse readings and therefore a Duty Cycling correction factor is not required.

Equipment Configuration for Peak Transmit Power			
Variant:	802.11ac-80	**Duty Cycle (%):**	99.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	2.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
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	dB	
5210.0	14.15	13.46			16.83		30.00	-13.17	17.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	±1.33 dB

The above measurements are true pulse readings and therefore a Duty Cycling correction factor is not required.

Equipment Configuration for Peak Transmit Power			
Variant:	802.11n HT-20	**Duty Cycle (%):**	99.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	2.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
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	dB	
5180.0	17.72	16.87			20.33		30.00	-9.67	21.00
5200.0	18.59	17.89			21.26		30.00	-8.74	22.00
5240.0	18.25	18.34			21.31		30.00	-8.69	22.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	±1.33 dB

The above measurements are true pulse readings and therefore a Duty Cycling correction factor is not required.

Equipment Configuration for Peak Transmit Power			
Variant:	802.11n HT-40	**Duty Cycle (%):**	90.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	2.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
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	dB	
5190.0	19.70	18.61			22.20		30.00	-7.80	20.00
5230.0	21.25	20.11			23.73		30.00	-6.27	22.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	±1.33 dB

The above measurements are true pulse readings and therefore a Duty Cycling correction factor is not required.

Equipment Configuration for Peak Transmit Power			
Variant:	802.11a	**Duty Cycle (%):**	99.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	2.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
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	dB	
5745.0	18.64	18.48			21.57		30.00	-8.43	22.00
5785.0	18.39	18.52			21.47		30.00	-8.53	22.00
5825.0	18.20	18.44			21.33		30.00	-8.67	22.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	±1.33 dB

The above measurements are true pulse readings and therefore a Duty Cycling correction factor is not required.

Equipment Configuration for Peak Transmit Power			
Variant:	802.11ac-80	**Duty Cycle (%):**	90.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	2.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
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	dB	
5775.0	18.33	18.22			21.29		30.00	-8.71	22.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	±1.33 dB

The above measurements are true pulse readings and therefore a Duty Cycling correction factor is not required.

Equipment Configuration for Peak Transmit Power			
Variant:	802.11n HT-20	**Duty Cycle (%):**	99.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	2.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
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	dB	
5745.0	18.57	18.45			21.52		30.00	-8.48	22.00
5785.0	18.35	18.44			21.41		30.00	-8.59	22.00
5825.0	18.14	18.35			21.26		30.00	-8.74	22.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	±1.33 dB

The above measurements are true pulse readings and therefore a Duty Cycling correction factor is not required.

Equipment Configuration for Peak Transmit Power			
Variant:	802.11n HT-40	**Duty Cycle (%):**	90.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	2.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
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	dB	
5755.0	19.14	19.00			22.08		30.00	-7.92	20.00
5795.0	18.70	18.84			21.78		30.00	-8.22	20.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	±1.33 dB

The above measurements are true pulse readings and therefore a Duty Cycling correction factor is not required.

9.2. 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):**	2.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
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**		
5180.0	32.144	26.693			32.144	26.693		
5200.0	30.220	27.655			30.220	27.655		
5240.0	28.216	34.148			34.148	28.216		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5180.0	17.315	16.593			17.315	16.593		
5200.0	16.994	16.673			16.994	16.673		
5240.0	16.754	16.994			16.994	16.754		

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:	802.11ac-80	**Duty Cycle (%):**	99.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	2.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
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**		
5210.0	127.936	92.665			127.936	92.665		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5210.0	76.313	76.313			76.313	76.313		

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):**	2.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
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**		
5180.0	34.790	26.613			34.790	26.613		
5200.0	31.984	25.812			31.984	25.812		
5240.0	28.938	33.587			33.587	28.938		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5180.0	18.277	17.796			18.277	17.796		
5200.0	18.036	17.796			18.036	17.796		
5240.0	17.876	18.036			18.036	17.876		

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 (%):**	90.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	2.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
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**		
5190.0	79.840	70.381			79.840	70.381		
5230.0	76.954	73.427			76.954	73.427		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5190.0	37.675	36.713			37.675	36.713		
5230.0	36.874	36.713			36.874	36.713		

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

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

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9.3. 6 dB & 99% Bandwidth

Conducted Test Conditions for 6 dB and 99% Bandwidth			
Standard:	FCC CFR 47:15.407	**Ambient Temp. (ºC):**	24.0 - 27.5
Test Heading:	6 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 6 dB and 99% Bandwidth Measurement
The bandwidth at 6 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 100 kHz.
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 6 dB & 99% Bandwidth			
Variant:	802.11a	**Duty Cycle (%):**	99.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	2.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz) Port(s)				6 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5745.0	16.353	16.353			16.353	16.353		
5785.0	16.353	16.353			16.353	16.353		
5825.0	16.353	16.353			16.353	16.353		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5745.0	16.593	16.513			16.593	16.513		
5785.0	16.673	16.593			16.673	16.593		
5825.0	16.513	16.673			16.673	16.513		

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 6 dB & 99% Bandwidth			
Variant:	802.11ac-80	**Duty Cycle (%):**	90.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	2.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz) Port(s)				6 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5775.0	75.351	75.351			75.351	75.351		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5775.0	75.671	75.992			75.992	75.671		

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 6 dB & 99% Bandwidth			
Variant:	802.11n HT-20	**Duty Cycle (%):**	99.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	2.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz) Port(s)				6 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5745.0	17.635	17.555			17.635	17.555		
5785.0	17.555	17.635			17.635	17.555		
5825.0	17.635	17.635			17.635	17.635		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5745.0	17.796	17.715			17.796	17.715		
5785.0	17.796	17.796			17.796	17.796		
5825.0	17.796	17.796			17.796	17.796		

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 6 dB & 99% Bandwidth			
Variant:	802.11n HT-40	**Duty Cycle (%):**	90.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	2.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz) Port(s)				6 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5755.0	35.271	35.110			35.271	35.110		
5795.0	35.110	35.110			35.110	35.110		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5755.0	36.553	36.393			36.553	36.393		
5795.0	36.393	36.393			36.393	36.393		

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:	6.00 MBit/s	**Antenna Gain (dBi):**	2.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Summation Peak Marker + DCCF (+0.04 dB)	Limit	Margin
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5180.0	4.137	3.286			5.772	17.0	-11.2
5200.0	3.741	3.464			6.362	17.0	-10.6
5240.0	3.488	3.830			6.134	17.0	-10.9

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

DCCF - Duty Cycle Correction Factor

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

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Equipment Configuration for Power Spectral Density			
Variant:	802.11ac-80	**Duty Cycle (%):**	99.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	2.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Summation Peak Marker + DCCF (+0.04 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/MHz**	**dBm/MHz**	**dB**
5210.0	-7.361	-8.223			-5.511	17.0	-22.5

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-20	**Duty Cycle (%):**	99.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	2.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Summation Peak Marker + DCCF (+0.04 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/MHz**	**dBm/MHz**	**dB**
5180.0	3.409	2.611			5.763	17.0	-11.2
5200.0	3.107	3.290			5.843	17.0	-11.2
5240.0	2.355	2.930			5.393	17.0	-11.6

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-40	**Duty Cycle (%):**	90.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	2.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Summation Peak Marker + DCCF (+0.46 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/MHz**	**dBm/MHz**	**dB**
5190.0	2.430	0.861			4.742	17.0	-12.3
5230.0	1.192	0.269			3.453	17.0	-13.6

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:	802.11a	**Duty Cycle (%):**	99.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	2.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/500 KHz)				Summation Peak Marker + DCCF (+0.04 dB)	Limit	Margin
MHz	a	b	c	d	dBm/500 KHz	dBm/500 KHz	dB
5745.0	1.344	0.302			3.501	30.0	-26.5
5785.0	0.761	1.129			3.316	30.0	-26.7
5825.0	0.834	0.419			3.267	30.0	-26.7

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:	802.11ac-80	**Duty Cycle (%):**	90.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	2.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/500 KHz)				Summation Peak Marker + DCCF (+0.46 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/500 KHz**	**dBm/500 KHz**	**dB**
5775.0	-7.975	-9.580			-3.997	30.0	-34.0

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

DCCF - Duty Cycle Correction Factor

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):**	2.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/500 KHz)				Summation Peak Marker + DCCF (+0.04 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/500 KHz**	**dBm/500 KHz**	**dB**
5745.0	-0.439	0.170			1.784	30.0	-28.2
5785.0	-0.722	0.783			2.760	30.0	-27.3
5825.0	0.531	0.431			2.746	30.0	-27.3

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

DCCF - Duty Cycle Correction Factor

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

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Equipment Configuration for Power Spectral Density			
Variant:	802.11n HT-40	**Duty Cycle (%):**	90.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	2.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/500 KHz)				Summation Peak Marker + DCCF (+0.46 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/500 KHz**	**dBm/500 KHz**	**dB**
5755.0	-3.113	-3.077			-0.426	30.0	-30.4
5795.0	-4.353	-5.061			-2.418	30.0	-32.4

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).

9.5. Radiated

Radiated Test Conditions for Radiated Spurious and Band-Edge Emissions			
Standard:	FCC CFR 47:15.407	**Ambient Temp. (ºC):**	20.0 - 24.5
Test Heading:	Radiated Spurious and Band-Edge Emissions	**Rel. Humidity (%):**	32 - 45
Standard Section(s):	15.407 (b), 15.205, 15.209	**Pressure (mBars):**	999 - 1001
Reference Document(s):	See Normative References		

Test Procedure for Radiated Spurious and Band-Edge Emissions
Radiated emissions for restricted bands above 1 GHz are measured in the anechoic chamber at a 3-meter distance on every azimuth in both horizontal and vertical polarities. The emissions are recorded and maximized as a function of azimuth by rotation through 360° with a spectrum analyzer in peak hold mode. Depending on the frequency band spanned a notch filter was used to remove the fundamental frequency. The highest emissions relative to the limit are listed for each frequency spanned.
Measurements on any restricted band frequency or frequencies above 1 GHz are based on the use of measurement instrumentation employing peak and average detectors. All measurements were performed using a resolution bandwidth of 1 MHz.

Test configuration and setup for Undesirable Measurement were per the Radiated Test Set-up specified in this document.

15.407 (b) Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(4) For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of −17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of −27 dBm/MHz.

(5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.

(6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.

(7) The provisions of §15.205 apply to intentional radiators operating under this section.

(8) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.

Limits for Restricted Bands (15.205, 15.209)
Peak emission: 74 dBuV/m
Average emission: 54 dBuV/m

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

where:
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

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

$$E = \frac{1000000 \times \sqrt{30P}}{3}$$ µV/m

where P is the EIRP in Watts

Therefore: -27 dBm/MHz equates to 68.23 dBuV/m

Conversion between dBmV/m (or dBmV) and mV/m (or mV) are as follows:
Level (dBmV/m) = 20 * Log (level (mV/m))

40 dBmV/m = 100 mV/m
48 dBmV/m = 250 mV/m

Restricted Bands of Operation (15.205)
(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

Frequency Band			
MHz	**MHz**	**MHz**	**GHz**
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	Above 38.6
13.36-13.41			

(b) Except as provided 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 §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in §15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in §15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in §15.35 apply to these measurements.

(c) Except as provided in paragraphs (d) and (e) of this section, regardless of the field strength limits specified elsewhere in this subpart, the provisions of this section apply to emissions from any intentional radiator.

(d) The following devices are exempt from the requirements of this section:

(1) Swept frequency field disturbance sensors operating between 1.705 and 37 MHz provided their emissions only sweep through the bands listed in paragraph (a) of this section, the sweep is never stopped with the fundamental emission within the bands listed in paragraph (a) of this section, and the fundamental emission is outside of the bands listed in paragraph (a) of this section more than 99% of the time the device is actively transmitting, without compensation for duty cycle.

(2) Transmitters used to detect buried electronic markers at 101.4 kHz which are employed by telephone companies.

(3) Cable locating equipment operated pursuant to §15.213.

(4) Any equipment operated under the provisions of §15.253, 15.255, and 15.256 in the frequency band 75-85 GHz, or §15.257 of this part.

(5) Biomedical telemetry devices operating under the provisions of §15.242 of this part are not subject to the restricted band 608-614 MHz but are subject to compliance within the other restricted bands.

(6) Transmitters operating under the provisions of subparts D or F of this part.

(7) Devices operated pursuant to §15.225 are exempt from complying with this section for the 13.36-13.41 MHz band only.

(8) Devices operated in the 24.075-24.175 GHz band under §15.245 are exempt from complying with the requirements of this section for the 48.15-48.35 GHz and 72.225-72.525 GHz bands only, and shall not exceed the limits specified in §15.245(b).

(9) Devices operated in the 24.0-24.25 GHz band under §15.249 are exempt from complying with the requirements of this section for the 48.0-48.5 GHz and 72.0-72.75 GHz bands only, and shall not exceed the limits specified in §15.249(a).

(e) Harmonic emissions appearing in the restricted bands above 17.7 GHz from field disturbance sensors operating under the provisions of §15.245 shall not exceed the limits specified in §15.245(b).

9.5.1. TX Spurious & Restricted Band Emissions

9.5.1.1. integral

Equipment Configuration for TX Spurious & Restricted Band Emissions			
Antenna:	integral	**Variant:**	802.11a
Antenna Gain (dBi):	2.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	3453.28	60.33	-2.10	-11.80	46.43	Peak (NRB)	Vertical	100	0	--	--	Pass
#2	5174.55	75.99	-2.62	-11.88	61.49	Fundamental	Horizontal	100	0	--	--	
#3	6906.64	65.99	-3.02	-8.05	54.92	Peak (NRB)	Horizontal	100	0	--	--	Pass
#4	10355.68	57.20	-3.83	-5.56	47.81	Peak (NRB)	Horizontal	100	0	--	--	Pass
#5	15539.17	63.96	-4.76	-2.12	57.08	Max Peak	Horizontal	121	0	68.2	-11.2	Pass
#6	15539.17	49.63	-4.76	-2.12	42.75	Max Avg	Horizontal	121	0	54.0	-11.3	Pass
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	integral	**Variant:**	802.11a
Antenna Gain (dBi):	2.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5200.00	**Data Rate:**	6.00 MBit/s
Power Setting:	23	**Tested By:**	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	2956.61	61.22	-1.95	-11.59	47.68	Peak (NRB)	Vertical	100	360	--	--	Pass
#2	3466.67	59.08	-2.13	-11.99	44.96	Peak (NRB)	Vertical	100	360	--	--	Pass
#3	5204.32	84.14	-2.64	-11.96	69.54	Fundamental	Horizontal	100	0	--	--	
#4	6933.31	66.69	-3.00	-7.96	55.73	Peak (NRB)	Vertical	100	26	--	--	Pass
#5	10407.38	60.34	-3.90	-5.85	50.59	Peak (NRB)	Horizontal	100	26	--	--	Pass
#6	15606.46	68.79	-4.73	-1.71	62.35	Max Peak	Horizontal	122	36	68.2	-5.9	Pass
#7	15606.46	54.32	-4.73	-1.71	47.88	Max Avg	Horizontal	122	36	54.0	-6.1	Pass
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

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Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	integral	**Variant:**	802.11a
Antenna Gain (dBi):	2.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5240.00	**Data Rate:**	6.00 MBit/s
Power Setting:	25	**Tested By:**	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	2688.15	60.51	-1.86	-11.90	46.75	Peak (NRB)	Vertical	100	360	--	--	Pass
#2	2956.78	60.13	-1.95	-11.59	46.59	Peak (NRB)	Vertical	100	0	--	--	Pass
#3	5234.31	86.87	-2.62	-12.32	71.93	Fundamental	Horizontal	100	0	--	--	
#4	6986.57	64.14	-3.06	-7.74	53.34	Peak (NRB)	Horizontal	100	264	--	--	Pass
#5	10479.21	63.71	-3.82	-6.25	53.64	Peak (NRB)	Horizontal	100	11	--	--	Pass
#6	15720.73	64.77	-4.82	-1.94	58.01	Max Peak	Horizontal	98	6	68.2	-10.2	Pass
#7	15720.73	50.95	-4.82	-1.94	44.19	Max Avg	Horizontal	98	6	54.0	-9.8	Pass
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

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Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	integral	**Variant:**	802.11a
Antenna Gain (dBi):	2.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	25	**Tested By:**	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	2956.81	57.09	-1.95	-11.59	43.55	Peak (NRB)	Horizontal	100	6	--	--	Pass
#2	3830.04	64.07	-2.20	-11.77	50.10	Max Peak	Horizontal	180	29	68.2	-18.1	Pass
#3	3830.04	59.39	-2.20	-11.77	45.42	Max Avg	Horizontal	180	29	54.0	-8.6	Pass
#4	5748.09	60.27	-2.76	-10.98	46.53	Fundamental	Horizontal	100	60	--	--	
#5	7659.98	59.97	-2.94	-7.18	49.85	Max Peak	Vertical	140	49	68.2	-18.4	Pass
#6	7659.98	52.08	-2.94	-7.18	41.96	Max Avg	Vertical	140	49	54.0	-12.0	Pass
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	integral	**Variant:**	802.11a
Antenna Gain (dBi):	2.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5785.00	**Data Rate:**	6.00 MBit/s
Power Setting:	25	**Tested By:**	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	3856.64	65.43	-2.21	-11.61	51.61	Max Peak	Vertical	196	14	68.2	-16.6	Pass
#2	3856.64	61.49	-2.21	-11.61	47.67	Max Avg	Vertical	196	14	54.0	-6.3	Pass
#3	5788.44	70.34	-2.75	-10.78	56.81	Fundamental	Horizontal	100	0	--	--	
#4	7713.35	66.39	-2.92	-7.24	56.23	Max Peak	Horizontal	182	332	68.2	-12.0	Pass
#5	7713.35	61.97	-2.92	-7.24	51.81	Max Avg	Horizontal	182	332	54.0	-2.2	Pass
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	integral	**Variant:**	802.11a
Antenna Gain (dBi):	2.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	25	**Tested By:**	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	3883.30	65.82	-2.24	-11.75	51.83	Max Peak	Vertical	197	1	68.2	-16.4	Pass
#2	3883.30	62.15	-2.24	-11.75	48.16	Max Avg	Vertical	197	1	54.0	-5.8	Pass
#3	5823.39	73.38	-2.80	-10.75	59.83	Fundamental	Horizontal	151	0	--	--	
#4	7766.61	57.58	-3.00	-7.17	47.41	Peak (NRB)	Horizontal	151	0	--	--	Pass
#5	11650.12	62.98	-4.21	-4.40	54.37	Max Peak	Horizontal	197	7	68.2	-13.9	Pass
#6	11650.12	49.04	-4.21	-4.40	40.43	Max Avg	Horizontal	197	7	54.0	-13.6	Pass
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

9.5.2. Restricted Edge & Band-Edge Emissions

9.5.2.2. integral

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5150 - 5250 MHz

integralintegral		Band-Edge Freq	Limit 68.2dBµV/m	Limit 54.0dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5180.00	5150.00	67.01	52.43	21
802.11ac-80	5210.00	5150.00	67.59	46.92	17
802.11n HT-20	5180.00	5150.00	67.92	51.17	21
802.11n HT-40	5190.00	5150.00	55.87	42.56	20

5725 MHz Radiated Lower Band-Edge Emissions

integral		Band-Edge Freq	dBµV/m	dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz			
802.11a	5745.00	5725.00	56.79	91.32	25
802.11ac-80	5775.00	5725.00	66.22	77.30	23
802.11n HT-20	5745.00	5725.00	56.75	89.14	25
802.11n HT-40	5755.00	5725.00	62.01	89.83	22

5850 MHz Radiated Higher Band-Edge Emissions

integral		Band-Edge Freq	dBµV/m	dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz			
802.11a	5825.00	5850.00	82.55	59.28	25
802.11ac-80	5775.00	5850.00	74.71	64.26	23
802.11n HT-20	5825.00	5850.00	80.71	59.29	25
802.11n HT-40	5795.00	5850.00	73.29	65.75	23

Click on the links to view the data.

Equipment Configuration for Lower Band-Edge Emissions			
Antenna:	integral	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5147.80	35.41	-2.61	34.21	67.01	Max Peak	Horizontal	191	9	68.2	-1.2	Pass
#2	5150.00	20.83	-2.61	34.21	52.43	Max Avg	Horizontal	191	9	54.0	-1.6	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber												

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	integral	**Variant:**	802.11ac-80
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5210.00	**Data Rate:**	29.30 MBit/s
Power Setting:	17	**Tested By:**	JMH

Test Measurement Results

4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5142.48	15.35	-2.63	34.20	46.92	Max Avg	Horizontal	191	9	54.0	-7.1	Pass
#2	5146.99	35.99	-2.61	34.21	67.59	Max Peak	Horizontal	191	9	68.2	-0.6	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber. Reduced power to meet band edge.												

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	integral	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.50 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5150.00	19.57	-2.61	34.21	51.17	Max Avg	Horizontal	191	9	54.0	-2.8	Pass
#2	5150.00	36.32	-2.61	34.21	67.92	Max Peak	Horizontal	191	9	68.2	-0.3	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber												

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	integral	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5190.00	**Data Rate:**	13.50 MBit/s
Power Setting:	20	**Tested By:**	JMH

Test Measurement Results

4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5119.94	24.32	-2.61	34.16	55.87	Max Peak	Horizontal	191	9	68.2	-12.4	Pass
#2	5150.00	10.96	-2.61	34.21	42.56	Max Avg	Horizontal	191	9	54.0	-11.4	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber. Reduced power to meet band edge. Large increase in signal with any larger PS

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	integral	**Variant:**	802.11a
Antenna Gain (dBi):	2.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	25	**Tested By:**	JMH

Test Measurement Results

5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5634.56	24.85	-2.70	34.64	56.79	Max Avg	Horizontal	190	348	68.2	-11.4	Pass
#2	5722.47	59.35	-2.75	34.72	91.32	Max Avg	Horizontal	190	348	115.4	-24.0	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	integral	**Variant:**	802.11ac-80
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5775.00	**Data Rate:**	29.30 MBit/s
Power Setting:	23	**Tested By:**	JMH

Test Measurement Results

5600.00 - 5825.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5641.50	34.30	-2.72	34.64	66.22	Max Avg	Horizontal	190	348	68.2	-2.0	Pass
#2	5669.94	45.43	-2.78	34.65	77.30	Max Avg	Horizontal	190	348	83.0	-5.7	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	integral	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	2.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.50 MBit/s
Power Setting:	25	**Tested By:**	JMH

Test Measurement Results

5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5640.33	24.82	-2.71	34.64	56.75	Max Avg	Horizontal	190	348	68.2	-11.5	Pass
#2	5722.84	57.17	-2.75	34.72	89.14	Max Avg	Horizontal	190	348	117.6	-28.5	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	integral	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5755.00	**Data Rate:**	13.50 MBit/s
Power Setting:	22	**Tested By:**	JMH

Test Measurement Results

5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5649.71	30.10	-2.72	34.63	62.01	Max Avg	Horizontal	190	348	68.2	-6.2	Pass
#2	5717.06	57.89	-2.77	34.71	89.83	Max Avg	Horizontal	190	348	110.0	-20.1	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	integral	**Variant:**	802.11a
Antenna Gain (dBi):	2.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	25	**Tested By:**	JMH

Test Measurement Results

5770.00 - 6000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#2	5857.84	50.34	-2.77	34.98	82.55	Max Avg	Horizontal	189	348	68.2	-27.7	Pass
#3	5925.91	26.95	-2.78	35.11	59.28	Max Avg	Horizontal	189	348	68.2	-8.9	Pass
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	integral	**Variant:**	802.11ac-80
Antenna Gain (dBi):	2.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5775.00	**Data Rate:**	29.30 MBit/s
Power Setting:	23	**Tested By:**	JMH

Test Measurement Results

5770.00 - 6000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#2	5881.34	39.66	0.00	35.05	74.71	Max Avg	Horizontal	189	348	101.2	-26.5	Pass
#3	5925.91	31.93	-2.78	35.11	64.26	Max Avg	Horizontal	189	348	68.2	-4.0	Pass
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber												

Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	integral	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	2.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.50 MBit/s
Power Setting:	25	**Tested By:**	JMH

Test Measurement Results

5770.00 - 6000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#2	5859.61	48.49	-2.77	34.99	80.71	Max Avg	Horizontal	189	348	110.5	-29.8	Pass
#3	5927.76	26.96	-2.78	35.11	59.29	Max Avg	Horizontal	189	348	68.2	-8.9	Pass
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber												

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

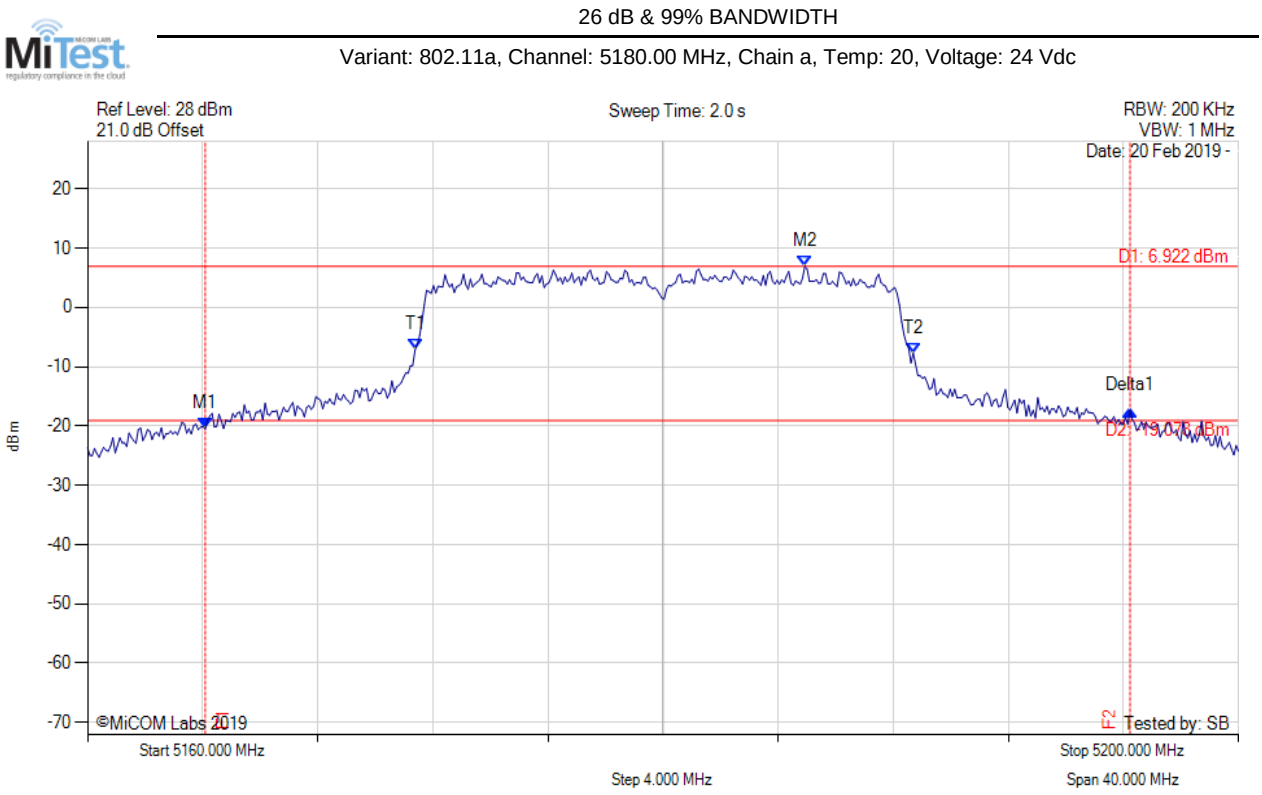
Antenna:	integral	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	2.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5795.00	**Data Rate:**	13.50 MBit/s
Power Setting:	23	**Tested By:**	JMH

Test Measurement Results

5770.00 - 6000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#2	5896.86	40.99	-2.79	35.09	73.29	Max Avg	Horizontal	189	348	89.9	-16.6	Pass
#3	5924.53	33.43	-2.79	35.11	65.75	Max Avg	Horizontal	189	348	68.2	-2.5	Pass
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber												

A. APPENDIX - GRAPHICAL IMAGES

A.1. 26 dB & 99% Bandwidth



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5164.088 MHz : -20.495 dBm M2 : 5184.930 MHz : 6.922 dBm Delta1 : 32.144 MHz : 3.093 dB T1 : 5171.383 MHz : -7.161 dBm T2 : 5188.697 MHz : -7.723 dBm OBW : 17.315 MHz	Measured 26 dB Bandwidth: 32.144 MHz Measured 99% Bandwidth: 17.315 MHz

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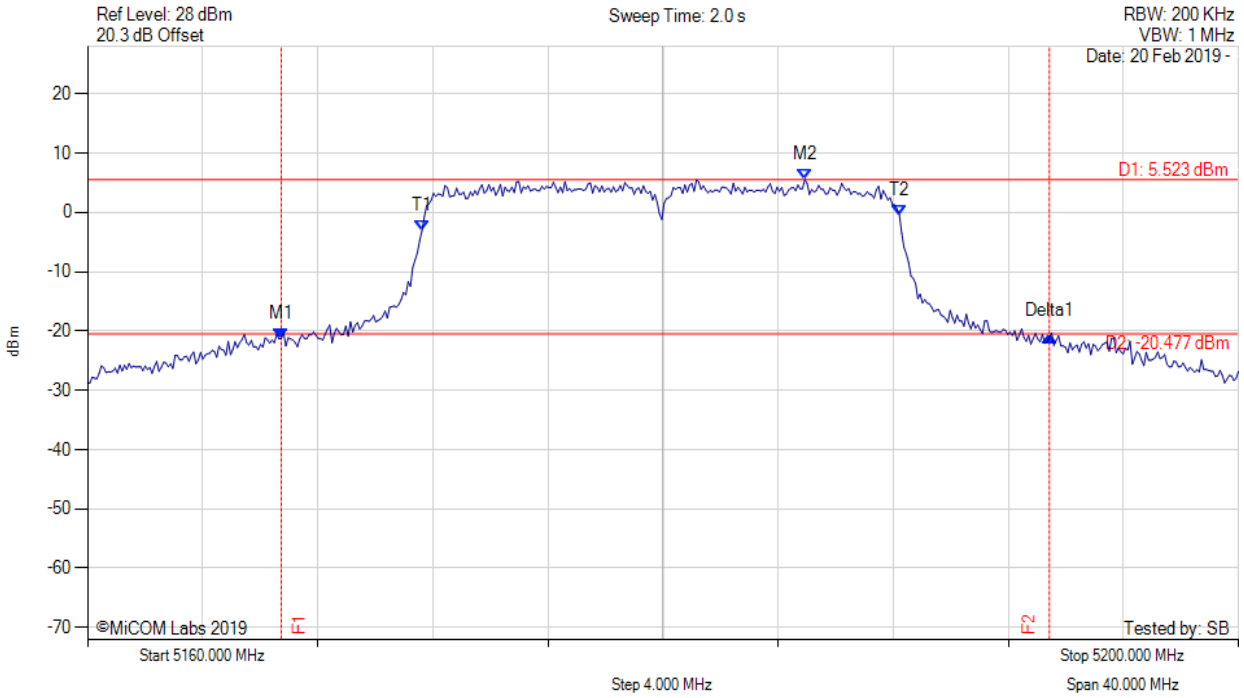
26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5180.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5166.733 MHz : -21.241 dBm M2 : 5184.930 MHz : 5.523 dBm Delta1 : 26.693 MHz : 0.309 dB T1 : 5171.623 MHz : -3.155 dBm T2 : 5188.216 MHz : -0.495 dBm OBW : 16.593 MHz	Measured 26 dB Bandwidth: 26.693 MHz Measured 99% Bandwidth: 16.593 MHz

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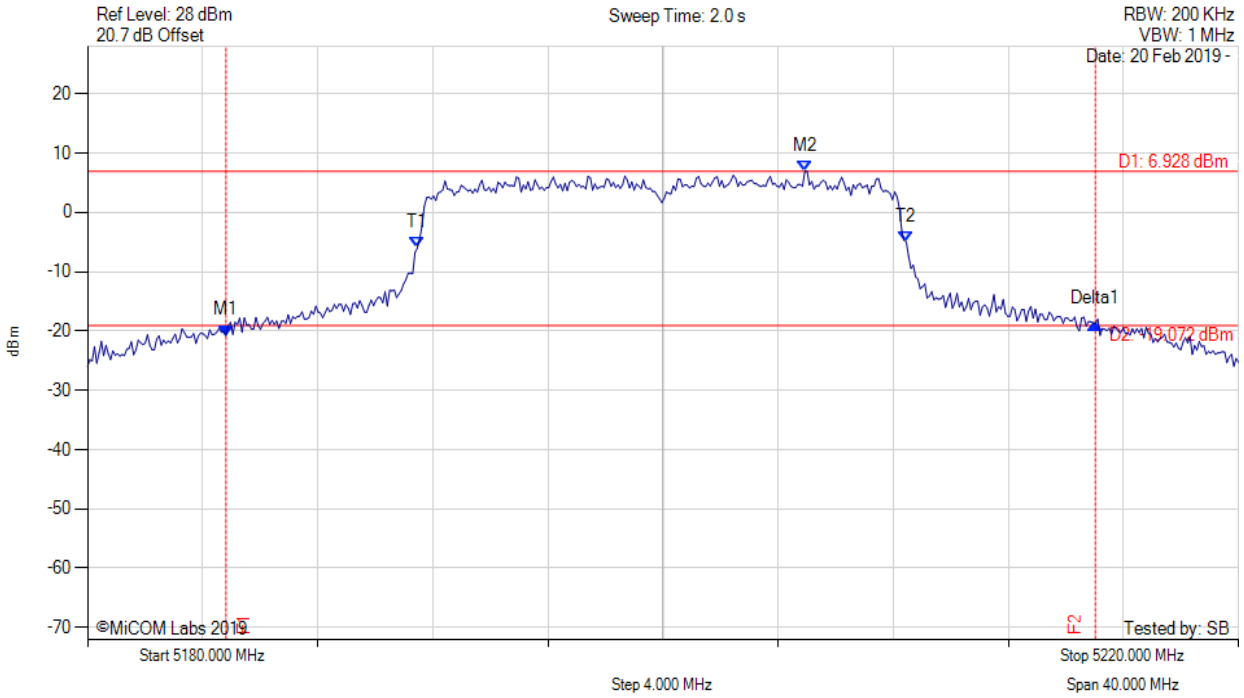
26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5200.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5184.810 MHz : -20.765 dBm M2 : 5204.930 MHz : 6.928 dBm Delta1 : 30.220 MHz : 2.032 dB T1 : 5191.463 MHz : -6.000 dBm T2 : 5208.457 MHz : -5.038 dBm OBW : 16.994 MHz	Measured 26 dB Bandwidth: 30.220 MHz Measured 99% Bandwidth: 16.994 MHz

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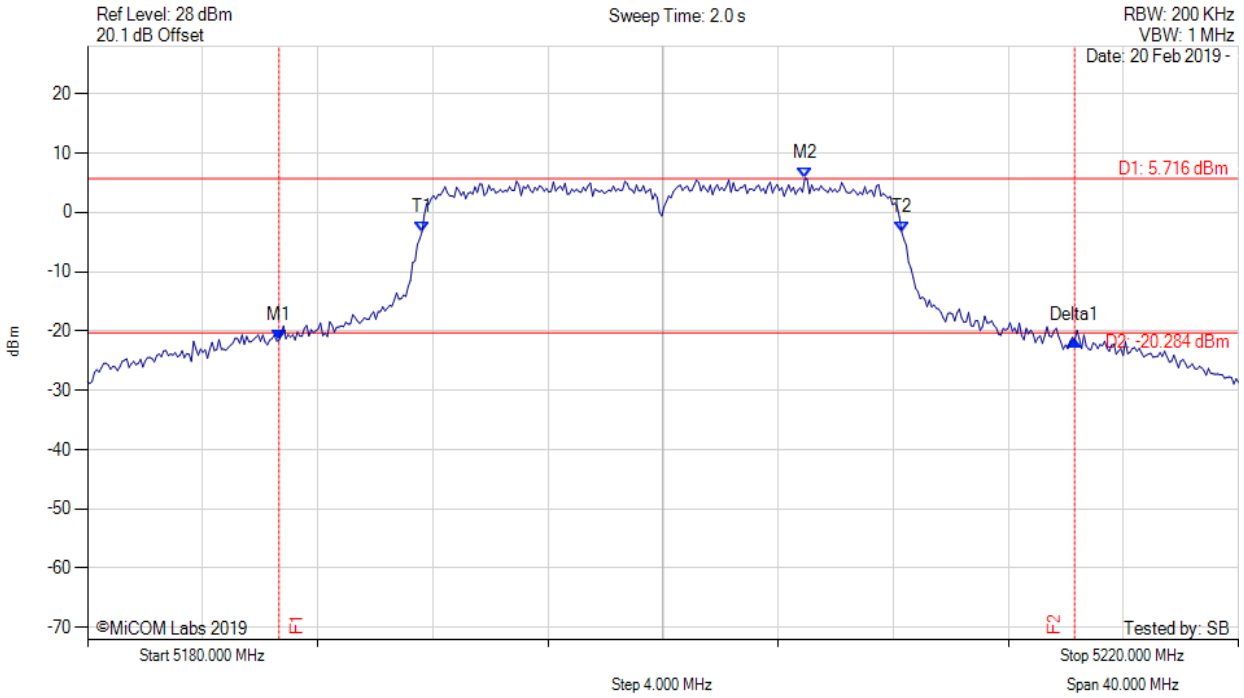
26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5200.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5186.653 MHz : -21.609 dBm M2 : 5204.930 MHz : 5.716 dBm Delta1 : 27.655 MHz : -0.024 dB T1 : 5191.623 MHz : -3.305 dBm T2 : 5208.297 MHz : -3.330 dBm OBW : 16.673 MHz	Measured 26 dB Bandwidth: 27.655 MHz Measured 99% Bandwidth: 16.673 MHz

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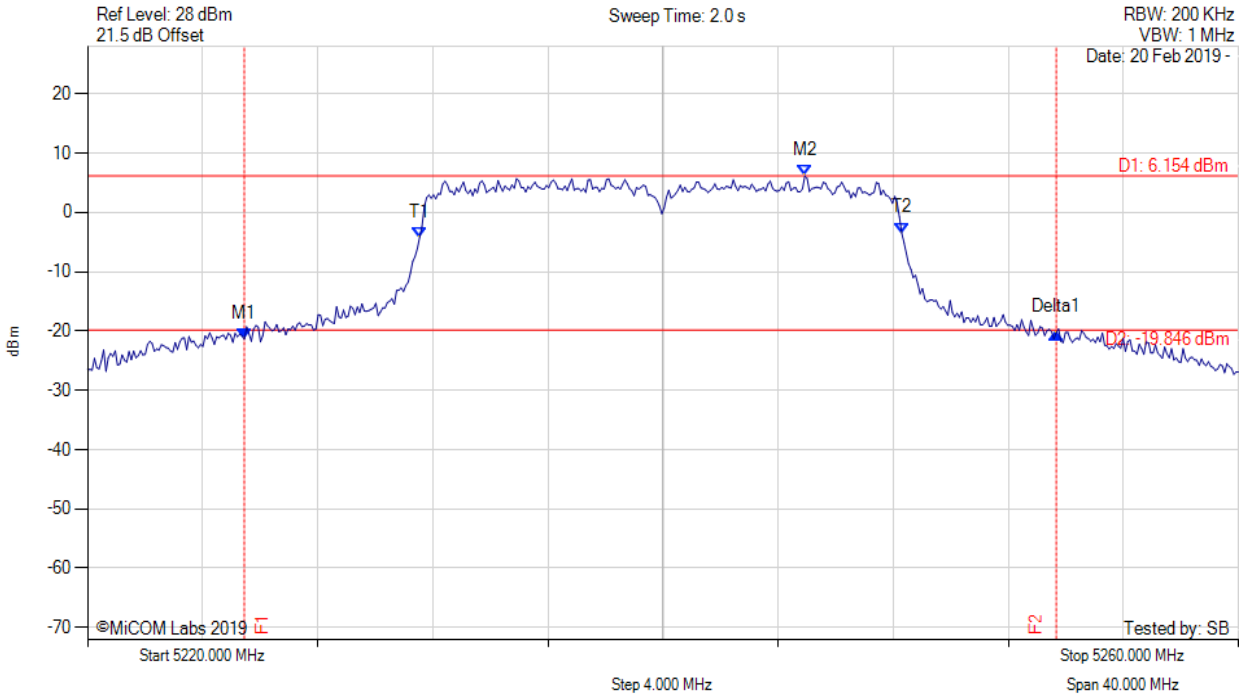
26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5240.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5225.451 MHz : -21.383 dBm M2 : 5244.930 MHz : 6.154 dBm Delta1 : 28.216 MHz : 1.082 dB T1 : 5231.543 MHz : -4.184 dBm T2 : 5248.297 MHz : -3.454 dBm OBW : 16.754 MHz	Measured 26 dB Bandwidth: 28.216 MHz Measured 99% Bandwidth: 16.754 MHz

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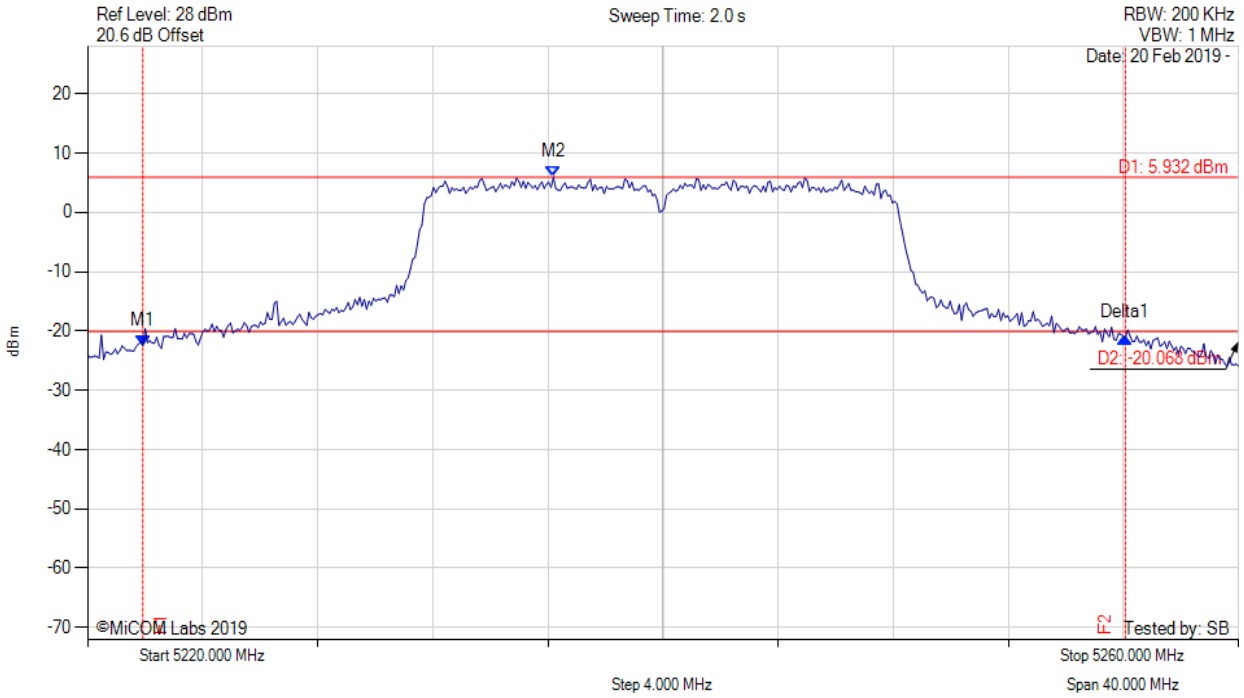
26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5240.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5221.924 MHz : -22.469 dBm M2 : 5236.192 MHz : 5.932 dBm Delta1 : 34.148 MHz : 1.369 dB T1 : 0 Hz : 500.000 dBm T2 : 0 Hz : 500.000 dBm OBW : 16.994 MHz	Measured 26 dB Bandwidth: 34.148 MHz Measured 99% Bandwidth: 16.994 MHz

