REGULATORY COMPLIANCE TEST REPORT

FCC CFR 47 15.247, RSS-247 Issue 2

Report No.: HPEN141-U4 Rev A (Wi-Fi)

Company: Hewlett Packard Enterprise

Model Name: ASIN0301

REGULATORY COMPLIANCE TEST REPORT

Company: Hewlett Packard Enterprise

Model Name: ASIN0301

To: FCC CFR47 Part 15 Subpart C 15.247 (DTS), RSS-247 Issue 2

Test Report Serial No.: HPEN141-U4 Rev A (Wi-Fi)

This report supersedes: NONE

Applicant: Hewlett Packard Enterprise Company
3333 Scott Blvd.
Santa Clara, California 95054
USA

Issue Date: 3rd September 2019

This Test Report is Issued Under the Authority of:

MiCOM Labs, Inc.
575 Boulder Court
Pleasanton California 94566
USA
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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 17025:2005. The company is accredited by the American Association for Laboratory Accreditation (A2LA) www.a2la.org test laboratory number 2381.01. MiCOM Labs test schedule is available at the following URL; http://www.a2la.org/scopepdf/2381-01.pdf

ilac-MRA a2LA

Accredited Laboratory

A2LA has accredited

MiCOM LABS
Pleasanton, CA

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated April 2017*).

Presented this 14th day of May 2018.

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

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

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1.2. RECOGNITION

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

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

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

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

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1.3. PRODUCT CERTIFICATION

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

Accredited Product Certification Body

A2LA has accredited

MiCOM LABS

Pleasanton, CA

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

Presented this 14th day of May 2018

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

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

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

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2. DOCUMENT HISTORY

Document History		
Revision	Date	Comments
Draft	5th August 2019	Draft for comment
Rev A	3rd September 2019	Initial Release
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In the above table the latest report revision will replace all earlier versions.

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3. TEST RESULT CERTIFICATE

Manufacturer:	Hewlett Packard Enterprise 3333 Scott Blvd. Santa Clara, California 95054 USA	**Tested By:**	MiCOM Labs, Inc. 575 Boulder Court Pleasanton, California 94566 USA
Model:	ASIN0301	**Telephone:**	+1 925 462 0304
Equipment Type:	Mobile & Portable Client Device	**Fax:**	+1 925 462 0306
S/N's:	Conducted Testing: TWHXKRY005 Radiated Testing: TWHXKRY00P		
Test Date(s):	30th – 31st July 2019	**Website:**	www.micomlabs.com

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

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

Notes:

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

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

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

ACCREDITED
TESTING CERT #2381.01

Approved & Released for MiCOM Labs, Inc. by:

Graeme Grieve
Quality Manager MiCOM Labs, Inc.

Gordon Hurst
President & CEO MiCOM Labs, Inc.

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4. REFERENCES AND MEASUREMENT UNCERTAINTY

4.1. Normative References

REF.	PUBLICATION	YEAR	TITLE
I	KDB 662911 D01 v02r01	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	August 2018	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	2016	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	2016	FCC requirements and rules regarding photographs and test setup diagrams.

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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.

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5. PRODUCT DETAILS AND TEST CONFIGURATIONS

5.1. Technical Details

Details	Description
Purpose:	Test of the Hewlett Packard Enterprise Aruba User Experience Insight to FCC CFR 47 Part 15 Subpart C 15.247 (DTS) and RSS-247 Issue 2.
Applicant:	Hewlett Packard Enterprise 3333 Scott Blvd. Santa Clara, California 95054 USA
Manufacturer:	As applicant
Laboratory performing the tests:	MiCOM Labs, Inc. 575 Boulder Court Pleasanton California 94566 USA
Test report reference number:	HPEN141-U4
Date EUT received:	30th July 2019
Dates of test (from - to):	30th – 31st July 2019
No of Units Tested:	2
Product Family Name:	Aruba User Experience Insight
Model(s):	ASIN0301
Location for use:	Indoors
Declared Frequency Range(s):	2400 - 2483.5 MHz;
Technology:	2x2 MIMO Access Point
Type of Modulation:	CCK, OFDM
EUT Modes of Operation:	2400 - 2483.5 MHz: 802.11b; 802.11g; 802.11n-HT-20; 802.11n HT-40;
Declared Nominal Output Power (dBm):	+18dBm
Rated Input Voltage and Current:	+55Vdc, 0.6A
Operating Temperature Range:	-10ºC to +45ºC
ITU Emission Designator:	802.11b (1 Mbit/s) 13M5G1D 802.11g 17M0D1D 802.11n – HT-20 17M7D1D 802.11n – HT-40 36M3D1D
Equipment Dimensions:	26cm x 7.2cm x 4.2cm
Weight:	<1kg
Hardware Rev:	P2A
Software Rev:	4.14.76-armada-18.12.3
Product Application:	Mobile & Portable Client Devices

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5.2. Scope Of Test Program

Hewlett Packard Enterprise Company ASIN0301
The scope of the test program was to test the Hewlett Packard Enterprise ASIN0301, Aruba User Experience Insight 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
Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices

Aruba Networks, Hewlett Packard Enterprise Company ASIN0301

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

Type (EUT/ Support)	Equipment Description	Manufacturer	Model No.	Serial No.
EUT Conducted	Mobile & Portable Client Device	Hewlett Packard Enterprise	ASIN0301	TWHXKRY005
EUT Radiated	Mobile & Portable Client Device	Hewlett Packard Enterprise	ASIN0301	TWHXKRY00P
Support	POE Power Supply	D-Link	EBU-101-T2	--
Support	Test Equipment	MiCOM Labs	MiTest	ML512

5.4. Antenna Details

Type	Manufacturer	Model	Family	Gain (dBi)	BF Gain	Dir BW	X-Pol	Frequency Band (MHz)
integral	Aruba	AB2	STAMP	2.0	3.0	360	-	2400 - 2483.5
BF Gain - Beamforming Gain Dir BW - Directional BeamWidth X-Pol - Cross Polarization								

This is a 2x2 MIMO device with identical antennas

5.5. Cabling and I/O Ports

Port Type	Max Cable Length	# of Ports	Screened	Connector Type	Data Type	Data Rate(s)
USB	5m	1	Yes	USB	Digital	Unknown
Ethernet PoE IN	>30m	1	No	RJ45	Packet	10,100,1000

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
HT-40	13.5	2,422.00	2,437.00	2,452.00

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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

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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 MiCOM Labs Test Report HPEN141-G3 FCC Part 15B
(4) AC Wireline Emissions	Complies	See MiCOM Labs Test Report HPEN141-G3 FCC Part 15B
Maximum Permissible Exposure	Complies	See MiCOM Labs Test Report HPEN141-FCC MPE
RF Unique Connector	Complies	

Simultaneous Transmission

The ASIN0301 operates using two technologies BLE and Wi-Fi, these modes of operation can transmit simultaneously. Simultaneous transmission testing was performed to ensure continuous compliance when operating in this mode. No issues were found on the ASIN0301 during the radiated spurious examination where both technologies operated simultaneously.

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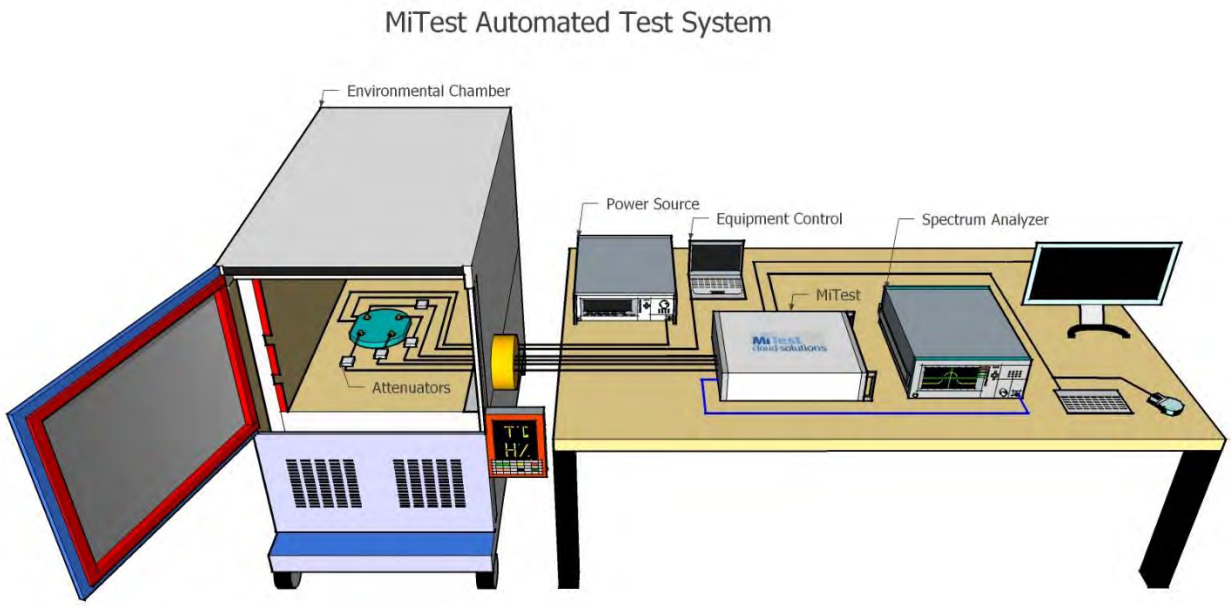
7. TEST EQUIPMENT CONFIGURATION(S)

7.1. Conducted Test Setup



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

Asset#	Description	Manufacturer	Model#	Serial#	Calibration Due Date
249	Resistance Thermometer	Thermotronics	GR2105-02	9340 #2	30 Oct 2019
361	Desktop for RF#1, Labview Software installed	Dell	Vostro 220	WS RF#1	Not Required
378	Rohde & Schwarz 40 GHz Receiver with Generator	Rhode & Schwarz	ESIB40	100107/040	12 Oct 2019
405	DC Power Supply 0-60V	Agilent	6654A	MY4001826	Cal when used
408	USB to GPIB interface	National Instruments	GPIB-USB HS	14C0DE9	Not Required
445	PoE Injector	D-Link	DPE-101GL	QTAH1E2000625	Not Required
461	Spectrum Analyzer	Agilent	E4440A	MY46185537	20 Sep 2019
510	Barometer/Thermometer	Control Company	68000-49	170871375	11 Dec 2019
75	Environmental Chamber	Thermatron	SE-300-2-2	27946	24 Feb 2020

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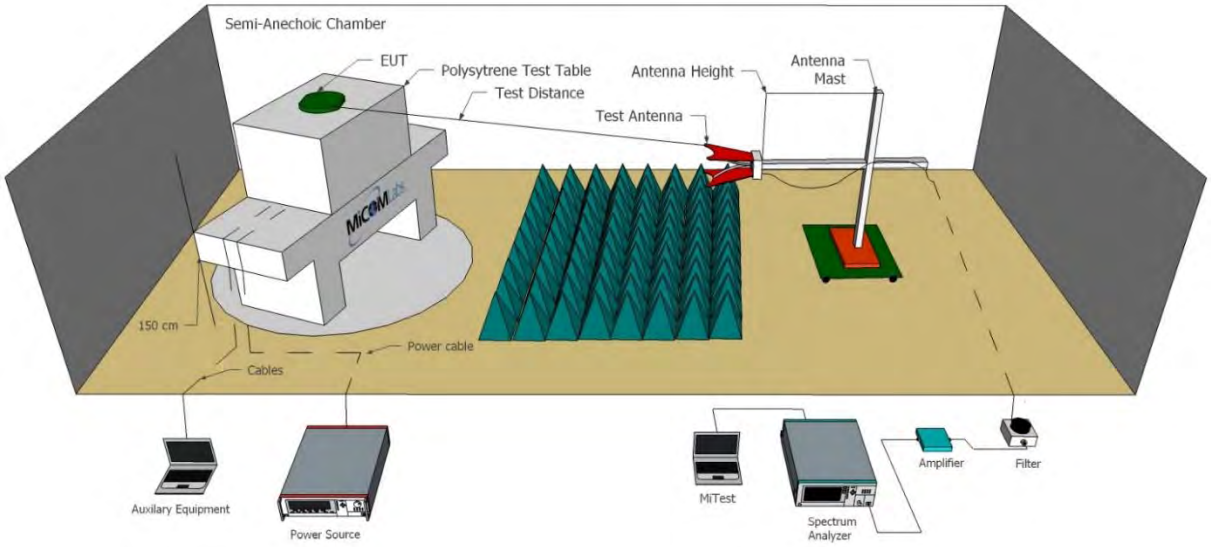
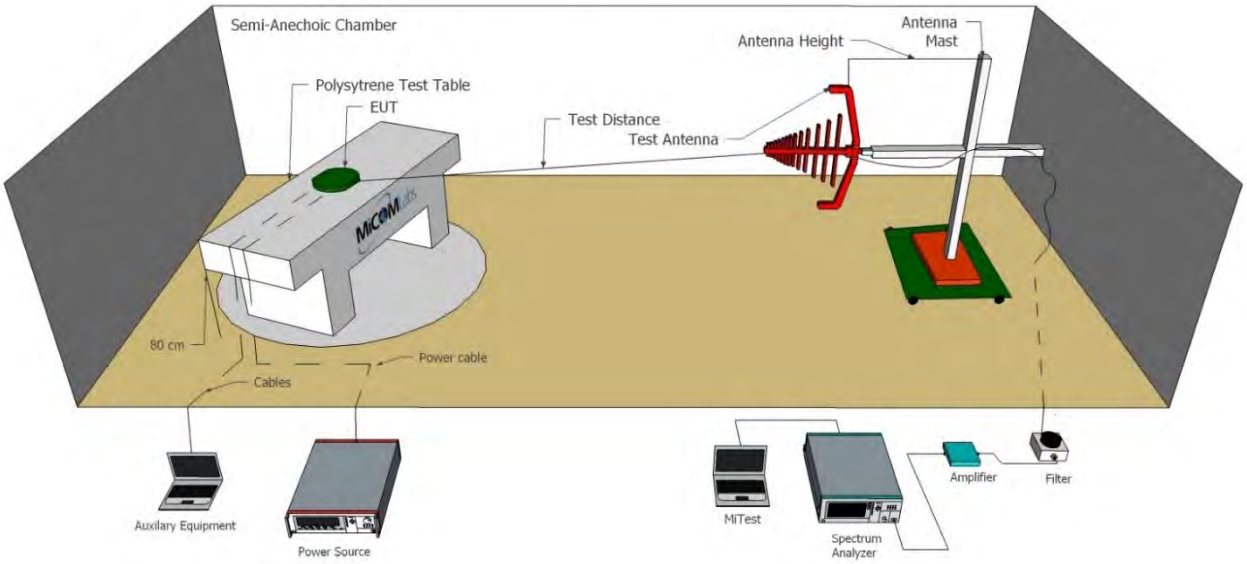
7.2. Radiated Emissions - 3m Chamber

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

Radiated Emissions Above 1GHz Test Setup



Radiated Emissions Below 1GHz Test Setup



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

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Asset#	Description	Manufacturer	Model#	Serial#	Calibration Due Date
170	Video System Controller for Semi Anechoic Chamber	Panasonic	WV-CU101	04R08507	Not Required
298	3M Radiated Emissions Chamber Maintenance Check	MiCOM	3M Chamber	298	21 Apr 2020
336	Active Loop Antenna	Emco	6502	00060498	29 Nov 2019
338	Sunol 30 to 3000 MHz Antenna	Sunol	JB3	A052907	4 Apr 2020
378	Rohde & Schwarz 40 GHz Receiver with Generator	Rhode & Schwarz	ESIB40	100107/040	12 Oct 2019
397	Amp 10 - 2500MHz	MiCOM Labs	Amp 10 - 2500 MHz	NA	12 Apr 2020
399	ETS 1-18 GHz Horn Antenna	ETS	3117	00154575	12 Oct 2019
406	Amplifier for Radiated Emissions	MiCOM Labs	40dB 1 to 18GHz Amp	0406	12 Apr 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
462	Schwarzbeck cable from Antenna to Amplifier.	Schwarzbeck	AK 9513	462	9 Oct 2019
463	Schwarzbeck cable from Amplifier to Bulkhead.	Schwarzbeck	AK 9513	463	9 Oct 2019
464	Schwarzbeck cable from Bulkhead to Receiver	Schwarzbeck	AK 9513	464	9 Oct 2019
465	Low Pass Filter DC-1000 MHz	Mini-Circuits	NLP-1200+	VUU01901402	9 Oct 2019
480	Cable - Bulkhead to Amp	SRC Haverhill	157-3050360	480	24 Sep 2019
481	Cable - Bulkhead to Receiver	SRC Haverhill	151-3050787	481	24 Sep 2019
510	Barometer/Thermometer	Control Company	68000-49	170871375	11 Dec 2019
518	Cable - Amp to Antenna	SRC Haverhill	157-3051574	518	24 Sep 2019

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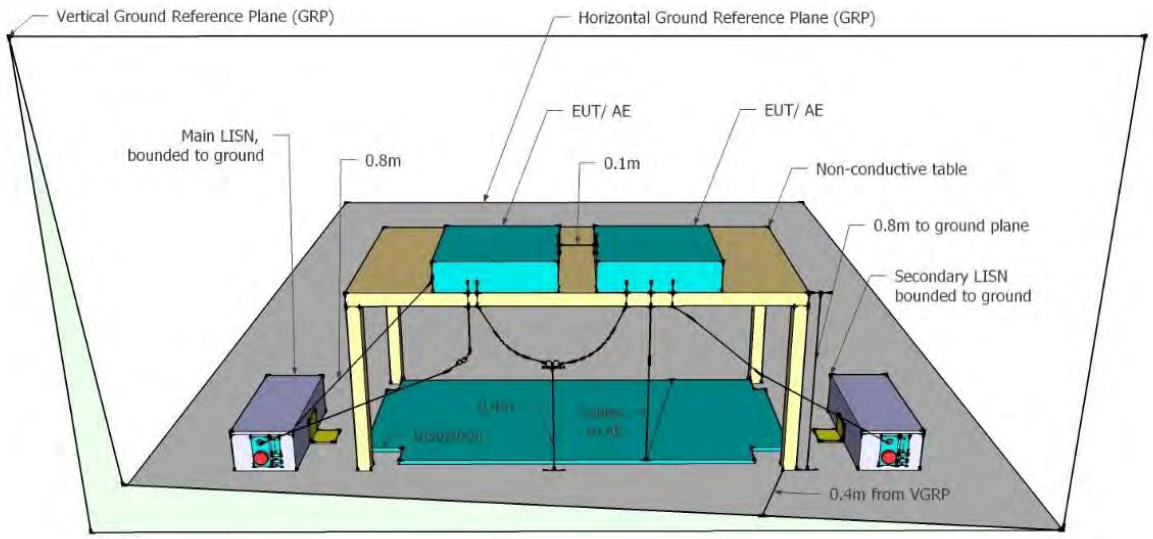
7.3. ac Wireline Emissions

Test Setup – Power Input / Output Port



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
184	Pulse Limiter	Rhode & Schwarz	ESH3Z2	357.8810.52	6 Oct 2019
190	LISN (two-line V-network)	Rhode & Schwarz	ESH3Z5	836679/006	18 Oct 2019
378	Rohde & Schwarz 40 GHz Receiver	Rhode & Schwarz	ESIB40	100107/040	12 Oct 2019
295	Conducted Emissions Chamber Maintenance Check	MiCOM	Conducted Emissions Chamber	295	19 Jun 2019
307	BNC-CABLE	Megaphase	1689 1GVT4	15F50B002	11 Sep 2019
316	Dell desktop computer workstation	Dell	Desktop	WS04	Not Required
372	AC Variable PS	California Instruments	1251P	L06951	Cal when used
388	LISN (3 Phase) 9kHz - 30MHz	Rohde & Schwarz	ESH2-Z5	892107/022	20 Oct 2019
496	MiTest Conducted Emissions test software.	MiCOM	Conducted Emissions Test Software Version 1.0	496	Not Required
510	Barometer/Thermometer	Control Company	68000-49	170871375	11 Dec 2019

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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)

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9. TEST RESULTS

9.1. 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) RSS-247 5.2 a	**Pressure (mBars):**	999 - 1001
Reference Document(s):	See Normative References		

Test Procedure for 6 dB and 99% Bandwidth Measurement
The bandwidth at 6 dB and 99 % 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.

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Equipment Configuration for 6 dB & 99% Bandwidth

Variant:	802.11b	**Duty Cycle (%):**	99
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:**	GMH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz)				6 dB Bandwidth (MHz)		Limit	Lowest Margin
	Port(s)							
MHz	a	b	c	d	Highest	Lowest	KHz	MHz
2412.0	10.020	10.020	--	--	10.020	10.020	≥500.0	-9.52
2437.0	10.020	10.020	--	--	10.020	10.020	≥500.0	-9.52
2462.0	10.020	10.020	--	--	10.020	10.020	≥500.0	-9.52

Test Frequency	Measured 99% Bandwidth (MHz)				Maximum 99% Bandwidth (MHz)		
	Port(s)						
MHz	a	b	c	d			
2412.0	13.146	13.467	--	--	13.467		
2437.0	13.467	13.467	--	--	13.467		
2462.0	13.467	13.467	--	--	13.467		

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

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

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Equipment Configuration for 6 dB & 99% Bandwidth

Variant:	802.11g	**Duty Cycle (%):**	98
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:**	GMH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz)				6 dB Bandwidth (MHz)		Limit	Lowest Margin
	Port(s)							
MHz	a	b	c	d	Highest	Lowest	KHz	MHz
2412.0	16.353	16.353			16.353	16.353	≥500.0	-15.85
2437.0	16.433	16.433			16.433	16.433	≥500.0	-15.93
2462.0	16.433	16.433			16.433	16.433	≥500.0	-15.93

Test Frequency	Measured 99% Bandwidth (MHz)				Maximum 99% Bandwidth (MHz)		
	Port(s)						
MHz	a	b	c	d			
2412.0	16.513	16.433			16.513		
2437.0	16.994	16.593			16.994		
2462.0	16.593	16.433			16.593		

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

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

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Equipment Configuration for 6 dB & 99% Bandwidth

Variant:	802.11n HT-20	**Duty Cycle (%):**	98
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:**	GMH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz)				6 dB Bandwidth (MHz)		Limit	Lowest Margin
	Port(s)							
MHz	a	b	c	d	Highest	Lowest	KHz	MHz
2412.0	17.555	17.555			17.555	17.555	≥500.0	-17.06
2437.0	17.555	17.555			17.555	17.555	≥500.0	-17.06
2462.0	17.555	17.555			17.555	17.555	≥500.0	-17.06

Test Frequency	Measured 99% Bandwidth (MHz)				Maximum 99% Bandwidth (MHz)		
	Port(s)						
MHz	a	b	c	d			
2412.0	17.635	17.635			17.635		
2437.0	17.715	17.715			17.715		
2462.0	17.635	17.635			17.635		

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

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

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Equipment Configuration for 6 dB & 99% Bandwidth

Variant:	802.11n HT-40	**Duty Cycle (%):**	98
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:	MAC ADDR: 204C0380E4BE		

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz)				6 dB Bandwidth (MHz)		Limit	Lowest Margin
	Port(s)							
MHz	a	b	c	d	Highest	Lowest	KHz	MHz
2422.0	35.752	36.072			36.072	35.752	≥500.0	-35.25
2437.0	35.591	35.912			35.912	35.591	≥500.0	-35.09
2452.0	35.752	35.752			35.752	35.752	≥500.0	-35.25

Test Frequency	Measured 99% Bandwidth (MHz)				Maximum 99% Bandwidth (MHz)		
	Port(s)						
MHz	a	b	c	d			
2422.0	36.232	36.232			36.232		
2437.0	36.232	36.232			36.232		
2452.0	36.232	36.232			36.232		

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

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

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9.2. 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), ANSI 63.10 Section 11.9.2.3.1, RSS-247 5.4 (d)	**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.

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(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.

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Equipment Configuration for Average Output Power

Variant:	802.11b	**Duty Cycle (%):**	99.0
Data Rate:	1.00 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	CCK	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Output Power (dBm)				Calculated Total Power Σ Port(s)	Limit	Margin	EUT Power Setting
	Port(s)							
MHz	a	b	c	d	dBm	dBm	dB	
2412.0	16.27	18.64			20.63	30.00	-9.37	18.00
2437.0	17.31	17.46			20.40	30.00	-9.60	18.00
2462.0	17.24	17.38			20.32	30.00	-9.68	18.00

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

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

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Equipment Configuration for Average Output Power

Variant:	802.11g	**Duty Cycle (%):**	98.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Output Power (dBm)				Calculated Total Power Σ Port(s)	Limit	Margin	EUT Power Setting
	Port(s)							
MHz	a	b	c	d	dBm	dBm	dB	
2412.0	16.21	16.27			19.25	30.00	-10.75	16.00
2437.0	16.60	18.33			20.56	30.00	-9.44	18.00
2462.0	16.25	16.26			19.27	30.00	-10.73	16.00

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

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

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Equipment Configuration for Average Output Power

Variant:	802.11n HT-20	**Duty Cycle (%):**	98.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	5.00
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Output Power (dBm)				Calculated Total Power Σ Port(s)	Limit	Margin	EUT Power Setting
	Port(s)							
MHz	a	b	c	d	dBm	dBm	dB	
2412.0	15.32	15.43			18.39	29.00	-10.61	15.00
2437.0	18.41	18.38			21.41	29.00	-7.59	18.00
2462.0	14.45	14.48			17.48	29.00	-11.52	14.00

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

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

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Equipment Configuration for Average Output Power

Variant:	802.11n HT-40	**Duty Cycle (%):**	98.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	5.00
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:	MAC ADDR: 204C0380E4BE		

Test Measurement Results

Test Frequency	Measured Output Power (dBm)				Calculated Total Power Σ Port(s)	Limit	Margin	EUT Power Setting
	Port(s)							
MHz	a	b	c	d	dBm	dBm	dB	
2422.0	13.31	13.35			16.34	29.00	-12.66	13.00
2437.0	18.28	18.24			21.27	29.00	-7.73	18.00
2452.0	12.43	12.40			15.43	29.00	-13.57	12.00

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

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

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9.3. 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) RSS-247 5.2 b	**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.

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Equipment Configuration for Power Spectral Density - Average			
Variant:	802.11b	**Duty Cycle (%):**	99.0
Data Rate:	1.00 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	CCK	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/3KHz)				Amplitude Summation + DCCF (+0.04 dB)	Limit	Margin
MHz	a	b	c	d	dBm/3KHz	dBm/3KHz	dB
2412.0	-19.159	-16.879			-14.833	8.0	-22.8
2437.0	-18.325	-18.035			-15.154	8.0	-23.2
2462.0	-18.734	-18.095			-15.659	8.0	-23.7

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

DCCF - Duty Cycle Correction Factor

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

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Equipment Configuration for Power Spectral Density - Average			
Variant:	802.11g	**Duty Cycle (%):**	98.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/3KHz)				Amplitude Summation + DCCF (+0.09 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/3KHz**	**dBm/3KHz**	**dB**
2412.0	-21.054	-20.712			-17.833	8.0	-25.8
2437.0	-20.590	-19.067			-16.899	8.0	-24.9
2462.0	-20.779	-20.898			-17.827	8.0	-25.8

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

DCCF - Duty Cycle Correction Factor

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

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Equipment Configuration for Power Spectral Density - Average			
Variant:	802.11n HT-20	**Duty Cycle (%):**	98.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	5.00
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/3KHz)				Amplitude Summation + DCCF (+0.09 dB)	Limit	Margin
MHz	a	b	c	d	dBm/3KHz	dBm/3KHz	dB
2412.0	-21.987	-21.717			-18.921	8.0	-26.9
2437.0	-18.325	-18.777			-15.842	8.0	-23.9
2462.0	-23.039	-22.661			-19.982	8.0	-28.0

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

DCCF - Duty Cycle Correction Factor

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

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Equipment Configuration for Power Spectral Density - Average

Variant:	802.11n HT-40	**Duty Cycle (%):**	98.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	5.00
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/3KHz)				Amplitude Summation + DCCF (+0.09 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/3KHz**	**dBm/3KHz**	**dB**
2422.0	-27.702	-27.211			-24.434	8.0	-32.4
2437.0	-21.879	-22.208			-19.145	8.0	-27.2
2452.0	-26.943	-27.543			-24.163	8.0	-32.2

Traceability to Industry Recognized Test Methodologies

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

DCCF - Duty Cycle Correction Factor

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

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9.4. Emissions

9.4.1. Conducted Emissions

9.4.1.1. 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), KDB 558074 D01, ANSI 63.10 Section 11.11 RSS-247 Section 5.5	**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)).

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Equipment Configuration for Conducted Spurious Emissions - Peak

Variant:	802.11b	**Duty Cycle (%):**	99
Data Rate:	1.00 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	CCK	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Frequency Range	Conducted Spurious Emissions - Peak (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	-41.768	-25.65	-43.267	-23.78				
2437.0	30.0 - 26000.0	-40.776	-25.39	-42.426	-24.90				
2462.0	30.0 - 26000.0	-40.660	-25.58	-41.425	-26.25				

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).

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Equipment Configuration for Conducted Spurious Emissions - Peak

Variant:	802.11g	**Duty Cycle (%):**	98
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Frequency Range	Conducted Spurious Emissions - Peak (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	-42.167	-29.45	-43.035	-27.78				
2437.0	30.0 - 26000.0	-40.969	-27.08	-42.365	-26.58				
2462.0	30.0 - 26000.0	-40.670	-30.64	-41.952	-29.98				

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).

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Equipment Configuration for Conducted Spurious Emissions - Peak

Variant:	802.11n HT-20	**Duty Cycle (%):**	98
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Frequency Range	Conducted Spurious Emissions - Peak (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	-42.395	-28.60	-42.795	-30.32				
2437.0	30.0 - 26000.0	-40.863	-27.59	-42.865	-25.25				
2462.0	30.0 - 26000.0	-39.967	-31.27	-41.669	-30.57				

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).

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Equipment Configuration for Conducted Spurious Emissions - Peak

Variant:	802.11n HT-40	**Duty Cycle (%):**	98
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:	MAC ADDR: 204C0380E4BE		

Test Measurement Results

Test Frequency	Frequency Range	Conducted Spurious Emissions - Peak (dBm)							
		Port a		Port b		Port c		Port d	
MHz	MHz	SE	Limit	SE	Limit	SE	Limit	SE	Limit
2422.0	30.0 - 26000.0	-41.211	-32.46	-43.067	-32.18				
2437.0	30.0 - 26000.0	-41.327	-29.08	-42.552	-27.20				
2452.0	30.0 - 26000.0	-40.970	-33.70	-41.947	-32.80				

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

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9.4.1.2. Conducted Band-Edge Emissions

Equipment Configuration for Conducted Low Band-Edge Emissions - Peak			
Variant:	802.11b	**Duty Cycle (%):**	99.0
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:**	GMH
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	-45.80	-25.33	2403.50			-3.500
b	-45.61	-22.86	2403.20			-3.200

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

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Equipment Configuration for Conducted Low Band-Edge Emissions - Peak			
Variant:	802.11g	**Duty Cycle (%):**	98.0
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:**	GMH
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	-34.63	-26.48	2401.80			-1.800
b	-34.86	-26.21	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).

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Equipment Configuration for Conducted Low Band-Edge Emissions - Peak

Variant:	802.11n HT-20	**Duty Cycle (%):**	98.0
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:**	GMH
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	-35.91	-27.68	2401.50			-1.500
b	-30.84	-27.34	2401.50			-1.500

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

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Equipment Configuration for Conducted Low Band-Edge Emissions - Peak			
Variant:	802.11n HT-40	**Duty Cycle (%):**	98.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:	MAC ADDR: 204C0380E4BE		

Test Measurement Results

Channel Frequency:	2422.0 MHz					
Band-Edge Frequency:	2400.0 MHz					
Test Frequency Range:	2292.0 - 2442.0 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	-39.57	-32.15	2401.70			-1.700
b	-39.20	-32.04	2402.00			-2.000

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

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Equipment Configuration for Conducted High Band-Edge Emissions - Peak

Variant:	802.11b	**Duty Cycle (%):**	99.0
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:**	GMH
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	-47.86	-24.51	2470.50			-13.000
b	-46.63	-24.33	2470.50			-13.000

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

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Equipment Configuration for Conducted High Band-Edge Emissions - Peak

Variant:	802.11g	**Duty Cycle (%):**	98.0
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:**	GMH
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	-38.27	-26.83	2471.80			-11.700
b	-38.77	-26.41	2471.80			-11.700

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

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Equipment Configuration for Conducted High Band-Edge Emissions - Peak

Variant:	802.11n HT-20	**Duty Cycle (%):**	98.0
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:**	GMH
Engineering Test Notes:	MAC ADDR: 204C0380E4BE		

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	-42.57	-28.89	2472.20			-11.300
b	-41.55	-28.40	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

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Equipment Configuration for Conducted High Band-Edge Emissions - Peak			
Variant:	802.11n HT-40	**Duty Cycle (%):**	98.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	Not Applicable
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	GMH
Engineering Test Notes:	MAC ADDR: 204C0380E4BE		

Test Measurement Results

Channel Frequency:	2452.0 MHz
Band-Edge Frequency:	2483.5 MHz
Test Frequency Range:	2432.0 - 2582.0 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	-43.82	-32.34	2471.40			-12.100
b	-44.67	-32.35	2471.70			-11.800

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

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9.4.2. Radiated Emissions

9.4.2.1. 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

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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).

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Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AB1	**Variant:**	802.11b
Antenna Gain (dBi):	2.00	**Modulation:**	CCK
Beam Forming Gain (Y):	5	**Duty Cycle (%):**	99
Channel Frequency (MHz):	2412.00	**Data Rate:**	1.00 MBit/s
Power Setting:	18	**Tested By:**	SB

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	3215.99	71.48	-2.04	-11.58	57.86	Peak (NRB)	Vertical	100	0	--	--	Pass
#2	3618.56	63.05	-2.16	-11.77	49.12	Max Peak	Horizontal	137	336	74.0	-24.9	Pass
#3	3618.56	54.98	-2.16	-11.77	41.05	Max Avg	Horizontal	137	336	54.0	-13.0	Pass
#4	3618.56	70.35	-2.16	-11.77	56.42	Max Peak	Vertical	152	28	74.0	-17.6	Pass
#5	3618.56	57.50	-2.16	-11.77	43.57	Max Avg	Vertical	152	28	54.0	-10.4	Pass
#6	4823.88	61.90	-2.52	-12.43	46.95	Max Peak	Vertical	99	332	74.0	-27.1	Pass
#7	4823.88	54.74	-2.52	-12.43	39.79	Max Avg	Vertical	99	332	54.0	-14.2	Pass

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Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AB1	**Variant:**	802.11b
Antenna Gain (dBi):	2.00	**Modulation:**	CCK
Beam Forming Gain (Y):	5	**Duty Cycle (%):**	99
Channel Frequency (MHz):	2437.00	**Data Rate:**	1.00 MBit/s
Power Setting:	18	**Tested By:**	SB

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	2437.98	60.50	-1.78	-12.10	46.62	Fundamental	Horizontal	151	0	--	--	
#2	3249.32	59.08	-2.06	-11.61	45.41	Peak (NRB)	Horizontal	151	0	--	--	Pass
#3	3249.36	72.46	-2.06	-11.61	58.79	Peak (NRB)	Vertical	151	0	--	--	Pass
#4	3655.28	66.40	-2.16	-11.86	52.38	Max Peak	Horizontal	119	26	74.0	-21.6	Pass
#5	3655.28	59.27	-2.16	-11.86	45.25	Max Avg	Horizontal	119	26	54.0	-8.8	Pass
#6	3656.17	71.69	-2.15	-11.86	57.68	Max Peak	Vertical	153	7	74.0	-16.3	Pass
#7	3656.17	58.01	-2.15	-11.86	44.00	Max Avg	Vertical	153	7	54.0	-10.0	Pass
#8	4873.92	64.37	-2.51	-12.61	49.25	Max Peak	Vertical	180	14	74.0	-24.8	Pass
#9	4873.92	58.72	-2.51	-12.61	43.60	Max Avg	Vertical	180	14	54.0	-10.4	Pass
#10	7379.06	56.48	-3.03	-8.00	45.45	Max Peak	Horizontal	98	230	74.0	-28.6	Pass
#11	7379.06	43.31	-3.03	-8.00	32.28	Max Avg	Horizontal	98	230	54.0	-21.7	Pass

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Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AB1	**Variant:**	802.11b
Antenna Gain (dBi):	2.00	**Modulation:**	CCK
Beam Forming Gain (Y):	5	**Duty Cycle (%):**	99
Channel Frequency (MHz):	2462.00	**Data Rate:**	1.00 MBit/s
Power Setting:	18	**Tested By:**	SB

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	1641.70	59.97	-1.46	-16.01	42.50	Max Peak	Vertical	186	23	74.0	-31.5	Pass
#2	1641.70	54.46	-1.46	-16.01	36.99	Max Avg	Vertical	186	23	54.0	-17.0	Pass
#3	2463.11	59.57	-1.79	-11.96	45.82	Peak (NRB)	Horizontal	100	0	--	--	Pass
#4	3282.37	71.54	-2.04	-11.69	57.81	Peak (NRB)	Vertical	150	0	--	--	Pass
#5	3424.80	60.04	-2.10	-12.14	45.80	Max Peak	Horizontal	186	334	74.0	-28.2	Pass
#6	3424.80	49.87	-2.10	-12.14	35.63	Max Avg	Horizontal	186	334	54.0	-18.4	Pass
#7	3692.53	63.79	-2.17	-11.68	49.94	Max Peak	Horizontal	197	282	74.0	-24.1	Pass
#8	3692.53	54.00	-2.17	-11.68	40.15	Max Avg	Horizontal	197	282	54.0	-13.9	Pass
#9	3692.73	71.26	-2.17	-11.68	57.41	Peak (Scan)	Vertical	100	0	74.0	-16.6	Pass
#10	3692.87	70.30	-2.17	-11.68	56.45	Peak (Scan)	Horizontal	100	0	74.0	-17.6	Pass
#11	3693.20	71.87	-2.17	-11.67	58.03	Max Peak	Vertical	167	31	74.0	-16.0	Pass
#12	3693.20	63.08	-2.17	-11.67	49.24	Max Avg	Vertical	167	31	54.0	-4.8	Pass
#13	4924.10	61.91	-2.56	-12.35	47.00	Peak (Scan)	Vertical	150	0	74.0	-27.0	Pass
#14	4924.10	61.91	-2.56	-12.35	47.00	Peak (Scan)	Horizontal	150	0	74.0	-27.0	Pass

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9.4.2.2. Restricted Edge & Band-Edge Emissions

Lower Restricted Band-Edge

Aruba AB1		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	63.36	53.03	18
802.11g	2412.00	2390.00	70.10	52.15	16
802.11n HT-20	2412.00	2390.00	71.26	51.72	15
802.11n HT-40	2422.00	2390.00	71.87	53.23	13

Upper Restricted Band-Edge

Aruba AB1		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	61.82	50.63	18
802.11g	2462.00	2483.50	71.51	53.44	16
802.11n HT-20	2462.00	2483.50	70.66	53.60	14
802.11n HT-40	2452.00	2483.50	69.01	53.44	12

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Equipment Configuration for Radiated - Lower Restricted Band-Edge Emissions

Antenna:	Aruba AB1	**Variant:**	802.11b
Antenna Gain (dBi):	2.00	**Modulation:**	CCK
Beam Forming Gain (Y):	5	**Duty Cycle (%):**	99
Channel Frequency (MHz):	2412.00	**Data Rate:**	1.00 MBit/s
Power Setting:	18	**Tested By:**	SB

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	2385.51	22.86	-1.77	31.94	53.03	Max Avg	Horizontal	156	11	54.0	-1.0	Pass
#2	2386.18	33.19	-1.77	31.94	63.36	Max Peak	Horizontal	156	11	74.0	-10.6	Pass
#3	2390.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Equipment Configuration for Radiated - Upper Restricted Band-Edge Emissions

Antenna:	Aruba AB1	**Variant:**	802.11b
Antenna Gain (dBi):	2.00	**Modulation:**	CCK
Beam Forming Gain (Y):	5	**Duty Cycle (%):**	99
Channel Frequency (MHz):	2462.00	**Data Rate:**	1.00 MBit/s
Power Setting:	18	**Tested By:**	SB

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	2487.72	31.27	-1.78	32.33	61.82	Max Peak	Horizontal	156	11	74.0	-12.2	Pass
#3	2488.00	20.08	-1.78	32.33	50.63	Max Avg	Horizontal	156	11	54.0	-3.4	Pass
#1	2483.50	--	--	--	--	Restricted-Band	--	--	--	--	--	--

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Equipment Configuration for Radiated - Lower Restricted Band-Edge Emissions

Antenna:	Aruba AB1	**Variant:**	802.11g
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	2412.00	**Data Rate:**	6.00 MBit/s
Power Setting:	16	**Tested By:**	SB

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	2388.88	39.92	-1.77	31.95	70.10	Max Peak	Horizontal	156	11	74.0	-3.9	Pass
#2	2389.10	21.97	-1.77	31.95	52.15	Max Avg	Horizontal	156	11	54.0	-1.9	Pass
#3	2390.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Equipment Configuration for Radiated - Upper Restricted Band-Edge Emissions

Antenna:	Aruba AB1	**Variant:**	802.11g
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	5	**Duty Cycle (%):**	99
Channel Frequency (MHz):	2462.00	**Data Rate:**	6.00 MBit/s
Power Setting:	16	**Tested By:**	SB

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	22.89	-1.78	32.33	53.44	Max Avg	Horizontal	156	11	54.0	-0.6	Pass
#3	2487.32	40.96	-1.78	32.33	71.51	Max Peak	Horizontal	156	11	74.0	-2.5	Pass
#2	2483.50	--	--	--	--	Restricted-Band	--	--	--	--	--	--

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Equipment Configuration for Radiated - Lower Restricted Band-Edge Emissions

