REGULATORY COMPLIANCE TEST REPORT

FCC CFR 47 Part 15 Subpart E 15.407

Report No.: DIGI107-U6 Rev A

Company: Digi International

Model Name: SIGMA PUMPS GEN V

REGULATORY COMPLIANCE TEST REPORT

Company: Digi International

Model Name: SIGMA PUMPS GEN V

To: FCC Part 15 Subpart E 15.407 & ISED RSS-247 Issue 2

Test Report Serial No.: DIGI107-U6 Rev A

This report supersedes: NONE

Applicant: Digi International
9350 Excelsior Blvd
Hopkins, Minnesota 55343
USA

Issue Date: 1st November 2023

This Test Report is Issued Under the Authority of:

MiCOM Labs, Inc.
575 Boulder Court
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A2LA ACCREDITED
TESTING CERT #2381.01

MiCOM Labs is an ISO 17025 Accredited Testing Laboratory

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1. ACCREDITATION, LISTINGS & RECOGNITION

1.1. TESTING ACCREDITATION

MiCOM Labs, Inc. is an accredited Electrical testing laboratory per the international standard ISO/IEC 17025:2017. 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

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 17025:2017 *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 January 2022.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2381.01
Valid to February 29, 2024
Revised October 26, 2023

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

1.2. RECOGNITION

MiCOM Labs, Inc is widely recognized for its wireless testing and certification capabilities. In addition to being recognized for Testing and Certification under Phase 2 Mutual Recognition Agreements (MRA) with Canada, Europe, United Kingdom and Japan, our international recognition includes Conformity Assessment Body (CAB) designation status under agreements with Asia Pacific (APEC) MRA Phase 1 countries giving acceptance of MiCOM Labs test reports. MiCOM Labs test reports are accepted globally.

Country	Recognition Body	Status	MRA Phase	Identification No.
USA	Federal Communications Commission (FCC)	TCB	-	US0159 Test Firm Designation#: US1084
Canada	Industry Canada (ISED)	FCB	APEC MRA 2	US0159 ISED#: 4143A
Japan	MIC (Ministry of Internal Affairs and Communication)	CAB	Japan MRA 2	RCB 210
	Japan Approvals Institute for Telecommunication Equipment (JATE)			
	VCCI	--	--	A-0012
Europe	European Commission	NB	EU MRA 2	NB 2280
United Kingdom	Department for Business, Energy & Industrial Strategy (BEIS)	AB	UK MRA 2	AB 2280
Mexico	Instituto Federal de Telecomunicaciones (IFT)	CAB	Mexico MRA 1	US0159
Australia	Australian Communications and Media Authority (ACMA)	CAB	APEC MRA 1	US0159
Hong Kong	Office of the Telecommunication Authority (OFTA)			
Korea	Ministry of Information and Communication Radio Research Laboratory (RRL)			
Singapore	Infocomm Development Authority (IDA)			
Taiwan	National Communications Commission (NCC) Bureau of Standards, Metrology and Inspection (BSMI)			
Vietnam	Ministry of Communication (MIC)			

TCB – Telecommunications Certification Bodies (TCB)
FCB – Foreign Certification Body
CAB – Conformity Assessment Body
NB – Notified Body
AB – Approved Body
MRA – Mutual Recognition Agreement
MRA PhasePhase 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 January 2022

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2381.02
Valid to February 29, 2024
Revised October 26, 2023

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
UK – Approved Body (AB), AB Identifier - 2280
Japan – Recognized Certification Body (RCB), RCB Identifier - 210

2. DOCUMENT HISTORY

Document History		
Revision	Date	Comments
Draft	13th March 2023	Initial Draft for Client Comments
Rev A	1st November 2023	Initial release.

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

3. TEST RESULT CERTIFICATE

Manufacturer:	Digi International 9350 Excelsior Blvd Hopkins Minnesota 55343 USA	**Tested By:**	MiCOM Labs, Inc. 575 Boulder Court Pleasanton California 94566 USA
Model:	SIGMA PUMPS GEN V	**Telephone:**	+1 925 462 0304
Equipment Type:	Custom 802.11agbnac Wi-Fi module (Client Device)	**Fax:**	+1 925 462 0306
S/N's:	001		
Test Date(s):	1st – 8th March 2023	**Website:**	www.micomlabs.com

STANDARD(S)	TEST RESULTS
FCC CFR 47 Part 15 Subpart E 15.407 **ISED RSS-247 Issue 2**	**EQUIPMENT COMPLIES**

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

Notes:

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

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

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

A2LA ACCREDITED
TESTING CERT #2381.01

Approved & Released for MiCOM Labs, Inc. by:

Graeme Grieve
Quality Manager MiCOM Labs, Inc.

Gordon Hurst
President & CEO MiCOM Labs, Inc.

4. REFERENCES AND MEASUREMENT UNCERTAINTY

4.1. Normative References

REF.	PUBLICATION	YEAR	TITLE
I	KDB 662911 D01, D02, D03	D01 Oct 2013, D02 Oct 2011, D03 Oct 2020	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. 662911 D01 Multiple Transmitter Output v02r01, 662911 D02 MIMO with Cross Polarized Antenna v01, 662911 D03 MIMO Antenna Gain Measurement v01, OET 13TR1003 Directional Gain of 802 11 MIMO with CDD 04 05 2013
II	KDB 905462 D07 v02	Aug 2016	Test guidance to demonstrate compliance for U-NII devices subject to DFS requirements.
III	KDB 926956 D01 v02	Aug 2016	U-NII Device Transition Plan
IV	A2LA	22nd June 2022	R105 - Requirement's When Making Reference to A2LA Accreditation Status
V	ANSI C63.10	2020	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	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
VIII	FCC 06-96	Jun 2006	Memorandum Opinion and Order
IX	FCC 47 CFR Part 15.407	2021	Radio Frequency Devices; Subpart E –Unlicensed National Information Infrastructure Devices
X	ICES-003	Issue 7; Oct 2020	Information Technology Equipment (Including Digital Apparatus)
XI	M 3003	Edition 5 Sept 2022	Expression of Uncertainty and Confidence in Measurements
XII	RSS-247 Issue 2	Feb 2017	Digital Transmission Systems (DTSs), Frequency Hopping System (FHSs) and Licence-Exempt Local Area Network (LE-LEN) Devices
XIII	RSS-Gen Issue 5	Amendment 1,2 (Feb 2021)	General Requirements for Compliance of Radio Apparatus. With Amendments 1: March 2019 and 2: Feb 2021.
XIV	FCC 47 CFR Part 2.1033	May 2021	FCC requirements and rules regarding photographs and test setup diagrams.
XV	KDB 905462 D02 v02	Apr 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.
XVI	KDB 789033 D02 V02r01	Dec 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.

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

5. PRODUCT DETAILS AND TEST CONFIGURATIONS

5.1. Technical Details

Details	Description
Purpose:	Test of the Digi International SIGMA PUMPS GEN V to FCC CFR 47 Part 15 Subpart E 15.407 and ISED RSS-247 Issue 2.
Applicant:	Digi International 9350 Excelsior Blvd Hopkins Minnesota 55343 USA
Manufacturer:	Same as Applicant
Laboratory performing the tests:	MiCOM Labs, Inc. 575 Boulder Court Pleasanton California 94566 USA
Test report reference number:	DIGI107-U6
Date EUT received:	15th February 2023
Standard(s) applied:	FCC CFR 47 Part 15 Subpart E 15.407 ISED RSS-247 Issue 2
Dates of test (from - to):	1st – 8th March 2023
No of Units Tested:	1
Product Family Name:	Connect Wi-EM 9210 abgn
Device Type:	Client device with no radar detection capability
Product Description:	Custom 802.11agbnac Wifi module and battery charger
Model Number:	50002100-01
Location for use:	Indoors
Declared Frequency Range(s):	5150 - 5250; 5250 - 5350; 5470 - 5725; 5725 - 5850 MHz;
Type of Modulation:	OFDM
EUT Modes of Operation:	a; ac-80; HT-20; HT-40;
Declared Nominal Output Power (dBm):	5150 - 5250 MHz: a: 13; ac-80: 4; HT-20: 13; HT-40: 12; 5250 - 5350 MHz: a: 13; ac-80: 4; HT-20: 13; HT-40: 12; 5470 - 5725 MHz: a: 10; ac-80: 12; HT-20: 10; HT-40: 12; 5725 - 5850 MHz: a: 10; ac-80: 12; HT-20: 10; HT-40: 12
Transmit/Receive Operation:	Transceiver
Rated Input Voltage and Current:	7 Vdc, 3A
Operating Temperature Range:	0°C to + 40°C
ITU Emission Designator:	802.11a: 16M5D1D 802.11 HT-20: 17M5D1D 802.11 HT-40: 36M2D1D 802.11 ac-80: 75M0D1D
Equipment Dimensions:	5.12L x 2.07W x 0.655H inches
Weight:	0.1 lb

5.2. Scope Of Test Program

Digi International SIGMA PUMPS GEN V

The scope of the test program was to test the Digi International 50002100-01, SIGMA PUMPS GEN V configurations in the frequency ranges 5150 - 5250 MHz; 5250 - 5350 MHz; 5470 - 5725 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 5250 to 5350 MHz and 5470 to 5725 MHz bands incorporating Dynamic Frequency Selection.

ISED RSS-247 Issue 2
Digital Transmission Systems (DTSs), Frequency Hopping System (FHSs) and License-Exempt Local Area Network (LE-LEN) Devices

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

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

Type (EUT/ Support)	Equipment Description	Manufacturer	Model No.	Serial No.
EUT	SIGMA PUMPS GEN V	Digi International	50002100-01	001
Support	Development Board	Digi International	--	--
Support	Laptop	Lenovo	ThinkPad	--

5.4. Antenna Details

Type	Manufacturer	Model	Family	Gain (dBi)	BF Gain	Dir BW	X-Pol	Frequency Band (MHz)
integral	Digi	ANT1	PCB	2.0	-	360	-	5150 – 5250 5250 – 5350 5470 – 5725 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	Conn Type	Data Type	Bit Rate
Power + Digital I/O	<3m	1	No	custom	Data	Variable

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
5250 - 5350 MHz				
a	6	5,260.00	5,300.00	5,320.00
ac-80	29.3	--	--	5,290.00
HT-20	6.5	5,260.00	5,300.00	5,320.00
HT-40	13.5	5,270.00	--	5,310.00
5470 - 5725 MHz				
a	6	5,500.00	5,580.00	5,720.00
ac-80	29.3	5,530.00	5,610.00	5,690.00
HT-20	6.5	5,500.00	5,580.00	5,720.00
HT-40	13.5	5,510.00	5,550.00	5,710.00
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

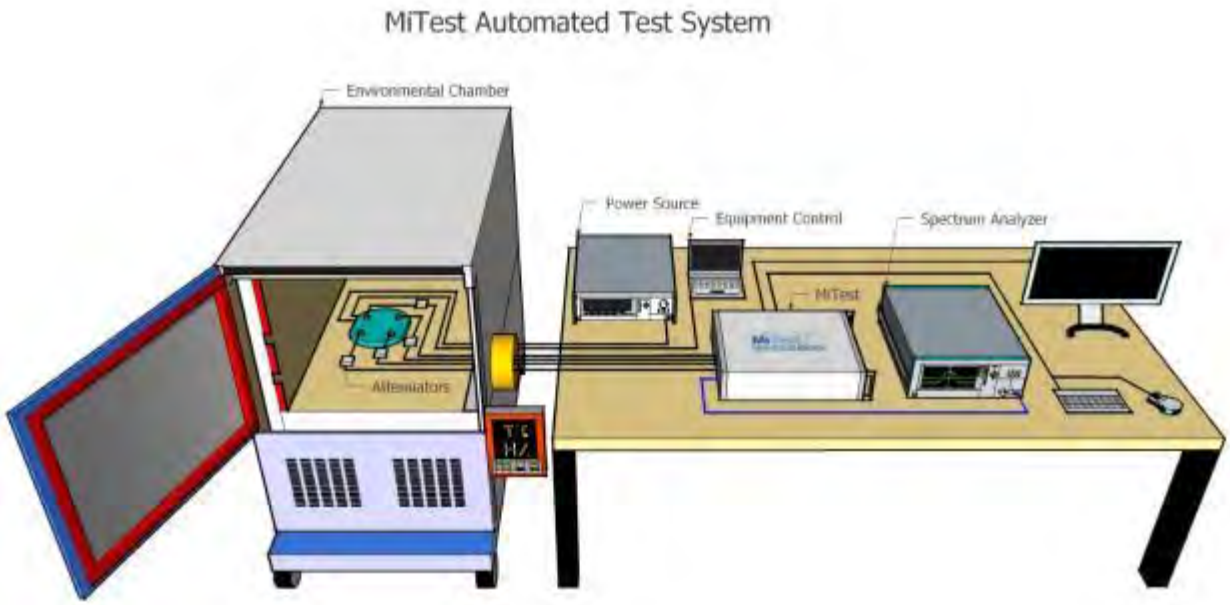
List of Measurements

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
Dynamic Frequency Selection (DFS)	Complies	-
Channel Availability Check	Not Required[1]	-
Initial CAC	Not Required[1]	-
Beginning CAC	Not Required[1]	-
End CAC	Not Required[1]	-
Channel Close / Transmission Time	Complies	View Data
Non-Occupancy Period	Complies	View Data
Probability of Detection	Not Required[1]	-
Detection Bandwidth	Not Required[1]	-
Radiated	Complies	-
TX Spurious & Restricted Band Emissions	Complies	View Data
Restricted Edge & Band-Edge Emissions	Complies	View Data

NOTE[1] – Module is a client device with no radar detection capability

7. TEST EQUIPMENT CONFIGURATION(S)

7.1. Conducted RF



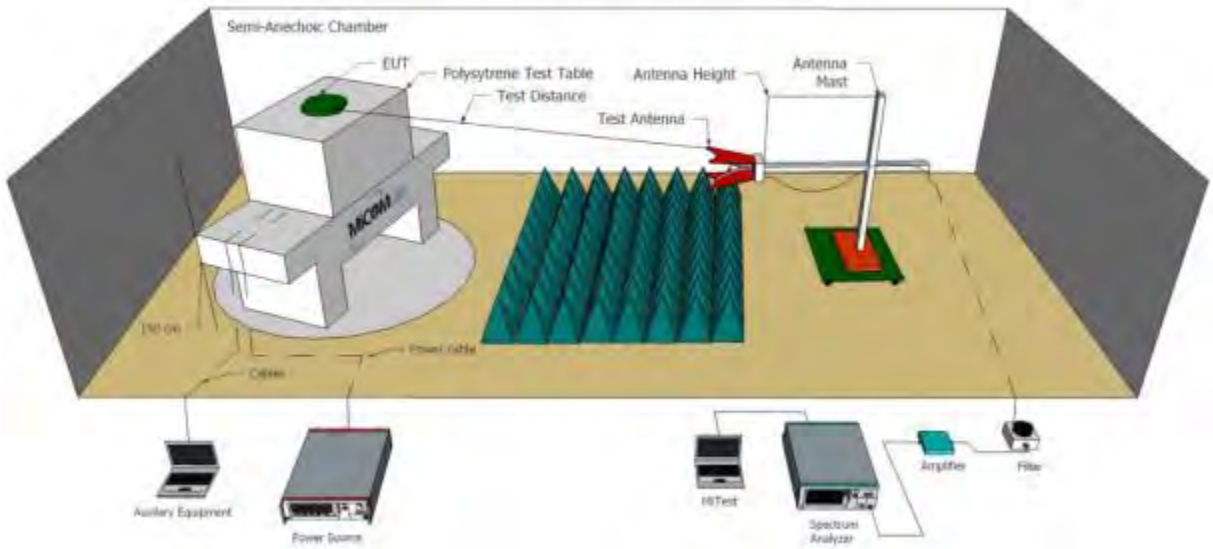
A full system calibration was performed on the test station and any resulting system losses (or gains) were taken into account in the production of all final measurement data.

Asset#	Description	Manufacturer	Model#	Serial#	Calibration Due Date
127	Power Supply	HP	6674A	US36370530	Cal when used
248	Resistance Thermometer	Thermotronics	GR2105-02	9340 #1	30 Oct 2023
398	MiTest RF Conducted Test Software	MiCOM	MiTest ATS	Version 4.2.3.0	Not Required
420	USB to GPIB Interface	National Instruments	GPIB-USB HS	1346738	Not Required
440	USB Wideband Power Sensor	Boonton	55006	9178	8 Oct 2023
461	Spectrum Analyzer	Agilent	E4440A	MY46185537	27 Sep 2023
510	Barometer/Thermometer	Control Company	68000-49	170871375	20 Dec 2023
515	MiTest Cloud Solutions RF Test Box	MiCOM	2nd Gen with DFS	515	7 Apr 2023
517	USB Wideband Power Sensor	Boonton	RTP5006	10510	8 Oct 2023
74	Environmental Chamber Chamber 3	Tenney	TTC	12808-1	Not Required
RF#2 GPIB#1	GPIB cable to Power Supply	HP	GPIB	None	Not Required
RF#2 SMA#1	EUT to Mitest box port 1	Flexco	SMA Cable port1	None	7 Apr 2023
RF#2 SMA#2	EUT to Mitest box port 2	Flexco	SMA Cable port2	None	7 Apr 2023
RF#2 SMA#3	EUT to Mitest box port 3	Flexco	SMA Cable port3	None	7 Apr 2023
RF#2 SMA#4	EUT to Mitest box port 4	Flexco	SMA Cable port4	None	7 Apr 2023
RF#2 SMA#SA	Mitest box to SA	Flexco	SMA Cable SA	None	7 Apr 2023

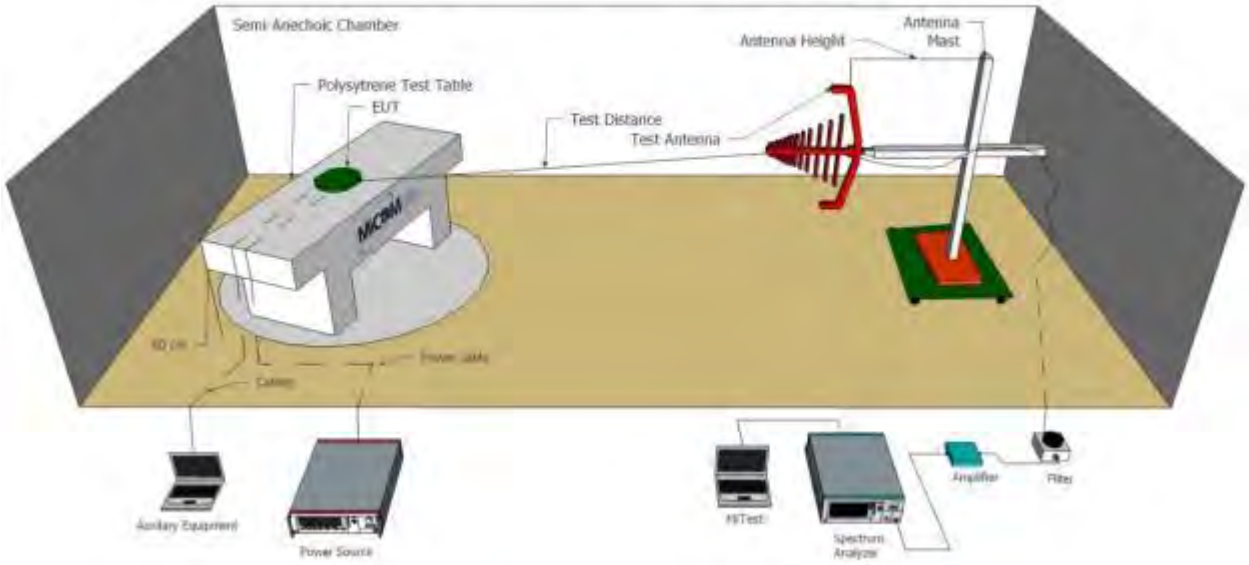
7.2. Radiated Emissions

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

Radiated Emissions Above 1GHz Test Setup



Radiated Emissions Below 1GHz Test Setup



Test Equipment Utilized

Asset#	Description	Manufacturer	Model#	Serial#	Calibration Due Date
170	Video System Controller for Semi Anechoic Chamber	Panasonic	WV-CU101	04R08507	Not Required
287	Rohde & Schwarz 40 GHz Receiver	Rhode & Schwarz	ESIB40	100201	8 Oct 2023
298	3M Radiated Emissions Chamber Maintenance Check	MiCOM	3M Chamber	298	24 April 2023
338	Sunol 30 to 3000 MHz Antenna	Sunol	JB3	A052907	29 Sep 2023
342	2.4 GHz Notch Filter	EWT	EWT-14-0203	H1	6 Oct 2023
373	26III RMS Multimeter	Fluke	Fluke 26 series III	76080720	29 Sep 2023
399	ETS 1-18 GHz Horn Antenna	ETS	3117	00154575	30 Sep 2023
406	Amplifier for Radiated Emissions	MiCOM Labs	40dB 1 to 18GHz Amp	0406	2 Nov 2023
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	27 Oct 2023
463	Schwarzbeck cable from Amplifier to Bulkhead.	Schwarzbeck	AK 9513	463	27 Oct 2023
464	Schwarzbeck cable from Bulkhead to Receiver	Schwarzbeck	AK 9513	464	27 Oct 2023
465	Low Pass Filter DC-1000 MHz	Mini-Circuits	NLP-1200+	VUU01901402	6 Oct 2023
480	Cable - Bulkhead to Amp	SRC Haverhill	157-3050360	480	23 Jun 2023
481	Cable - Bulkhead to Receiver	SRC Haverhill	151-3050787	481	23 Jun 2023
510	Barometer/Thermometer	Control Company	68000-49	170871375	20 Dec 2024
554	Precision SMA Cable	Fairview Microwave	SCE18060101-400CM	554	23 Jun 2023
145	18 GHz to 26.6 GHz antenna	Millimeter Products Inc	261K/595	145	23 Jun 2024
148	26.5 GHz to 40 GHz Antenna	Millimeter Products Inc	261A/599	148	28 Jun 2024
87	Uninterruptible Power Supply	Falcon Electric	ED2000-1/2LC	F3471 02/01	Cal when used

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 (%):**	96.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
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	10.92	--	--	--	10.92	Not Applicable	30.00	-19.08	11.00
5200.0	12.81	--	--	--	12.81	Not Applicable	30.00	-17.19	13.00
5240.0	12.76	--	--	--	12.76	Not Applicable	30.00	-17.24	13.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 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 (%):**	84.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
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	3.45	--	--	--	3.45	Not Applicable	30.00	-26.55	4.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 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 (%):**	95.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
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	10.69	--	--	--	10.69	Not Applicable	30.00	-19.31	11.00
5200.0	12.57	--	--	--	12.57	Not Applicable	30.00	-17.43	13.00
5240.0	12.52	--	--	--	12.52	Not Applicable	30.00	-17.48	13.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 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 (%):**	91.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
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	8.10	--	--	--	8.10	Not Applicable	30.00	-21.90	8.00
5230.0	11.63	--	--	--	11.63	Not Applicable	30.00	-18.37	12.00

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 (%):**	96.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
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	
5260.0	10.81	--	--	--	10.81	20.000	24.00	-13.19	11.00
5300.0	12.59	--	--	--	12.59	20.000	24.00	-11.41	13.00
5320.0	6.90	--	--	--	6.90	19.930	24.00	-17.10	7.00

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

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

Variant:	802.11ac-80	**Duty Cycle (%):**	84.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
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	
5290.0	3.18	--	--	--	3.18	82.930	24.00	-20.82	4.00

Traceability to Industry Recognized Test Methodologies

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

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 (%):**	95.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
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	
5260.0	12.65	--	--	--	12.65	21.000	24.00	-11.35	13.00
5300.0	12.36	--	--	--	12.36	21.270	24.00	-11.64	13.00
5320.0	6.72	--	--	--	6.72	20.800	24.00	-17.28	7.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 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 (%):**	91.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
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	
5270.0	11.94	--	--	--	11.94	41.870	24.00	-12.06	12.00
5310.0	6.86	--	--	--	6.86	47.070	24.00	-17.14	7.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 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 (%):**	96.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
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	
5500.0	9.08	--	--	--	9.08	19.930	24.00	-14.92	10.00
5580.0	9.85	--	--	--	9.85	20.070	24.00	-14.15	10.00
5720.0	9.85	--	--	--	9.85	20.470	24.00	-14.15	10.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 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 (%):**	84.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
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	
5530.0	3.30	--	--	--	3.30	82.400	24.00	-20.70	4.00
5610.0	11.51	--	--	--	11.51	82.400	24.00	-12.49	12.00
5690.0	10.76	--	--	--	10.76	82.670	24.00	-13.24	12.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 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 (%):**	95.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
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	
5500.0	10.02	--	--	--	10.02	20.470	24.00	-13.98	11.00
5580.0	10.59	--	--	--	10.59	20.330	24.00	-13.41	11.00
5720.0	10.78	--	--	--	10.78	20.800	24.00	-13.22	11.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 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 (%):**	91.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
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	
5510.0	8.47	--	--	--	8.47	41.600	24.00	-15.53	10.00
5550.0	11.29	--	--	--	11.29	41.330	24.00	-12.71	12.00
5710.0	11.62	--	--	--	11.62	41.870	24.00	-12.38	12.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 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 (%):**	96.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	0.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
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	8.44	--	--	--	8.44	Not Applicable	30.00	-21.56	9.00
5785.0	8.90	--	--	--	8.90	Not Applicable	30.00	-21.10	9.00
5825.0	12.61	--	--	--	12.61	Not Applicable	30.00	-17.39	13.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 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 (%):**	84.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	0.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
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	10.75	--	--	--	10.75	Not Applicable	30.00	-19.25	12.00

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 (%):**	95.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	0.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
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	8.05	--	--	--	8.05	Not Applicable	30.00	-21.95	9.00
5785.0	8.63	--	--	--	8.63	Not Applicable	30.00	-21.37	9.00
5825.0	12.27	--	--	--	12.27	Not Applicable	30.00	-17.73	13.00

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 (%):**	91.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	0.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
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	11.46	--	--	--	11.46	Not Applicable	30.00	-18.54	12.00
5795.0	12.08	--	--	--	12.08	Not Applicable	30.00	-17.92	12.00

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 (%):**	98.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
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	37.670	--	--	--	37.670	37.670		
5200.0	39.730	--	--	--	39.730	39.730		
5240.0	20.400	--	--	--	20.400	20.400		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5180.0	22.303	--	--	--	22.303	22.303		
5200.0	23.973	--	--	--	23.973	23.973		
5240.0	16.414	--	--	--	16.414	16.414		

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 (%):**	84.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
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	82.670	--	--	--	82.670	82.670		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5210.0	74.935	--	--	--	74.935	74.935		

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

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

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Equipment Configuration for 26 dB & 99% Occupied Bandwidth			
Variant:	802.11n HT-20	**Duty Cycle (%):**	95.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
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	20.330	--	--	--	20.330	20.330		
5200.0	21.600	--	--	--	21.600	21.600		
5240.0	21.000	--	--	--	21.000	21.000		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5180.0	17.455	--	--	--	17.455	17.455		
5200.0	17.478	--	--	--	17.478	17.478		
5240.0	17.493	--	--	--	17.493	17.493		

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 (%):**	91.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
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	41.600	--	--	--	41.600	41.600		
5230.0	46.400	--	--	--	46.400	46.400		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5190.0	36.094	--	--	--	36.094	36.094		
5230.0	36.167	--	--	--	36.167	36.167		

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

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

Equipment Configuration for 26 dB & 99% Occupied Bandwidth			
Variant:	802.11a	**Duty Cycle (%):**	96.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5260.0	20.000	--	--	--	20.000	20.000		
5300.0	20.000	--	--	--	20.000	20.000		
5320.0	19.930	--	--	--	19.930	19.930		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5260.0	16.404	--	--	--	16.404	16.404		
5300.0	16.422	--	--	--	16.422	16.422		
5320.0	16.414	--	--	--	16.414	16.414		

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).

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

Equipment Configuration for 26 dB & 99% Occupied Bandwidth			
Variant:	802.11ac-80	**Duty Cycle (%):**	84.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	
TPC:	Not Applicable	**Tested By:**	JK
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**		
5290.0	82.930	--	--	--	82.930	82.930		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5290.0	75.073	--	--	--	75.073	75.073		

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).

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

Equipment Configuration for 26 dB & 99% Occupied Bandwidth			
Variant:	802.11n HT-20	**Duty Cycle (%):**	95.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	a	b	c	d	Highest	Lowest		
5260.0	21.000	--	--	--	21.000	21.000		
5300.0	21.270	--	--	--	21.270	21.270		
5320.0	20.800	--	--	--	20.800	20.800		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	a	b	c	d	Highest	Lowest		
5260.0	17.508	--	--	--	17.508	17.508		
5300.0	17.498	--	--	--	17.498	17.498		
5320.0	17.486	--	--	--	17.486	17.486		

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 (%):**	91.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5270.0	41.870	--	--	--	41.870	41.870		
5310.0	47.070	--	--	--	47.070	47.070		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5270.0	36.176	--	--	--	36.176	36.176		
5310.0	36.232	--	--	--	36.232	36.232		

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

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

Equipment Configuration for 26 dB & 99% Occupied Bandwidth			
Variant:	802.11a	**Duty Cycle (%):**	96.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5500.0	19.930	--	--	--	19.930	19.930		
5580.0	20.070	--	--	--	20.070	20.070		
5720.0	20.470	--	--	--	20.470	20.470		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5500.0	16.375	--	--	--	16.375	16.375		
5580.0	16.389	--	--	--	16.389	16.389		
5720.0	16.404	--	--	--	16.404	16.404		

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 (%):**	84.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
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		
5530.0	82.400	--	--	--	82.400	82.400		
5610.0	82.400	--	--	--	82.400	82.400		
5690.0	82.670	--	--	--	82.670	82.670		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	a	b	c	d	Highest	Lowest		
5530.0	74.870	--	--	--	74.870	74.870		
5610.0	74.992	--	--	--	74.992	74.992		
5690.0	75.067	--	--	--	75.067	75.067		

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 (%):**	95.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5500.0	20.470	--	--	--	20.470	20.470		
5580.0	20.330	--	--	--	20.330	20.330		
5720.0	20.800	--	--	--	20.800	20.800		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5500.0	17.468	--	--	--	17.468	17.468		
5580.0	17.471	--	--	--	17.471	17.471		
5720.0	17.481	--	--	--	17.481	17.481		

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 (%):**	91.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5510.0	41.600	--	--	--	41.600	41.600		
5550.0	41.330	--	--	--	41.330	41.330		
5710.0	41.870	--	--	--	41.870	41.870		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5510.0	36.022	--	--	--	36.022	36.022		
5550.0	36.084	--	--	--	36.084	36.084		
5710.0	36.171	--	--	--	36.171	36.171		

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).

9.3. 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 (%):**	96.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	0.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
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	16.000	--	--	--	16.000	16.000		
5785.0	15.930	--	--	--	15.930	15.930		
5825.0	15.930	--	--	--	15.930	15.930		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5745.0	16.389	--	--	--	16.389	16.389		
5785.0	16.399	--	--	--	16.399	16.399		
5825.0	16.405	--	--	--	16.405	16.405		

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 (%):**	84.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	0.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
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	65.870	--	--	--	65.870	65.870		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5775.0	75.104	--	--	--	75.104	75.104		

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).

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

Equipment Configuration for 6 dB & 99% Bandwidth			
Variant:	802.11n HT-20	**Duty Cycle (%):**	95.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	0.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
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	17.000	--	--	--	17.000	17.000		
5785.0	17.000	--	--	--	17.000	17.000		
5825.0	16.730	--	--	--	16.730	16.730		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5745.0	17.472	--	--	--	17.472	17.472		
5785.0	17.493	--	--	--	17.493	17.493		
5825.0	17.484	--	--	--	17.484	17.484		

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 (%):**	91.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	0.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
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	35.070	--	--	--	35.070	35.070		
5795.0	35.200	--	--	--	35.200	35.200		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5755.0	36.155	--	--	--	36.155	36.155		
5795.0	36.230	--	--	--	36.230	36.230		

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 (%):**	96.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Summation Peak Marker + DCCF (+0.18 dB)	Limit	Margin
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5180.0	-0.422	--	--	--	-0.245	17.0	-17.2
5200.0	1.242	--	--	--	1.330	17.0	-15.7
5240.0	1.598	--	--	--	1.775	17.0	-15.2

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

DCCF - Duty Cycle Correction Factor

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

Equipment Configuration for Power Spectral Density			
Variant:	802.11ac-80	**Duty Cycle (%):**	84.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Summation Peak Marker + DCCF (+0.76 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/MHz**	**dBm/MHz**	**dB**
5210.0	-14.373	--	--	--	-13.616	17.0	-30.6

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

DCCF - Duty Cycle Correction Factor

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

Equipment Configuration for Power Spectral Density			
Variant:	802.11n HT-20	**Duty Cycle (%):**	95.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Summation Peak Marker + DCCF (+0.22 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/MHz**	**dBm/MHz**	**dB**
5180.0	-0.833	--	--	--	-0.610	17.0	-17.6
5200.0	0.854	--	--	--	1.077	17.0	-15.9
5240.0	1.168	--	--	--	1.391	17.0	-15.6

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 (%):**	91.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Summation Peak Marker + DCCF (+0.41 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/MHz**	**dBm/MHz**	**dB**
5190.0	-6.656	--	--	--	-6.246	17.0	-23.2
5230.0	-2.926	--	--	--	-2.516	17.0	-19.5

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:	802.11a	**Duty Cycle (%):**	96.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Summation Peak Marker + DCCF (+0.18 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/MHz**	**dBm/MHz**	**dB**
5260.0	-0.489	--	--	--	-0.312	11.0	-11.3
5300.0	1.575	--	--	--	1.752	11.0	-9.2
5320.0	-4.135	--	--	--	-3.958	11.0	-15.0

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:	802.11ac-80	**Duty Cycle (%):**	84.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Summation Peak Marker + DCCF (+0.76 dB)	Limit	Margin
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5290.0	-14.401	--	--	--	-13.644	11.0	-24.6

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

DCCF - Duty Cycle Correction Factor

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

Equipment Configuration for Power Spectral Density			
Variant:	802.11n HT-20	**Duty Cycle (%):**	95.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Summation Peak Marker + DCCF (+0.22 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/MHz**	**dBm/MHz**	**dB**
5260.0	1.168	--	--	--	1.391	11.0	-9.6
5300.0	1.269	--	--	--	1.492	11.0	-9.5
5320.0	-4.571	--	--	--	-4.348	11.0	-15.3

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).

Equipment Configuration for Power Spectral Density			
Variant:	802.11n HT-40	**Duty Cycle (%):**	91.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Summation Peak Marker + DCCF (+0.41 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/MHz**	**dBm/MHz**	**dB**
5270.0	-2.686	--	--	--	-2.276	11.0	-13.3
5310.0	-7.304	--	--	--	-6.894	11.0	-17.9

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).

Equipment Configuration for Power Spectral Density			
Variant:	802.11a	**Duty Cycle (%):**	96.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Summation Peak Marker + DCCF (+0.18 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/MHz**	**dBm/MHz**	**dB**
5500.0	-1.661	--	--	--	-1.484	11.0	-12.5
5580.0	-1.331	--	--	--	-1.154	11.0	-12.2
5720.0	-1.105	--	--	--	-0.928	11.0	-11.9

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).

Equipment Configuration for Power Spectral Density			
Variant:	802.11ac-80	**Duty Cycle (%):**	84.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Summation Peak Marker + DCCF (+0.76 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/MHz**	**dBm/MHz**	**dB**
5530.0	-14.307	--	--	--	-13.550	11.0	-24.5
5610.0	-6.208	--	--	--	-5.451	11.0	-16.5
5690.0	-6.354	--	--	--	-5.597	11.0	-16.6

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

DCCF - Duty Cycle Correction Factor

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

Equipment Configuration for Power Spectral Density			
Variant:	802.11n HT-20	**Duty Cycle (%):**	95.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Summation Peak Marker + DCCF (+0.22 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/MHz**	**dBm/MHz**	**dB**
5500.0	-1.110	--	--	--	-0.887	11.0	-11.9
5580.0	-0.656	--	--	--	-0.433	11.0	-11.4
5720.0	-0.351	--	--	--	-0.128	11.0	-11.1

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

DCCF - Duty Cycle Correction Factor

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 (%):**	91.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Summation Peak Marker + DCCF (+0.41 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/MHz**	**dBm/MHz**	**dB**
5510.0	-5.582	--	--	--	-5.172	11.0	-16.2
5550.0	-2.742	--	--	--	-2.332	11.0	-13.3
5710.0	-2.130	--	--	--	-1.720	11.0	-12.7

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:	802.11a	**Duty Cycle (%):**	96.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	0.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/500 KHz)				Summation Peak Marker + DCCF (+0.18 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/500 KHz**	**dBm/500 KHz**	**dB**
5745.0	-5.300	--	--	--	-5.123	30.0	-35.1
5785.0	-5.007	--	--	--	-4.830	30.0	-34.8
5825.0	-1.180	--	--	--	-1.003	30.0	-31.0

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:	802.11ac-80	**Duty Cycle (%):**	84.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	0.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/500 KHz)				Summation Peak Marker + DCCF (+0.76 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/500 KHz**	**dBm/500 KHz**	**dB**
5775.0	-9.295	--	--	--	-5.675	30.0	-35.7

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

DCCF - Duty Cycle Correction Factor

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

Equipment Configuration for Power Spectral Density			
Variant:	802.11n HT-20	**Duty Cycle (%):**	95.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	0.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/500 KHz)				Summation Peak Marker + DCCF (+0.22 dB)	Limit	Margin
MHz	a	b	c	d	dBm/500 KHz	dBm/500 KHz	dB
5745.0	-5.711	--	--	--	-5.488	30.0	-35.5
5785.0	-5.441	--	--	--	-5.218	30.0	-35.2
5825.0	-1.475	--	--	--	-1.252	30.0	-31.3

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).

Equipment Configuration for Power Spectral Density			
Variant:	802.11n HT-40	**Duty Cycle (%):**	91.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	0.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/500 KHz)				Summation Peak Marker + DCCF (+0.41 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/500 KHz**	**dBm/500 KHz**	**dB**
5755.0	-5.260	--	--	--	-4.850	30.0	-34.9
5795.0	-5.138	--	--	--	-4.728	30.0	-34.7

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).

9.5. Frequency Stability

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

Manufacturer Declaration
The frequency stability of the reference oscillator sets the frequency stability of the RF transceiver signals. Therefore, all RF signals should have better than ±20ppm stability.
This stability accounts for room temperature tolerance of the crystal oscillator circuit, frequency variation across temperature, and crystal ageing.

±20ppm at 5.250 GHz translates to a maximum frequency shift of ±105 KHz. As the channel band-edge is at least 1 MHz from either of the band edges, ±105 KHz is more than sufficient to guarantee that the intentional emission will remain in the band over the entire operating range of the EUT.

Specification

Limits

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

9.6. Dynamic Frequency Selection (DFS)

9.6.1. Dynamic Frequency Selection (DFS) Overview

A U-NII network will employ a DFS function to detect signals from radar systems and to avoid co-channel operation with these systems. This applies to the 5250-5350 MHz and/or 5470-5725 MHz bands. Within the context of the operation of the DFS function, a U-NII device will operate in either Master Mode or Client Mode. U-NII devices operating in Client Mode can only operate in a network controlled by a U-NII device operating in Master Mode. The following tables summarize the requirements.

Requirement	Master Device or Client with Radar Detection	Client without Radar Detection
	Operational Mode	
DFS Detection Threshold	Yes	Not Required
Channel Closing Transmission Time	Yes	Yes
Channel Move Time	Yes	Yes
U-NII Detection Bandwidth	Yes	Not Required

Additional requirements for devices with multiple bandwidth modes	Master Device or Client with Radar Detection	Client without Radar Detection
U-NII Detection Bandwidth and Statistical Performance Check	All BW modes must be tested	Not required
Channel Move Time and Channel Closing Transmission Time	Test using widest BW mode available	Test using the widest BW mode available for the link
All other tests	Any single BW mode	Not required

NOTE: Frequencies selected for statistical performance check should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in each of the bonded 20 MHz channels and the channel center frequency.

The operational behavior and individual DFS requirements associated with these modes are as follows:

Client Devices

a) A Client Device will not transmit before having received appropriate control signals from a Master Device.

b) A Client Device will stop all its transmissions whenever instructed by a Master Device to which it is associated and will meet the Channel Move Time and Channel Closing Transmission Time requirements. The Client Device will not resume any transmissions until it has again received control signals from a Master Device.

c) If a Client Device is performing In-Service Monitoring and detects a Radar Waveform above the DFS Detection Threshold, it will inform the Master Device. This is equivalent to the Master Device detecting the Radar Waveform and d) through f) of section 5.1.1 apply.

d) Irrespective of Client Device or Master Device detection the Channel Move Time and Channel Closing Transmission Time requirements remain the same.

e) The client test frequency must be monitored to ensure no transmission of any type has occurred for 30 minutes. Note: If the client moves with the master, the device is considered compliant if nothing appears in the client non-occupancy period test. For devices that shutdown (rather than moving channels), no beacons should appear.

Response Requirements

The following table provides the response requirements for Master and Client Devices incorporating DFS.

DFS Response Requirement Values

Parameter	Value
Non-Occupancy Period	Minimum 30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds, see NOTE 1
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period, see NOTES 1 and 2
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth, see NOTE 3

NOTE 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.

NOTE 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.

NOTE 3: During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

Radar Test Waveforms

This section provides the parameters for required test waveforms, minimum percentage of successful detections, and the minimum number of trials that must be used for determining DFS conformance. Step intervals of 0.1 microsecond for Pulse Width, 1 microsecond for PRI, 1 MHz for chirp width and 1 for the number of pulses will be utilized for the random determination of specific test waveforms.

Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (μS)	PRI (μS)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
0	1	1428	18	See Note 1	See Note 1
1	1	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a	$\text{Roundup}\left\{\left(\frac{1}{360}\right)\cdot\left(\frac{19\cdot 10^6}{\text{PRI}_{\text{min}}}\right)\right\}$	60%	30
		Test B: 15 unique PRI values randomly selected in the range 518-3066 μS, with a minimum increment of 1 μS, excluding PRI values selected in Test A			
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120

Note 1: Short Radar Pulse Type 0 should be used for the Detection Bandwidth test, Channel Move Time and Channel Closing Time tests

A minimum of 30 unique waveforms are required for each of the Short Pulse Radar Types 2 through 4. If more than 30 waveforms are used for Short Pulse Radar Types 2 through 4, then each additional waveform must also be unique and not repeated from the previous waveforms. If more than 30 waveforms are used for Short Pulse Radar Type 1, then each additional waveform is generated with Test B and must also be unique and not repeated from the previous waveforms in Tests A or B.

Only radar type 0 is needed for a client device with no radar detection.

9.6.2. Channel Close / Transmission Time

The steps below define the procedure to determine the above-mentioned parameters when a radar burst with a level of up to 10 dB above the DFS detection threshold is injected on the Operating Channel of the EUT.

Observe the transmissions of the EUT at the end of the Radar Burst on the Operating Channel for a duration greater than 10 seconds. Measure and record the transmissions from the EUT during the observation time (Channel Move Time). Compare the Channel Move Time and the Channel Closing Transmission Time results to the limits defined in the DFS requirement values table.

Channel Closing Transmission Time – Measurement
The reference radar signature was introduced to the EUT, from which an 11 second transmission record was captured, as well as 1000ms of pre-trigger data. The reference radar type was triggered to play at the exact time allowing the end of the pulse to occur at time t=0.

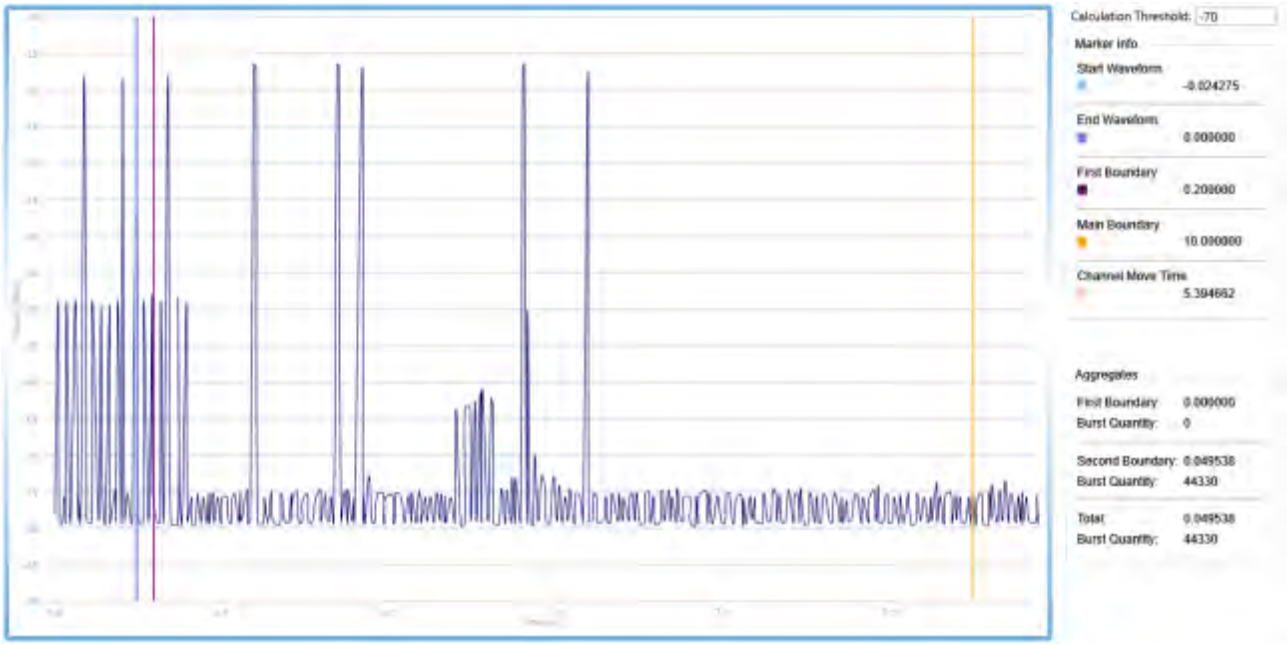
The system was setup to capture data for all transmission events above a given threshold level as determined and adjusted by the test engineer. The system time stamps all captured events with respect to T0 (zero time indicating the start of the measurement sequence) starting at the end of the radar pulse indicated by the purple vertical marker line in the plot (on the next page).

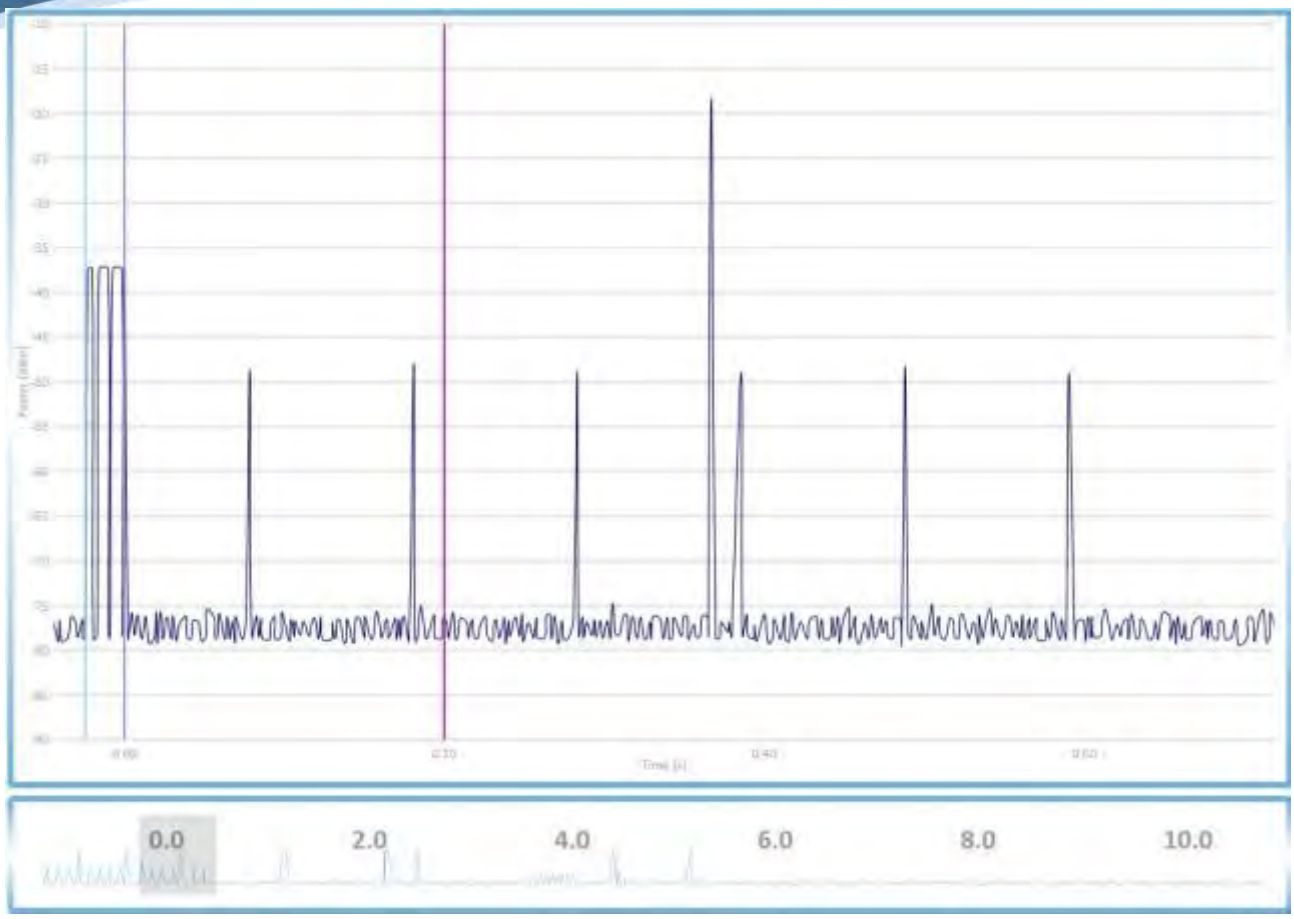
The system captured data over a 12 second period at 10 points per microsecond. The data is analyzed by counting all “bursts” that occur above the threshold limit aggregating the time each burst is on. The data is then compressed for presentation in one 12 second segment showing all the activity recorded over the period.

802.11ac-80 Channel 5530 MHz; Observed Frequency 5500 MHz

The system measures and aggregates the pulses occurring after the end of the radar pulse to determine the following parameters: -

Test Heading	Time (Secs)	Limit (Secs)	Status
Channel Closing Transmission Time	0.049538	0.260	Complies
Channel Move Time	5.394662	10.0	Complies



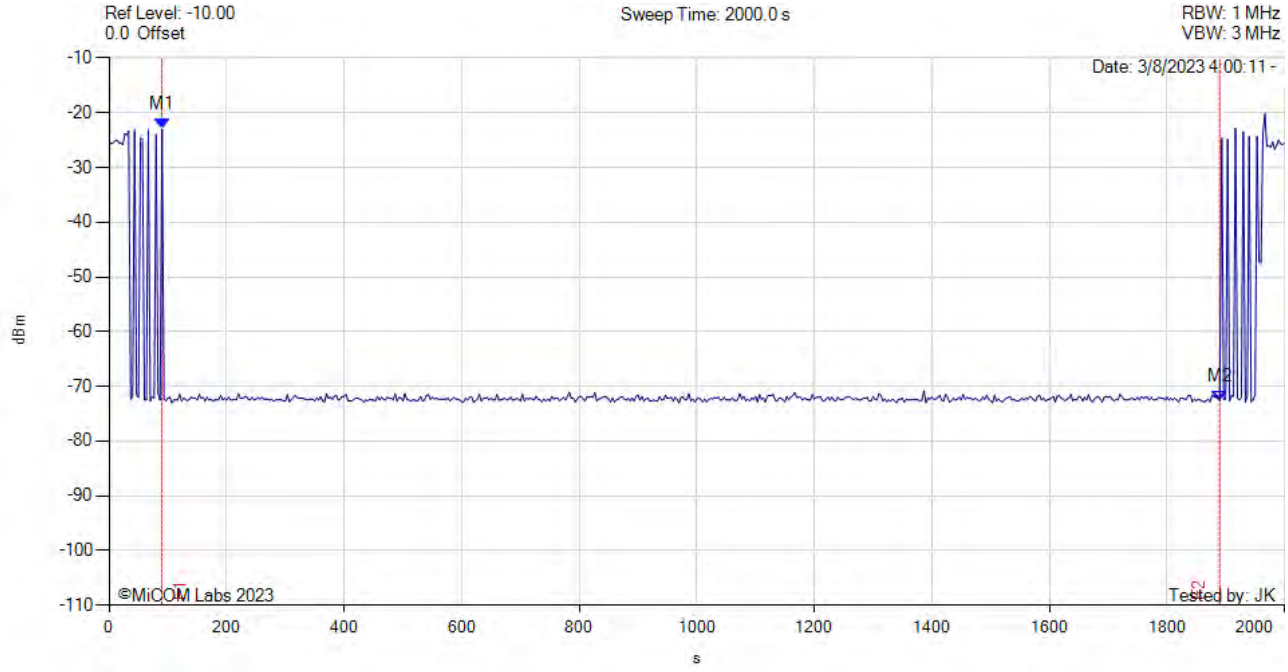


9.6.3. Non-Occupancy Period

The EUT is monitored for more than 30 minutes following the channel close/move time to verify no transmissions resume on this Channel. There should be no transmissions on the frequency of interest during the non-occupancy period.

NON-OCCUPANCY PERIOD

Variant: 802.11ac-80, Channel: 5530.00 MHz, Data Rate: mcs0, Duty Cycle : 17.00%, Antenna Gain: 0.00 dBi



Analyzer Setup	Marker:Time:Amplitude	Test Results
Detector = POS Sweep Count = View RF Atten (dB) = 0 Trace Mode = 0	M1(5500.00 MHz) : 90.000 s : -23.000 dBm M2(5500.00 MHz) : 1890.000 s : -72.660 dBm	Channel Frequency: 5530.00 MHz

9.7. 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).

Emissions were measured up to 40GHz, however no emissions were found to be within 6 dB of the limit.

9.7.1. TX Spurious & Restricted Band Emissions

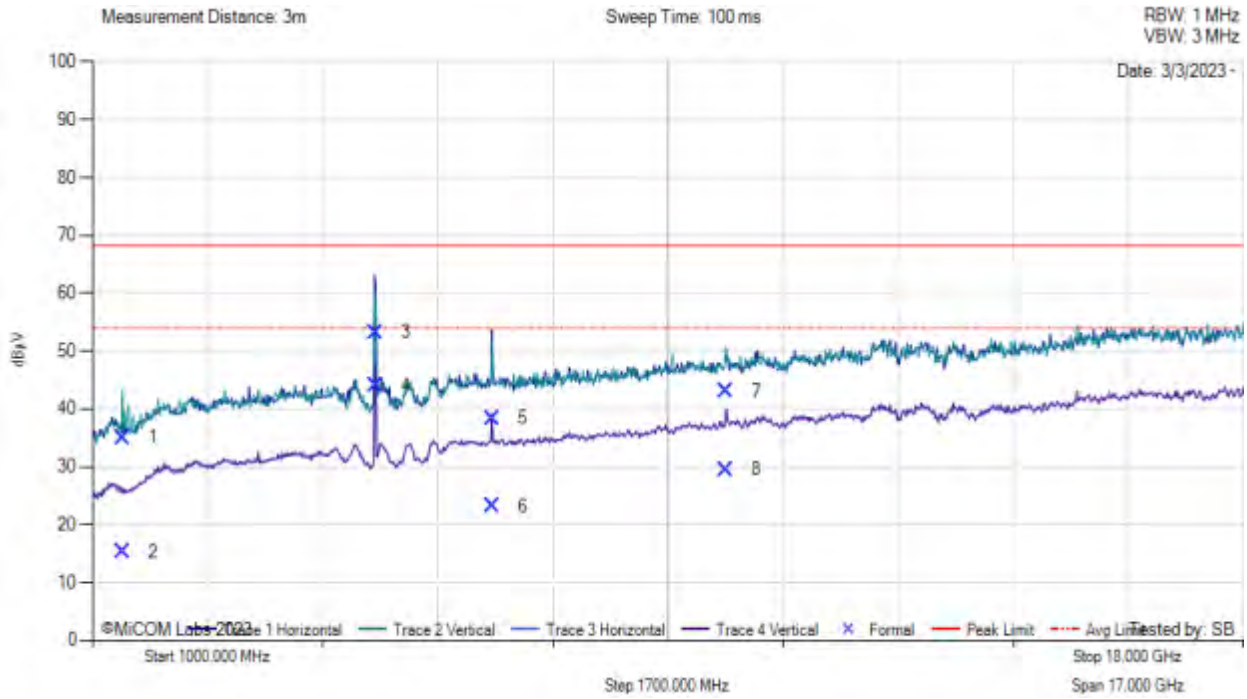
Equipment Configuration for FCC Spurious 1 GHz - 18 GHz

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 mbit/s
Power Setting:	Max	**Tested By:**	SB

Test Measurement Results

FCC Spurious 1 GHz - 18 GHz

Variant: 802.11a, Test Freq: 5180.00 MHz, Antenna: Integral, Power Setting: Max



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	1440.62	49.72	1.53	-16.20	35.05	MaxP	Vertical	99	196	68.2	-33.2	Pass
2	1440.62	29.98	1.53	-16.20	15.30	AVG	Vertical	99	196	54.0	-38.7	Pass
3	5185.60	62.21	2.97	-11.97	53.21	MaxP	Horizontal	105	157	68.2	-15.0	Pass
4	5185.60	53.00	2.97	-11.97	44.00	AVG	Horizontal	105	157	54.0	-10.0	Pass
5	6906.43	43.38	3.56	-8.55	38.39	MaxP	Vertical	144	301	68.2	-29.8	Pass
6	6906.43	28.21	3.56	-8.55	23.21	AVG	Vertical	144	301	54.0	-30.8	Pass
7	10361.70	43.63	4.28	-4.95	42.96	MaxP	Vertical	119	209	68.2	-25.3	Pass
8	10361.70	30.15	4.28	-4.95	29.48	AVG	Vertical	119	209	54.0	-24.5	Pass

Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software tools needed to run test mode.