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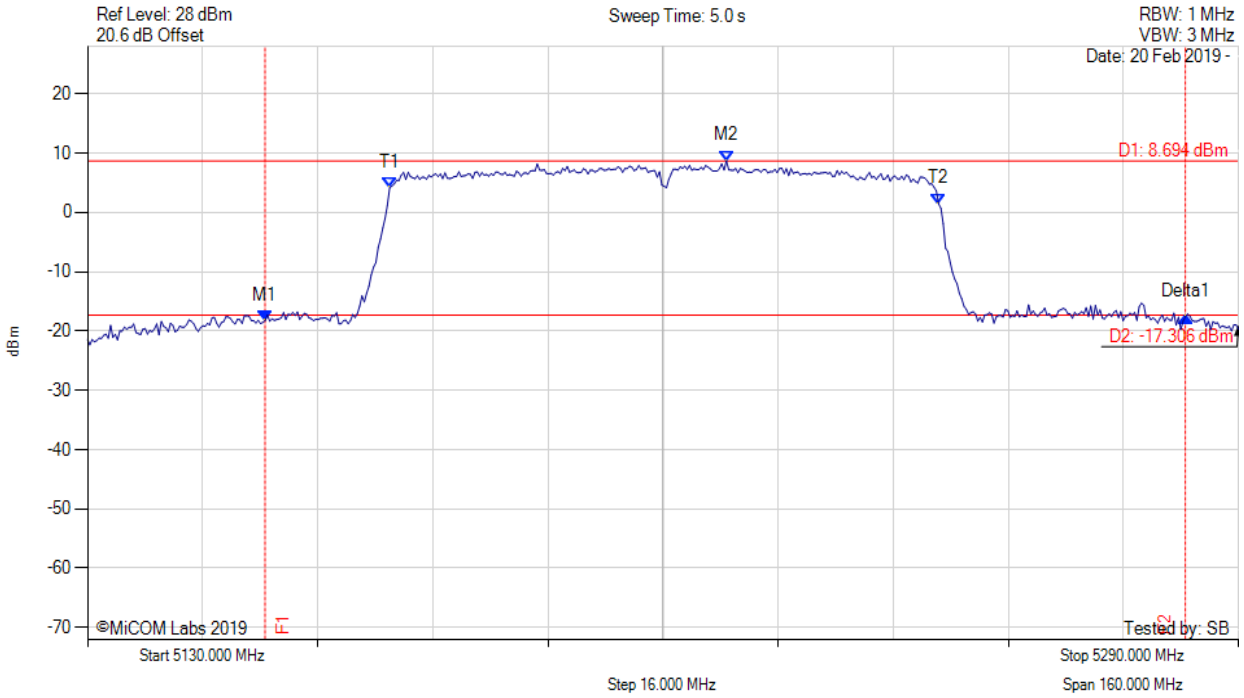
26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5210.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

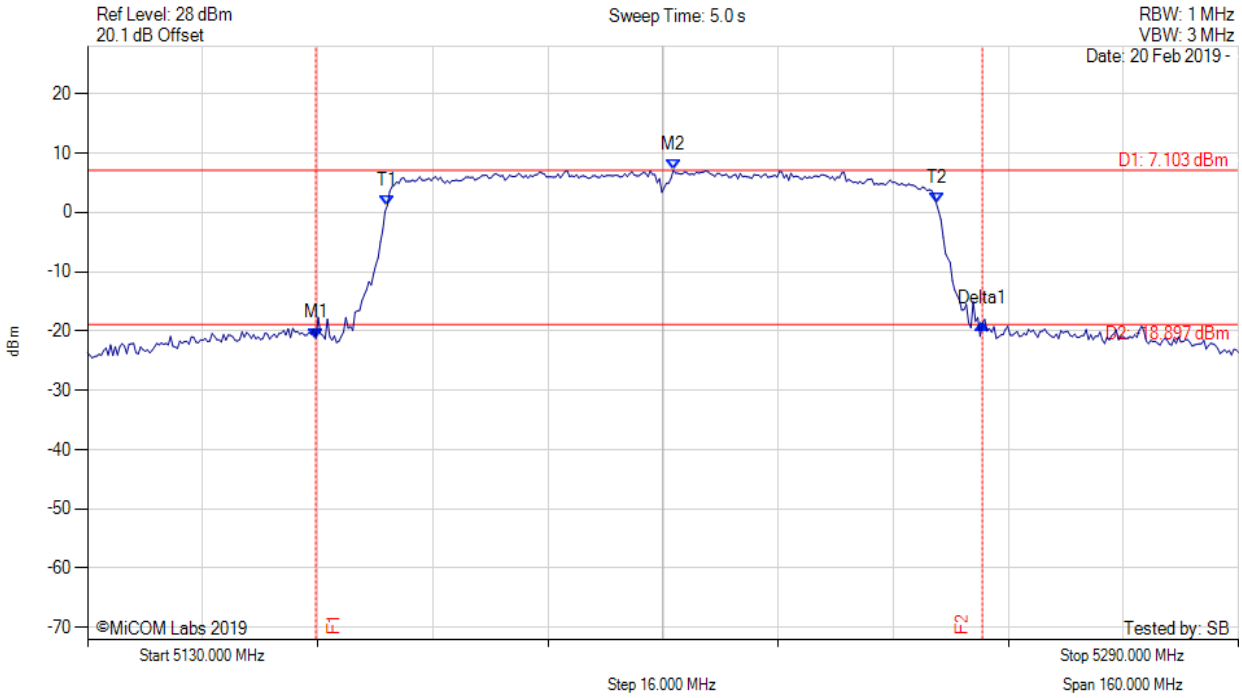


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5154.689 MHz : -18.241 dBm M2 : 5218.818 MHz : 8.694 dBm Delta1 : 127.936 MHz : 0.691 dB T1 : 5172.004 MHz : 4.146 dBm T2 : 5248.317 MHz : 1.447 dBm OBW : 76.313 MHz	Measured 26 dB Bandwidth: 127.936 MHz Measured 99% Bandwidth: 76.313 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5210.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

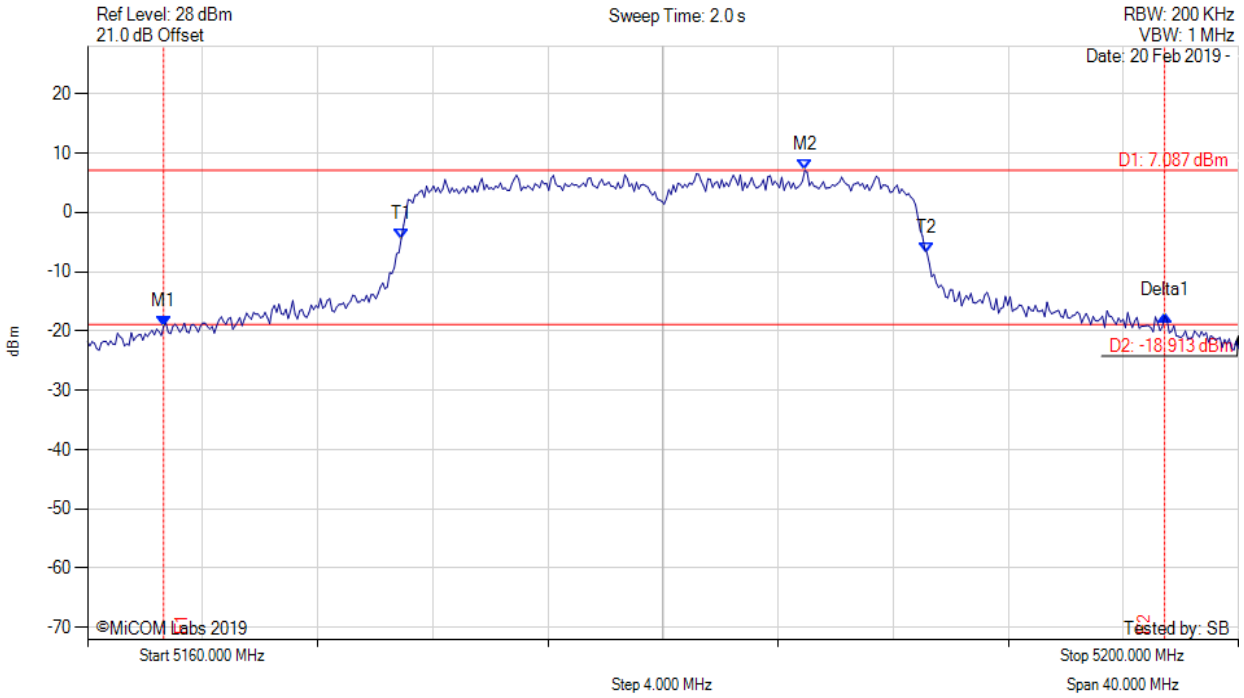


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5161.743 MHz : -21.215 dBm M2 : 5211.443 MHz : 7.103 dBm Delta1 : 92.665 MHz : 2.520 dB T1 : 5171.683 MHz : 1.159 dBm T2 : 5247.996 MHz : 1.529 dBm OBW : 76.313 MHz	Measured 26 dB Bandwidth: 92.665 MHz Measured 99% Bandwidth: 76.313 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5180.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

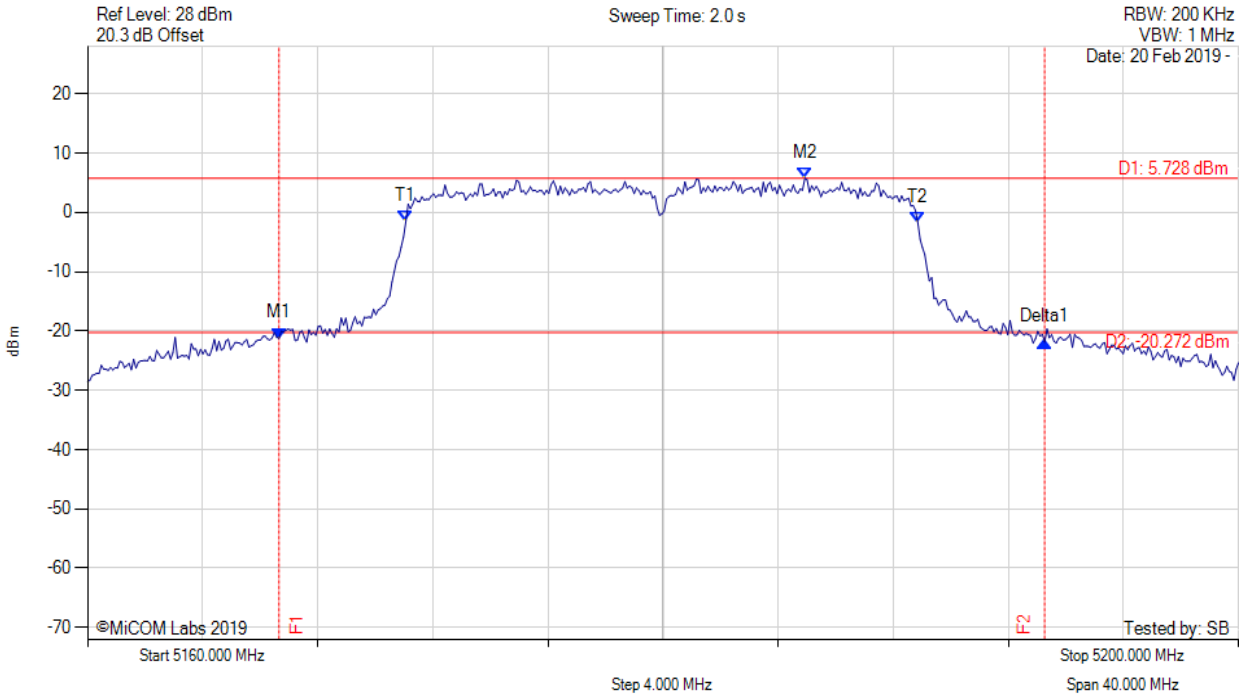


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5162.645 MHz : -19.189 dBm M2 : 5184.930 MHz : 7.087 dBm Delta1 : 34.790 MHz : 1.727 dB T1 : 5170.902 MHz : -4.495 dBm T2 : 5189.178 MHz : -6.909 dBm OBW : 18.277 MHz	Measured 26 dB Bandwidth: 34.790 MHz Measured 99% Bandwidth: 18.277 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5180.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

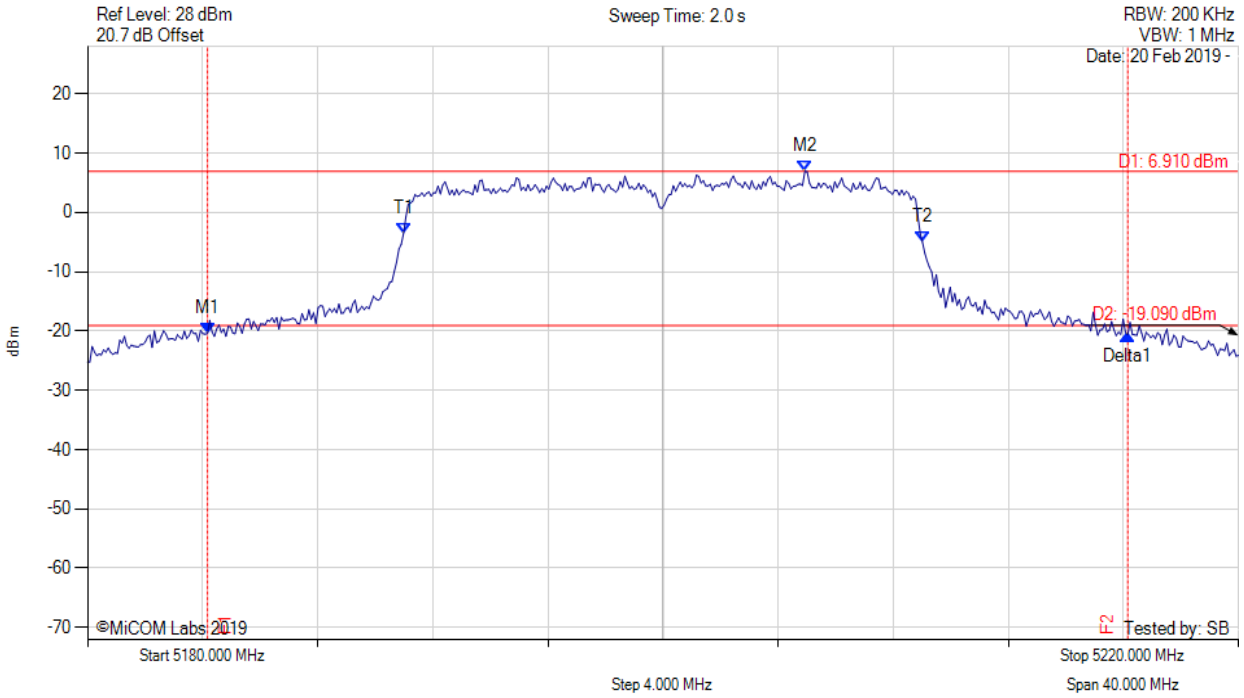


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5166.653 MHz : -21.237 dBm M2 : 5184.930 MHz : 5.728 dBm Delta1 : 26.613 MHz : -0.643 dB T1 : 5171.062 MHz : -1.556 dBm T2 : 5188.858 MHz : -1.760 dBm OBW : 17.796 MHz	Measured 26 dB Bandwidth: 26.613 MHz Measured 99% Bandwidth: 17.796 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5200.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

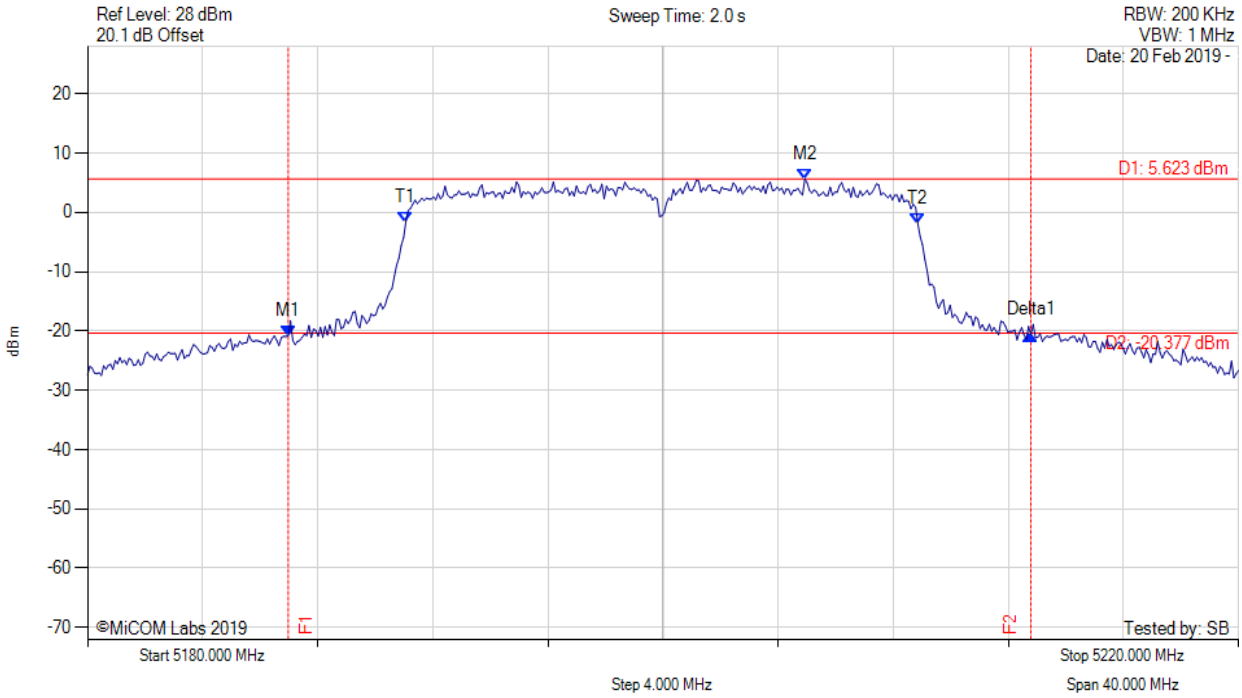


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5184.168 MHz : -20.393 dBm M2 : 5204.930 MHz : 6.910 dBm Delta1 : 31.984 MHz : -0.234 dB T1 : 5190.982 MHz : -3.549 dBm T2 : 5209.018 MHz : -5.012 dBm OBW : 18.036 MHz	Measured 26 dB Bandwidth: 31.984 MHz Measured 99% Bandwidth: 18.036 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5200.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

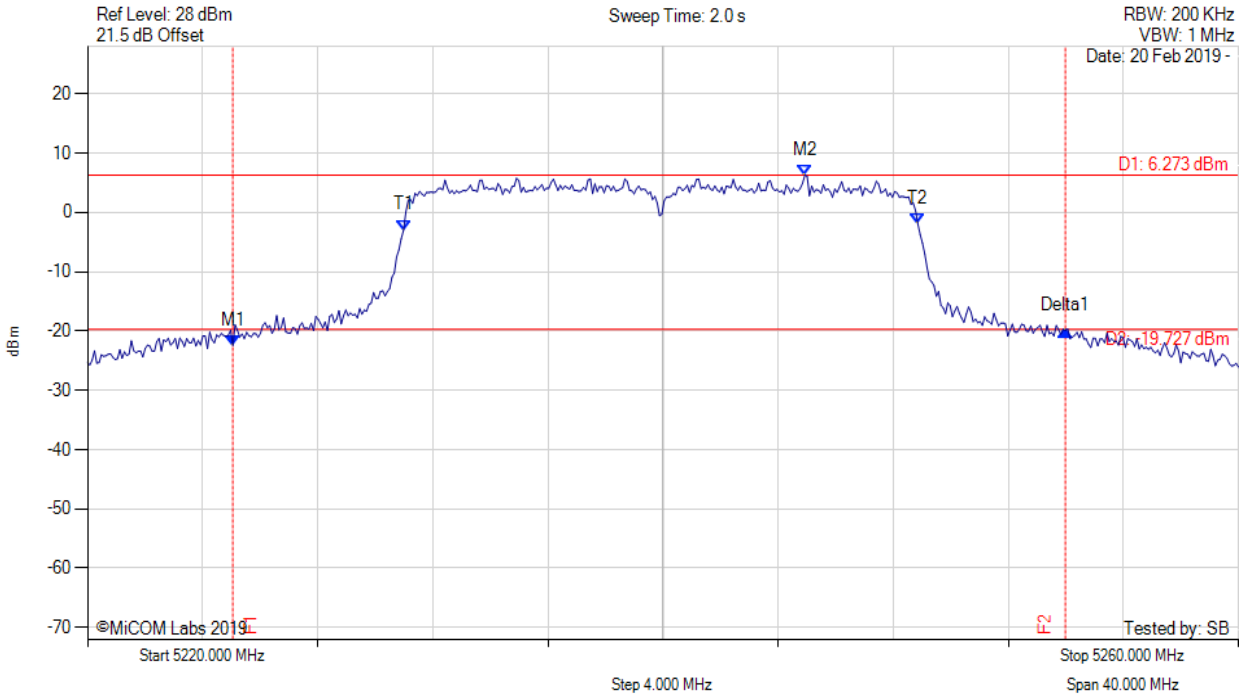


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5186.974 MHz : -20.781 dBm M2 : 5204.930 MHz : 5.623 dBm Delta1 : 25.812 MHz : 0.177 dB T1 : 5191.062 MHz : -1.634 dBm T2 : 5208.858 MHz : -1.886 dBm OBW : 17.796 MHz	Measured 26 dB Bandwidth: 25.812 MHz Measured 99% Bandwidth: 17.796 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5240.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

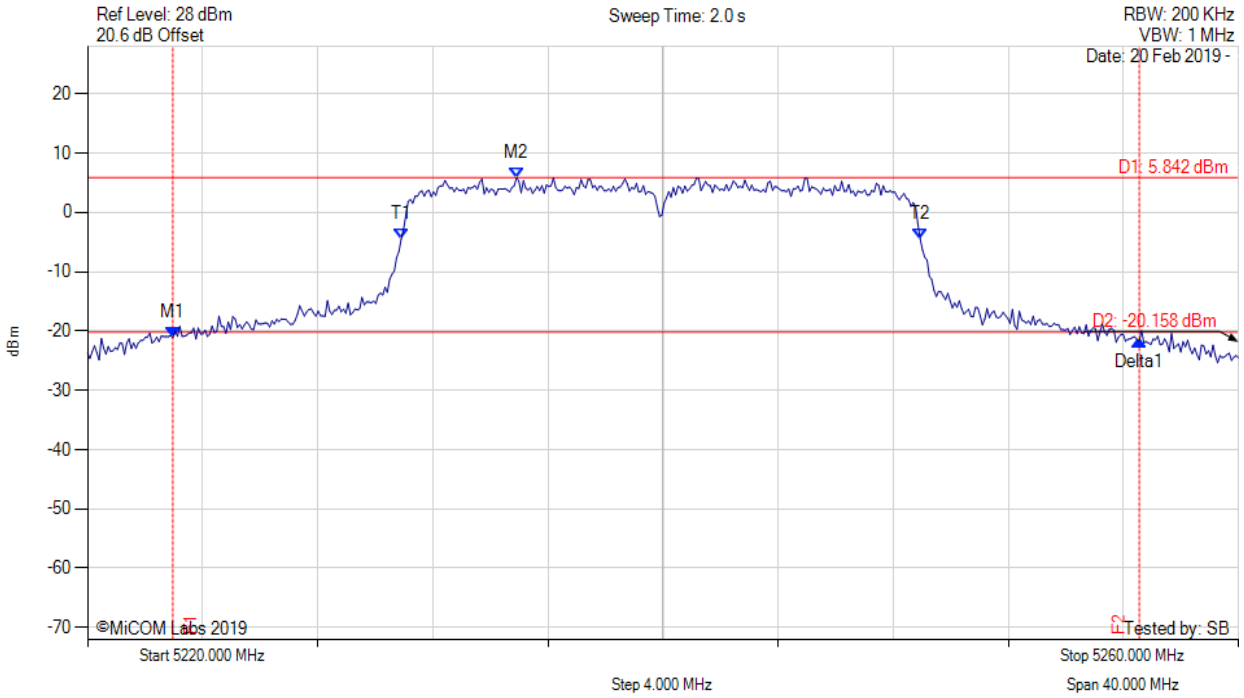


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5225.050 MHz : -22.417 dBm M2 : 5244.930 MHz : 6.273 dBm Delta1 : 28.938 MHz : 2.550 dB T1 : 5230.982 MHz : -3.000 dBm T2 : 5248.858 MHz : -1.945 dBm OBW : 17.876 MHz	Measured 26 dB Bandwidth: 28.938 MHz Measured 99% Bandwidth: 17.876 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5240.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

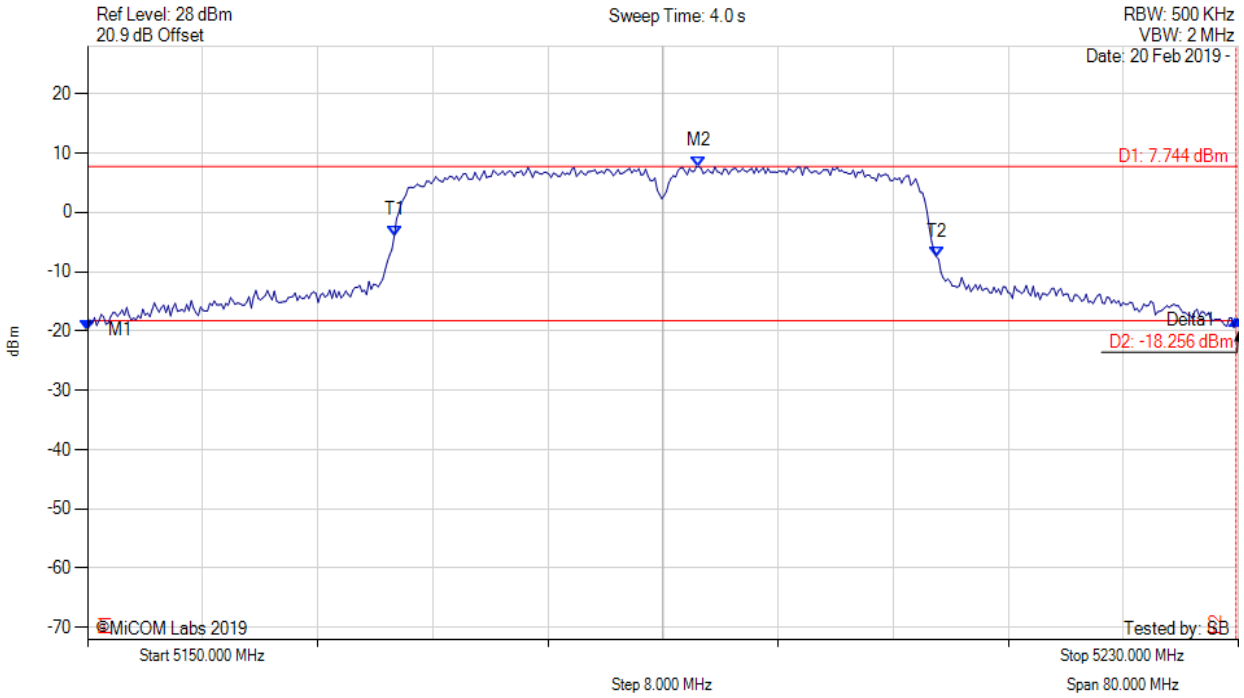


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5222.966 MHz : -21.072 dBm M2 : 5234.910 MHz : 5.842 dBm Delta1 : 33.587 MHz : -0.565 dB T1 : 5230.902 MHz : -4.493 dBm T2 : 5248.938 MHz : -4.457 dBm OBW : 18.036 MHz	Measured 26 dB Bandwidth: 33.587 MHz Measured 99% Bandwidth: 18.036 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5190.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

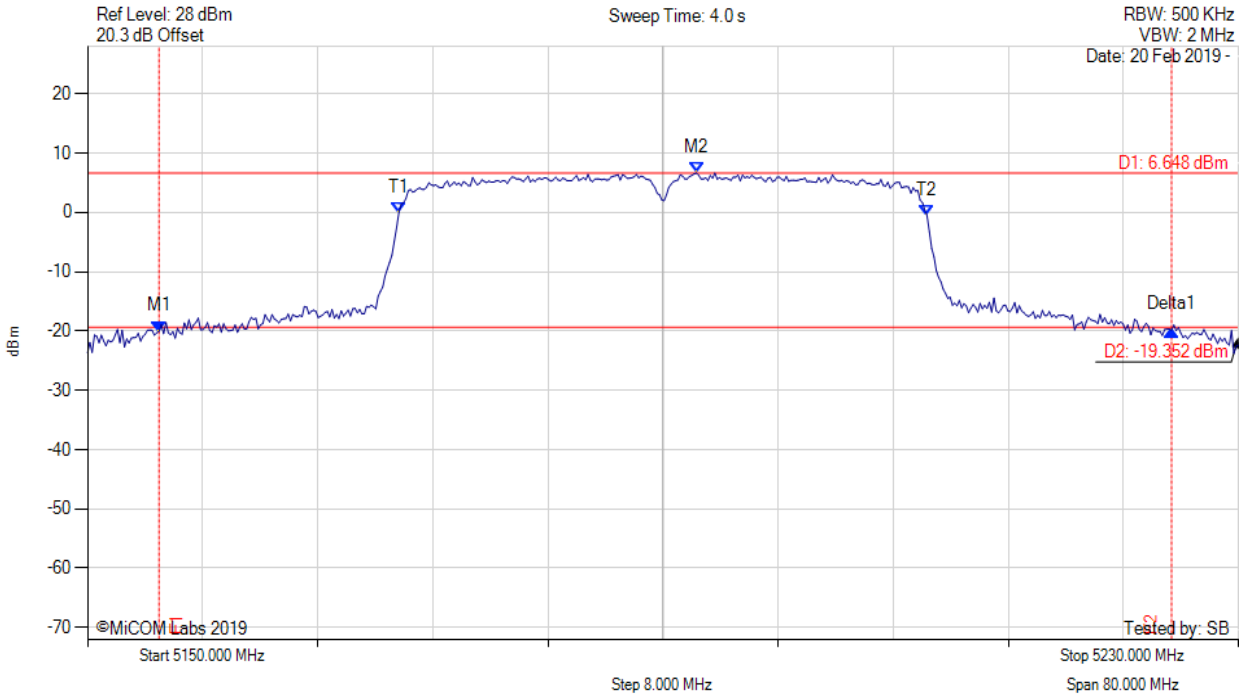


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5150.000 MHz : -19.850 dBm M2 : 5192.485 MHz : 7.744 dBm Delta1 : 79.840 MHz : 1.749 dB T1 : 5171.323 MHz : -3.930 dBm T2 : 5208.998 MHz : -7.458 dBm OBW : 37.675 MHz	Measured 26 dB Bandwidth: 79.840 MHz Measured 99% Bandwidth: 37.675 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5190.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

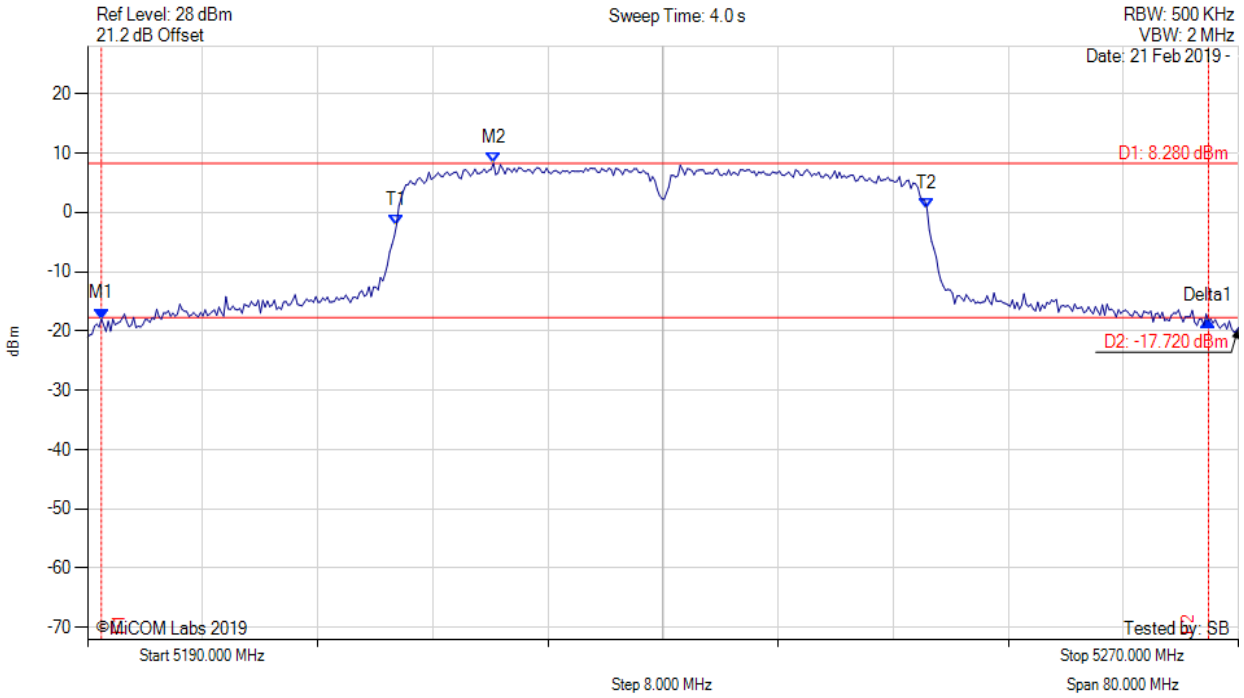


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5154.970 MHz : -20.047 dBm M2 : 5192.325 MHz : 6.648 dBm Delta1 : 70.381 MHz : 0.238 dB T1 : 5171.643 MHz : 0.003 dBm T2 : 5208.357 MHz : -0.592 dBm OBW : 36.713 MHz	Measured 26 dB Bandwidth: 70.381 MHz Measured 99% Bandwidth: 36.713 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5230.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

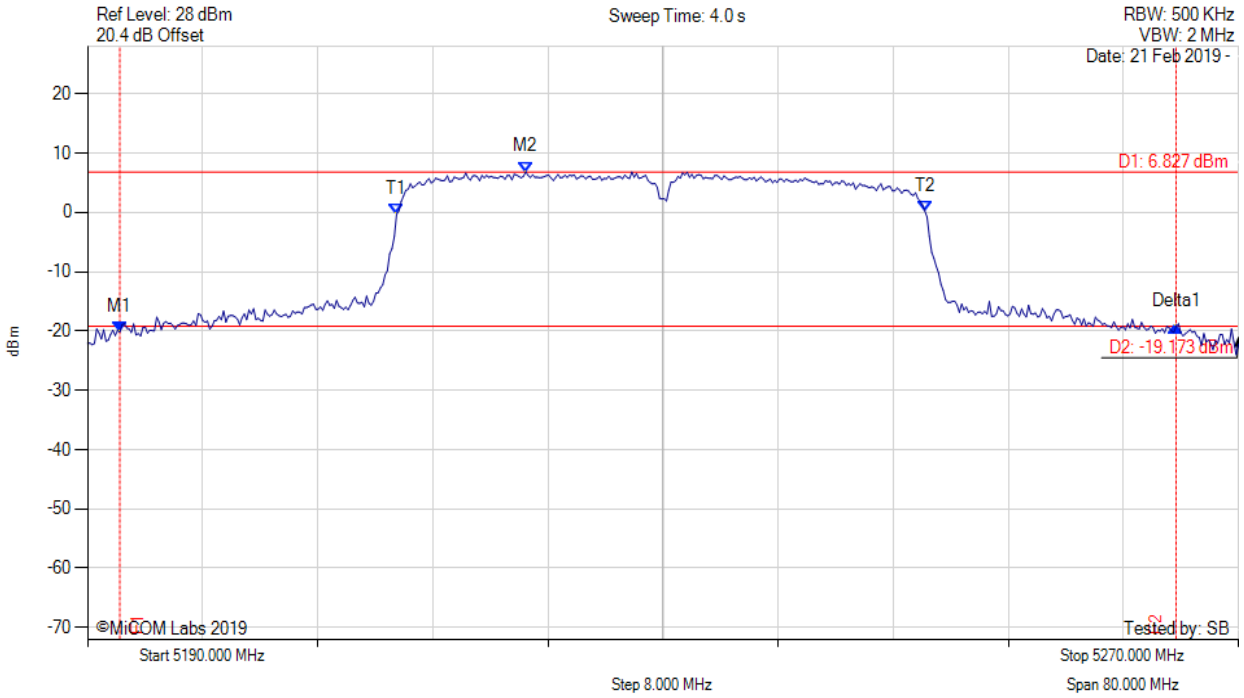


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5190.962 MHz : -17.950 dBm M2 : 5218.216 MHz : 8.285 dBm Delta1 : 76.954 MHz : -0.360 dB T1 : 5211.483 MHz : -2.089 dBm T2 : 5248.357 MHz : 0.538 dBm OBW : 36.874 MHz	Measured 26 dB Bandwidth: 76.954 MHz Measured 99% Bandwidth: 36.874 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5230.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc



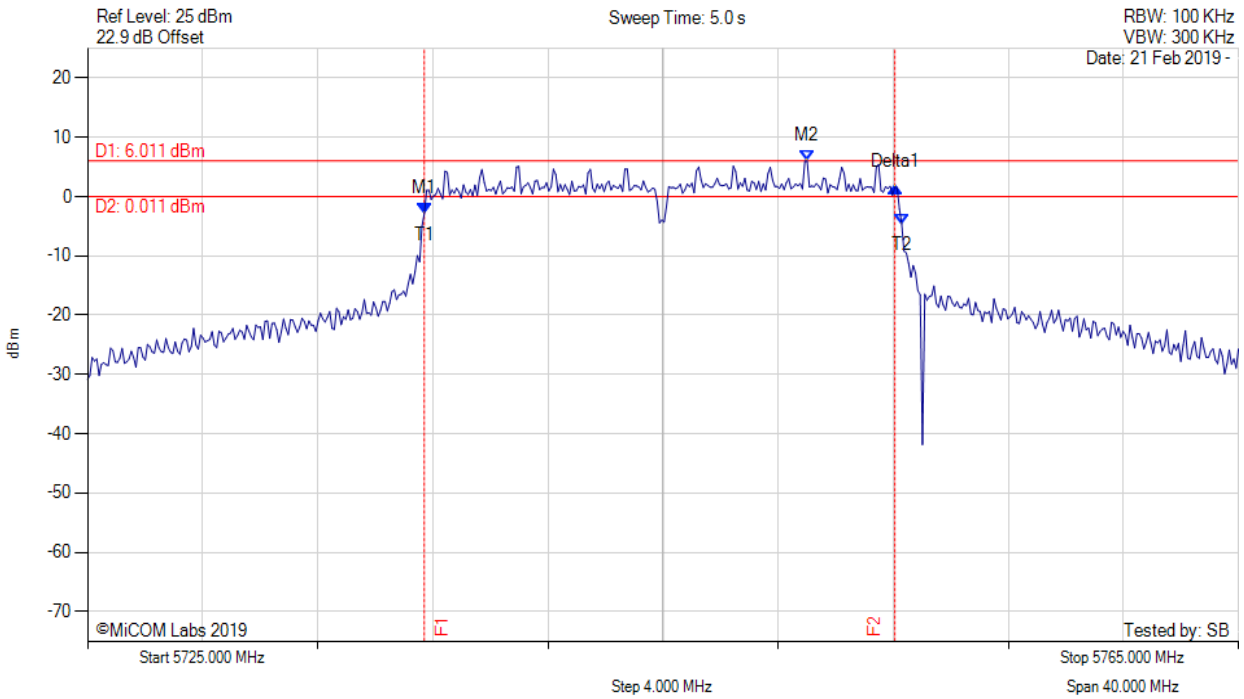
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5192.244 MHz : -20.167 dBm M2 : 5220.461 MHz : 6.827 dBm Delta1 : 73.427 MHz : 0.978 dB T1 : 5211.483 MHz : -0.340 dBm T2 : 5248.196 MHz : 0.262 dBm OBW : 36.713 MHz	Measured 26 dB Bandwidth: 73.427 MHz Measured 99% Bandwidth: 36.713 MHz

back to matrix

A.2. 6 dB & 99% Bandwidth

6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5745.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

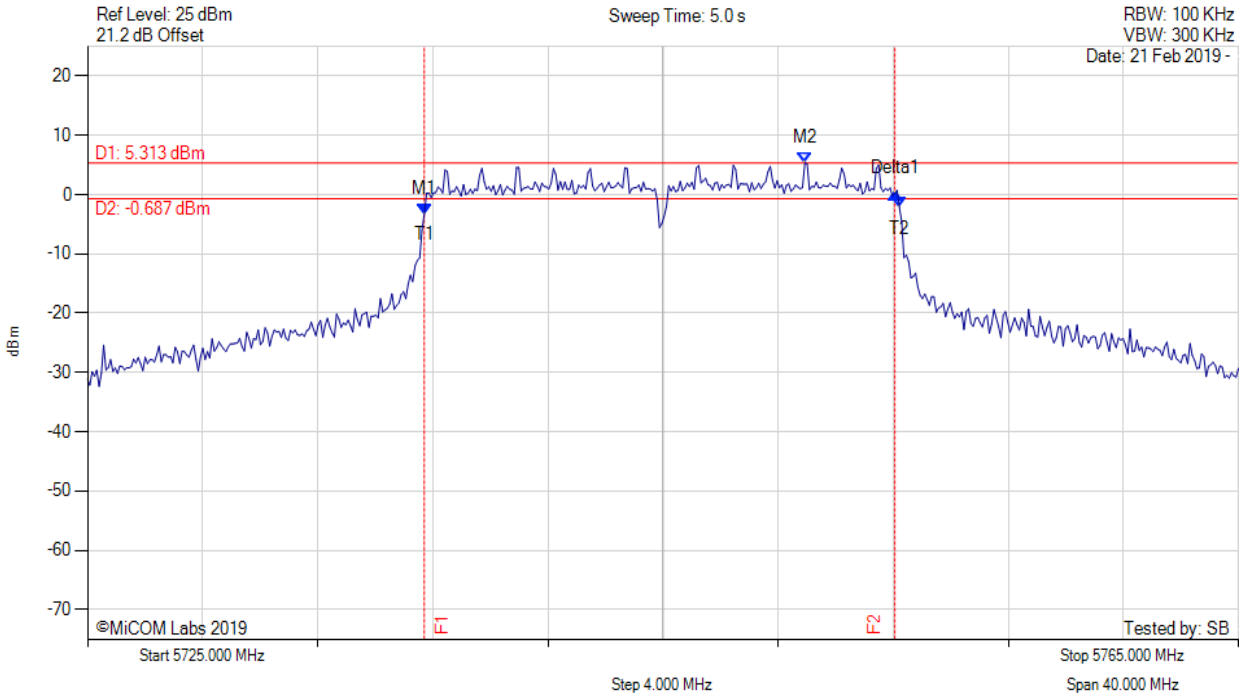


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5736.703 MHz : -2.852 dBm M2 : 5750.010 MHz : 6.011 dBm Delta1 : 16.353 MHz : 4.423 dB T1 : 5736.703 MHz : -2.852 dBm T2 : 5753.297 MHz : -4.617 dBm OBW : 16.593 MHz	Measured 6 dB Bandwidth: 16.353 MHz Measured 99% Bandwidth: 16.593 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5745.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

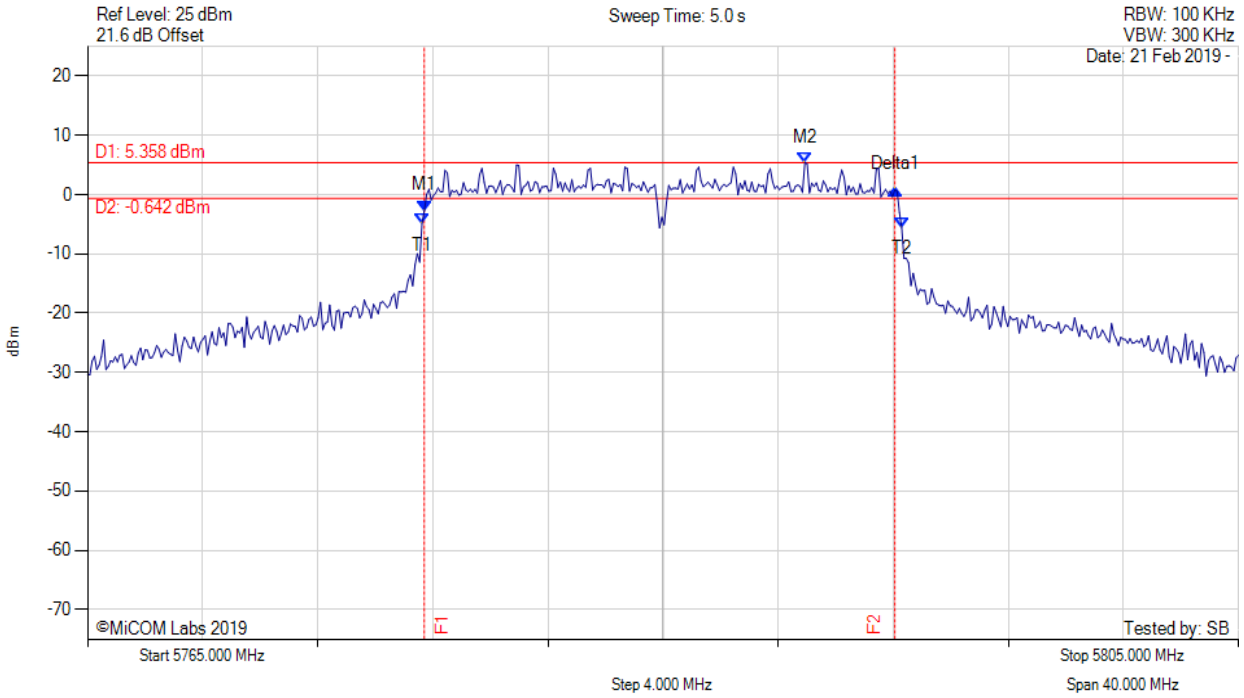


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5736.703 MHz : -3.210 dBm M2 : 5749.930 MHz : 5.313 dBm Delta1 : 16.353 MHz : 3.400 dB T1 : 5736.703 MHz : -3.210 dBm T2 : 5753.216 MHz : -2.183 dBm OBW : 16.513 MHz	Measured 6 dB Bandwidth: 16.353 MHz Measured 99% Bandwidth: 16.513 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5785.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