Antenna:	Aruba AB1	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	5	**Duty Cycle (%):**	99
Channel Frequency (MHz):	2412.00	**Data Rate:**	6.50 MBit/s
Power Setting:	15	**Tested By:**	SB

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	41.08	-1.77	31.95	71.26	Max Peak	Horizontal	156	11	74.0	-2.7	Pass
#2	2389.55	21.53	-1.77	31.96	51.72	Max Avg	Horizontal	156	11	54.0	-2.3	Pass
#3	2390.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Equipment Configuration for Radiated - Upper Restricted Band-Edge Emissions

Antenna:	Aruba AB1	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	2462.00	**Data Rate:**	6.50 MBit/s
Power Setting:	14	**Tested By:**	SB

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	23.05	-1.78	32.33	53.60	Max Avg	Horizontal	156	11	54.0	-0.4	Pass
#3	2484.18	40.11	-1.78	32.33	70.66	Max Peak	Horizontal	156	11	74.0	-3.3	Pass
#2	2483.50	--	--	--	--	Restricted-Band	--	--	--	--	--	--

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Equipment Configuration for Radiated - Lower Restricted Band-Edge Emissions

Antenna:	Aruba AB1	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	5	**Duty Cycle (%):**	99
Channel Frequency (MHz):	2422.00	**Data Rate:**	13.50 MBit/s
Power Setting:	13	**Tested By:**	SB

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	2387.76	41.69	-1.77	31.95	71.87	Max Peak	Horizontal	156	11	74.0	-2.1	Pass
#2	2388.20	23.05	-1.77	31.95	53.23	Max Avg	Horizontal	156	11	54.0	-0.8	Pass
#3	2390.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Equipment Configuration for Radiated - Upper Restricted Band-Edge Emissions

Antenna:	Aruba AB1	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	2452.00	**Data Rate:**	13.50 MBit/s
Power Setting:	12	**Tested By:**	SB

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	2484.32	38.46	-1.78	32.33	69.01	Max Peak	Horizontal	156	11	74.0	-5.0	Pass
#3	2484.59	22.89	-1.78	32.33	53.44	Max Avg	Horizontal	156	11	54.0	-0.6	Pass
#1	2483.50	--	--	--	--	Restricted-Band	--	--	--	--	--	--

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A. APPENDIX - GRAPHICAL IMAGES

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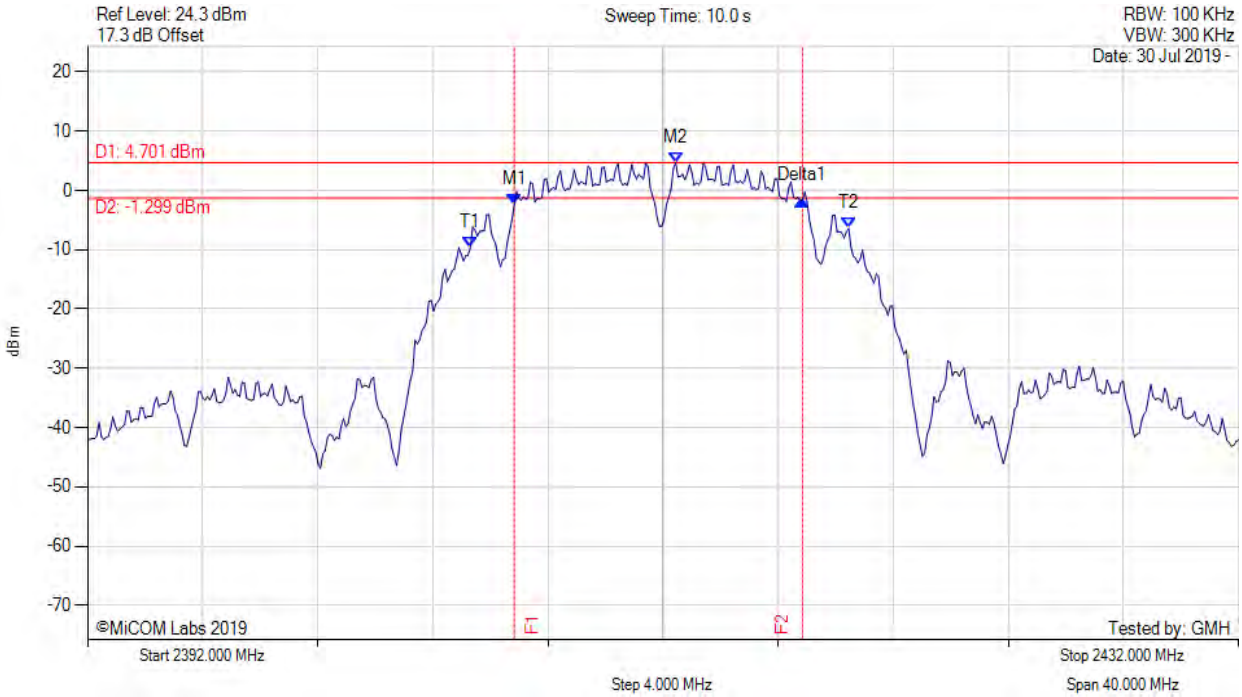
A.1. 6 dB & 99% Bandwidth

6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2412.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2406.830 MHz : -2.425 dBm M2 : 2412.441 MHz : 4.701 dBm Delta1 : 10.020 MHz : 0.746 dB T1 : 2405.307 MHz : -9.639 dBm T2 : 2418.453 MHz : -6.432 dBm OBW : 13.146 MHz	Measured 6 dB Bandwidth: 10.020 MHz Limit: ≥500.0 kHz Margin: -9.52 MHz

back to matrix

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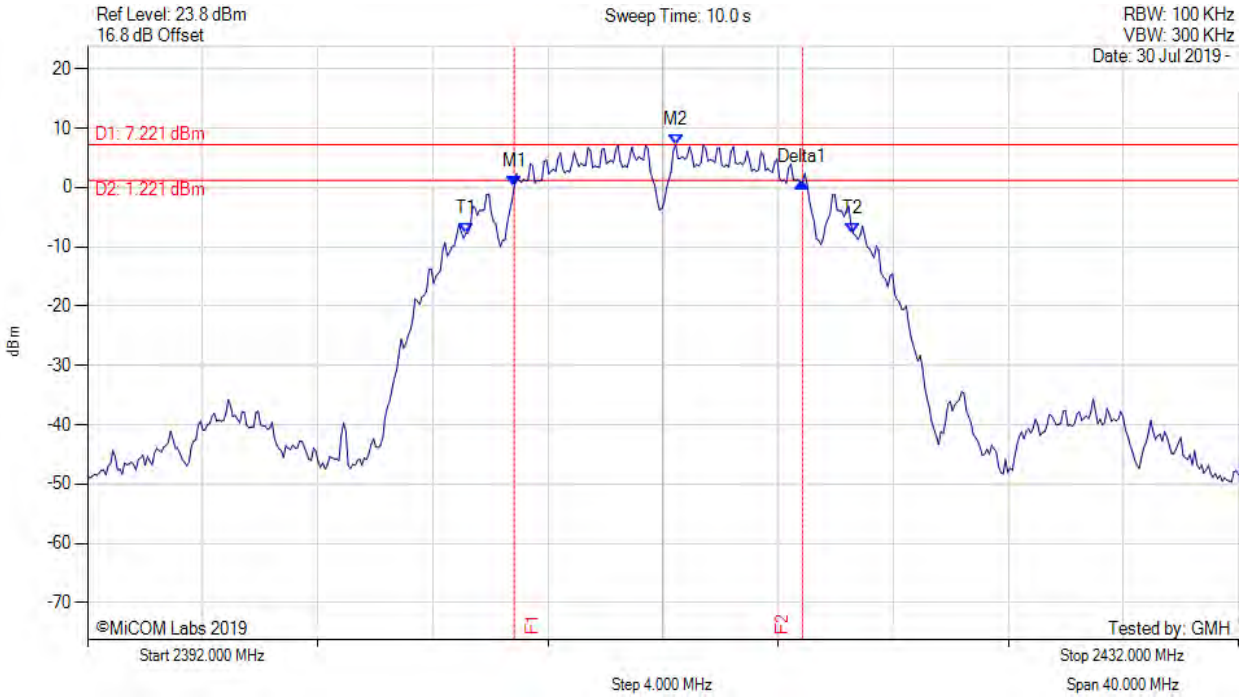
6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2412.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2406.830 MHz : 0.139 dBm M2 : 2412.441 MHz : 7.221 dBm Delta1 : 10.020 MHz : 0.797 dB T1 : 2405.146 MHz : -7.772 dBm T2 : 2418.613 MHz : -7.762 dBm OBW : 13.467 MHz	Measured 6 dB Bandwidth: 10.020 MHz Limit: ≥500.0 kHz Margin: -9.52 MHz

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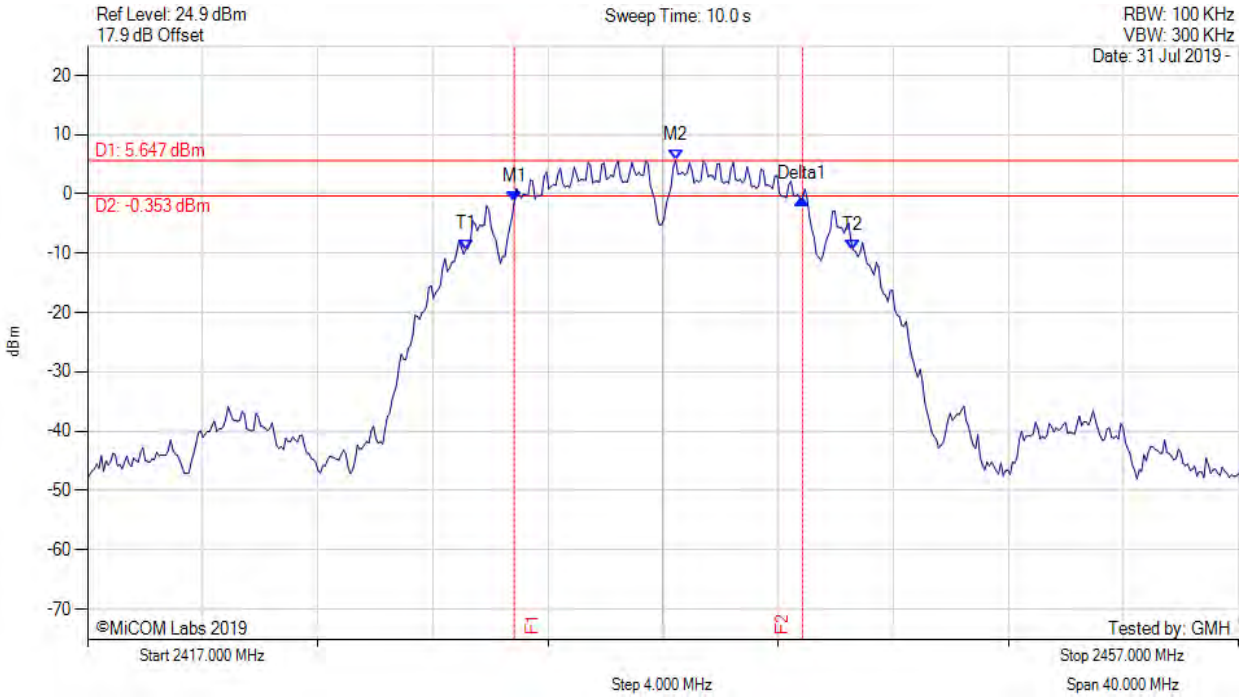
6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2437.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2431.830 MHz : -1.366 dBm M2 : 2437.441 MHz : 5.647 dBm Delta1 : 10.020 MHz : 0.616 dB T1 : 2430.146 MHz : -9.367 dBm T2 : 2443.613 MHz : -9.397 dBm OBW : 13.467 MHz	Measured 6 dB Bandwidth: 10.020 MHz Limit: ≥500.0 kHz Margin: -9.52 MHz

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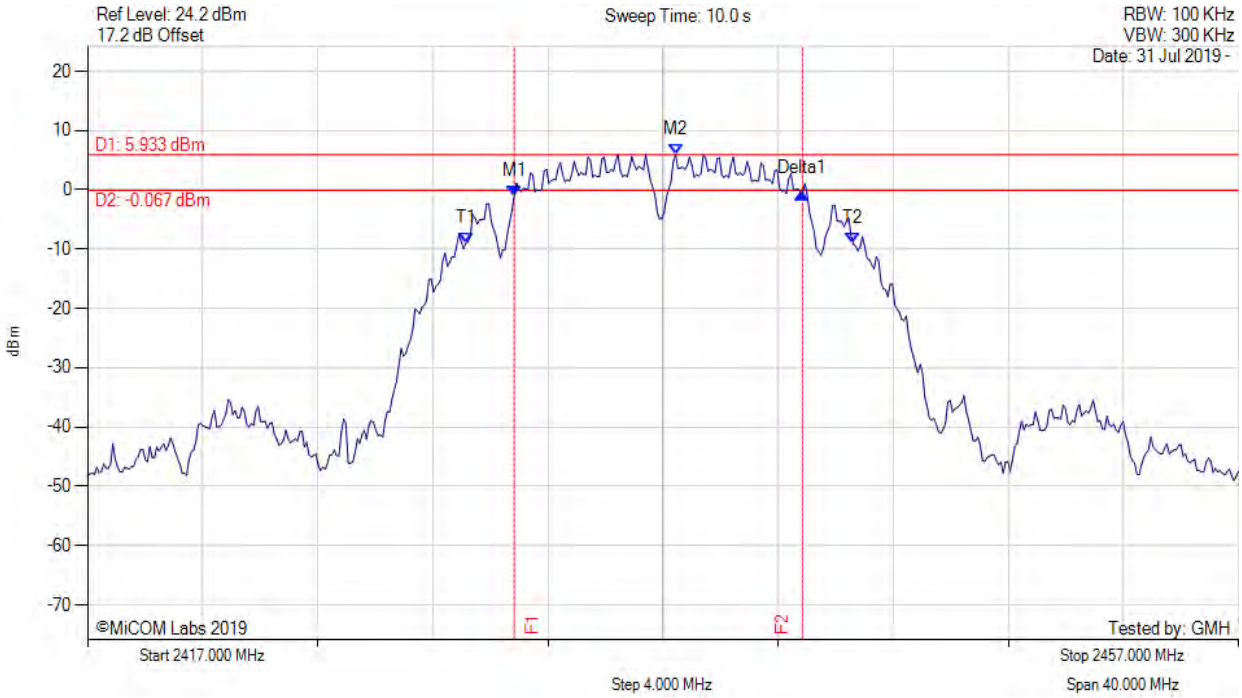
6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2437.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2431.830 MHz : -0.980 dBm M2 : 2437.441 MHz : 5.933 dBm Delta1 : 10.020 MHz : 0.431 dB T1 : 2430.146 MHz : -9.054 dBm T2 : 2443.613 MHz : -9.090 dBm OBW : 13.467 MHz	Measured 6 dB Bandwidth: 10.020 MHz Limit: ≥500.0 kHz Margin: -9.52 MHz

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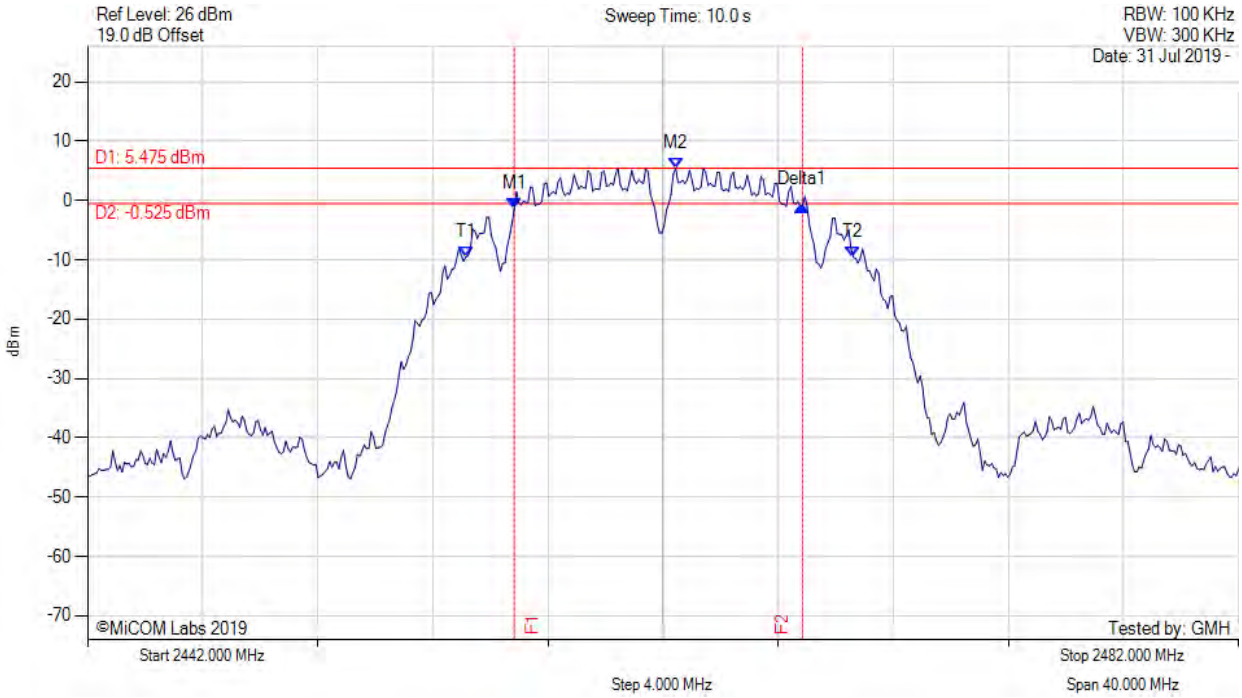
6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2462.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2456.830 MHz : -1.435 dBm M2 : 2462.441 MHz : 5.475 dBm Delta1 : 10.020 MHz : 0.645 dB T1 : 2455.146 MHz : -9.499 dBm T2 : 2468.613 MHz : -9.556 dBm OBW : 13.467 MHz	Measured 6 dB Bandwidth: 10.020 MHz Limit: ≥500.0 kHz Margin: -9.52 MHz

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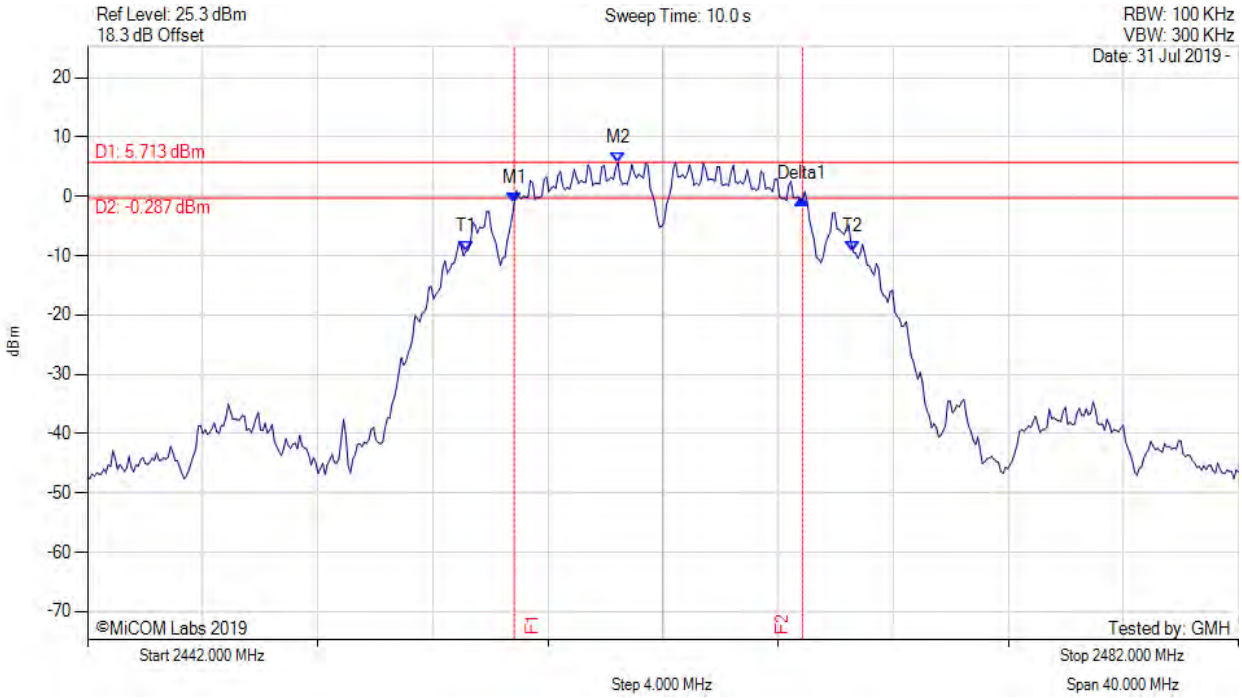
6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2462.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2456.830 MHz : -1.145 dBm M2 : 2460.437 MHz : 5.713 dBm Delta1 : 10.020 MHz : 0.614 dB T1 : 2455.146 MHz : -9.255 dBm T2 : 2468.613 MHz : -9.357 dBm OBW : 13.467 MHz	Measured 6 dB Bandwidth: 10.020 MHz Limit: ≥500.0 kHz Margin: -9.52 MHz

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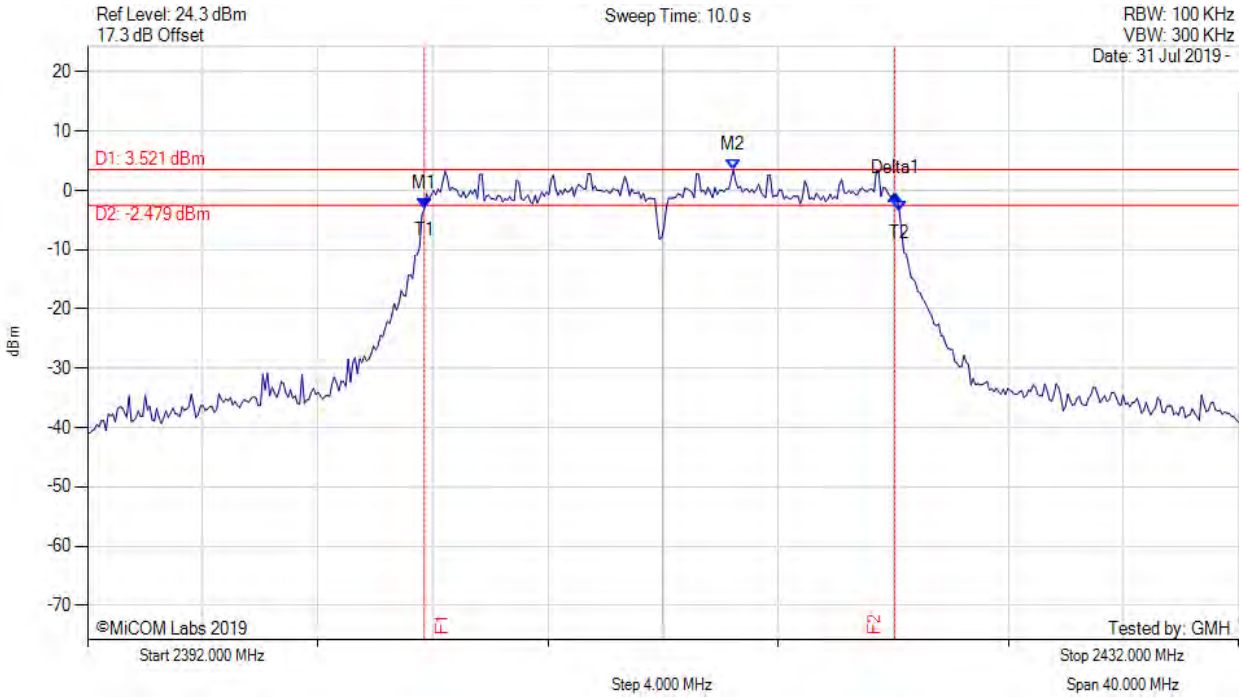
6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2412.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2403.703 MHz : -3.093 dBm M2 : 2414.445 MHz : 3.521 dBm Delta1 : 16.353 MHz : 2.461 dB T1 : 2403.703 MHz : -3.093 dBm T2 : 2420.216 MHz : -3.611 dBm OBW : 16.513 MHz	Measured 6 dB Bandwidth: 16.353 MHz Limit: ≥500.0 kHz Margin: -15.85 MHz

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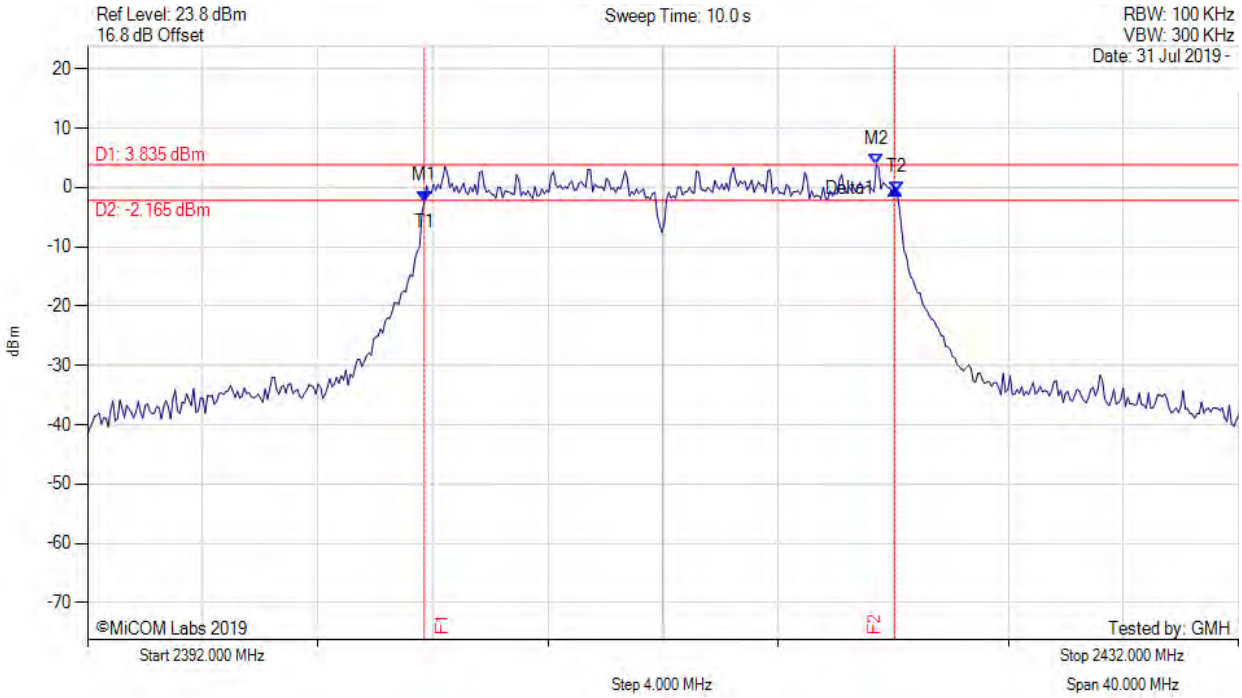
6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2412.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2403.703 MHz : -2.285 dBm M2 : 2419.415 MHz : 3.835 dBm Delta1 : 16.353 MHz : 2.109 dB T1 : 2403.703 MHz : -2.285 dBm T2 : 2420.136 MHz : -0.705 dBm OBW : 16.433 MHz	Measured 6 dB Bandwidth: 16.353 MHz Limit: ≥500.0 kHz Margin: -15.85 MHz

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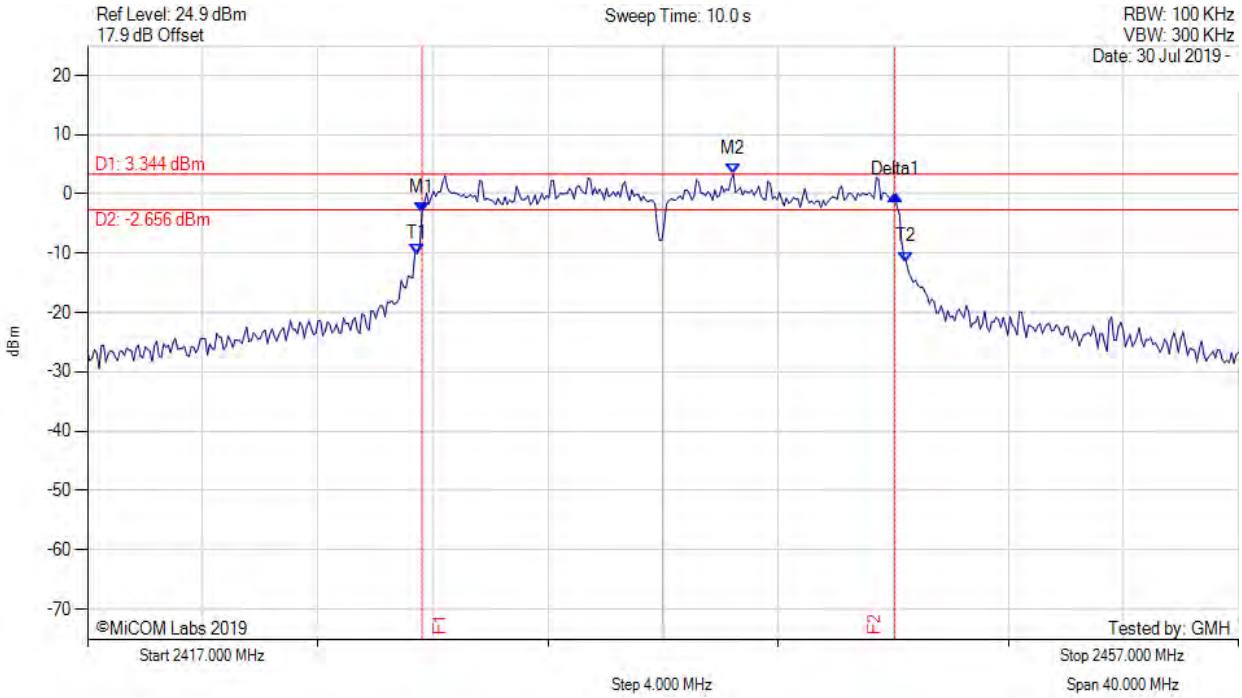
6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2437.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2428.623 MHz : -3.103 dBm M2 : 2439.445 MHz : 3.344 dBm Delta1 : 16.433 MHz : 2.969 dB T1 : 2428.463 MHz : -10.080 dBm T2 : 2445.457 MHz : -11.476 dBm OBW : 16.994 MHz	Measured 6 dB Bandwidth: 16.433 MHz Limit: ≥500.0 kHz Margin: -15.93 MHz

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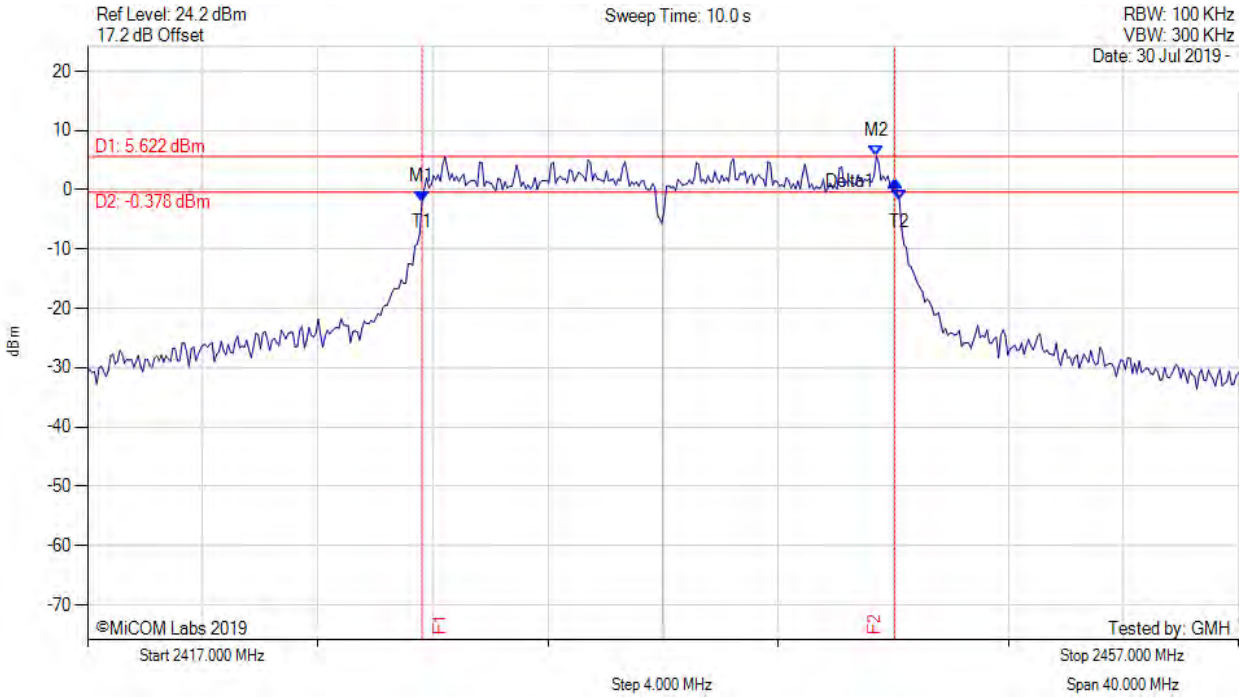
6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2437.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2428.623 MHz : -1.948 dBm M2 : 2444.415 MHz : 5.622 dBm Delta1 : 16.433 MHz : 3.419 dB T1 : 2428.623 MHz : -1.948 dBm T2 : 2445.216 MHz : -1.832 dBm OBW : 16.593 MHz	Measured 6 dB Bandwidth: 16.433 MHz Limit: ≥500.0 kHz Margin: -15.93 MHz

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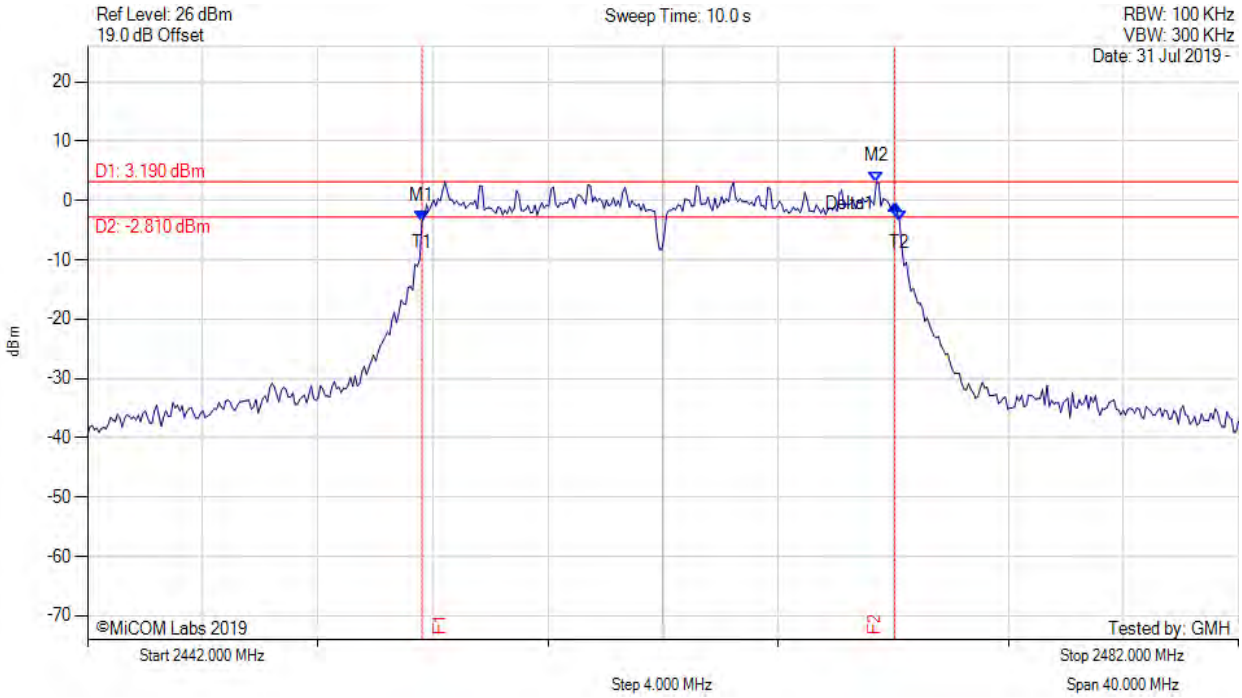
6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2462.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2453.623 MHz : -3.522 dBm M2 : 2469.415 MHz : 3.190 dBm Delta1 : 16.433 MHz : 2.959 dB T1 : 2453.623 MHz : -3.522 dBm T2 : 2470.216 MHz : -3.499 dBm OBW : 16.593 MHz	Measured 6 dB Bandwidth: 16.433 MHz Limit: ≥500.0 kHz Margin: -15.93 MHz

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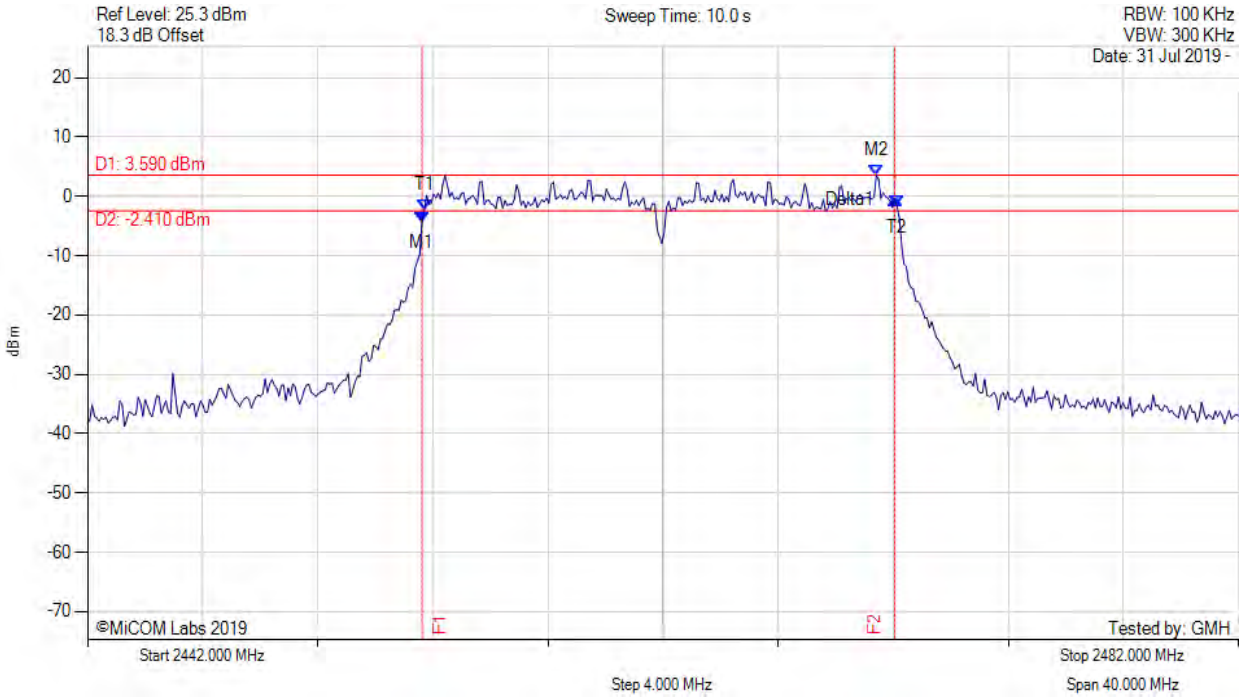
6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2462.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2453.623 MHz : -4.309 dBm M2 : 2469.415 MHz : 3.590 dBm Delta1 : 16.433 MHz : 3.870 dB T1 : 2453.703 MHz : -2.322 dBm T2 : 2470.136 MHz : -1.588 dBm OBW : 16.433 MHz	Measured 6 dB Bandwidth: 16.433 MHz Limit: ≥500.0 kHz Margin: -15.93 MHz

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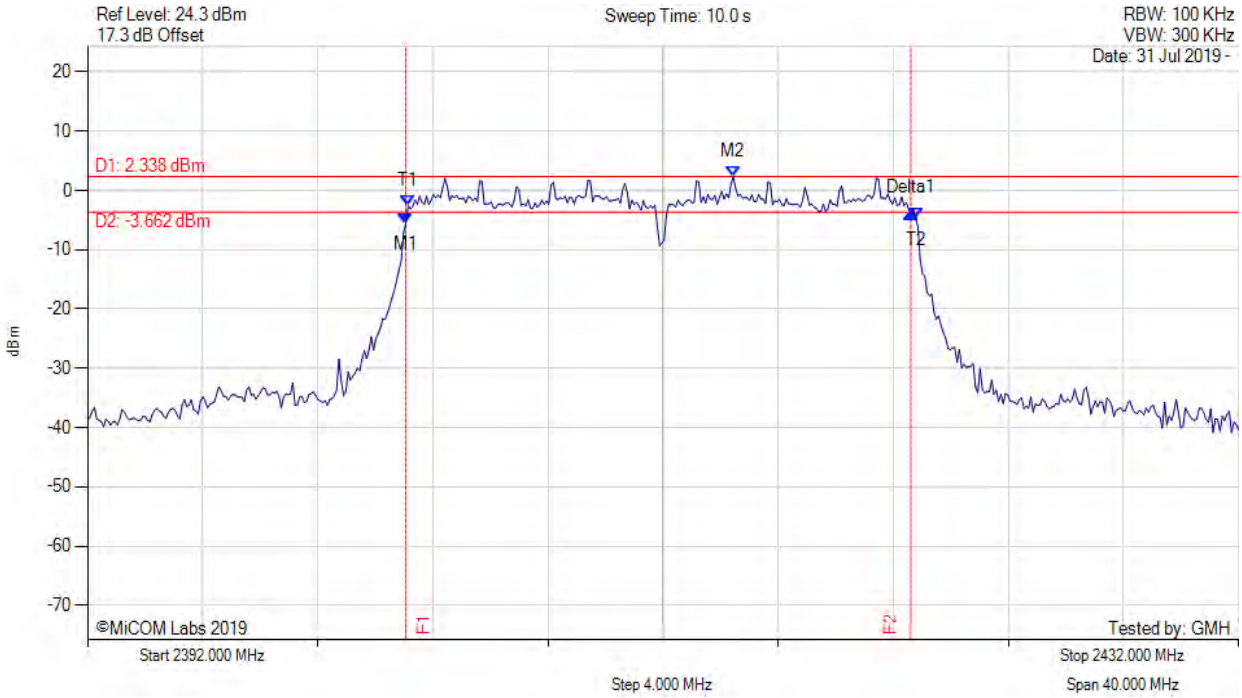
6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2403.062 MHz : -5.549 dBm M2 : 2414.445 MHz : 2.338 dBm Delta1 : 17.555 MHz : 1.686 dB T1 : 2403.142 MHz : -2.562 dBm T2 : 2420.778 MHz : -4.697 dBm OBW : 17.635 MHz	Measured 6 dB Bandwidth: 17.555 MHz Limit: ≥500.0 kHz Margin: -17.06 MHz

