REGULATORY COMPLIANCE TEST REPORT

FCC CFR 47 15.247, RSS-247 Issue 2

Report No.: SONO01-U6 Rev A (Wi-Fi)

Company: Sonos, Inc

Test of: S26

REGULATORY COMPLIANCE TEST REPORT

Company: Sonos Inc.

Test of: S26

To: FCC CFR 47 Part 15 Subpart C 15.247 (DTS), RSS-247 Issue 2

Test Report Serial No.: SONO01-U6 Rev A (Wi-Fi)

This report supersedes: NONE

Applicant: Sonos, Inc
614 Chapala St.
Santa Barbara, California 93101
USA

Issue Date: 9th April 2020

This Test Report is Issued Under the Authority of:

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

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 24th day of February 2020.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2381.01
Valid to November 30, 2021

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

1.2. RECOGNITION

MiCOM Labs, Inc has widely recognized wireless testing and certification capabilities. In addition to being recognized for Testing and Certification under Phase 2 agreements with Canada, Europe and Japan, our international recognition includes Conformity Assessment Body designation under Phase 1 agreements with APEC MRA countries. 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
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)			

EU MRA – European Union Mutual Recognition Agreement
NB – Notified Body
APEC MRA – Asia Pacific Economic Community Mutual Recognition Agreement. Recognition agreement under which test lab is accredited to regulatory standards of the APEC member countries.
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 24th day of February 2020

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2381.02
Valid to November 30, 2021

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

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

2. DOCUMENT HISTORY

Document History		
Revision	Date	Comments
Draft	26th March 2020	
Draft #2	2nd April 2020	
Rev A	9th April 2020	Initial Release

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

3. TEST RESULT CERTIFICATE

Manufacturer:	Sonos, Inc 614 Chapala St. Santa Barbara California 93101 USA	**Tested By:**	MiCOM Labs, Inc. 575 Boulder Court Pleasanton California 94566 USA
Model:	S26	**Telephone:**	+1 925 462 0304
		Fax:	+1 925 462 0306
Equipment Type:	Home Audio Equipment		
S/N's:	Conducted #1 Radiated: 54-2A-1B-20-02-04-E		
Test Date(s):	24th – 26th March 2020	**Website:**	www.micomlabs.com

STANDARD(S)	TEST RESULTS
FCC CFR 47 Part 15 Subpart C 15.247 (DTS) **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.

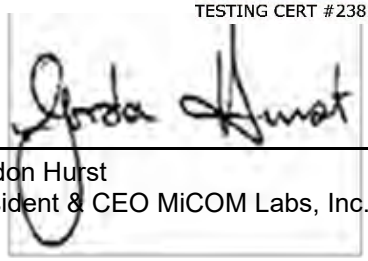
2. Details of test methods used have been recorded and kept on file by the laboratory.

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	Oct 31 2013	Guidance for measurement of output emission of devices that employ single transmitter with multiple outputs or systems with multiple transmitters operating simultaneously in the same frequency band
II	KDB 558074 D01 v05r02	2nd April 2019	Guidance for Compliance Measurements on Digital Transmission System, Frequency Hopping Spread Spectrum System, and Hybrid System Devices operating under section 15.247 of the FCC Rules.
III	A2LA	October 2019	R105 - Requirement's When Making Reference to A2LA Accreditation Status
IV	ANSI C63.10	2013	American National Standard for Testing Unlicensed Wireless Devices
V	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
VI	CISPR 32	2015	Electromagnetic compatibility of multimedia equipment - Emission requirements
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 47 CFR Part 15.247	2020	Radio Frequency Devices; Subpart C – Intentional Radiators
IX	ICES-003	Issue 6 Jan 2016; Updated April 2019	Information Technology Equipment (Including Digital Apparatus) – Limits and methods of measurement.
X	M 3003	Edition 3 Nov.2012	Expression of Uncertainty and Confidence in Measurements
XI	RSS-247 Issue 2	Feb 2017	Digital Transmission Systems (DTSs), Frequency Hopping System (FHSs) and Licence-Exempt Local Area Network (LE-LEN) Devices
XII	RSS-Gen Issue 5	March 2019 Amendment 1	General Requirements for Compliance of Radio Apparatus
XIII	FCC 47 CFR Part 2.1033	2020	FCC requirements and rules regarding photographs and test setup diagrams.
XIV	KDB 789033 D02 V02r01	14th December, 2017	Guidelines for Compliance Testing Of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E

4.2. Test and Uncertainty Procedure

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

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

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

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 Sonos, Inc S26 to; FCC CFR 47 Part 15 Subpart C 15.247 (DTS) Radio Frequency Devices; Subpart C – Intentional Radiators ISED: RSS-247
Applicant:	Sonos, Inc 614 Chapala St. Santa Barbara California 93101 USA
Manufacturer:	Sonos, Inc
Laboratory performing the tests:	MiCOM Labs, Inc. 575 Boulder Court Pleasanton California 94566 USA
Test report reference number:	SONO01-U6
Date EUT received:	20th March 2020
Standard(s) applied:	FCC: CFR 47 Part 15 Subpart C 15.247 (DTS) ISED: RSS-247
Dates of test (from - to):	24th – 26th March 2020
No of Units Tested:	2 (1xConducted and 1xRadiated)
Product Family Name:	N/A
Model(s):	S26
Location for use:	Indoors
Declared Frequency Range(s):	2400 - 2483.5 MHz;
Type of Modulation:	Per 802.11 – CCK, BPSK, QPSK, DSSS, OFDM
EUT Modes of Operation:	2400 - 2483.5 MHz: b; g; HT-20;
Declared Nominal Output Power	+36 dBm/EIRP
Transmit/Receive Operation:	4
Rated Input Voltage and Current:	115 Vac, 60 Hz, 2A
Operating Temperature Range:	0 - 40
ITU Emission Designator:	802.11b: 10M2G1D 802.11g: 16M5D1D 802.11n HT-20: 17M7D1D
Hardware Rev:	A100
Firmware Rev:	59.0-75030-1-32

5.2. Scope Of Test Program

Sonos, Inc S26
The scope of the test program was to test the Sonos, Inc S26 configurations in the frequency ranges 2400 - 2483.5 MHz for compliance against the following specification:

FCC CFR 47 Part 15 Subpart C 15.247 (DTS)
Radio Frequency Devices; Subpart C – Intentional Radiators

IC RSS-247 Issue 2
Digital Transmission Systems (DTS), Frequency Hopping Systems (FHSS) and Licence-Exempt Local Area Network (LE-LAN) Devices

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

Type (EUT/ Support)	Equipment Description	Mfr	Model No.	Serial No.
EUT	Home Audio Equipment	SONOS Inc.	S26	54-2A-1B-20-02-04-E
EUT	Home Audio Equipment	SONOS Inc.	S26	Conducted #1
Support	Laptop	Lenovo	X230	SON-00002271

5.4. Antenna Details

Type	Manufacturer	Model	Family	Gain (dBi)	BF Gain	Dir BW	X-Pol	Frequency Band (MHz)
integral	SAA	Chain0	PCB	5.2	-	360	-	2400 - 2483.5
integral	SAA	Chain1	PCB	3.8	-	360	Yes	2400 - 2483.5
integral	SAA	Chain2	PCB	3.5	-	360	-	2400 - 2483.5
integral	SAA	Chain3	PCB	4.9	-	360	-	2400 - 2483.5

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

NOTE: Chain1 is cross-polarized

5.5. Cabling and I/O Ports

Port Type	Max Cable Length	# of Ports	Screened	Conn Type	Data Type	Bit Rate
Ethernet	10-30m	1	n/a	RJ45	Packet Data	10/100/1000
AC Input	< 3M	1	Y	AC Jack	Analog	n/a

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
2400 - 2483.5 MHz				
b	1	2,412.00	2,437.00	2,462.00
g	6	2,412.00	2,437.00	2,462.00
HT-20	6.5	2,412.00	2,437.00	2,462.00

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

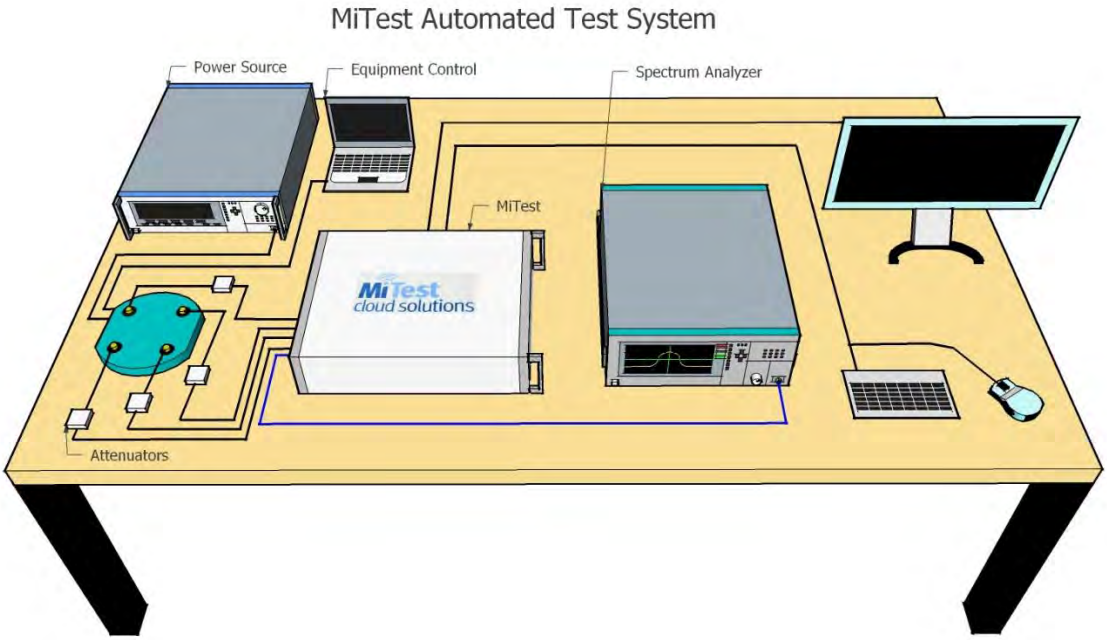
Test Header	Result	Data Link
6 dB & 99% Bandwidth	Complies	View Data
Conducted Output Power	Complies	View Data
Power Spectral Density	Complies	View Data
Emissions	Complies	-
(1) Conducted Emissions	Complies	-
(i) Conducted Spurious Emissions	Complies	View Data
(ii) Conducted Band-Edge Emissions	Complies	View Data
(2) Radiated Emissions	Complies	-
(i) TX Spurious & Restricted Band Emissions	Complies	View Data
(ii) Restricted Edge & Band-Edge Emissions	Complies	View Data
(3) Digital Emissions (0.03 - 1 GHz)	Complies	See test report SONO01-U2
(4) AC Wireline Emissions	Complies	See test report SONO01-U2
Maximum Permissible Exposure	Complies	See test report SONO01-U2
RF Unique Connector	Complies (integral Antennas)	-

NOTE: In this report antenna chains are reported as chains 'a' through 'd'. This is equivalent to CH0-CH3 on all Sonos documentation.

7. TEST EQUIPMENT CONFIGURATION(S)

7.1. Conducted

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



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

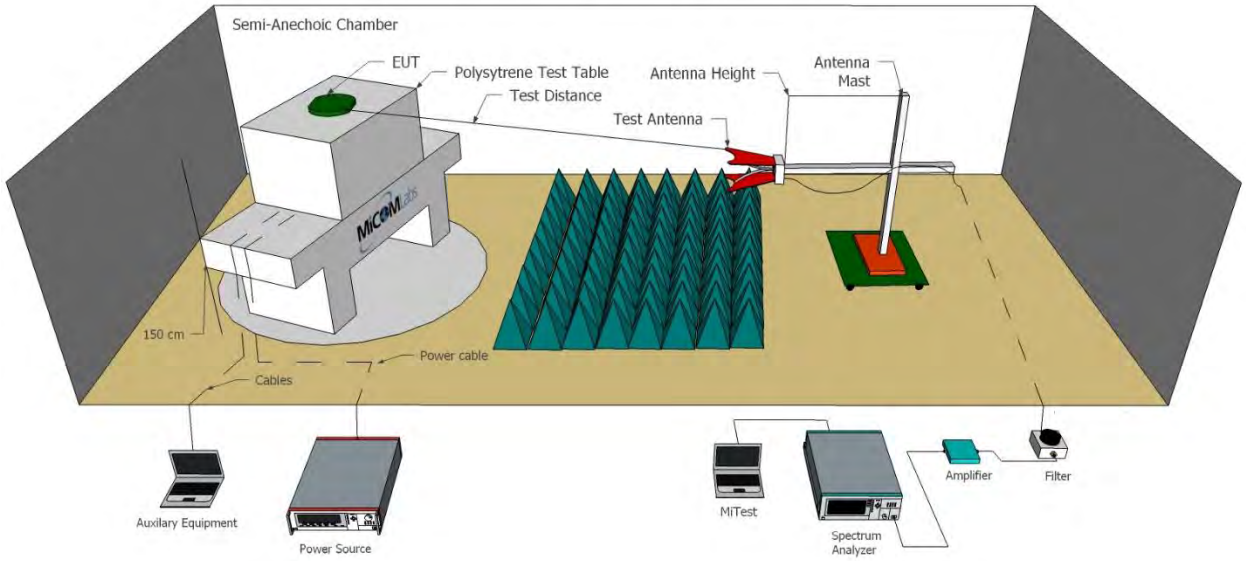
Asset#	Description	Manufacturer	Model#	Serial#	Calibration Due Date
127	Power Supply	HP	6674A	US36370530	Cal when used
248	Resistance Thermometer	Thermotronics	GR2105-02	9340 #1	30 Oct 2020
398	MiTest RF Conducted Test Software	MiCOM	MiTest ATS	Version 4.1	Not Required
420	USB to GPIB Interface	National Instruments	GPIB-USB HS	1346738	Not Required
461	Spectrum Analyzer	Agilent	E4440A	MY46185537	20 Sep 2020
441	USB Wideband Power Sensor	Boonton	55006	9179	19 Sep 2020
510	Barometer/Thermometer	Control Company	68000-49	170871375	20 Dec 2020
512	MiTest Cloud Solutions RF Test Box	MiCOM	2nd Gen with DFS	512	27 Sep 2020
516	USB Wideband Power Sensor	Boonton	RTP5006	10511	12 Jun 2020
517	USB Wideband Power Sensor	Boonton	RTP5006	10510	12 Jun 2020

436	USB Wideband Power Sensor	Boonton	55006	8731	19 Sep 2020
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	27 Sep 2020
RF#2 SMA#2	EUT to Mitest box port 2	Flexco	SMA Cable port2	None	27 Sep 2020
RF#2 SMA#3	EUT to Mitest box port 3	Flexco	SMA Cable port3	None	27 Sep 2020
RF#2 SMA#4	EUT to Mitest box port 4	Flexco	SMA Cable port4	None	27 Sep 2020
RF#2 SMA#SA	Mitest box to SA	Flexco	SMA Cable SA	None	27 Sep 2020
RF#2 USB#1	USB Cable to Mitest Box	Dynex	USB Cable	None	Not Required

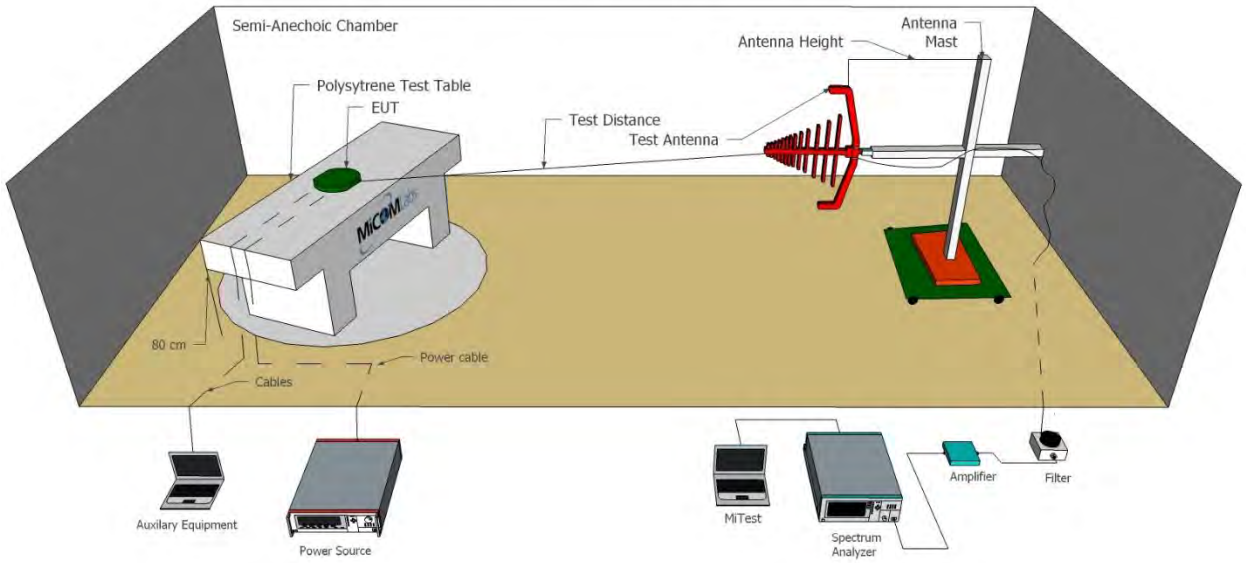
7.2. Radiated Emissions - 3m Chamber

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

Radiated Emissions Above 1GHz Test Setup



Radiated Emissions Below 1GHz Test Setup



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

Asset#	Description	Manufacturer	Model#	Serial#	Calibration Due Date
170	Video System Controller for Semi Anechoic Chamber	Panasonic	WV-CU101	04R08507	Not Required
298	3M Radiated Emissions Chamber Maintenance Check	MiCOM	3M Chamber	298	26 Nov 2020
378	Rohde & Schwarz 40 GHz Receiver with Generator	Rhode & Schwarz	ESIB40	100107/040	12 Oct 2020
396	2.4 GHz Notch Filter	Microtronics	BRM50701	001	3 Sep 2020
399	ETS 1-18 GHz Horn Antenna	ETS	3117	00154575	12 Oct 2020
406	Amplifier for Radiated Emissions	MiCOM Labs	40dB 1 to 18GHz Amp	0406	9 Sep 2020
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
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
480	Cable - Bulkhead to Amp	SRC Haverhill	157-3050360	480	9 Sep 2020
481	Cable - Bulkhead to Receiver	SRC Haverhill	151-3050787	481	9 Sep 2020
510	Barometer/Thermometer	Control Company	68000-49	170871375	20 Dec 2020
518	Cable - Amp to Antenna	SRC Haverhill	157-3051574	518	9 Sep 2020
87	Uninterruptible Power Supply	Falcon Electric	ED2000-1/2LC	F3471 02/01	Cal when used
CC05	Confidence Check	MiCOM	CC05	None	4 Oct 2020

8. MEASUREMENT AND PRESENTATION OF TEST DATA

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

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

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

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

9. TEST RESULTS

9.1. Control of Test Item

The EUT was controlled via the Sonos GUI. This gave access to operational channels, output power and antenna port activation. As the device was a 4x4 MIMO all the antenna ports were activated to operate simultaneously during conducted and radiated testing. Duty cycle was fixed as reported in Section 9.2.

The power setting reported in Section 9.4 Conducted Output Power is the final power setting found in order to prove compliance for radiated and conducted testing for the Sonos S26.

Output Power

In the case of average power measurements an average power sensor was utilized using connected to each antenna port. Power measurements on all ports were measured simultaneously, the EUT was set to transmit maximum power during the test program (compliant power setting logged for each test mode). As the Duty Cycle was constant (see Section 9.2 Operational Mode Duty Cycle) the duty cycle correction factor was used to correct all power readings.

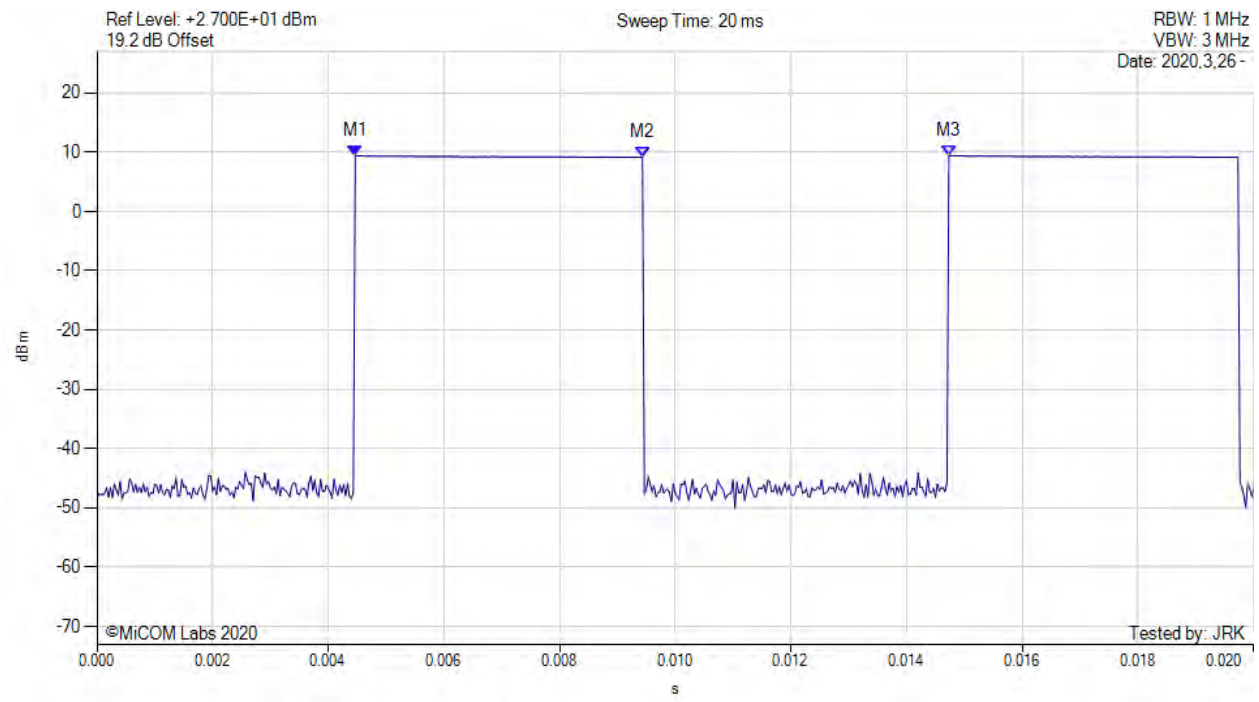
The lowest data rate for each operational mode was used to exercise the test sample.

9.2. Operational Mode Duty Cycle(s)

Results for system Duty Cycle for the following configurations are measured and reported below:

Duty Cycle

Variant: 802.11b, Channel: 2412.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

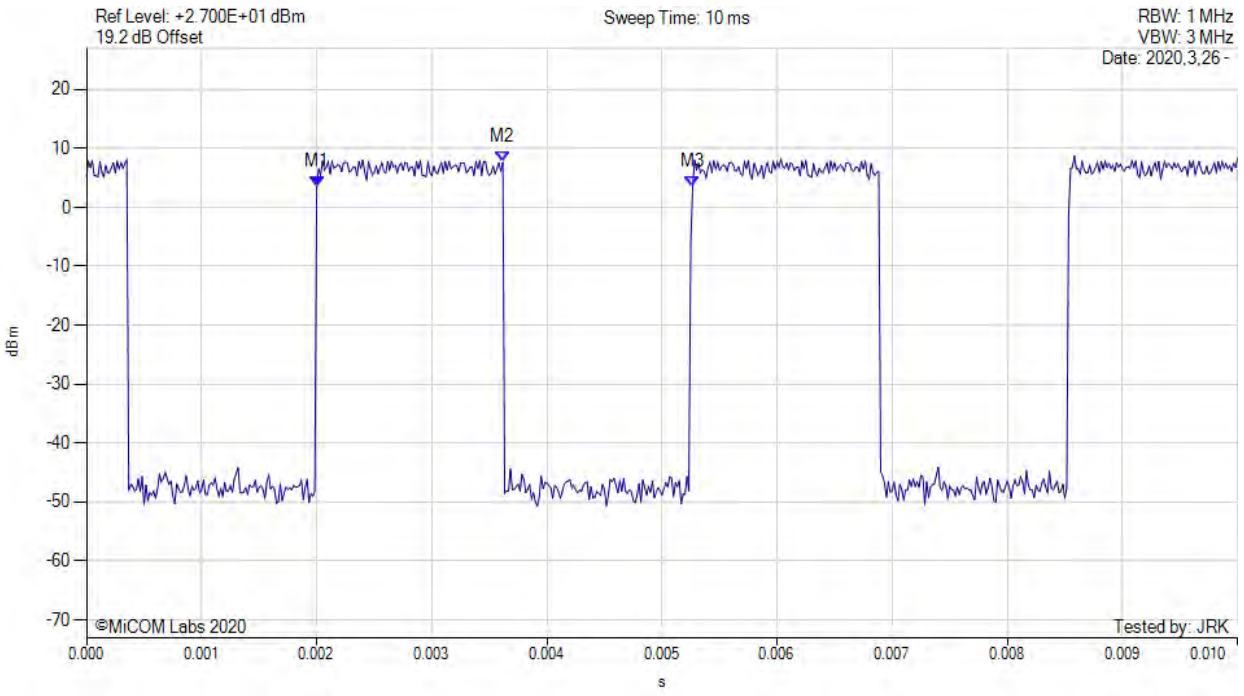


Analyzer Setup	Marker:Time:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = WRIT	M1(2412.00 MHz) : 0.004 s : 9.441 dBm M2(2412.00 MHz) : 0.009 s : 9.189 dBm M3(2412.00 MHz) : 0.015 s : 9.402 dBm	Channel Frequency: 2412.00 MHz (M2 – M1) / (M3 – M1) = DC

802.11b 1 Mbit/s – Duty Cycle 48.4%

Duty Cycle

Variant: 802.11g, Channel: 2412.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

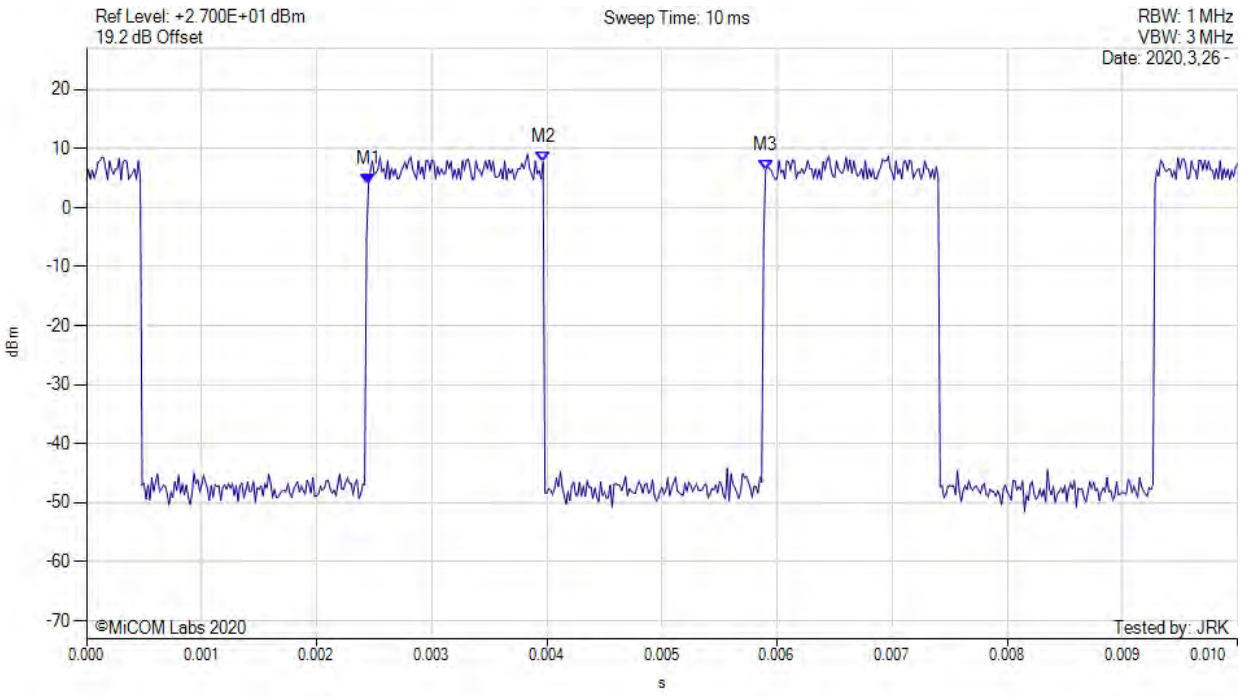


Analyzer Setup	Marker:Time:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = WRIT	M1(2412.00 MHz) : 0.002 s : 3.565 dBm M2(2412.00 MHz) : 0.004 s : 7.648 dBm M3(2412.00 MHz) : 0.005 s : 3.588 dBm	Channel Frequency: 2412.00 MHz (M2 – M1) / (M3 – M1) = DC

802.11g 6 Mbit/s – Duty Cycle 49.5%

Duty Cycle

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac



Analyzer Setup	Marker:Time:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = WRIT	M1(2412.00 MHz) : 0.002 s : 3.965 dBm M2(2412.00 MHz) : 0.004 s : 7.751 dBm M3(2412.00 MHz) : 0.006 s : 6.345 dBm	Channel Frequency: 2412.00 MHz (M2 – M1) / (M3 – M1) = DC

802.11n HT-20 6.5 Mbit/s – Duty Cycle 44.0%

9.3. 6 dB & 99% Bandwidth

Conducted Test Conditions for 6 dB and 99% Bandwidth			
Standard:	FCC CFR 47:15.247	**Ambient Temp. (ºC):**	24.0 - 27.5
Test Heading:	6 dB and 99 % Bandwidth	**Rel. Humidity (%):**	32 - 45
Standard Section(s):	15.247 (a)(2)	**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 % was measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequency.

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 specified in this document.

Limits for 6 dB and 99% Bandwidth

(a) Operation under the provisions of this Section is limited to frequency hopping and digitally modulated intentional radiators that comply with the following provisions:

(2) Systems using digital modulation techniques may operate in the 902-928 MHz and 2400-2483.5 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

Equipment Configuration for 6 dB & 99% Bandwidth			
Variant:	802.11b	**Duty Cycle (%):**	48.4
Data Rate:	1.00 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	CCK	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JRK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz) Port(s)				6 dB Bandwidth (MHz)		Limit	Lowest Margin
MHz	a	b	c	d	Highest	Lowest	KHz	MHz
2412.0	9.530	9.130	10.000	9.130	10.000	9.130	≥500.0	-8.63
2437.0	10.130	10.000	10.200	10.070	10.200	10.000	≥500.0	-9.50
2462.0	9.200	9.130	9.600	9.130	9.600	9.130	≥500.0	-8.63

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				Maximum 99% Bandwidth (MHz)		
MHz	a	b	c	d			
2412.0	14.037	14.176	15.242	14.080	15.242		
2437.0	15.028	15.112	16.785	15.086	16.785		
2462.0	14.126	14.020	15.045	13.863	15.045		

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:	802.11g	**Duty Cycle (%):**	49.5
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JRK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz) Port(s)				6 dB Bandwidth (MHz)		Limit	Lowest Margin
MHz	a	b	c	d	Highest	Lowest	KHz	MHz
2412.0	16.330	16.330	16.400	16.330	16.400	16.330	≥500.0	-15.83
2437.0	16.270	16.400	16.470	16.330	16.470	16.270	≥500.0	-15.77
2462.0	16.330	16.400	16.330	16.400	16.400	16.330	≥500.0	-15.83

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				Maximum 99% Bandwidth (MHz)		
MHz	a	b	c	d			
2412.0	17.436	17.116	17.366	17.004	17.436		
2437.0	17.565	17.164	17.228	17.024	17.565		
2462.0	17.456	17.072	17.241	16.959	17.456		

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

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

Equipment Configuration for 6 dB & 99% Bandwidth			
Variant:	802.11n HT-20	**Duty Cycle (%):**	44.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JRK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz) Port(s)				6 dB Bandwidth (MHz)		Limit	Lowest Margin
MHz	a	b	c	d	Highest	Lowest	KHz	MHz
2412.0	17.600	17.330	17.670	17.600	17.670	17.330	≥500.0	-16.83
2437.0	17.600	17.400	17.670	17.670	17.670	17.400	≥500.0	-16.90
2462.0	17.670	17.200	17.600	17.670	17.670	17.200	≥500.0	-16.70

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				Maximum 99% Bandwidth (MHz)		
MHz	a	b	c	d			
2412.0	18.039	17.740	17.966	17.892	18.039		
2437.0	18.006	17.722	17.923	17.899	18.006		
2462.0	18.031	17.737	17.962	17.867	18.031		

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. Conducted Output Power

Conducted Test Conditions for Fundamental Emission Output Power			
Standard:	FCC CFR 47:15.247	**Ambient Temp. (ºC):**	24.0 - 27.5
Test Heading:	Output Power	**Rel. Humidity (%):**	32 - 45
Standard Section(s):	15.247 (b) & (c)	**Pressure (mBars):**	999 - 1001
Reference Document(s):	See Normative References		

Test Procedure for Fundamental Emission Output Power Measurement
In the case of average power measurements an average power sensor was utilized.

For peak power measurements the spectrum analyzer built-in power function was used to integrate peak power over the 20 dB bandwidth.

Testing was performed under ambient conditions at nominal voltage only. Where the device operated with multiple antenna ports i.e. MIMO device, each port was measured, summed (Σ) and reported.

Test configuration and setup used for the measurement was per the Conducted Test Set-up 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 for Fundamental Emission Output Power
(b) The maximum peak conducted output power of the intentional radiator shall not exceed the following for non-frequency hopping systems:

(3) For systems using digital modulation in the 902-928 MHz and 2400-2483.5 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

(4) The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(c) Operation with directional antenna gains greater than 6 dBi.
(1) Fixed point-to-point operation:
(i) Systems operating in the 2400-2483.5 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

(iii) Fixed, point-to-point operation, as used in paragraphs (c)(1)(i) and (c)(1)(ii) of this section, excludes the use of point-to-multipoint systems, omnidirectional applications, and multiple co-located intentional radiators transmitting the same information. The operator of the spread spectrum or digitally modulated intentional radiator or, if the equipment is professionally installed, the installer is responsible for ensuring that the system is used exclusively for fixed, point-to-point operations. The instruction manual furnished with the intentional radiator shall contain language in the installation instructions informing the operator and the installer of this responsibility.

(2) In addition to the provisions in paragraphs (b)(3), (b)(4) and (c)(1)(i) of this section, transmitters operating in the 2400-2483.5 MHz band that emit multiple directional beams, simultaneously or sequentially, for the purpose of directing signals to individual receivers or to groups of receivers provided the emissions comply with the following:

(i) Different information must be transmitted to each receiver.

(ii) If the transmitter employs an antenna system that emits multiple directional beams but does not do emit multiple directional beams simultaneously, the total output power conducted to the array or arrays that comprise the device, i.e., the sum of the power supplied to all antennas, antenna elements, staves, etc. and summed across all carriers or frequency channels, shall not exceed the limit specified in paragraph (b)(1) or (b)(3) of this section, as applicable. However, the total conducted output power shall be reduced by 1 dB below the specified limits for each 3 dB that the directional gain of the antenna/antenna array exceeds 6 dBi. The directional antenna gain shall be computed as follows:

(A) The directional gain shall be calculated as the sum of 10 log (number of array elements or staves) plus the directional gain of the element or stave having the highest gain.

(B) A lower value for the directional gain than that calculated in paragraph (c)(2)(ii)(A) of this section will be accepted if sufficient evidence is presented, e.g., due to shading of the array or coherence loss in the beamforming.

(iii) If a transmitter employs an antenna that operates simultaneously on multiple directional beams using the same or different frequency channels, the power supplied to each emission beam is subject to the power limit specified in paragraph (c)(2)(ii) of this section. If transmitted beams overlap, the power shall be reduced to ensure that their aggregate power does not exceed the limit specified in paragraph (c)(2)(ii) of this section. In addition, the aggregate power transmitted simultaneously on all beams shall not exceed the limit specified in paragraph (c)(2)(ii) of this section by more than 8 dB.

(iv) Transmitters that emit a single directional beam shall operate under the provisions of paragraph (c)(1) of this section.

Equipment Configuration for Average Output Power

Variant:	802.11b	**Duty Cycle (%):**	48.4
Data Rate:	1.00 MBit/s	**Antenna Gain (dBi):**	9.34
Modulation:	CCK	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JRK
Engineering Test Notes:	3.15 dB duty cycle correction factor added to each chain		

Test Measurement Results

Test Frequency	Measured Output Power (dBm) Port(s)				Calculated Total Power Σ Port(s)	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	dBm	dBm	dB	
2412.0	19.90	19.18	17.96	19.35	25.17	26.66	-1.49	20.50
2437.0	21.00	20.25	19.25	20.79	26.39	26.66	-0.27	21.50
2462.0	21.01	20.20	19.49	19.70	26.16	26.66	-0.50	21.50

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

The above measurements include the Duty Cycling Correction Factor of 3.15 dB

Duty Cycle Correction Factor: 3.15 dB

Above recorded powers incorporate any reduction in power levels brought about as a result of radiated spurious emissions and radiated band-edge testing.

The above power setting was utilized throughout the conducted and radiated testing

Antenna Gains for the 2400 -2483.5 MHz frequency band
Chain a = 5.2 dBi
Chain b = 3.8 dBi
Chain c = 3.5 dBi
Chain d = 4.9 dBi

Manufacturer declared correlation with antenna chains a, c, d. As the antenna gains are unequal KDB 662911 DO1 was used to calculate the EIRP limit.

Limit Calculation
Based on FCC KDB 662911 Multiple Transmitter Output Section 2) d) (i) Unequal antenna gains, with equal transmit powers, for antenna gains given by G1, G2, …, GN dBi the Conducted Power Limit is calculated to be 30 – (9.34 – 6)) = 26.66 dBm

EIRP Limit 36.0 dBm

Calculated conducted power for 802.11b (1 Mbit/s)
Test Frequency 2412 = 26.66 dBm
Test Frequency 2437 = 26.66 dBm
Test Frequency 2462 = 26.66 dBm

Equipment Configuration for Average Output Power

Variant:	802.11g	**Duty Cycle (%):**	49.5
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	9.34
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JRK
Engineering Test Notes:	3.15 dB duty cycle correction factor added to each chain		

Test Measurement Results

Test Frequency	Measured Output Power (dBm) Port(s)				Calculated Total Power Σ Port(s)	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	dBm	dBm	dB	
2412.0	16.96	16.37	15.35	16.85	22.45	26.66	-4.21	17.50
2437.0	20.42	19.88	17.56	20.82	25.86	26.66	-0.80	21.50
2462.0	14.63	13.71	13.46	13.93	19.98	26.66	-6.68	15.00

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

The above measurements include the Duty Cycling Correction Factor of 3.05 dB

Duty Cycle Correction Factor: 3.05 dB

Above recorded powers incorporate any reduction in power levels brought about as a result of radiated spurious emissions and radiated band-edge testing.

The above power setting was utilized throughout the conducted and radiated testing

Antenna Gains for the 2400 -2483.5 MHz frequency band
Chain a = 5.2 dBi
Chain b = 3.8 dBi
Chain c = 3.5 dBi
Chain d = 4.9 dBi

Manufacturer declared correlation with antenna chains a, c, d. As the antenna gains are unequal KDB 662911 DO1 was used to calculate the EIRP limit.

Limit Calculation
Based on FCC KDB 662911 Multiple Transmitter Output Section 2) d) (i) Unequal antenna gains, with equal transmit powers, for antenna gains given by G1, G2, …, GN dBi the Conducted Power Limit is calculated to be 30 – (9.34 – 6)) = 26.66 dBm

EIRP Limit 36.0 dBm

Calculated conducted power for 802.11g (6 Mbit/s)
Test Frequency 2412 = 26.66 dBm
Test Frequency 2437 = 26.66 dBm
Test Frequency 2462 = 26.66 dBm

Equipment Configuration for Average Output Power

Variant:	802.11n HT-20	**Duty Cycle (%):**	44.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	9.34
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JRK
Engineering Test Notes:	3.57 dB duty cycle correction factor added to each chain		

Test Measurement Results

Test Frequency	Measured Output Power (dBm) Port(s)				Calculated Total Power Σ Port(s)	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	dBm	dBm	dB	
2412.0	15.64	15.39	14.31	15.63	21.30	26.66	-5.36	16.00
2437.0	20.61	20.23	17.90	21.15	26.15	26.66	-0.51	21.50
2462.0	15.62	15.33	14.67	15.13	21.22	26.66	-5.44	16.00

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

The above measurements include the Duty Cycling Correction Factor of 3.57 dB

Duty Cycle Correction Factor: 3.57 dB

Above recorded powers incorporate any reduction in power levels brought about as a result of radiated spurious emissions and radiated band-edge testing.

The above power setting was utilized throughout the conducted and radiated testing

Antenna Gains for the 2400 -2483.5 MHz frequency band
Chain a = 5.2 dBi
Chain b = 3.8 dBi
Chain c = 3.5 dBi
Chain d = 4.9 dBi

Manufacturer declared correlation with antenna chains a, c, d. As the antenna gains are unequal KDB 662911 DO1 was used to calculate the EIRP limit.

Limit Calculation
Based on FCC KDB 662911 Multiple Transmitter Output Section 2) d) (i) Unequal antenna gains, with equal transmit powers, for antenna gains given by G1, G2, …, GN dBi the Conducted Power Limit is calculated to be 30 – (9.34 – 6)) = 26.66 dBm

EIRP Limit 36.0 dBm

Calculated conducted power for 802.11n HT-20 (6.50 Mbit/s)
Test Frequency 2412 = 26.66 dBm
Test Frequency 2437 = 26.66 dBm
Test Frequency 2462 = 26.66 dBm

9.5. Power Spectral Density

Conducted Test Conditions for Power Spectral Density			
Standard:	FCC CFR 47:15.247	**Ambient Temp. (ºC):**	24.0 - 27.5
Test Heading:	Power Spectral Density	**Rel. Humidity (%):**	32 - 45
Standard Section(s):	15.247 (e)	**Pressure (mBars):**	999 - 1001
Reference Document(s):	See Normative References		

Test Procedure for Power Spectral Density
The transmitter output was connected to a spectrum analyzer and the measured made in a 3 kHz resolution bandwidth using the analyzer auto-coupled sweep-time. A peak value was found over the full emission bandwidth and the spectrum downloaded 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.

Testing was performed under ambient conditions at nominal voltage only.

Test configuration and setup used for the measurement was per the Conducted Test Set-up 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 the spectrum in some antenna port 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
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than +8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

NOTE: Power settings for all Power Spectral Density measurements were the settings provided in Section 9.4 Conducted Output Power for each operational mode

Equipment Configuration for Power Spectral Density - Average			
Variant:	802.11b	**Duty Cycle (%):**	48.4
Data Rate:	1.00 MBit/s	**Antenna Gain (dBi):**	9.34
Modulation:	CCK	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JRK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/3KHz)				Amplitude Summation + DCCF (+3.15 dB)	Limit	Margin
MHz	a	b	c	d	dBm/3KHz	dBm/3KHz	dB
2412.0	-14.540	-14.471	-15.343	-14.885	-6.606	4.6	-11.2
2437.0	-12.484	-12.850	-13.639	-12.931	-4.393	4.6	-9.53
2462.0	-13.090	-13.543	-14.909	-15.150	-5.642	4.6	-10.64

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).

Limit Calculation
Based on FCC KDB 662911 Multiple Transmitter Output Section 2) d) (i) Unequal antenna gains, with equal transmit powers, for antenna gains given by G1, G2, …, GN dBi the Power Spectral Density Limit is calculated to be 8 – (9.34 – 6)) = 4.6 dBm

Equipment Configuration for Power Spectral Density - Average			
Variant:	802.11g	**Duty Cycle (%):**	49.5
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	9.34
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JRK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/3KHz)				Amplitude Summation + DCCF (+3.05 dB)	Limit	Margin
MHz	a	b	c	d	dBm/3KHz	dBm/3KHz	dB
2412.0	-20.788	-21.397	-21.837	-21.012	-12.523	4.6	-17.12
2437.0	-17.391	-17.618	-20.027	-17.176	-9.040	4.6	-13.64
2462.0	-23.161	-23.410	-23.715	-23.610	-14.852	4.6	-19.45

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).

Limit Calculation
Based on FCC KDB 662911 Multiple Transmitter Output Section 2) d) (i) Unequal antenna gains, with equal transmit powers, for antenna gains given by G1, G2, …, GN dBi the Power Spectral Density Limit is calculated to be 8 – (9.34 – 6)) = 4.6 dBm

Equipment Configuration for Power Spectral Density - Average			
Variant:	802.11n HT-20	**Duty Cycle (%):**	44.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	9.34
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JRK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/3KHz)				Amplitude Summation + DCCF (+3.57 dB)	Limit	Margin
MHz	a	b	c	d	dBm/3KHz	dBm/3KHz	dB
2412.0	-23.734	-22.823	-23.020	-22.756	-13.558	4.6	-18.20
2437.0	-17.907	-17.793	-20.124	-18.068	-8.928	4.6	-13.53
2462.0	-22.230	-22.499	-22.622	-23.114	-13.153	4.6	-17.99

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).

Limit Calculation
Based on FCC KDB 662911 Multiple Transmitter Output Section 2) d) (i) Unequal antenna gains, with equal transmit powers, for antenna gains given by G1, G2, …, GN dBi the Power Spectral Density Limit is calculated to be 8 – (9.34 – 6)) = 4.6 dBm

9.6. Emissions

9.6.1. Conducted Emissions

9.6.1.1. Conducted Spurious Emissions

Conducted Test Conditions for Transmitter Conducted Spurious and Band-Edge Emissions			
Standard:	FCC CFR 47:15.247	**Ambient Temp. (ºC):**	24.0 - 27.5
Test Heading:	Max Unwanted Emission Levels	**Rel. Humidity (%):**	32 - 45
Standard Section(s):	15.247 (d)	**Pressure (mBars):**	999 - 1001
Reference Document(s):	See Normative References		

Test Procedure for Transmitter Conducted Spurious and Band-Edge Emissions Measurement
Transmitter Conducted Spurious and Band-Edge emissions were measured at a limit of 30 dBc (average detector) or 20 dBc (peak detector) below the highest in-band spectral density measured with a spectrum analyzer connected to the antenna terminal. Measurements were made while EUT was operating in transmit mode of operation at the appropriate centre frequency closest to the band-edge. Emissions were maximized during the measurement and limits derived from the peak spectral power and drawn on each plot.

Where the device operated with multiple antenna ports i.e. MIMO device, each port was measured separately. Testing was performed under ambient conditions at nominal voltage only.

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

Limits Transmitter Conducted Spurious and Band-Edge Emissions
(d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Equipment Configuration for Conducted Spurious Emissions - Average			
Variant:	802.11b	**Duty Cycle (%):**	48.4
Data Rate:	1.00 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	CCK	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JRK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Frequency Range	Conducted Spurious Emissions - Average (dBm)							
		Port a		Port b		Port c		Port d	
MHz	MHz	SE	Limit	SE	Limit	SE	Limit	SE	Limit
2412.0	30.0 - 26000.0	-46.021	-20.80	-46.907	-21.67	-47.014	-21.81	-45.601	-22.28
2437.0	30.0 - 26000.0	-45.097	-18.81	-46.194	-19.70	-46.470	-20.93	-44.885	-20.08
2462.0	30.0 - 26000.0	-45.572	-20.17	-46.370	-21.64	-45.977	-21.84	-45.869	-21.23

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	<=40 GHz ±2.37 dB, > 40 GHz ±4.6 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 Conducted Spurious Emissions - Average			
Variant:	802.11g	**Duty Cycle (%):**	49.5
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JRK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Frequency Range	Conducted Spurious Emissions - Average (dBm)							
		Port a		Port b		Port c		Port d	
MHz	MHz	SE	Limit	SE	Limit	SE	Limit	SE	Limit
2412.0	30.0 - 26000.0	-47.091	-26.14	-47.083	-28.90	-46.831	-28.76	-45.780	-28.05
2437.0	30.0 - 26000.0	-46.531	-25.68	-45.432	-28.45	-46.051	-28.58	-45.989	-28.60
2462.0	30.0 - 26000.0	-45.811	-26.35	-46.567	-28.86	-46.248	-28.80	-45.099	-27.70

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	<=40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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

Equipment Configuration for Conducted Spurious Emissions - Average			
Variant:	802.11n HT-20	**Duty Cycle (%):**	44.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JRK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Frequency Range	Conducted Spurious Emissions - Average (dBm)							
		Port a		Port b		Port c		Port d	
MHz	MHz	SE	Limit	SE	Limit	SE	Limit	SE	Limit
2412.0	30.0 - 26000.0	-46.782	-27.07	-46.802	-29.33	-46.714	-26.49	-45.806	-30.18
2437.0	30.0 - 26000.0	-45.302	-29.65	-46.502	-29.21	-46.538	-29.33	-44.983	-29.68
2462.0	30.0 - 26000.0	-45.686	-26.99	-45.529	-29.30	-45.899	-30.65	-53.595	-28.37

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	<=40 GHz ±2.37 dB, > 40 GHz ±4.6 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

9.6.1.2. Conducted Band-Edge Emissions

Equipment Configuration for Conducted Low Band-Edge Emissions - Peak

Variant:	802.11b	**Duty Cycle (%):**	48.4
Data Rate:	1.00 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	CCK	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JRK
Engineering Test Notes:			

Test Measurement Results

Channel Frequency:	2412.0 MHz
Band-Edge Frequency:	2400.0 MHz
Test Frequency Range:	2350.0 - 2422.0 MHz

Port(s)	Band-Edge Markers and Limit			Revised Limit		Margin
	M1 Amplitude (dBm)	Plot Limit (dBm)	M2 Frequency (MHz)	Amplitude (dBm)	M2A Frequency (MHz)	(MHz)
a	-40.94	-19.38	2402.80	--	--	-2.800
b	-37.46	-19.67	2402.80	--	--	-2.800
c	-31.51	-21.33	2401.80	--	--	-1.800
d	-39.35	-20.67	2402.80	--	--	-2.800

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	<=40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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

Equipment Configuration for Conducted Low Band-Edge Emissions - Peak			
Variant:	802.11g	**Duty Cycle (%):**	49.5
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JRK
Engineering Test Notes:			

Test Measurement Results

Channel Frequency:	2412.0 MHz					
Band-Edge Frequency:	2400.0 MHz					
Test Frequency Range:	2350.0 - 2422.0 MHz					
Port(s)	**Band-Edge Markers and Limit**			**Revised Limit**		**Margin**
	M1 Amplitude (dBm)	**Plot Limit (dBm)**	**M2 Frequency (MHz)**	**Amplitude (dBm)**	**M2A Frequency (MHz)**	**(MHz)**
a	-29.94	-24.41	2401.50	--	--	-1.500
b	-30.33	-24.35	2401.60	--	--	-1.600
c	-27.85	-25.22	2400.60	--	--	-0.600
d	-27.36	-23.80	2401.80	--	--	-1.800

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	<=40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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

Equipment Configuration for Conducted Low Band-Edge Emissions - Peak

Variant:	802.11n HT-20	**Duty Cycle (%):**	44.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JRK
Engineering Test Notes:			

Test Measurement Results

Channel Frequency:	2412.0 MHz					
Band-Edge Frequency:	2400.0 MHz					
Test Frequency Range:	2350.0 - 2422.0 MHz					
Port(s)	**Band-Edge Markers and Limit**			**Revised Limit**		**Margin**
	M1 Amplitude (dBm)	**Plot Limit (dBm)**	**M2 Frequency (MHz)**	**Amplitude (dBm)**	**M2A Frequency (MHz)**	**(MHz)**
a	-38.19	-25.78	2401.70	--	--	-1.700
b	-36.92	-26.08	2401.70	--	--	-1.700
c	-32.32	-26.41	2401.70	--	--	-1.700
d	-34.02	-25.94	2401.70	--	--	-1.700

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	<=40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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

Equipment Configuration for Conducted High Band-Edge Emissions - Peak			
Variant:	802.11b	**Duty Cycle (%):**	48.4
Data Rate:	1.00 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	CCK	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JRK
Engineering Test Notes:			

Test Measurement Results

Channel Frequency:	2462.0 MHz
Band-Edge Frequency:	2483.5 MHz
Test Frequency Range:	2452.0 - 2524.0 MHz

Port(s)	Band-Edge Markers and Limit			Revised Limit		Margin
	M3 Amplitude (dBm)	Plot Limit (dBm)	M2 Frequency (MHz)	Amplitude (dBm)	M2A Frequency (MHz)	(MHz)
a	-43.37	-18.43	2471.60	--	--	-11.900
b	-41.22	-19.67	2471.30	--	--	-12.200
c	-46.71	-19.40	2472.00	--	--	-11.500
d	-45.87	-20.79	2471.20	--	--	-12.300

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	<=40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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

Equipment Configuration for Conducted High Band-Edge Emissions - Peak			
Variant:	802.11g	**Duty Cycle (%):**	49.5
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JRK
Engineering Test Notes:			

Test Measurement Results

Channel Frequency:	2462.0 MHz
Band-Edge Frequency:	2483.5 MHz
Test Frequency Range:	2452.0 - 2524.0 MHz

Port(s)	Band-Edge Markers and Limit			Revised Limit		Margin
	M3 Amplitude (dBm)	Plot Limit (dBm)	M2 Frequency (MHz)	Amplitude (dBm)	M2A Frequency (MHz)	(MHz)
a	-48.44	-26.46	2472.20	--	--	-11.300
b	-43.47	-26.88	2471.80	--	--	-11.700
c	-38.46	-27.14	2471.90	--	--	-11.600
d	-49.84	-27.05	2471.90	--	--	-11.600

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	<=40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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

Equipment Configuration for Conducted High Band-Edge Emissions - Peak

Variant:	802.11n HT-20	**Duty Cycle (%):**	44.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JRK
Engineering Test Notes:			

Test Measurement Results

Channel Frequency:	2462.0 MHz					
Band-Edge Frequency:	2483.5 MHz					
Test Frequency Range:	2452.0 - 2524.0 MHz					
Port(s)	**Band-Edge Markers and Limit**			**Revised Limit**		**Margin**
	M3 Amplitude (dBm)	**Plot Limit (dBm)**	**M2 Frequency (MHz)**	**Amplitude (dBm)**	**M2A Frequency (MHz)**	**(MHz)**
a	-45.91	-25.61	2472.20	--	--	-11.300
b	-40.64	-25.93	2472.20	--	--	-11.300
c	-36.79	-25.97	2472.20	--	--	-11.300
d	-42.87	-26.28	2472.20	--	--	-11.300

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	<=40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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

9.6.2. Radiated Emissions

9.6.2.3. TX Spurious & Restricted Band Emissions

Radiated Test Conditions for Radiated Spurious and Band-Edge Emissions (Restricted Bands)			
Standard:	FCC CFR 47 Part 15 Subpart C 15.247 (DTS)	**Ambient Temp. (ºC):**	20.0 - 24.5
Test Heading:	Radiated Spurious and Band-Edge Emissions	**Rel. Humidity (%):**	32 - 45
Standard Section(s):	15.205, 15.209	**Pressure (mBars):**	999 - 1001
Reference Document(s):	See Normative References		

Test Procedure for Radiated Spurious and Band-Edge Emissions (Restricted Bands)
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 and waveguide 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 Radiated Spurious and Band-Edge Measurement were per the Radiated Test Set-up specified in this document.

Limits for Restricted Bands
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 or Waveguide Loss

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

FS = 51.5 + 8.5 + 1.3 - 26.0 +1 = 36.3 dBmV/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).