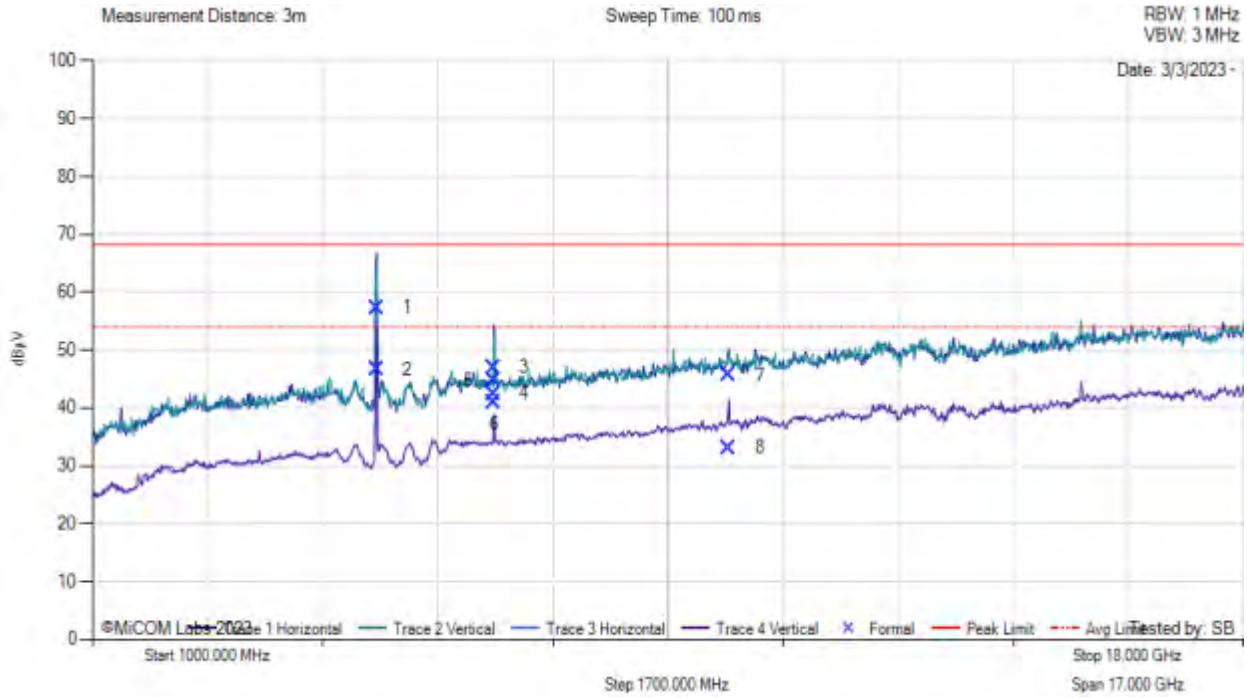
Equipment Configuration for FCC Spurious 1 GHz - 18 GHz

Antenna:	Integral	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5200.00	**Data Rate:**	6 mbit/s
Power Setting:	Max	**Tested By:**	SB

Test Measurement Results

FCC Spurious 1 GHz - 18 GHz

Variant: 802.11a, Test Freq: 5200.00 MHz, Antenna: Integral, Power Setting: Max



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	5198.61	66.54	2.98	-12.22	57.30	MaxP	Horizontal	99	156	68.2	-10.9	Pass
2	5198.61	55.92	2.98	-12.22	46.68	AVG	Horizontal	99	156	54.0	-7.3	Pass
3	6933.25	51.76	3.60	-8.42	46.95	MaxP	Horizontal	122	225	68.2	-21.3	Pass
4	6933.25	47.23	3.60	-8.42	42.42	AVG	Horizontal	122	225	54.0	-11.6	Pass
5	6933.29	49.50	3.60	-8.42	44.68	MaxP	Vertical	111	244	68.2	-23.5	Pass
6	6933.29	45.72	3.60	-8.42	40.90	AVG	Vertical	111	244	54.0	-13.1	Pass
7	10400.69	46.65	4.59	-5.54	45.70	MaxP	Vertical	146	37	68.2	-22.5	Pass
8	10400.69	34.05	4.59	-5.54	33.10	AVG	Vertical	146	37	54.0	-20.9	Pass

Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

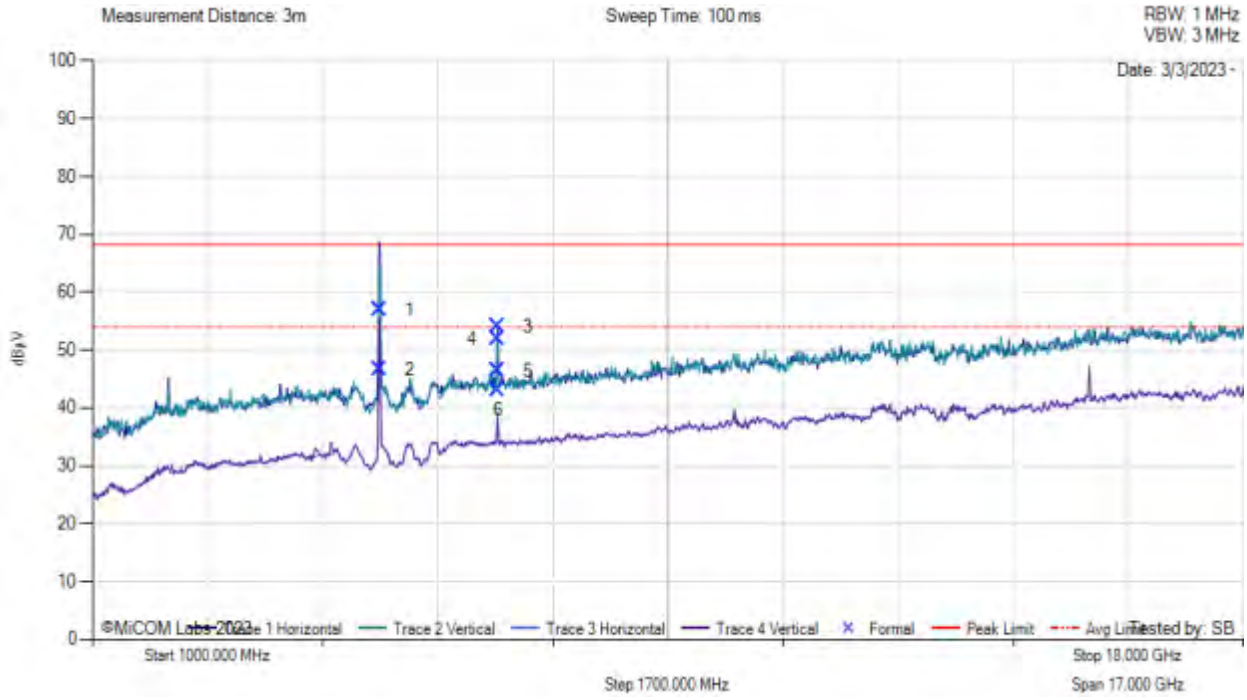
Equipment Configuration for FCC Spurious 1 GHz - 18 GHz

Antenna:	Integral	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5240.00	**Data Rate:**	6 mbit/s
Power Setting:	Max	**Tested By:**	SB

Test Measurement Results

FCC Spurious 1 GHz - 18 GHz

Variant: 802.11a, Test Freq: 5240.00 MHz, Antenna: Integral, Power Setting: Max



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	5234.87	65.67	3.06	-11.79	56.94	MaxP	Vertical	99	94	68.2	-11.3	Pass
2	5234.87	55.30	3.06	-11.79	46.57	AVG	Vertical	99	94	54.0	-7.4	Pass
3	6986.63	59.05	3.51	-8.52	54.04	MaxP	Horizontal	129	296	68.2	-14.2	Pass
4	6986.63	56.89	3.51	-8.52	51.88	AVG	Horizontal	129	296	54.0	-2.1	Pass
5	6986.66	51.35	3.51	-8.52	46.35	MaxP	Vertical	146	283	68.2	-21.9	Pass
6	6986.66	48.19	3.51	-8.52	43.18	AVG	Vertical	146	283	54.0	-10.8	Pass

Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

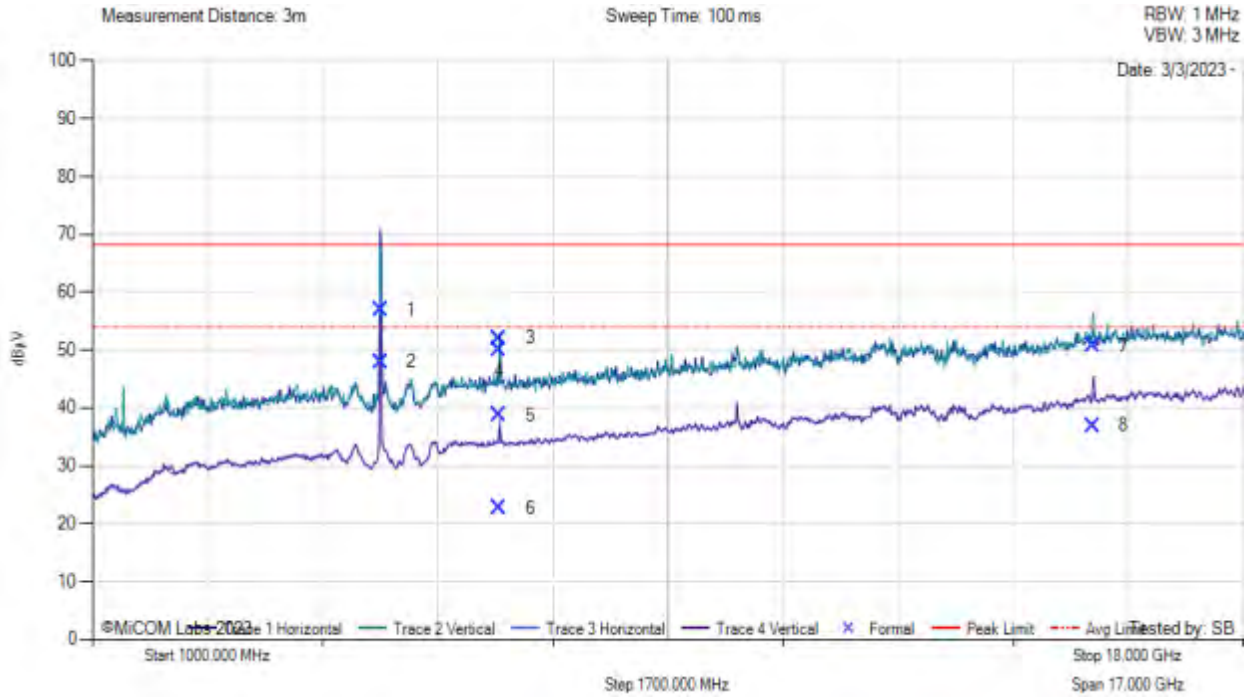
Equipment Configuration for FCC Spurious 1 GHz - 18 GHz

Antenna:	Integral	**Variant:**	802.11a
Antenna Gain (dBi):	2	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5260.00	**Data Rate:**	6 mbit/s
Power Setting:	Max	**Tested By:**	SB

Test Measurement Results

FCC Spurious 1 GHz - 18 GHz

Variant: 802.11a, Test Freq: 5260.00 MHz, Antenna: Integral, Power Setting: Max, 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	5251.98	65.42	3.05	-11.47	57.00	MaxP	Horizontal	99	156	68.2	-11.2	Pass
2	5251.98	56.37	3.05	-11.47	47.95	AVG	Horizontal	99	156	54.0	-6.0	Pass
3	7013.29	57.01	3.56	-8.53	52.03	MaxP	Horizontal	121	296	68.2	-16.2	Pass
4	7013.29	55.00	3.56	-8.53	50.02	AVG	Horizontal	121	296	54.0	-4.0	Pass
5	7013.55	43.63	3.56	-8.53	38.66	MaxP	Vertical	107	271	68.2	-29.6	Pass
6	7013.55	27.68	3.56	-8.53	22.71	AVG	Vertical	107	271	54.0	-31.3	Pass
7	15776.84	46.63	5.73	-1.66	50.71	MaxP	Vertical	99	269	68.2	-17.5	Pass
8	15776.84	32.81	5.73	-1.66	36.89	AVG	Vertical	99	269	54.0	-17.1	Pass

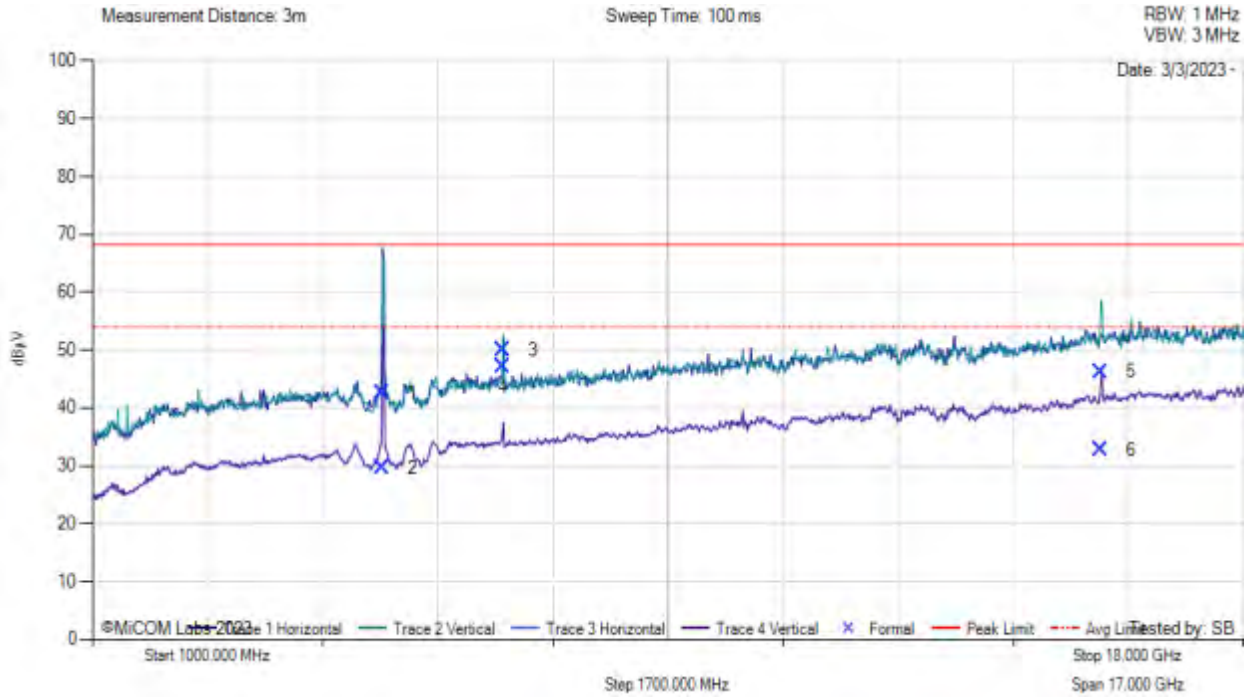
Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

Equipment Configuration for FCC Spurious 1 GHz - 18 GHz			
Antenna:	Integral	**Variant:**	802.11a
Antenna Gain (dBi):	2	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5300.00	**Data Rate:**	6 mbit/s
Power Setting:	Max	**Tested By:**	SB

Test Measurement Results

FCC Spurious 1 GHz - 18 GHz

Variant: 802.11a, Test Freq: 5300.00 MHz, Antenna: Integral, Power Setting: Max, 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	5285.19	51.42	3.00	-11.93	42.49	MaxP	Horizontal	128	150	68.2	-25.7	Pass
2	5285.19	38.59	3.00	-11.93	29.66	AVG	Horizontal	128	150	54.0	-24.3	Pass
3	7066.69	54.67	3.58	-8.29	49.96	MaxP	Horizontal	121	214	68.2	-18.3	Pass
4	7066.69	51.78	3.58	-8.29	47.07	AVG	Horizontal	121	214	54.0	-6.9	Pass
5	15896.18	41.72	5.80	-1.26	46.25	MaxP	Horizontal	100	270	68.2	-22.0	Pass
6	15896.18	28.25	5.80	-1.26	32.78	AVG	Horizontal	100	270	54.0	-21.2	Pass

Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

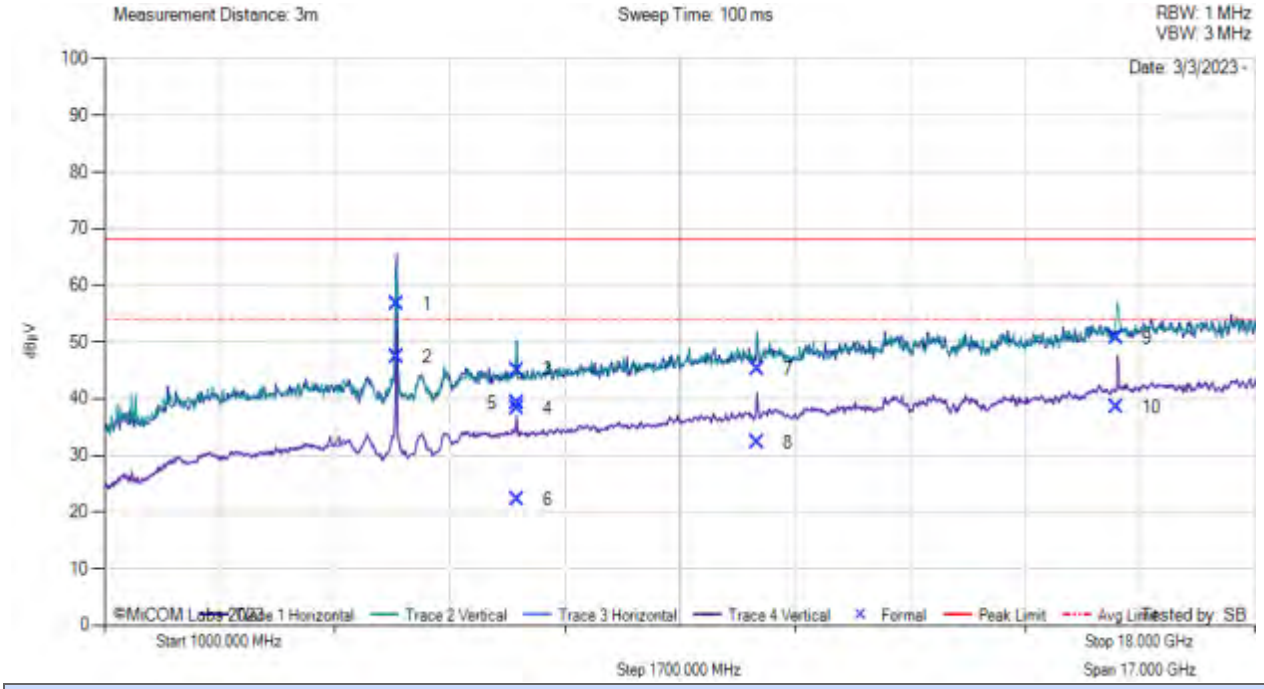
Equipment Configuration for FCC Spurious 1 GHz - 18 GHz

Antenna:	Integral	**Variant:**	802.11a
Antenna Gain (dBi):	2	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5320.00	**Data Rate:**	6 mbit/s
Power Setting:	Max	**Tested By:**	SB

Test Measurement Results

FCC Spurious 1 GHz - 18 GHz

Variant: 802.11a, Test Freq: 5320.00 MHz, Antenna: Integral, Power Setting: Max, 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	5316.76	65.47	3.04	-11.88	56.62	MaxP	Horizontal	118	150	68.2	-11.6	Pass
2	5316.76	56.14	3.04	-11.88	47.29	AVG	Horizontal	118	150	54.0	-6.7	Pass
3	7093.38	50.00	3.53	-8.50	45.03	MaxP	Horizontal	102	130	68.2	-23.2	Pass
4	7093.38	43.21	3.53	-8.50	38.24	AVG	Horizontal	102	130	54.0	-15.8	Pass
5	7093.50	44.17	3.53	-8.50	39.20	MaxP	Vertical	103	101	68.2	-29.0	Pass
6	7093.50	27.17	3.53	-8.50	22.20	AVG	Vertical	103	101	54.0	-31.8	Pass
7	10637.36	45.13	4.92	-4.90	45.16	MaxP	Vertical	135	29	68.2	-23.1	Pass
8	10637.36	32.16	4.92	-4.90	32.18	AVG	Vertical	135	29	54.0	-21.8	Pass
9	15952.78	46.76	5.81	-1.90	50.67	MaxP	Vertical	105	269	68.2	-17.6	Pass
10	15952.78	34.57	5.81	-1.90	38.48	AVG	Vertical	105	269	54.0	-15.5	Pass

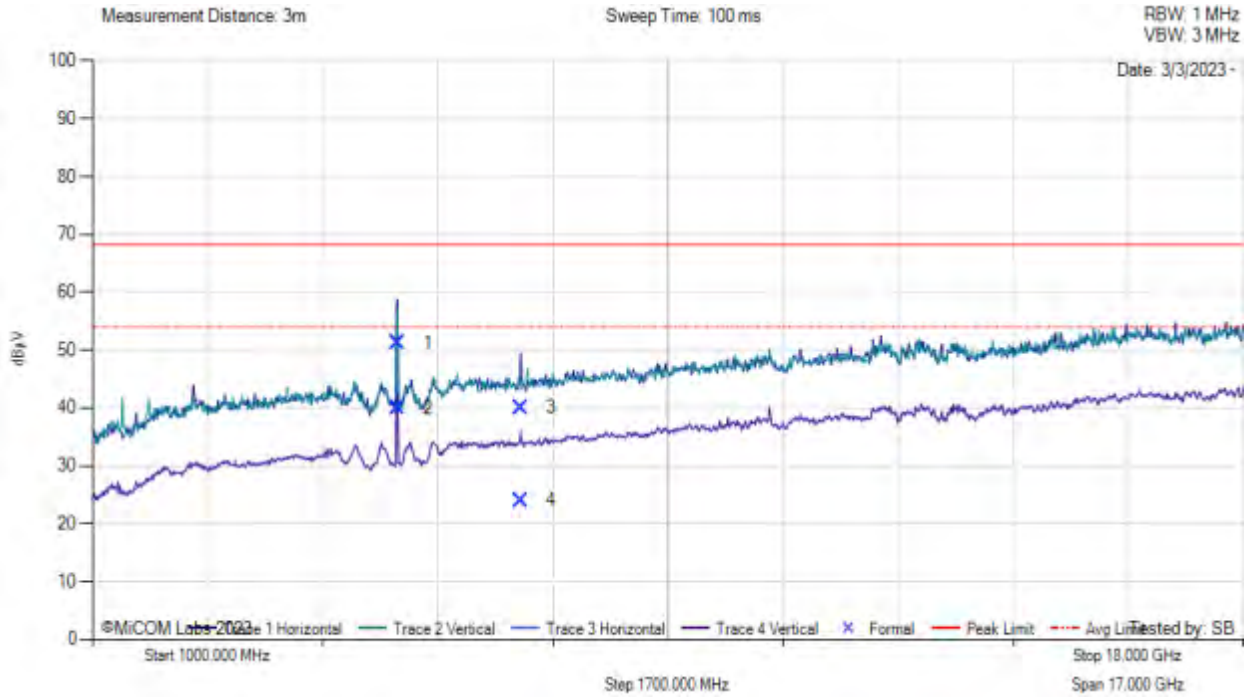
Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

Equipment Configuration for FCC Spurious 1 GHz - 18 GHz			
Antenna:	Integral	**Variant:**	802.11a
Antenna Gain (dBi):	2	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5500.00	**Data Rate:**	6 mbit/s
Power Setting:	Max	**Tested By:**	SB

Test Measurement Results

FCC Spurious 1 GHz - 18 GHz

Variant: 802.11a, Test Freq: 5500.00 MHz, Antenna: Integral, Power Setting: Max, 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	5503.72	59.93	3.11	-11.81	51.23	MaxP	Horizontal	102	118	68.2	-17.0	Pass
2	5503.72	48.64	3.11	-11.81	39.94	AVG	Horizontal	102	118	54.0	-14.1	Pass
3	7333.05	44.33	3.81	-8.06	40.08	MaxP	Horizontal	108	298	68.2	-28.2	Pass
4	7333.05	28.23	3.81	-8.06	23.97	AVG	Horizontal	108	298	54.0	-30.0	Pass

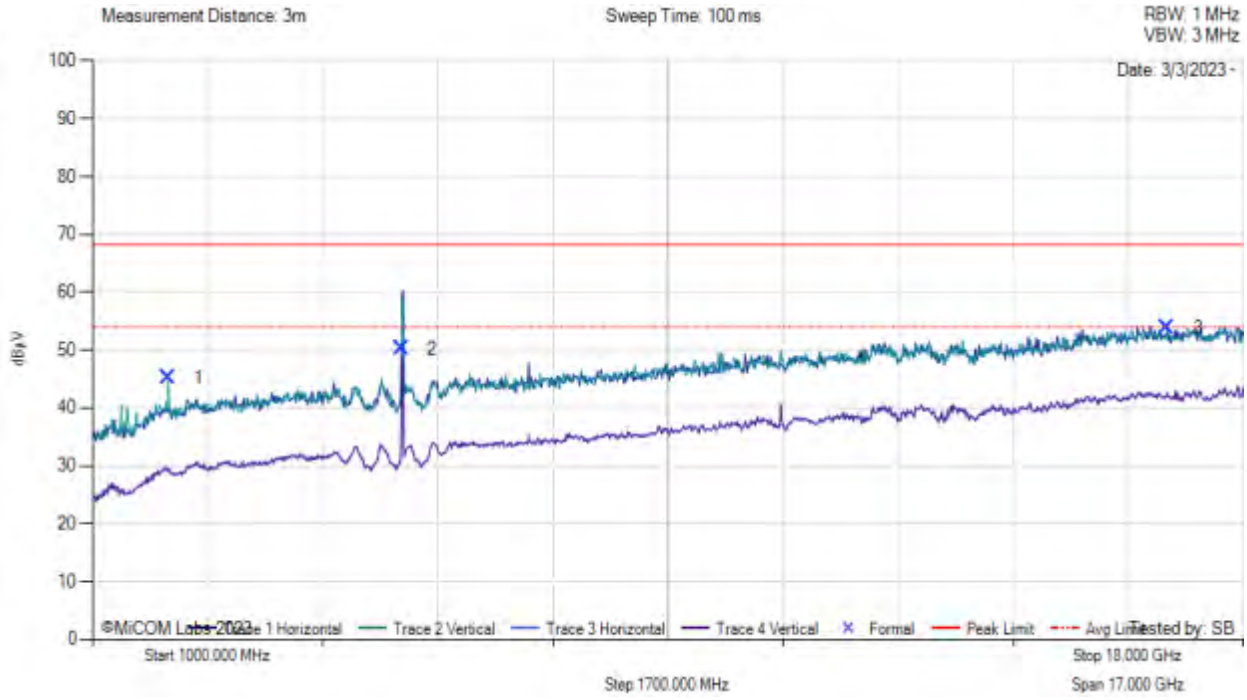
Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

Equipment Configuration for FCC Spurious 1 GHz - 18 GHz			
Antenna:	Integral	**Variant:**	802.11a
Antenna Gain (dBi):	2	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5580.00	**Data Rate:**	6 mbit/s
Power Setting:	Max	**Tested By:**	SB

Test Measurement Results

FCC Spurious 1 GHz - 18 GHz

Variant: 802.11a, Test Freq: 5580.00 MHz, Antenna: Integral, Power Setting: Max, 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	2122.00	56.05	1.85	31.74	45.26	MaxP	Vertical	98	239	68.2	-23.0	Pass
2	5573.00	58.97	3.11	34.24	50.19	AVG	Horizontal	98	120	54.0	-3.8	Pass
3	16878.00	48.46	6.59	41.02	53.82	MaxP	Vertical	149	149	68.2	-14.4	Pass

Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

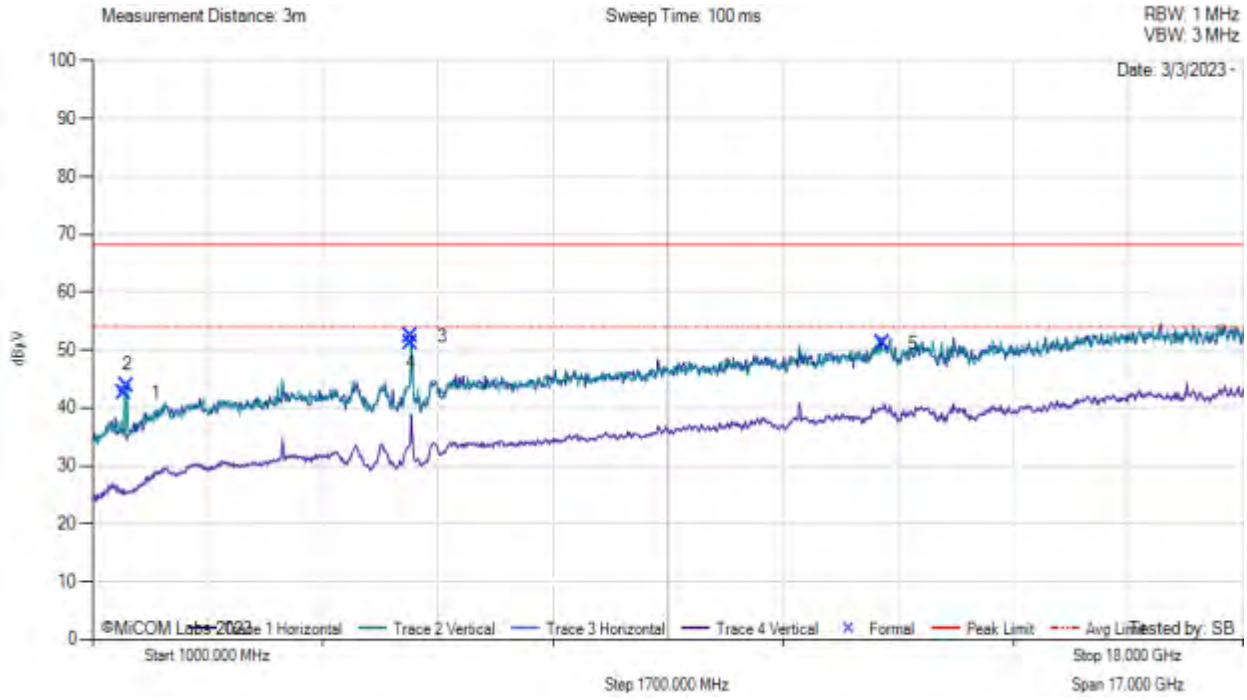
Equipment Configuration for FCC Spurious 1 GHz - 18 GHz

Antenna:	Integral	**Variant:**	802.11a
Antenna Gain (dBi):	2	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5720.00	**Data Rate:**	6 mbit/s
Power Setting:	Max	**Tested By:**	SB

Test Measurement Results

FCC Spurious 1 GHz - 18 GHz

Variant: 802.11a, Test Freq: 5720.00 MHz, Antenna: Integral, Power Setting: Max, 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	1476.00	57.54	1.55	28.44	42.53	MaxP	Vertical	149	179	68.2	-25.7	Pass
2	1510.00	59.05	1.56	28.21	43.88	MaxP	Vertical	98	239	68.2	-24.3	Pass
3	5709.00	59.93	3.18	34.34	52.36	MaxP	Horizontal	149	0	68.2	-15.9	Pass
4	5709.00	58.88	3.18	34.34	51.30	MaxP	Vertical	149	29	68.2	-16.9	Pass
5	12679.00	52.71	5.16	39.32	51.23	MaxP	Horizontal	98	30	68.2	-17.0	Pass

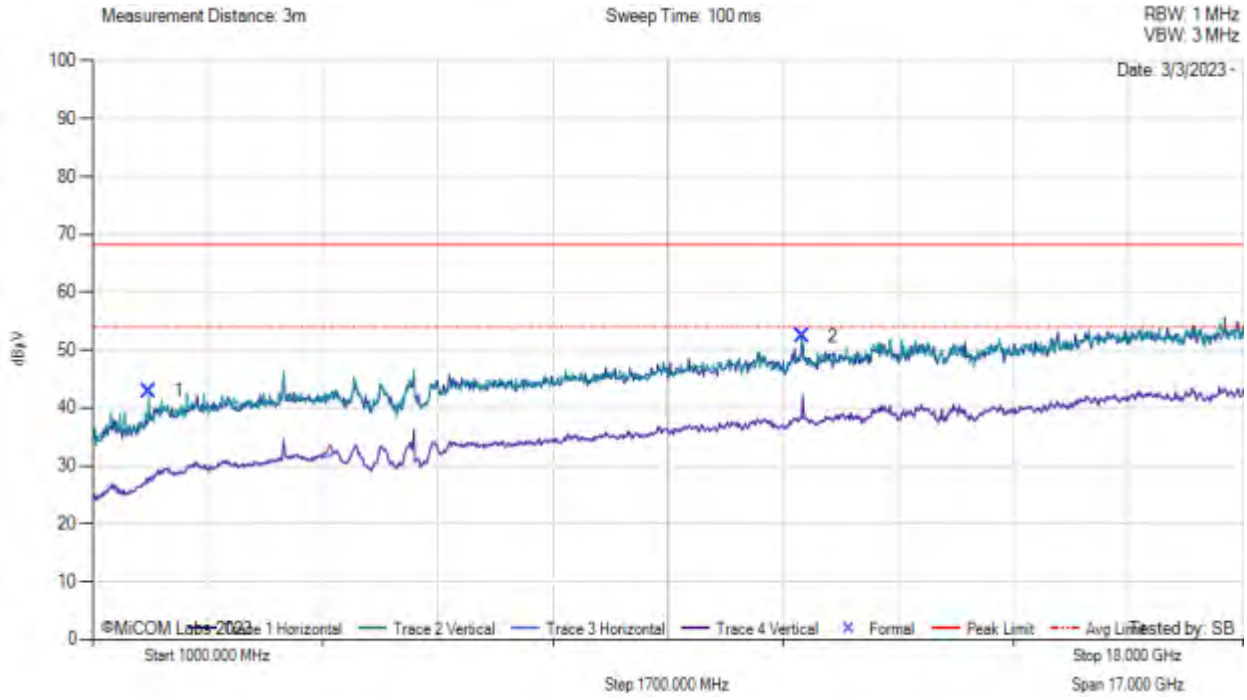
Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

Equipment Configuration for FCC Spurious 1 GHz - 18 GHz			
Antenna:	Integral	**Variant:**	802.11a
Antenna Gain (dBi):	2	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5745.00	**Data Rate:**	6 mbit/s
Power Setting:	Max	**Tested By:**	SB

Test Measurement Results

FCC Spurious 1 GHz - 18 GHz

Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: Integral, Power Setting: Max, 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	1833.00	55.20	1.75	30.86	42.88	MaxP	Vertical	99	239	68.2	-25.4	Pass
2	11489.00	53.31	4.80	38.19	52.35	MaxP	Vertical	99	209	68.2	-15.9	Pass

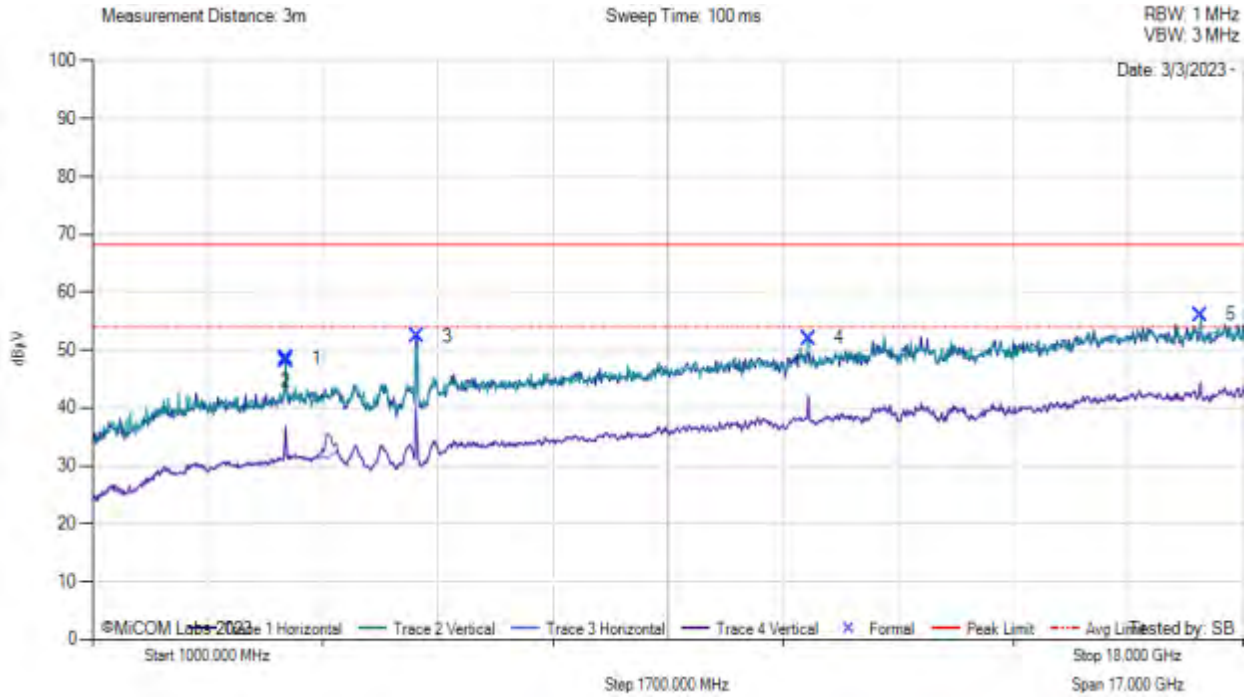
Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

Equipment Configuration for FCC Spurious 1 GHz - 18 GHz			
Antenna:	Integral	**Variant:**	802.11a
Antenna Gain (dBi):	2	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5785.00	**Data Rate:**	6 mbit/s
Power Setting:	Max	**Tested By:**	SB

Test Measurement Results

FCC Spurious 1 GHz - 18 GHz

Variant: 802.11a, Test Freq: 5785.00 MHz, Antenna: Integral, Power Setting: Max, 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	3856.00	57.70	2.53	33.72	48.59	MaxP	Vertical	149	330	68.2	-19.6	Pass
2	3856.00	57.34	2.53	33.72	48.22	MaxP	Horizontal	99	330	68.2	-20.0	Pass
3	5794.00	59.90	3.18	34.49	52.41	MaxP	Horizontal	99	300	68.2	-15.8	Pass
4	11574.00	53.04	4.92	38.24	51.98	MaxP	Vertical	99	209	68.2	-16.3	Pass
5	17371.00	50.49	6.48	40.89	56.07	MaxP	Vertical	99	269	68.2	-12.2	Pass

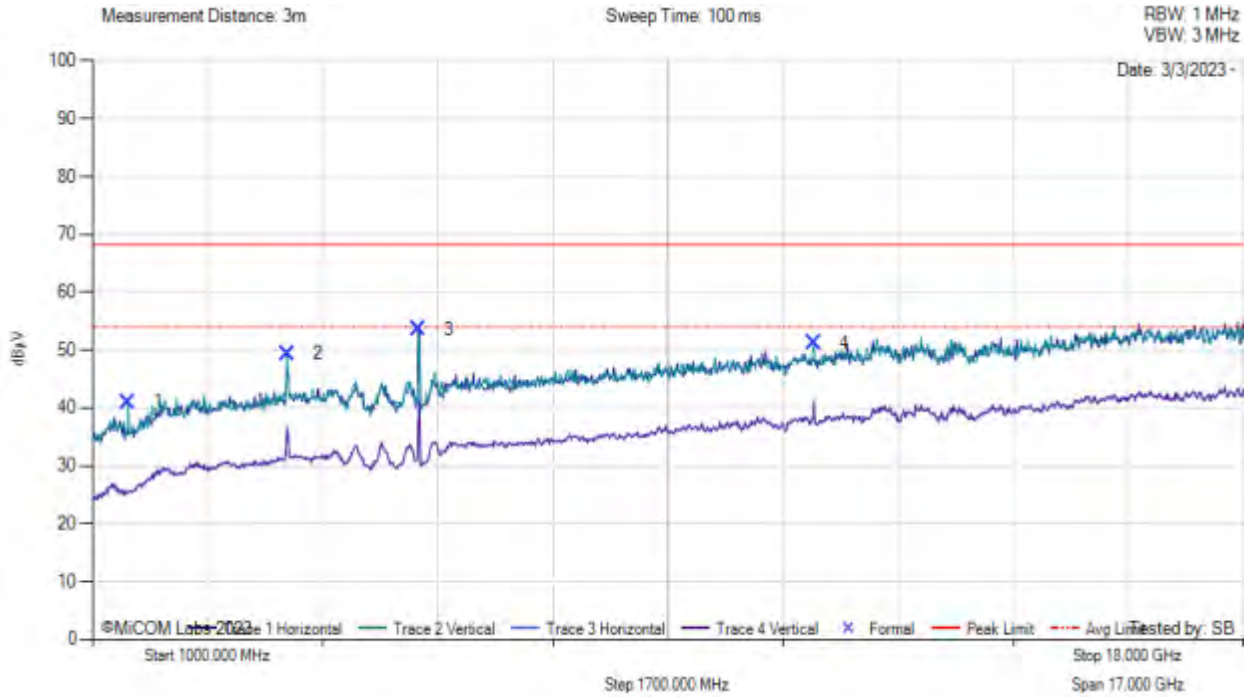
Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

Equipment Configuration for FCC Spurious 1 GHz - 18 GHz			
Antenna:	Integral	**Variant:**	802.11a
Antenna Gain (dBi):	2	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5825.00	**Data Rate:**	6 mbit/s
Power Setting:	Max	**Tested By:**	SB

Test Measurement Results

FCC Spurious 1 GHz - 18 GHz

Variant: 802.11a, Test Freq: 5825.00 MHz, Antenna: Integral, Power Setting: Max, 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	1527.00	56.13	1.58	28.22	41.03	MaxP	Vertical	149	179	68.2	-27.2	Pass
2	3873.00	53.11	2.53	33.73	49.37	MaxP	Vertical	149	0	68.2	-18.9	Pass
3	5811.00	60.75	3.20	34.53	53.52	MaxP	Horizontal	99	30	68.2	-14.7	Pass
4	11659.00	52.50	4.90	38.30	51.13	MaxP	Vertical	149	59	68.2	-17.1	Pass

Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

9.7.2. Restricted Edge & Band-Edge Emissions

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5150 - 5250 MHz

Integral		Band-Edge Freq	Limit 68.2 dBµV/m	Limit 54.0 dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
a	5180.00	5150.00	64.99	52.18	11
HT-20	5180.00	5150.00	64.76	52.13	11
HT-40	5190.00	5150.00	66.26	52.23	8
ac80	5210.00	5150.00	65.35	52.13	4

5250 - 5350 MHz

Integral		Band-Edge Freq	Limit 74.0 dBµV/m	Limit 54.0 dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
a	5320.00	5350.00	62.54	49.21	7
HT-20	5320.00	5350.00	62.82	49.21	7
HT-40	5310.00	5350.00	62.55	49.11	7
ac80	5290.00	5350.00	62.42	49.21	4

5470 - 5725 MHz

Integral		Band-Edge Freq	Limit 68.2 dBµV/m	Limit 54.0 dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
a	5500.00	5470.00	64.01	49.13	10
HT-20	5500.00	5470.00	64.26	49.36	11
HT-40	5510.00	5470.00	67.83	53.20	10
ac80	5530.00	5470.00	61.84	49.20	4

5725 - 5850 MHz

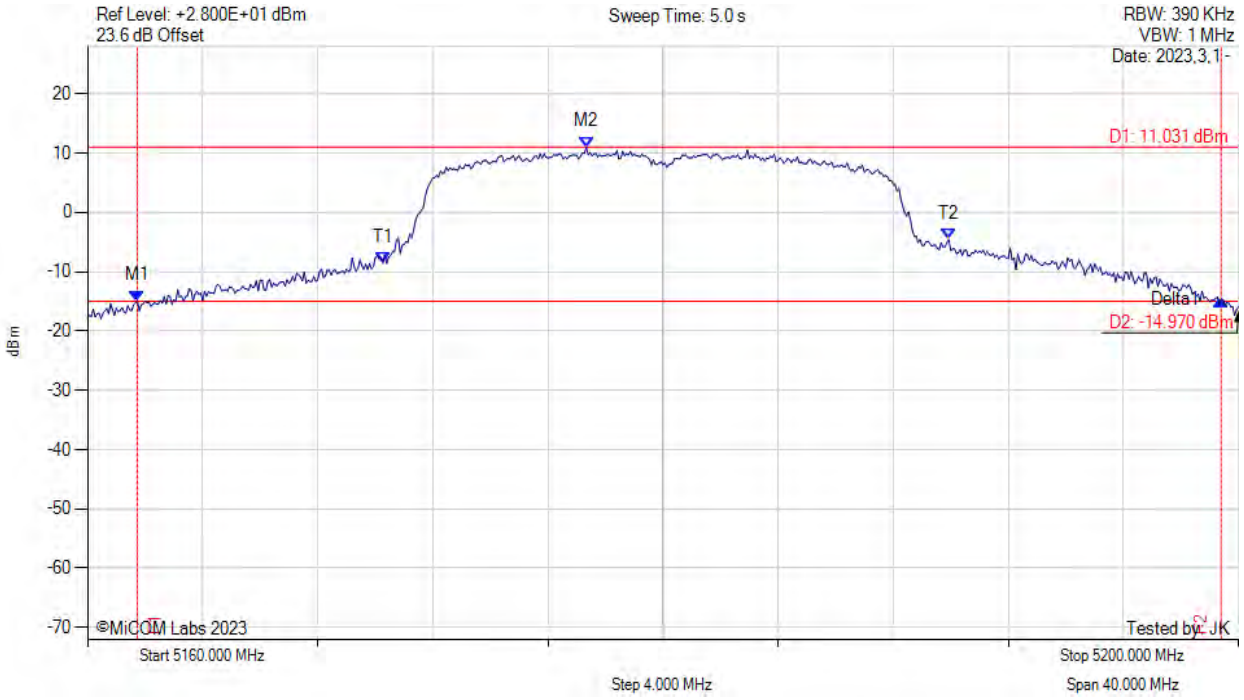
Integral		Band-Edge Freq	Limit 68.2 dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	
a	5745.00	5725.00	65.14	9
	5825.00	5850.00	65.68	13
HT-20	5745.00	5725.00	64.85	9
	5825.00	5850.00	65.90	13
HT-40	5755.00	5725.00	64.94	12
	5795.00	5850.00	66.08	12
ac80	5775.00	5725.00	64.77	12
	5775.00	5850.00	66.23	12

A. APPENDIX - GRAPHICAL IMAGES

A.1. 26 dB & 99% Bandwidth

26 dB & 99% BANDWIDTH

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

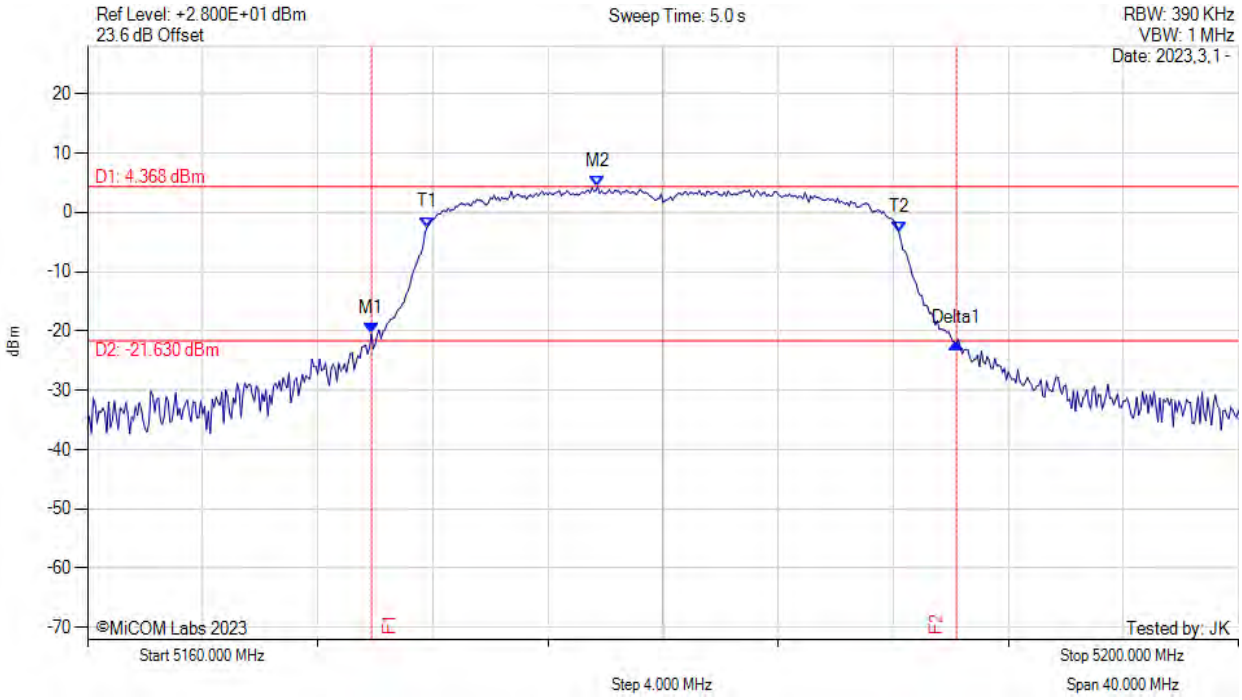


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5161.730 MHz : -14.915 dBm M2 : 5177.330 MHz : 11.031 dBm Delta1 : 37.670 MHz : 0.199 dB T1 : 5170.267 MHz : -8.530 dBm T2 : 5189.933 MHz : -4.592 dBm OBW : 22.303 MHz	Measured 26 dB Bandwidth: 37.670 MHz Measured 99% Bandwidth: 22.303 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

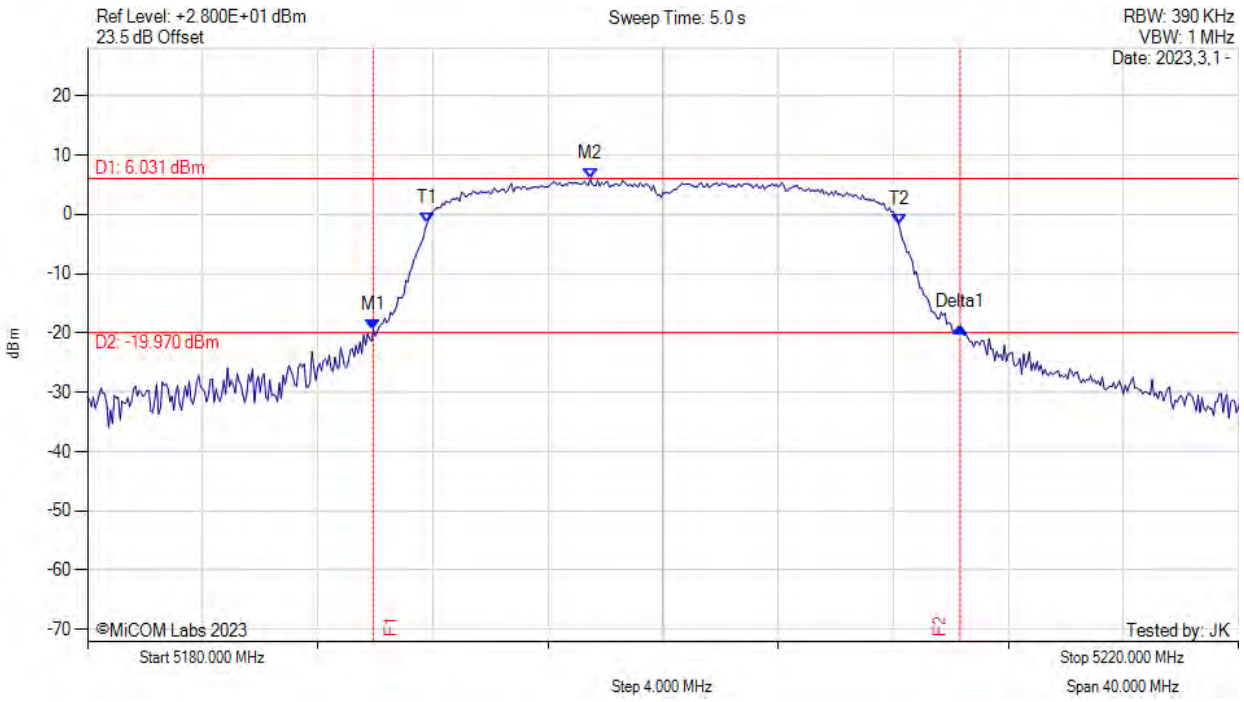


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5169.870 MHz : -20.500 dBm M2 : 5177.730 MHz : 4.368 dBm Delta1 : 20.330 MHz : -1.641 dB T1 : 5171.800 MHz : -2.535 dBm T2 : 5188.200 MHz : -3.373 dBm OBW : 16.410 MHz	Channel Frequency: 5180.00 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

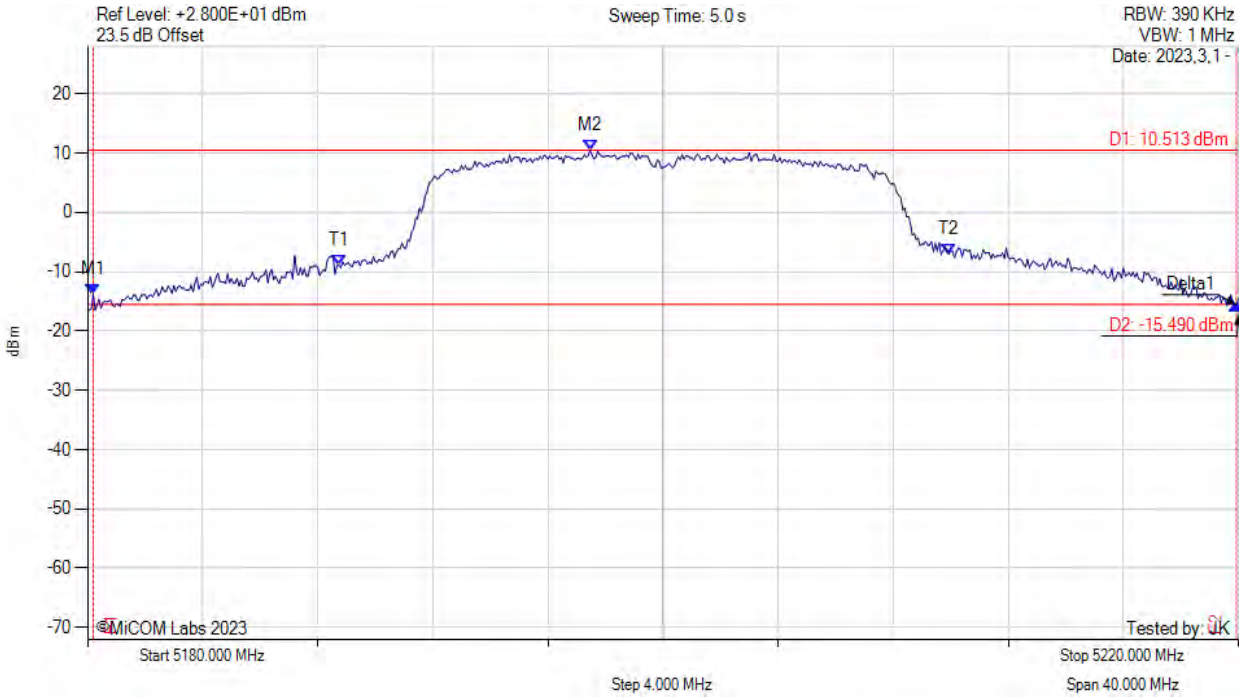


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5189.930 MHz : -19.373 dBm M2 : 5197.470 MHz : 6.031 dBm Delta1 : 20.400 MHz : 0.376 dB T1 : 5191.800 MHz : -1.532 dBm T2 : 5208.200 MHz : -1.732 dBm OBW : 16.418 MHz	Channel Frequency: 5200.00 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

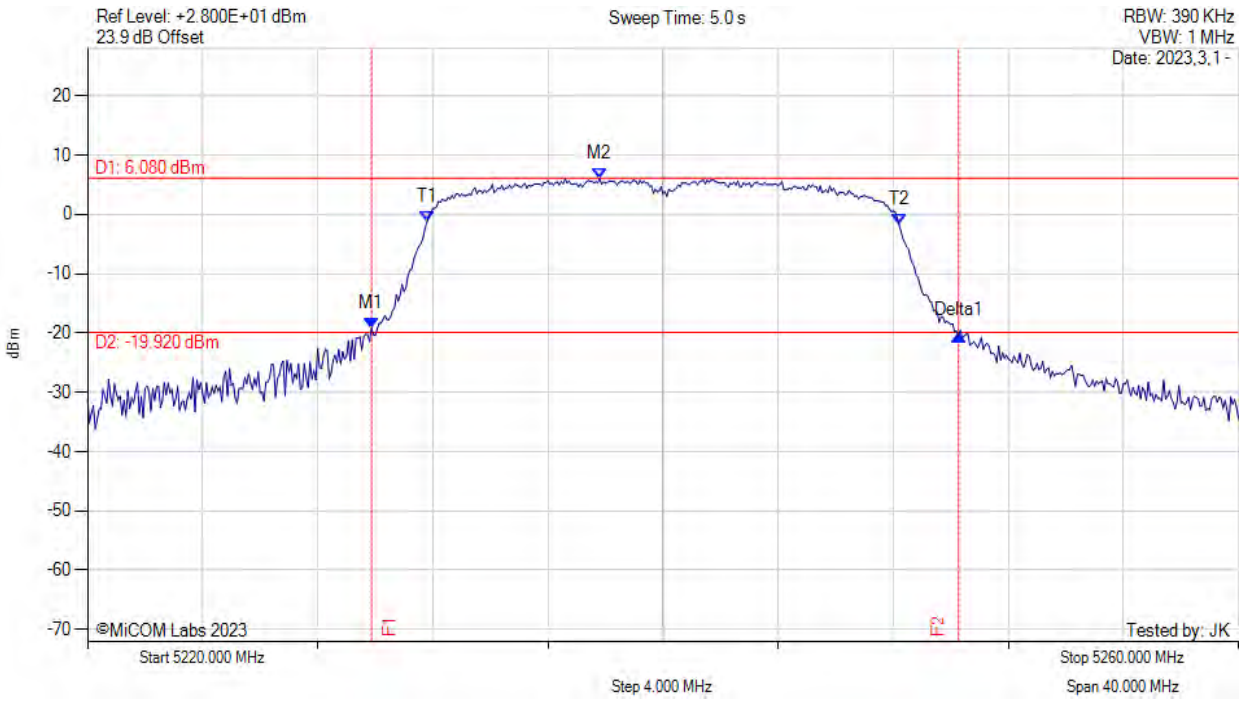


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5180.200 MHz : -13.835 dBm M2 : 5197.470 MHz : 10.513 dBm Delta1 : 39.730 MHz : -1.759 dB T1 : 5188.733 MHz : -8.888 dBm T2 : 5209.933 MHz : -7.094 dBm OBW : 23.973 MHz	Measured 26 dB Bandwidth: 39.730 MHz Measured 99% Bandwidth: 23.973 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

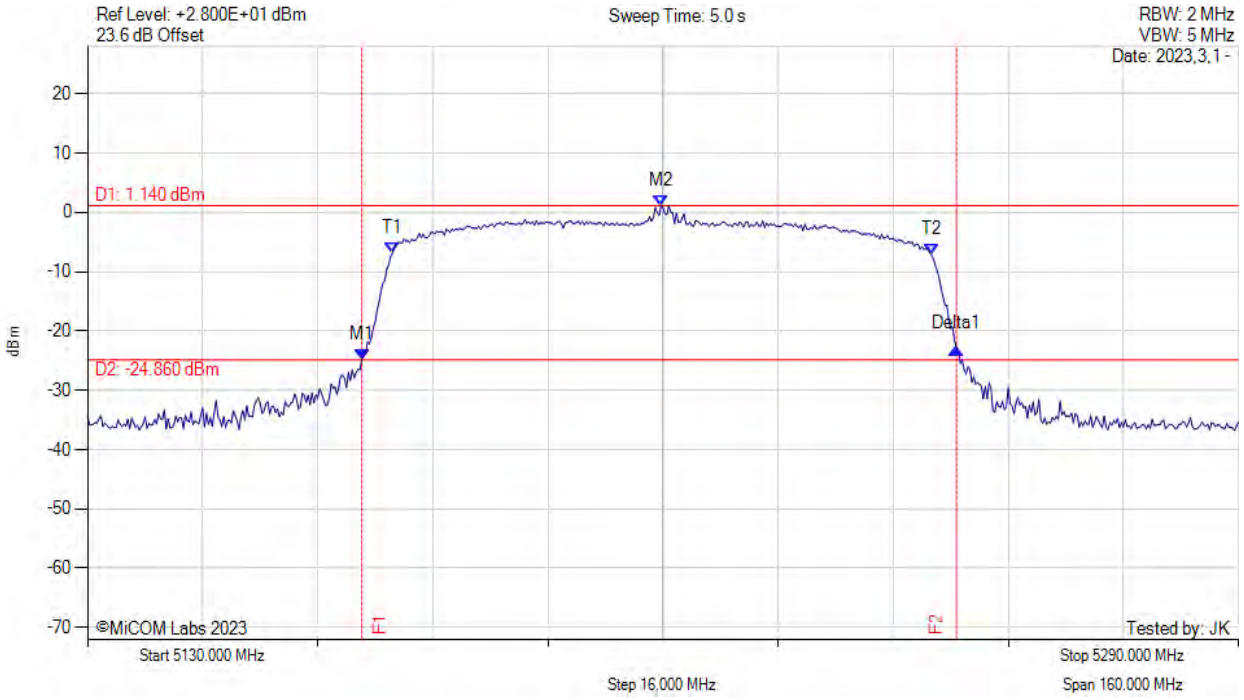


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5229.870 MHz : -19.224 dBm M2 : 5237.800 MHz : 6.080 dBm Delta1 : 20.400 MHz : -1.196 dB T1 : 5231.800 MHz : -1.304 dBm T2 : 5248.200 MHz : -1.693 dBm OBW : 16.414 MHz	Channel Frequency: 5240.00 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

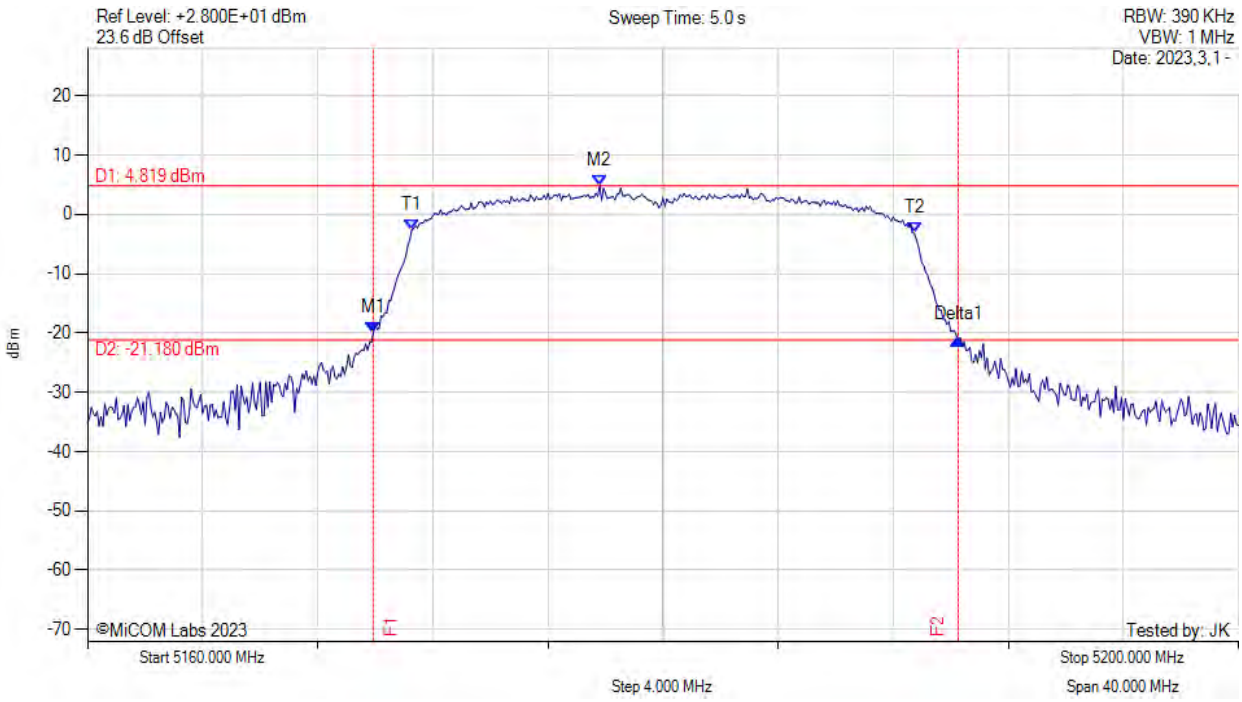


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5168.130 MHz : -24.843 dBm M2 : 5209.730 MHz : 1.140 dBm Delta1 : 82.670 MHz : 1.830 dB T1 : 5172.400 MHz : -6.883 dBm T2 : 5247.333 MHz : -7.155 dBm OBW : 74.935 MHz	Channel Frequency: 5210.00 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

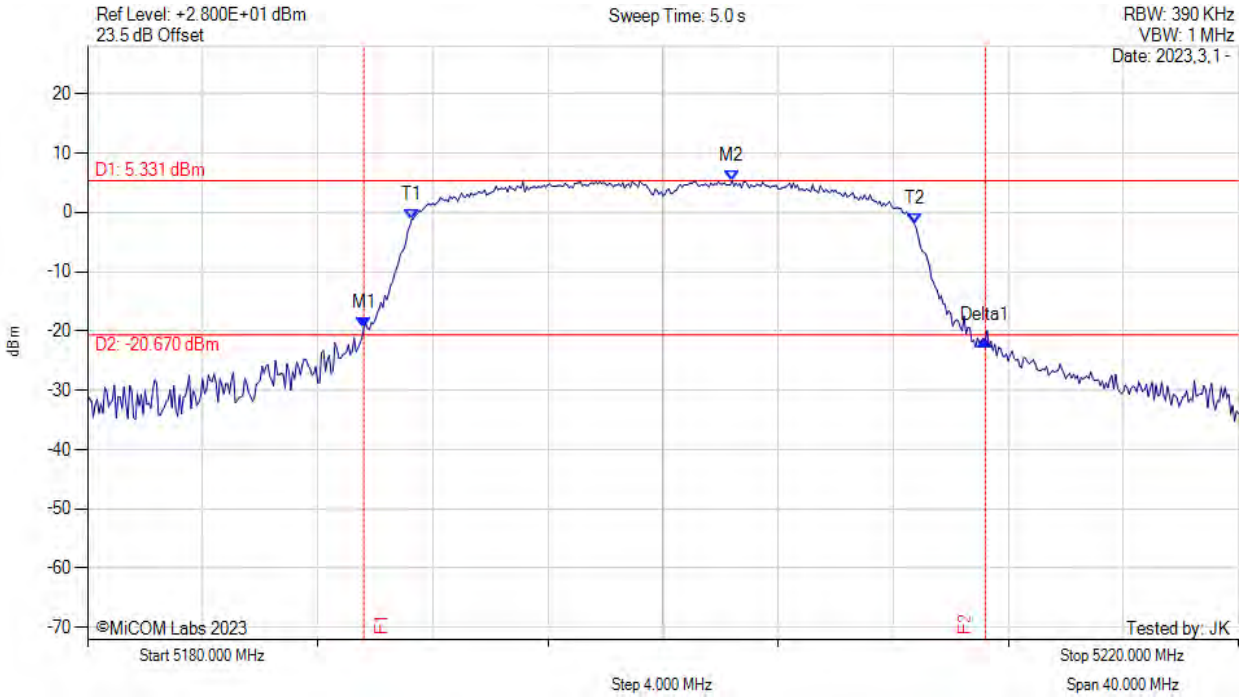


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5169.930 MHz : -20.020 dBm M2 : 5177.800 MHz : 4.819 dBm Delta1 : 20.330 MHz : -1.124 dB T1 : 5171.267 MHz : -2.596 dBm T2 : 5188.733 MHz : -3.190 dBm OBW : 17.455 MHz	Channel Frequency: 5180.00 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

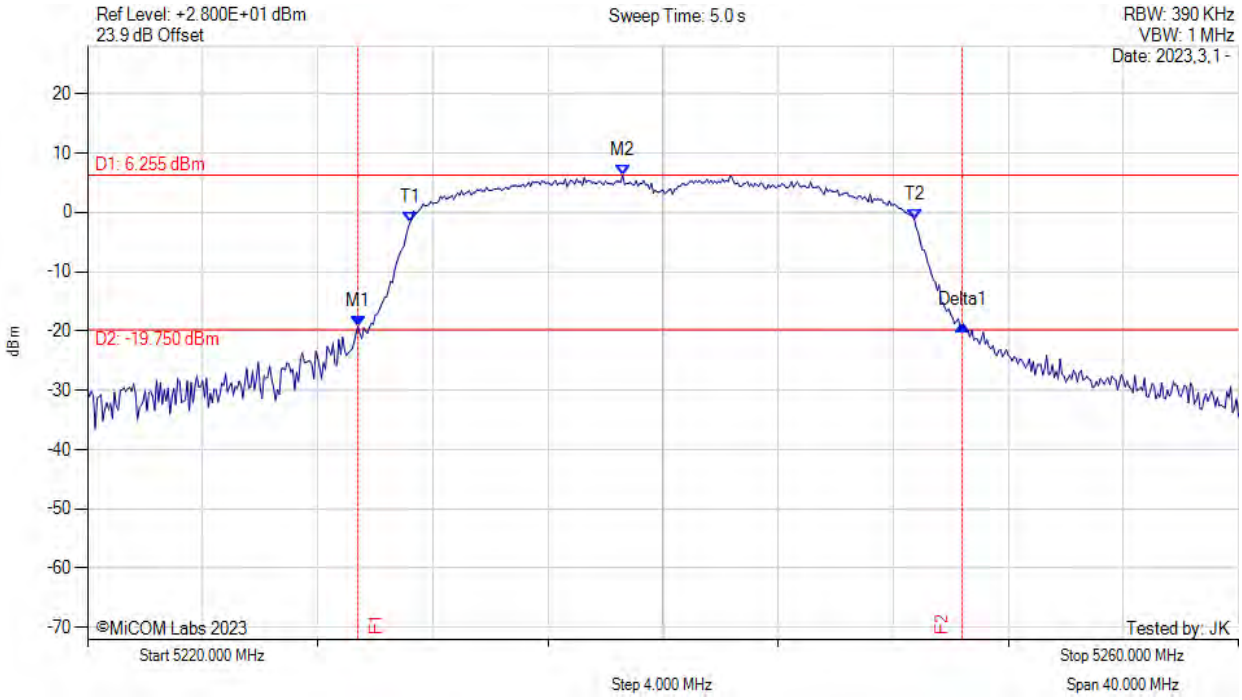


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5189.600 MHz : -19.554 dBm M2 : 5202.400 MHz : 5.331 dBm Delta1 : 21.600 MHz : -2.065 dB T1 : 5191.267 MHz : -1.177 dBm T2 : 5208.733 MHz : -1.850 dBm OBW : 17.478 MHz	Channel Frequency: 5200.00 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

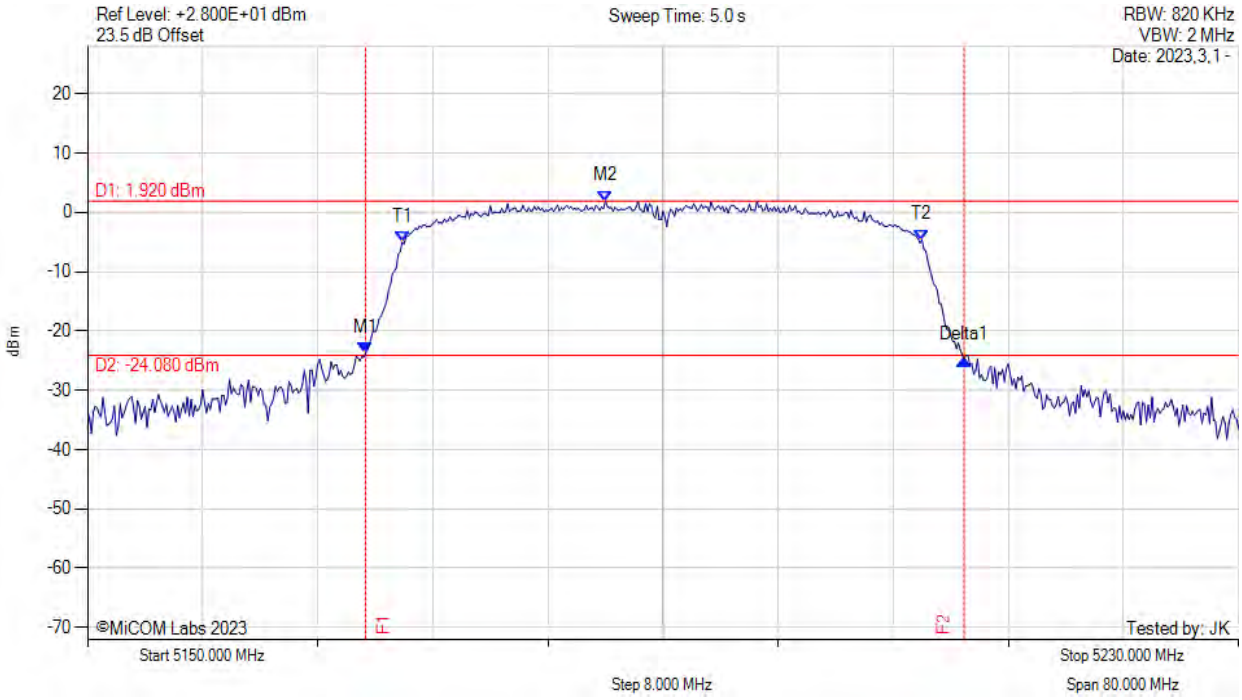


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5229.400 MHz : -19.243 dBm M2 : 5238.600 MHz : 6.255 dBm Delta1 : 21.000 MHz : 0.320 dB T1 : 5231.200 MHz : -1.785 dBm T2 : 5248.733 MHz : -1.140 dBm OBW : 17.493 MHz	Channel Frequency: 5240.00 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

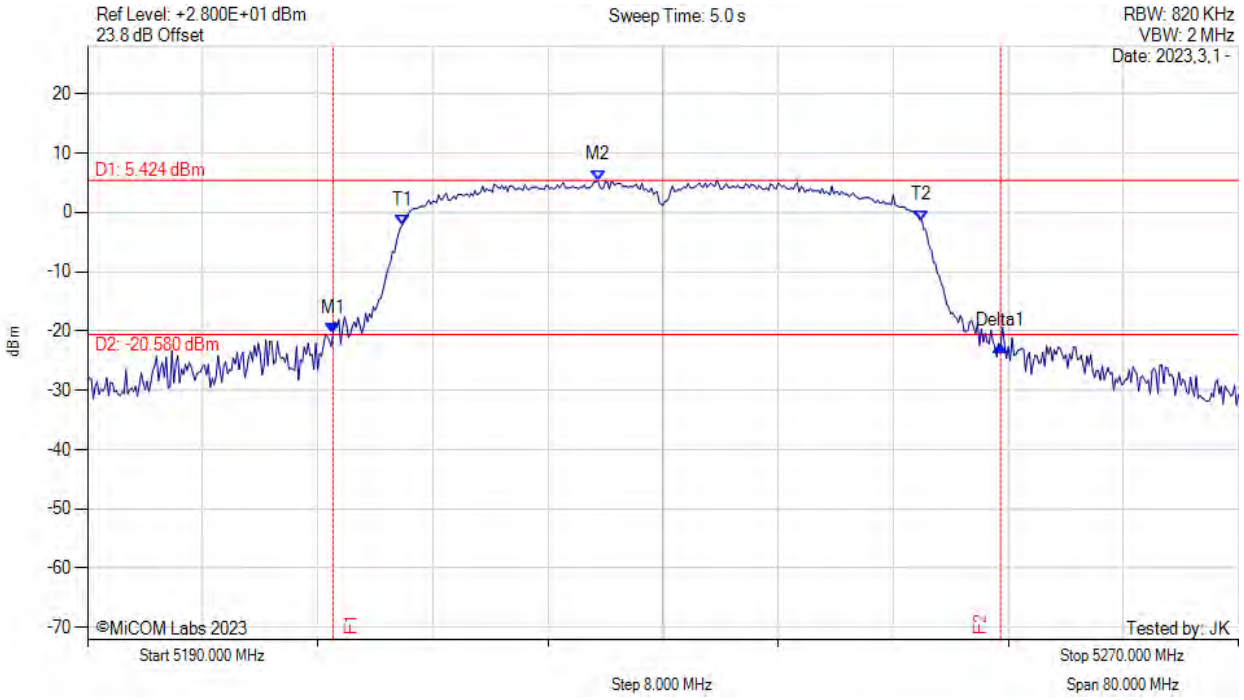


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5169.330 MHz : -23.657 dBm M2 : 5186.000 MHz : 1.920 dBm Delta1 : 41.600 MHz : -1.119 dB T1 : 5171.867 MHz : -5.026 dBm T2 : 5208.000 MHz : -4.631 dBm OBW : 36.094 MHz	Measured 26 dB Bandwidth: 41.600 MHz Measured 99% Bandwidth: 36.094 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