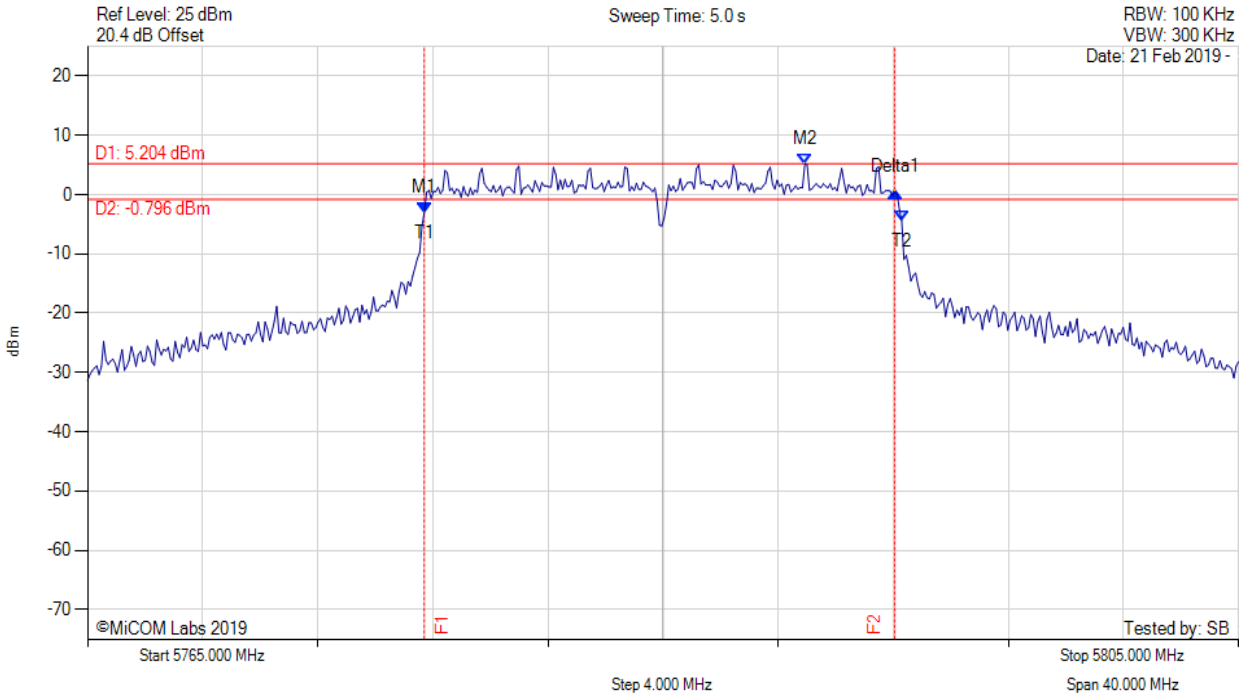


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5776.703 MHz : -2.720 dBm M2 : 5789.930 MHz : 5.358 dBm Delta1 : 16.353 MHz : 3.518 dB T1 : 5776.623 MHz : -4.937 dBm T2 : 5793.297 MHz : -5.600 dBm OBW : 16.673 MHz	Measured 6 dB Bandwidth: 16.353 MHz Measured 99% Bandwidth: 16.673 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5785.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

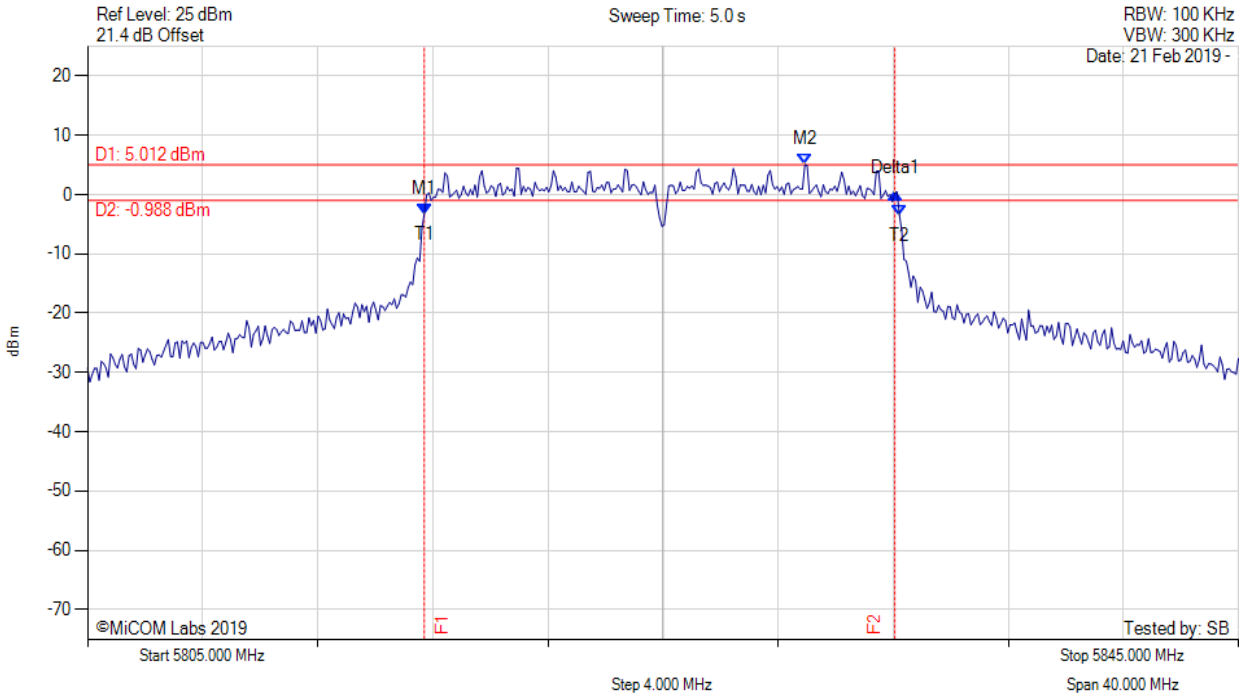


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5776.703 MHz : -2.980 dBm M2 : 5789.930 MHz : 5.204 dBm Delta1 : 16.353 MHz : 3.358 dB T1 : 5776.703 MHz : -2.980 dBm T2 : 5793.297 MHz : -4.436 dBm OBW : 16.593 MHz	Measured 6 dB Bandwidth: 16.353 MHz Measured 99% Bandwidth: 16.593 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5825.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

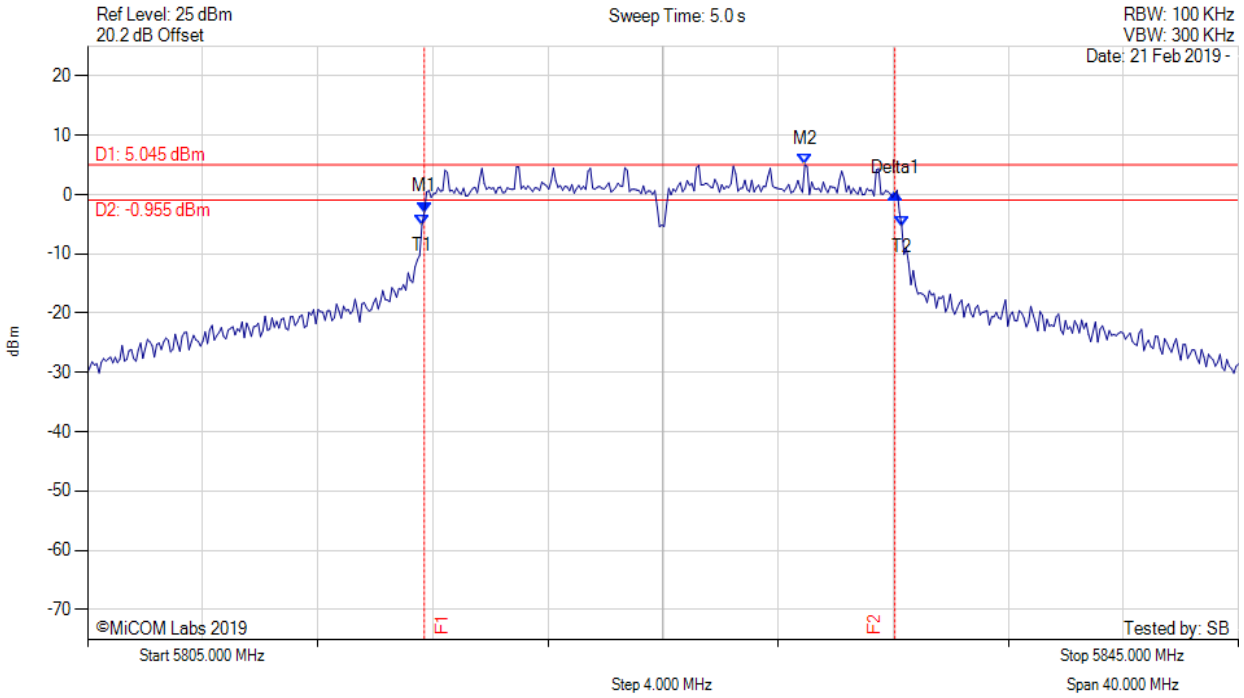


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5816.703 MHz : -3.232 dBm M2 : 5829.930 MHz : 5.012 dBm Delta1 : 16.353 MHz : 3.457 dB T1 : 5816.703 MHz : -3.232 dBm T2 : 5833.216 MHz : -3.468 dBm OBW : 16.513 MHz	Measured 6 dB Bandwidth: 16.353 MHz Measured 99% Bandwidth: 16.513 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5825.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

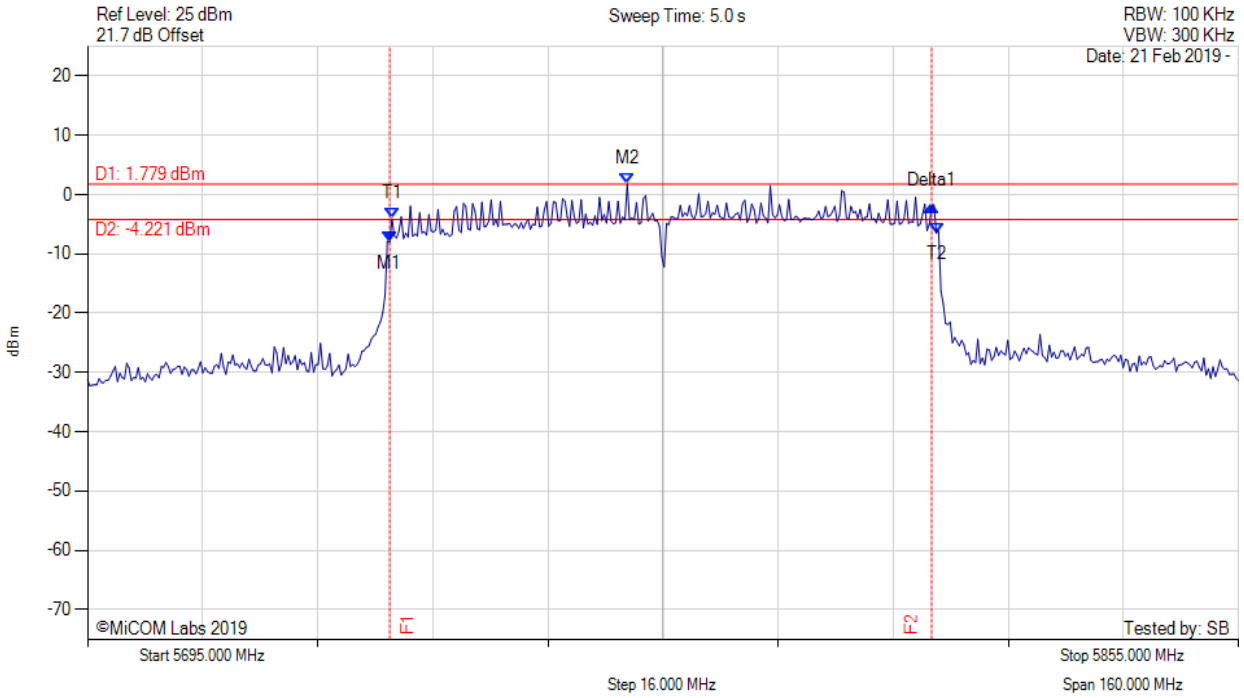


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5816.703 MHz : -2.950 dBm M2 : 5829.930 MHz : 5.045 dBm Delta1 : 16.353 MHz : 3.112 dB T1 : 5816.623 MHz : -5.089 dBm T2 : 5833.297 MHz : -5.280 dBm OBW : 16.673 MHz	Measured 6 dB Bandwidth: 16.353 MHz Measured 99% Bandwidth: 16.673 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

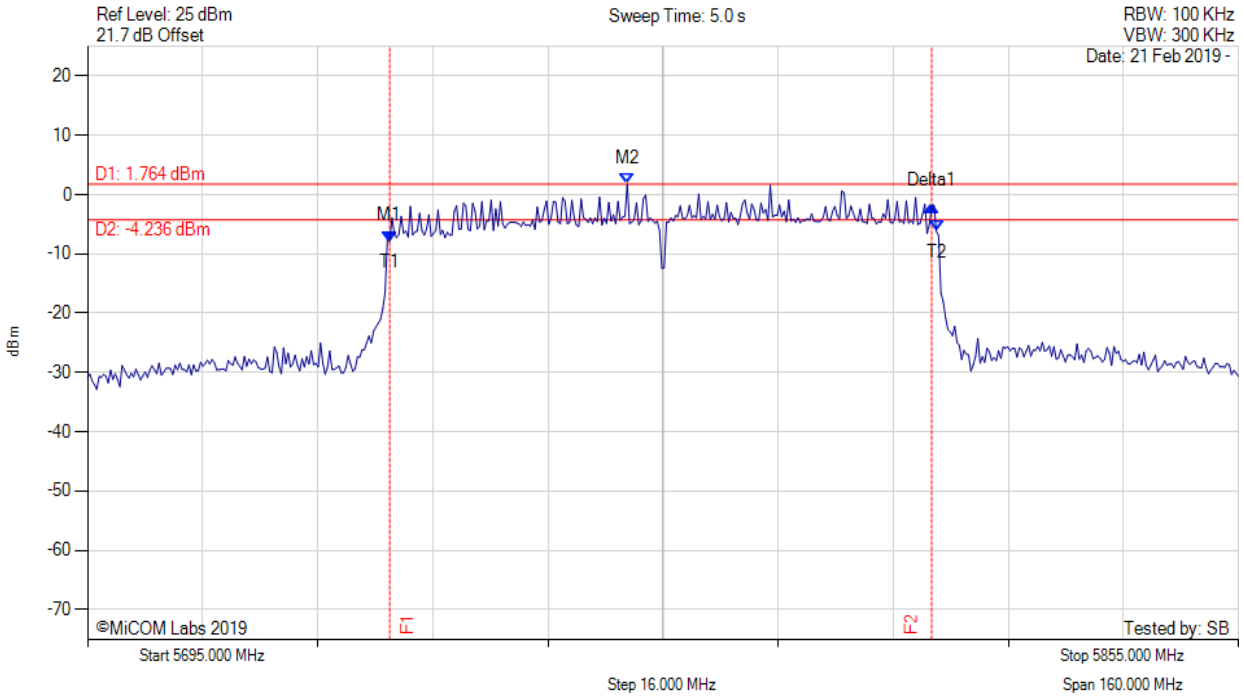


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5737.004 MHz : -8.018 dBm M2 : 5770.030 MHz : 1.779 dBm Delta1 : 75.351 MHz : 6.036 dB T1 : 5737.325 MHz : -4.062 dBm T2 : 5812.996 MHz : -6.497 dBm OBW : 75.671 MHz	Measured 6 dB Bandwidth: 75.351 MHz Measured 99% Bandwidth: 75.671 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

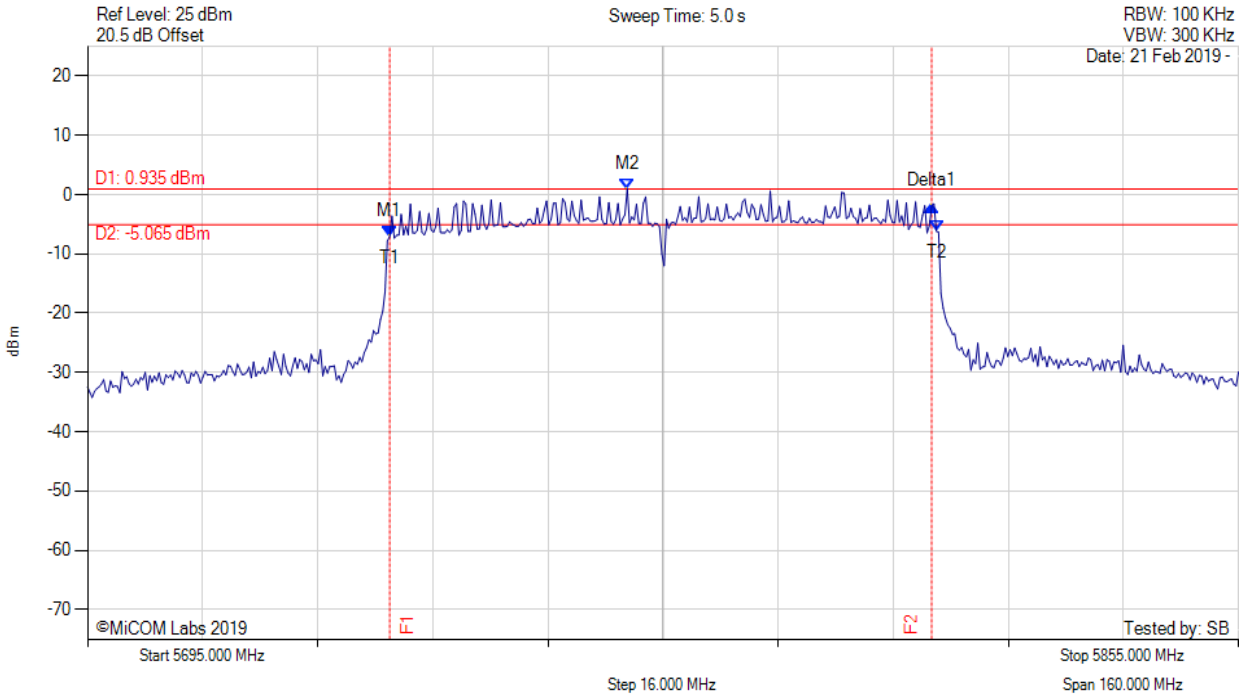


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5737.004 MHz : -7.853 dBm M2 : 5770.030 MHz : 1.764 dBm Delta1 : 75.351 MHz : 5.928 dB T1 : 5737.004 MHz : -7.853 dBm T2 : 5812.996 MHz : -6.214 dBm OBW : 75.992 MHz	Channel Frequency: 5775.00 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

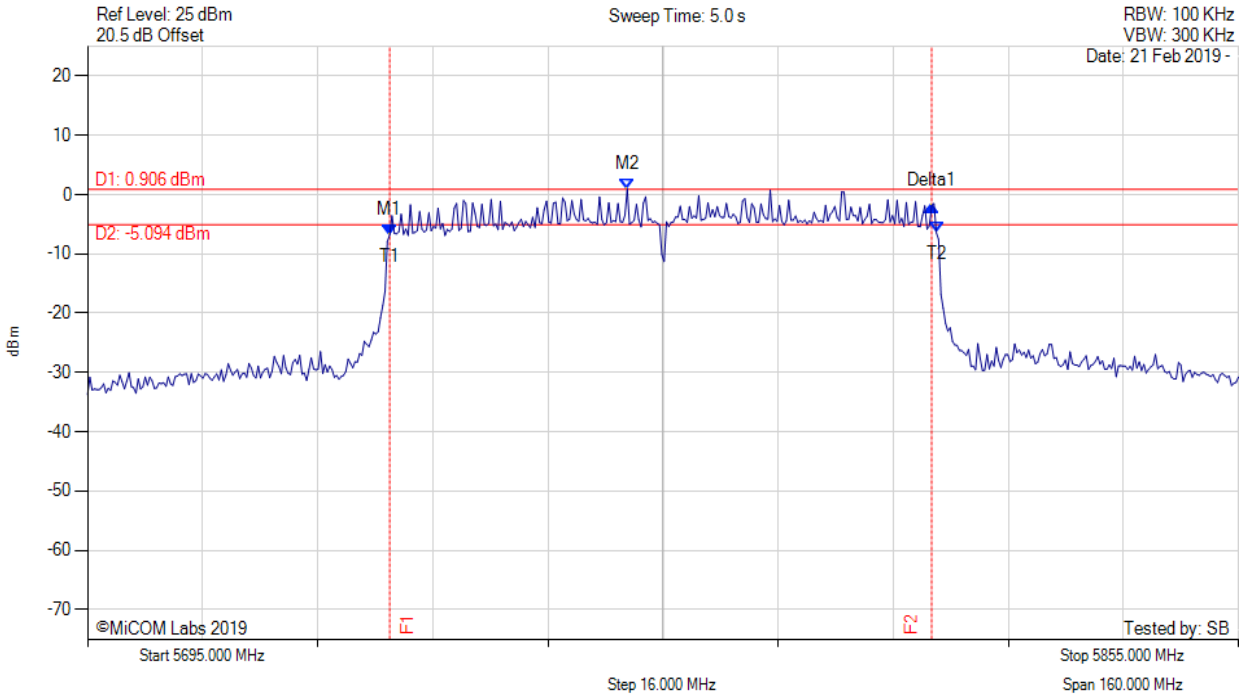


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5737.004 MHz : -7.103 dBm M2 : 5770.030 MHz : 0.935 dBm Delta1 : 75.351 MHz : 5.127 dB T1 : 5737.004 MHz : -7.103 dBm T2 : 5812.996 MHz : -6.153 dBm OBW : 75.992 MHz	Channel Frequency: 5775.00 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

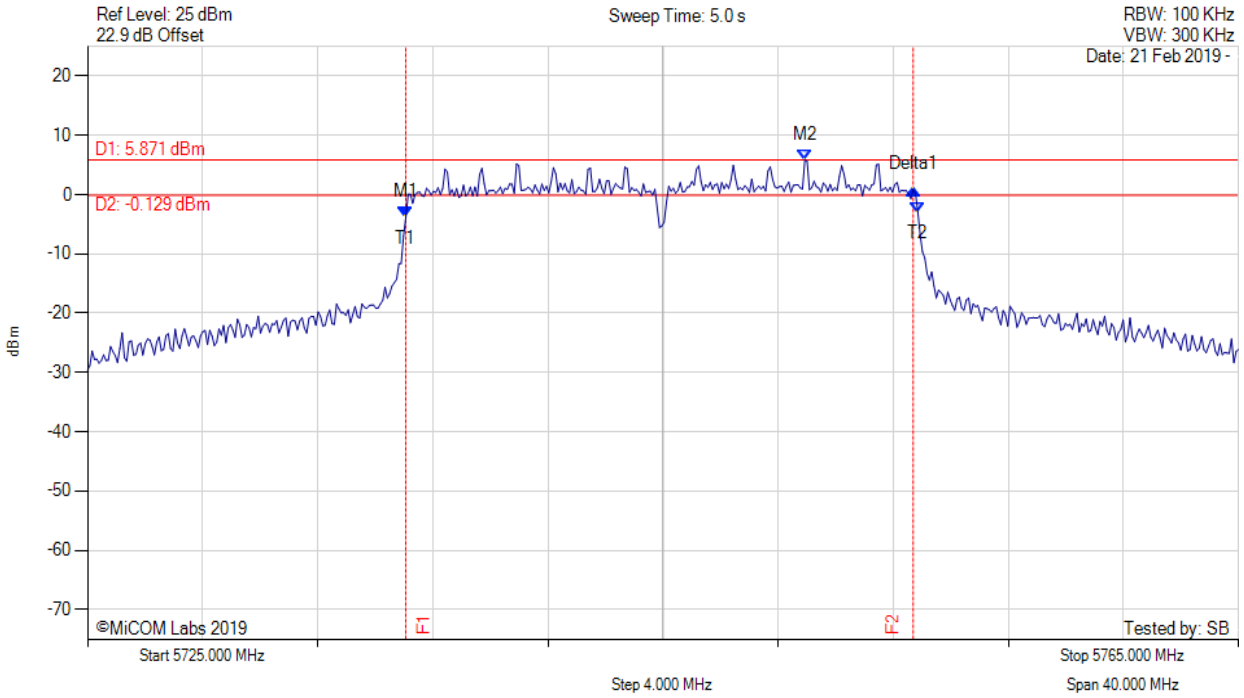


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5737.004 MHz : -6.789 dBm M2 : 5770.030 MHz : 0.906 dBm Delta1 : 75.351 MHz : 4.875 dB T1 : 5737.004 MHz : -6.789 dBm T2 : 5812.996 MHz : -6.413 dBm OBW : 75.992 MHz	Measured 6 dB Bandwidth: 75.351 MHz Measured 99% Bandwidth: 75.992 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

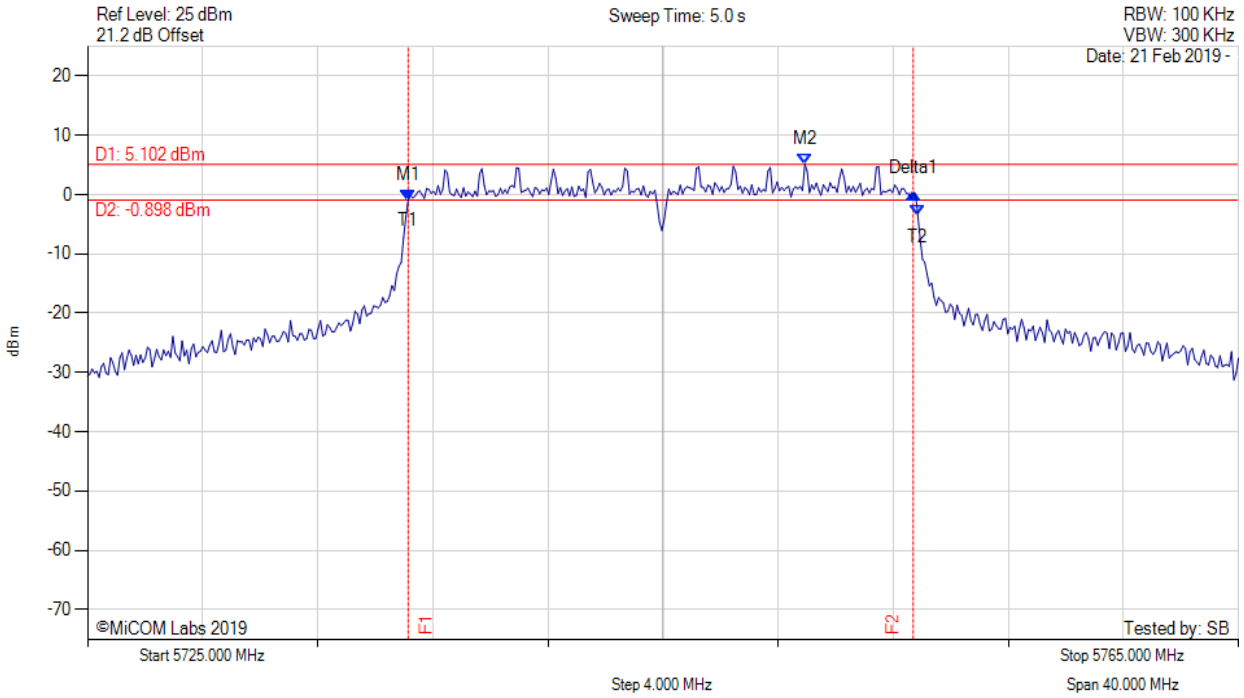


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5736.062 MHz : -3.832 dBm M2 : 5749.930 MHz : 5.871 dBm Delta1 : 17.635 MHz : 4.678 dB T1 : 5736.062 MHz : -3.832 dBm T2 : 5753.858 MHz : -2.954 dBm OBW : 17.796 MHz	Measured 6 dB Bandwidth: 17.635 MHz Measured 99% Bandwidth: 17.796 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

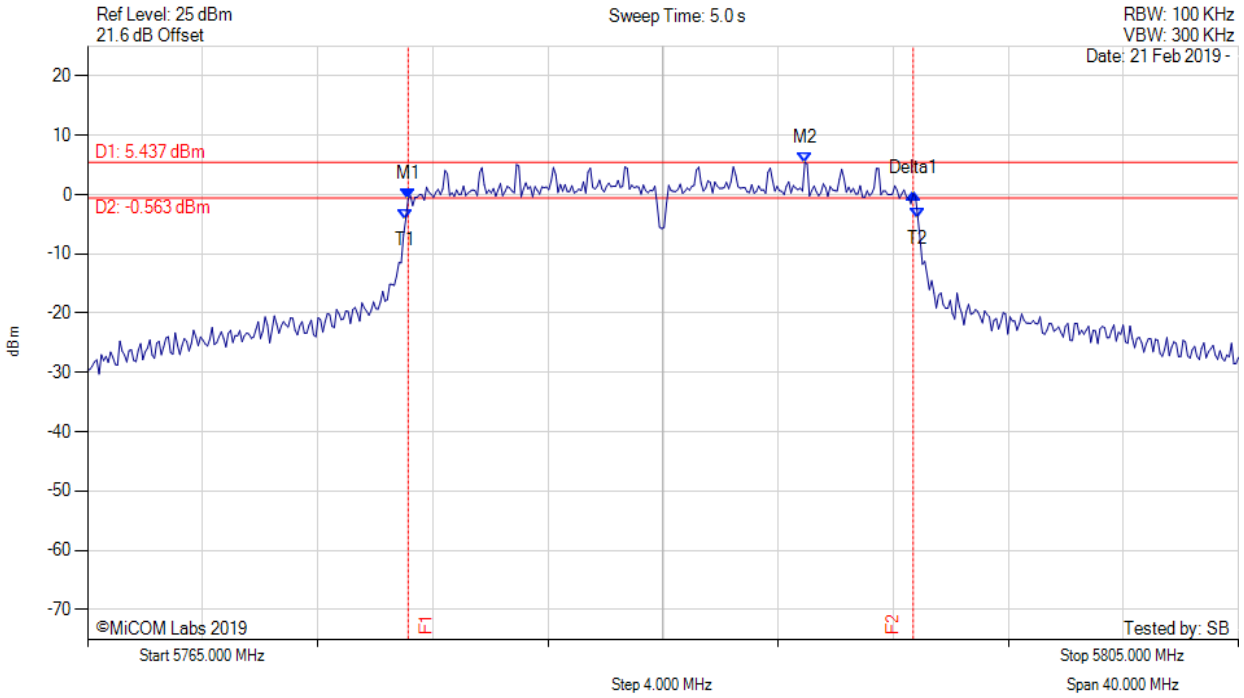


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5736.142 MHz : -0.914 dBm M2 : 5749.930 MHz : 5.102 dBm Delta1 : 17.555 MHz : 1.129 dB T1 : 5736.142 MHz : -0.914 dBm T2 : 5753.858 MHz : -3.576 dBm OBW : 17.715 MHz	Measured 6 dB Bandwidth: 17.555 MHz Measured 99% Bandwidth: 17.715 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

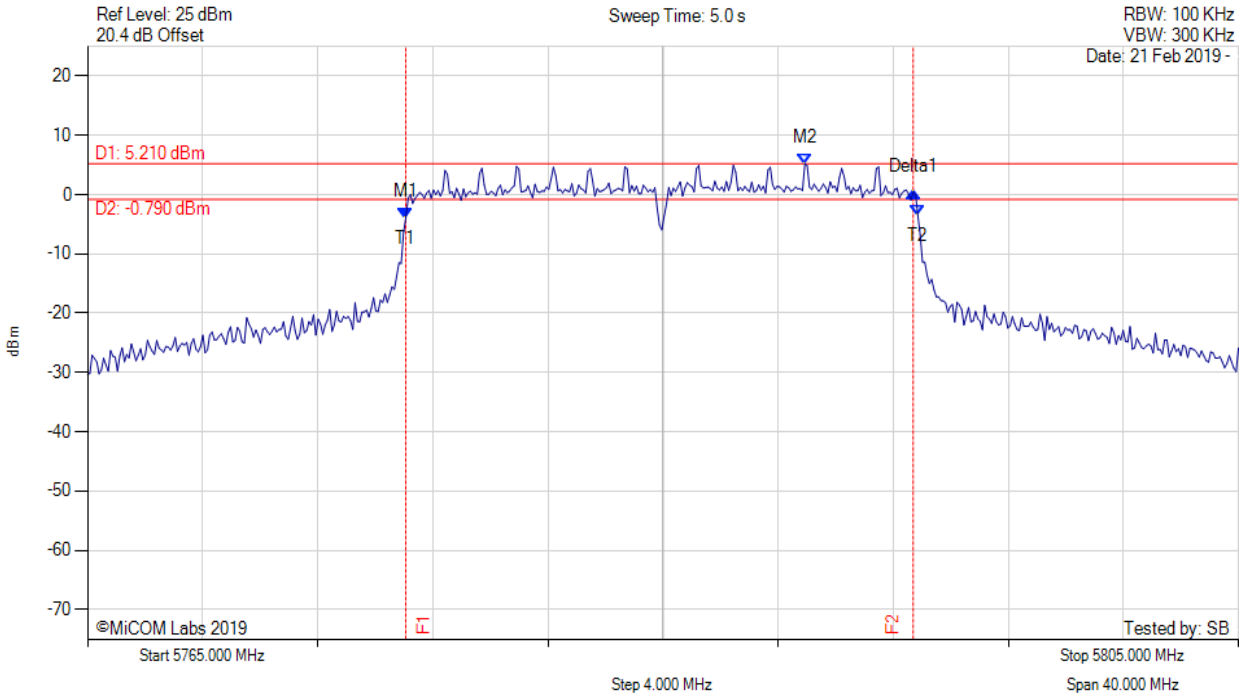


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5776.142 MHz : -0.672 dBm M2 : 5789.930 MHz : 5.437 dBm Delta1 : 17.555 MHz : 0.809 dB T1 : 5776.062 MHz : -4.137 dBm T2 : 5793.858 MHz : -3.900 dBm OBW : 17.796 MHz	Measured 6 dB Bandwidth: 17.555 MHz Measured 99% Bandwidth: 17.796 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

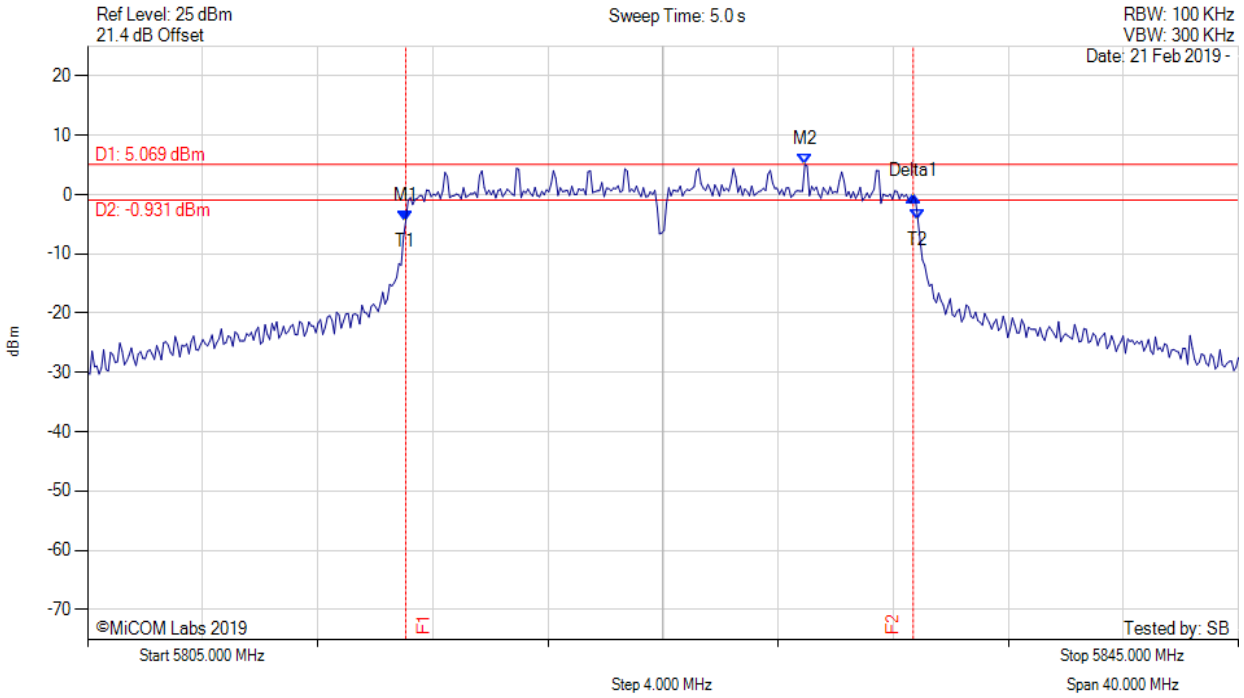


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5776.062 MHz : -3.883 dBm M2 : 5789.930 MHz : 5.210 dBm Delta1 : 17.635 MHz : 4.281 dB T1 : 5776.062 MHz : -3.883 dBm T2 : 5793.858 MHz : -3.503 dBm OBW : 17.796 MHz	Measured 6 dB Bandwidth: 17.635 MHz Measured 99% Bandwidth: 17.796 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

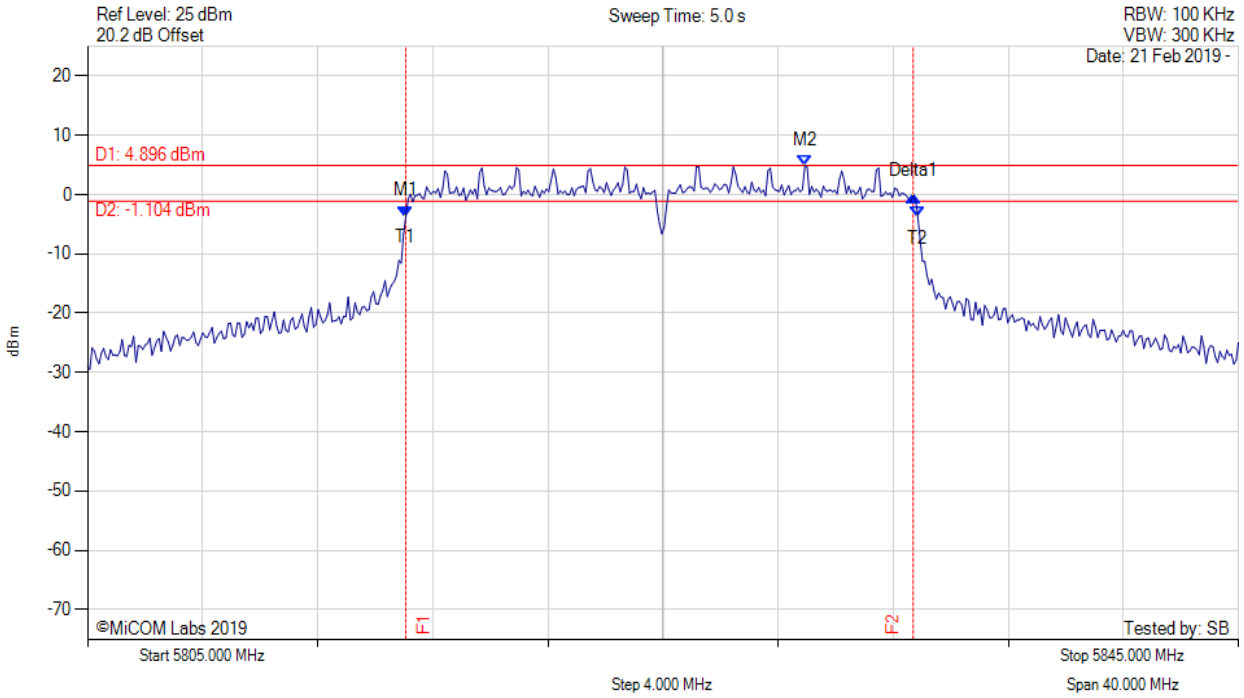


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5816.062 MHz : -4.400 dBm M2 : 5829.930 MHz : 5.069 dBm Delta1 : 17.635 MHz : 4.096 dB T1 : 5816.062 MHz : -4.400 dBm T2 : 5833.858 MHz : -4.203 dBm OBW : 17.796 MHz	Measured 6 dB Bandwidth: 17.635 MHz Measured 99% Bandwidth: 17.796 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

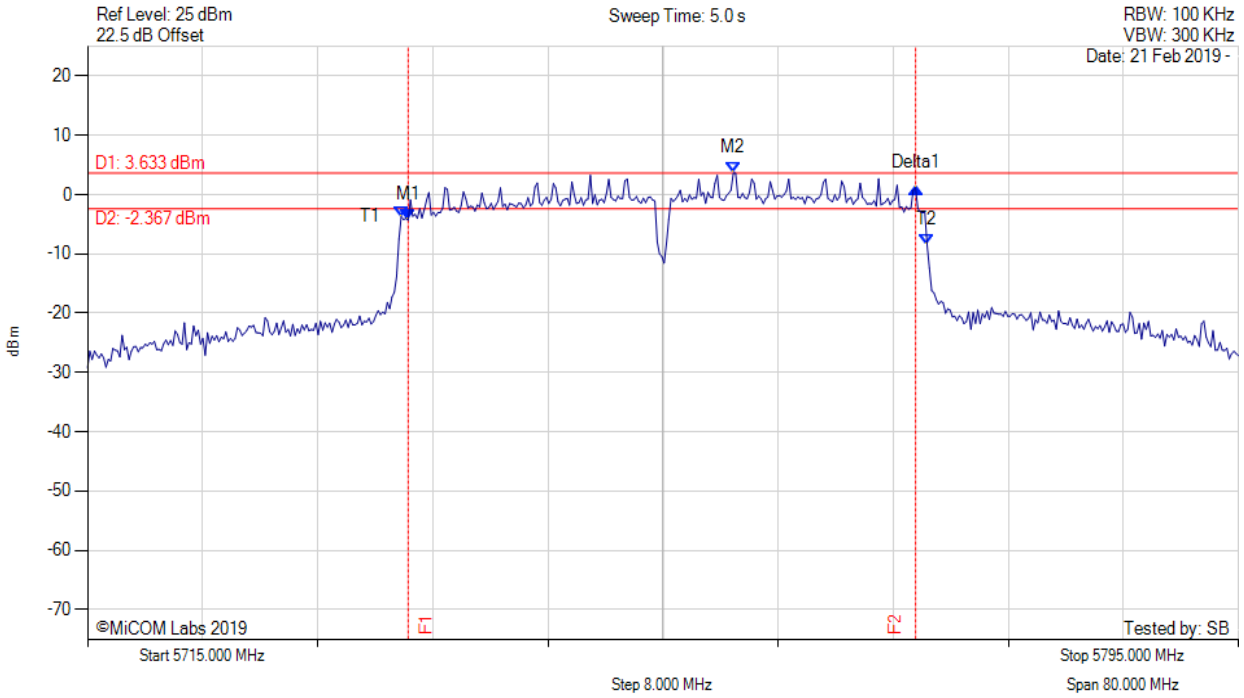


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5816.062 MHz : -3.645 dBm M2 : 5829.930 MHz : 4.896 dBm Delta1 : 17.635 MHz : 3.382 dB T1 : 5816.062 MHz : -3.645 dBm T2 : 5833.858 MHz : -3.769 dBm OBW : 17.796 MHz	Measured 6 dB Bandwidth: 17.635 MHz Measured 99% Bandwidth: 17.796 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