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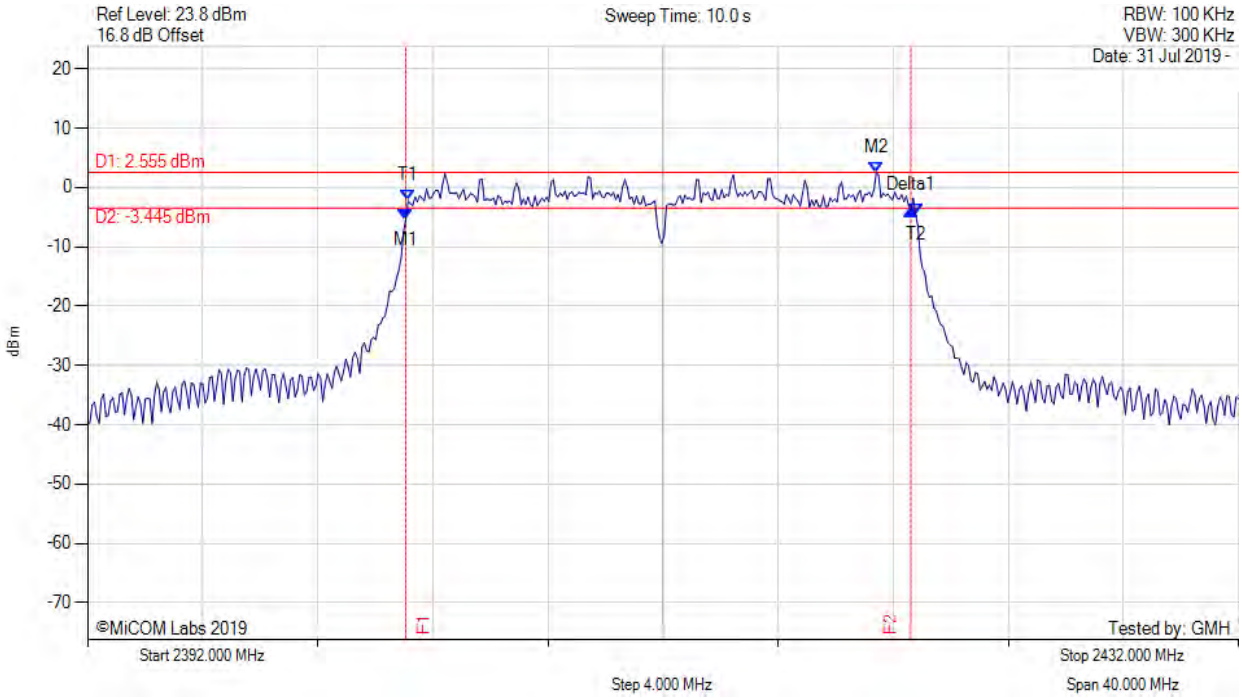
6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2403.062 MHz : -5.337 dBm M2 : 2419.415 MHz : 2.555 dBm Delta1 : 17.555 MHz : 1.538 dB T1 : 2403.142 MHz : -2.216 dBm T2 : 2420.778 MHz : -4.434 dBm OBW : 17.635 MHz	Measured 6 dB Bandwidth: 17.555 MHz Limit: ≥500.0 kHz Margin: -17.06 MHz

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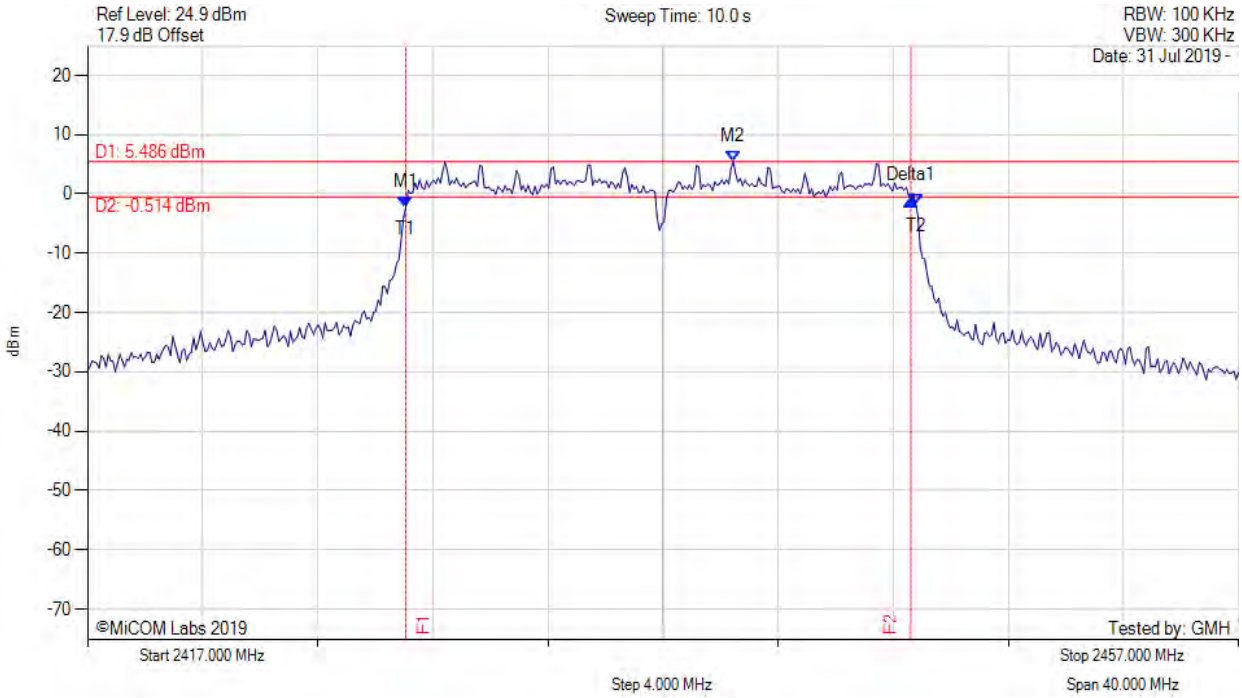
6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2428.062 MHz : -2.265 dBm M2 : 2439.445 MHz : 5.486 dBm Delta1 : 17.555 MHz : 1.151 dB T1 : 2428.062 MHz : -2.265 dBm T2 : 2445.778 MHz : -1.764 dBm OBW : 17.715 MHz	Measured 6 dB Bandwidth: 17.555 MHz Limit: ≥500.0 kHz Margin: -17.06 MHz

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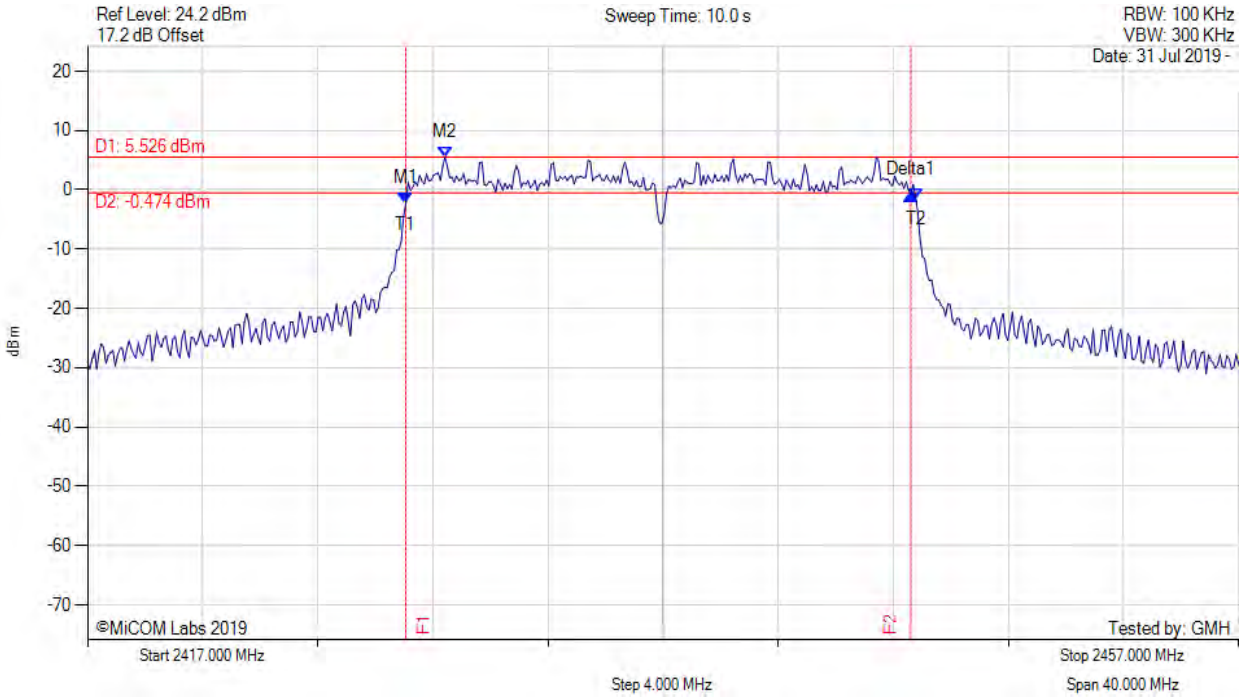
6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2428.062 MHz : -2.290 dBm M2 : 2429.425 MHz : 5.526 dBm Delta1 : 17.555 MHz : 1.474 dB T1 : 2428.062 MHz : -2.290 dBm T2 : 2445.778 MHz : -1.421 dBm OBW : 17.715 MHz	Measured 6 dB Bandwidth: 17.555 MHz Limit: ≥500.0 kHz Margin: -17.06 MHz

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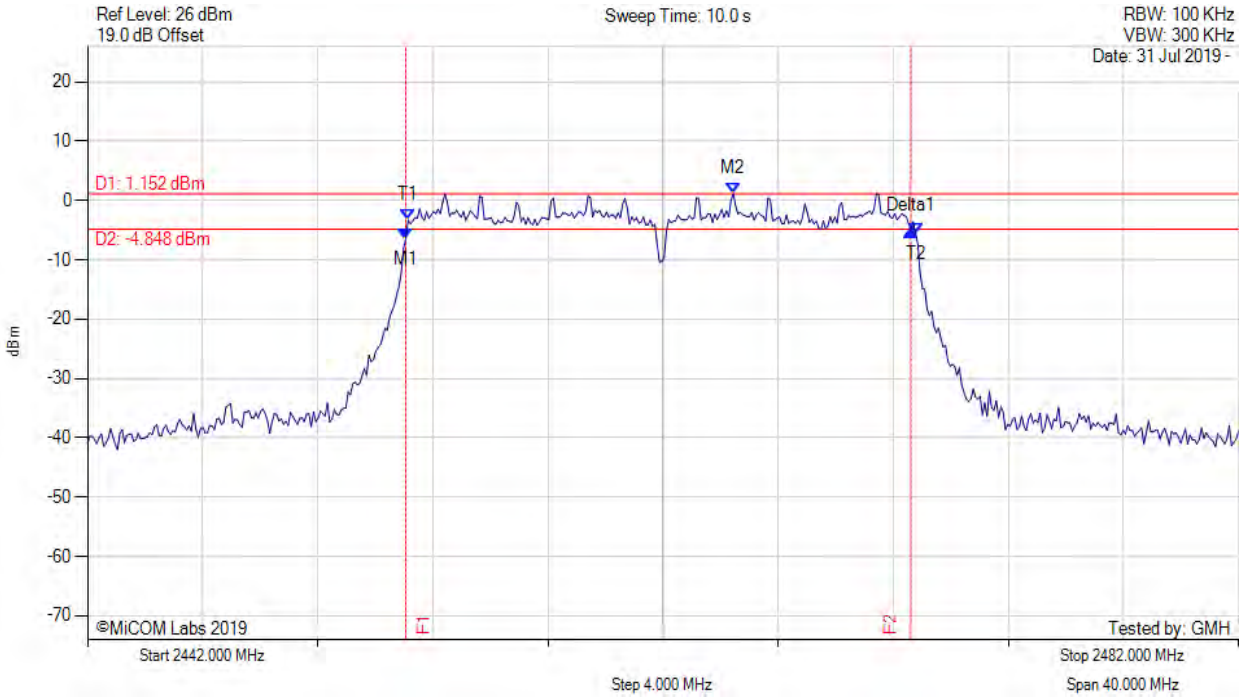
6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2453.062 MHz : -6.398 dBm M2 : 2464.445 MHz : 1.152 dBm Delta1 : 17.555 MHz : 1.283 dB T1 : 2453.142 MHz : -3.274 dBm T2 : 2470.778 MHz : -5.535 dBm OBW : 17.635 MHz	Measured 6 dB Bandwidth: 17.555 MHz Limit: ≥500.0 kHz Margin: -17.06 MHz

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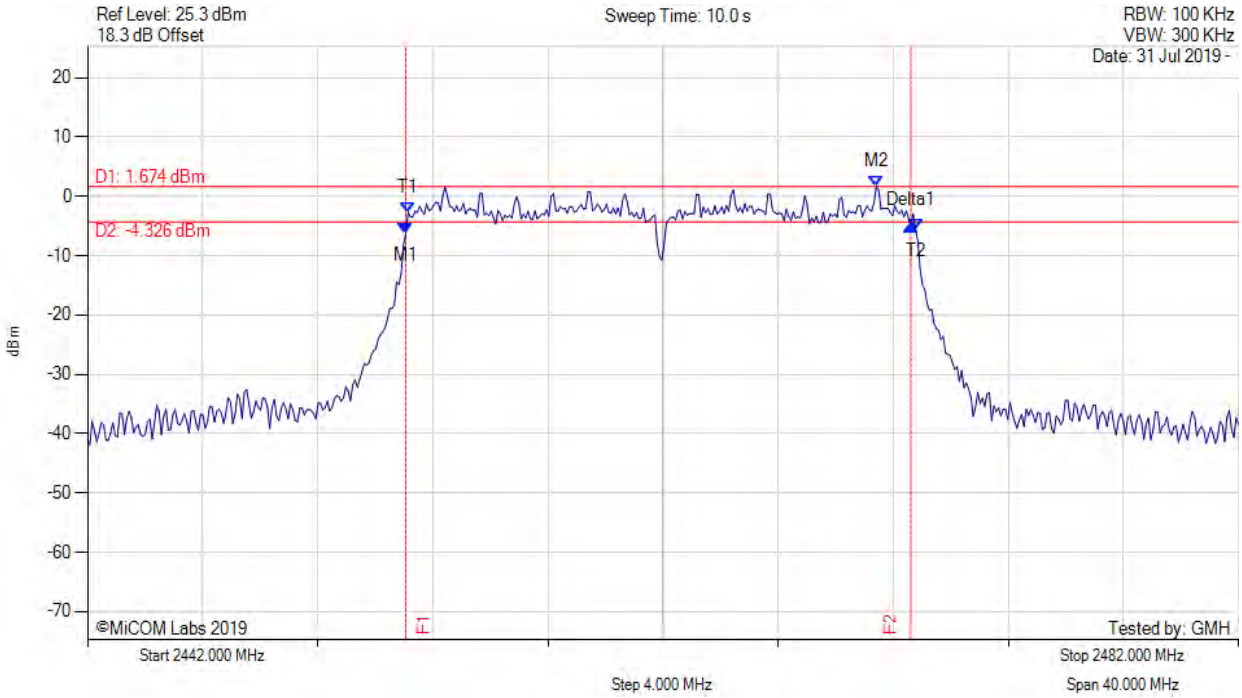
6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2453.062 MHz : -6.260 dBm M2 : 2469.415 MHz : 1.674 dBm Delta1 : 17.555 MHz : 1.440 dB T1 : 2453.142 MHz : -2.711 dBm T2 : 2470.778 MHz : -5.654 dBm OBW : 17.635 MHz	Measured 6 dB Bandwidth: 17.555 MHz Limit: ≥500.0 kHz Margin: -17.06 MHz

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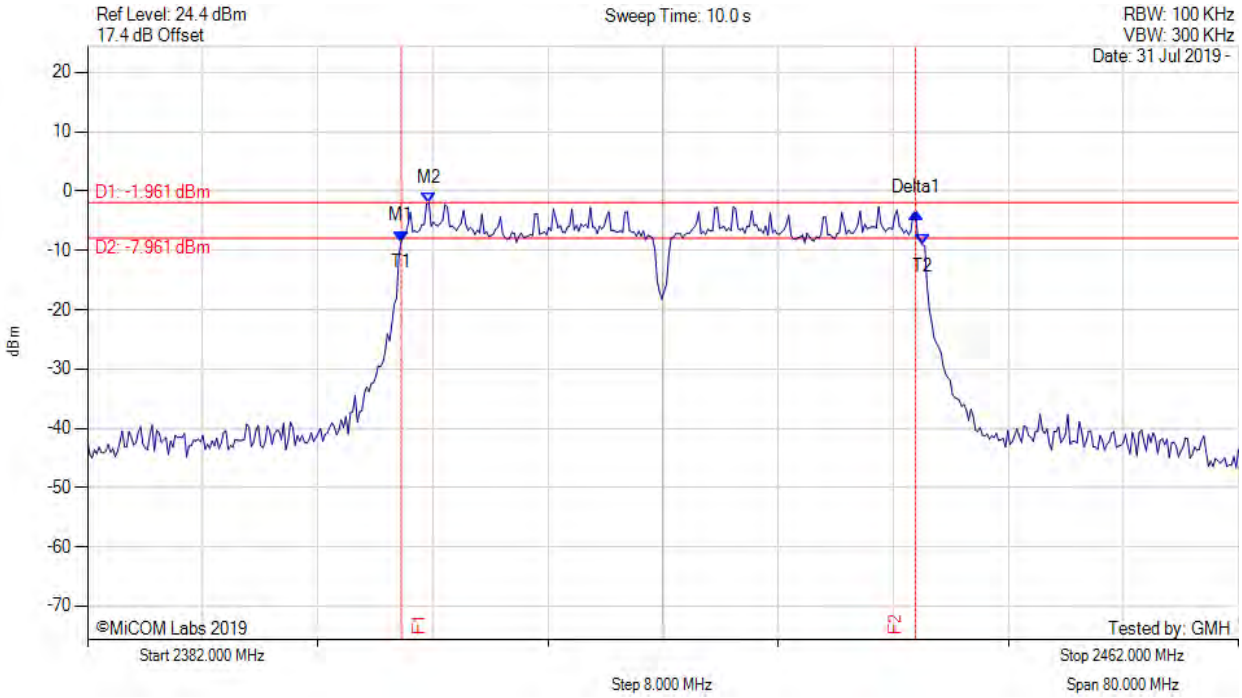
6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 2422.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2403.804 MHz : -8.459 dBm M2 : 2405.727 MHz : -1.961 dBm Delta1 : 35.752 MHz : 4.767 dB T1 : 2403.804 MHz : -8.459 dBm T2 : 2440.036 MHz : -9.073 dBm OBW : 36.232 MHz	Measured 6 dB Bandwidth: 35.752 MHz Limit: ≥500.0 kHz Margin: -35.25 MHz

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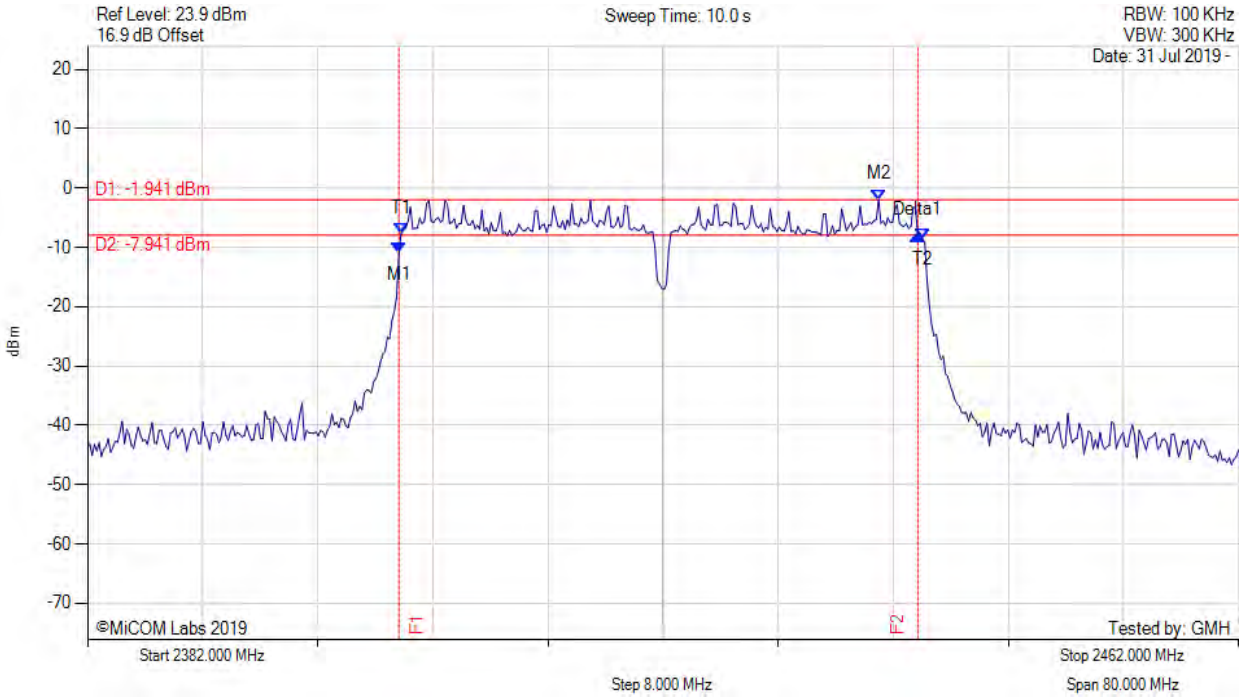
6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 2422.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2403.643 MHz : -10.971 dBm M2 : 2436.990 MHz : -1.941 dBm Delta1 : 36.072 MHz : 3.040 dB T1 : 2403.804 MHz : -7.584 dBm T2 : 2440.036 MHz : -8.512 dBm OBW : 36.232 MHz	Measured 6 dB Bandwidth: 36.072 MHz Limit: ≥500.0 kHz Margin: -35.57 MHz

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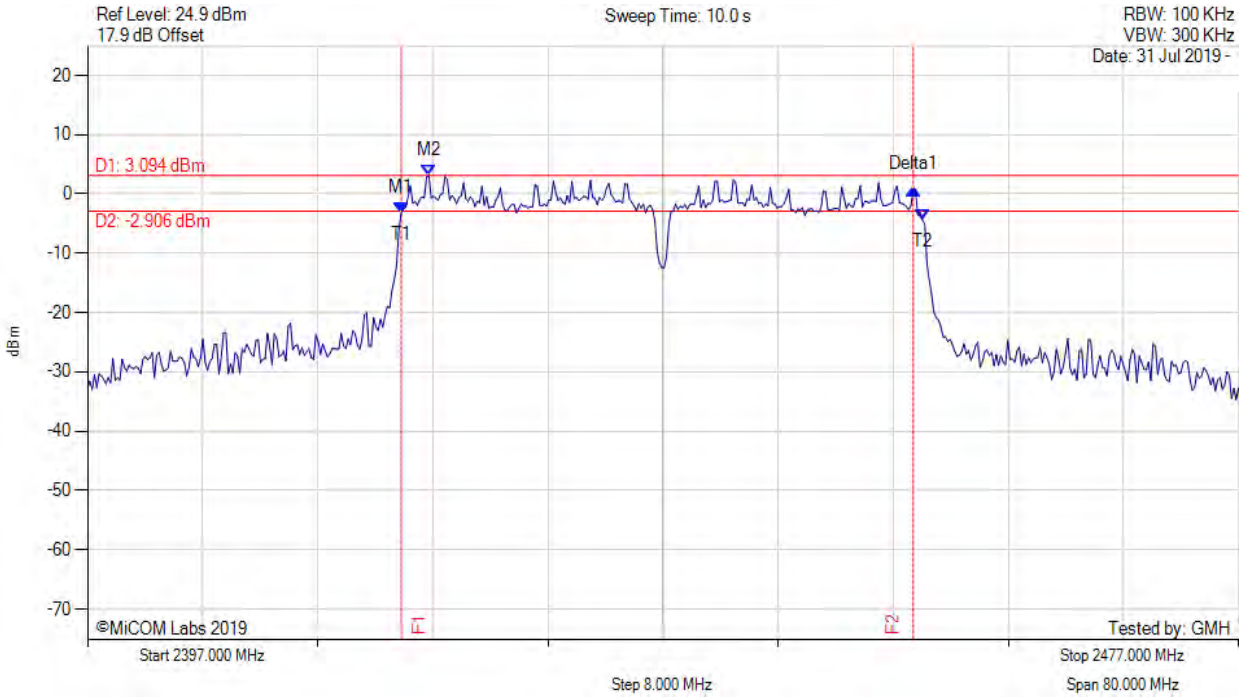
6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 2437.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2418.804 MHz : -3.188 dBm M2 : 2420.727 MHz : 3.094 dBm Delta1 : 35.591 MHz : 3.937 dB T1 : 2418.804 MHz : -3.188 dBm T2 : 2455.036 MHz : -4.351 dBm OBW : 36.232 MHz	Measured 6 dB Bandwidth: 35.591 MHz Limit: ≥500.0 kHz Margin: -35.09 MHz

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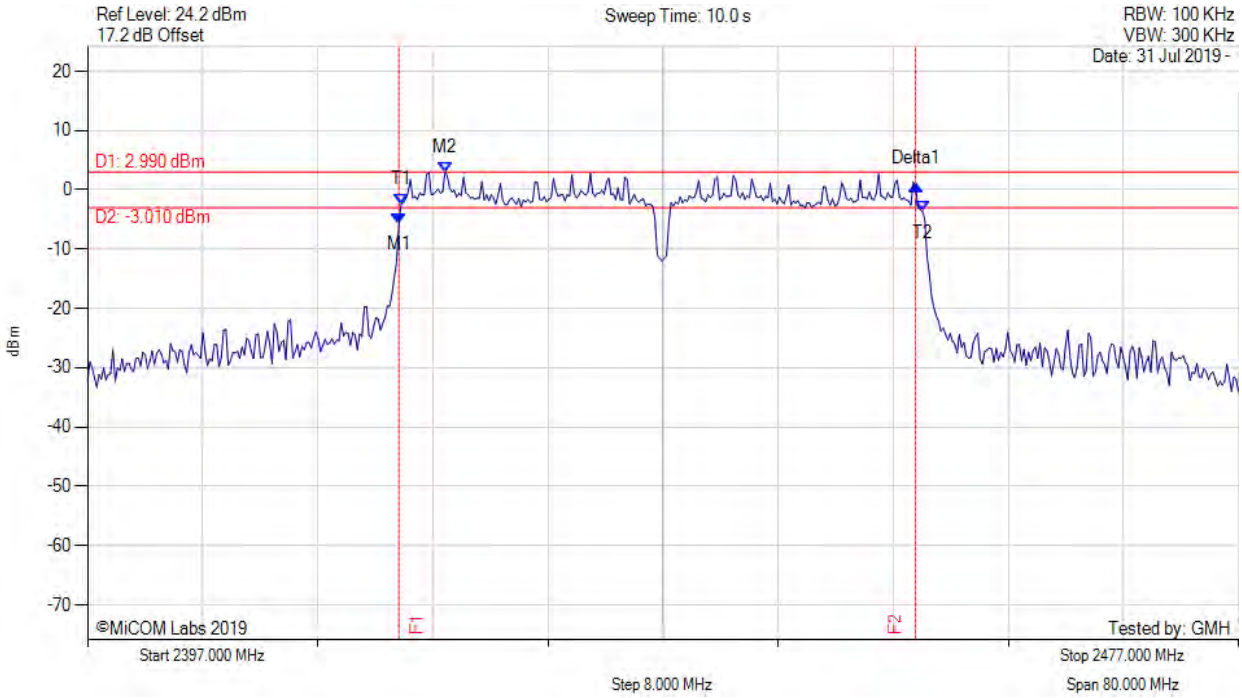
6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 2437.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2418.643 MHz : -5.655 dBm M2 : 2421.850 MHz : 2.990 dBm Delta1 : 35.912 MHz : 6.569 dB T1 : 2418.804 MHz : -2.381 dBm T2 : 2455.036 MHz : -3.662 dBm OBW : 36.232 MHz	Measured 6 dB Bandwidth: 35.912 MHz Limit: ≥500.0 kHz Margin: -35.41 MHz

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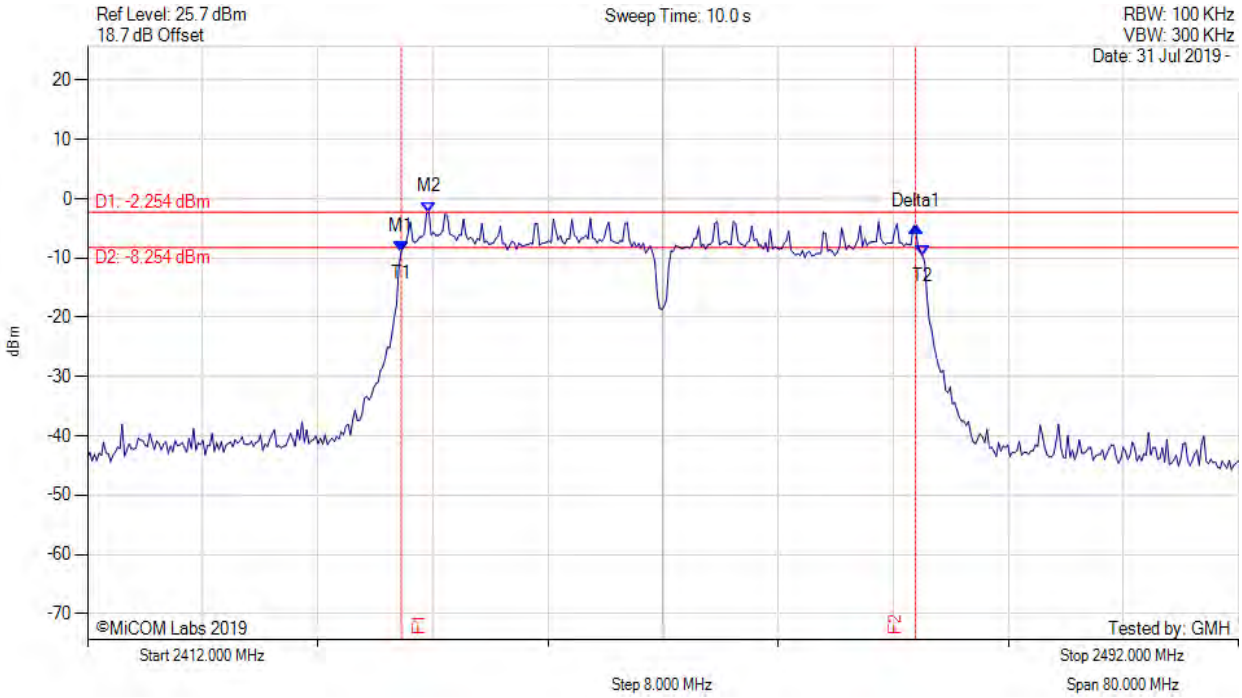
6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 2452.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2433.804 MHz : -8.896 dBm M2 : 2435.727 MHz : -2.254 dBm Delta1 : 35.752 MHz : 4.098 dB T1 : 2433.804 MHz : -8.896 dBm T2 : 2470.036 MHz : -9.571 dBm OBW : 36.232 MHz	Measured 6 dB Bandwidth: 35.752 MHz Limit: ≥500.0 kHz Margin: -35.25 MHz

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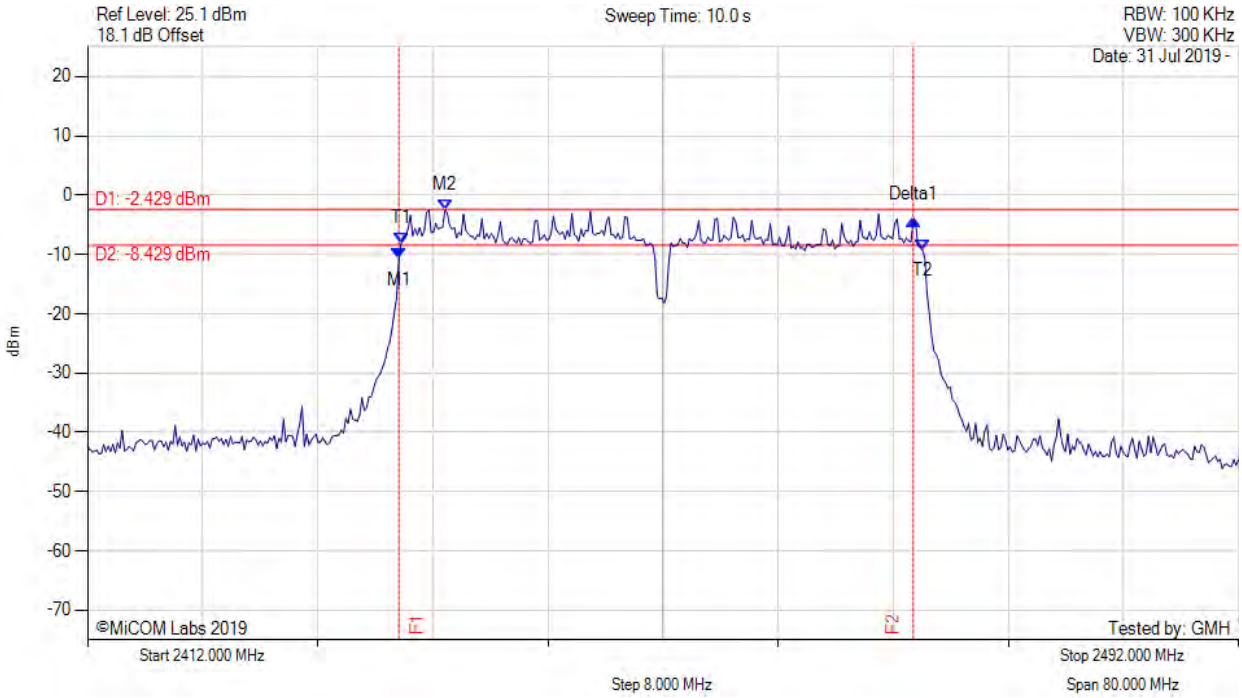
6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 2452.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2433.643 MHz : -10.678 dBm M2 : 2436.850 MHz : -2.429 dBm Delta1 : 35.752 MHz : 6.463 dB T1 : 2433.804 MHz : -8.040 dBm T2 : 2470.036 MHz : -9.201 dBm OBW : 36.232 MHz	Measured 6 dB Bandwidth: 35.752 MHz Limit: ≥500.0 kHz Margin: -35.25 MHz

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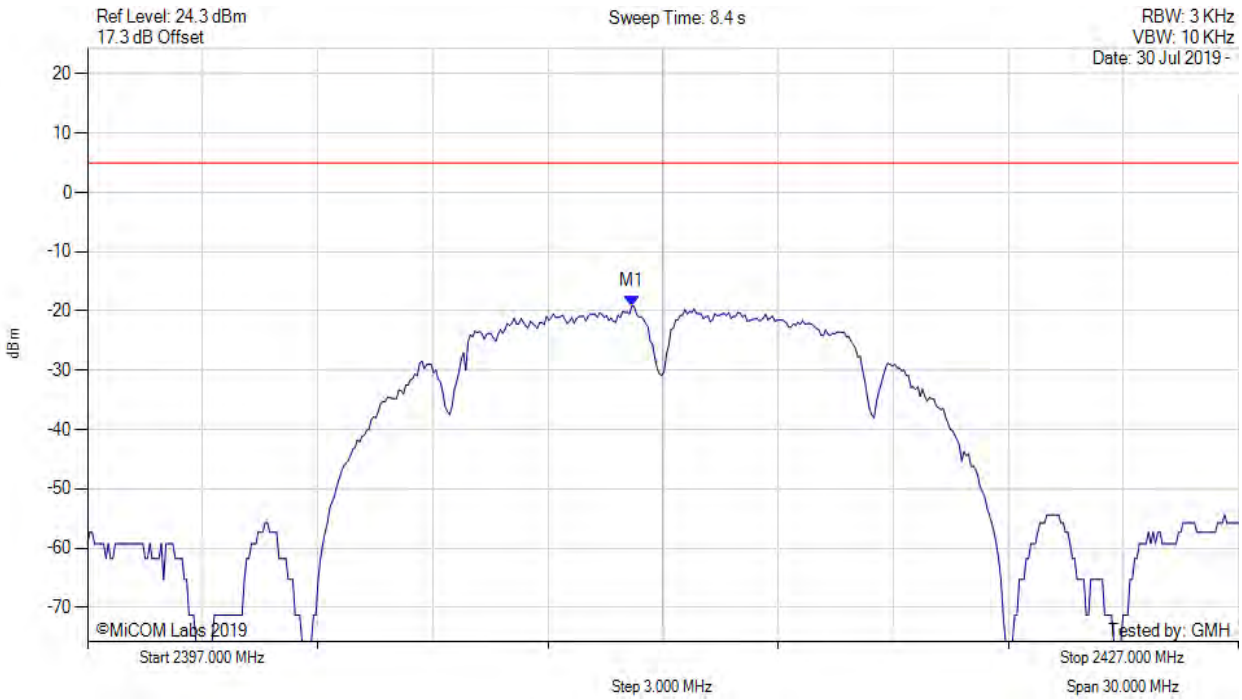
A.2. Power Spectral Density

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2412.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2411.188 MHz : -19.159 dBm	Limit: ≤ 4.990 dBm

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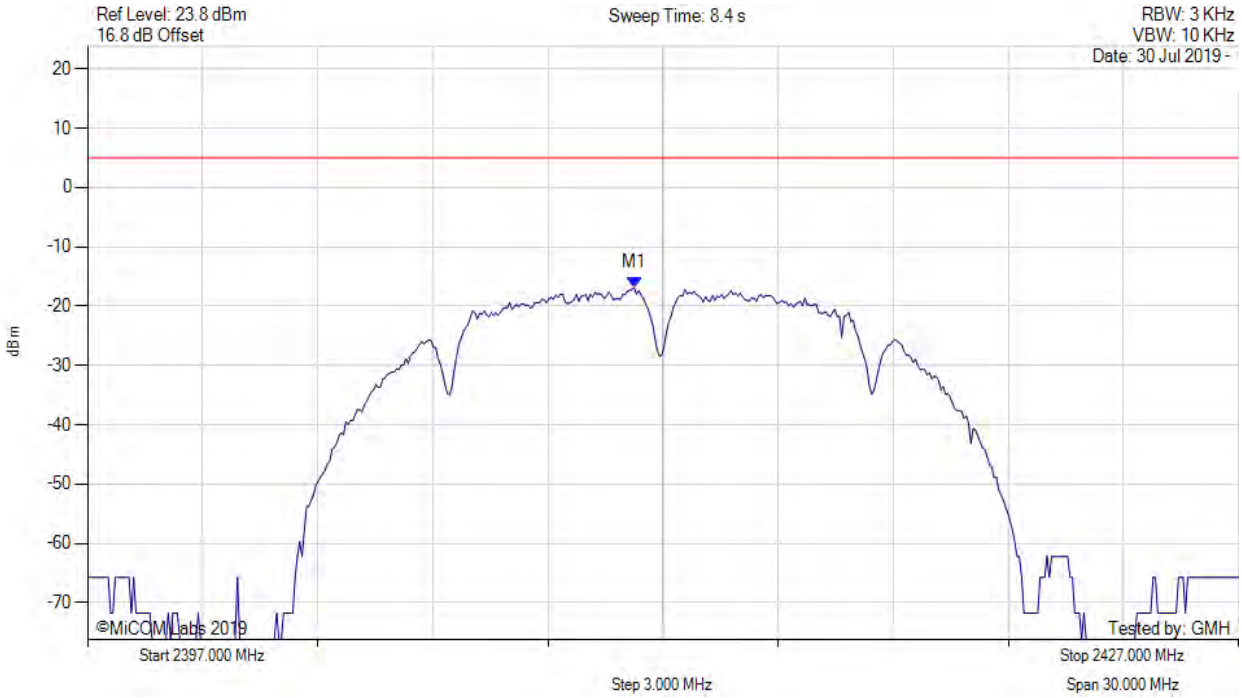
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2412.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2411.248 MHz : -16.879 dBm	Limit: ≤ 4.990 dBm