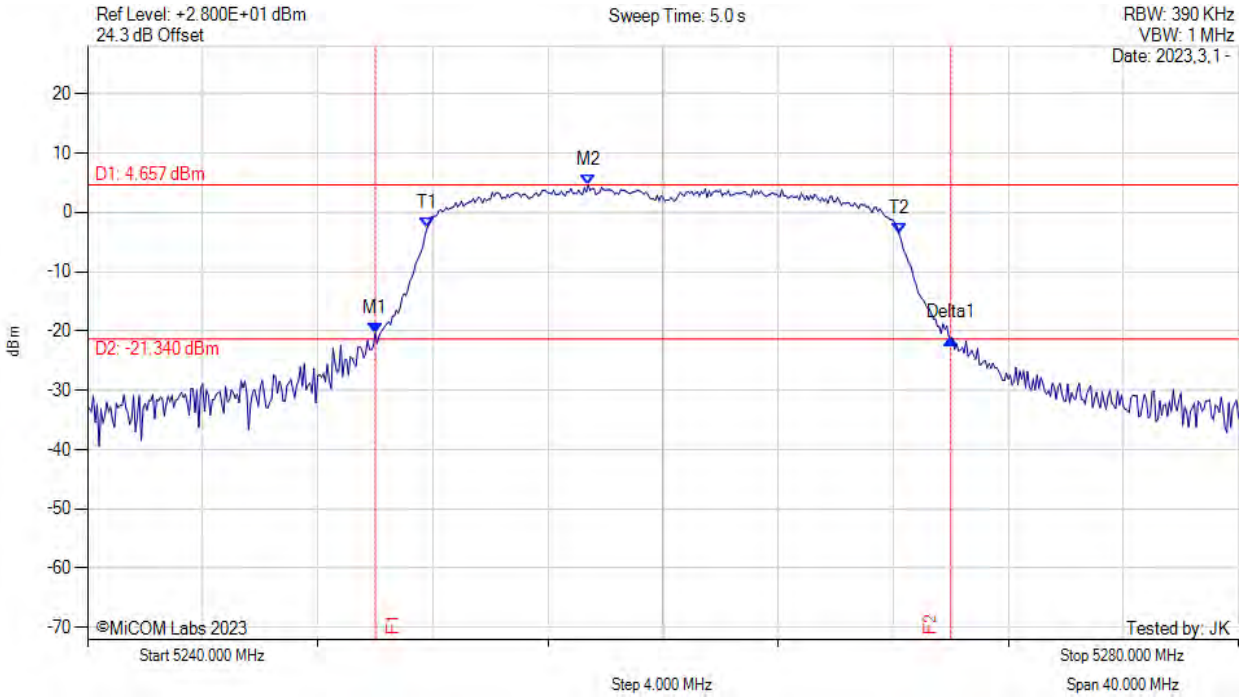


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5207.070 MHz : -20.370 dBm M2 : 5225.470 MHz : 5.424 dBm Delta1 : 46.400 MHz : -2.199 dB T1 : 5211.867 MHz : -2.141 dBm T2 : 5248.000 MHz : -1.373 dBm OBW : 36.167 MHz	Measured 26 dB Bandwidth: 46.400 MHz Measured 99% Bandwidth: 36.167 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

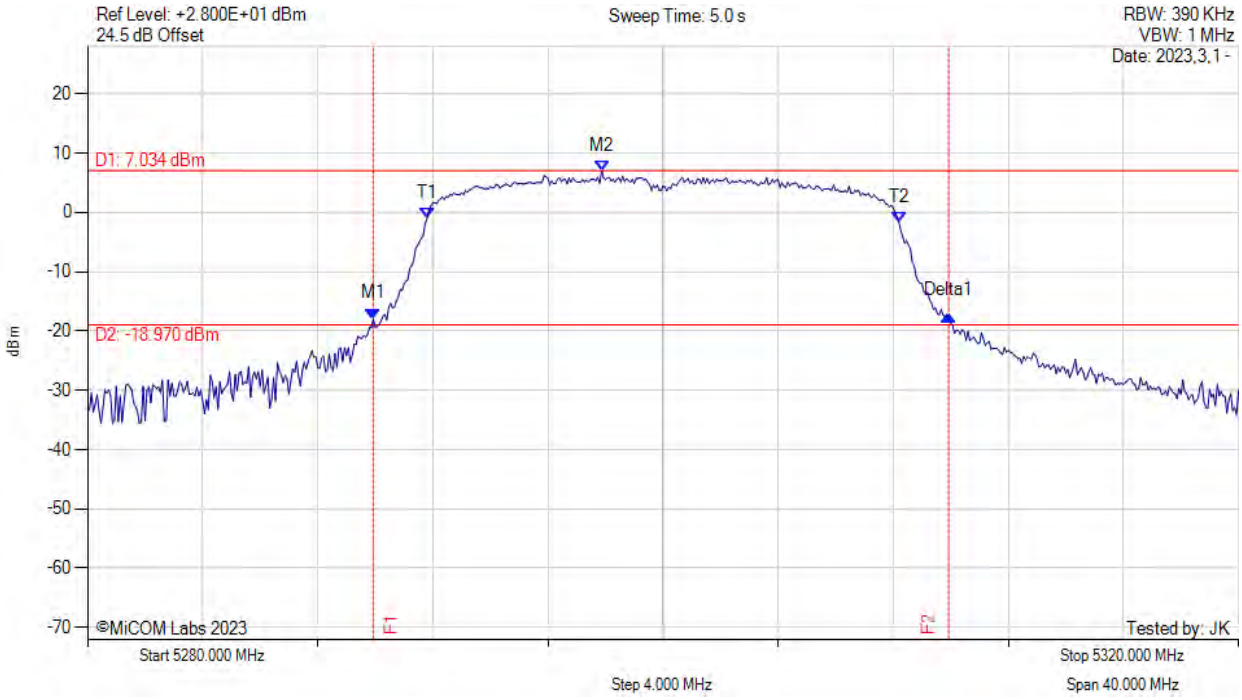


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5250.000 MHz : -20.382 dBm M2 : 5257.400 MHz : 4.657 dBm Delta1 : 20.000 MHz : -0.853 dB T1 : 5251.800 MHz : -2.729 dBm T2 : 5268.200 MHz : -3.592 dBm OBW : 16.404 MHz	Channel Frequency: 5260.00 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

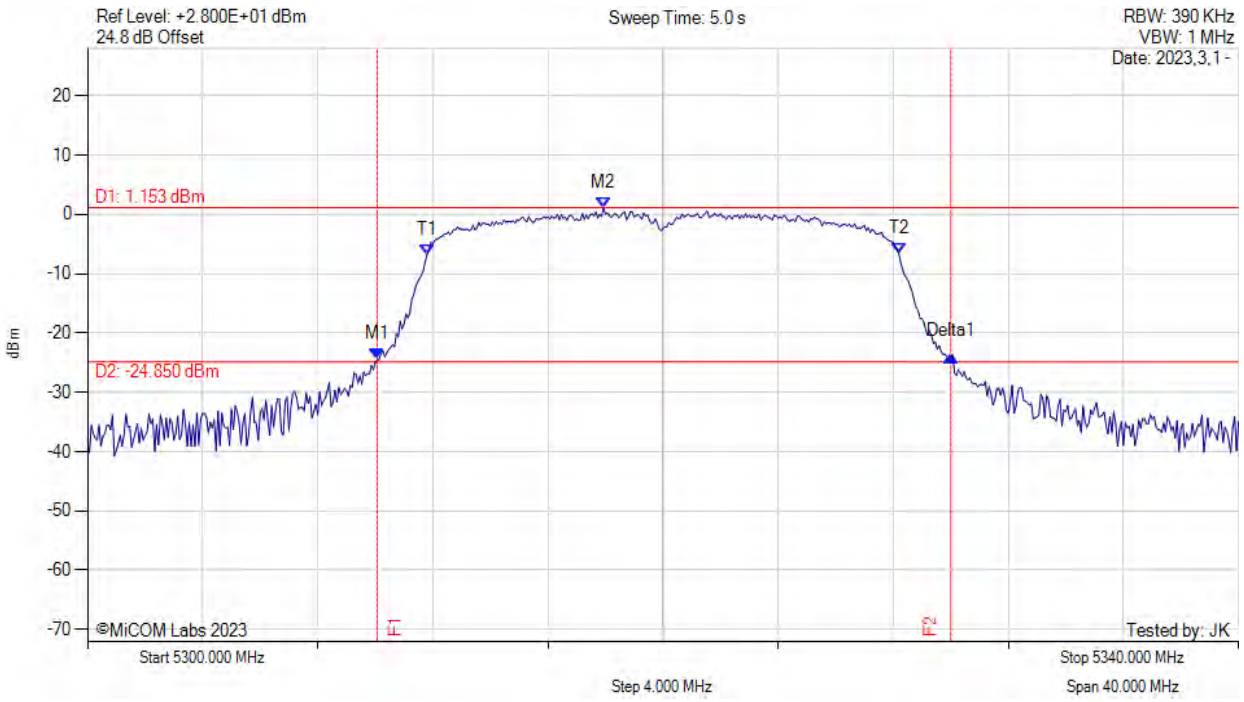


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5289.930 MHz : -17.953 dBm M2 : 5297.870 MHz : 7.034 dBm Delta1 : 20.000 MHz : 0.597 dB T1 : 5291.800 MHz : -1.013 dBm T2 : 5308.200 MHz : -1.646 dBm OBW : 16.422 MHz	Channel Frequency: 5300.00 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

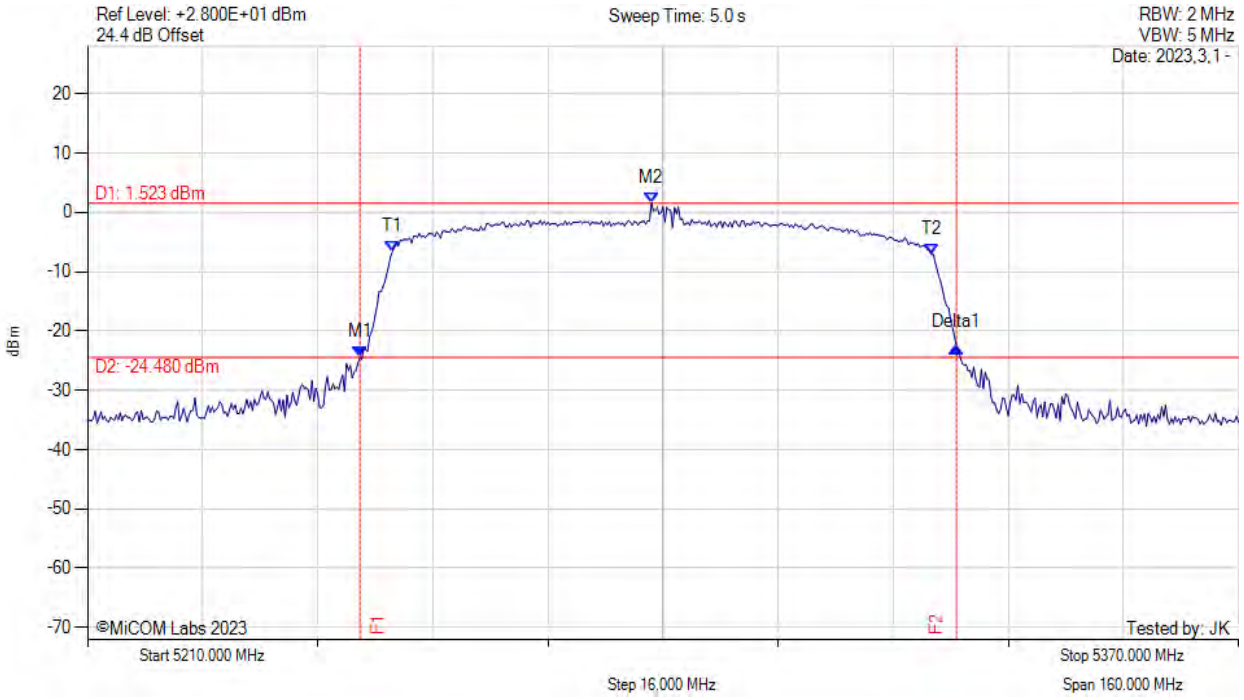


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5310.070 MHz : -24.451 dBm M2 : 5317.930 MHz : 1.153 dBm Delta1 : 19.930 MHz : 0.522 dB T1 : 5311.800 MHz : -6.822 dBm T2 : 5328.200 MHz : -6.699 dBm OBW : 16.414 MHz	Channel Frequency: 5320.00 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

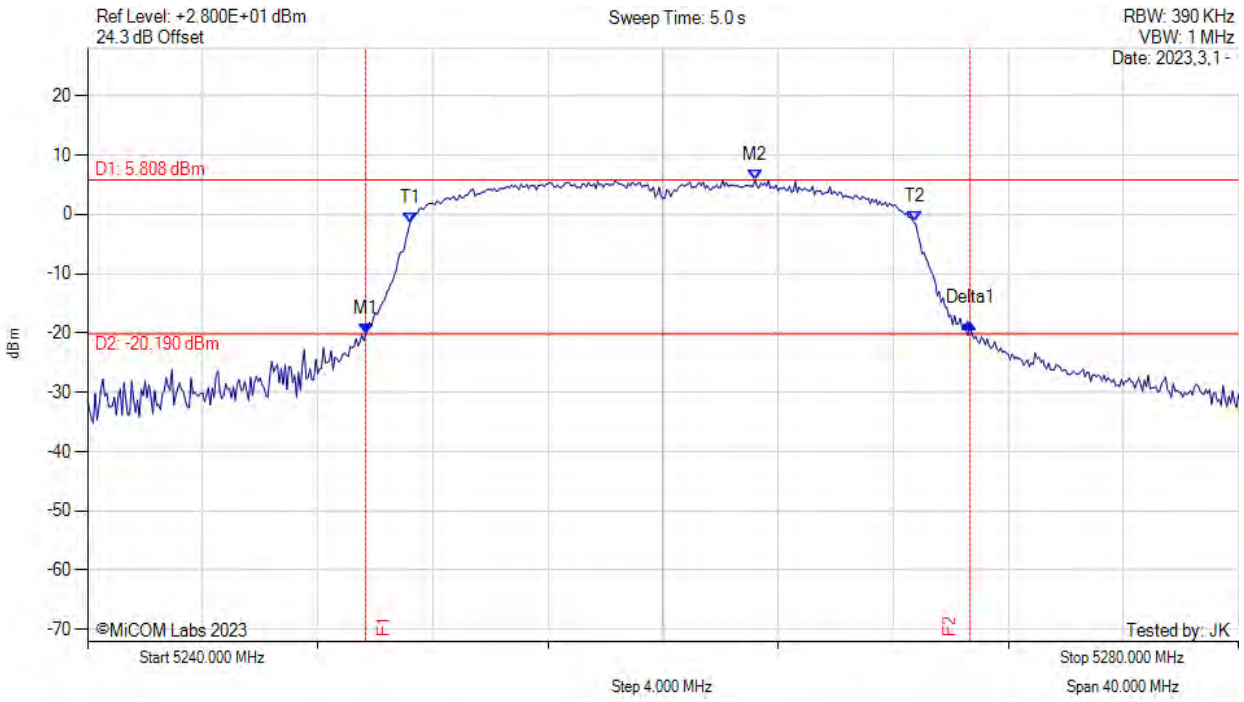


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5247.870 MHz : -24.423 dBm M2 : 5288.400 MHz : 1.523 dBm Delta1 : 82.930 MHz : 1.604 dB T1 : 5252.400 MHz : -6.535 dBm T2 : 5327.333 MHz : -7.117 dBm OBW : 75.073 MHz	Channel Frequency: 5290.00 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

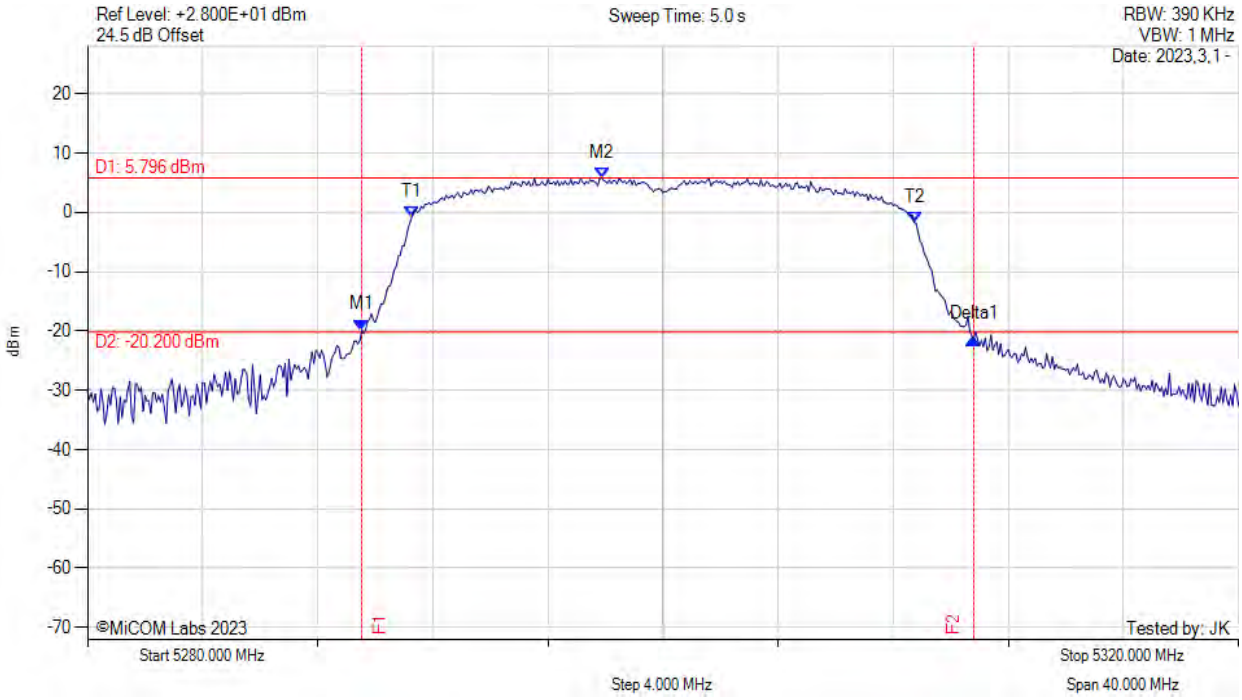


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5249.670 MHz : -20.150 dBm M2 : 5263.200 MHz : 5.808 dBm Delta1 : 21.000 MHz : 1.949 dB T1 : 5251.200 MHz : -1.509 dBm T2 : 5268.733 MHz : -1.331 dBm OBW : 17.508 MHz	Channel Frequency: 5260.00 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

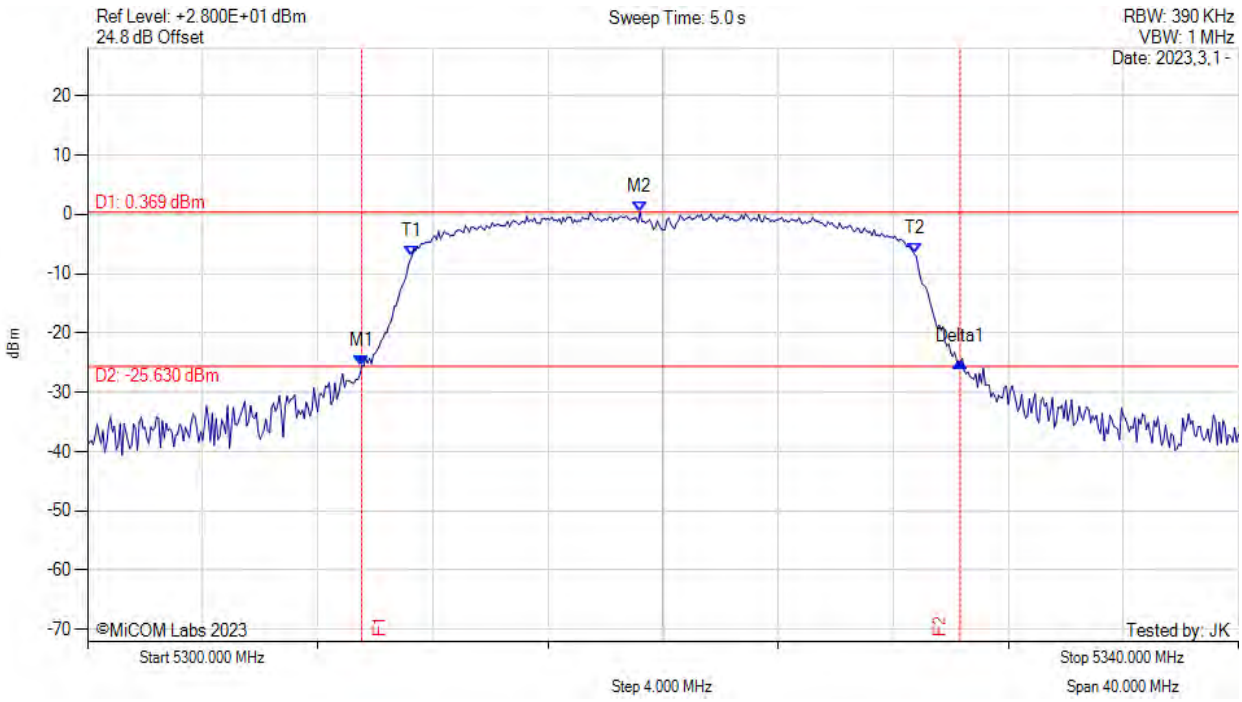


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5289.530 MHz : -19.835 dBm M2 : 5297.870 MHz : 5.796 dBm Delta1 : 21.270 MHz : -1.568 dB T1 : 5291.267 MHz : -0.789 dBm T2 : 5308.733 MHz : -1.710 dBm OBW : 17.498 MHz	Channel Frequency: 5300.00 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

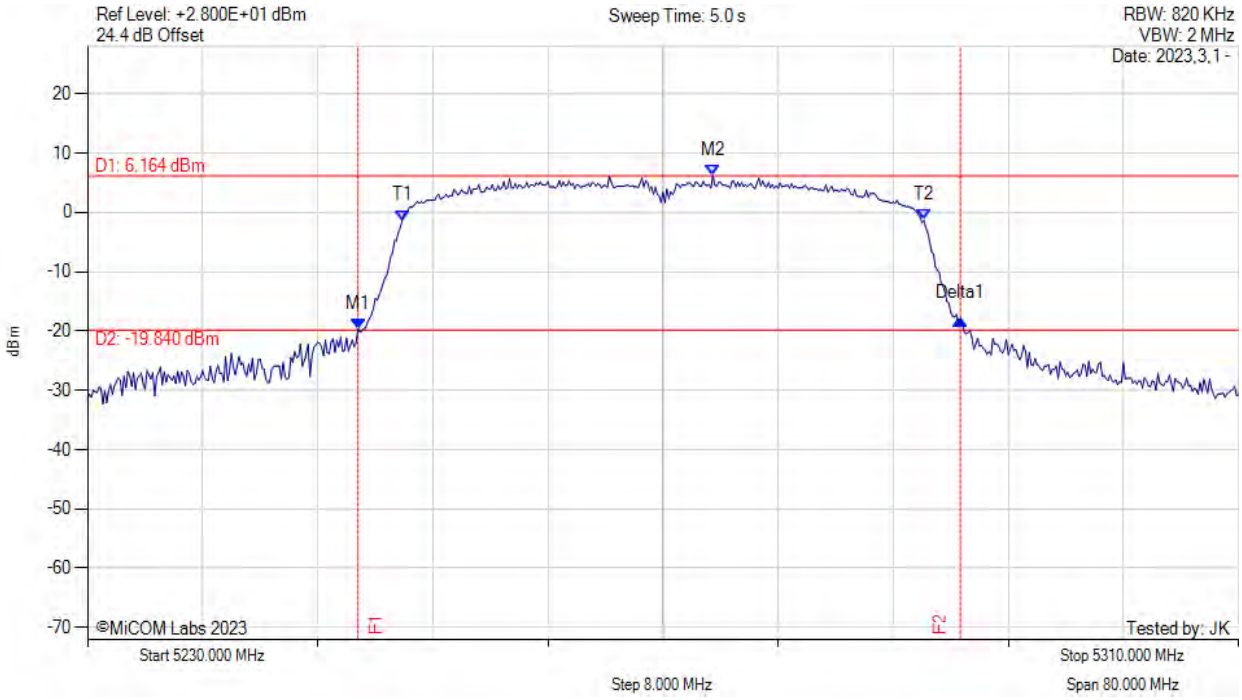


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5309.530 MHz : -25.510 dBm M2 : 5319.200 MHz : 0.369 dBm Delta1 : 20.800 MHz : 0.721 dB T1 : 5311.267 MHz : -7.090 dBm T2 : 5328.733 MHz : -6.671 dBm OBW : 17.486 MHz	Channel Frequency: 5320.00 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

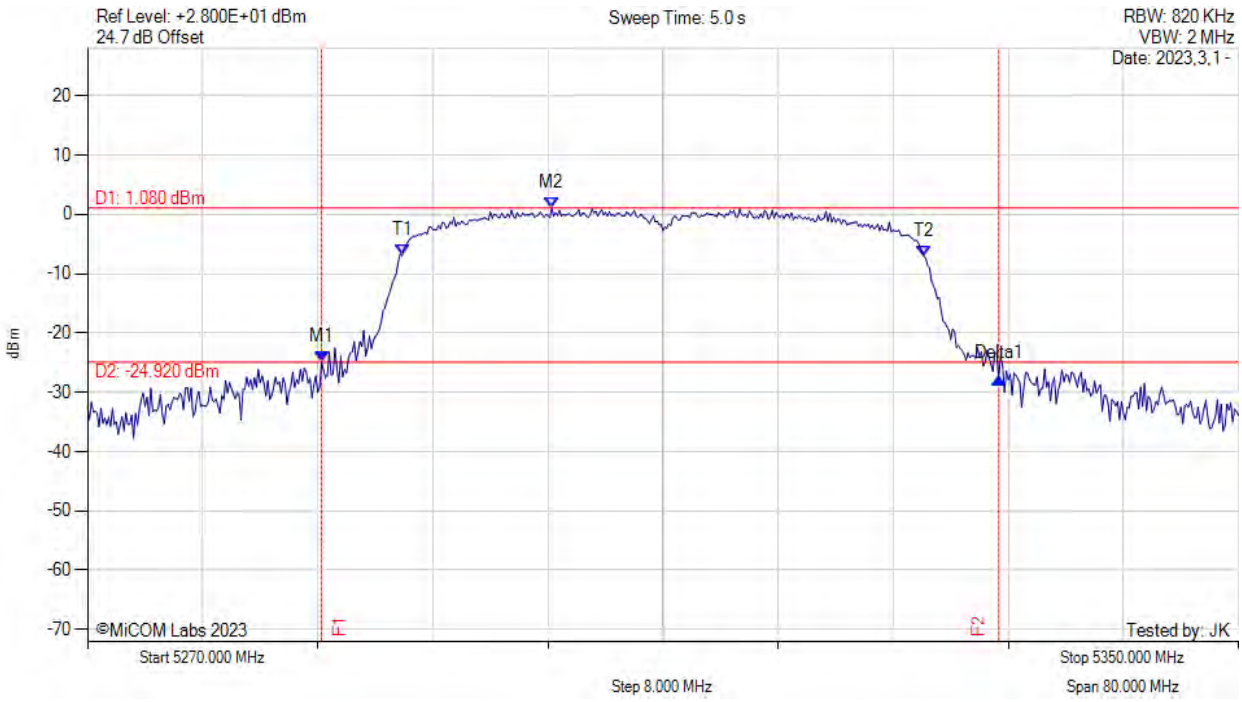


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5248.800 MHz : -19.609 dBm M2 : 5273.470 MHz : 6.164 dBm Delta1 : 41.870 MHz : 1.659 dB T1 : 5251.867 MHz : -1.365 dBm T2 : 5288.133 MHz : -1.312 dBm OBW : 36.176 MHz	Channel Frequency: 5270.00 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

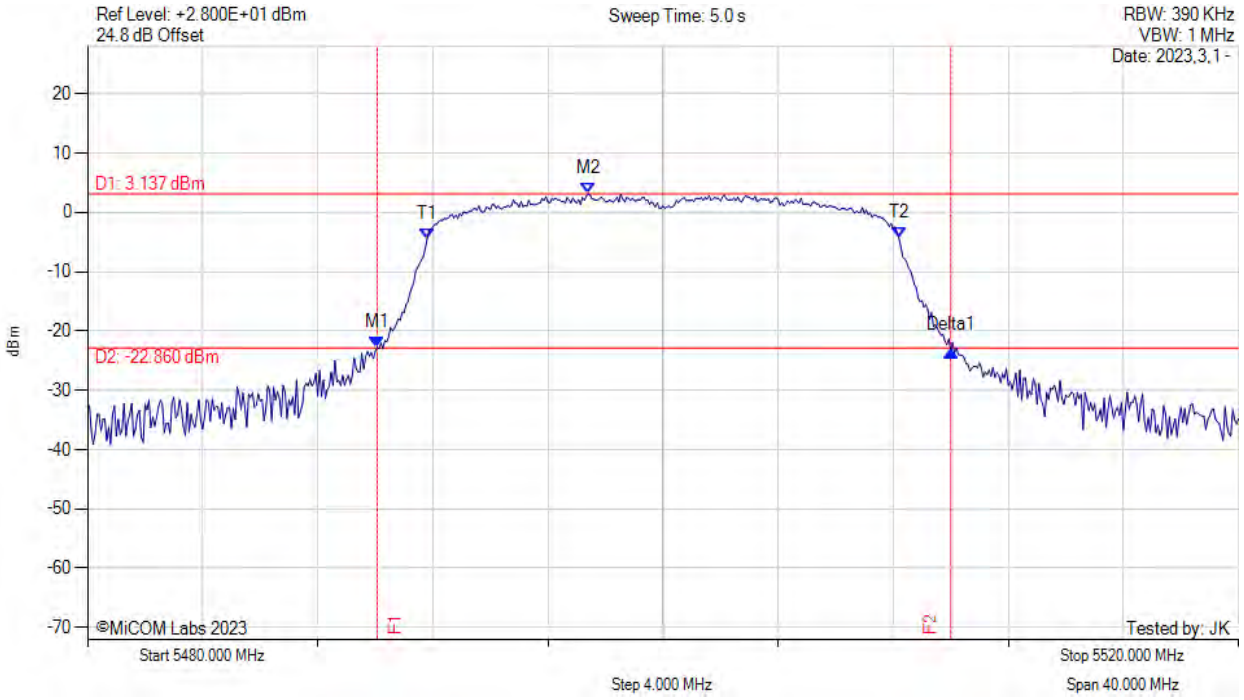


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5286.270 MHz : -24.902 dBm M2 : 5302.270 MHz : 1.080 dBm Delta1 : 47.070 MHz : -2.727 dB T1 : 5291.867 MHz : -6.939 dBm T2 : 5328.133 MHz : -7.054 dBm OBW : 36.232 MHz	Channel Frequency: 5310.00 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

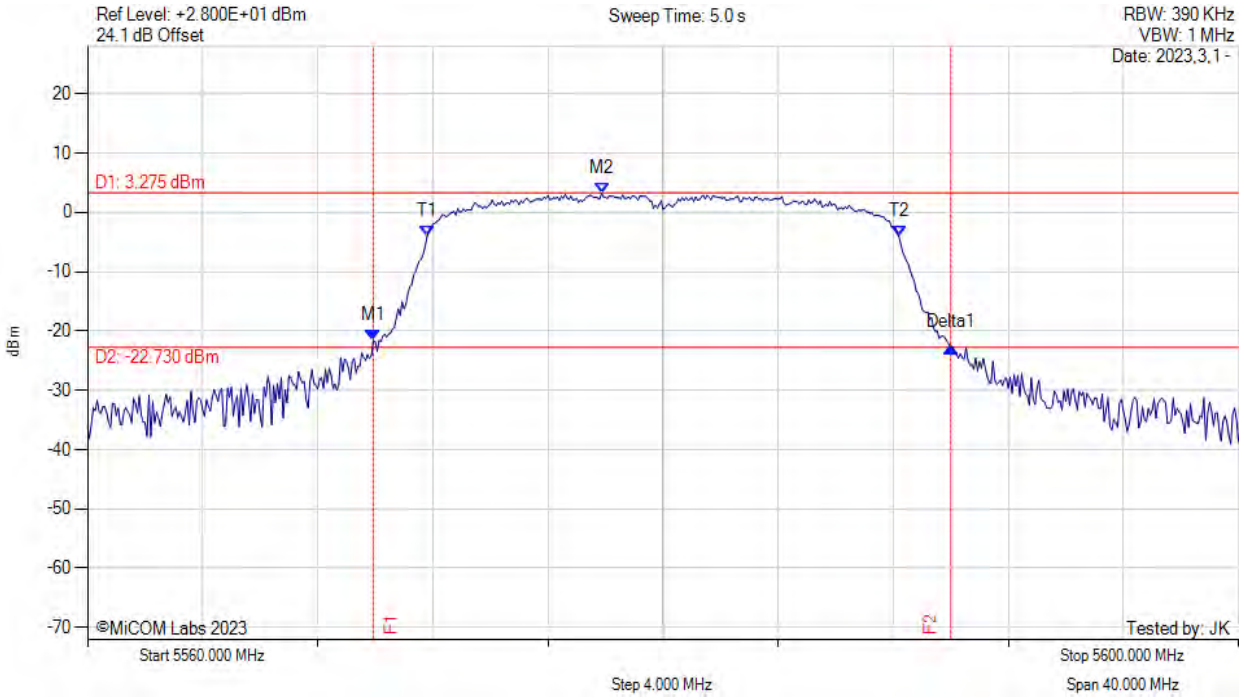


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5490.070 MHz : -22.713 dBm M2 : 5497.400 MHz : 3.137 dBm Delta1 : 19.930 MHz : -0.621 dB T1 : 5491.800 MHz : -4.585 dBm T2 : 5508.200 MHz : -4.314 dBm OBW : 16.375 MHz	Measured 26 dB Bandwidth: 19.930 MHz Measured 99% Bandwidth: 16.375 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

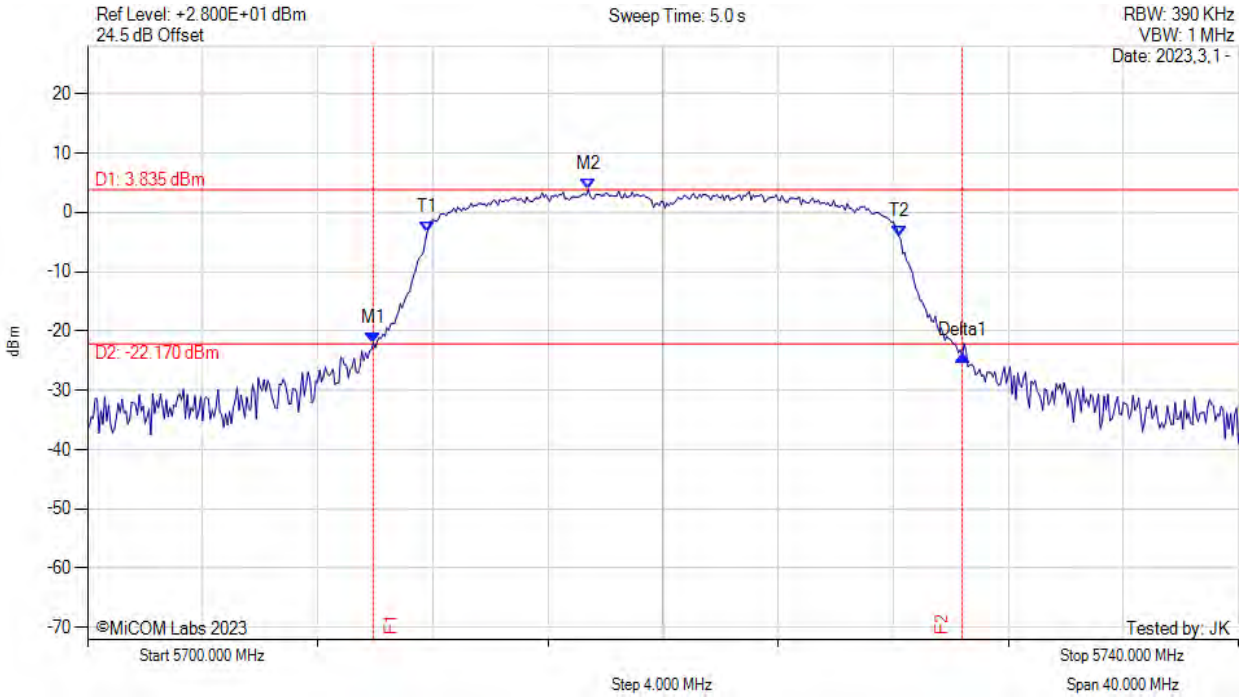


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5569.930 MHz : -21.593 dBm M2 : 5577.870 MHz : 3.275 dBm Delta1 : 20.070 MHz : -1.140 dB T1 : 5571.800 MHz : -4.121 dBm T2 : 5588.200 MHz : -4.079 dBm OBW : 16.389 MHz	Measured 26 dB Bandwidth: 20.070 MHz Measured 99% Bandwidth: 16.389 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

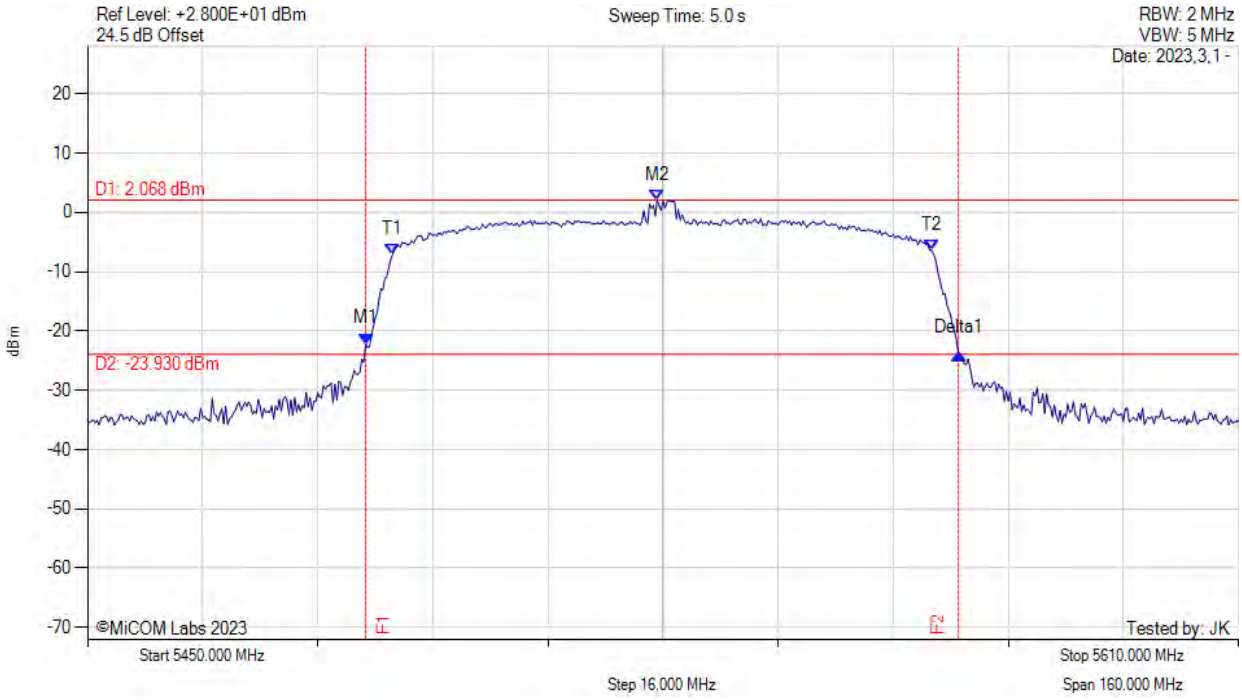


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5709.930 MHz : -22.006 dBm M2 : 5717.400 MHz : 3.835 dBm Delta1 : 20.470 MHz : -2.178 dB T1 : 5711.800 MHz : -3.413 dBm T2 : 5728.200 MHz : -4.041 dBm OBW : 16.404 MHz	Measured 26 dB Bandwidth: 20.470 MHz Measured 99% Bandwidth: 16.404 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

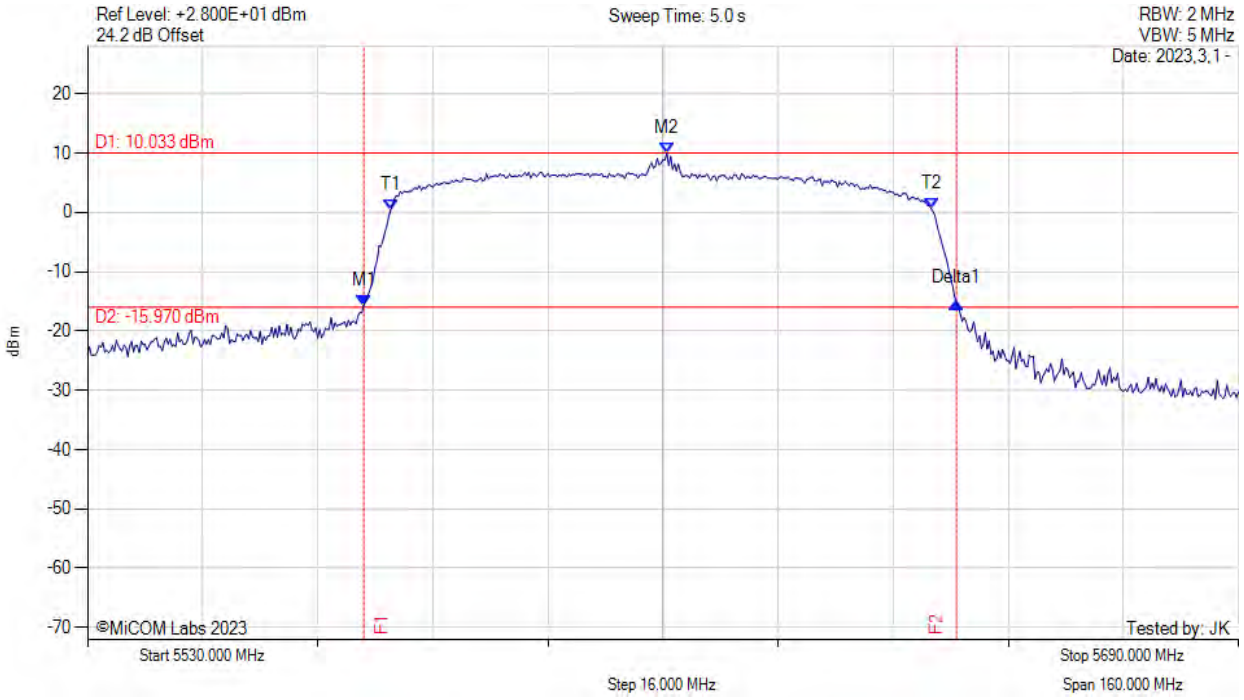


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5488.670 MHz : -22.168 dBm M2 : 5529.200 MHz : 2.068 dBm Delta1 : 82.400 MHz : -1.637 dB T1 : 5492.400 MHz : -7.152 dBm T2 : 5567.333 MHz : -6.389 dBm OBW : 74.870 MHz	Measured 26 dB Bandwidth: 82.400 MHz Measured 99% Bandwidth: 74.870 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

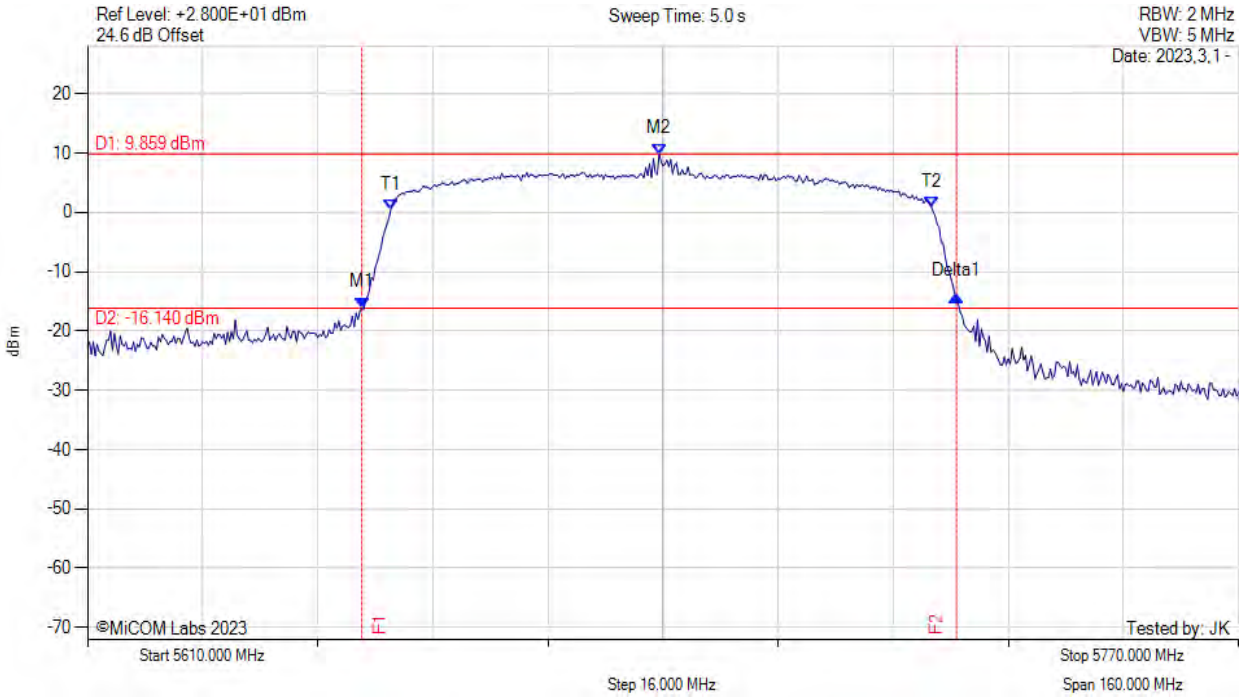


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5568.400 MHz : -15.694 dBm M2 : 5610.530 MHz : 10.033 dBm Delta1 : 82.400 MHz : 0.379 dB T1 : 5572.133 MHz : 0.430 dBm T2 : 5647.333 MHz : 0.533 dBm OBW : 74.992 MHz	Measured 26 dB Bandwidth: 82.400 MHz Measured 99% Bandwidth: 74.992 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

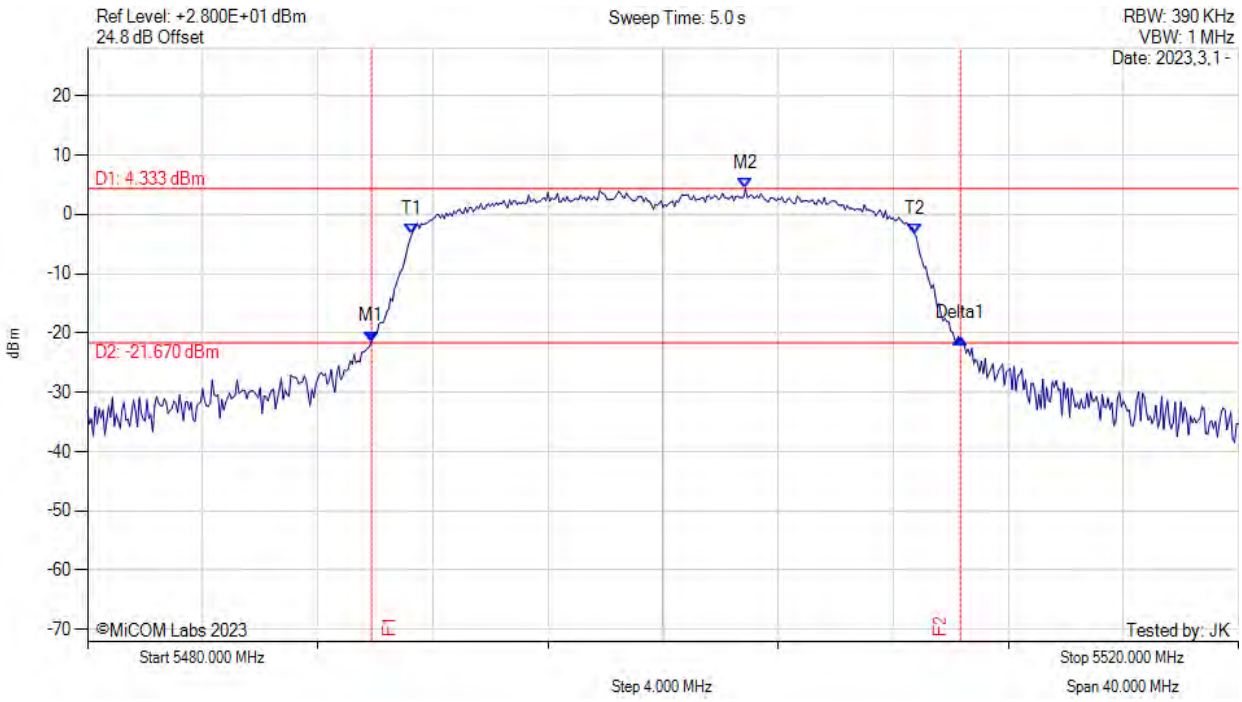


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5648.130 MHz : -16.093 dBm M2 : 5689.470 MHz : 9.859 dBm Delta1 : 82.670 MHz : 1.939 dB T1 : 5652.133 MHz : 0.330 dBm T2 : 5727.333 MHz : 0.889 dBm OBW : 75.067 MHz	Measured 26 dB Bandwidth: 82.670 MHz Measured 99% Bandwidth: 75.067 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

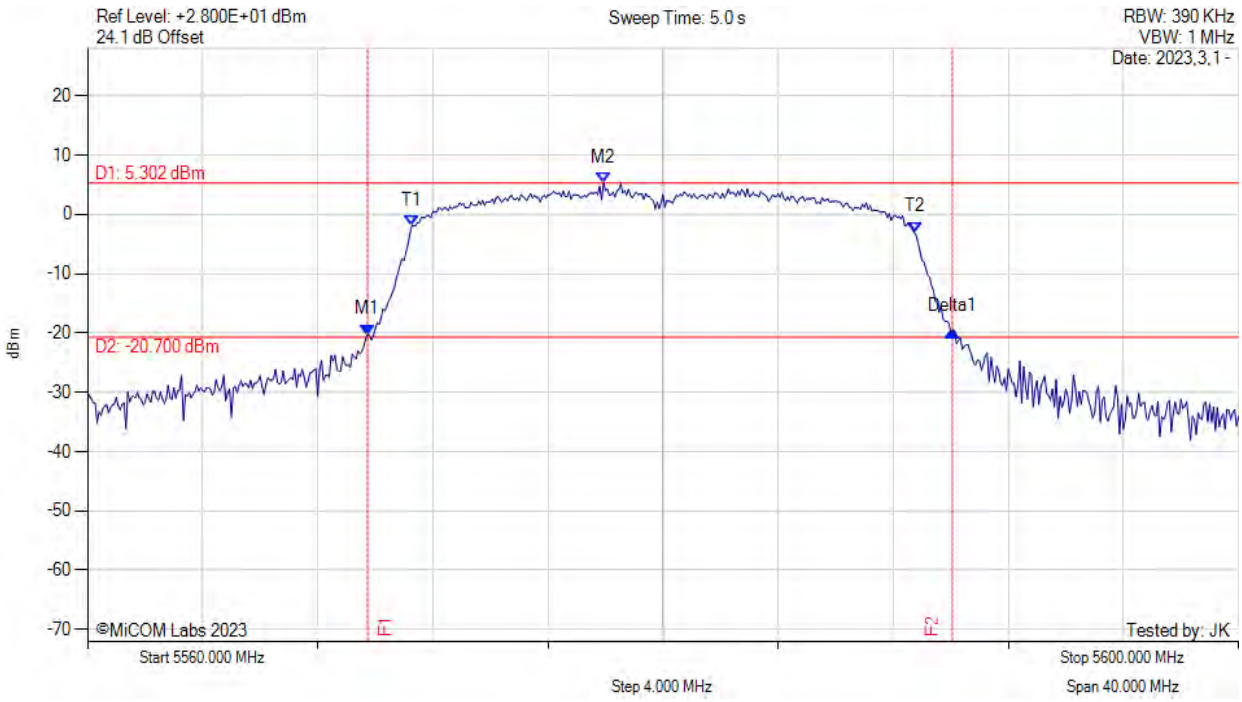


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5489.870 MHz : -21.465 dBm M2 : 5502.870 MHz : 4.333 dBm Delta1 : 20.470 MHz : 0.507 dB T1 : 5491.267 MHz : -3.369 dBm T2 : 5508.733 MHz : -3.245 dBm OBW : 17.468 MHz	Measured 26 dB Bandwidth: 20.470 MHz Measured 99% Bandwidth: 17.468 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

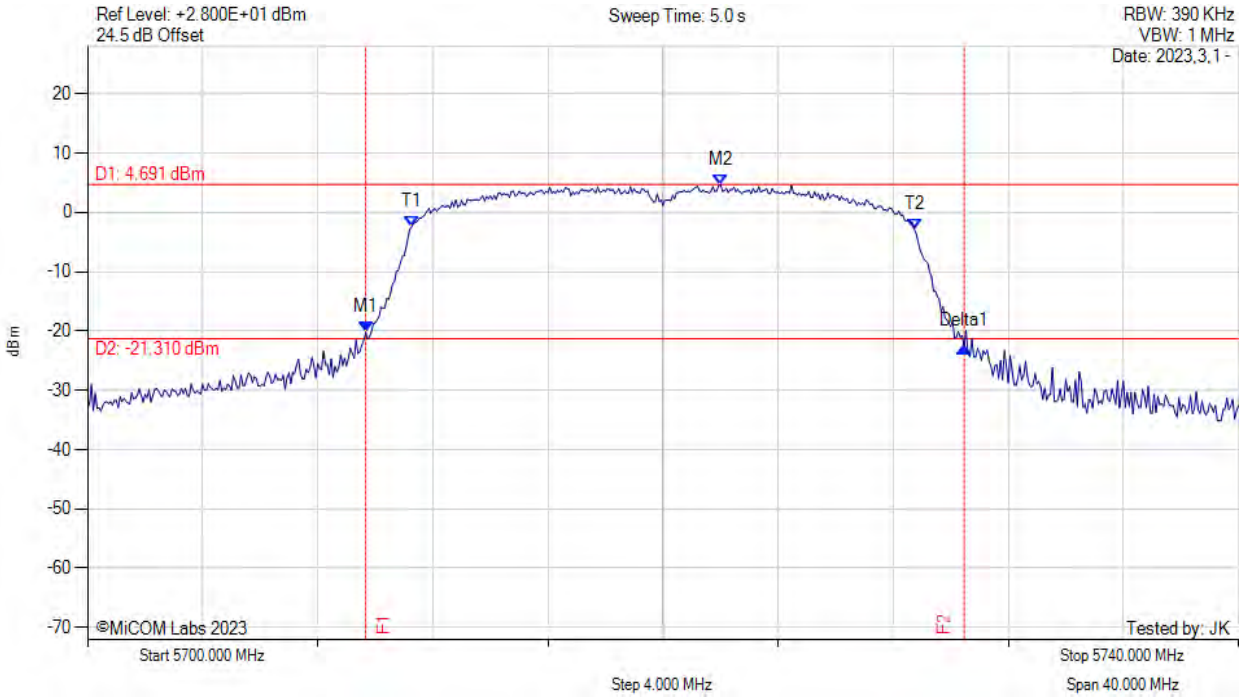


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5569.730 MHz : -20.299 dBm M2 : 5577.930 MHz : 5.302 dBm Delta1 : 20.330 MHz : 0.673 dB T1 : 5571.267 MHz : -1.917 dBm T2 : 5588.733 MHz : -2.986 dBm OBW : 17.471 MHz	Measured 26 dB Bandwidth: 20.330 MHz Measured 99% Bandwidth: 17.471 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

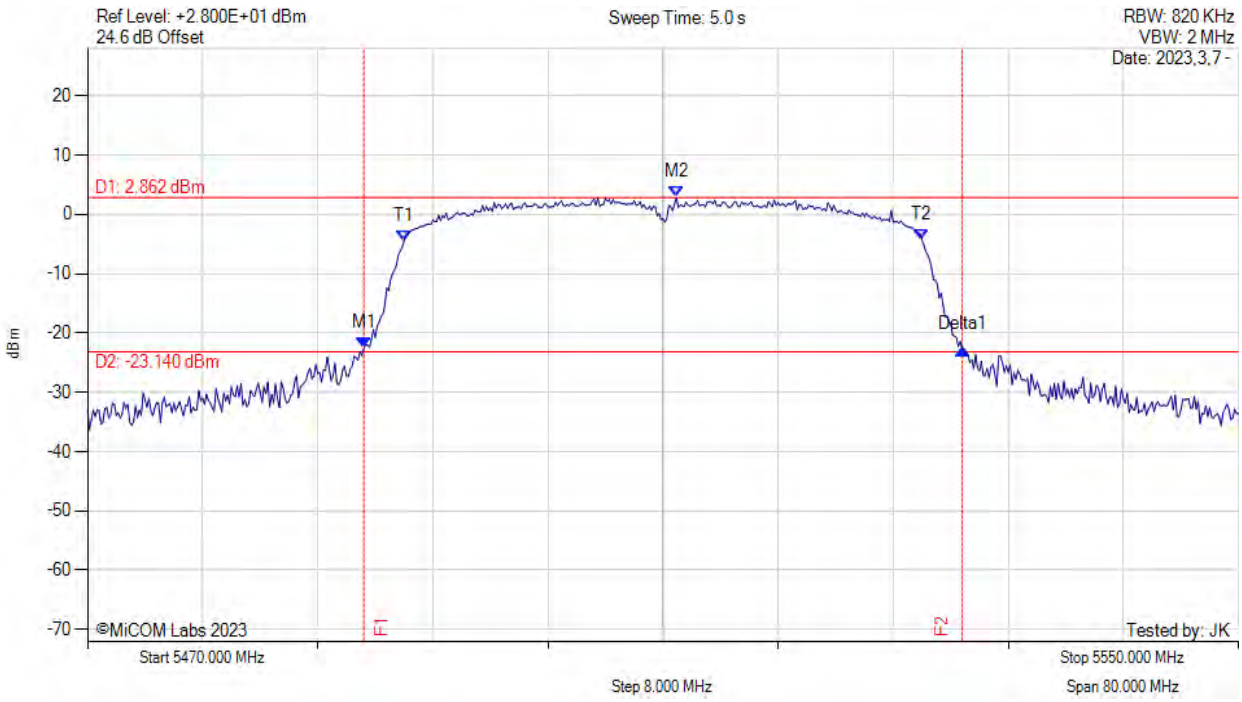


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5709.670 MHz : -20.270 dBm M2 : 5722.000 MHz : 4.691 dBm Delta1 : 20.800 MHz : -2.362 dB T1 : 5711.267 MHz : -2.364 dBm T2 : 5728.733 MHz : -2.800 dBm OBW : 17.481 MHz	Measured 26 dB Bandwidth: 20.800 MHz Measured 99% Bandwidth: 17.481 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

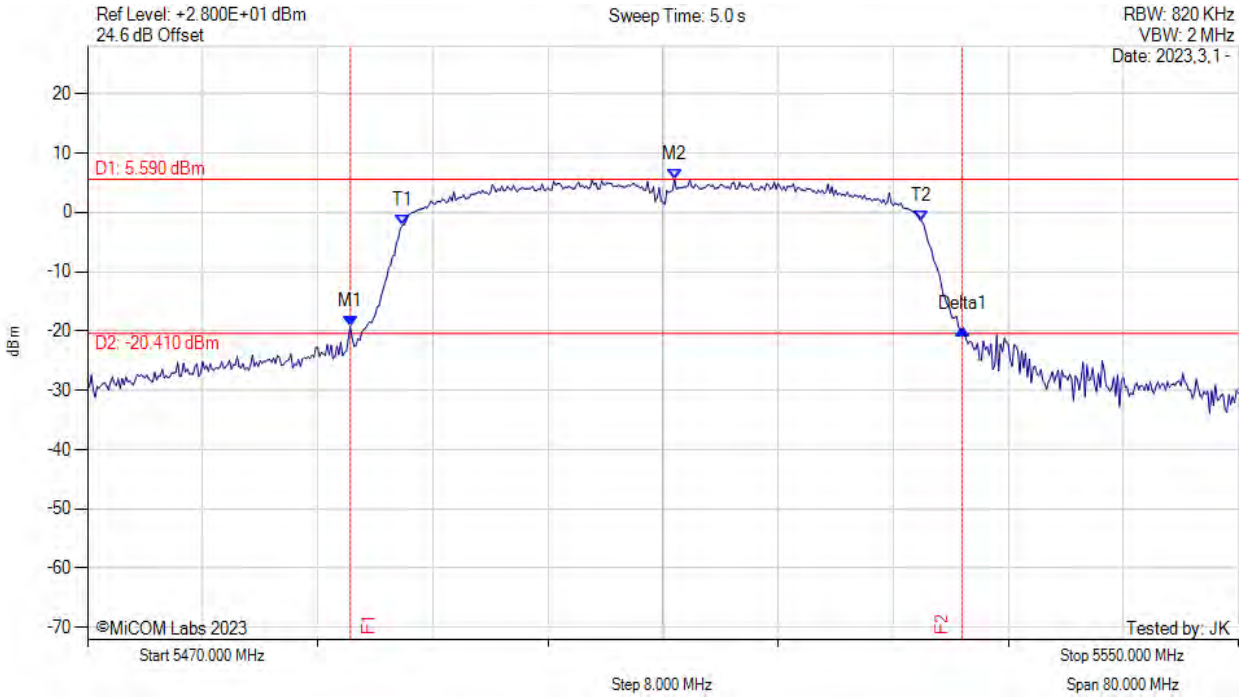


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5489.200 MHz : -22.597 dBm M2 : 5510.930 MHz : 2.862 dBm Delta1 : 41.600 MHz : -0.144 dB T1 : 5492.000 MHz : -4.461 dBm T2 : 5528.000 MHz : -4.381 dBm OBW : 36.022 MHz	Measured 26 dB Bandwidth: 41.600 MHz Measured 99% Bandwidth: 36.022 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

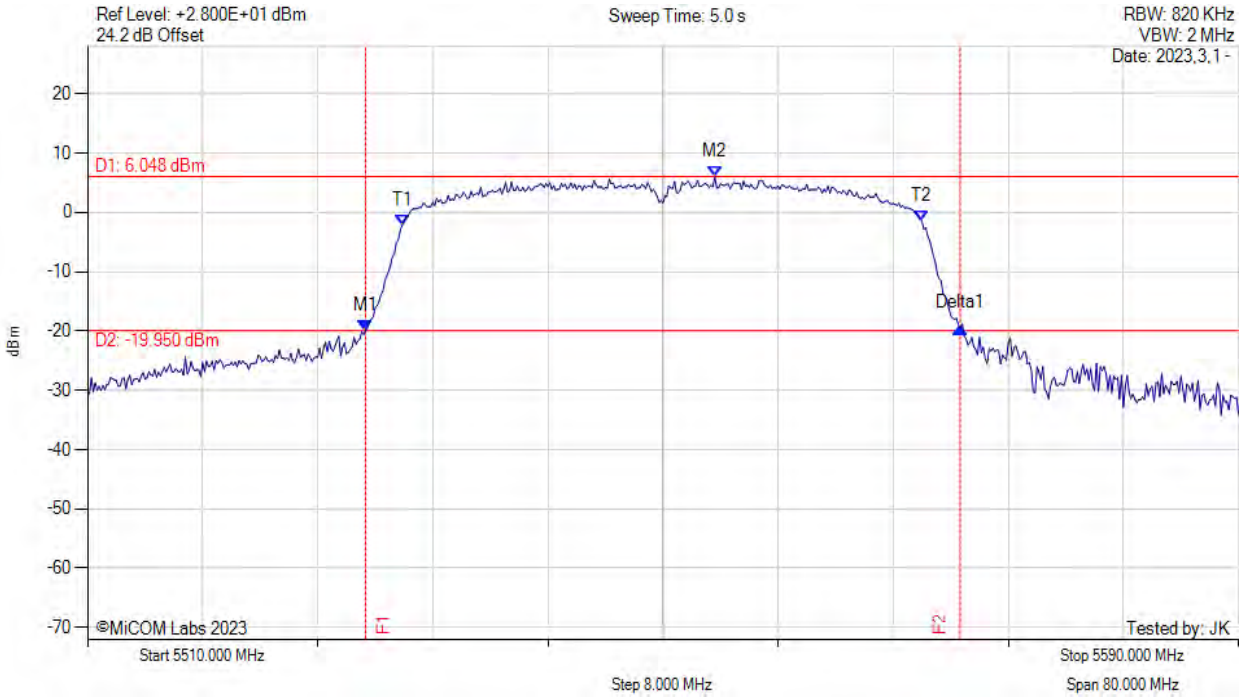


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5488.270 MHz : -19.260 dBm M2 : 5510.800 MHz : 5.590 dBm Delta1 : 42.530 MHz : -0.376 dB T1 : 5491.867 MHz : -2.242 dBm T2 : 5528.000 MHz : -1.508 dBm OBW : 36.078 MHz	Channel Frequency: 5510.00 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