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	SAA Calculated	**Variant:**	802.11b
Antenna Gain (dBi):	5.2, 3.8, 3.5, 4.9	**Modulation:**	CCK
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	48.4
Channel Frequency (MHz):	2412.00	**Data Rate:**	1.00 MBit/s
Power Setting:	20.5	**Tested By:**	JMH

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	2269.28	65.74	1.97	-12.79	54.92	Max Peak	Vertical	136	50	74.0	-19.1	Pass
#2	2269.28	40.50	1.97	-12.79	32.83	Max Avg	Vertical	136	50	54.0	-21.2	Pass
#3	2412.94	64.92	2.00	-12.57	54.35	Fundamental	Horizontal	138	0	--	--	
#4	7235.32	52.05	3.61	-7.95	47.71	Peak (NRB)	Vertical	138	102	--	--	Pass

Test Notes: EUT connected to laptop outside chamber running test code. DC Correction of 3.15 db applied to average measurement

Radiated spurious emissions were investigated up to the 10th harmonic of the fundamental and no emissions were found

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	SAA Calculated	**Variant:**	802.11b
Antenna Gain (dBi):	5.2, 3.8, 3.5, 4.9	**Modulation:**	CCK
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	48.4
Channel Frequency (MHz):	2437.00	**Data Rate:**	1.00 MBit/s
Power Setting:	21.5	**Tested By:**	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	2315.92	63.96	2.01	-12.70	53.27	Max Peak	Vertical	124	92	74.0	-20.7	Pass
#2	2315.92	39.21	2.01	-12.70	31.67	Max Avg	Vertical	124	92	54.0	-22.3	Pass
#3	2435.92	60.51	2.00	-12.25	50.26	Fundamental	Vertical	100	0	--	--	
#4	4874.02	62.16	2.92	-12.52	52.56	Max Peak	Vertical	101	108	74.0	-21.4	Pass
#5	4874.02	48.26	2.92	-12.52	41.81	Max Avg	Vertical	101	108	54.0	-12.2	Pass
#6	7311.93	62.20	3.62	-7.86	57.96	Max Peak	Vertical	158	154	74.0	-16.0	Pass
#7	7311.93	50.12	3.62	-7.86	49.03	Max Avg	Vertical	158	154	54.0	-5.0	Pass

Test Notes: EUT connected to laptop outside chamber running test code. DC Correction of 3.15 db applied to average measurement

Radiated spurious emissions were investigated up to the 10th harmonic of the fundamental and no emissions were found

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	SAA Calculated	**Variant:**	802.11b
Antenna Gain (dBi):	5.2, 3.8, 3.5, 4.9	**Modulation:**	CCK
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	48.4
Channel Frequency (MHz):	2462.00	**Data Rate:**	1.00 MBit/s
Power Setting:	21.5	**Tested By:**	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	2285.82	59.42	1.95	-12.83	48.54	Max Peak	Vertical	98	78	74.0	-25.5	Pass
#2	2285.82	38.02	1.95	-12.83	30.29	Max Avg	Vertical	98	78	54.0	-23.7	Pass
#3	2463.55	58.73	2.04	-12.43	48.34	Fundamental	Vertical	100	0	--	--	
#4	4923.96	62.86	2.98	-12.53	53.31	Max Peak	Vertical	102	79	74.0	-20.7	Pass
#5	4923.96	49.52	2.98	-12.53	43.12	Max Avg	Vertical	102	79	54.0	-10.9	Pass
#6	7384.42	59.00	3.59	-7.82	54.77	Max Peak	Vertical	104	128	74.0	-19.2	Pass
#7	7384.42	47.62	3.59	-7.82	46.54	Max Avg	Vertical	104	128	54.0	-7.5	Pass

Test Notes: EUT connected to laptop outside chamber running test code. DC Correction of 3.15 dB applied to average measurement

Radiated spurious emissions were investigated up to the 10th harmonic of the fundamental and no emissions were found

9.6.2.4. Restricted Edge & Band-Edge Emissions

Low Band-Edge Frequency (2390 MHz)

SAA Calculated		Band-Edge Freq	Limit 74.0dBµV/m	Limit 54.0dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11b	2412.00	2390.00	66.67	53.90	20.5
802.11g	2412.00	2390.00	71.81	53.76	17.5
802.11n HT-20	2412.00	2390.00	72.50	53.95	16.0

High Band-Edge Frequency (2483.5 MHz)

SAA Calculated		Band-Edge Freq	Limit 74.0dBµV/m	Limit 54.0dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11b	2462.00	2483.50	69.08	53.29	21.5
802.11g	2462.00	2483.50	71.69	53.77	15.0
802.11n HT-20	2462.00	2483.50	72.05	53.83	16.0

Equipment Configuration for Radiated - Lower Restricted Band-Edge Emissions

Antenna:	SAA Calculated	**Variant:**	802.11b
Antenna Gain (dBi):	5.2, 3.8, 3.5, 4.9	**Modulation:**	CCK
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	48.4
Channel Frequency (MHz):	2412.00	**Data Rate:**	1.00 MBit/s
Power Setting:	20.5	**Tested By:**	

Test Measurement Results

2310.00 - 2422.00 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	2376.21	32.79	2.00	31.88	66.67	Max Peak	Vertical	127	298	74.0	-7.3	Pass
#2	2386.31	16.80	2.01	31.94	53.90	Max Avg	Vertical	127	298	54.0	-0.1	Pass
#3	2390.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
Test Notes: EUT connected to laptop outside chamber running test code. DC Correction of 3.15 dB applied to average measurement												

Equipment Configuration for Radiated - Lower Restricted Band-Edge Emissions

Antenna:	SAA Calculated	**Variant:**	802.11g
Antenna Gain (dBi):	5.2, 3.8, 3.5, 4.9	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	49.5
Channel Frequency (MHz):	2412.00	**Data Rate:**	6.00 MBit/s
Power Setting:	17.5	**Tested By:**	JMH

Test Measurement Results

2310.00 - 2422.00 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	2388.20	37.84	2.02	31.95	71.81	Max Peak	Vertical	127	298	74.0	-2.2	Pass
#2	2390.00	16.73	2.02	31.96	53.76	Max Avg	Vertical	127	298	54.0	-0.2	Pass
#3	2390.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
Test Notes: EUT connected to laptop outside chamber running test code. Power reduced to meet band Edge Limit. DC Correction of 3.05 db applied to average measurement												

Equipment Configuration for Radiated - Lower Restricted Band-Edge Emissions

Antenna:	SAA Calculated	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	5.2, 3.8, 3.5, 4.9	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	46.5
Channel Frequency (MHz):	2412.00	**Data Rate:**	6.50 MBit/s
Power Setting:	16.0	**Tested By:**	

Test Measurement Results

2310.00 - 2422.00 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	2389.33	16.68	2.02	31.95	53.95	Max Avg	Vertical	127	298	54.0	-0.1	Pass
#2	2390.00	38.52	2.02	31.96	72.50	Max Peak	Vertical	127	298	74.0	-1.5	Pass
#3	2390.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
Test Notes: EUT connected to laptop outside chamber running test code. Power Reduced to meet Band Edge Limit. DC Correction of 3.3 dB applied to average measurement												

Equipment Configuration for Radiated - Upper Restricted Band-Edge Emissions

Antenna:	SAA Calculated	**Variant:**	802.11b
Antenna Gain (dBi):	5.2, 3.8, 3.5, 4.9	**Modulation:**	CCK
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	48.4
Channel Frequency (MHz):	2462.00	**Data Rate:**	1.00 MBit/s
Power Setting:	21.5	**Tested By:**	

Test Measurement Results

2452.00 - 2520.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#2	2488.13	15.78	2.03	32.33	53.29	Max Avg	Vertical	127	298	54.0	-0.7	Pass
#3	2490.84	34.73	2.03	32.32	69.08	Max Peak	Vertical	127	298	74.0	-4.9	Pass
#1	2483.50	--	--	--	--	Restricted-Band	--	--	--	--	--	--
Test Notes: EUT connected to laptop outside chamber running test code. DC Correction of 3.15 dB applied to average measurement												

Equipment Configuration for Radiated - Upper Restricted Band-Edge Emissions

Antenna:	SAA Calculated	**Variant:**	802.11g
Antenna Gain (dBi):	5.2, 3.8, 3.5, 4.9	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	49.5
Channel Frequency (MHz):	2462.00	**Data Rate:**	6.00 MBit/s
Power Setting:	15.0	**Tested By:**	

Test Measurement Results

2452.00 - 2520.00 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	2483.50	16.36	2.03	32.33	53.77	Max Avg	Vertical	127	298	54.0	-0.2	Pass
#3	2484.16	37.33	2.03	32.33	71.69	Max Peak	Vertical	127	298	74.0	-2.3	Pass
#2	2483.50	--	--	--	--	Restricted-Band	--	--	--	--	--	--
Test Notes: EUT connected to laptop outside chamber running test code. Power reduced to meet band Edge Limit. DC Correction of 3.05 dB applied to average measurement												

Equipment Configuration for Radiated - Upper Restricted Band-Edge Emissions

Antenna:	SAA Calculated	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	5.2, 3.8, 3.5, 4.9	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	46.5
Channel Frequency (MHz):	2462.00	**Data Rate:**	6.50 MBit/s
Power Setting:	16.0	**Tested By:**	JMH

Test Measurement Results

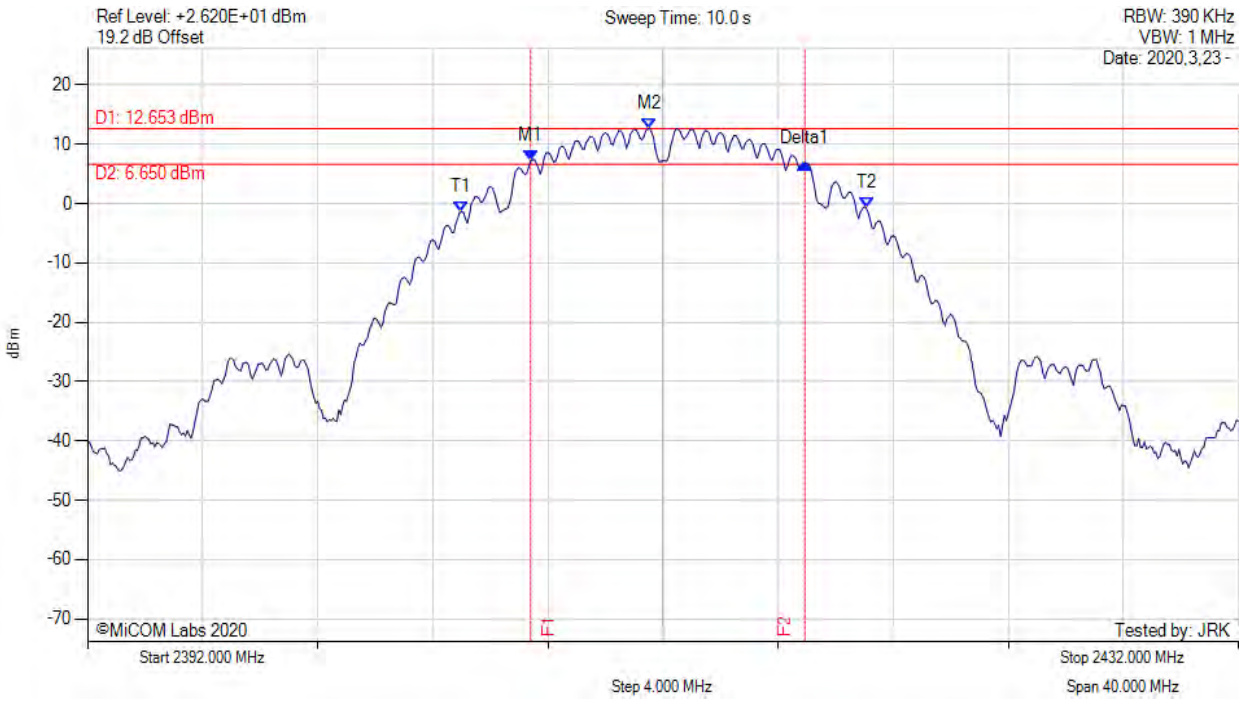
2452.00 - 2520.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#2	2484.57	16.17	2.03	32.33	53.83	Max Avg	Vertical	127	298	54.0	-0.2	Pass
#3	2484.84	37.69	2.03	32.33	72.05	Max Peak	Vertical	127	298	74.0	-2.0	Pass
#1	2483.50	--	--	--	--	Restricted-Band	--	--	--	--	--	--
Test Notes: EUT connected to laptop outside chamber running test code. Power reduced to meet band Edge Limit. DC Correction of 3.3 dB applied to average measurement												

A. APPENDIX - GRAPHICAL IMAGES

A.1. 6 dB & 99% Bandwidth

6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2412.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

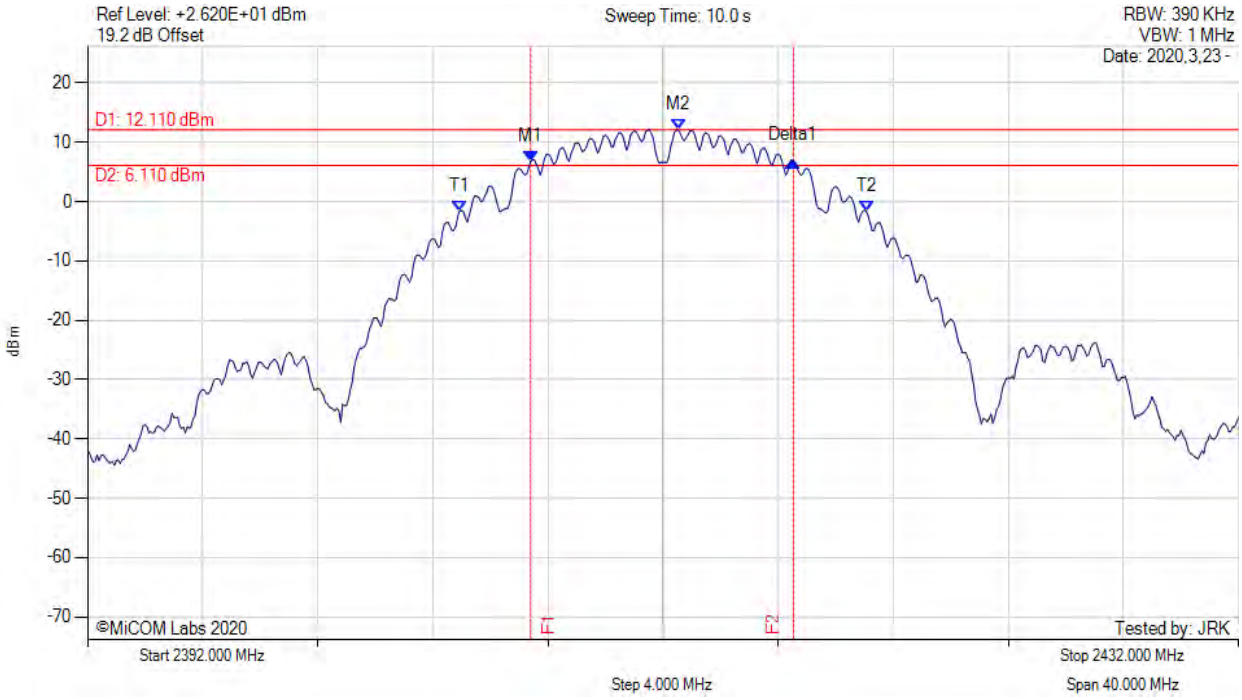


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2407.400 MHz : 7.188 dBm M2 : 2411.530 MHz : 12.653 dBm Delta1 : 9.530 MHz : -0.507 dB T1 : 2405.000 MHz : -1.369 dBm T2 : 2419.067 MHz : -0.718 dBm OBW : 14.037 MHz	Measured 6 dB Bandwidth: 9.530 MHz Limit: ≥500.0 kHz Margin: -9.03 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2412.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

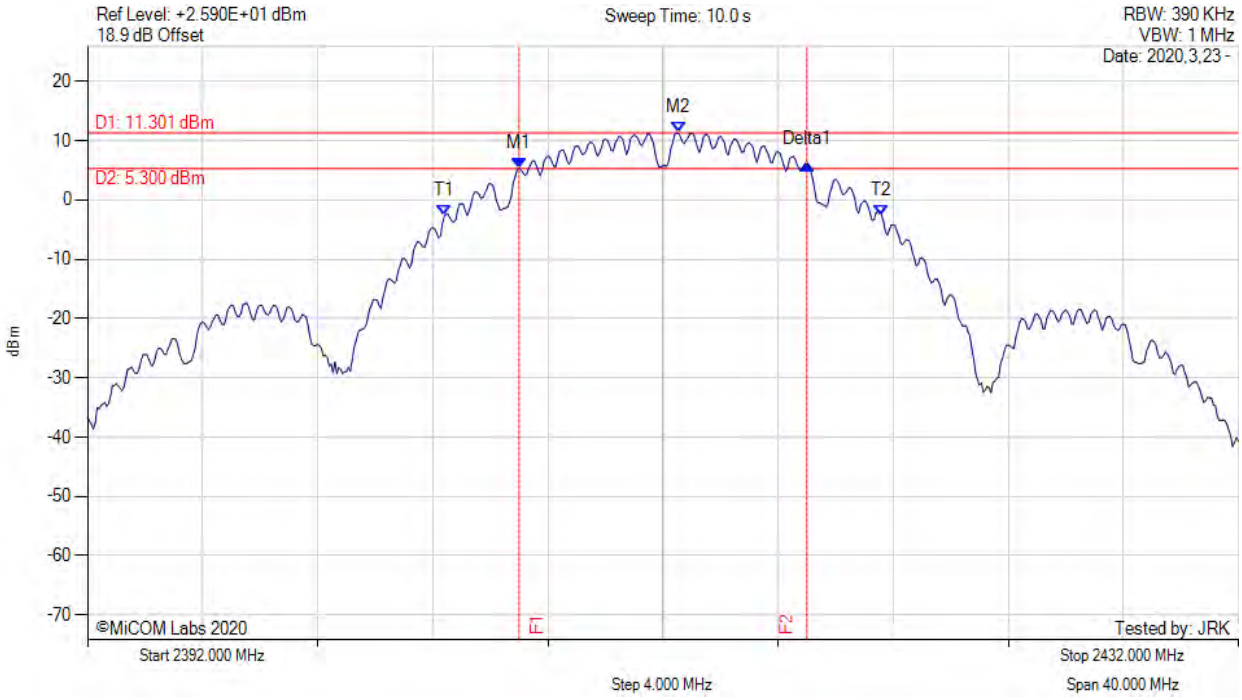


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2407.400 MHz : 6.817 dBm M2 : 2412.530 MHz : 12.110 dBm Delta1 : 9.130 MHz : 0.078 dB T1 : 2404.933 MHz : -1.563 dBm T2 : 2419.067 MHz : -1.615 dBm OBW : 14.176 MHz	Measured 6 dB Bandwidth: 9.130 MHz Limit: ≥500.0 kHz Margin: -8.63 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2412.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

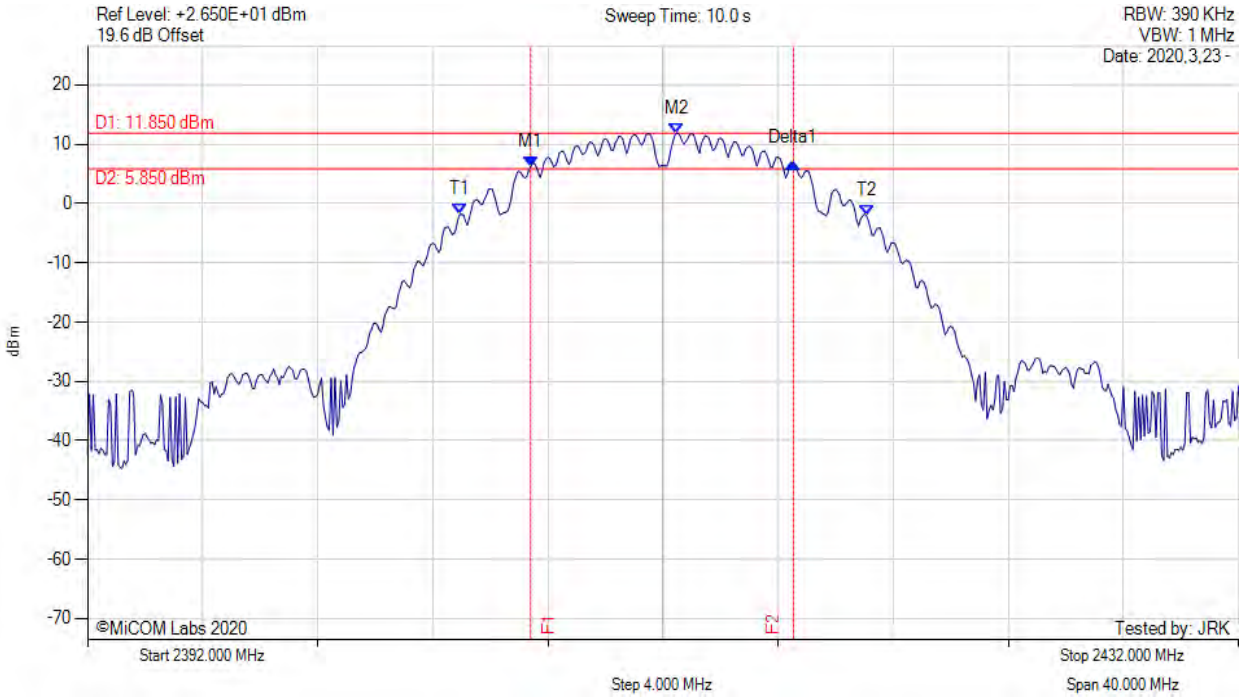


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2407.000 MHz : 5.358 dBm M2 : 2412.530 MHz : 11.301 dBm Delta1 : 10.000 MHz : 0.737 dB T1 : 2404.400 MHz : -2.691 dBm T2 : 2419.600 MHz : -2.646 dBm OBW : 15.242 MHz	Measured 6 dB Bandwidth: 10.000 MHz Limit: ≥500.0 kHz Margin: -9.50 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2412.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac

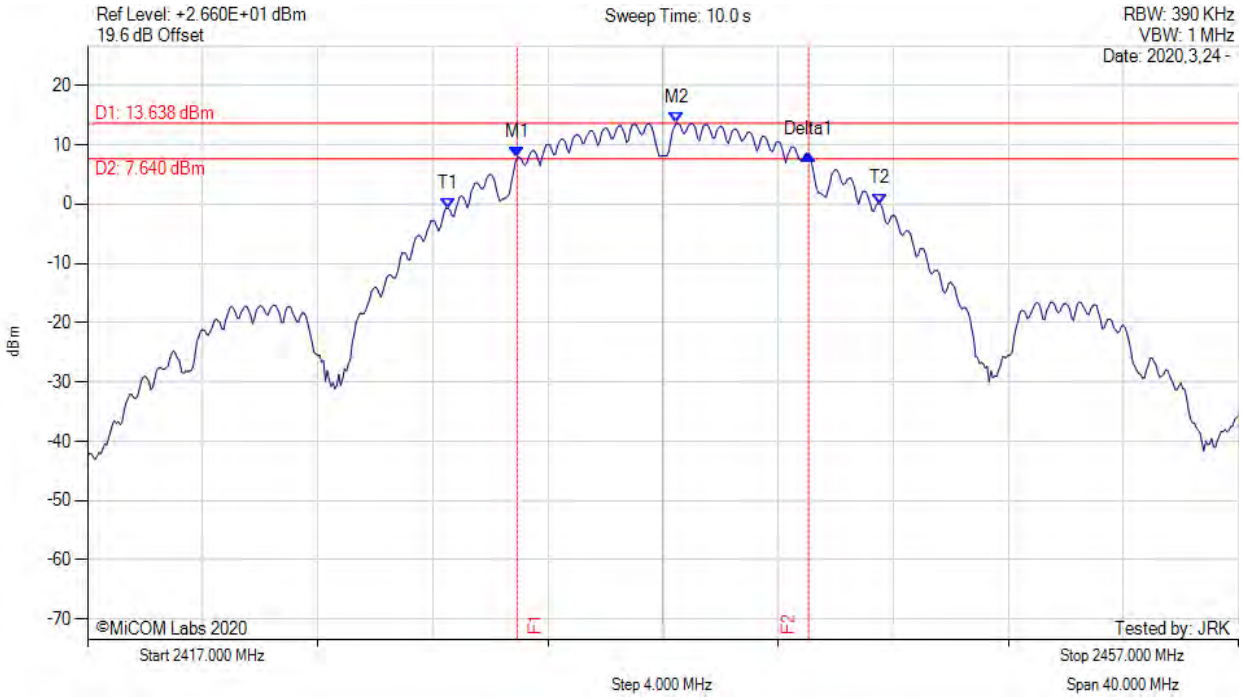


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2407.400 MHz : 6.209 dBm M2 : 2412.470 MHz : 11.850 dBm Delta1 : 9.130 MHz : 0.542 dB T1 : 2404.933 MHz : -1.890 dBm T2 : 2419.067 MHz : -2.022 dBm OBW : 14.080 MHz	Measured 6 dB Bandwidth: 9.130 MHz Limit: ≥500.0 kHz Margin: -8.63 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2437.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

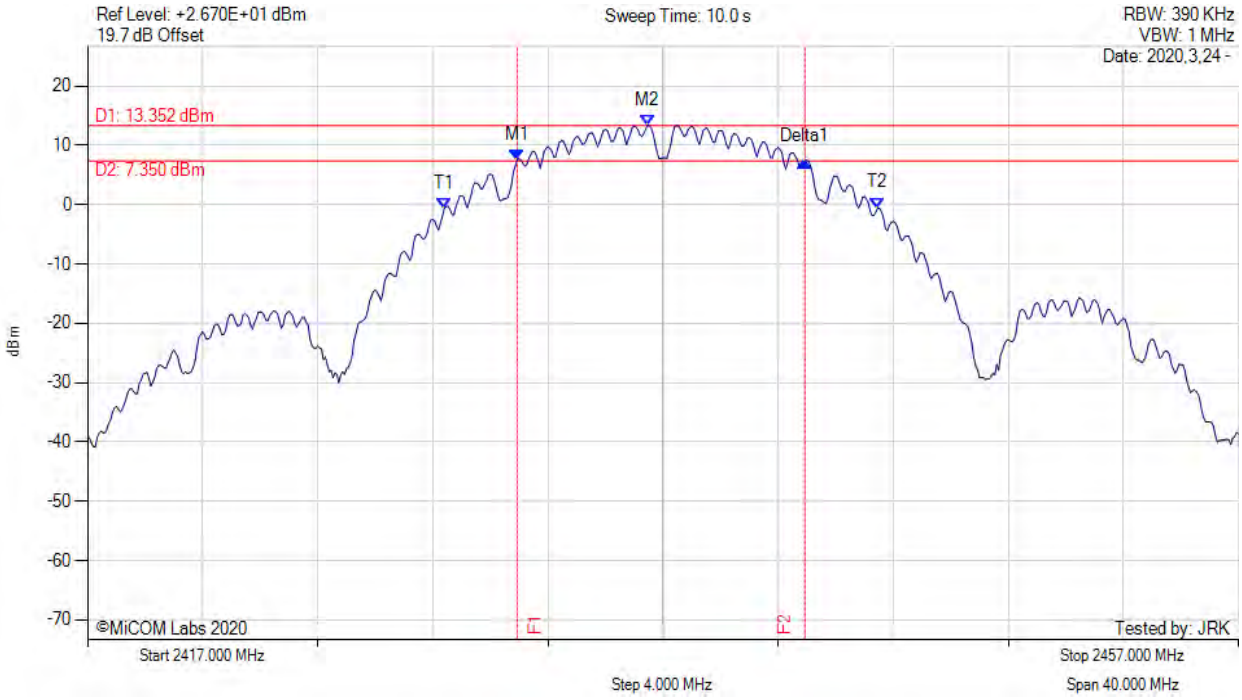


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2431.930 MHz : 7.805 dBm M2 : 2437.470 MHz : 13.638 dBm Delta1 : 10.130 MHz : 0.479 dB T1 : 2429.533 MHz : -0.717 dBm T2 : 2444.533 MHz : 0.034 dBm OBW : 15.028 MHz	Measured 6 dB Bandwidth: 10.130 MHz Limit: ≥500.0 kHz Margin: -9.63 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2437.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

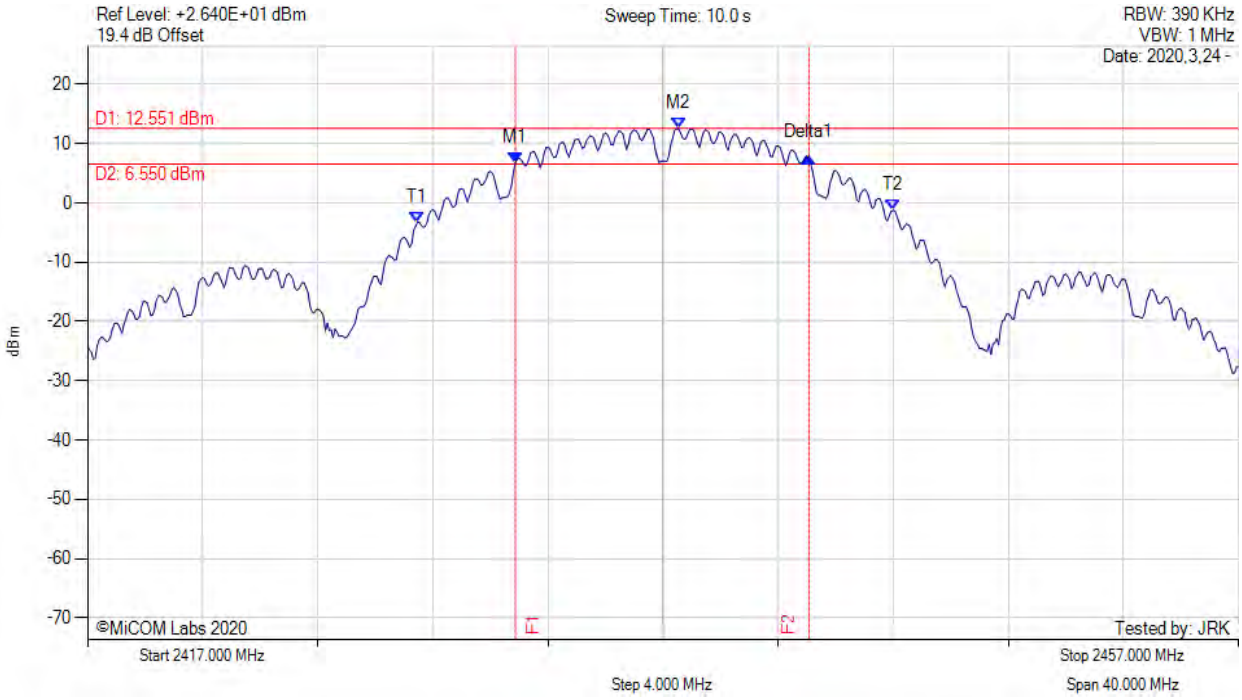


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2431.930 MHz : 7.585 dBm M2 : 2436.470 MHz : 13.352 dBm Delta1 : 10.000 MHz : -0.369 dB T1 : 2429.400 MHz : -0.585 dBm T2 : 2444.467 MHz : -0.553 dBm OBW : 15.112 MHz	Measured 6 dB Bandwidth: 10.000 MHz Limit: ≥500.0 kHz Margin: -9.50 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2437.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

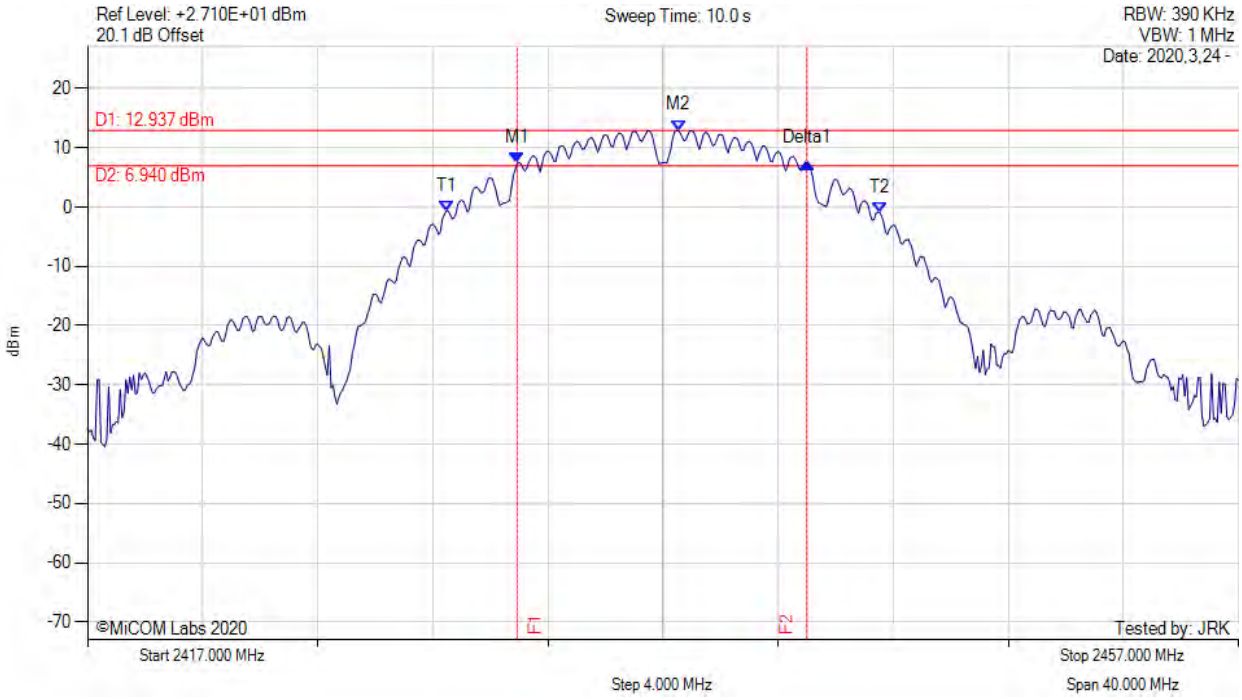


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2431.870 MHz : 6.797 dBm M2 : 2437.530 MHz : 12.551 dBm Delta1 : 10.200 MHz : 0.863 dB T1 : 2428.467 MHz : -3.274 dBm T2 : 2445.000 MHz : -1.266 dBm OBW : 16.785 MHz	Measured 6 dB Bandwidth: 10.200 MHz Limit: ≥500.0 kHz Margin: -9.70 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2437.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac

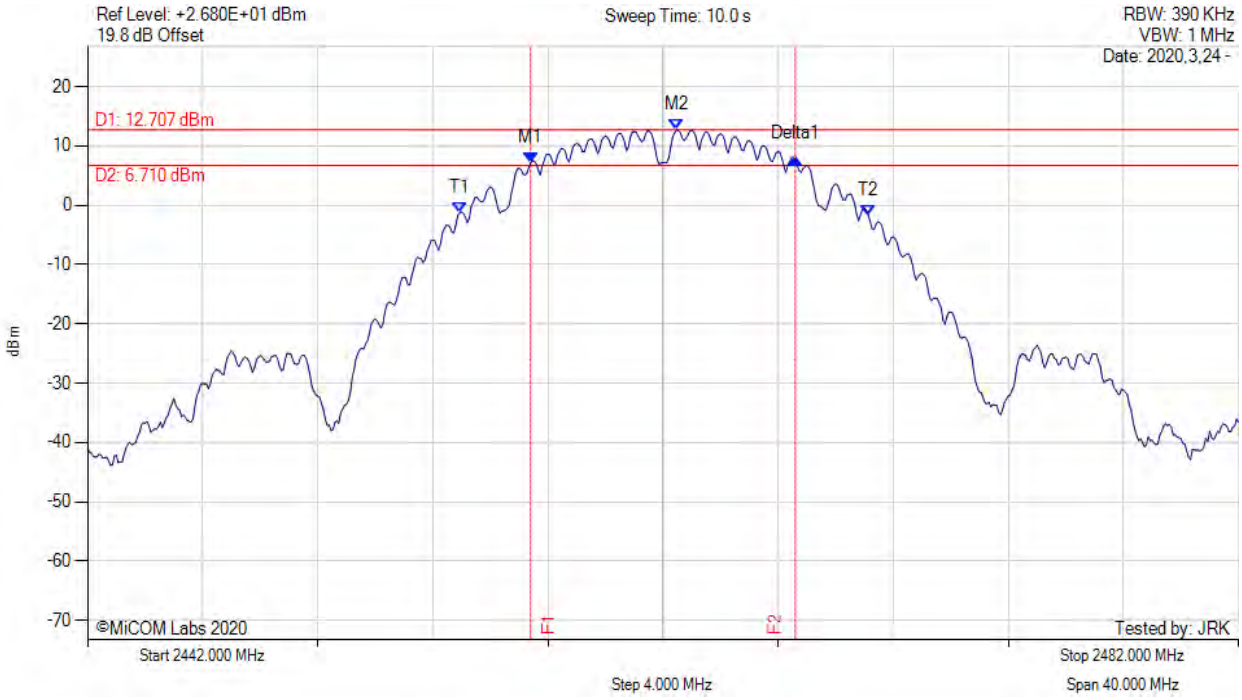


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2431.930 MHz : 7.341 dBm M2 : 2437.530 MHz : 12.937 dBm Delta1 : 10.070 MHz : 0.042 dB T1 : 2429.467 MHz : -0.647 dBm T2 : 2444.533 MHz : -0.888 dBm OBW : 15.086 MHz	Measured 6 dB Bandwidth: 10.070 MHz Limit: ≥500.0 kHz Margin: -9.57 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2462.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

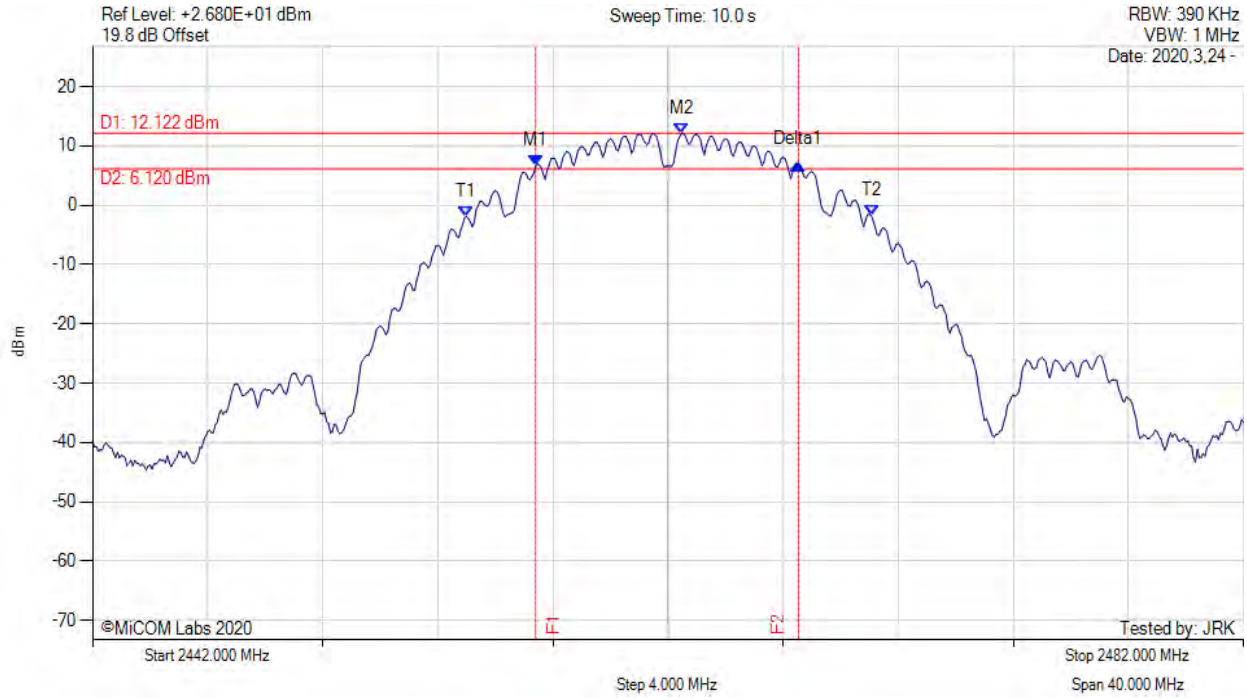


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2457.400 MHz : 7.158 dBm M2 : 2462.470 MHz : 12.707 dBm Delta1 : 9.200 MHz : 0.582 dB T1 : 2454.933 MHz : -1.282 dBm T2 : 2469.133 MHz : -1.718 dBm OBW : 14.126 MHz	Measured 6 dB Bandwidth: 9.200 MHz Limit: ≥500.0 kHz Margin: -8.70 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2462.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

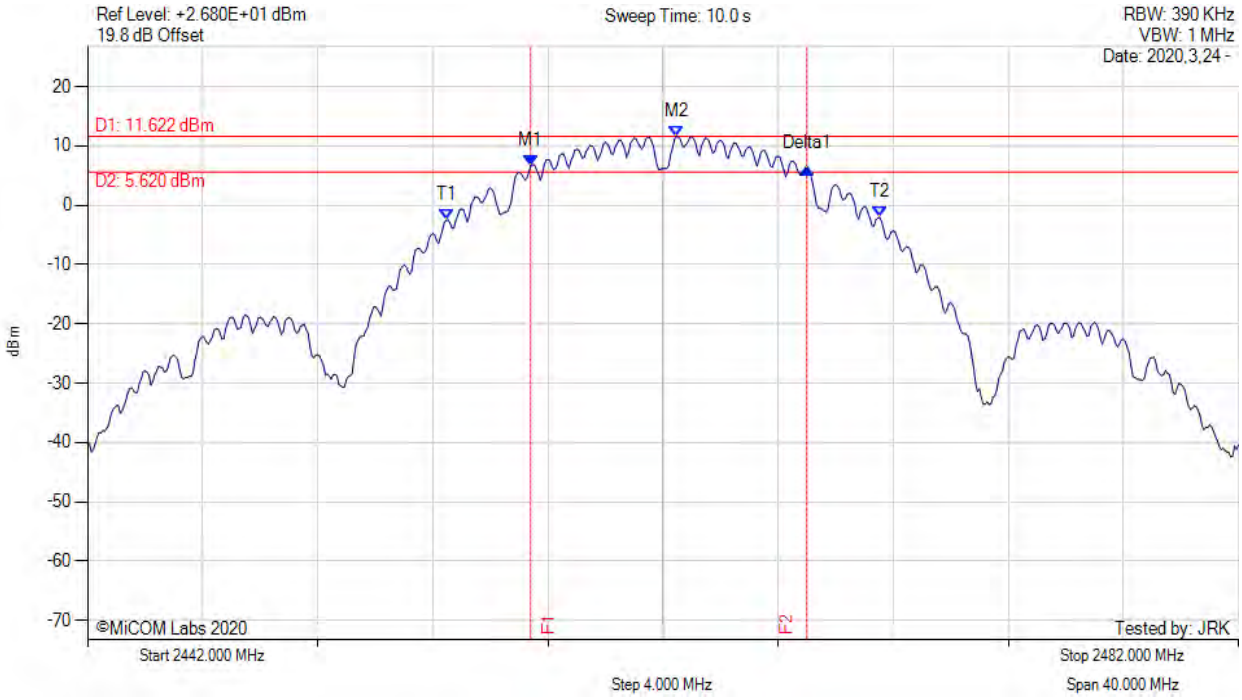


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2457.400 MHz : 6.623 dBm M2 : 2462.470 MHz : 12.122 dBm Delta1 : 9.130 MHz : 0.378 dB T1 : 2455.000 MHz : -1.899 dBm T2 : 2469.067 MHz : -1.705 dBm OBW : 14.020 MHz	Measured 6 dB Bandwidth: 9.130 MHz Limit: ≥500.0 kHz Margin: -8.63 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2462.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

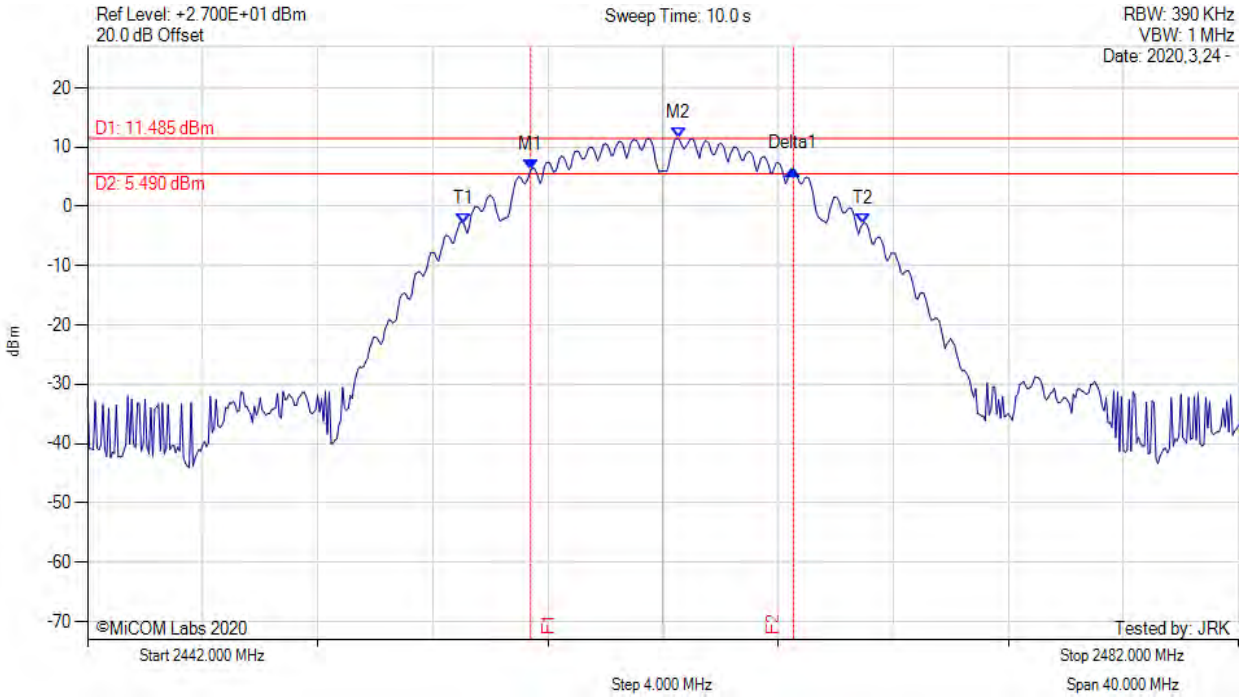


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2457.400 MHz : 6.615 dBm M2 : 2462.470 MHz : 11.622 dBm Delta1 : 9.600 MHz : -0.416 dB T1 : 2454.467 MHz : -2.537 dBm T2 : 2469.533 MHz : -2.037 dBm OBW : 15.045 MHz	Measured 6 dB Bandwidth: 9.600 MHz Limit: ≥500.0 kHz Margin: -9.10 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2462.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac

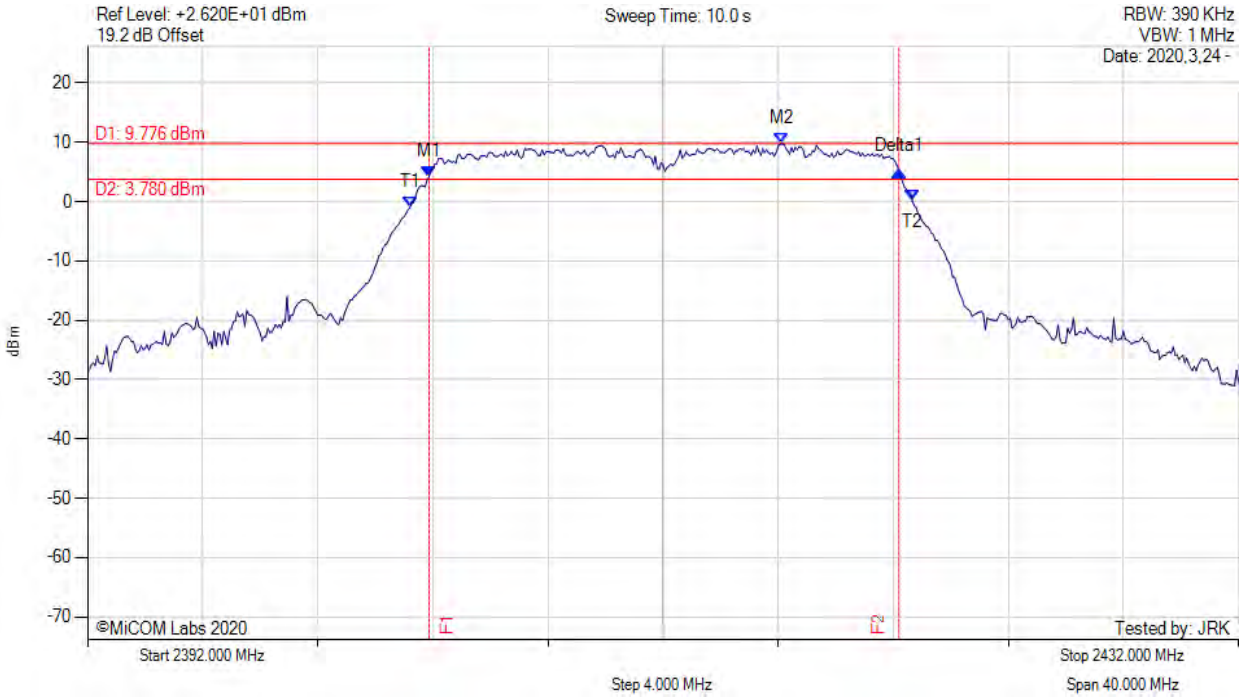


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2457.400 MHz : 6.153 dBm M2 : 2462.530 MHz : 11.485 dBm Delta1 : 9.130 MHz : 0.123 dB T1 : 2455.067 MHz : -2.854 dBm T2 : 2468.933 MHz : -3.003 dBm OBW : 13.863 MHz	Measured 6 dB Bandwidth: 9.130 MHz Limit: ≥500.0 kHz Margin: -8.63 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2412.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

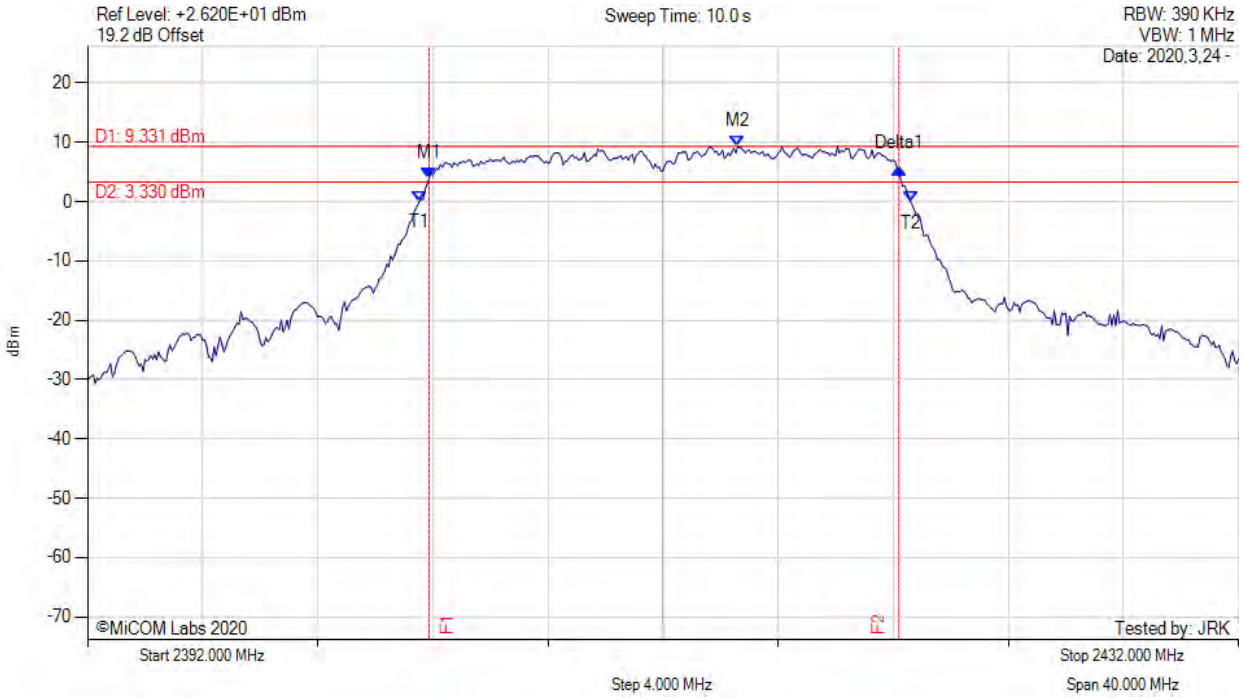


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2403.870 MHz : 4.238 dBm M2 : 2416.130 MHz : 9.776 dBm Delta1 : 16.330 MHz : 0.999 dB T1 : 2403.200 MHz : -1.031 dBm T2 : 2420.667 MHz : 0.127 dBm OBW : 17.436 MHz	Measured 6 dB Bandwidth: 16.330 MHz Limit: ≥500.0 kHz Margin: -15.83 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2412.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

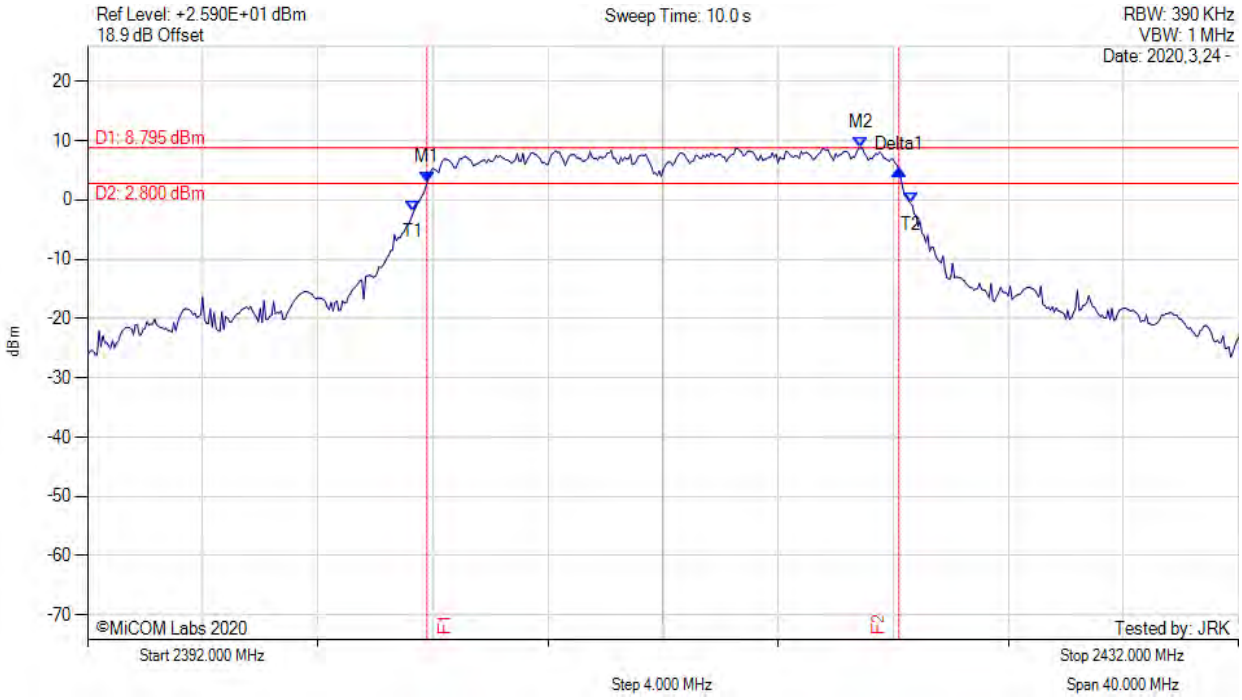


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2403.870 MHz : 3.913 dBm M2 : 2414.600 MHz : 9.331 dBm Delta1 : 16.330 MHz : 1.646 dB T1 : 2403.533 MHz : 0.065 dBm T2 : 2420.600 MHz : 0.029 dBm OBW : 17.116 MHz	Measured 6 dB Bandwidth: 16.330 MHz Limit: ≥500.0 kHz Margin: -15.83 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2412.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

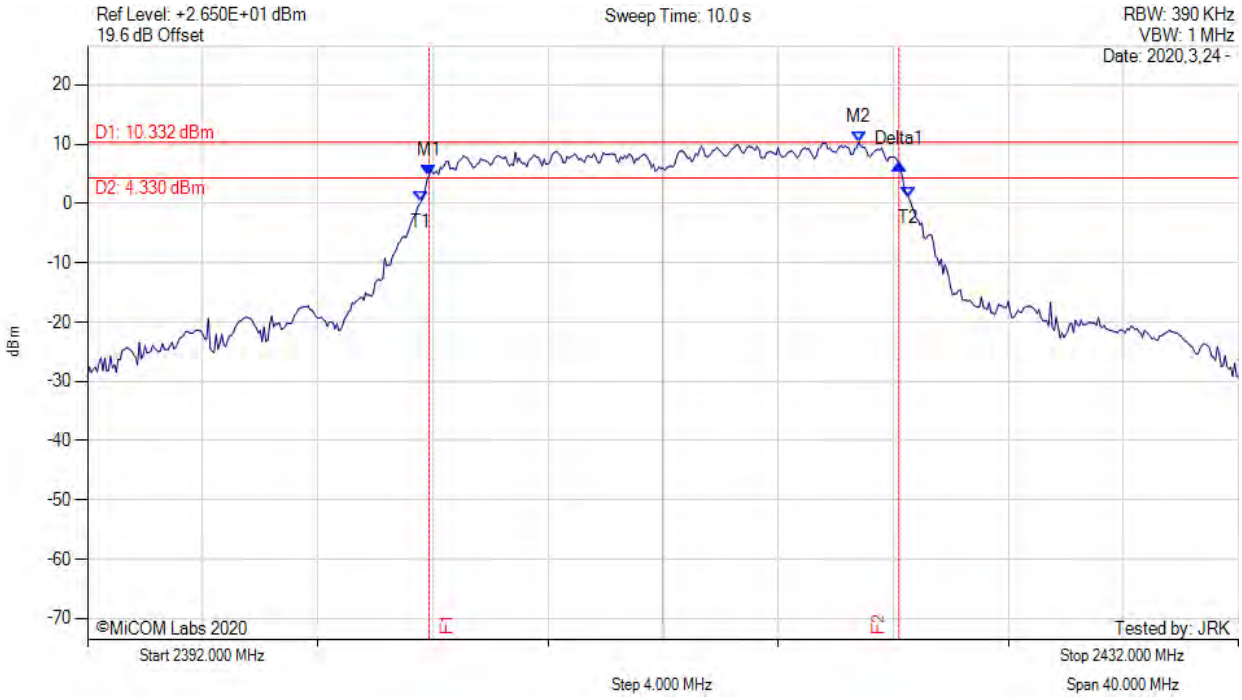


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2403.800 MHz : 2.965 dBm M2 : 2418.870 MHz : 8.795 dBm Delta1 : 16.400 MHz : 2.188 dB T1 : 2403.333 MHz : -1.896 dBm T2 : 2420.600 MHz : -0.557 dBm OBW : 17.366 MHz	Measured 6 dB Bandwidth: 16.400 MHz Limit: ≥500.0 kHz Margin: -15.90 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2412.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac

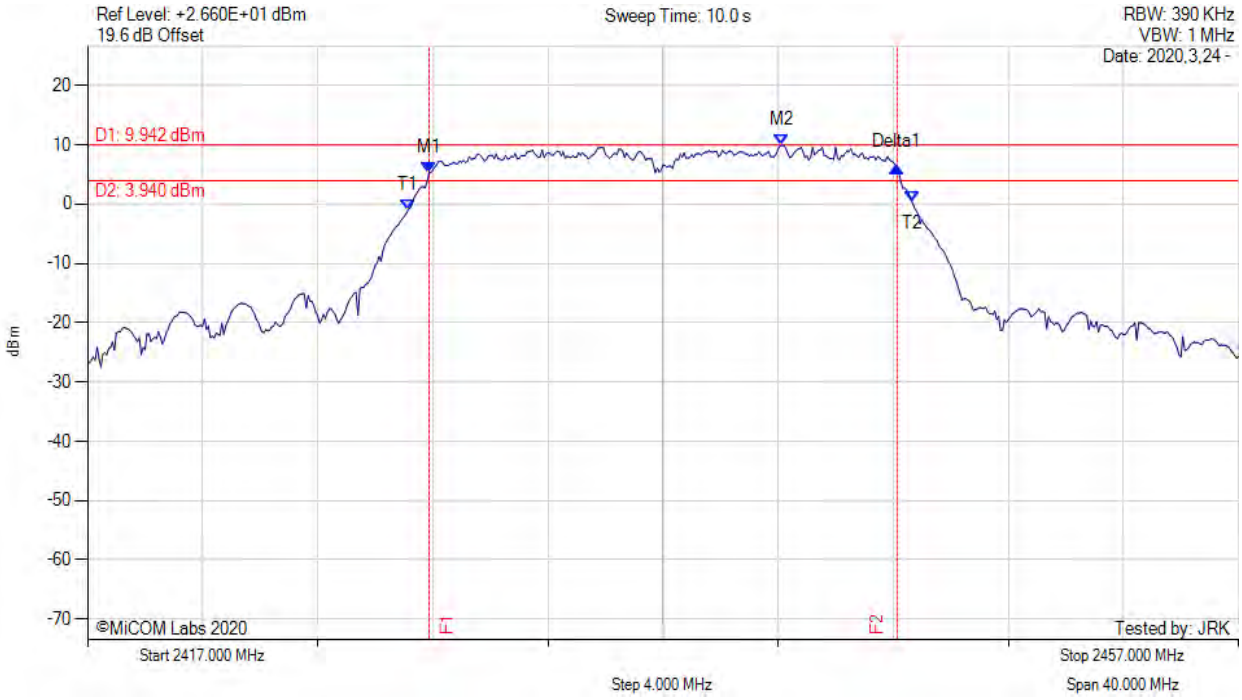


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2403.870 MHz : 4.671 dBm M2 : 2418.800 MHz : 10.332 dBm Delta1 : 16.330 MHz : 1.943 dB T1 : 2403.600 MHz : 0.426 dBm T2 : 2420.533 MHz : 1.039 dBm OBW : 17.004 MHz	Measured 6 dB Bandwidth: 16.330 MHz Limit: ≥500.0 kHz Margin: -15.83 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2437.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

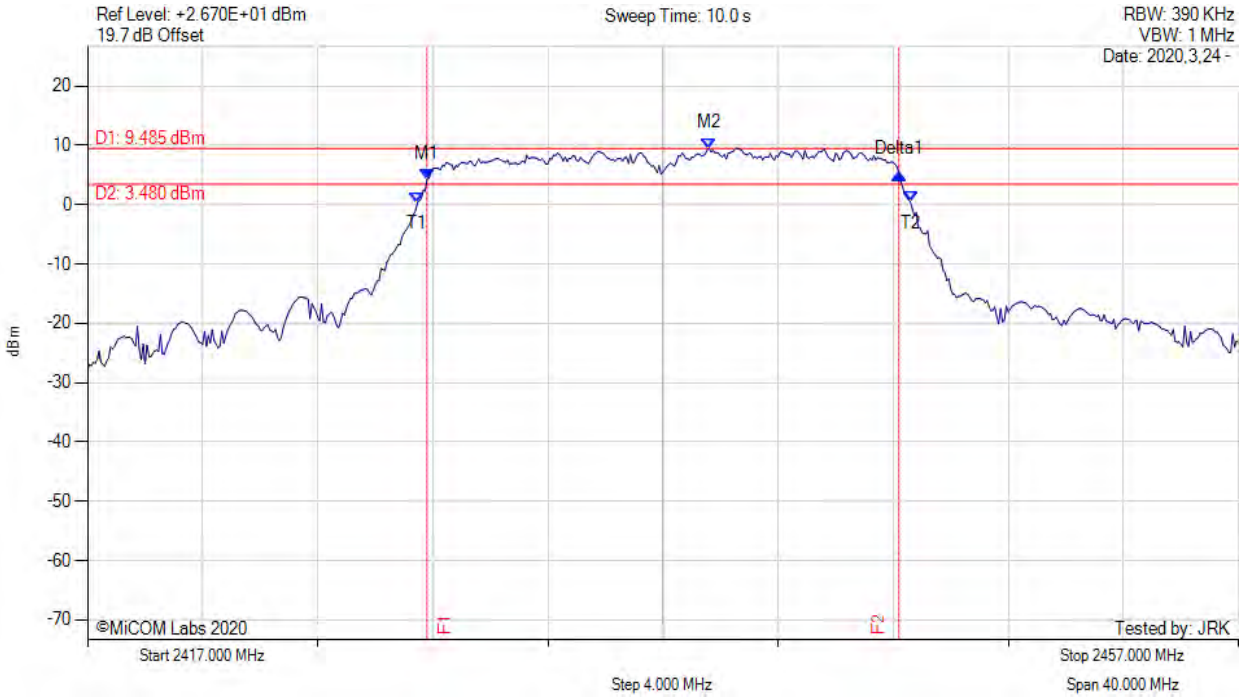


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2428.870 MHz : 5.260 dBm M2 : 2441.130 MHz : 9.942 dBm Delta1 : 16.270 MHz : 1.008 dB T1 : 2428.133 MHz : -1.031 dBm T2 : 2445.667 MHz : 0.337 dBm OBW : 17.565 MHz	Measured 6 dB Bandwidth: 16.270 MHz Limit: ≥500.0 kHz Margin: -15.77 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2437.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

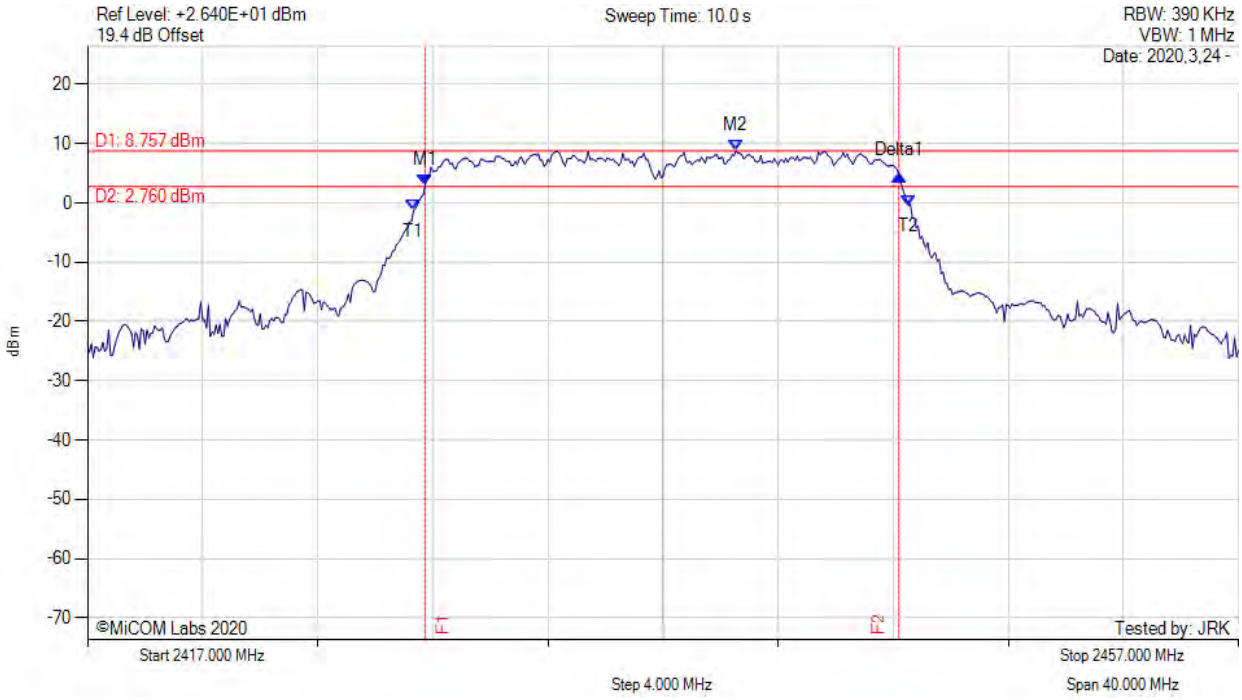


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2428.800 MHz : 4.336 dBm M2 : 2438.600 MHz : 9.485 dBm Delta1 : 16.400 MHz : 0.916 dB T1 : 2428.467 MHz : 0.330 dBm T2 : 2445.600 MHz : 0.435 dBm OBW : 17.164 MHz	Measured 6 dB Bandwidth: 16.400 MHz Limit: ≥500.0 kHz Margin: -15.90 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2437.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

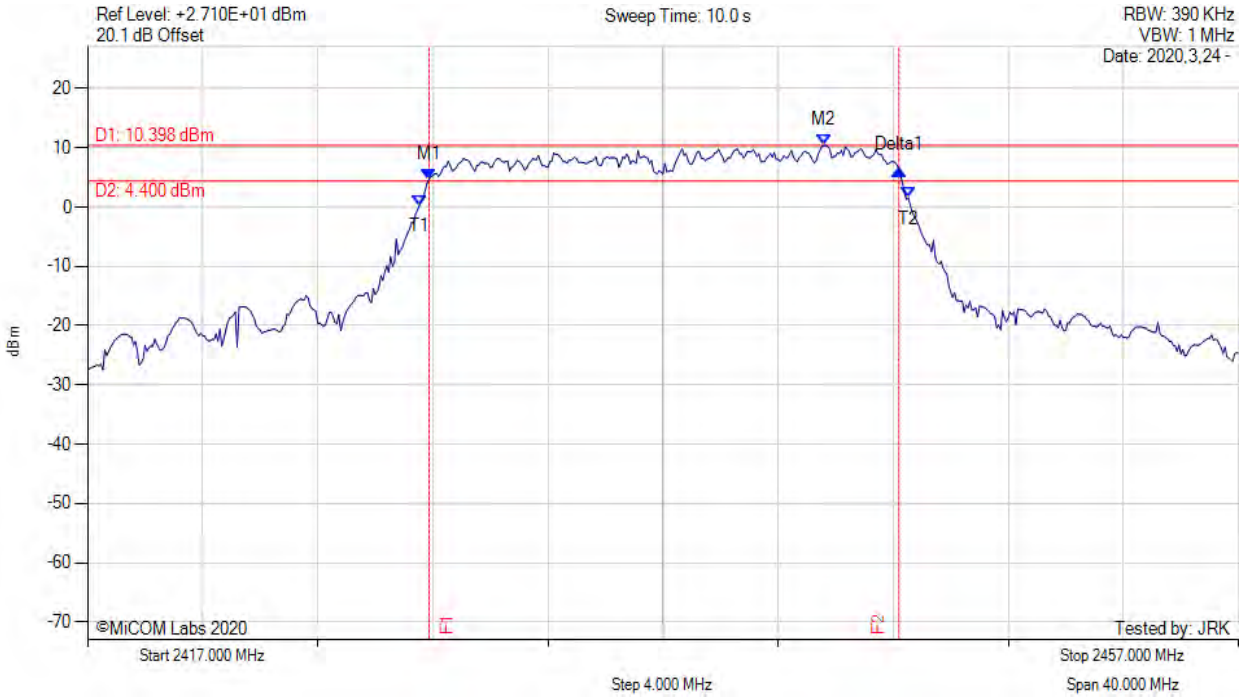


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2428.730 MHz : 2.989 dBm M2 : 2439.530 MHz : 8.757 dBm Delta1 : 16.470 MHz : 1.735 dB T1 : 2428.333 MHz : -1.291 dBm T2 : 2445.533 MHz : -0.416 dBm OBW : 17.228 MHz	Measured 6 dB Bandwidth: 16.470 MHz Limit: ≥500.0 kHz Margin: -15.97 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2437.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac