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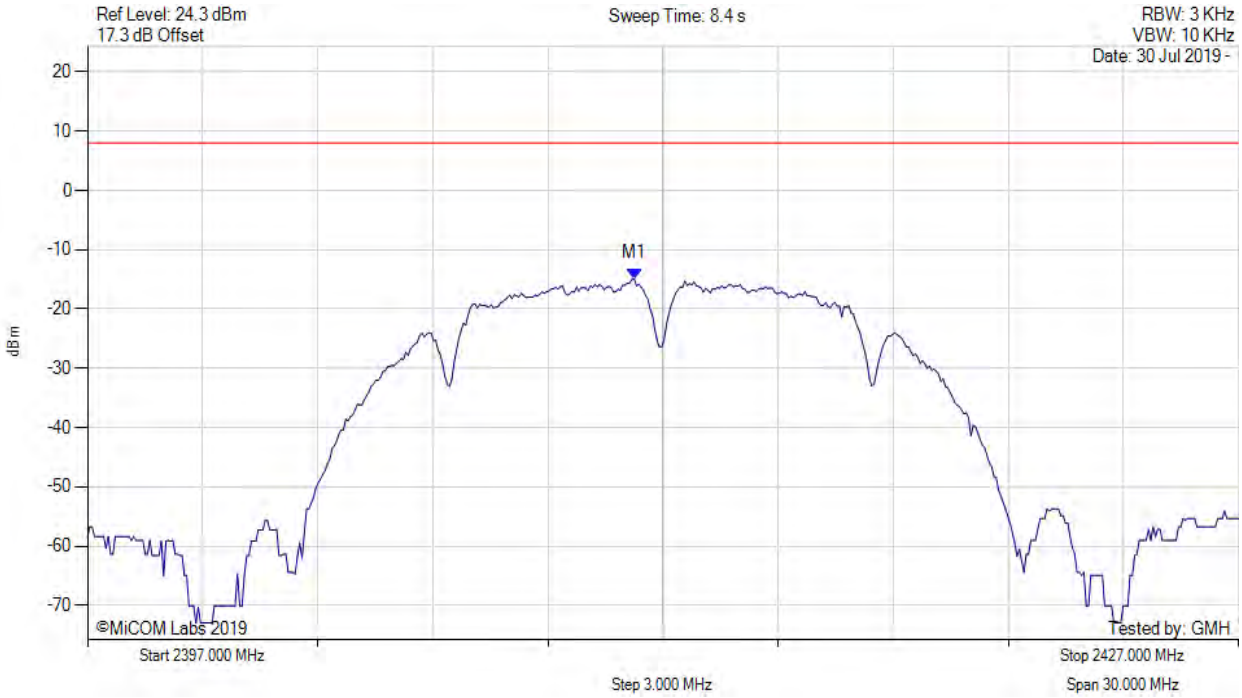
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2412.00 MHz, SUM, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2411.200 MHz : -14.877 dBm M1 + DCCF : 2411.200 MHz : -14.833 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 8.0 dBm Margin: -22.8 dB

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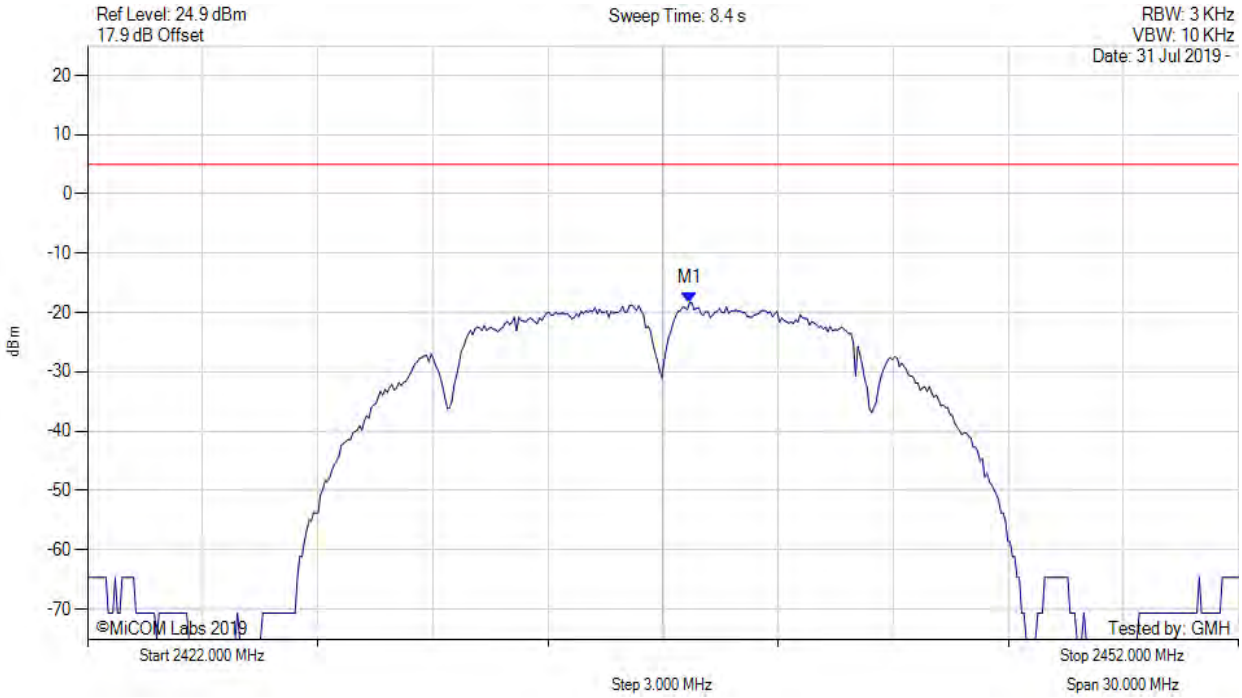
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2437.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2437.691 MHz : -18.325 dBm	Limit: ≤ 4.990 dBm

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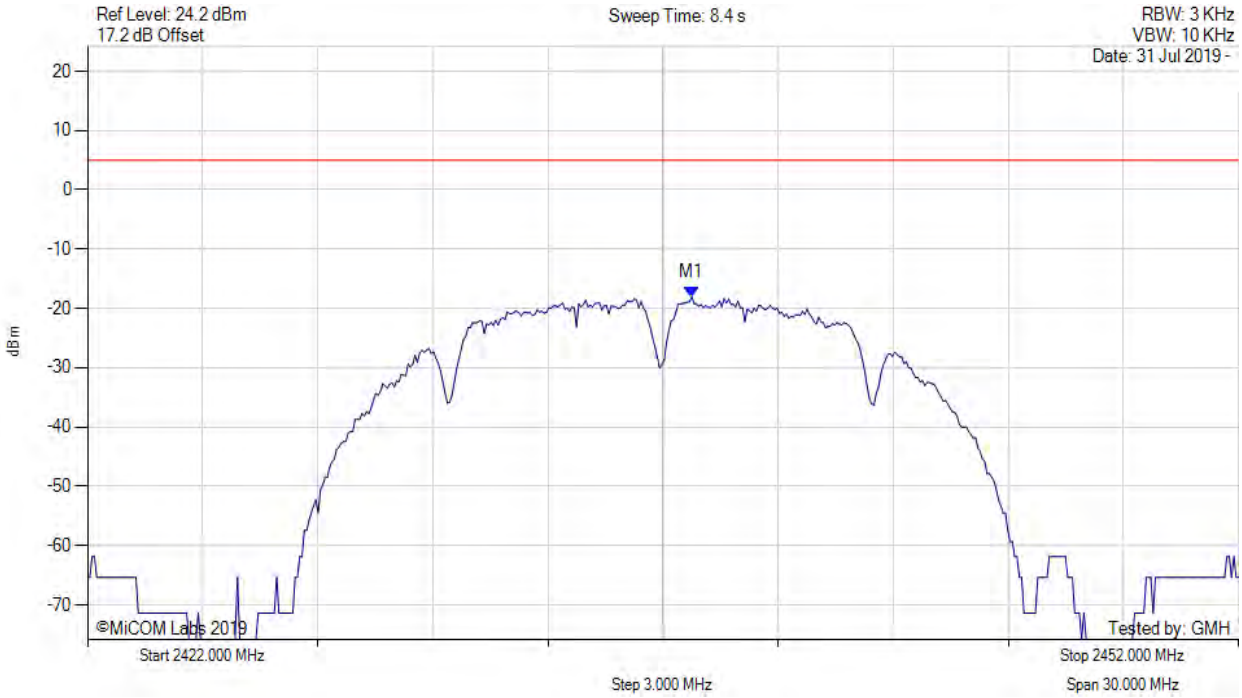
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2437.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2437.752 MHz : -18.035 dBm	Limit: ≤ 4.990 dBm

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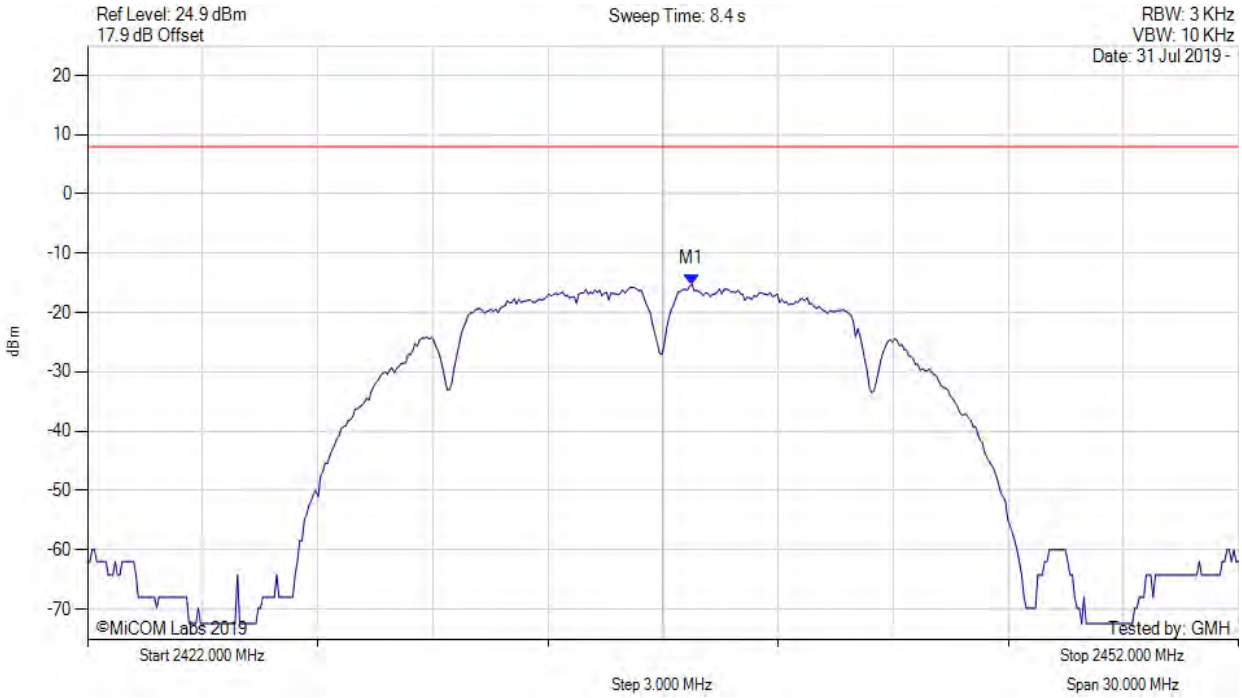
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2437.00 MHz, SUM, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2437.800 MHz : -15.198 dBm M1 + DCCF : 2437.800 MHz : -15.154 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 8.0 dBm Margin: -23.2 dB

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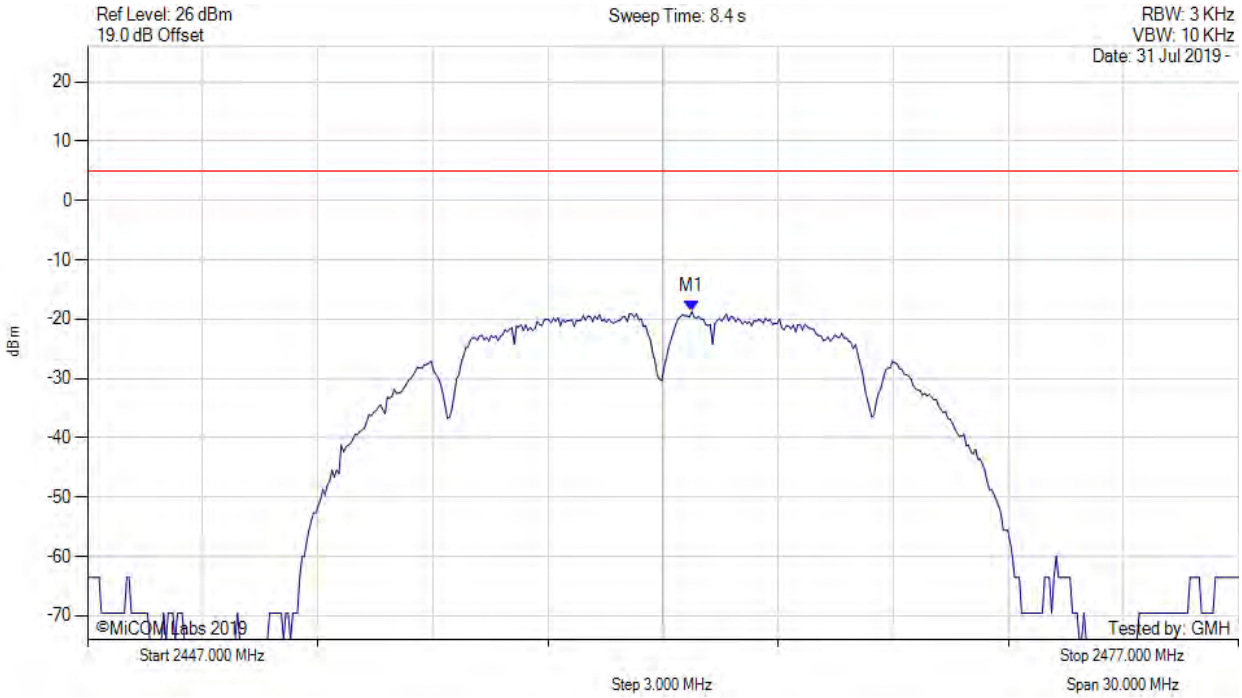
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2462.752 MHz : -18.734 dBm	Limit: ≤ 4.990 dBm

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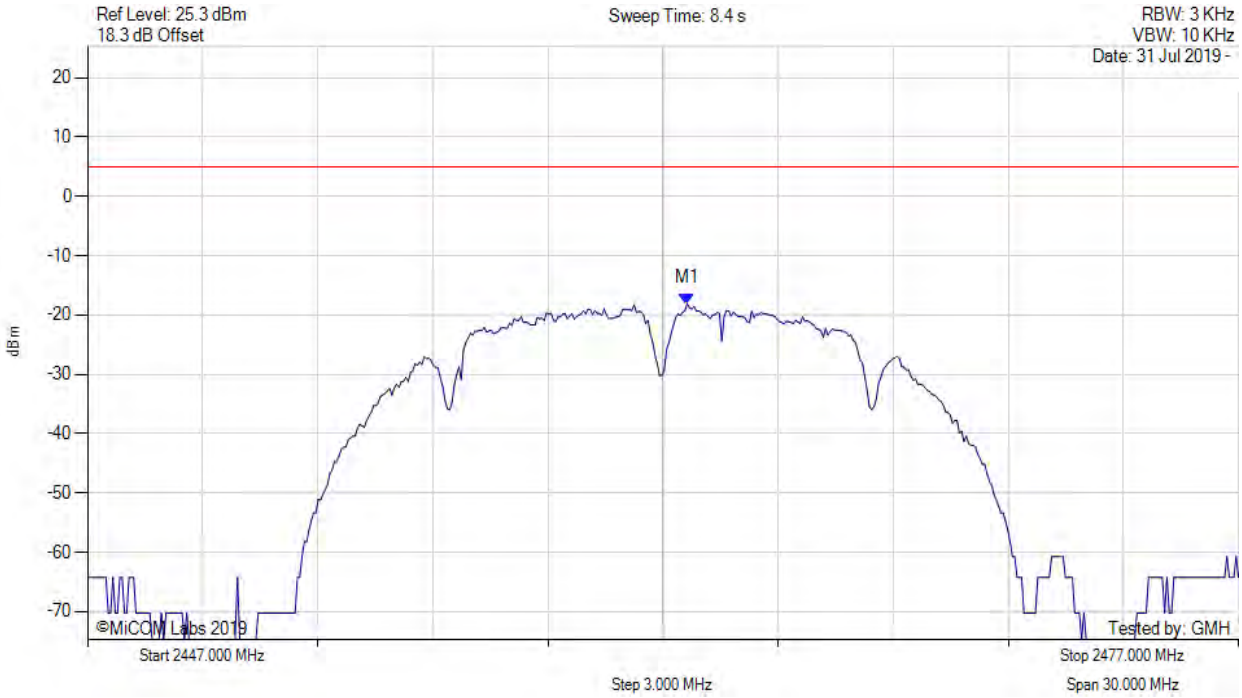
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2462.631 MHz : -18.095 dBm	Limit: ≤ 4.990 dBm

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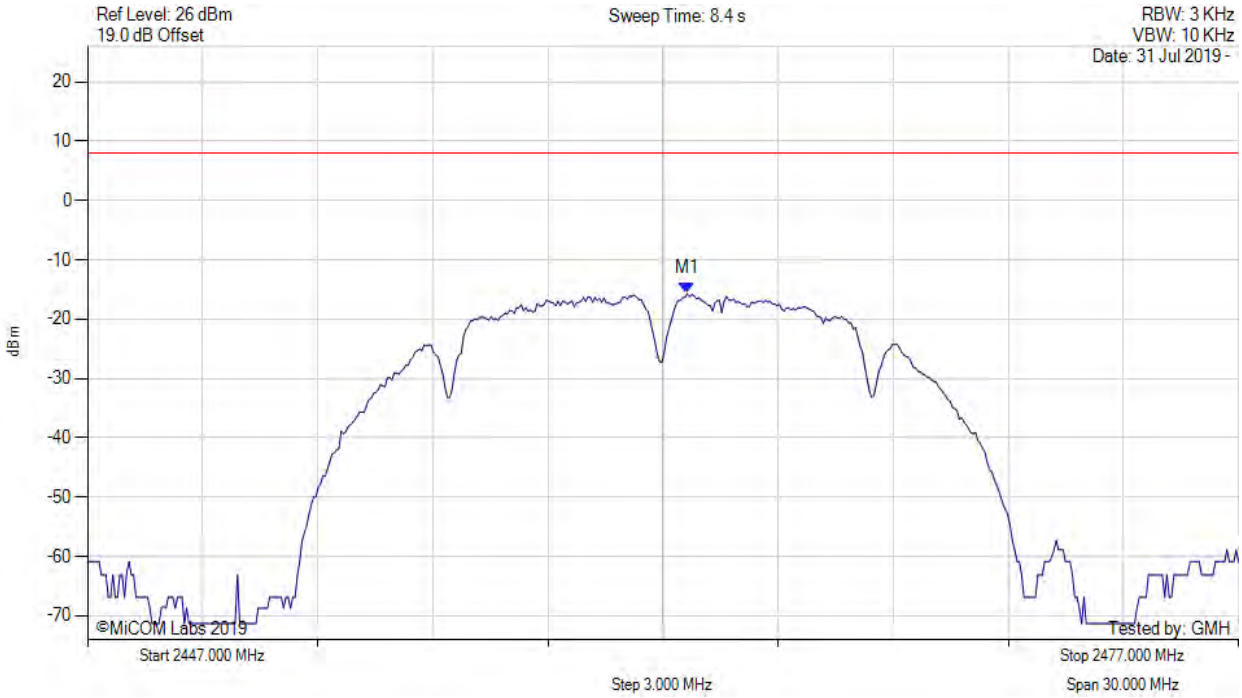
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, SUM, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2462.600 MHz : -15.703 dBm M1 + DCCF : 2462.600 MHz : -15.659 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 8.0 dBm Margin: -23.7 dB

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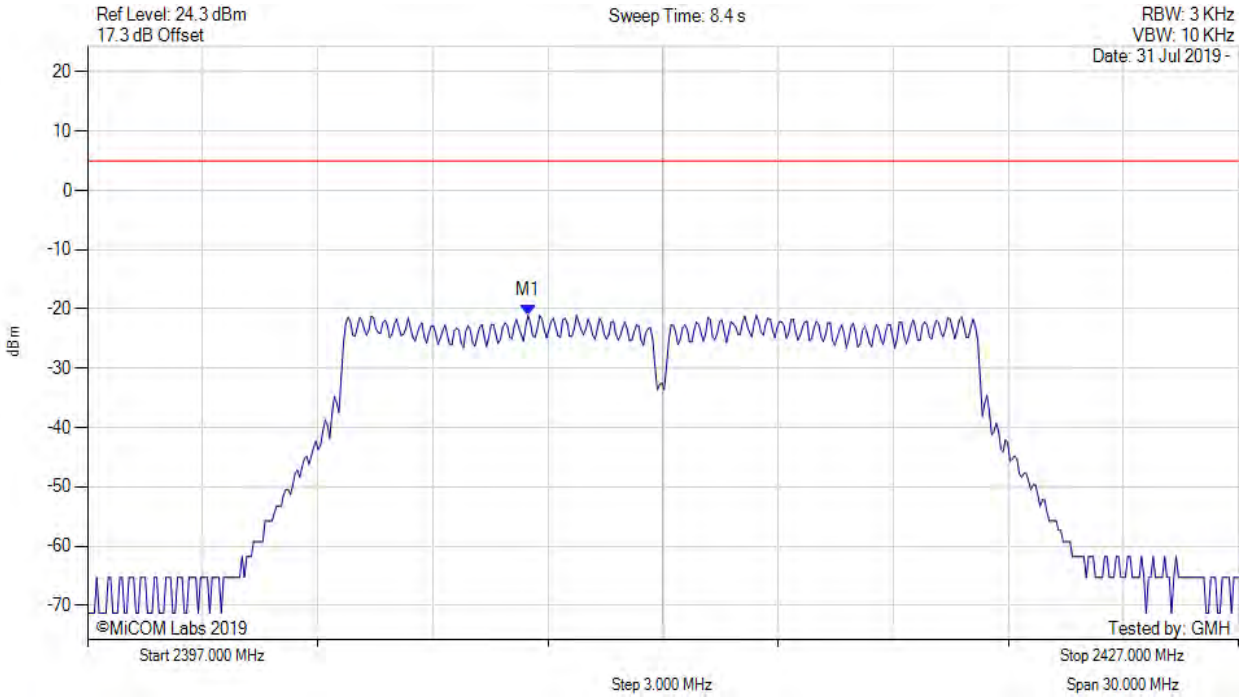
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2408.483 MHz : -21.054 dBm	Limit: ≤ 4.990 dBm

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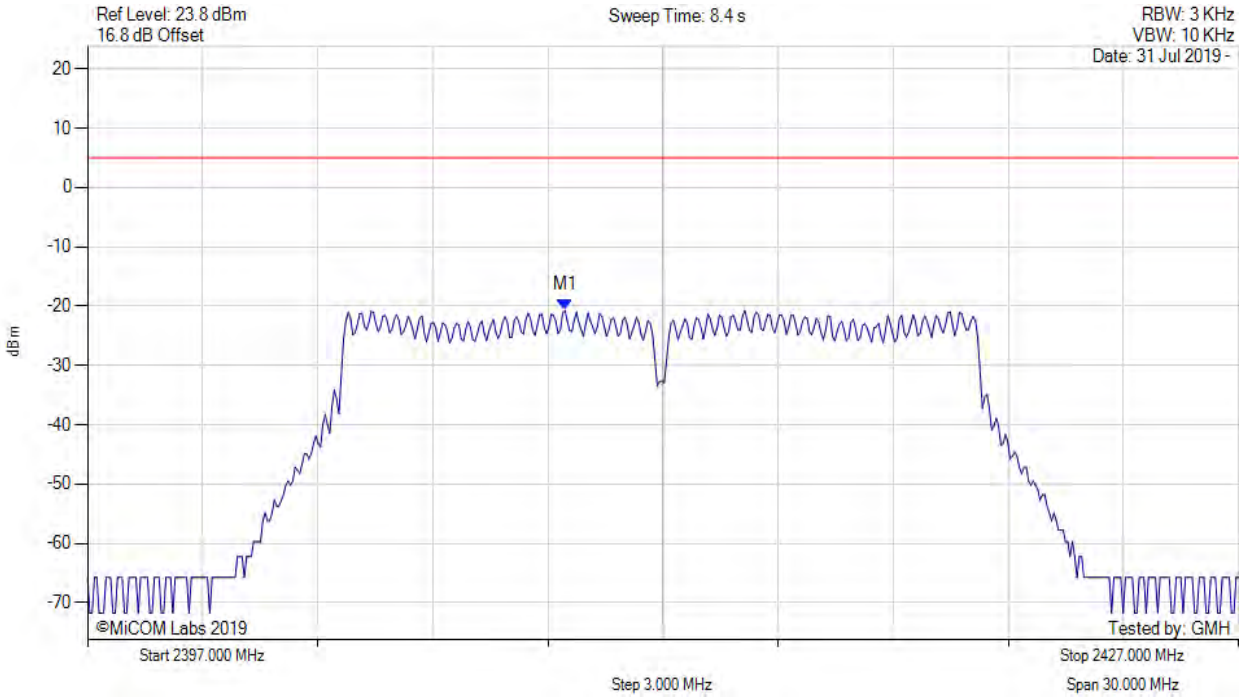
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2409.445 MHz : -20.712 dBm	Limit: ≤ 4.990 dBm

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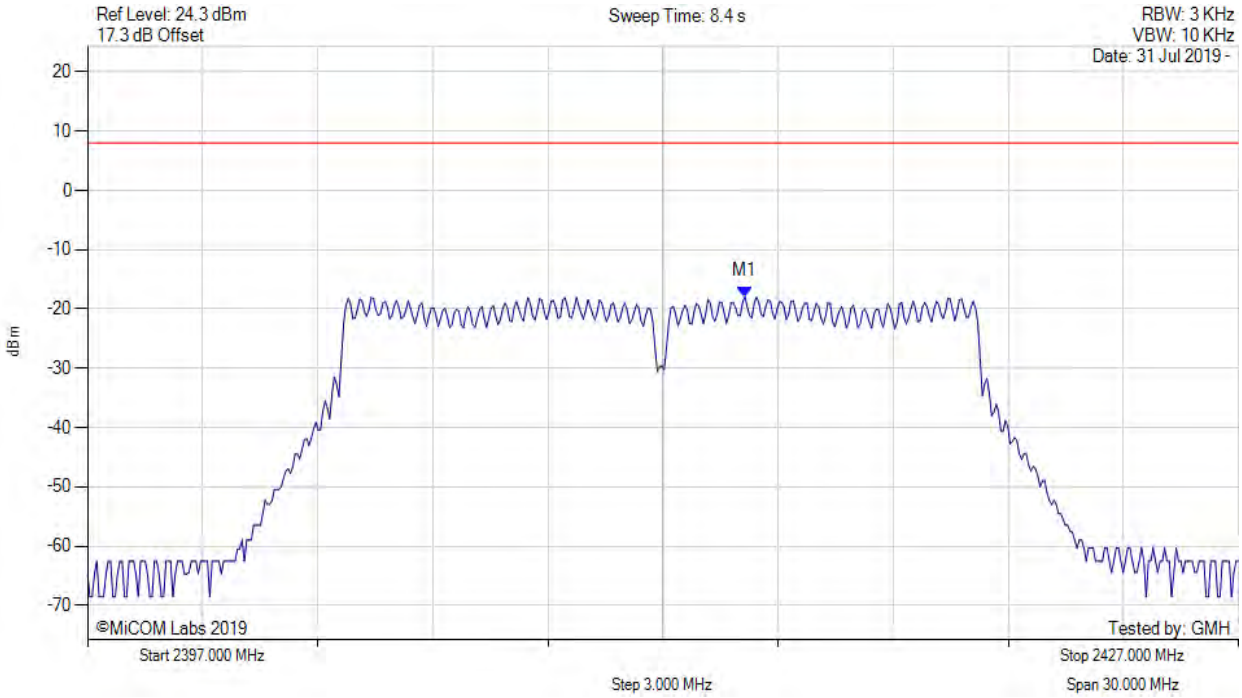
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, SUM, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2414.100 MHz : -17.921 dBm M1 + DCCF : 2414.100 MHz : -17.833 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 8.0 dBm Margin: -25.8 dB

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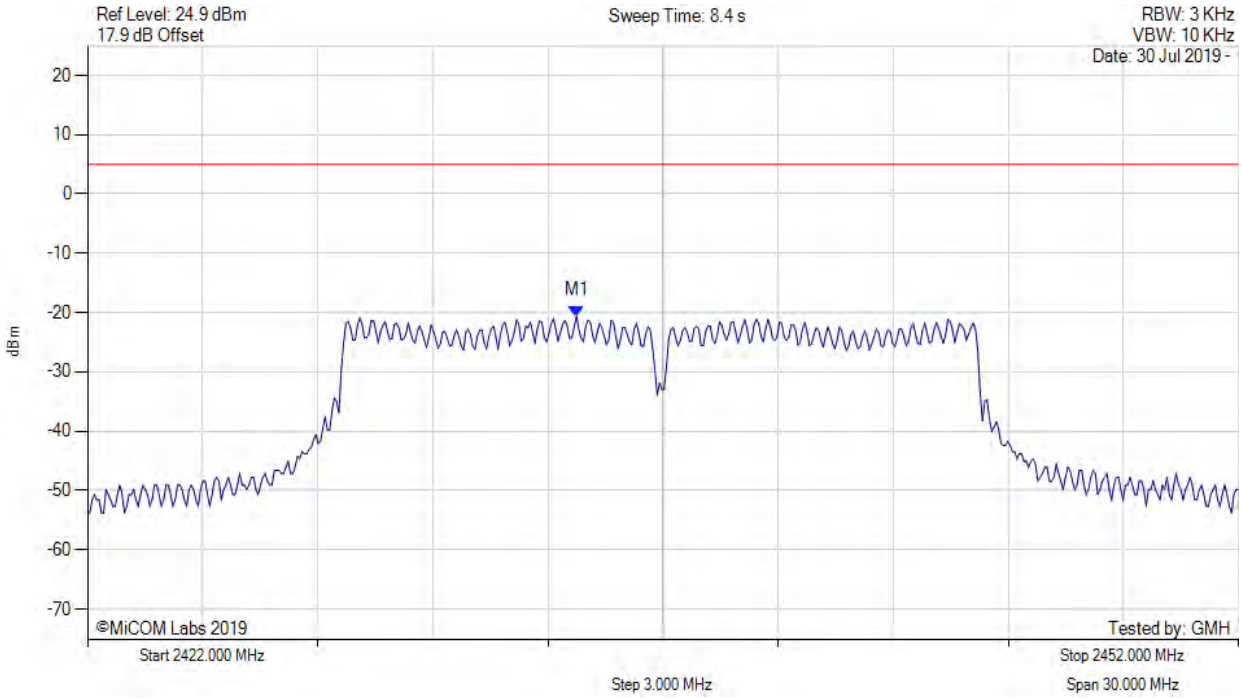
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2437.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2434.745 MHz : -20.590 dBm	Limit: ≤ 4.990 dBm

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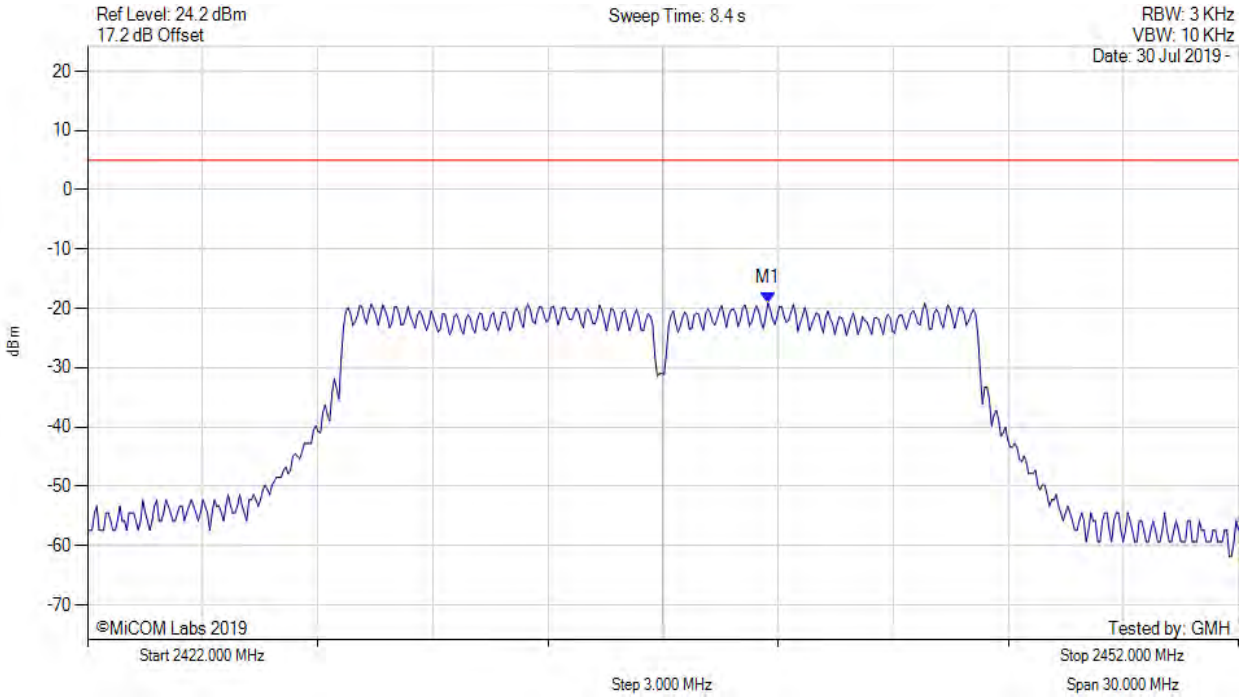
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2437.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2439.735 MHz : -19.067 dBm	Limit: ≤ 4.990 dBm

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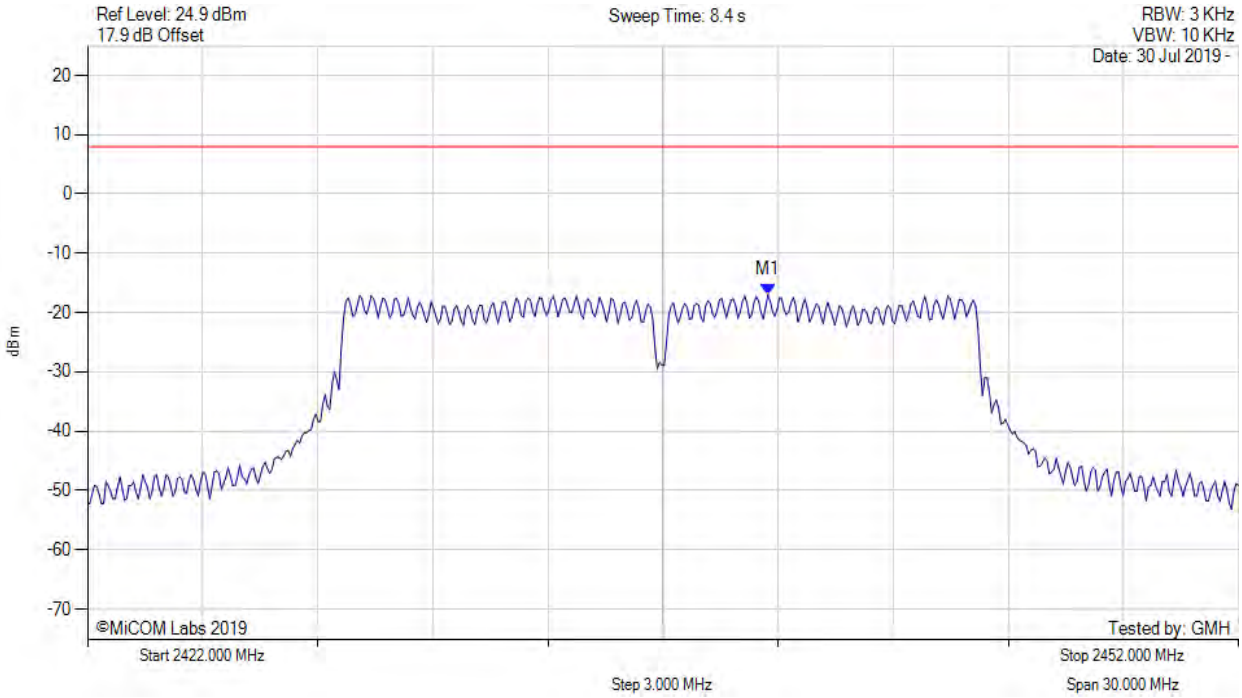
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2437.00 MHz, SUM, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2439.700 MHz : -16.987 dBm M1 + DCCF : 2439.700 MHz : -16.899 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 8.0 dBm Margin: -24.9 dB

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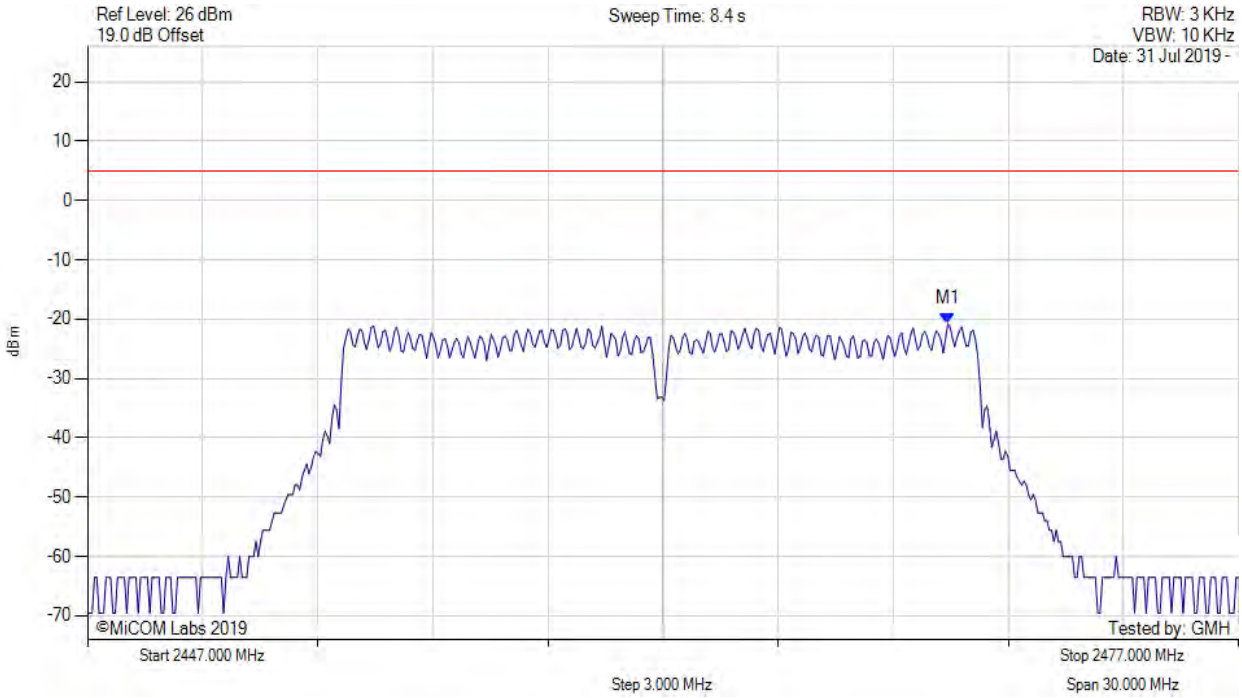
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2469.425 MHz : -20.779 dBm	Limit: ≤ 4.990 dBm

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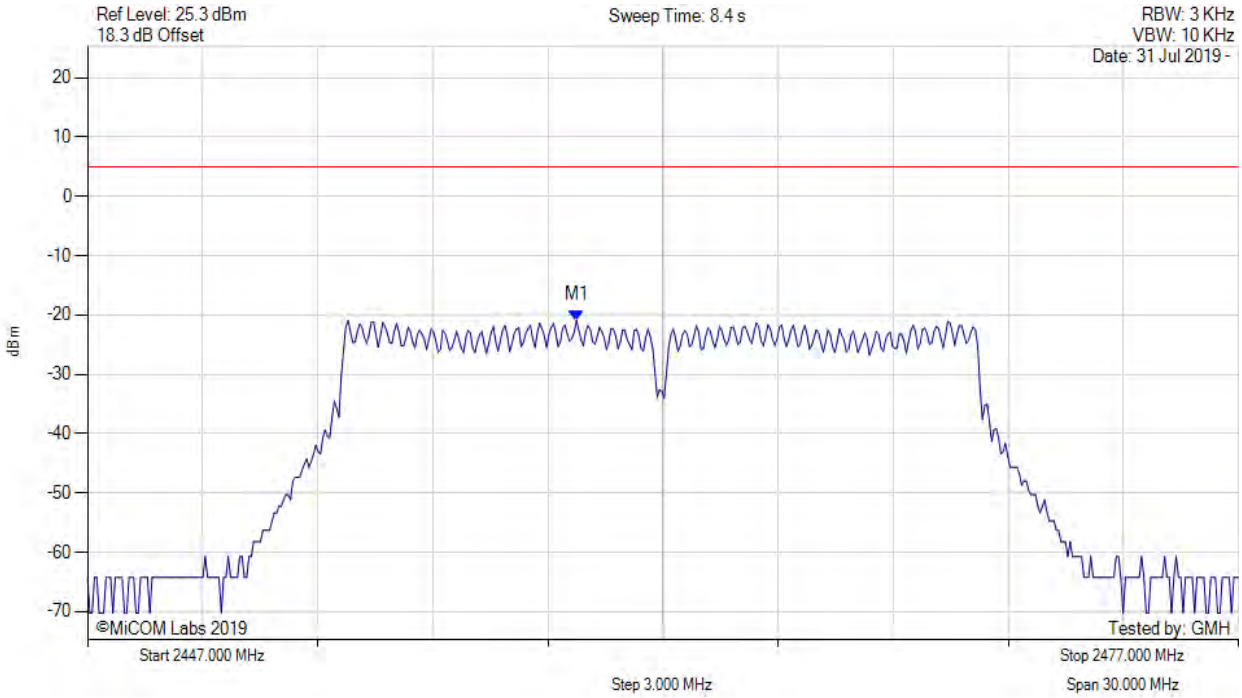
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2459.745 MHz : -20.898 dBm	Limit: ≤ 4.990 dBm