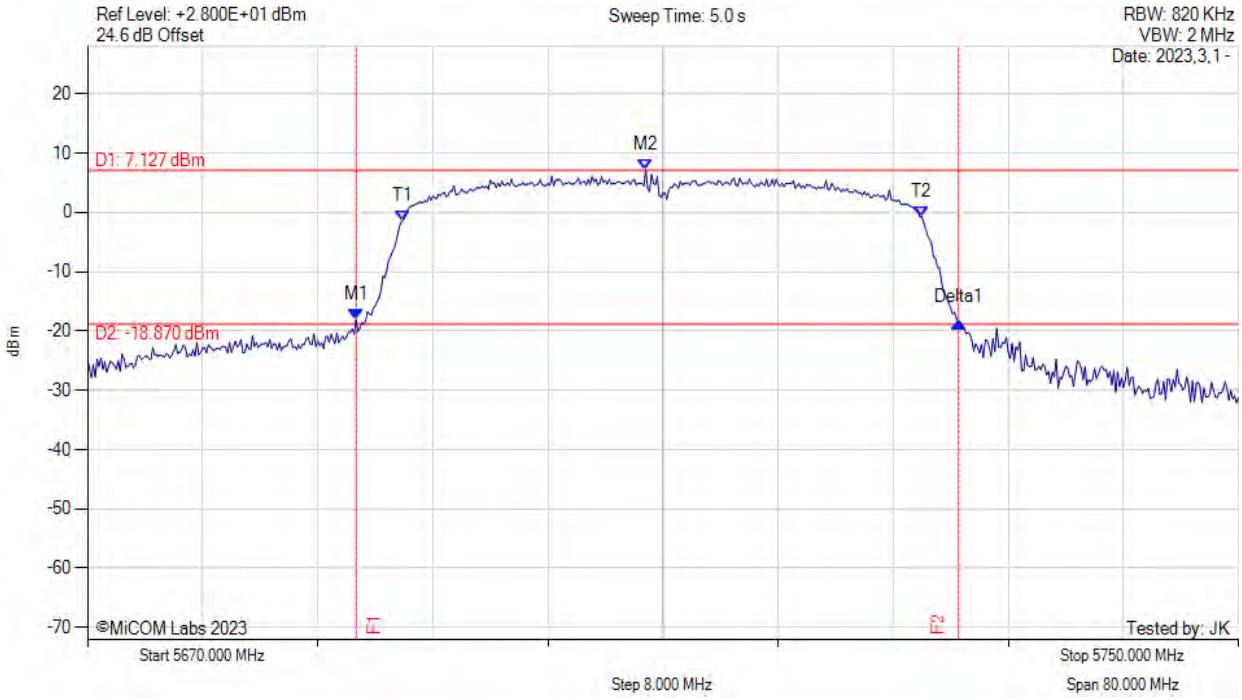


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5529.330 MHz : -19.872 dBm M2 : 5553.600 MHz : 6.048 dBm Delta1 : 41.330 MHz : 0.361 dB T1 : 5531.867 MHz : -2.166 dBm T2 : 5568.000 MHz : -1.546 dBm OBW : 36.084 MHz	Measured 26 dB Bandwidth: 41.330 MHz Measured 99% Bandwidth: 36.084 MHz

back to matrix

26 dB & 99% BANDWIDTH

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



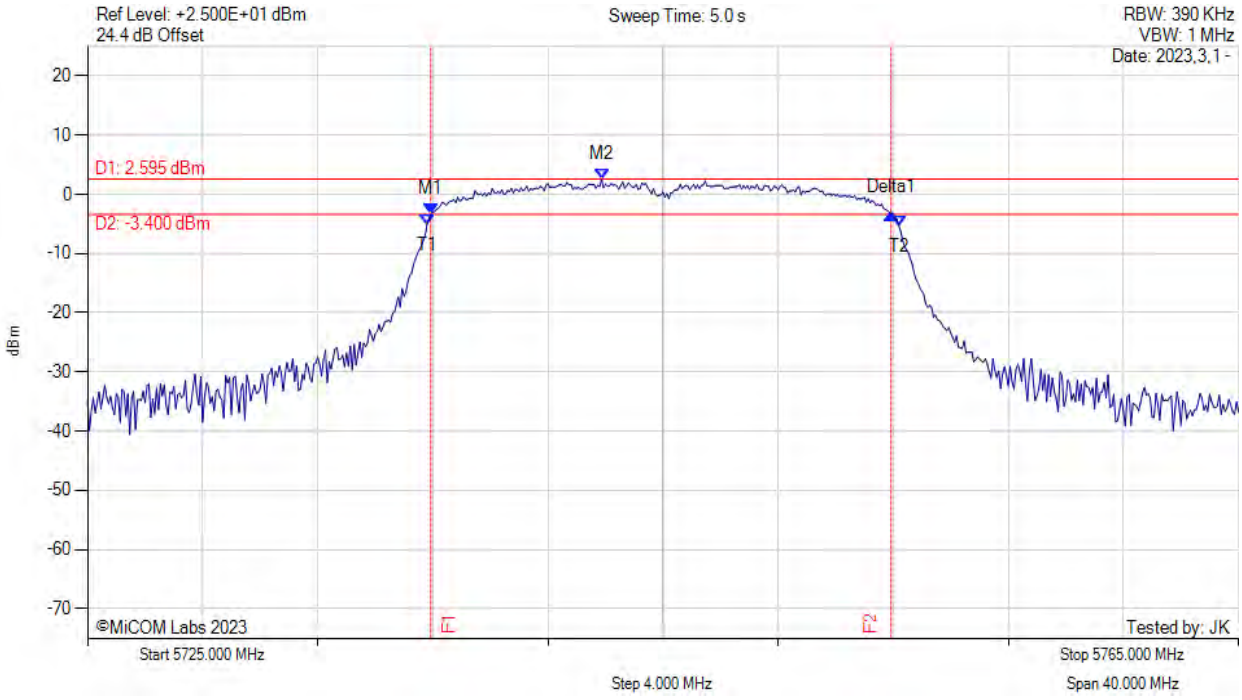
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5688.670 MHz : -18.091 dBm M2 : 5708.800 MHz : 7.127 dBm Delta1 : 41.870 MHz : -0.515 dB T1 : 5691.867 MHz : -1.405 dBm T2 : 5728.000 MHz : -0.802 dBm OBW : 36.171 MHz	Measured 26 dB Bandwidth: 41.870 MHz Measured 99% Bandwidth: 36.171 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: Vdc

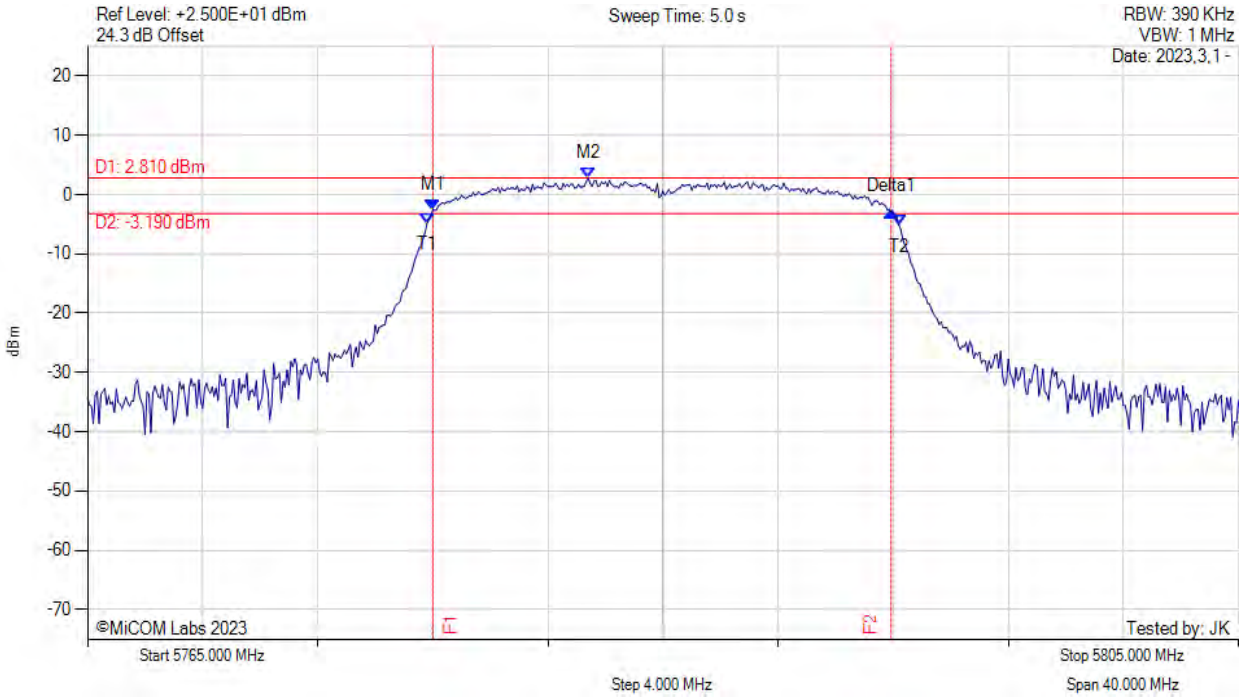


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5736.930 MHz : -3.384 dBm M2 : 5742.870 MHz : 2.595 dBm Delta1 : 16.000 MHz : 0.207 dB T1 : 5736.800 MHz : -5.115 dBm T2 : 5753.200 MHz : -5.296 dBm OBW : 16.389 MHz	Measured 6 dB Bandwidth: 16.000 MHz Measured 99% Bandwidth: 16.389 MHz

back to matrix

6 dB & 99% BANDWIDTH

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

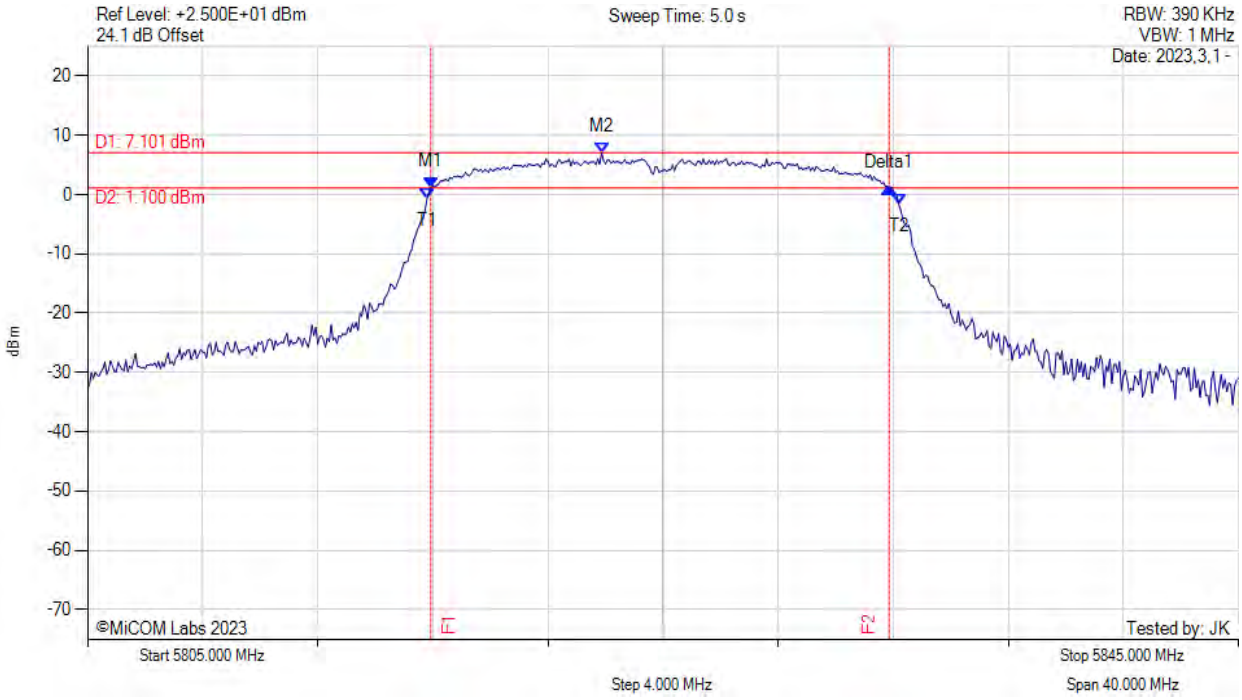


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5777.000 MHz : -2.528 dBm M2 : 5782.400 MHz : 2.810 dBm Delta1 : 15.930 MHz : -0.359 dB T1 : 5776.800 MHz : -4.862 dBm T2 : 5793.200 MHz : -5.185 dBm OBW : 16.399 MHz	Measured 6 dB Bandwidth: 15.930 MHz Measured 99% Bandwidth: 16.399 MHz

back to matrix

6 dB & 99% BANDWIDTH

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

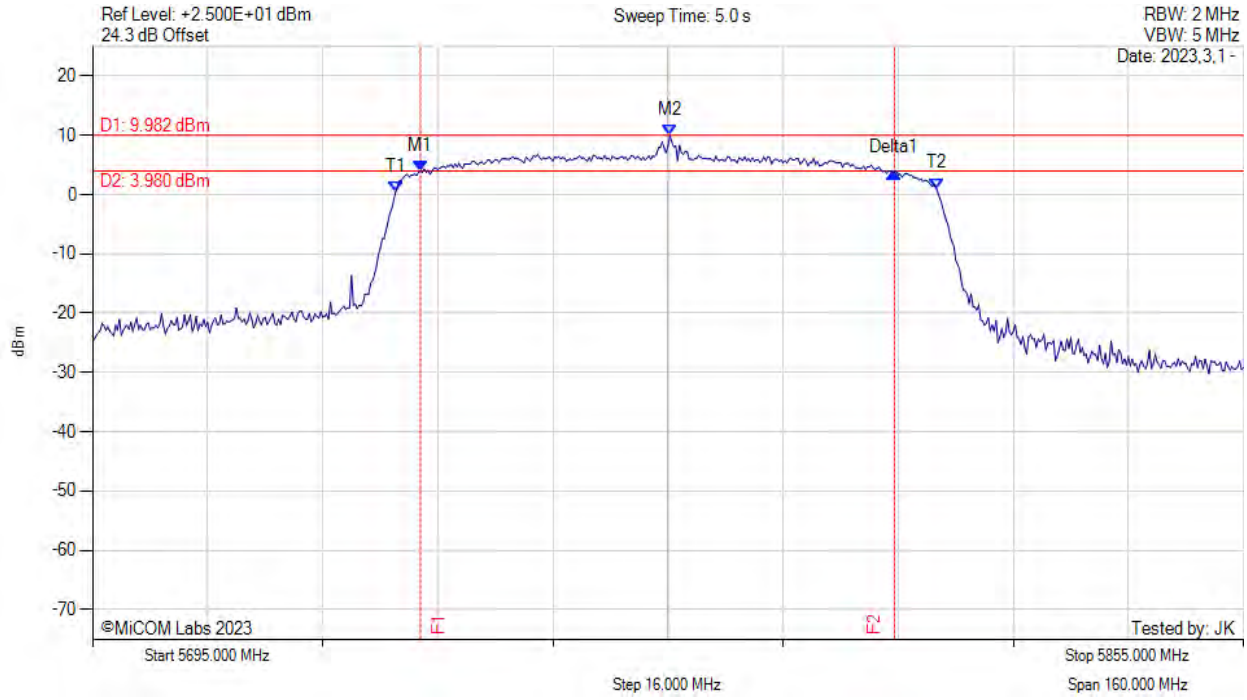


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5816.930 MHz : 1.238 dBm M2 : 5822.870 MHz : 7.101 dBm Delta1 : 15.930 MHz : -0.097 dB T1 : 5816.800 MHz : -0.718 dBm T2 : 5833.200 MHz : -1.752 dBm OBW : 16.405 MHz	Measured 6 dB Bandwidth: 15.930 MHz Measured 99% Bandwidth: 16.405 MHz

back to matrix

6 dB & 99% BANDWIDTH

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

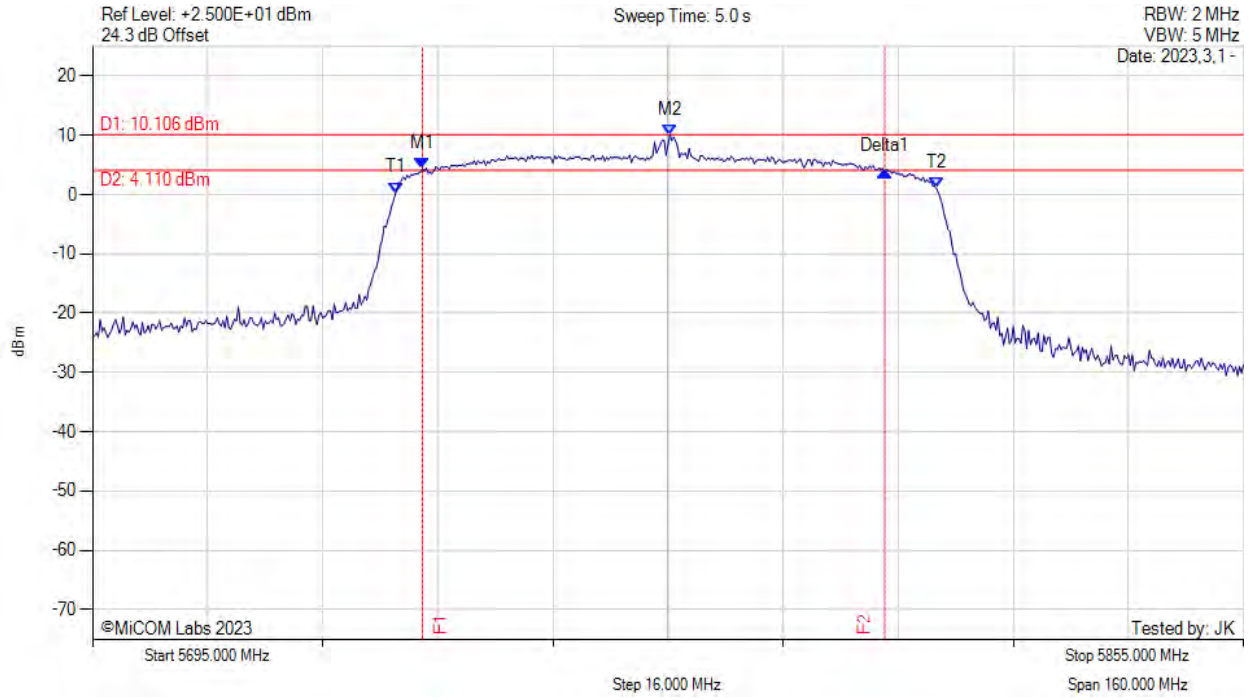


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5740.600 MHz : 3.998 dBm M2 : 5775.270 MHz : 9.982 dBm Delta1 : 65.870 MHz : -0.262 dB T1 : 5737.133 MHz : 0.438 dBm T2 : 5812.333 MHz : 1.020 dBm OBW : 75.104 MHz	Measured 6 dB Bandwidth: 65.870 MHz Measured 99% Bandwidth: 75.104 MHz

back to matrix

6 dB & 99% BANDWIDTH

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

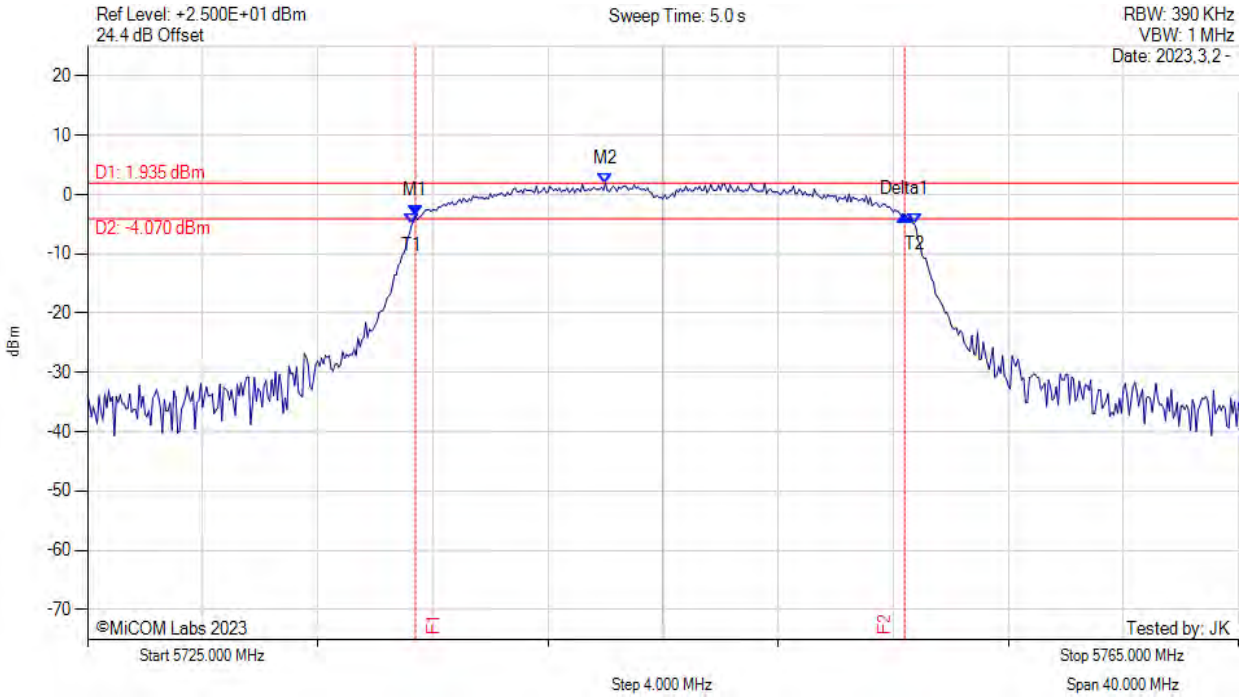


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5740.870 MHz : 4.365 dBm M2 : 5775.270 MHz : 10.106 dBm Delta1 : 64.270 MHz : -0.364 dB T1 : 5737.133 MHz : 0.317 dBm T2 : 5812.333 MHz : 1.031 dBm OBW : 75.126 MHz	Measured 6 dB Bandwidth: 64.270 MHz Measured 99% Bandwidth: 75.126 MHz

back to matrix

6 dB & 99% BANDWIDTH

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

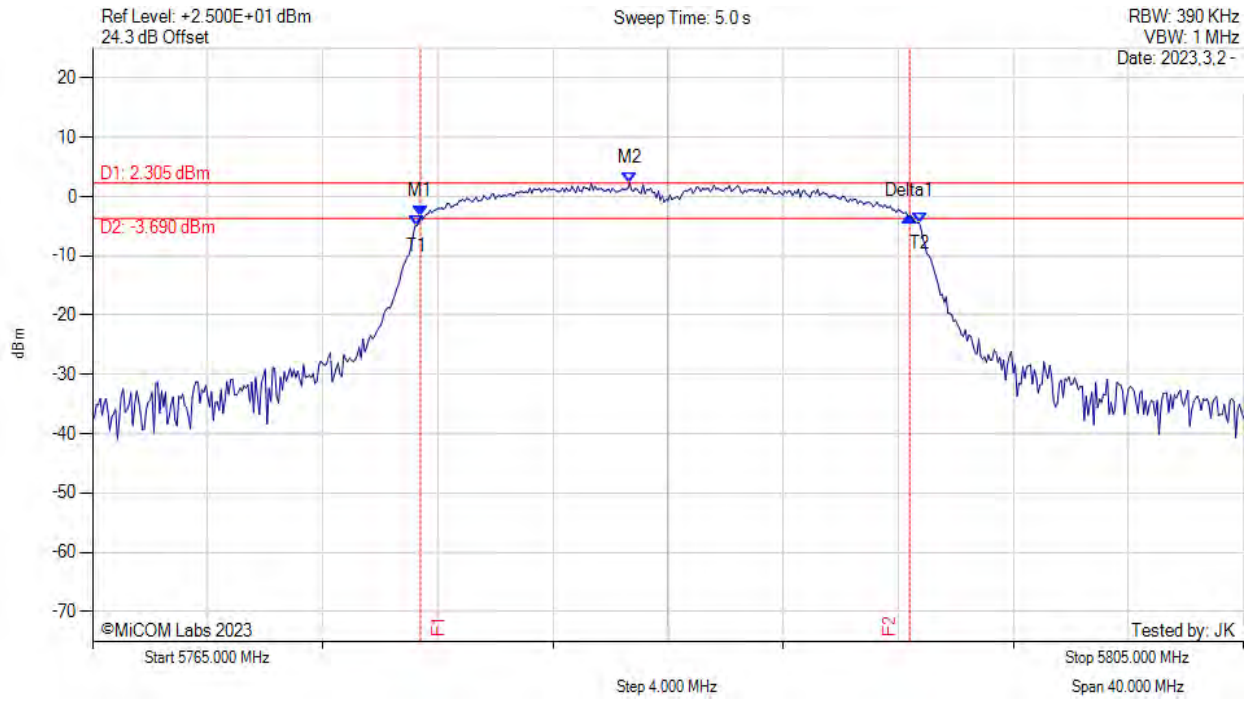


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5736.400 MHz : -3.606 dBm M2 : 5743.000 MHz : 1.935 dBm Delta1 : 17.000 MHz : 0.176 dB T1 : 5736.267 MHz : -5.017 dBm T2 : 5753.733 MHz : -4.898 dBm OBW : 17.472 MHz	Measured 6 dB Bandwidth: 17.000 MHz Measured 99% Bandwidth: 17.472 MHz

back to matrix

6 dB & 99% BANDWIDTH

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

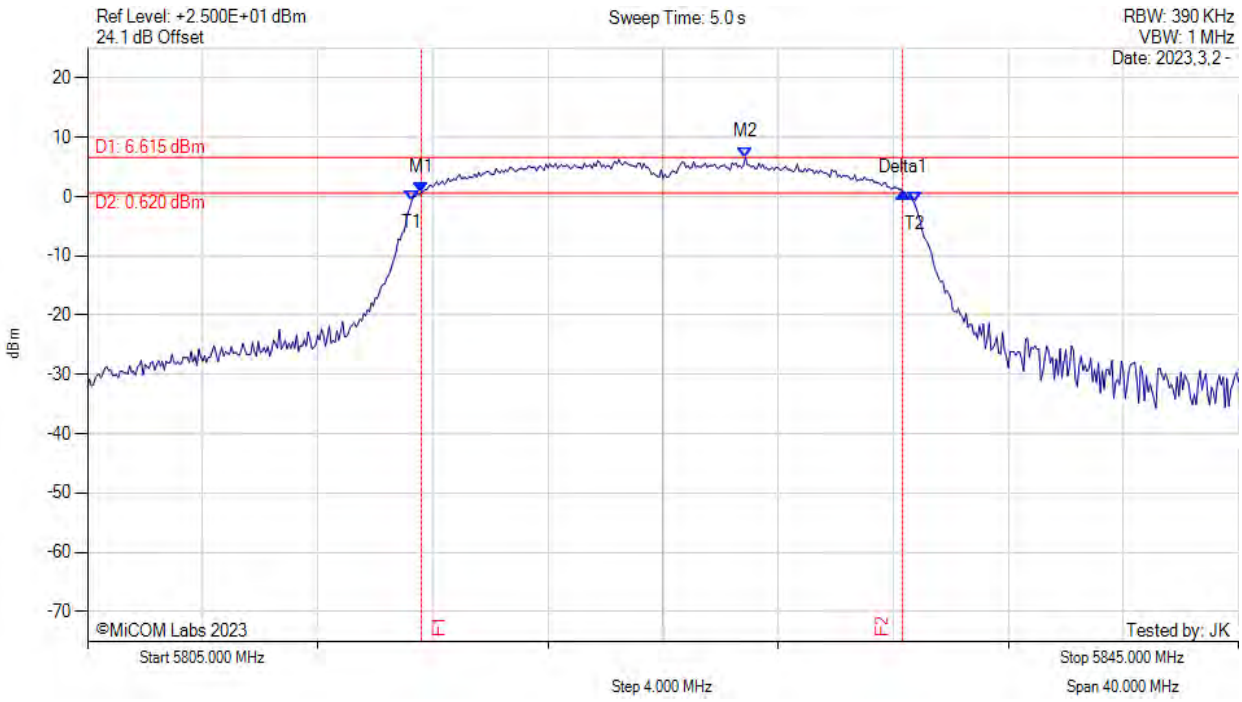


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5776.400 MHz : -3.386 dBm M2 : 5783.670 MHz : 2.305 dBm Delta1 : 17.000 MHz : 0.079 dB T1 : 5776.267 MHz : -4.858 dBm T2 : 5793.733 MHz : -4.422 dBm OBW : 17.493 MHz	Measured 6 dB Bandwidth: 17.000 MHz Measured 99% Bandwidth: 17.493 MHz

back to matrix

6 dB & 99% BANDWIDTH

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

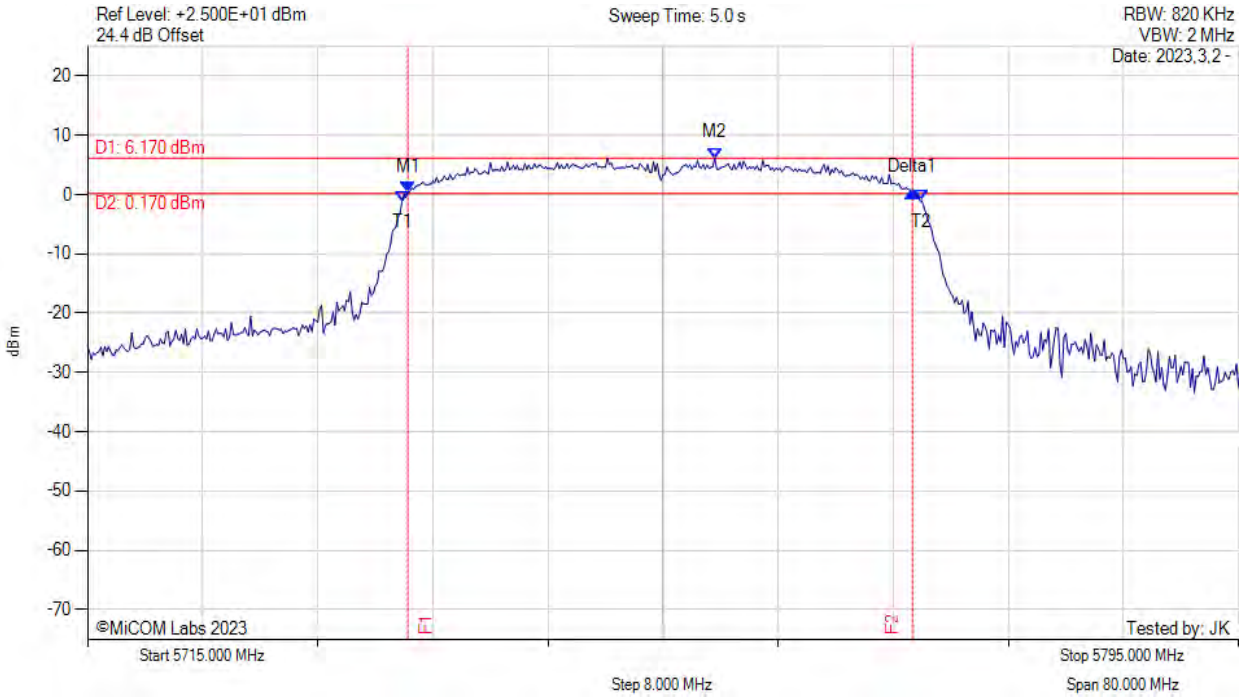


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5816.600 MHz : 0.698 dBm M2 : 5827.870 MHz : 6.615 dBm Delta1 : 16.730 MHz : 0.047 dB T1 : 5816.267 MHz : -0.724 dBm T2 : 5833.733 MHz : -1.064 dBm OBW : 17.484 MHz	Measured 6 dB Bandwidth: 16.730 MHz Measured 99% Bandwidth: 17.484 MHz

back to matrix

6 dB & 99% BANDWIDTH

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

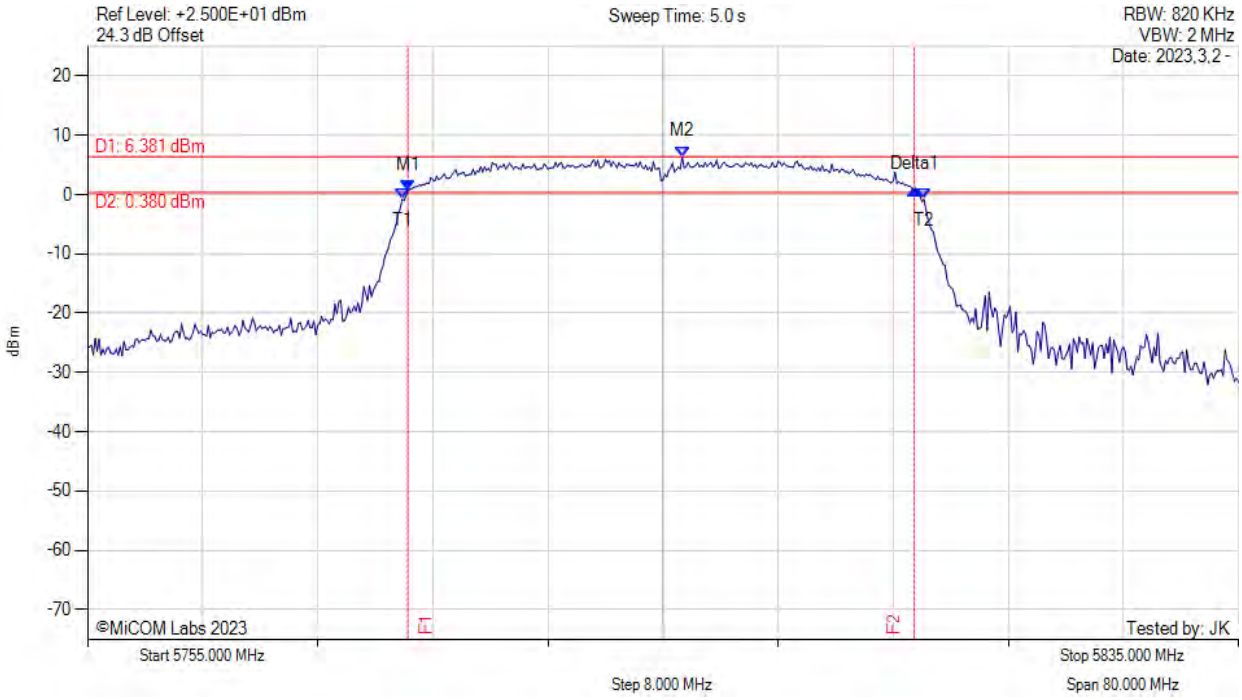


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5737.270 MHz : 0.397 dBm M2 : 5758.600 MHz : 6.170 dBm Delta1 : 35.070 MHz : 0.135 dB T1 : 5736.867 MHz : -1.119 dBm T2 : 5773.000 MHz : -1.062 dBm OBW : 36.155 MHz	Measured 6 dB Bandwidth: 35.070 MHz Measured 99% Bandwidth: 36.155 MHz

back to matrix

6 dB & 99% BANDWIDTH

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



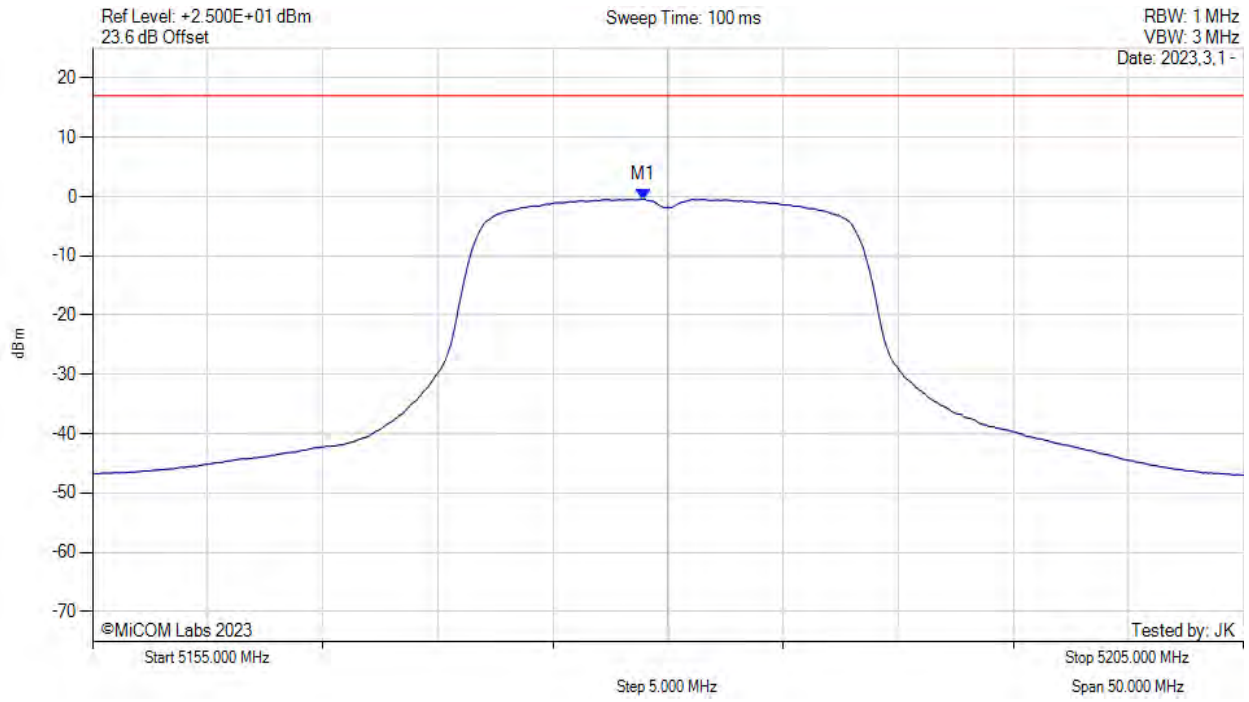
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5777.270 MHz : 0.747 dBm M2 : 5796.330 MHz : 6.381 dBm Delta1 : 35.200 MHz : 0.098 dB T1 : 5776.867 MHz : -0.802 dBm T2 : 5813.133 MHz : -0.789 dBm OBW : 36.230 MHz	Measured 6 dB Bandwidth: 35.200 MHz Measured 99% Bandwidth: 36.230 MHz

back to matrix

A.3. Power Spectral Density

POWER SPECTRAL DENSITY

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

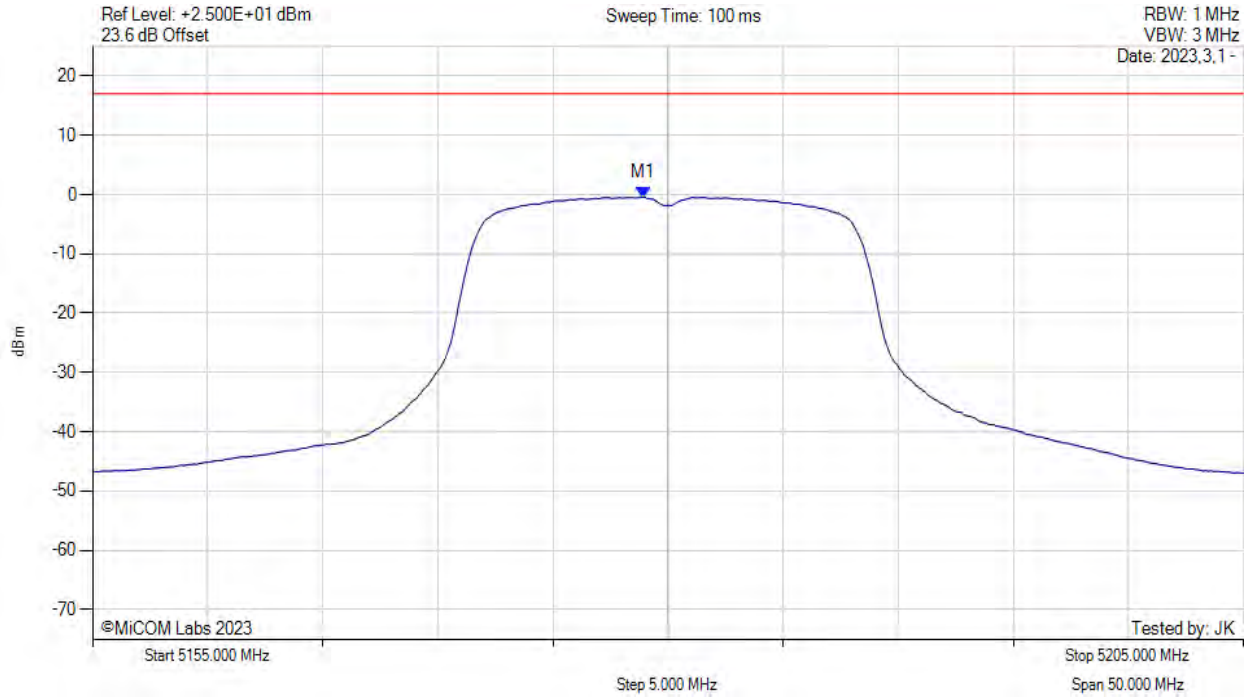


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5178.920 MHz : -0.422 dBm	Limit: ≤ 17.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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

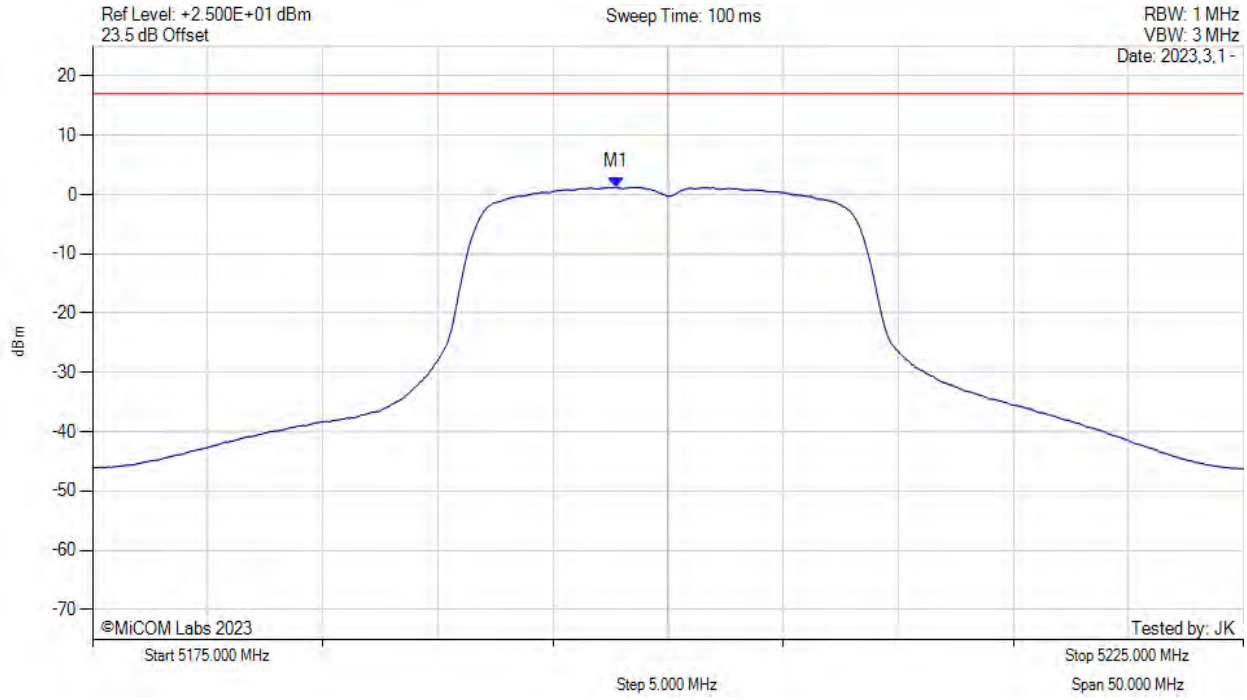


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5178.900 MHz : -0.422 dBm M1 + DCCF : 5178.900 MHz : -0.245 dBm Duty Cycle Correction Factor : +0.18 dB	Limit: ≤ 17.0 dBm Margin: -17.2 dB

back to matrix

POWER SPECTRAL DENSITY

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

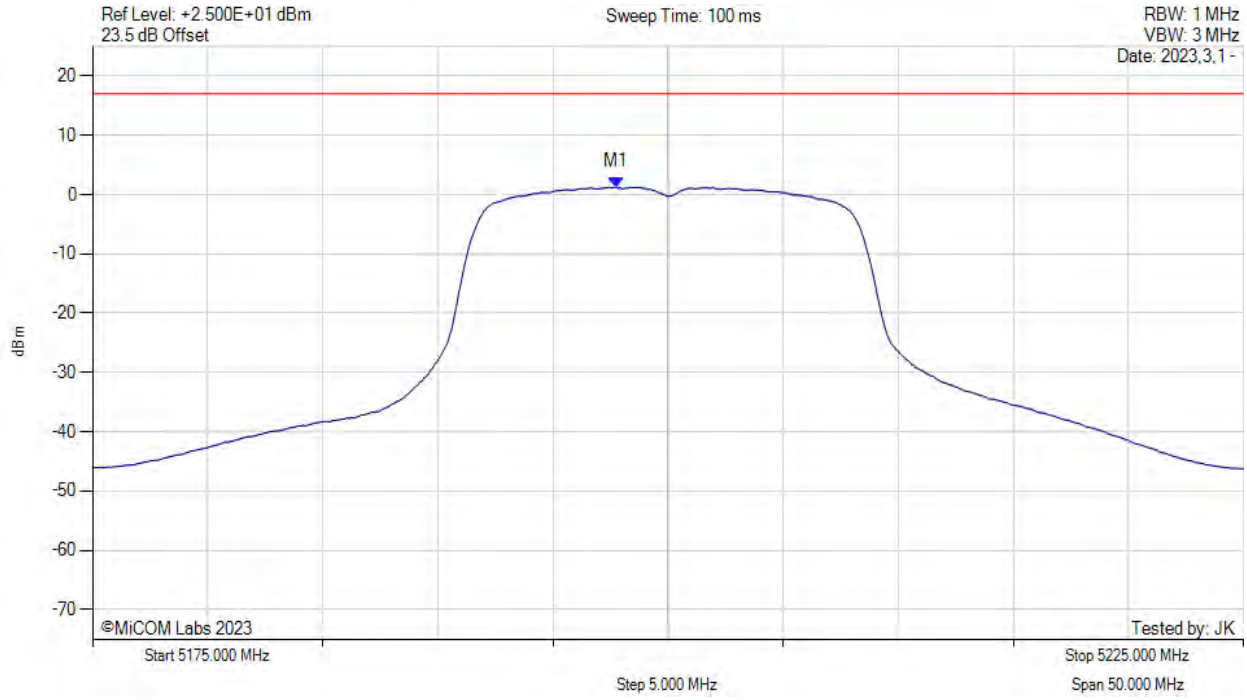


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5197.750 MHz : 1.242 dBm	Limit: ≤ 17.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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

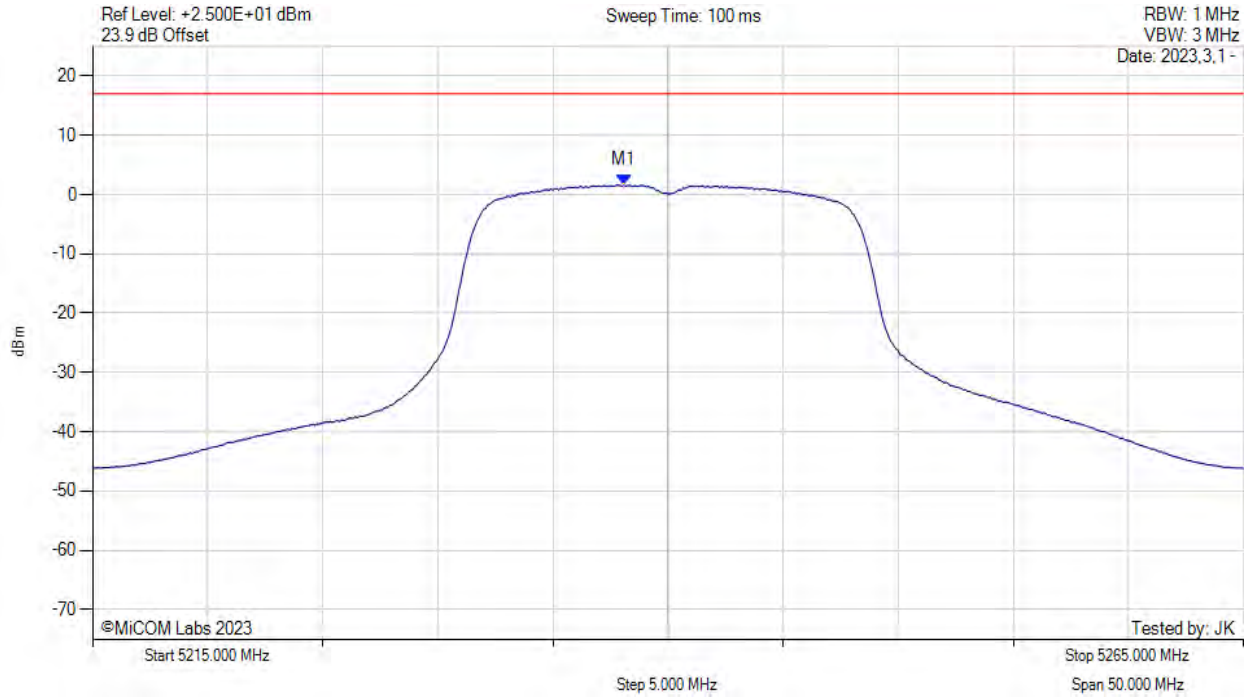


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5197.800 MHz : 1.242 dBm M1 + DCCF : 5197.800 MHz : 1.330 dBm Duty Cycle Correction Factor : +0.18 dB	Limit: ≤ 17.0 dBm Margin: -15.7 dB

back to matrix

POWER SPECTRAL DENSITY

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

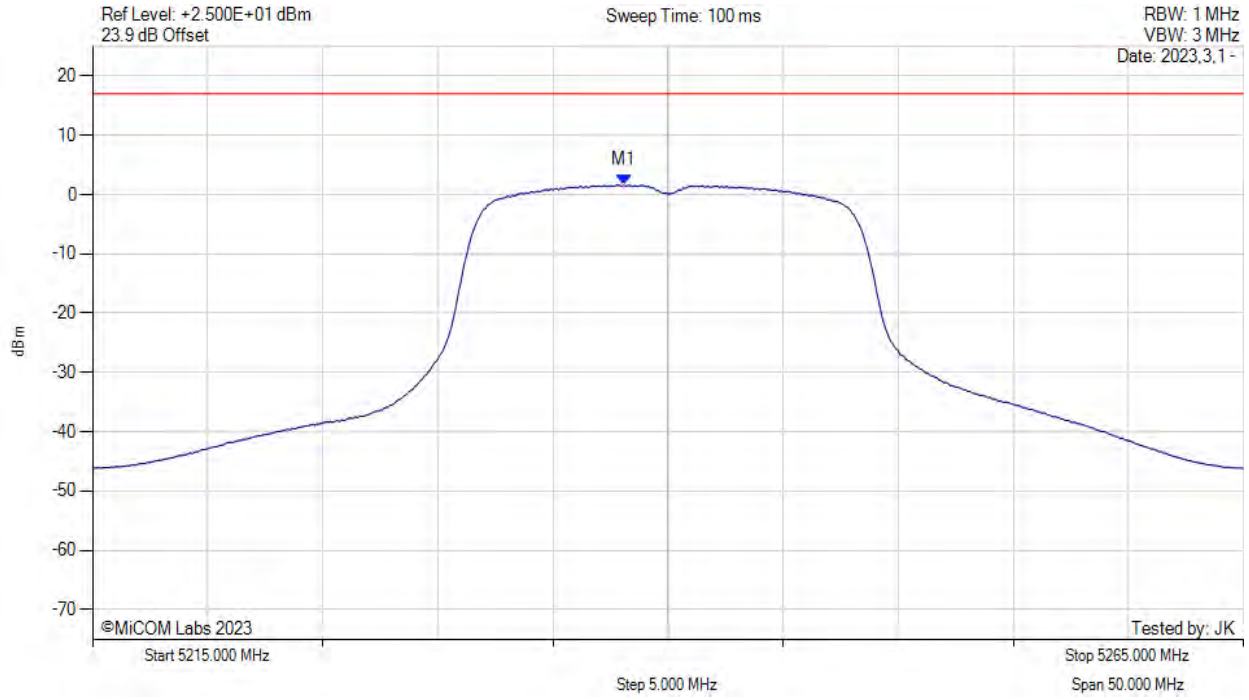


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5238.080 MHz : 1.598 dBm	Limit: ≤ 17.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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

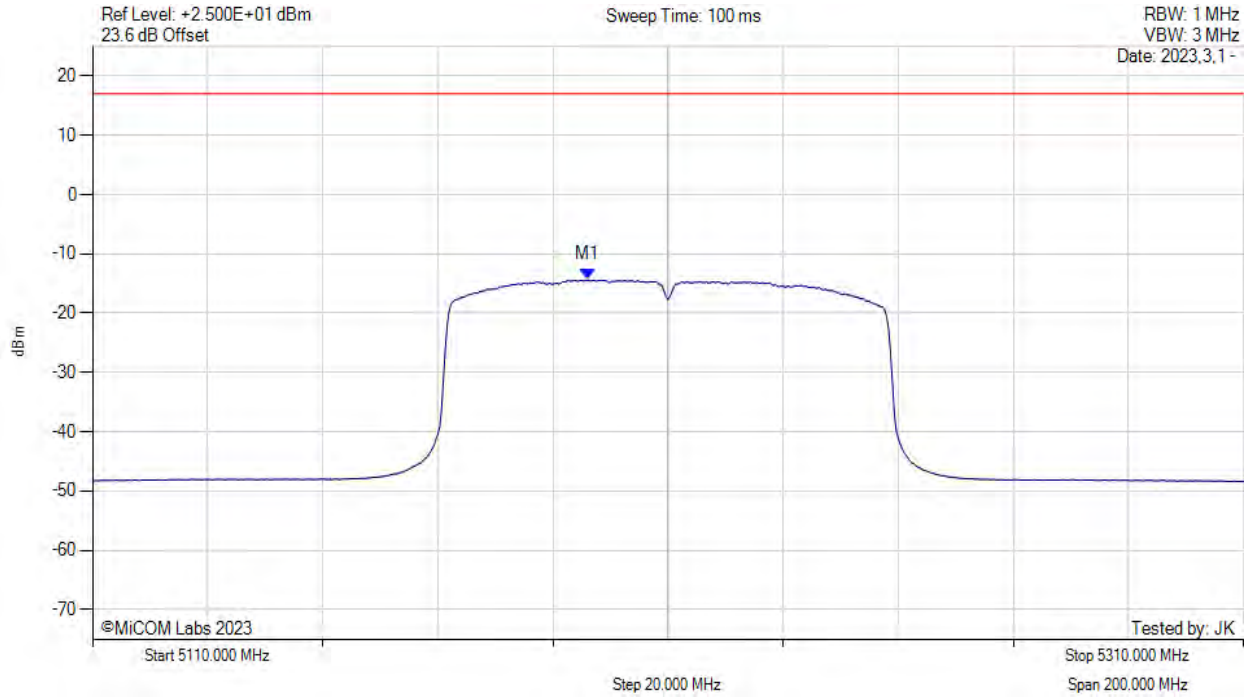


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5238.100 MHz : 1.598 dBm M1 + DCCF : 5238.100 MHz : 1.775 dBm Duty Cycle Correction Factor : +0.18 dB	Limit: ≤ 17.0 dBm Margin: -15.2 dB

back to matrix

POWER SPECTRAL DENSITY

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

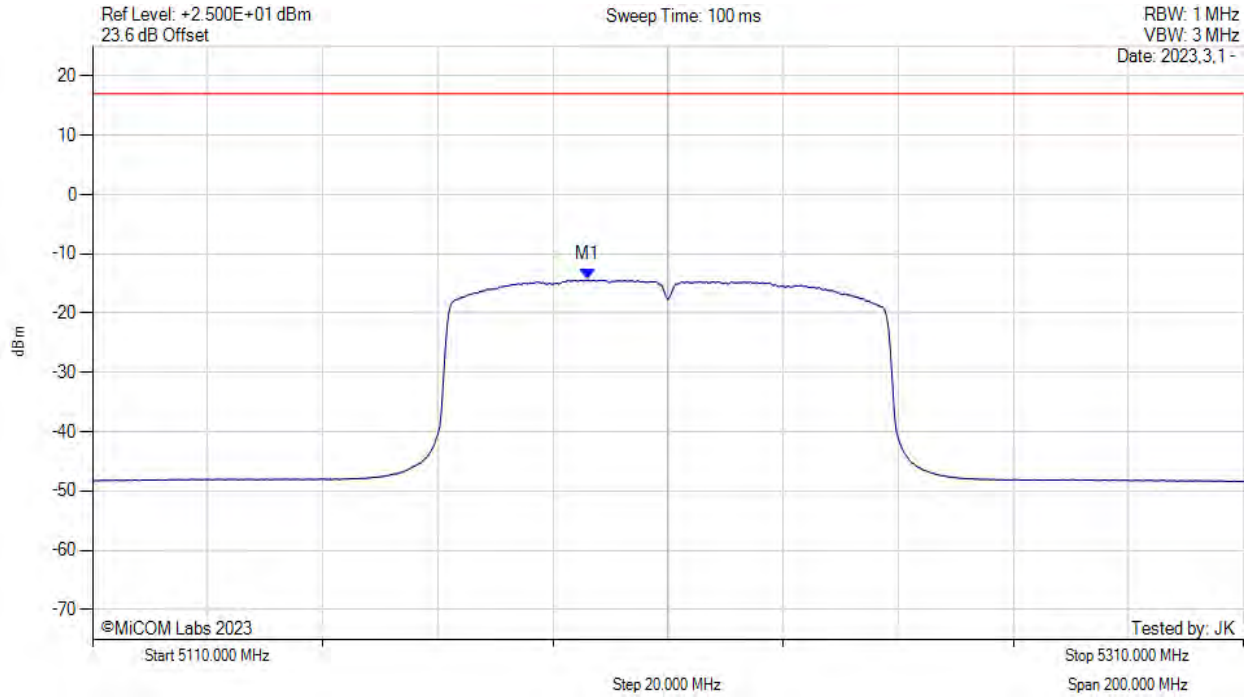


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5196.000 MHz : -14.373 dBm	Limit: ≤ 17.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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

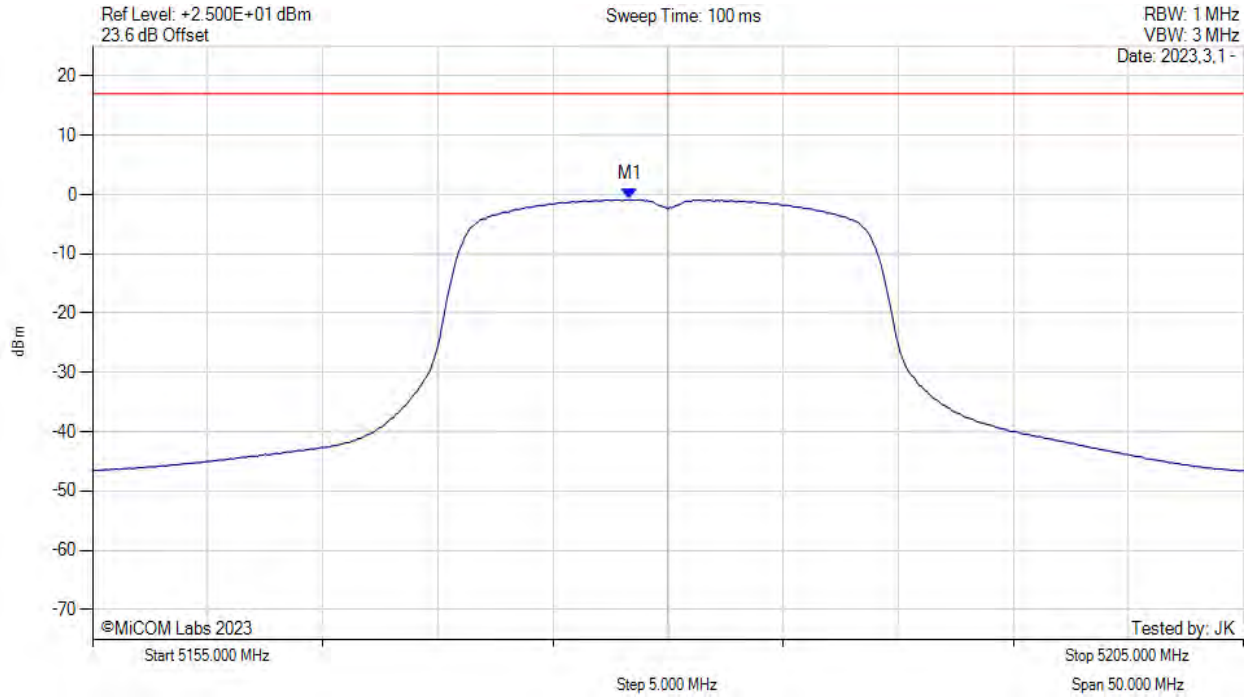


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5196.000 MHz : -14.373 dBm M1 + DCCF : 5196.000 MHz : -13.616 dBm Duty Cycle Correction Factor : +0.76 dB	Limit: ≤ 17.0 dBm Margin: -30.6 dB

back to matrix

POWER SPECTRAL DENSITY

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

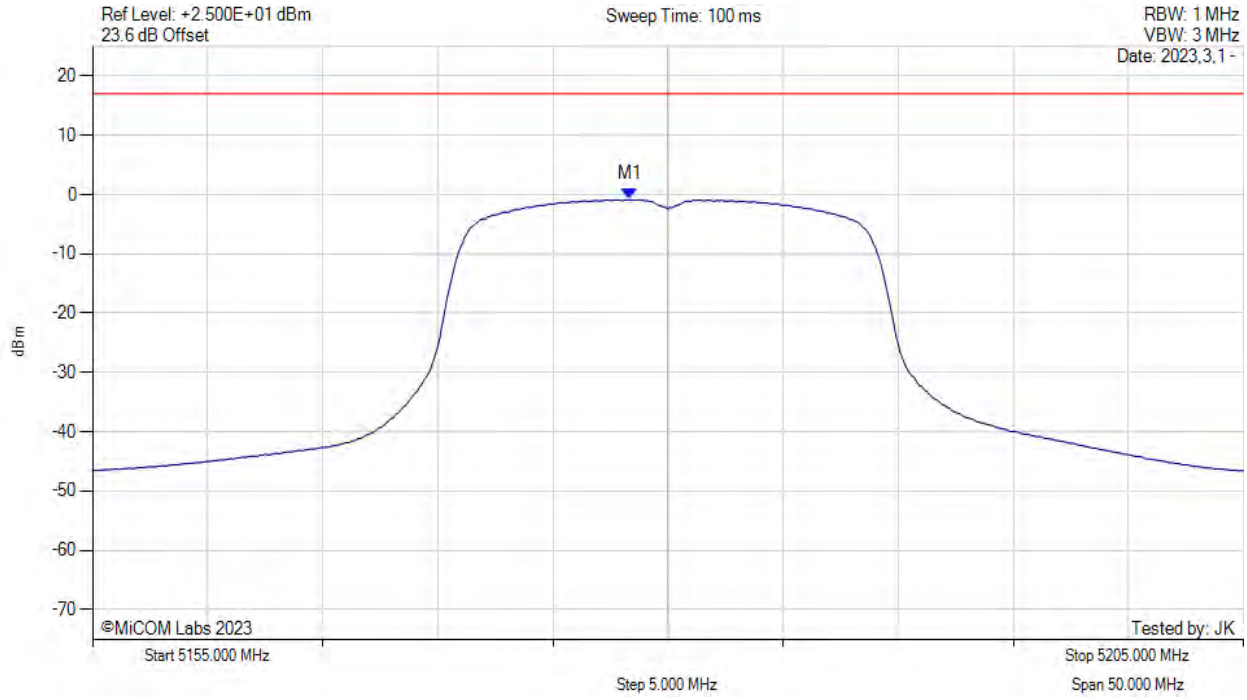


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5178.330 MHz : -0.833 dBm	Limit: ≤ 17.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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

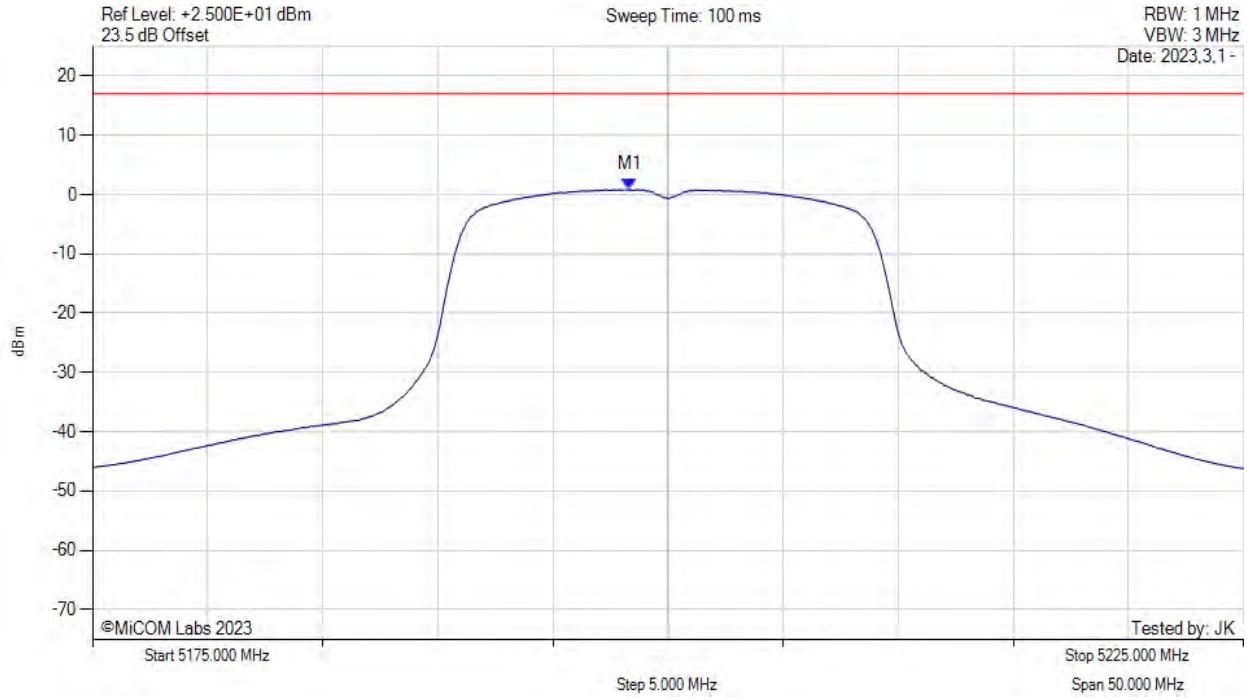


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5178.300 MHz : -0.833 dBm M1 + DCCF : 5178.300 MHz : -0.610 dBm Duty Cycle Correction Factor : +0.22 dB	Limit: ≤ 17.0 dBm Margin: -17.6 dB

back to matrix

POWER SPECTRAL DENSITY

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

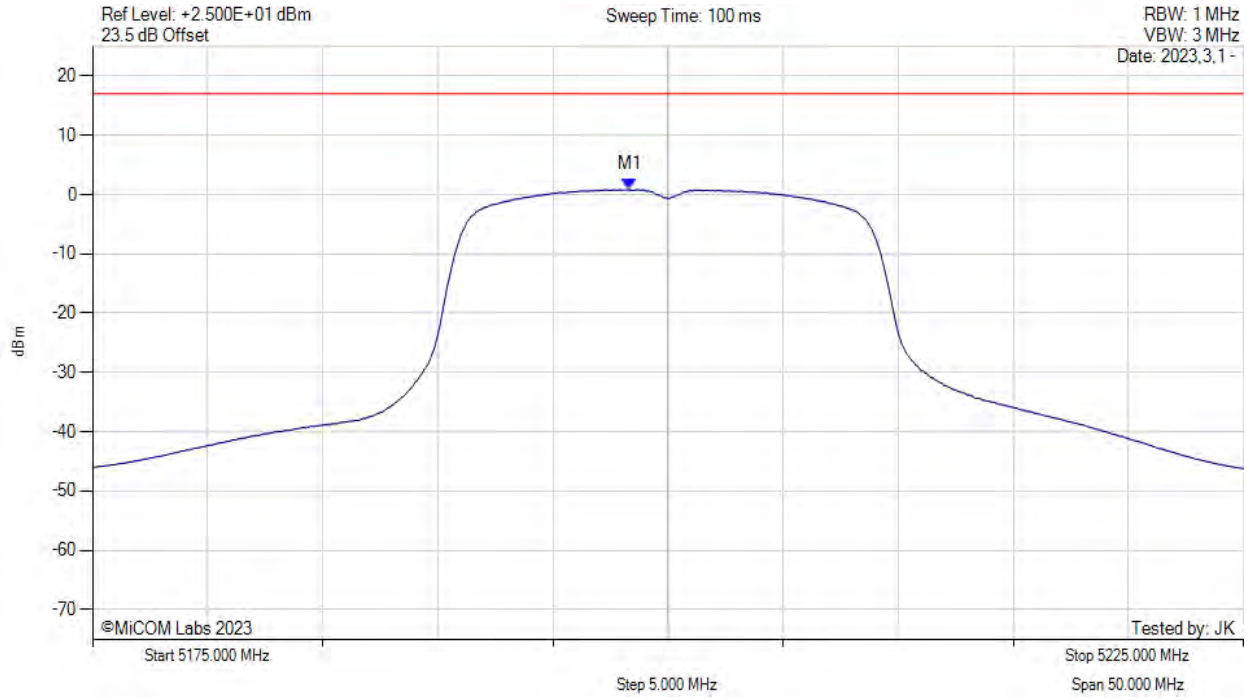


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5198.330 MHz : 0.854 dBm	Limit: ≤ 17.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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