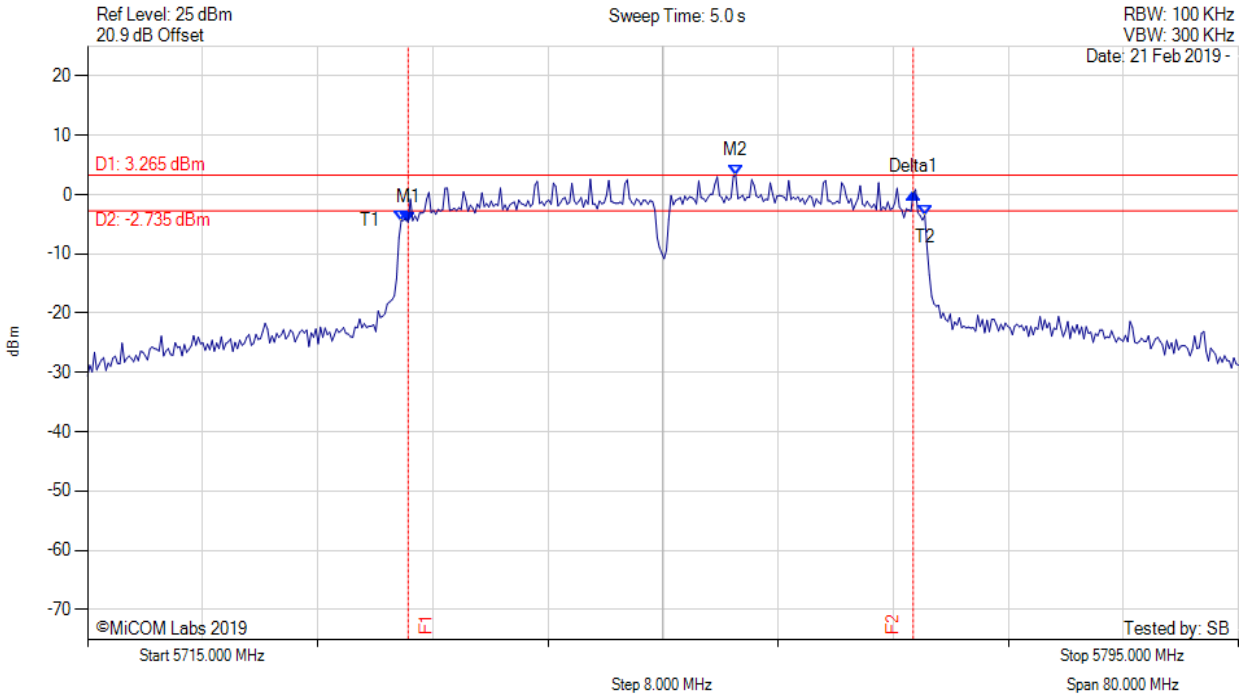


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5737.285 MHz : -4.312 dBm M2 : 5759.890 MHz : 3.633 dBm Delta1 : 35.271 MHz : 5.467 dB T1 : 5736.804 MHz : -3.704 dBm T2 : 5773.357 MHz : -8.461 dBm OBW : 36.553 MHz	Measured 6 dB Bandwidth: 35.271 MHz Measured 99% Bandwidth: 36.553 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

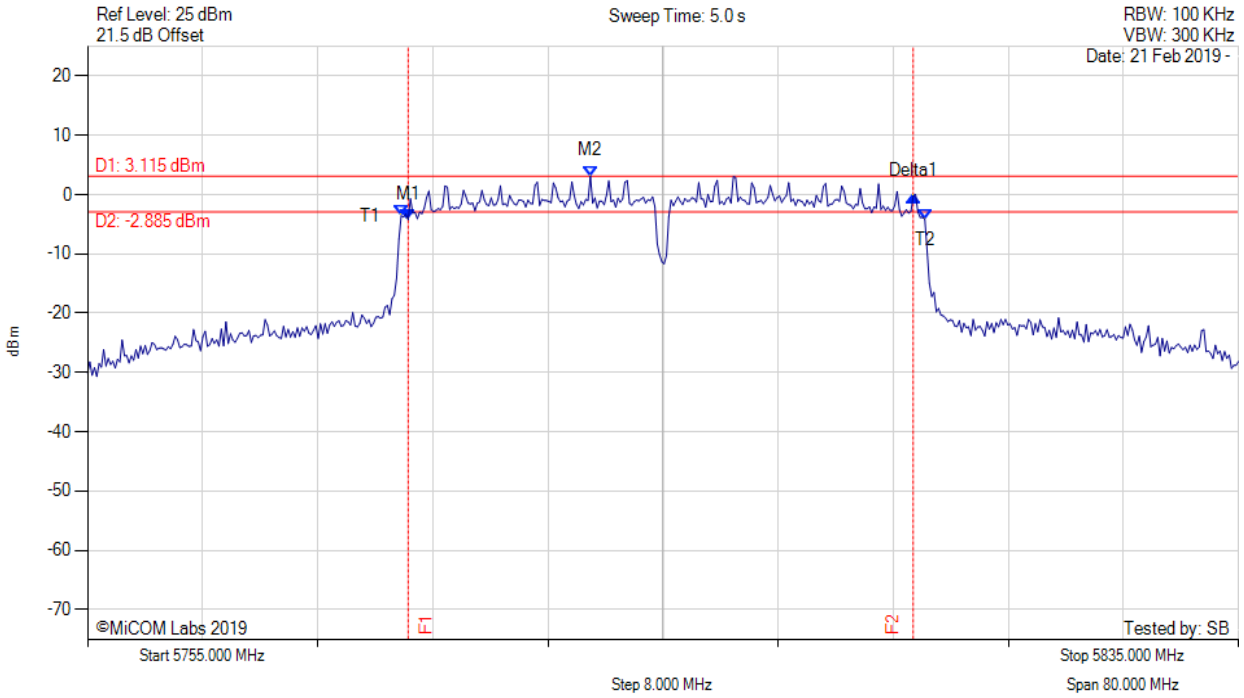


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5737.285 MHz : -4.668 dBm M2 : 5760.050 MHz : 3.265 dBm Delta1 : 35.110 MHz : 4.995 dB T1 : 5736.804 MHz : -4.412 dBm T2 : 5773.196 MHz : -3.517 dBm OBW : 36.393 MHz	Measured 6 dB Bandwidth: 35.110 MHz Measured 99% Bandwidth: 36.393 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

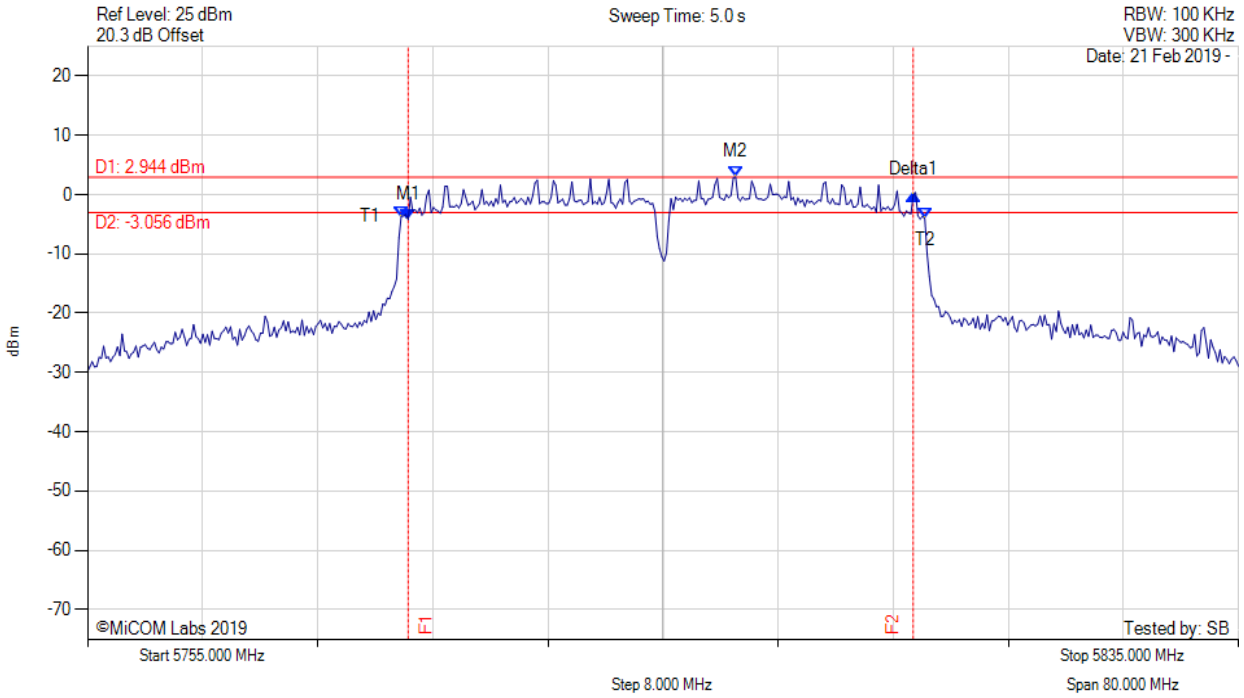


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5777.285 MHz : -4.229 dBm M2 : 5789.950 MHz : 3.115 dBm Delta1 : 35.110 MHz : 3.974 dB T1 : 5776.804 MHz : -3.562 dBm T2 : 5813.196 MHz : -4.123 dBm OBW : 36.393 MHz	Measured 6 dB Bandwidth: 35.110 MHz Measured 99% Bandwidth: 36.393 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc



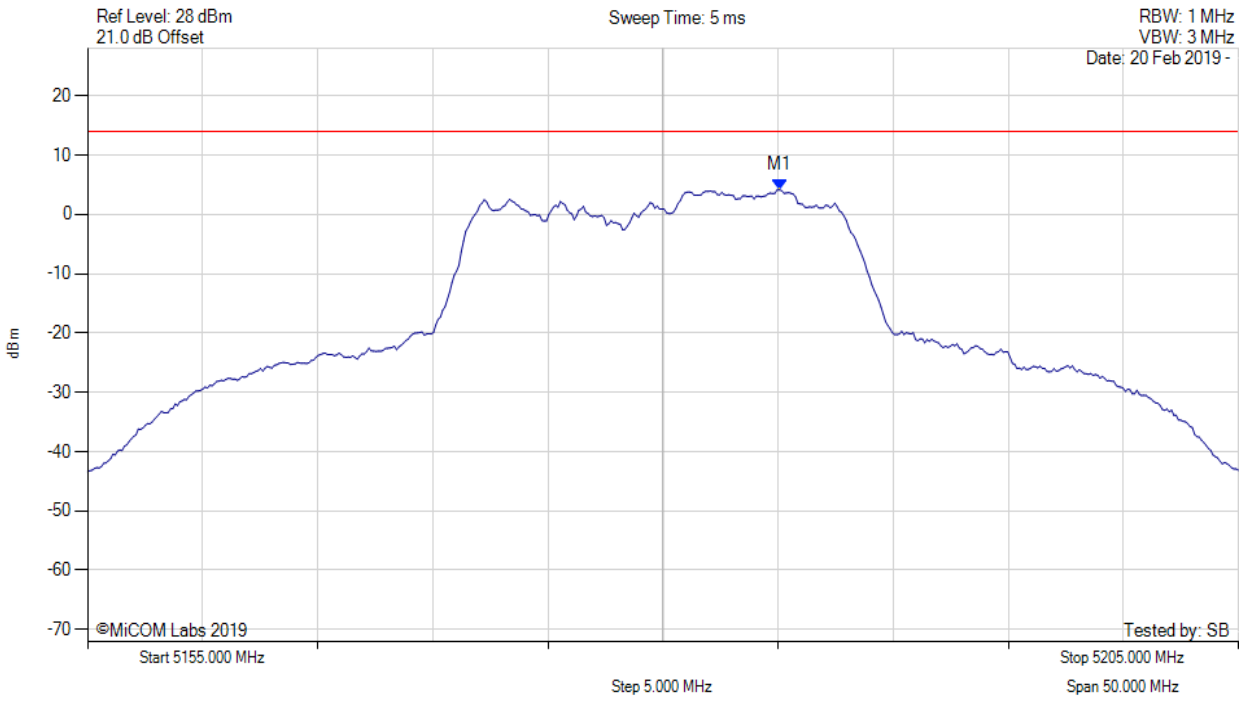
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5777.285 MHz : -4.188 dBm M2 : 5800.050 MHz : 2.944 dBm Delta1 : 35.110 MHz : 4.088 dB T1 : 5776.804 MHz : -3.662 dBm T2 : 5813.196 MHz : -4.022 dBm OBW : 36.393 MHz	Measured 6 dB Bandwidth: 35.110 MHz Measured 99% Bandwidth: 36.393 MHz

back to matrix

A.3. Power Spectral Density

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5180.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

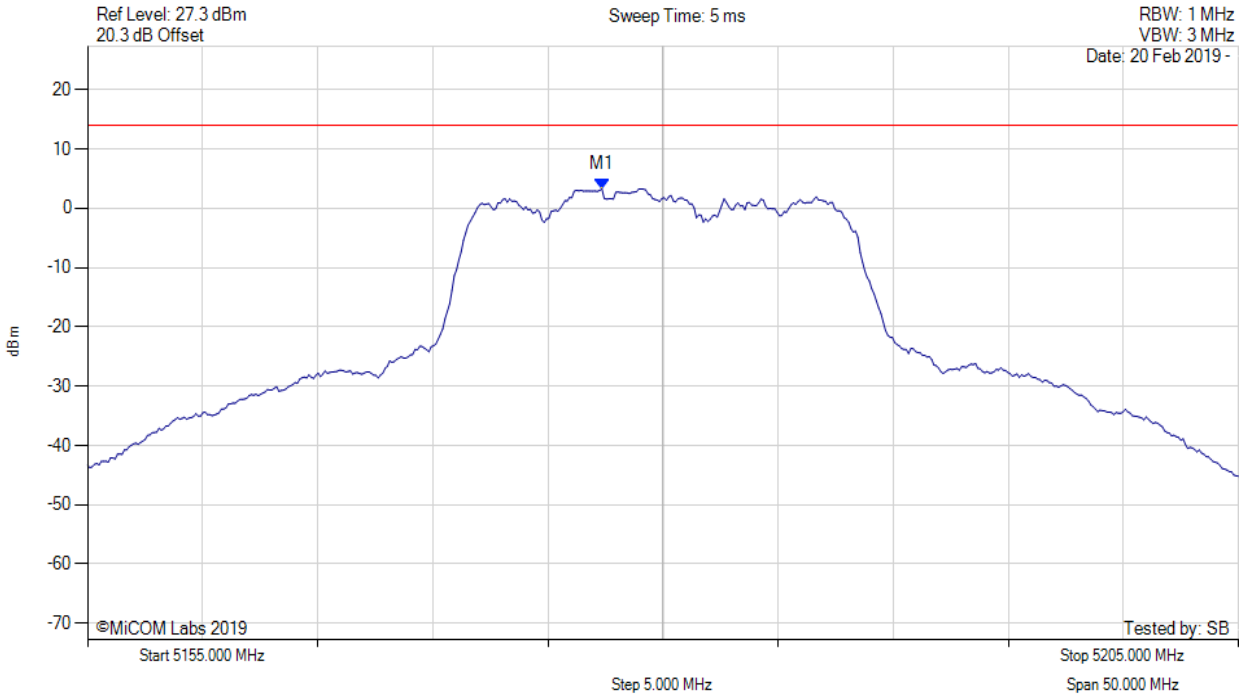


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5185.060 MHz : 4.137 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5180.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

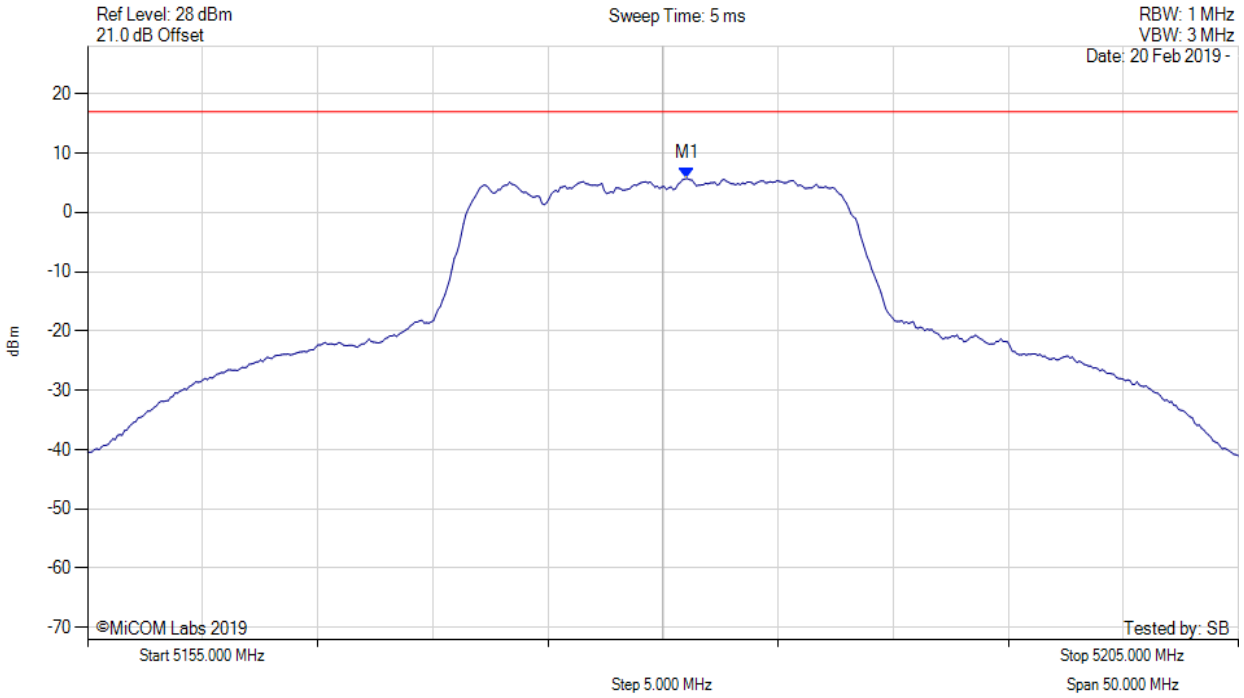


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5177.345 MHz : 3.286 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5180.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

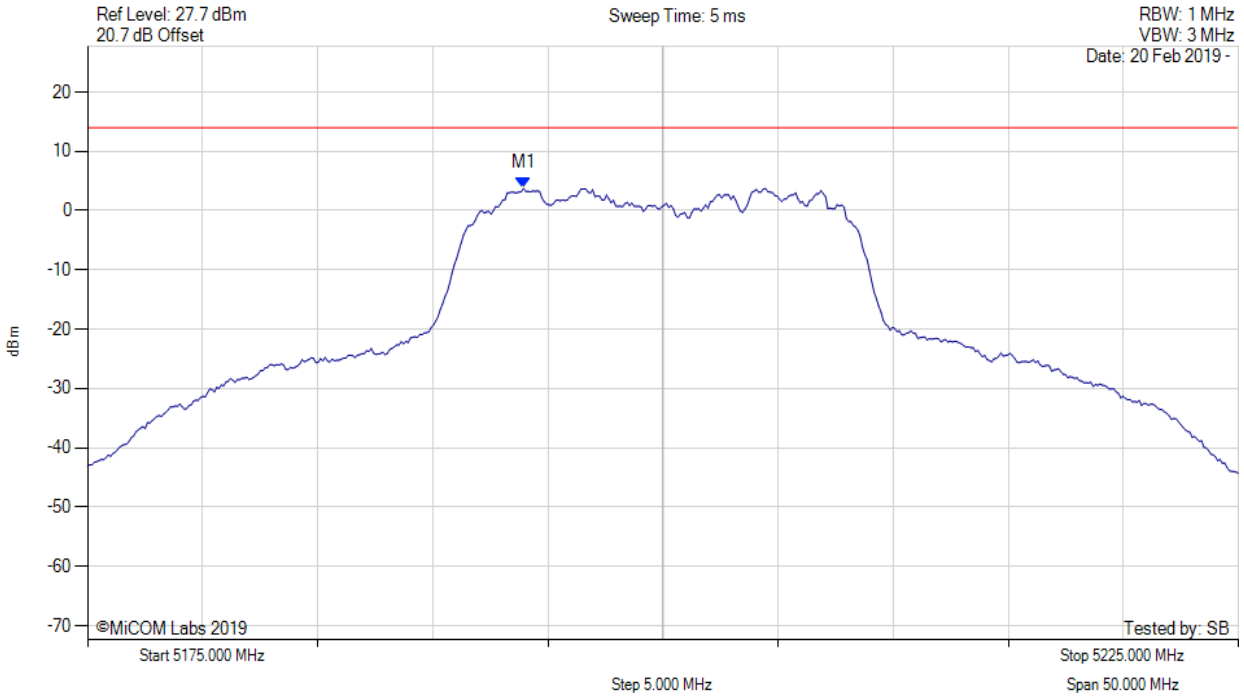


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5181.100 MHz : 5.728 dBm M1 + DCCF : 5181.100 MHz : 5.772 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 17.0 dBm Margin: -11.2 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5200.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

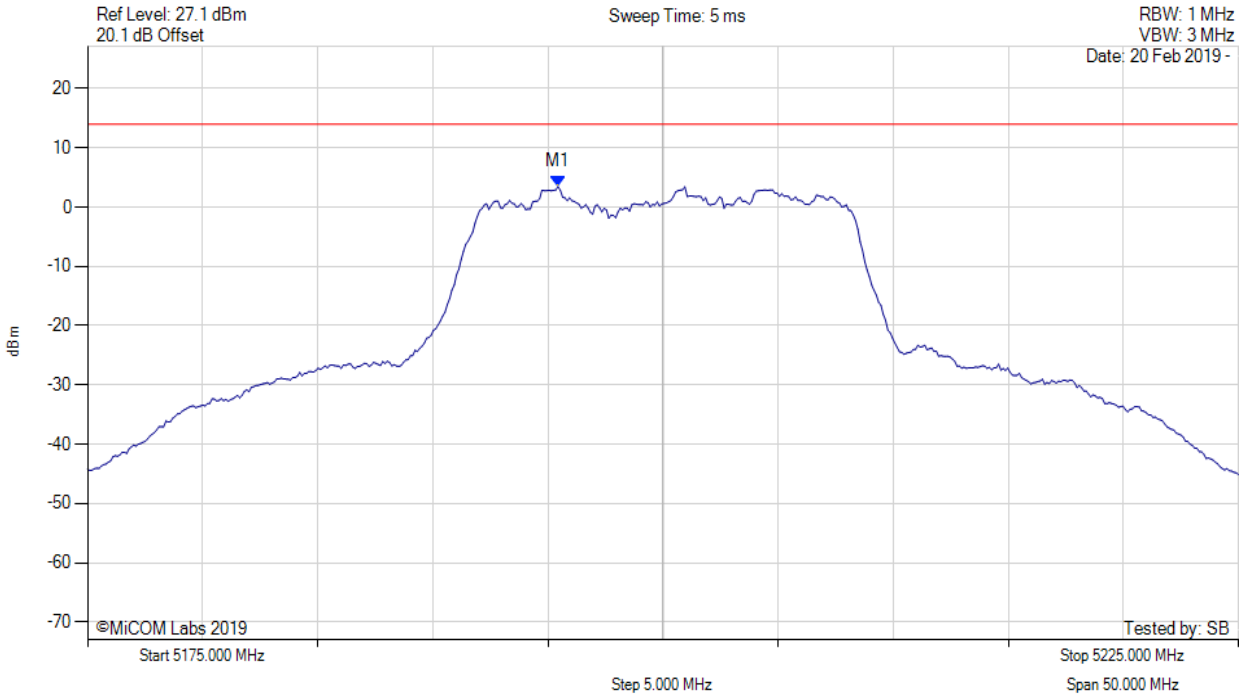


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5193.938 MHz : 3.741 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5200.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

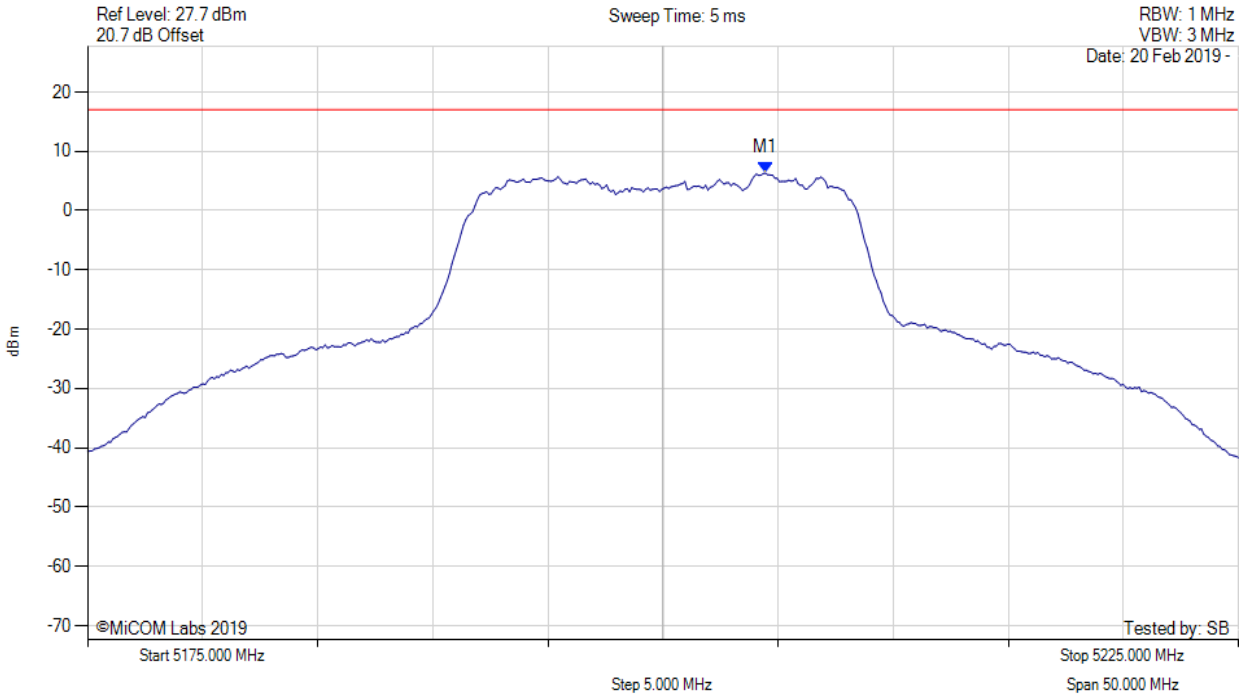


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5195.441 MHz : 3.464 dBm	Channel Frequency: 5200.00 MHz

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5200.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

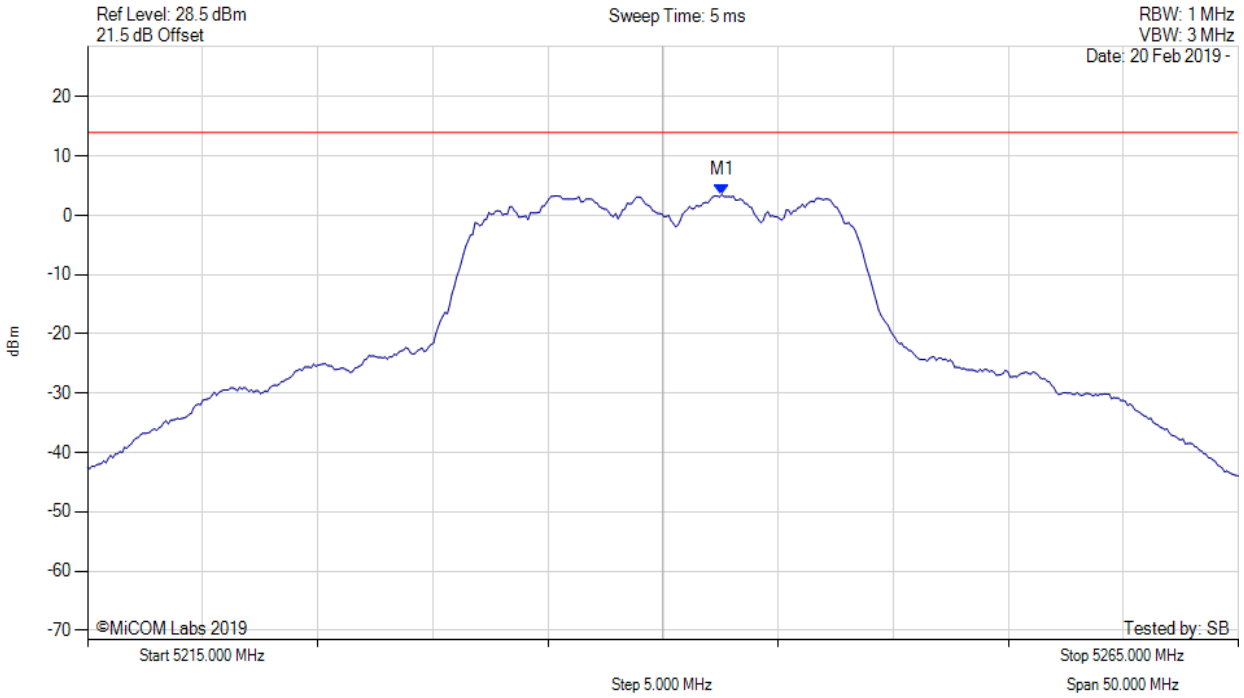


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5204.500 MHz : 6.318 dBm M1 + DCCF : 5204.500 MHz : 6.362 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 17.0 dBm Margin: -10.6 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5240.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

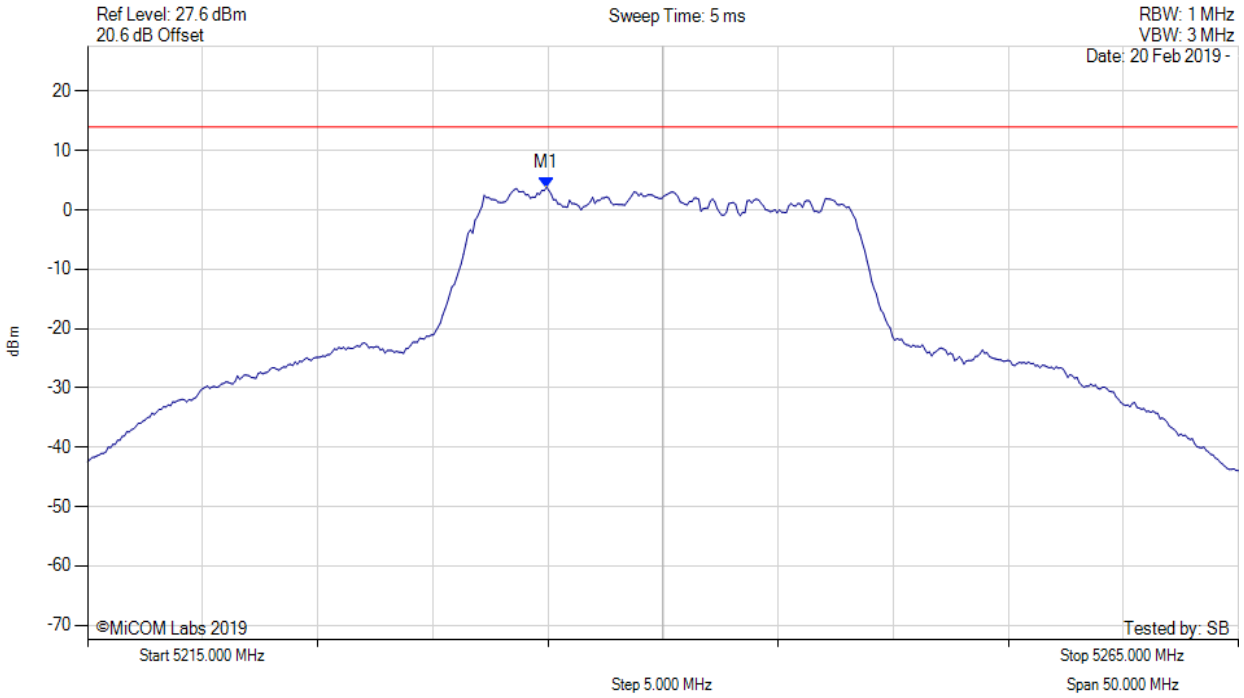


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5242.555 MHz : 3.488 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5240.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

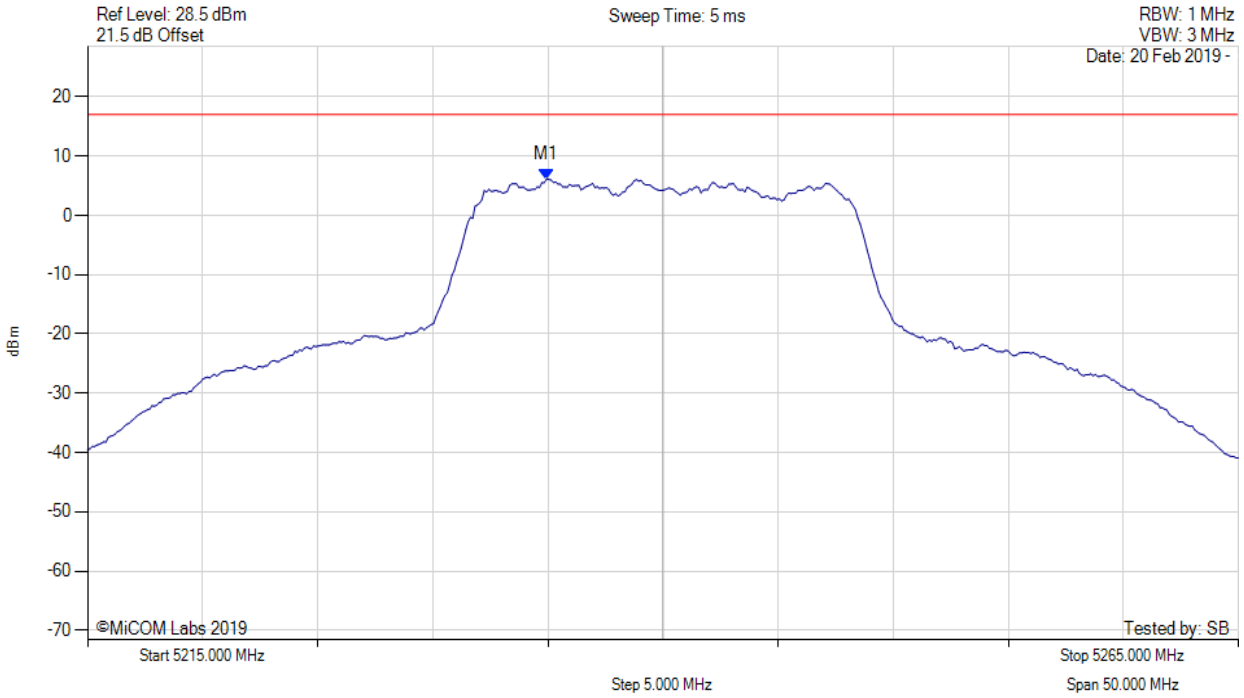


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5234.940 MHz : 3.830 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5240.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

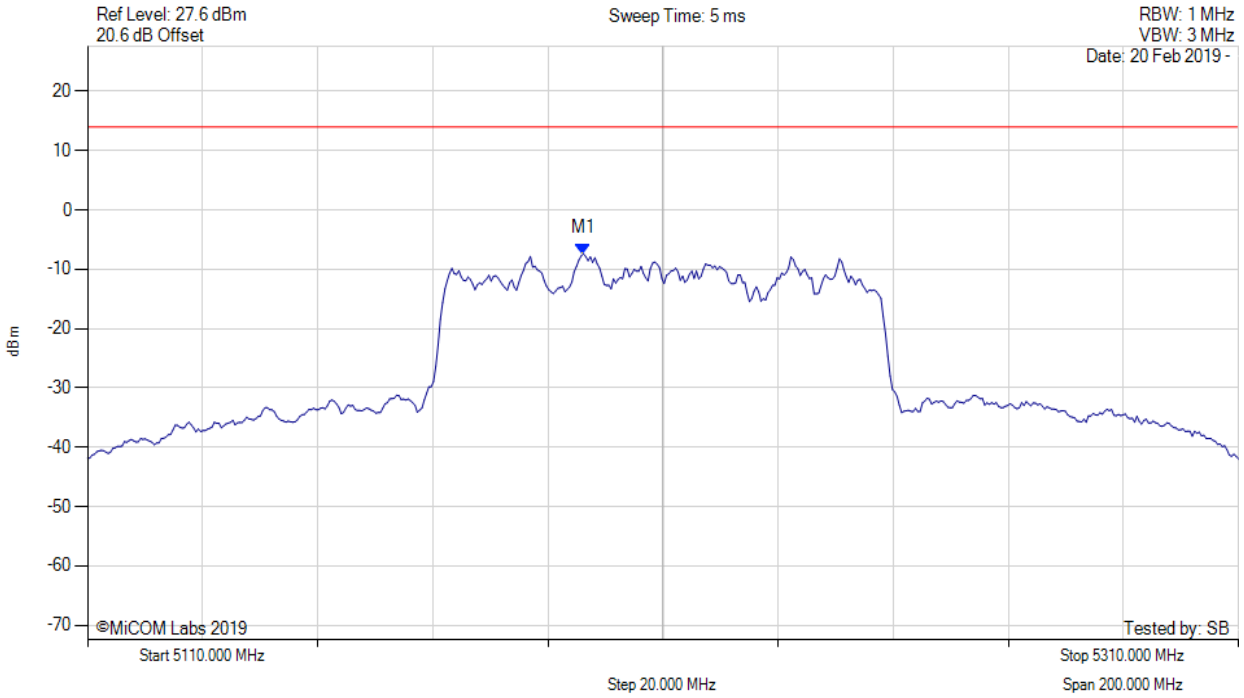


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5234.900 MHz : 6.090 dBm M1 + DCCF : 5234.900 MHz : 6.134 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 17.0 dBm Margin: -10.9 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5210.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

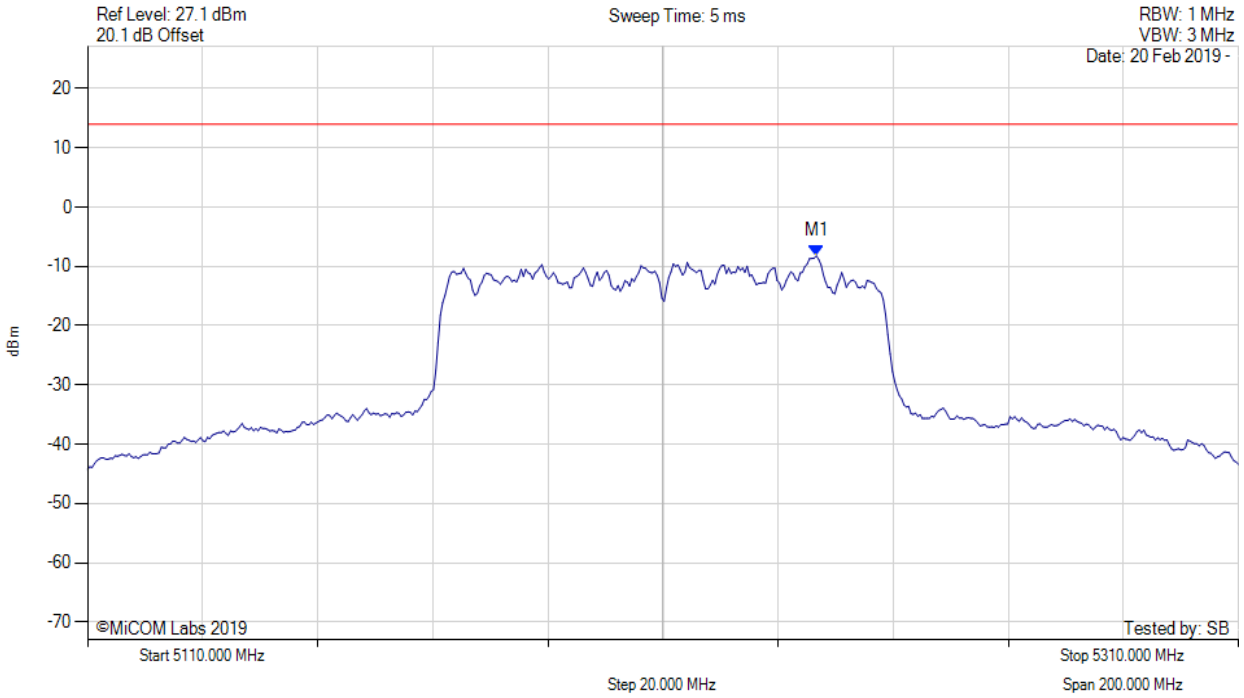


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5196.172 MHz : -7.361 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5210.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

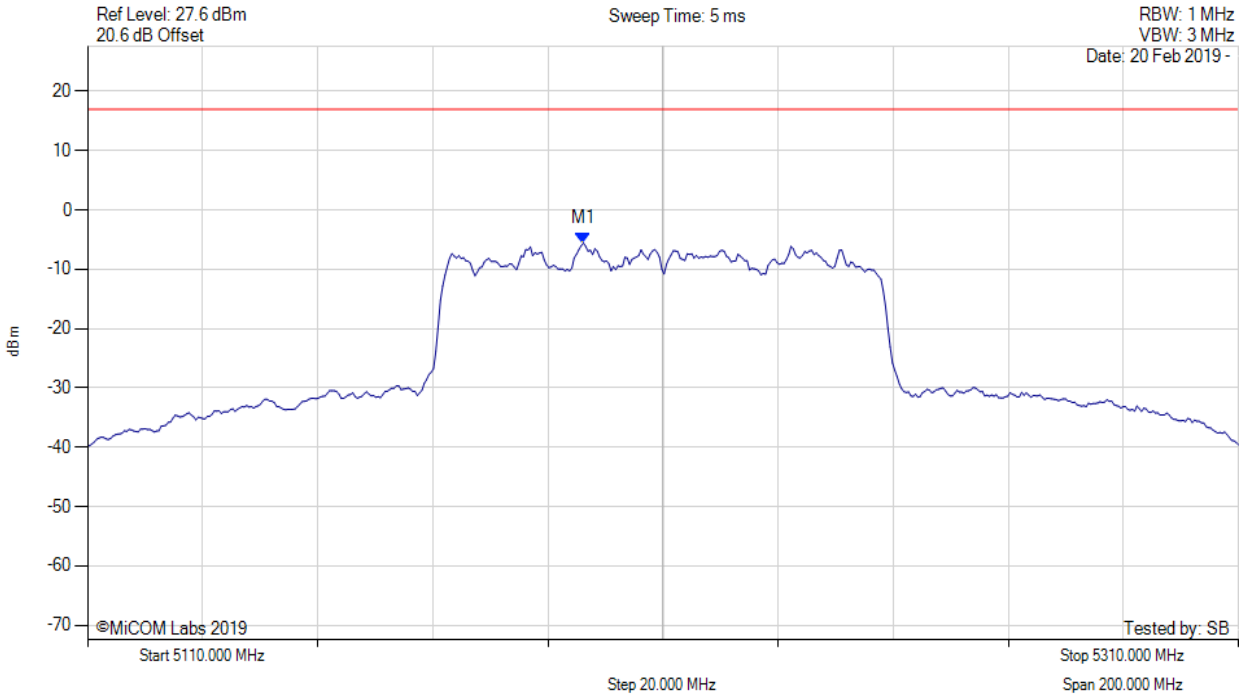


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5236.653 MHz : -8.223 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5210.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

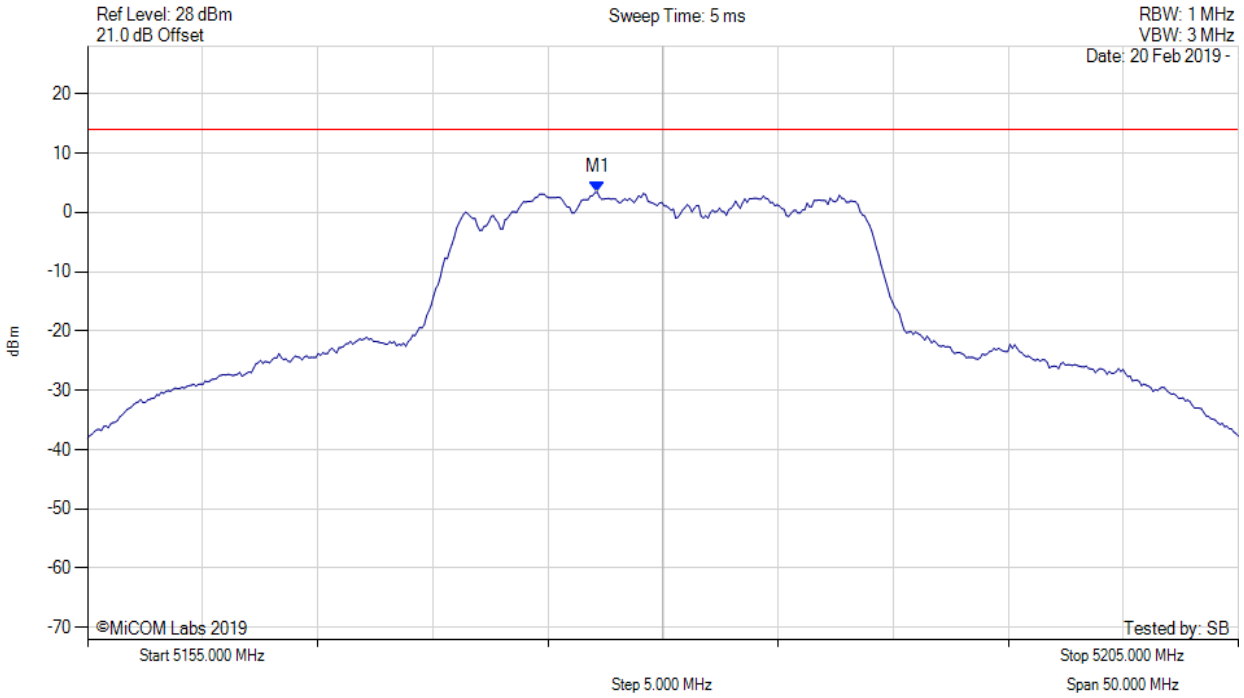


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5196.200 MHz : -5.555 dBm M1 + DCCF : 5196.200 MHz : -5.511 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 17.0 dBm Margin: -22.5 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5180.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