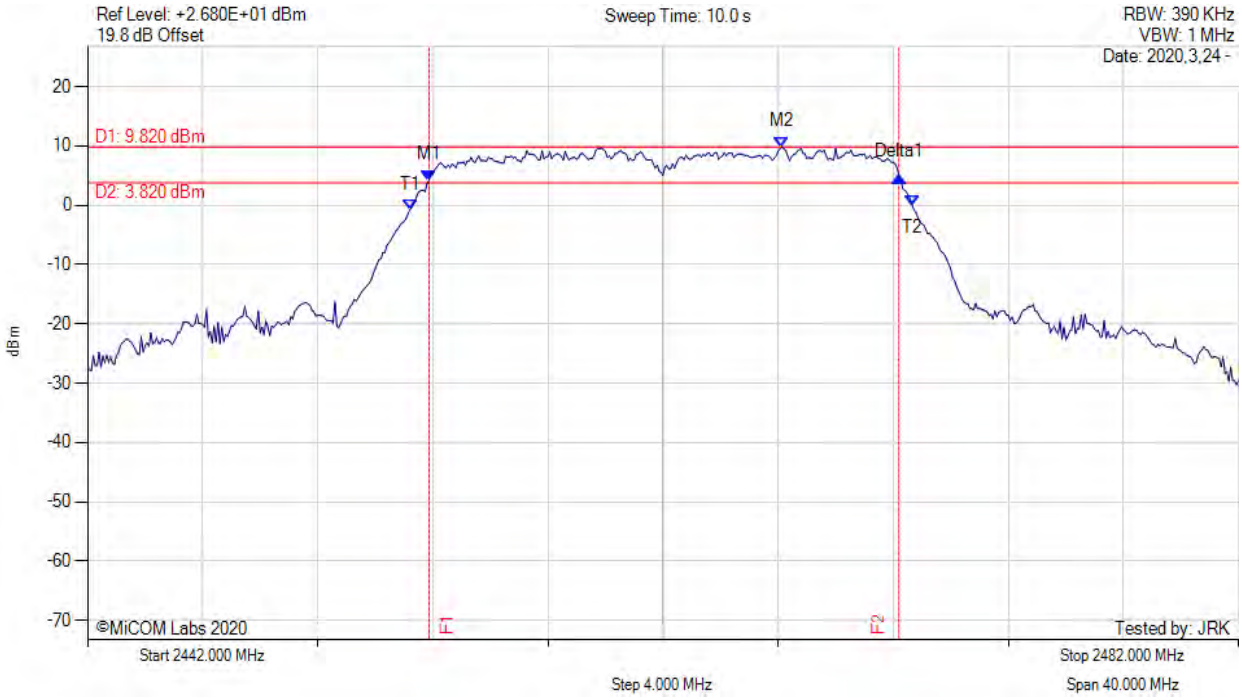


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2428.870 MHz : 4.637 dBm M2 : 2442.600 MHz : 10.398 dBm Delta1 : 16.330 MHz : 1.681 dB T1 : 2428.533 MHz : 0.264 dBm T2 : 2445.533 MHz : 1.578 dBm OBW : 17.024 MHz	Measured 6 dB Bandwidth: 16.330 MHz Limit: ≥500.0 kHz Margin: -15.83 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2462.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

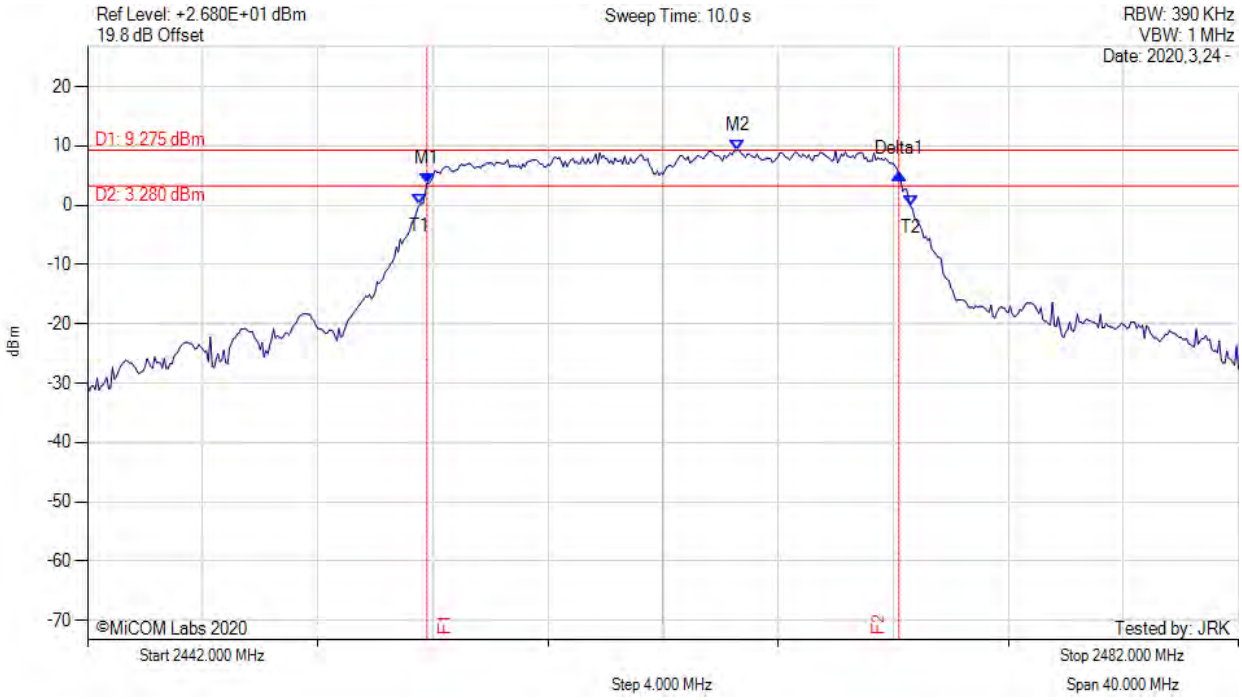


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2453.870 MHz : 4.207 dBm M2 : 2466.130 MHz : 9.820 dBm Delta1 : 16.330 MHz : 0.652 dB T1 : 2453.200 MHz : -0.804 dBm T2 : 2470.667 MHz : -0.092 dBm OBW : 17.456 MHz	Measured 6 dB Bandwidth: 16.330 MHz Limit: ≥500.0 kHz Margin: -15.83 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2462.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

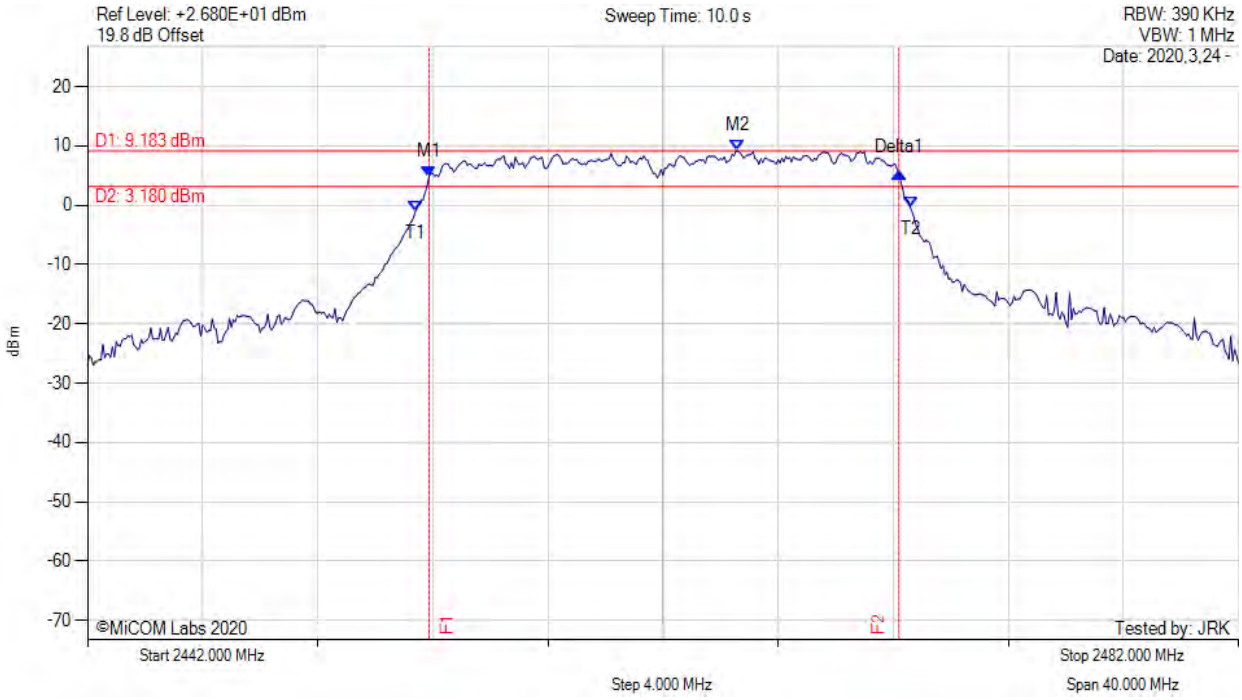


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2453.800 MHz : 3.719 dBm M2 : 2464.600 MHz : 9.275 dBm Delta1 : 16.400 MHz : 1.570 dB T1 : 2453.533 MHz : 0.041 dBm T2 : 2470.600 MHz : -0.116 dBm OBW : 17.072 MHz	Measured 6 dB Bandwidth: 16.400 MHz Limit: ≥500.0 kHz Margin: -15.90 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2462.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

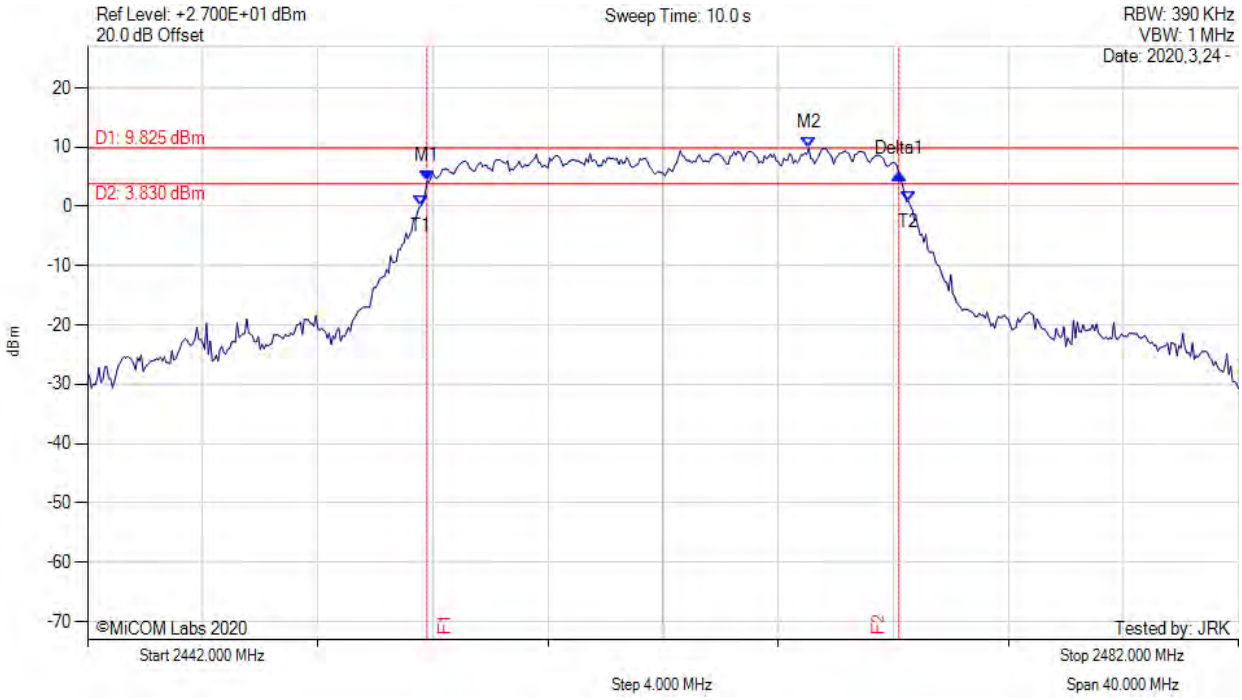


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2453.870 MHz : 4.797 dBm M2 : 2464.600 MHz : 9.183 dBm Delta1 : 16.330 MHz : 0.710 dB T1 : 2453.400 MHz : -1.005 dBm T2 : 2470.600 MHz : -0.416 dBm OBW : 17.241 MHz	Measured 6 dB Bandwidth: 16.330 MHz Limit: ≥500.0 kHz Margin: -15.83 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2462.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac

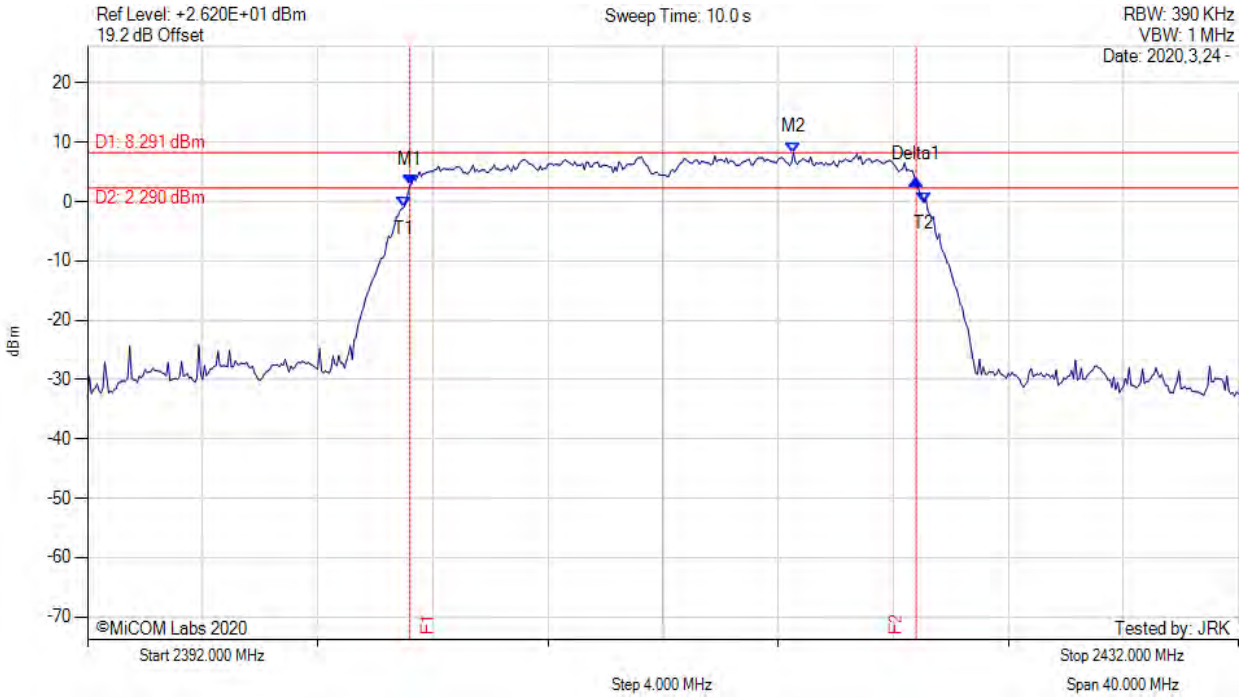


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2453.800 MHz : 4.266 dBm M2 : 2467.070 MHz : 9.825 dBm Delta1 : 16.400 MHz : 1.167 dB T1 : 2453.600 MHz : 0.184 dBm T2 : 2470.533 MHz : 0.875 dBm OBW : 16.959 MHz	Measured 6 dB Bandwidth: 16.400 MHz Limit: ≥500.0 kHz Margin: -15.90 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

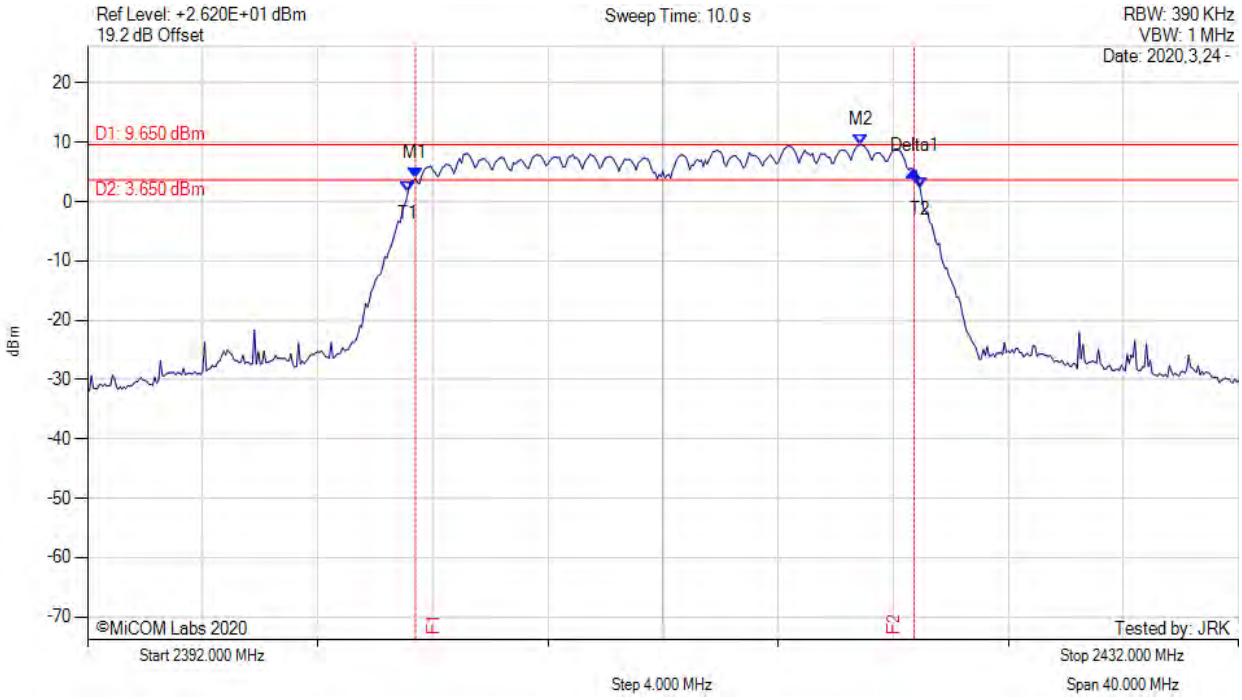


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2403.200 MHz : 2.724 dBm M2 : 2416.530 MHz : 8.291 dBm Delta1 : 17.600 MHz : 0.990 dB T1 : 2403.000 MHz : -0.913 dBm T2 : 2421.067 MHz : -0.140 dBm OBW : 18.039 MHz	Measured 6 dB Bandwidth: 17.600 MHz Limit: ≥500.0 kHz Margin: -17.10 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

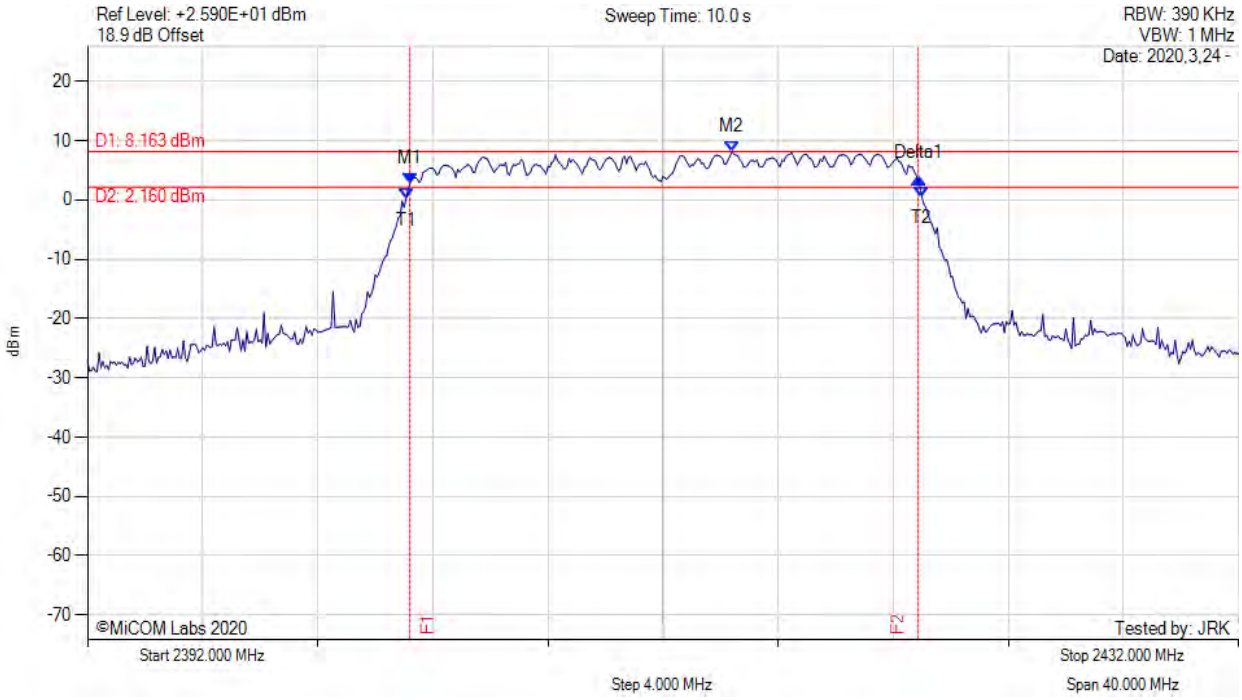


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2403.400 MHz : 3.866 dBm M2 : 2418.870 MHz : 9.650 dBm Delta1 : 17.330 MHz : 1.321 dB T1 : 2403.133 MHz : 1.594 dBm T2 : 2420.933 MHz : 2.270 dBm OBW : 17.740 MHz	Measured 6 dB Bandwidth: 17.330 MHz Limit: ≥500.0 kHz Margin: -16.83 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

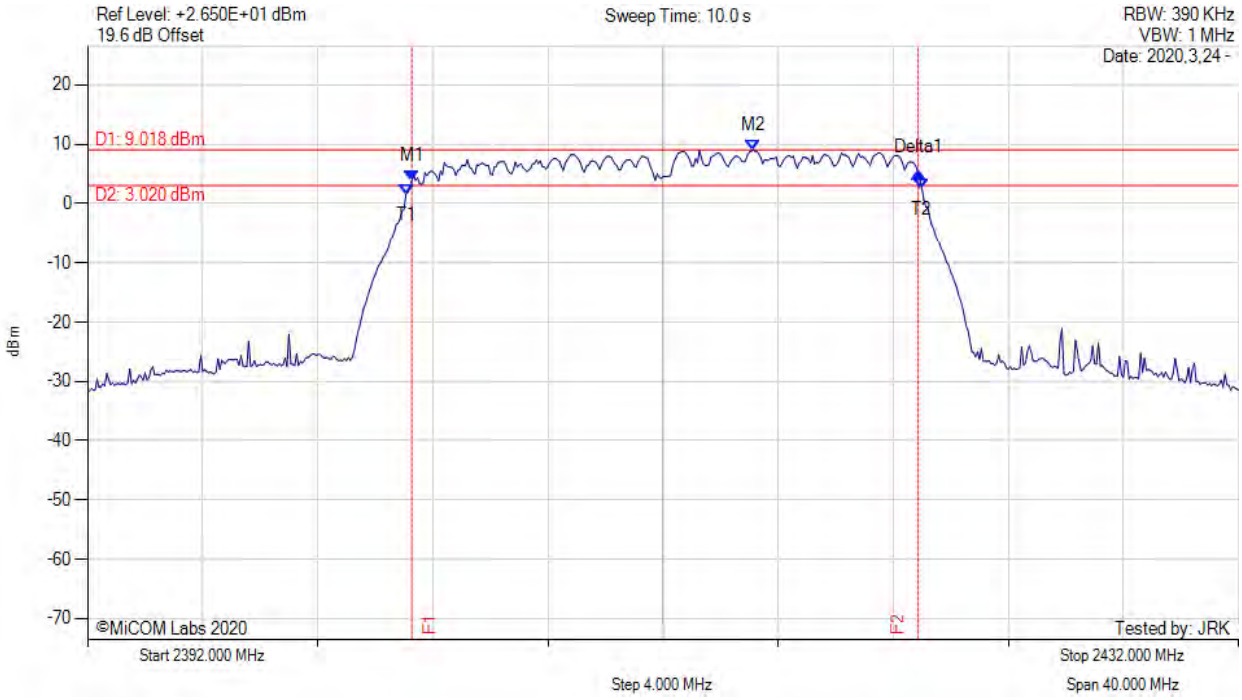


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2403.200 MHz : 2.704 dBm M2 : 2414.400 MHz : 8.163 dBm Delta1 : 17.670 MHz : 0.939 dB T1 : 2403.067 MHz : 0.191 dBm T2 : 2421.000 MHz : 0.460 dBm OBW : 17.966 MHz	Measured 6 dB Bandwidth: 17.670 MHz Limit: ≥500.0 kHz Margin: -17.17 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac

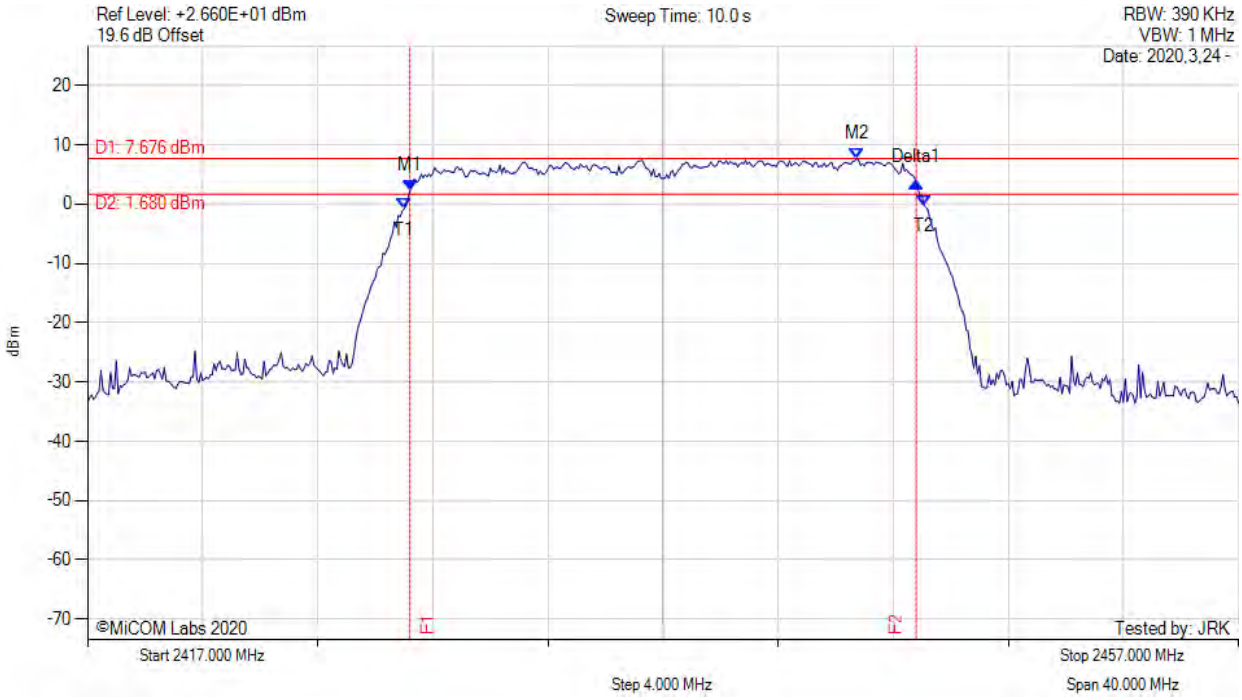


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2403.270 MHz : 3.740 dBm M2 : 2415.130 MHz : 9.018 dBm Delta1 : 17.600 MHz : 1.544 dB T1 : 2403.067 MHz : 1.593 dBm T2 : 2421.000 MHz : 2.521 dBm OBW : 17.892 MHz	Measured 6 dB Bandwidth: 17.600 MHz Limit: ≥500.0 kHz Margin: -17.10 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

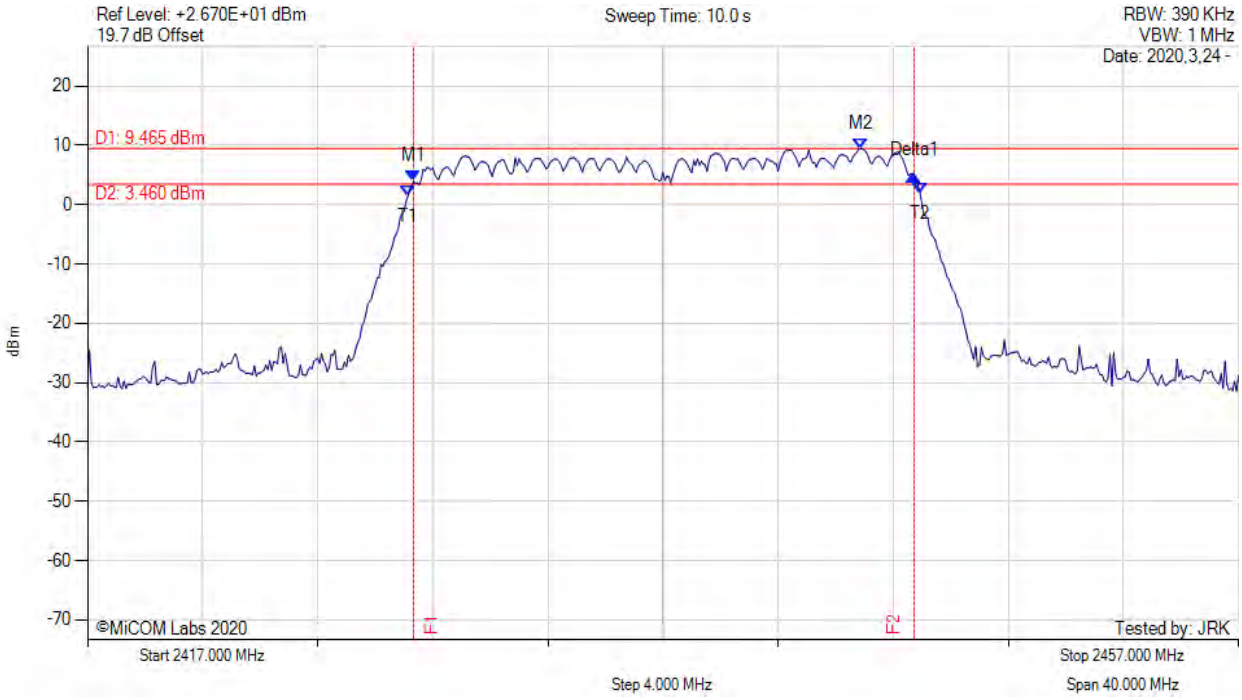


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2428.200 MHz : 2.182 dBm M2 : 2443.730 MHz : 7.676 dBm Delta1 : 17.600 MHz : 1.523 dB T1 : 2428.000 MHz : -0.811 dBm T2 : 2446.067 MHz : -0.186 dBm OBW : 18.006 MHz	Measured 6 dB Bandwidth: 17.600 MHz Limit: ≥500.0 kHz Margin: -17.10 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

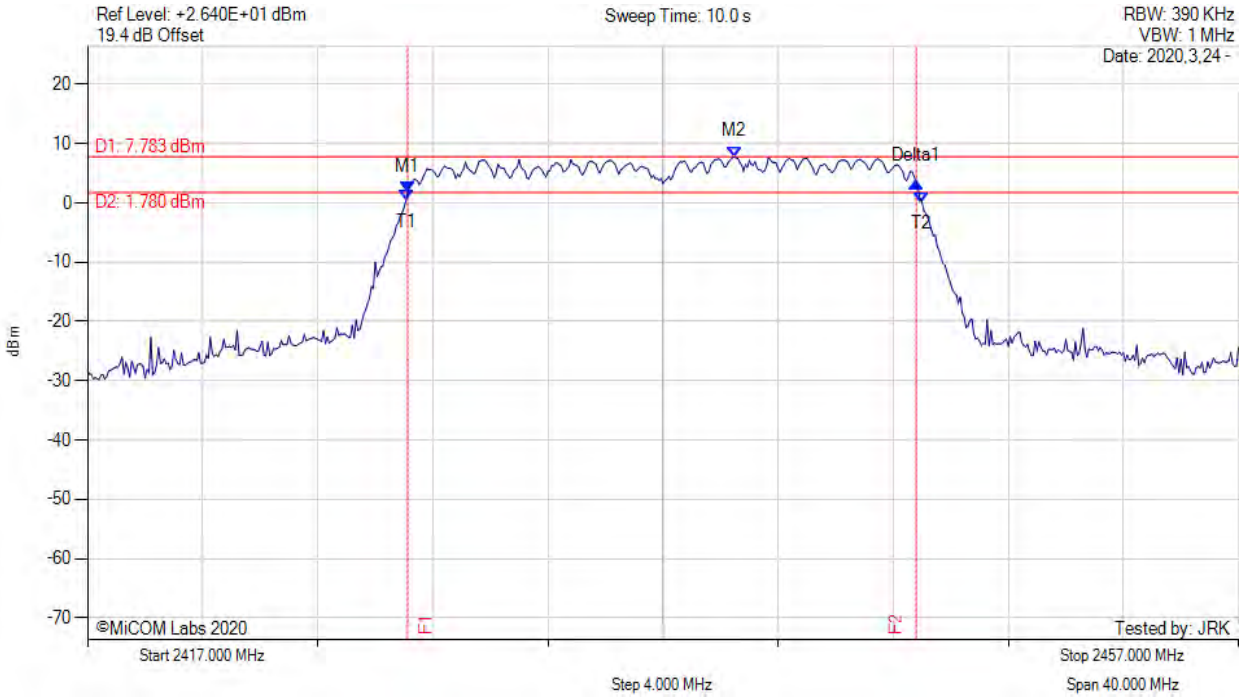


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2428.330 MHz : 4.000 dBm M2 : 2443.870 MHz : 9.465 dBm Delta1 : 17.400 MHz : 0.966 dB T1 : 2428.133 MHz : 1.481 dBm T2 : 2445.933 MHz : 2.019 dBm OBW : 17.722 MHz	Measured 6 dB Bandwidth: 17.400 MHz Limit: ≥500.0 kHz Margin: -16.90 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

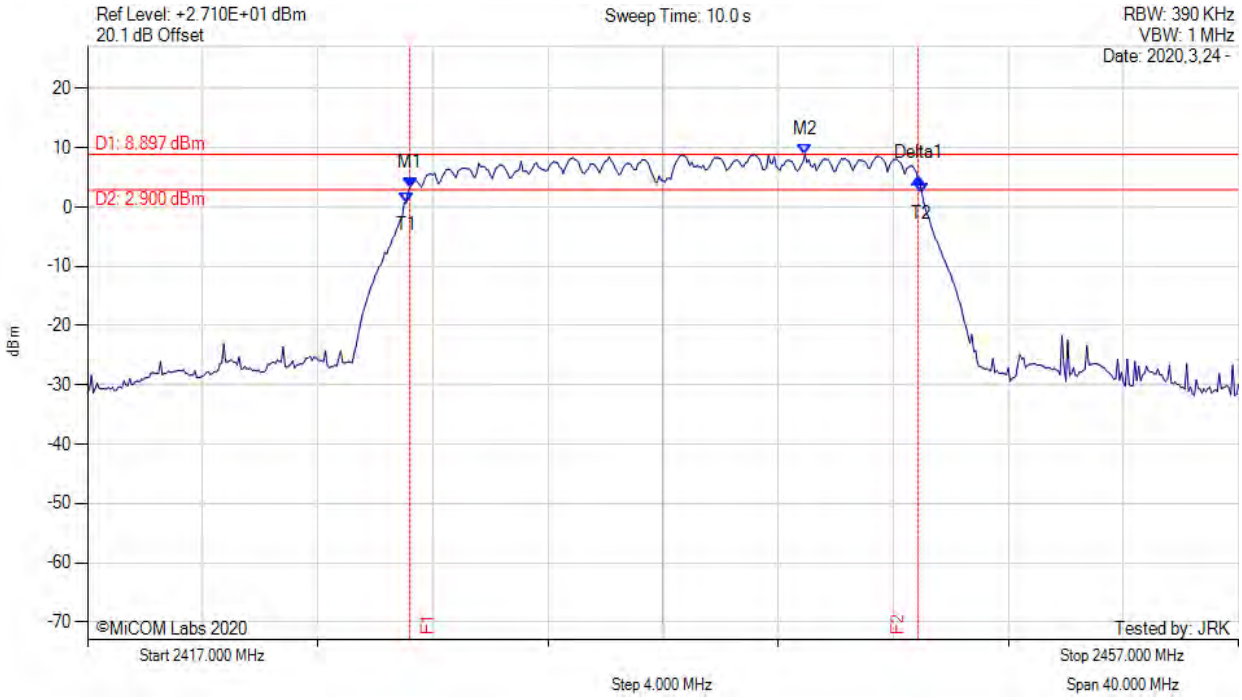


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2428.130 MHz : 1.851 dBm M2 : 2439.470 MHz : 7.783 dBm Delta1 : 17.670 MHz : 1.736 dB T1 : 2428.067 MHz : 0.450 dBm T2 : 2446.000 MHz : 0.067 dBm OBW : 17.923 MHz	Measured 6 dB Bandwidth: 17.670 MHz Limit: ≥500.0 kHz Margin: -17.17 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac

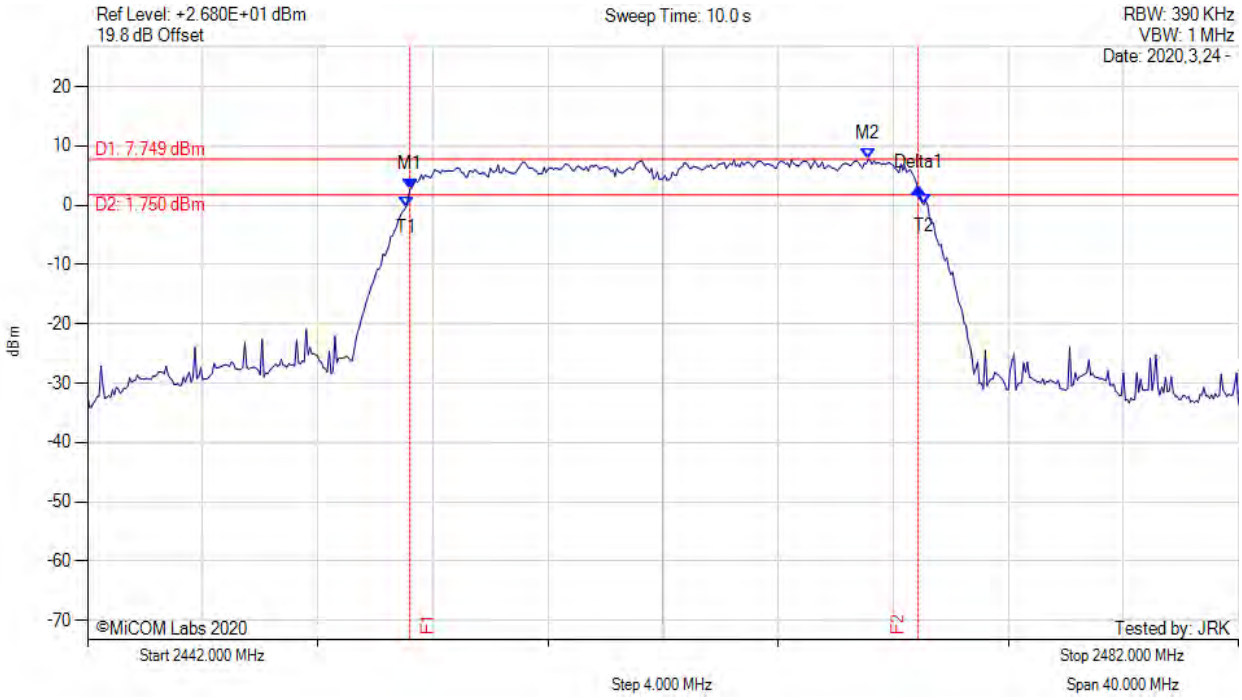


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2428.200 MHz : 3.322 dBm M2 : 2441.930 MHz : 8.897 dBm Delta1 : 17.670 MHz : 1.474 dB T1 : 2428.067 MHz : 0.641 dBm T2 : 2446.000 MHz : 2.380 dBm OBW : 17.899 MHz	Measured 6 dB Bandwidth: 17.670 MHz Limit: ≥500.0 kHz Margin: -17.17 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

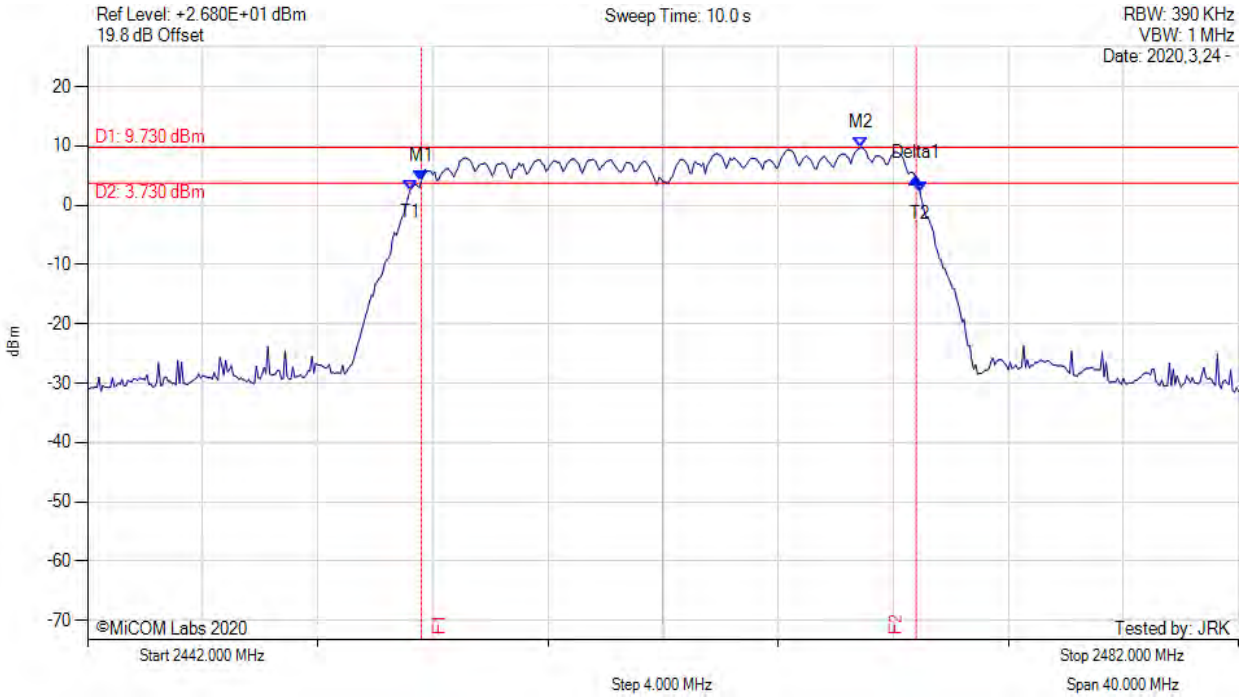


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2453.200 MHz : 2.629 dBm M2 : 2469.130 MHz : 7.749 dBm Delta1 : 17.670 MHz : 0.279 dB T1 : 2453.067 MHz : -0.276 dBm T2 : 2471.067 MHz : 0.139 dBm OBW : 18.031 MHz	Measured 6 dB Bandwidth: 17.670 MHz Limit: ≥500.0 kHz Margin: -17.17 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

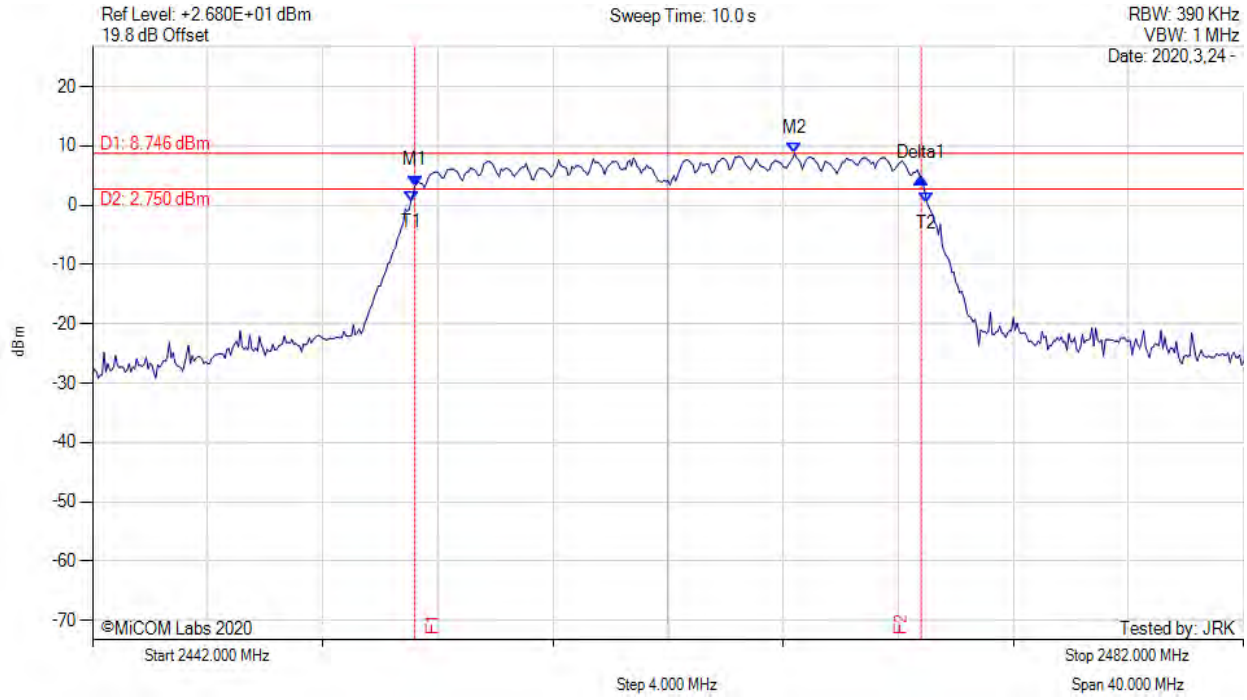


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2453.600 MHz : 4.098 dBm M2 : 2468.870 MHz : 9.730 dBm Delta1 : 17.200 MHz : 0.511 dB T1 : 2453.200 MHz : 2.439 dBm T2 : 2470.933 MHz : 2.149 dBm OBW : 17.737 MHz	Measured 6 dB Bandwidth: 17.200 MHz Limit: ≥500.0 kHz Margin: -16.70 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

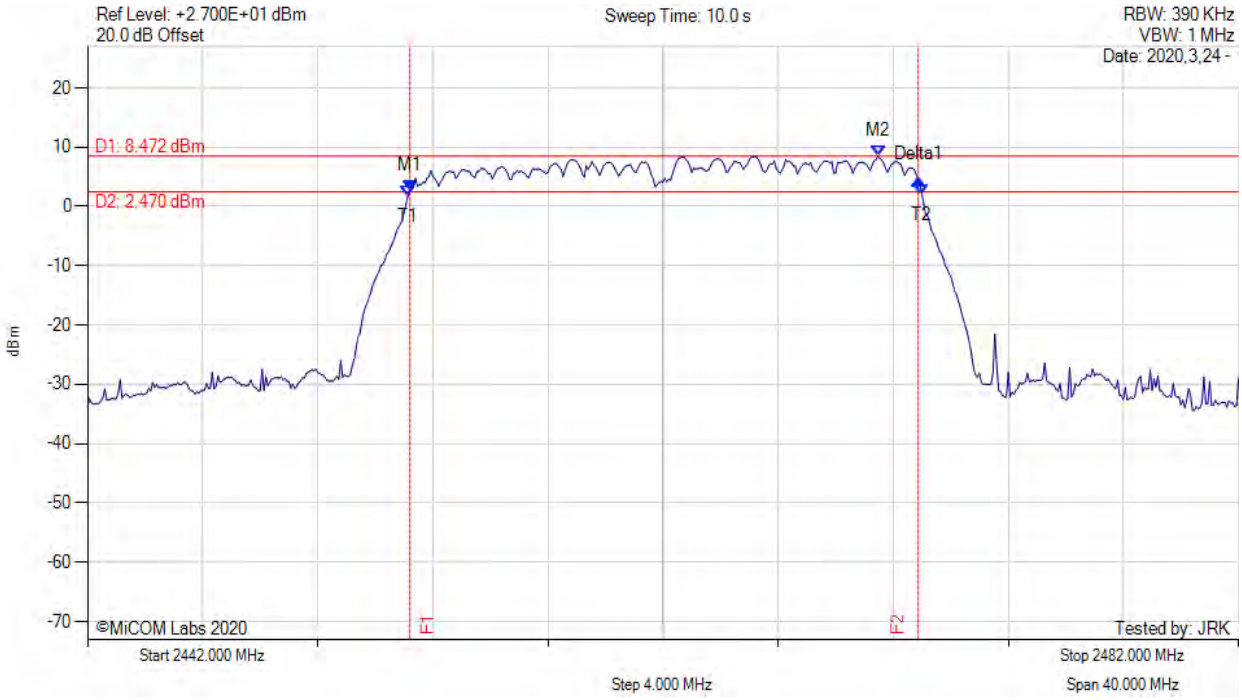


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2453.200 MHz : 3.291 dBm M2 : 2466.400 MHz : 8.746 dBm Delta1 : 17.600 MHz : 1.233 dB T1 : 2453.067 MHz : 0.708 dBm T2 : 2471.000 MHz : 0.435 dBm OBW : 17.962 MHz	Measured 6 dB Bandwidth: 17.600 MHz Limit: ≥500.0 kHz Margin: -17.10 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac



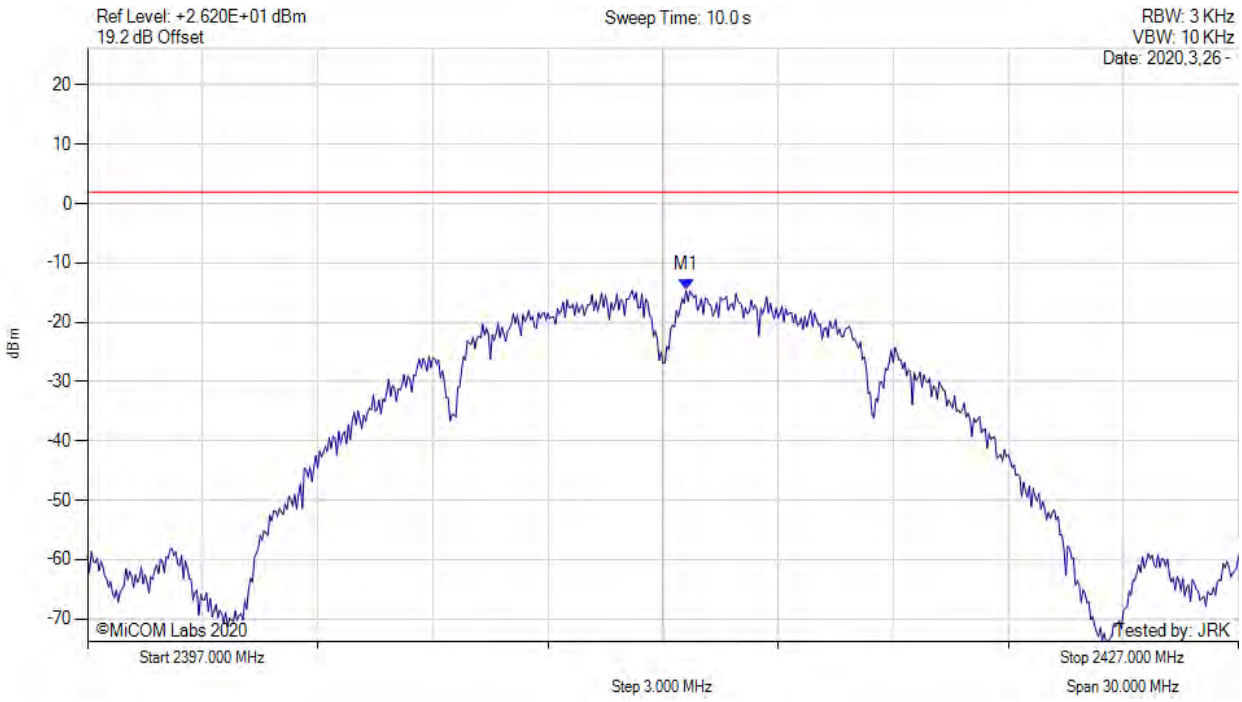
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2453.200 MHz : 2.606 dBm M2 : 2469.470 MHz : 8.472 dBm Delta1 : 17.670 MHz : 2.031 dB T1 : 2453.133 MHz : 1.830 dBm T2 : 2471.000 MHz : 2.029 dBm OBW : 17.867 MHz	Measured 6 dB Bandwidth: 17.670 MHz Limit: ≥500.0 kHz Margin: -17.17 MHz

back to matrix

A.2. Power Spectral Density

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2412.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

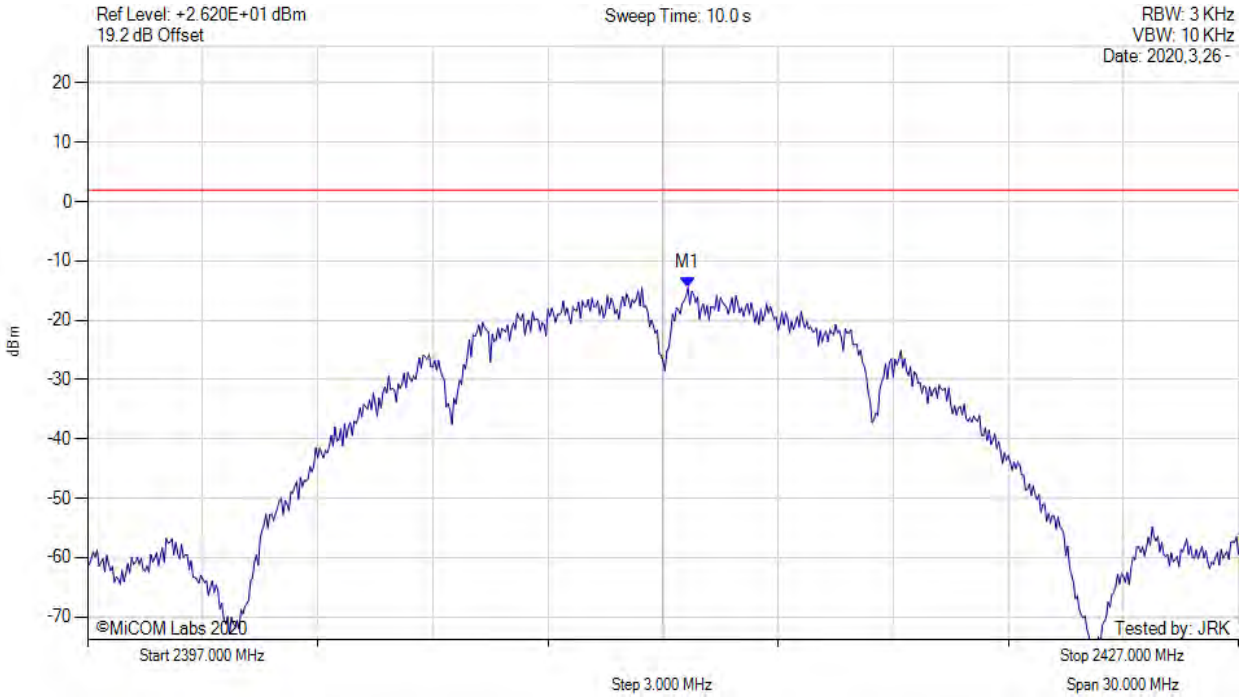


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2412.600 MHz : -14.540 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2412.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

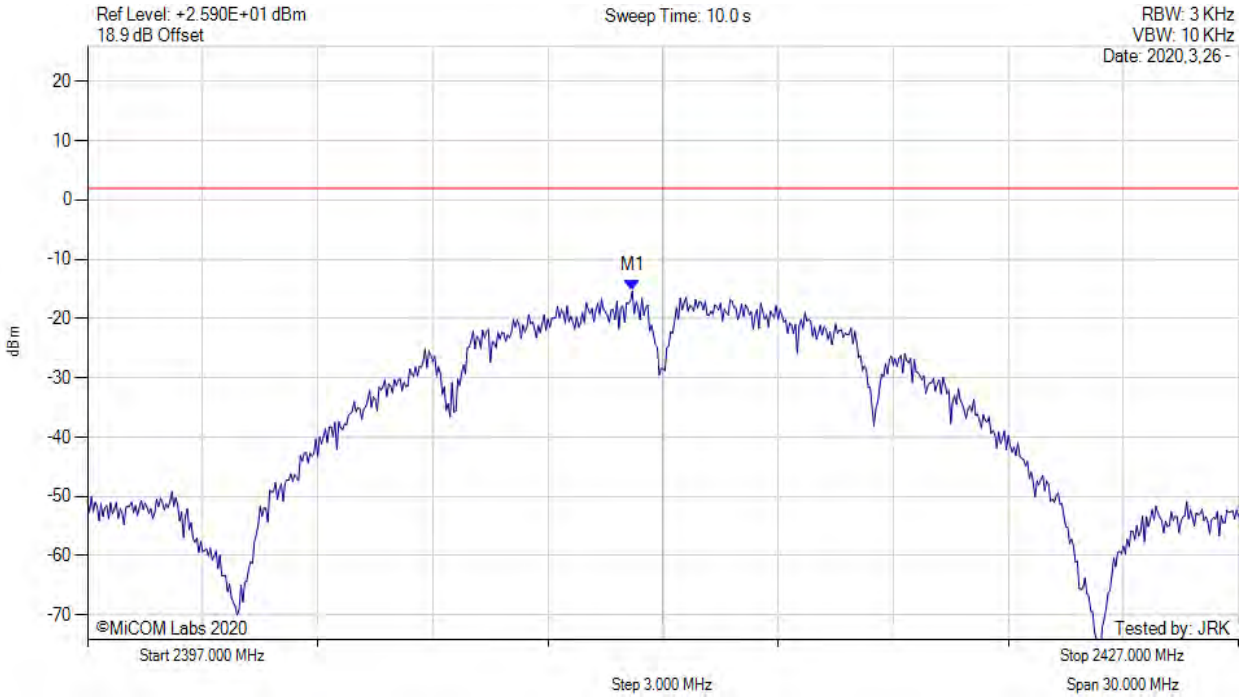


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2412.650 MHz : -14.471 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2412.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

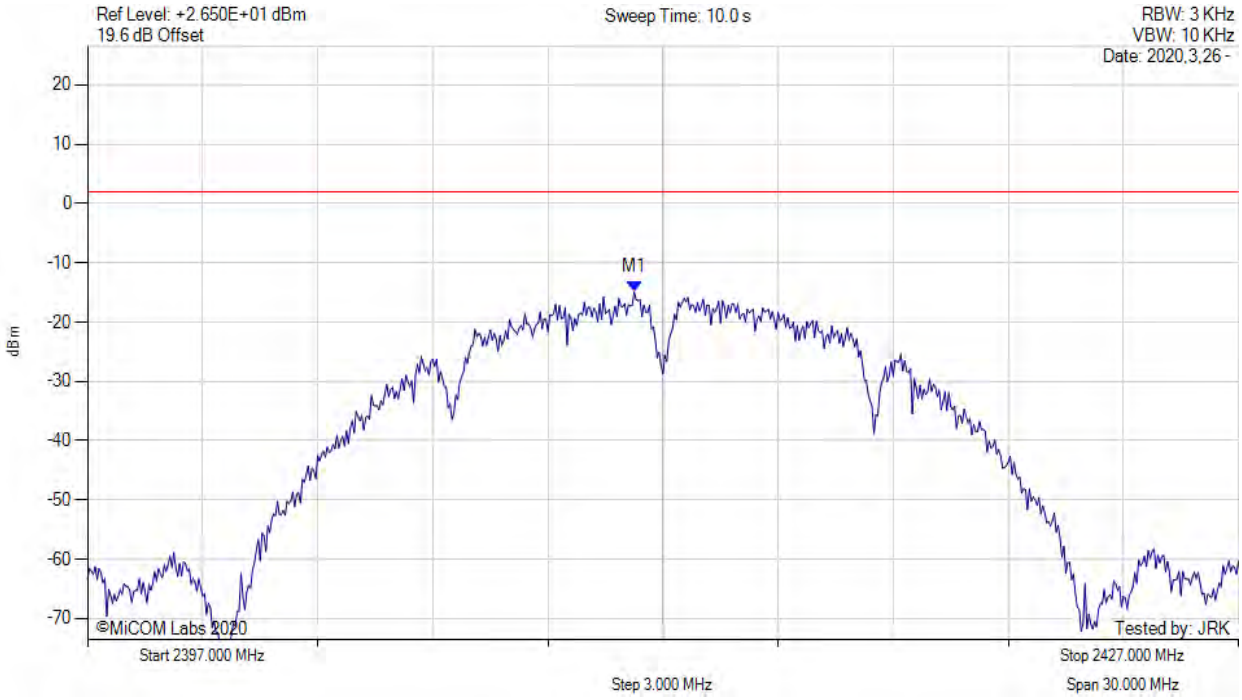


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2411.200 MHz : -15.343 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2412.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac

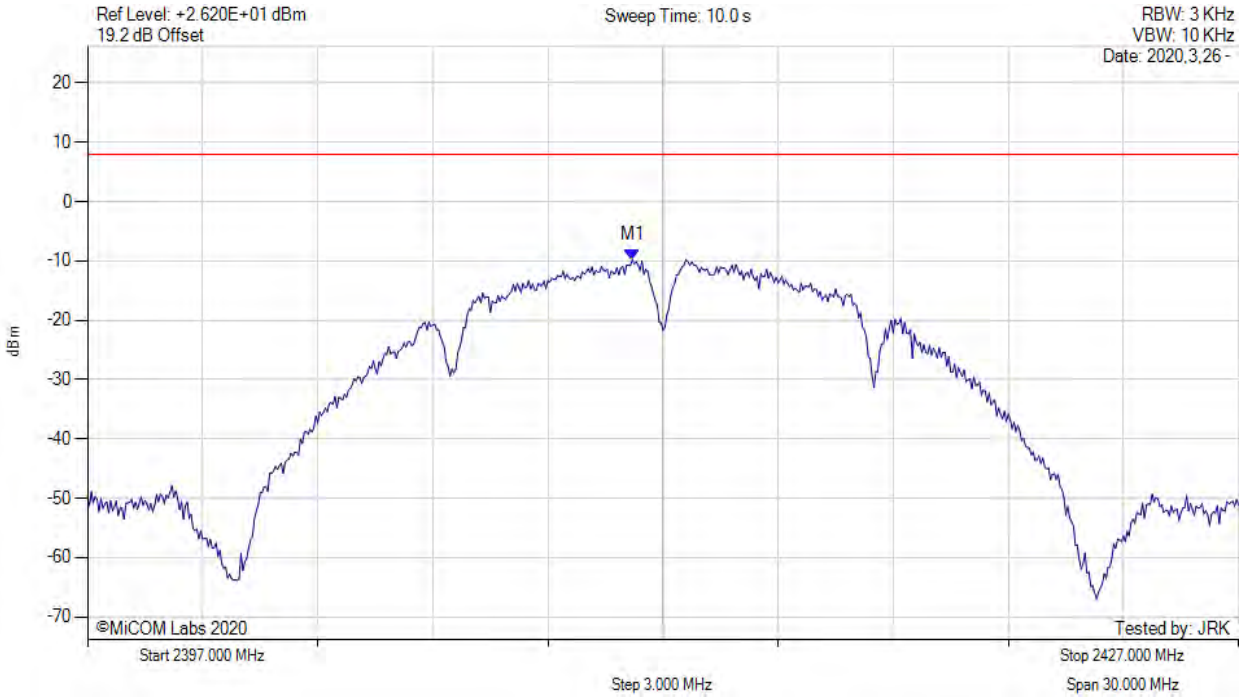


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2411.250 MHz : -14.885 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2412.00 MHz, SUM, Temp: 20, Voltage: 120 Vac