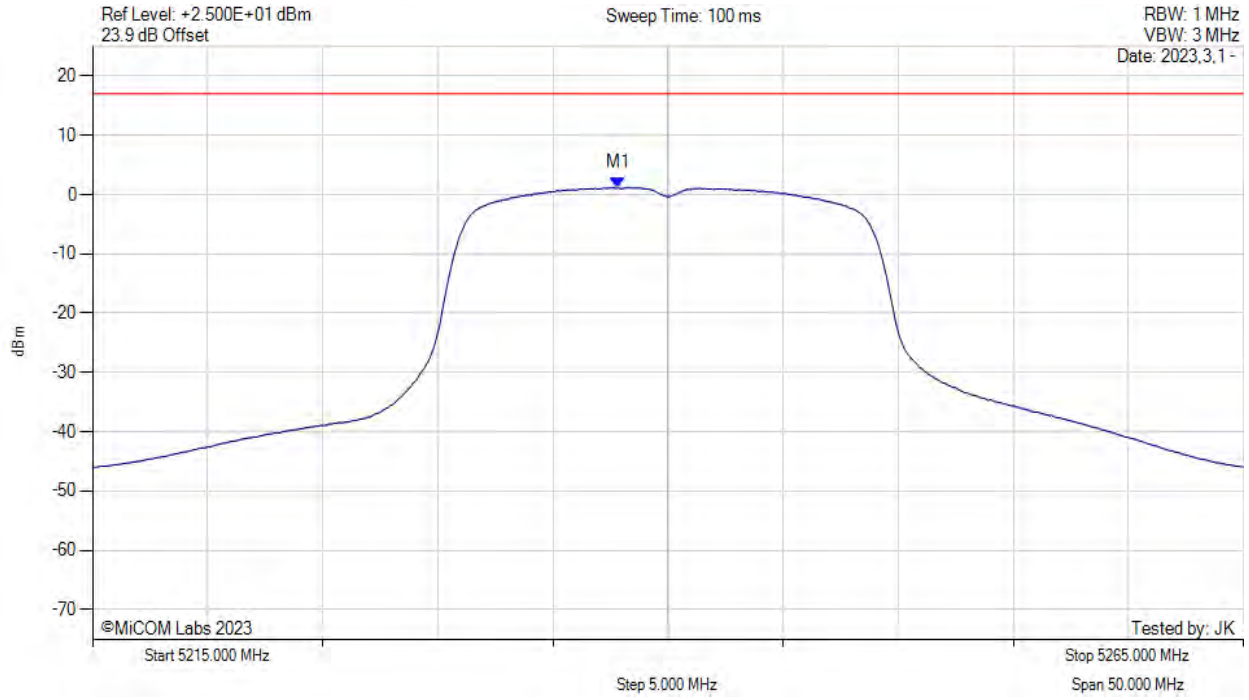


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5198.300 MHz : 0.854 dBm M1 + DCCF : 5198.300 MHz : 1.077 dBm Duty Cycle Correction Factor : +0.22 dB	Limit: ≤ 17.0 dBm Margin: -15.9 dB

back to matrix

POWER SPECTRAL DENSITY

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

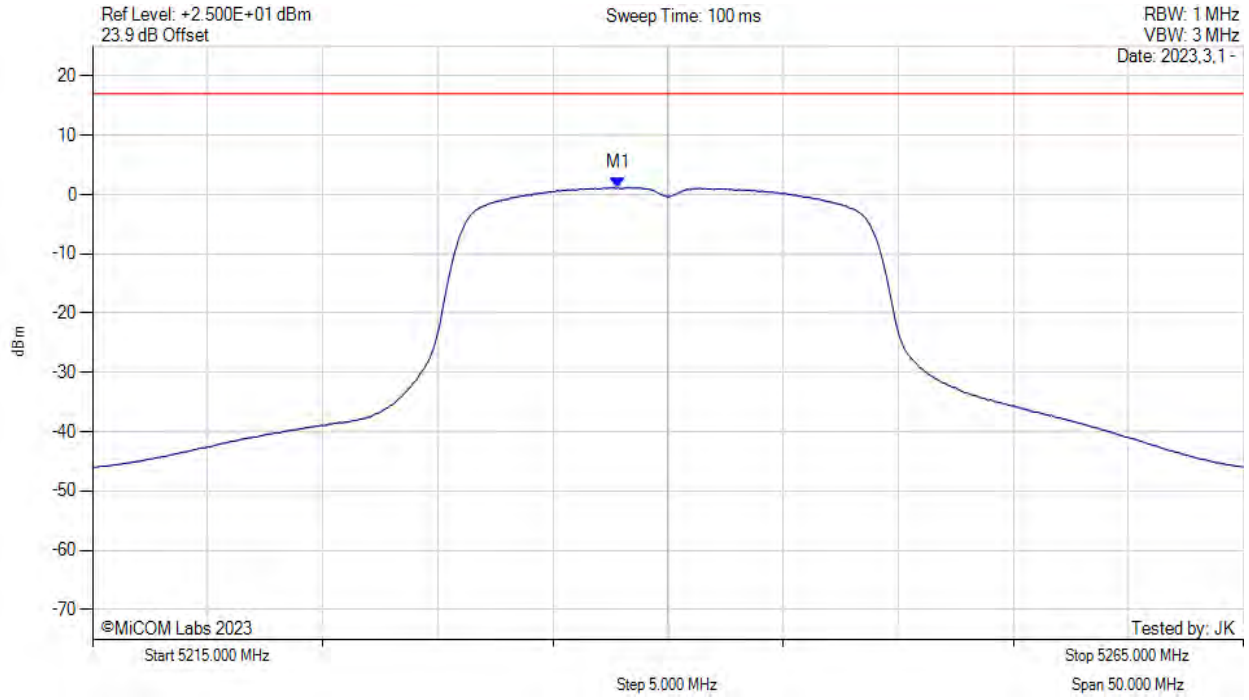


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5237.830 MHz : 1.168 dBm	Limit: ≤ 17.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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

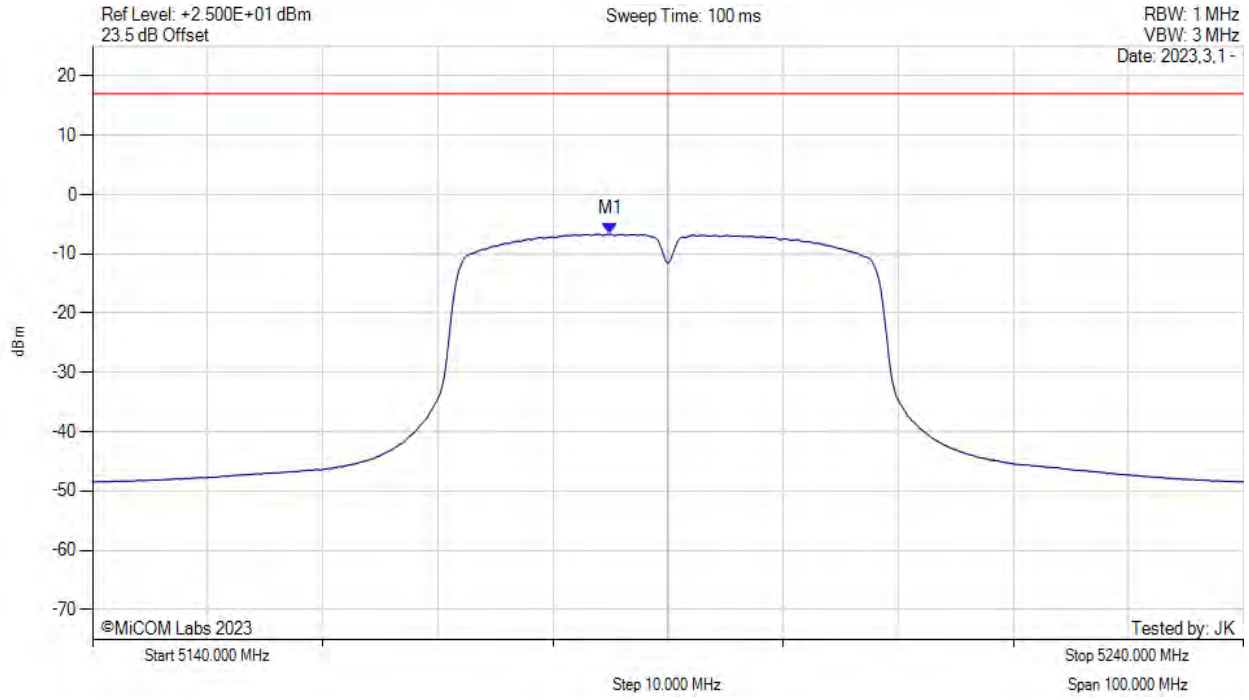


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5237.800 MHz : 1.168 dBm M1 + DCCF : 5237.800 MHz : 1.391 dBm Duty Cycle Correction Factor : +0.22 dB	Limit: ≤ 17.0 dBm Margin: -15.6 dB

back to matrix

POWER SPECTRAL DENSITY

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

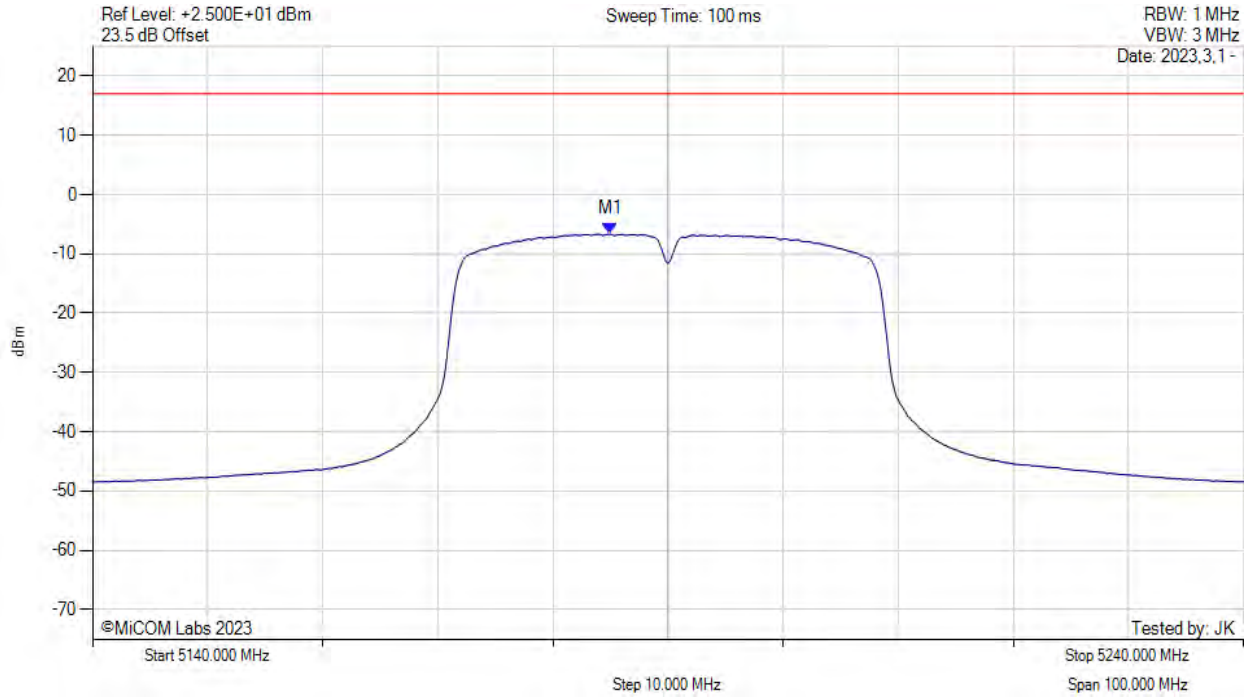


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5185.000 MHz : -6.656 dBm	Limit: ≤ 17.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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

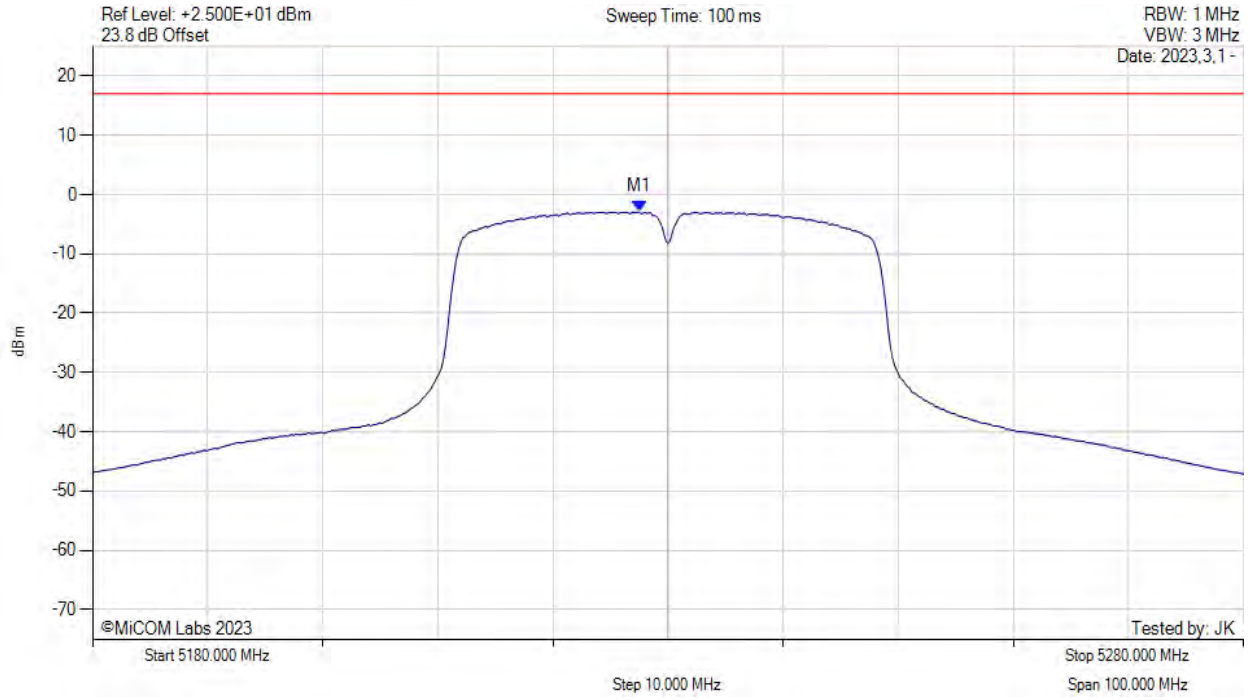


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5185.000 MHz : -6.656 dBm M1 + DCCF : 5185.000 MHz : -6.246 dBm Duty Cycle Correction Factor : +0.41 dB	Limit: ≤ 17.0 dBm Margin: -23.2 dB

back to matrix

POWER SPECTRAL DENSITY

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

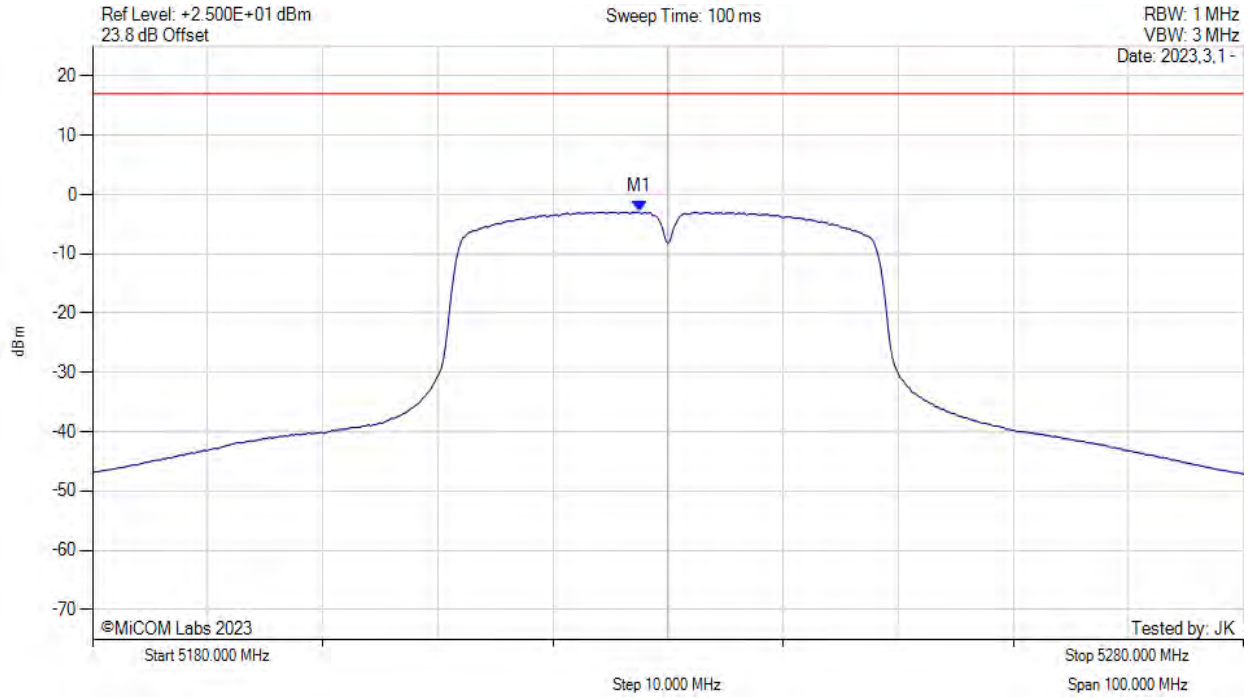


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5227.500 MHz : -2.926 dBm	Limit: ≤ 17.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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

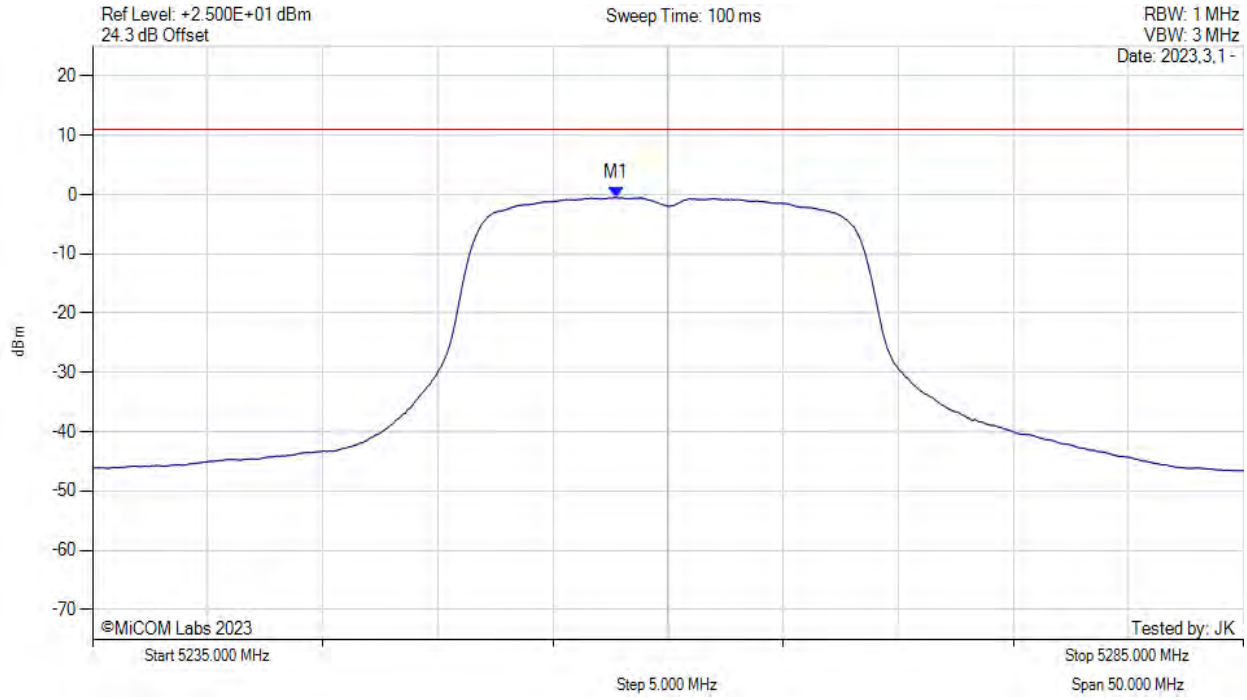


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5227.500 MHz : -2.926 dBm M1 + DCCF : 5227.500 MHz : -2.516 dBm Duty Cycle Correction Factor : +0.41 dB	Limit: ≤ 17.0 dBm Margin: -19.5 dB

back to matrix

POWER SPECTRAL DENSITY

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

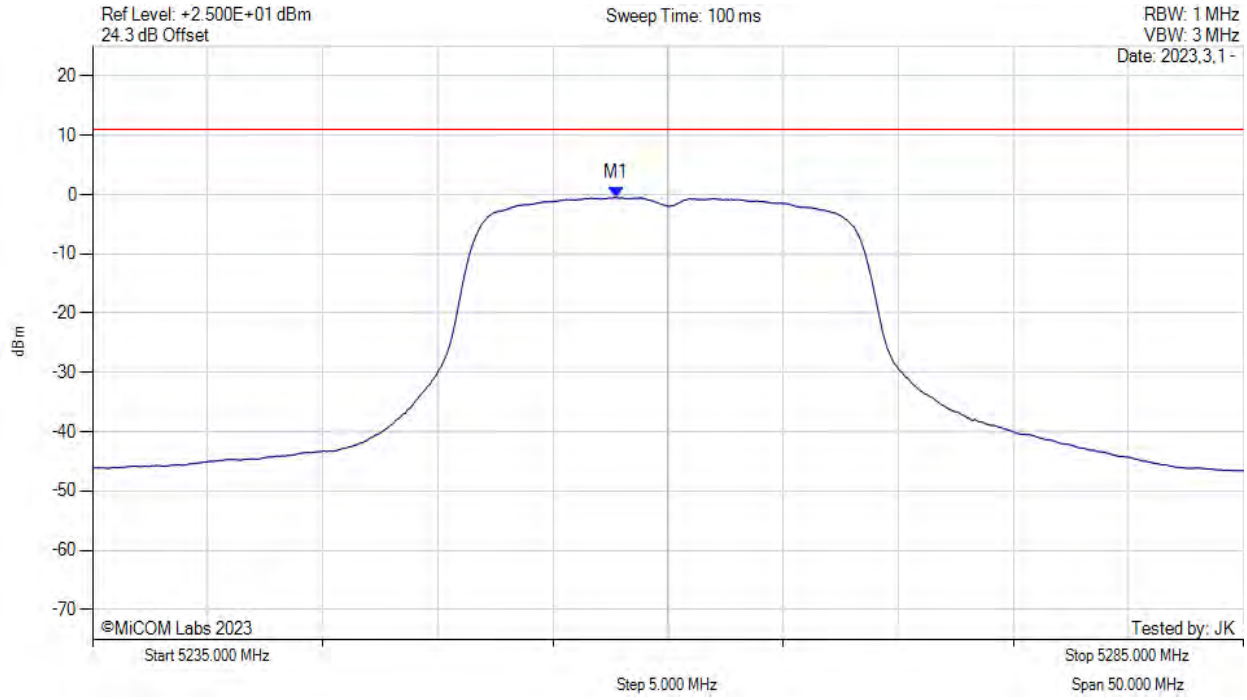


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5257.750 MHz : -0.489 dBm	Limit: ≤ 11.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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

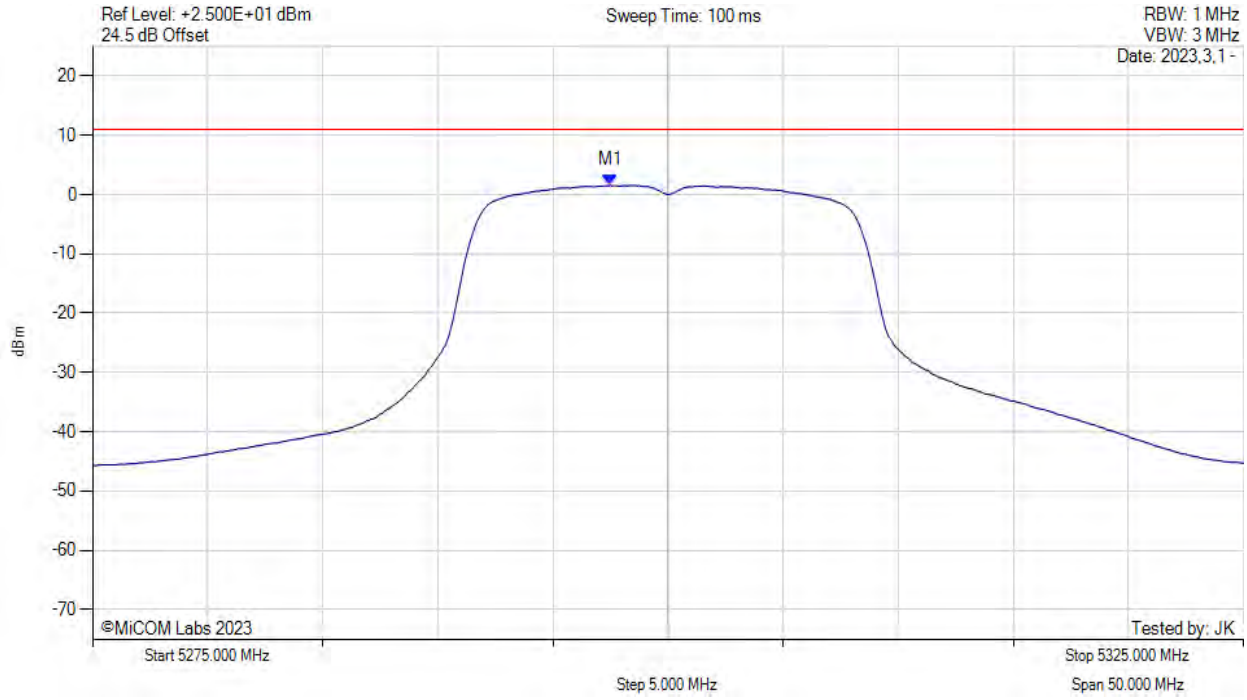


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5257.800 MHz : -0.489 dBm M1 + DCCF : 5257.800 MHz : -0.312 dBm Duty Cycle Correction Factor : +0.18 dB	Limit: ≤ 11.0 dBm Margin: -11.3 dB

back to matrix

POWER SPECTRAL DENSITY

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

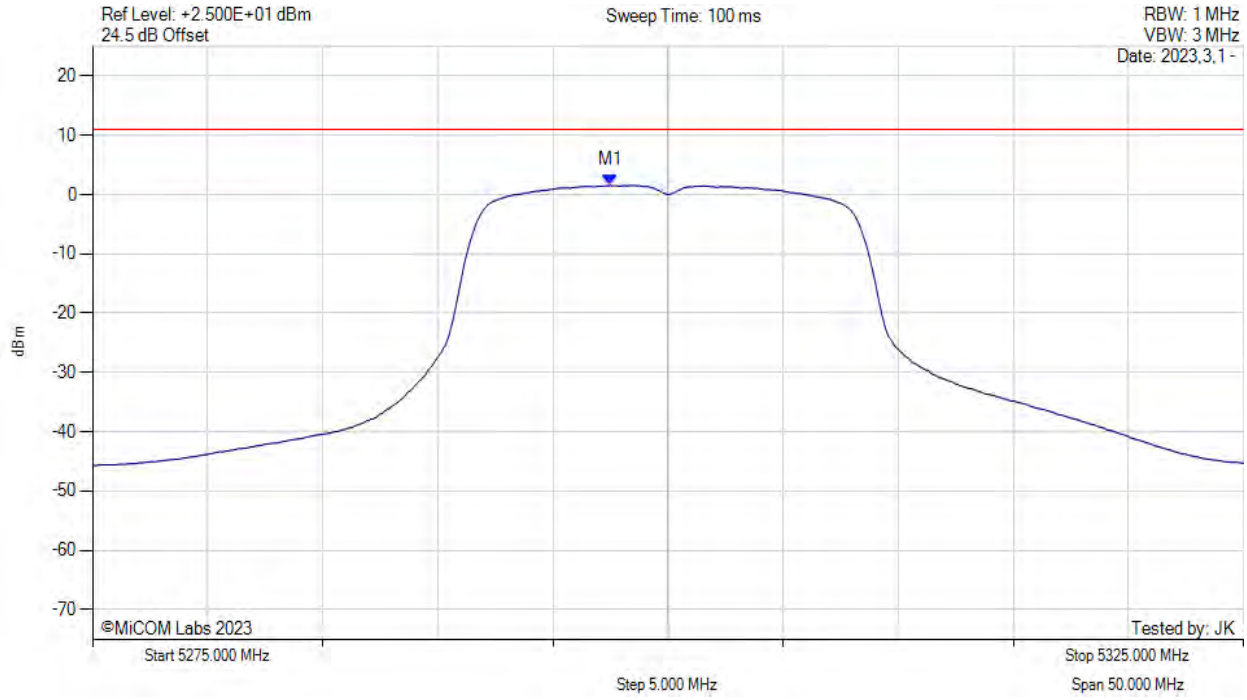


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5297.500 MHz : 1.575 dBm	Limit: ≤ 11.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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

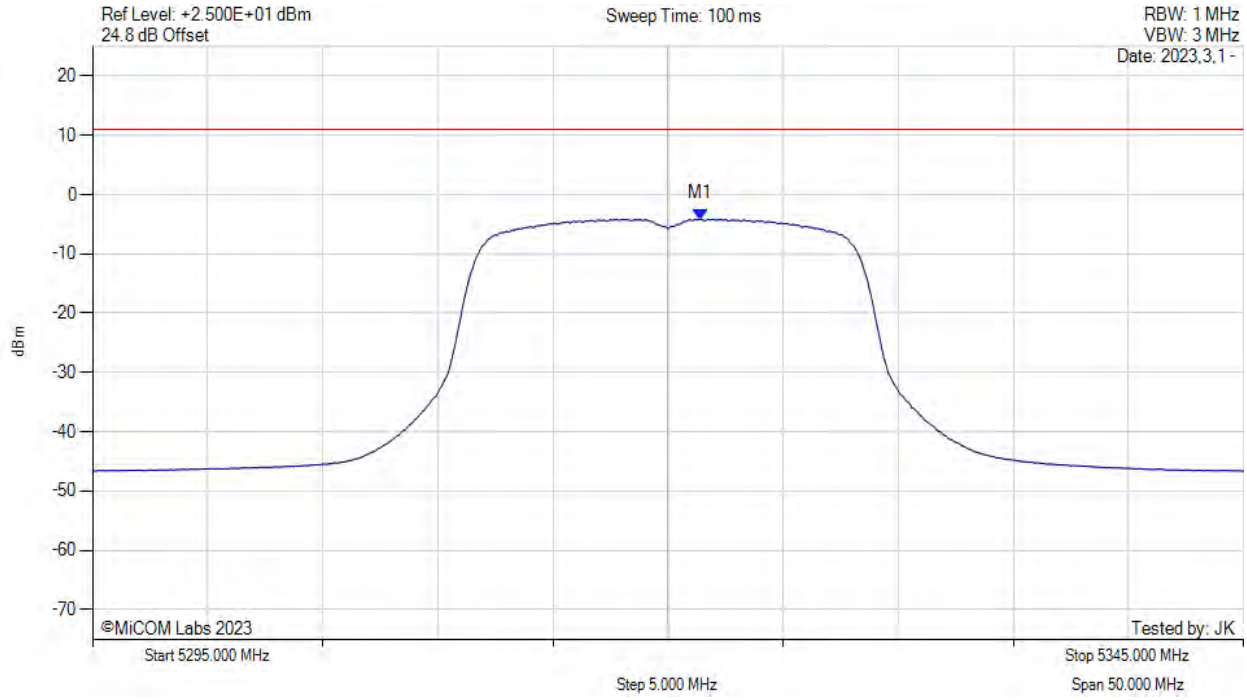


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5297.500 MHz : 1.575 dBm M1 + DCCF : 5297.500 MHz : 1.752 dBm Duty Cycle Correction Factor : +0.18 dB	Limit: ≤ 11.0 dBm Margin: -9.2 dB

back to matrix

POWER SPECTRAL DENSITY

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

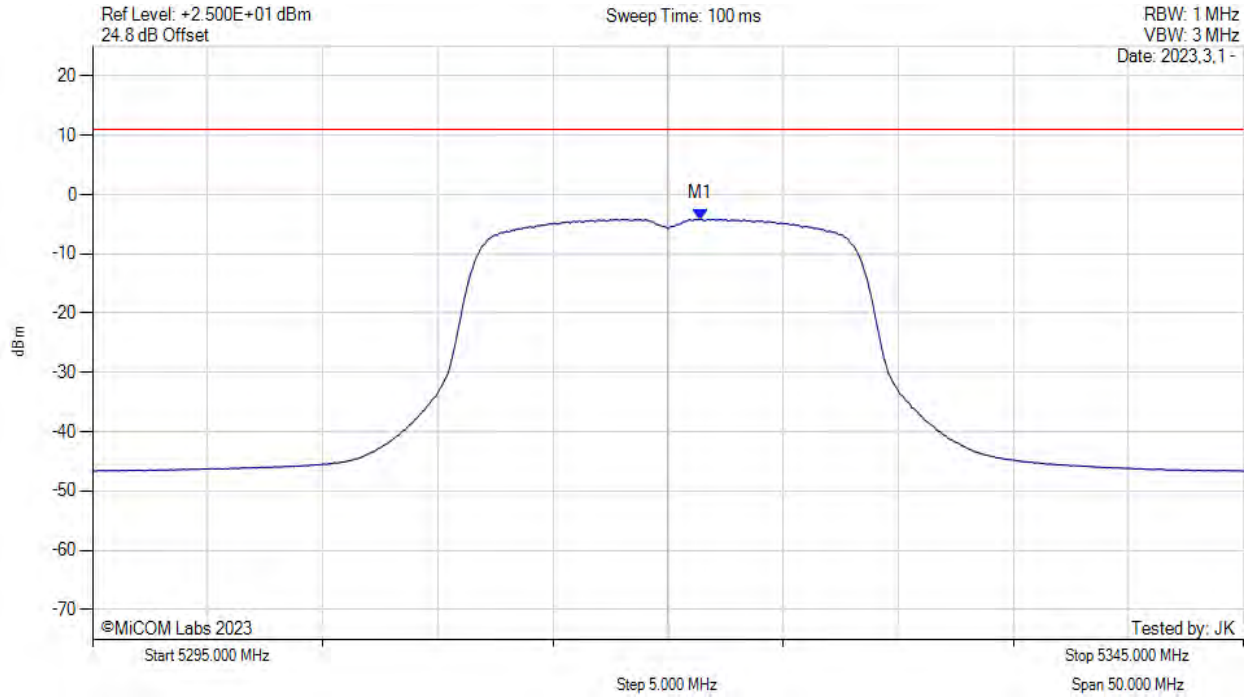


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5321.420 MHz : -4.135 dBm	Limit: ≤ 11.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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

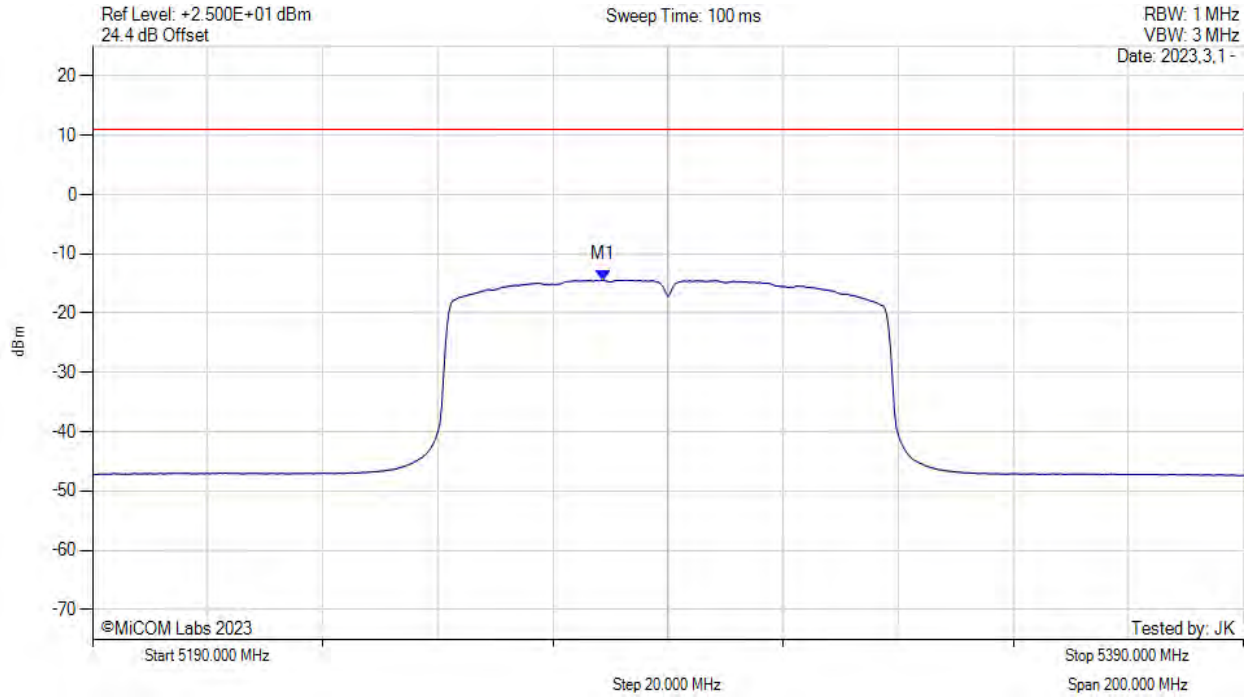


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5321.400 MHz : -4.135 dBm M1 + DCCF : 5321.400 MHz : -3.958 dBm Duty Cycle Correction Factor : +0.18 dB	Limit: ≤ 11.0 dBm Margin: -15.0 dB

back to matrix

POWER SPECTRAL DENSITY

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

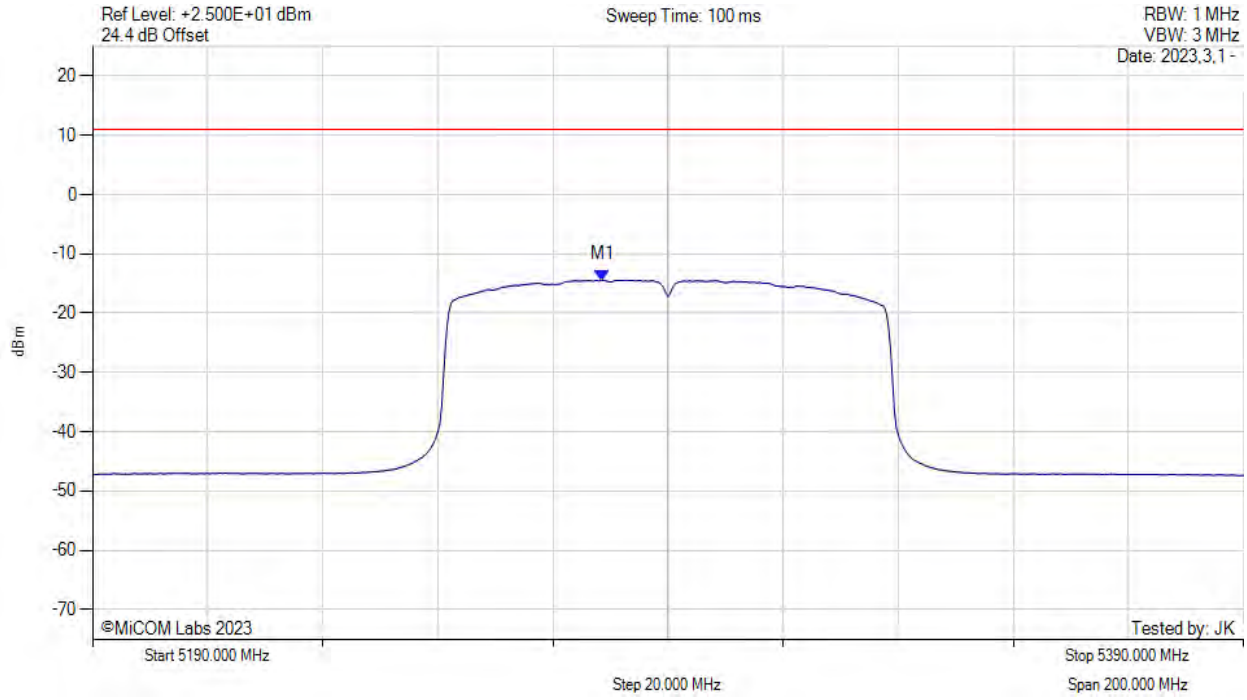


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5278.700 MHz : -14.401 dBm	Limit: ≤ 11.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5290.00 MHz, SUM, Temp: 20, Voltage: Vdc

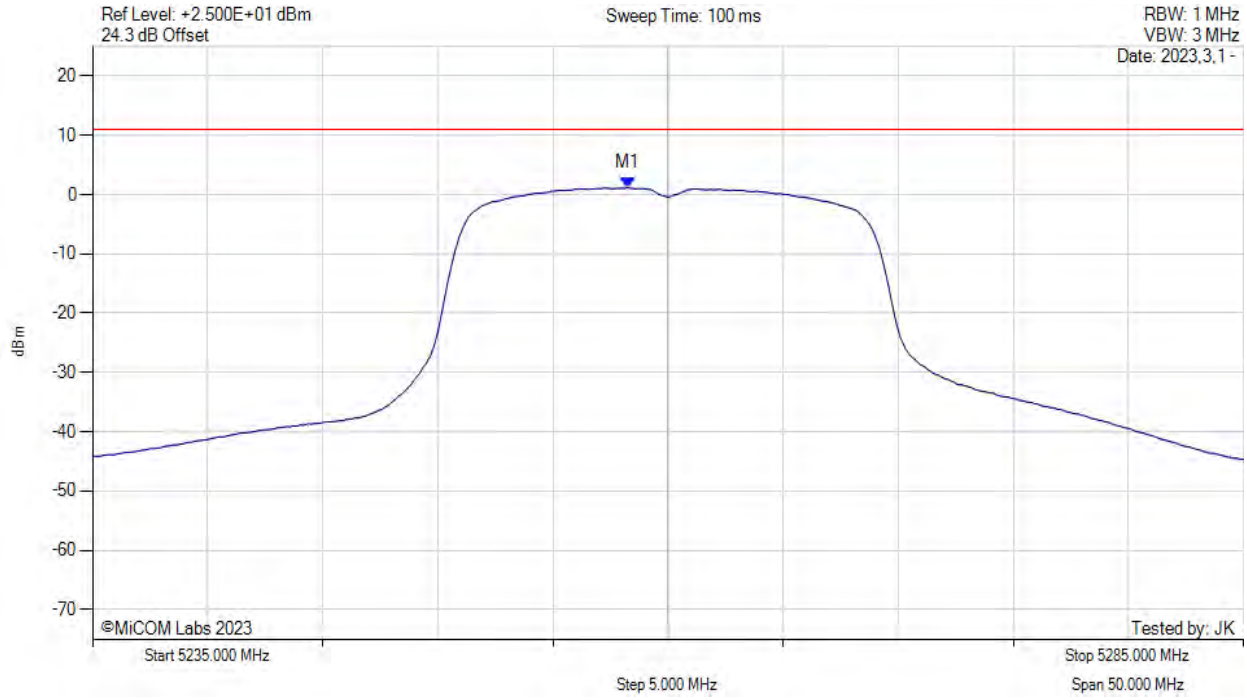


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5278.700 MHz : -14.401 dBm M1 + DCCF : 5278.700 MHz : -13.644 dBm Duty Cycle Correction Factor : +0.76 dB	Limit: ≤ 11.0 dBm Margin: -24.6 dB

back to matrix

POWER SPECTRAL DENSITY

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

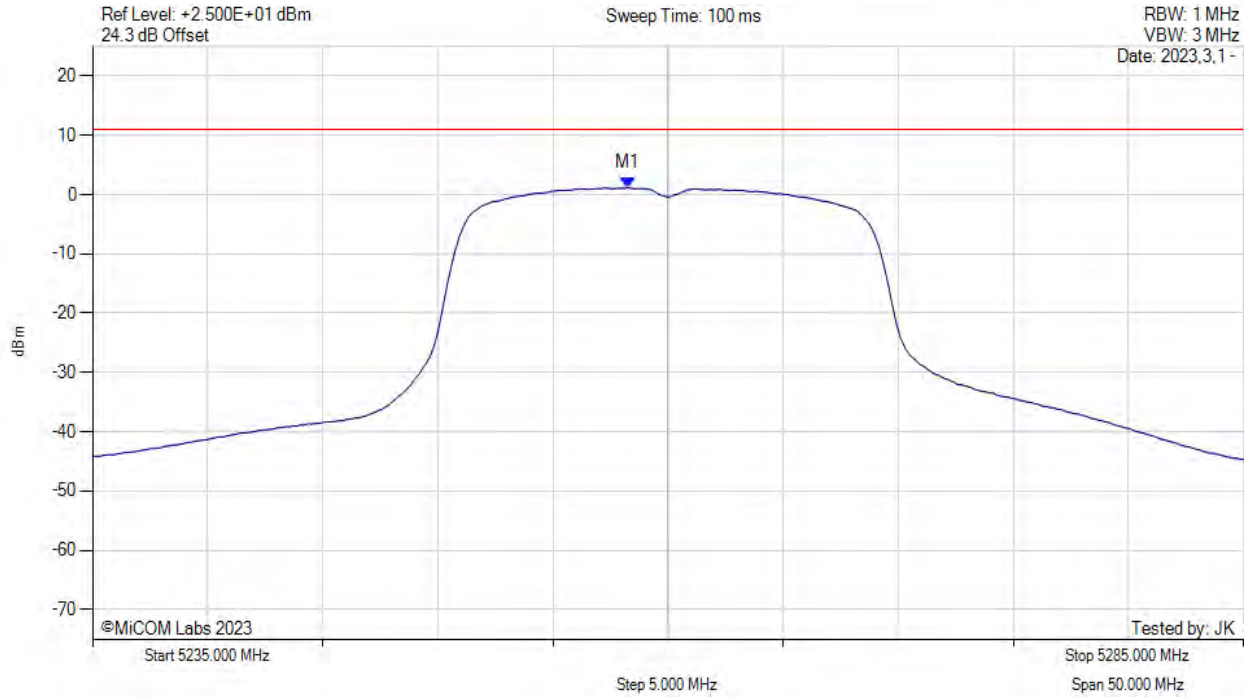


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5258.250 MHz : 1.168 dBm	Limit: ≤ 11.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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

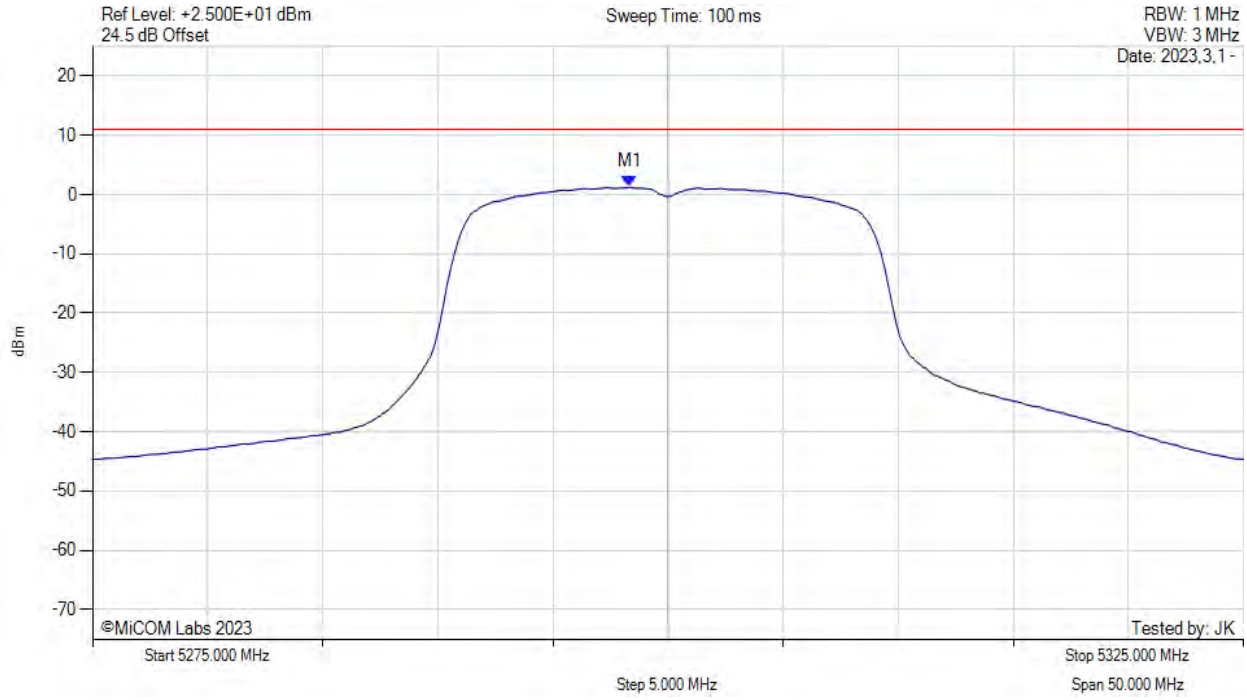


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5258.300 MHz : 1.168 dBm M1 + DCCF : 5258.300 MHz : 1.391 dBm Duty Cycle Correction Factor : +0.22 dB	Limit: ≤ 11.0 dBm Margin: -9.6 dB

back to matrix

POWER SPECTRAL DENSITY

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

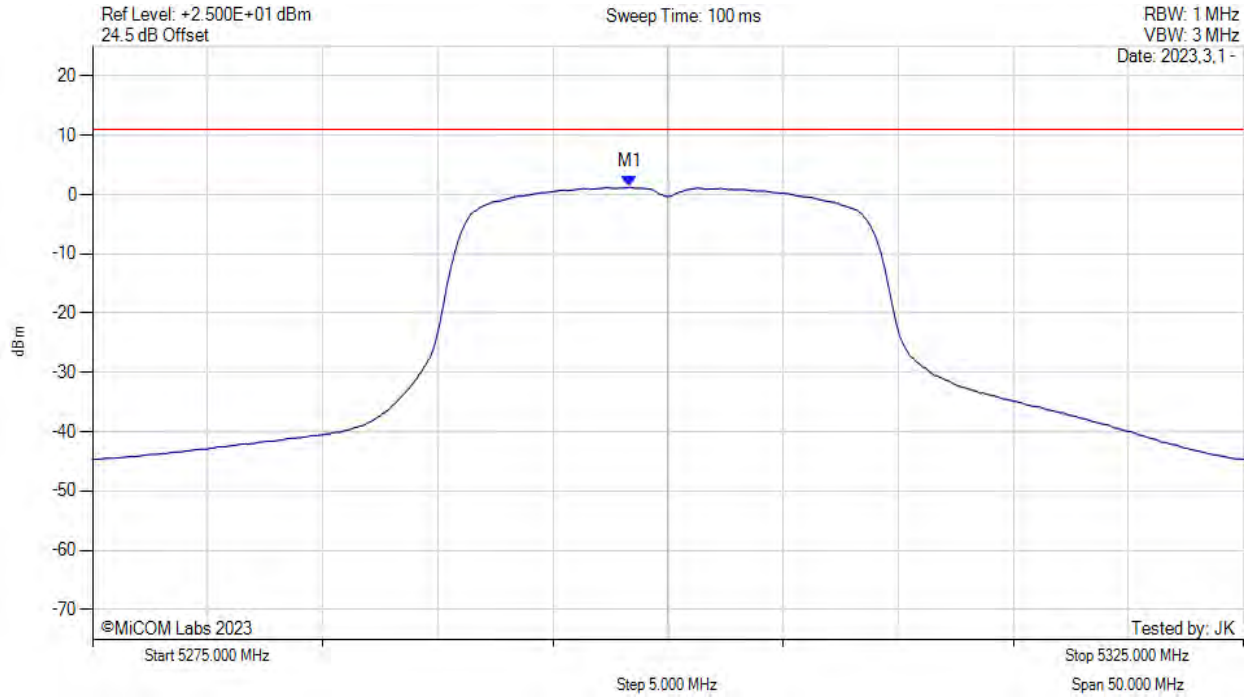


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5298.330 MHz : 1.269 dBm	Limit: ≤ 11.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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

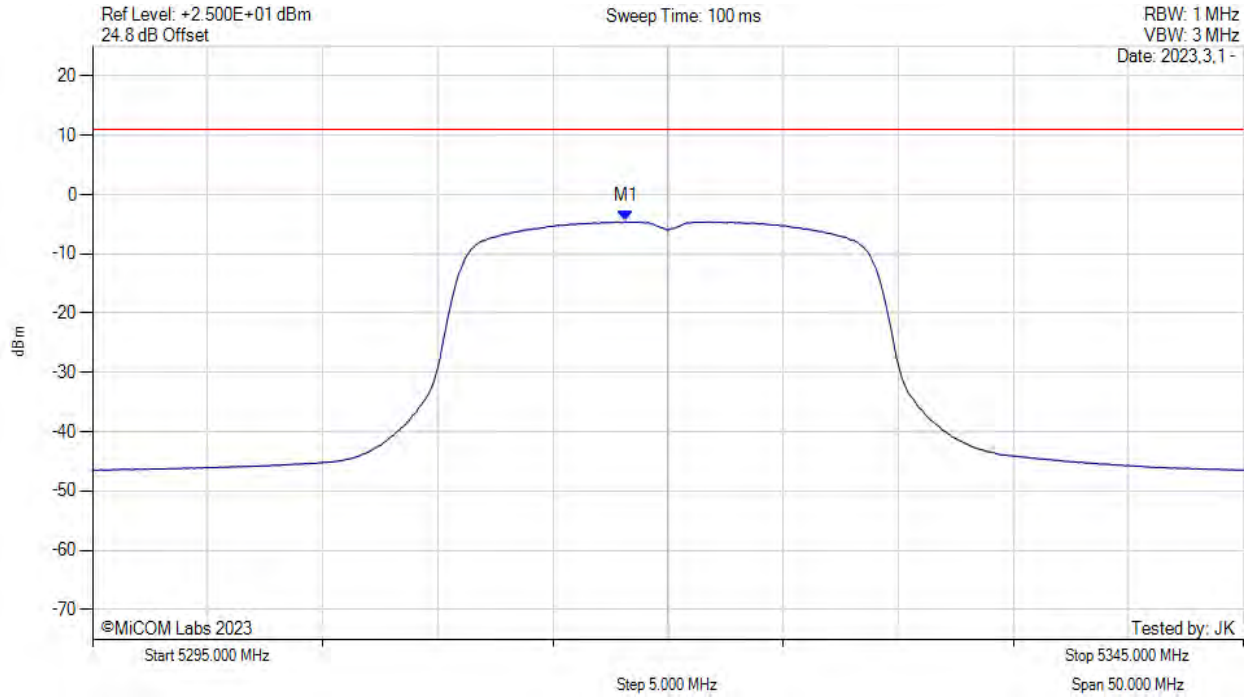


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5298.300 MHz : 1.269 dBm M1 + DCCF : 5298.300 MHz : 1.492 dBm Duty Cycle Correction Factor : +0.22 dB	Limit: ≤ 11.0 dBm Margin: -9.5 dB

back to matrix

POWER SPECTRAL DENSITY

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

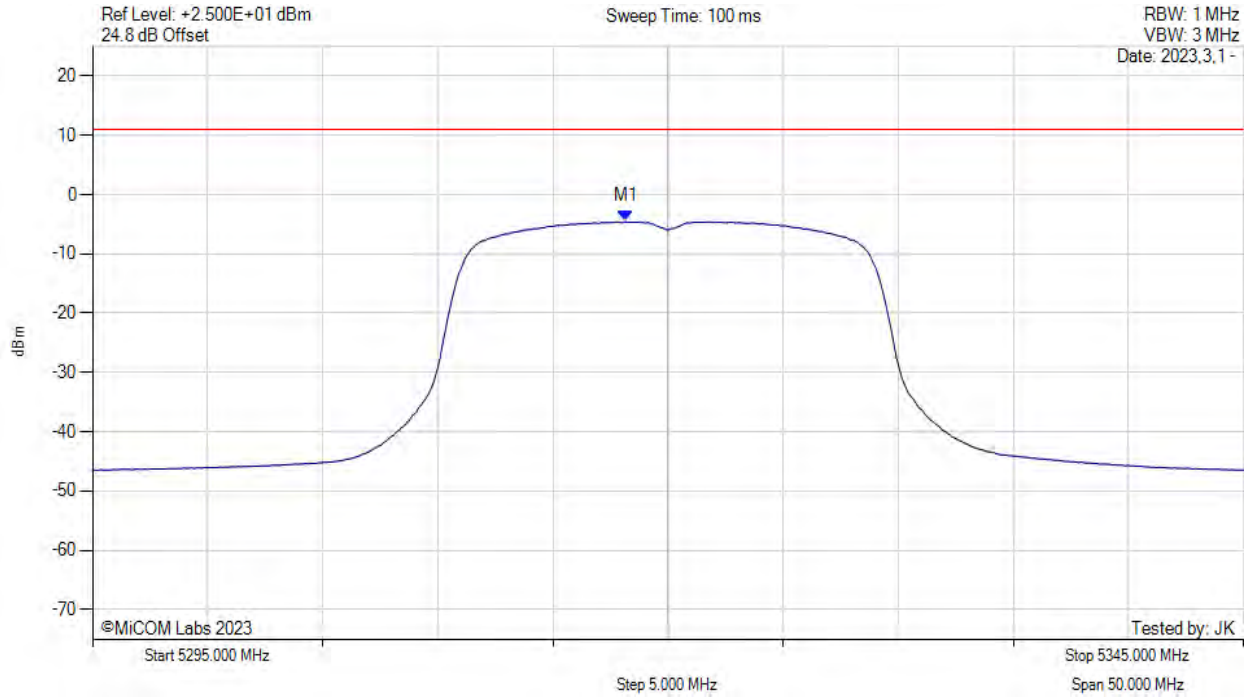


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5318.170 MHz : -4.571 dBm	Limit: ≤ 11.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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

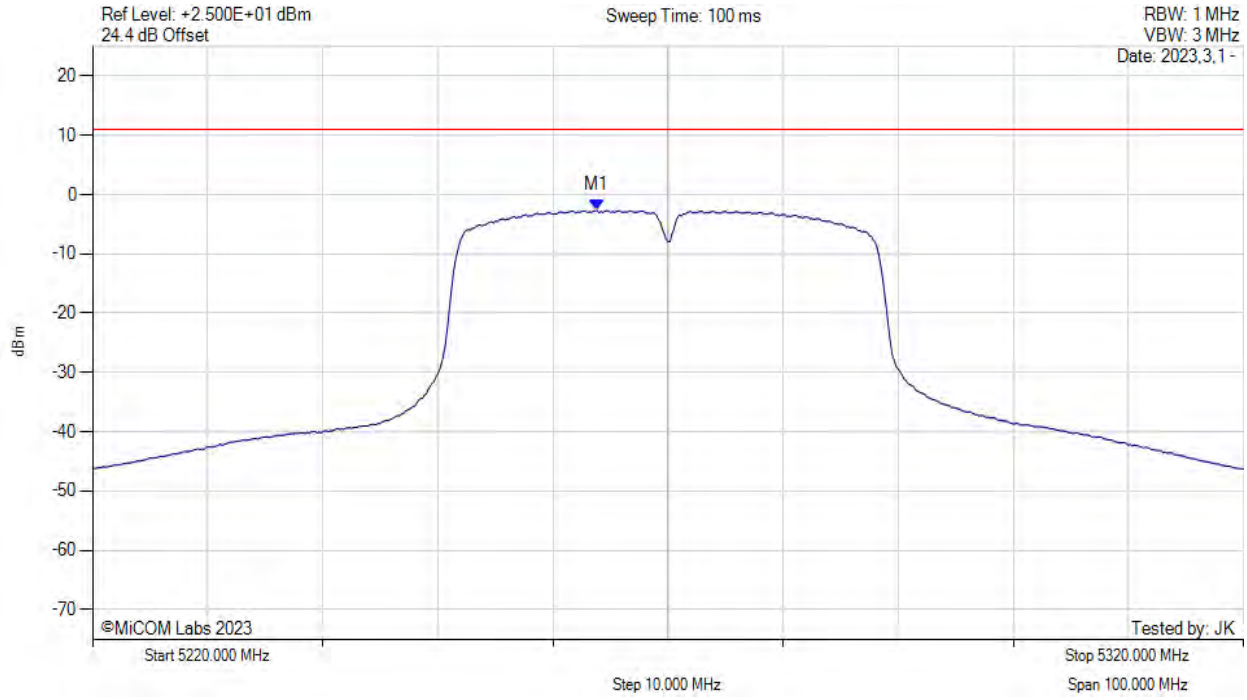


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5318.200 MHz : -4.571 dBm M1 + DCCF : 5318.200 MHz : -4.348 dBm Duty Cycle Correction Factor : +0.22 dB	Limit: ≤ 11.0 dBm Margin: -15.3 dB

back to matrix

POWER SPECTRAL DENSITY

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

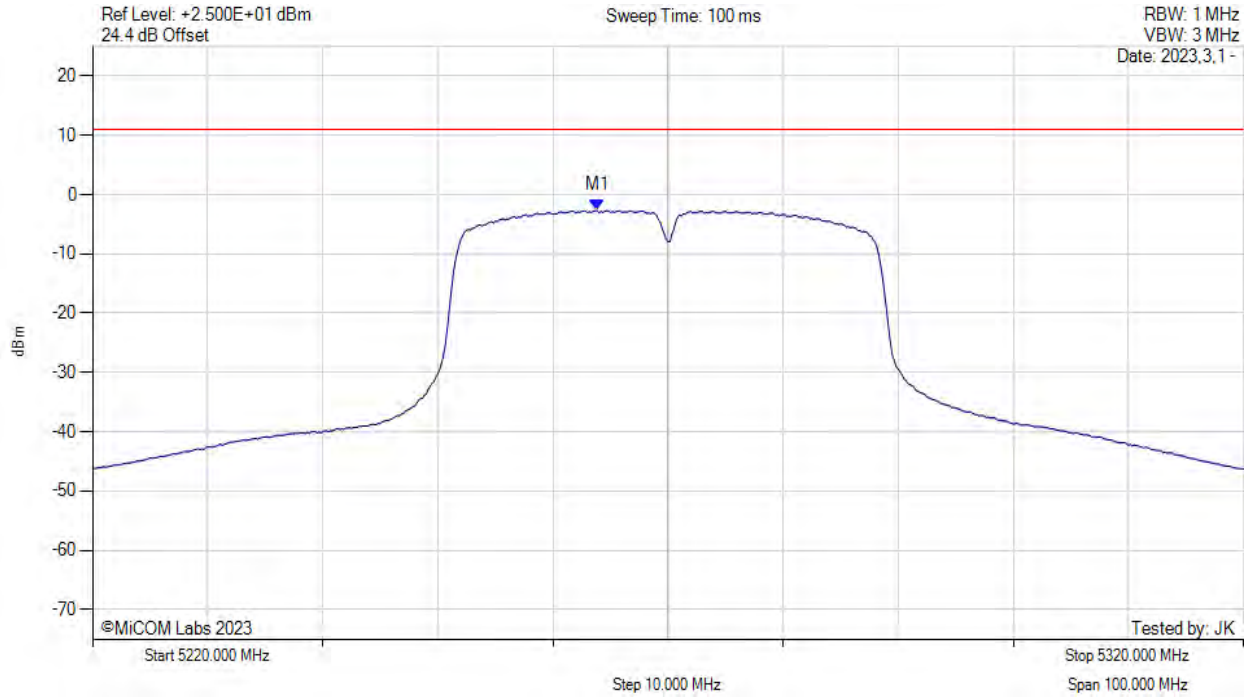


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5263.830 MHz : -2.686 dBm	Limit: ≤ 11.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5270.00 MHz, SUM, Temp: 20, Voltage: Vdc

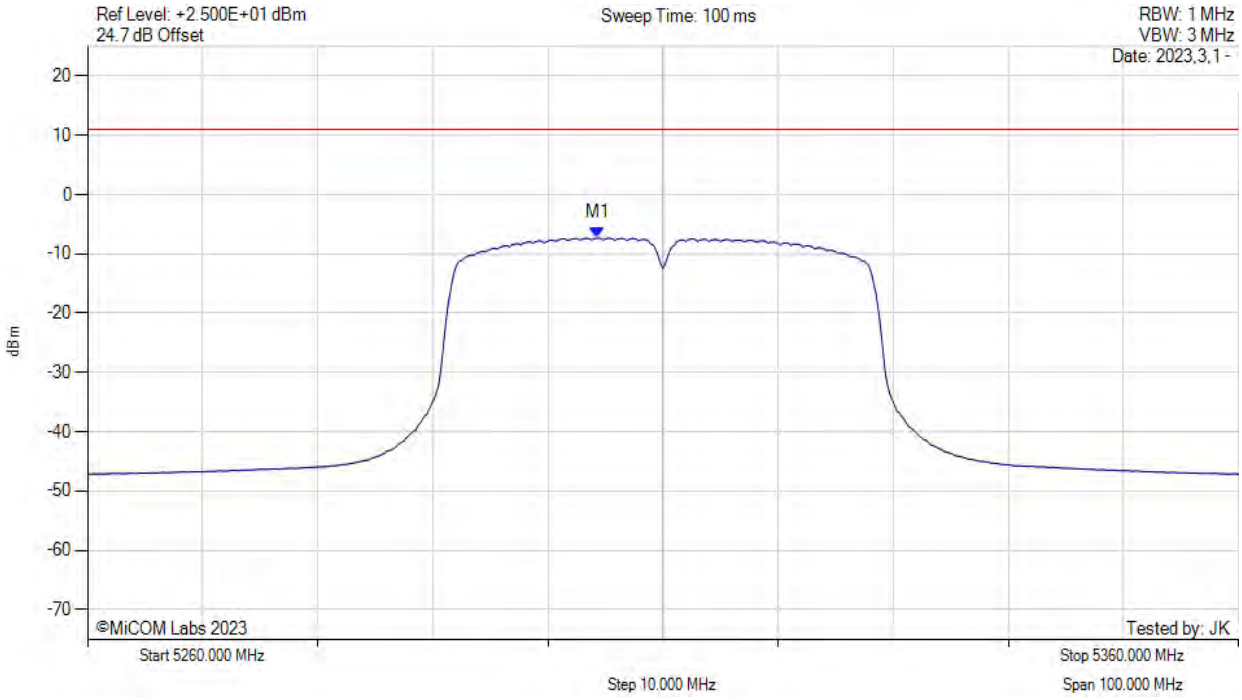


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5263.800 MHz : -2.686 dBm M1 + DCCF : 5263.800 MHz : -2.276 dBm Duty Cycle Correction Factor : +0.41 dB	Limit: ≤ 11.0 dBm Margin: -13.3 dB

back to matrix

POWER SPECTRAL DENSITY

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

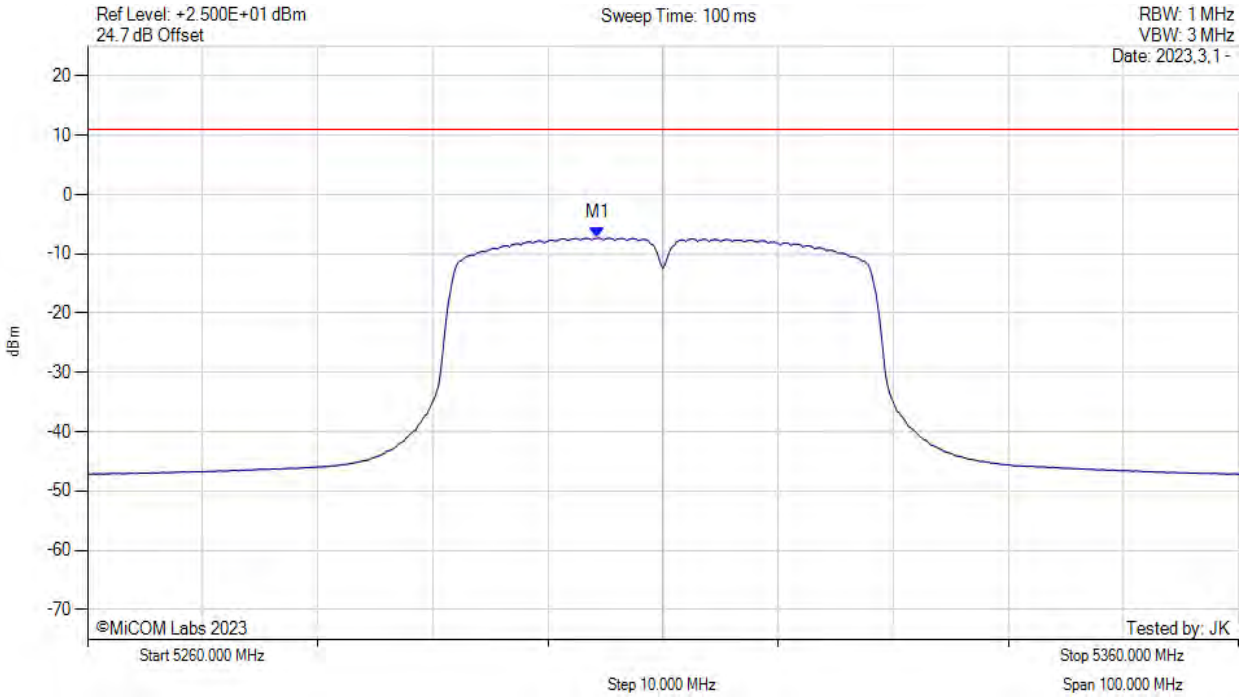


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5304.330 MHz : -7.304 dBm	Limit: ≤ 11.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5310.00 MHz, SUM, Temp: 20, Voltage: Vdc