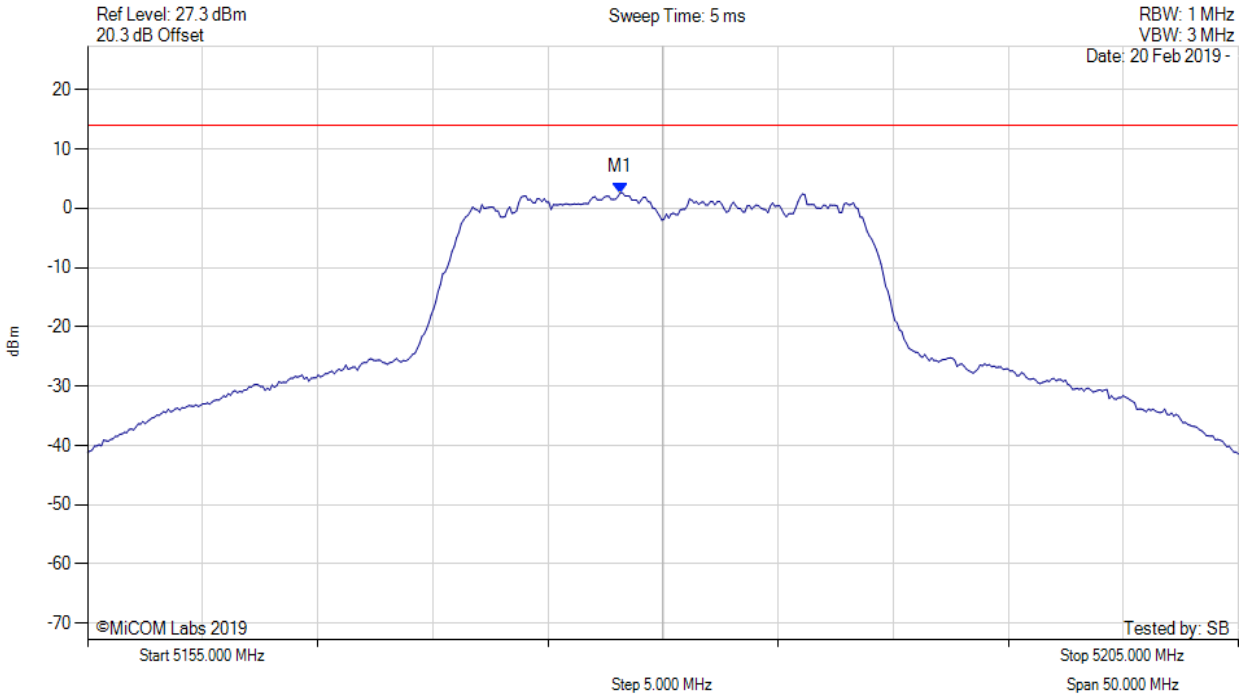


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5177.144 MHz : 3.409 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5180.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

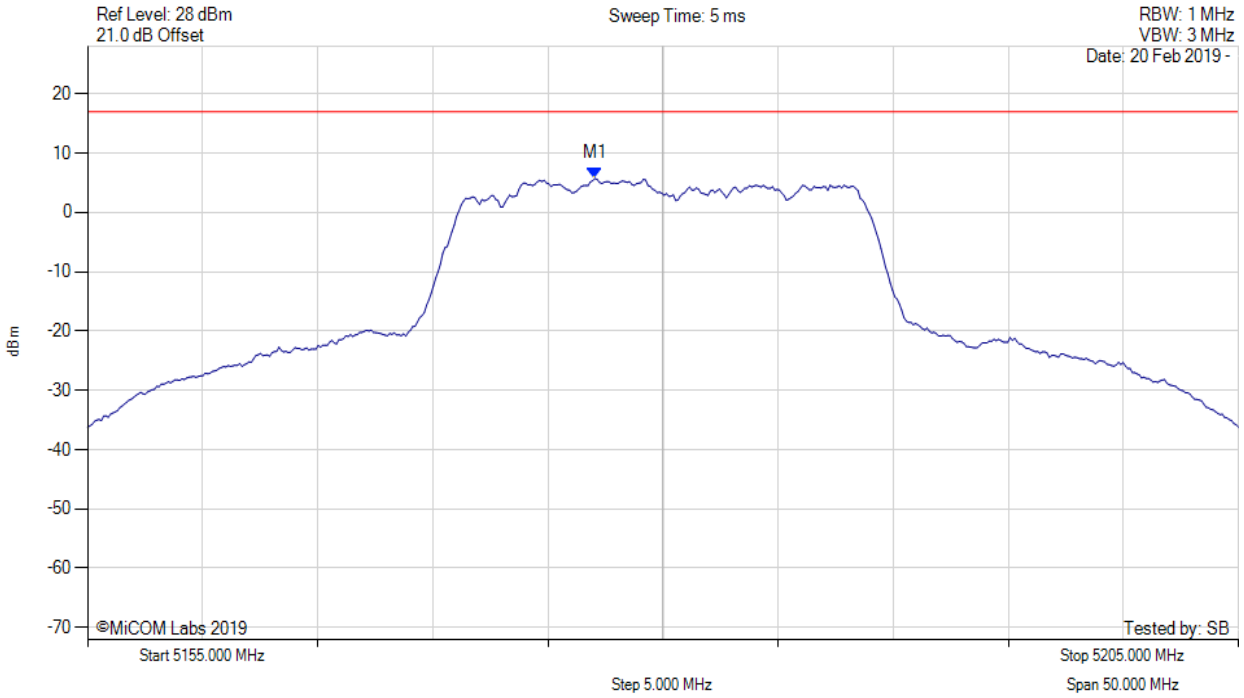


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5178.146 MHz : 2.611 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5180.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

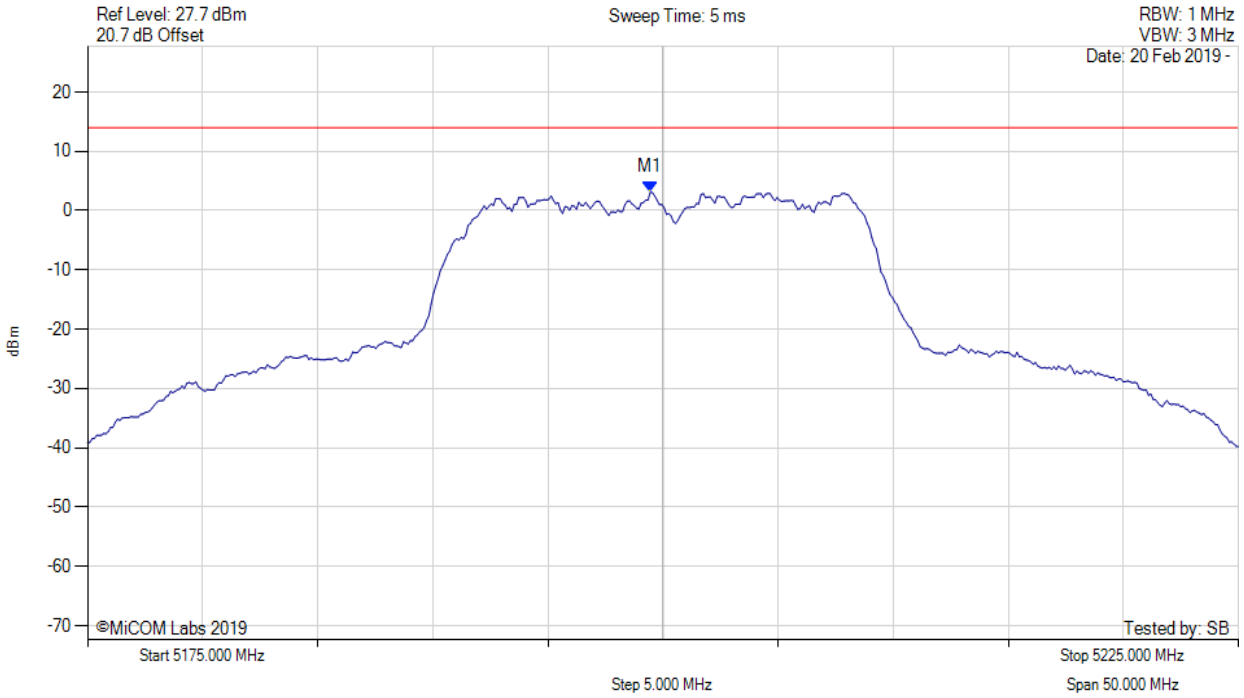


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5177.000 MHz : 5.719 dBm M1 + DCCF : 5177.000 MHz : 5.763 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 17.0 dBm Margin: -11.2 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5200.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

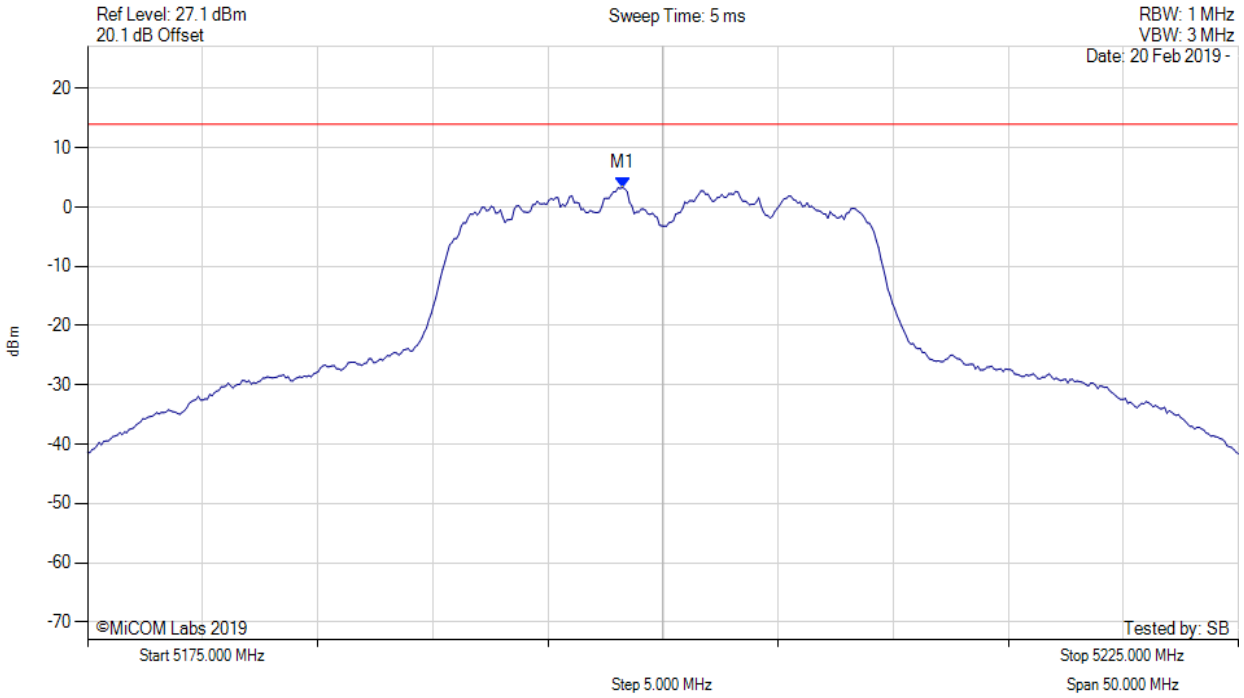


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5199.449 MHz : 3.107 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5200.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

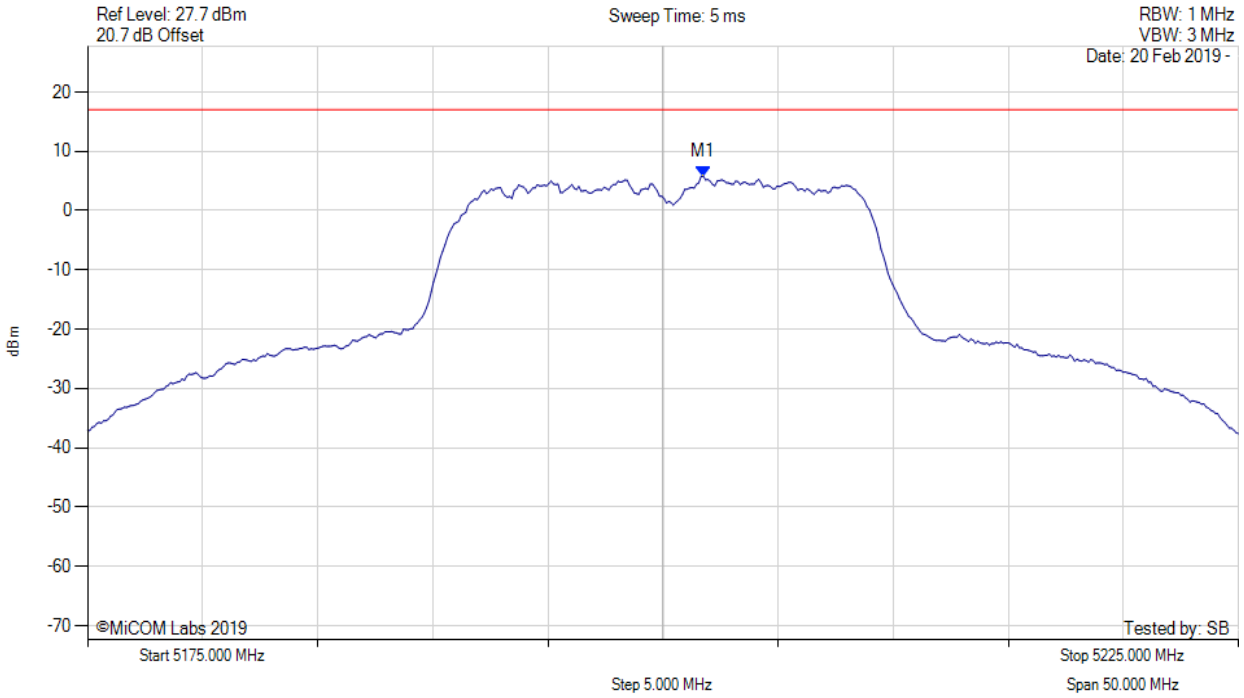


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5198.246 MHz : 3.290 dBm	Channel Frequency: 5200.00 MHz

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5200.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

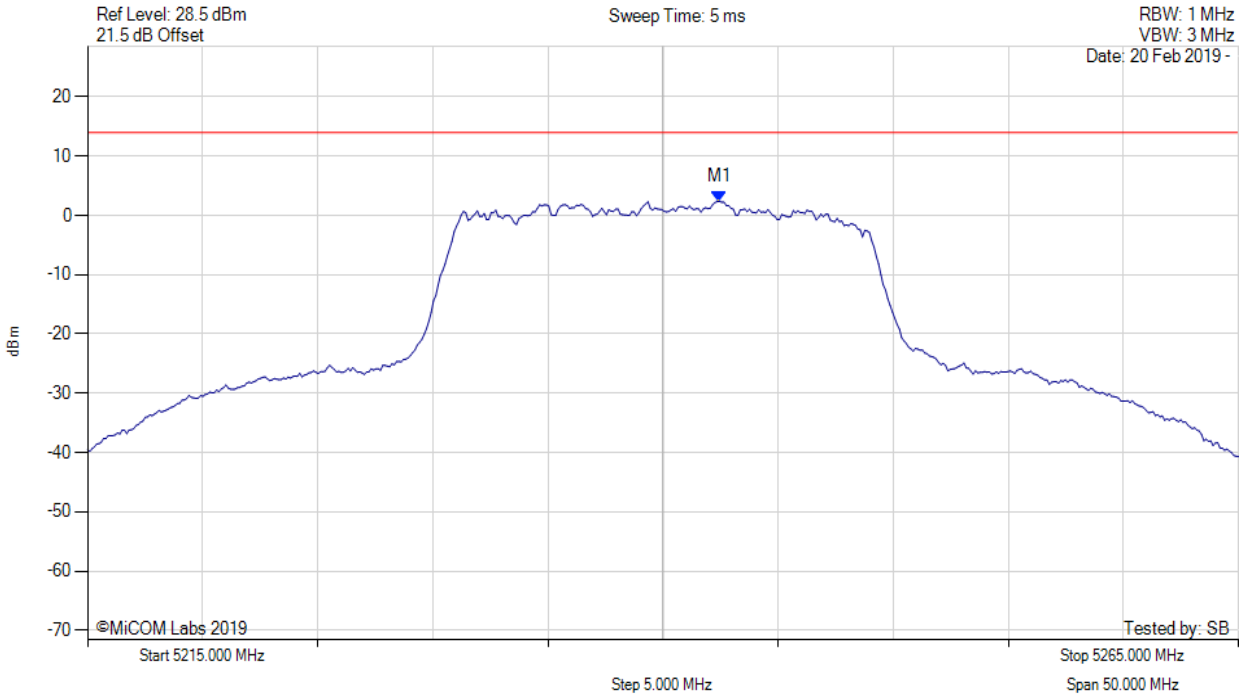


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5201.800 MHz : 5.799 dBm M1 + DCCF : 5201.800 MHz : 5.843 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 17.0 dBm Margin: -11.2 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5240.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

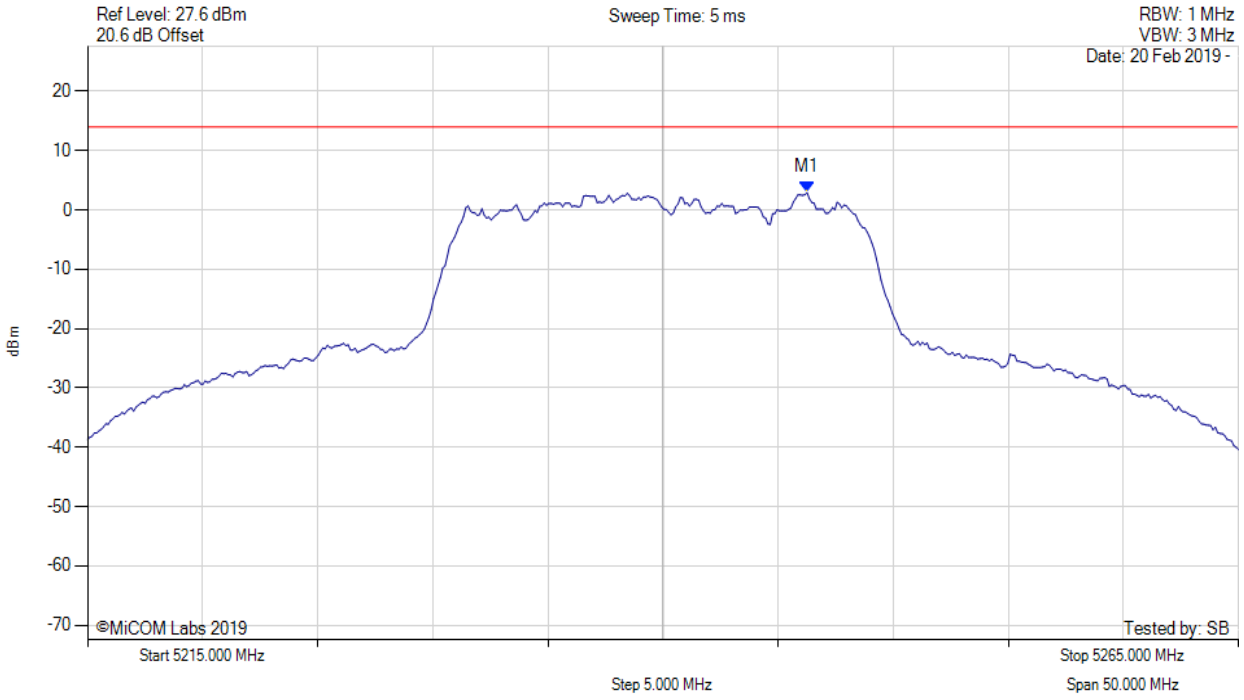


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5242.455 MHz : 2.355 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5240.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

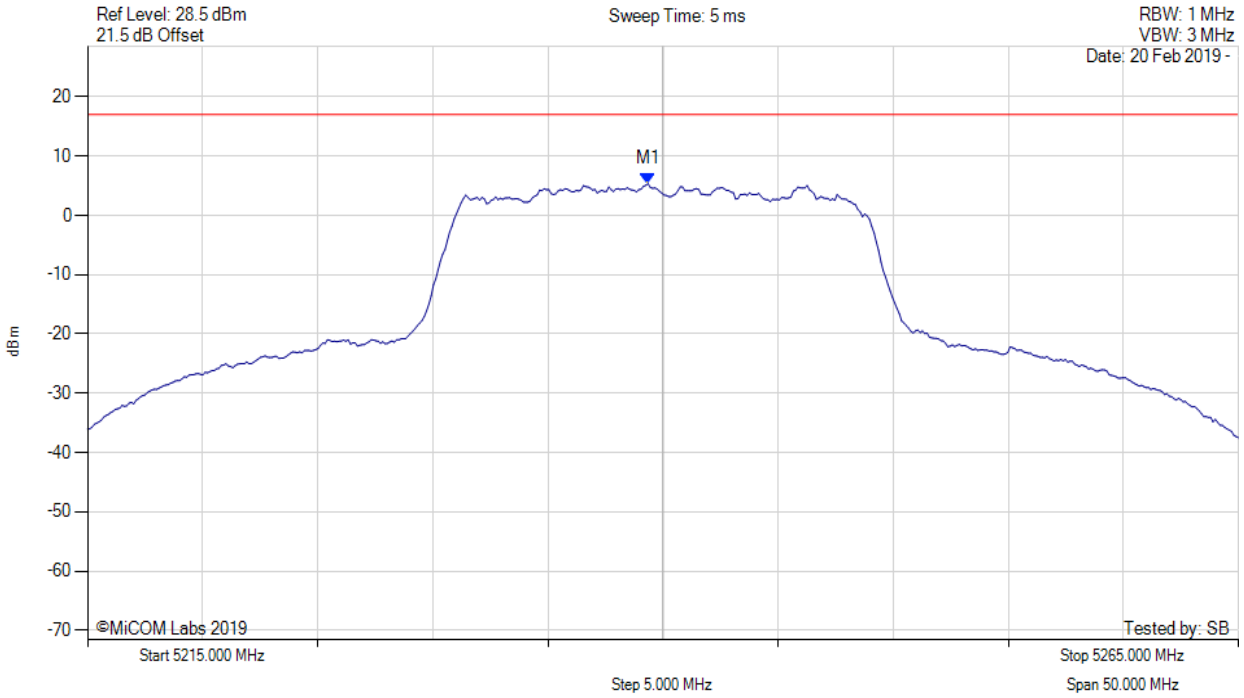


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5246.263 MHz : 2.930 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5240.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

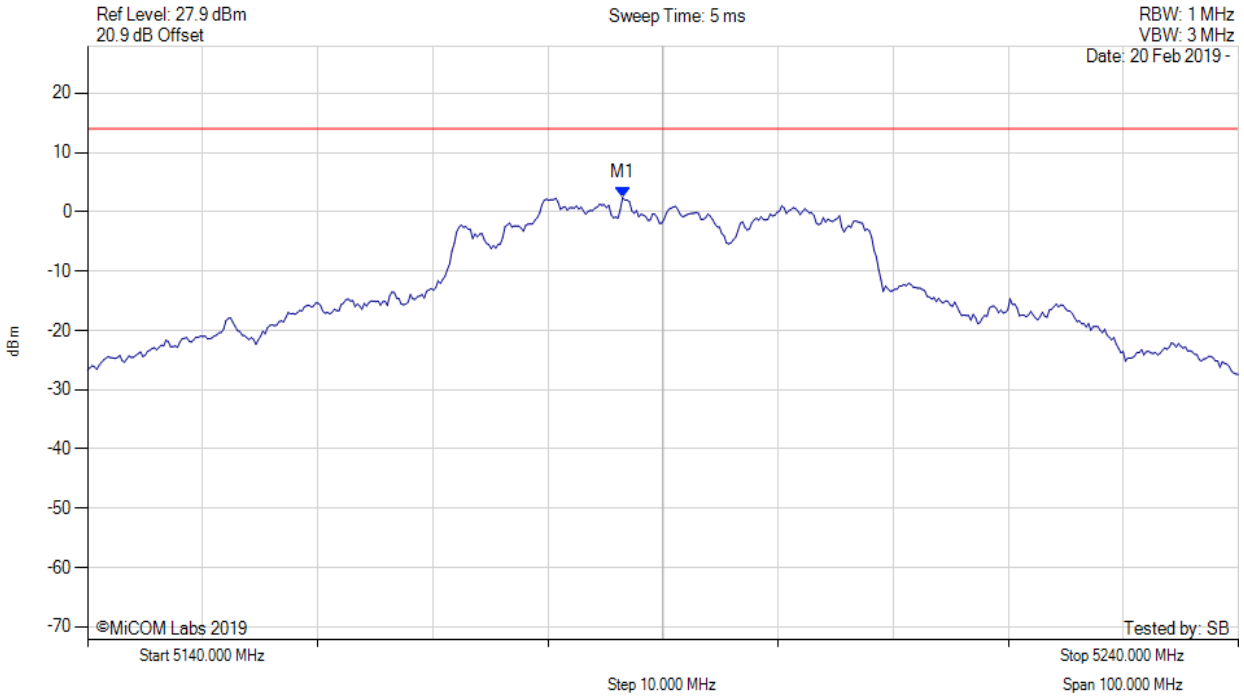


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5239.300 MHz : 5.349 dBm M1 + DCCF : 5239.300 MHz : 5.393 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 17.0 dBm Margin: -11.6 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5190.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

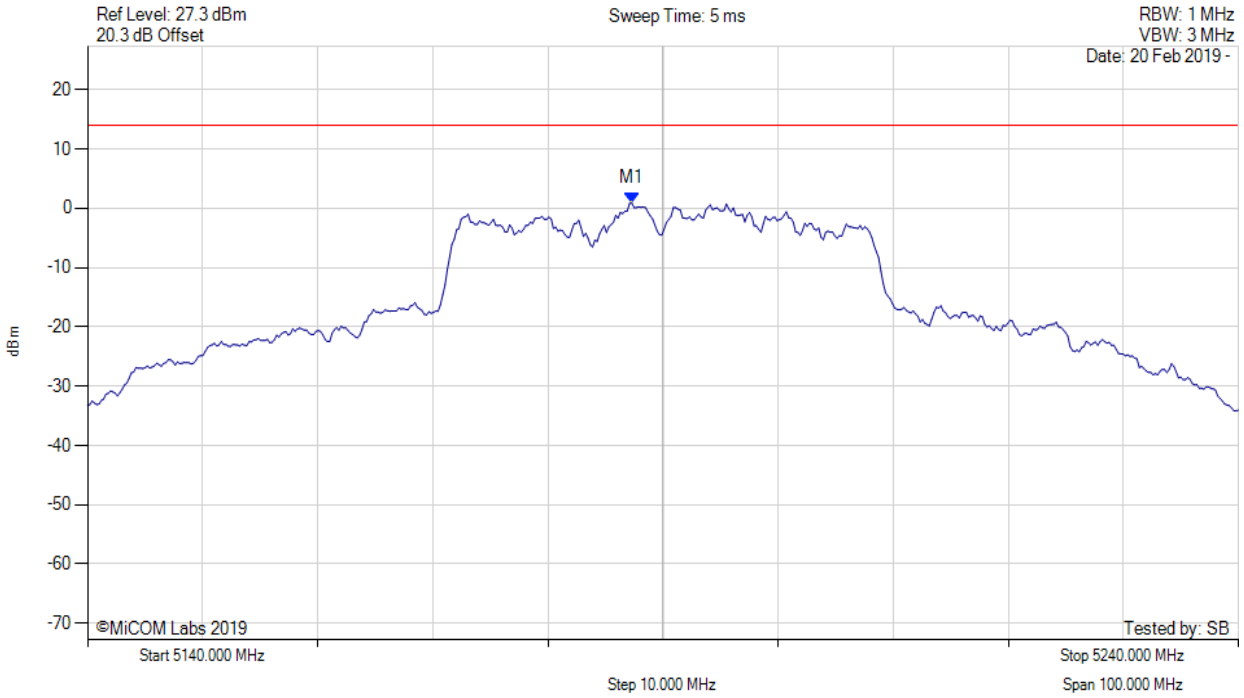


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5186.493 MHz : 2.430 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5190.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

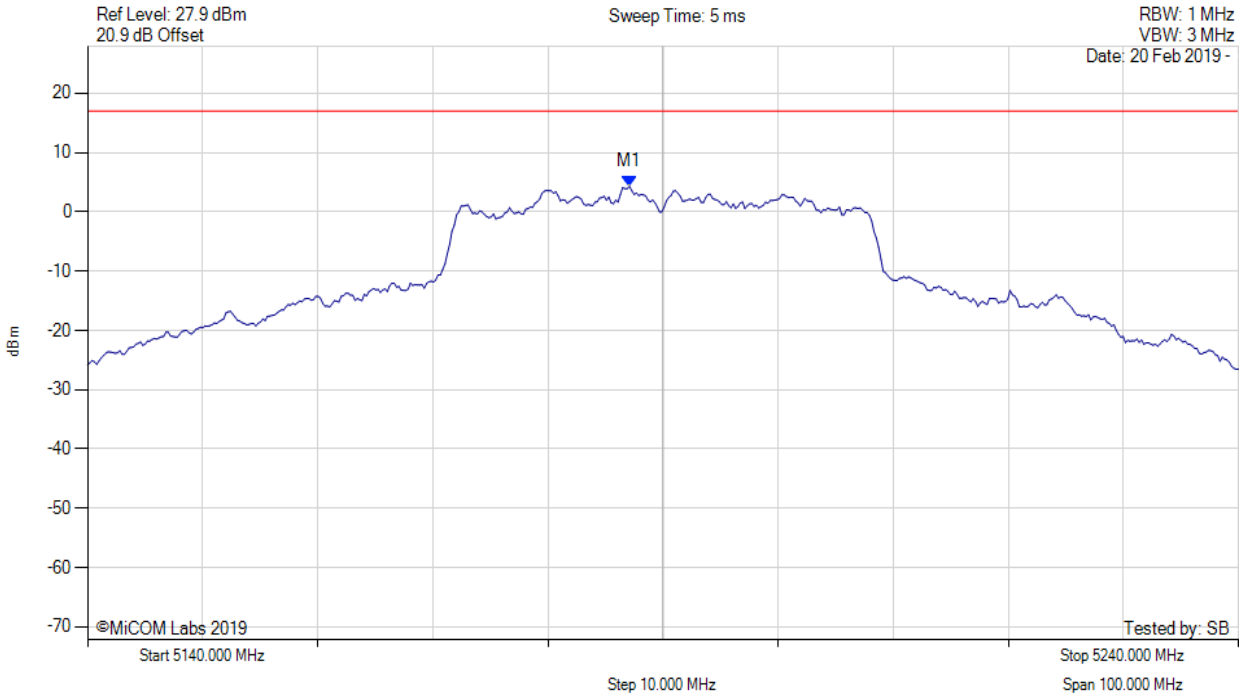


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5187.295 MHz : 0.861 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5190.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

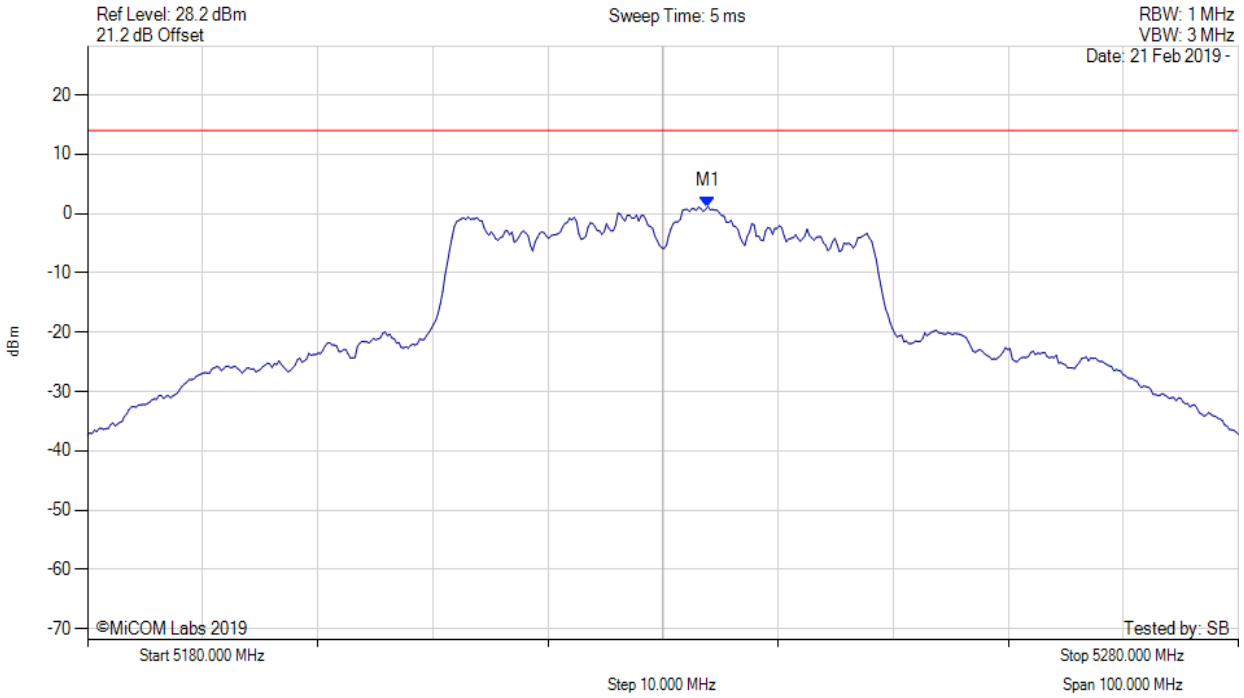


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5187.100 MHz : 4.284 dBm M1 + DCCF : 5187.100 MHz : 4.742 dBm Duty Cycle Correction Factor : +0.46 dB	Limit: ≤ 17.0 dBm Margin: -12.3 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5230.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

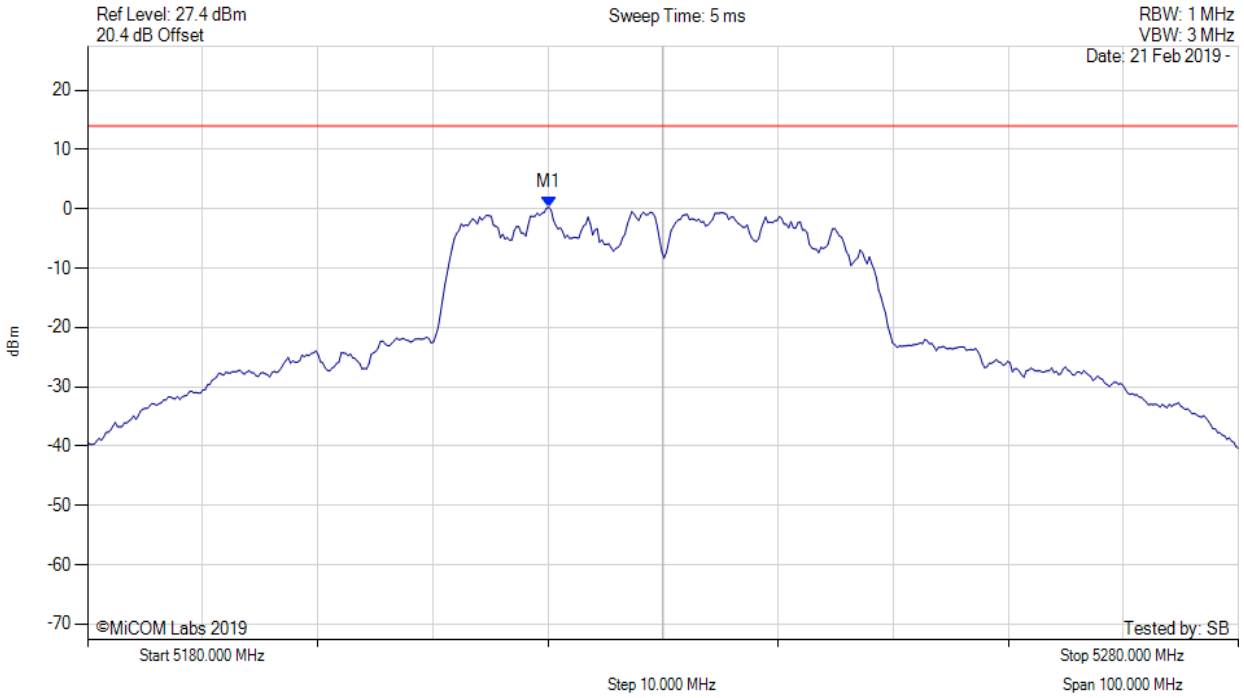


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5233.908 MHz : 1.192 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5230.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

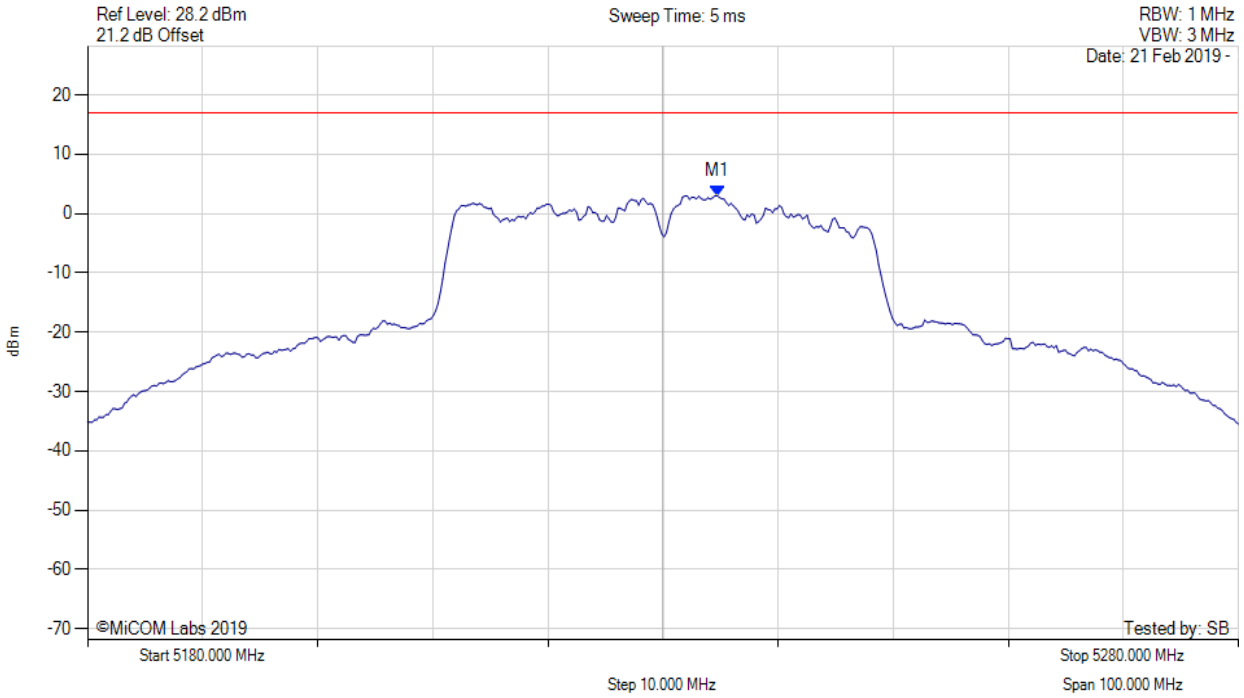


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5220.080 MHz : 0.269 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5230.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

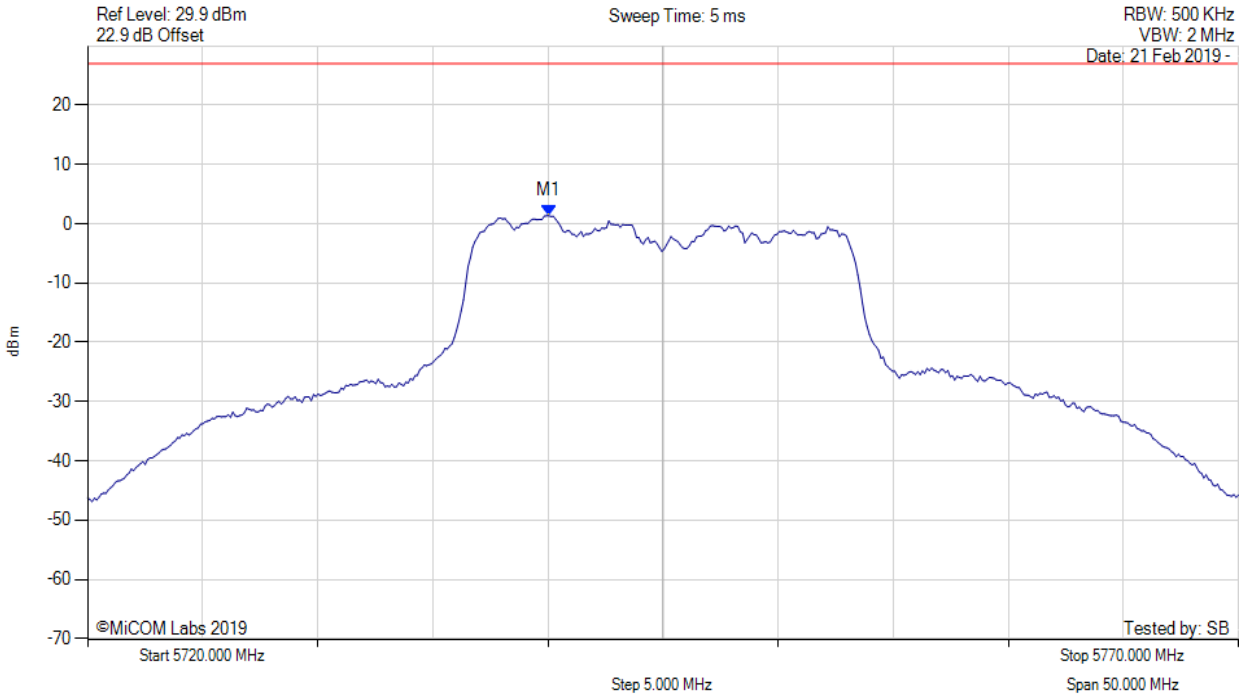


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5234.700 MHz : 2.995 dBm M1 + DCCF : 5234.700 MHz : 3.453 dBm Duty Cycle Correction Factor : +0.46 dB	Limit: ≤ 17.0 dBm Margin: -13.6 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5745.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

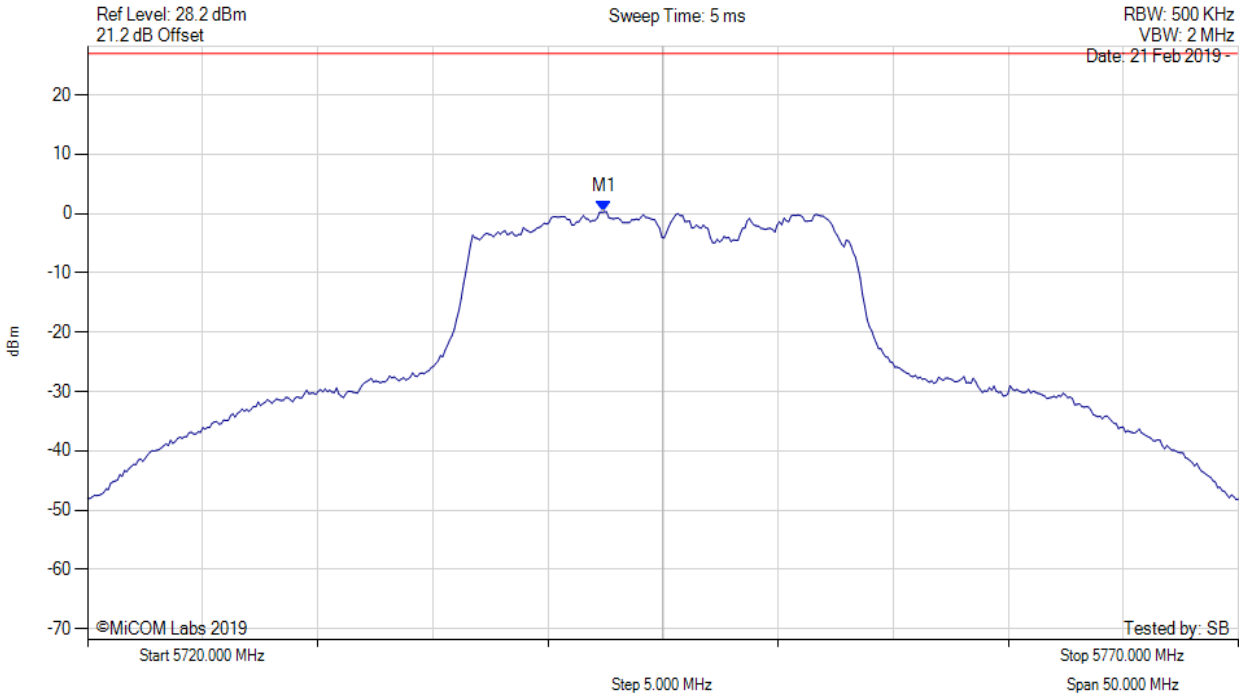


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5740.040 MHz : 1.344 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5745.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