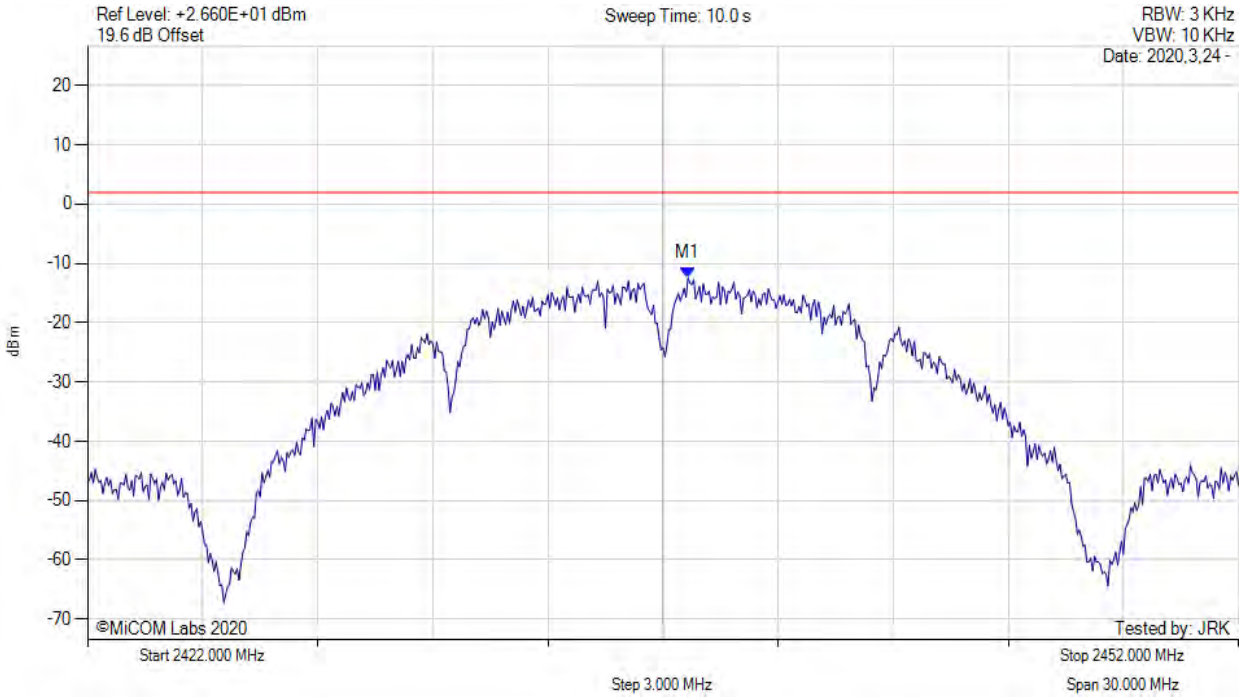


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2411.200 MHz : -9.758 dBm M1 + DCCF : 2411.200 MHz : -6.606 dBm Duty Cycle Correction Factor : +3.15 dB	Limit: ≤ 8.0 dBm Margin: -14.6 dB

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2437.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

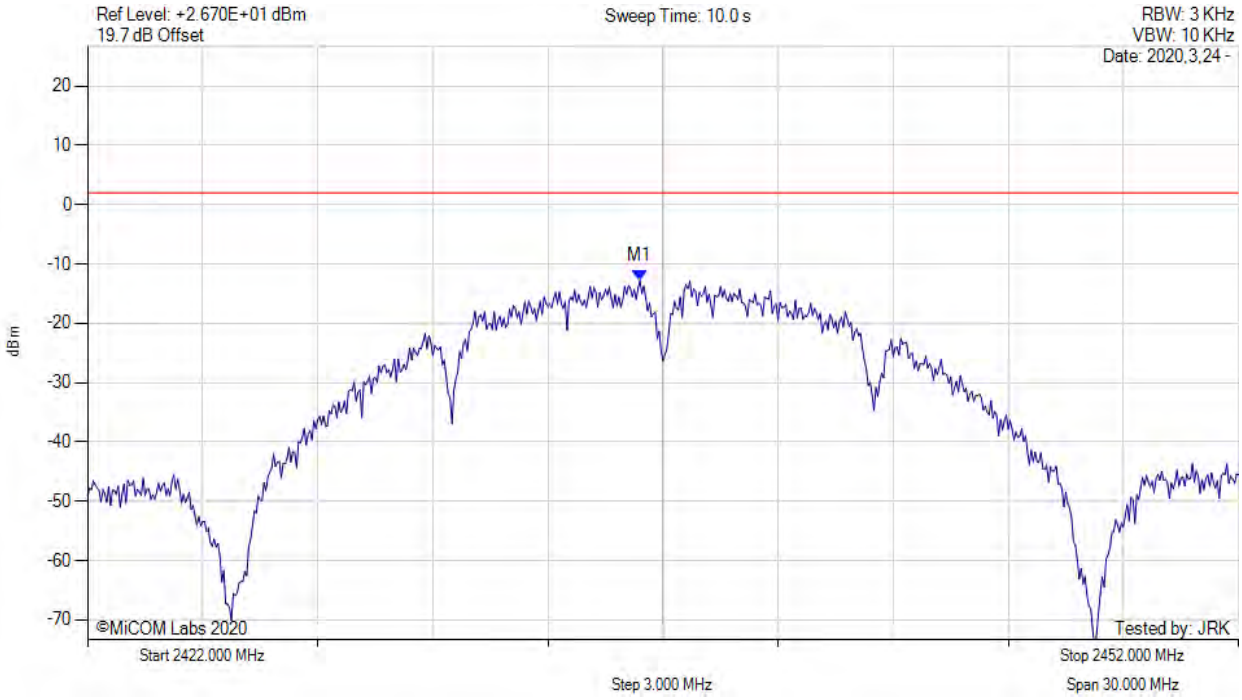


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2437.650 MHz : -12.484 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2437.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

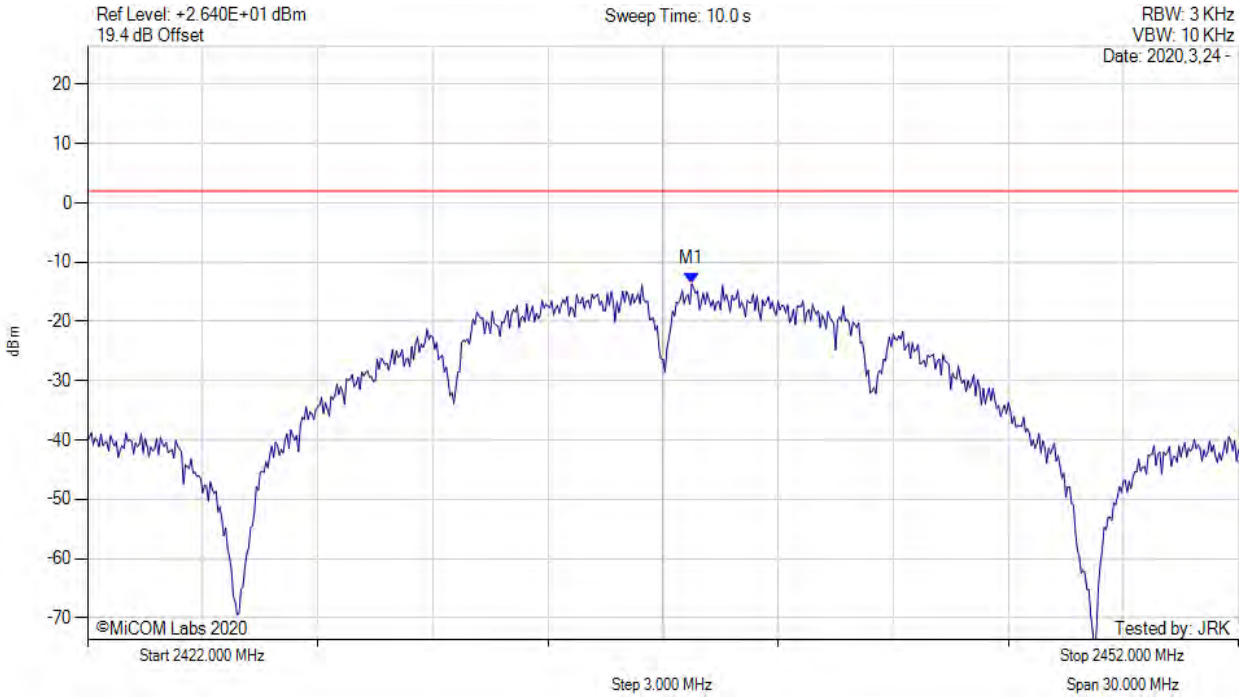


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2436.400 MHz : -12.850 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2437.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

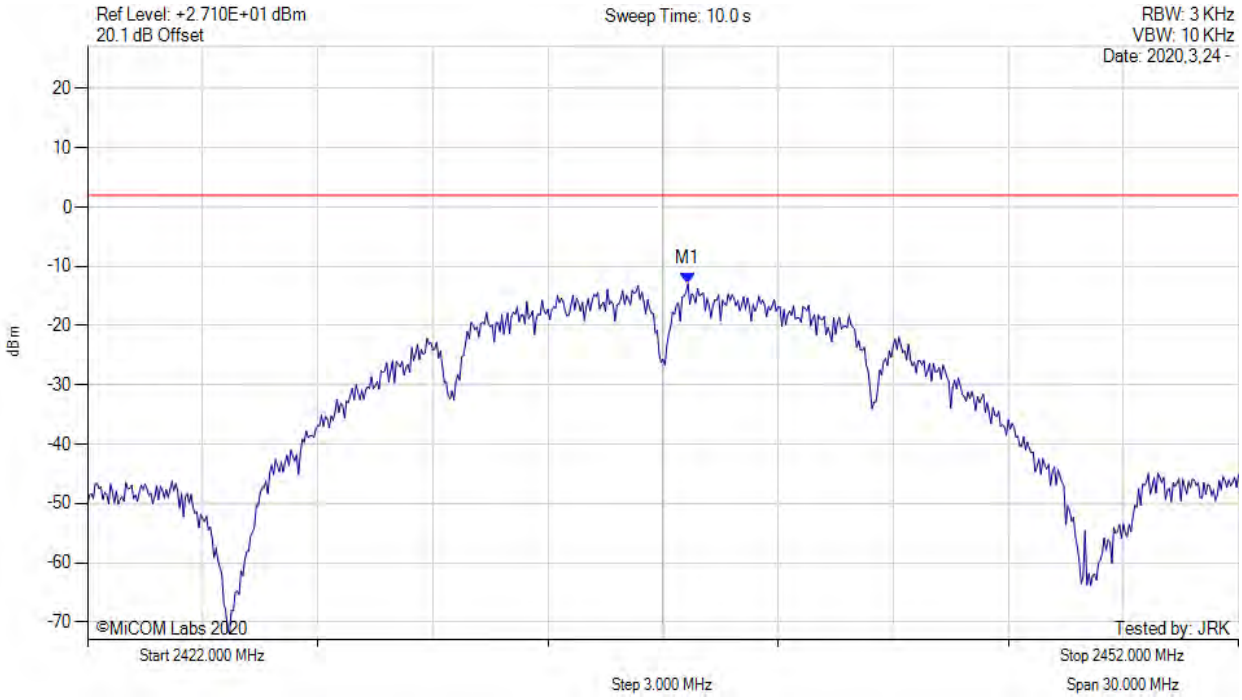


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2437.750 MHz : -13.639 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2437.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac

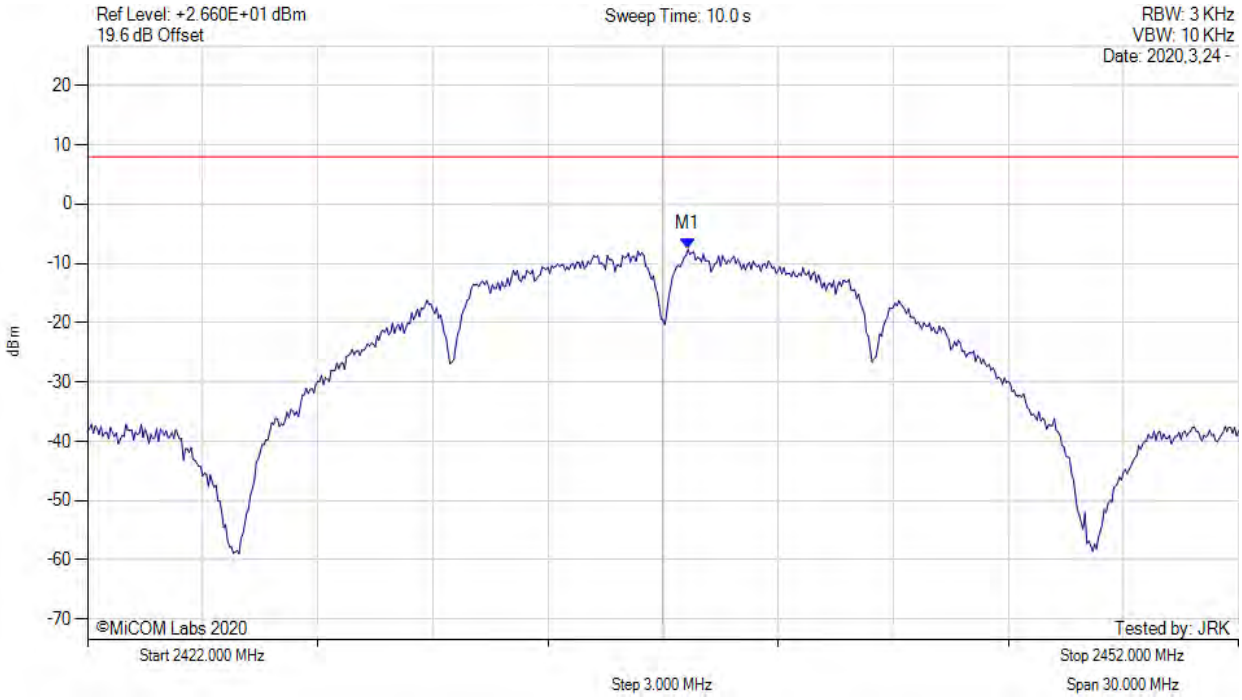


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2437.650 MHz : -12.931 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2437.00 MHz, SUM, Temp: 20, Voltage: 120 Vac

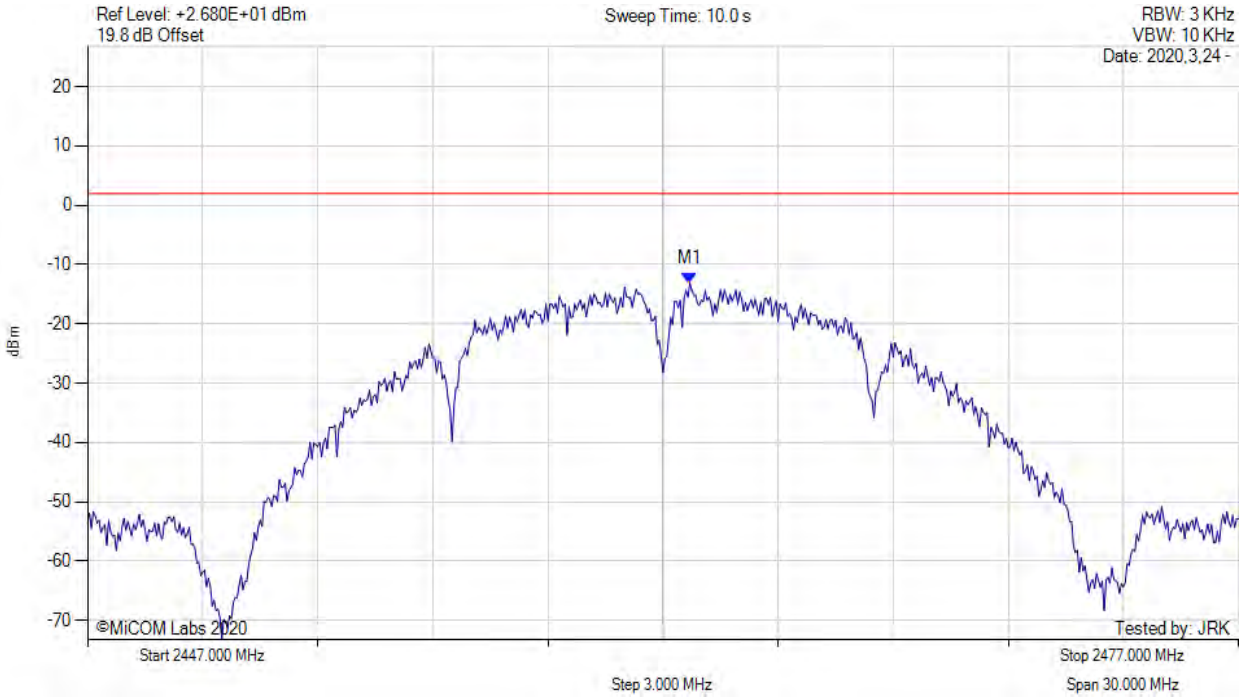


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2437.700 MHz : -7.581 dBm M1 + DCCF : 2437.700 MHz : -4.393 dBm Duty Cycle Correction Factor : +3.15 dB	Limit: ≤ 8.0 dBm Margin: -12.4 dB

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

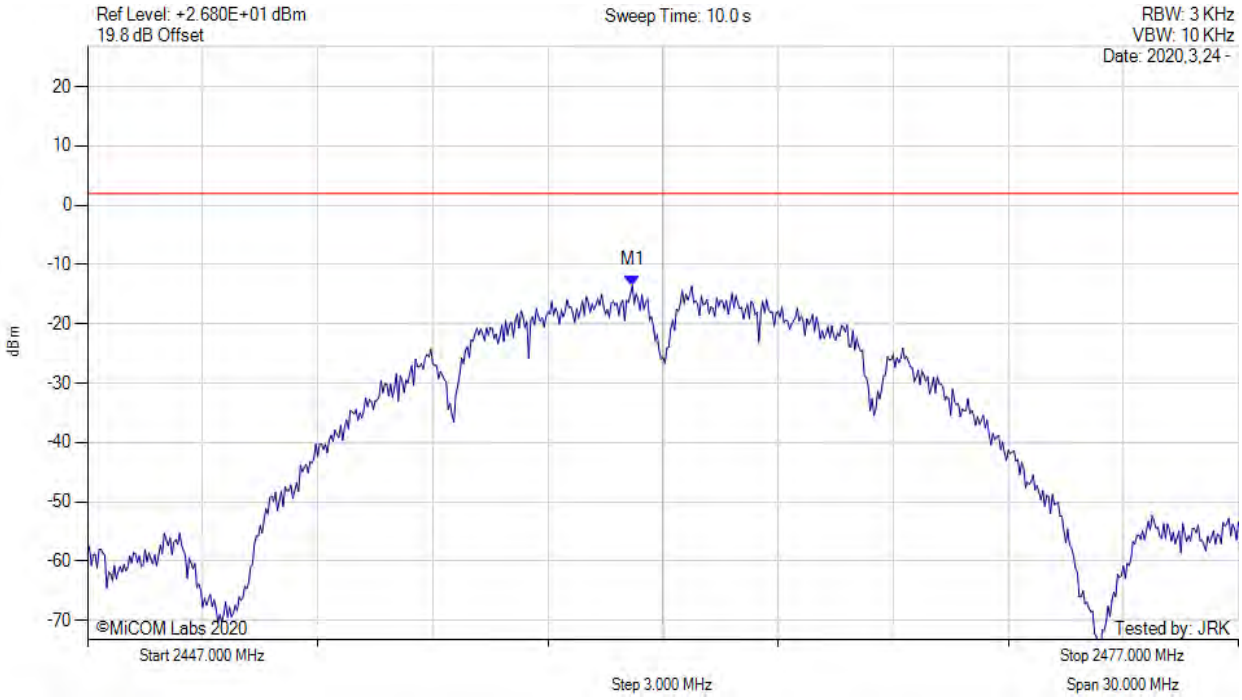


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2462.700 MHz : -13.090 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

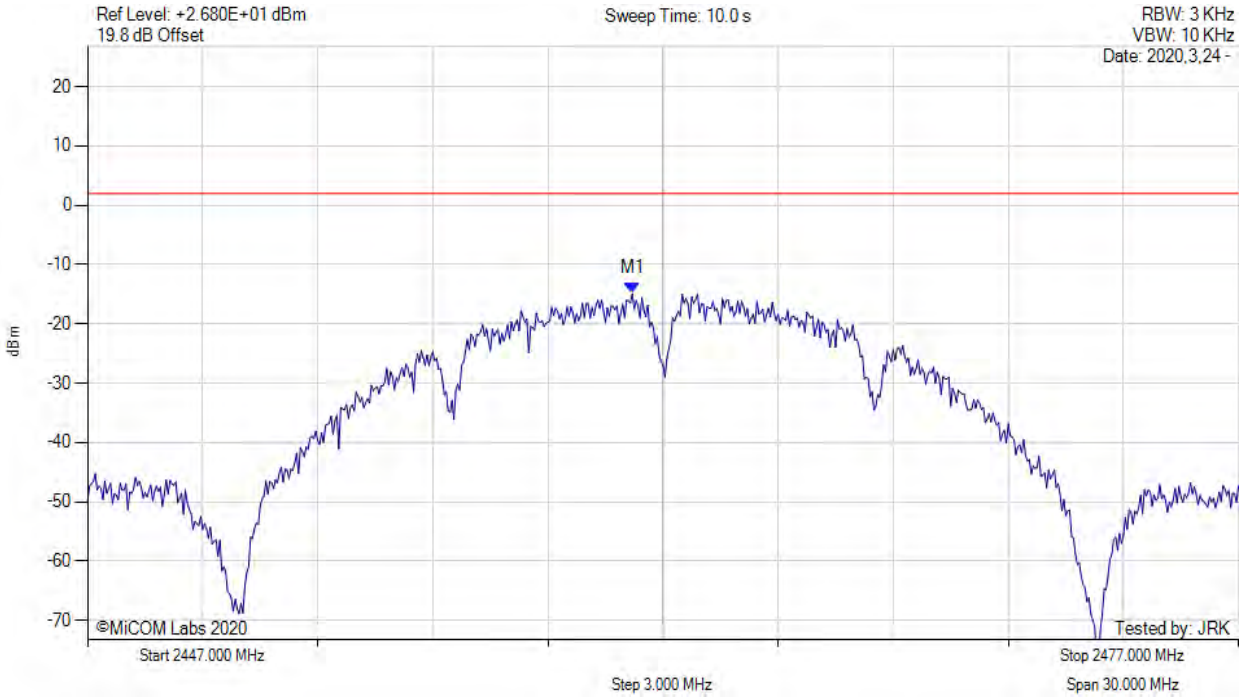


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2461.200 MHz : -13.543 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

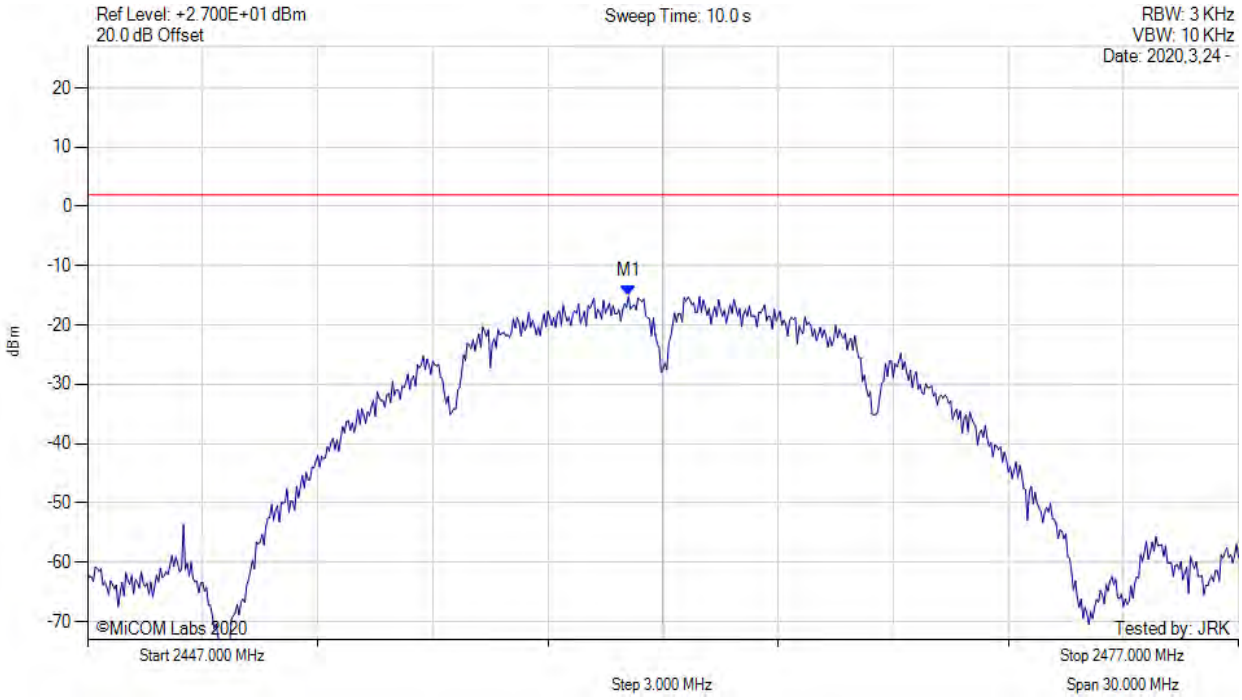


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2461.200 MHz : -14.909 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac

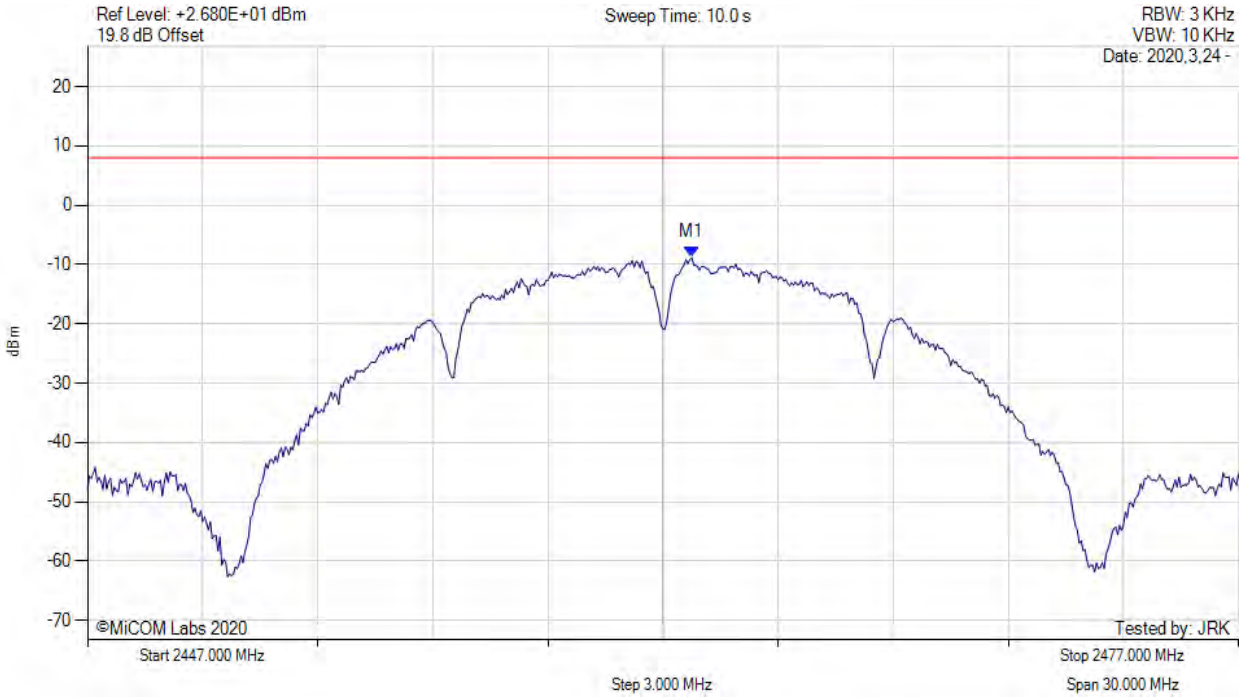


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2461.100 MHz : -15.150 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, SUM, Temp: 20, Voltage: 120 Vac

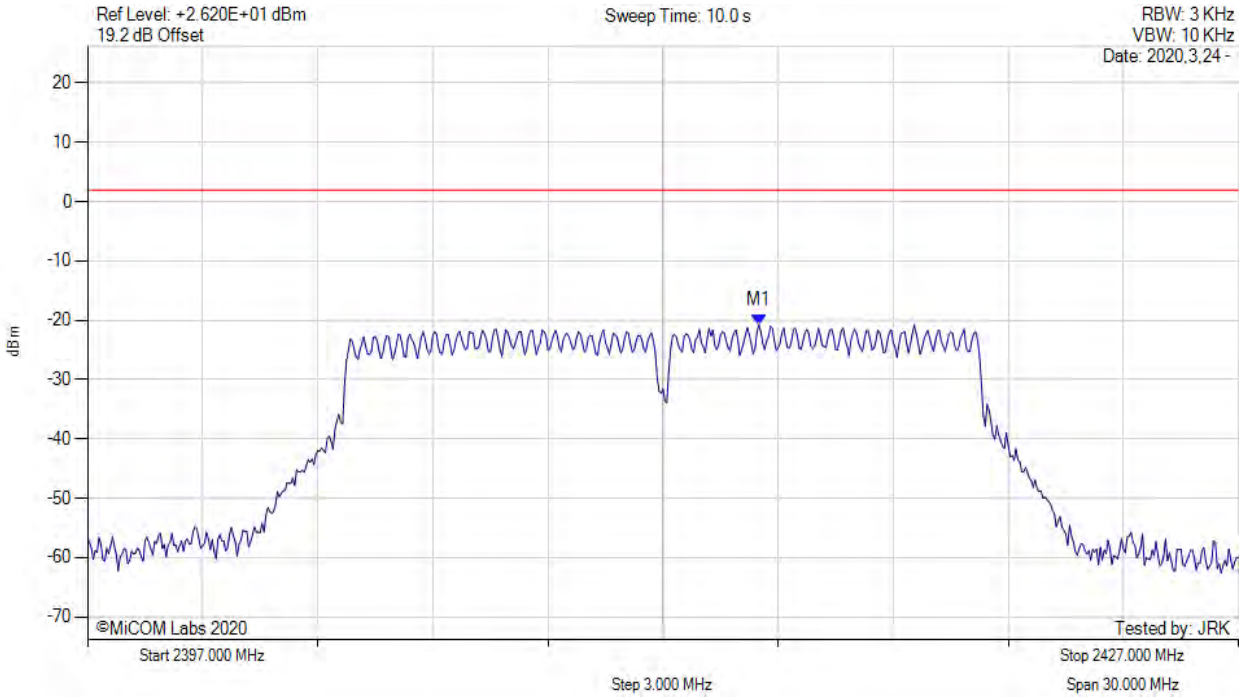


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2462.800 MHz : -8.830 dBm M1 + DCCF : 2462.800 MHz : -5.642 dBm Duty Cycle Correction Factor : +3.15 dB	Limit: ≤ 8.0 dBm Margin: -13.7 dB

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

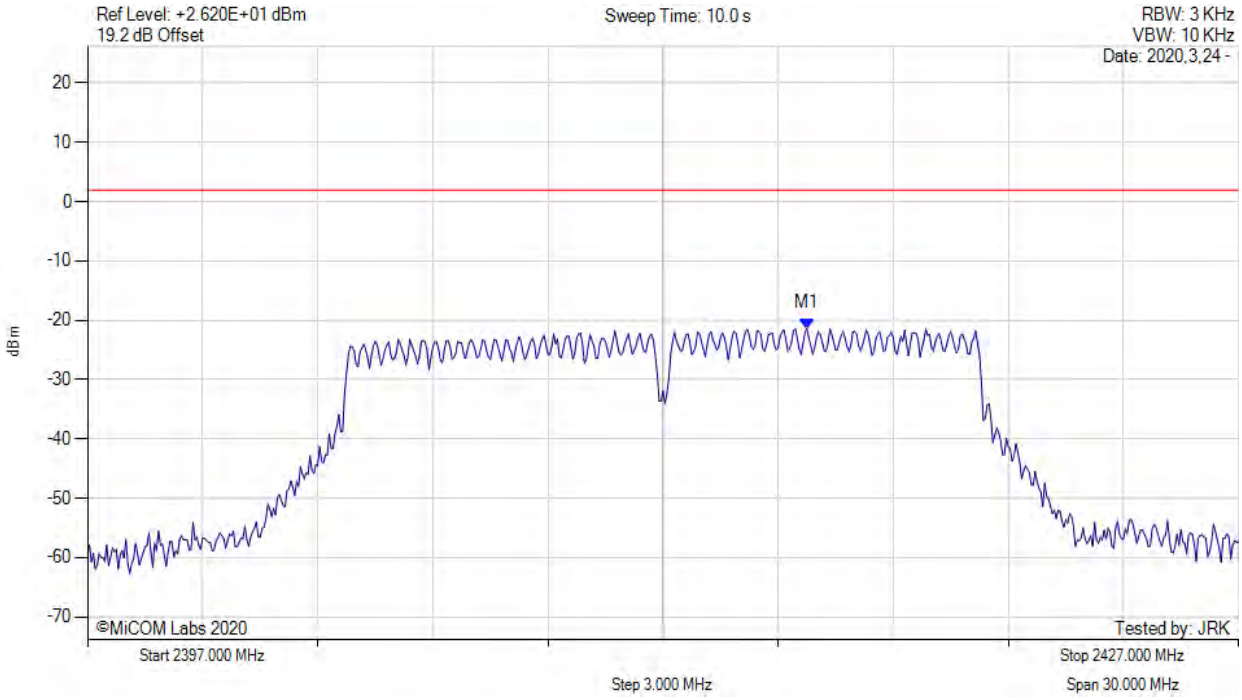


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2414.500 MHz : -20.788 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

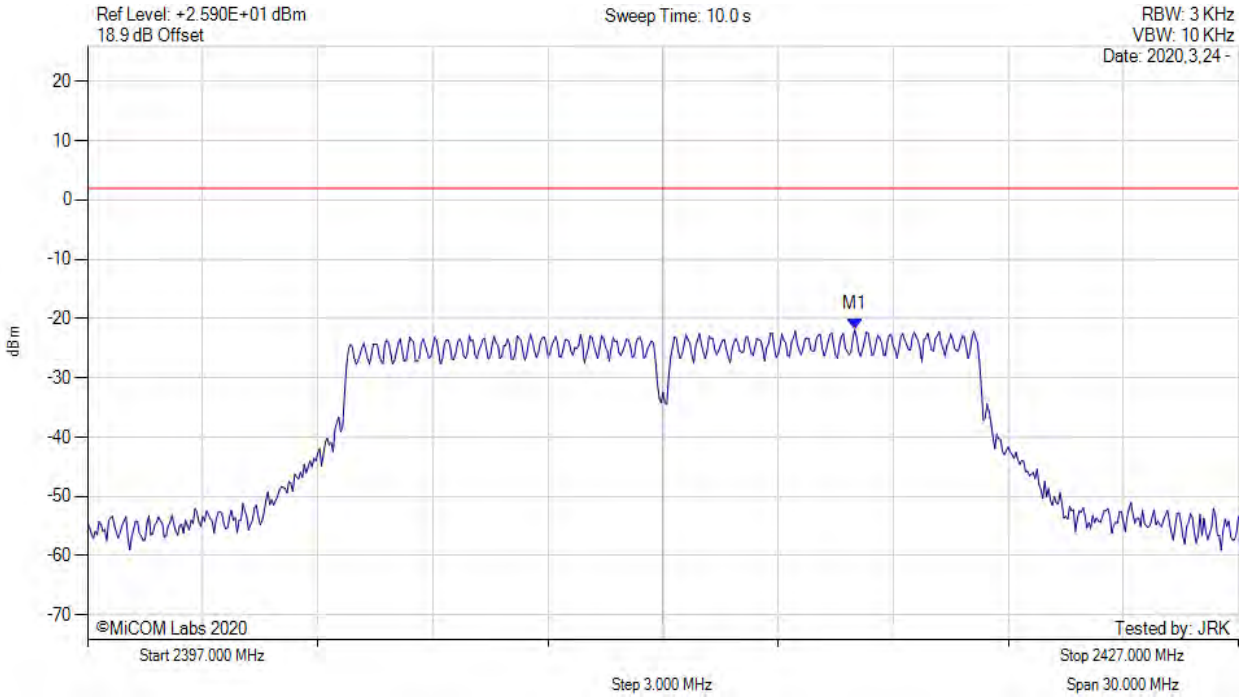


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2415.750 MHz : -21.397 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

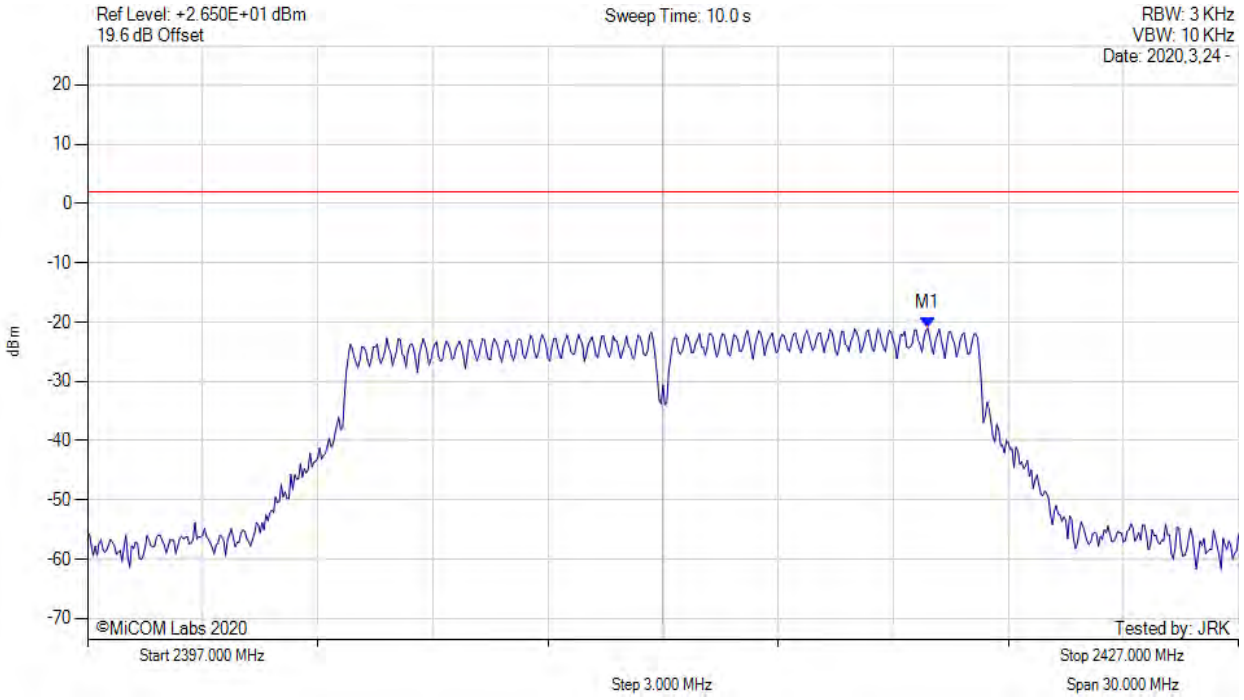


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2417.000 MHz : -21.837 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac

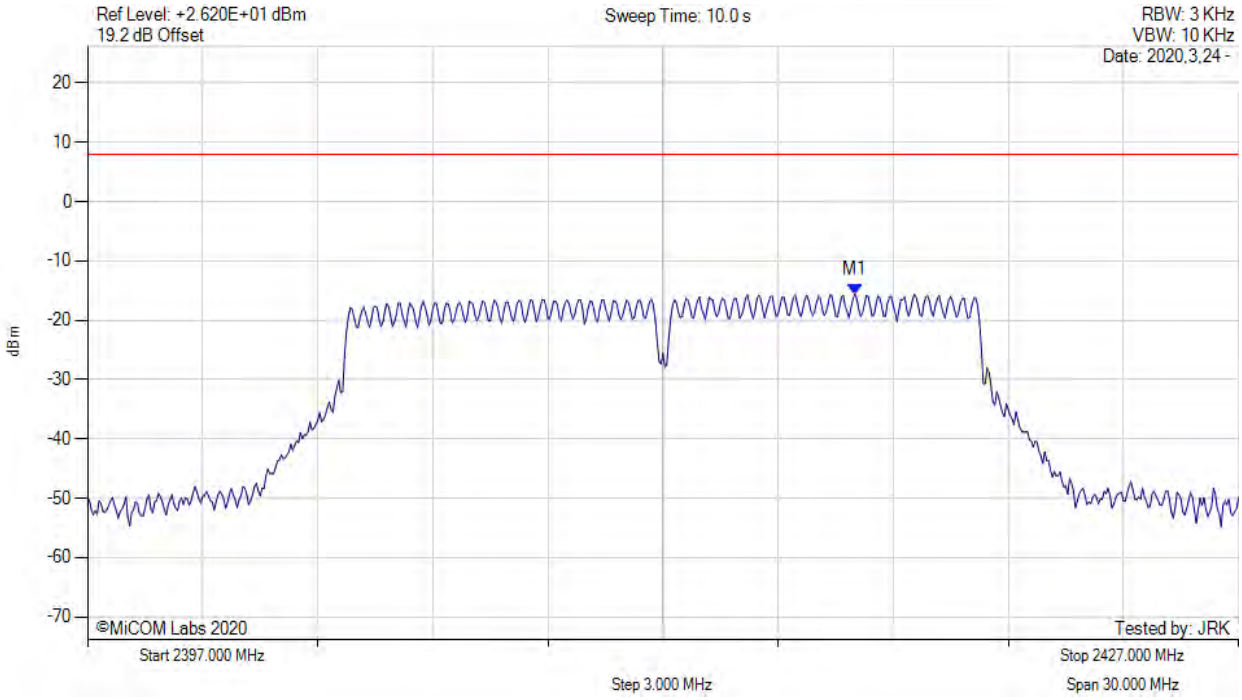


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2418.900 MHz : -21.012 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, SUM, Temp: 20, Voltage: 120 Vac

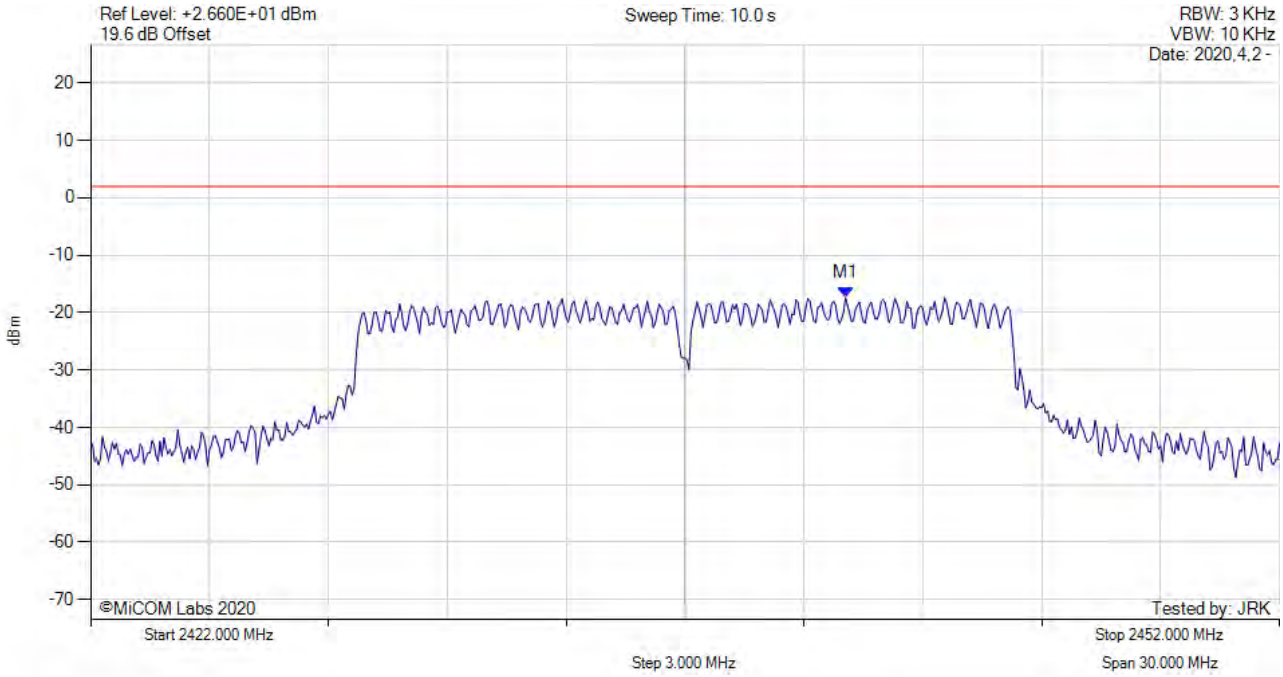


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2417.000 MHz : -15.577 dBm M1 + DCCF : 2417.000 MHz : -12.523 dBm Duty Cycle Correction Factor : +3.05 dB	Limit: ≤ 8.0 dBm Margin: -20.5 dB

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2437.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

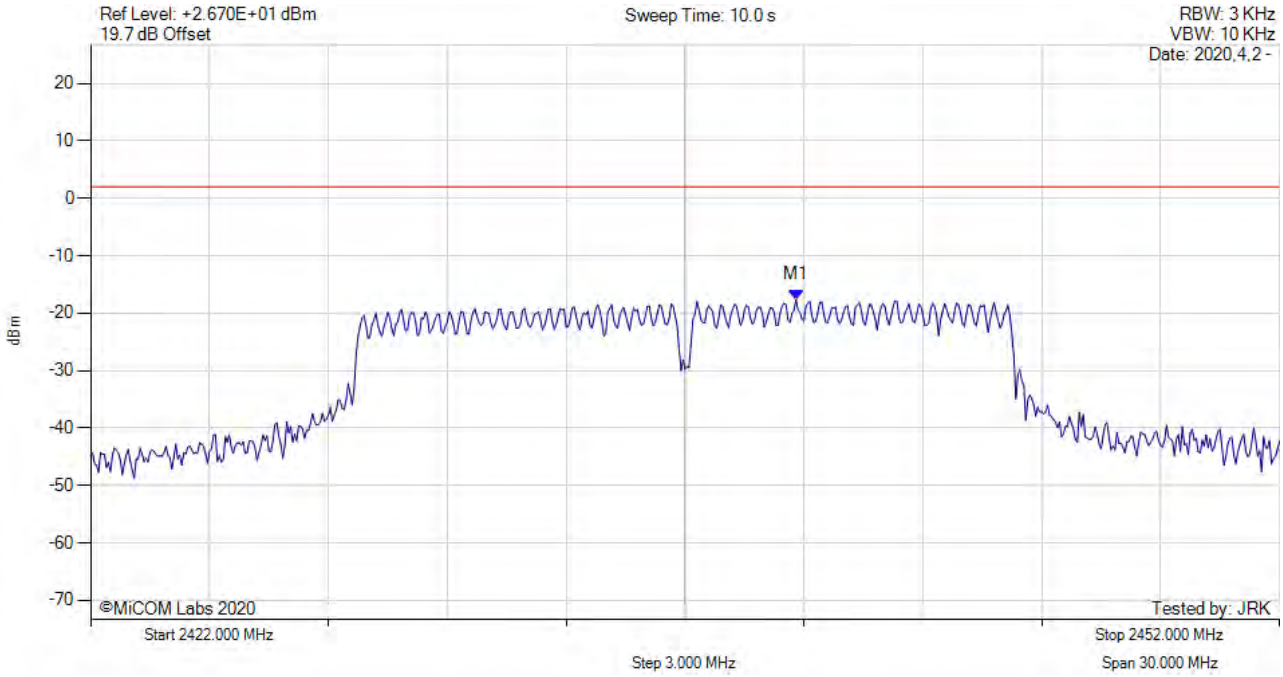


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2441.050 MHz : -17.391 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2437.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

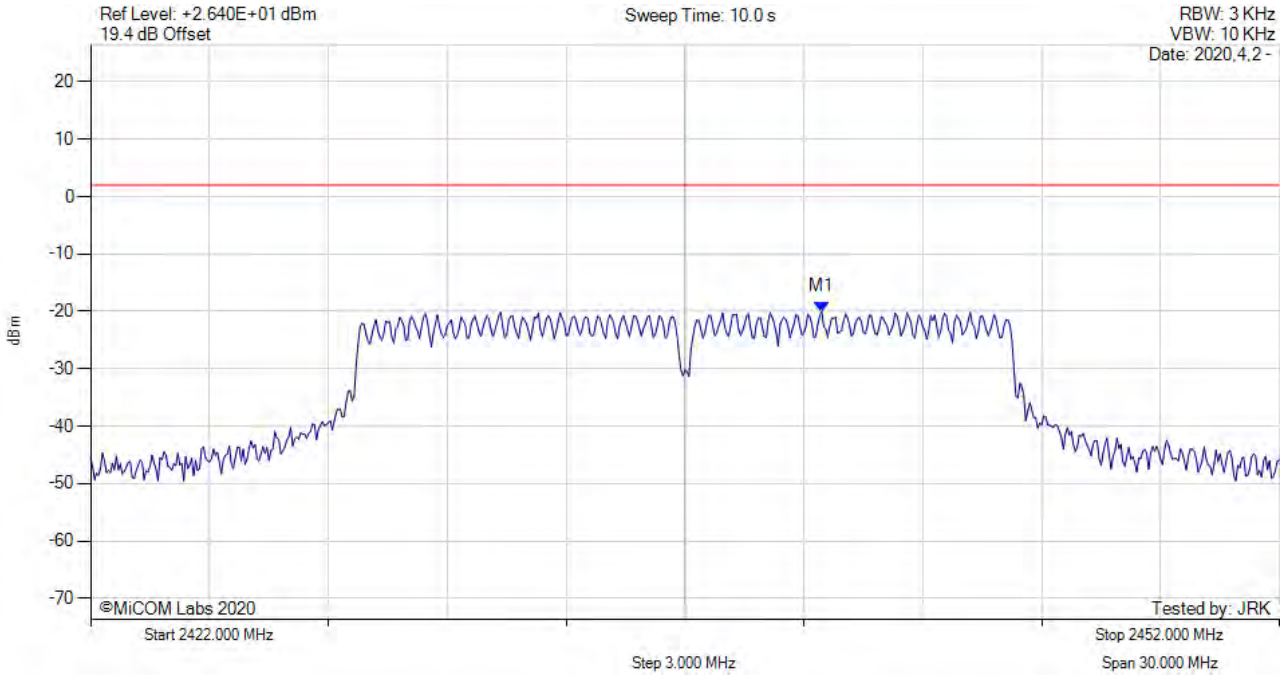


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2439.800 MHz : -17.618 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2437.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

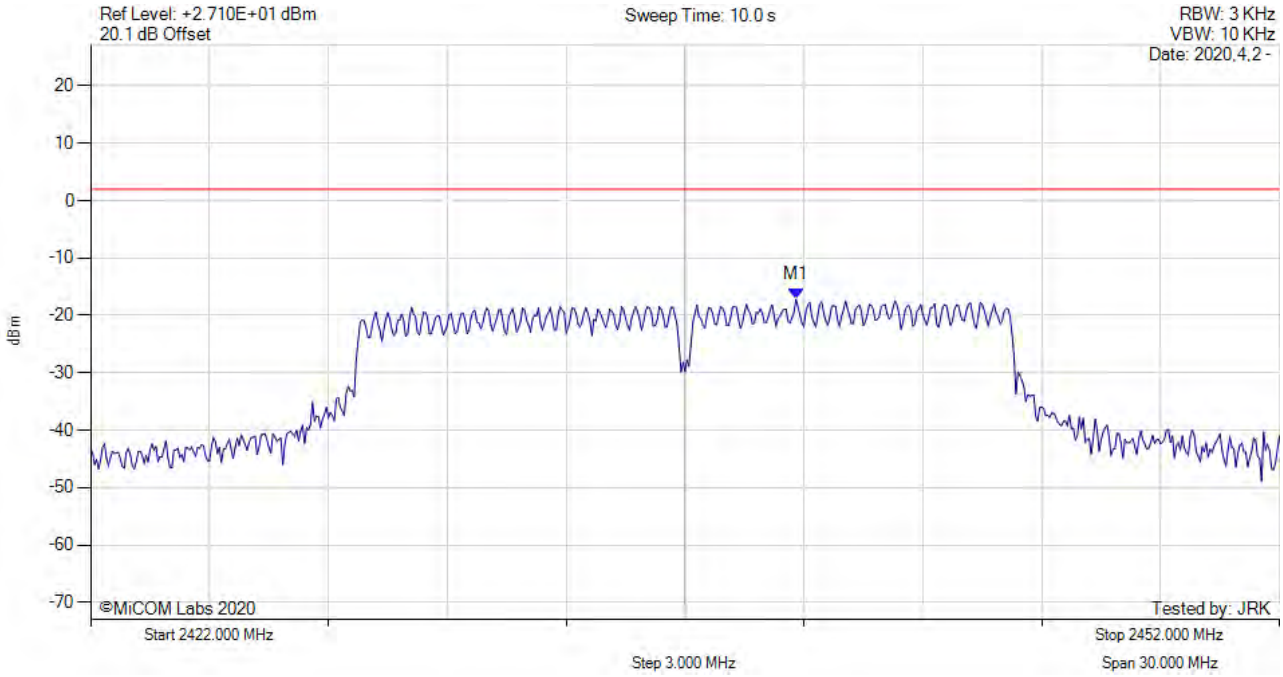


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2440.450 MHz : -20.027 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2437.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac

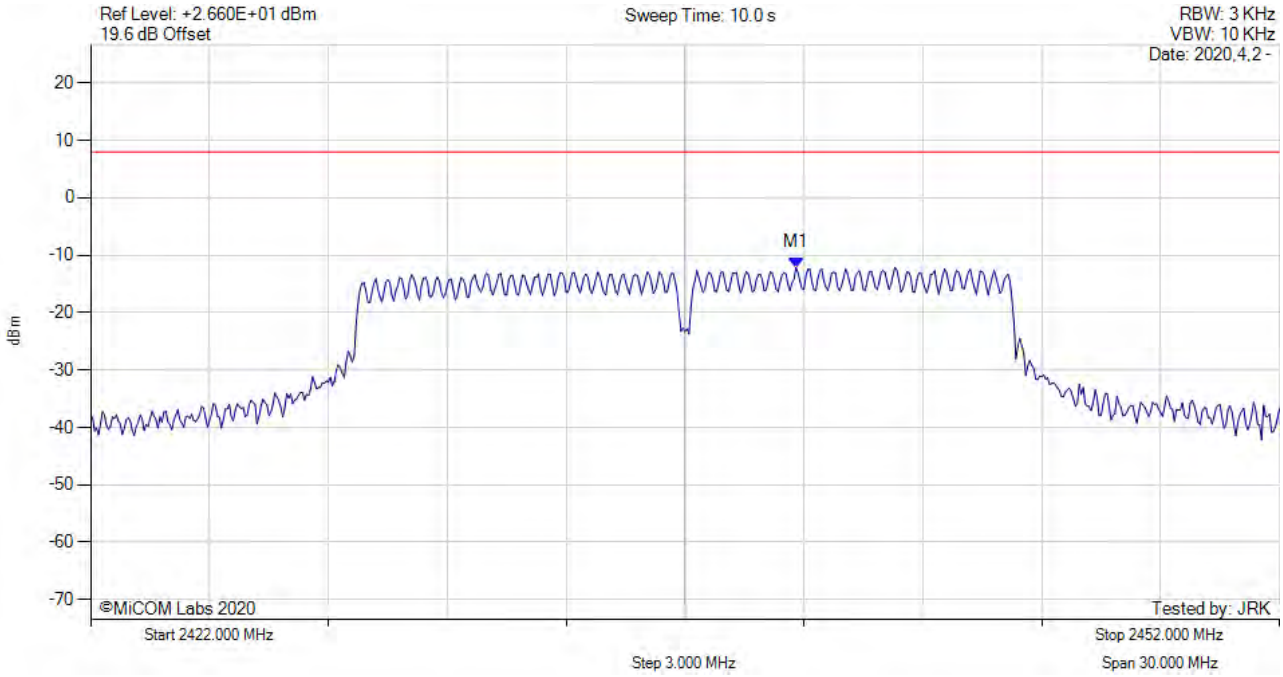


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2439.800 MHz : -17.176 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2437.00 MHz, SUM, Temp: 20, Voltage: 120 Vac

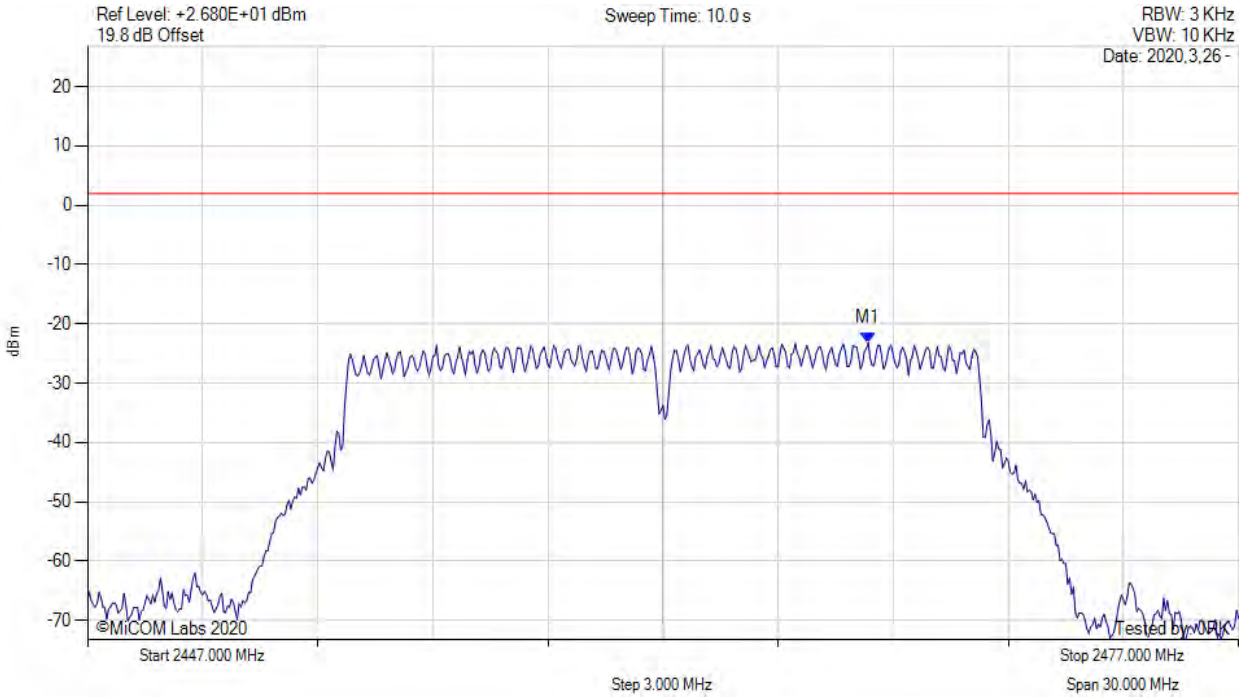


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2439.800 MHz : -12.094 dBm M1 + DCCF : 2441.400 MHz : -9.040 dBm Duty Cycle Correction Factor : +3.05 dB	Limit: ≤ 8.0 dBm Margin: -17.1 dB

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

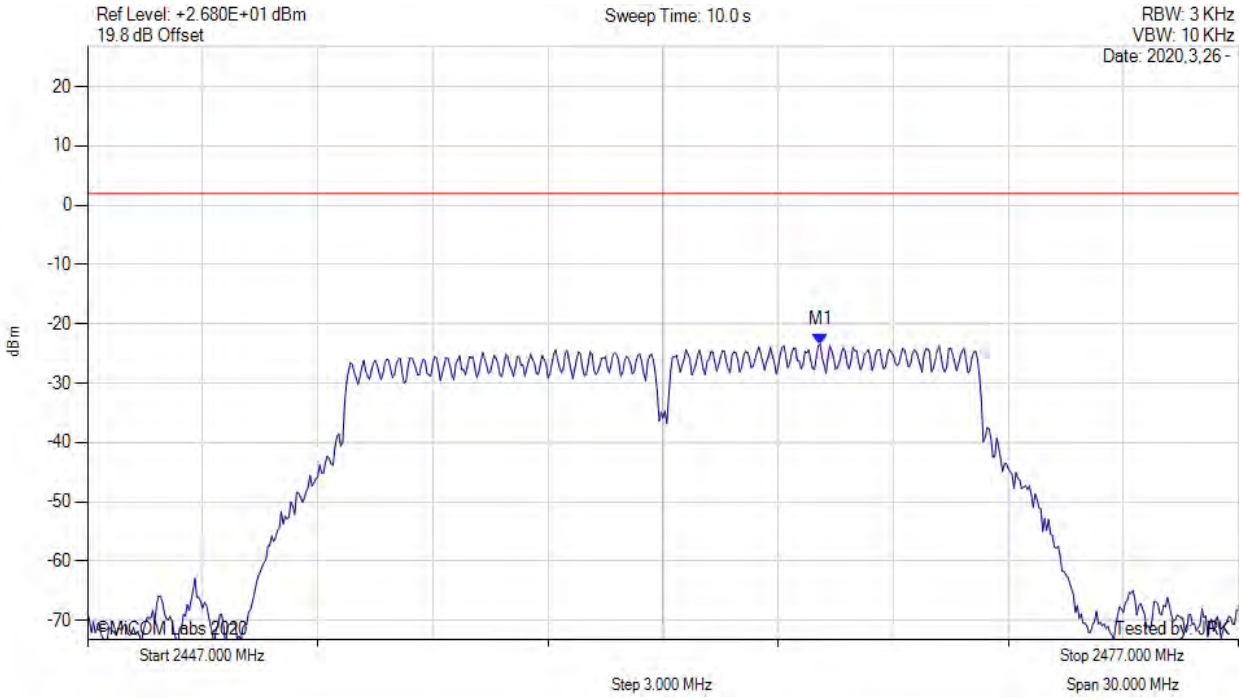


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2467.350 MHz : -23.161 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