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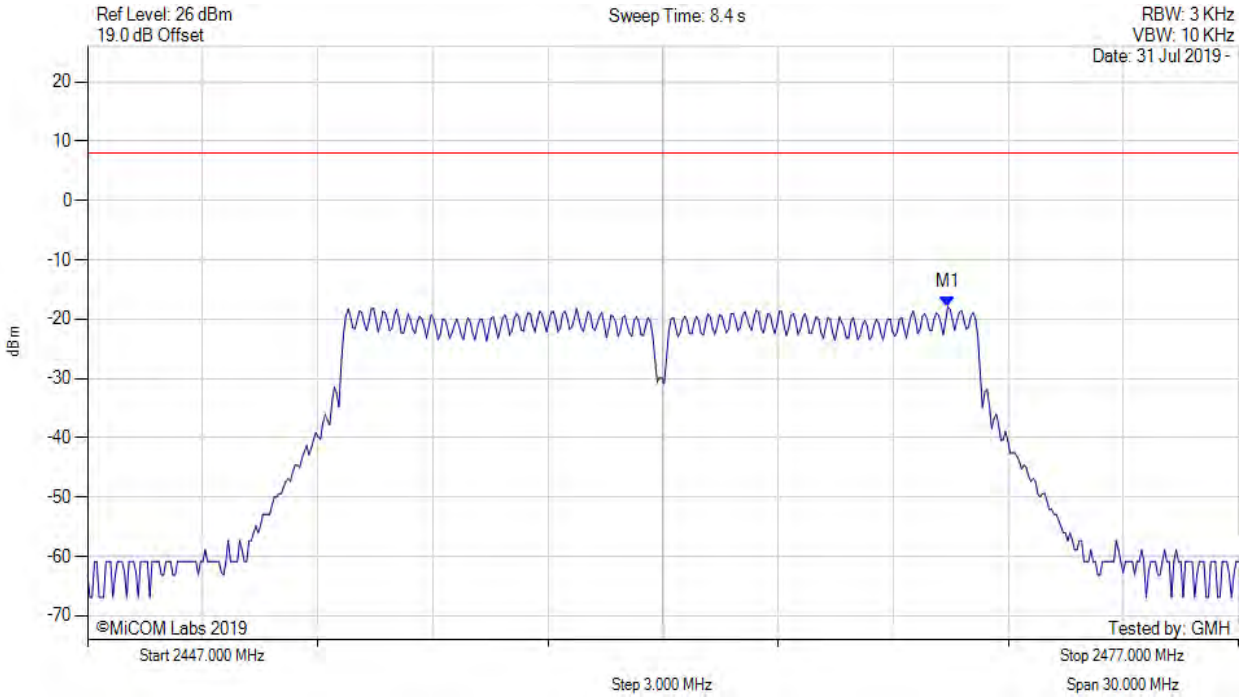
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, SUM, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2469.400 MHz : -17.915 dBm M1 + DCCF : 2469.400 MHz : -17.827 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 8.0 dBm Margin: -25.8 dB

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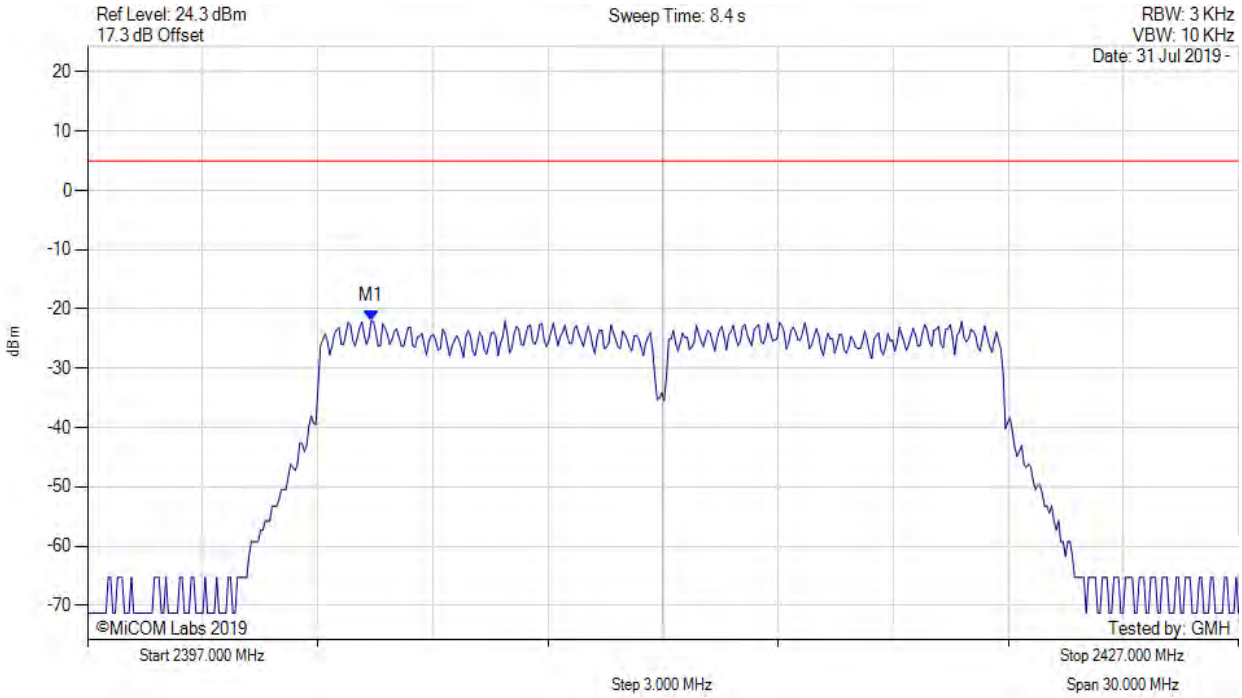
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2404.395 MHz : -21.987 dBm	Limit: ≤ 4.990 dBm

back to matrix

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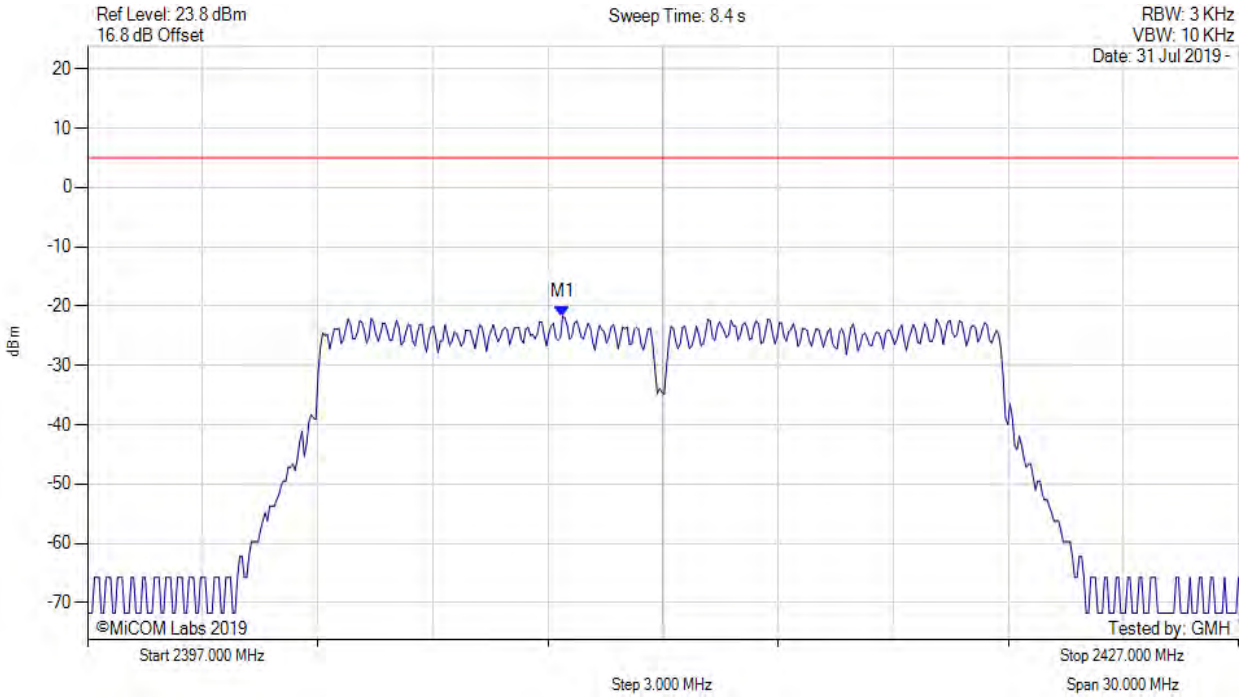
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2409.385 MHz : -21.717 dBm	Limit: ≤ 4.990 dBm

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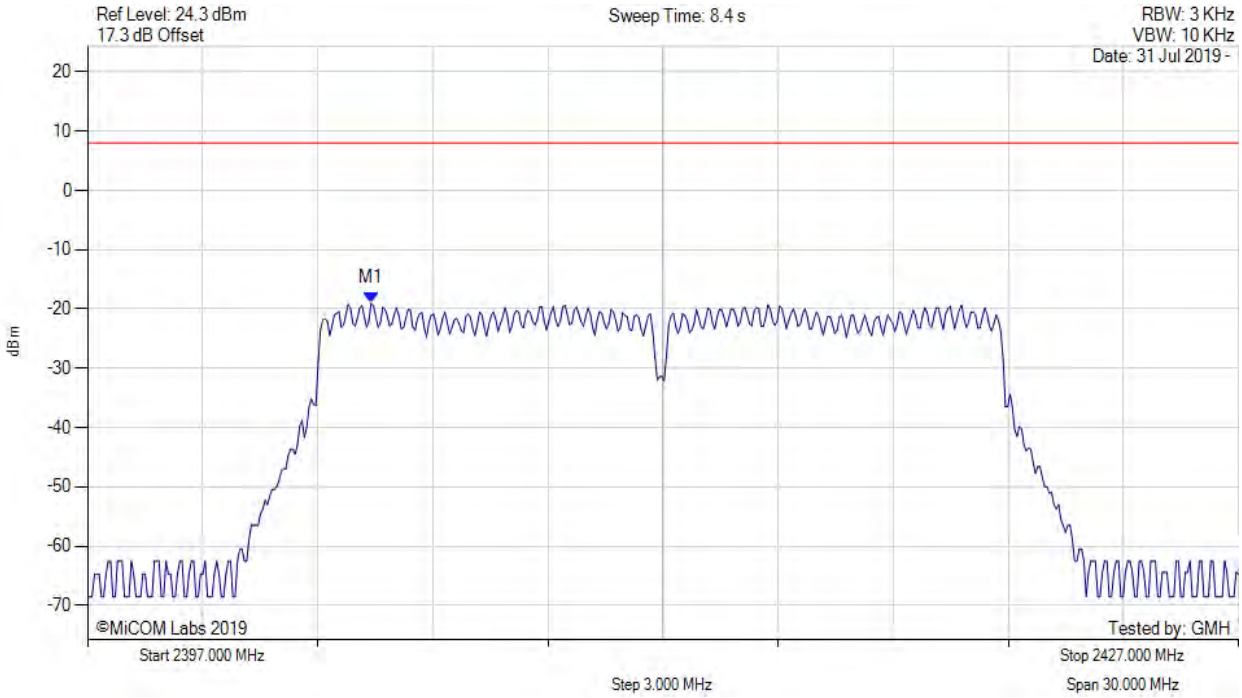
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, SUM, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2404.400 MHz : -19.009 dBm M1 + DCCF : 2404.400 MHz : -18.921 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 8.0 dBm Margin: -26.9 dB

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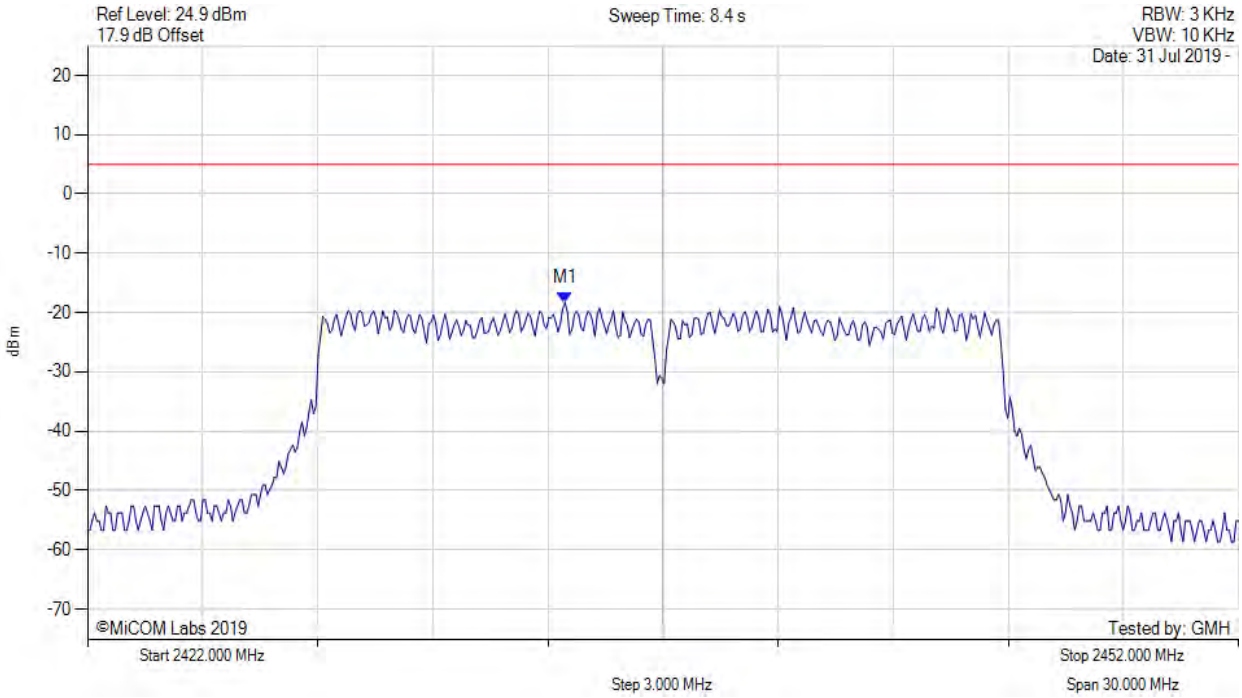
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2434.445 MHz : -18.325 dBm	Limit: ≤ 4.990 dBm

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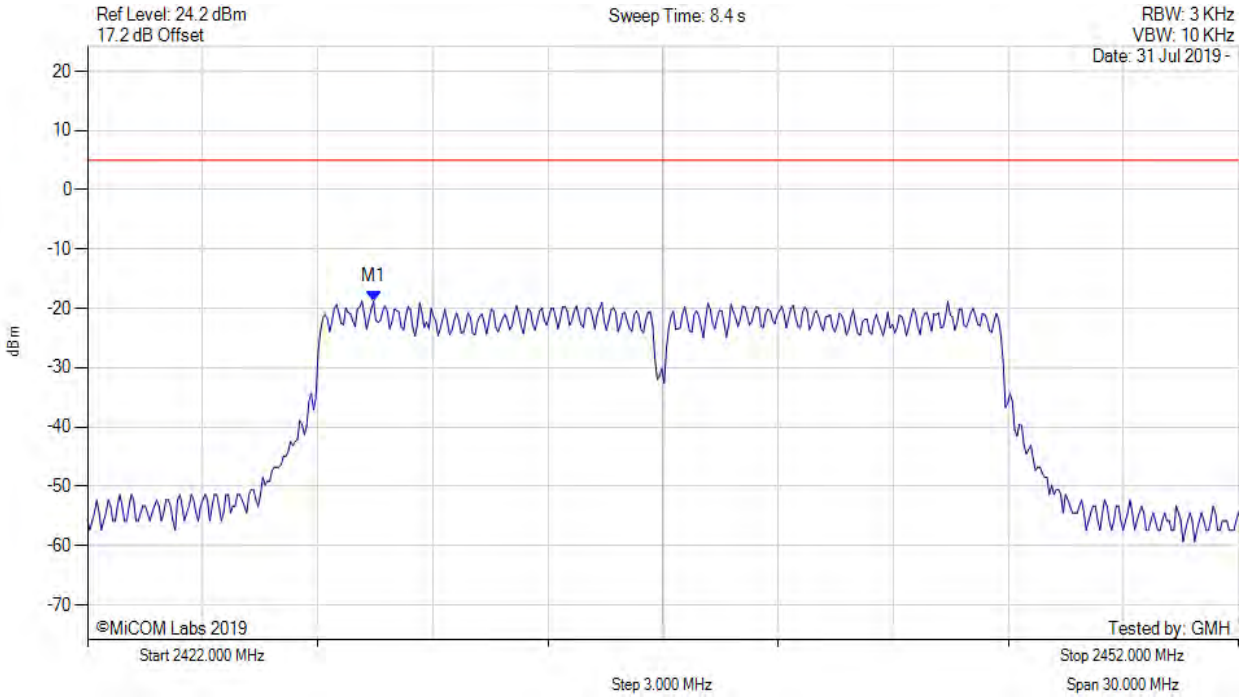
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2429.455 MHz : -18.777 dBm	Limit: ≤ 4.990 dBm

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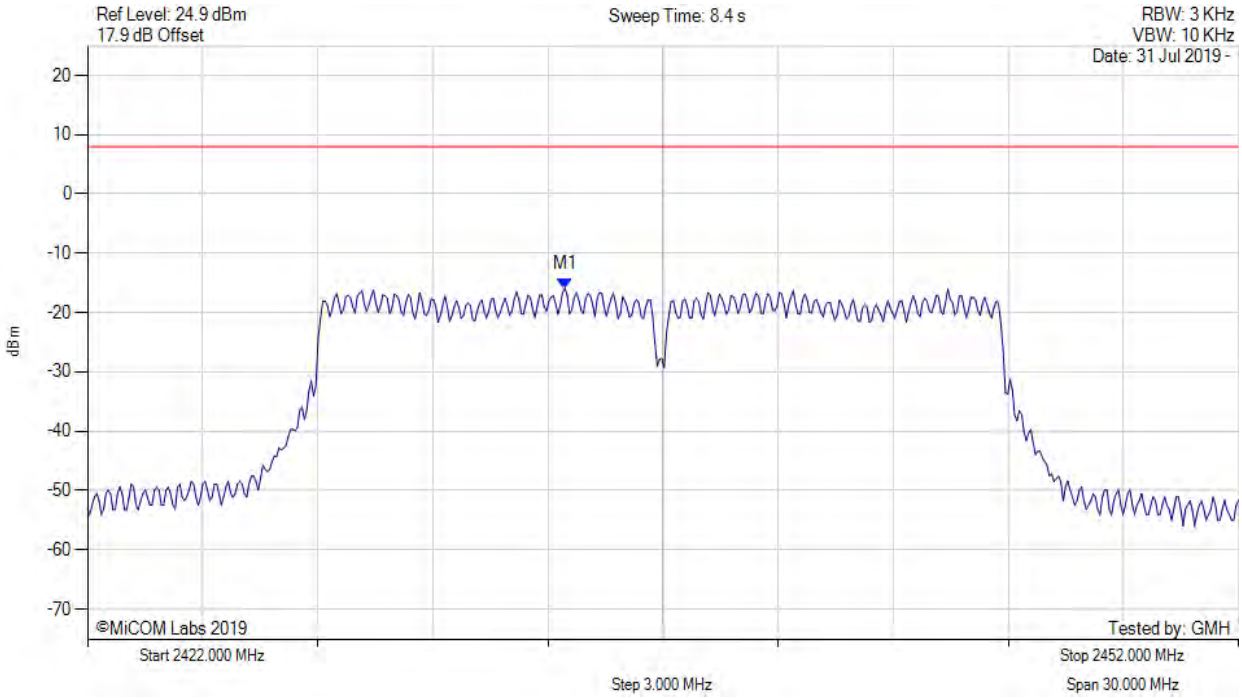
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2437.00 MHz, SUM, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2434.400 MHz : -15.930 dBm M1 + DCCF : 2434.400 MHz : -15.842 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 8.0 dBm Margin: -23.9 dB

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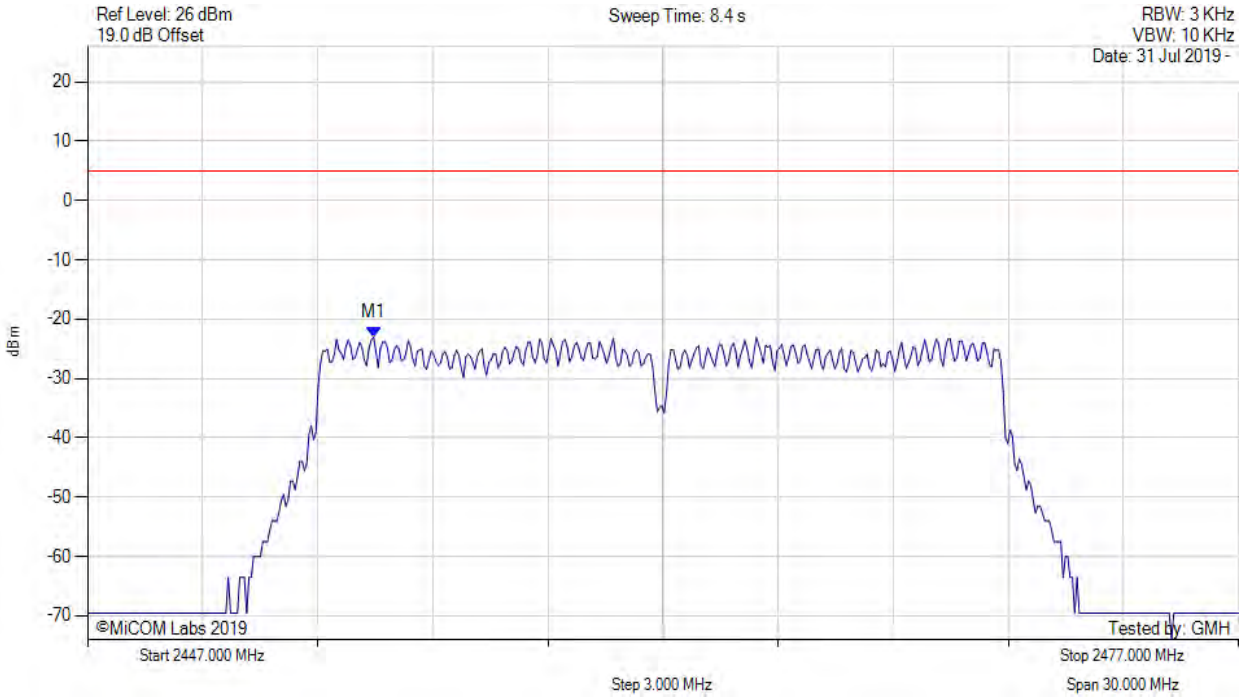
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2454.455 MHz : -23.039 dBm	Limit: ≤ 4.990 dBm

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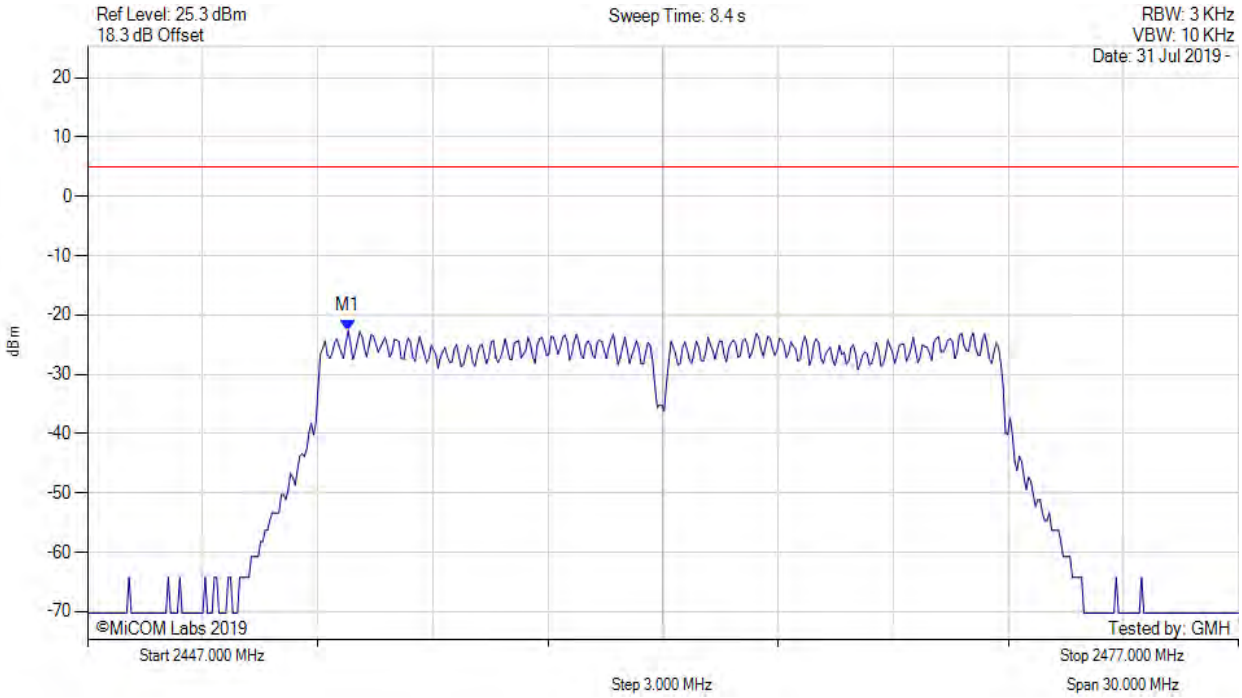
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2453.794 MHz : -22.661 dBm	Limit: ≤ 4.990 dBm

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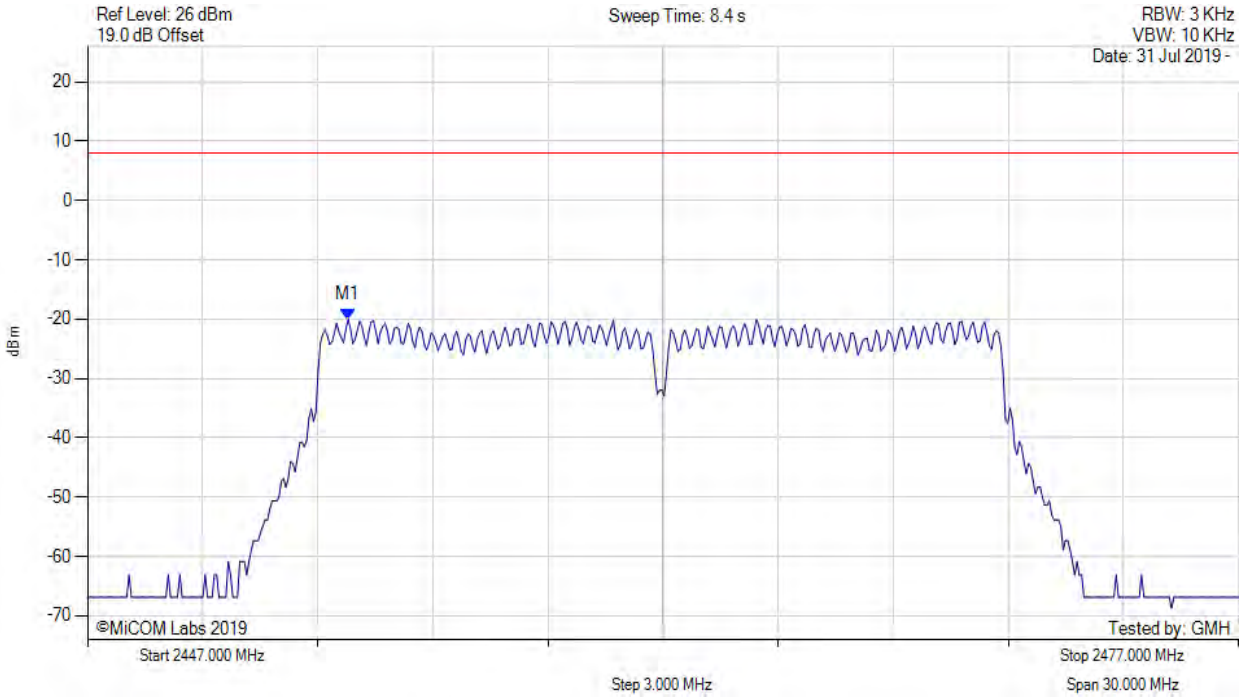
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, SUM, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2453.800 MHz : -20.070 dBm M1 + DCCF : 2453.800 MHz : -19.982 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 8.0 dBm Margin: -28.0 dB

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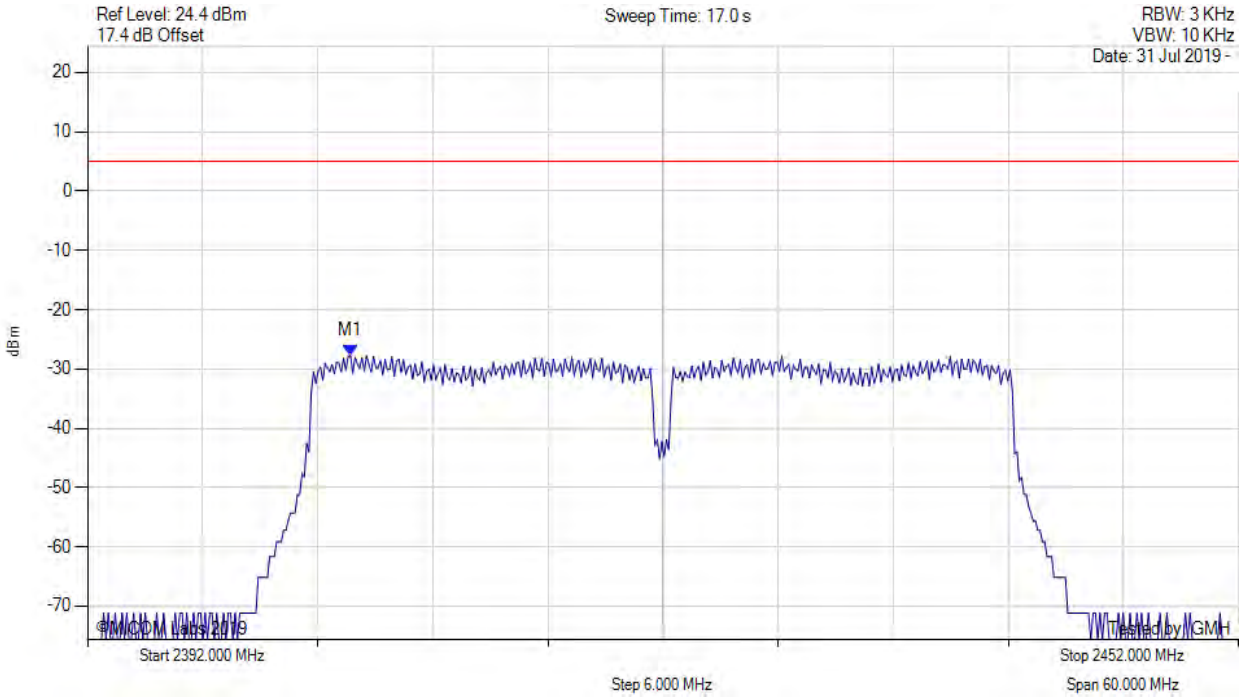
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 2422.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2405.707 MHz : -27.702 dBm	Limit: ≤ 4.990 dBm

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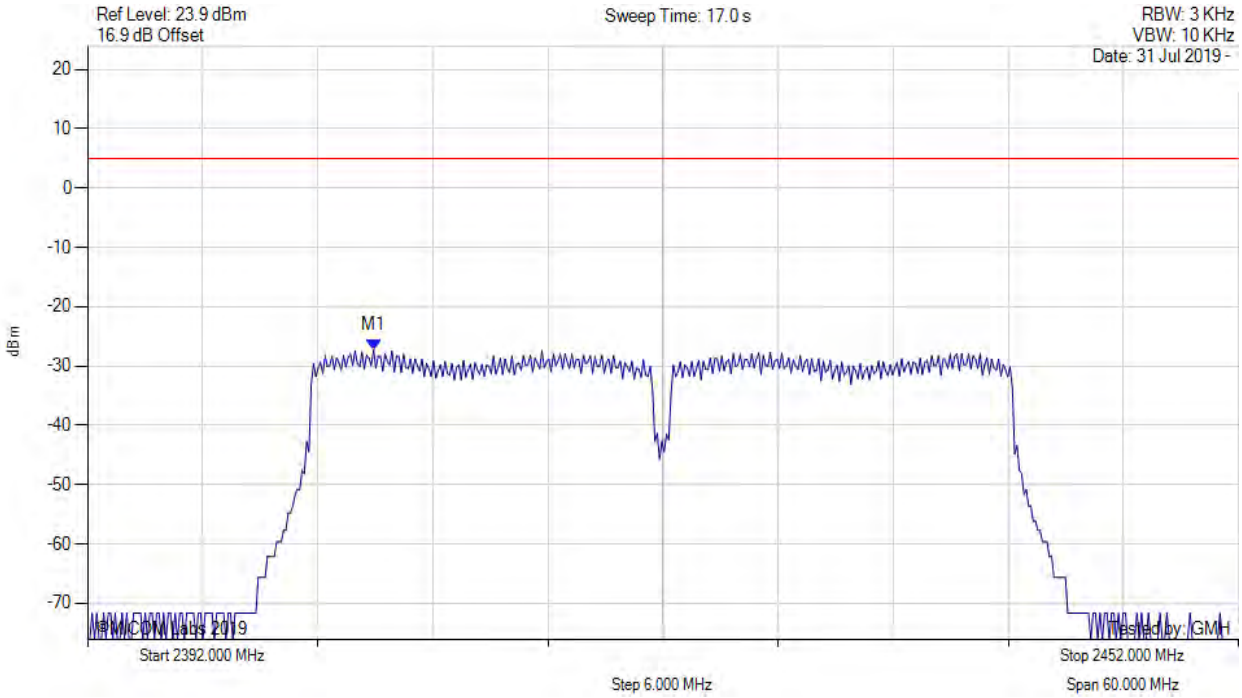
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 2422.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2406.910 MHz : -27.211 dBm	Limit: ≤ 4.990 dBm

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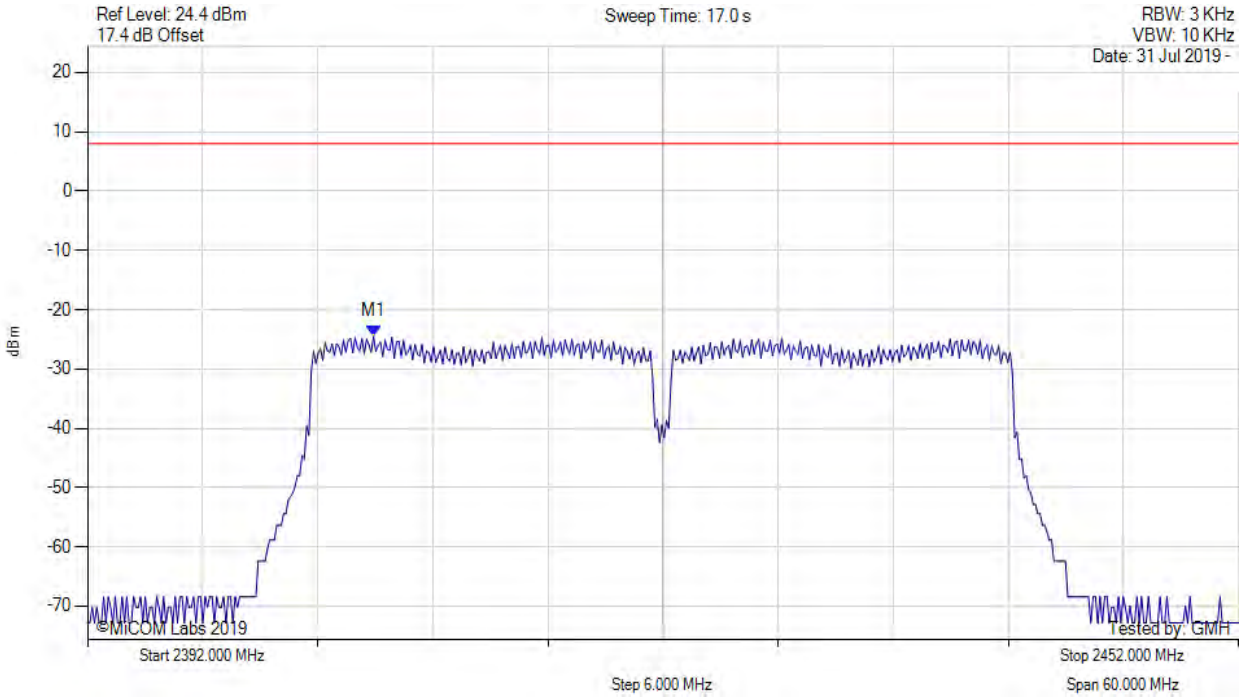
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 2422.00 MHz, SUM, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2406.900 MHz : -24.522 dBm M1 + DCCF : 2406.900 MHz : -24.434 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 8.0 dBm Margin: -32.4 dB

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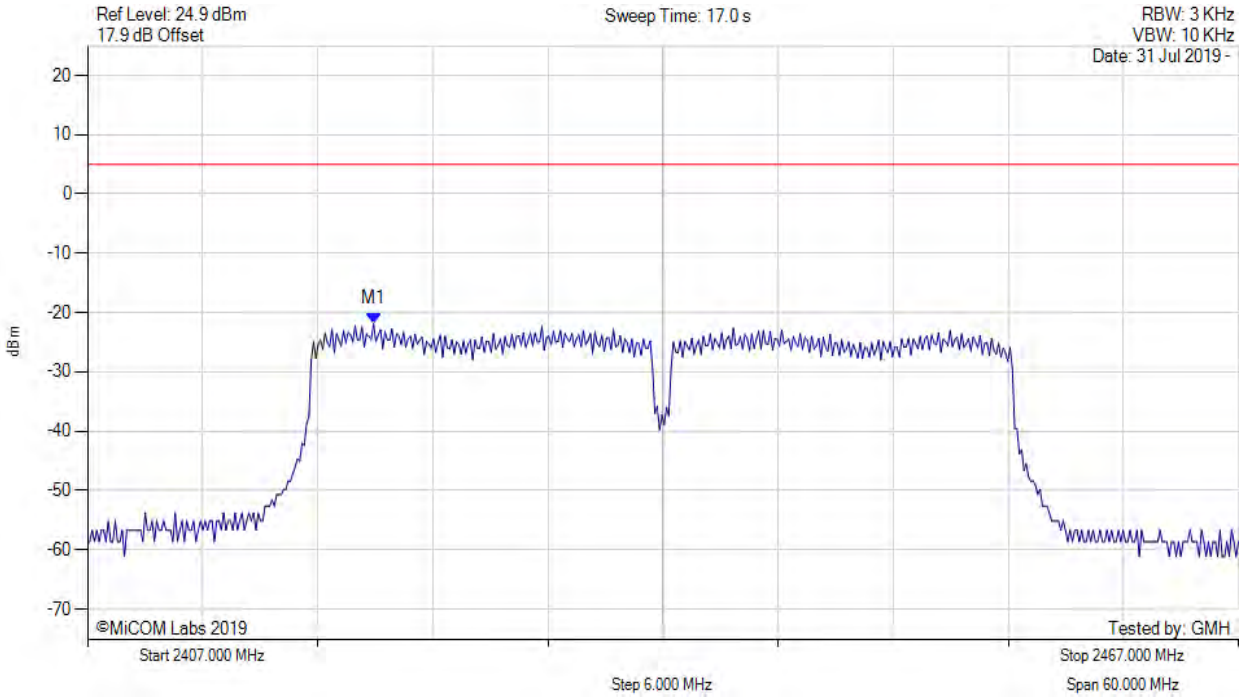
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 2437.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2421.910 MHz : -21.879 dBm	Limit: ≤ 4.990 dBm

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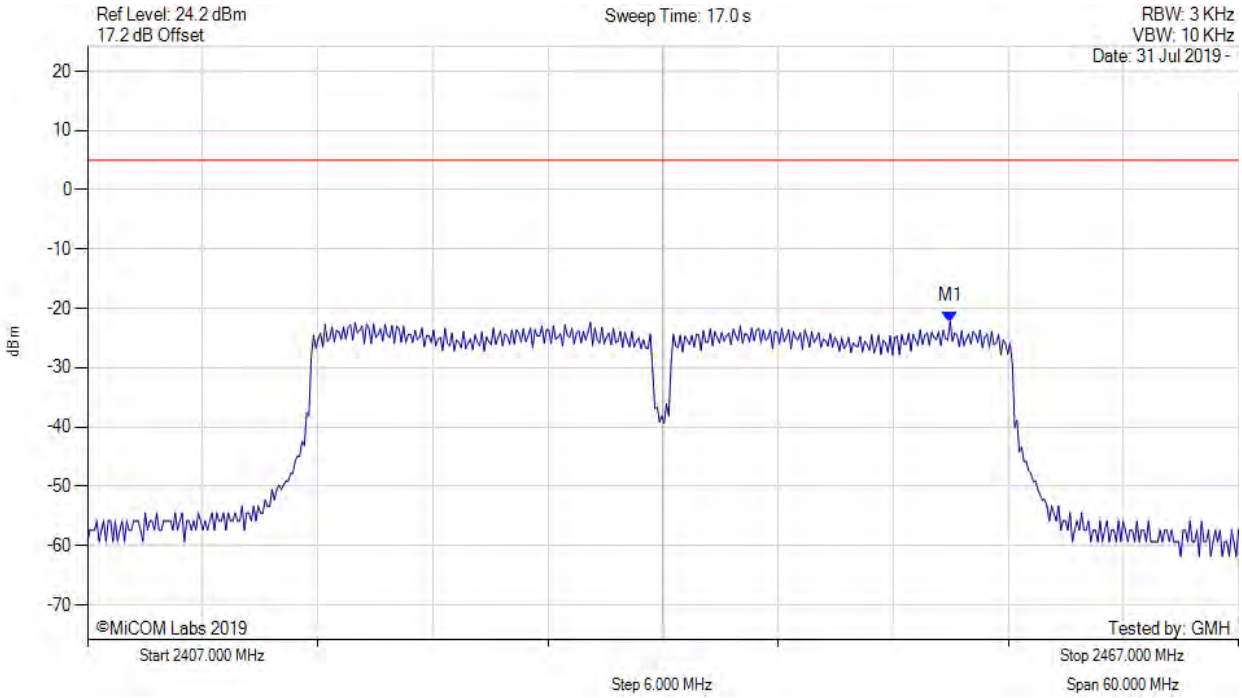
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 2437.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2451.970 MHz : -22.208 dBm	Limit: ≤ 4.990 dBm