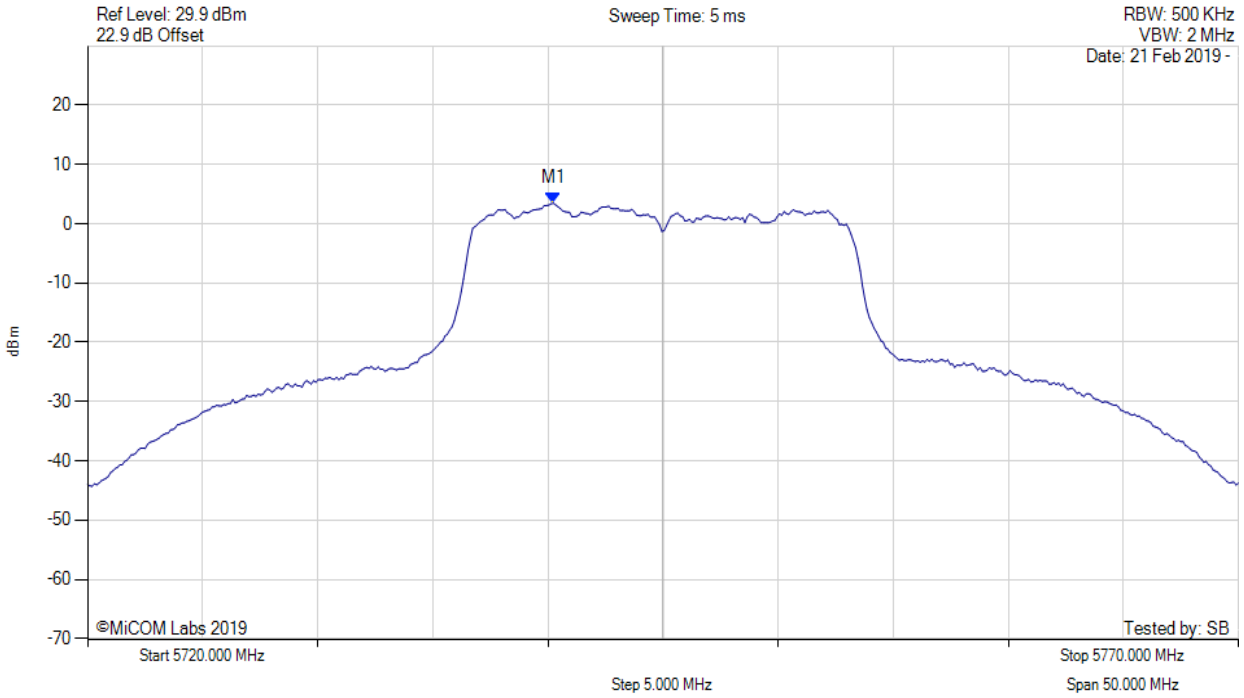


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5742.445 MHz : 0.302 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5745.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

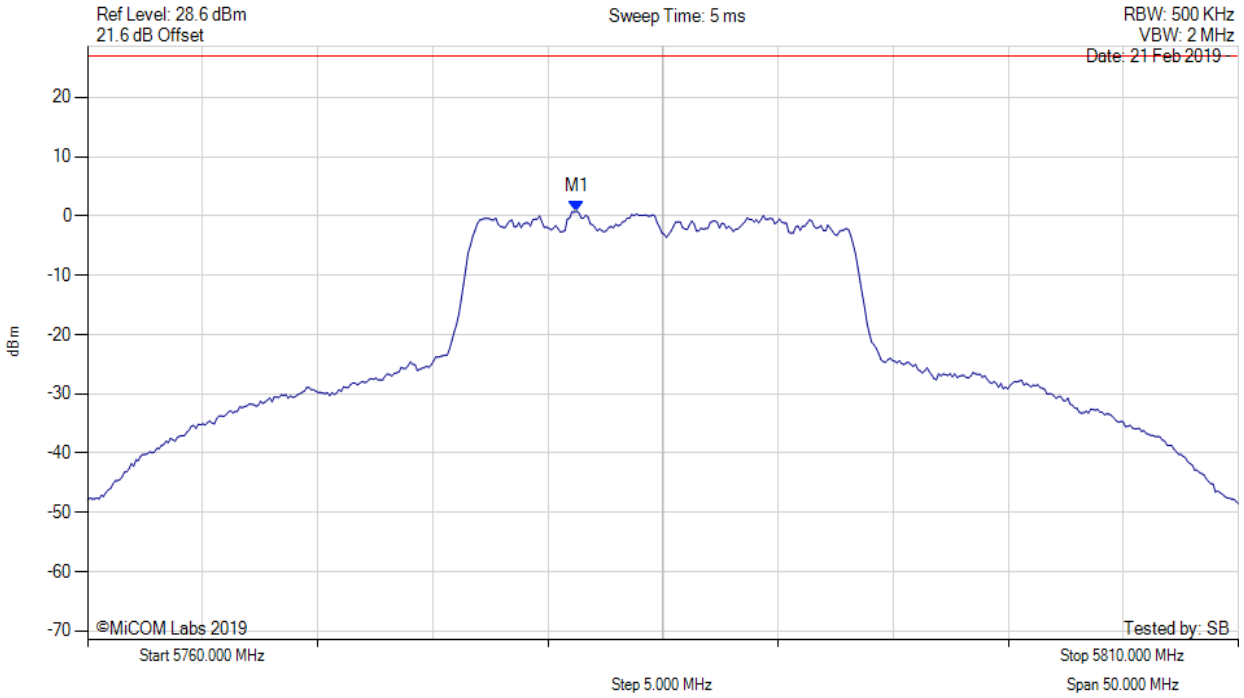


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5740.200 MHz : 3.457 dBm M1 + DCCF : 5740.200 MHz : 3.501 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 30.0 dBm Margin: -26.5 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5785.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

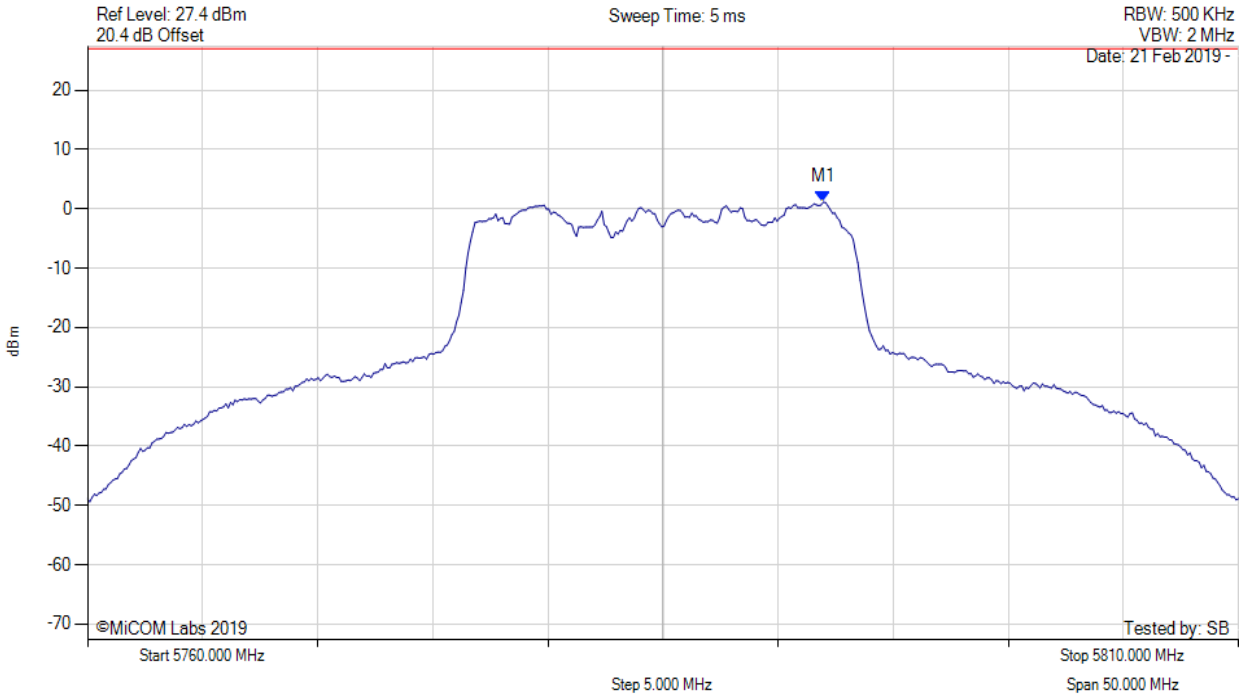


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5781.242 MHz : 0.761 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5785.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

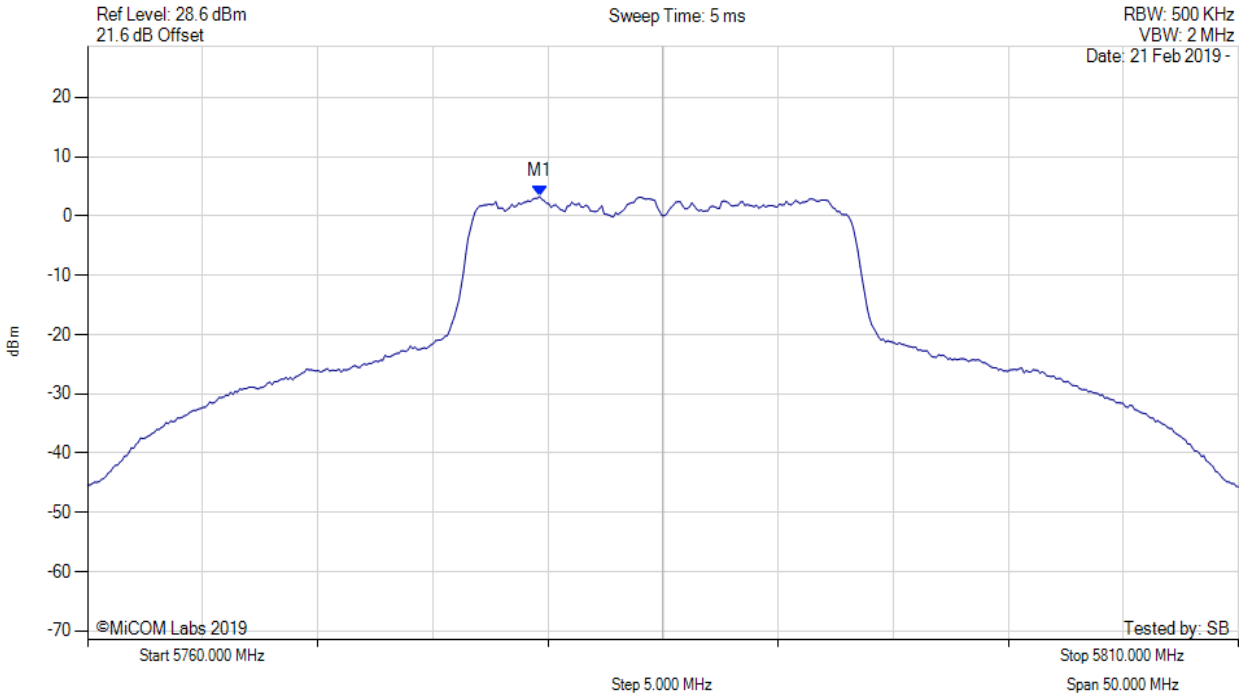


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5791.964 MHz : 1.129 dBm	Channel Frequency: 5785.00 MHz

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5785.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

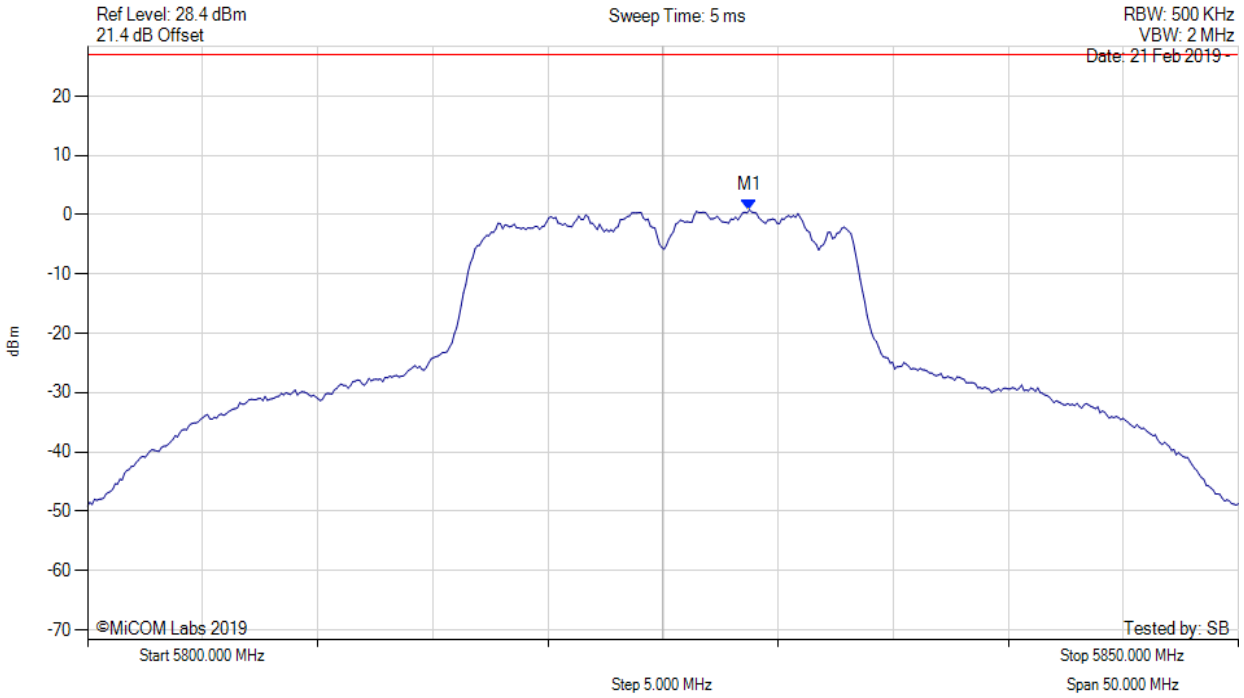


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5779.600 MHz : 3.272 dBm M1 + DCCF : 5779.600 MHz : 3.316 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 30.0 dBm Margin: -26.7 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5825.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

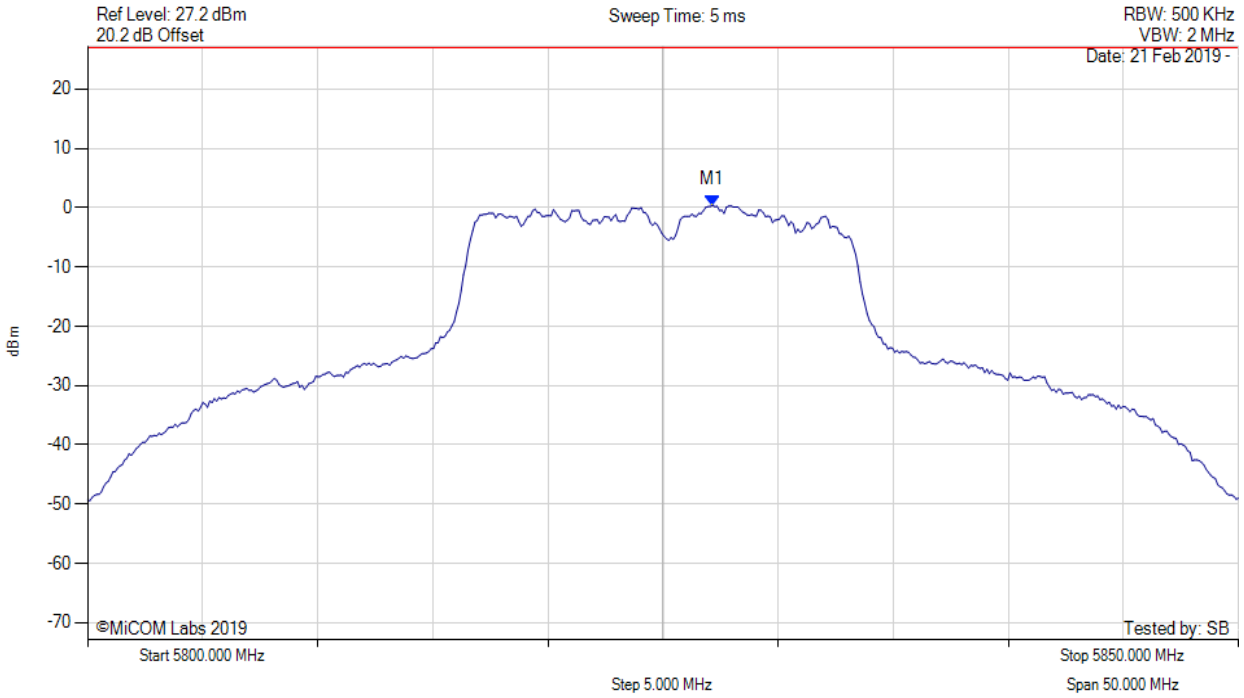


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5828.758 MHz : 0.834 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5825.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

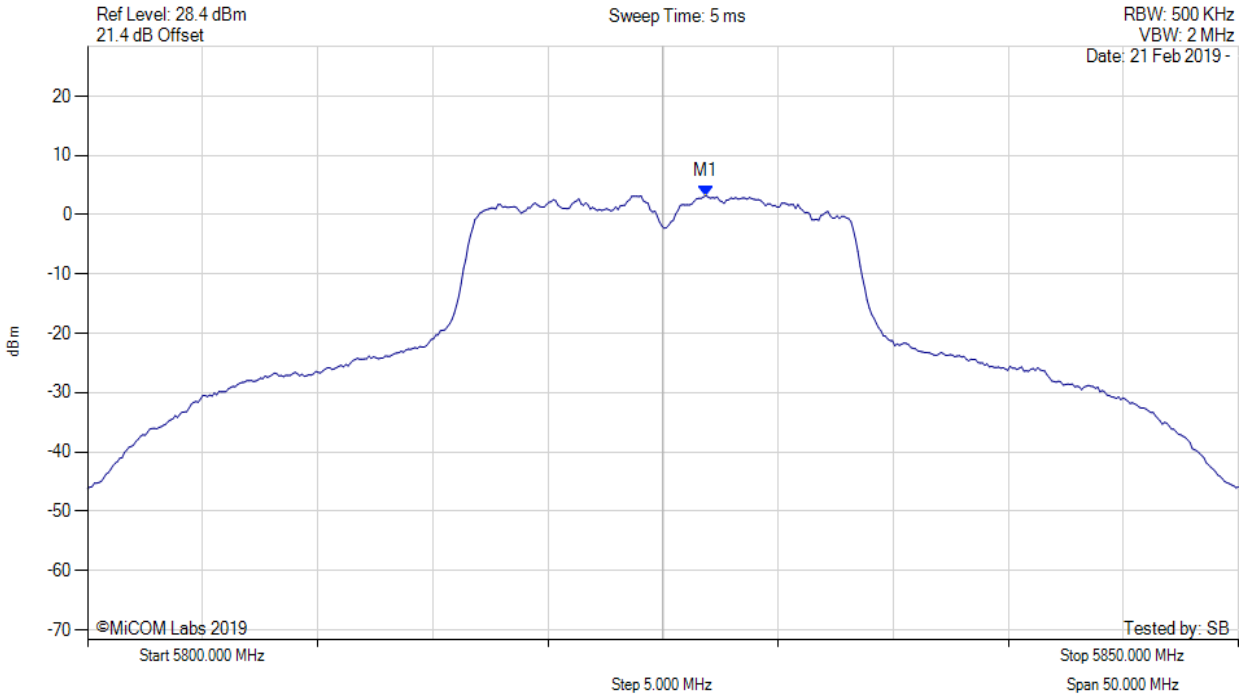


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5827.154 MHz : 0.419 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5825.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

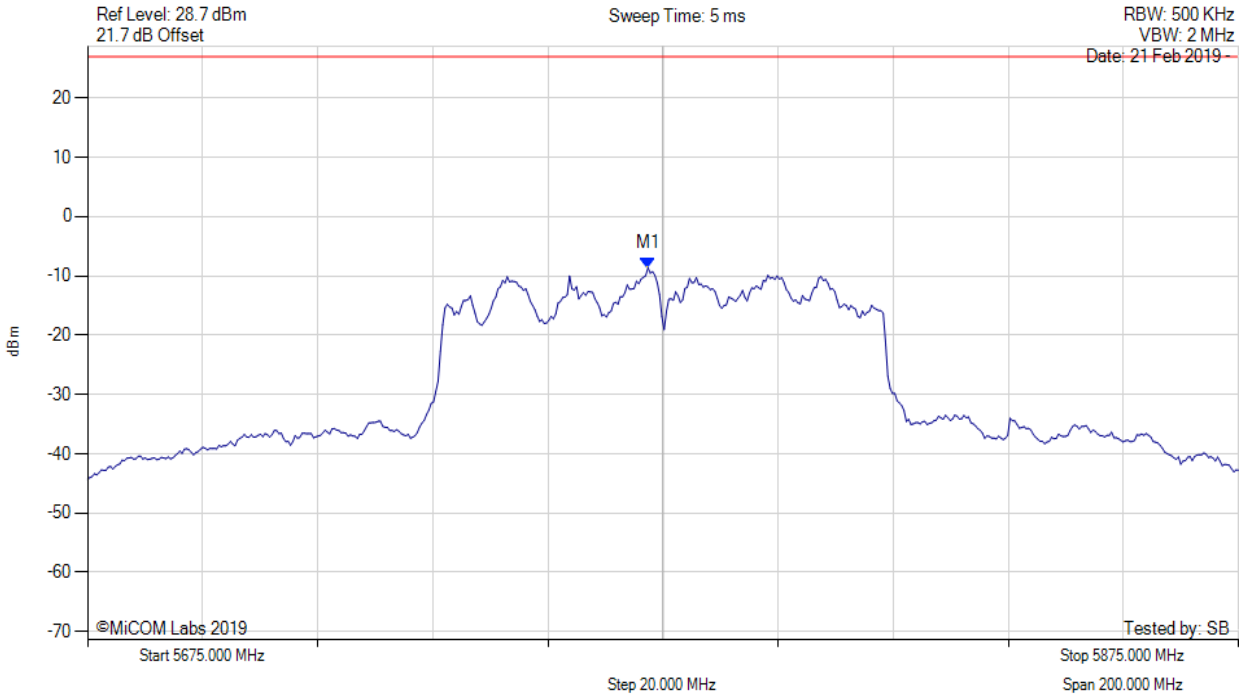


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5826.900 MHz : 3.223 dBm M1 + DCCF : 5826.900 MHz : 3.267 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 30.0 dBm Margin: -26.7 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

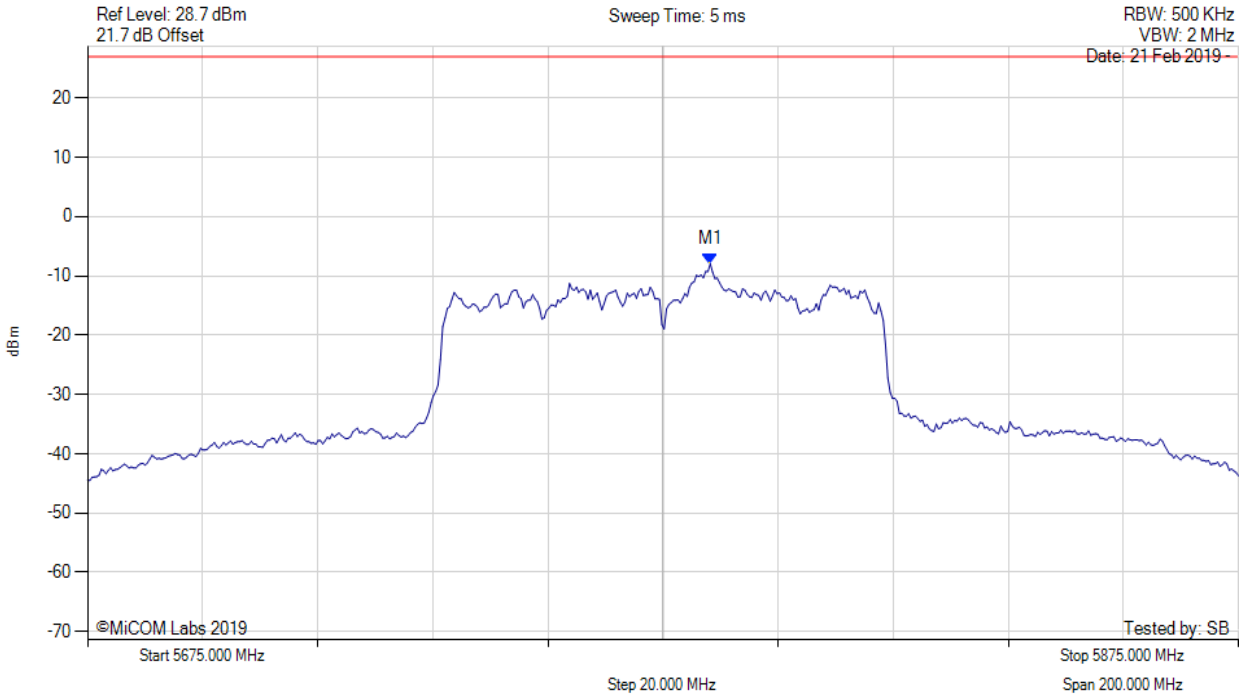


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5772.395 MHz : -8.643 dBm	Channel Frequency: 5775.00 MHz

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

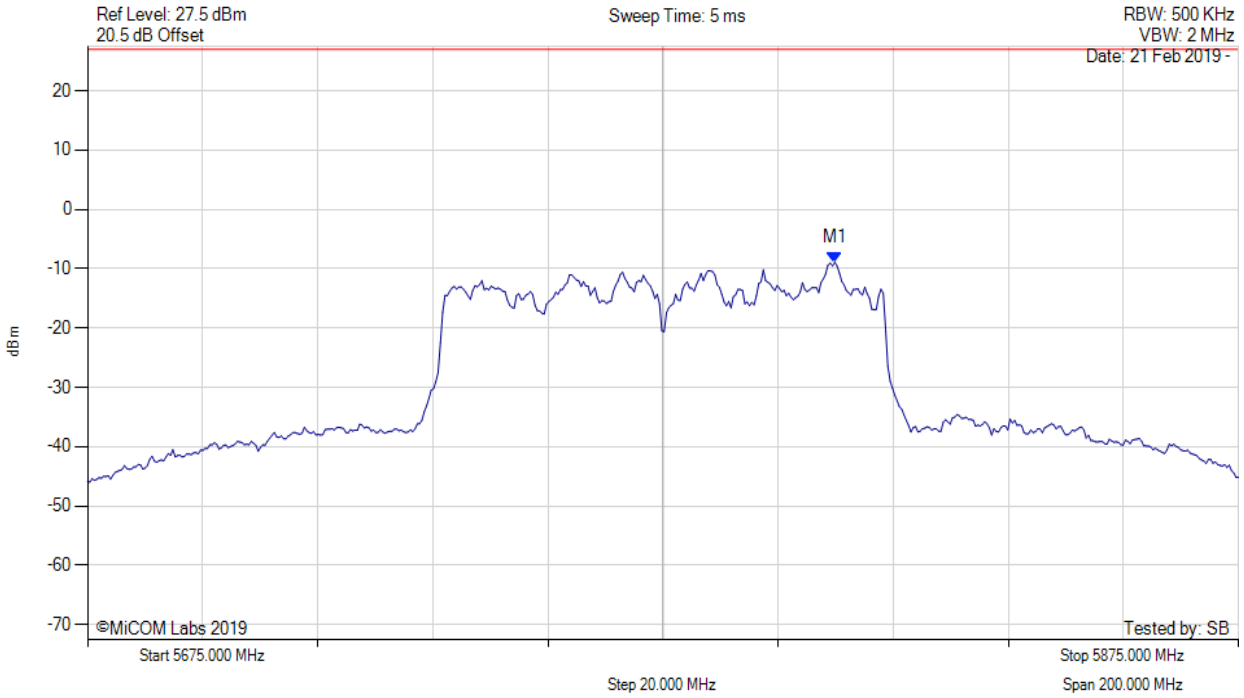


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5783.216 MHz : -7.975 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

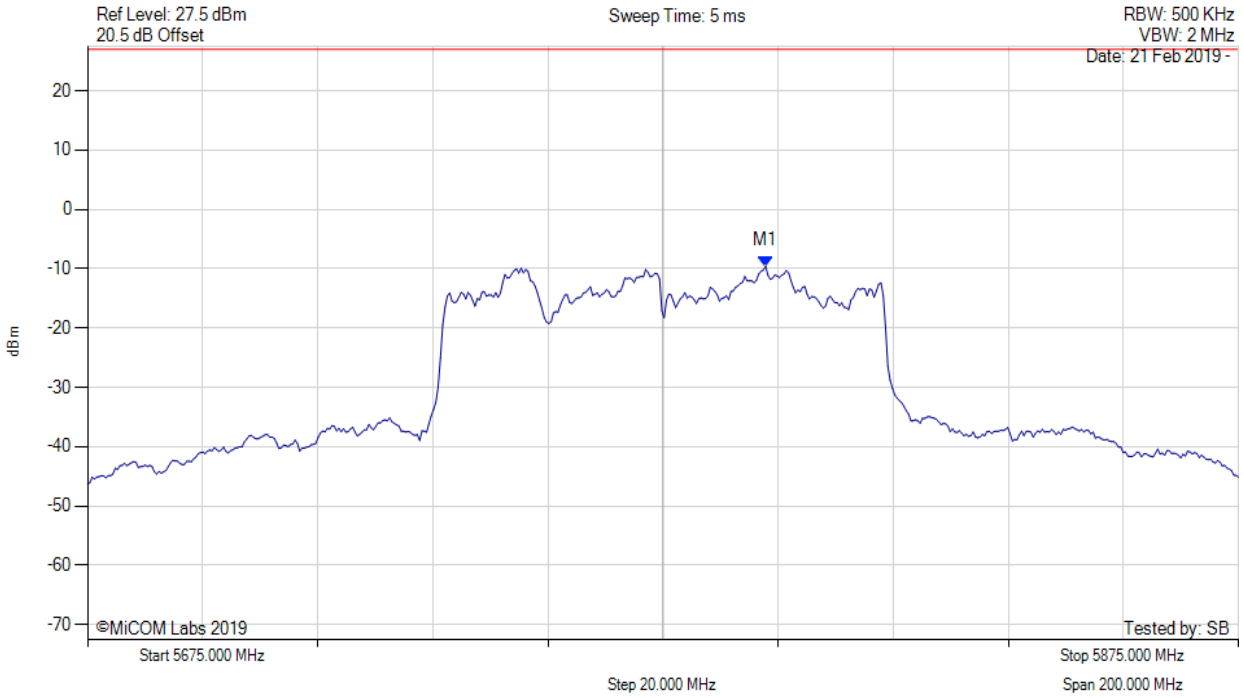


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5804.860 MHz : -8.898 dBm	Channel Frequency: 5775.00 MHz

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

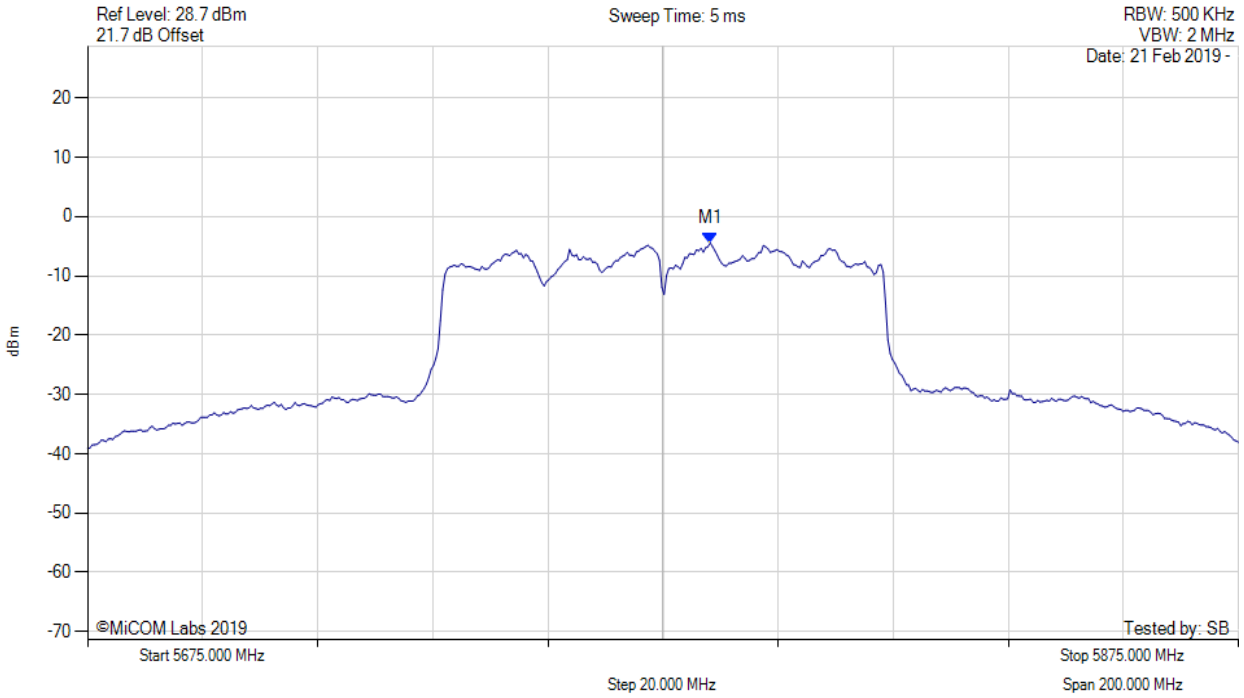


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5792.836 MHz : -9.580 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5775.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

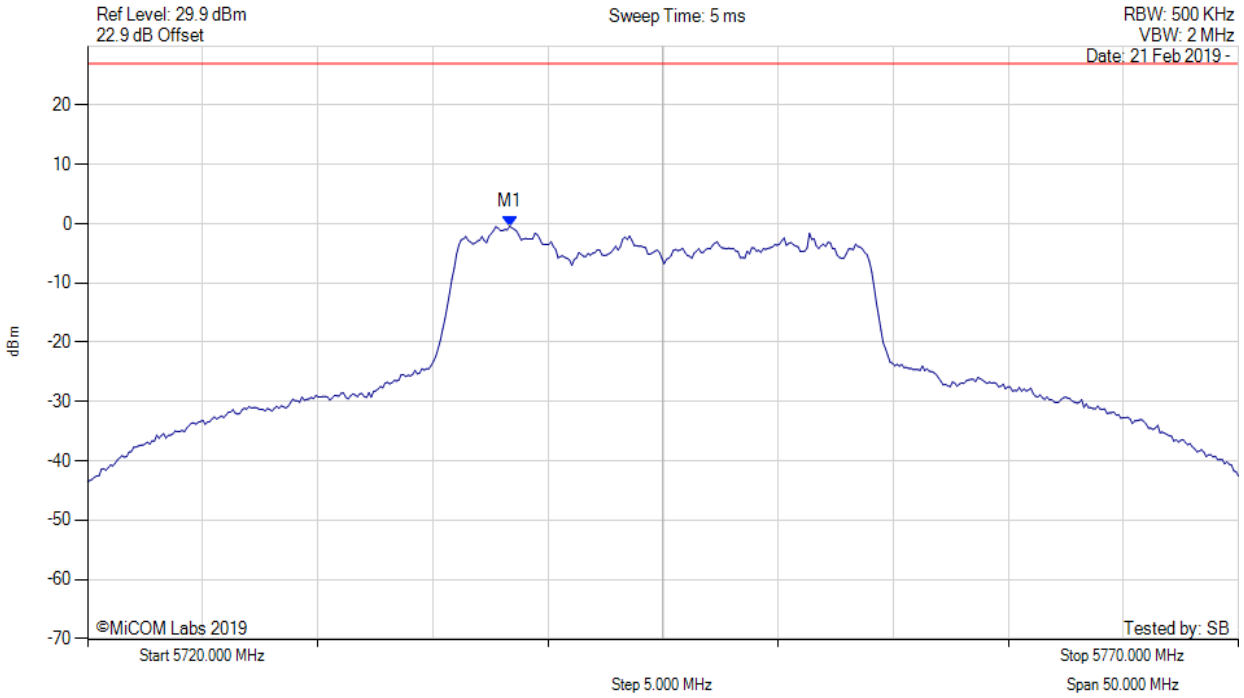


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5783.200 MHz : -4.455 dBm M1 + DCCF : 5783.200 MHz : -3.997 dBm Duty Cycle Correction Factor : +0.46 dB	Limit: ≤ 30.0 dBm Margin: -34.0 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

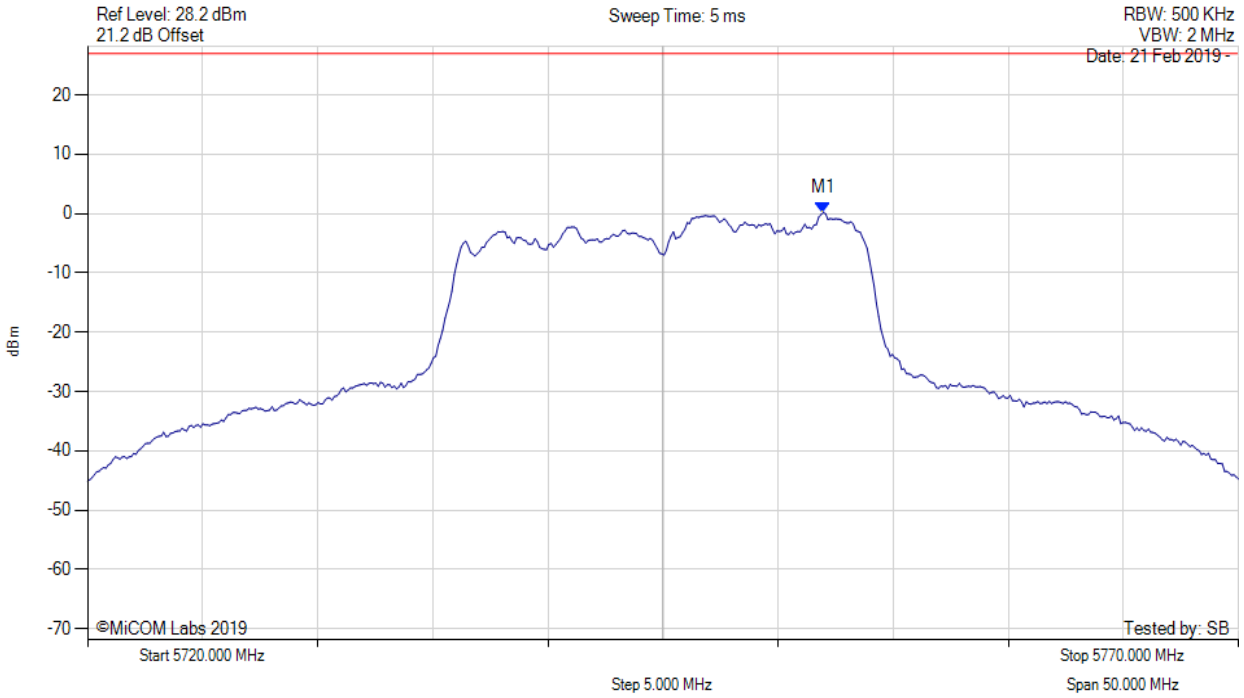


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5738.337 MHz : -0.439 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

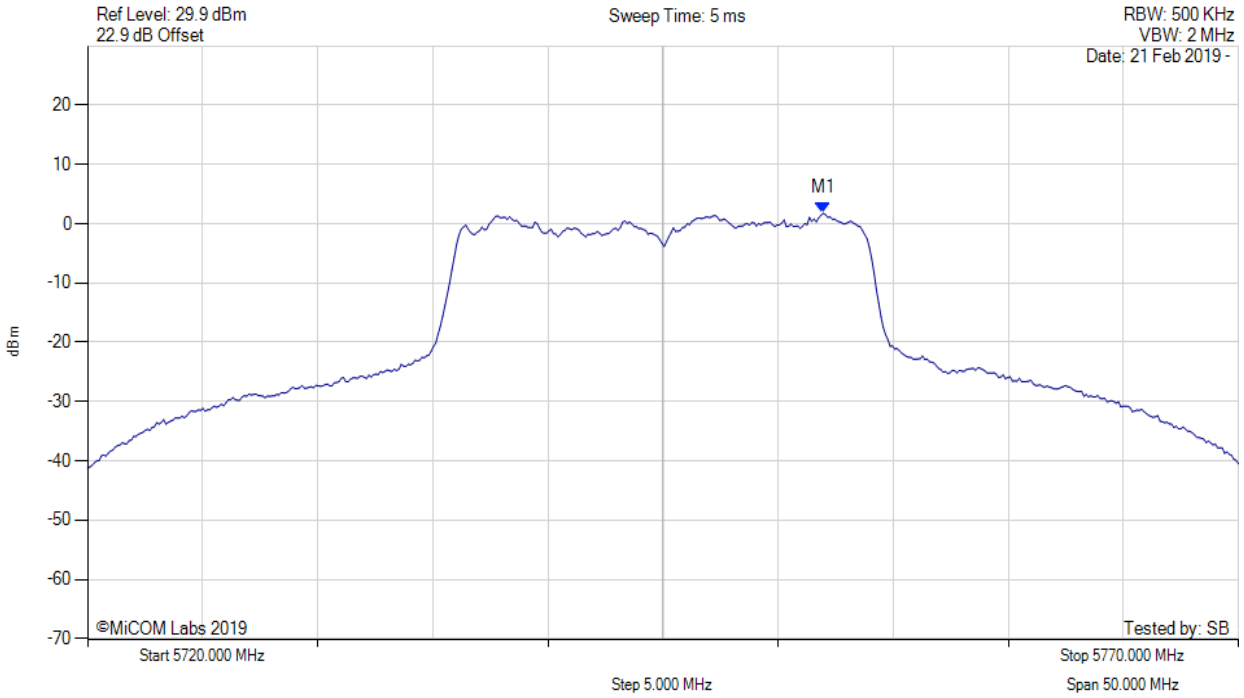


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5751.964 MHz : 0.170 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5745.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

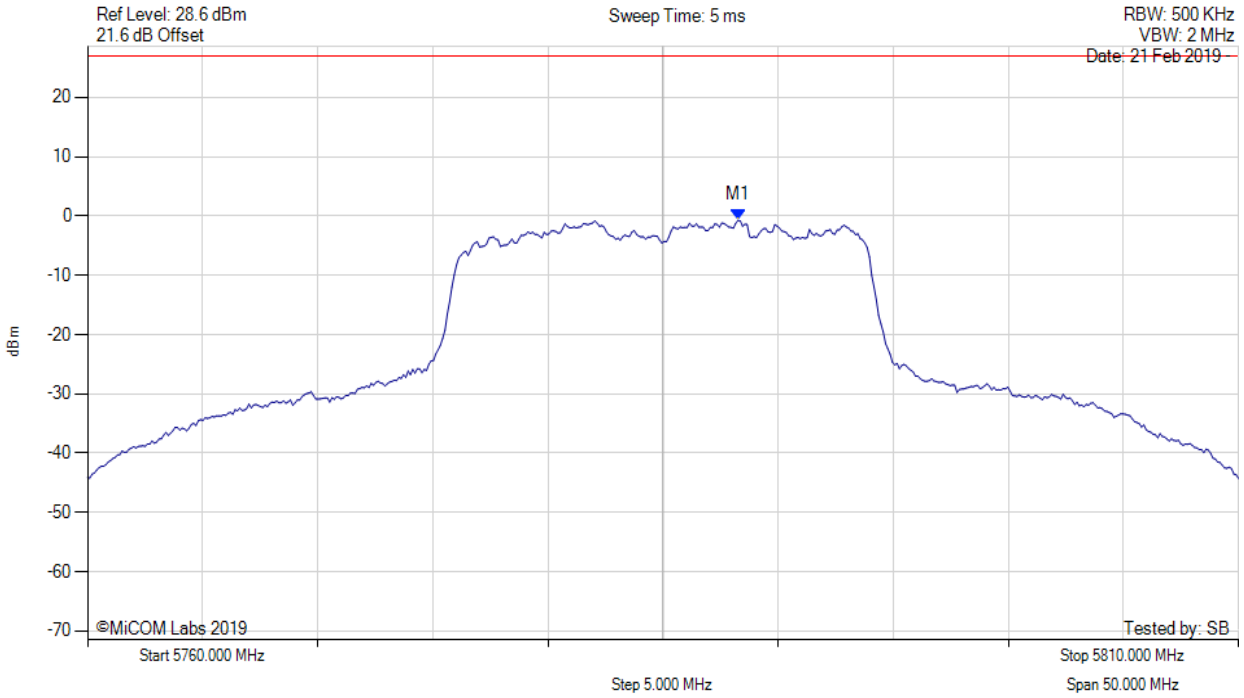


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5752.000 MHz : 1.740 dBm M1 + DCCF : 5752.000 MHz : 1.784 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 30.0 dBm Margin: -28.2 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