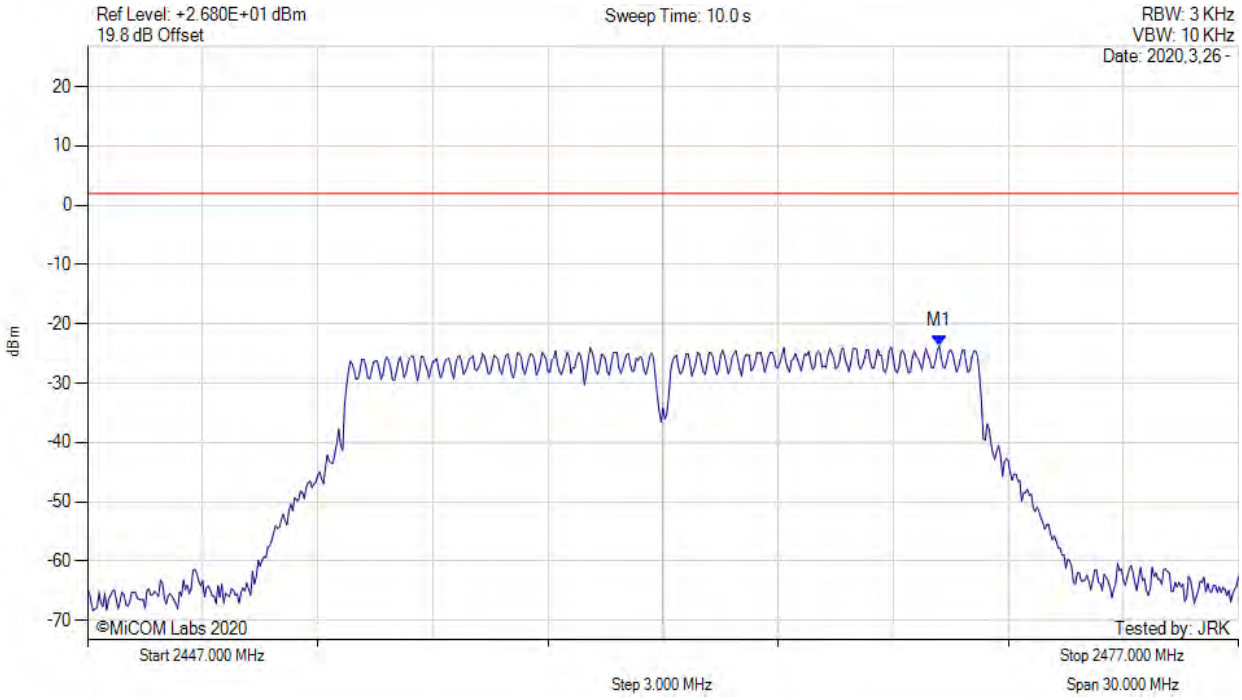


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2466.100 MHz : -23.410 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

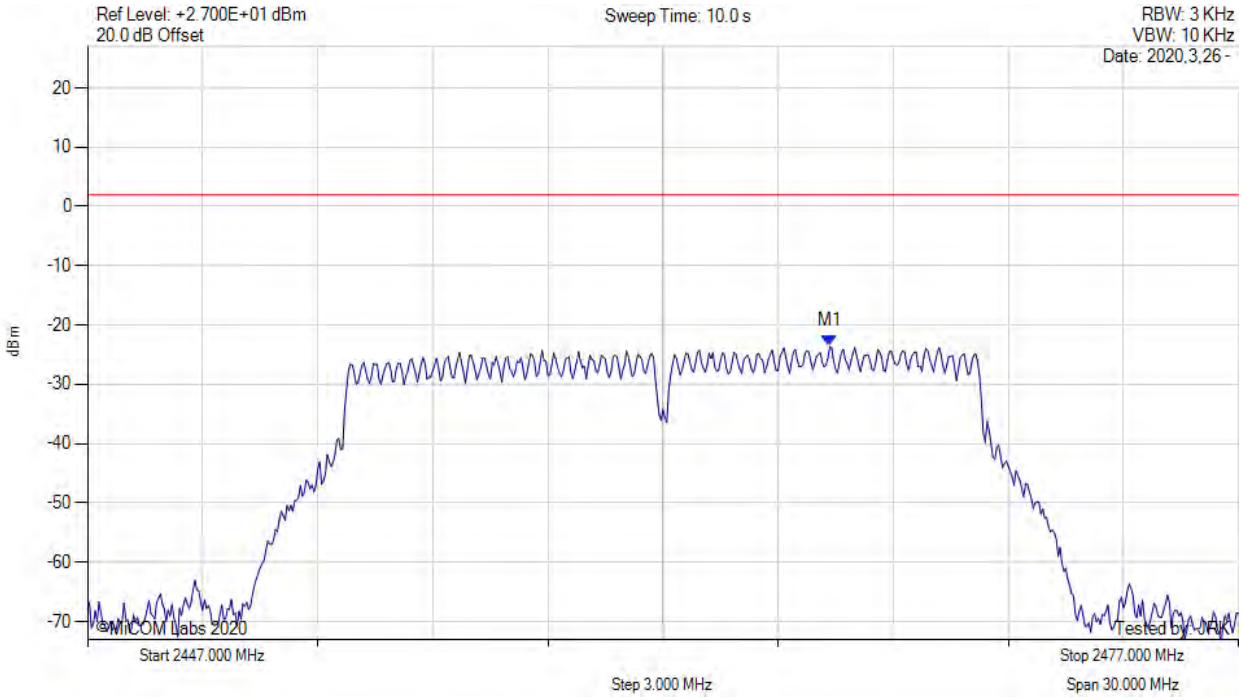


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2469.200 MHz : -23.715 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac

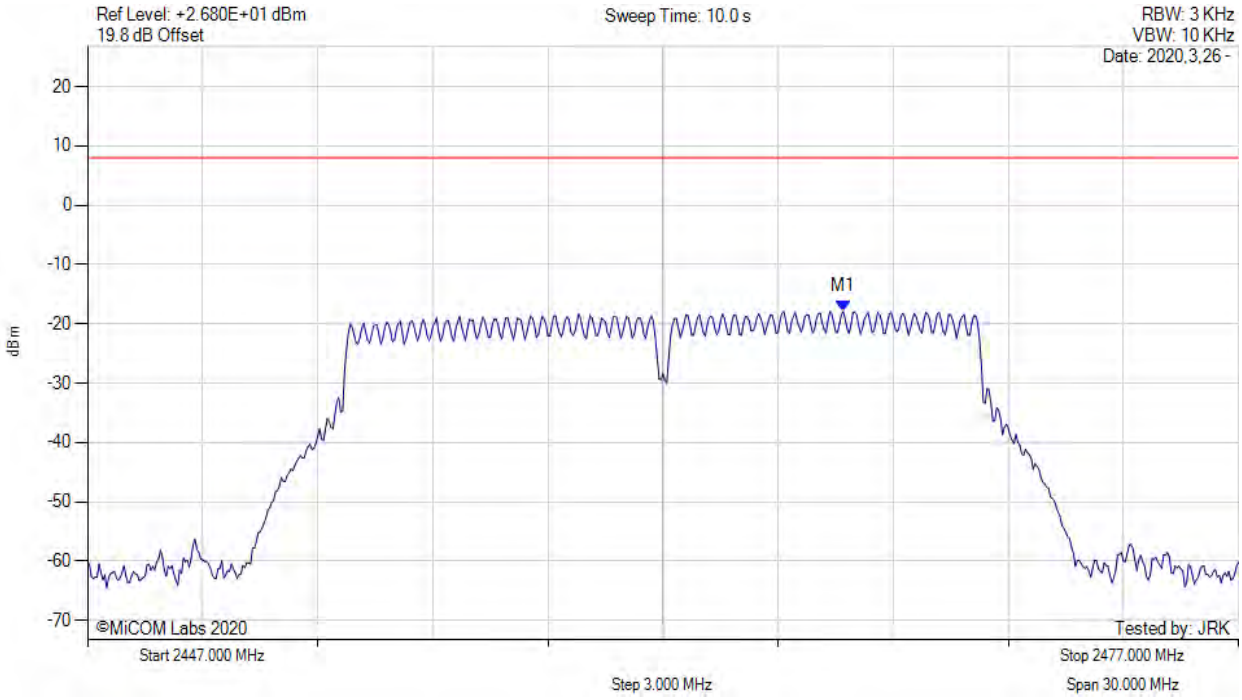


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2466.350 MHz : -23.610 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, SUM, Temp: 20, Voltage: 120 Vac

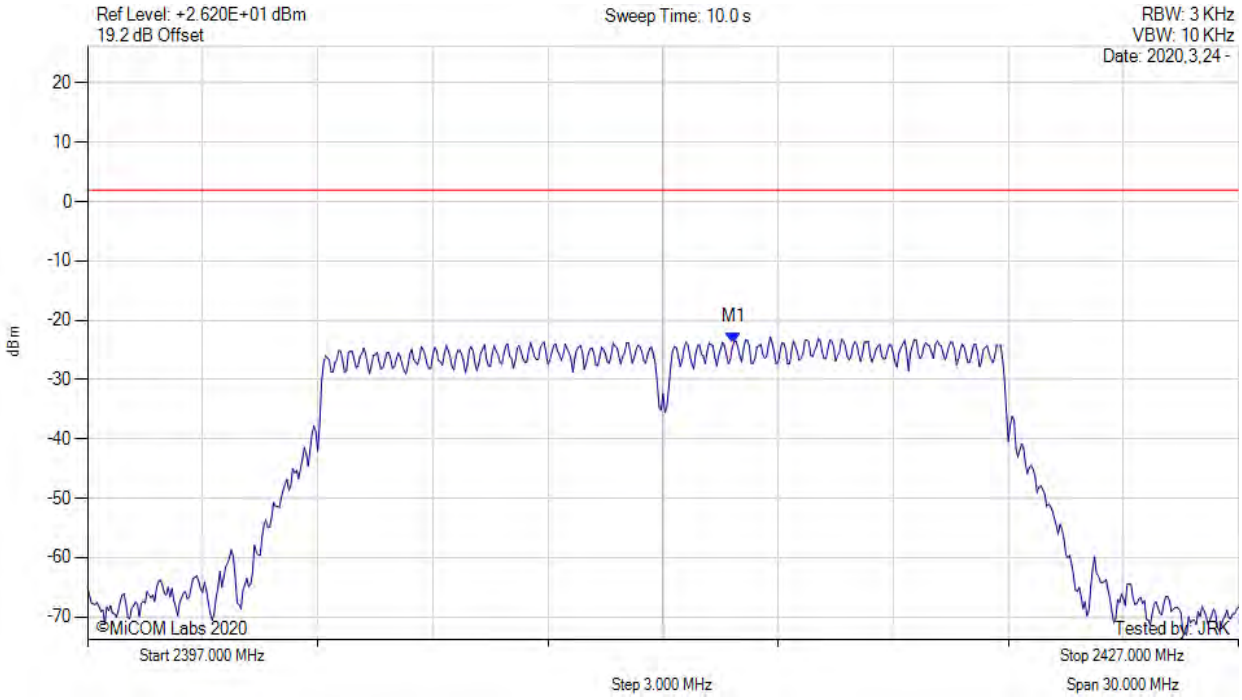


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2466.700 MHz : -17.906 dBm M1 + DCCF : 2466.700 MHz : -14.852 dBm Duty Cycle Correction Factor : +3.05 dB	Limit: ≤ 8.0 dBm Margin: -22.9 dB

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

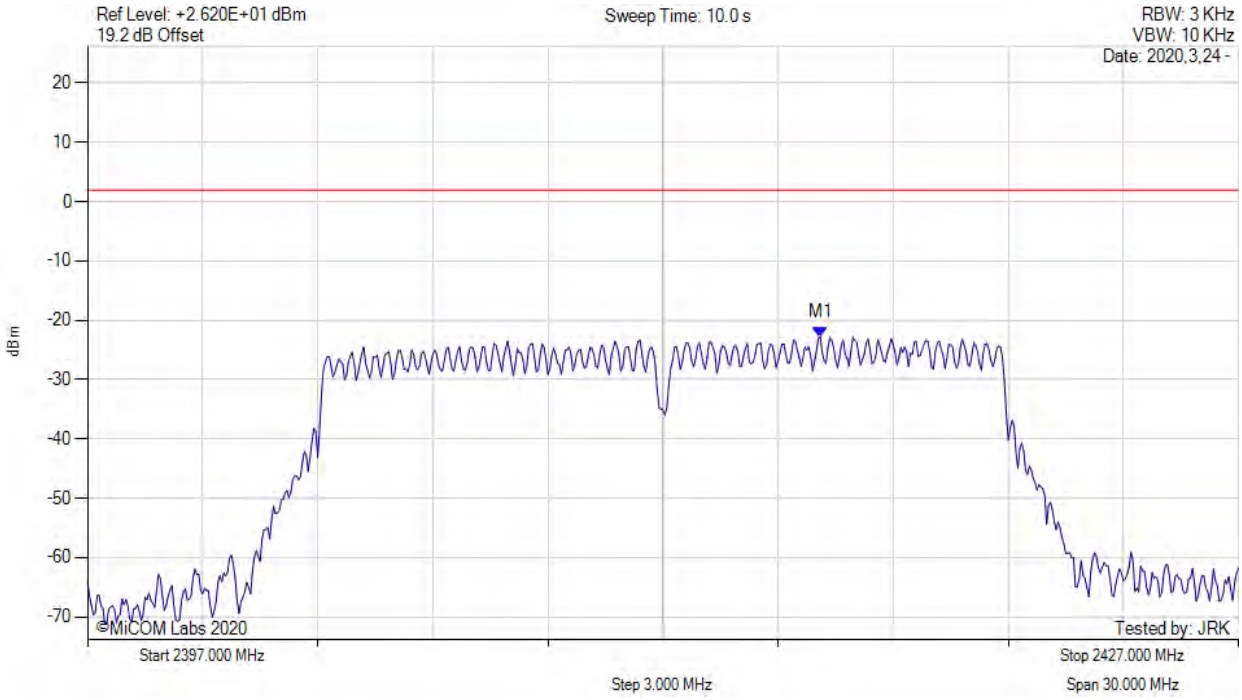


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2413.850 MHz : -23.734 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

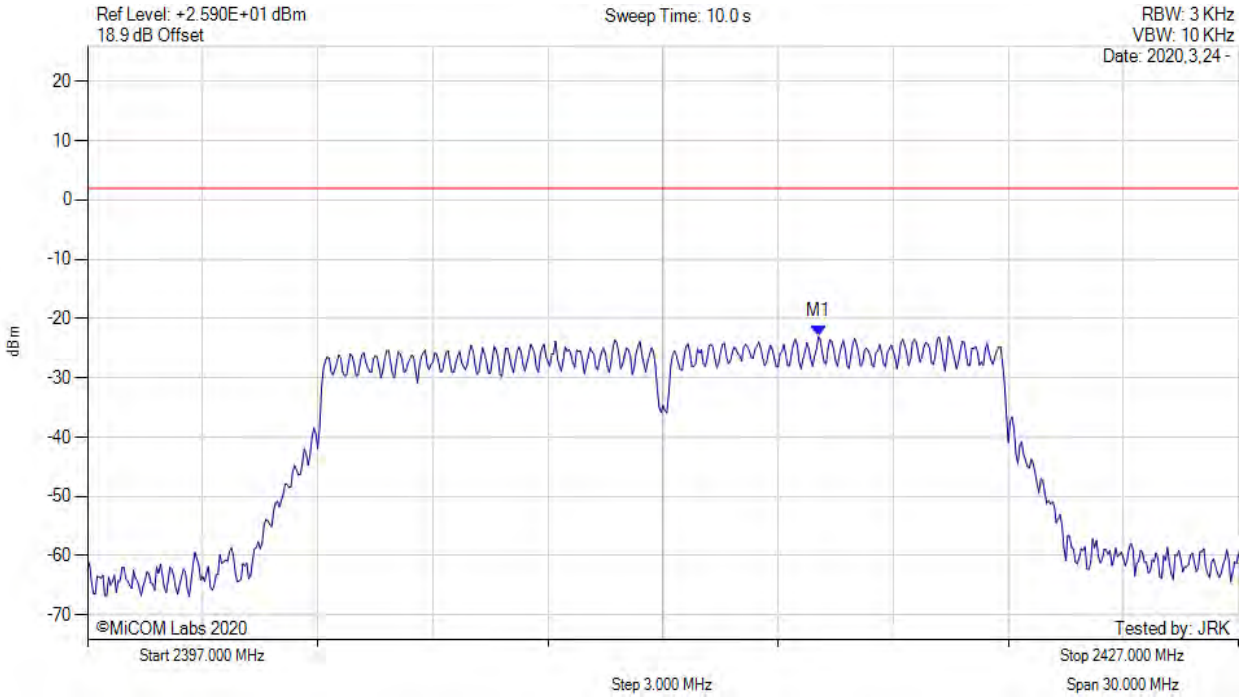


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2416.100 MHz : -22.823 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

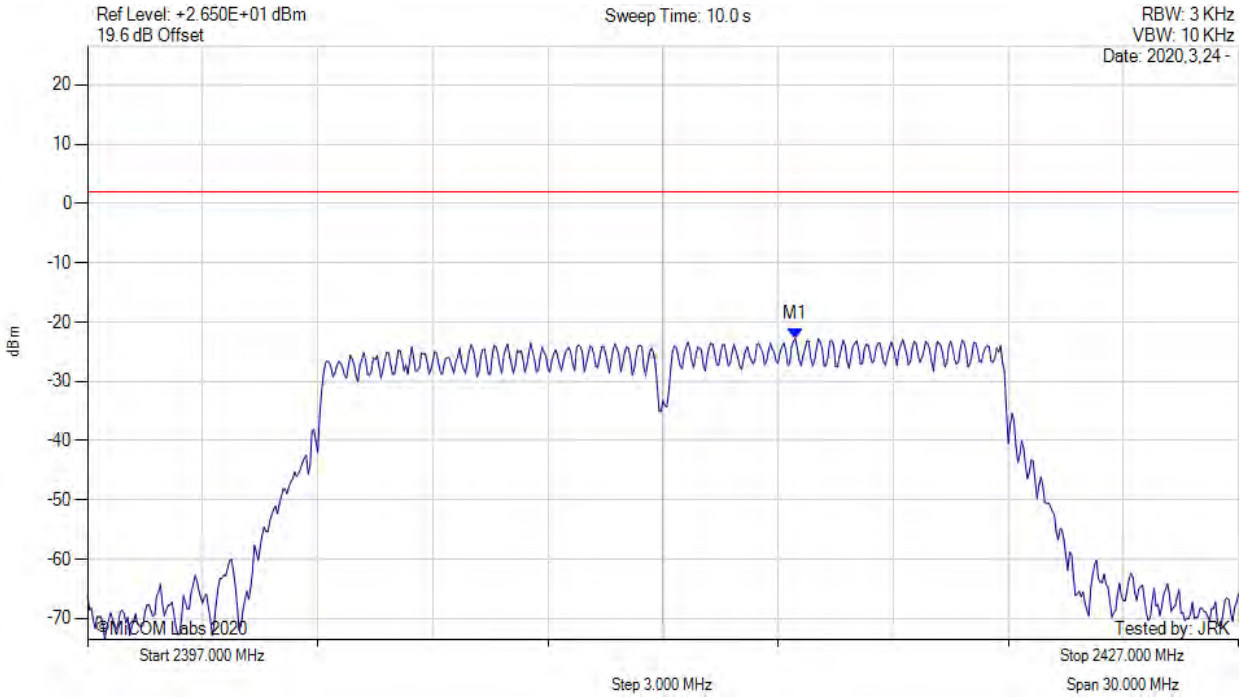


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2416.050 MHz : -23.020 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac

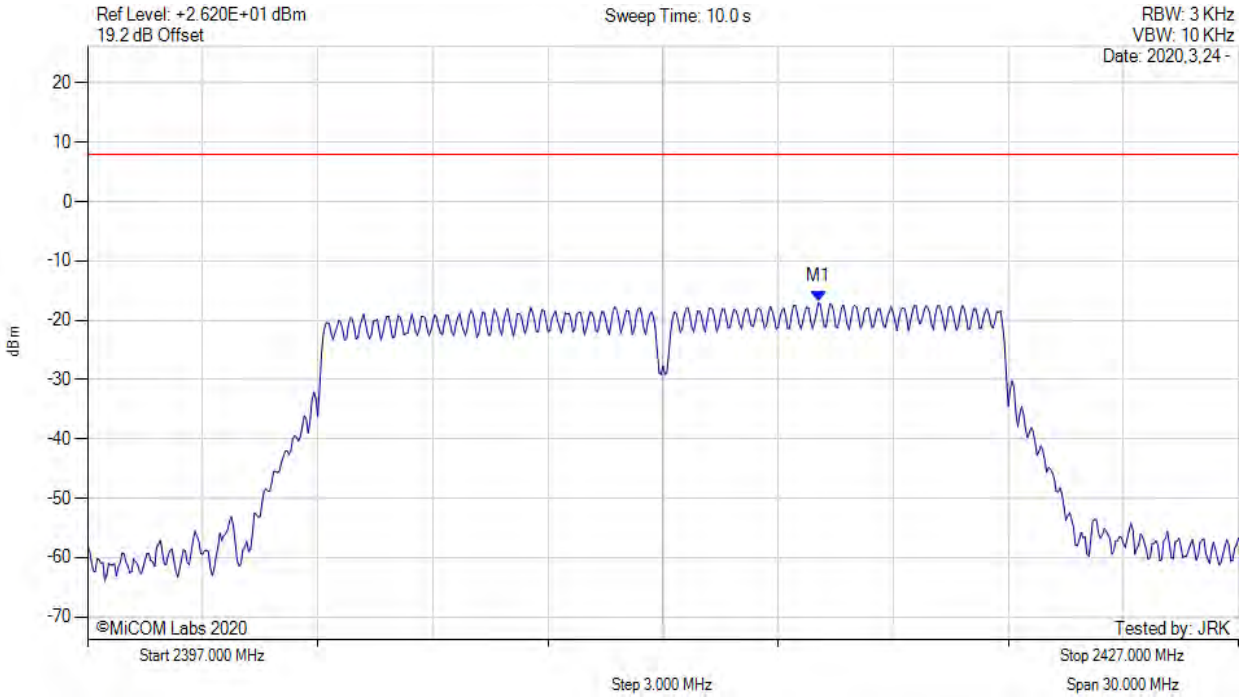


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2415.450 MHz : -22.756 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, SUM, Temp: 20, Voltage: 120 Vac

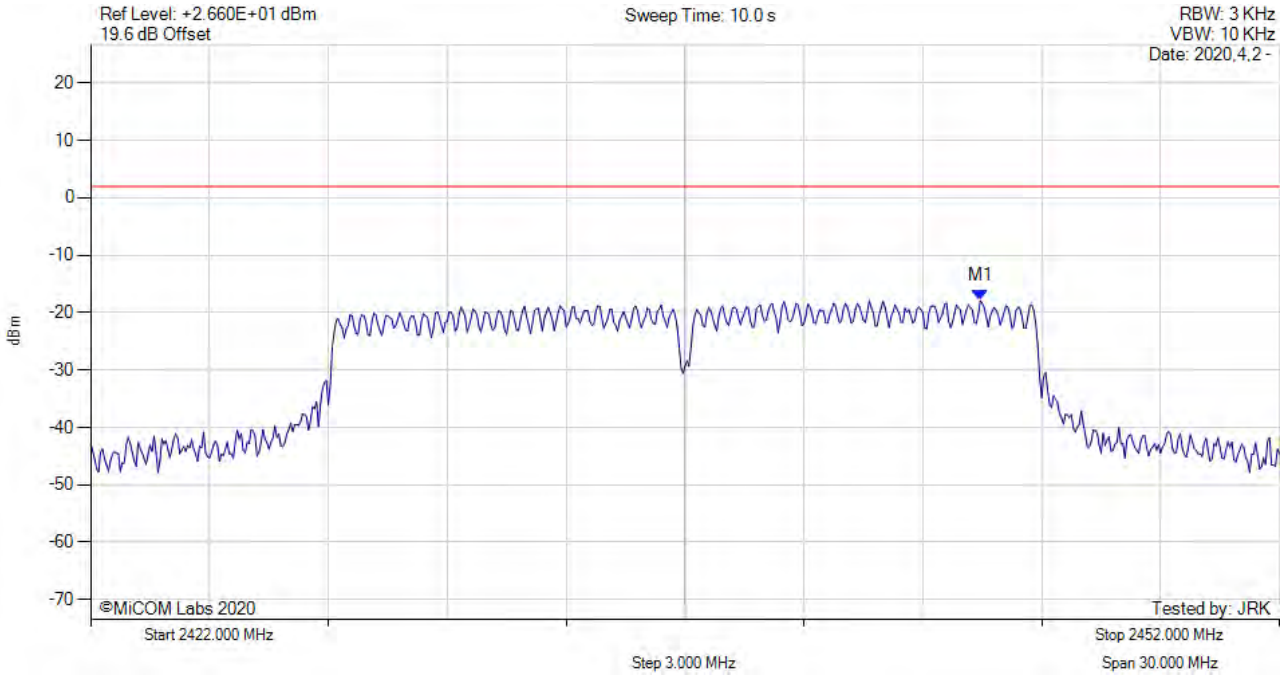


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 2416.100 MHz : -16.925 dBm M1 + DCCF : 2416.100 MHz : -13.588 dBm Duty Cycle Correction Factor : +3.57 dB	Limit: ≤ 8.0 dBm Margin: -21.6 dB

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

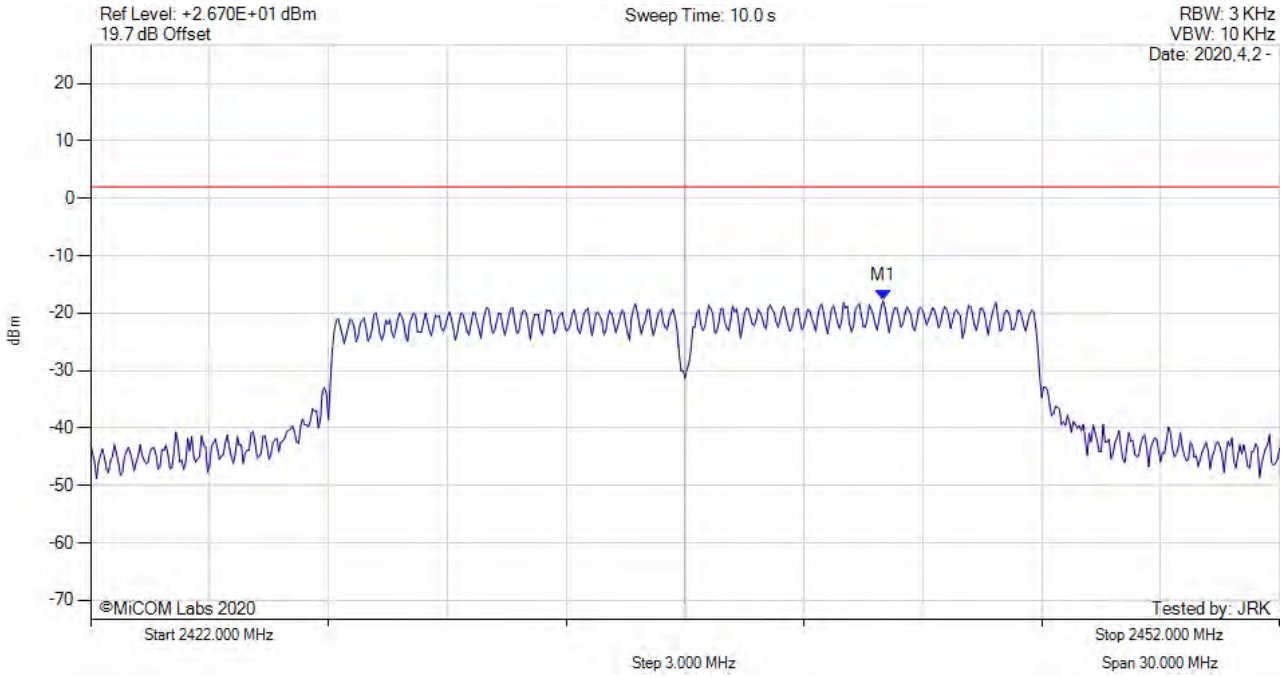


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2444.450 MHz : -17.907 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

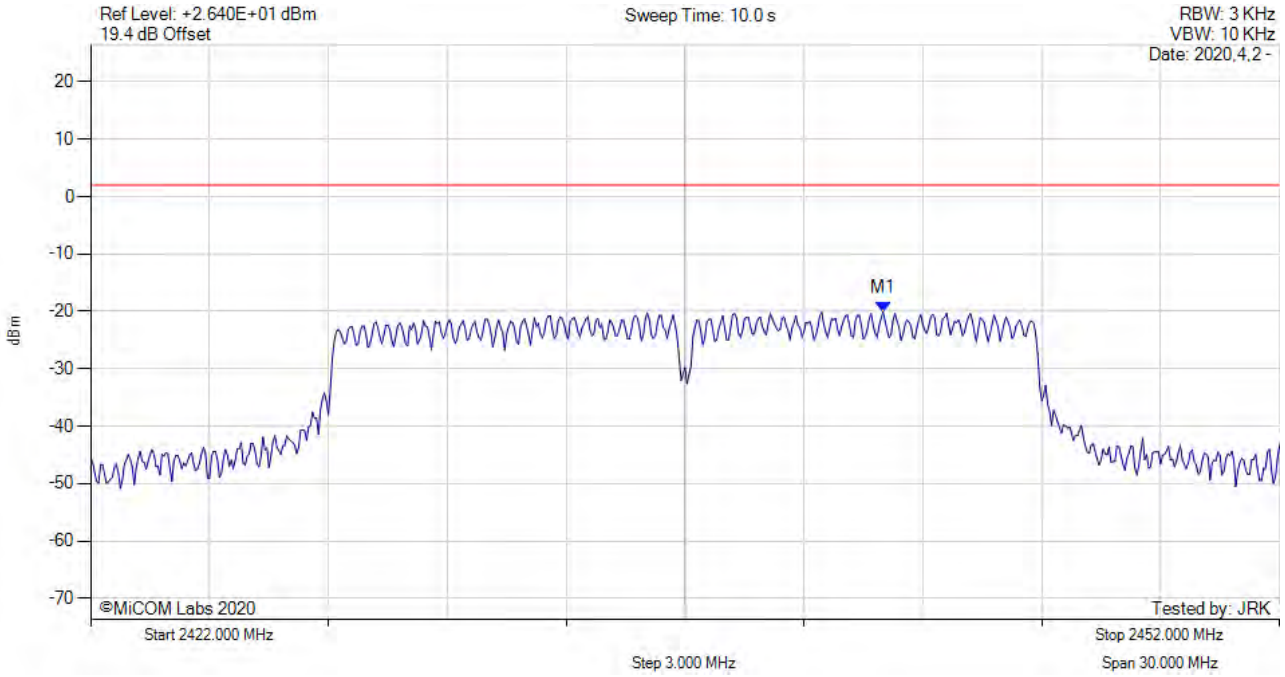


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2442.000 MHz : -17.793 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

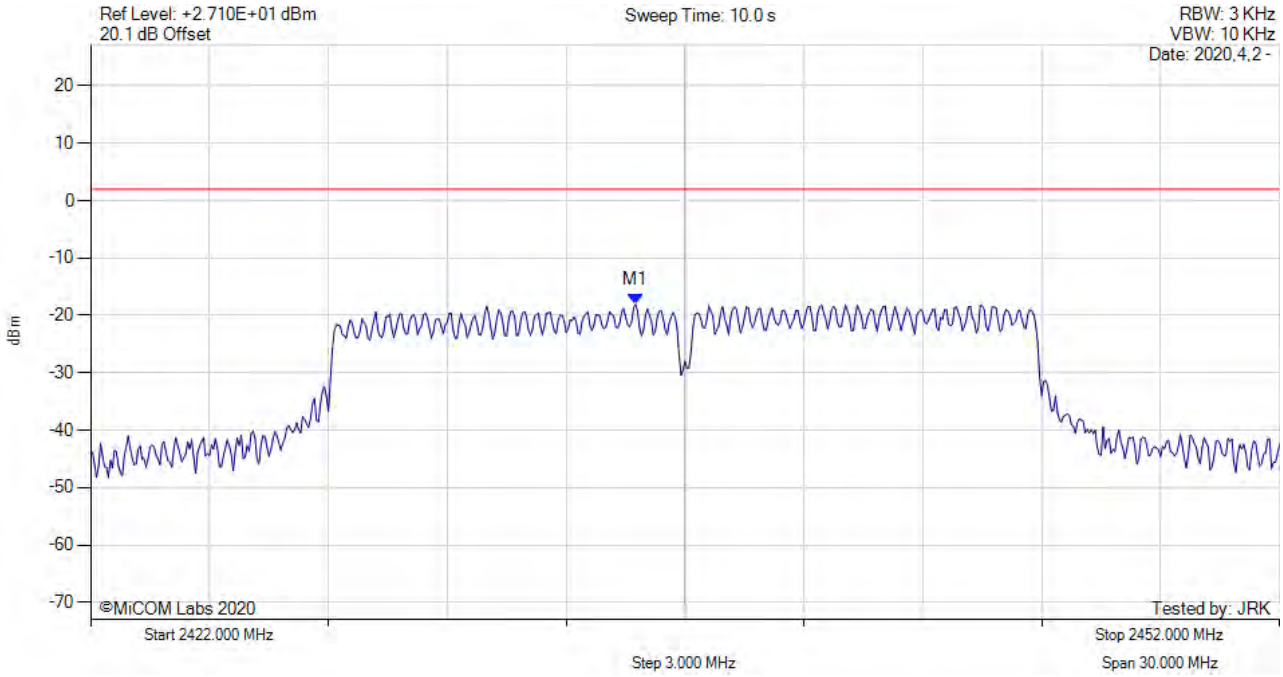


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2442.000 MHz : -20.124 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac

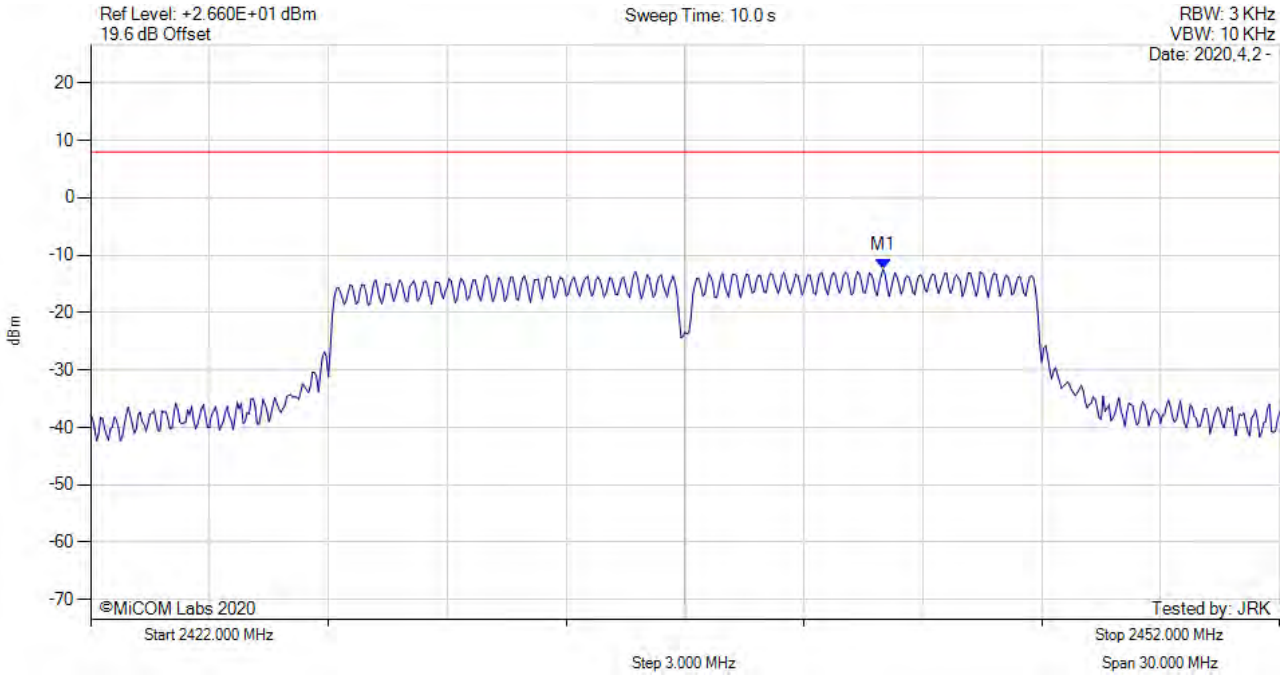


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2435.750 MHz : -18.068 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2437.00 MHz, SUM, Temp: 20, Voltage: 120 Vac

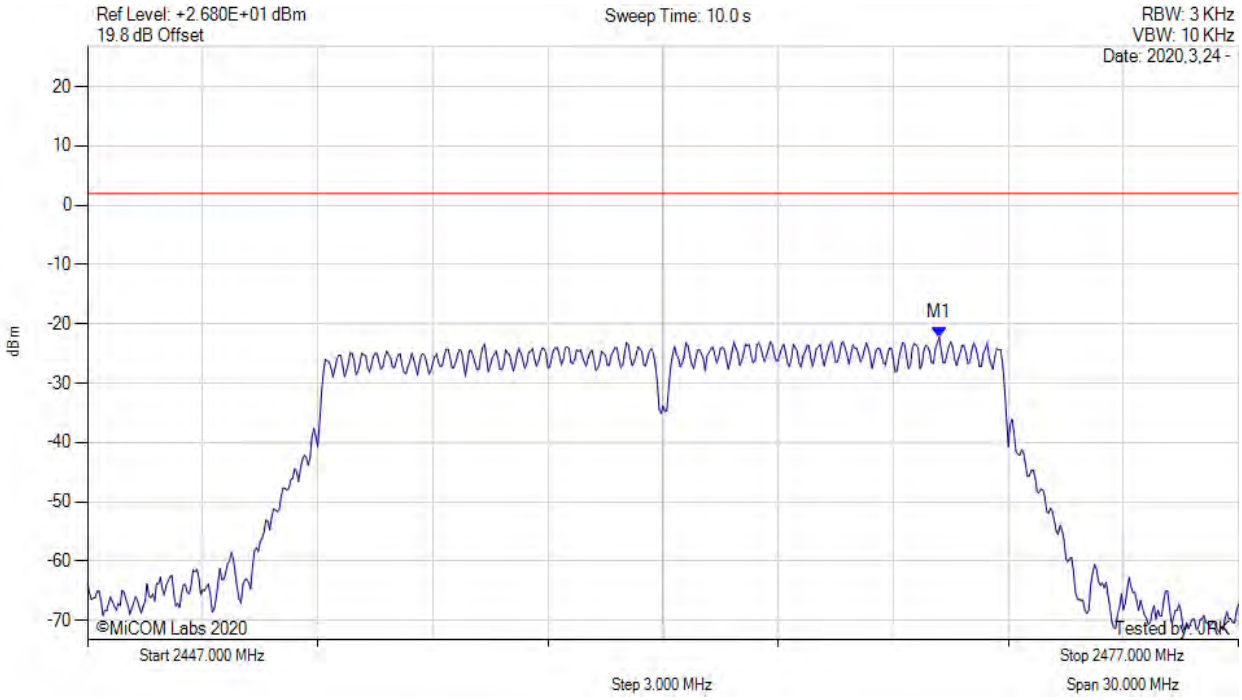


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2442.000 MHz : -12.493 dBm M1 + DCCF : 2442.000 MHz : -8.928 dBm Duty Cycle Correction Factor : +3.57 dB	Limit: ≤ 8.0 dBm Margin: -16.9 dB

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

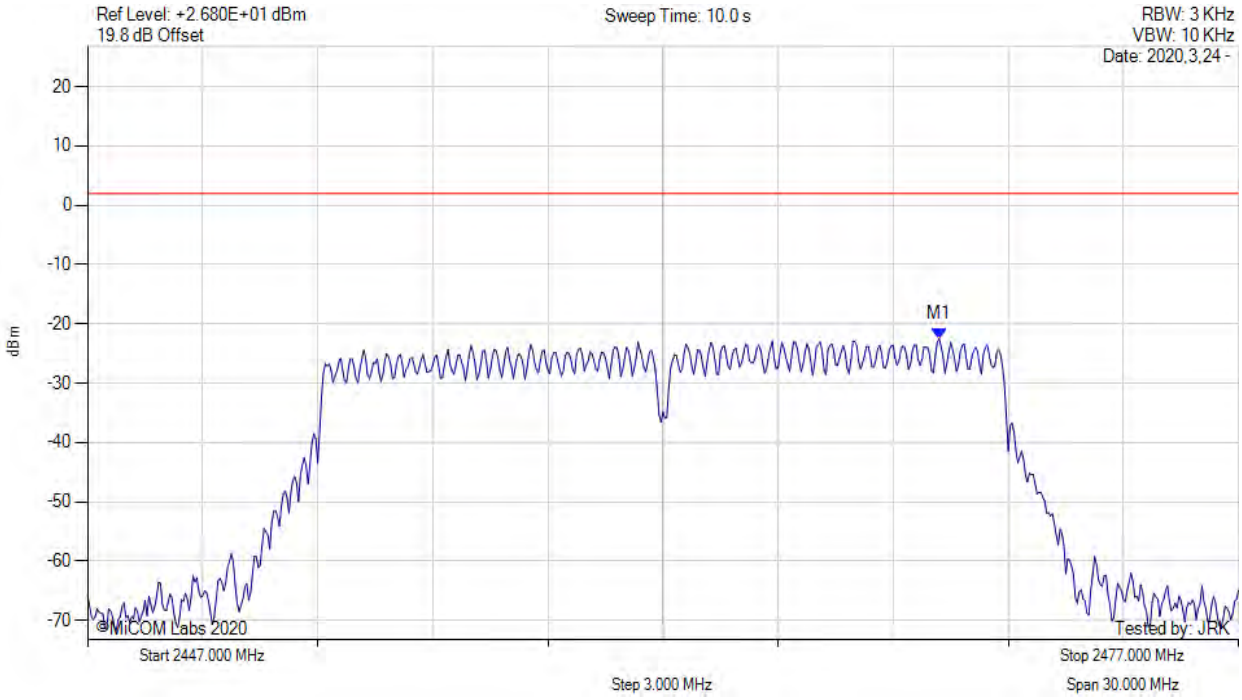


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2469.200 MHz : -22.230 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

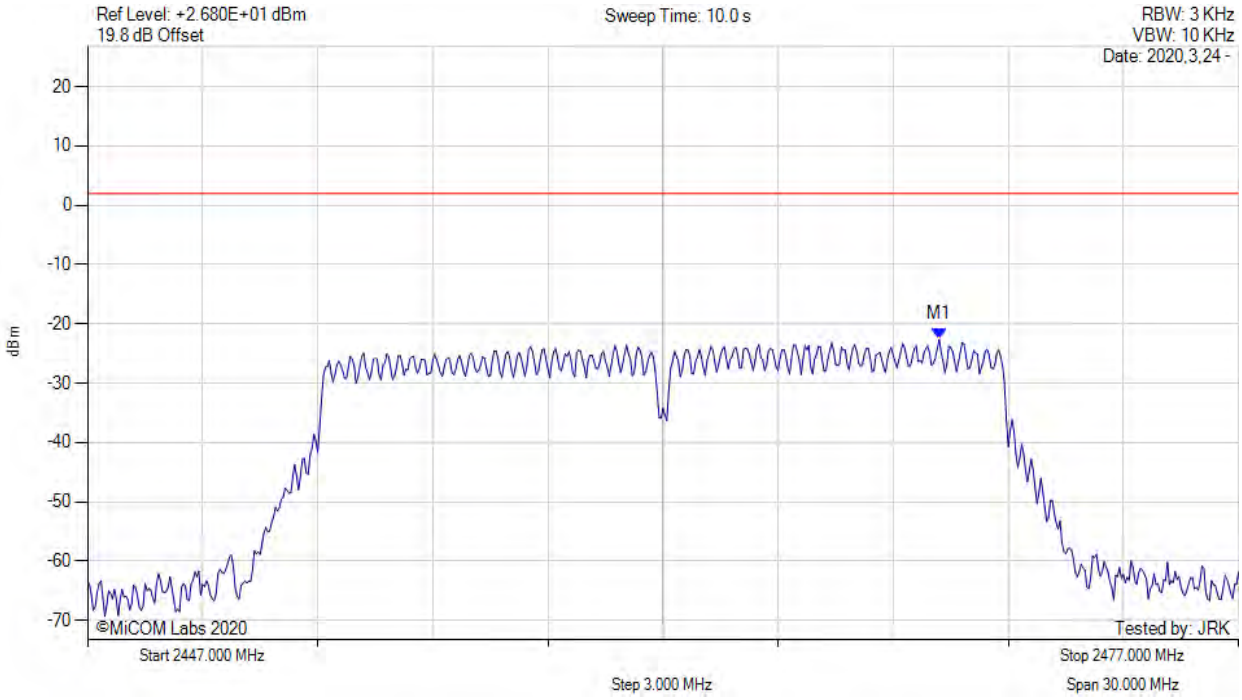


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2469.200 MHz : -22.499 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

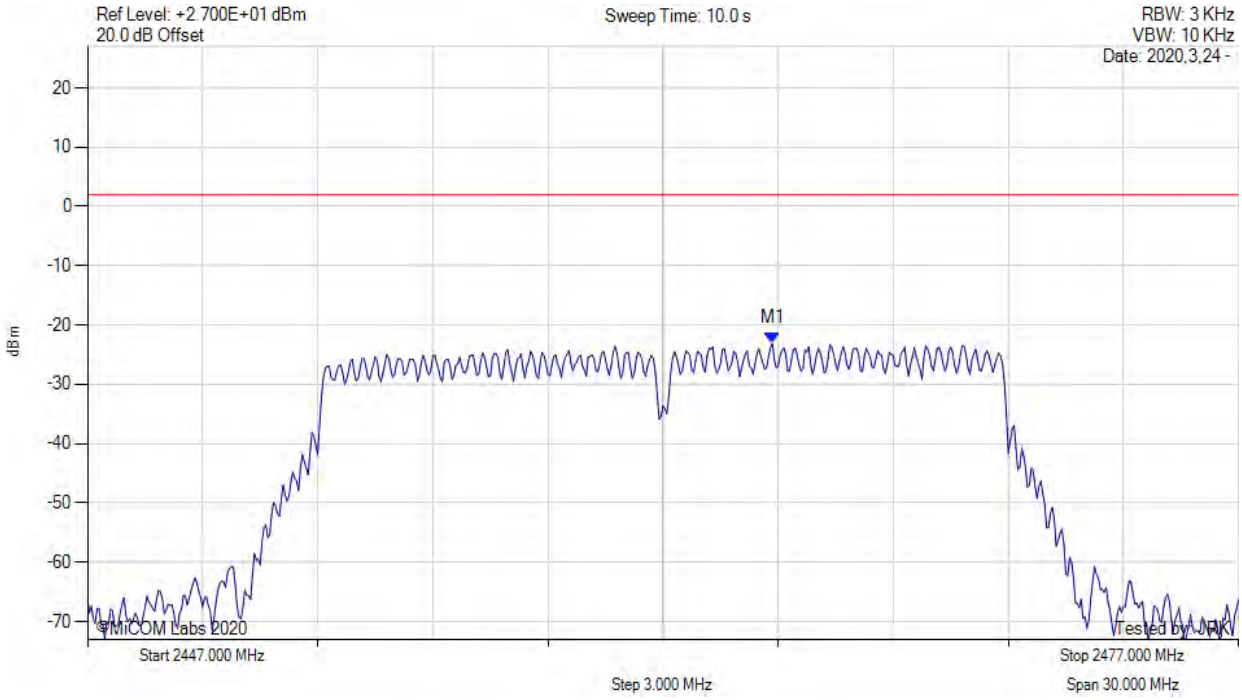


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2469.200 MHz : -22.622 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac

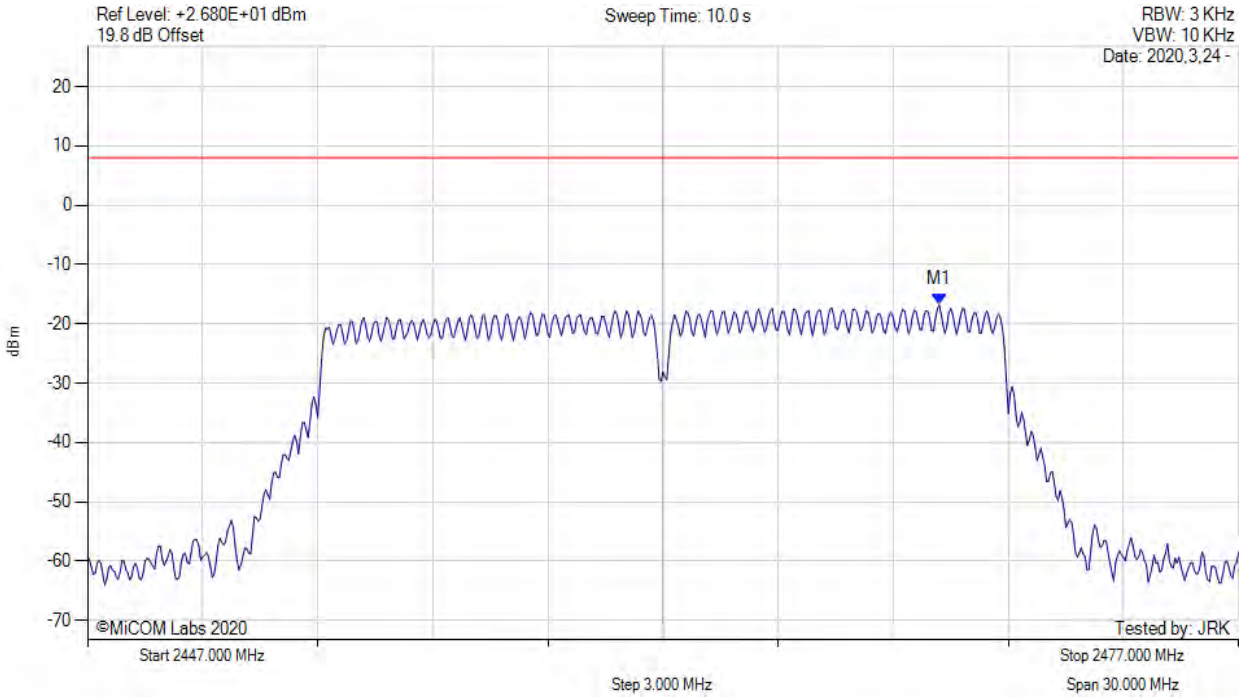


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2464.850 MHz : -23.114 dBm	Limit: ≤ 1.980 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, SUM, Temp: 20, Voltage: 120 Vac



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2469.200 MHz : -16.718 dBm M1 + DCCF : 2469.200 MHz : -13.153 dBm Duty Cycle Correction Factor : +3.57 dB	Limit: ≤ 8.0 dBm Margin: -21.4 dB

back to matrix

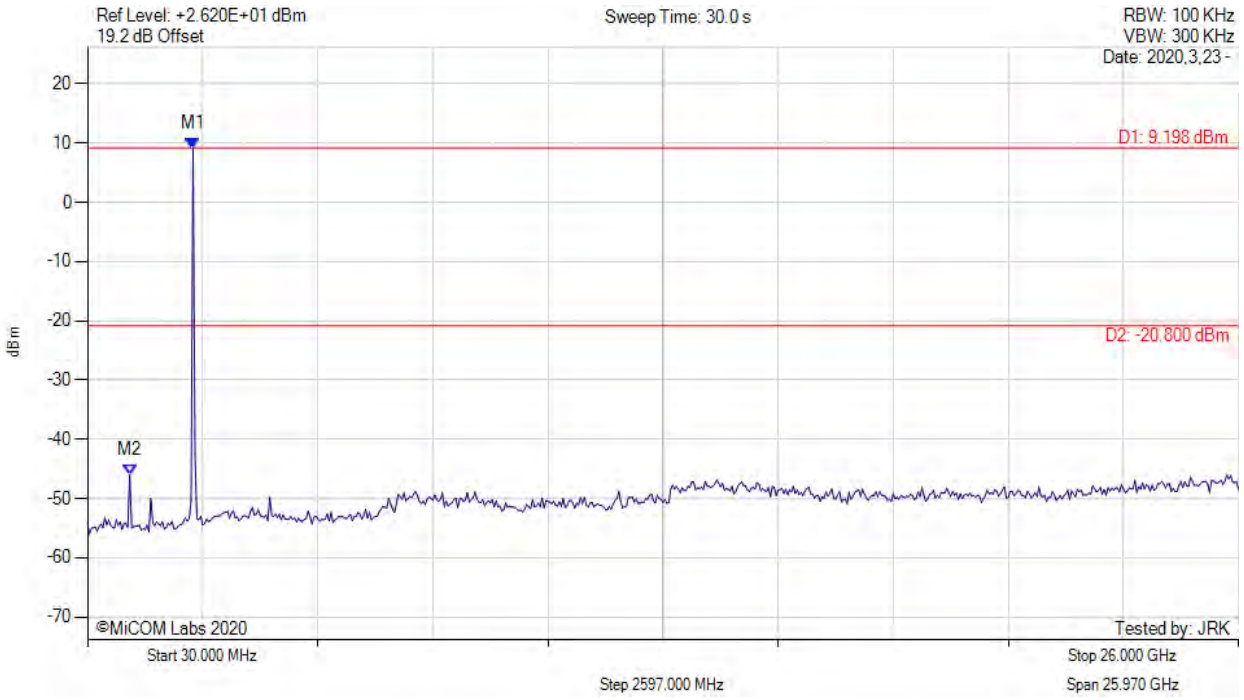
A.3. Emissions

A.3.1. Conducted Emissions

A.3.1.1. Conducted Spurious Emissions

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2412.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

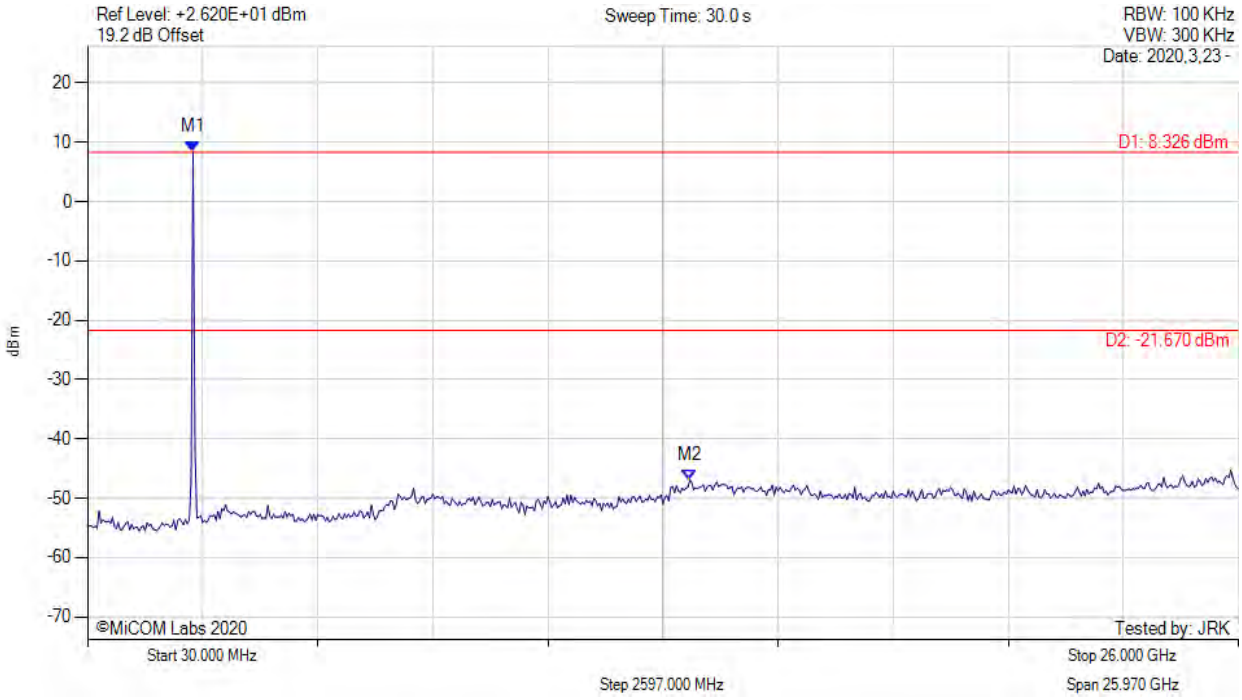


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2410.000 MHz : 9.198 dBm M2 : 980.000 MHz : -46.021 dBm	Limit: -20.80 dBm Margin: -25.22 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2412.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

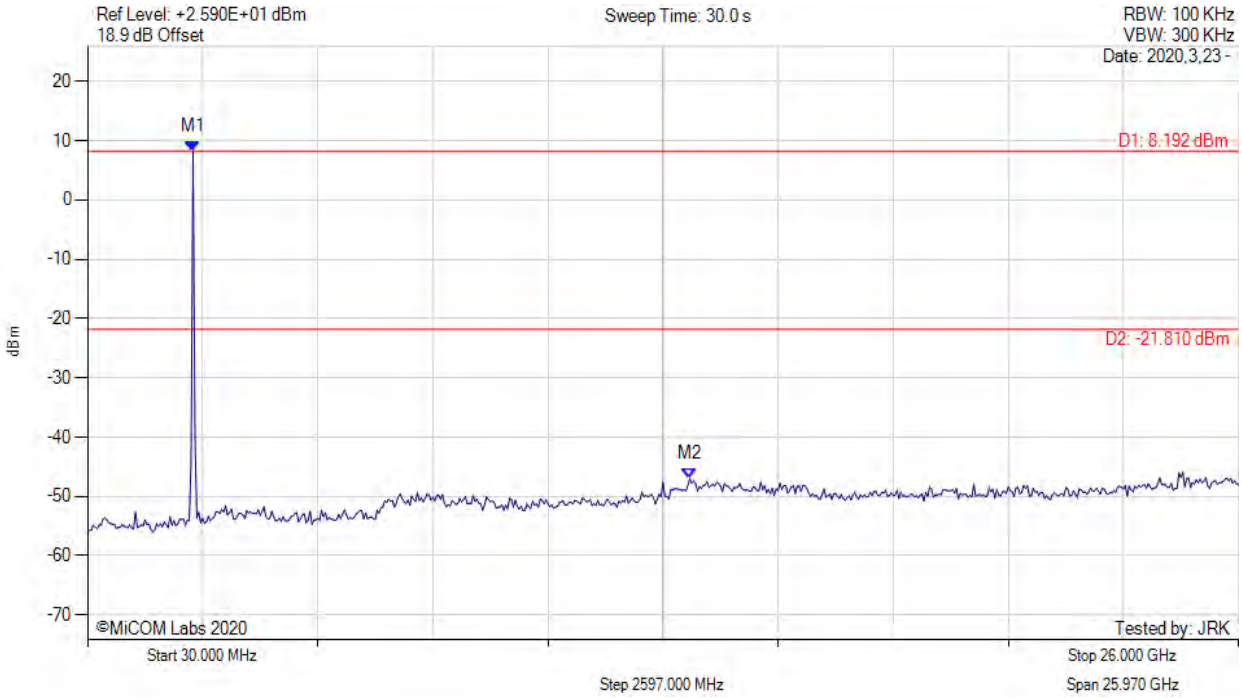


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2410.000 MHz : 8.326 dBm M2 : 13.620 GHz : -46.907 dBm	Limit: -21.67 dBm Margin: -25.24 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2412.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

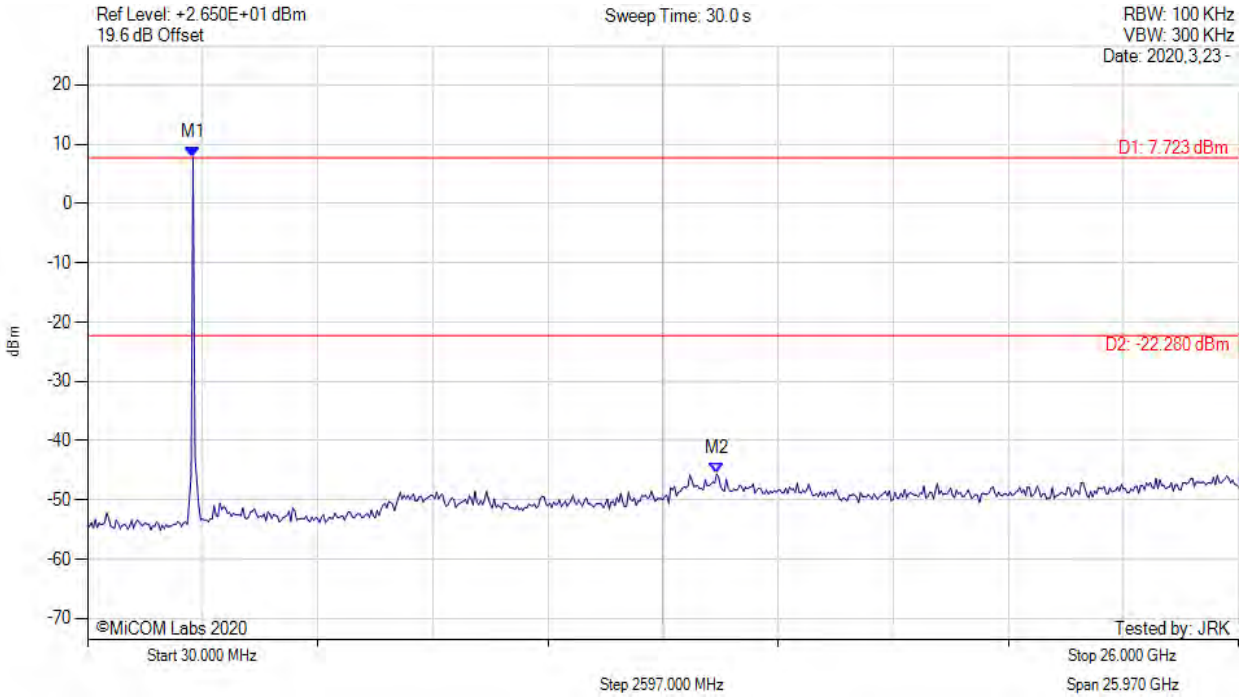


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2410.000 MHz : 8.192 dBm M2 : 13.620 GHz : -47.014 dBm	Limit: -21.81 dBm Margin: -25.20 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2412.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac

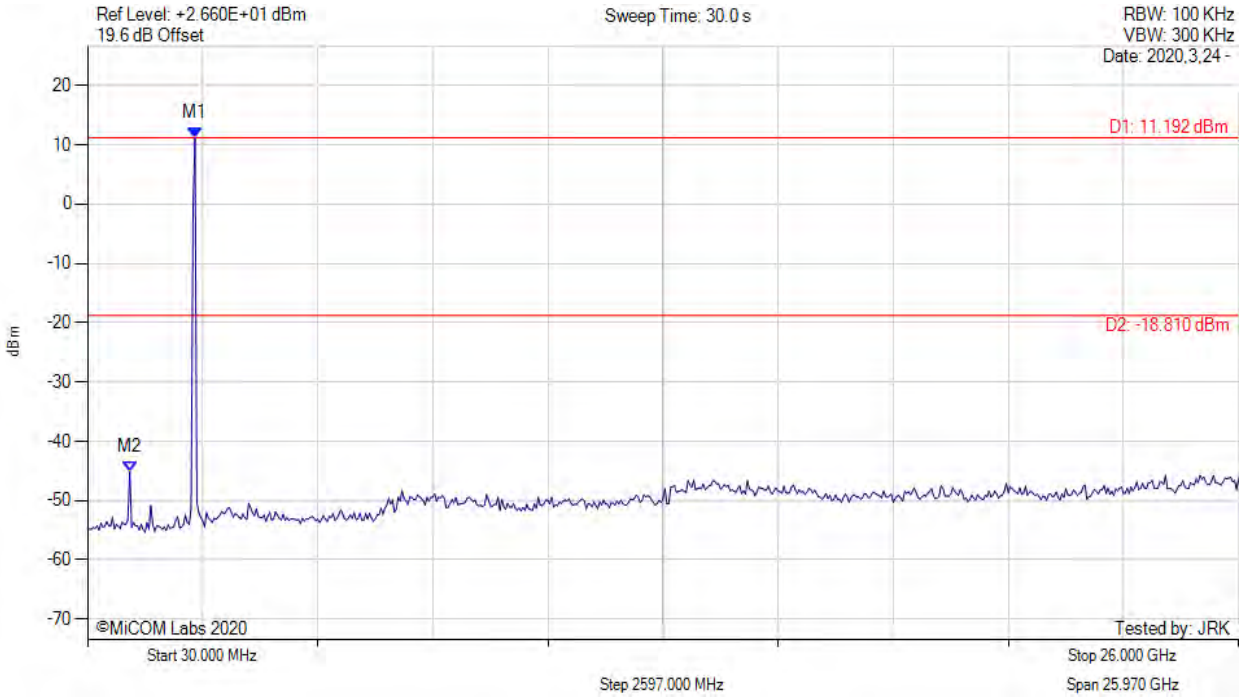


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2410.000 MHz : 7.723 dBm M2 : 14.230 GHz : -45.601 dBm	Limit: -22.28 dBm Margin: -23.32 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2437.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