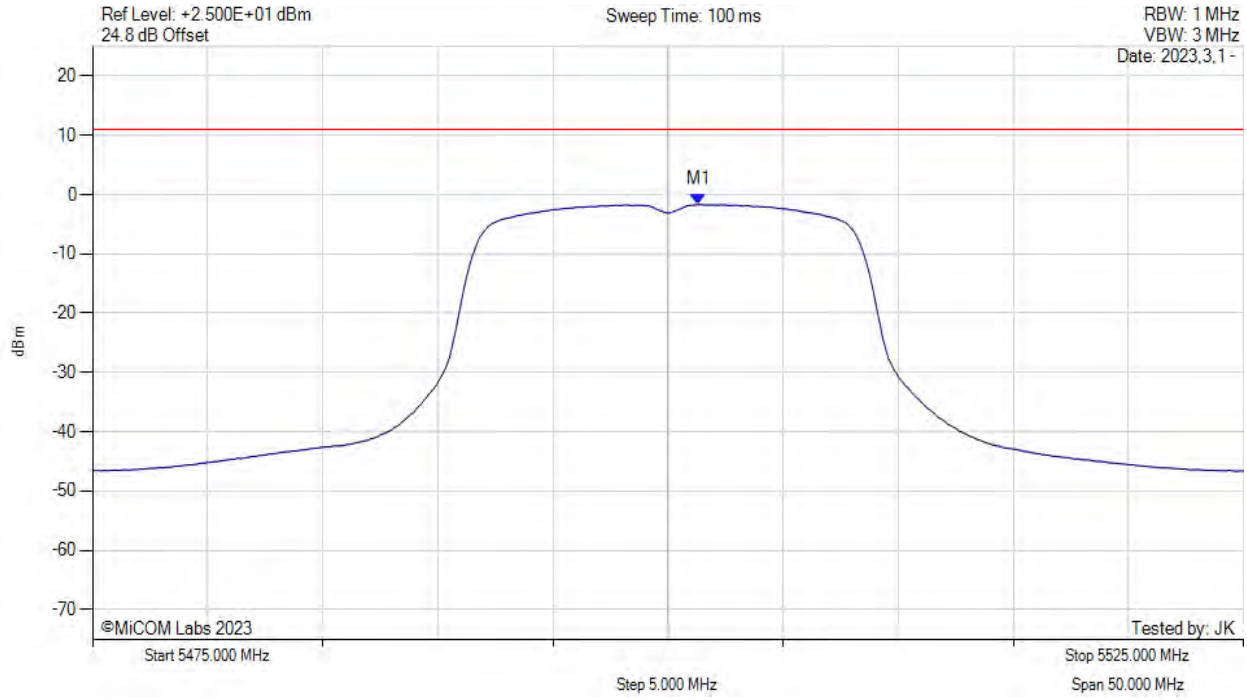


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5304.300 MHz : -7.304 dBm M1 + DCCF : 5304.300 MHz : -6.894 dBm Duty Cycle Correction Factor : +0.41 dB	Limit: ≤ 11.0 dBm Margin: -17.9 dB

back to matrix

POWER SPECTRAL DENSITY

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

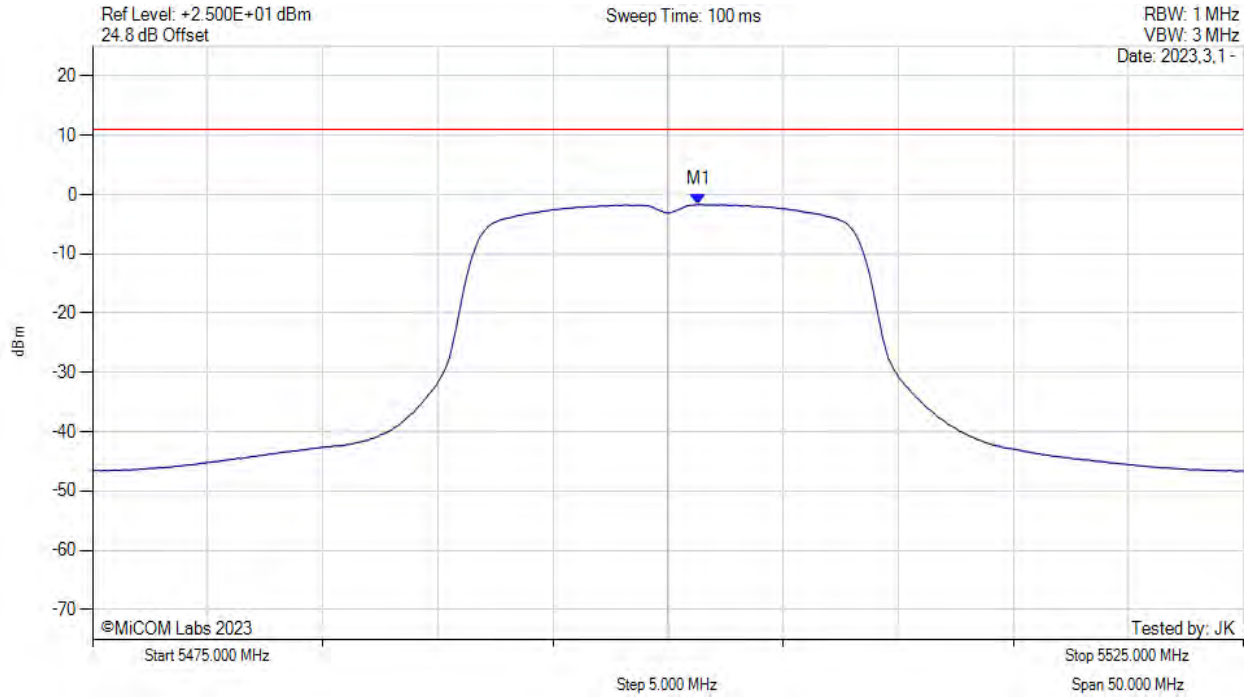


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5501.330 MHz : -1.661 dBm	Limit: ≤ 11.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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

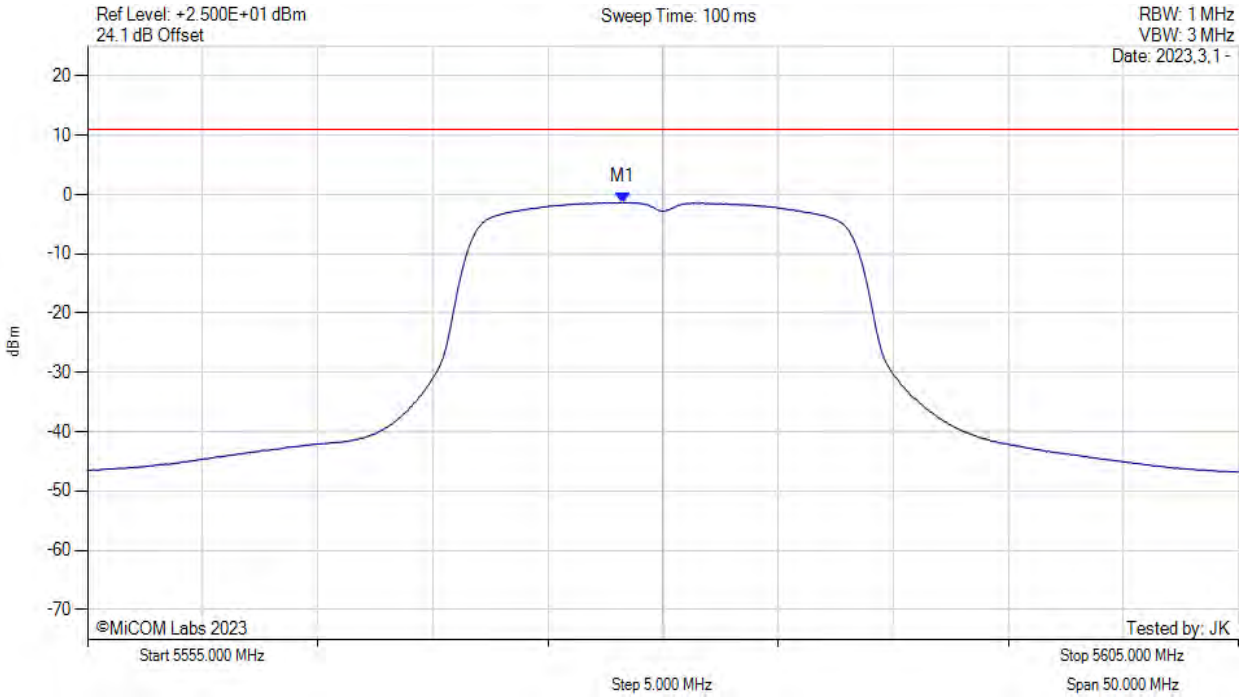


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5501.300 MHz : -1.661 dBm M1 + DCCF : 5501.300 MHz : -1.484 dBm Duty Cycle Correction Factor : +0.18 dB	Limit: ≤ 11.0 dBm Margin: -12.5 dB

back to matrix

POWER SPECTRAL DENSITY

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

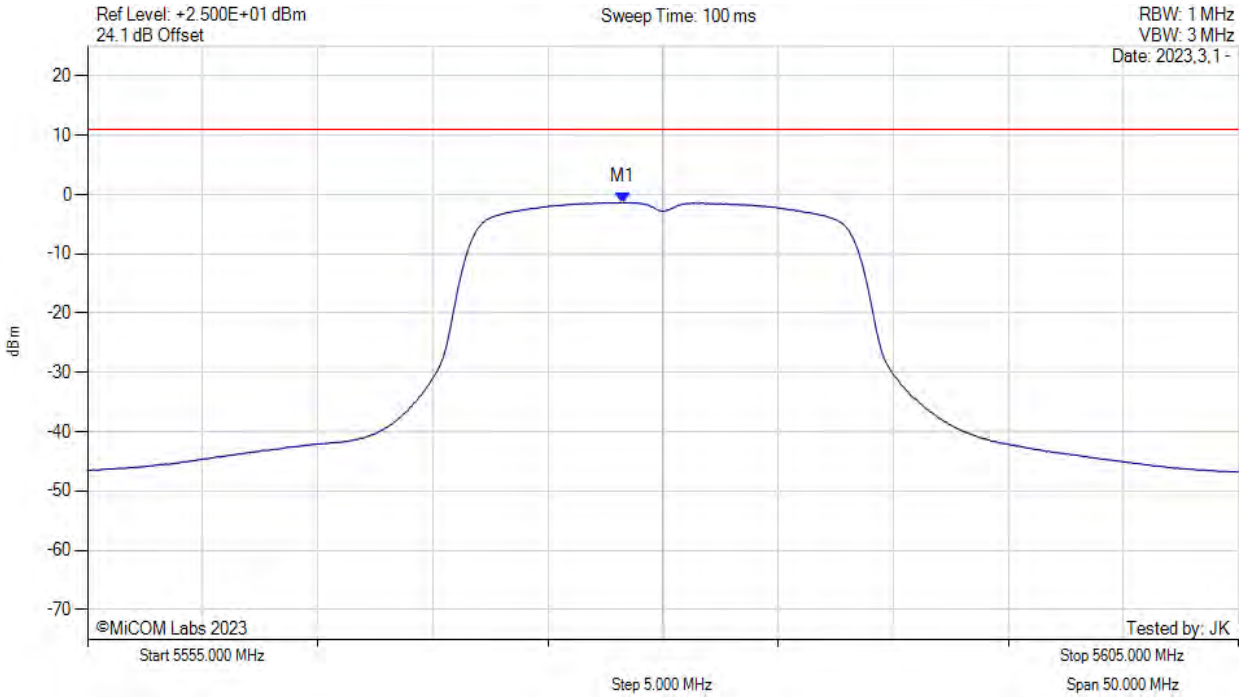


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5578.250 MHz : -1.331 dBm	Limit: ≤ 11.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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

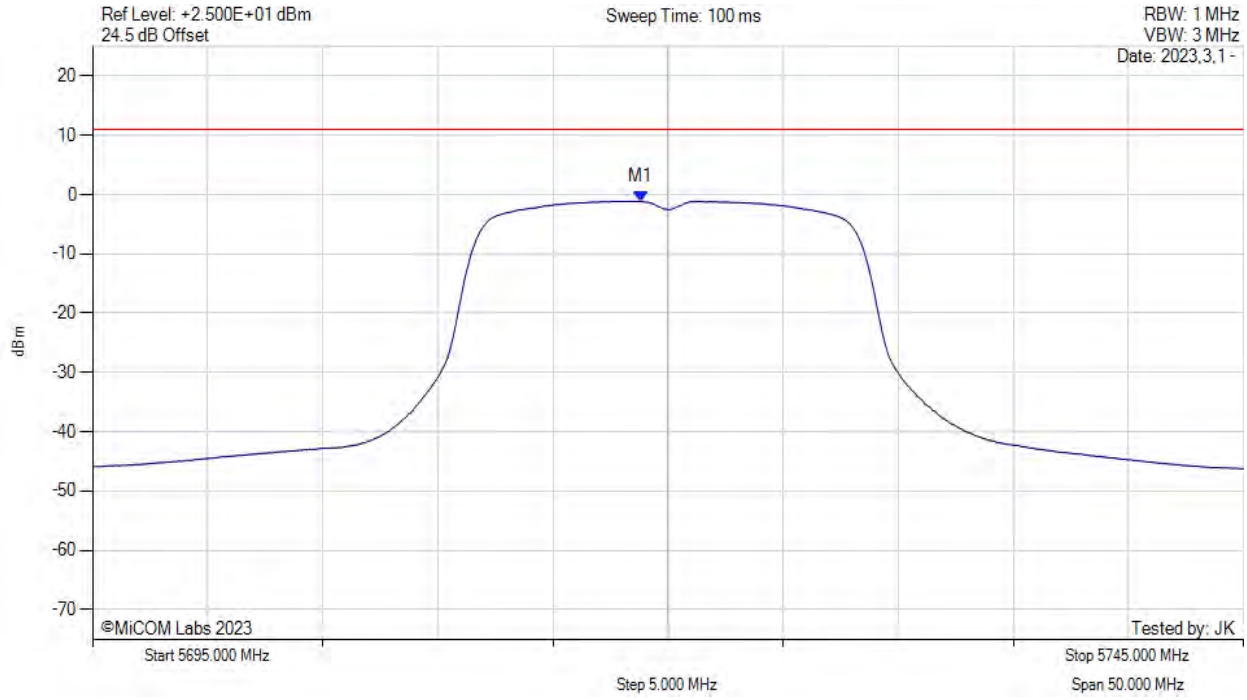


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5578.300 MHz : -1.331 dBm M1 + DCCF : 5578.300 MHz : -1.154 dBm Duty Cycle Correction Factor : +0.18 dB	Limit: ≤ 11.0 dBm Margin: -12.2 dB

back to matrix

POWER SPECTRAL DENSITY

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

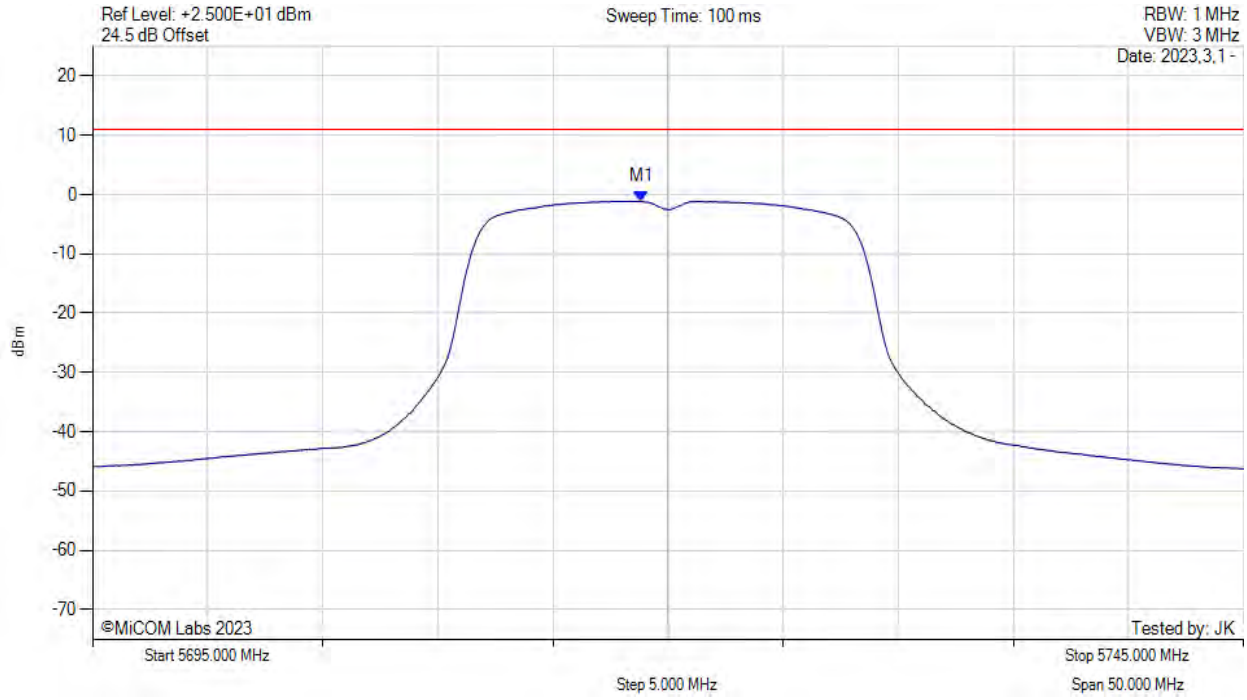


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5718.830 MHz : -1.105 dBm	Limit: ≤ 11.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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

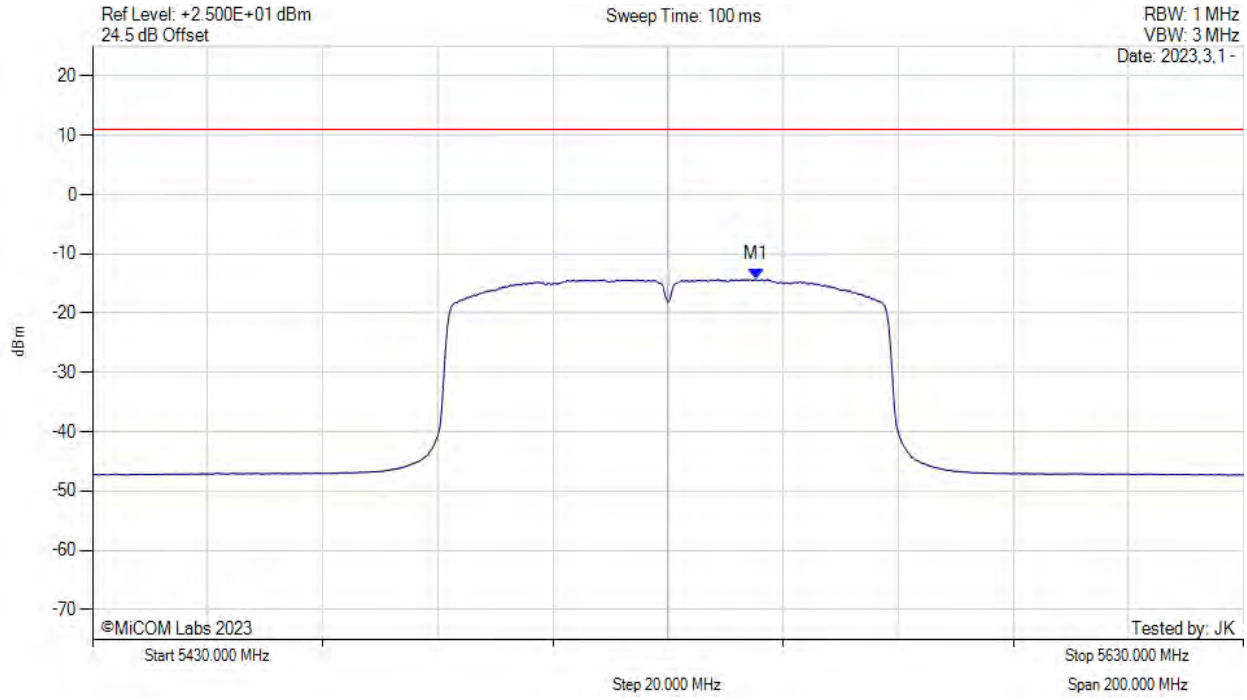


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5718.800 MHz : -1.105 dBm M1 + DCCF : 5718.800 MHz : -0.928 dBm Duty Cycle Correction Factor : +0.18 dB	Limit: ≤ 11.0 dBm Margin: -11.9 dB

back to matrix

POWER SPECTRAL DENSITY

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

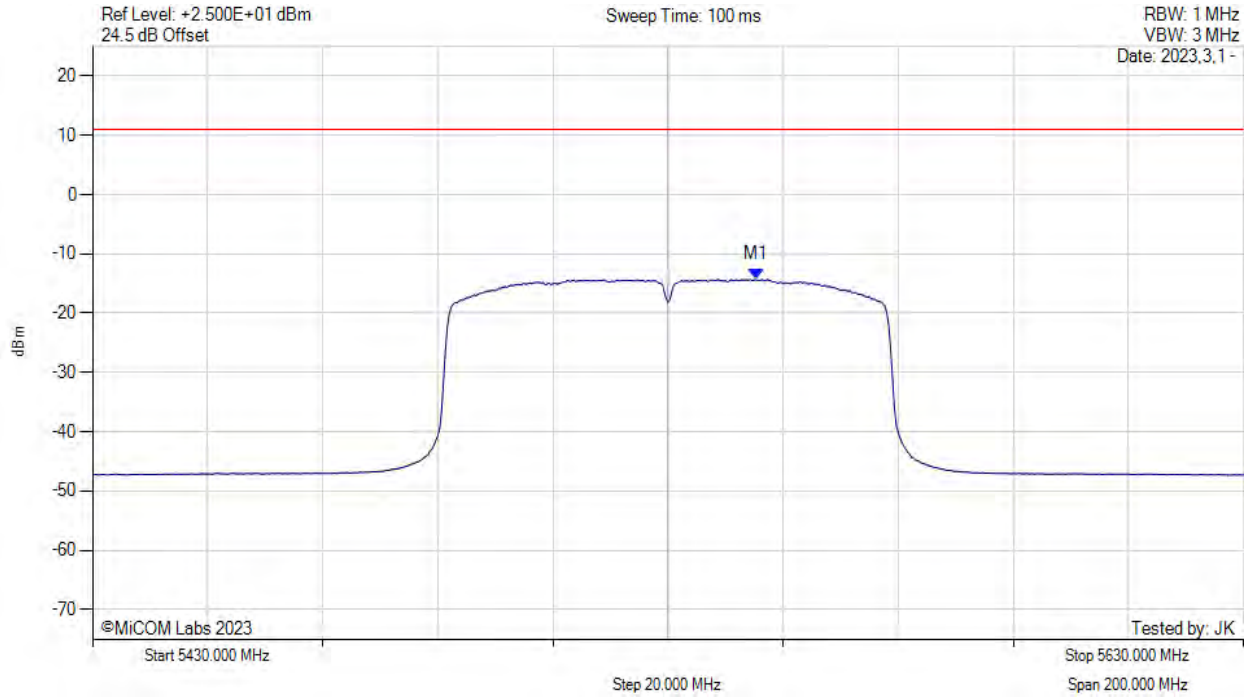


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5545.300 MHz : -14.307 dBm	Limit: ≤ 11.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5530.00 MHz, SUM, Temp: 20, Voltage: Vdc

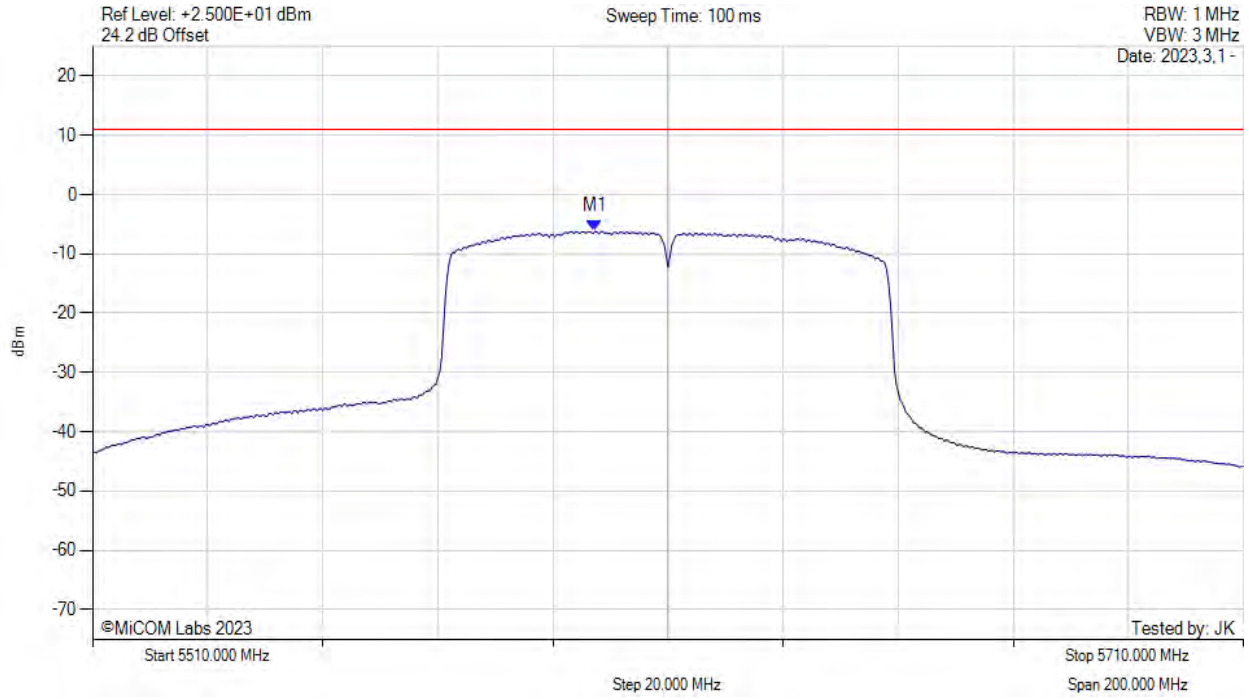


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5545.300 MHz : -14.307 dBm M1 + DCCF : 5545.300 MHz : -13.550 dBm Duty Cycle Correction Factor : +0.76 dB	Limit: ≤ 11.0 dBm Margin: -24.5 dB

back to matrix

POWER SPECTRAL DENSITY

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

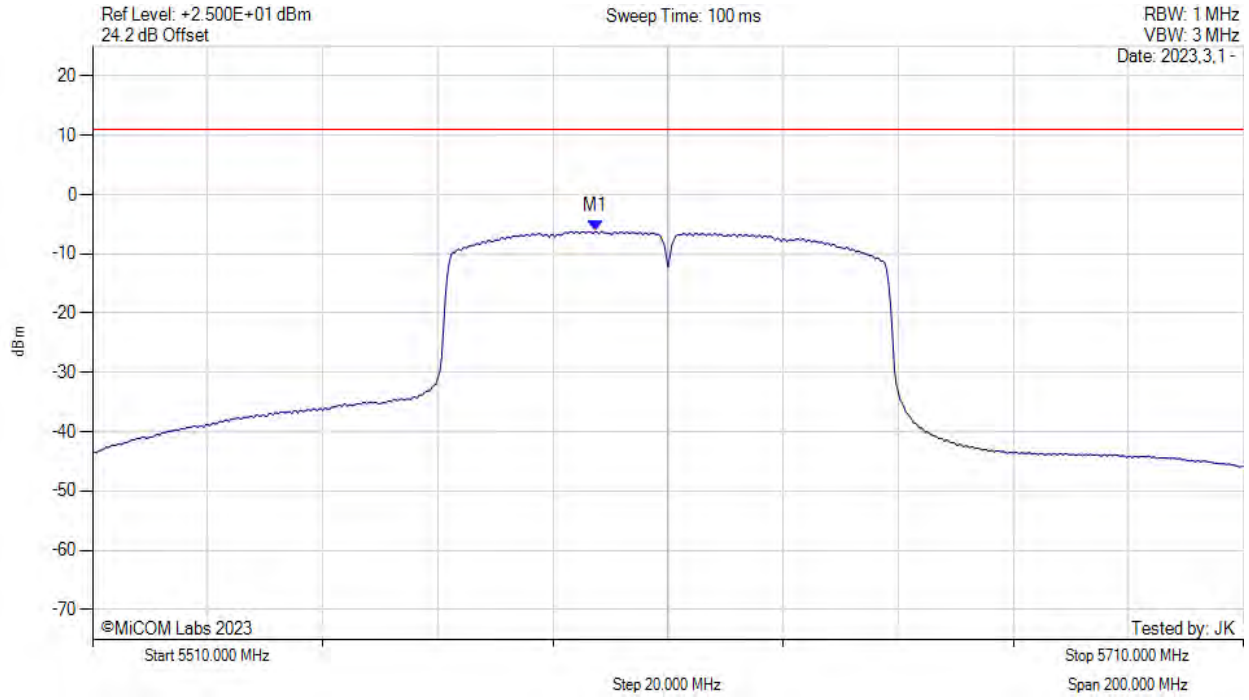


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5597.300 MHz : -6.208 dBm	Limit: ≤ 11.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5610.00 MHz, SUM, Temp: 20, Voltage: Vdc

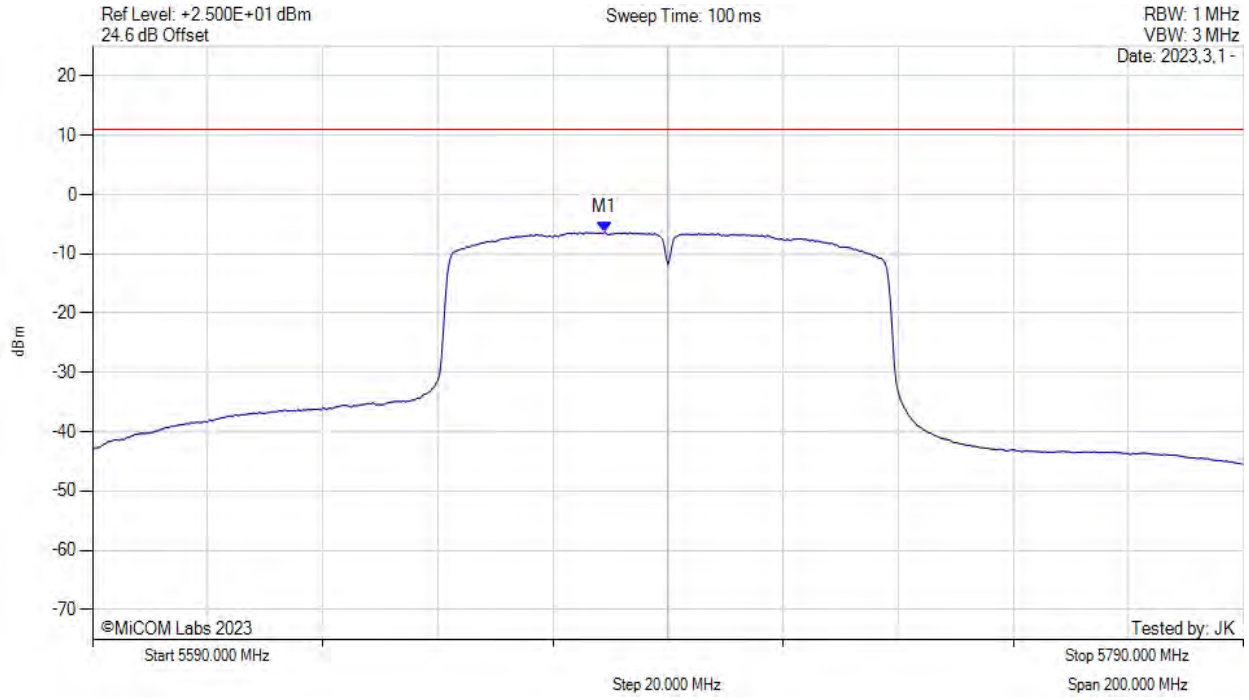


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5597.300 MHz : -6.208 dBm M1 + DCCF : 5597.300 MHz : -5.451 dBm Duty Cycle Correction Factor : +0.76 dB	Limit: ≤ 11.0 dBm Margin: -16.5 dB

back to matrix

POWER SPECTRAL DENSITY

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

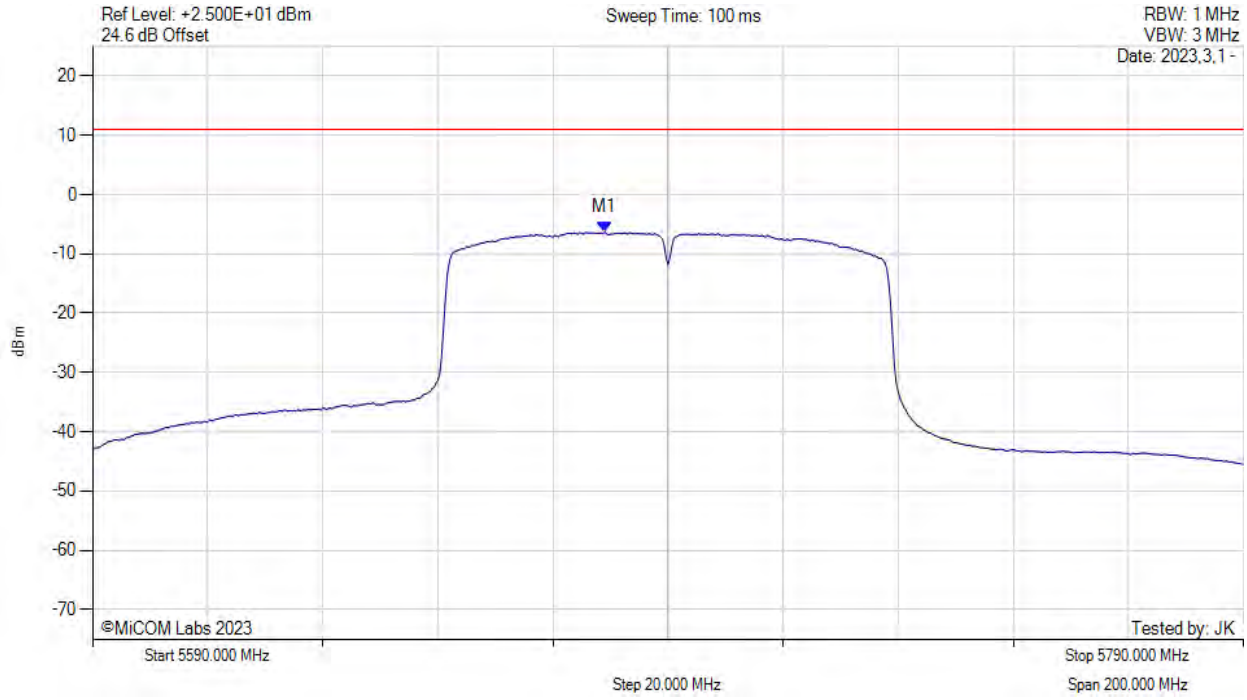


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5679.000 MHz : -6.354 dBm	Limit: ≤ 11.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5690.00 MHz, SUM, Temp: 20, Voltage: Vdc

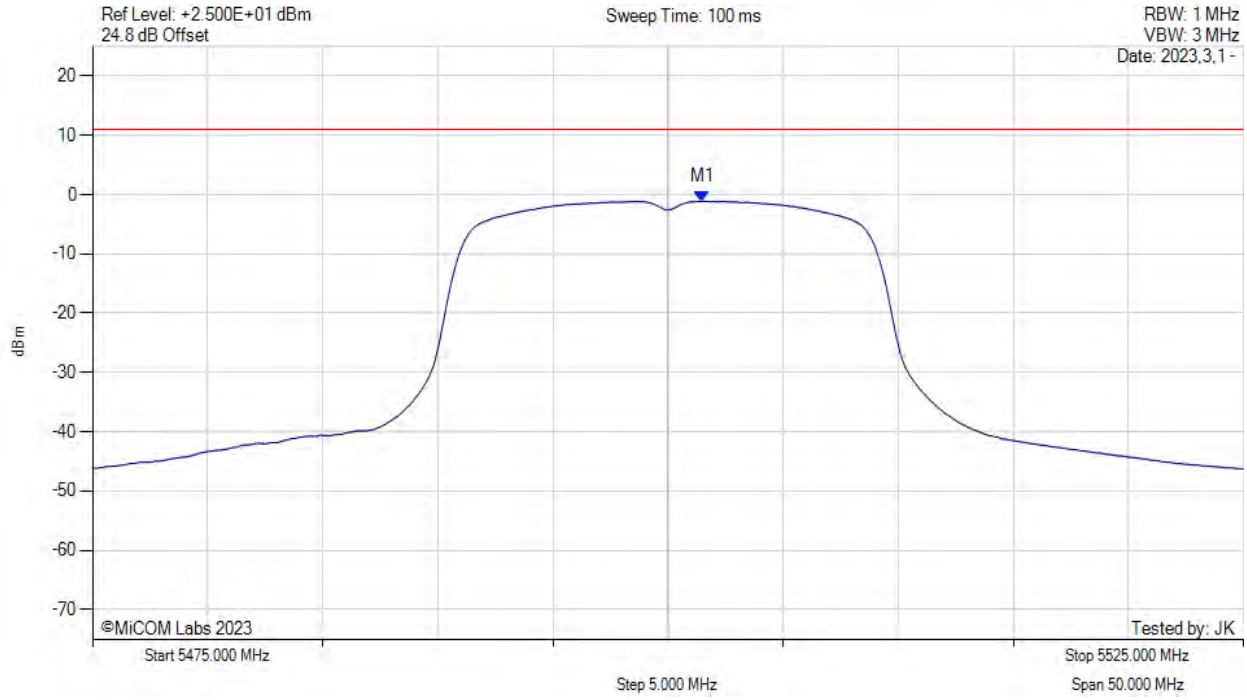


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5679.000 MHz : -6.354 dBm M1 + DCCF : 5679.000 MHz : -5.597 dBm Duty Cycle Correction Factor : +0.76 dB	Limit: ≤ 11.0 dBm Margin: -16.6 dB

back to matrix

POWER SPECTRAL DENSITY

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

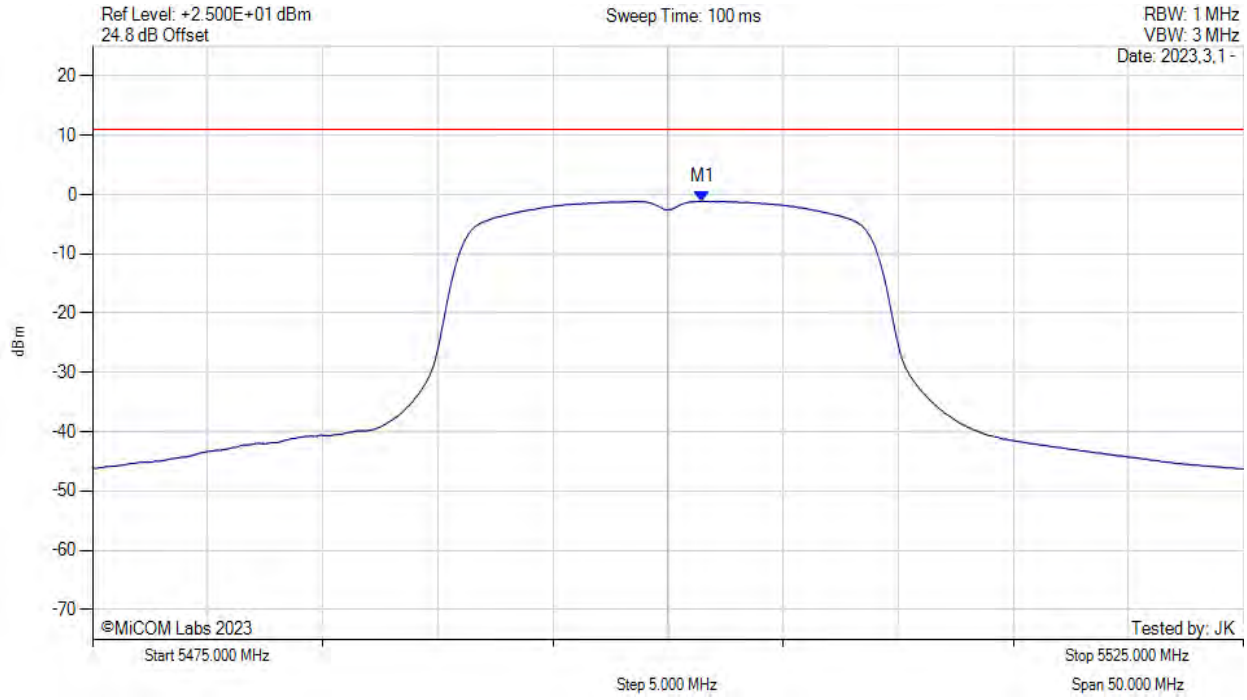


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5501.500 MHz : -1.110 dBm	Limit: ≤ 11.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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

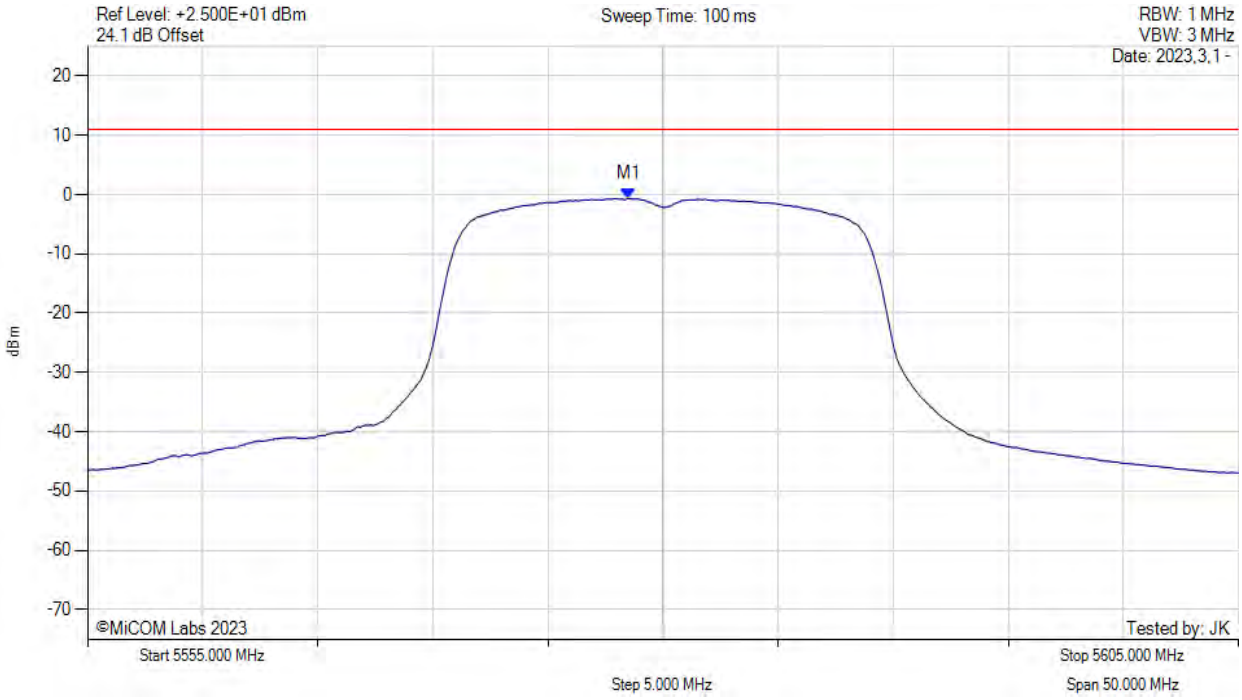


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5501.500 MHz : -1.110 dBm M1 + DCCF : 5501.500 MHz : -0.887 dBm Duty Cycle Correction Factor : +0.22 dB	Limit: ≤ 11.0 dBm Margin: -11.9 dB

back to matrix

POWER SPECTRAL DENSITY

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

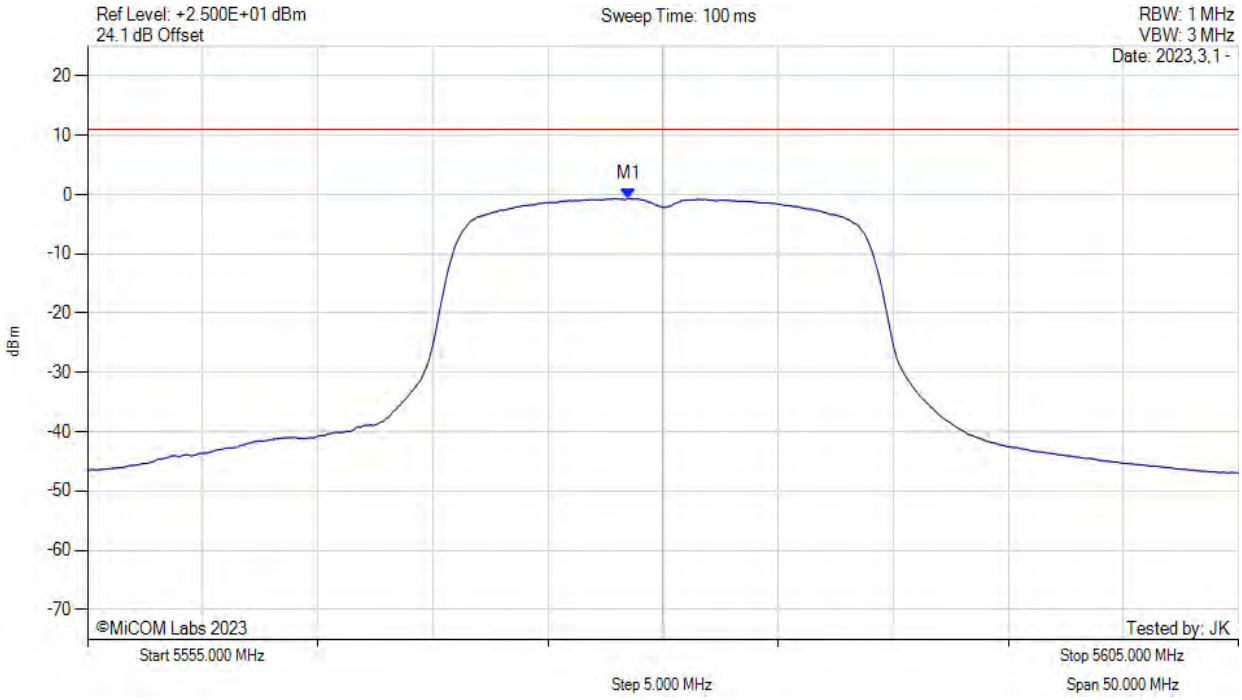


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5578.500 MHz : -0.656 dBm	Limit: ≤ 11.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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

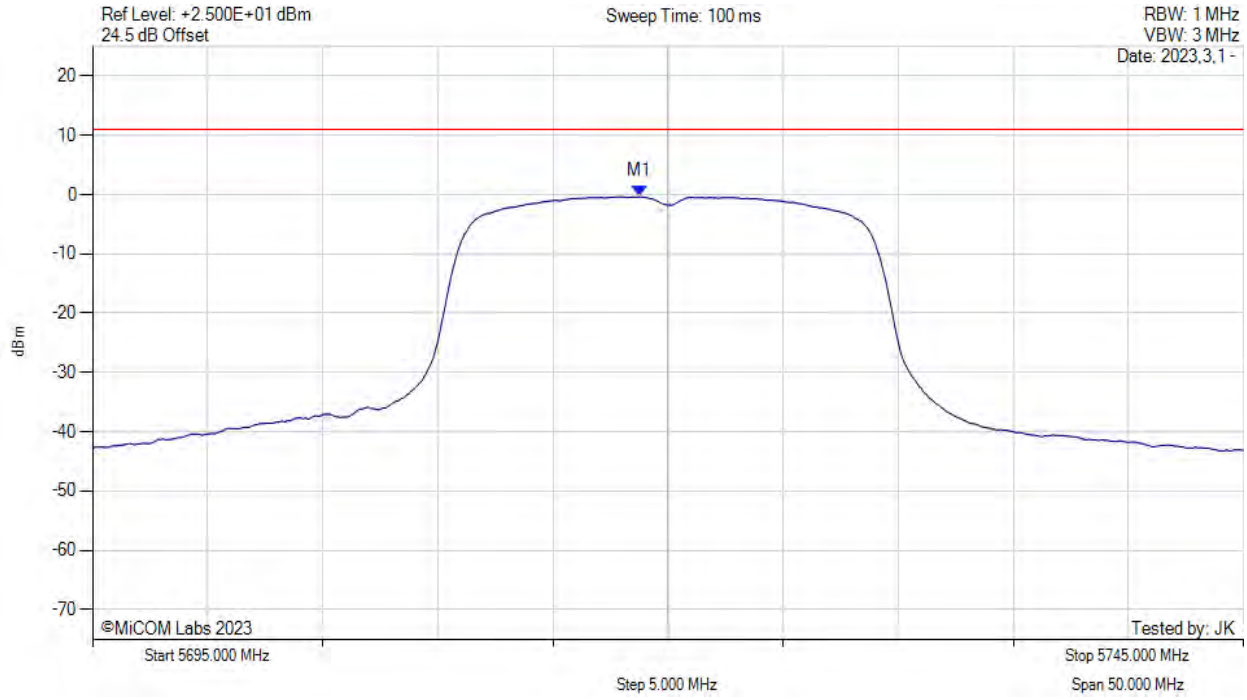


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5578.500 MHz : -0.656 dBm M1 + DCCF : 5578.500 MHz : -0.433 dBm Duty Cycle Correction Factor : +0.22 dB	Limit: ≤ 11.0 dBm Margin: -11.4 dB

back to matrix

POWER SPECTRAL DENSITY

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

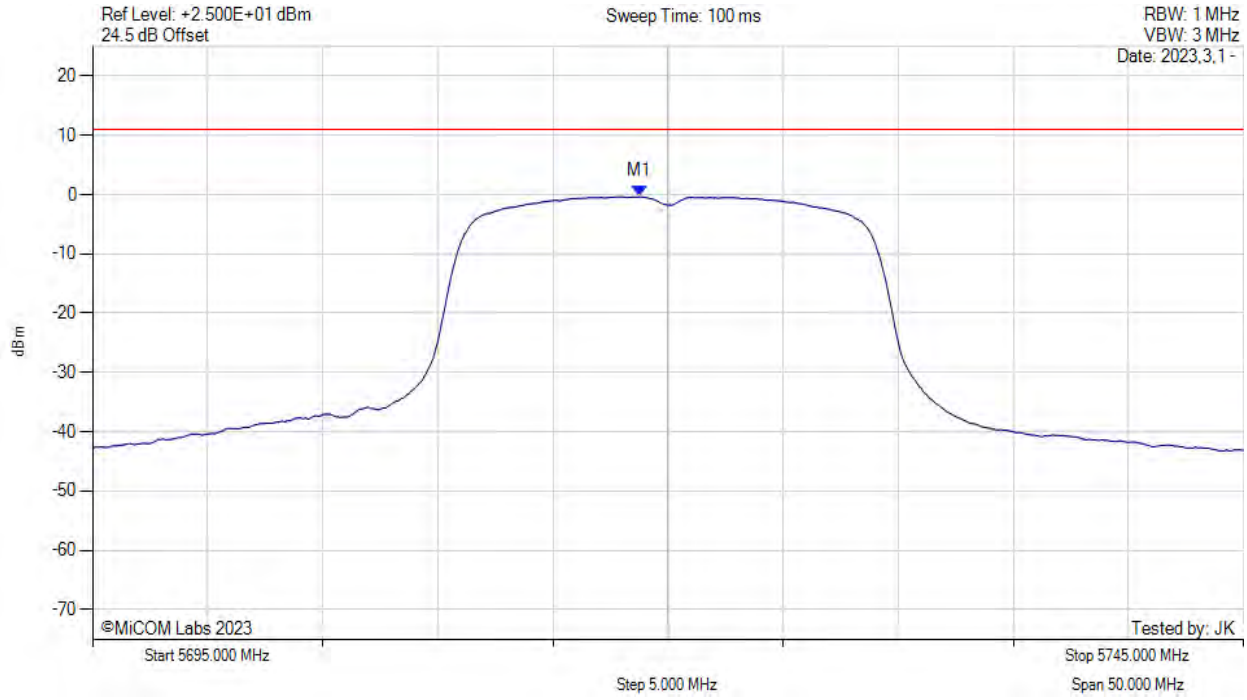


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5718.750 MHz : -0.351 dBm	Limit: ≤ 11.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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

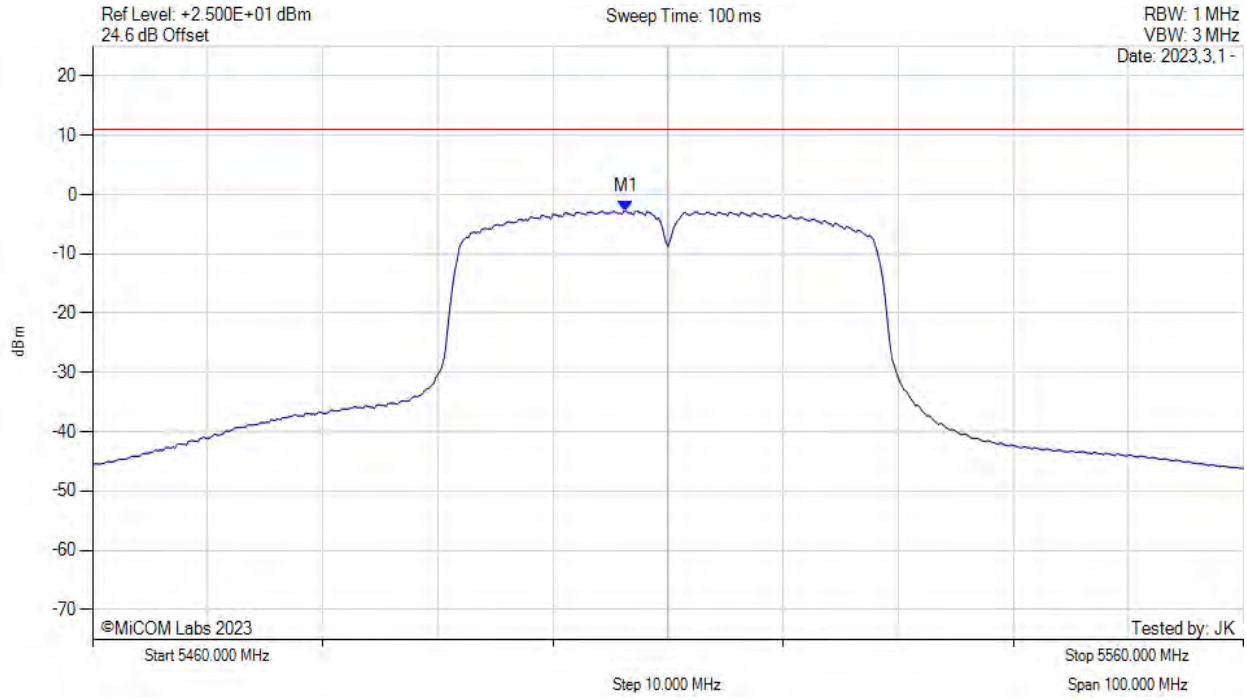


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5718.800 MHz : -0.351 dBm M1 + DCCF : 5718.800 MHz : -0.128 dBm Duty Cycle Correction Factor : +0.22 dB	Limit: ≤ 11.0 dBm Margin: -11.1 dB

back to matrix

POWER SPECTRAL DENSITY

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

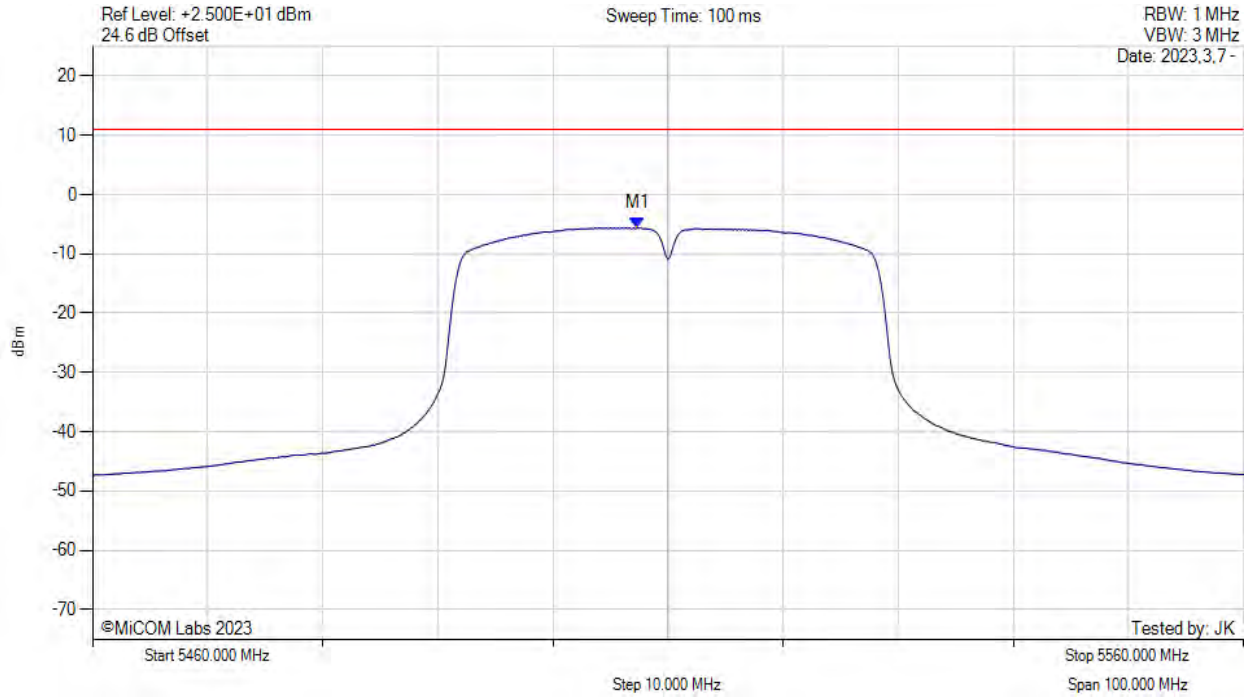


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5506.330 MHz : -2.786 dBm	Limit: ≤ 11.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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

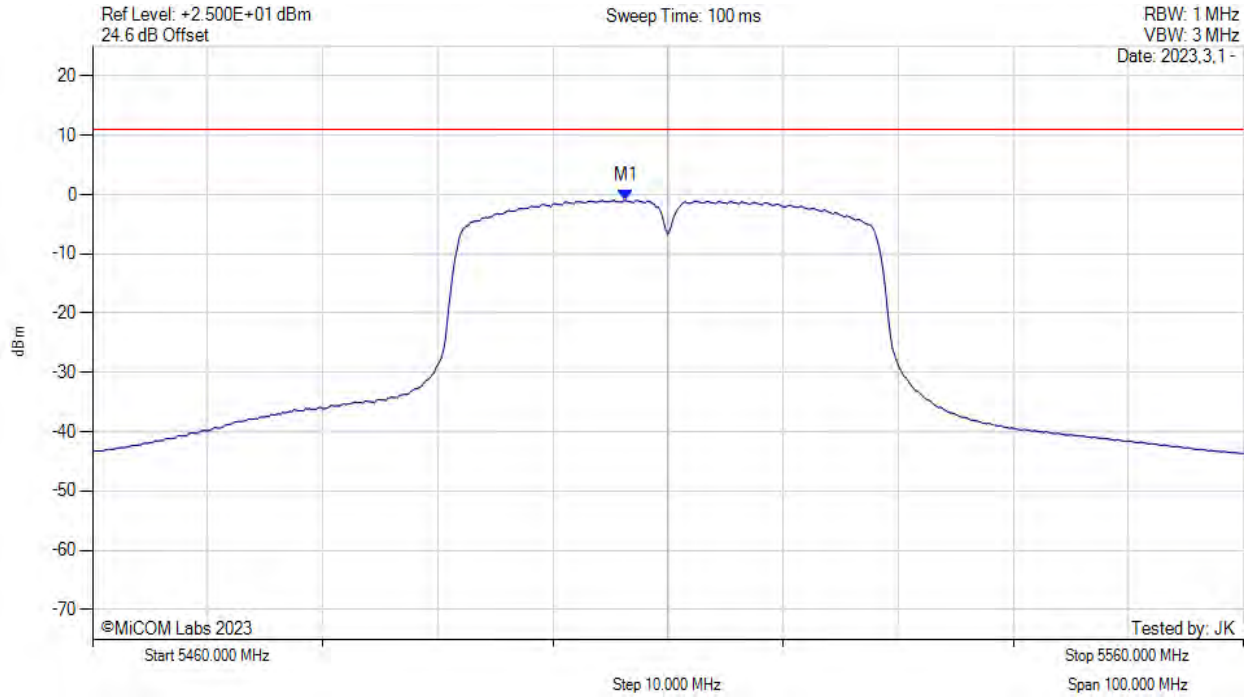


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5507.330 MHz : -5.582 dBm	Limit: ≤ 11.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5510.00 MHz, SUM, Temp: 20, Voltage: Vdc

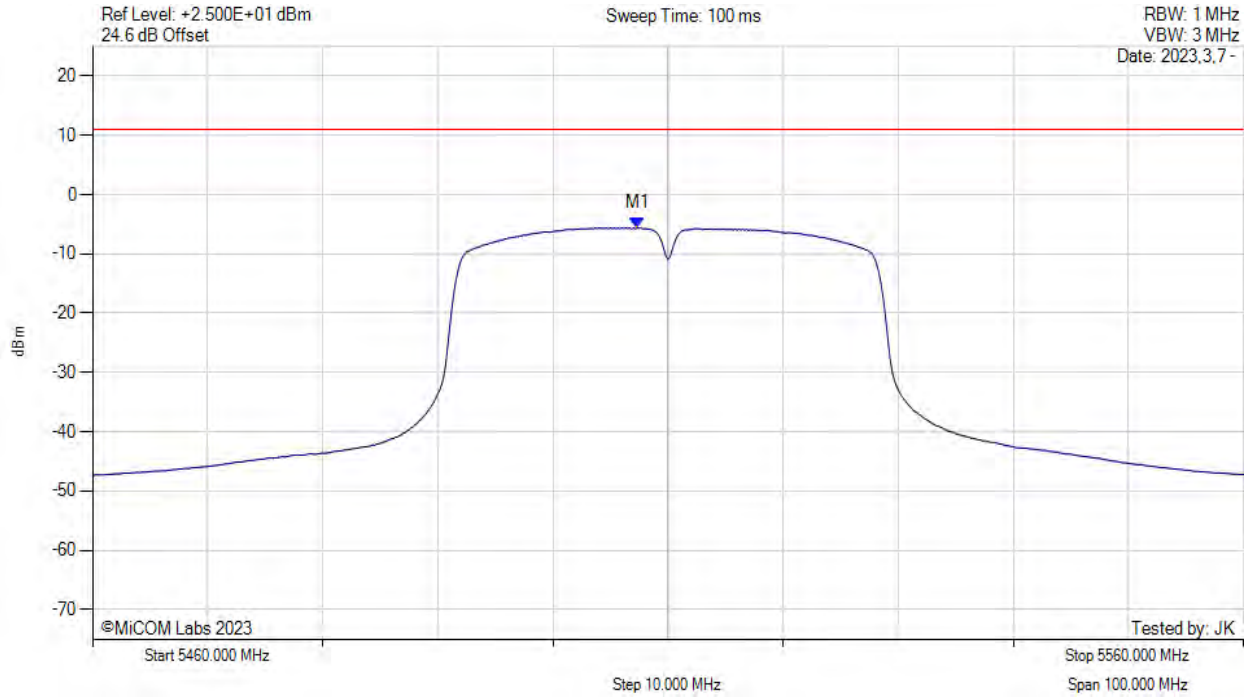


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5506.300 MHz : -0.957 dBm M1 + DCCF : 5506.300 MHz : -0.547 dBm Duty Cycle Correction Factor : +0.41 dB	Limit: ≤ 11.0 dBm Margin: -11.5 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5510.00 MHz, SUM, Temp: 20, Voltage: Vdc