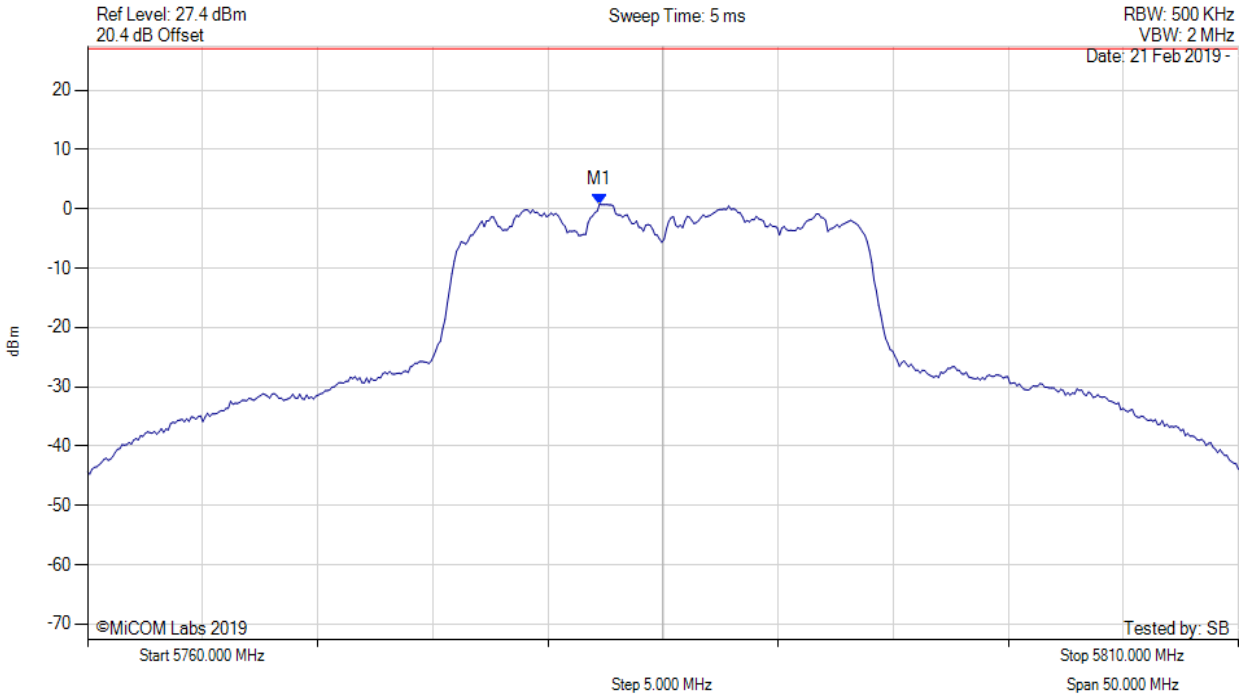


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5788.257 MHz : -0.722 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

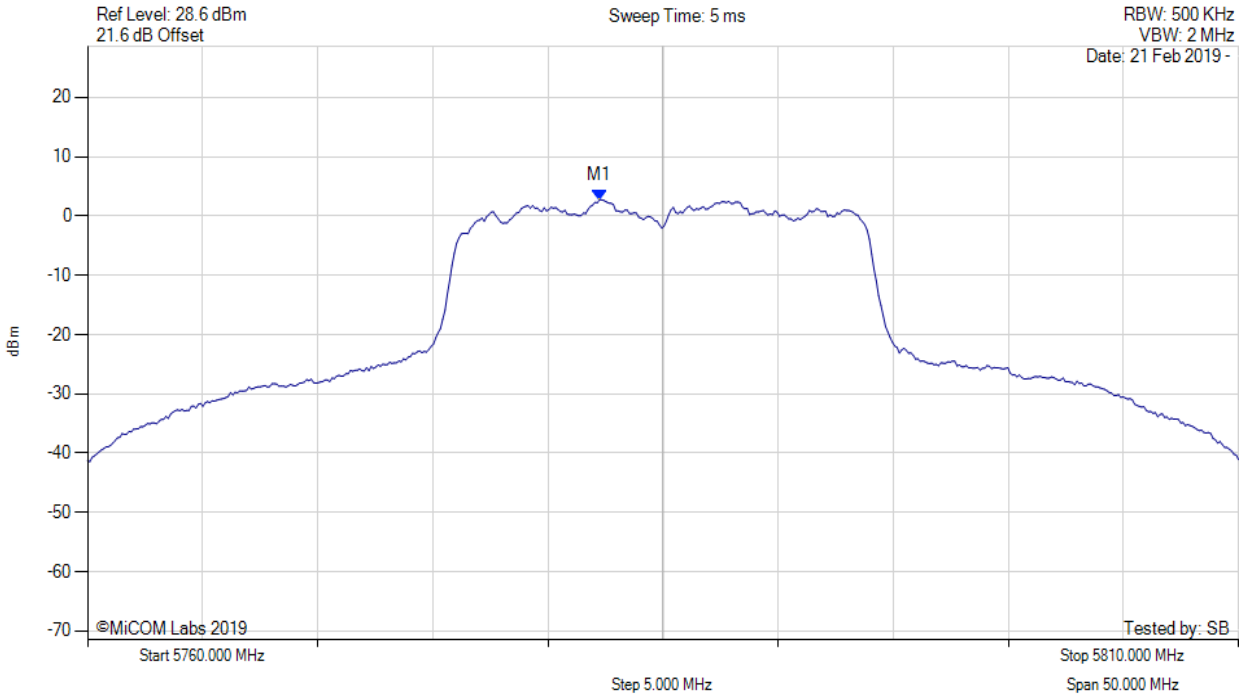


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5782.244 MHz : 0.783 dBm	Channel Frequency: 5785.00 MHz

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5785.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

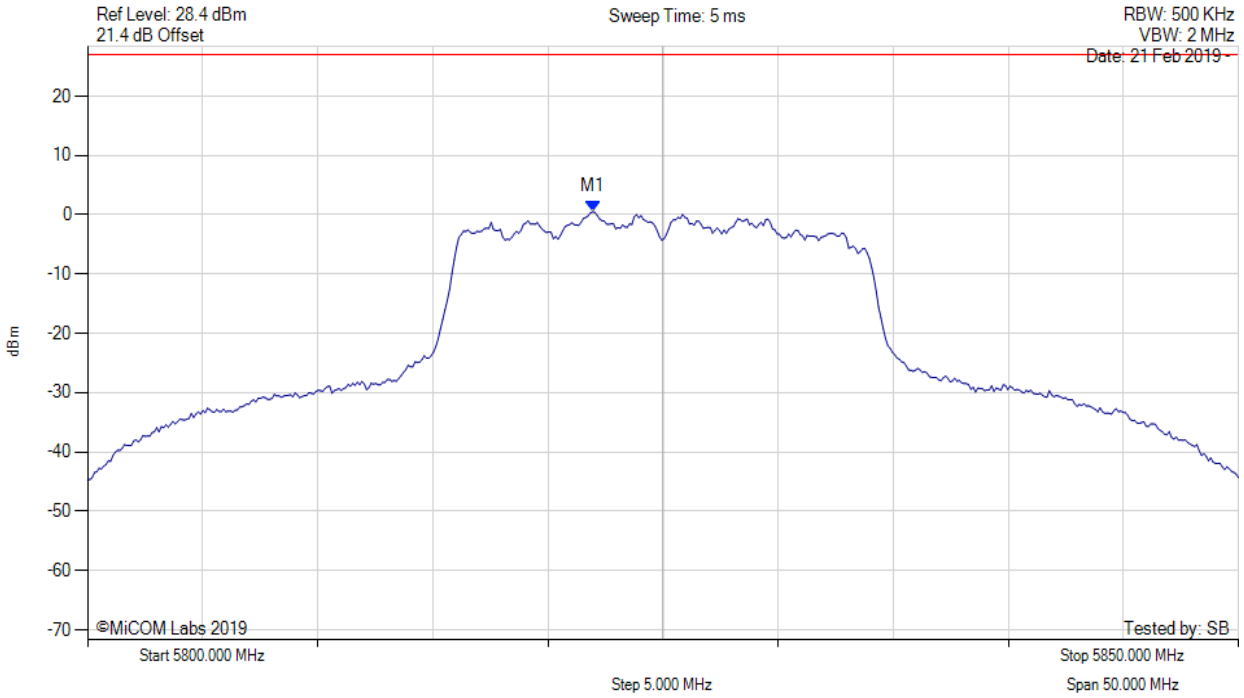


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5782.200 MHz : 2.716 dBm M1 + DCCF : 5782.200 MHz : 2.760 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 30.0 dBm Margin: -27.3 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

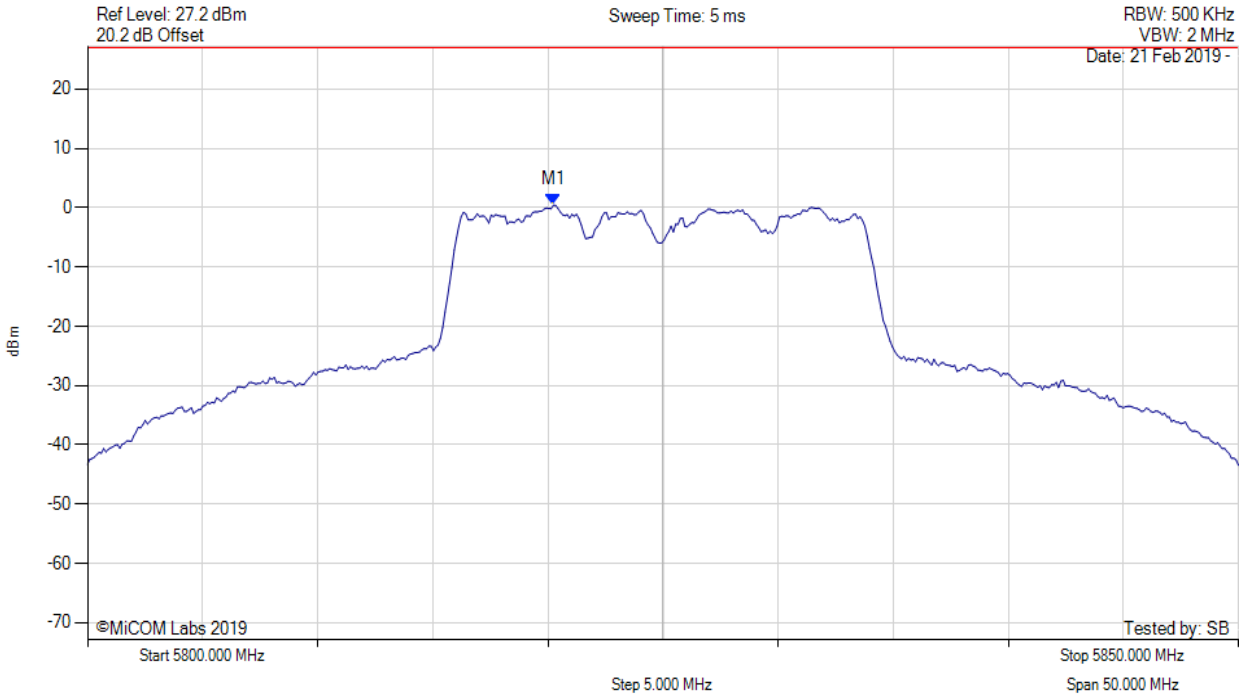


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5821.944 MHz : 0.531 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

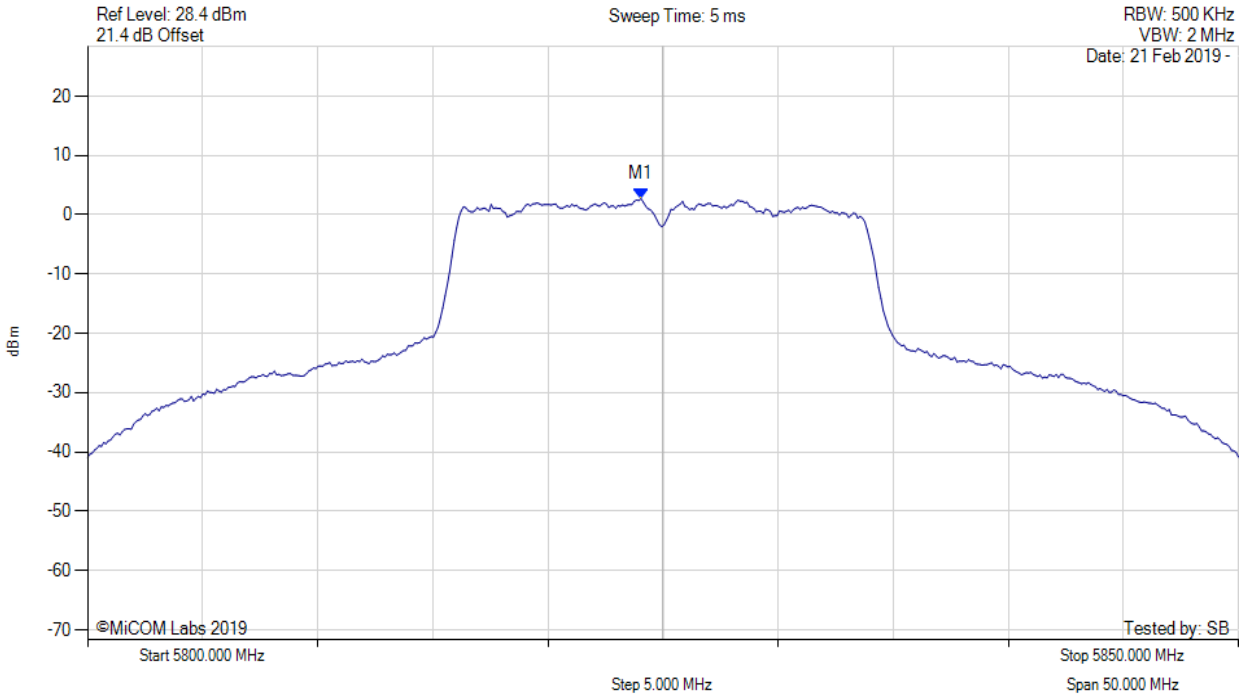


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5820.240 MHz : 0.431 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5825.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

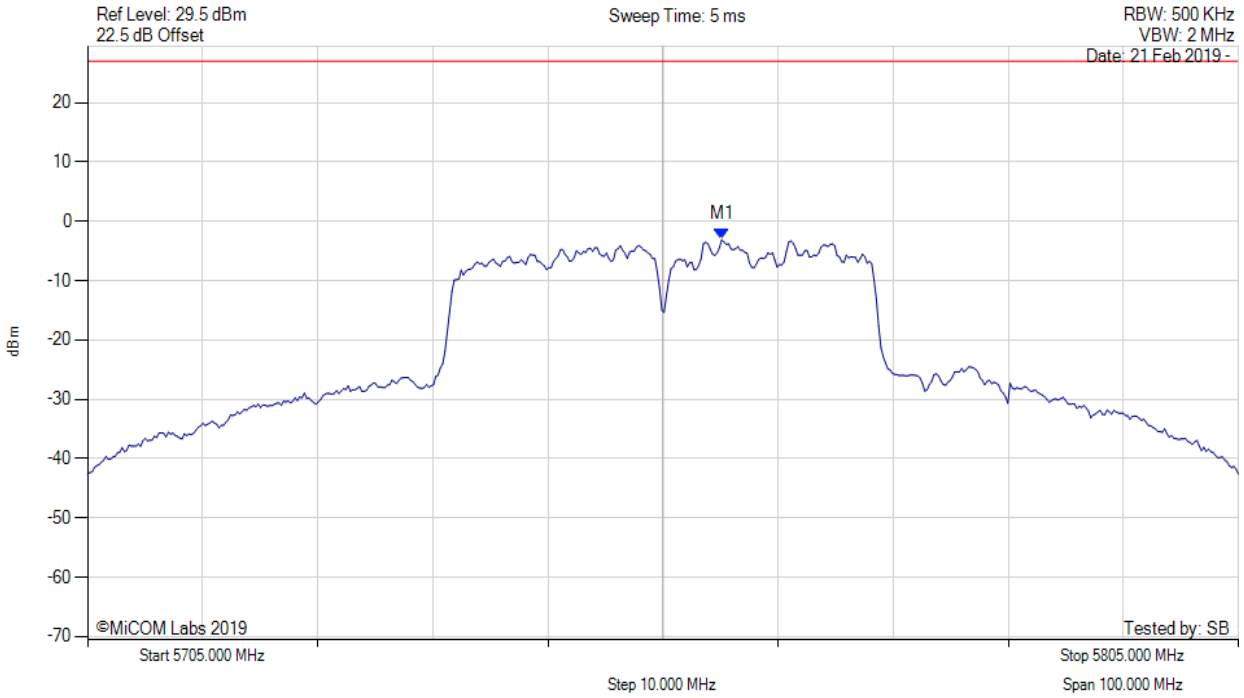


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5824.000 MHz : 2.702 dBm M1 + DCCF : 5824.000 MHz : 2.746 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 30.0 dBm Margin: -27.3 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

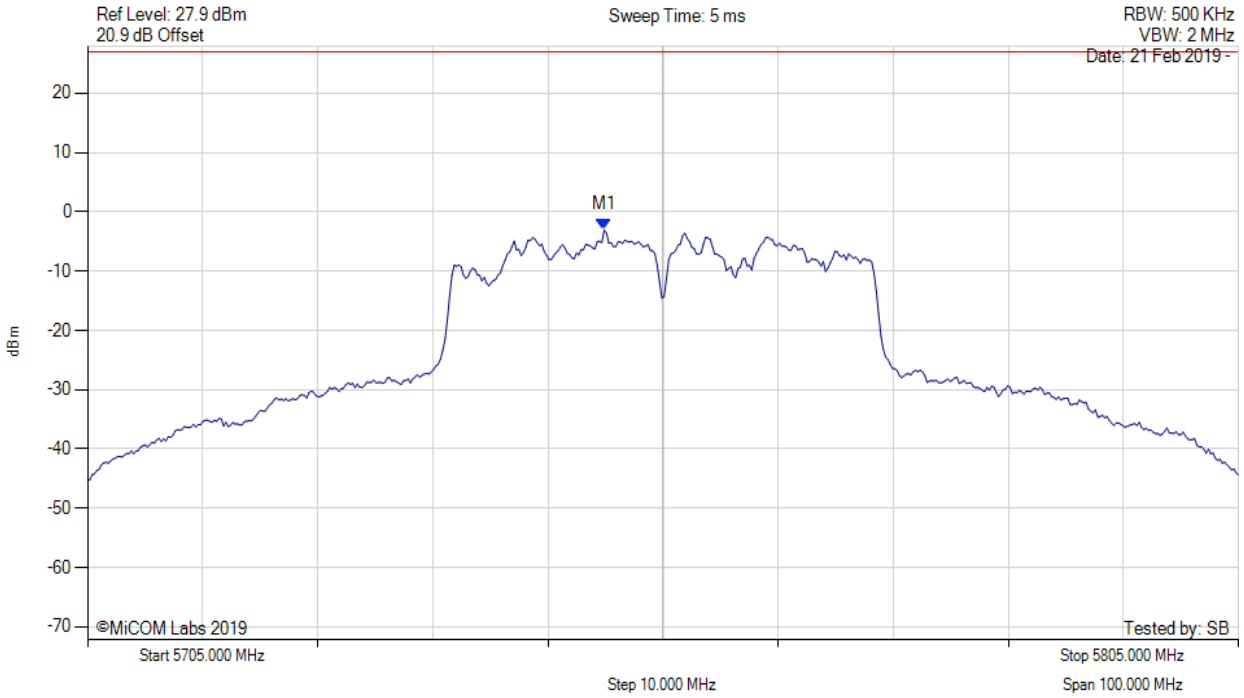


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5760.110 MHz : -3.113 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

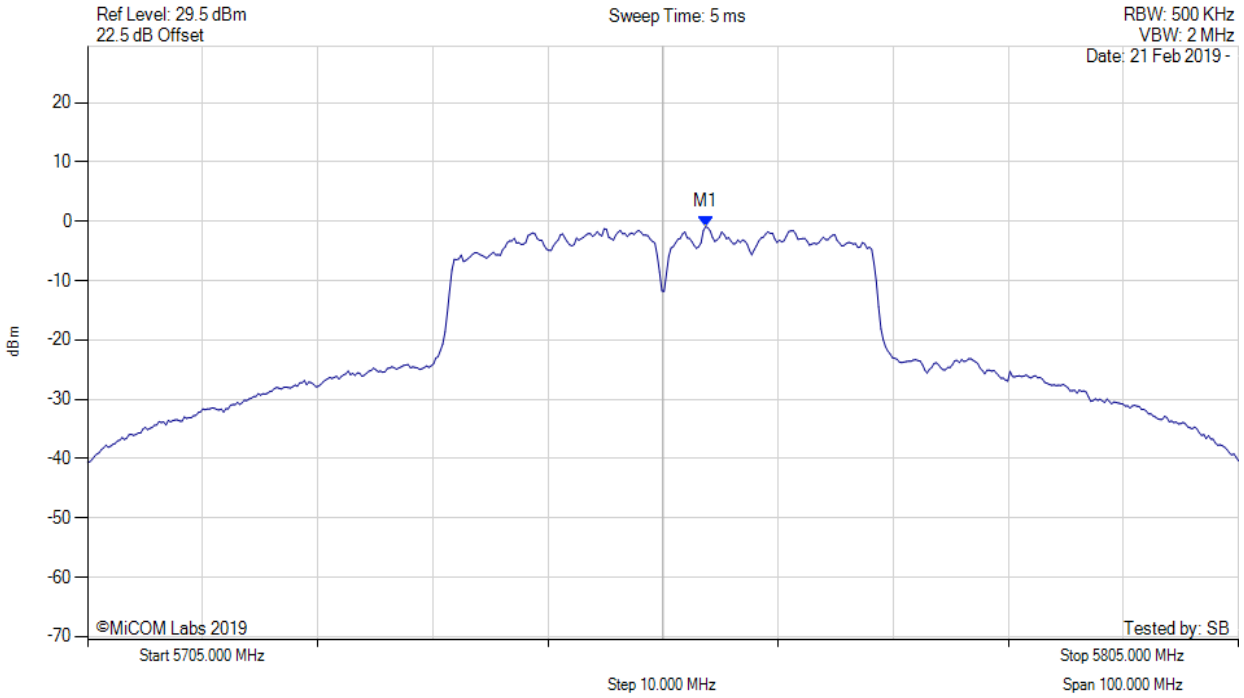


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5749.890 MHz : -3.077 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5755.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

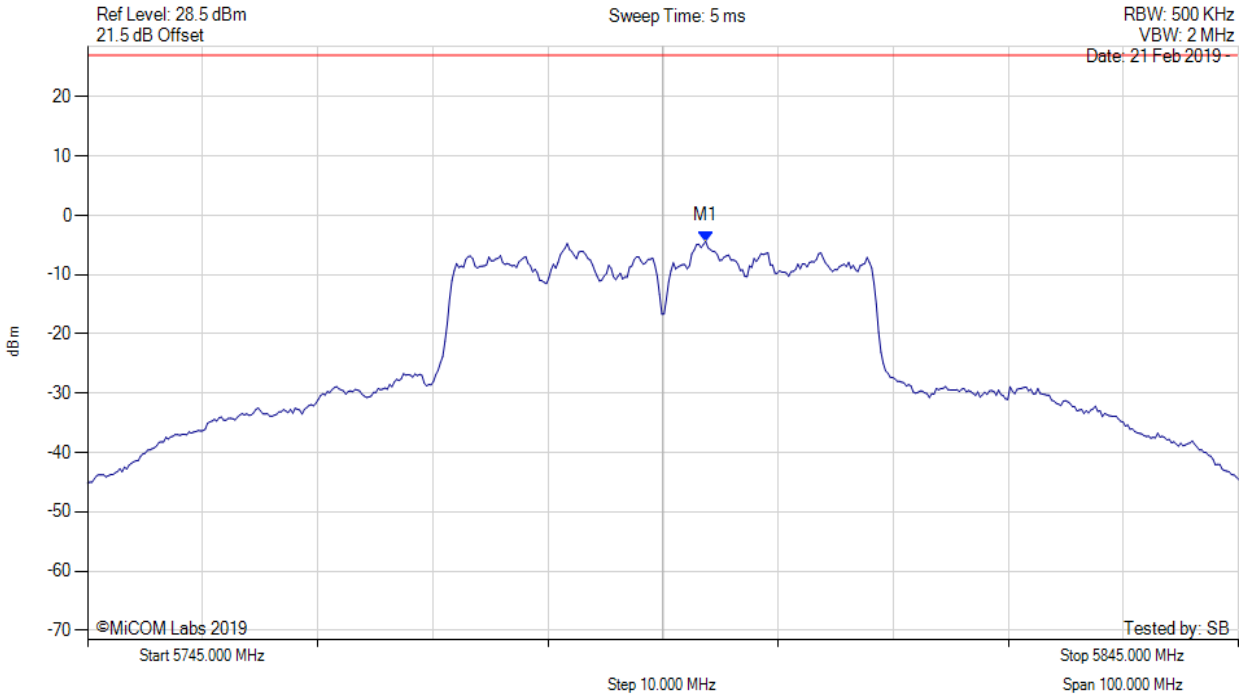


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5758.700 MHz : -0.884 dBm M1 + DCCF : 5758.700 MHz : -0.426 dBm Duty Cycle Correction Factor : +0.46 dB	Limit: ≤ 30.0 dBm Margin: -30.4 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

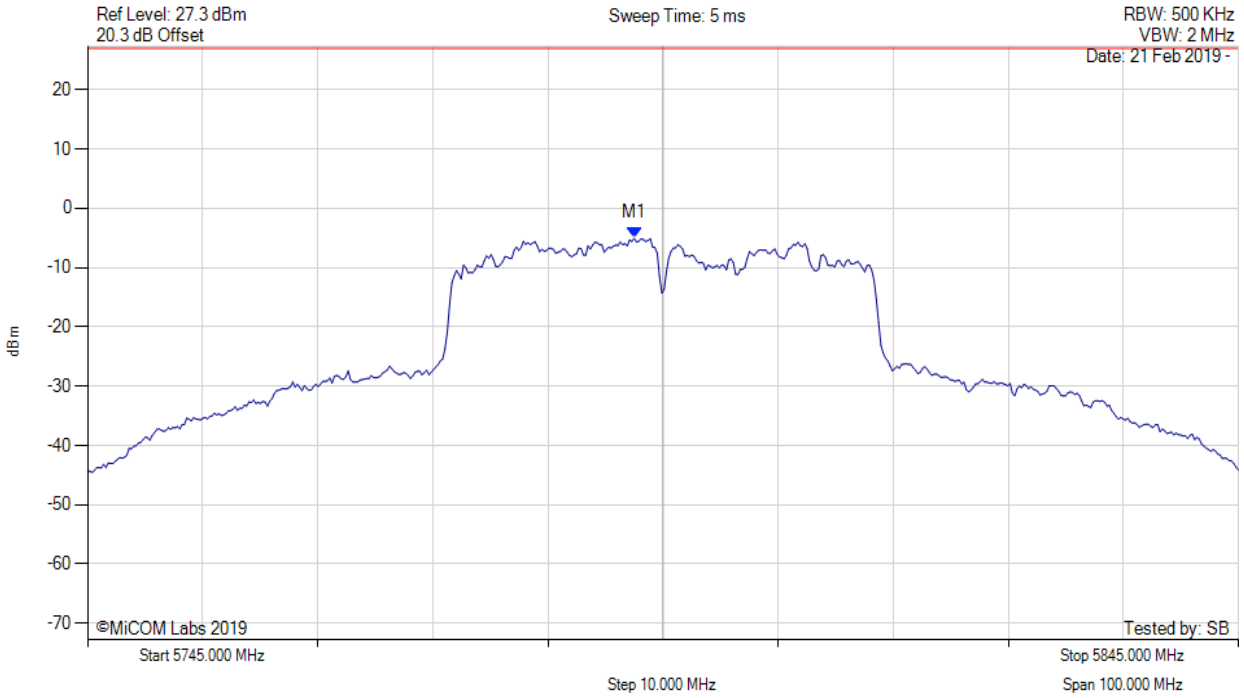


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5798.707 MHz : -4.353 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

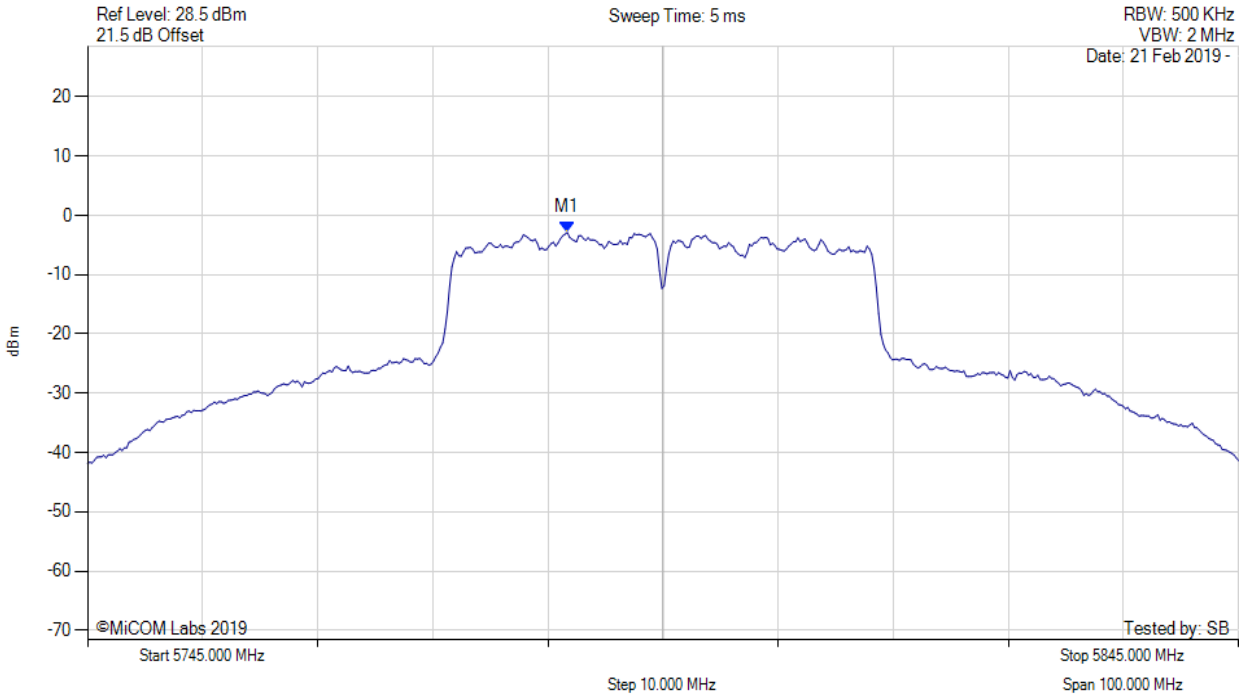


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5792.495 MHz : -5.061 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5795.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc



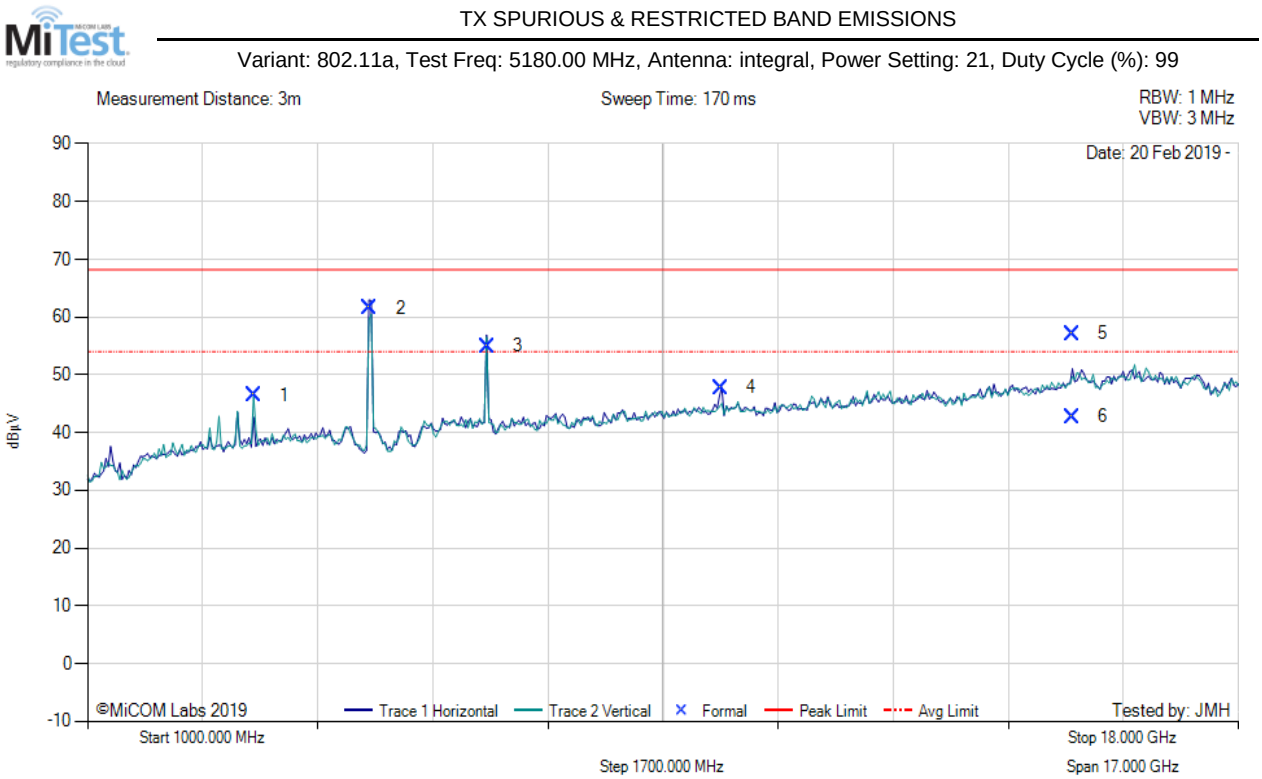
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5786.700 MHz : -2.876 dBm M1 + DCCF : 5786.700 MHz : -2.418 dBm Duty Cycle Correction Factor : +0.46 dB	Limit: ≤ 30.0 dBm Margin: -32.4 dB

back to matrix

A.4. Radiated

A.4.1. TX Spurious & Restricted Band Emissions

A.4.1.1. integral



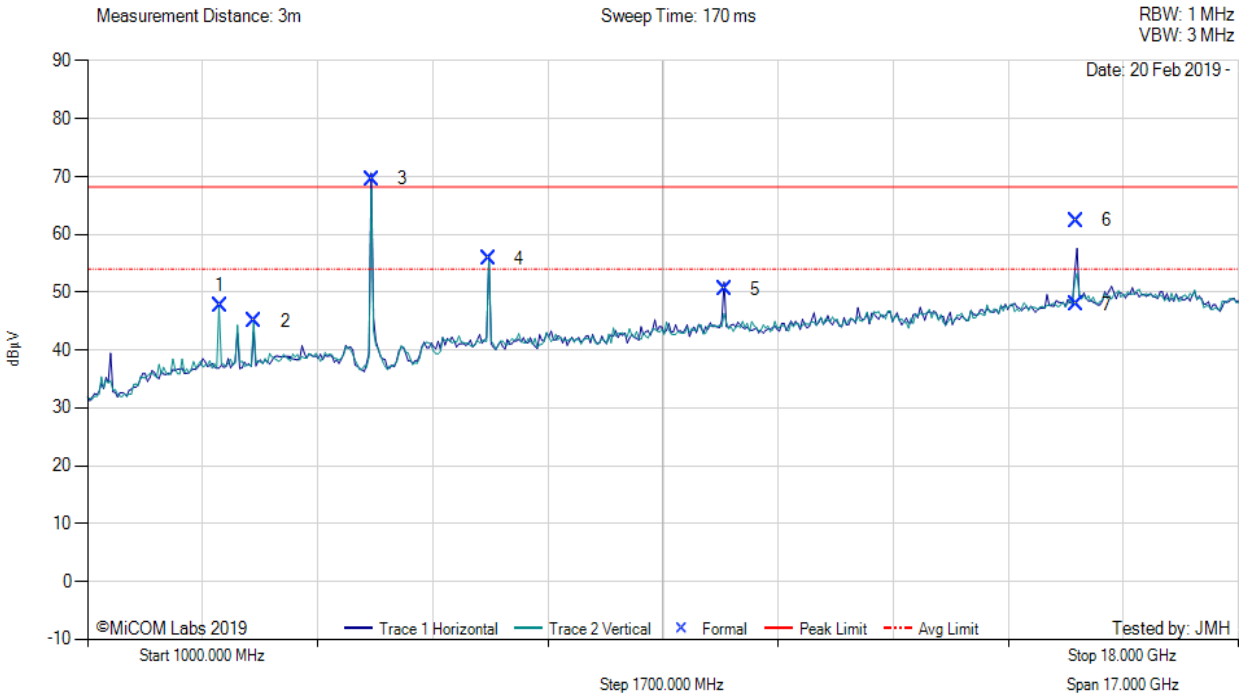
1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	3453.28	60.33	-2.10	-11.80	46.43	Peak (NRB)	Vertical	100	0	--	--	Pass
2	5174.55	75.99	-2.62	-11.88	61.49	Fundamental	Horizontal	100	0	--	--	
3	6906.64	65.99	-3.02	-8.05	54.92	Peak (NRB)	Horizontal	100	0	--	--	Pass
4	10355.68	57.20	-3.83	-5.56	47.81	Peak (NRB)	Horizontal	100	0	--	--	Pass
5	15539.17	63.96	-4.76	-2.12	57.08	Max Peak	Horizontal	121	0	68.2	-11.2	Pass
6	15539.17	49.63	-4.76	-2.12	42.75	Max Avg	Horizontal	121	0	54.0	-11.3	Pass

Test Notes: EUT powered by POE, connected to laptop outside chamber.

back to matrix

TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5200.00 MHz, Antenna: integral, Power Setting: 23, Duty Cycle (%): 99



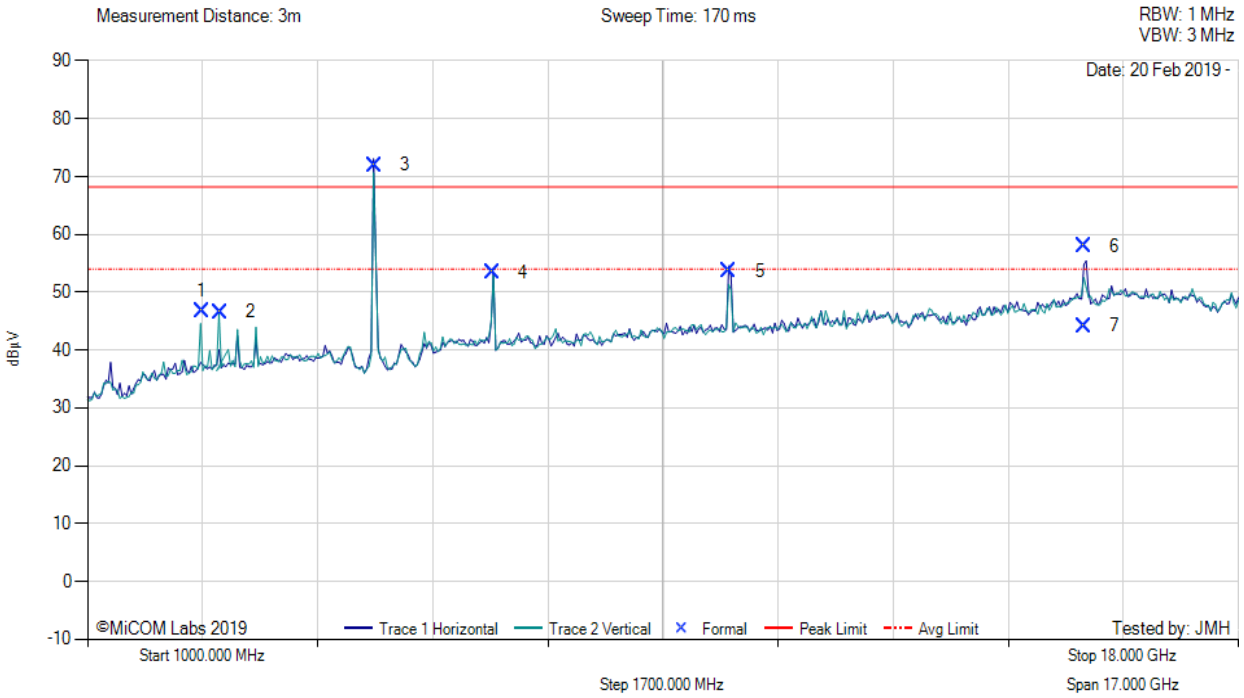
1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	2956.61	61.22	-1.95	-11.59	47.68	Peak (NRB)	Vertical	100	360	--	--	Pass
2	3466.67	59.08	-2.13	-11.99	44.96	Peak (NRB)	Vertical	100	360	--	--	Pass
3	5204.32	84.14	-2.64	-11.96	69.54	Fundamental	Horizontal	100	0	--	--	
4	6933.31	66.69	-3.00	-7.96	55.73	Peak (NRB)	Vertical	100	26	--	--	Pass
5	10407.38	60.34	-3.90	-5.85	50.59	Peak (NRB)	Horizontal	100	26	--	--	Pass
6	15606.46	68.79	-4.73	-1.71	62.35	Max Peak	Horizontal	122	36	68.2	-5.9	Pass
7	15606.46	54.32	-4.73	-1.71	47.88	Max Avg	Horizontal	122	36	54.0	-6.1	Pass

Test Notes: EUT powered by POE, connected to laptop outside chamber.

back to matrix

TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5240.00 MHz, Antenna: integral, Power Setting: 25, Duty Cycle (%): 99



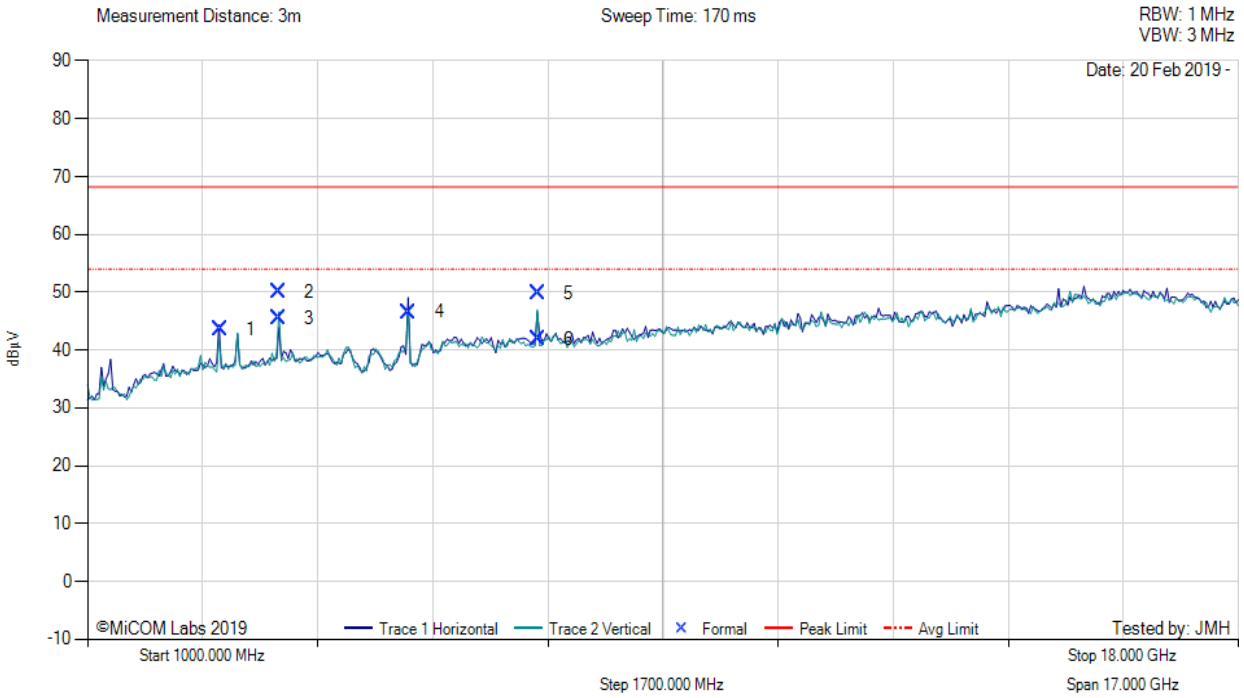
1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	2688.15	60.51	-1.86	-11.90	46.75	Peak (NRB)	Vertical	100	360	--	--	Pass
2	2956.78	60.13	-1.95	-11.59	46.59	Peak (NRB)	Vertical	100	0	--	--	Pass
3	5234.31	86.87	-2.62	-12.32	71.93	Fundamental	Horizontal	100	0	--	--	
4	6986.57	64.14	-3.06	-7.74	53.34	Peak (NRB)	Horizontal	100	264	--	--	Pass
5	10479.21	63.71	-3.82	-6.25	53.64	Peak (NRB)	Horizontal	100	11	--	--	Pass
6	15720.73	64.77	-4.82	-1.94	58.01	Max Peak	Horizontal	98	6	68.2	-10.2	Pass
7	15720.73	50.95	-4.82	-1.94	44.19	Max Avg	Horizontal	98	6	54.0	-9.8	Pass