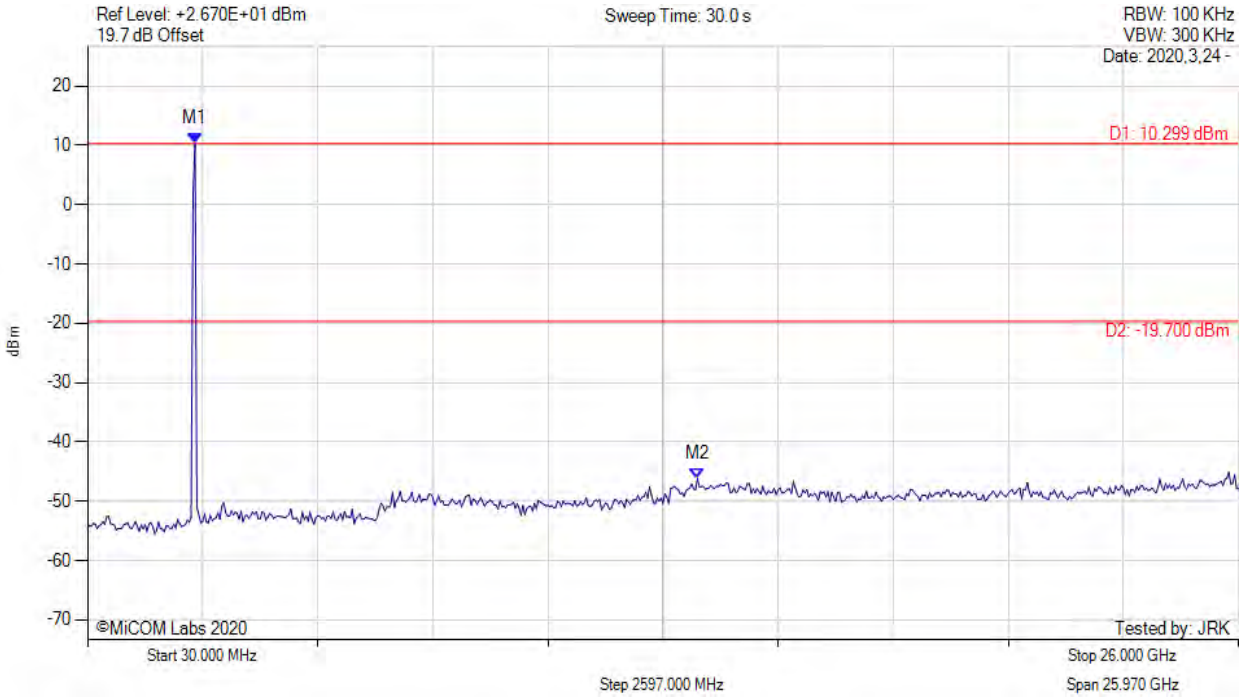


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2450.000 MHz : 11.192 dBm M2 : 980.000 MHz : -45.097 dBm	Limit: -18.81 dBm Margin: -26.29 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2437.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

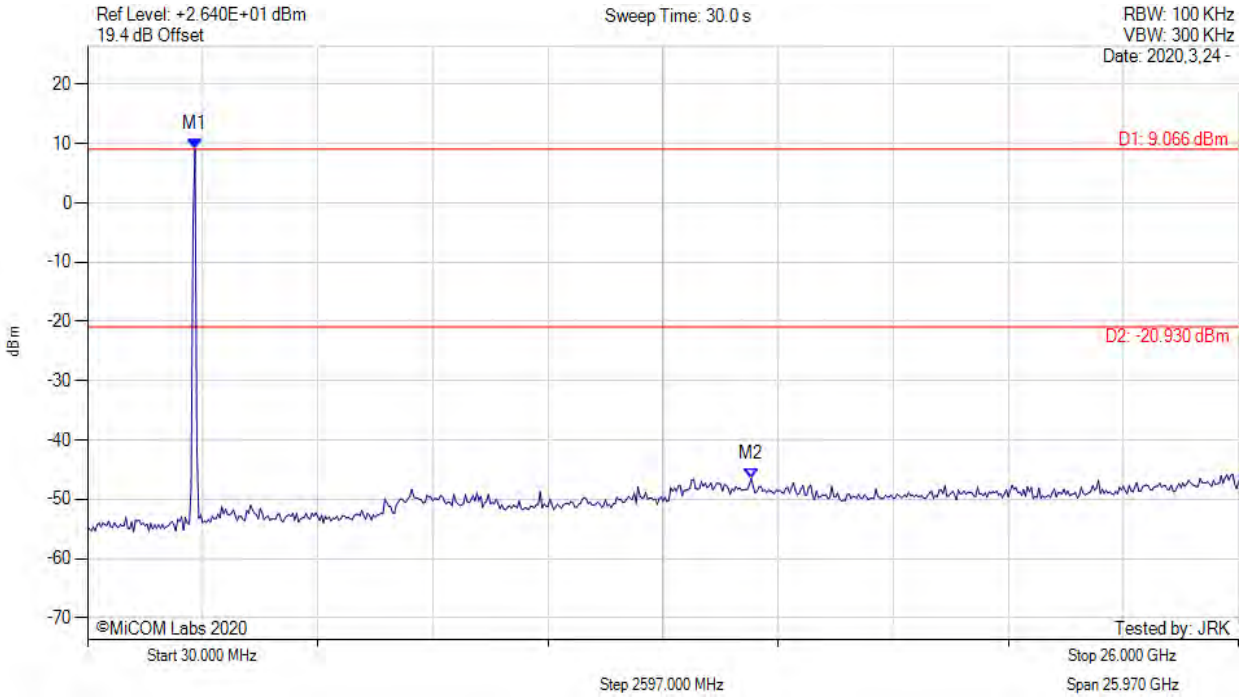


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2450.000 MHz : 10.299 dBm M2 : 13.790 GHz : -46.194 dBm	Limit: -19.70 dBm Margin: -26.49 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2437.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

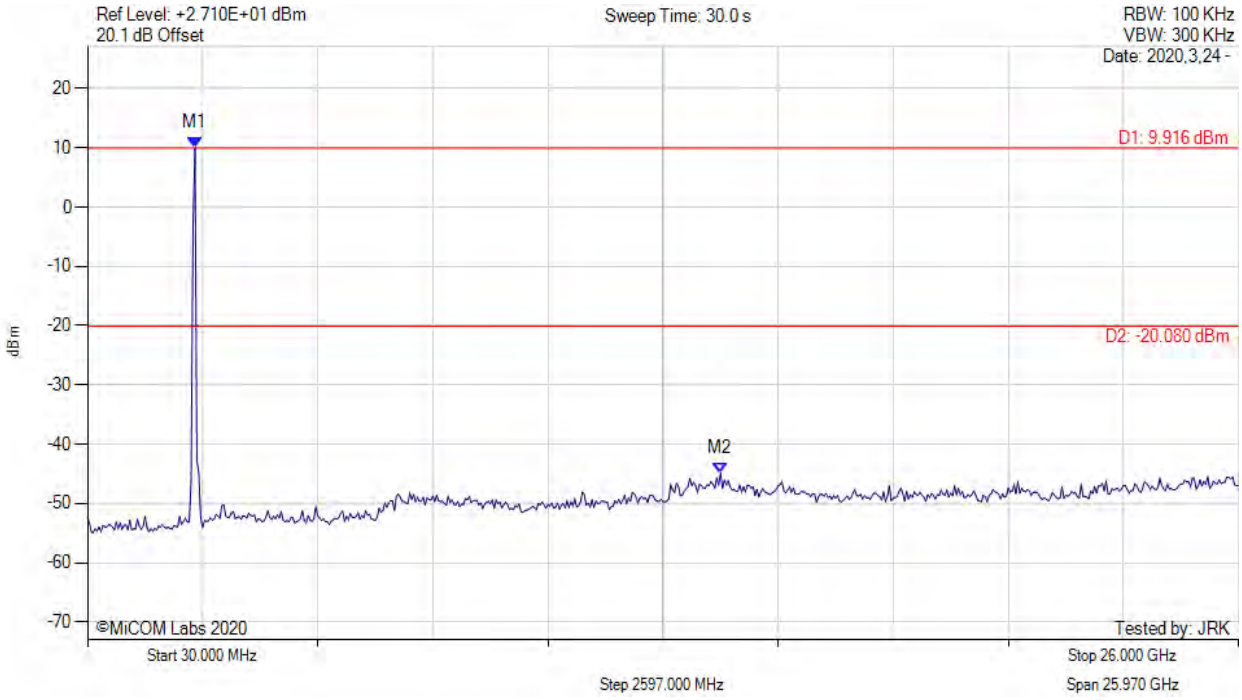


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2450.000 MHz : 9.066 dBm M2 : 15.010 GHz : -46.470 dBm	Limit: -20.93 dBm Margin: -25.54 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2437.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac

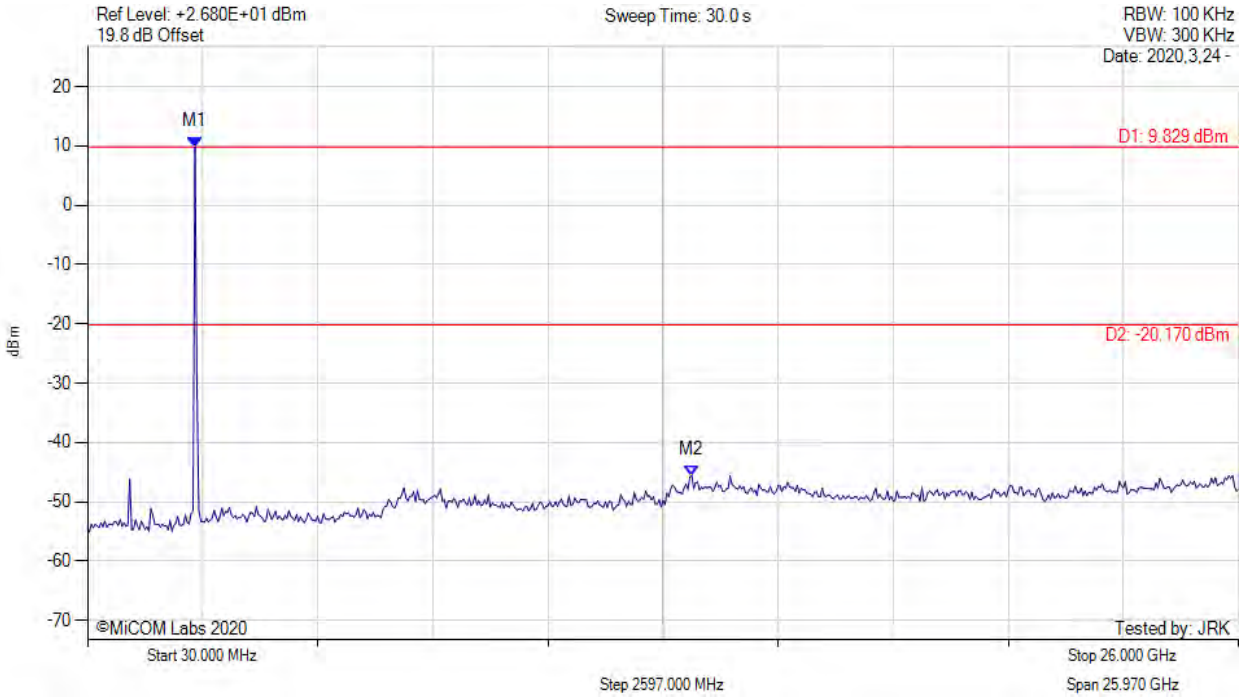


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2450.000 MHz : 9.916 dBm M2 : 14.310 GHz : -44.885 dBm	Limit: -20.08 dBm Margin: -24.81 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

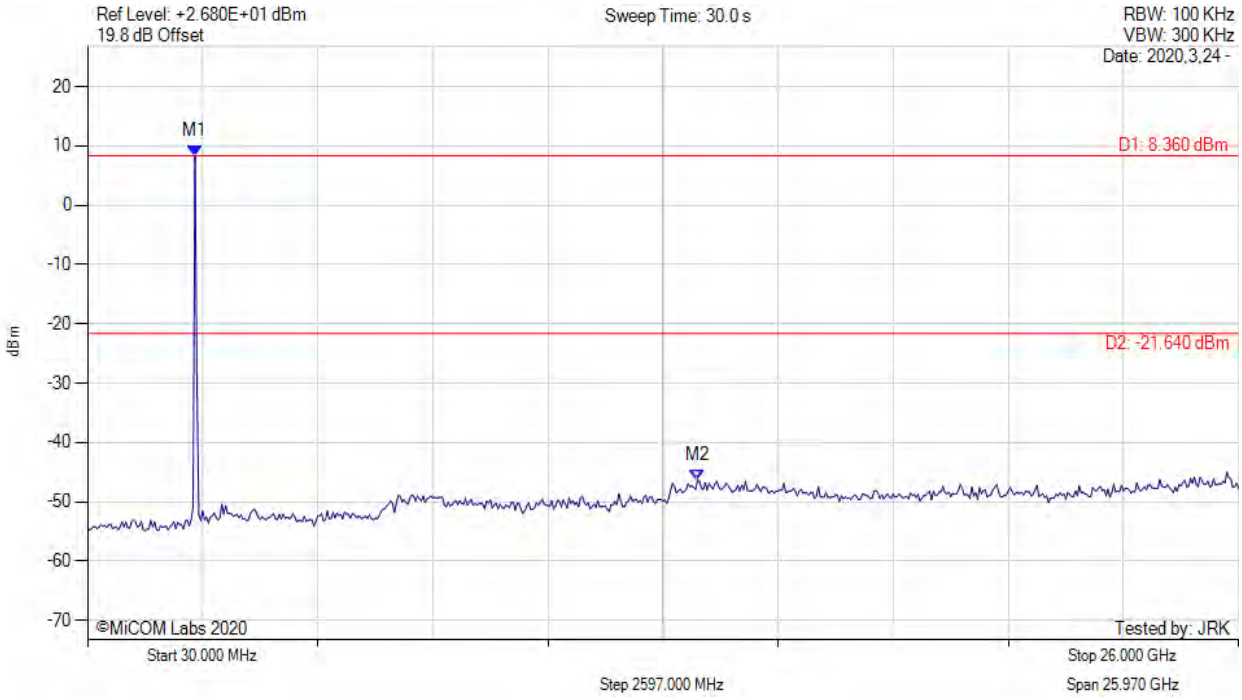


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2450.000 MHz : 9.829 dBm M2 : 13.660 GHz : -45.572 dBm	Limit: -20.17 dBm Margin: -25.40 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

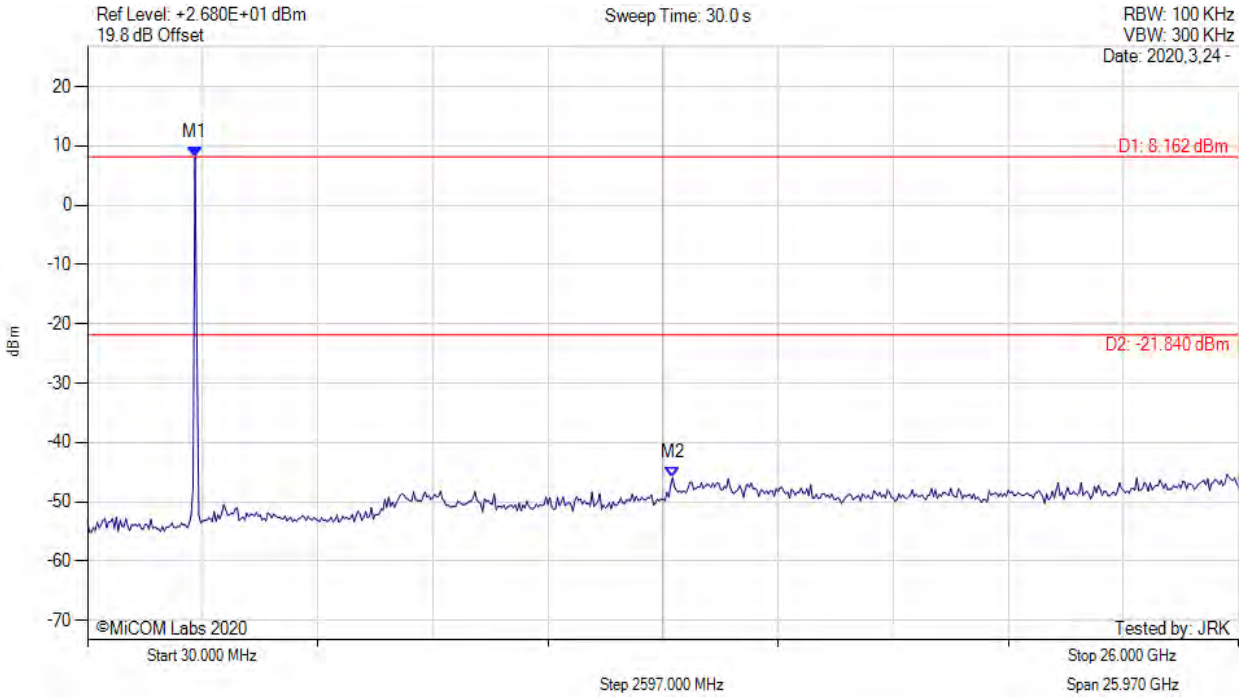


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2450.000 MHz : 8.360 dBm M2 : 13.790 GHz : -46.370 dBm	Limit: -21.64 dBm Margin: -24.73 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

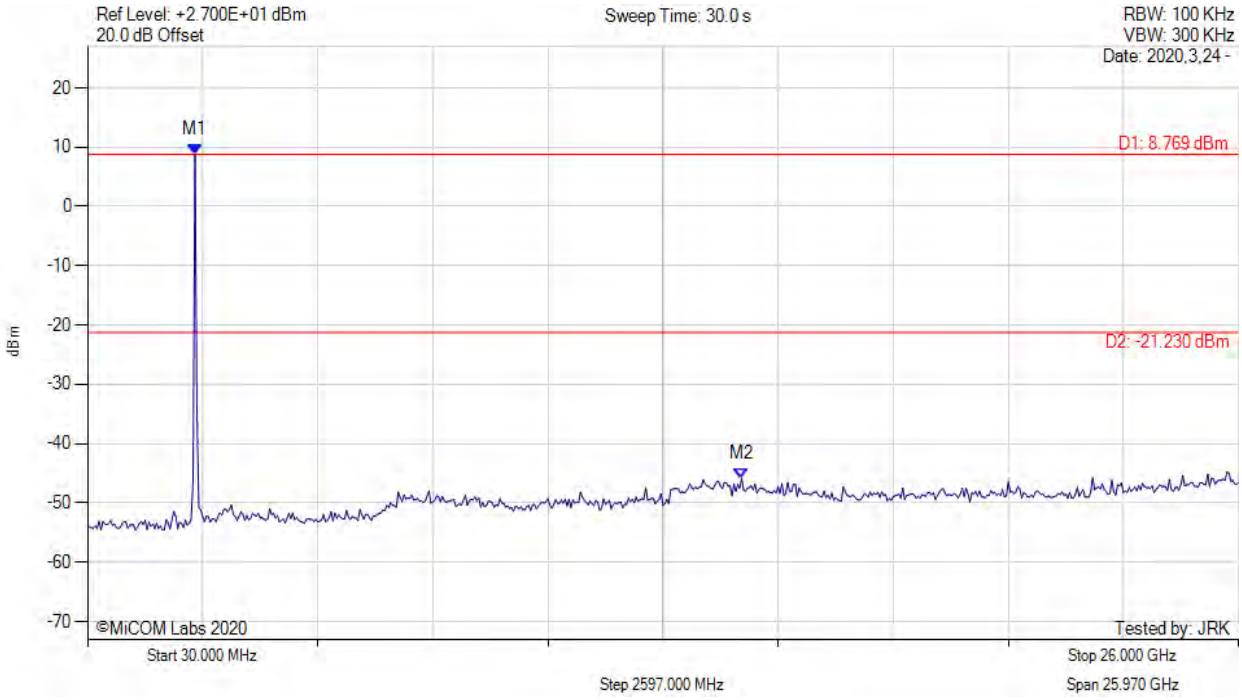


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2450.000 MHz : 8.162 dBm M2 : 13.230 GHz : -45.977 dBm	Limit: -21.84 dBm Margin: -24.14 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac

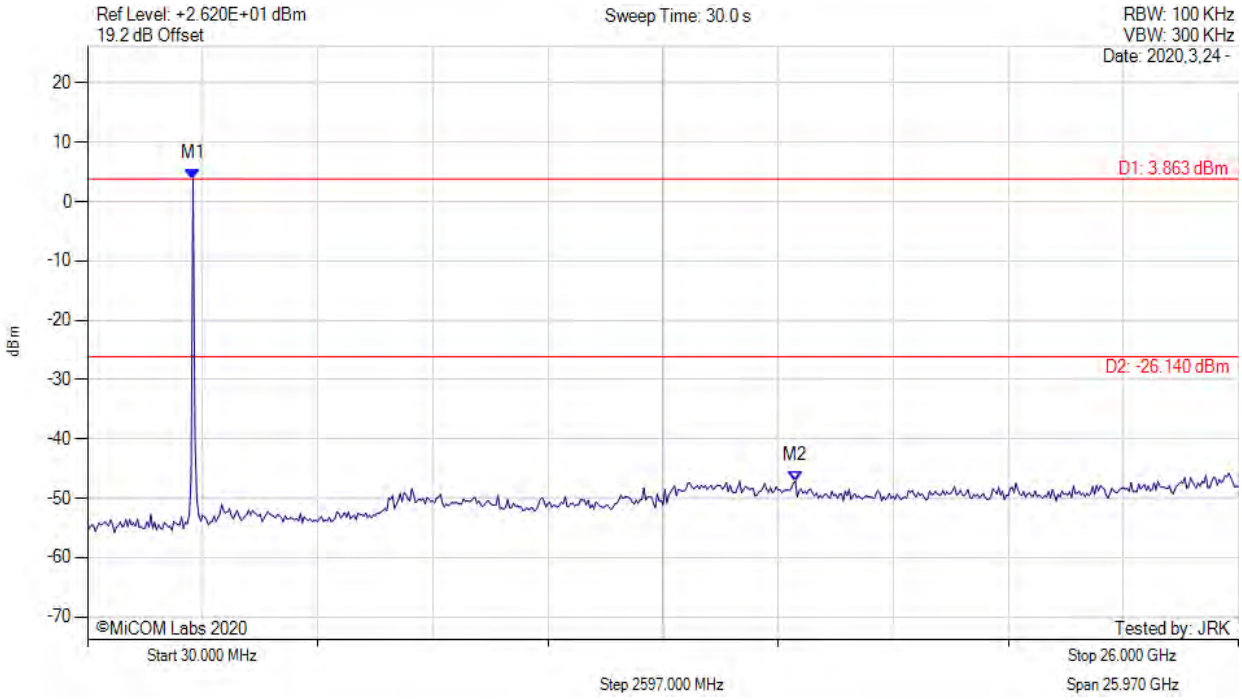


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2450.000 MHz : 8.769 dBm M2 : 14.790 GHz : -45.869 dBm	Limit: -21.23 dBm Margin: -24.64 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

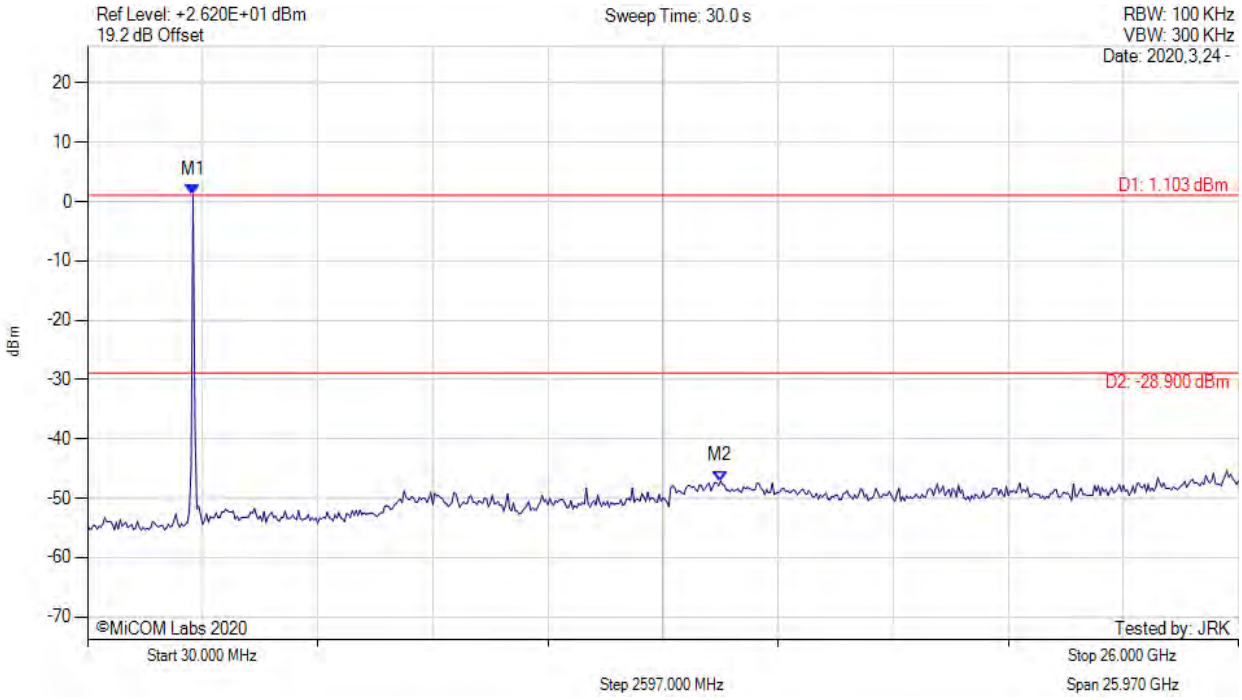


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2410.000 MHz : 3.863 dBm M2 : 16.000 GHz : -47.091 dBm	Limit: -26.14 dBm Margin: -20.95 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

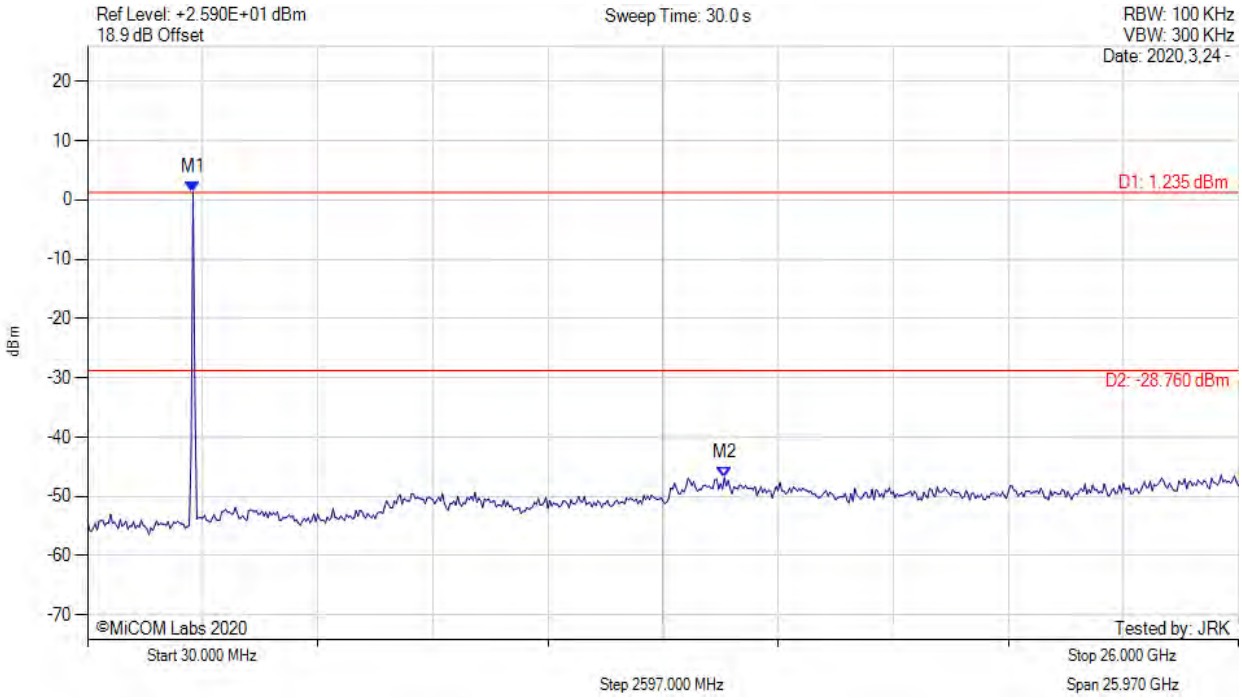


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2410.000 MHz : 1.103 dBm M2 : 14.310 GHz : -47.083 dBm	Limit: -28.90 dBm Margin: -18.18 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

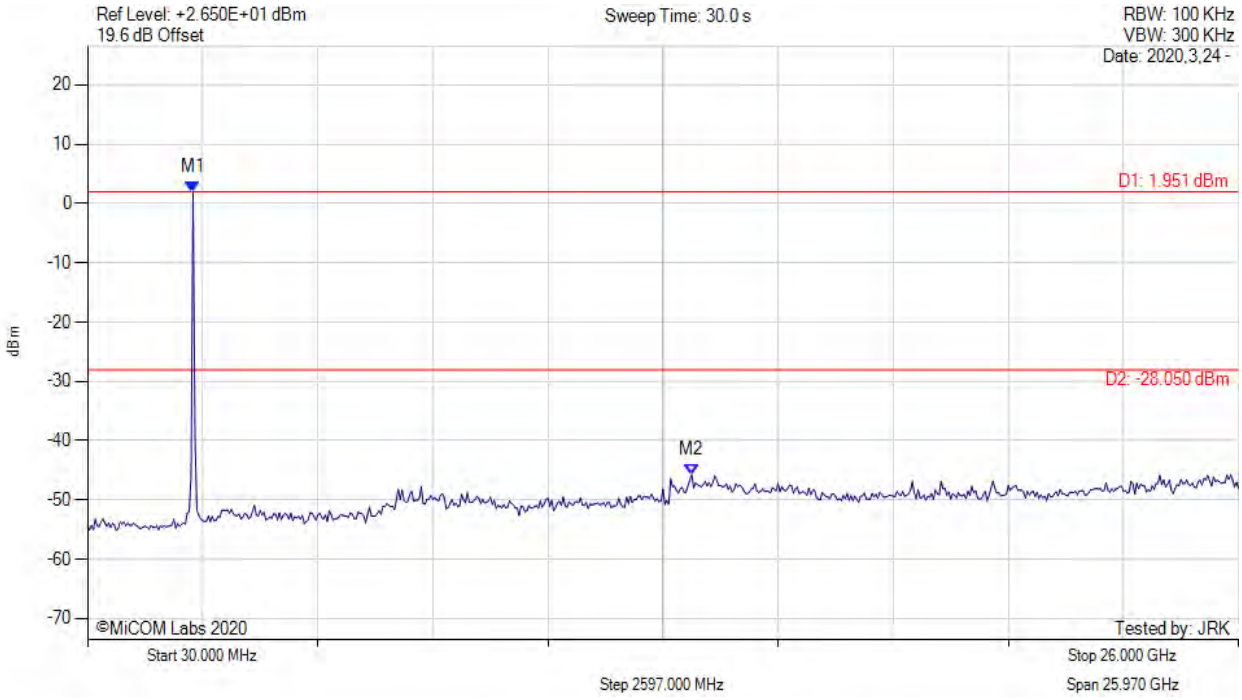


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2410.000 MHz : 1.235 dBm M2 : 14.400 GHz : -46.831 dBm	Limit: -28.76 dBm Margin: -18.07 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac

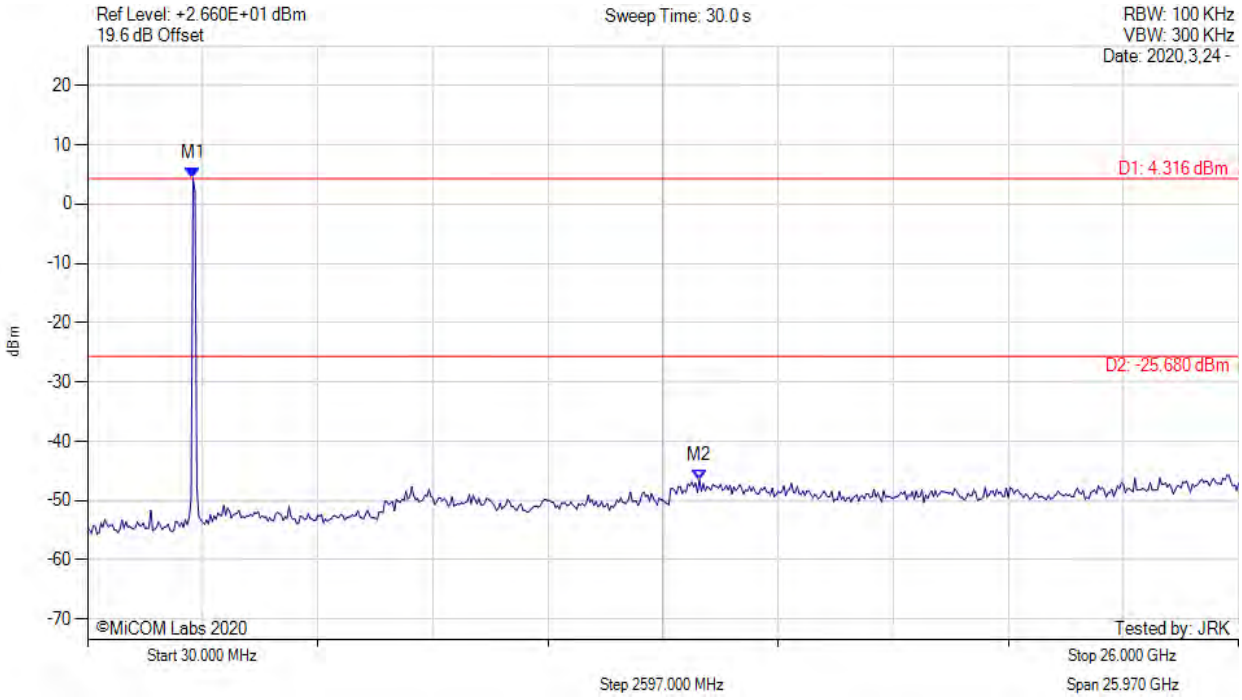


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2410.000 MHz : 1.951 dBm M2 : 13.660 GHz : -45.780 dBm	Limit: -28.05 dBm Margin: -17.73 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2437.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

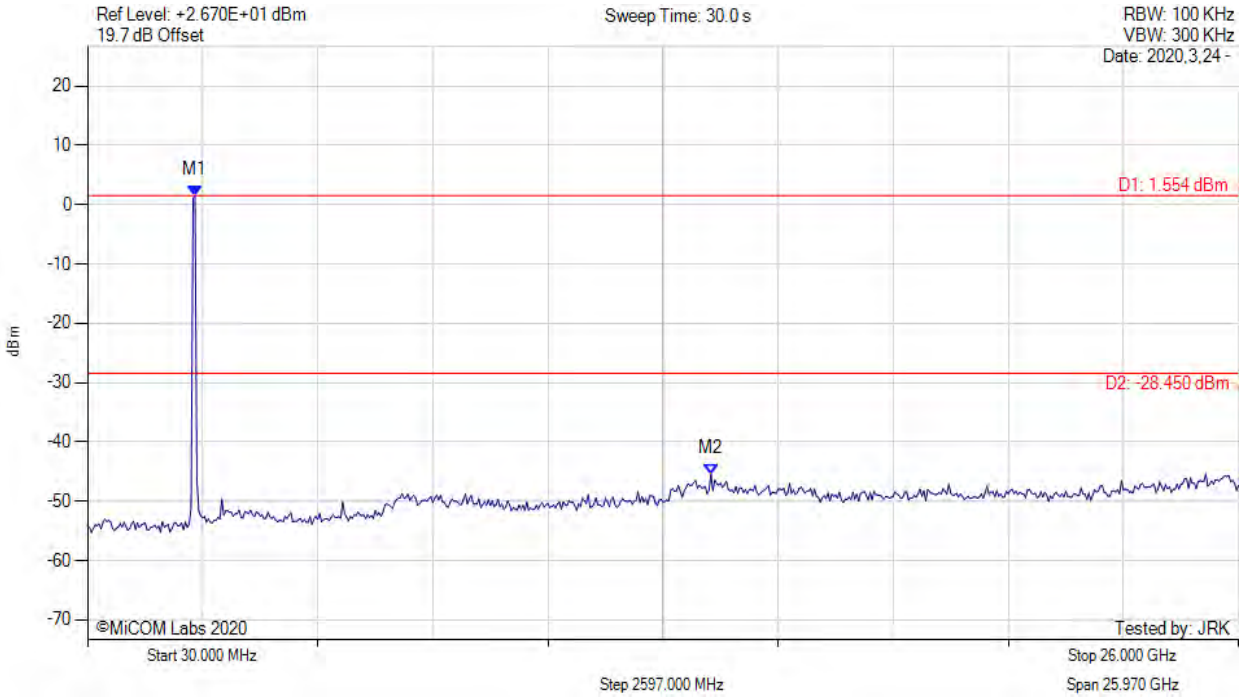


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2410.000 MHz : 4.316 dBm M2 : 13.840 GHz : -46.531 dBm	Limit: -25.68 dBm Margin: -20.85 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2437.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

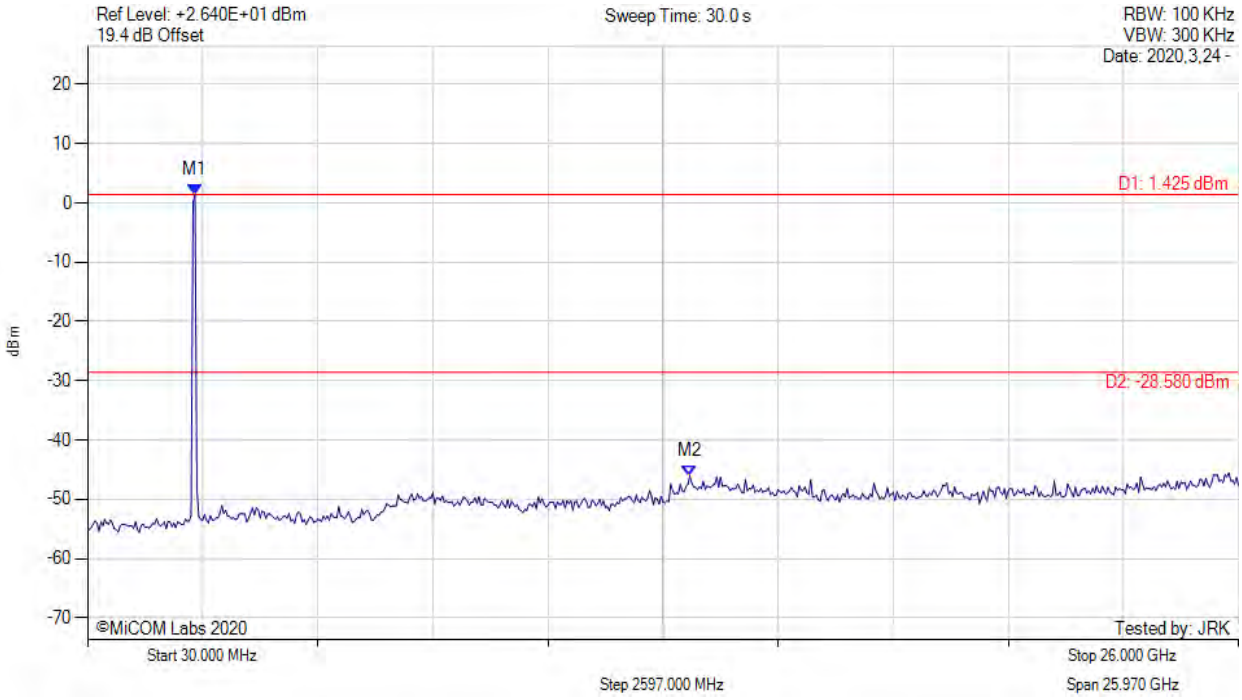


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2450.000 MHz : 1.554 dBm M2 : 14.100 GHz : -45.432 dBm	Limit: -28.45 dBm Margin: -16.98 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2437.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

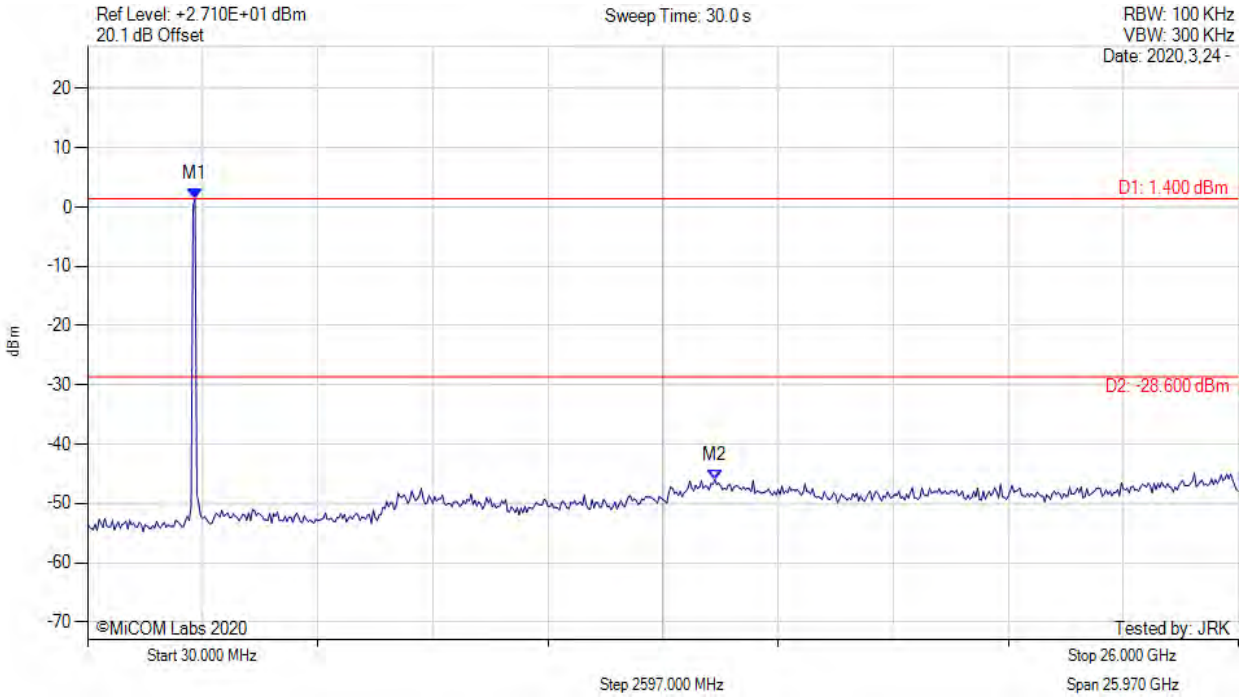


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2450.000 MHz : 1.425 dBm M2 : 13.620 GHz : -46.051 dBm	Limit: -28.58 dBm Margin: -17.47 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2437.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac

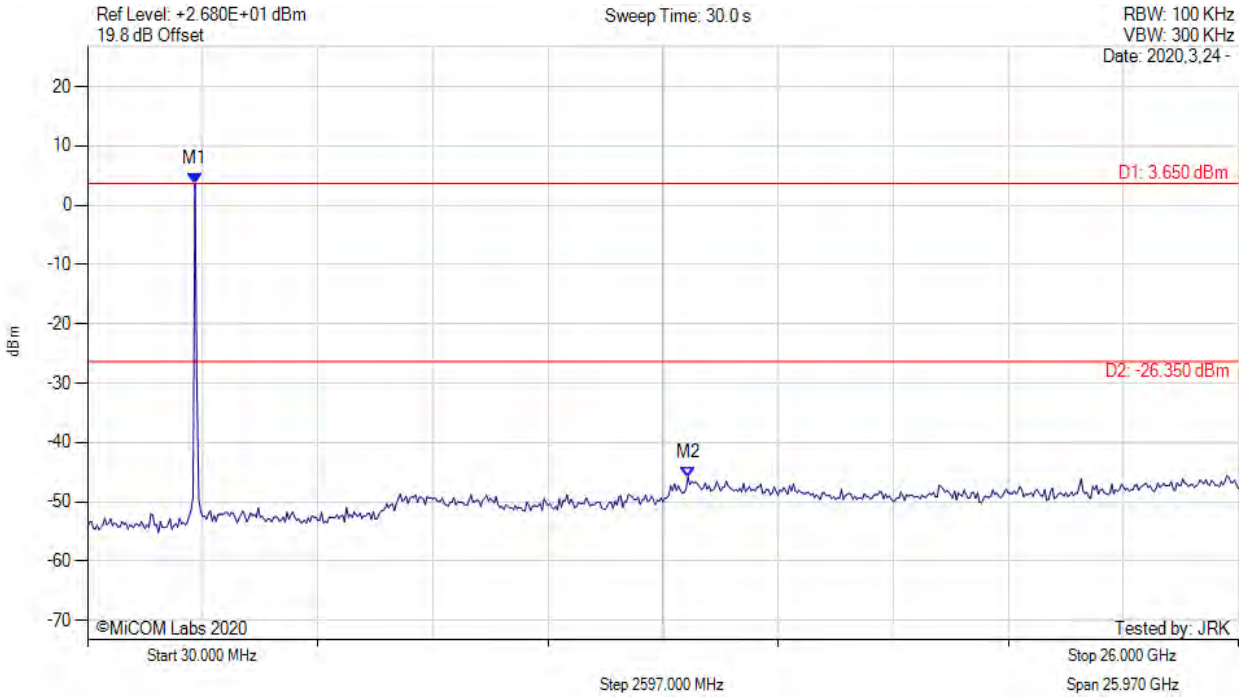


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2450.000 MHz : 1.400 dBm M2 : 14.180 GHz : -45.989 dBm	Limit: -28.60 dBm Margin: -17.39 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

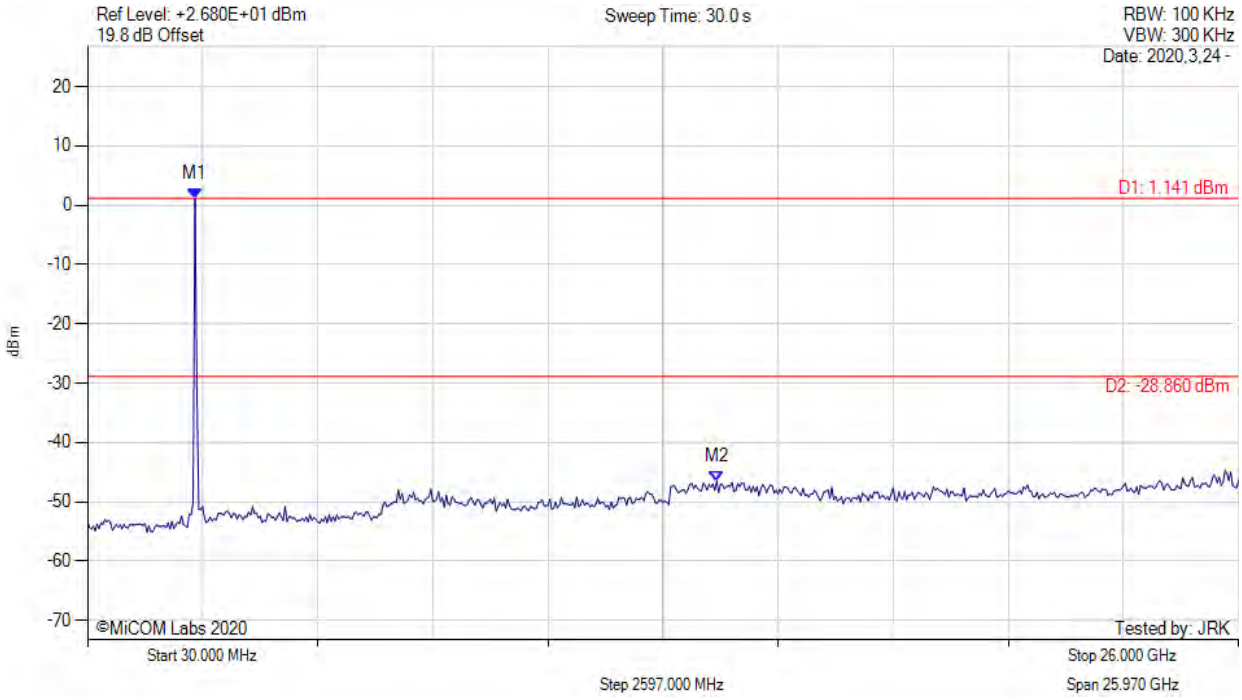


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2450.000 MHz : 3.650 dBm M2 : 13.580 GHz : -45.811 dBm	Limit: -26.35 dBm Margin: -19.46 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

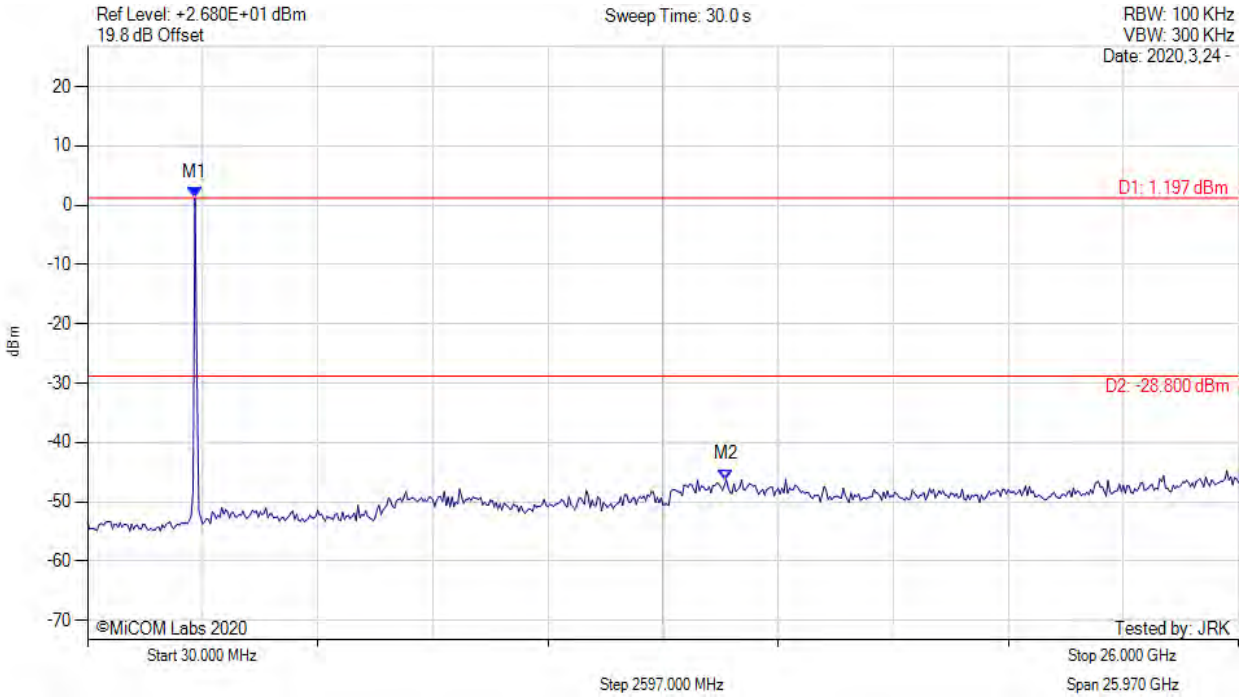


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2450.000 MHz : 1.141 dBm M2 : 14.230 GHz : -46.567 dBm	Limit: -28.86 dBm Margin: -17.71 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

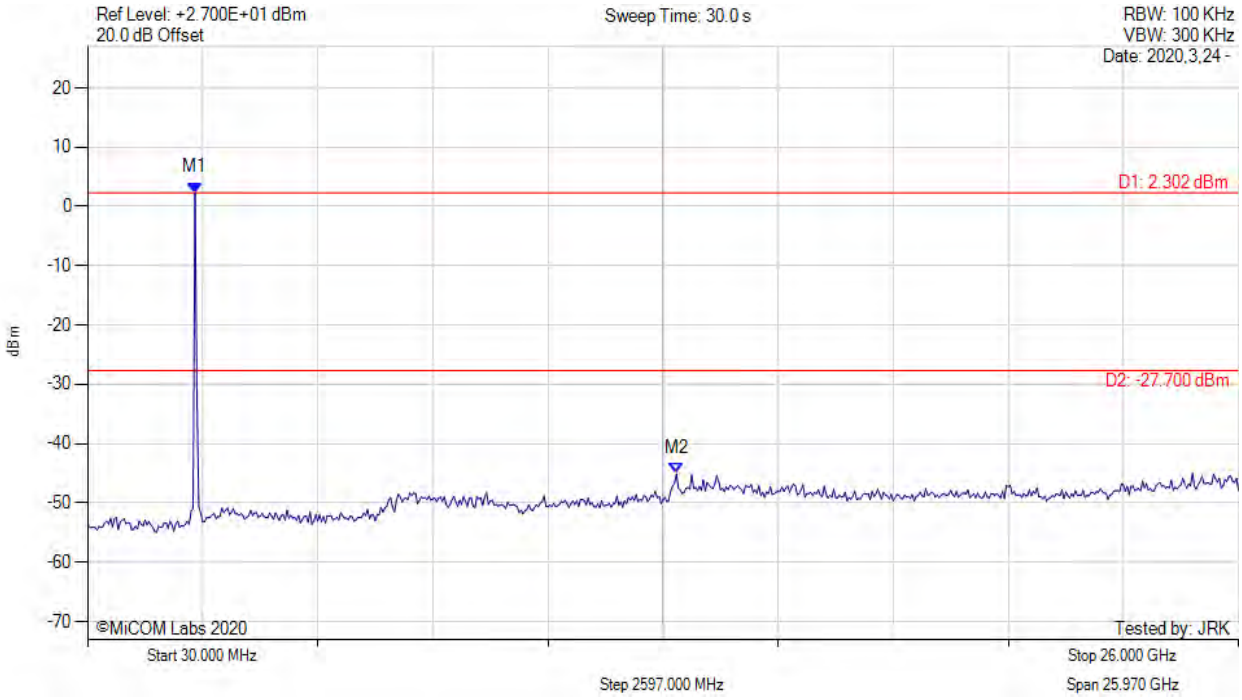


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2450.000 MHz : 1.197 dBm M2 : 14.440 GHz : -46.248 dBm	Limit: -28.80 dBm Margin: -17.45 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac

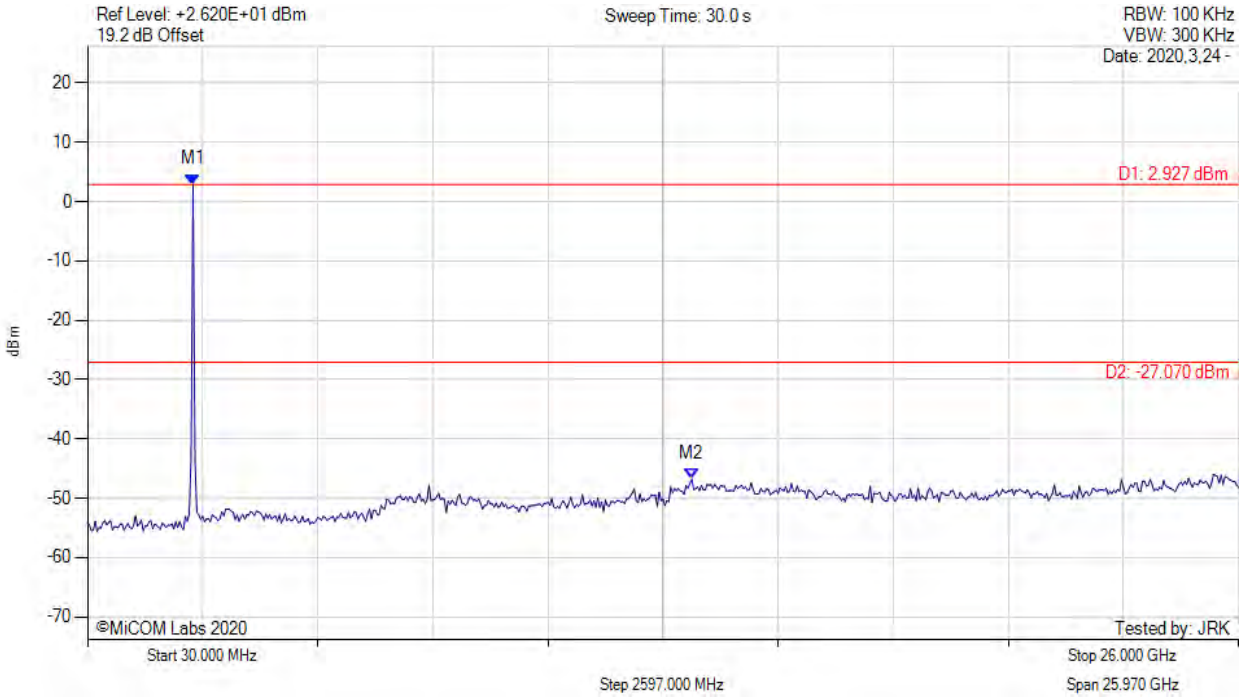


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2450.000 MHz : 2.302 dBm M2 : 13.320 GHz : -45.099 dBm	Limit: -27.70 dBm Margin: -17.40 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

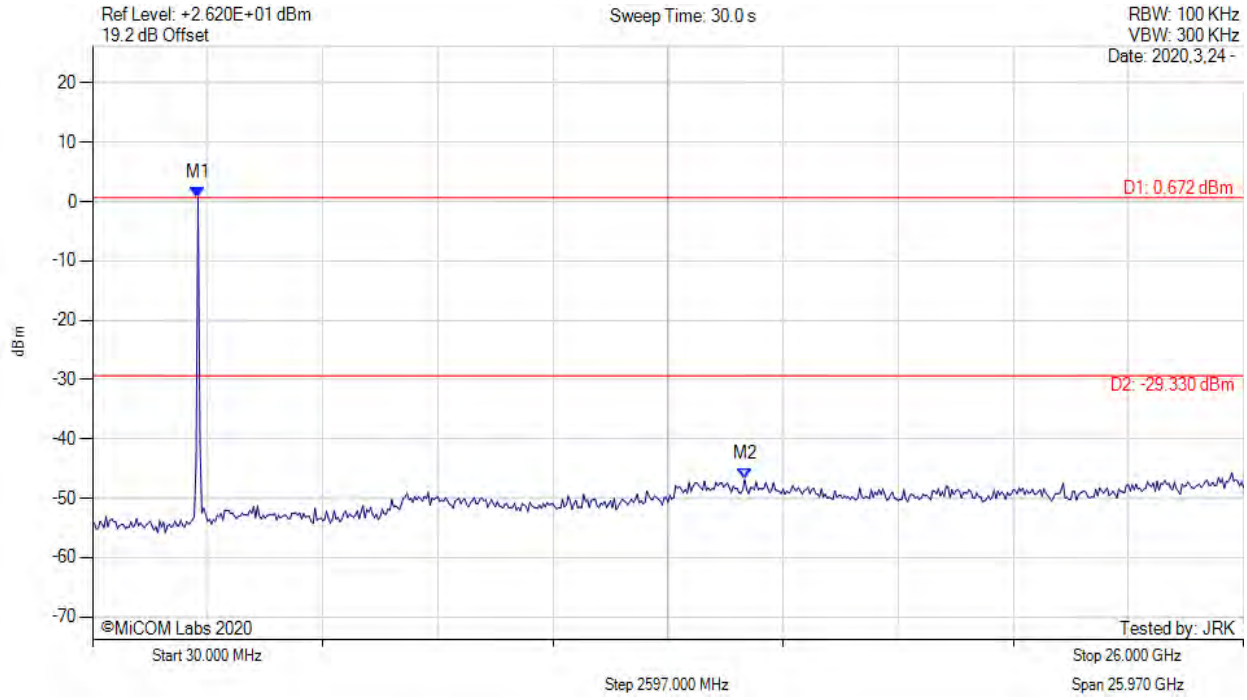


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2410.000 MHz : 2.927 dBm M2 : 13.660 GHz : -46.782 dBm	Limit: -27.07 dBm Margin: -19.71 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

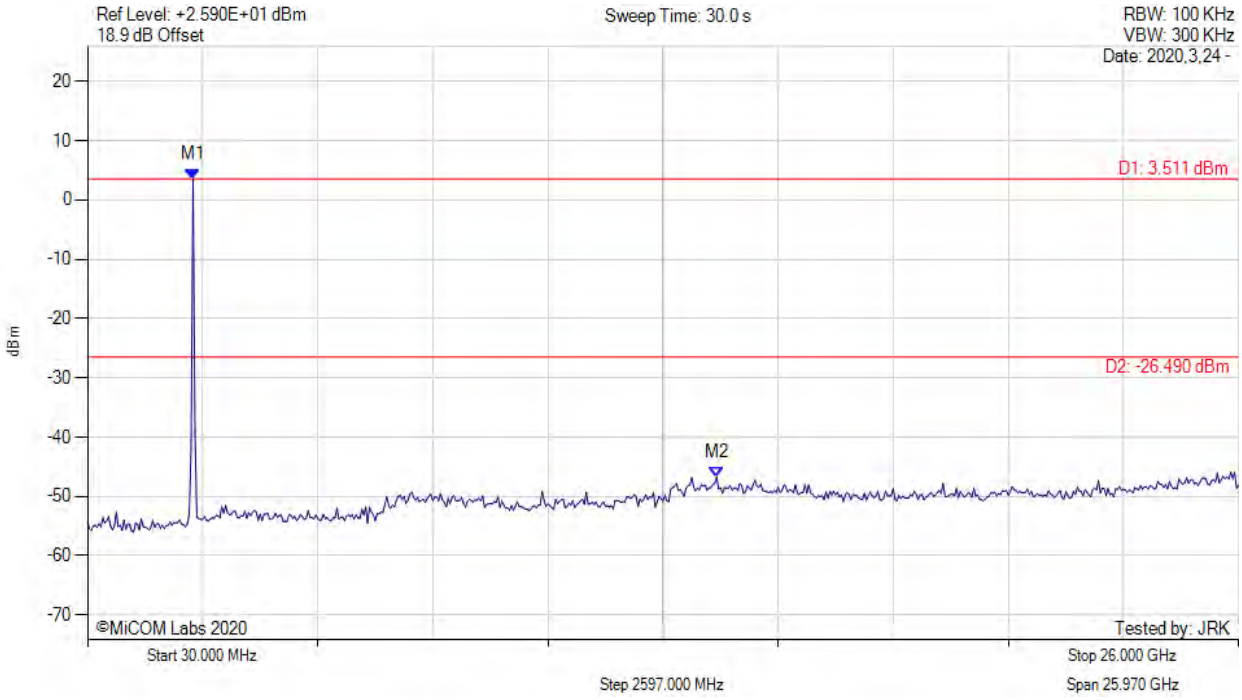


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2410.000 MHz : 0.672 dBm M2 : 14.750 GHz : -46.802 dBm	Limit: -29.33 dBm Margin: -17.47 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