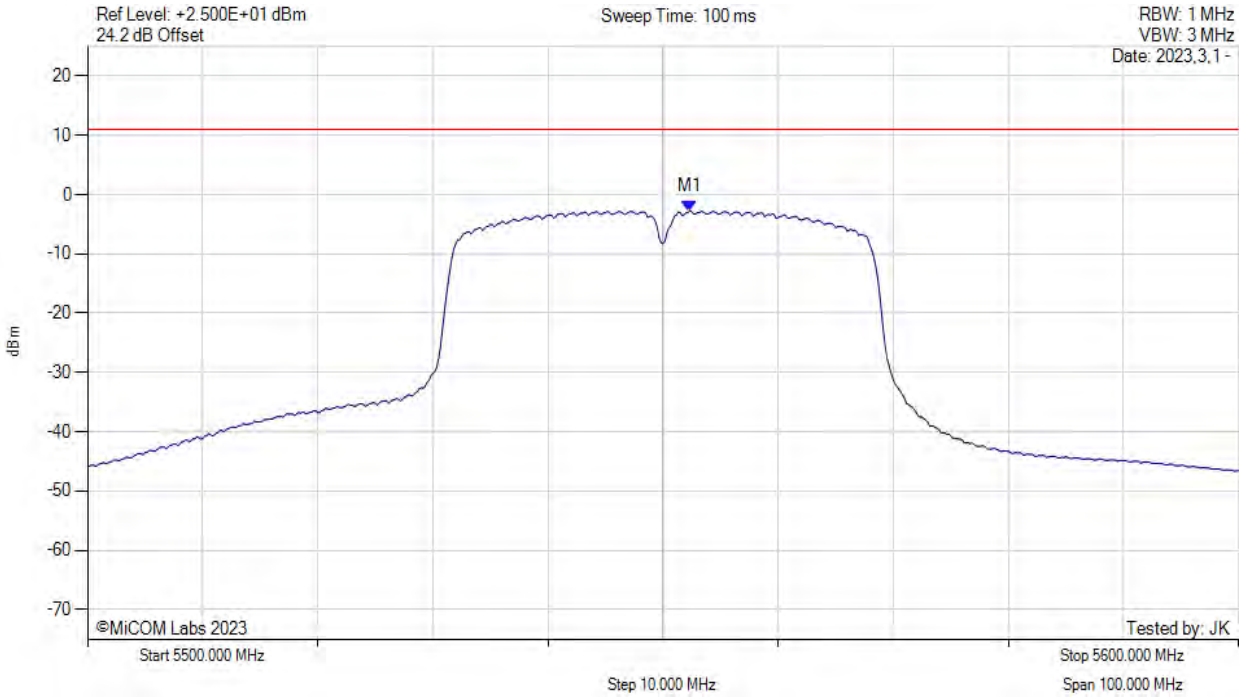


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5507.300 MHz : -5.582 dBm M1 + DCCF : 5507.300 MHz : -5.172 dBm Duty Cycle Correction Factor : +0.41 dB	Limit: ≤ 11.0 dBm Margin: -16.2 dB

back to matrix

POWER SPECTRAL DENSITY

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

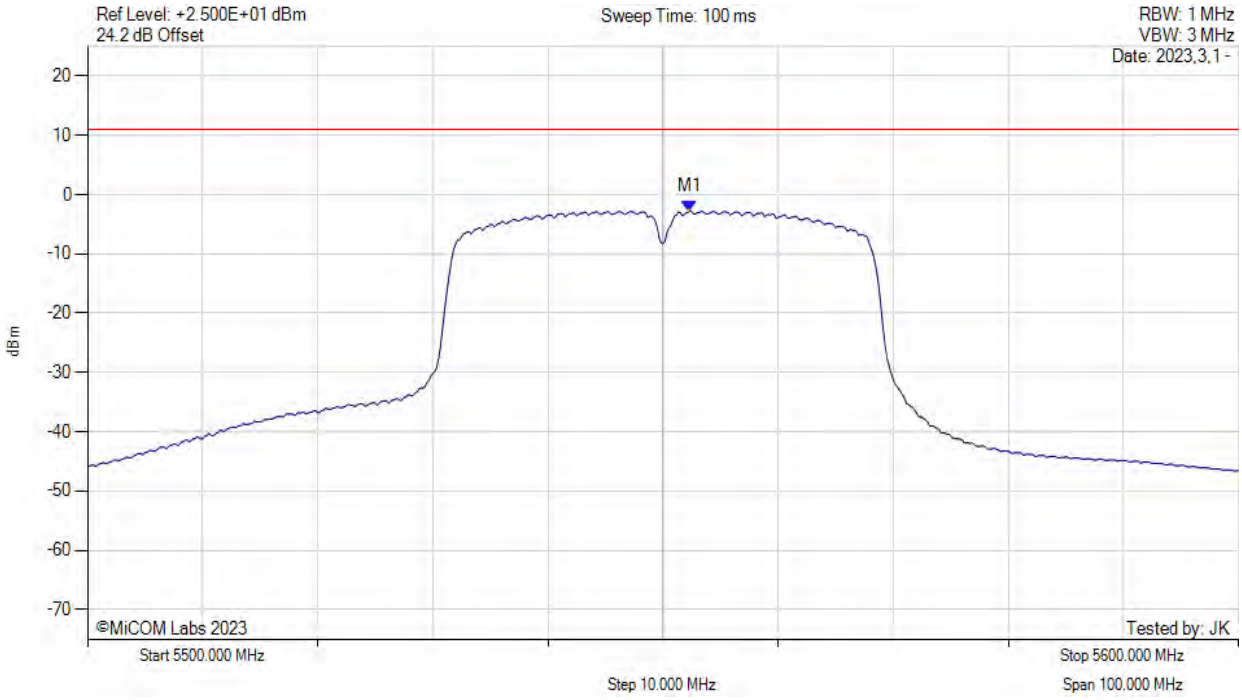


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5552.330 MHz : -2.742 dBm	Limit: ≤ 11.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5550.00 MHz, SUM, Temp: 20, Voltage: Vdc

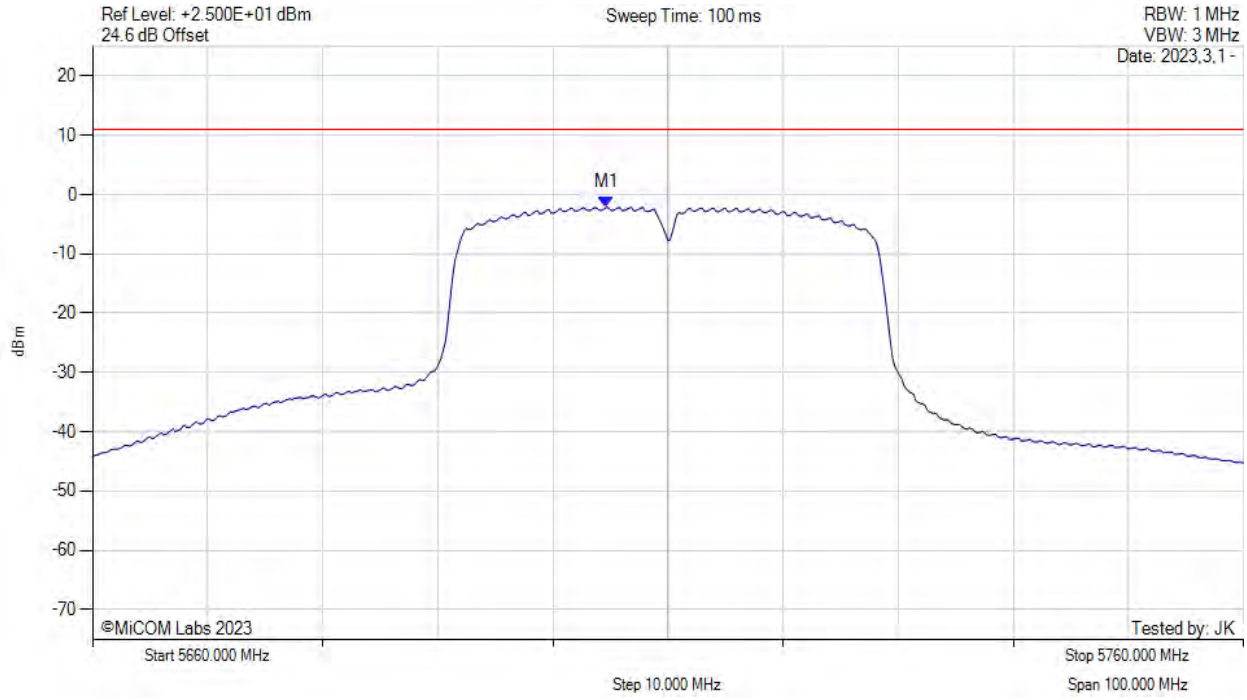


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5552.300 MHz : -2.742 dBm M1 + DCCF : 5552.300 MHz : -2.332 dBm Duty Cycle Correction Factor : +0.41 dB	Limit: ≤ 11.0 dBm Margin: -13.3 dB

back to matrix

POWER SPECTRAL DENSITY

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

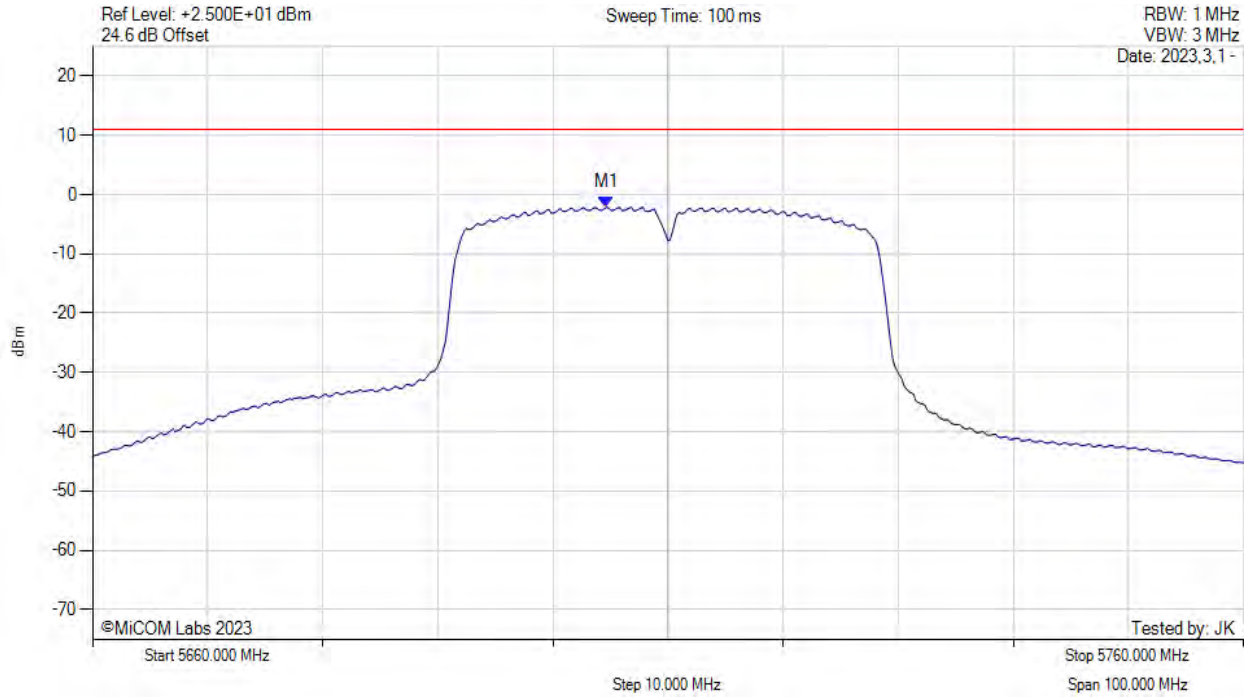


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5704.670 MHz : -2.130 dBm	Limit: ≤ 11.000 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5710.00 MHz, SUM, Temp: 20, Voltage: Vdc

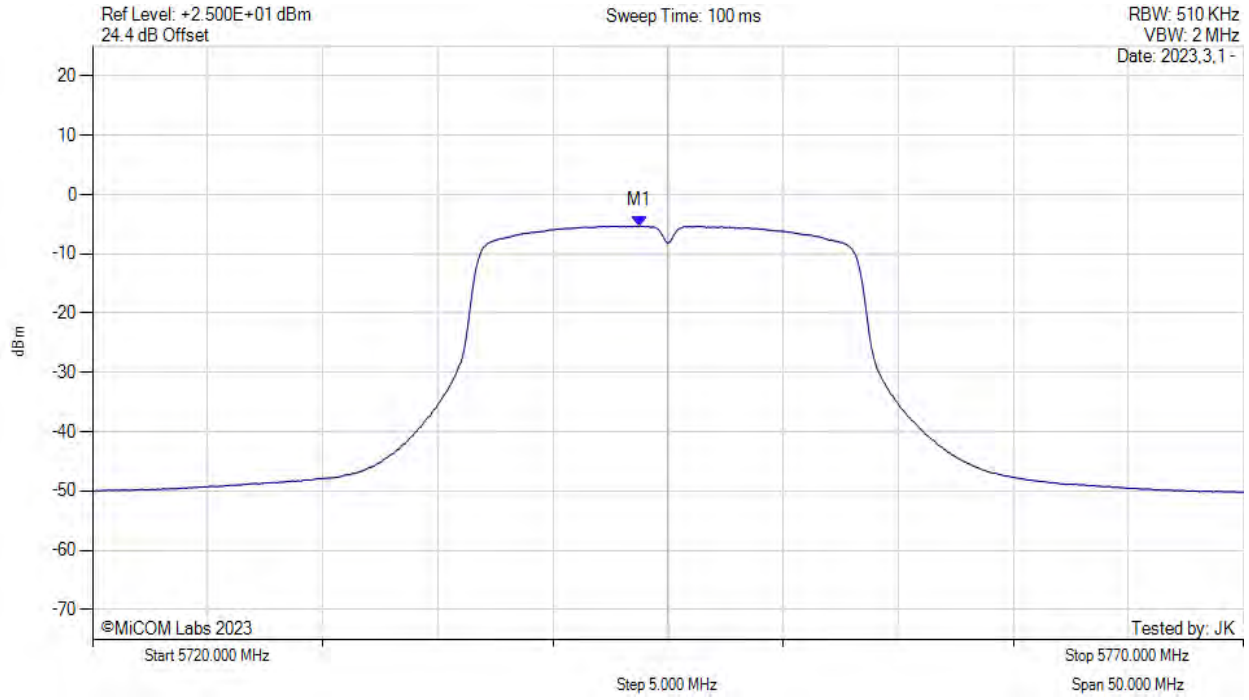


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5704.700 MHz : -2.130 dBm M1 + DCCF : 5704.700 MHz : -1.720 dBm Duty Cycle Correction Factor : +0.41 dB	Limit: ≤ 11.0 dBm Margin: -12.7 dB

back to matrix

POWER SPECTRAL DENSITY

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

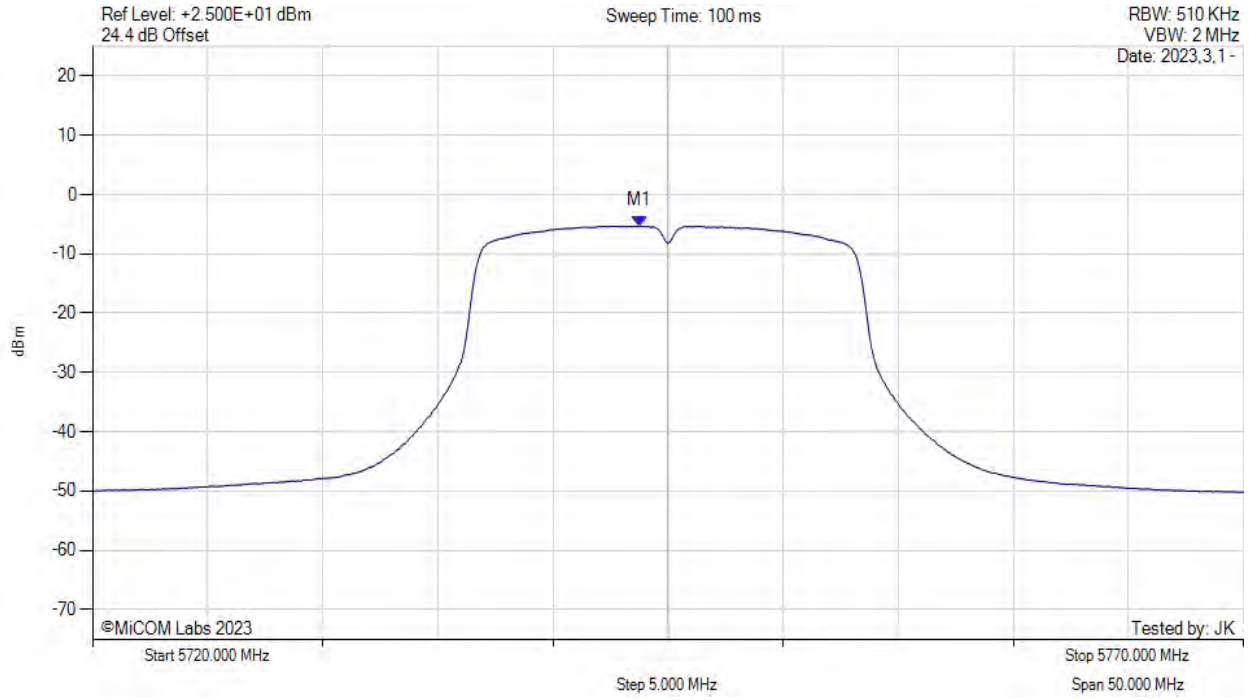


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5743.750 MHz : -5.300 dBm	Limit: ≤ 30.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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

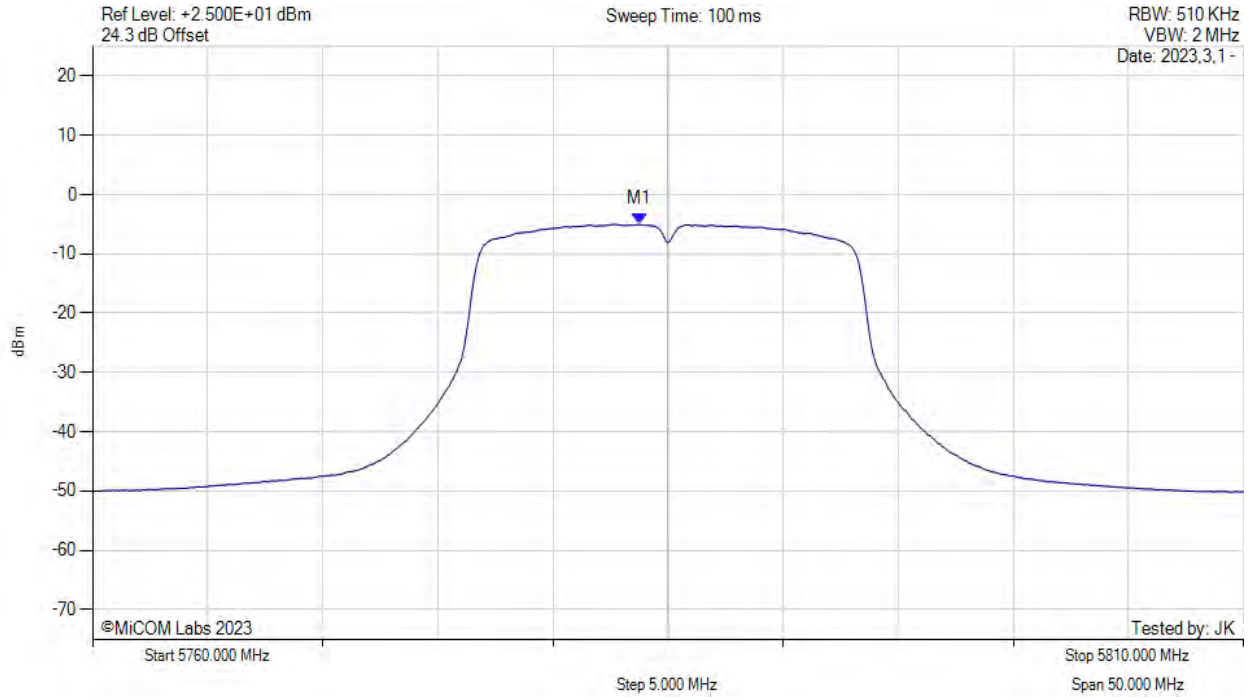


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5743.800 MHz : -5.300 dBm M1 + DCCF : 5743.800 MHz : -5.123 dBm Duty Cycle Correction Factor : +0.18 dB	Limit: ≤ 30.0 dBm Margin: -35.1 dB

back to matrix

POWER SPECTRAL DENSITY

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

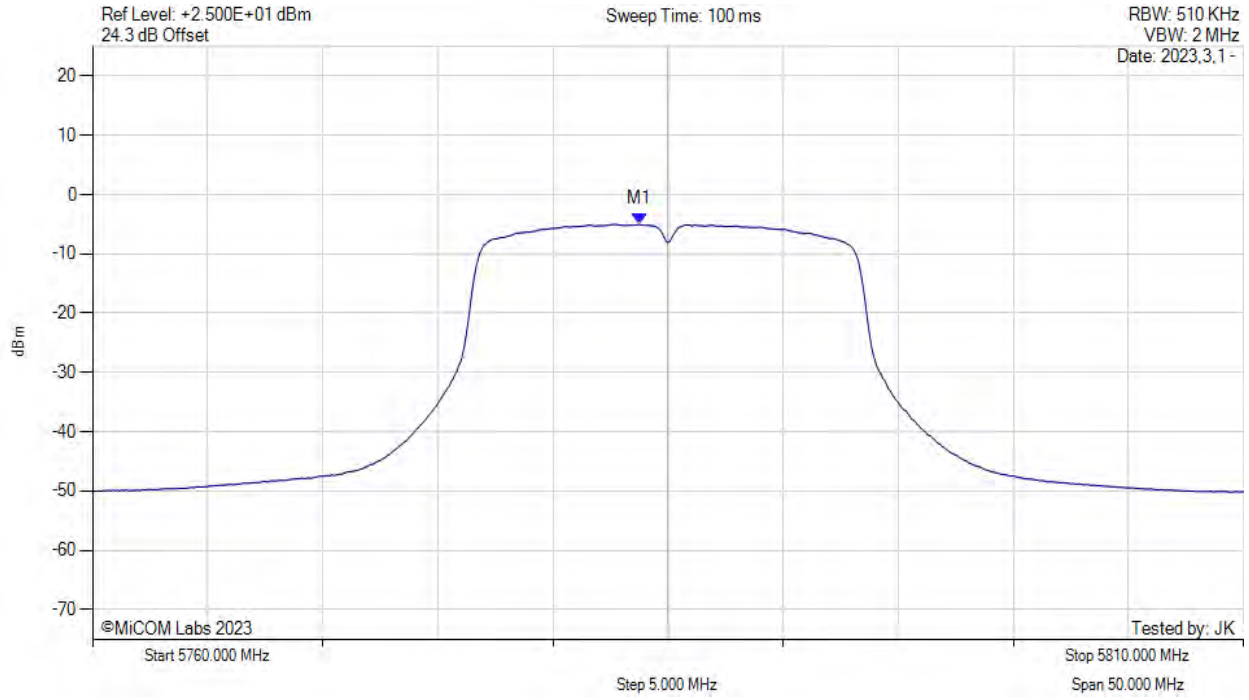


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5783.750 MHz : -5.007 dBm	Limit: ≤ 30.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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

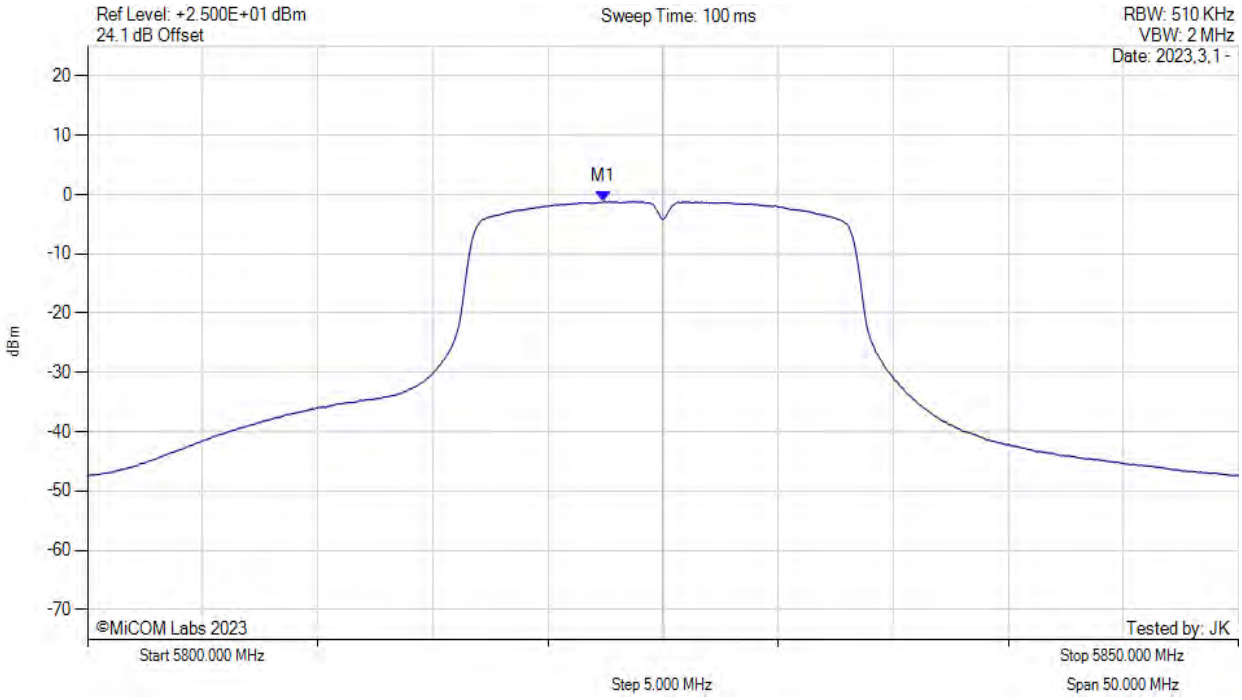


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5783.800 MHz : -5.007 dBm M1 + DCCF : 5783.800 MHz : -4.830 dBm Duty Cycle Correction Factor : +0.18 dB	Limit: ≤ 30.0 dBm Margin: -34.8 dB

back to matrix

POWER SPECTRAL DENSITY

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

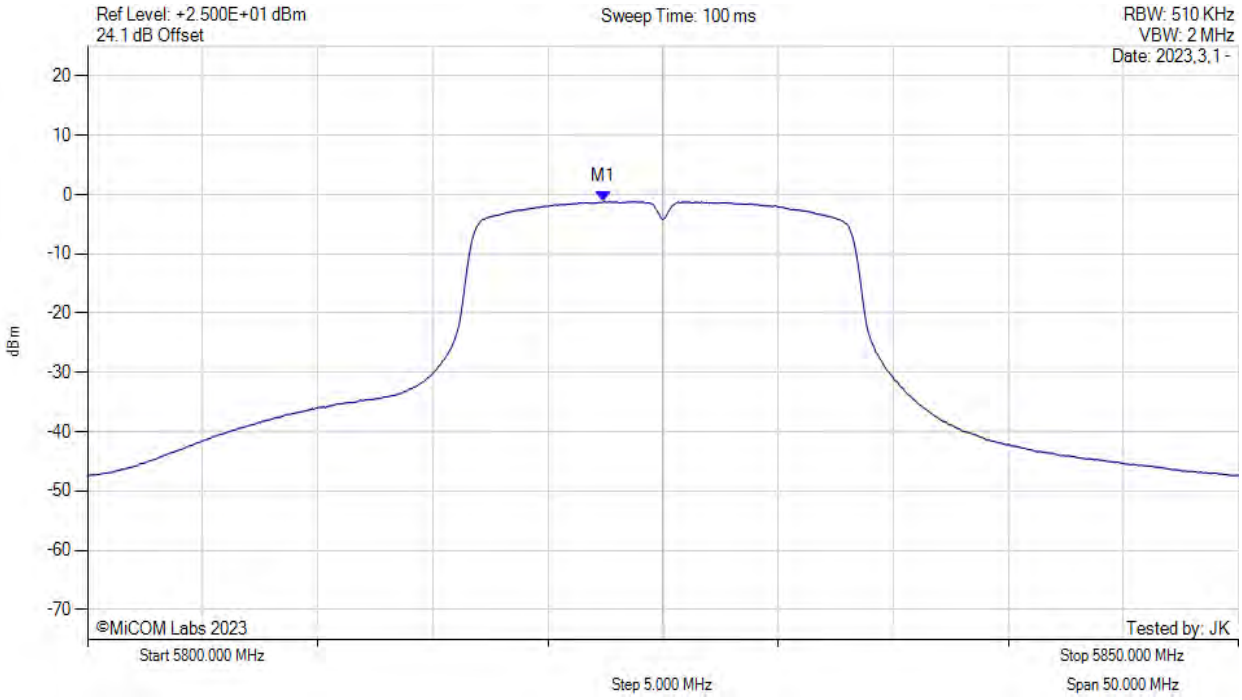


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5822.420 MHz : -1.180 dBm	Limit: ≤ 30.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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

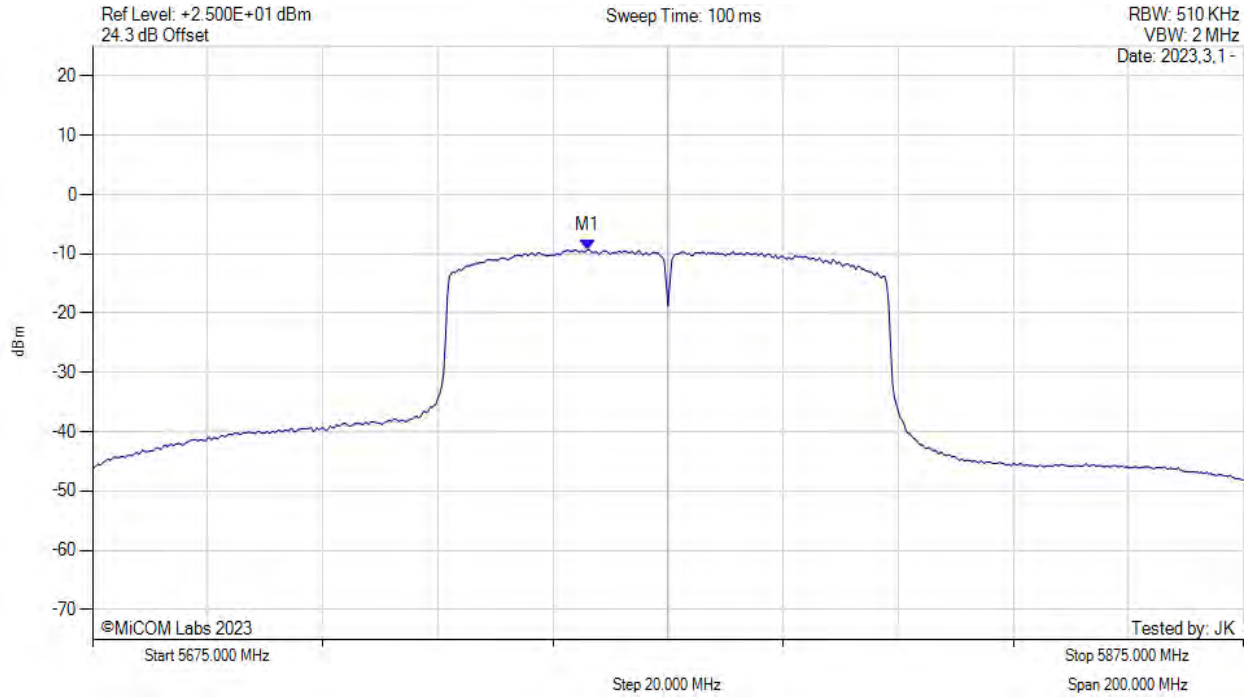


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5822.400 MHz : -1.180 dBm M1 + DCCF : 5822.400 MHz : -1.003 dBm Duty Cycle Correction Factor : +0.18 dB	Limit: ≤ 30.0 dBm Margin: -31.0 dB

back to matrix

POWER SPECTRAL DENSITY

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

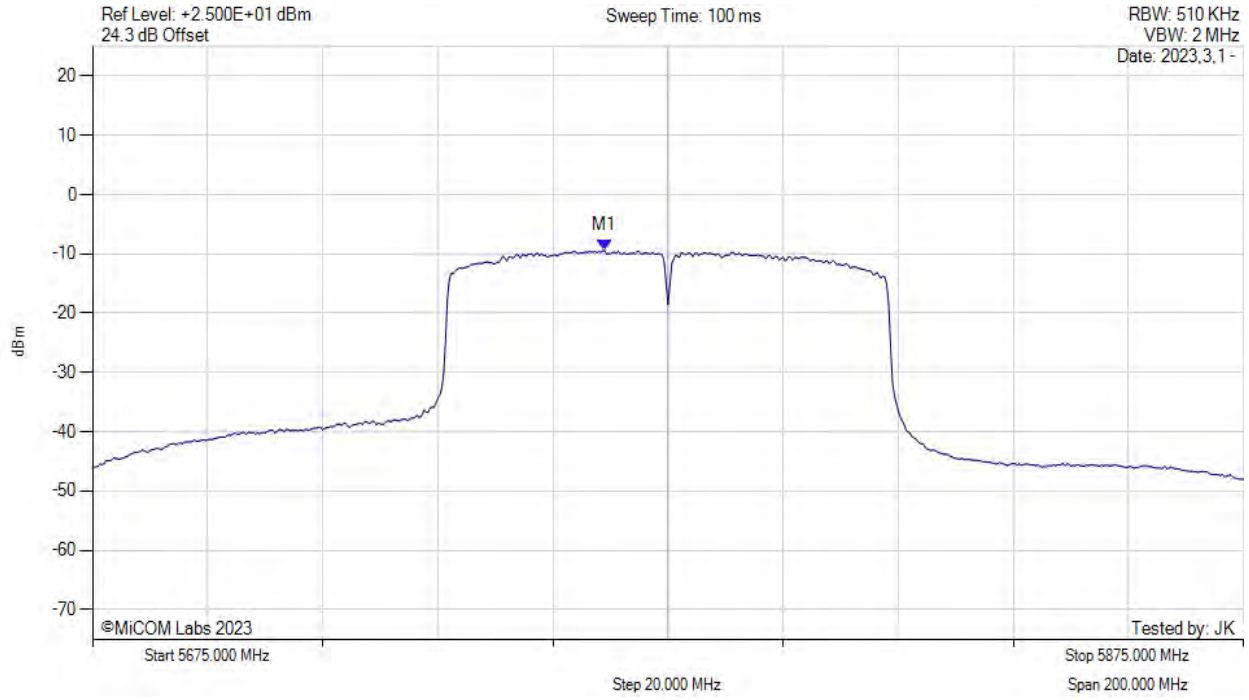


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5761.000 MHz : -9.295 dBm	Limit: ≤ 30.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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

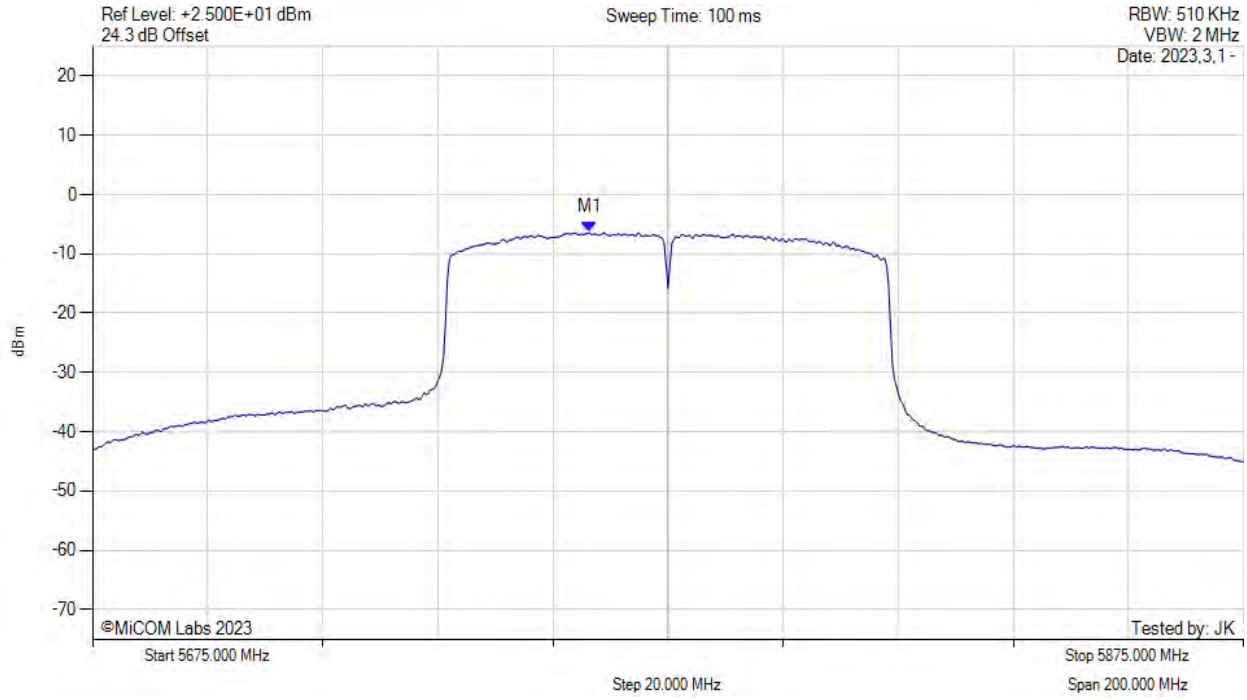


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5764.000 MHz : -9.436 dBm	Channel Frequency: 5775.00 MHz

back to matrix

POWER SPECTRAL DENSITY

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

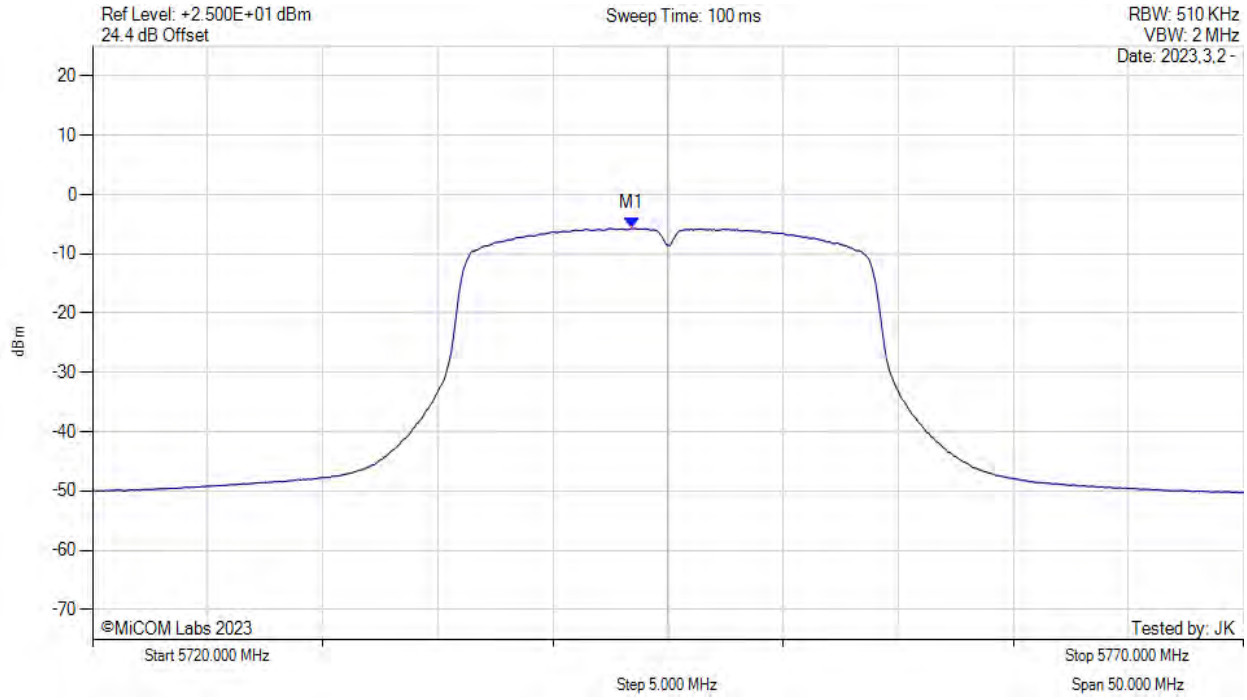


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5761.300 MHz : -6.432 dBm M1 + DCCF : 5761.300 MHz : -5.675 dBm Duty Cycle Correction Factor : +0.76 dB	Limit: ≤ 30.0 dBm Margin: -35.7 dB

back to matrix

POWER SPECTRAL DENSITY

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

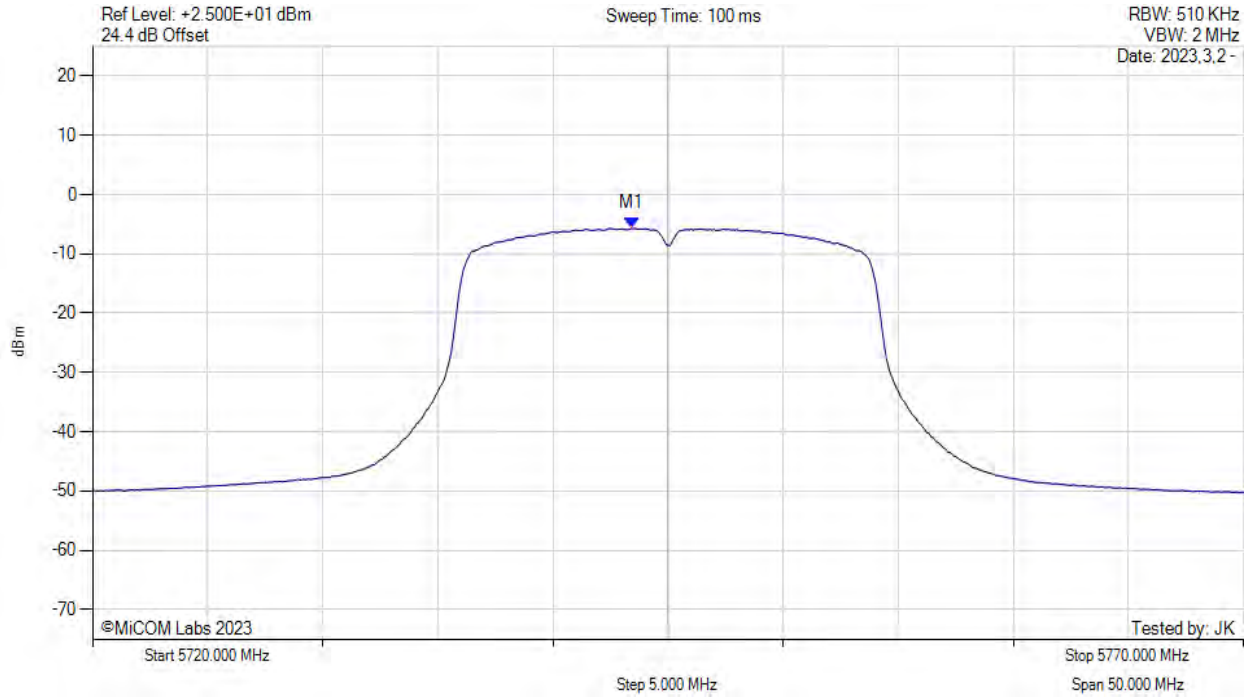


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5743.420 MHz : -5.711 dBm	Limit: ≤ 30.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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

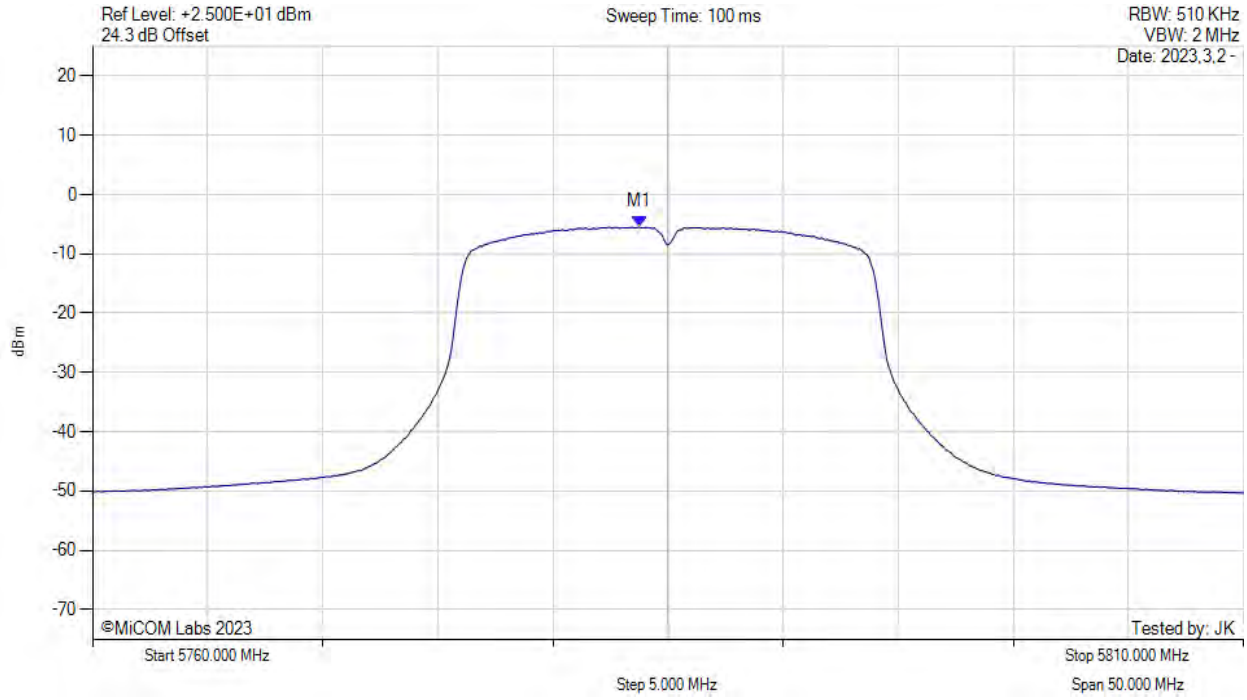


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5743.400 MHz : -5.711 dBm M1 + DCCF : 5743.400 MHz : -5.488 dBm Duty Cycle Correction Factor : +0.22 dB	Limit: ≤ 30.0 dBm Margin: -35.5 dB

back to matrix

POWER SPECTRAL DENSITY

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

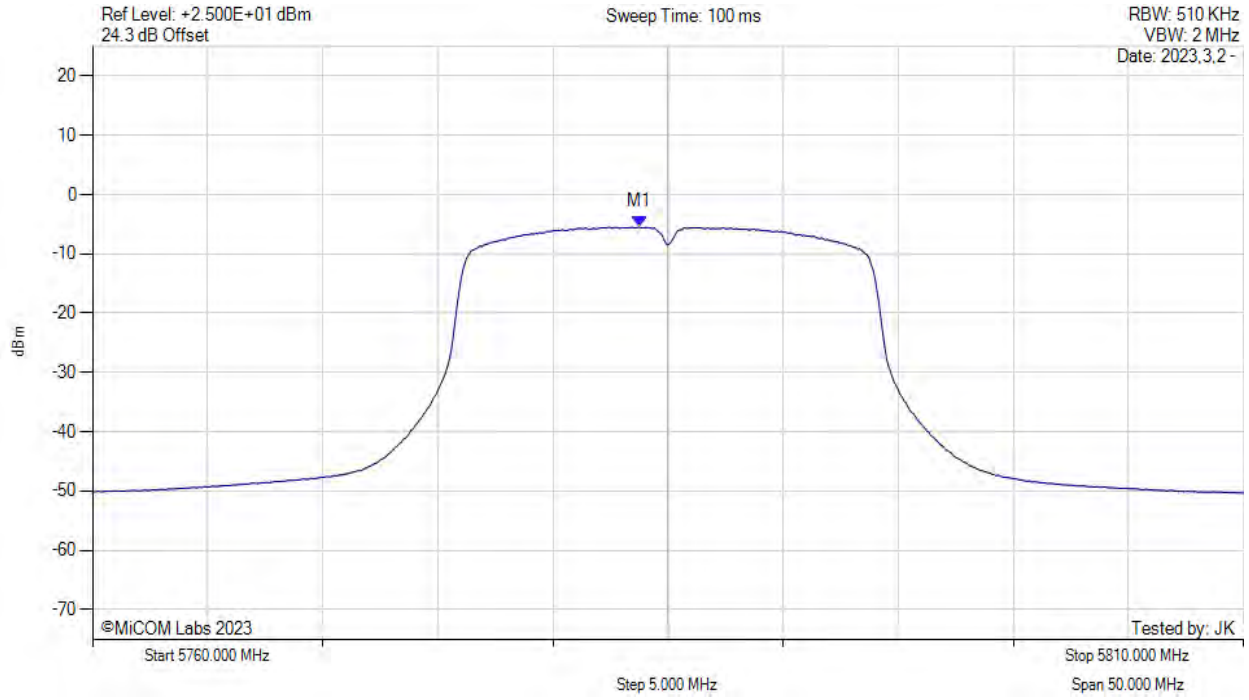


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5783.750 MHz : -5.441 dBm	Limit: ≤ 30.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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

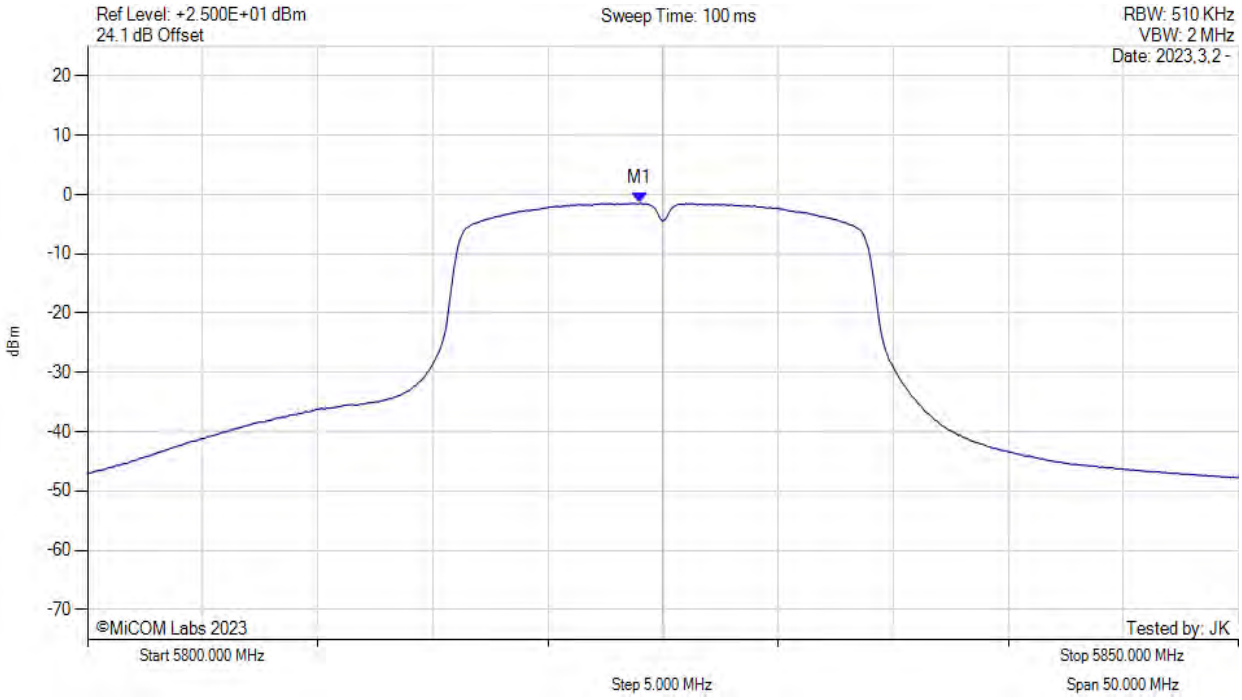


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5783.800 MHz : -5.441 dBm M1 + DCCF : 5783.800 MHz : -5.218 dBm Duty Cycle Correction Factor : +0.22 dB	Limit: ≤ 30.0 dBm Margin: -35.2 dB

back to matrix

POWER SPECTRAL DENSITY

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

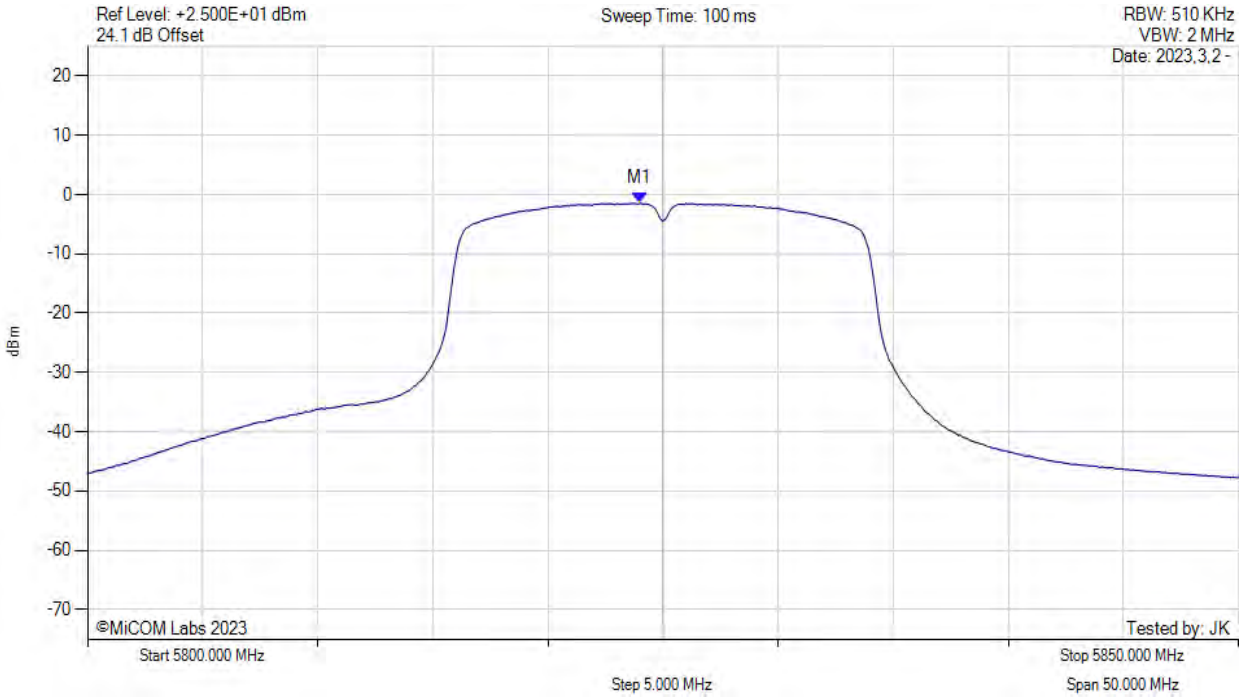


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5824.000 MHz : -1.475 dBm	Limit: ≤ 30.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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

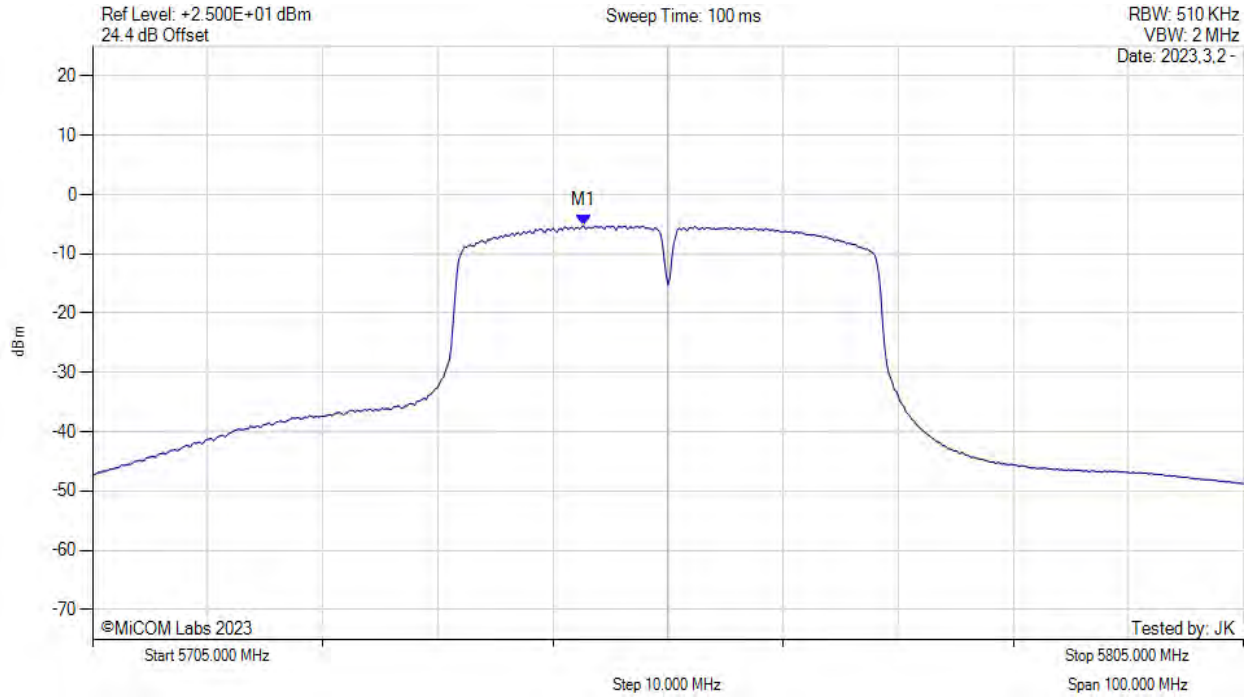


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5824.000 MHz : -1.475 dBm M1 + DCCF : 5824.000 MHz : -1.252 dBm Duty Cycle Correction Factor : +0.22 dB	Limit: ≤ 30.0 dBm Margin: -31.3 dB

back to matrix

POWER SPECTRAL DENSITY

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

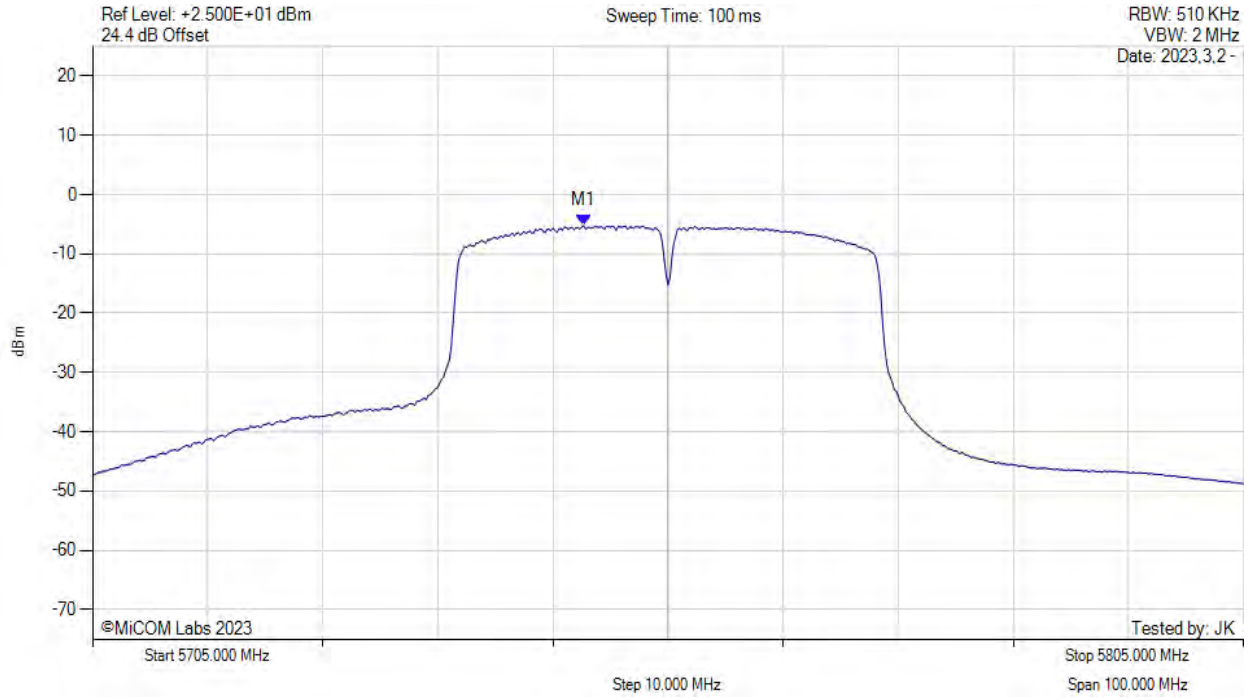


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5747.670 MHz : -5.260 dBm	Limit: ≤ 30.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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

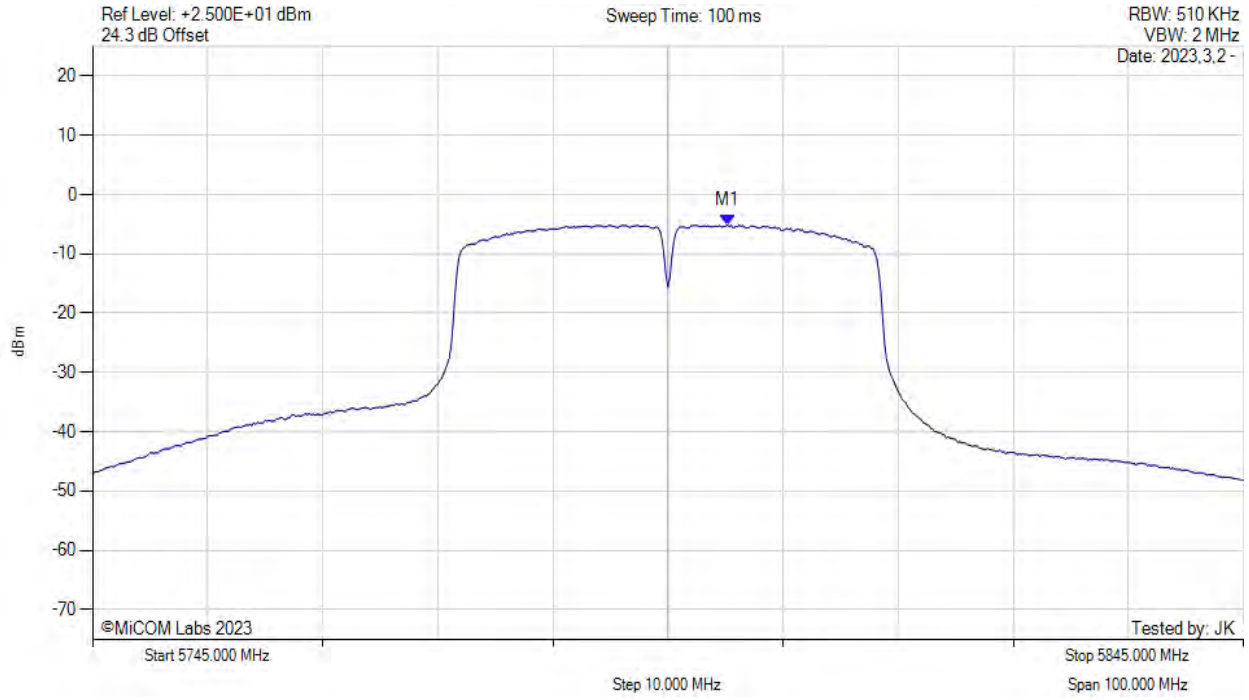


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5747.700 MHz : -5.260 dBm M1 + DCCF : 5747.700 MHz : -4.850 dBm Duty Cycle Correction Factor : +0.41 dB	Limit: ≤ 30.0 dBm Margin: -34.9 dB

back to matrix

POWER SPECTRAL DENSITY

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

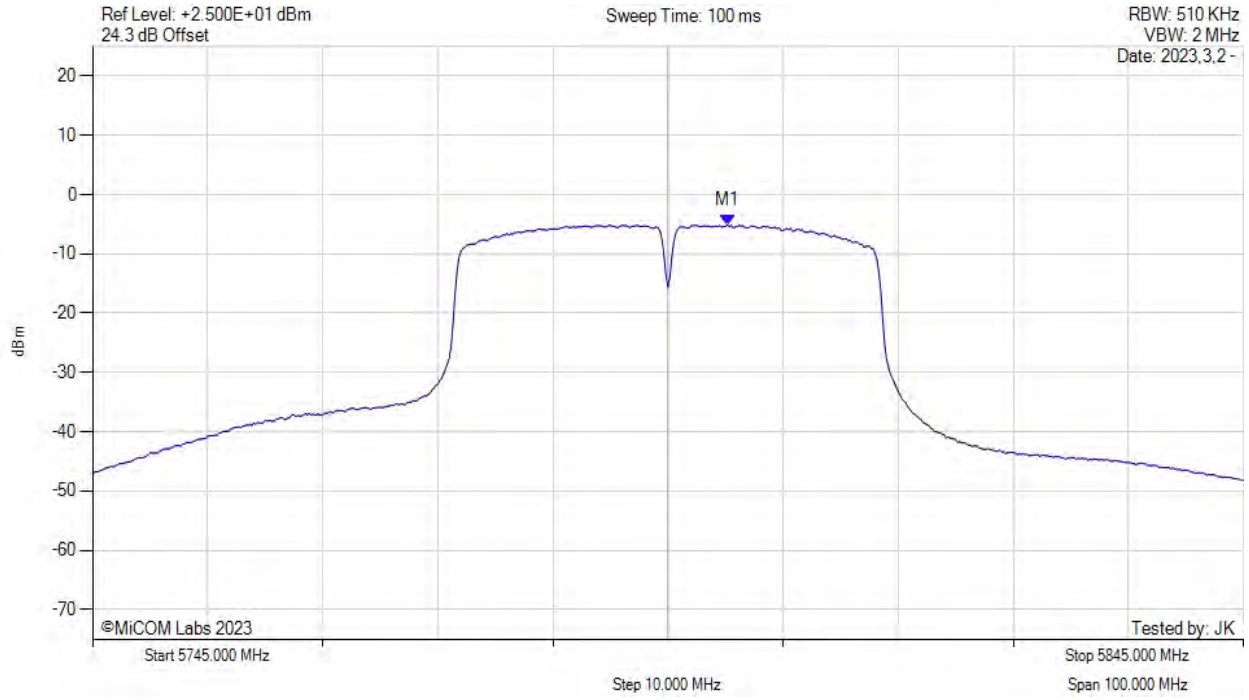


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5800.170 MHz : -5.138 dBm	Limit: ≤ 30.000 dBm

back to matrix

POWER SPECTRAL DENSITY

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



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5800.200 MHz : -5.138 dBm M1 + DCCF : 5800.200 MHz : -4.728 dBm Duty Cycle Correction Factor : +0.41 dB	Limit: ≤ 30.0 dBm Margin: -34.7 dB

back to matrix

A.4. Radiated

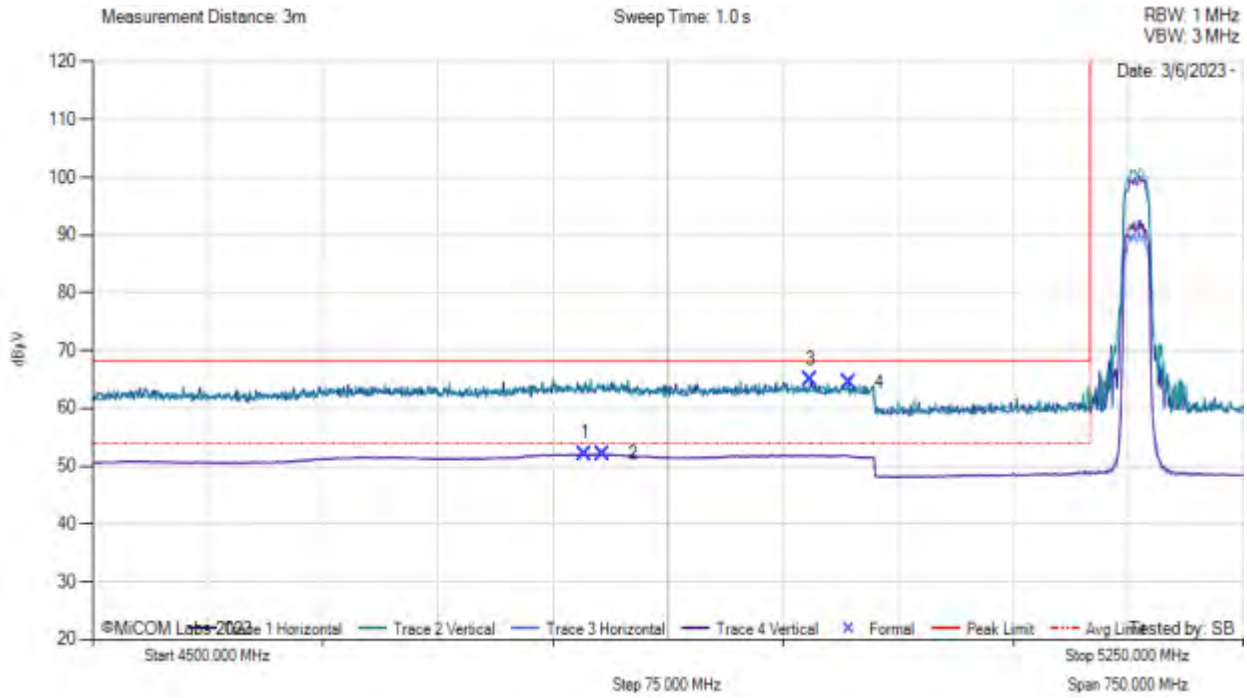
A.4.1. Restricted Edge & Band-Edge Emissions