Test Notes: EUT powered by POE, connected to laptop outside chamber.

back to matrix

TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: integral, Power Setting: 25, Duty Cycle (%): 99



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	2956.81	57.09	-1.95	-11.59	43.55	Peak (NRB)	Horizontal	100	6	--	--	Pass
2	3830.04	64.07	-2.20	-11.77	50.10	Max Peak	Horizontal	180	29	68.2	-18.1	Pass
3	3830.04	59.39	-2.20	-11.77	45.42	Max Avg	Horizontal	180	29	54.0	-8.6	Pass
4	5748.09	60.27	-2.76	-10.98	46.53	Fundamental	Horizontal	100	60	--	--	
5	7659.98	59.97	-2.94	-7.18	49.85	Max Peak	Vertical	140	49	68.2	-18.4	Pass
6	7659.98	52.08	-2.94	-7.18	41.96	Max Avg	Vertical	140	49	54.0	-12.0	Pass

Test Notes: EUT powered by POE, connected to laptop outside chamber.

back to matrix

TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5785.00 MHz, Antenna: integral, Power Setting: 25, Duty Cycle (%): 99

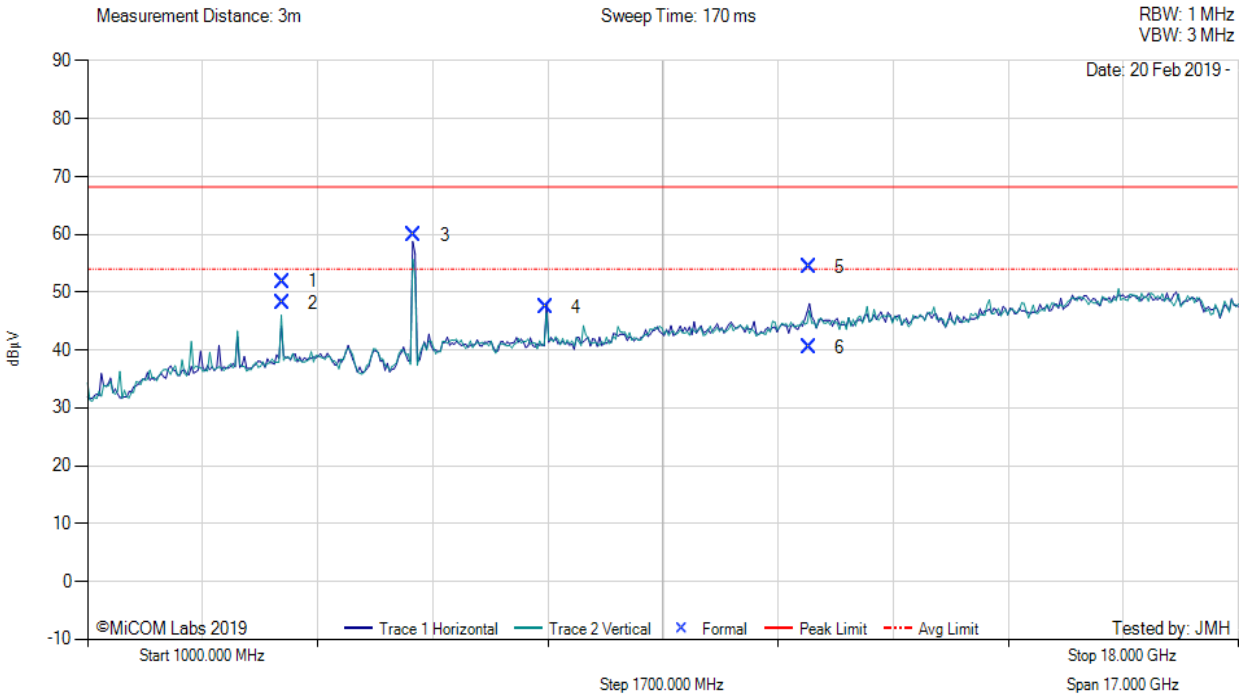
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	3856.64	65.43	-2.21	-11.61	51.61	Max Peak	Vertical	196	14	68.2	-16.6	Pass
2	3856.64	61.49	-2.21	-11.61	47.67	Max Avg	Vertical	196	14	54.0	-6.3	Pass
3	5788.44	70.34	-2.75	-10.78	56.81	Fundamental	Horizontal	100	0	--	--	
4	7713.35	66.39	-2.92	-7.24	56.23	Max Peak	Horizontal	182	332	68.2	-12.0	Pass
5	7713.35	61.97	-2.92	-7.24	51.81	Max Avg	Horizontal	182	332	54.0	-2.2	Pass

Test Notes: EUT powered by POE, connected to laptop outside chamber.

back to matrix

TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5825.00 MHz, Antenna: integral, Power Setting: 25, Duty Cycle (%): 99



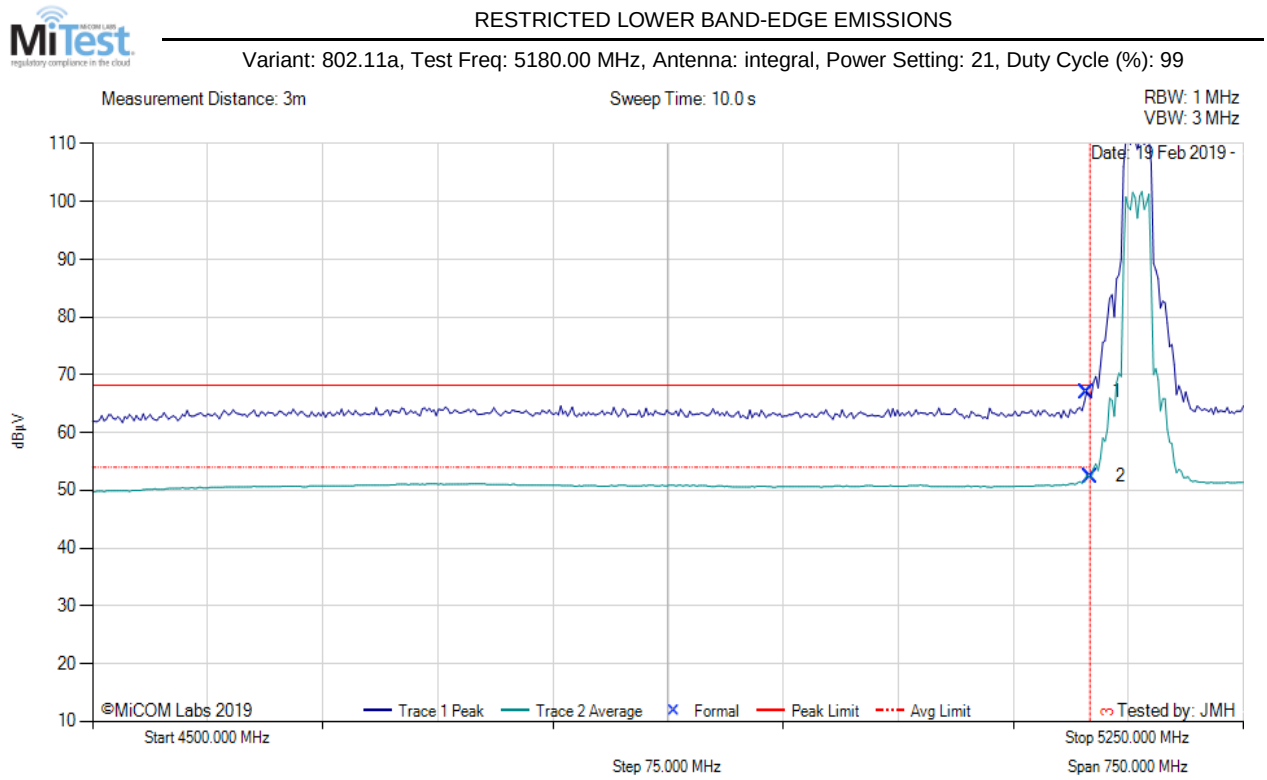
1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	3883.30	65.82	-2.24	-11.75	51.83	Max Peak	Vertical	197	1	68.2	-16.4	Pass
2	3883.30	62.15	-2.24	-11.75	48.16	Max Avg	Vertical	197	1	54.0	-5.8	Pass
3	5823.39	73.38	-2.80	-10.75	59.83	Fundamental	Horizontal	151	0	--	--	
4	7766.61	57.58	-3.00	-7.17	47.41	Peak (NRB)	Horizontal	151	0	--	--	Pass
5	11650.12	62.98	-4.21	-4.40	54.37	Max Peak	Horizontal	197	7	68.2	-13.9	Pass
6	11650.12	49.04	-4.21	-4.40	40.43	Max Avg	Horizontal	197	7	54.0	-13.6	Pass

Test Notes: EUT powered by POE, connected to laptop outside chamber.

back to matrix

A.4.2. Restricted Edge & Band-Edge Emissions

A.4.2.2. integral



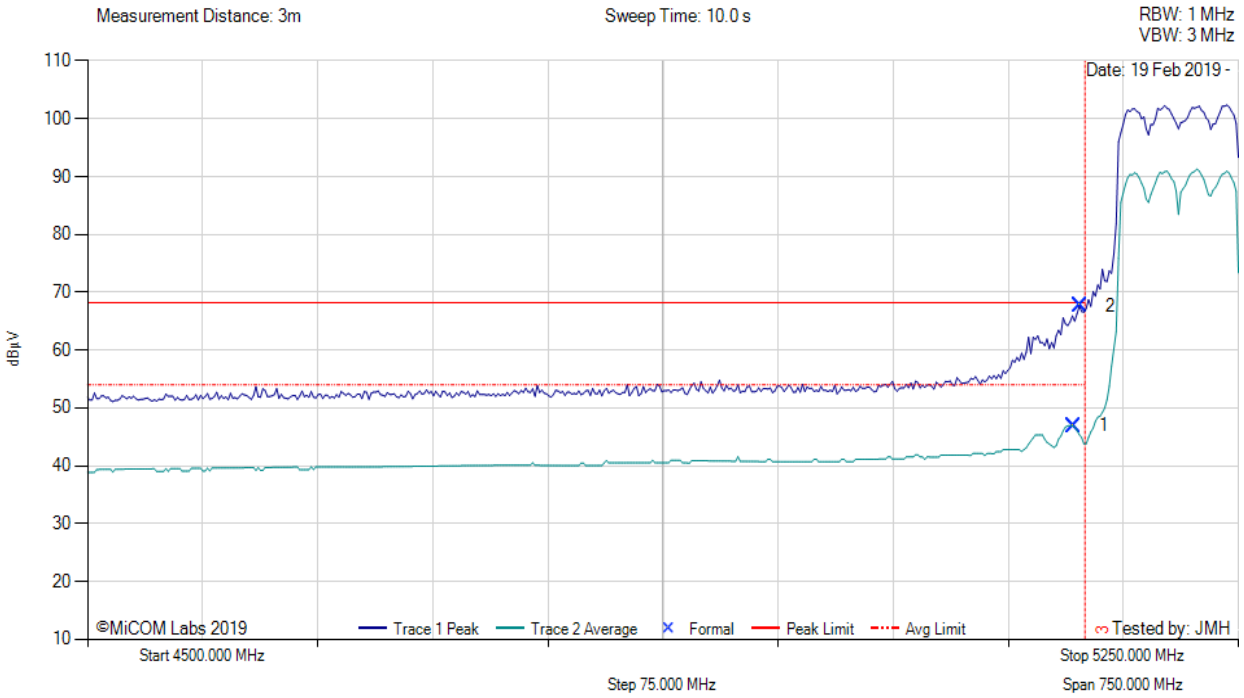
4500.00 - 5250.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5147.80	35.41	-2.61	34.21	67.01	Max Peak	Horizontal	191	9	68.2	-1.2	Pass
2	5150.00	20.83	-2.61	34.21	52.43	Max Avg	Horizontal	191	9	54.0	-1.6	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber

back to matrix

RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11ac-80, Test Freq: 5210.00 MHz, Antenna: integral, Power Setting: 17, Duty Cycle (%): 99



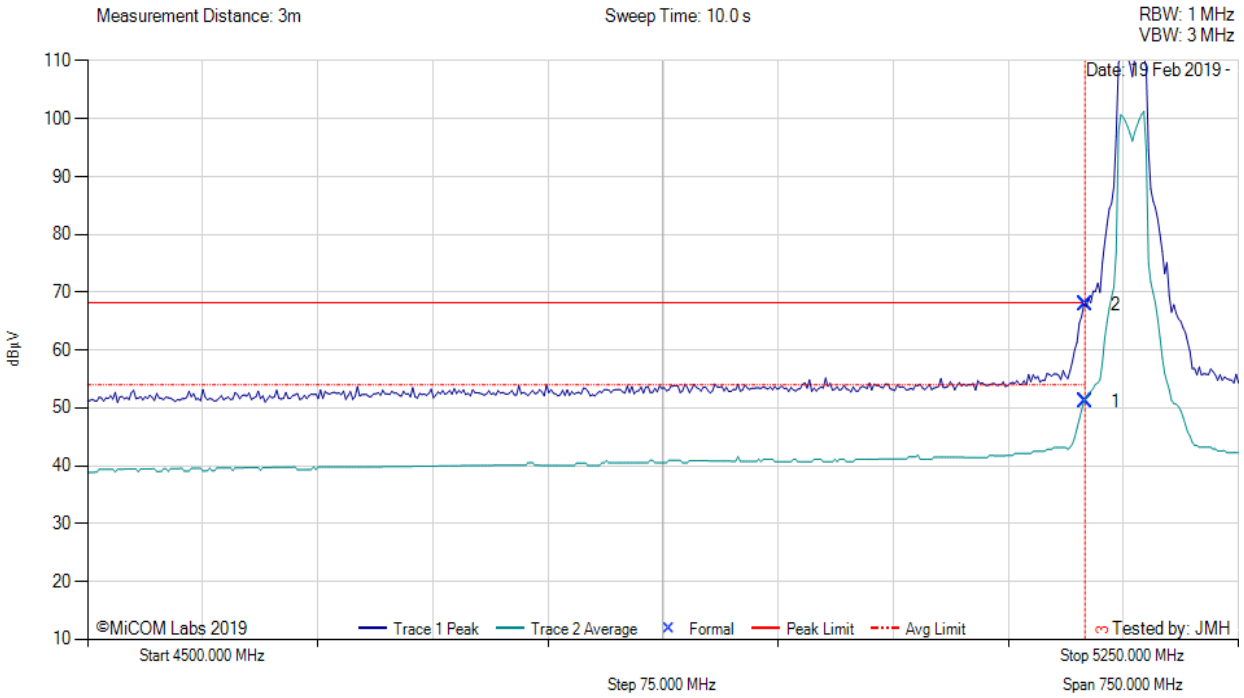
4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5142.48	15.35	-2.63	34.20	46.92	Max Avg	Horizontal	191	9	54.0	-7.1	Pass
2	5146.99	35.99	-2.61	34.21	67.59	Max Peak	Horizontal	191	9	68.2	-0.6	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber. Reduced power to meet band edge.

back to matrix

RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 5180.00 MHz, Antenna: integral, Power Setting: 21, Duty Cycle (%): 99



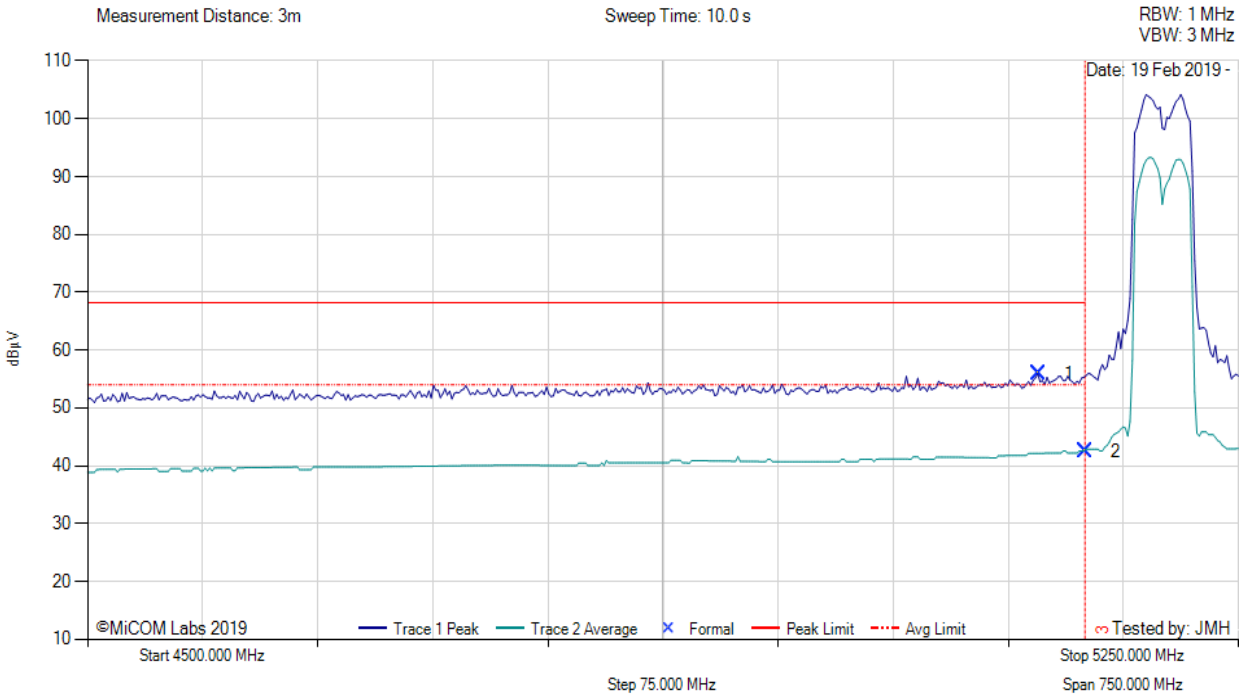
4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5150.00	19.57	-2.61	34.21	51.17	Max Avg	Horizontal	191	9	54.0	-2.8	Pass
2	5150.00	36.32	-2.61	34.21	67.92	Max Peak	Horizontal	191	9	68.2	-0.3	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber

back to matrix

RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 5190.00 MHz, Antenna: integral, Power Setting: 20, Duty Cycle (%): 99



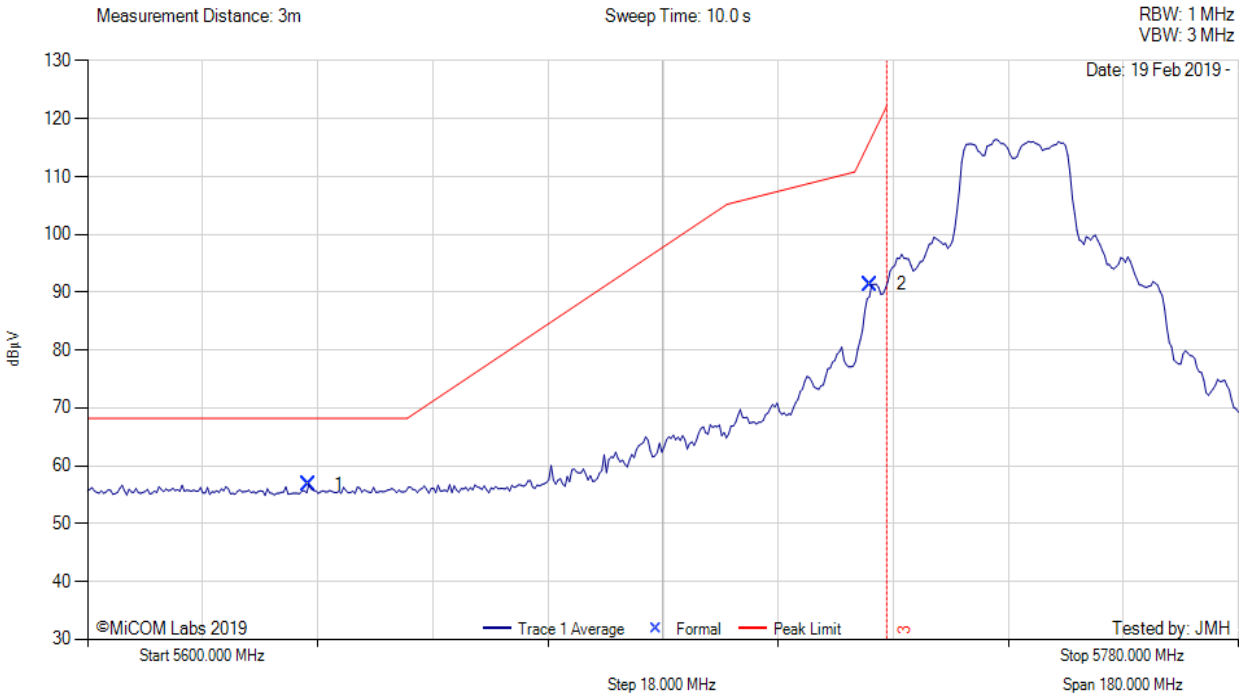
4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5119.94	24.32	-2.61	34.16	55.87	Max Peak	Horizontal	191	9	68.2	-12.4	Pass
2	5150.00	10.96	-2.61	34.21	42.56	Max Avg	Horizontal	191	9	54.0	-11.4	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber. Reduced power to meet band edge. Large increase in signal with any larger PS

back to matrix

5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: integral, Power Setting: 25, Duty Cycle (%): 99



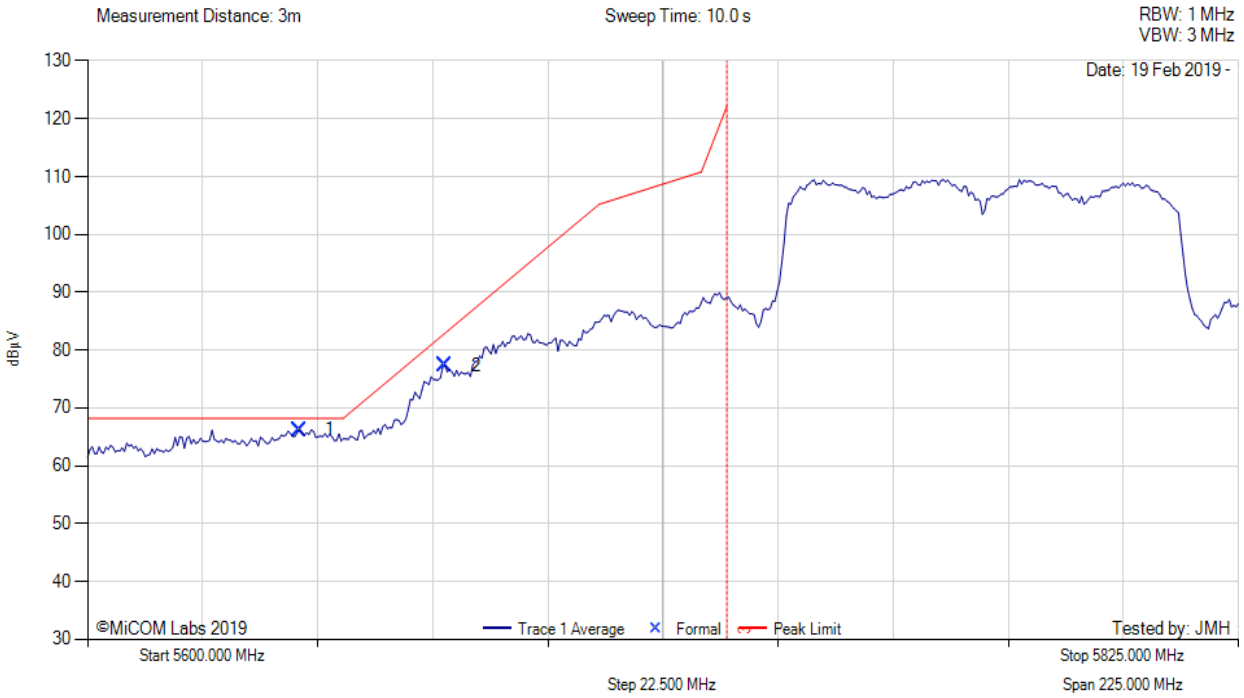
5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5634.56	24.85	-2.70	34.64	56.79	Max Avg	Horizontal	190	348	68.2	-11.4	Pass
2	5722.47	59.35	-2.75	34.72	91.32	Max Avg	Horizontal	190	348	115.4	-24.0	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber.

back to matrix

5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11ac-80, Test Freq: 5775.00 MHz, Antenna: integral, Power Setting: 23, Duty Cycle (%): 99



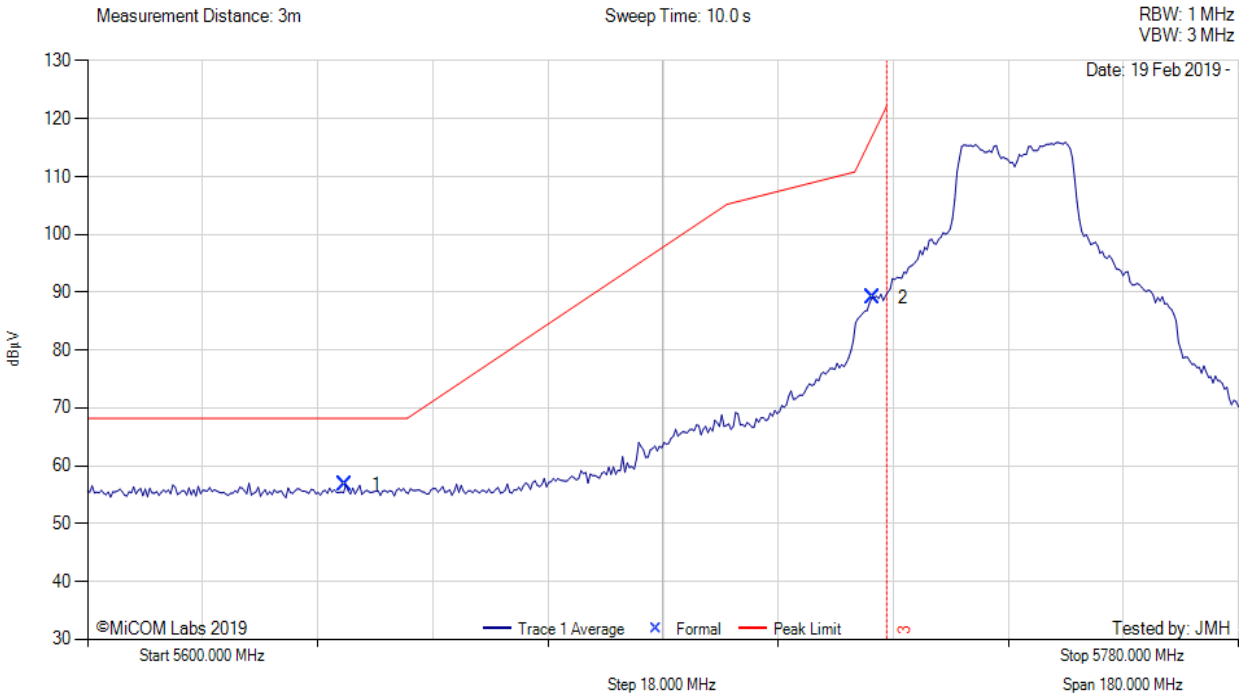
5600.00 - 5825.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5641.50	34.30	-2.72	34.64	66.22	Max Avg	Horizontal	190	348	68.2	-2.0	Pass
2	5669.94	45.43	-2.78	34.65	77.30	Max Avg	Horizontal	190	348	83.0	-5.7	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber.

back to matrix

5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 5745.00 MHz, Antenna: integral, Power Setting: 25, Duty Cycle (%): 99



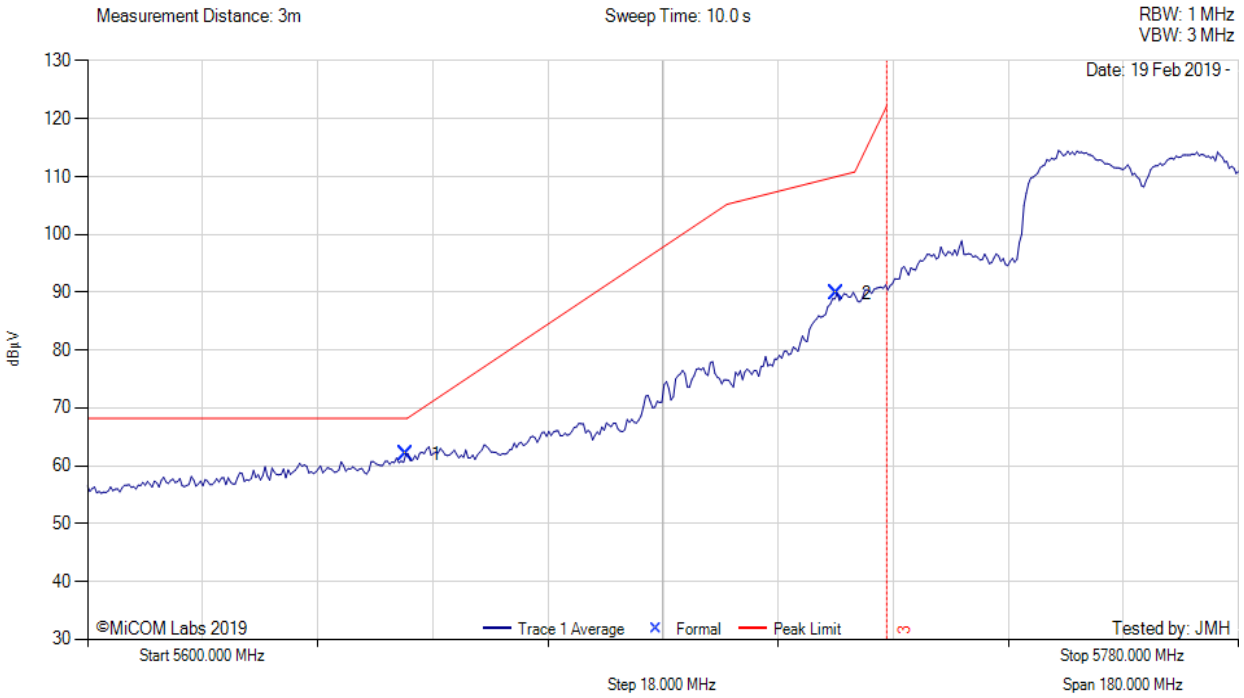
5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5640.33	24.82	-2.71	34.64	56.75	Max Avg	Horizontal	190	348	68.2	-11.5	Pass
2	5722.84	57.17	-2.75	34.72	89.14	Max Avg	Horizontal	190	348	117.6	-28.5	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber.

back to matrix

5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 5755.00 MHz, Antenna: integral, Power Setting: 22, Duty Cycle (%): 99



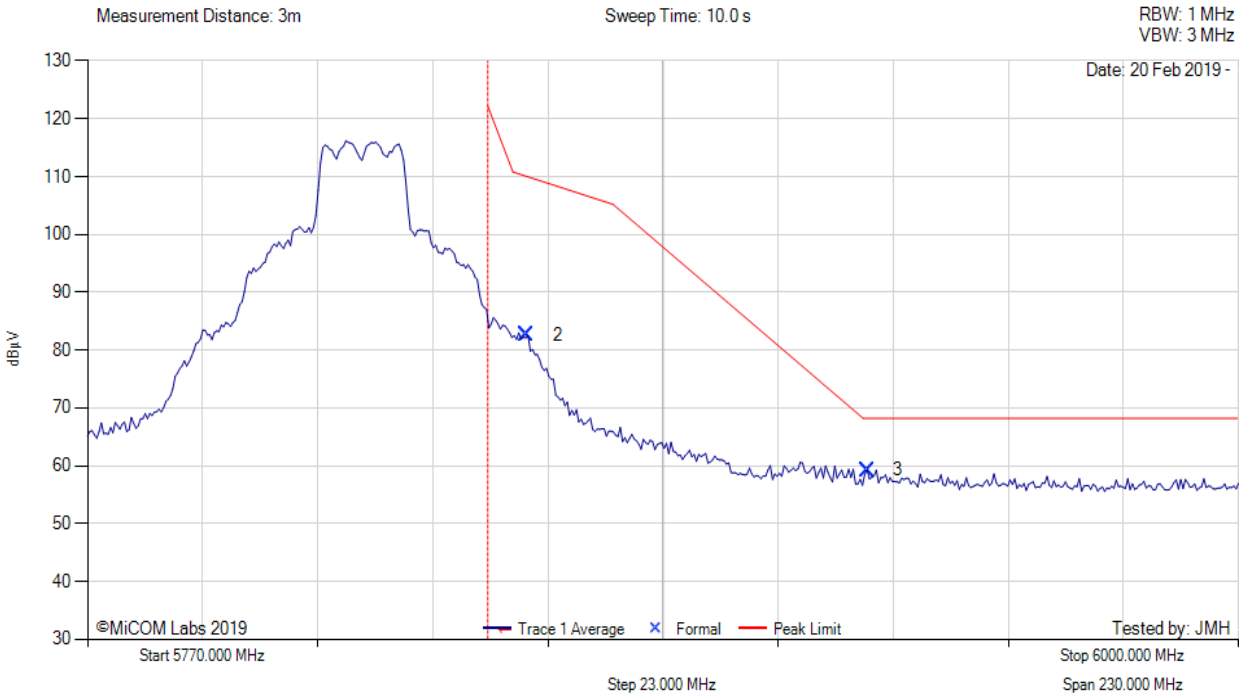
5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5649.71	30.10	-2.72	34.63	62.01	Max Avg	Horizontal	190	348	68.2	-6.2	Pass
2	5717.06	57.89	-2.77	34.71	89.83	Max Avg	Horizontal	190	348	110.0	-20.1	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber.

back to matrix

5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11a, Test Freq: 5825.00 MHz, Antenna: integral, Power Setting: 25, Duty Cycle (%): 99



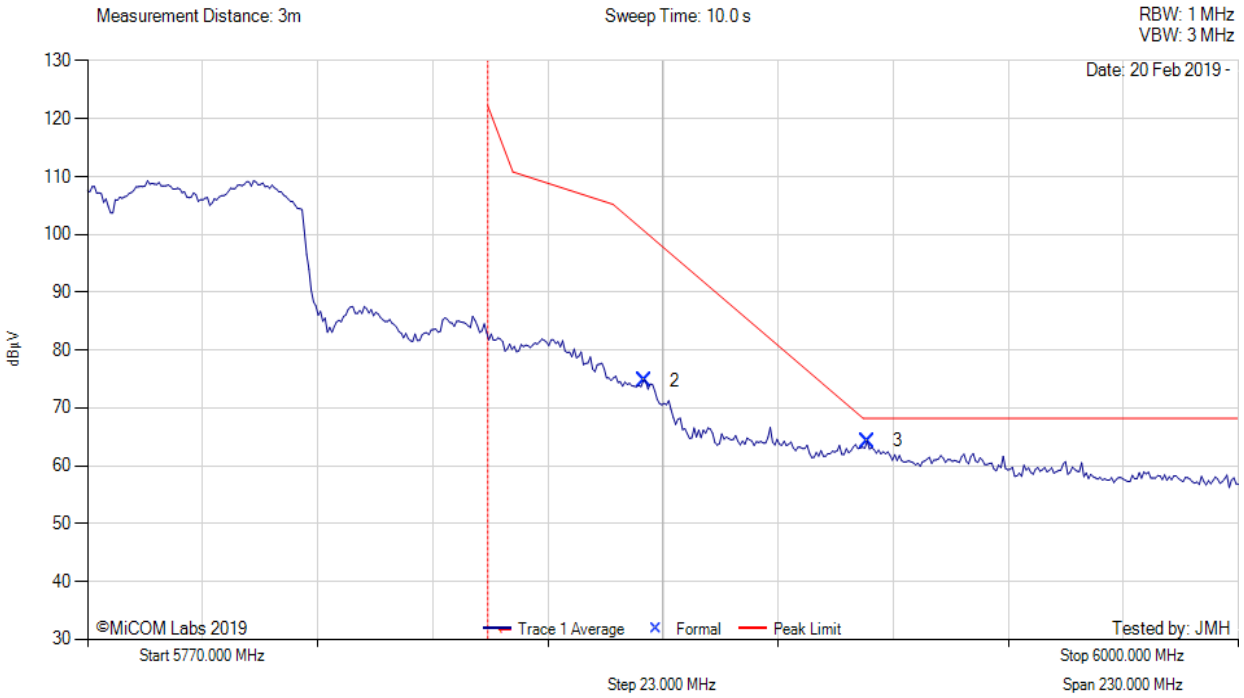
5770.00 - 6000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
2	5857.84	50.34	-2.77	34.98	82.55	Max Avg	Horizontal	189	348	68.2	-27.7	Pass
3	5925.91	26.95	-2.78	35.11	59.28	Max Avg	Horizontal	189	348	68.2	-8.9	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber.

back to matrix

5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11ac-80, Test Freq: 5775.00 MHz, Antenna: integral, Power Setting: 23, Duty Cycle (%): 99



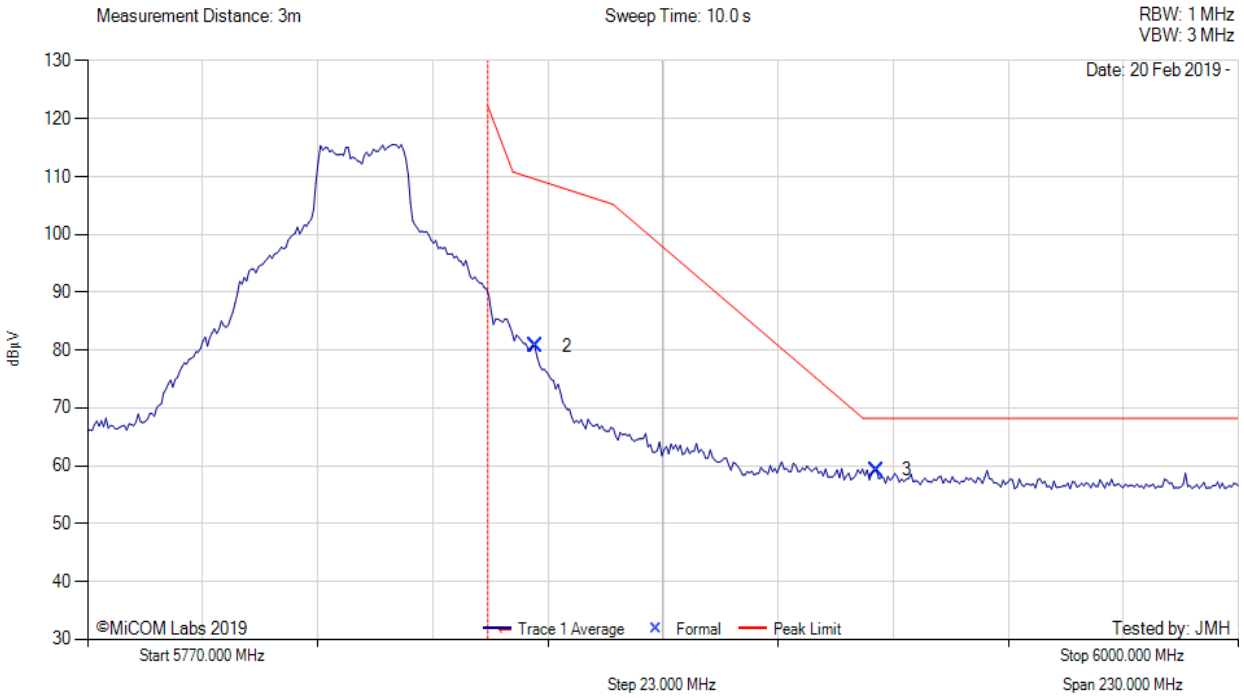
5770.00 - 6000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
2	5881.34	39.66	0.00	35.05	74.71	Max Avg	Horizontal	189	348	101.2	-26.5	Pass
3	5925.91	31.93	-2.78	35.11	64.26	Max Avg	Horizontal	189	348	68.2	-4.0	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber

back to matrix

5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 5825.00 MHz, Antenna: integral, Power Setting: 25, Duty Cycle (%): 99



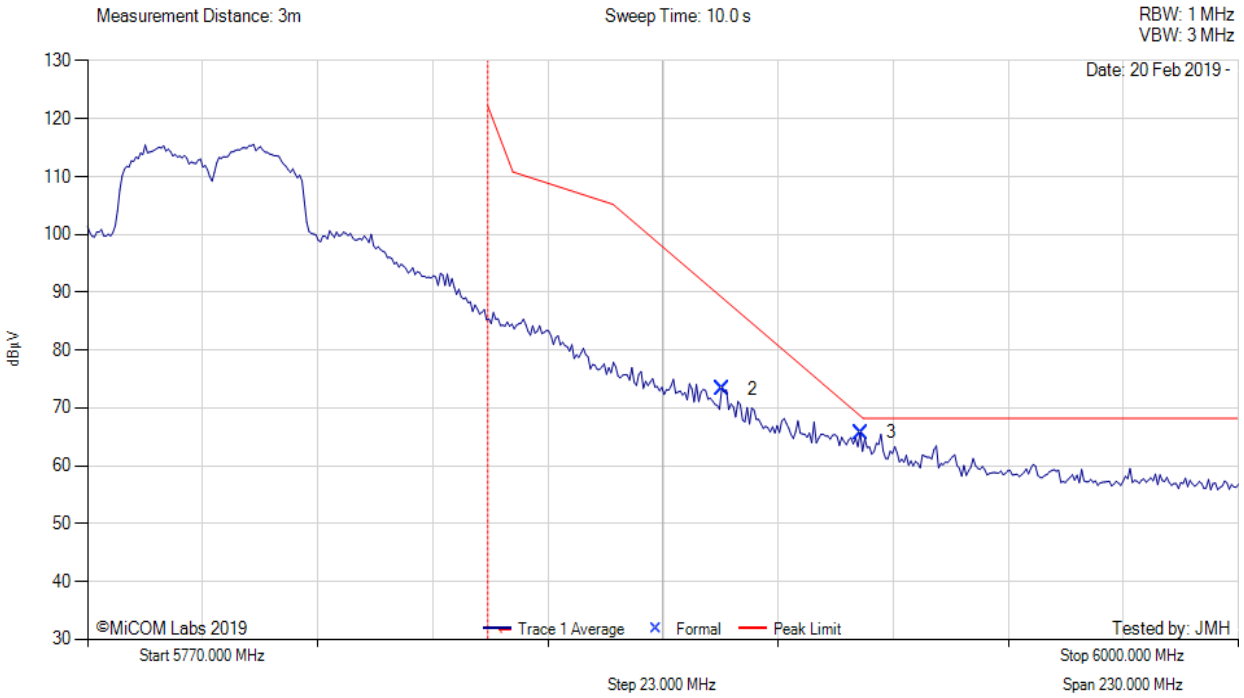
5770.00 - 6000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
2	5859.61	48.49	-2.77	34.99	80.71	Max Avg	Horizontal	189	348	110.5	-29.8	Pass
3	5927.76	26.96	-2.78	35.11	59.29	Max Avg	Horizontal	189	348	68.2	-8.9	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber

back to matrix

5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 5795.00 MHz, Antenna: integral, Power Setting: 23, Duty Cycle (%): 99



5770.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
2	5896.86	40.99	-2.79	35.09	73.29	Max Avg	Horizontal	189	348	89.9	-16.6	Pass
3	5924.53	33.43	-2.79	35.11	65.75	Max Avg	Horizontal	189	348	68.2	-2.5	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber

back to matrix

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