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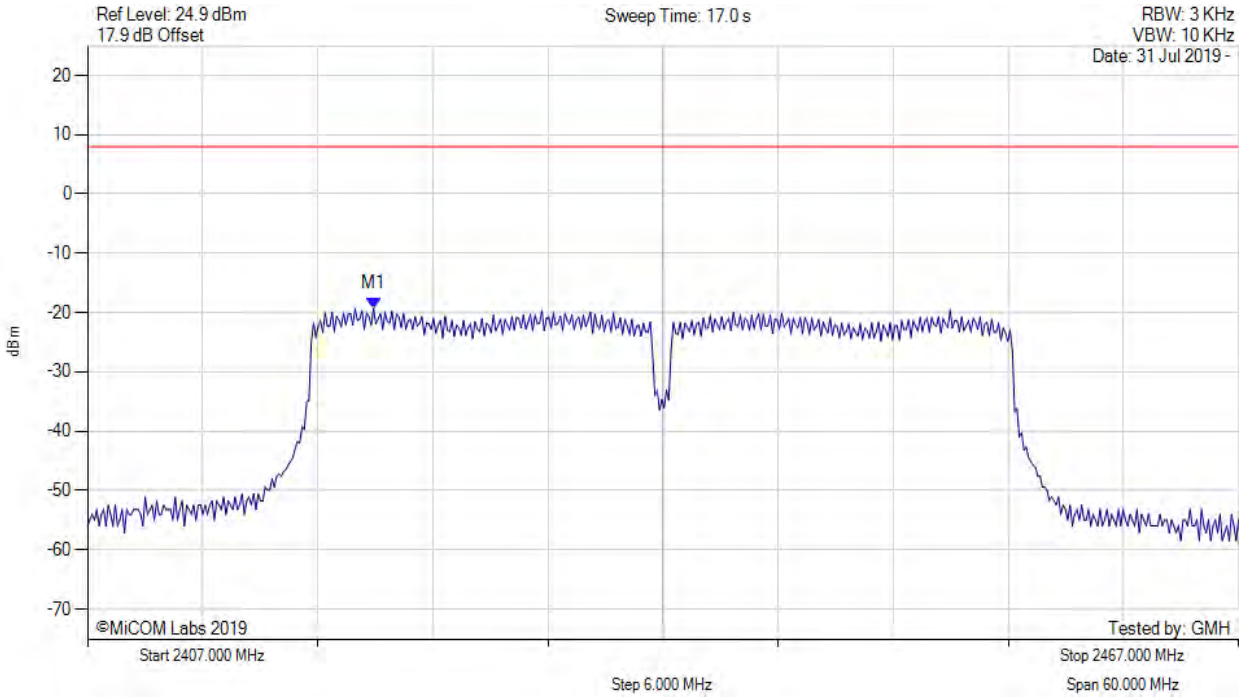
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 2437.00 MHz, SUM, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2421.900 MHz : -19.233 dBm M1 + DCCF : 2421.900 MHz : -19.145 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 8.0 dBm Margin: -27.2 dB

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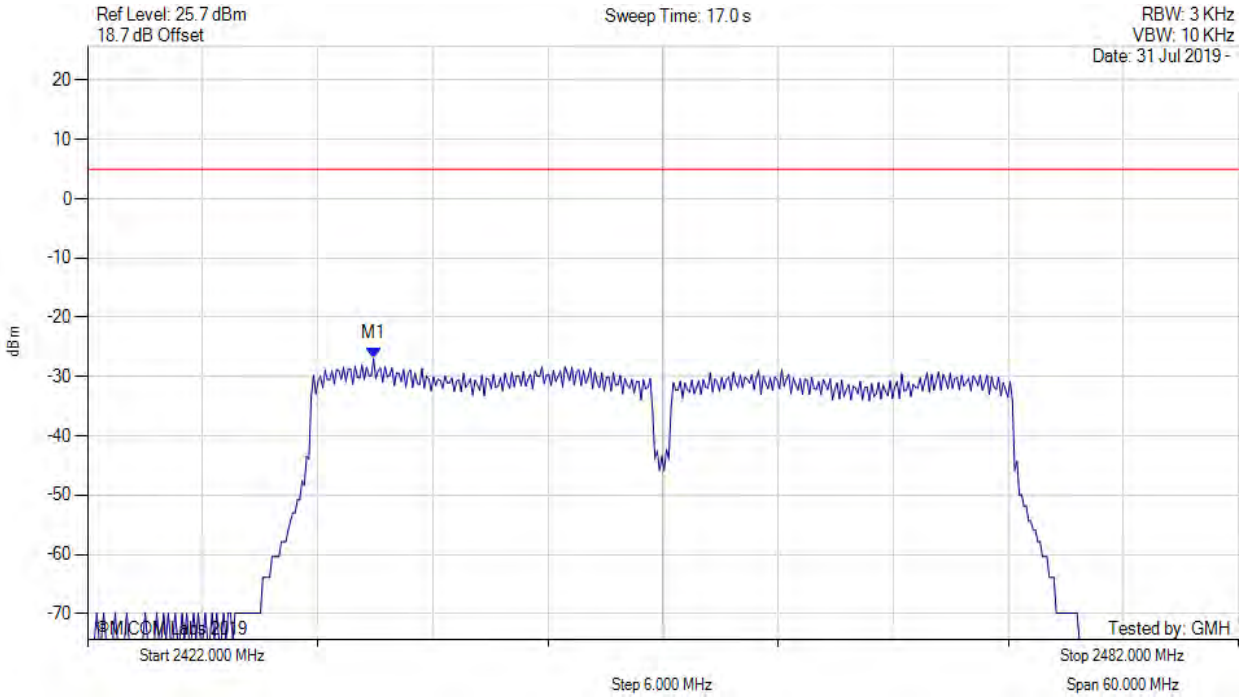
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 2452.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2436.910 MHz : -26.943 dBm	Limit: ≤ 4.990 dBm

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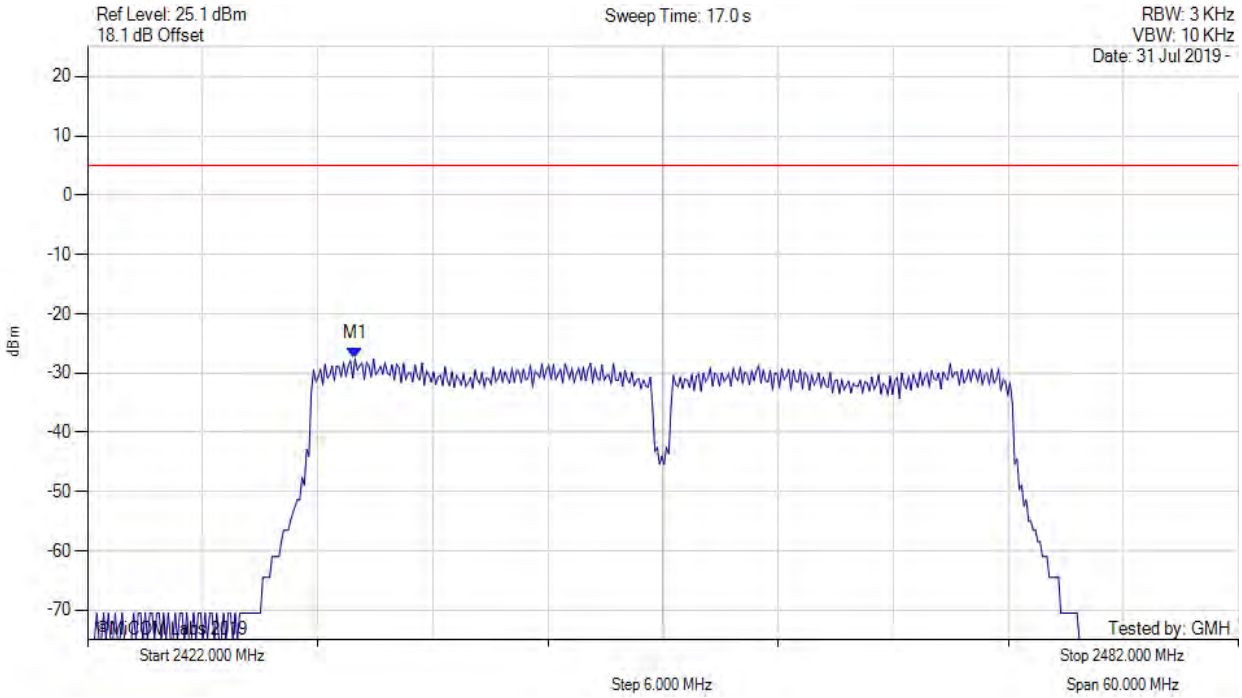
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 2452.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2435.948 MHz : -27.543 dBm	Limit: ≤ 4.990 dBm

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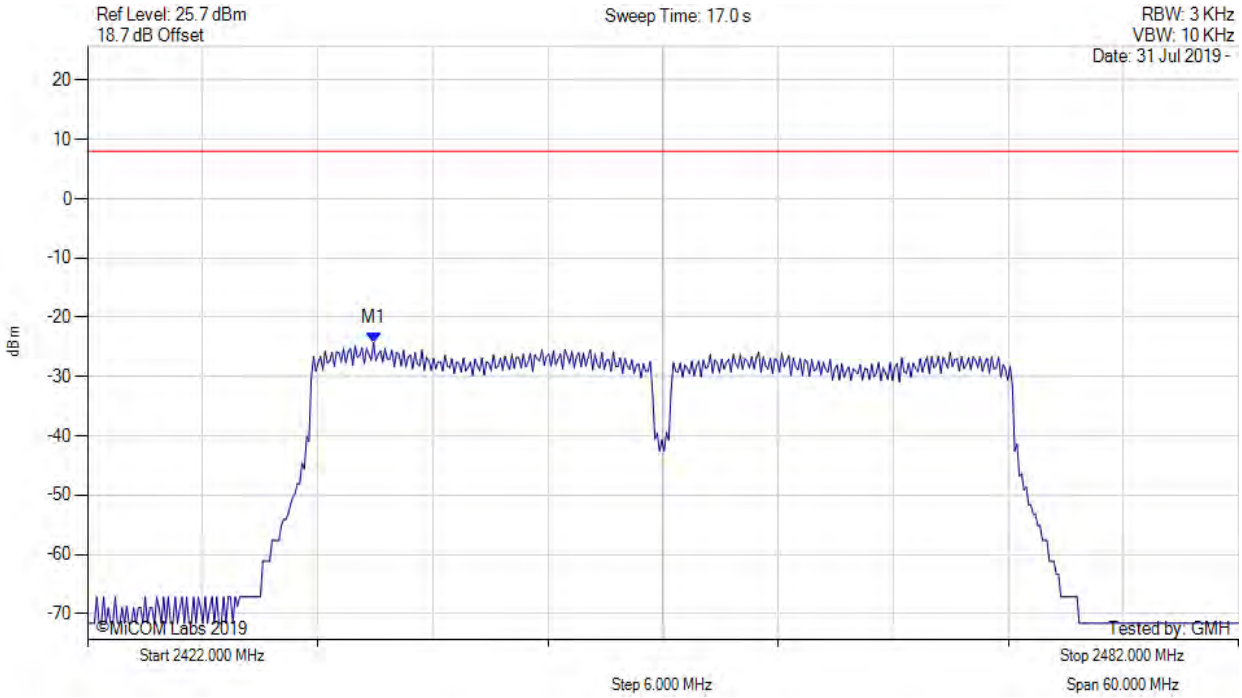
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 2452.00 MHz, SUM, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2436.900 MHz : -24.251 dBm M1 + DCCF : 2436.900 MHz : -24.163 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 8.0 dBm Margin: -32.2 dB

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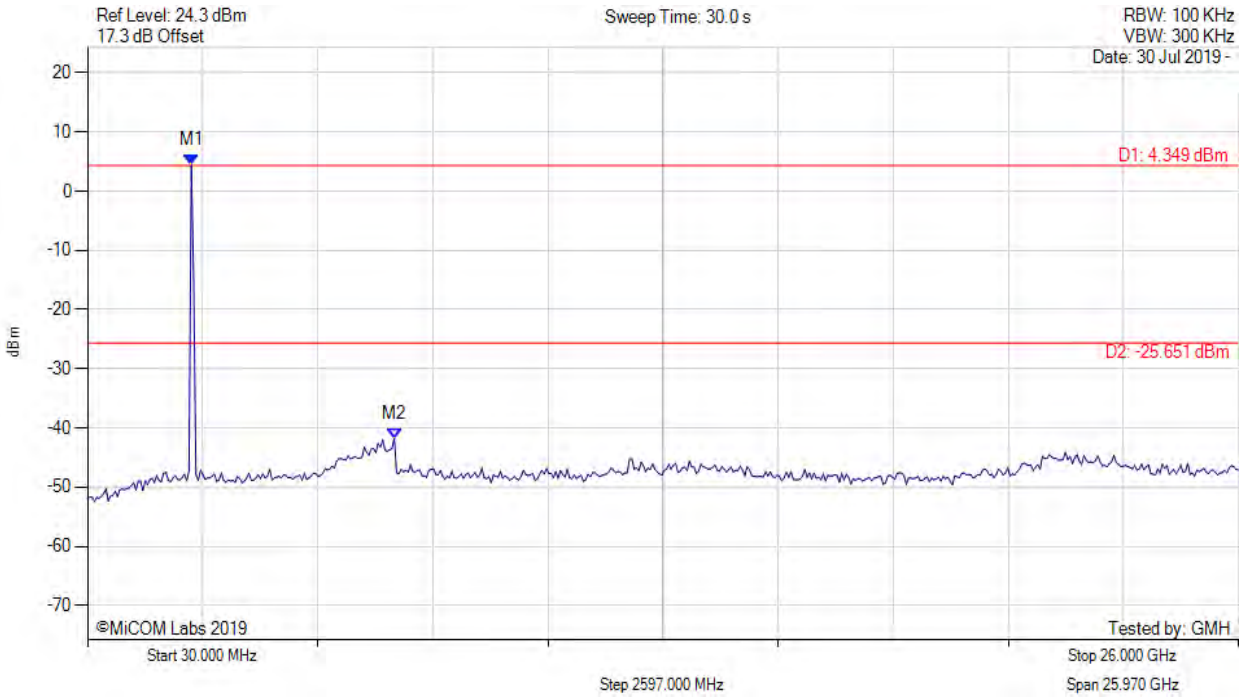
A.3. Emissions

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: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2371.984 MHz : 4.349 dBm M2 : 6951.864 MHz : -41.768 dBm	Limit: -25.65 dBm Margin: -16.12 dB

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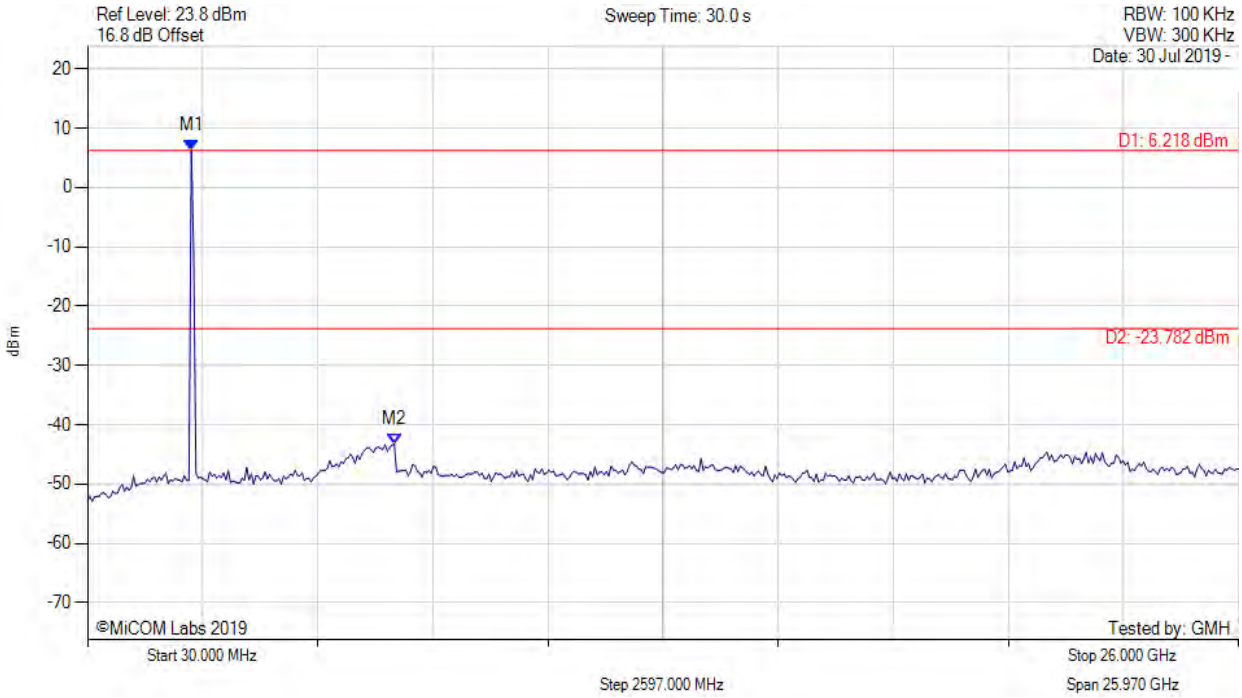
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2412.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2371.984 MHz : 6.218 dBm M2 : 6951.864 MHz : -43.267 dBm	Limit: -23.78 dBm Margin: -19.49 dB

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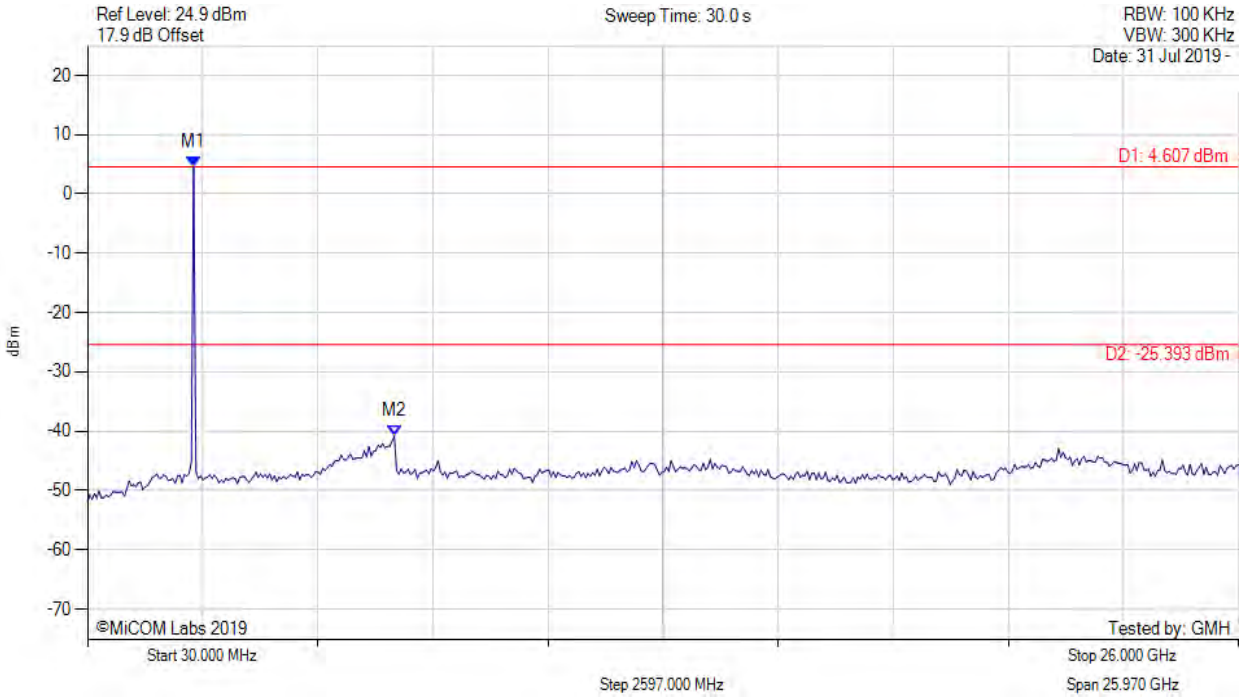
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2437.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2424.028 MHz : 4.607 dBm M2 : 6951.864 MHz : -40.776 dBm	Limit: -25.39 dBm Margin: -15.39 dB

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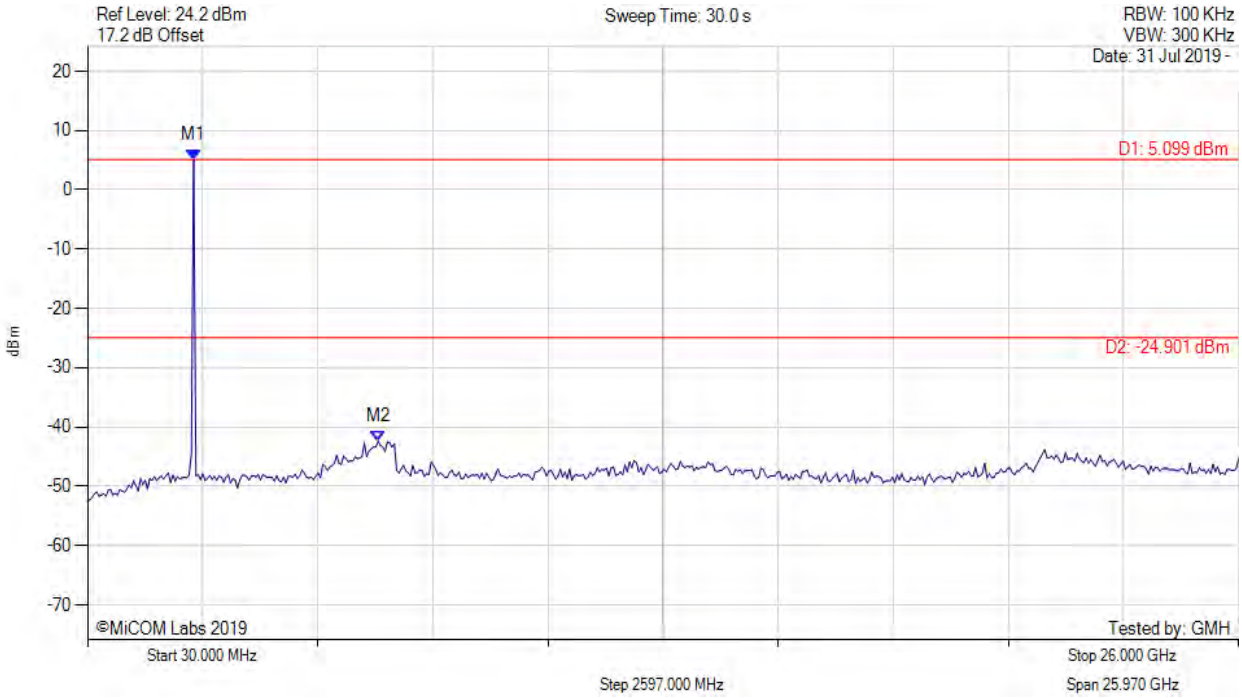
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2437.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2424.028 MHz : 5.099 dBm M2 : 6587.555 MHz : -42.426 dBm	Limit: -24.90 dBm Margin: -17.53 dB

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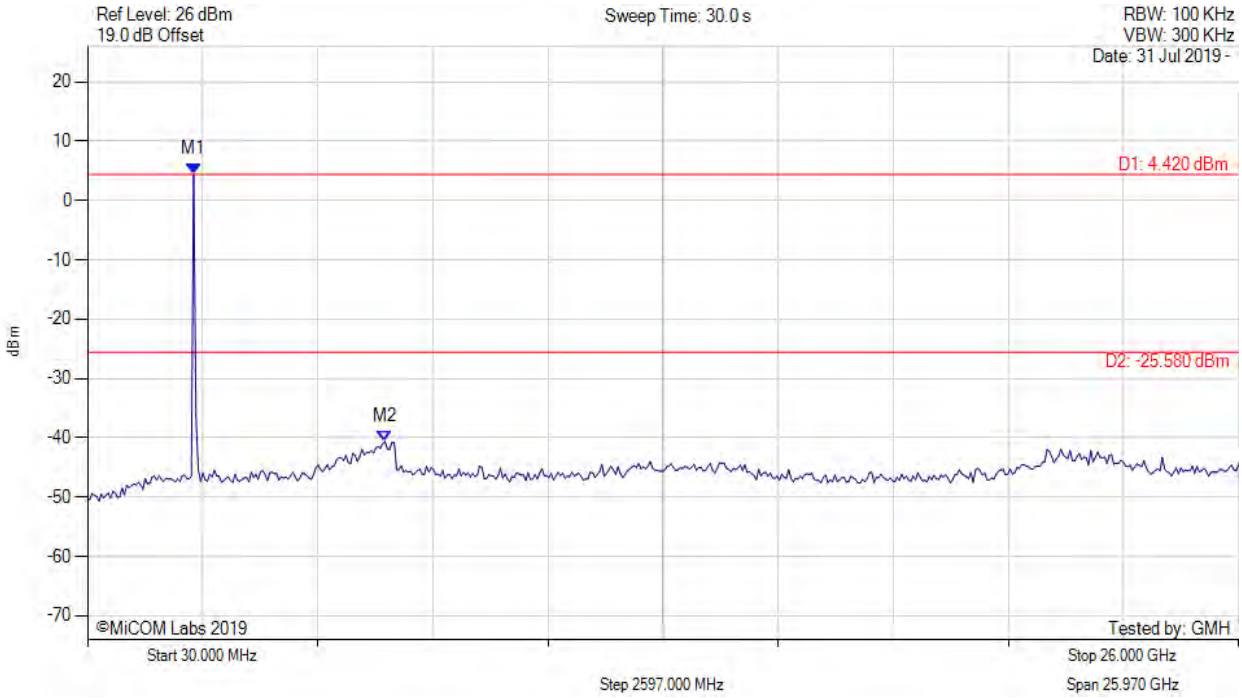
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2424.028 MHz : 4.420 dBm M2 : 6743.687 MHz : -40.660 dBm	Limit: -25.58 dBm Margin: -15.08 dB

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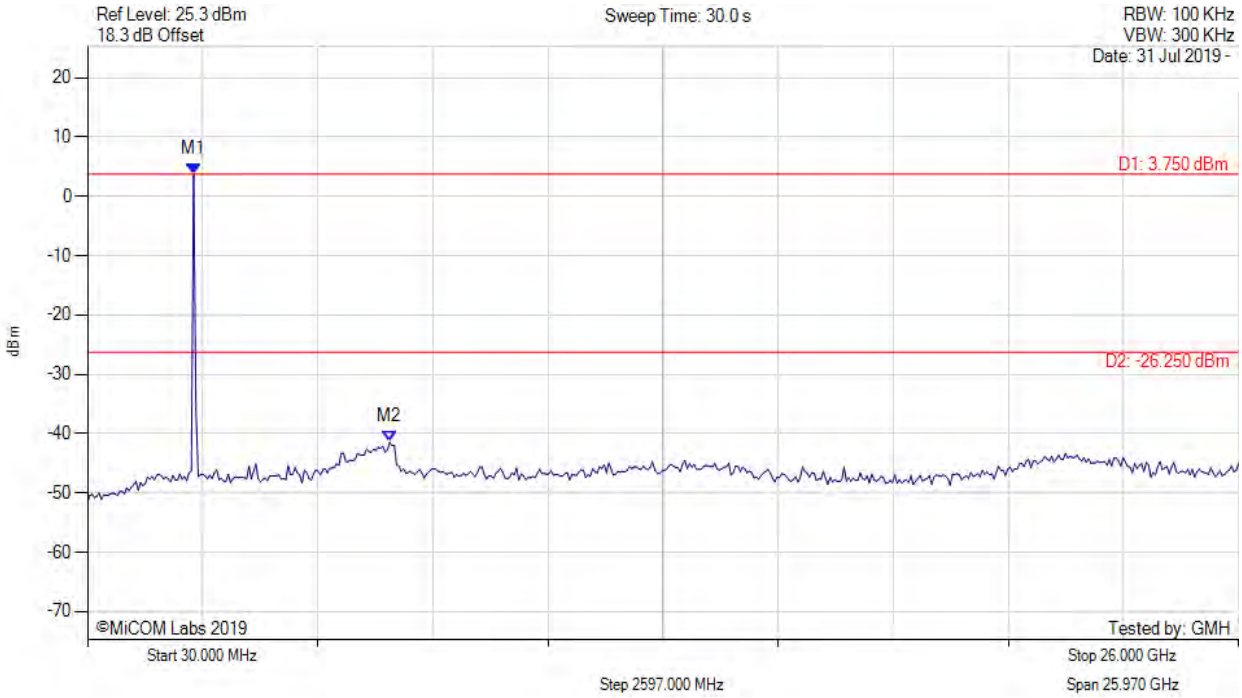
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2424.028 MHz : 3.750 dBm M2 : 6847.776 MHz : -41.425 dBm	Limit: -26.25 dBm Margin: -15.17 dB

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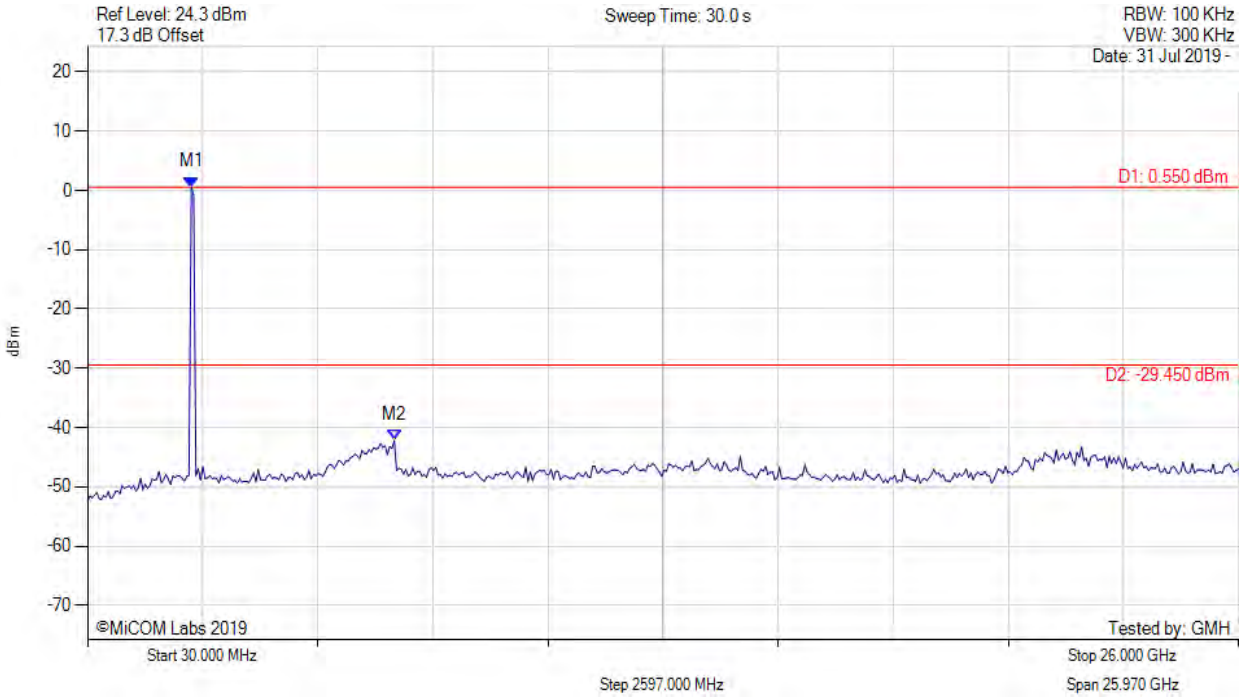
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2371.984 MHz : 0.550 dBm M2 : 6951.864 MHz : -42.167 dBm	Limit: -29.45 dBm Margin: -12.72 dB

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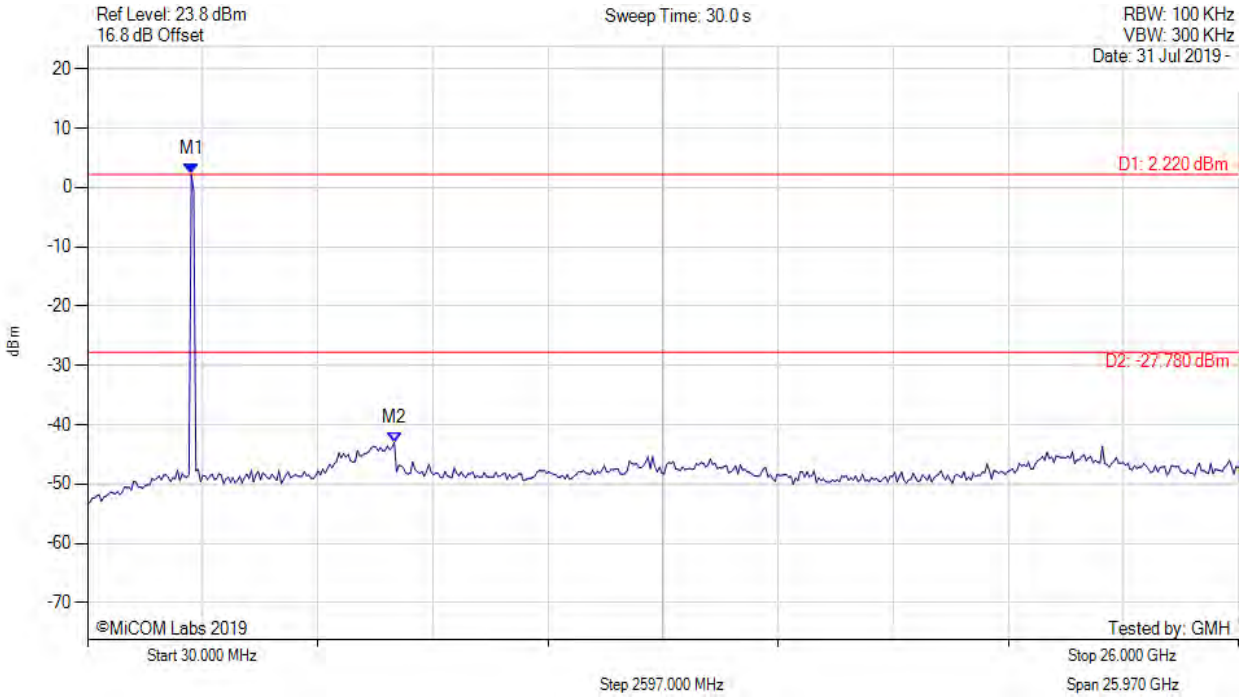
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2371.984 MHz : 2.220 dBm M2 : 6951.864 MHz : -43.035 dBm	Limit: -27.78 dBm Margin: -15.25 dB

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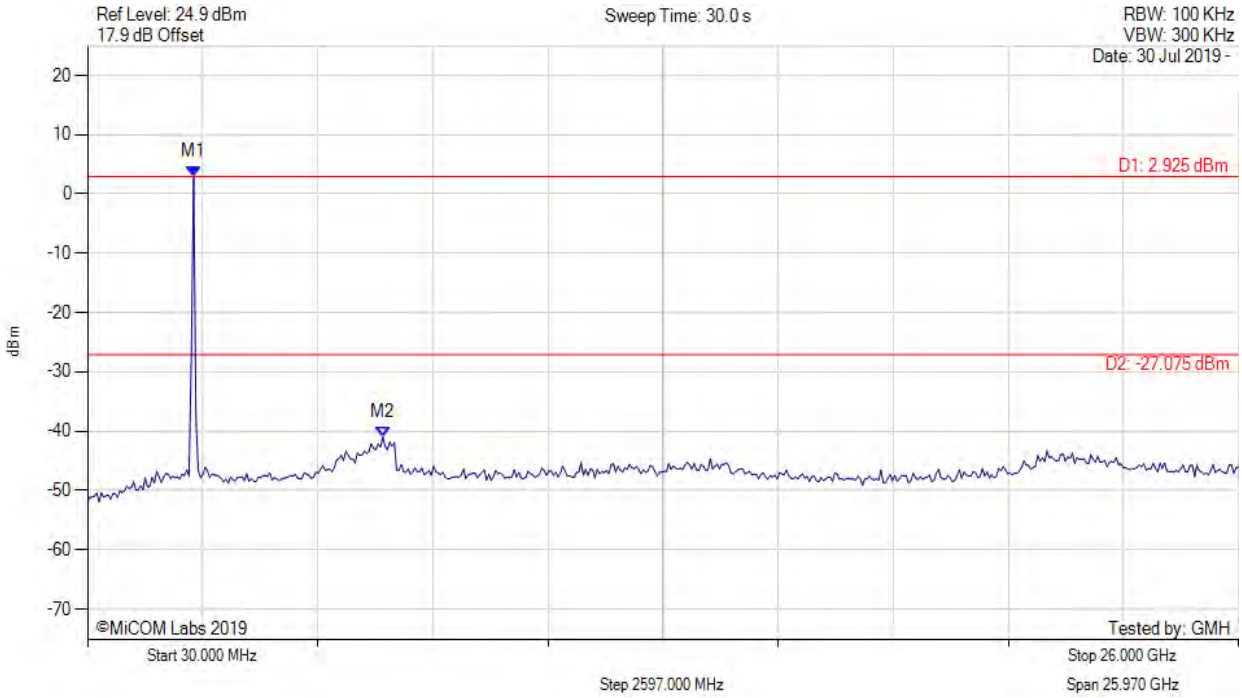
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2437.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2424.028 MHz : 2.925 dBm M2 : 6691.643 MHz : -40.969 dBm	Limit: -27.08 dBm Margin: -13.89 dB

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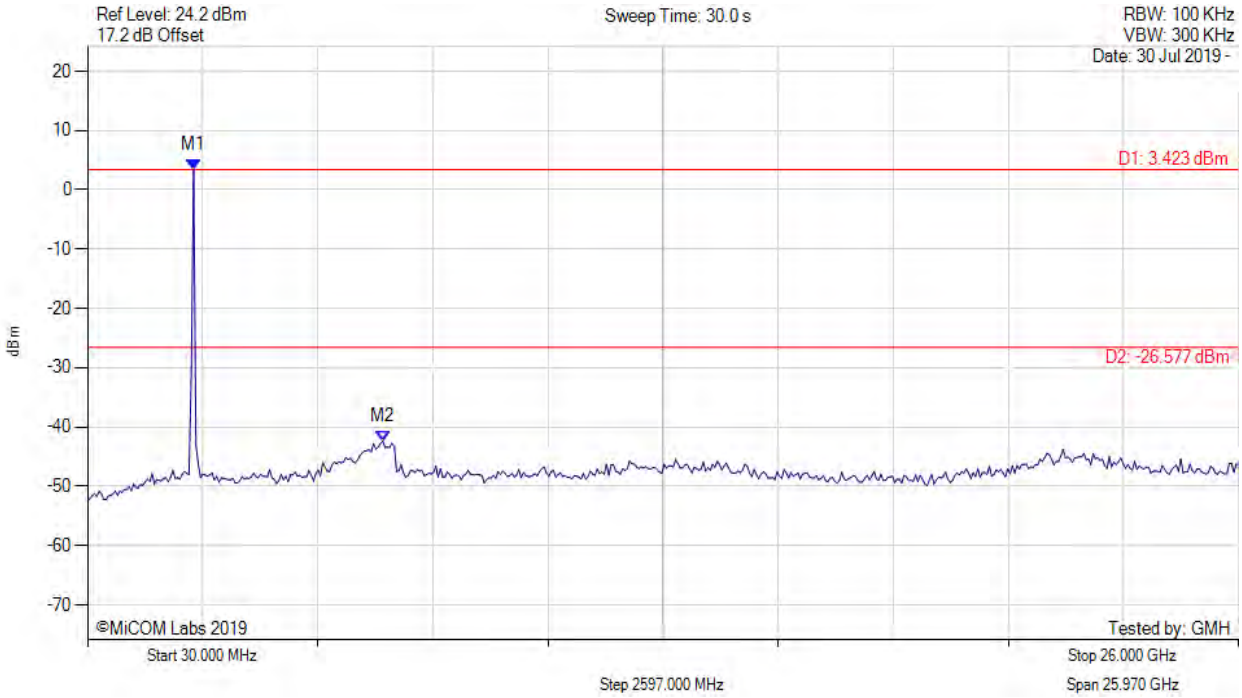
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2437.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2424.028 MHz : 3.423 dBm M2 : 6691.643 MHz : -42.365 dBm	Limit: -26.58 dBm Margin: -15.79 dB