Equipment Configuration for BE 5150 MHz			
Antenna:	Integral	**Variant:**	802.11a
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5180.00	**Data Rate:**	6 mbit/s
Power Setting:	11	**Tested By:**	SB

Test Measurement Results

BE 5150 MHz

Variant: 802.11a, Test Freq: 5180.00 MHz, Antenna: Integral, Power Setting: 11



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	4821.00	16.76	2.88	34.49	52.14	AVG	Horizontal	149	30	54.0	-1.9	Pass
2	4832.25	16.77	2.92	34.48	52.18	AVG	Vertical	149	0	54.0	-1.8	Pass
3	4968.00	29.79	2.93	34.26	64.99	MaxP	Horizontal	149	240	68.2	-3.2	Pass
4	4992.75	29.17	3.07	34.23	64.48	MaxP	Vertical	149	300	68.2	-3.7	Pass

Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

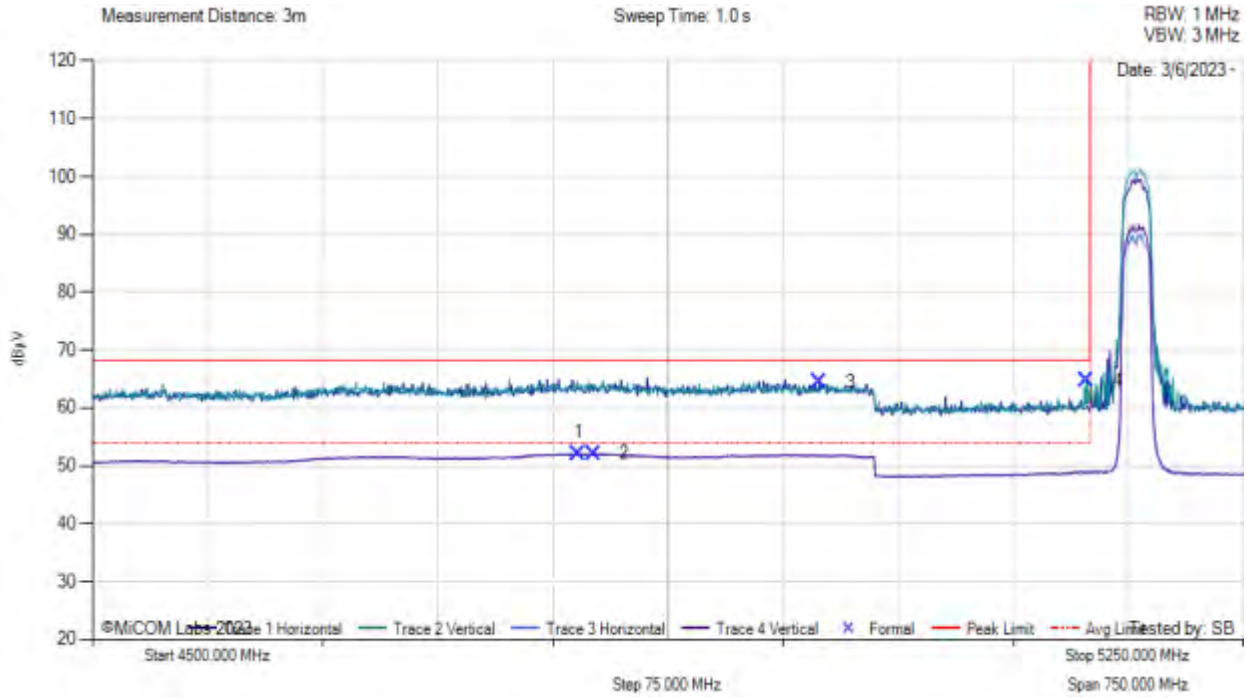
back to matrix

Equipment Configuration for BE 5150 MHz			
Antenna:	Integral	**Variant:**	802.11n HT20
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.5 mbit/s
Power Setting:	11	**Tested By:**	SB

Test Measurement Results

BE 5150 MHz

Variant: 802.11n HT20, Test Freq: 5180.00 MHz, Antenna: Integral, Power Setting: 11



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	4816.50	16.76	2.88	34.49	52.13	AVG	Horizontal	150	270	54.0	-1.9	Pass
2	4826.25	16.70	2.91	34.49	52.10	AVG	Vertical	150	300	54.0	-1.9	Pass
3	4974.00	29.28	2.94	34.25	64.47	MaxP	Horizontal	150	330	68.2	-3.7	Pass
4	5148.00	29.59	3.06	34.11	64.76	MaxP	Vertical	150	0	68.2	-3.4	Pass

Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

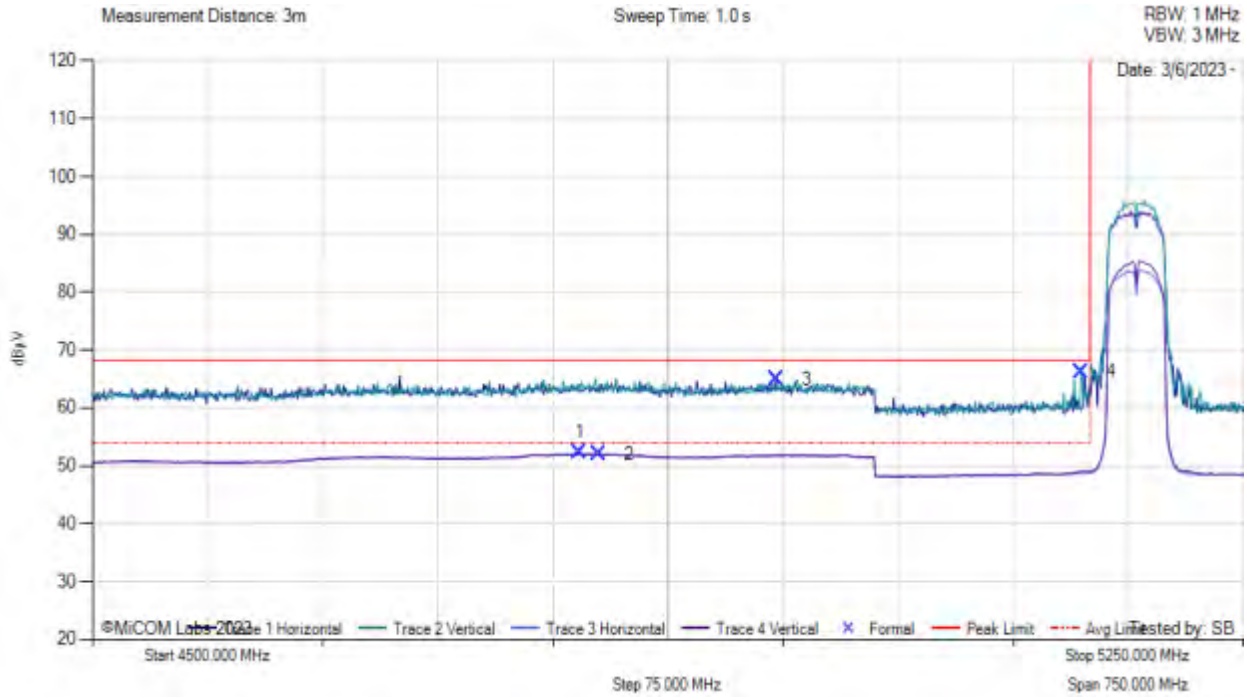
back to matrix

Equipment Configuration for BE 5150 MHz			
Antenna:	Integral	**Variant:**	802.11n HT40
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5190.00	**Data Rate:**	13.5 mbit/s
Power Setting:	8	**Tested By:**	SB

Test Measurement Results

BE 5150 MHz

Variant: 802.11n HT40, Test Freq: 5190.00 MHz, Antenna: Integral, Power Setting: 8



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	4817.25	16.86	2.88	34.49	52.23	AVG	Vertical	150	179	54.0	-1.8	Pass
2	4830.00	16.65	2.92	34.49	52.06	AVG	Horizontal	150	210	54.0	-1.9	Pass
3	4945.50	29.82	2.88	34.29	64.99	MaxP	Horizontal	150	180	68.2	-3.2	Pass
4	5144.25	31.03	3.11	34.12	66.26	MaxP	Vertical	150	0	68.2	-1.9	Pass

Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

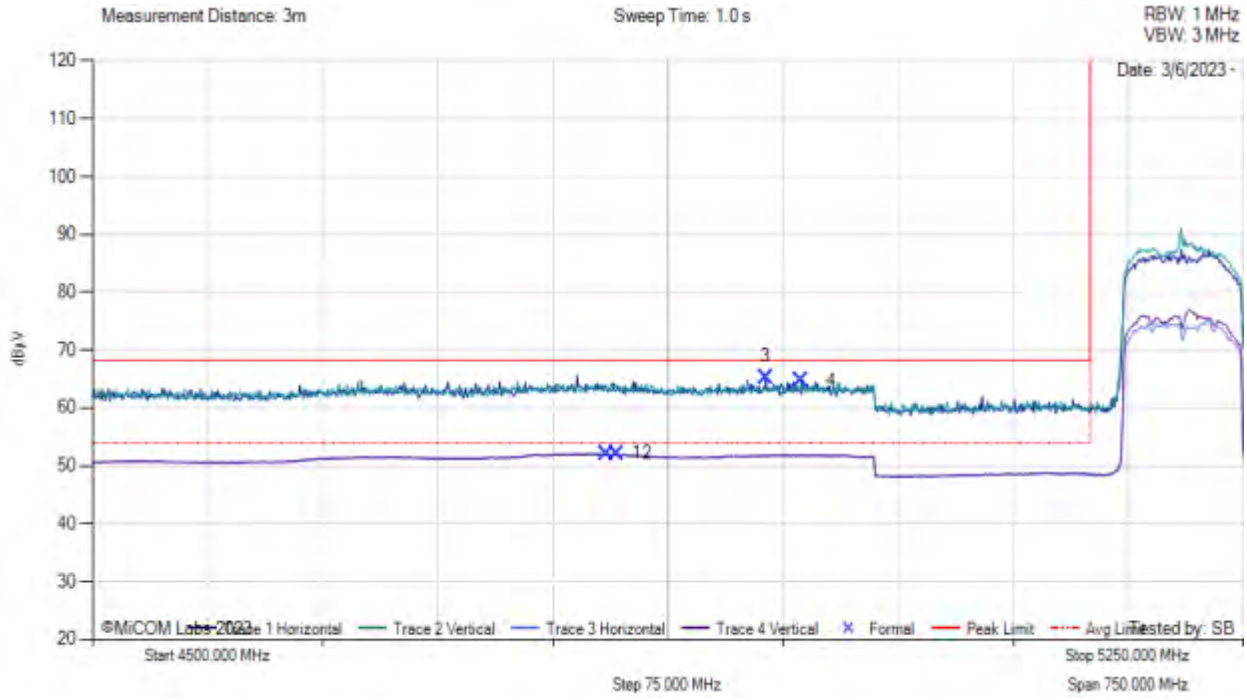
back to matrix

Equipment Configuration for BE 5150 MHz			
Antenna:	Integral	**Variant:**	802.11ac 80
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5210.00	**Data Rate:**	27.5 mbit/s
Power Setting:	4	**Tested By:**	SB

Test Measurement Results

BE 5150 MHz

Variant: 802.11ac 80, Test Freq: 5210.00 MHz, Antenna: Integral, Power Setting: 4



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	4835.25	16.73	2.92	34.48	52.13	AVG	Horizontal	150	120	54.0	-1.9	Pass
2	4842.00	16.72	2.92	34.48	52.12	AVG	Vertical	150	299	54.0	-1.9	Pass
3	4938.75	30.15	2.90	34.30	65.35	MaxP	Horizontal	150	240	68.2	-2.9	Pass
4	4962.00	29.60	2.91	34.26	64.76	MaxP	Vertical	150	149	68.2	-3.4	Pass

Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

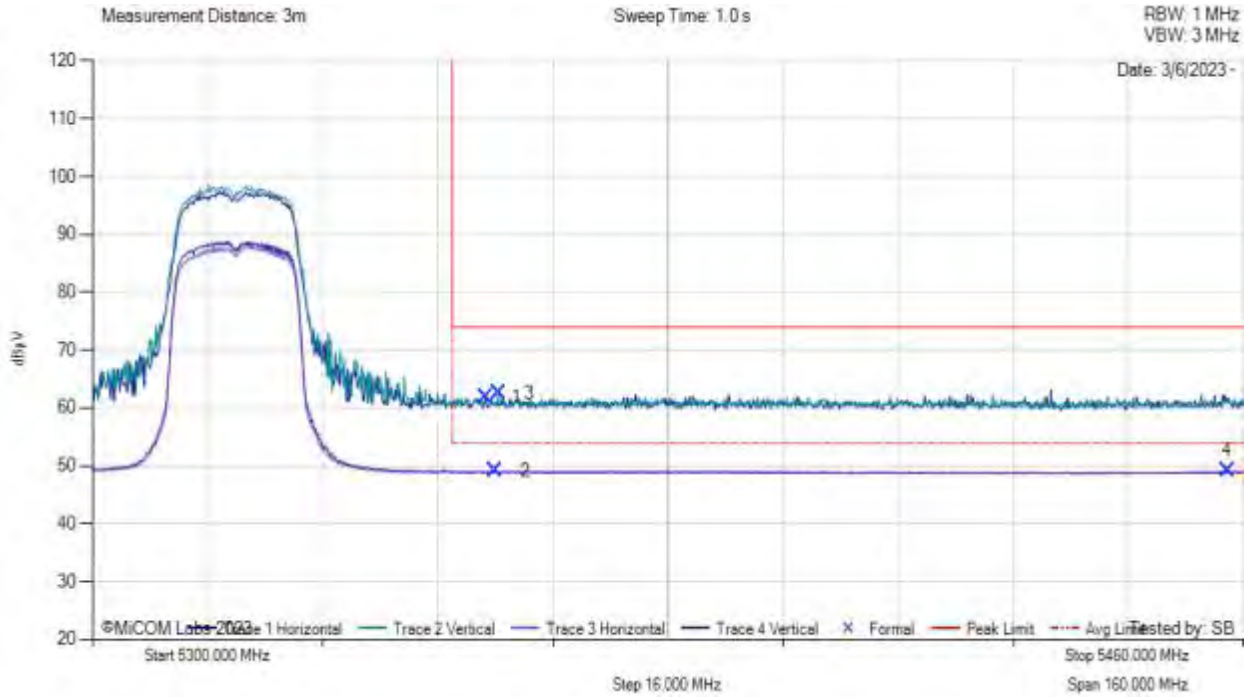
back to matrix

Equipment Configuration for BE 5350 MHz			
Antenna:	Integral	**Variant:**	802.11a
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5320.00	**Data Rate:**	6 mbit/s
Power Setting:	7	**Tested By:**	SB

Test Measurement Results

BE 5350 MHz

Variant: 802.11a, Test Freq: 5320.00 MHz, Antenna: Integral, Power Setting: 7, Duty Cycle (%): 99



5300.00 - 5460.00 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	5354.72	26.24	3.03	34.50	61.77	MaxP	Horizontal	99	60	74.0	-12.2	Pass
2	5356.00	13.67	3.04	34.50	49.21	AVG	Vertical	199	29	54.0	-4.8	Pass
3	5356.48	27.00	3.04	34.50	62.54	MaxP	Vertical	199	149	74.0	-11.5	Pass
4	5457.76	13.65	3.17	34.30	49.11	AVG	Horizontal	199	120	54.0	-4.9	Pass

Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

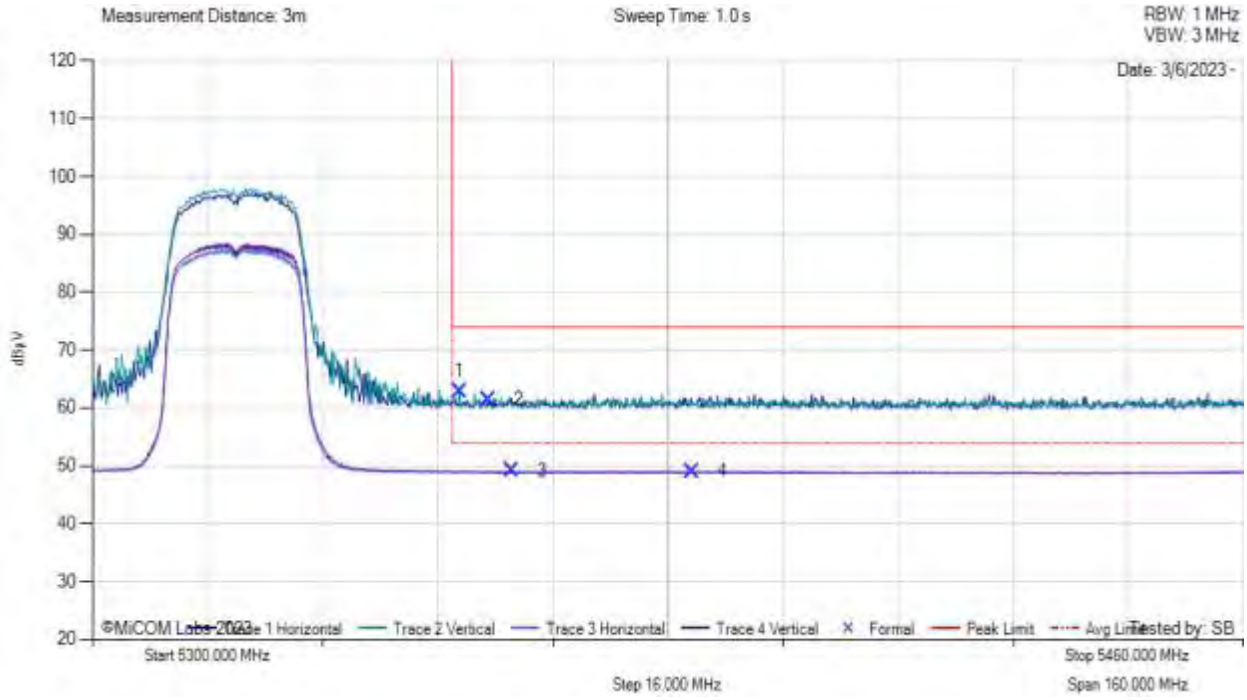
back to matrix

Equipment Configuration for BE 5350 MHz			
Antenna:	Integral	**Variant:**	802.11n HT20
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5320.00	**Data Rate:**	6.5 mbit/s
Power Setting:	7	**Tested By:**	SB

Test Measurement Results

BE 5350 MHz

Variant: 802.11n HT20, Test Freq: 5320.00 MHz, Antenna: Integral, Power Setting: 7, Duty Cycle (%): 99



5300.00 - 5460.00 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	5351.04	27.28	3.03	34.51	62.82	MaxP	Vertical	199	29	74.0	-11.2	Pass
2	5355.04	25.91	3.04	34.50	61.45	MaxP	Horizontal	199	270	74.0	-12.6	Pass
3	5358.24	13.66	3.05	34.49	49.21	AVG	Vertical	149	150	54.0	-4.8	Pass
4	5383.36	13.47	3.15	34.43	49.05	AVG	Horizontal	199	300	54.0	-4.9	Pass

Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

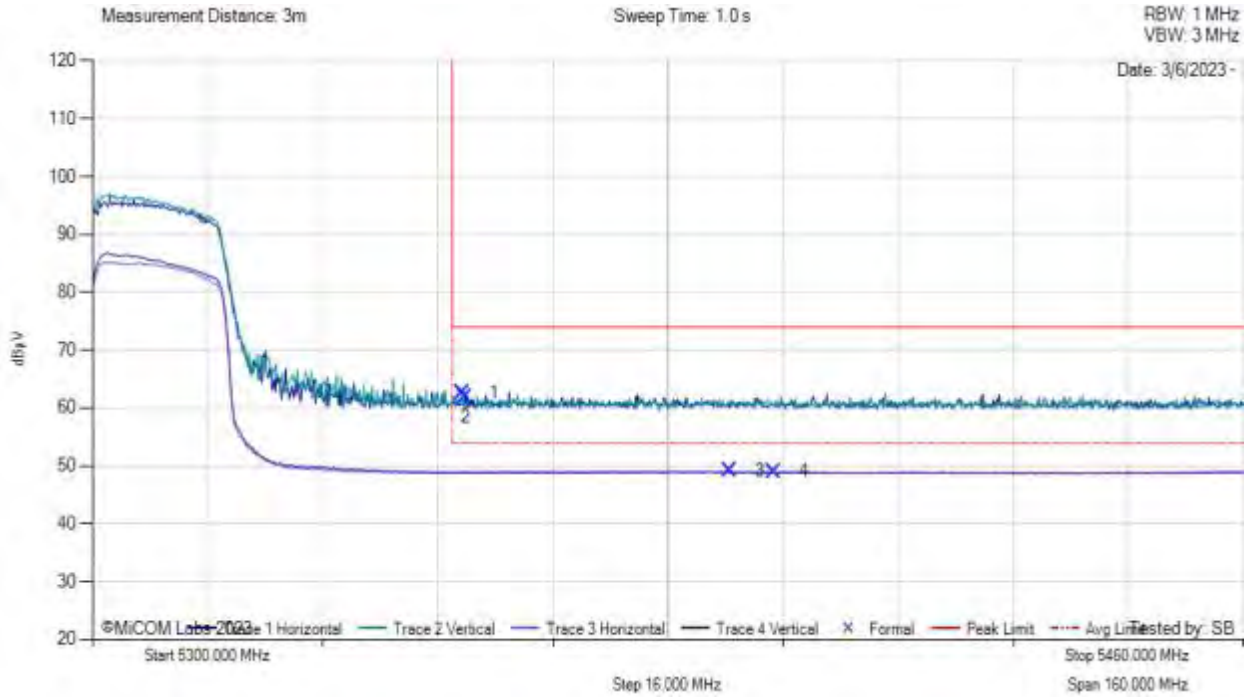
back to matrix

Equipment Configuration for BE 5350 MHz			
Antenna:	Integral	**Variant:**	802.11n HT40
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5310.00	**Data Rate:**	13.5 mbit/s
Power Setting:	7	**Tested By:**	SB

Test Measurement Results

BE 5350 MHz

Variant: 802.11n HT40, Test Freq: 5310.00 MHz, Antenna: Integral, Power Setting: 7, Duty Cycle (%): 99



5300.00 - 5460.00 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	5351.52	27.01	3.03	34.51	62.55	MaxP	Vertical	199	29	74.0	-11.5	Pass
2	5351.84	26.41	3.03	34.51	61.94	MaxP	Horizontal	98	210	74.0	-12.1	Pass
3	5388.64	13.55	3.15	34.41	49.11	AVG	Vertical	98	209	54.0	-4.9	Pass
4	5394.72	13.52	3.12	34.40	49.05	AVG	Horizontal	199	330	54.0	-5.0	Pass

Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

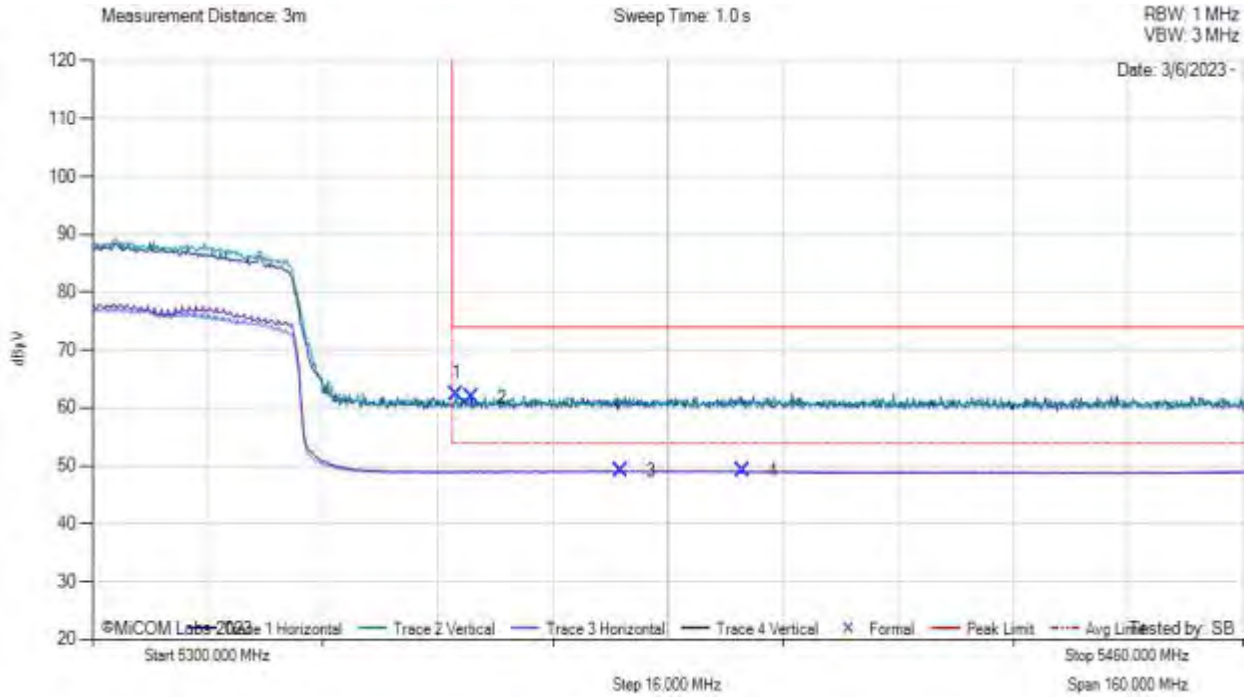
back to matrix

Equipment Configuration for BE 5350 MHz			
Antenna:	Integral	**Variant:**	802.11ac 80
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5290.00	**Data Rate:**	27.5 mbit/s
Power Setting:	4	**Tested By:**	SB

Test Measurement Results

BE 5350 MHz

Variant: 802.11ac 80, Test Freq: 5290.00 MHz, Antenna: Integral, Power Setting: 4, Duty Cycle (%): 99



5300.00 - 5460.00 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	5350.56	26.88	3.03	34.51	62.42	MaxP	Vertical	199	119	74.0	-11.6	Pass
2	5352.64	26.37	3.03	34.50	61.90	MaxP	Horizontal	99	300	74.0	-12.1	Pass
3	5373.44	13.64	3.12	34.45	49.21	AVG	Vertical	199	29	54.0	-4.8	Pass
4	5390.40	13.62	3.14	34.41	49.17	AVG	Horizontal	149	300	54.0	-4.8	Pass

Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

back to matrix

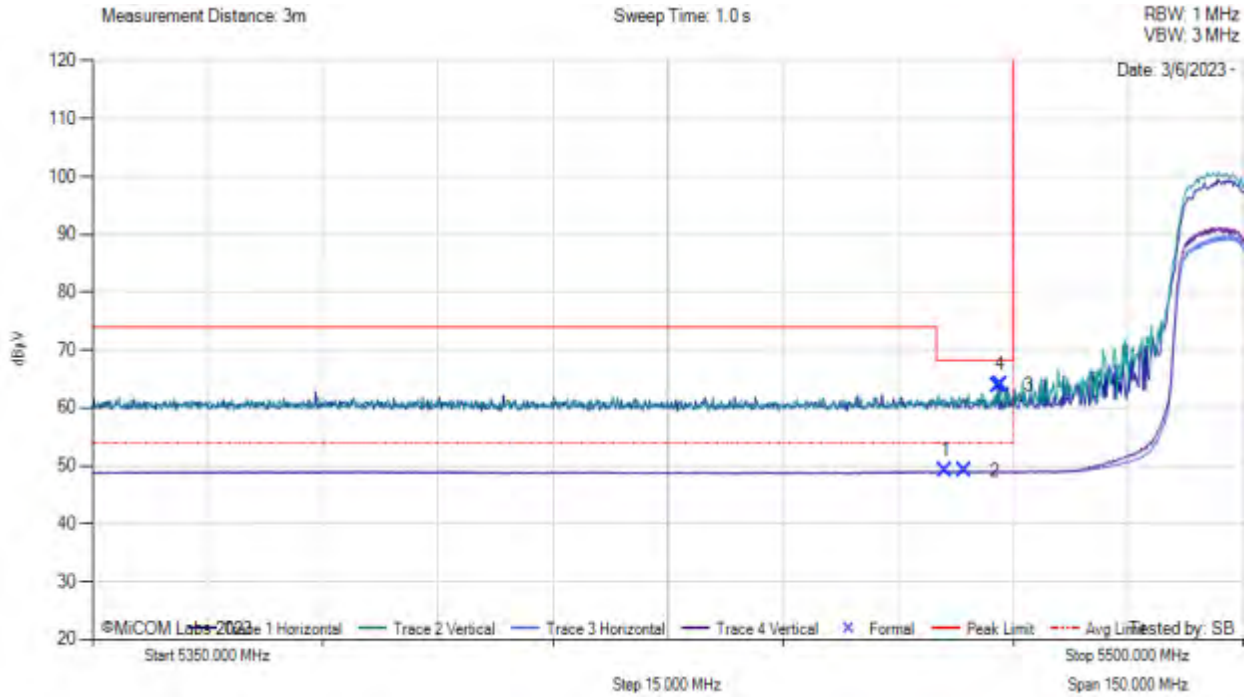
Equipment Configuration for BE 5460 MHZ

Antenna:	Integral	**Variant:**	802.11a
Antenna Gain (dBi):	2	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5500.00	**Data Rate:**	6 mbit/s
Power Setting:	10	**Tested By:**	SB

Test Measurement Results

BE 5460 MHz

Variant: 802.11a, Test Freq: 5500.00 MHz, Antenna: Integral, Power Setting: 10, Duty Cycle (%): 99



5350.00 - 5500.00 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	5461.15	13.64	3.18	34.31	49.13	AVG	Vertical	199	150	54.0	-4.9	Pass
2	5463.70	13.66	3.16	34.31	49.13	AVG	Horizontal	199	90	54.0	-4.9	Pass
3	5468.05	28.44	3.12	34.32	63.88	MaxP	Horizontal	149	300	68.2	-4.3	Pass
4	5468.35	28.57	3.11	34.32	64.01	MaxP	Vertical	149	149	68.2	-4.2	Pass

Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

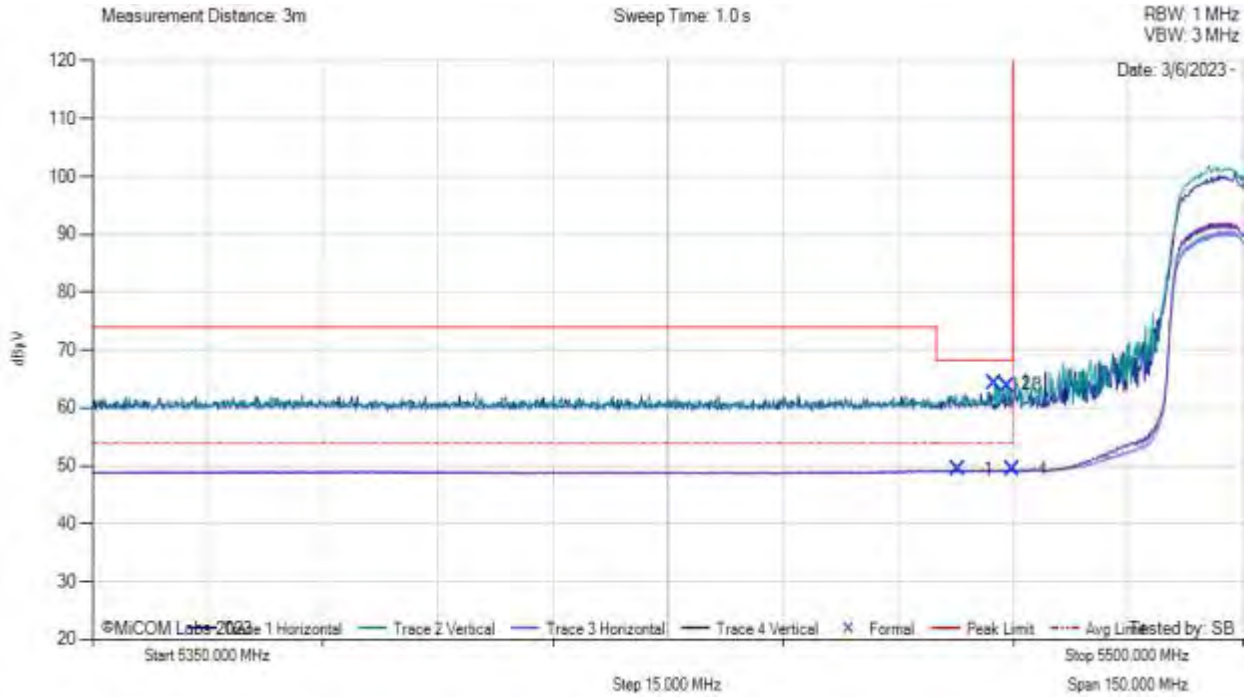
back to matrix

Equipment Configuration for BE 5460 MHZ			
Antenna:	Integral	**Variant:**	802.11n HT20
Antenna Gain (dBi):	2	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5500.00	**Data Rate:**	6.5 mbit/s
Power Setting:	11	**Tested By:**	SB

Test Measurement Results

BE 5460 MHz

Variant: 802.11n HT20, Test Freq: 5500.00 MHz, Antenna: Integral, Power Setting: 11, Duty Cycle (%): 99



5350.00 - 5500.00 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	5462.80	13.86	3.16	34.31	49.33	AVG	Horizontal	149	150	54.0	-4.7	Pass
2	5467.60	28.83	3.12	34.32	64.26	MaxP	Vertical	199	29	68.2	-3.9	Pass
3	5469.25	28.42	3.11	34.32	63.85	MaxP	Vertical	149	149	68.2	-4.3	Pass
4	5469.85	13.93	3.11	34.32	49.36	AVG	Vertical	199	29	54.0	-4.6	Pass

Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

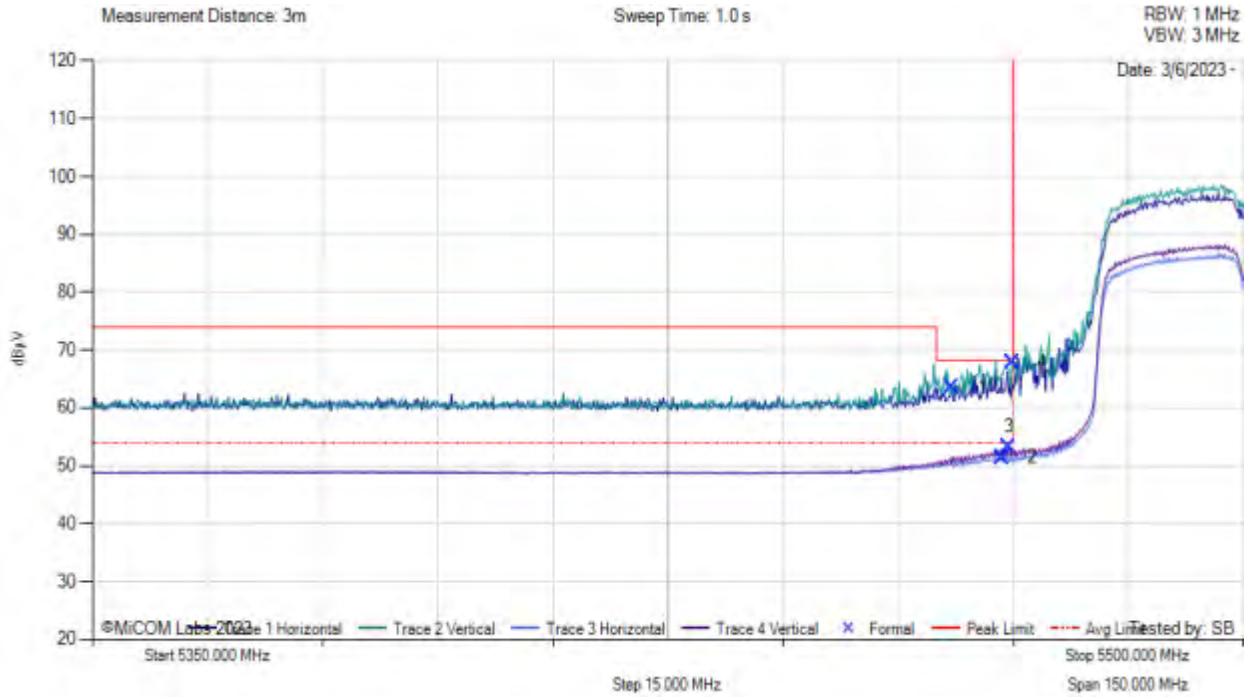
back to matrix

Equipment Configuration for BE 5460 MHZ			
Antenna:	Integral	**Variant:**	802.11n HT40
Antenna Gain (dBi):	2	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5510.00	**Data Rate:**	13.5 mbit/s
Power Setting:	10	**Tested By:**	SB

Test Measurement Results

BE 5460 MHz

Variant: 802.11n HT40, Test Freq: 5510.00 MHz, Antenna: Integral, Power Setting: 10, Duty Cycle (%): 99



5350.00 - 5500.00 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	5462.05	28.08	3.17	34.31	63.56	MaxP	Horizontal	148	300	68.2	-4.6	Pass
2	5468.50	15.97	3.11	34.33	51.41	AVG	Horizontal	148	30	54.0	-2.6	Pass
3	5469.40	17.77	3.11	34.32	53.20	AVG	Vertical	199	29	54.0	-0.8	Pass
4	5469.85	32.40	3.11	34.32	67.83	MaxP	Vertical	150	0	68.2	-0.4	Pass

Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

back to matrix

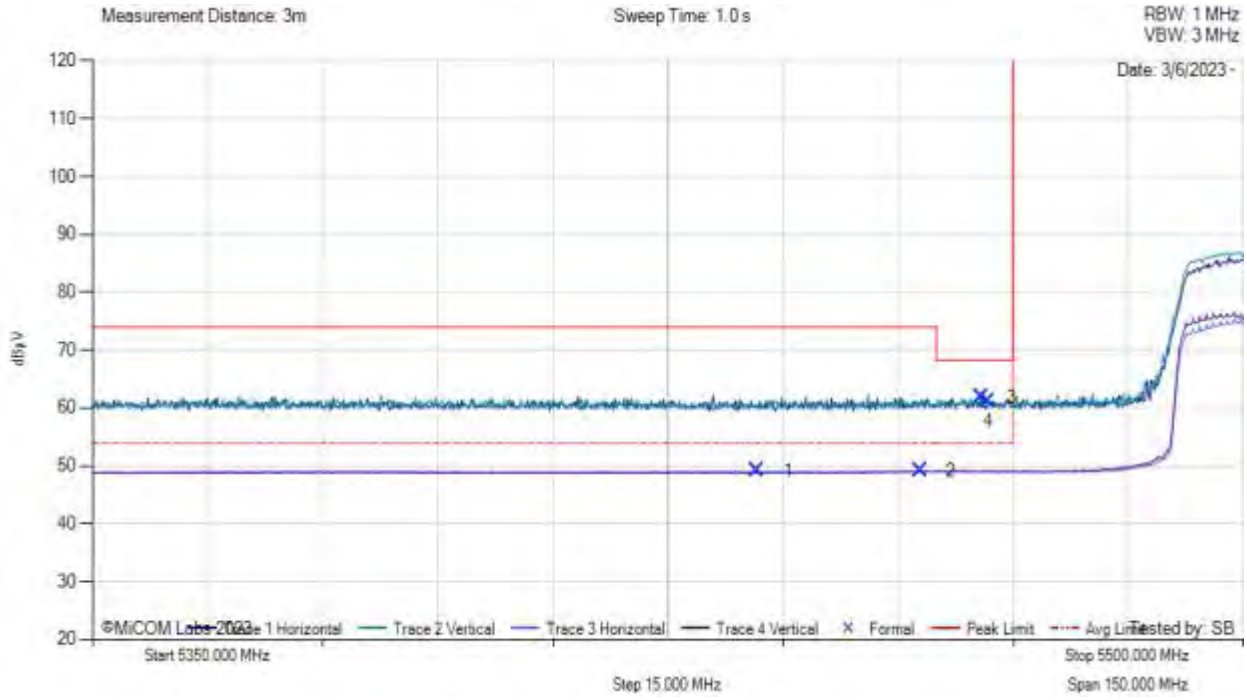
Equipment Configuration for BE 5460 MHZ

Antenna:	Integral	**Variant:**	802.11ac 80
Antenna Gain (dBi):	2	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5530.00	**Data Rate:**	27.5 mbit/s
Power Setting:	4	**Tested By:**	SB

Test Measurement Results

BE 5460 MHz

Variant: 802.11ac 80, Test Freq: 5530.00 MHz, Antenna: Integral, Power Setting: 4, Duty Cycle (%): 99



5350.00 - 5500.00 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	5436.70	13.83	3.04	34.32	49.19	AVG	Vertical	199	29	54.0	-4.8	Pass
2	5457.85	13.73	3.17	34.30	49.20	AVG	Horizontal	149	30	54.0	-4.8	Pass
3	5465.80	26.39	3.14	34.31	61.84	MaxP	Vertical	149	90	68.2	-6.4	Pass
4	5466.70	25.77	3.13	34.31	61.21	MaxP	Horizontal	149	30	68.2	-7.0	Pass

Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

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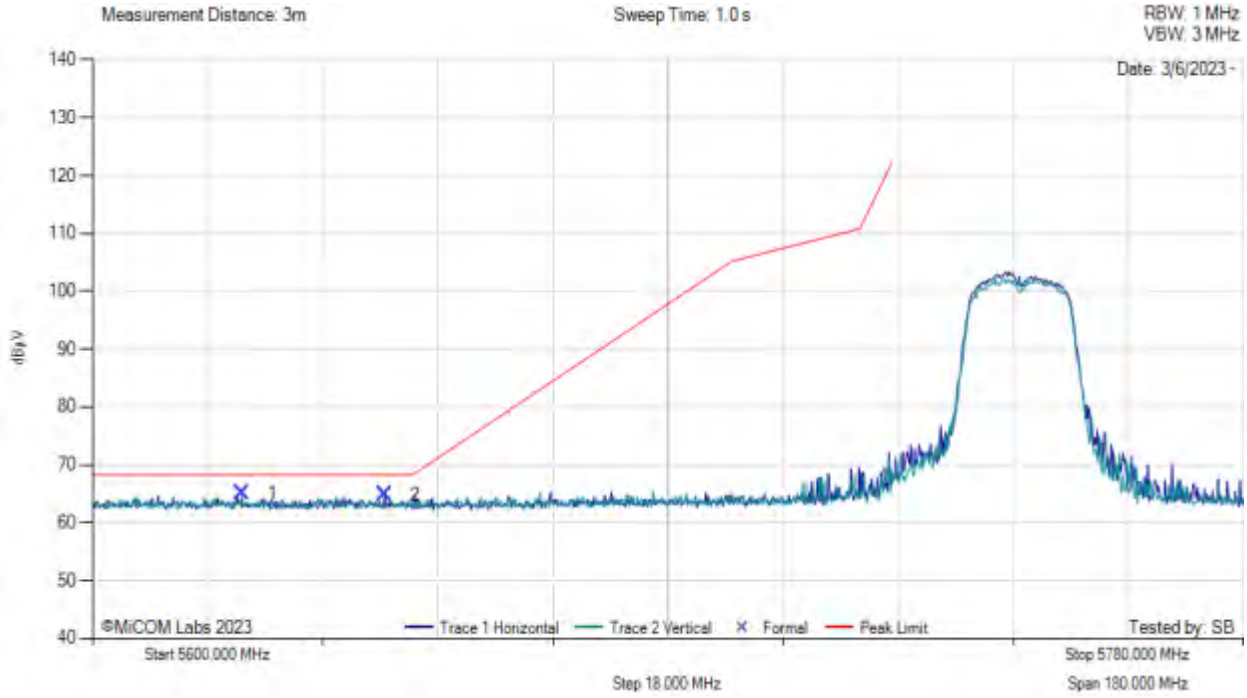
Equipment Configuration for BE 5725 MHZ			
Antenna:	Integral	**Variant:**	802.11a
Antenna Gain (dBi):	2	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5745.00	**Data Rate:**	6 mbit/s
Power Setting:	9	**Tested By:**	SB

Test Measurement Results

BE 5725 MHz

Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: Integral, Power Setting: 9, 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	5623.40	29.76	3.17	34.21	65.14	MaxP	Vertical	199	299	68.2	-3.1	Pass
2	5645.72	29.43	3.19	34.18	64.80	MaxP	Horizontal	199	240	68.2	-3.4	Pass

Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

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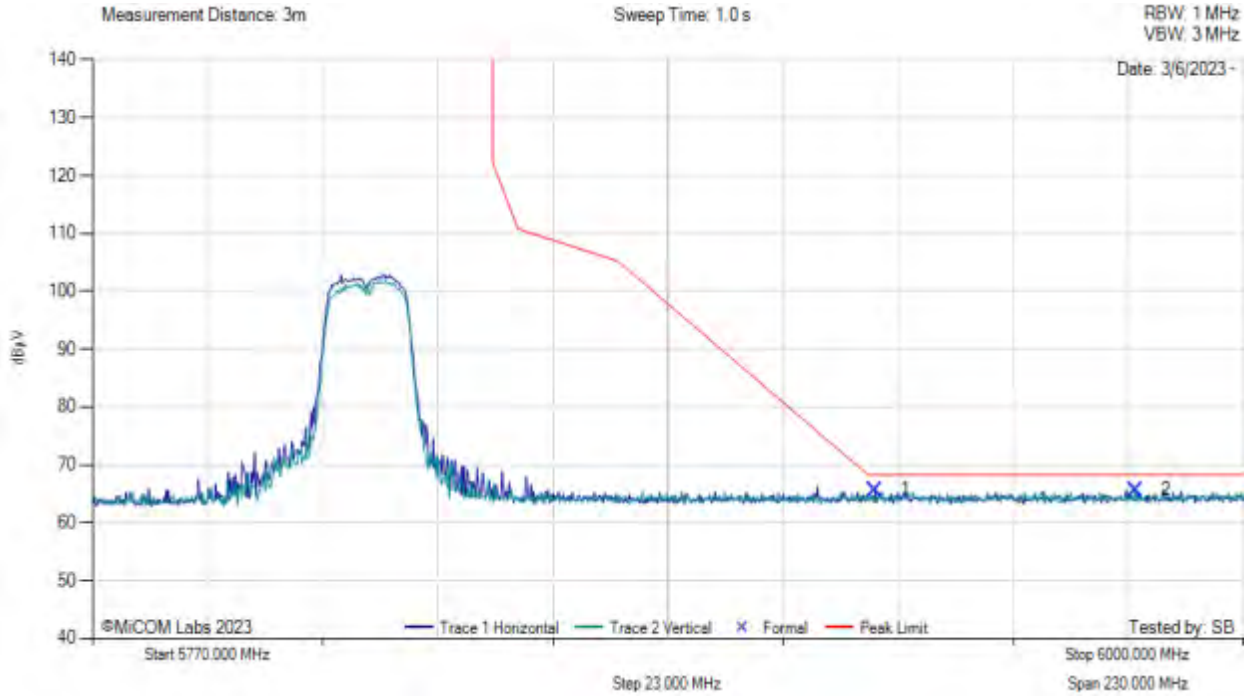
Equipment Configuration for BE 5850 MHZ			
Antenna:	Integral	**Variant:**	802.11a
Antenna Gain (dBi):	2	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5825.00	**Data Rate:**	6 mbit/s
Power Setting:	13	**Tested By:**	SB

Test Measurement Results

BE 5850 MHz

Variant: 802.11a, Test Freq: 5825.00 MHz, Antenna: Integral, Power Setting: 13, 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**
1	5926.40	29.54	3.29	34.82	65.66	MaxP	Horizontal	149	120	68.2	-2.6	Pass
2	5978.38	29.52	3.24	34.91	65.68	MaxP	Vertical	149	0	68.2	-2.5	Pass

Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

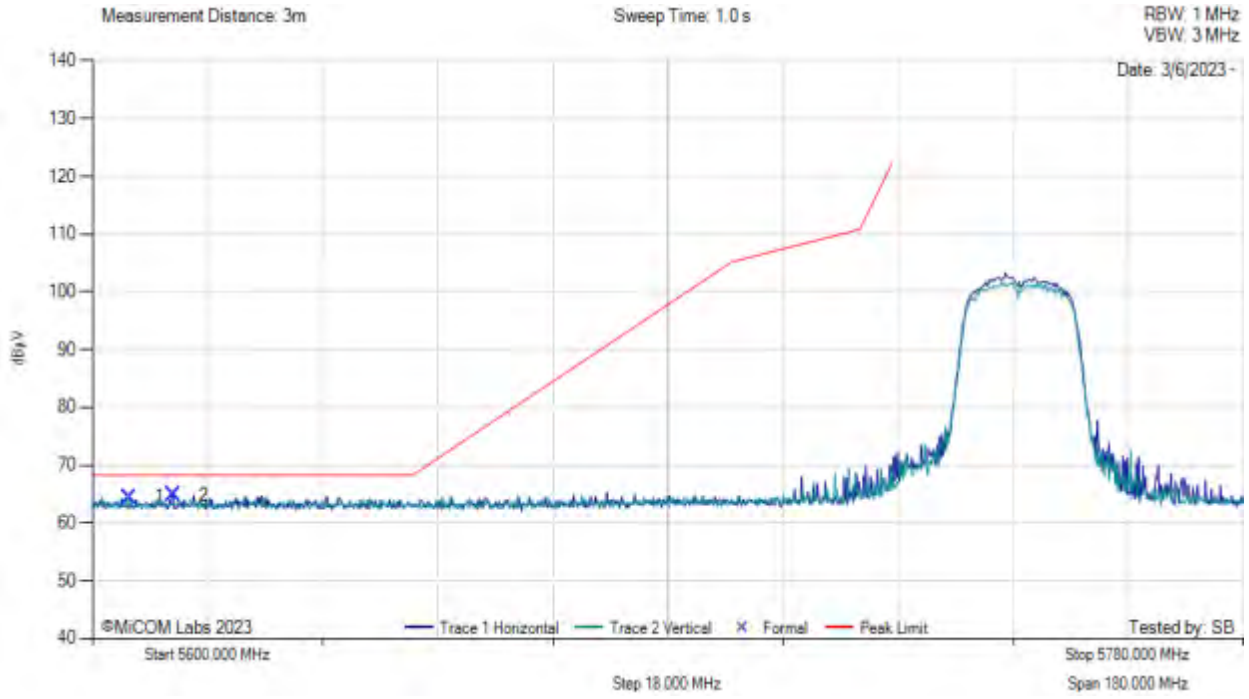
back to matrix

Equipment Configuration for BE 5725 MHZ			
Antenna:	Integral	**Variant:**	802.11n HT20
Antenna Gain (dBi):	2	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.5 mbit/s
Power Setting:	9	**Tested By:**	SB

Test Measurement Results

BE 5725 MHz

Variant: 802.11n HT20, Test Freq: 5745.00 MHz, Antenna: Integral, Power Setting: 9, 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	5605.76	29.07	3.15	34.23	64.45	MaxP	Vertical	199	0	68.2	-3.8	Pass
2	5612.60	29.46	3.17	34.22	64.85	MaxP	Horizontal	199	90	68.2	-3.4	Pass

Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

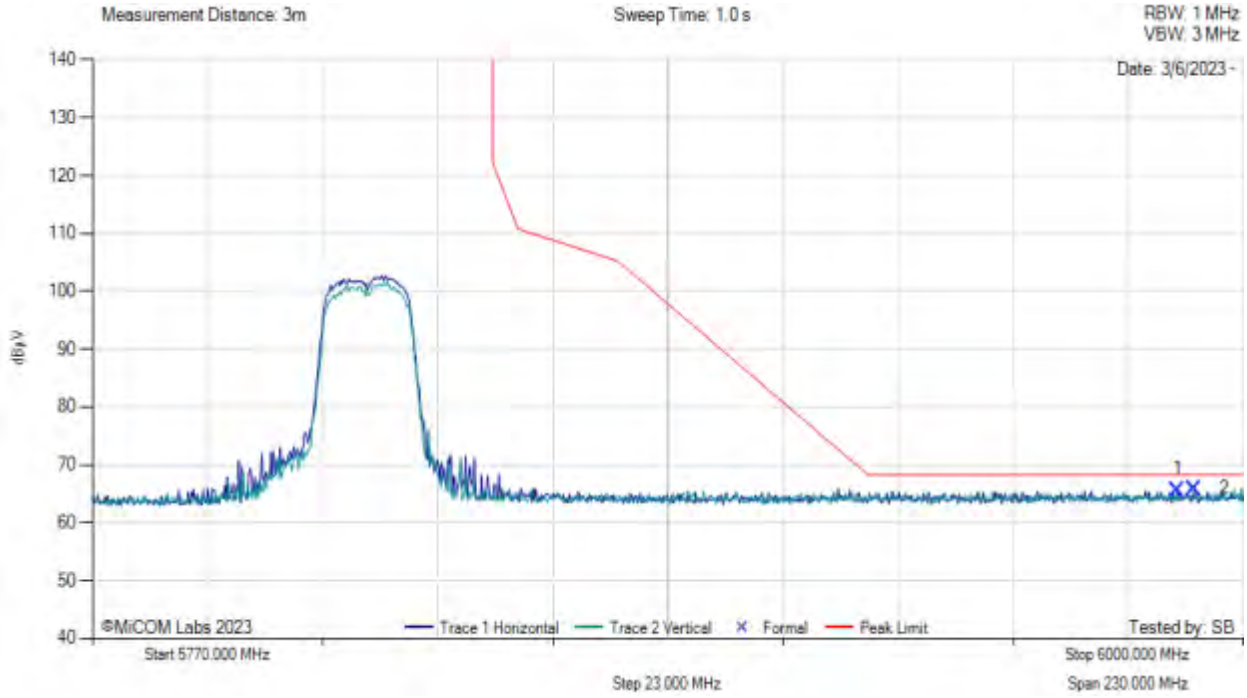
back to matrix

Equipment Configuration for BE 5850 MHZ			
Antenna:	Integral	**Variant:**	802.11n HT20
Antenna Gain (dBi):	2	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.5 mbit/s
Power Setting:	13	**Tested By:**	SB

Test Measurement Results

BE 5850 MHz

Variant: 802.11n HT20, Test Freq: 5825.00 MHz, Antenna: Integral, Power Setting: 13, 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**
1	5986.89	29.51	3.25	34.93	65.69	MaxP	Horizontal	149	300	68.2	-2.5	Pass
2	5990.11	29.75	3.23	34.93	65.90	MaxP	Vertical	149	299	68.2	-2.3	Pass

Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

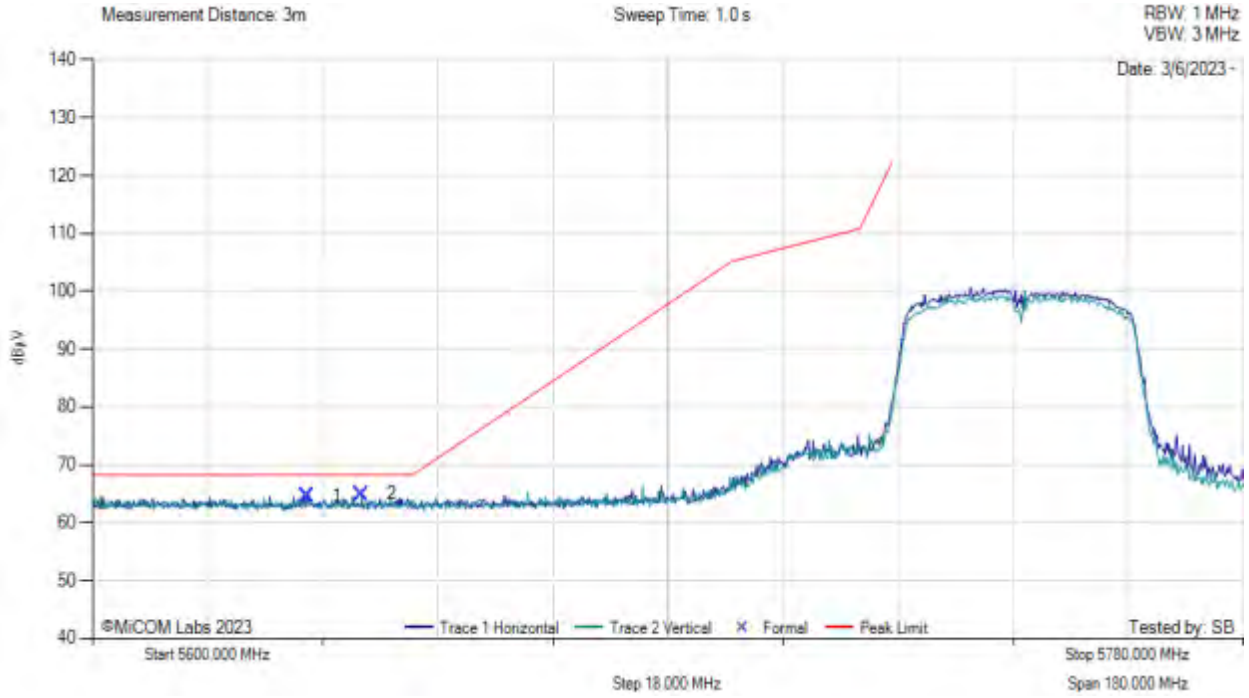
back to matrix

Equipment Configuration for BE 5725 MHZ			
Antenna:	Integral	**Variant:**	802.11n HT40
Antenna Gain (dBi):	2	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5755.00	**Data Rate:**	13.5 mbit/s
Power Setting:	12	**Tested By:**	SB

Test Measurement Results

BE 5725 MHz

Variant: 802.11n HT40, Test Freq: 5755.00 MHz, Antenna: Integral, Power Setting: 12, 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	5633.48	29.26	3.14	34.20	64.61	MaxP	Horizontal	199	300	68.2	-3.6	Pass
2	5642.12	29.53	3.22	34.19	64.94	MaxP	Vertical	199	0	68.2	-3.3	Pass

Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

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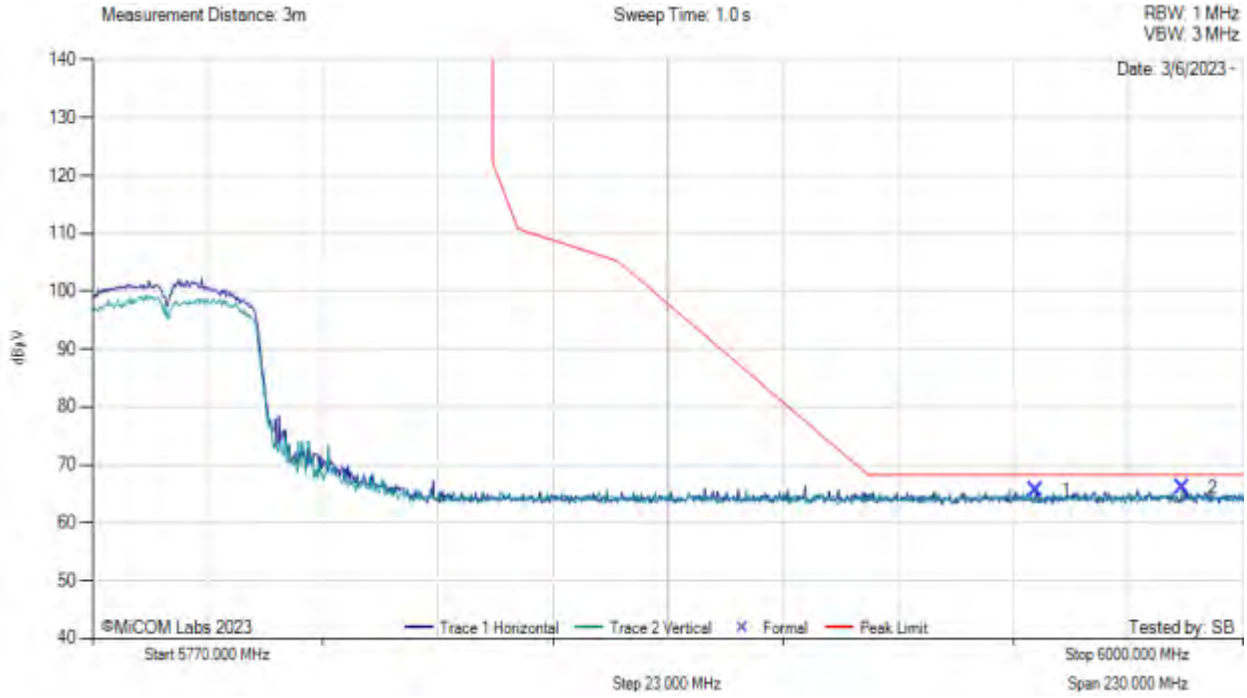
Equipment Configuration for BE 5850 MHZ			
Antenna:	Integral	**Variant:**	802.11n HT40
Antenna Gain (dBi):	2	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5795.00	**Data Rate:**	13.5 mbit/s
Power Setting:	12	**Tested By:**	SB

Test Measurement Results

BE 5850 MHz

Variant: 802.11n HT40, Test Freq: 5795.00 MHz, Antenna: Integral, Power Setting: 12, 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**
1	5958.60	29.47	3.25	34.89	65.61	MaxP	Horizontal	149	240	68.2	-2.6	Pass
2	5987.81	29.90	3.24	34.93	66.08	MaxP	Vertical	149	209	68.2	-2.2	Pass

Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

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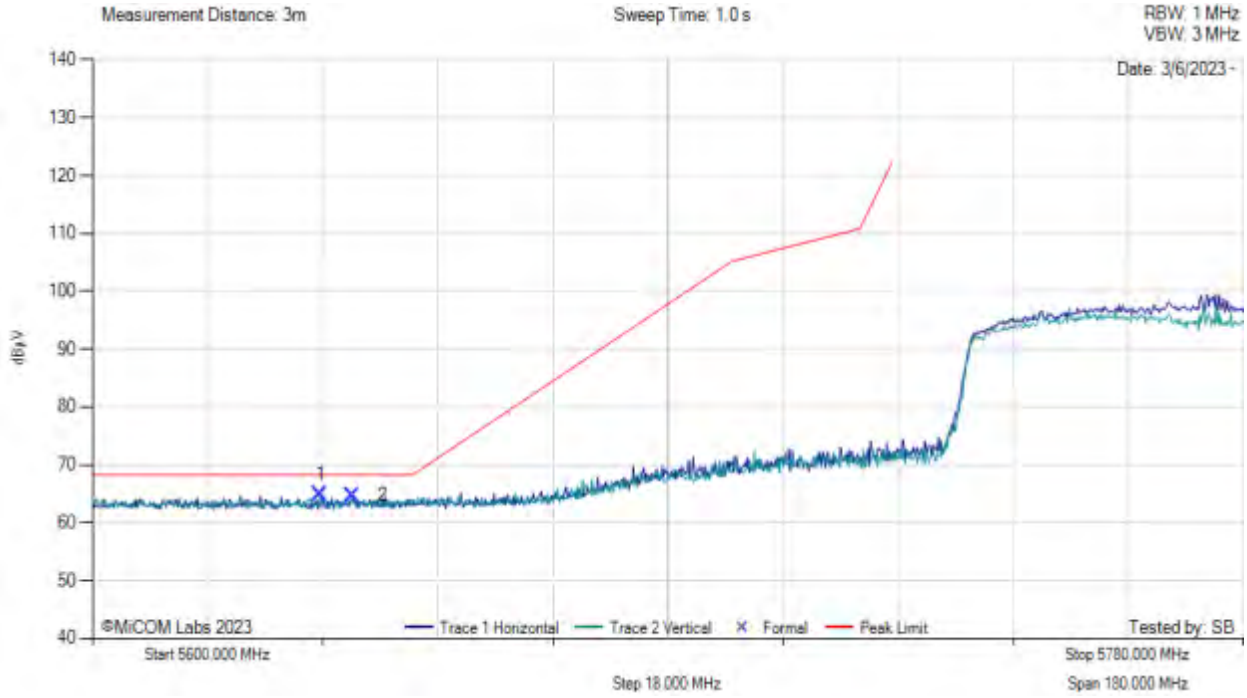
Equipment Configuration for BE 5725 MHZ			
Antenna:	Integral	**Variant:**	802.11ac 80
Antenna Gain (dBi):	2	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5775.00	**Data Rate:**	27.5 mbit/s
Power Setting:	12	**Tested By:**	SB

Test Measurement Results

BE 5725 MHz

Variant: 802.11ac 80, Test Freq: 5775.00 MHz, Antenna: Integral, Power Setting: 12, 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	5635.64	29.42	3.17	34.19	64.77	MaxP	Vertical	199	299	68.2	-3.5	Pass
2	5640.68	29.34	3.21	34.19	64.74	MaxP	Horizontal	149	180	68.2	-3.5	Pass

Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

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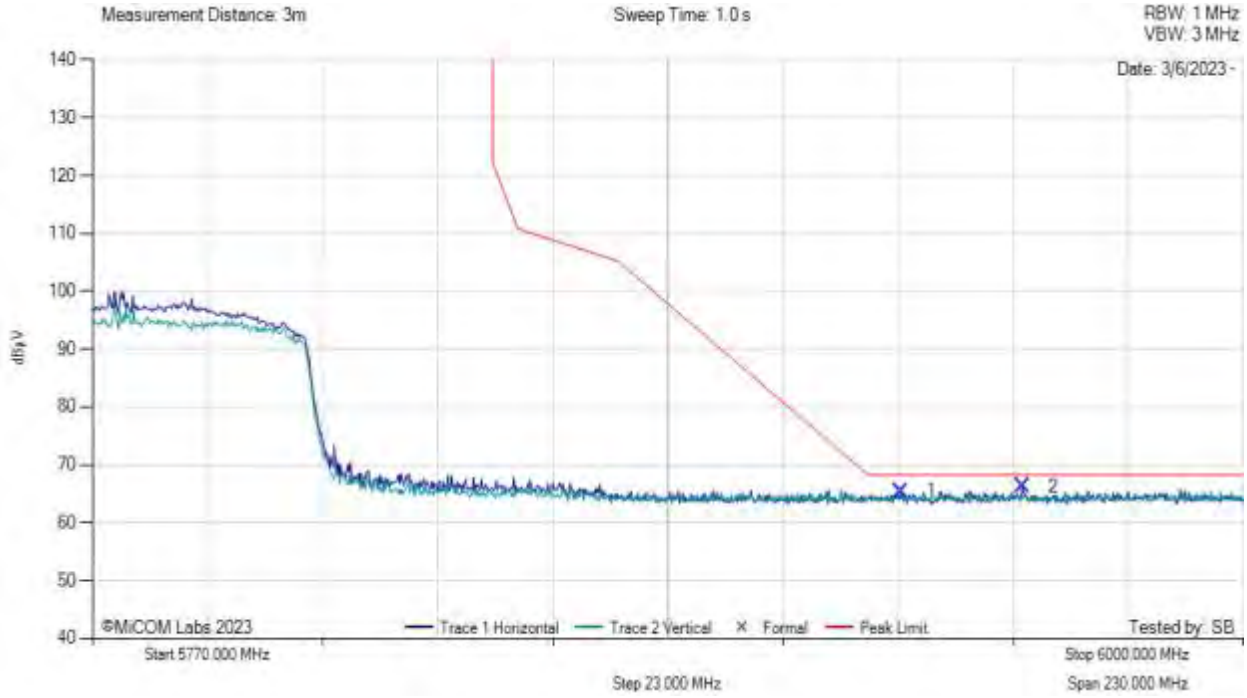
Equipment Configuration for BE 5850 MHZ			
Antenna:	Integral	**Variant:**	802.11ac 80
Antenna Gain (dBi):	2	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5775.00	**Data Rate:**	6 mbit/s
Power Setting:	12	**Tested By:**	SB

Test Measurement Results

BE 5850 MHz

Variant: 802.11ac 80, Test Freq: 5775.00 MHz, Antenna: Integral, Power Setting: 12, 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**
1	5931.46	29.24	3.33	34.84	65.41	MaxP	Vertical	150	0	68.2	-2.8	Pass
2	5955.84	30.09	3.26	34.89	66.23	MaxP	Horizontal	149	180	68.2	-2.0	Pass

Test Notes: 120VAC 1A powers support equipment.
EUT is DC powered. Laptop provides software
tools needed to run test mode.

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