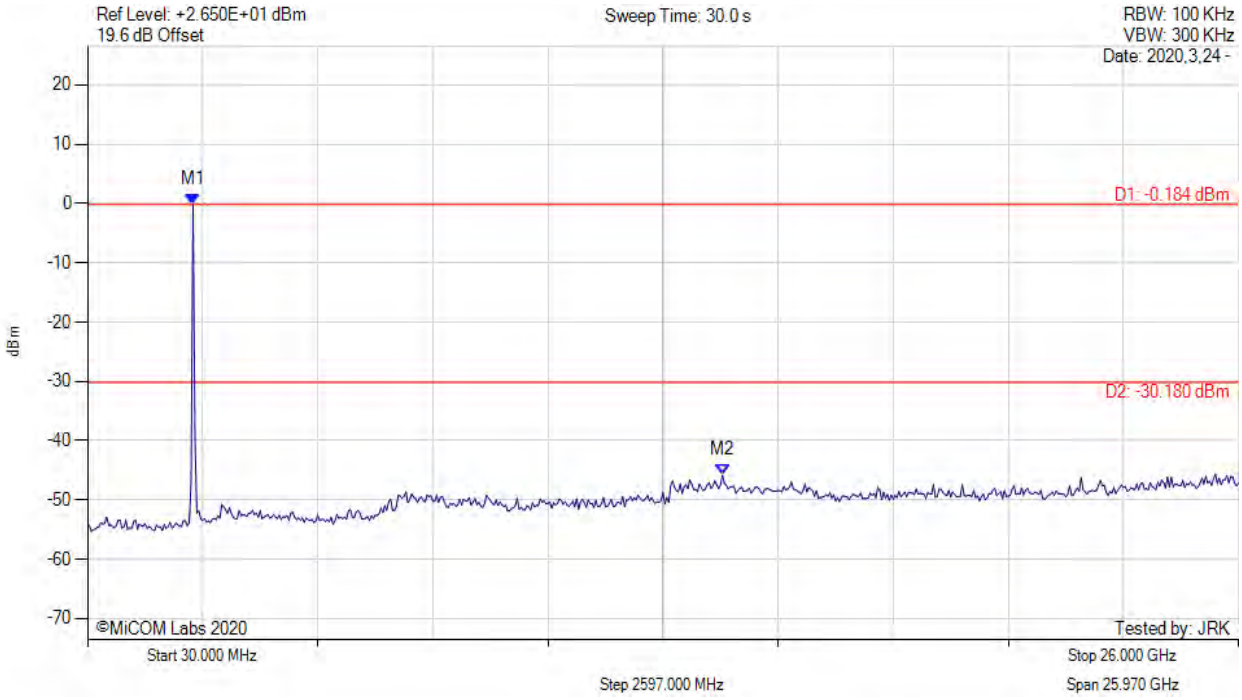


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2410.000 MHz : 3.511 dBm M2 : 14.230 GHz : -46.714 dBm	Limit: -26.49 dBm Margin: -20.22 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac

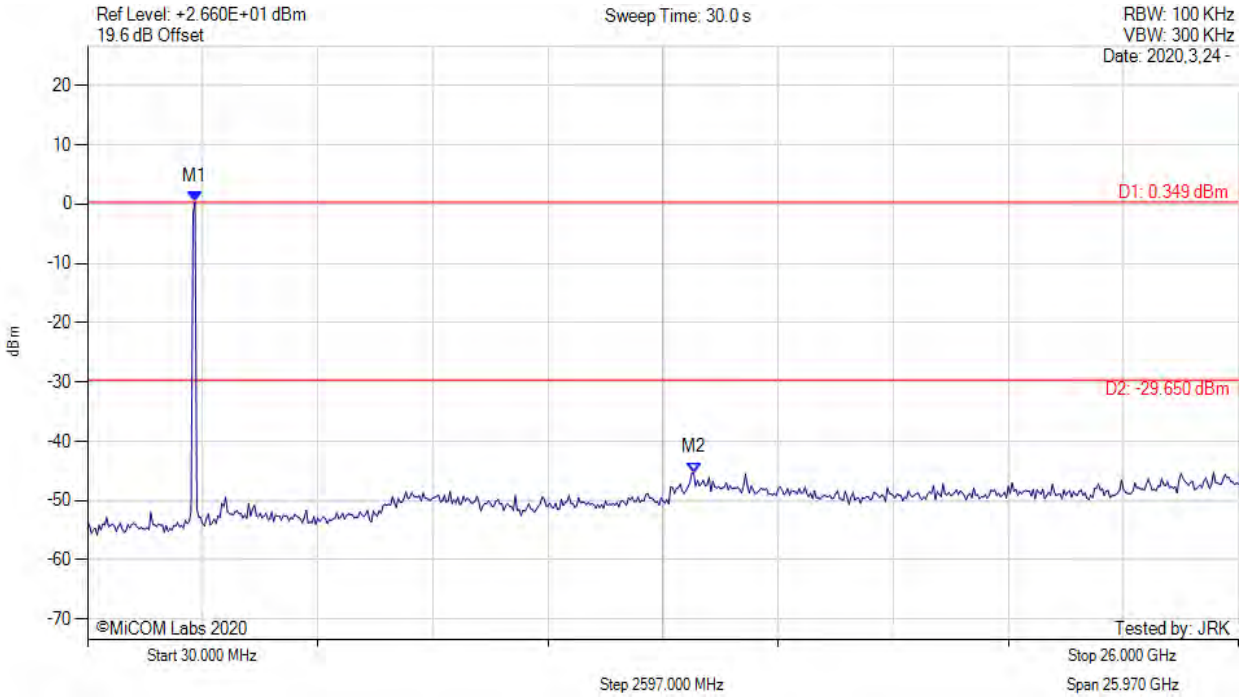


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2410.000 MHz : -0.184 dBm M2 : 14.360 GHz : -45.806 dBm	Limit: -30.18 dBm Margin: -15.63 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

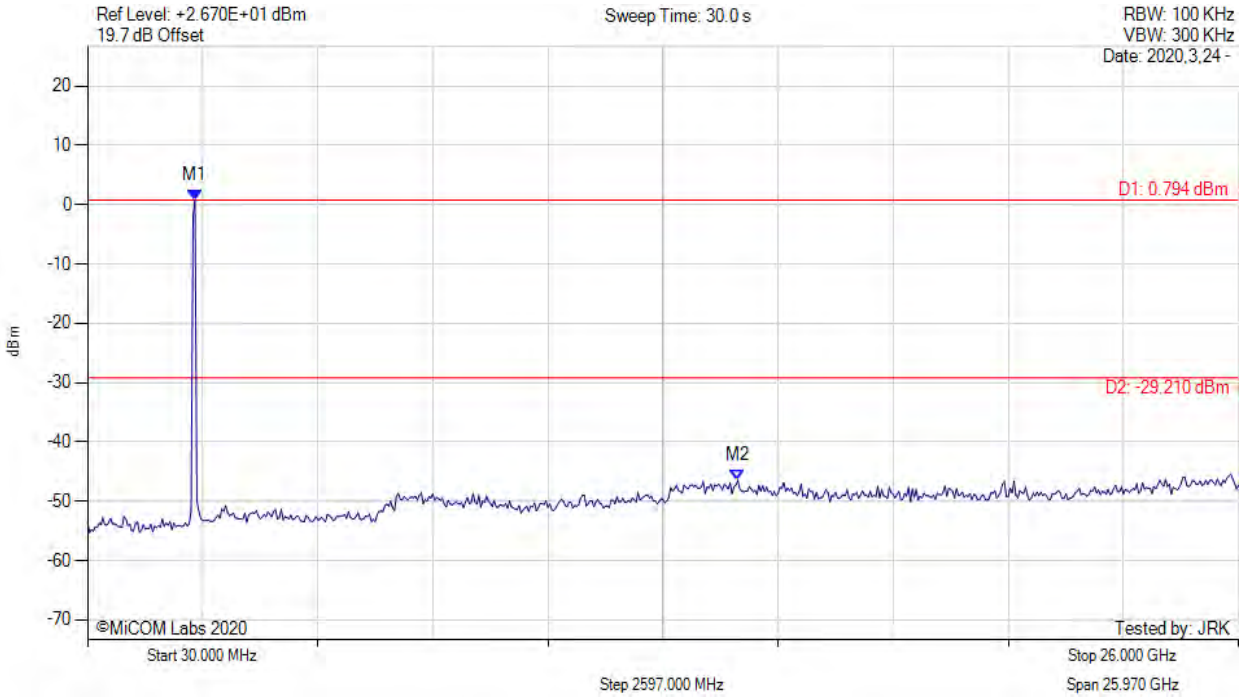


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2450.000 MHz : 0.349 dBm M2 : 13.710 GHz : -45.302 dBm	Limit: -29.65 dBm Margin: -15.65 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

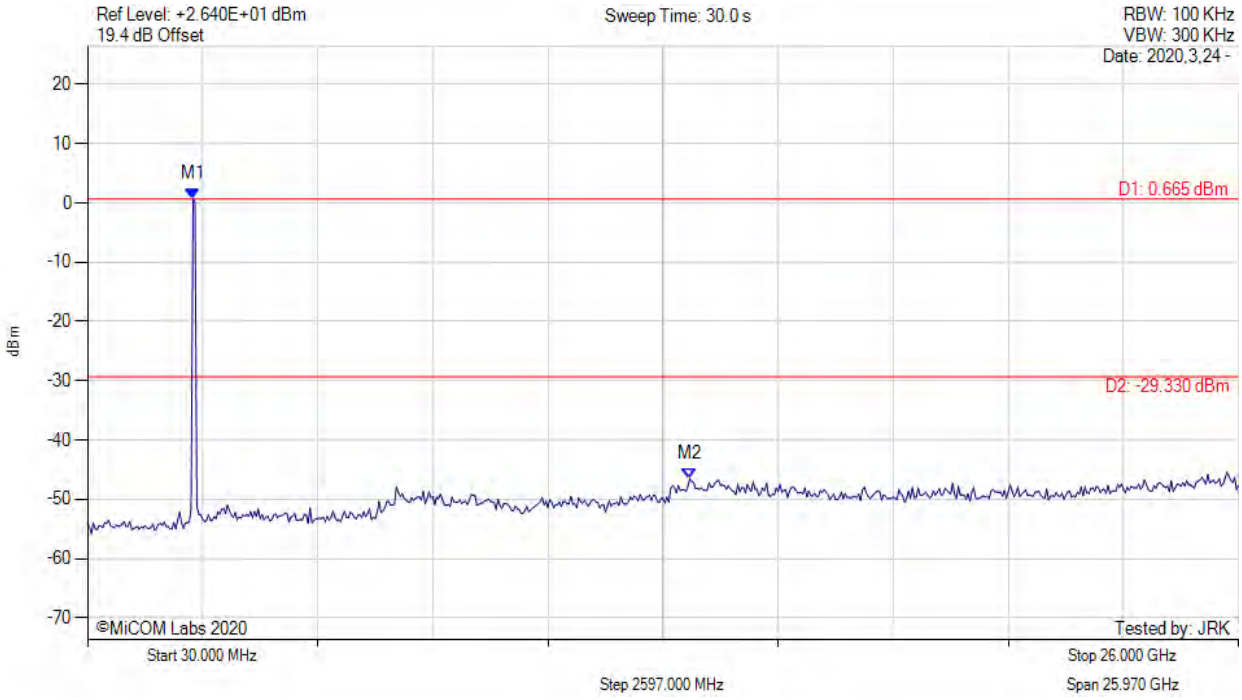


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2450.000 MHz : 0.794 dBm M2 : 14.700 GHz : -46.502 dBm	Limit: -29.21 dBm Margin: -17.29 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

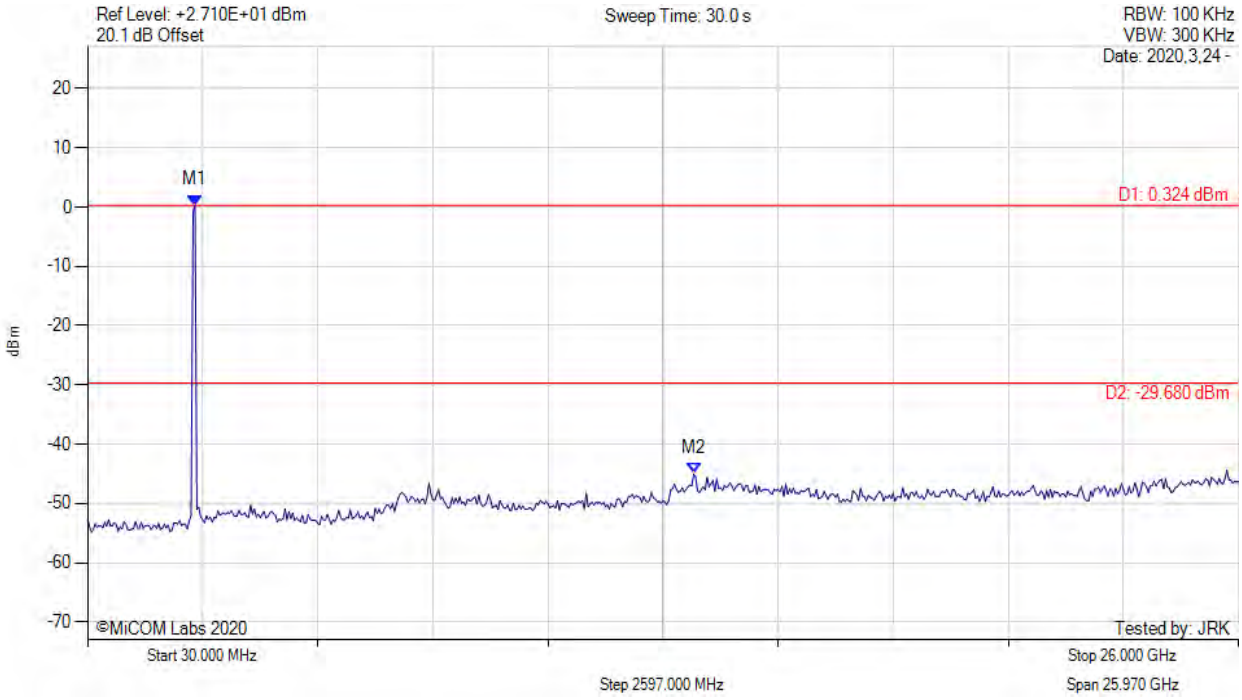


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2410.000 MHz : 0.665 dBm M2 : 13.620 GHz : -46.538 dBm	Limit: -29.33 dBm Margin: -17.21 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac

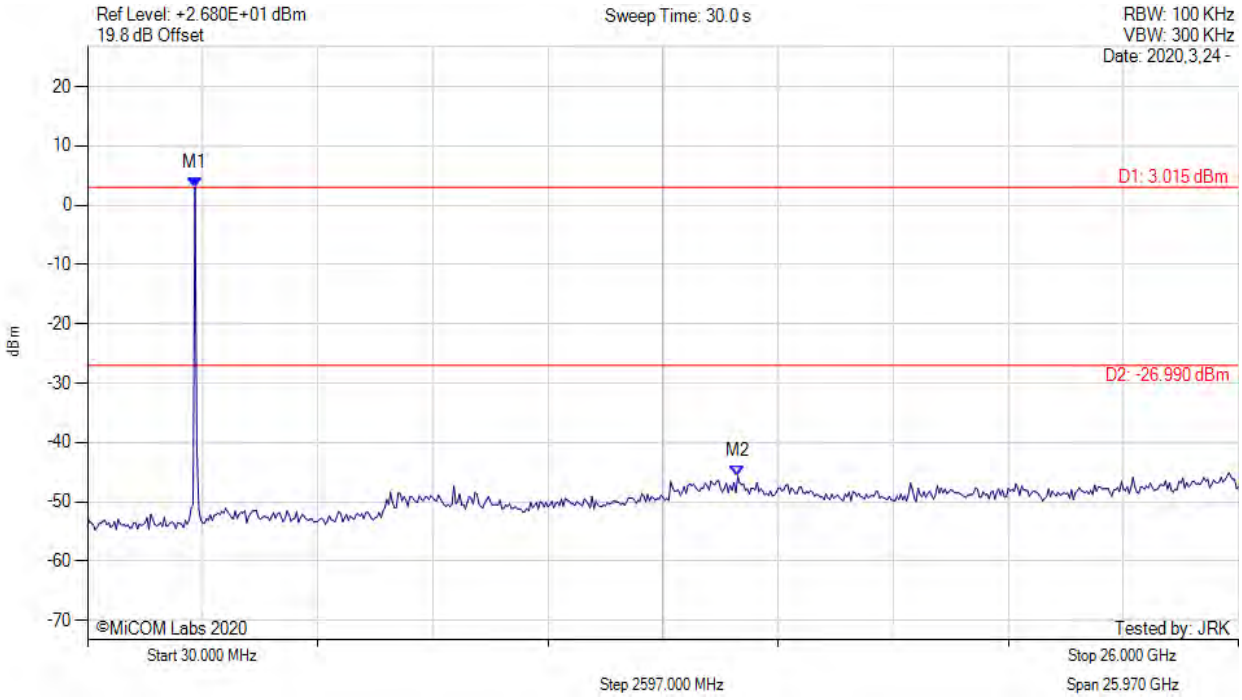


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2450.000 MHz : 0.324 dBm M2 : 13.710 GHz : -44.983 dBm	Limit: -29.68 dBm Margin: -15.30 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

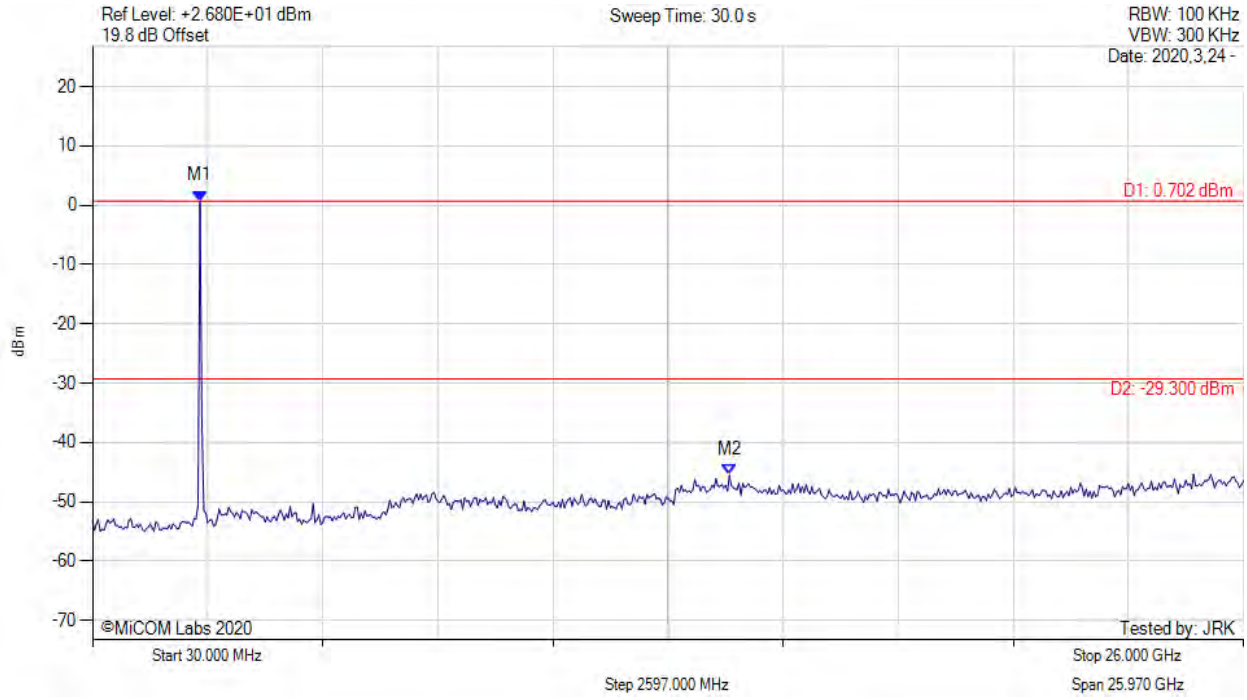


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2450.000 MHz : 3.015 dBm M2 : 14.700 GHz : -45.686 dBm	Limit: -26.99 dBm Margin: -18.70 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

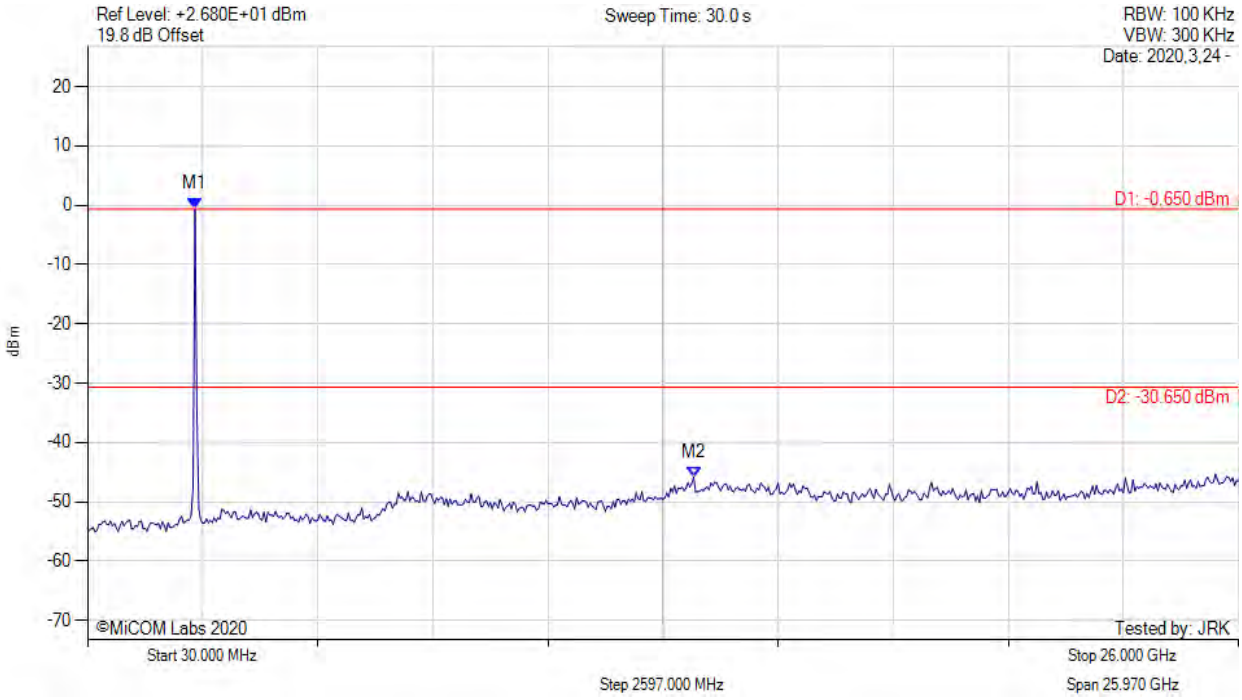


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2450.000 MHz : 0.702 dBm M2 : 14.400 GHz : -45.529 dBm	Limit: -29.30 dBm Margin: -16.23 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

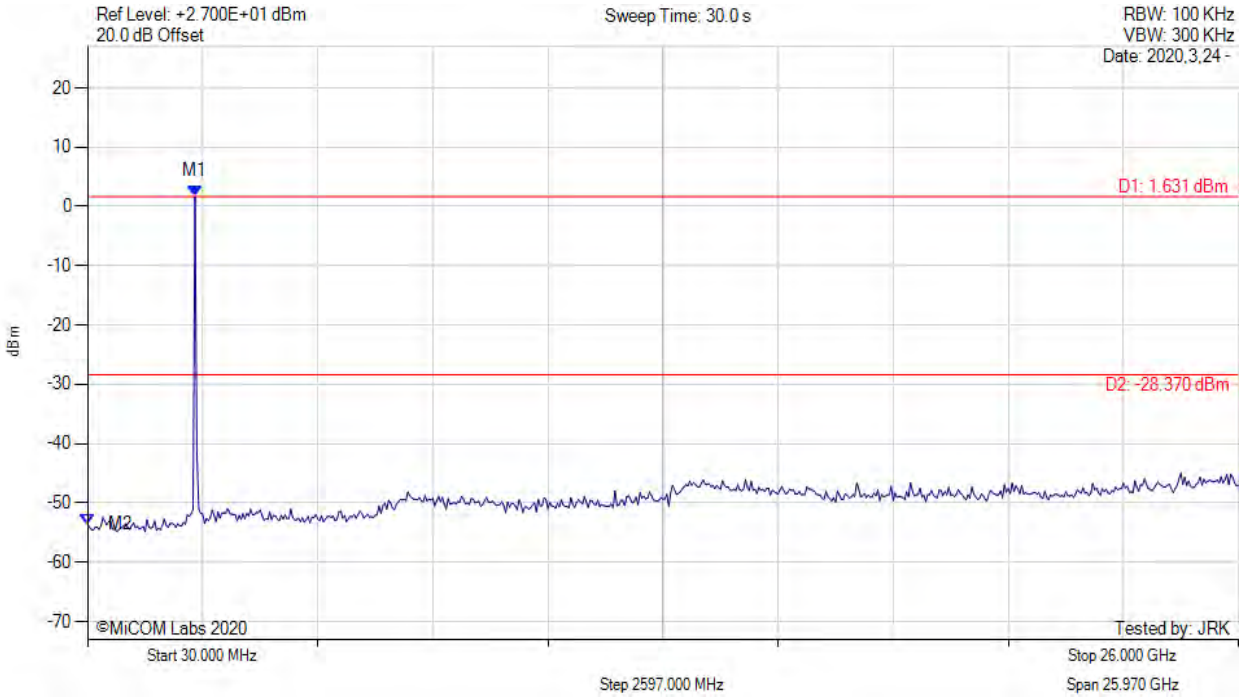


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2450.000 MHz : -0.650 dBm M2 : 13.710 GHz : -45.899 dBm	Limit: -30.65 dBm Margin: -15.25 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac



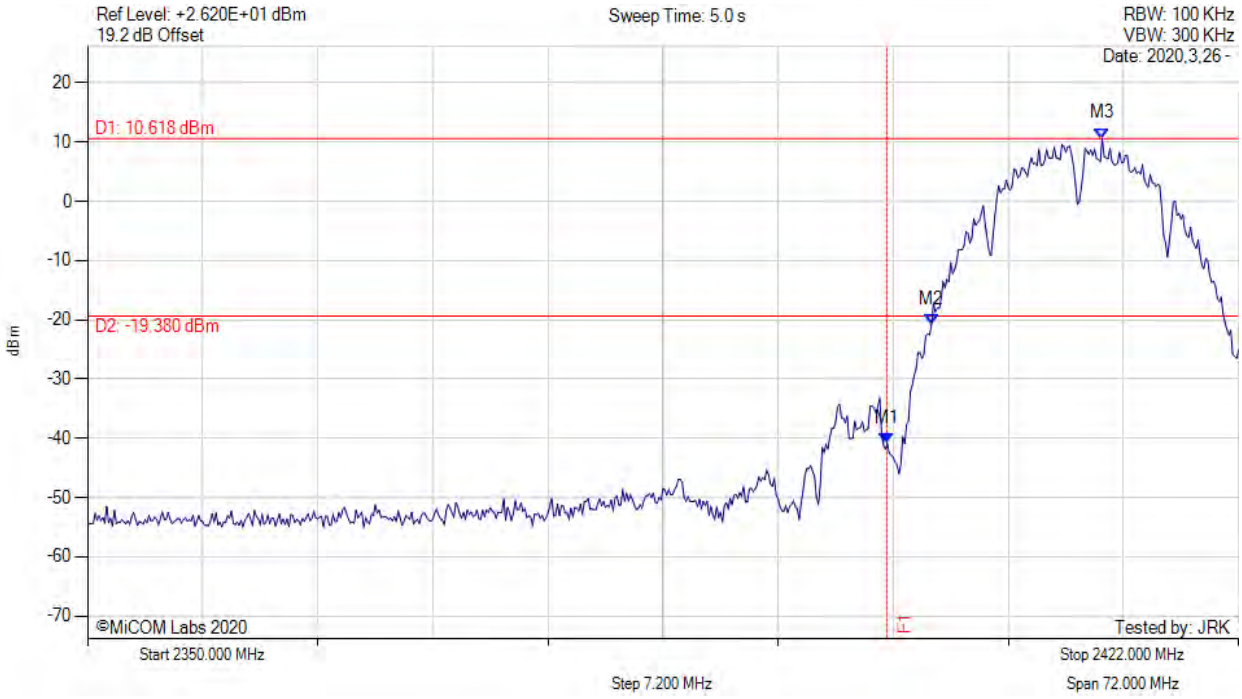
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2450.000 MHz : 1.631 dBm M2 : 30.000 MHz : -53.595 dBm	Limit: -28.37 dBm Margin: -25.22 dB

back to matrix

A.3.1.2. Conducted Band-Edge Emissions

CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2412.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

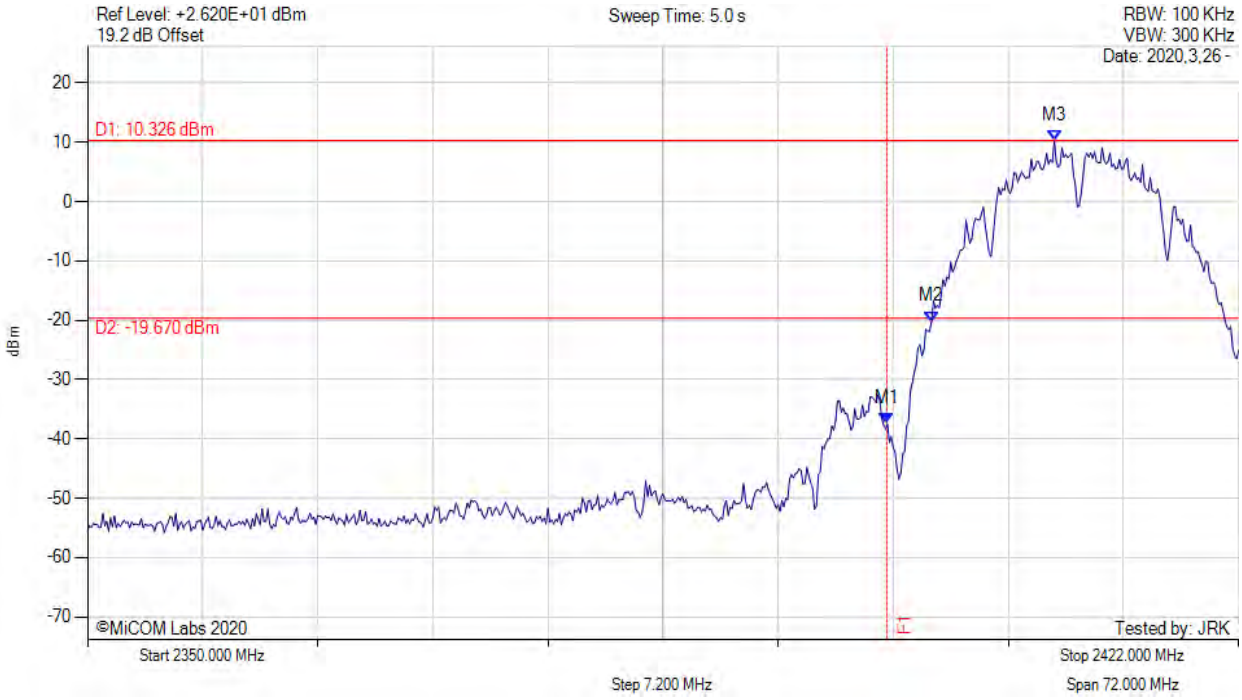


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2400.000 MHz : -40.942 dBm M2 : 2402.800 MHz : -20.794 dBm M3 : 2413.480 MHz : 10.618 dBm	Channel Frequency: 2412.00 MHz

back to matrix

CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2412.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

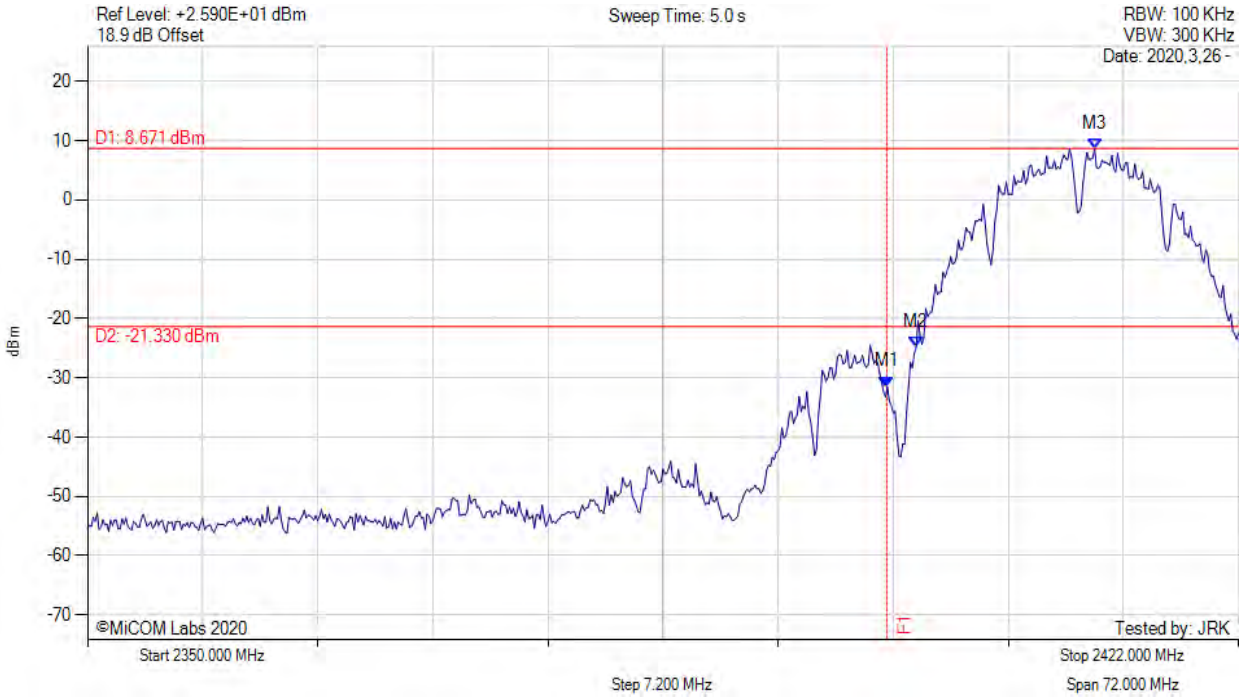


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2400.000 MHz : -37.462 dBm M2 : 2402.800 MHz : -20.216 dBm M3 : 2410.480 MHz : 10.326 dBm	Channel Frequency: 2412.00 MHz

back to matrix

CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2412.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

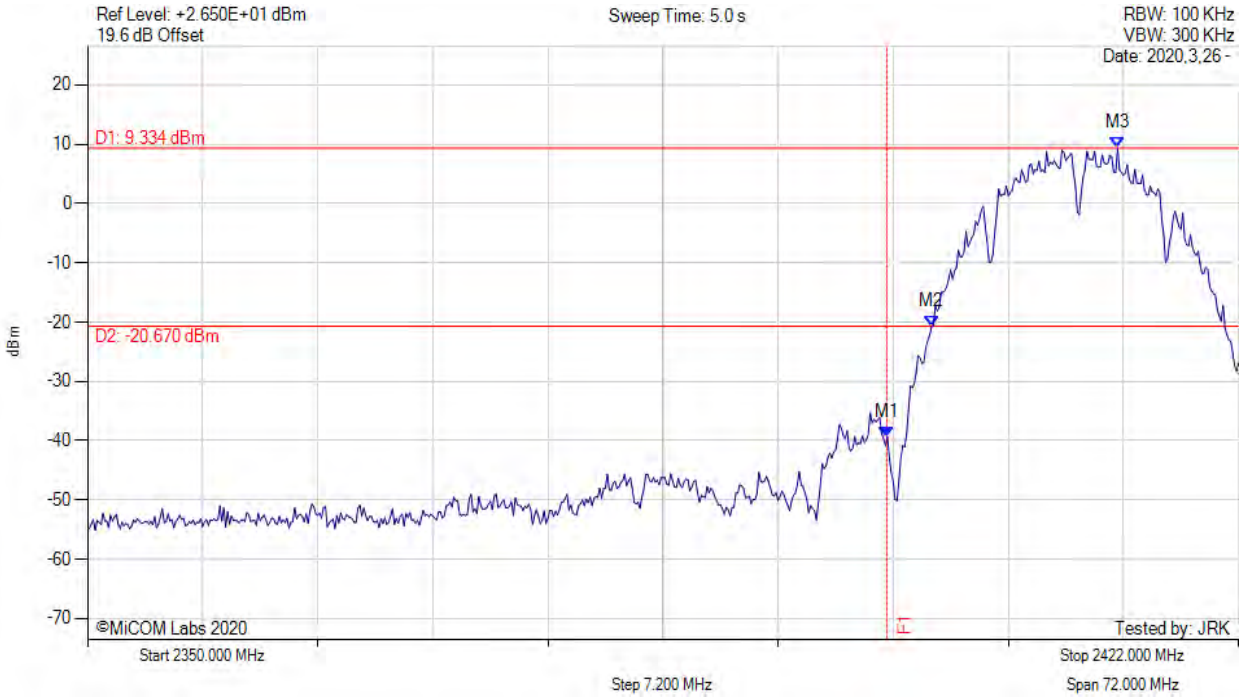


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2400.000 MHz : -31.506 dBm M2 : 2401.840 MHz : -24.768 dBm M3 : 2413.000 MHz : 8.671 dBm	Channel Frequency: 2412.00 MHz

back to matrix

CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2412.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac

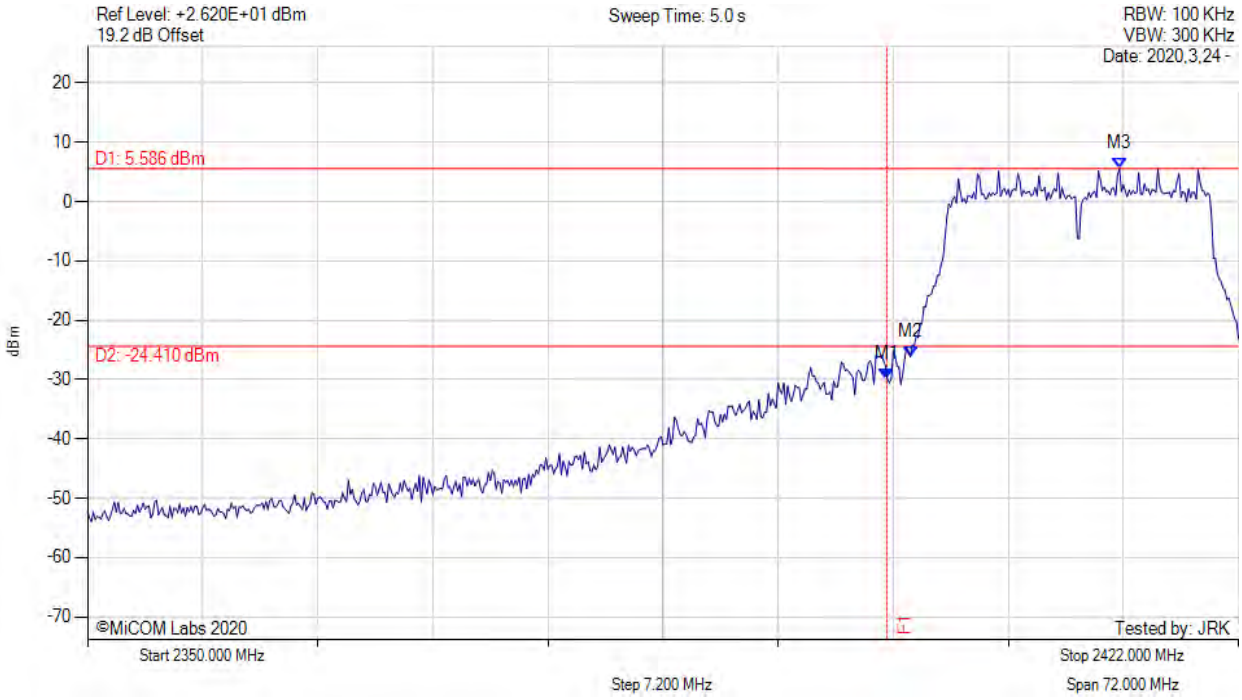


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2400.000 MHz : -39.353 dBm M2 : 2402.800 MHz : -20.793 dBm M3 : 2414.440 MHz : 9.334 dBm	Channel Frequency: 2412.00 MHz

back to matrix

CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

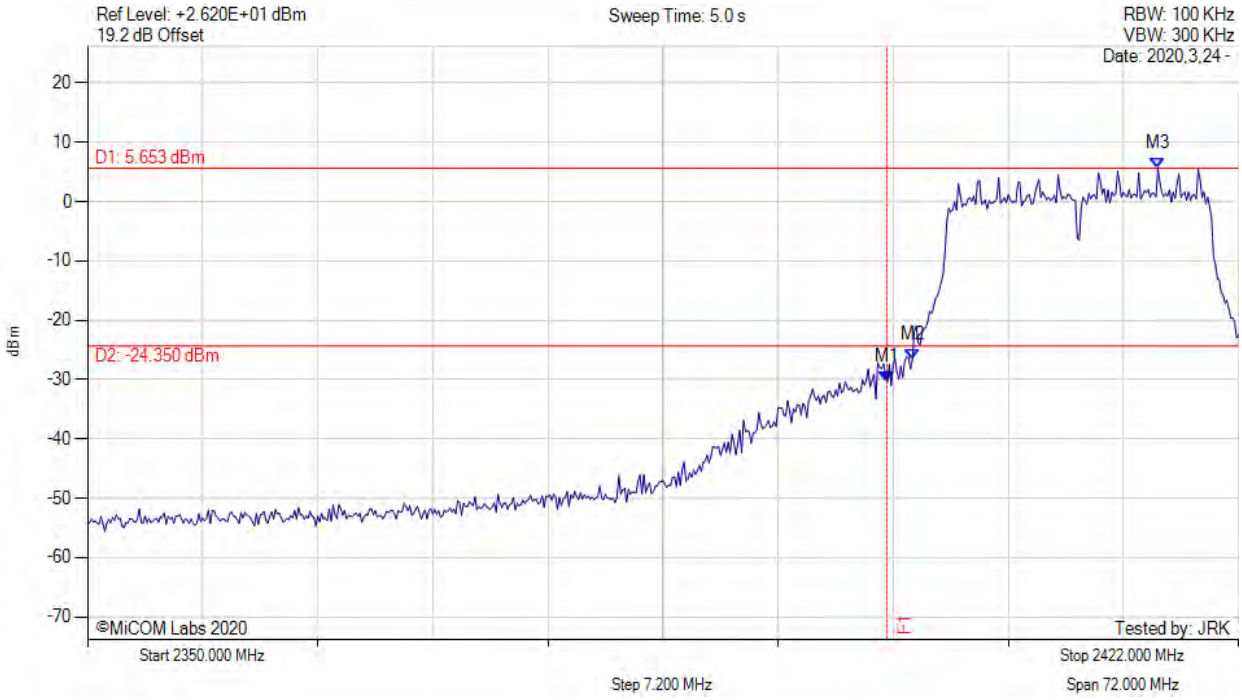


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2400.000 MHz : -29.938 dBm M2 : 2401.480 MHz : -26.121 dBm M3 : 2414.560 MHz : 5.586 dBm	Channel Frequency: 2412.00 MHz

back to matrix

CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

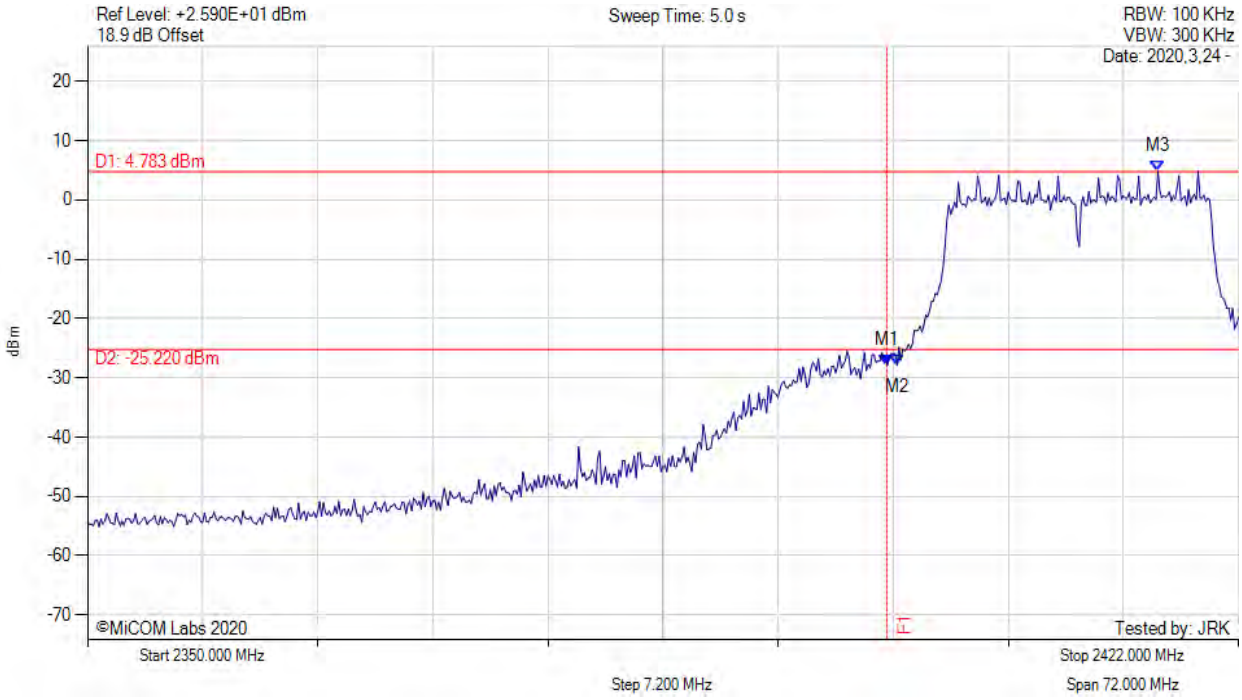


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2400.000 MHz : -30.327 dBm M2 : 2401.600 MHz : -26.695 dBm M3 : 2416.960 MHz : 5.653 dBm	Channel Frequency: 2412.00 MHz

back to matrix

CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

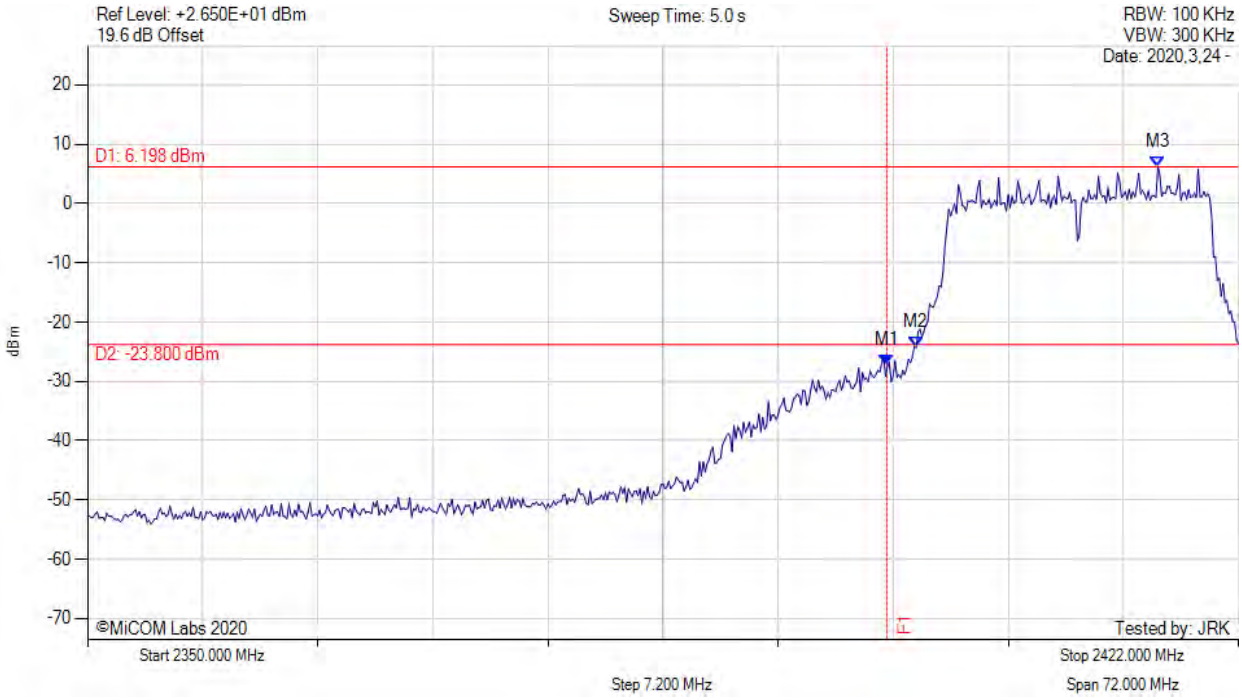


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2400.000 MHz : -27.848 dBm M2 : 2400.640 MHz : -27.891 dBm M3 : 2416.960 MHz : 4.783 dBm	Channel Frequency: 2412.00 MHz

back to matrix

CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac

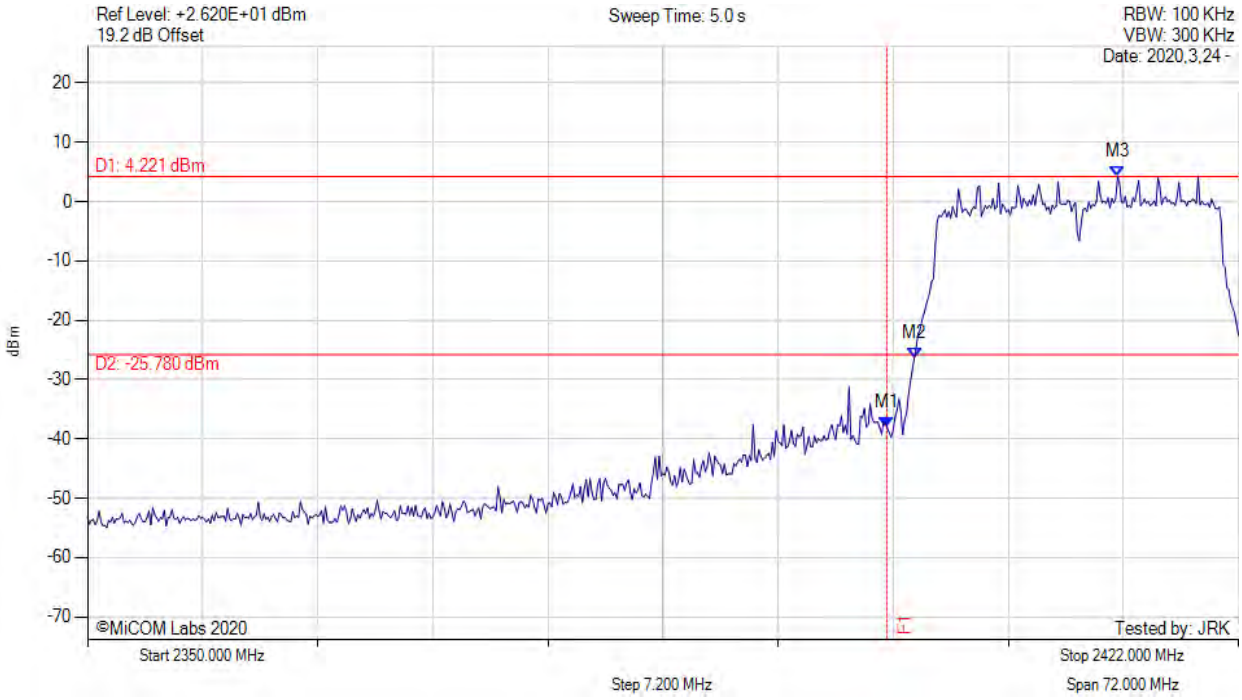


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2400.000 MHz : -27.360 dBm M2 : 2401.840 MHz : -24.341 dBm M3 : 2416.960 MHz : 6.198 dBm	Channel Frequency: 2412.00 MHz

back to matrix

CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

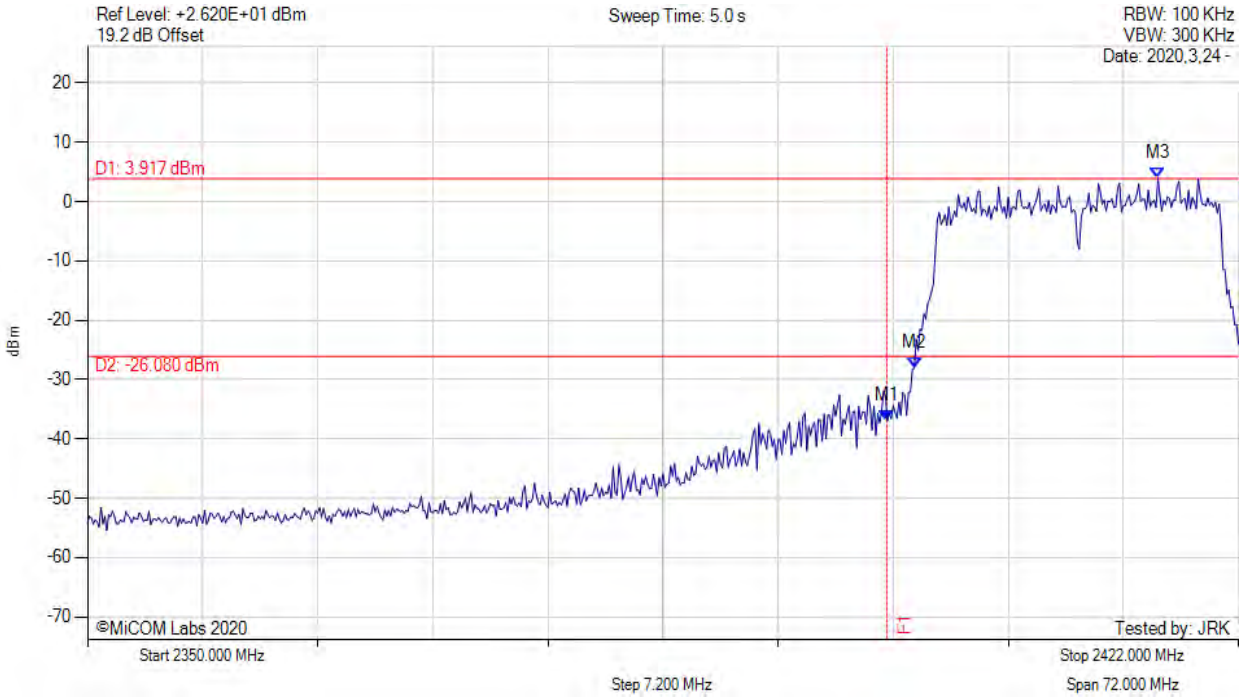


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2400.000 MHz : -38.194 dBm M2 : 2401.720 MHz : -26.400 dBm M3 : 2414.440 MHz : 4.221 dBm	Channel Frequency: 2412.00 MHz

back to matrix

CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

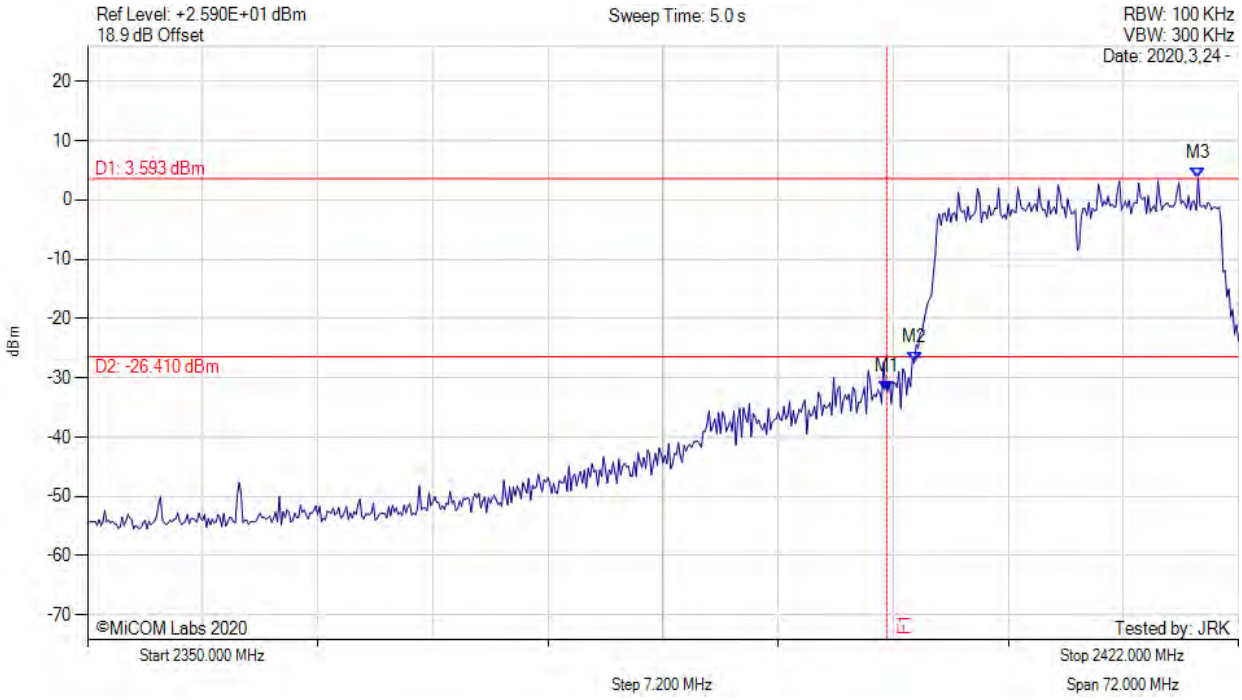


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2400.000 MHz : -36.916 dBm M2 : 2401.720 MHz : -28.003 dBm M3 : 2416.960 MHz : 3.917 dBm	Channel Frequency: 2412.00 MHz

back to matrix

CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

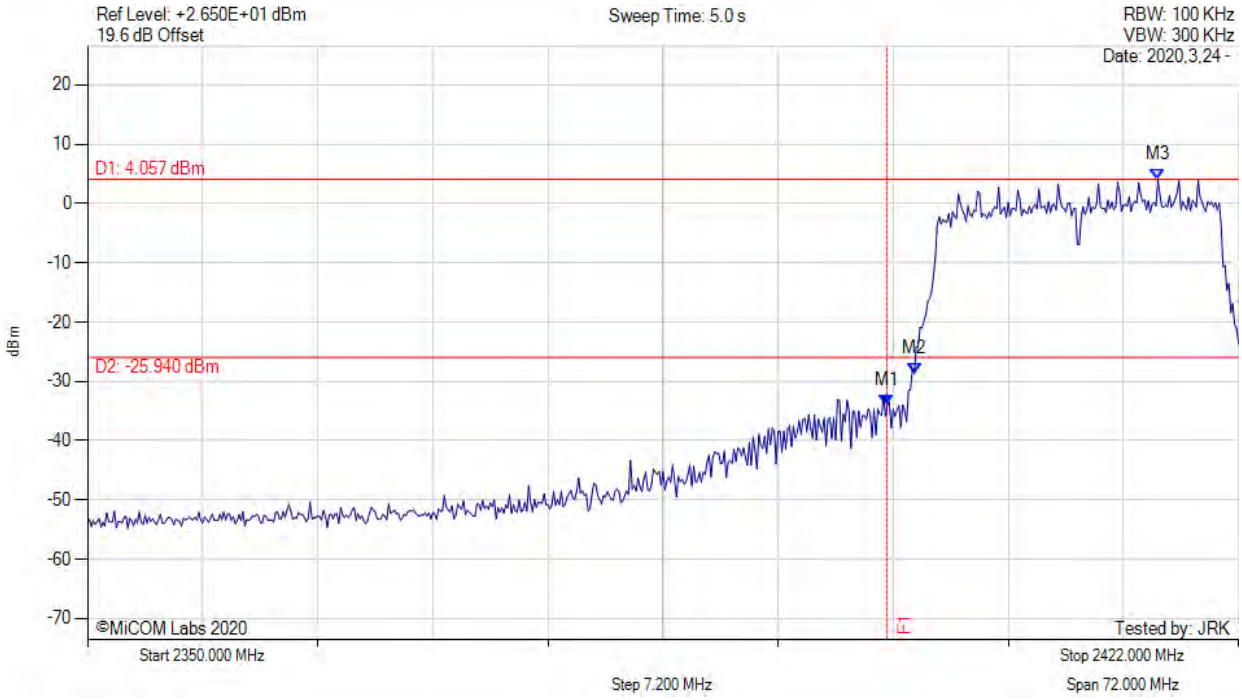


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2400.000 MHz : -32.319 dBm M2 : 2401.720 MHz : -27.502 dBm M3 : 2419.480 MHz : 3.593 dBm	Channel Frequency: 2412.00 MHz

back to matrix

CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac

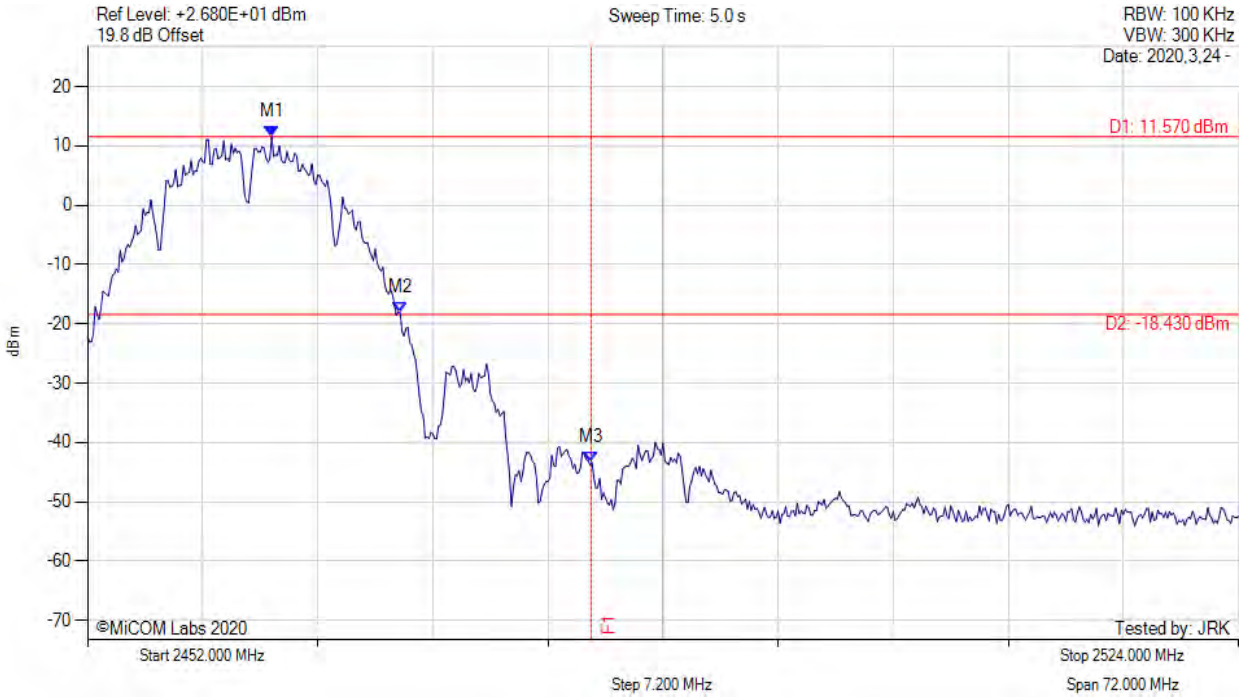


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2400.000 MHz : -34.017 dBm M2 : 2401.720 MHz : -28.602 dBm M3 : 2416.960 MHz : 4.057 dBm	Channel Frequency: 2412.00 MHz

back to matrix

CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

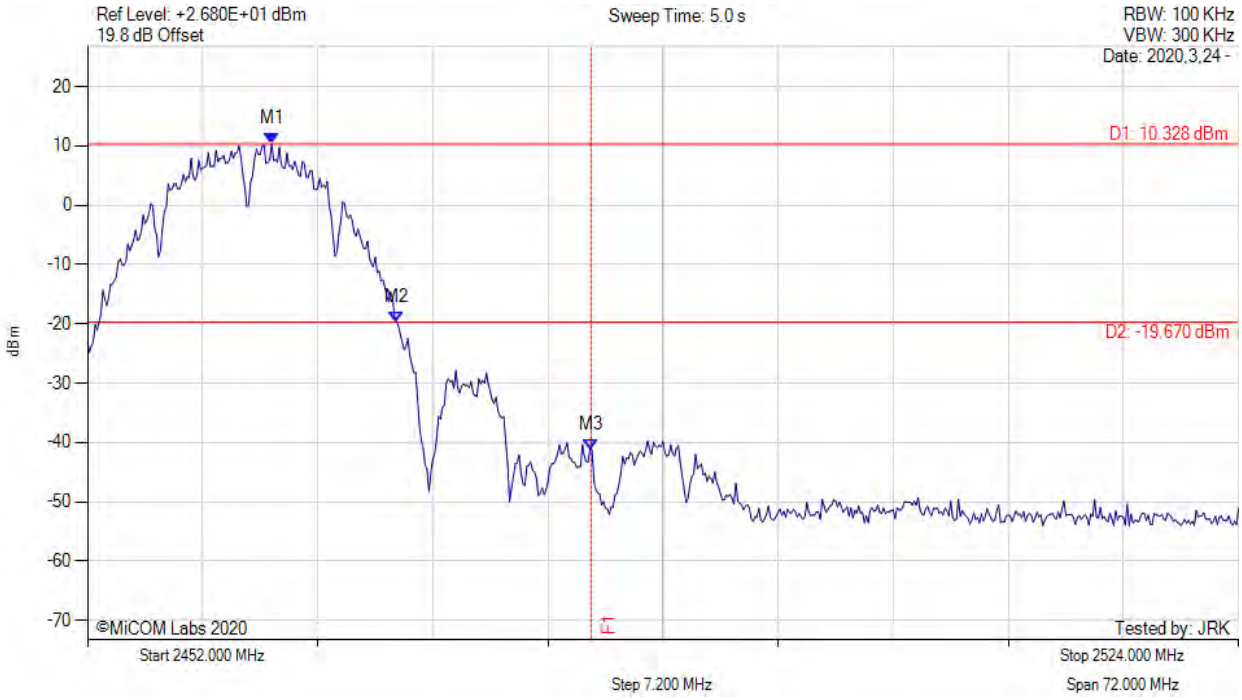


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2463.520 MHz : 11.570 dBm M2 : 2471.560 MHz : -18.148 dBm M3 : 2483.500 MHz : -43.371 dBm	Channel Frequency: 2462.00 MHz

back to matrix

CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

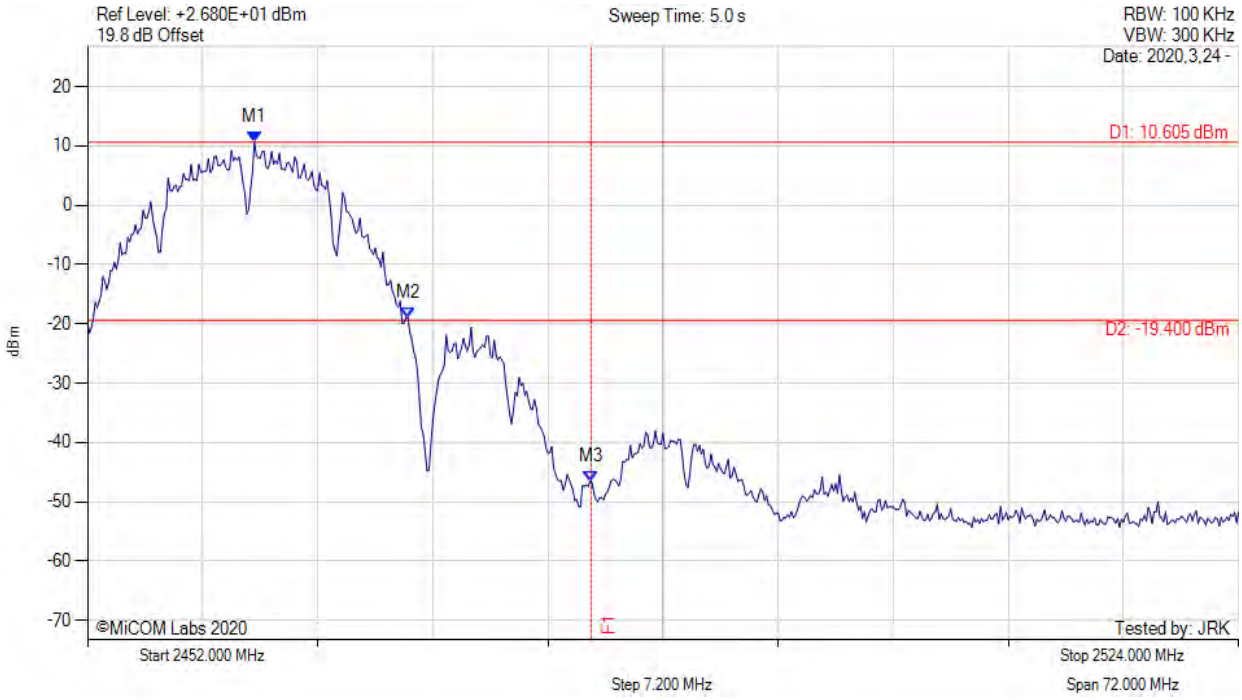


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2463.520 MHz : 10.328 dBm M2 : 2471.320 MHz : -19.641 dBm M3 : 2483.500 MHz : -41.220 dBm	Channel Frequency: 2462.00 MHz

back to matrix

CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

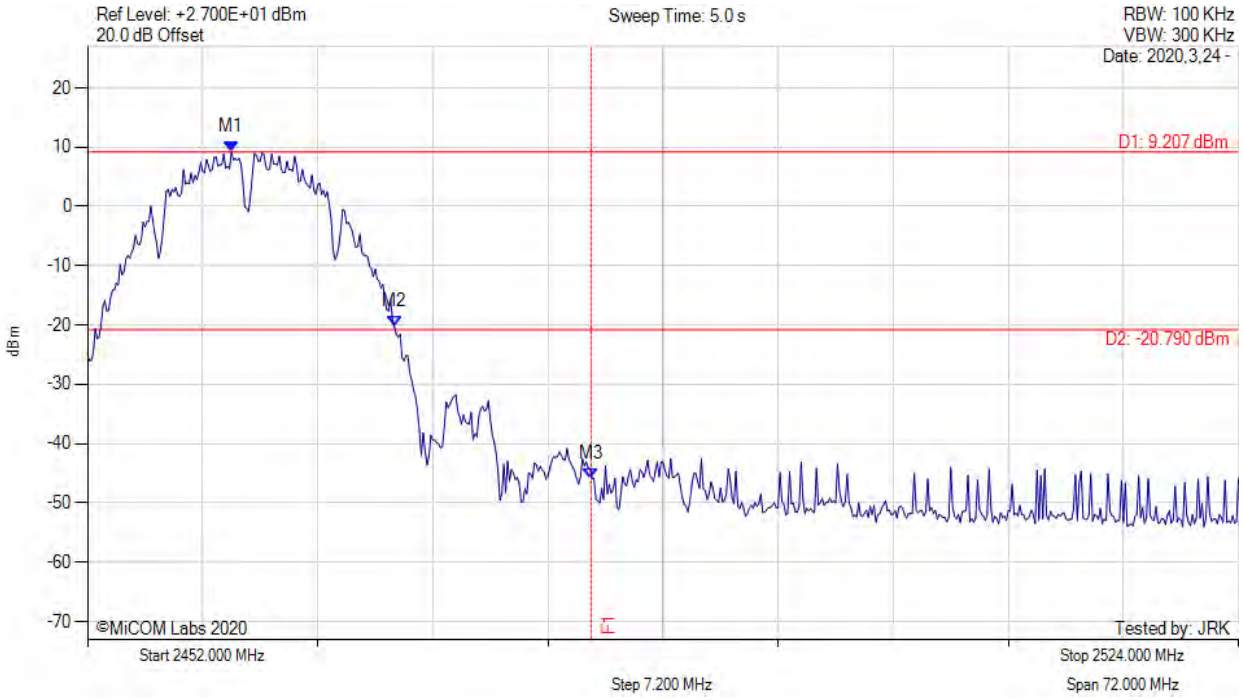


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2462.440 MHz : 10.605 dBm M2 : 2472.040 MHz : -18.949 dBm M3 : 2483.500 MHz : -46.710 dBm	Channel Frequency: 2462.00 MHz

back to matrix

CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac

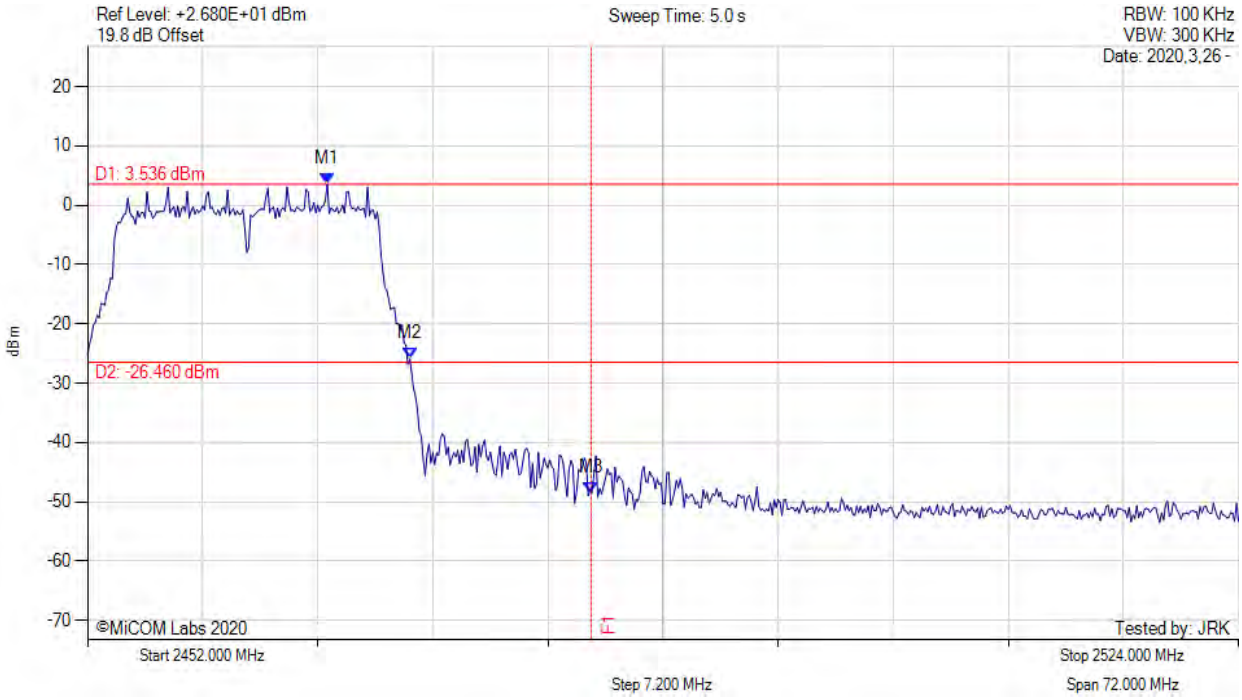


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2461.000 MHz : 9.207 dBm M2 : 2471.200 MHz : -20.326 dBm M3 : 2483.500 MHz : -45.872 dBm	Channel Frequency: 2462.00 MHz

back to matrix

CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

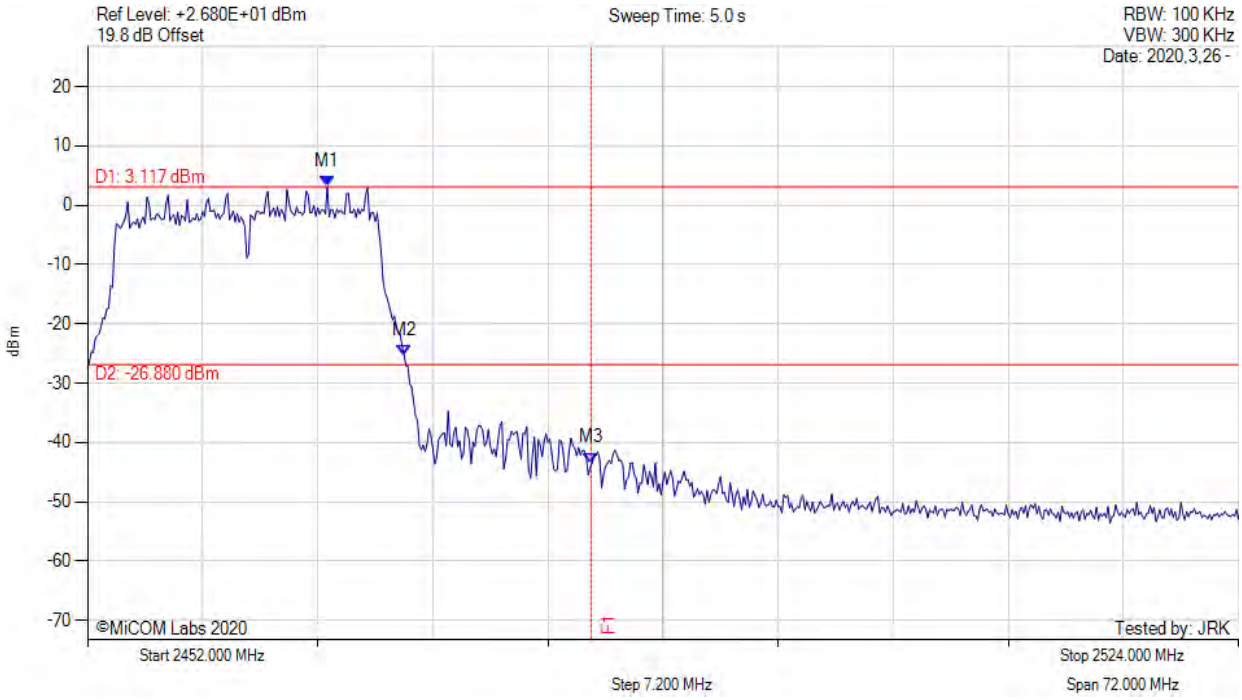


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2467.000 MHz : 3.536 dBm M2 : 2472.160 MHz : -25.900 dBm M3 : 2483.500 MHz : -48.440 dBm	Channel Frequency: 2462.00 MHz

back to matrix

CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

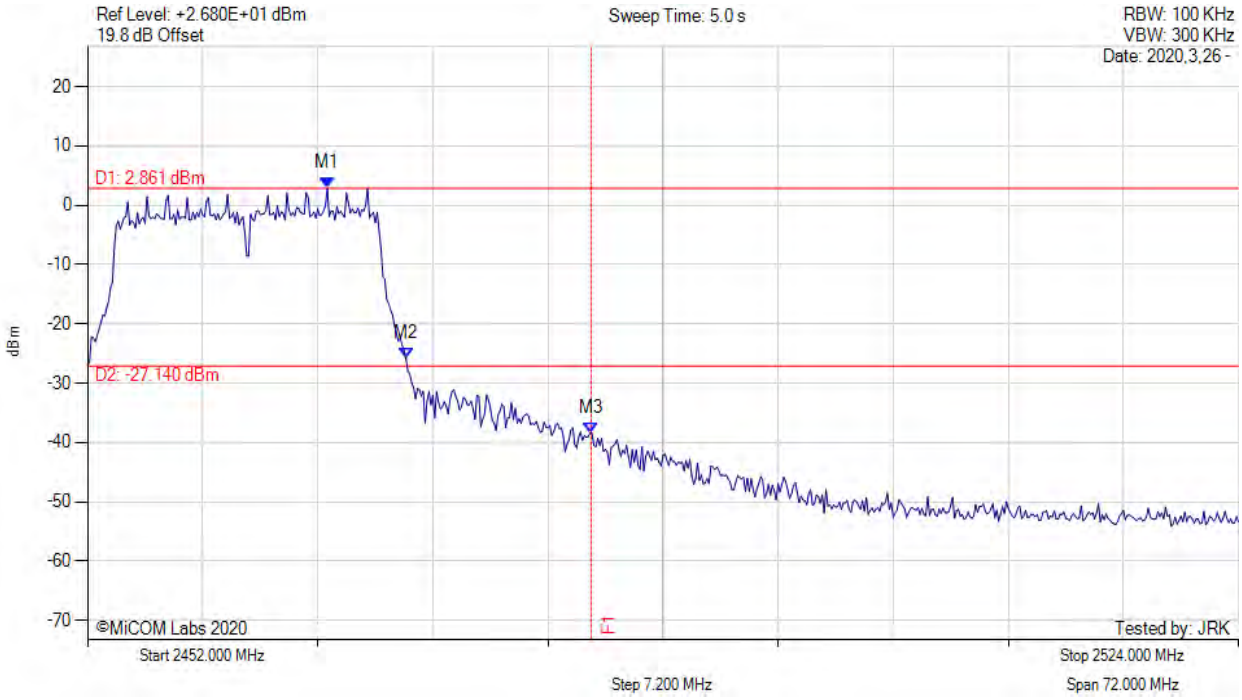


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2467.000 MHz : 3.117 dBm M2 : 2471.800 MHz : -25.305 dBm M3 : 2483.500 MHz : -43.470 dBm	Channel Frequency: 2462.00 MHz

back to matrix

CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac

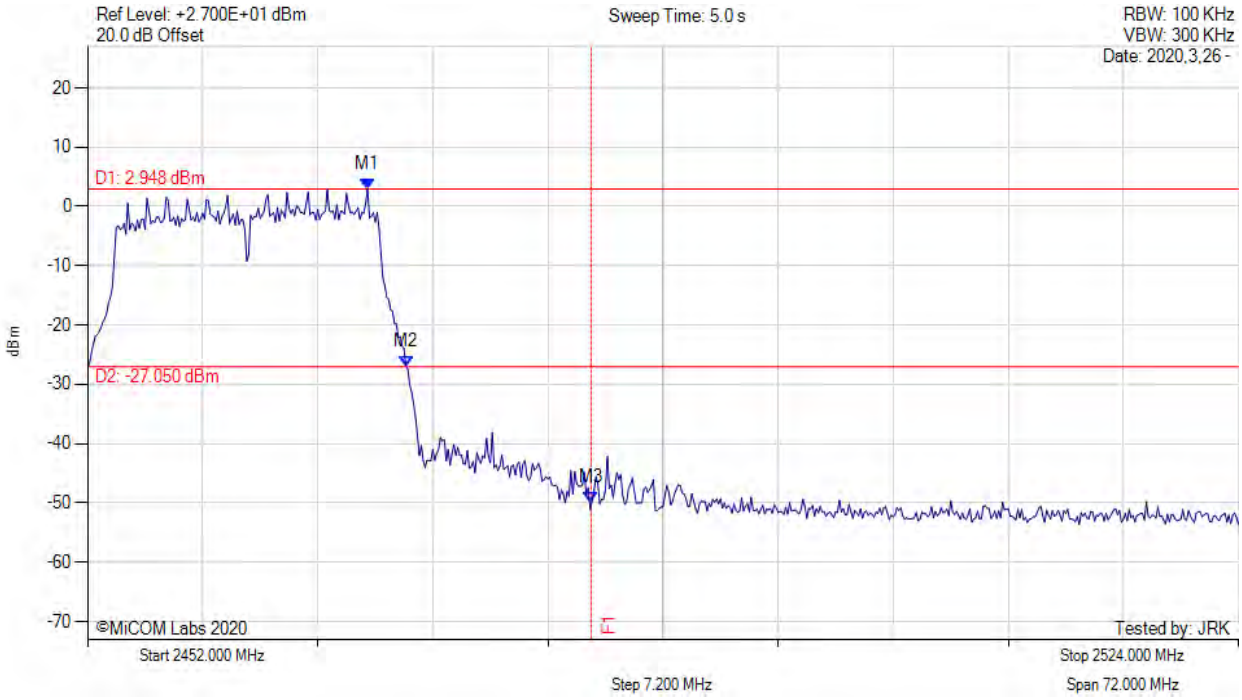


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2467.000 MHz : 2.861 dBm M2 : 2471.920 MHz : -25.867 dBm M3 : 2483.500 MHz : -38.464 dBm	Channel Frequency: 2462.00 MHz

back to matrix

CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac

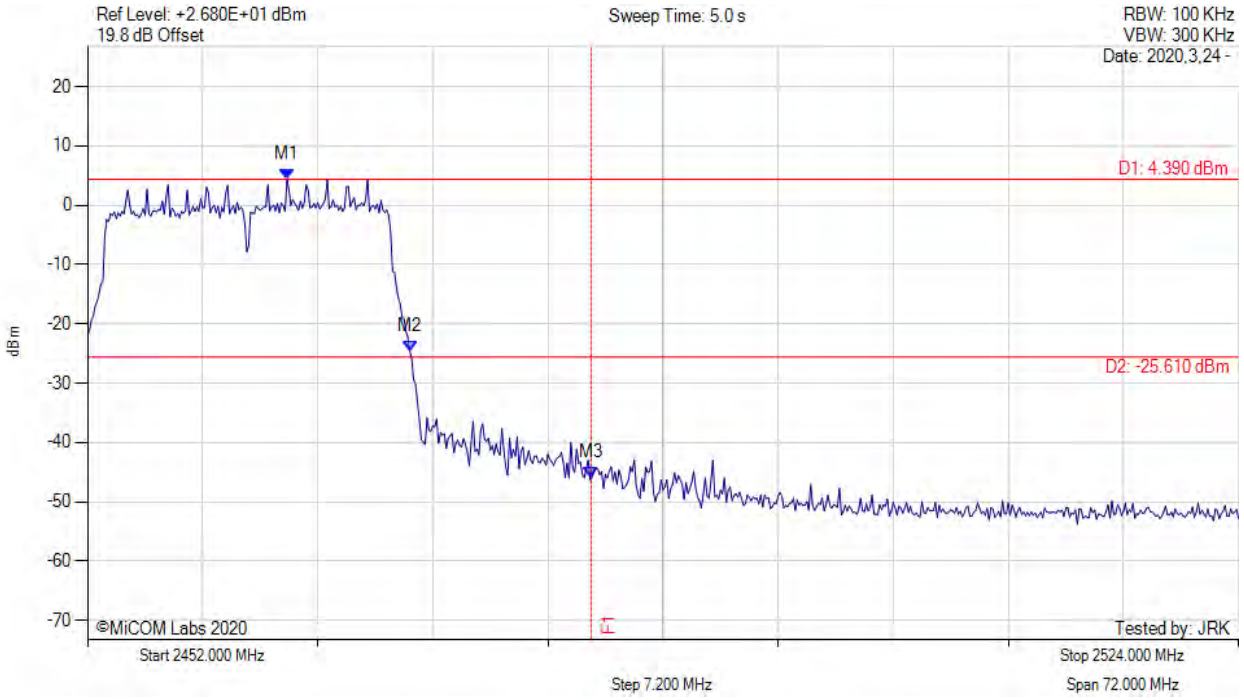


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2469.520 MHz : 2.948 dBm M2 : 2471.920 MHz : -26.972 dBm M3 : 2483.500 MHz : -49.841 dBm	Channel Frequency: 2462.00 MHz

back to matrix

CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain a, Temp: 20, Voltage: 120 Vac

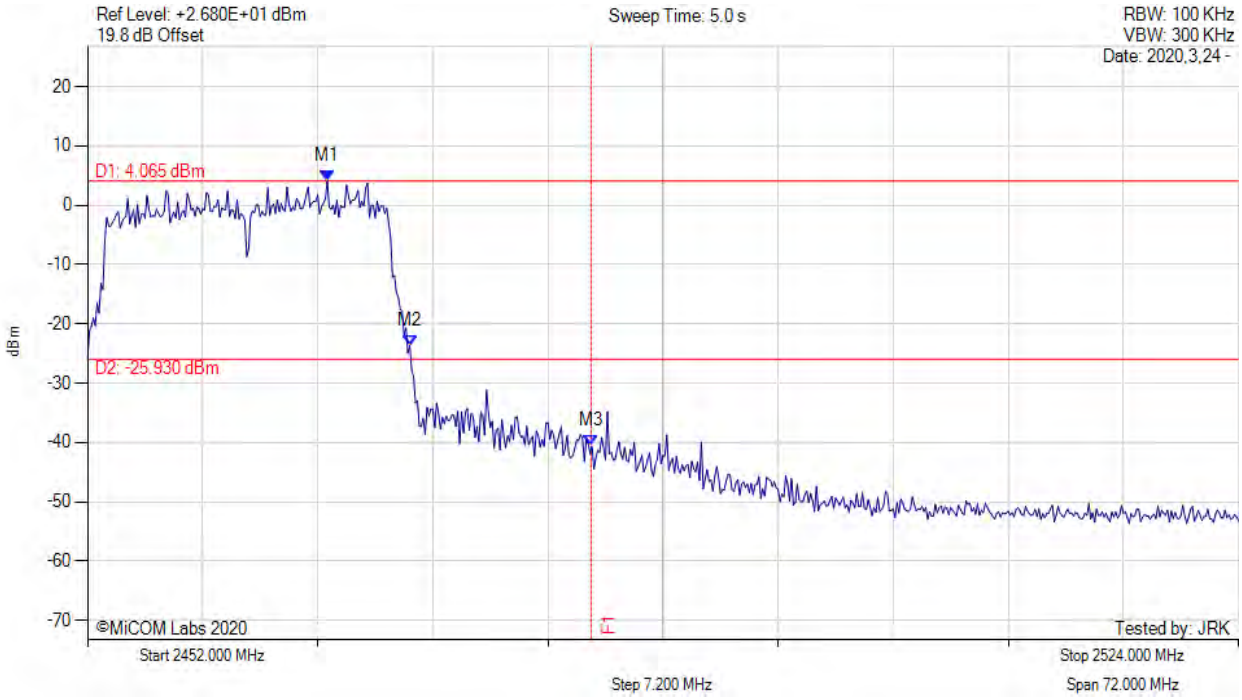


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2464.480 MHz : 4.390 dBm M2 : 2472.160 MHz : -24.556 dBm M3 : 2483.500 MHz : -45.911 dBm	Channel Frequency: 2462.00 MHz

back to matrix

CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain b, Temp: 20, Voltage: 120 Vac

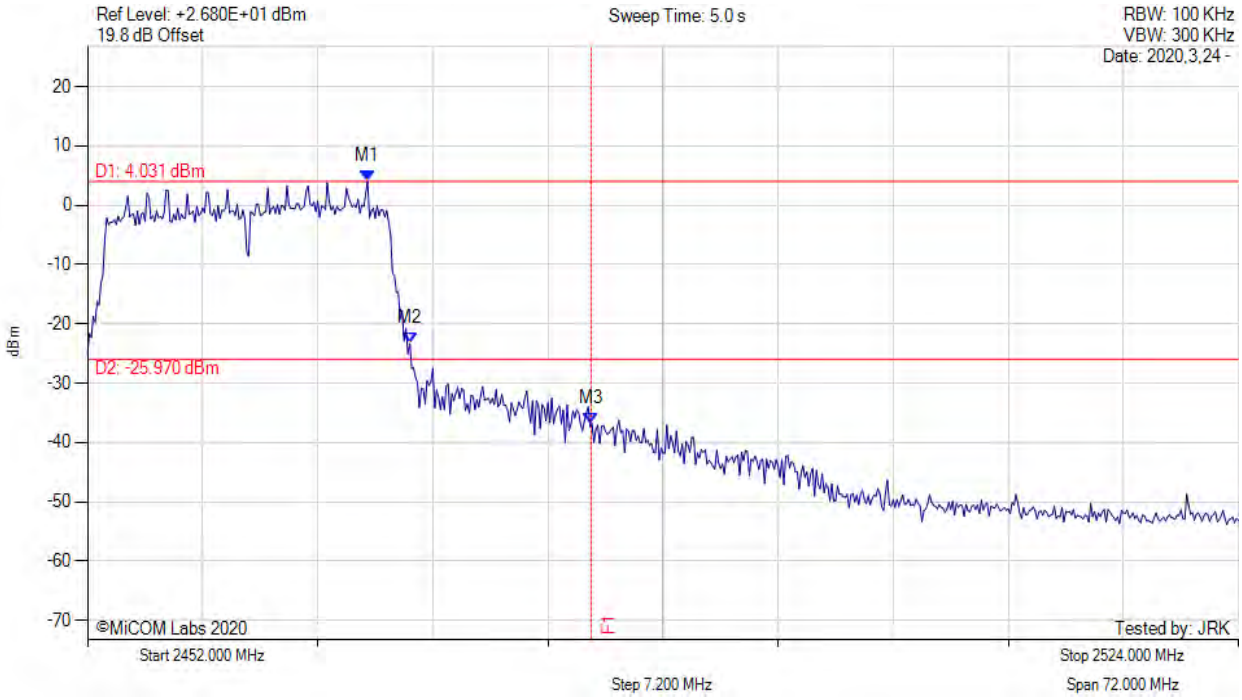


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2467.000 MHz : 4.065 dBm M2 : 2472.160 MHz : -23.656 dBm M3 : 2483.500 MHz : -40.637 dBm	Channel Frequency: 2462.00 MHz

back to matrix

CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain c, Temp: 20, Voltage: 120 Vac



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2469.520 MHz : 4.031 dBm M2 : 2472.160 MHz : -23.329 dBm M3 : 2483.500 MHz : -36.793 dBm	Channel Frequency: 2462.00 MHz

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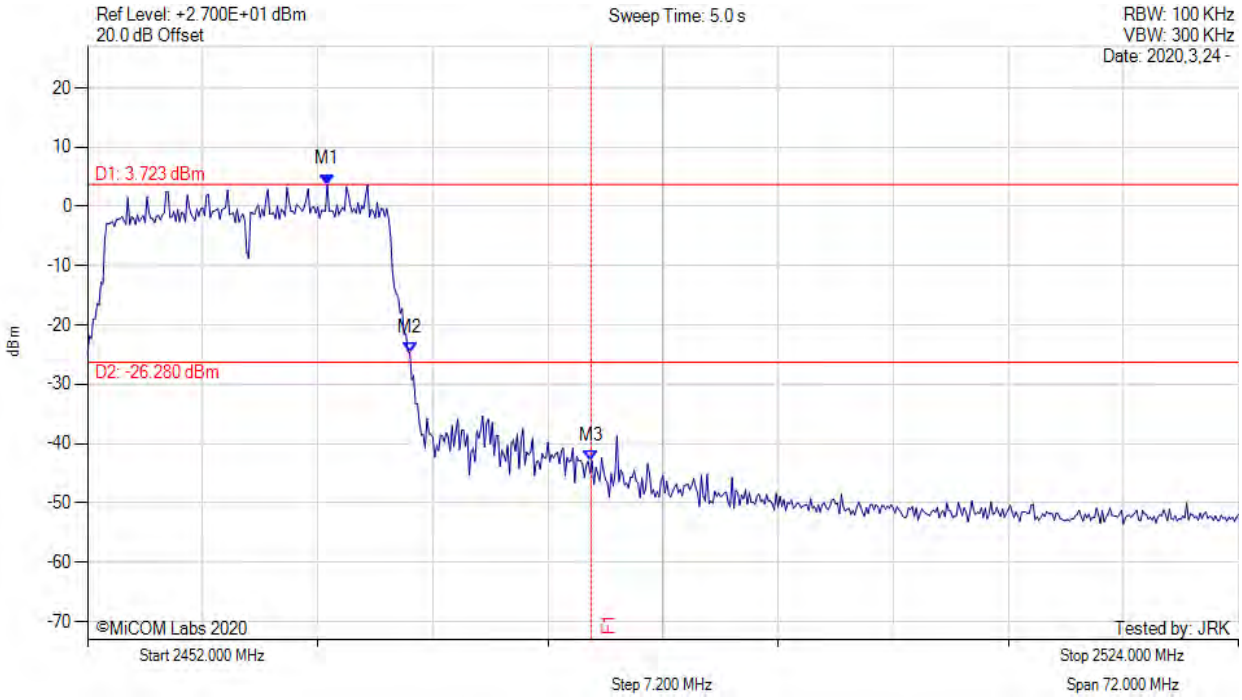
CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain d, Temp: 20, Voltage: 120 Vac



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2467.000 MHz : 3.723 dBm M2 : 2472.160 MHz : -24.646 dBm M3 : 2483.500 MHz : -42.865 dBm	Channel Frequency: 2462.00 MHz

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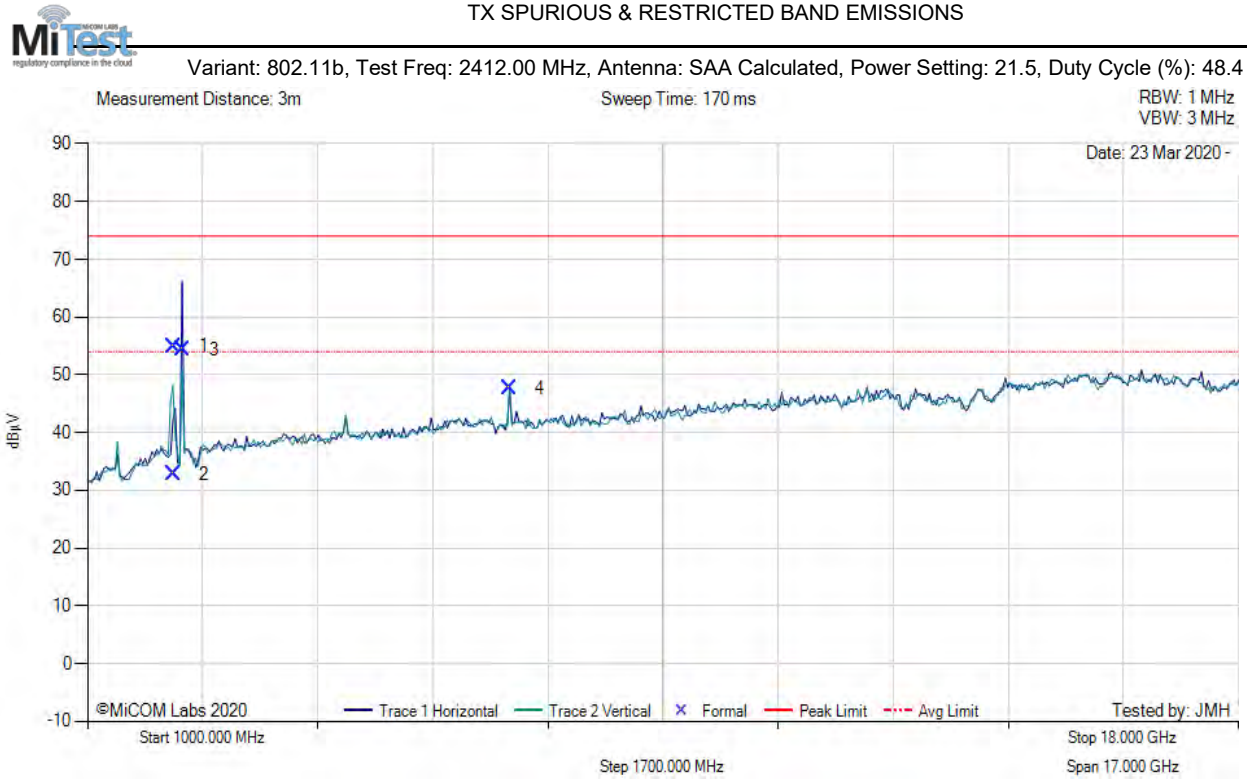
A.3.2. Radiated Emissions

A.3.2.3. TX Spurious & Restricted Band Emissions



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	2269.28	65.74	1.97	-12.79	54.92	Max Peak	Vertical	136	50	74.0	-19.1	Pass
2	2269.28	40.50	1.97	-12.79	32.83	Max Avg	Vertical	136	50	54.0	-21.2	Pass
3	2412.94	64.92	2.00	-12.57	54.35	Fundamental	Horizontal	138	0	--	--	
4	7235.32	52.05	3.61	-7.95	47.71	Peak (NRB)	Vertical	138	102	--	--	Pass

Test Notes: EUT connected to laptop outside chamber running test code. DC Correction of 3.15 db applied to average measurement

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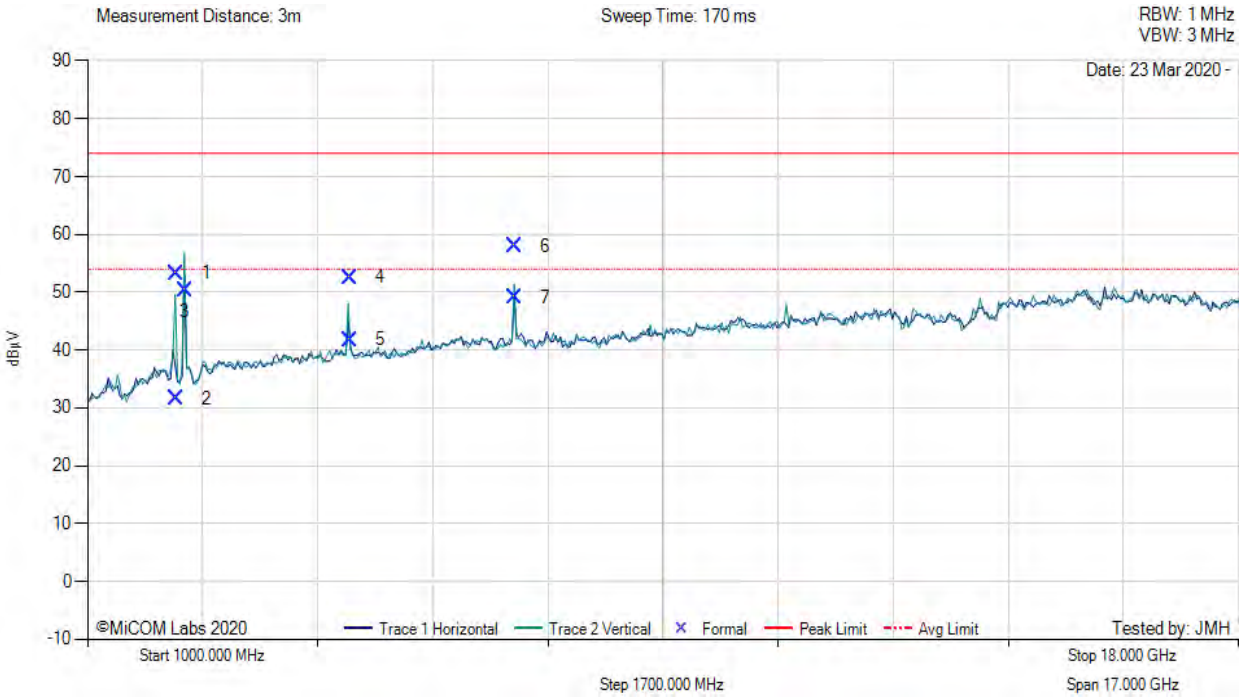
TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11b, Test Freq: 2437.00 MHz, Antenna: SAA Calculated, Power Setting: 21.5, Duty Cycle (%): 48.4



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	2315.92	63.96	2.01	-12.70	53.27	Max Peak	Vertical	124	92	74.0	-20.7	Pass
2	2315.92	39.21	2.01	-12.70	31.67	Max Avg	Vertical	124	92	54.0	-22.3	Pass
3	2435.92	60.51	2.00	-12.25	50.26	Fundamental	Vertical	100	0	--	--	
4	4874.02	62.16	2.92	-12.52	52.56	Max Peak	Vertical	101	108	74.0	-21.4	Pass
5	4874.02	48.26	2.92	-12.52	41.81	Max Avg	Vertical	101	108	54.0	-12.2	Pass
6	7311.93	62.20	3.62	-7.86	57.96	Max Peak	Vertical	158	154	74.0	-16.0	Pass
7	7311.93	50.12	3.62	-7.86	49.03	Max Avg	Vertical	158	154	54.0	-5.0	Pass

Test Notes: EUT connected to laptop outside chamber running test code. DC Correction of 3.15 db applied to average measurement

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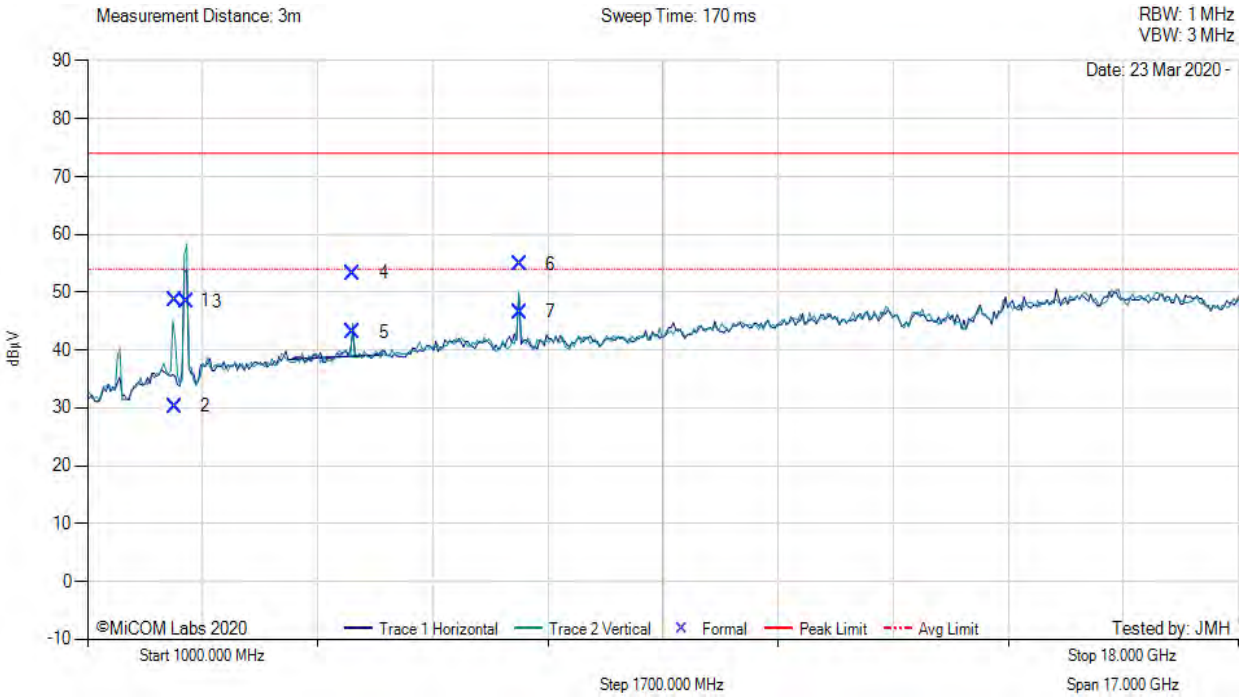
TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11b, Test Freq: 2462.00 MHz, Antenna: SAA Calculated, Power Setting: 21.5, Duty Cycle (%): 48.4



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	2285.82	59.42	1.95	-12.83	48.54	Max Peak	Vertical	98	78	74.0	-25.5	Pass
2	2285.82	38.02	1.95	-12.83	30.29	Max Avg	Vertical	98	78	54.0	-23.7	Pass
3	2463.55	58.73	2.04	-12.43	48.34	Fundamental	Vertical	100	0	--	--	
4	4923.96	62.86	2.98	-12.53	53.31	Max Peak	Vertical	102	79	74.0	-20.7	Pass
5	4923.96	49.52	2.98	-12.53	43.12	Max Avg	Vertical	102	79	54.0	-10.9	Pass
6	7384.42	59.00	3.59	-7.82	54.77	Max Peak	Vertical	104	128	74.0	-19.2	Pass
7	7384.42	47.62	3.59	-7.82	46.54	Max Avg	Vertical	104	128	54.0	-7.5	Pass

Test Notes: EUT connected to laptop outside chamber running test code. DC Correction of 3.15 dB applied to average measurement

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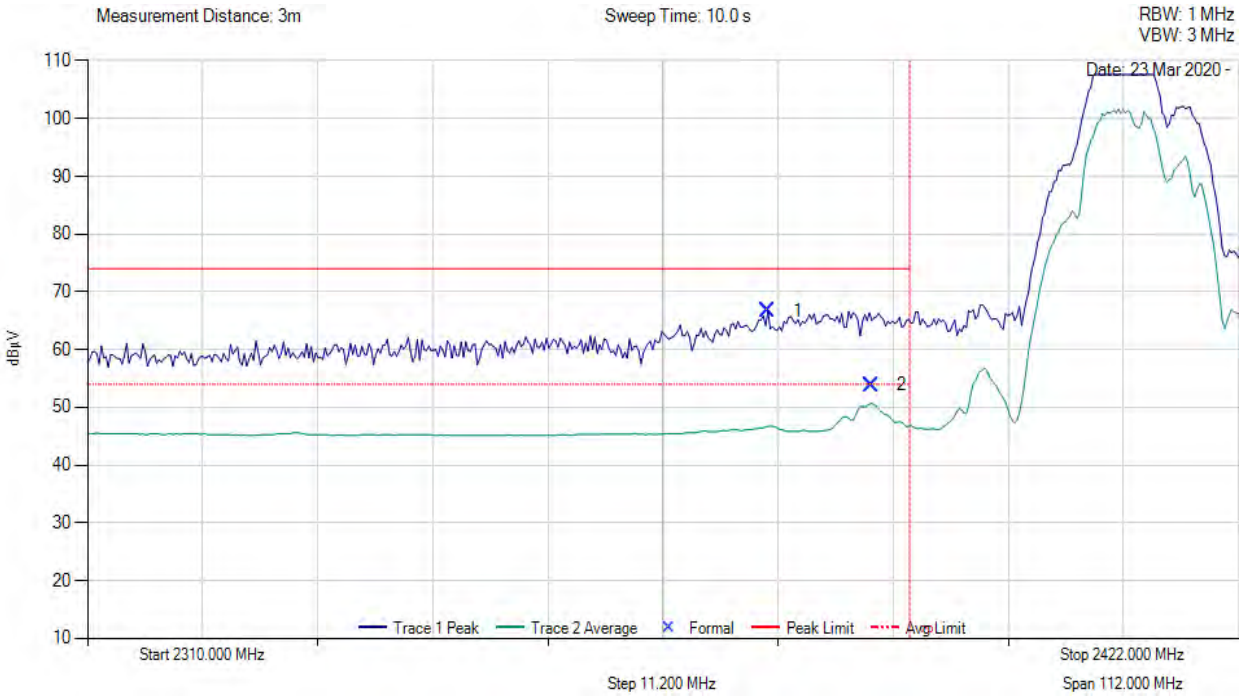
A.3.2.4. Restricted Edge & Band-Edge Emissions

RADIATED - LOWER RESTRICTED BAND-EDGE EMISSIONS

Variant: 802.11b, Test Freq: 2412.00 MHz, Antenna: SAA Calculated, Power Setting: 20.5, Duty Cycle (%): 48.4



2310.00 - 2422.00 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	2376.21	32.79	2.00	31.88	66.67	Max Peak	Vertical	127	298	74.0	-7.3	Pass
2	2386.31	16.80	2.01	31.94	53.90	Max Avg	Vertical	127	298	54.0	-0.1	Pass
3	2390.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: EUT connected to laptop outside chamber running test code. DC Correction of 3.15 dB applied to average measurement

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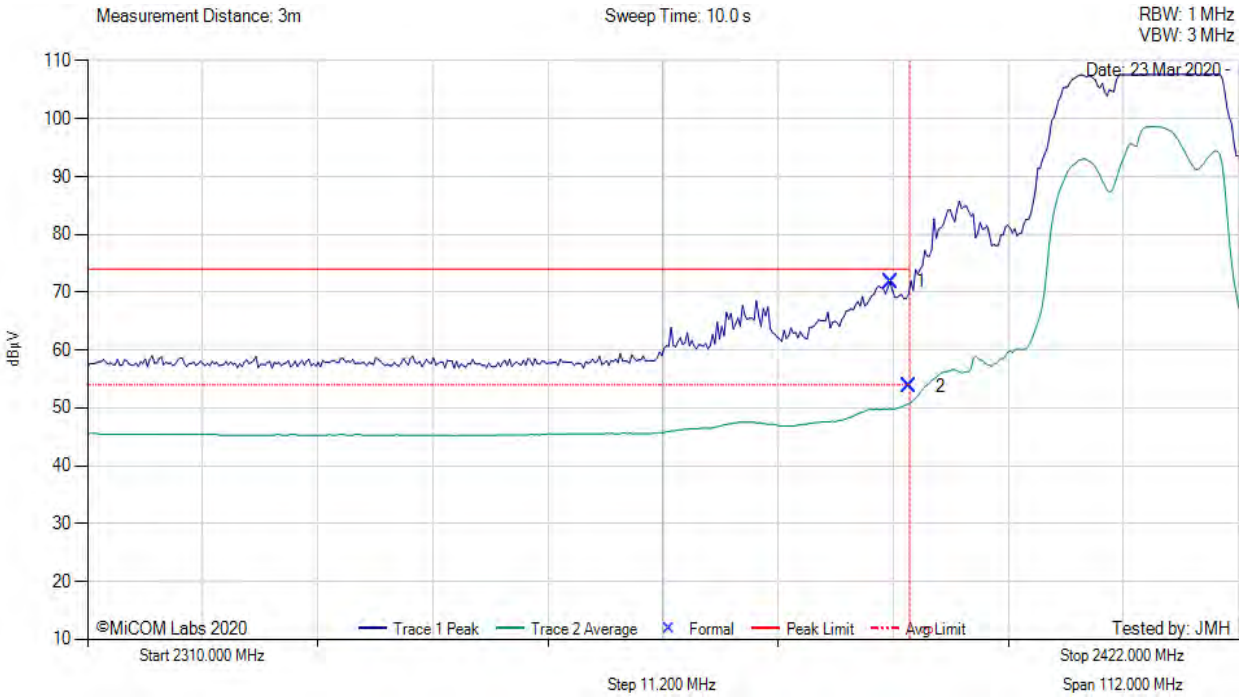
RADIATED - LOWER RESTRICTED BAND-EDGE EMISSIONS

Variant: 802.11g, Test Freq: 2412.00 MHz, Antenna: SAA Calculated, Power Setting: 17.5, Duty Cycle (%): 49.5



2310.00 - 2422.00 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	2388.20	37.84	2.02	31.95	71.81	Max Peak	Vertical	127	298	74.0	-2.2	Pass
2	2390.00	16.73	2.02	31.96	53.76	Max Avg	Vertical	127	298	54.0	-0.2	Pass
3	2390.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: EUT connected to laptop outside chamber running test code. Power reduced to meet band Edge Limit. DC Correction of 3.05 db applied to average measurement

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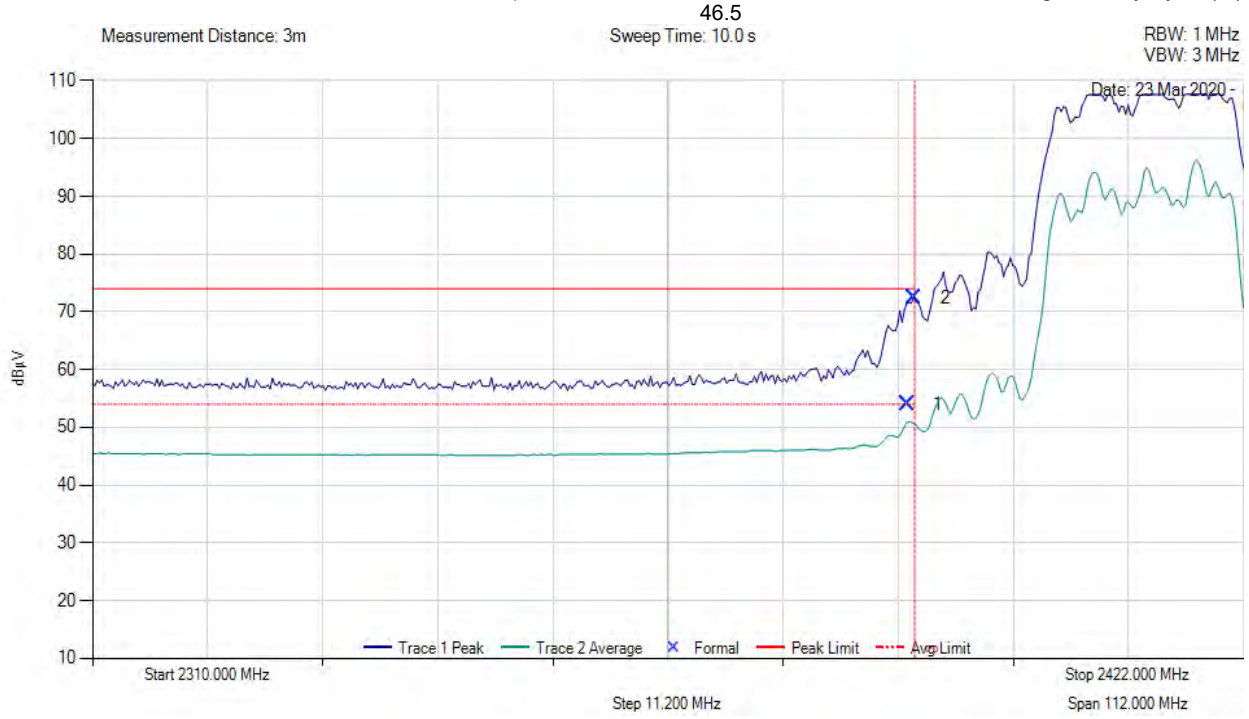
RADIATED - LOWER RESTRICTED BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 2412.00 MHz, Antenna: SAA Calculated, Power Setting: 16, Duty Cycle (%): 46.5



2310.00 - 2422.00 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	2389.33	16.68	2.02	31.95	53.95	Max Avg	Vertical	127	298	54.0	-0.1	Pass
2	2390.00	38.52	2.02	31.96	72.50	Max Peak	Vertical	127	298	74.0	-1.5	Pass
3	2390.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: EUT connected to laptop outside chamber running test code. Power Reduced to meet Band Edge Limit. DC Correction of 3.3 dB applied to average measurement

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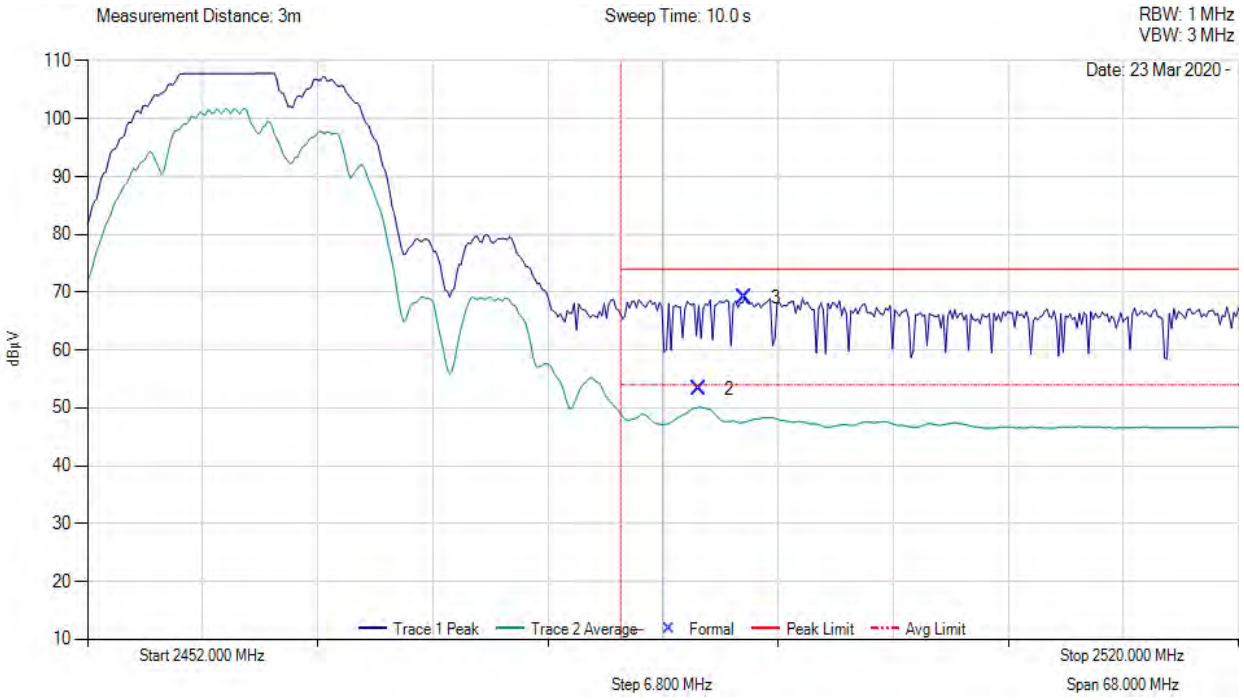
RADIATED - UPPER RESTRICTED BAND-EDGE EMISSIONS

Variant: 802.11b, Test Freq: 2462.00 MHz, Antenna: SAA Calculated, Power Setting: 21.5, Duty Cycle (%): 48.4



2452.00 - 2520.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
2	2488.13	15.78	2.03	32.33	53.29	Max Avg	Vertical	127	298	54.0	-0.7	Pass
3	2490.84	34.73	2.03	32.32	69.08	Max Peak	Vertical	127	298	74.0	-4.9	Pass
1	2483.50	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: EUT connected to laptop outside chamber running test code. DC Correction of 3.15 dB applied to average measurement

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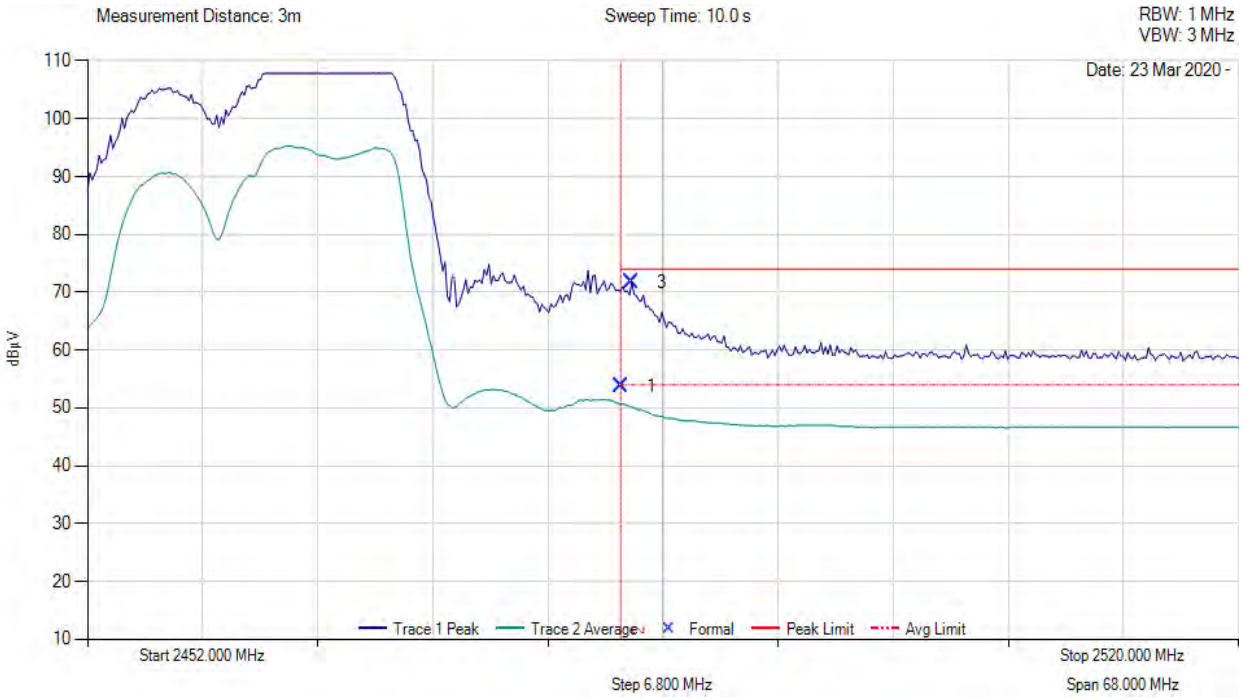
RADIATED - UPPER RESTRICTED BAND-EDGE EMISSIONS

Variant: 802.11g, Test Freq: 2462.00 MHz, Antenna: SAA Calculated, Power Setting: 15, Duty Cycle (%): 49.5



2452.00 - 2520.00 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	2483.50	16.36	2.03	32.33	53.77	Max Avg	Vertical	127	298	54.0	-0.2	Pass
3	2484.16	37.33	2.03	32.33	71.69	Max Peak	Vertical	127	298	74.0	-2.3	Pass
2	2483.50	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: EUT connected to laptop outside chamber running test code. Power reduced to meet band Edge Limit. DC Correction of 3.05 dB applied to average measurement

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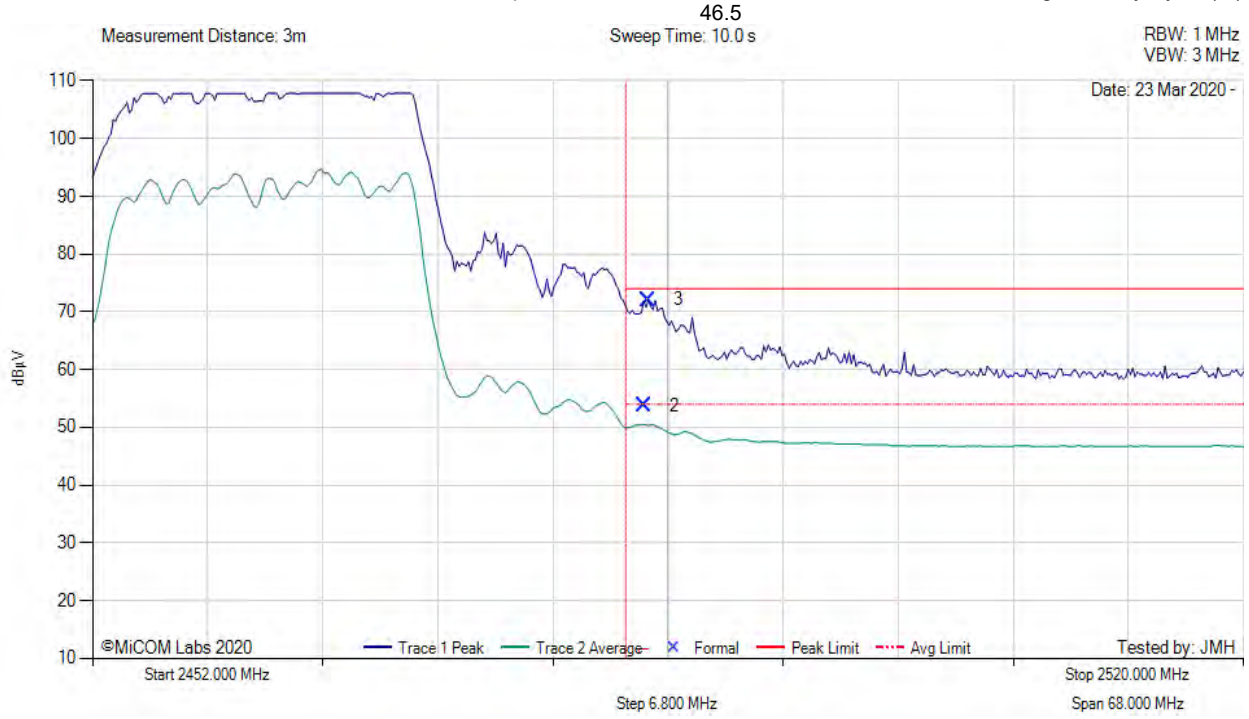
RADIATED - UPPER RESTRICTED BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 2462.00 MHz, Antenna: SAA Calculated, Power Setting: 16, Duty Cycle (%): 46.5



2452.00 - 2520.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
2	2484.57	16.17	2.03	32.33	53.83	Max Avg	Vertical	127	298	54.0	-0.2	Pass
3	2484.84	37.69	2.03	32.33	72.05	Max Peak	Vertical	127	298	74.0	-2.0	Pass
1	2483.50	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: EUT connected to laptop outside chamber running test code. Power reduced to meet band Edge Limit. DC Correction of 3.3 dB applied to average measurement

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MiCOM Labs
opening wireless markets

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