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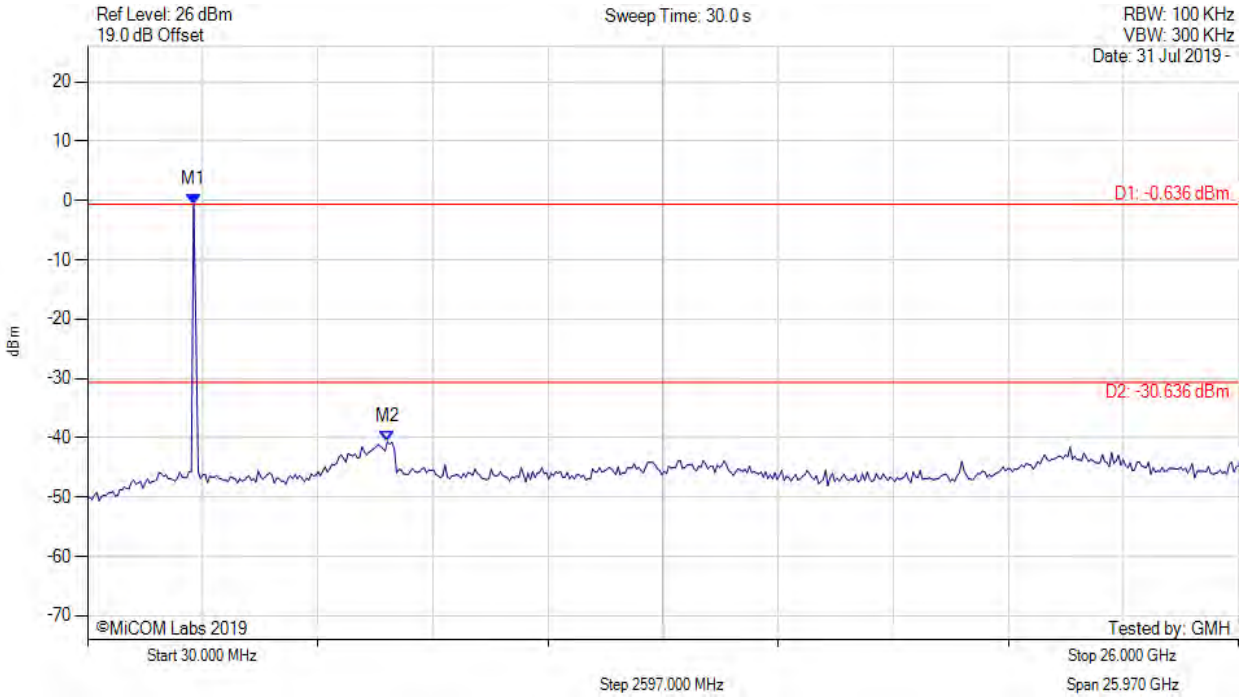
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2424.028 MHz : -0.636 dBm M2 : 6795.731 MHz : -40.670 dBm	Limit: -30.64 dBm Margin: -10.03 dB

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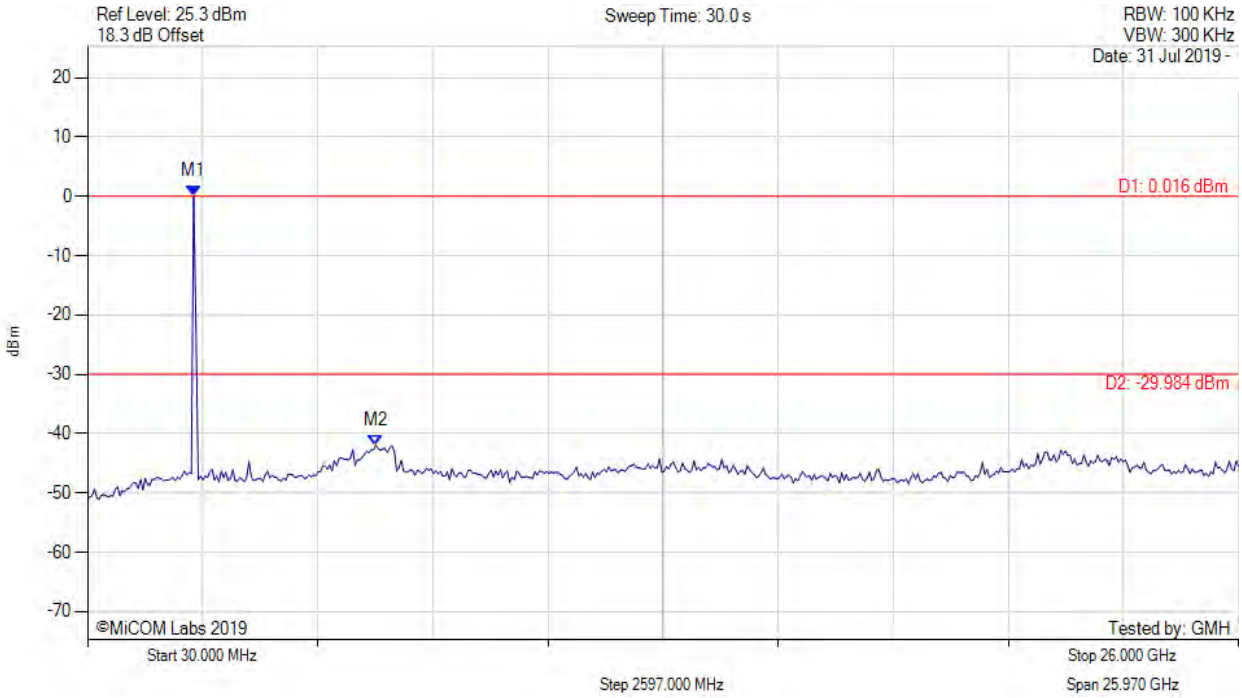
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2424.028 MHz : 0.016 dBm M2 : 6535.511 MHz : -41.952 dBm	Limit: -29.98 dBm Margin: -11.97 dB

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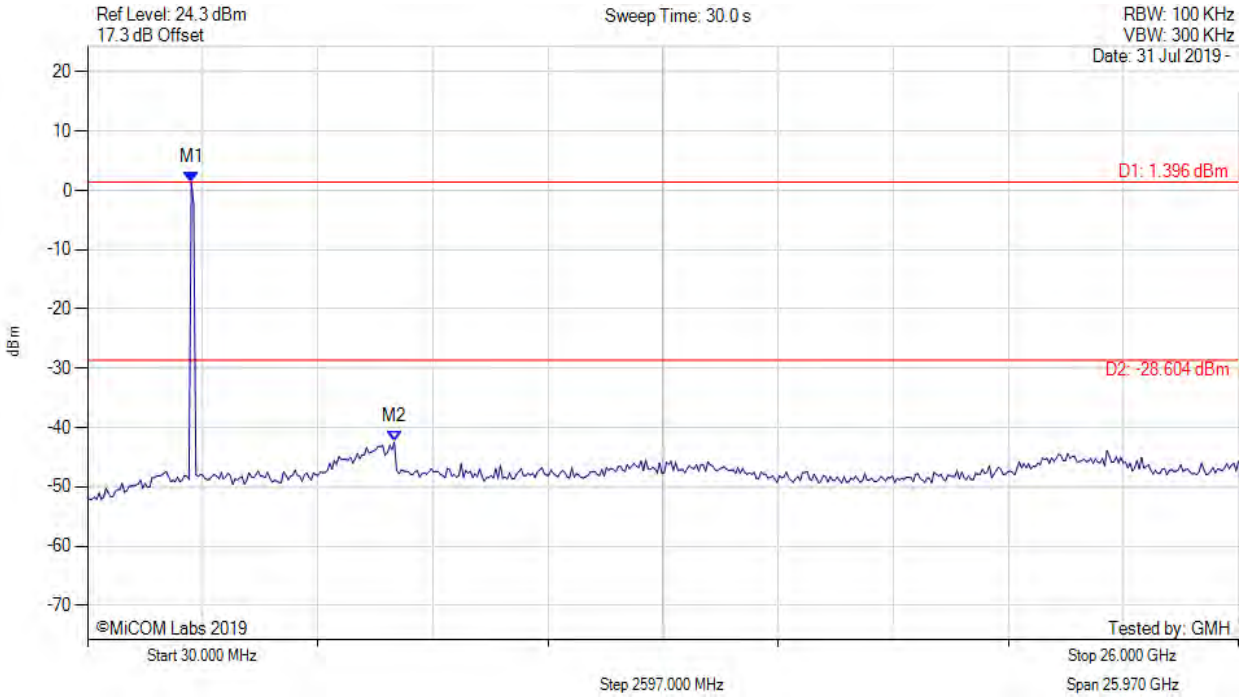
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2371.984 MHz : 1.396 dBm M2 : 6951.864 MHz : -42.395 dBm	Limit: -28.60 dBm Margin: -13.80 dB

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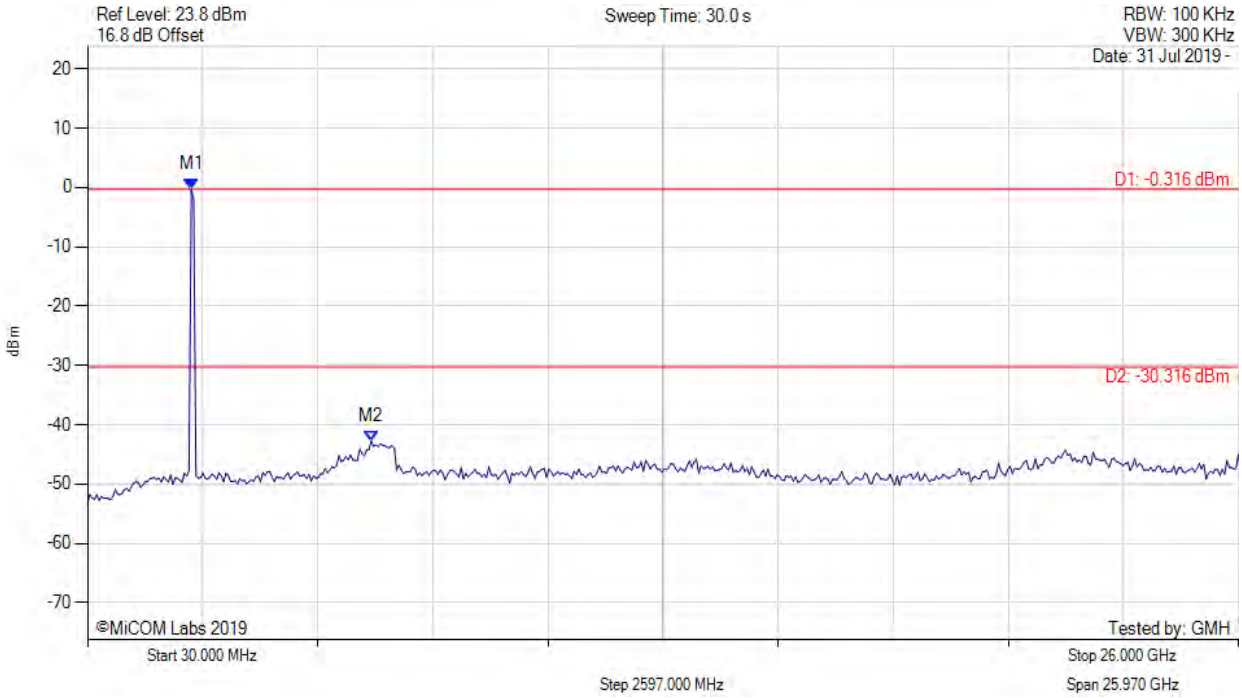
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2371.984 MHz : -0.316 dBm M2 : 6431.423 MHz : -42.795 dBm	Limit: -30.32 dBm Margin: -12.48 dB

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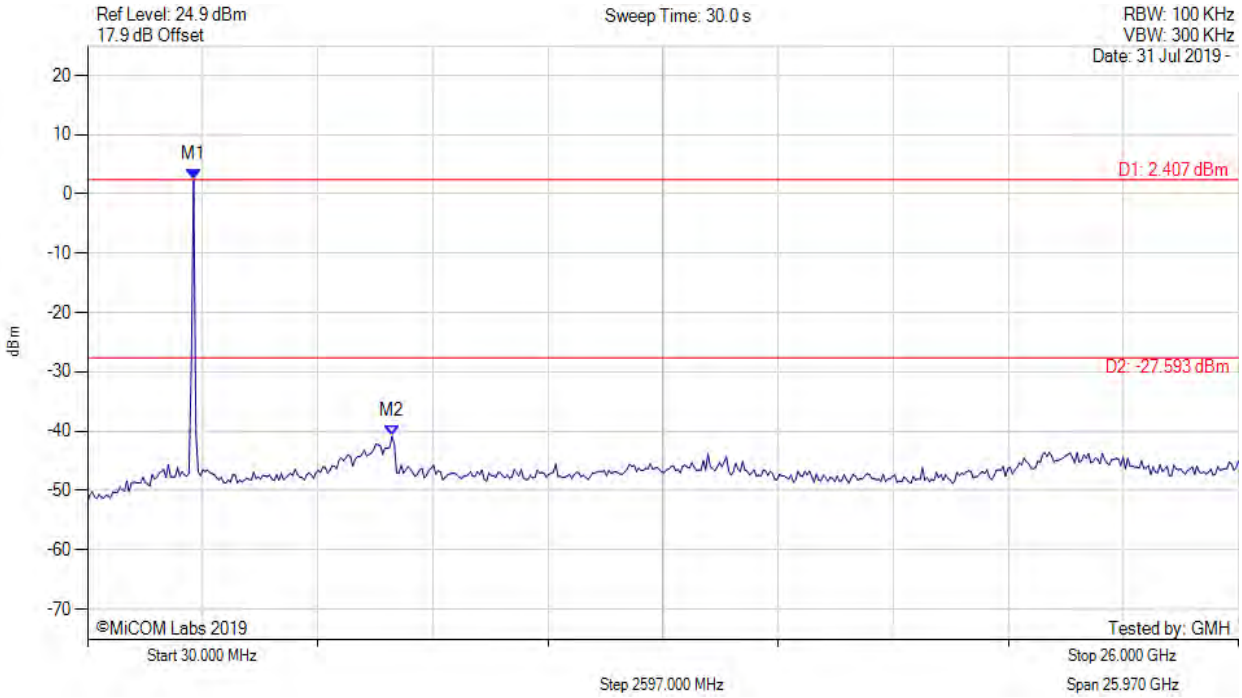
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2424.028 MHz : 2.407 dBm M2 : 6899.820 MHz : -40.863 dBm	Limit: -27.59 dBm Margin: -13.27 dB

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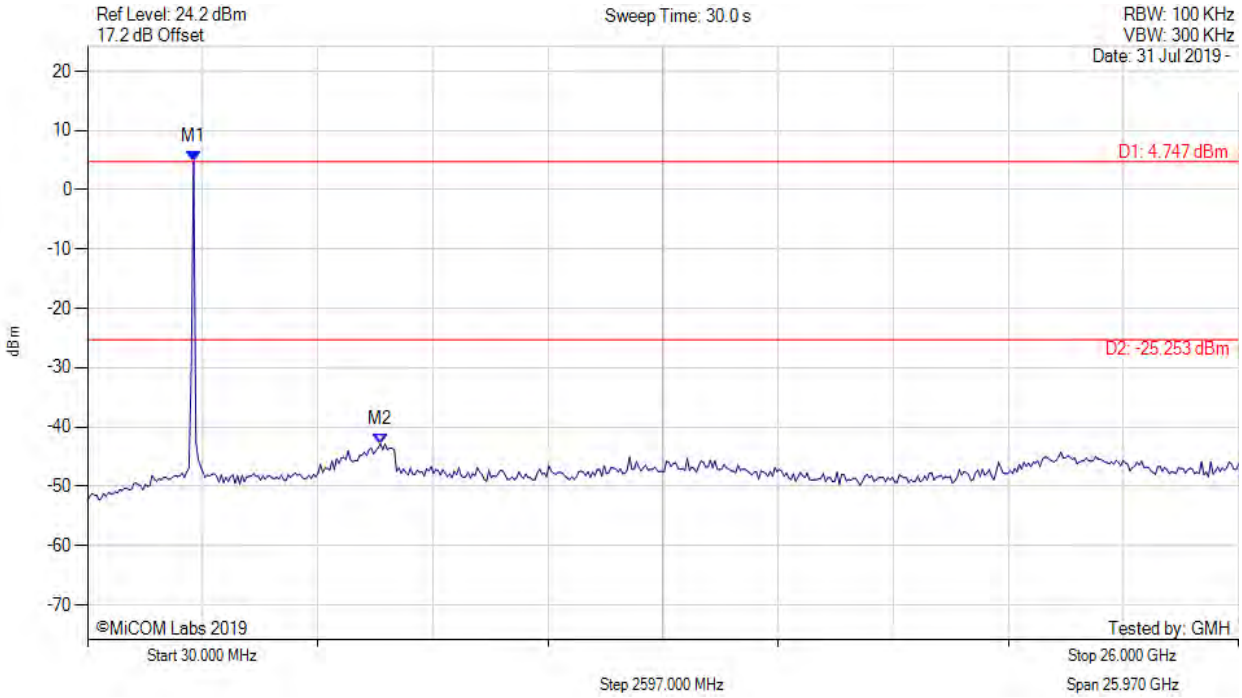
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2424.028 MHz : 4.747 dBm M2 : 6639.599 MHz : -42.865 dBm	Limit: -25.25 dBm Margin: -17.62 dB

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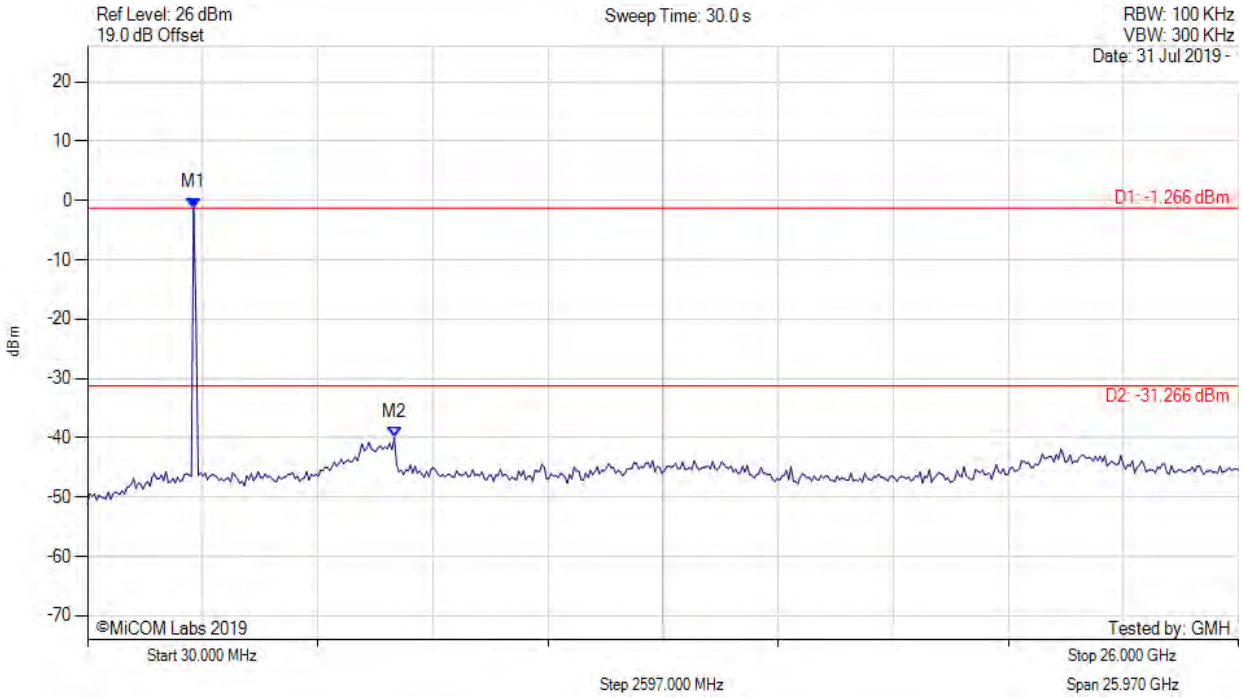
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2424.028 MHz : -1.266 dBm M2 : 6951.864 MHz : -39.967 dBm	Limit: -31.27 dBm Margin: -8.70 dB

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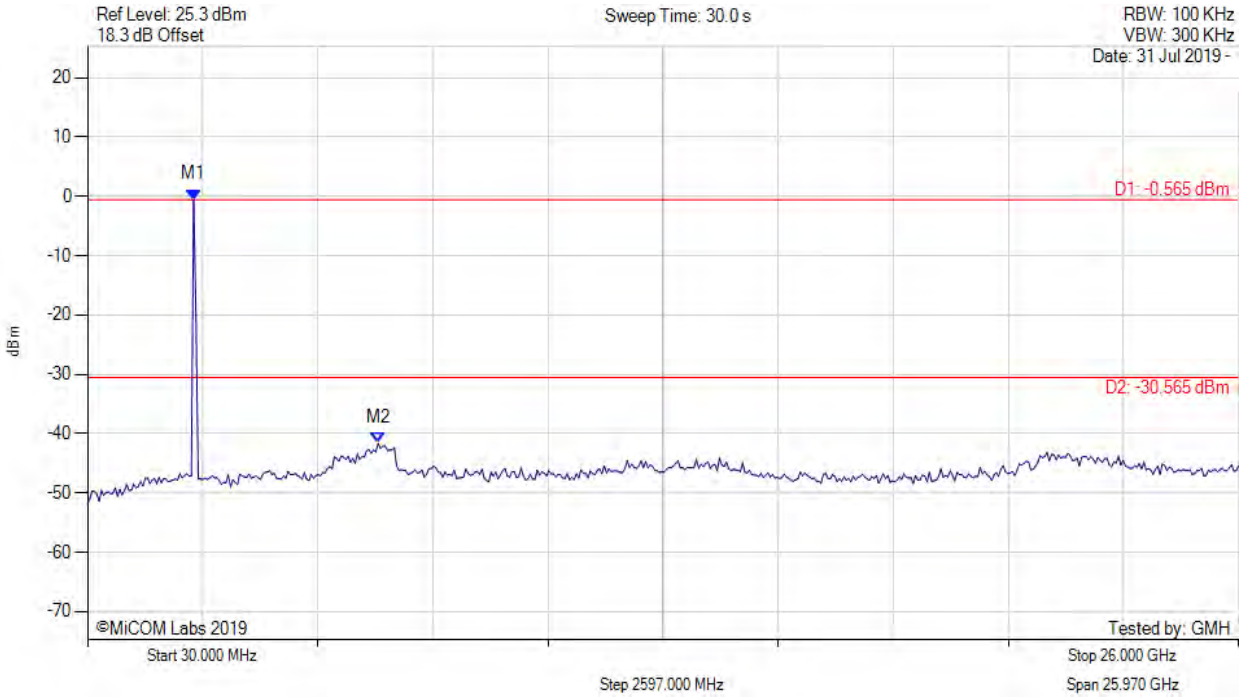
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2424.028 MHz : -0.565 dBm M2 : 6587.555 MHz : -41.669 dBm	Limit: -30.57 dBm Margin: -11.10 dB

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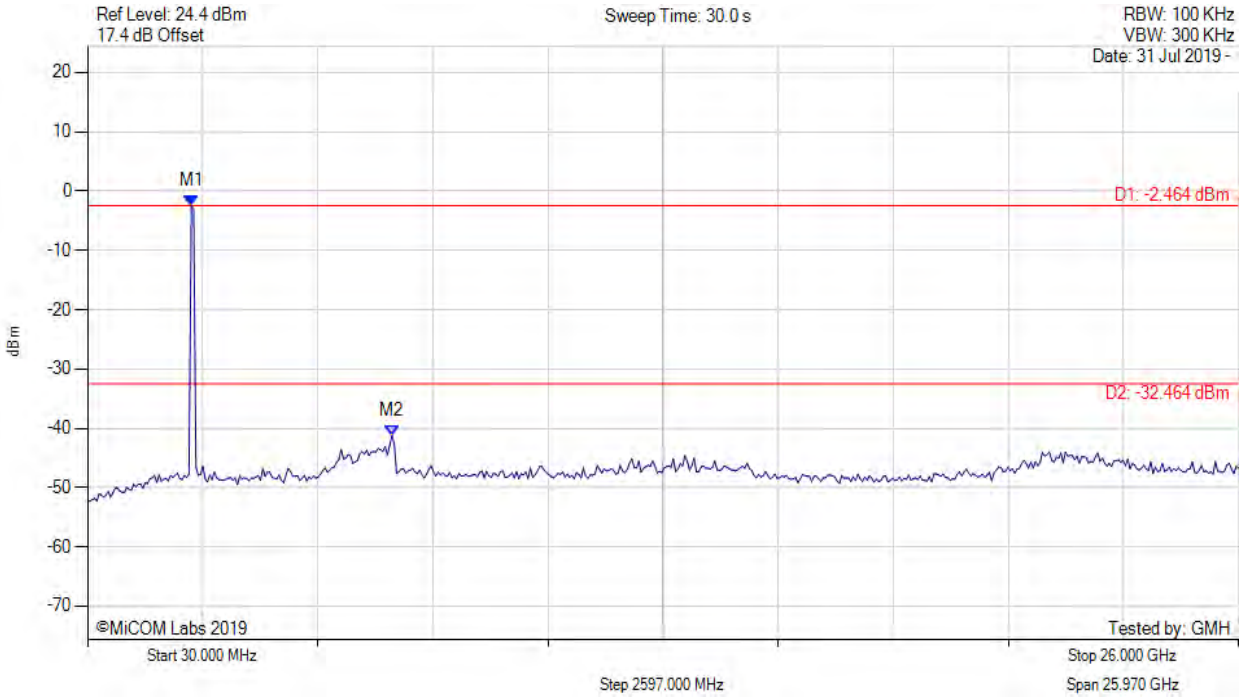
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 2422.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2371.984 MHz : -2.464 dBm M2 : 6899.820 MHz : -41.211 dBm	Limit: -32.46 dBm Margin: -8.75 dB

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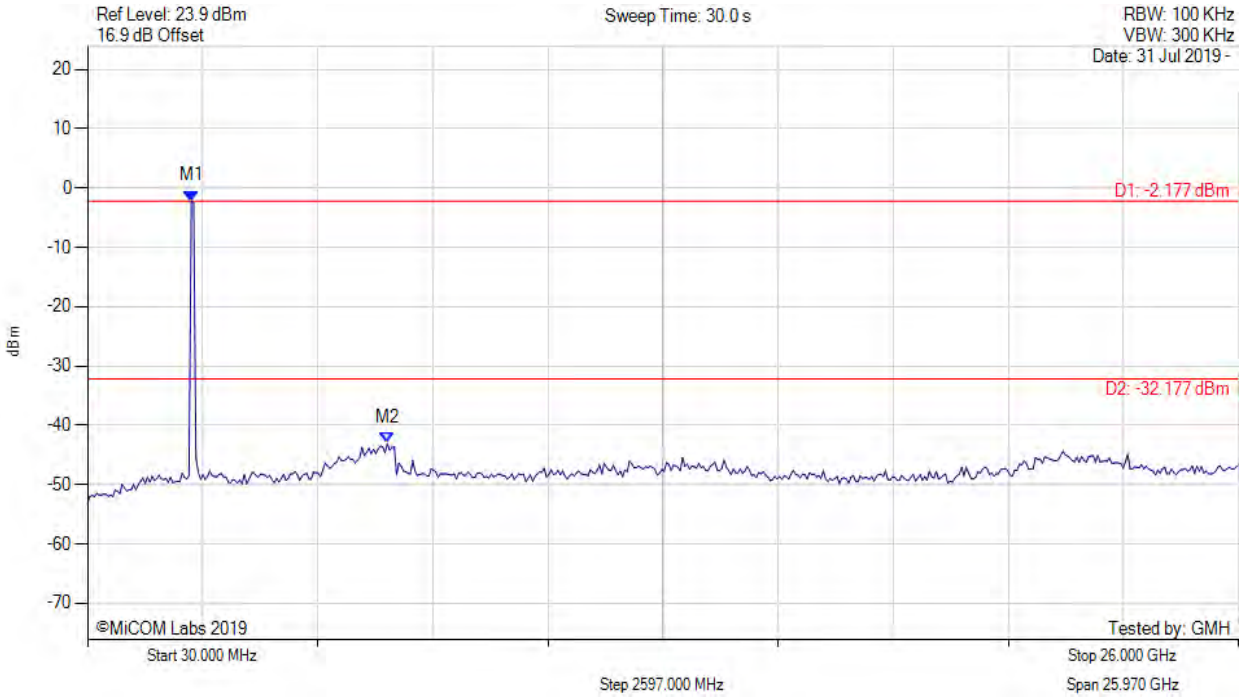
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 2422.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2371.984 MHz : -2.177 dBm M2 : 6795.731 MHz : -43.067 dBm	Limit: -32.18 dBm Margin: -10.89 dB

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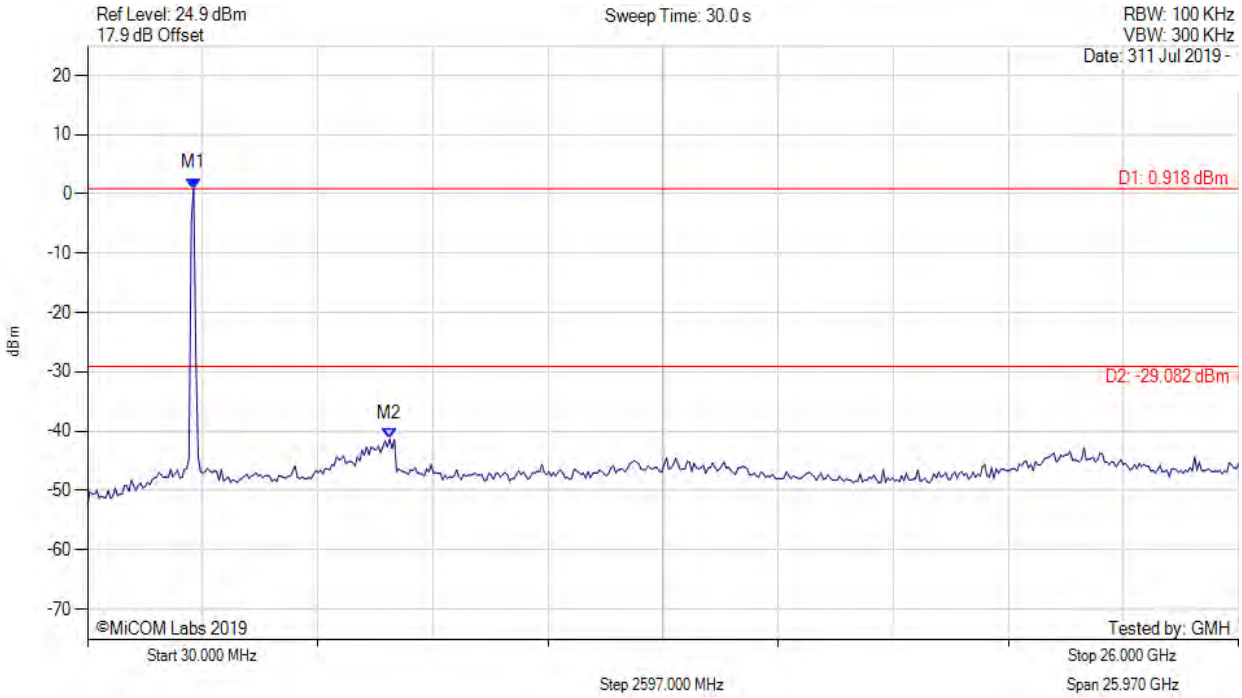
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 2437.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2424.028 MHz : 0.918 dBm M2 : 6847.776 MHz : -41.327 dBm	Limit: -29.08 dBm Margin: -12.25 dB

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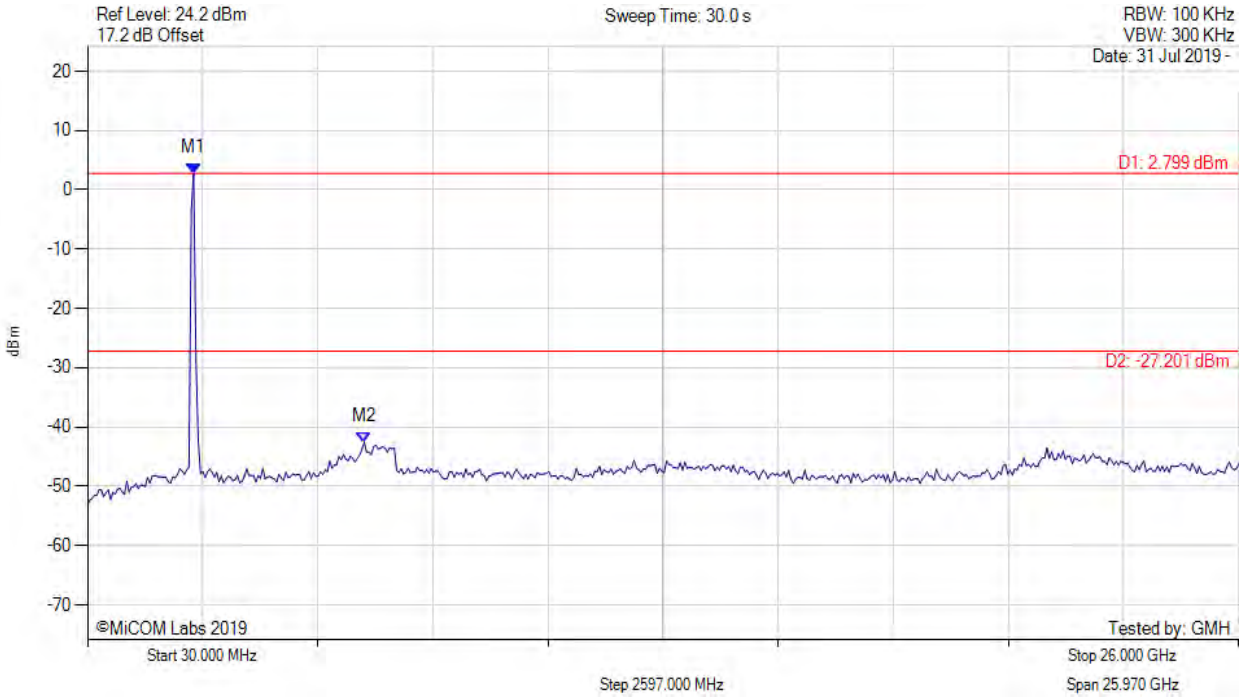
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 2437.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2424.028 MHz : 2.799 dBm M2 : 6275.291 MHz : -42.552 dBm	Limit: -27.20 dBm Margin: -15.35 dB

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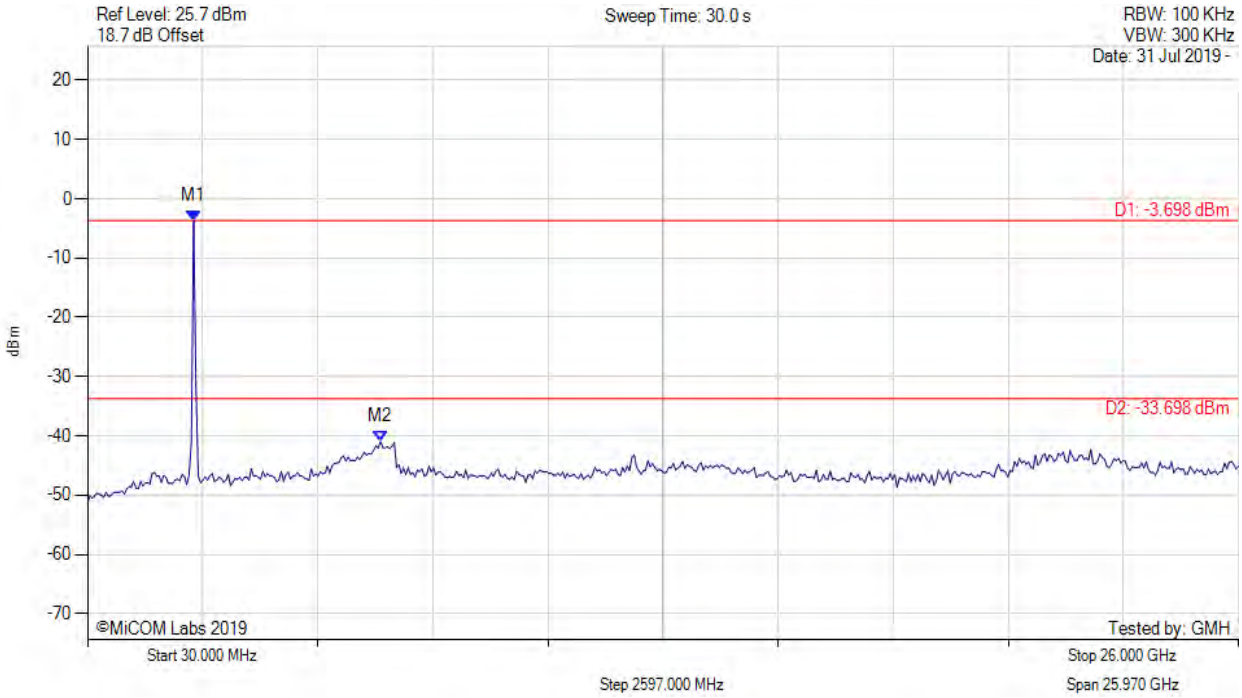
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 2452.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2424.028 MHz : -3.698 dBm M2 : 6639.599 MHz : -40.970 dBm	Limit: -33.70 dBm Margin: -7.27 dB

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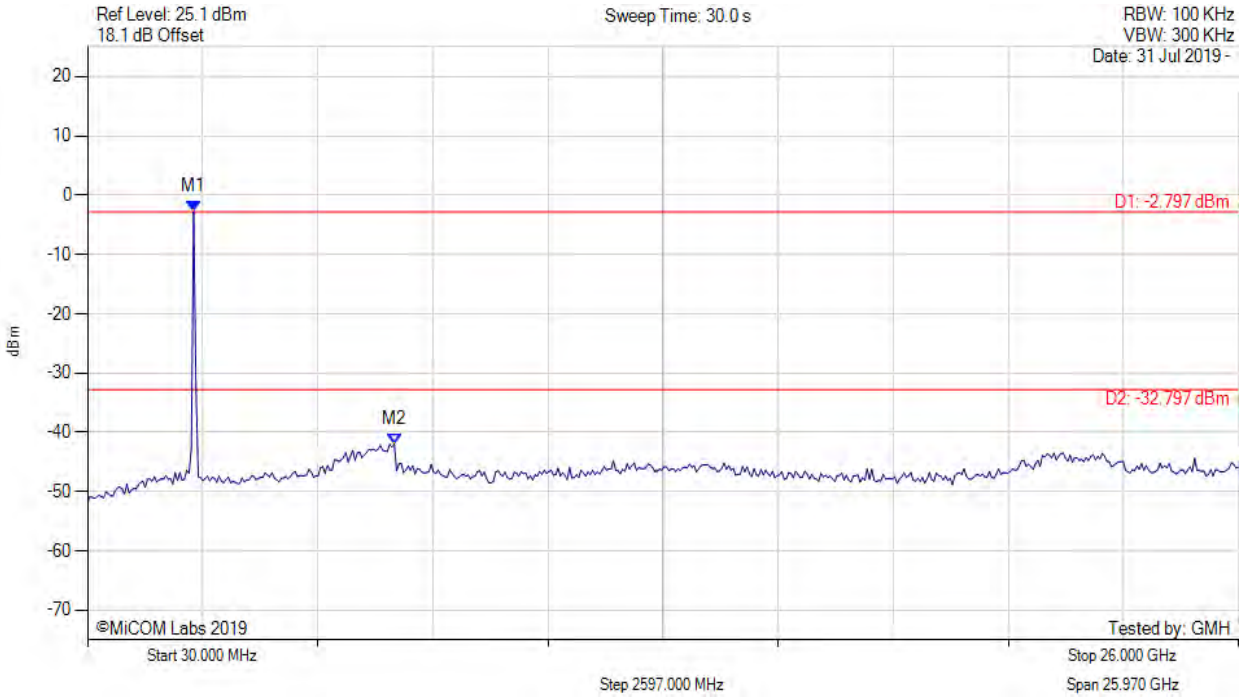
CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 2452.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2424.028 MHz : -2.797 dBm M2 : 6951.864 MHz : -41.947 dBm	Limit: -32.80 dBm Margin: -9.15 dB

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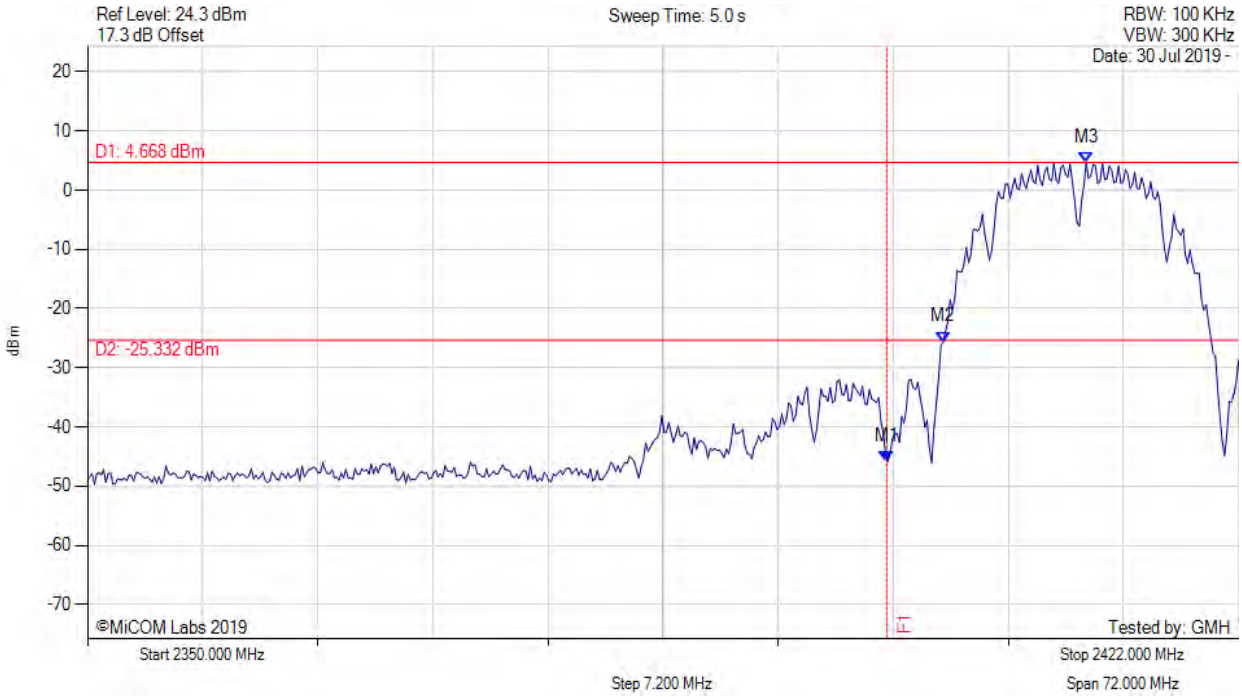
A.3.1.2. Conducted Band-Edge Emissions

CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2412.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2400.000 MHz : -45.799 dBm M2 : 2403.531 MHz : -25.614 dBm M3 : 2412.477 MHz : 4.668 dBm	Channel Frequency: 2412.00 MHz

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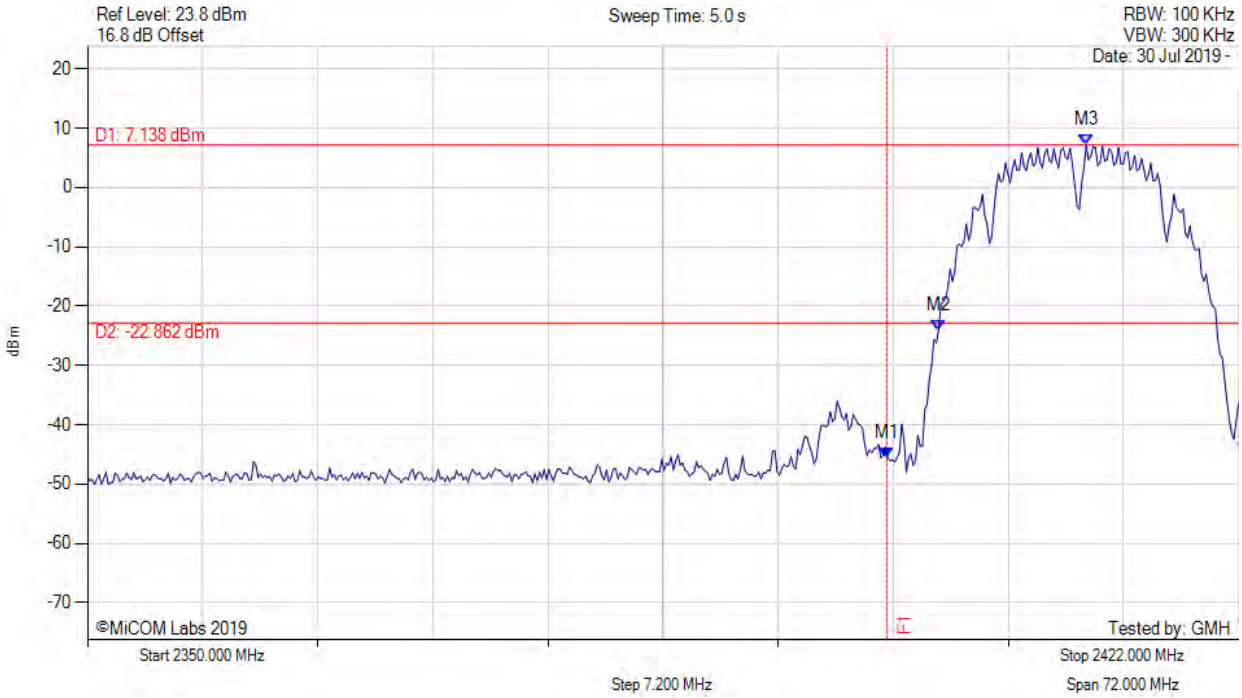
CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2412.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2400.000 MHz : -45.614 dBm M2 : 2403.242 MHz : -24.125 dBm M3 : 2412.477 MHz : 7.138 dBm	Channel Frequency: 2412.00 MHz

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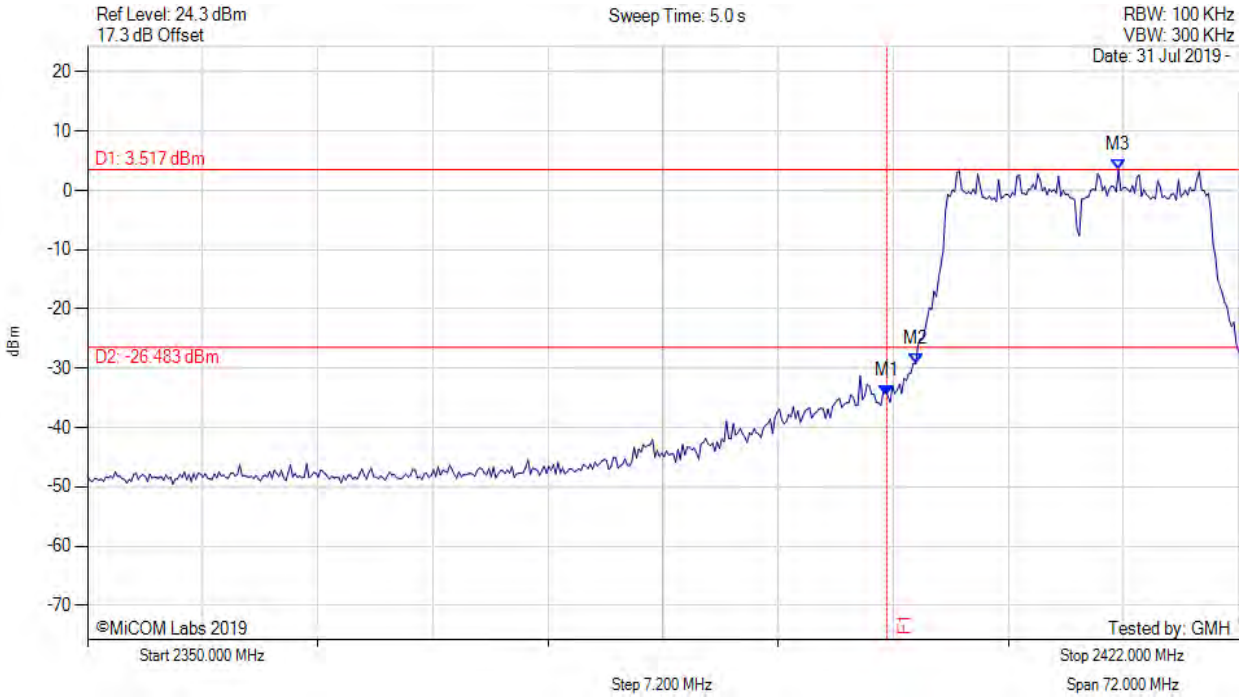
CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2400.000 MHz : -34.632 dBm M2 : 2401.800 MHz : -29.253 dBm M3 : 2414.497 MHz : 3.517 dBm	Channel Frequency: 2412.00 MHz

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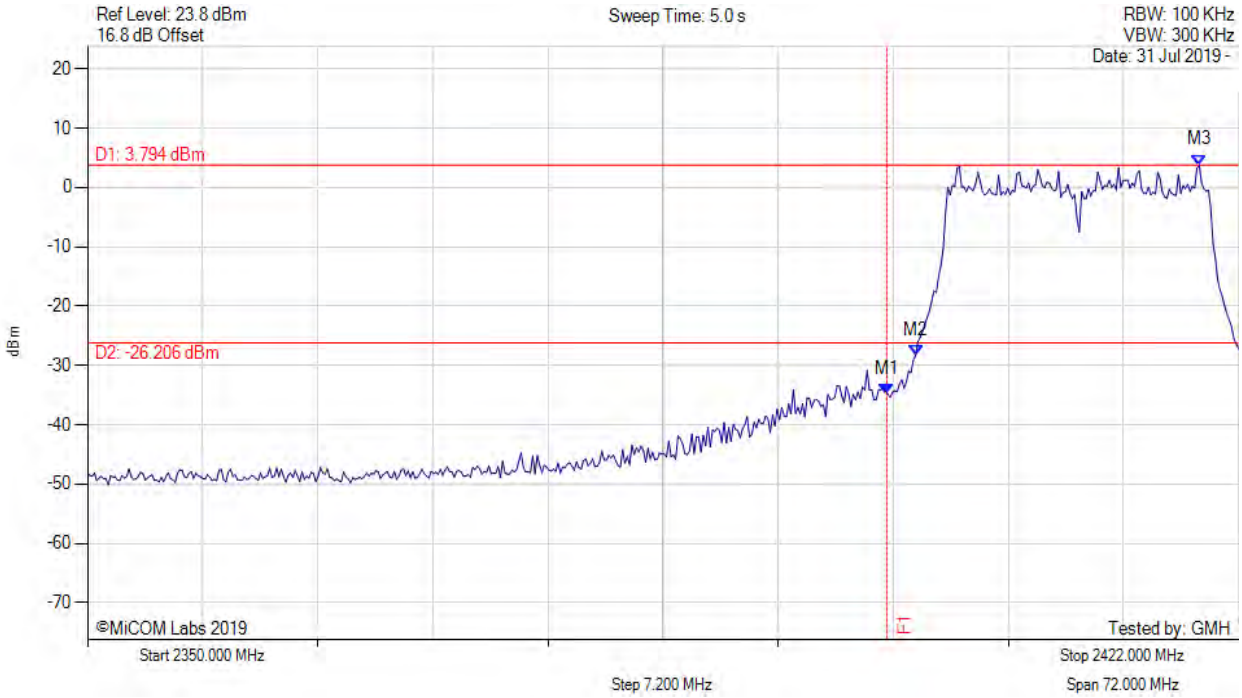
CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2400.000 MHz : -34.857 dBm M2 : 2401.800 MHz : -28.296 dBm M3 : 2419.547 MHz : 3.794 dBm	Channel Frequency: 2412.00 MHz

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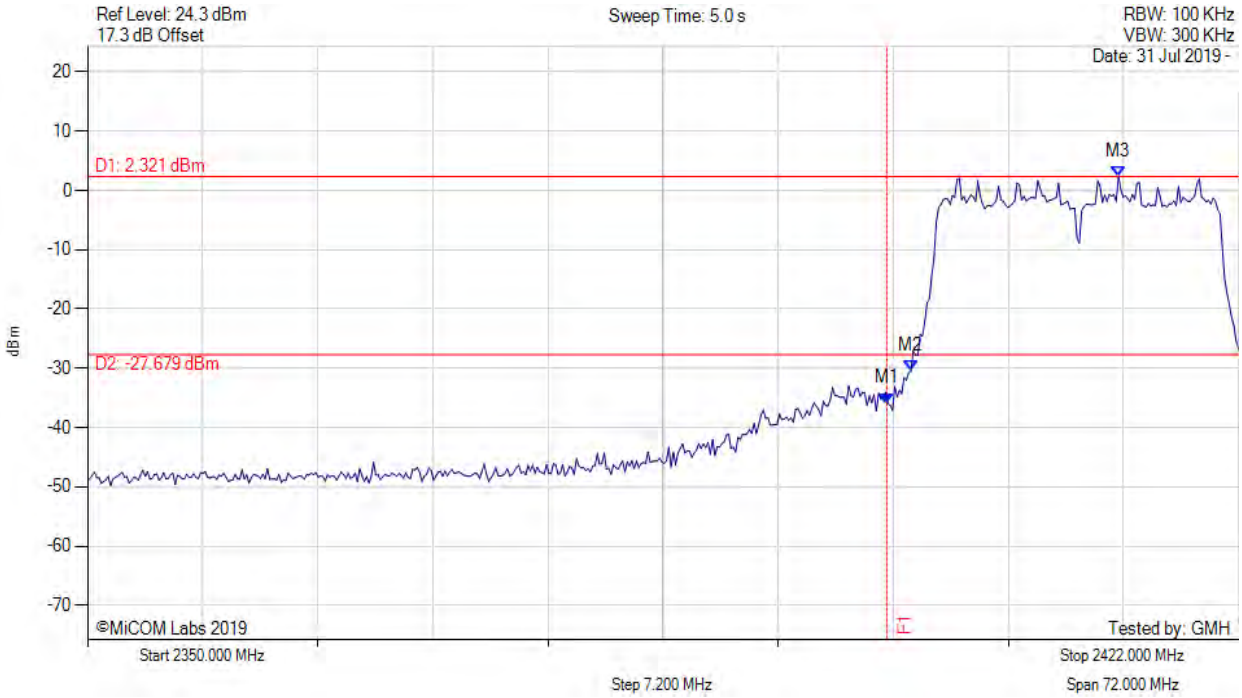
CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2400.000 MHz : -35.905 dBm M2 : 2401.511 MHz : -30.402 dBm M3 : 2414.497 MHz : 2.321 dBm	Channel Frequency: 2412.00 MHz

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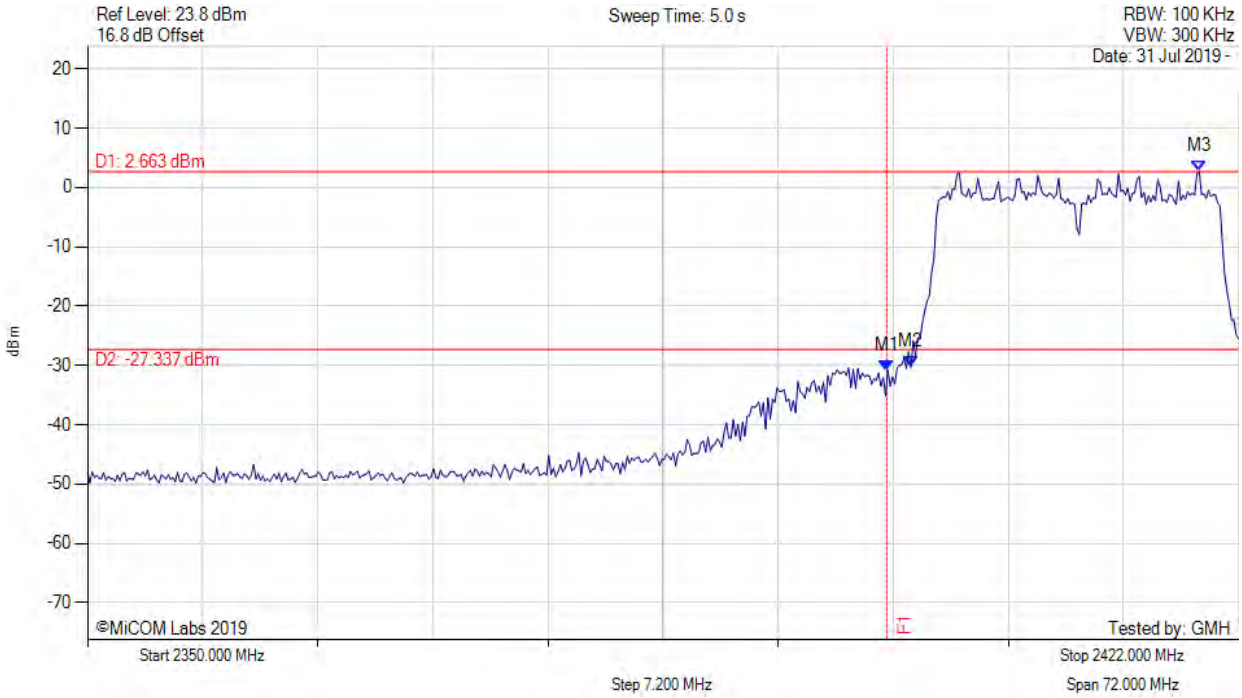
CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2400.000 MHz : -30.843 dBm M2 : 2401.511 MHz : -30.281 dBm M3 : 2419.547 MHz : 2.663 dBm	Channel Frequency: 2412.00 MHz

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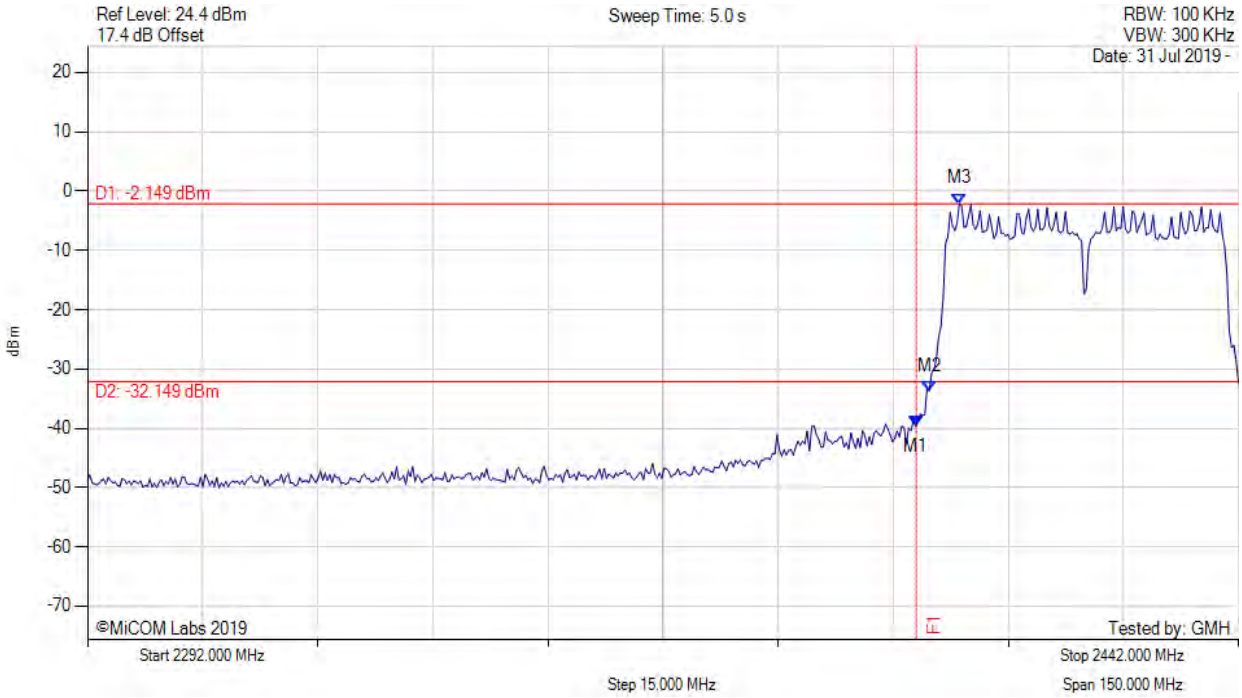
CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 2422.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2400.000 MHz : -39.574 dBm M2 : 2401.719 MHz : -33.733 dBm M3 : 2405.627 MHz : -2.149 dBm	Channel Frequency: 2422.00 MHz

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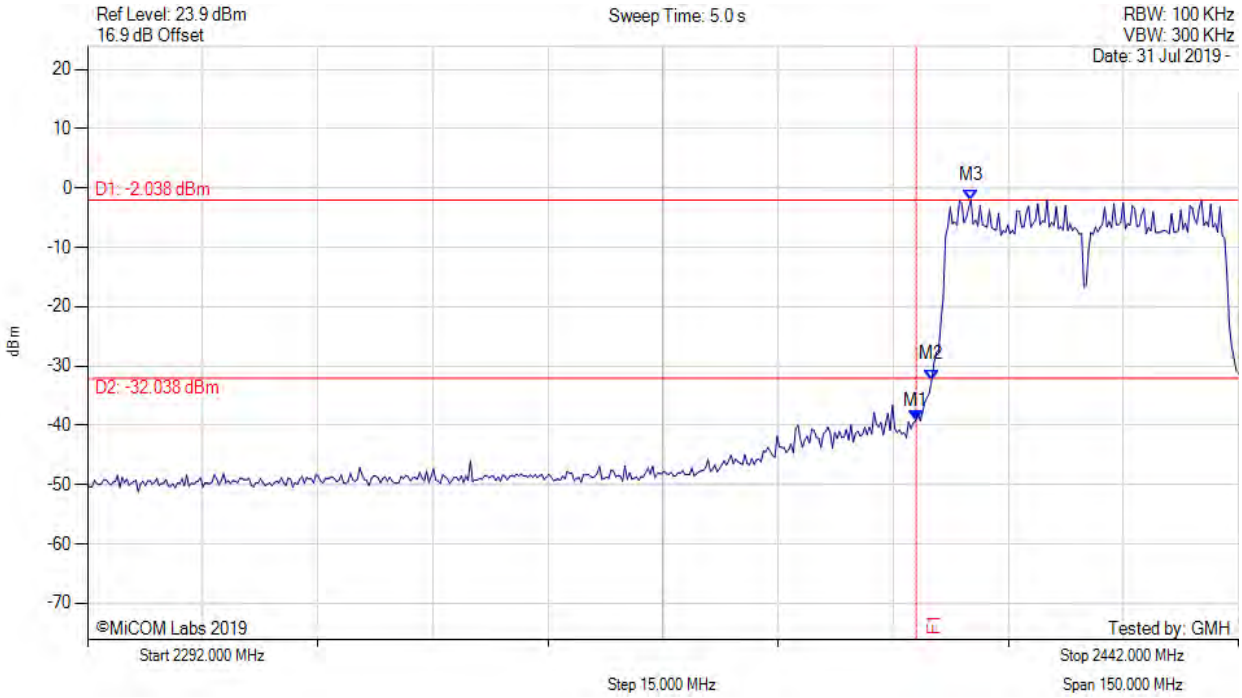
CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 2422.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2400.000 MHz : -39.199 dBm M2 : 2402.020 MHz : -32.343 dBm M3 : 2407.130 MHz : -2.038 dBm	Channel Frequency: 2422.00 MHz

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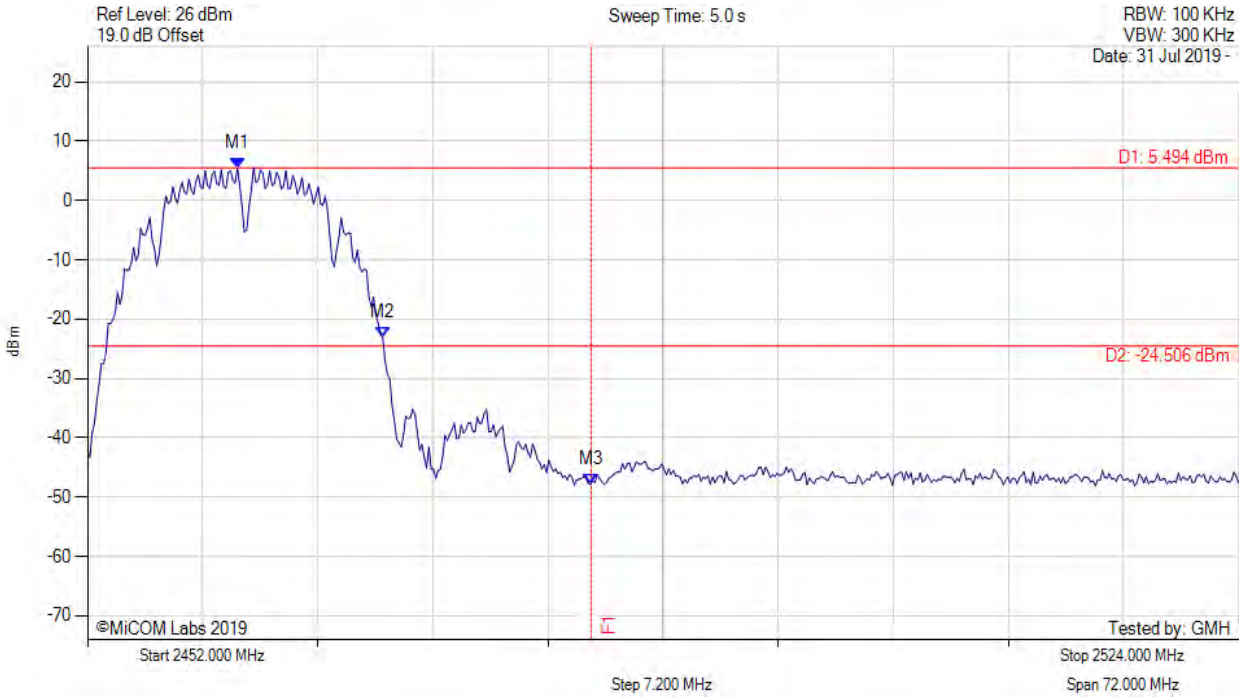
CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2461.379 MHz : 5.494 dBm M2 : 2470.469 MHz : -23.133 dBm M3 : 2483.500 MHz : -47.864 dBm	Channel Frequency: 2462.00 MHz

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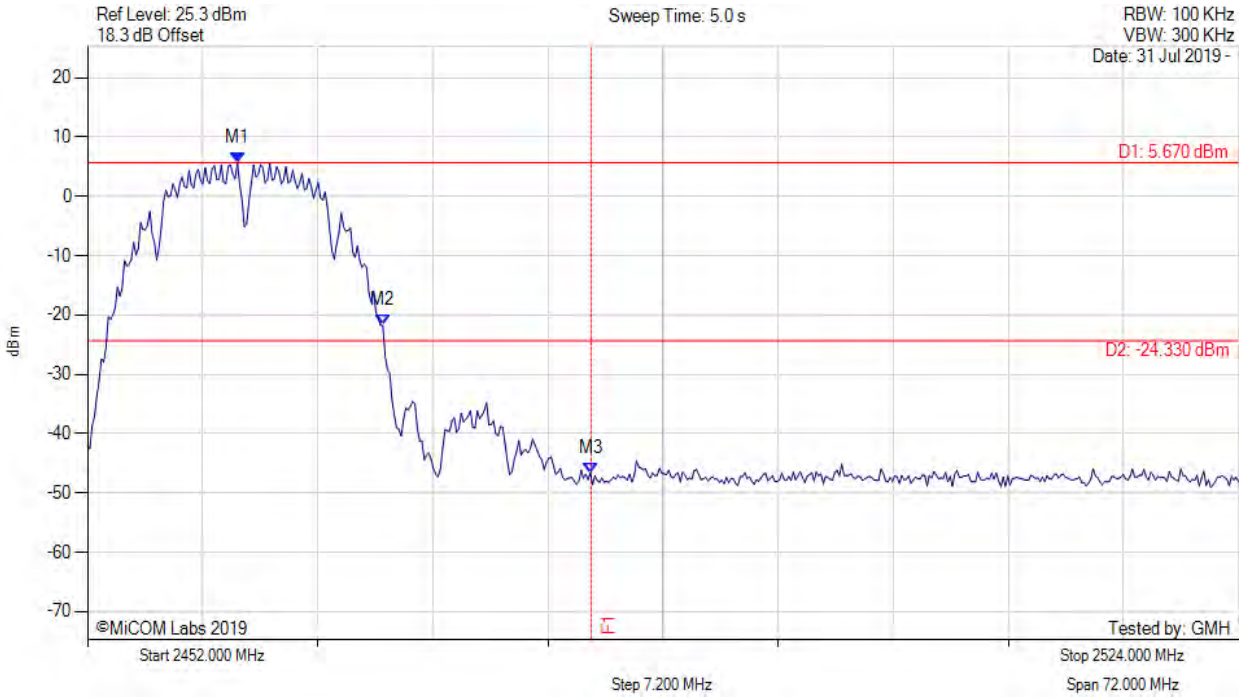
CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2461.379 MHz : 5.670 dBm M2 : 2470.469 MHz : -21.795 dBm M3 : 2483.500 MHz : -46.627 dBm	Channel Frequency: 2462.00 MHz

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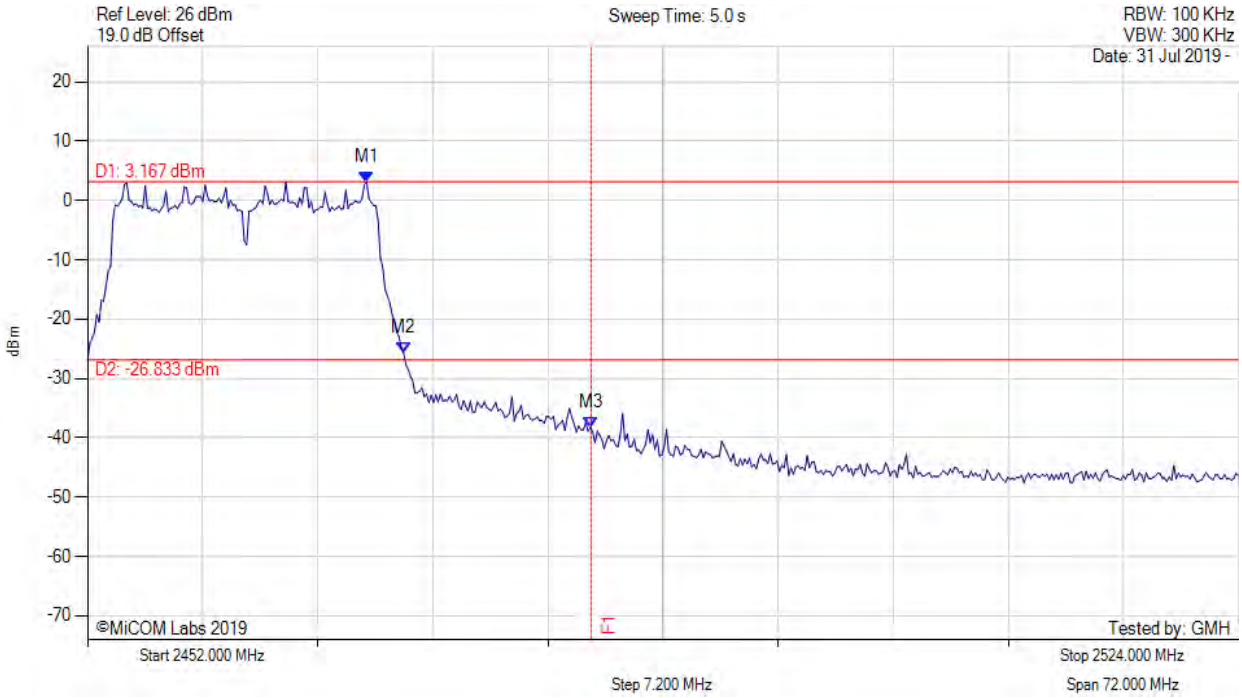
CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2469.459 MHz : 3.167 dBm M2 : 2471.768 MHz : -25.647 dBm M3 : 2483.500 MHz : -38.272 dBm	Channel Frequency: 2462.00 MHz

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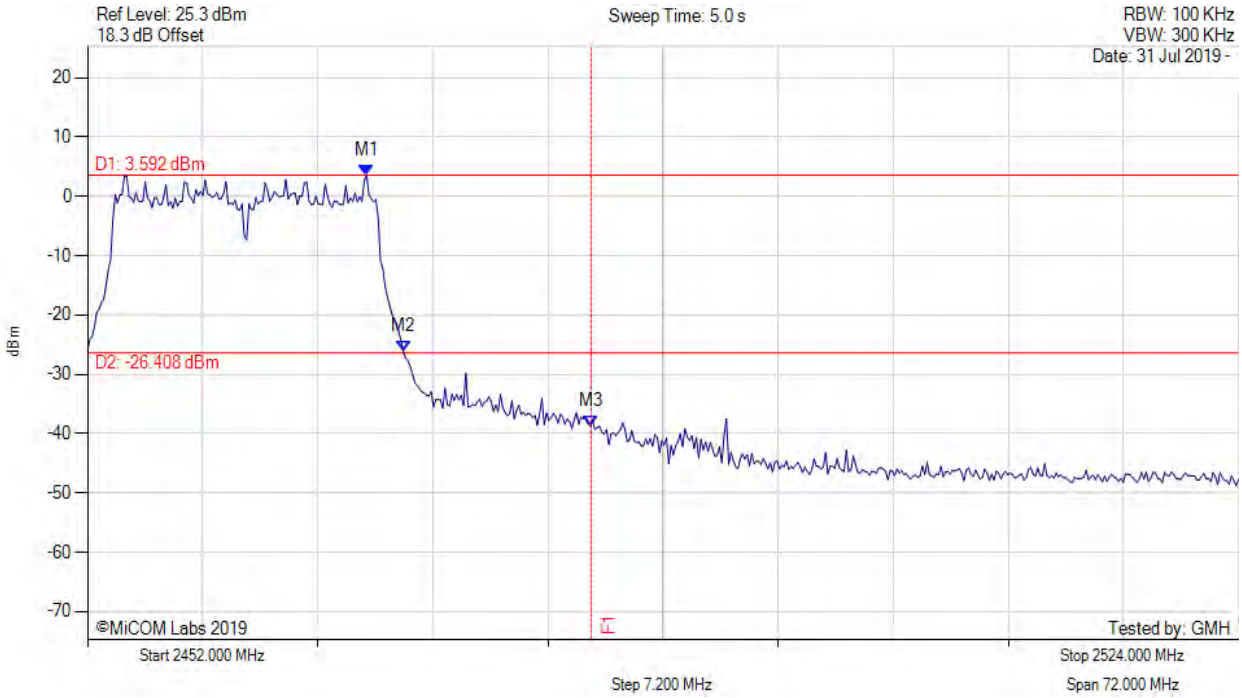
CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2469.459 MHz : 3.592 dBm M2 : 2471.768 MHz : -26.237 dBm M3 : 2483.500 MHz : -38.773 dBm	Channel Frequency: 2462.00 MHz

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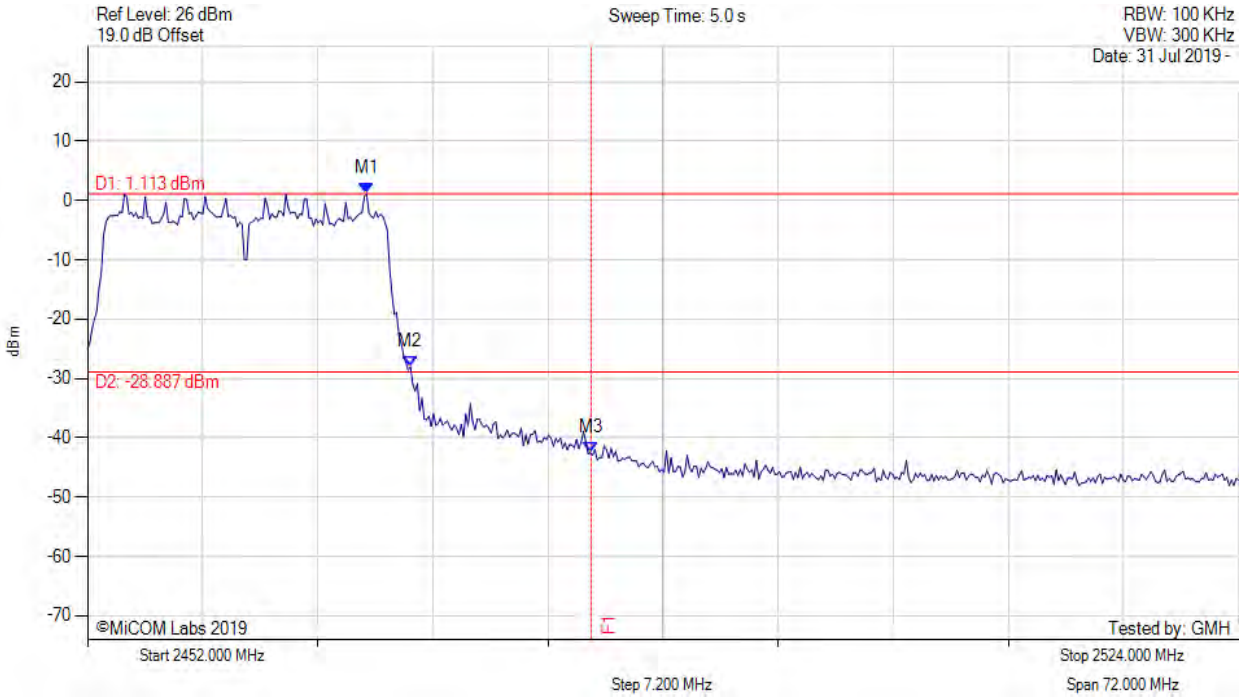
CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2469.459 MHz : 1.113 dBm M2 : 2472.200 MHz : -28.008 dBm M3 : 2483.500 MHz : -42.572 dBm	Channel Frequency: 2462.00 MHz

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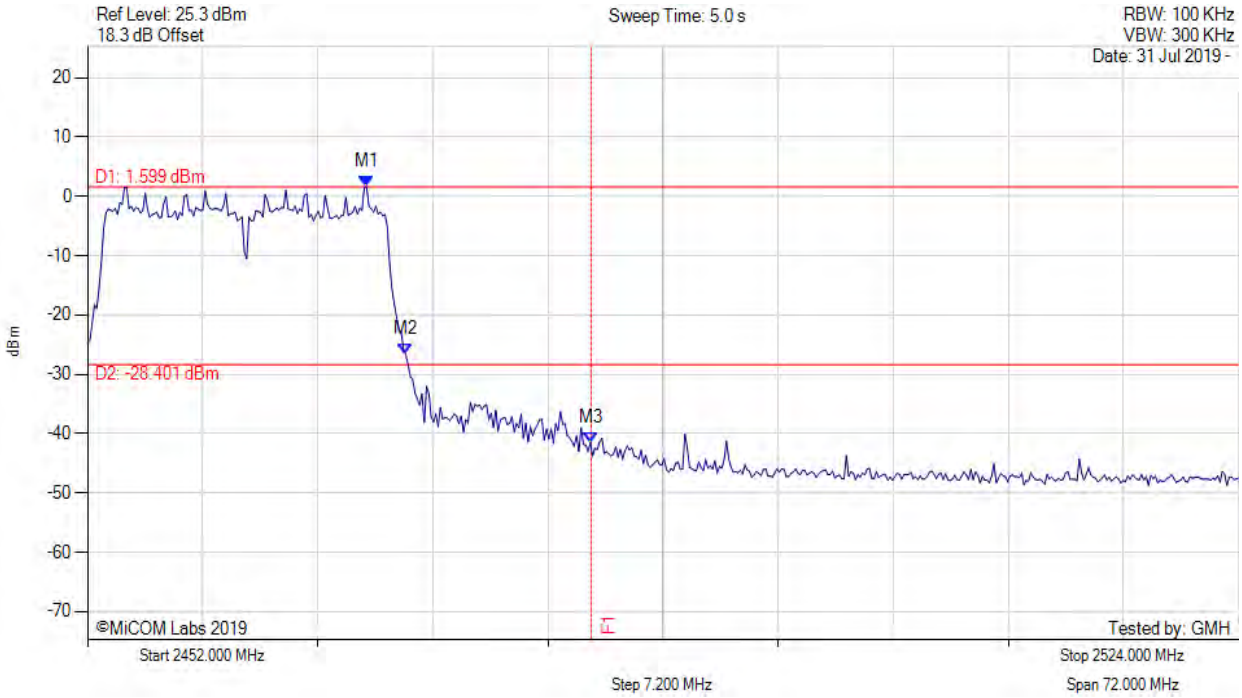
CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2469.459 MHz : 1.599 dBm M2 : 2471.912 MHz : -26.685 dBm M3 : 2483.500 MHz : -41.553 dBm	Channel Frequency: 2462.00 MHz

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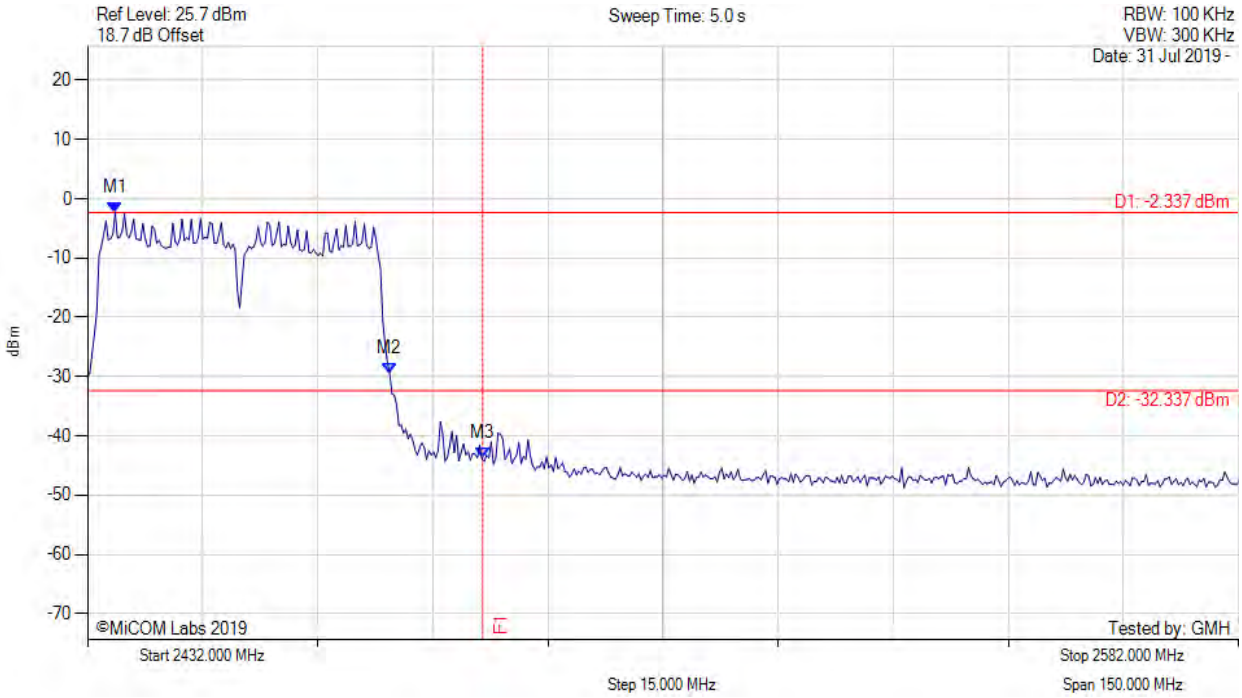
CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 2452.00 MHz, Chain a, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2435.607 MHz : -2.337 dBm M2 : 2471.379 MHz : -29.453 dBm M3 : 2483.500 MHz : -43.815 dBm	Channel Frequency: 2452.00 MHz

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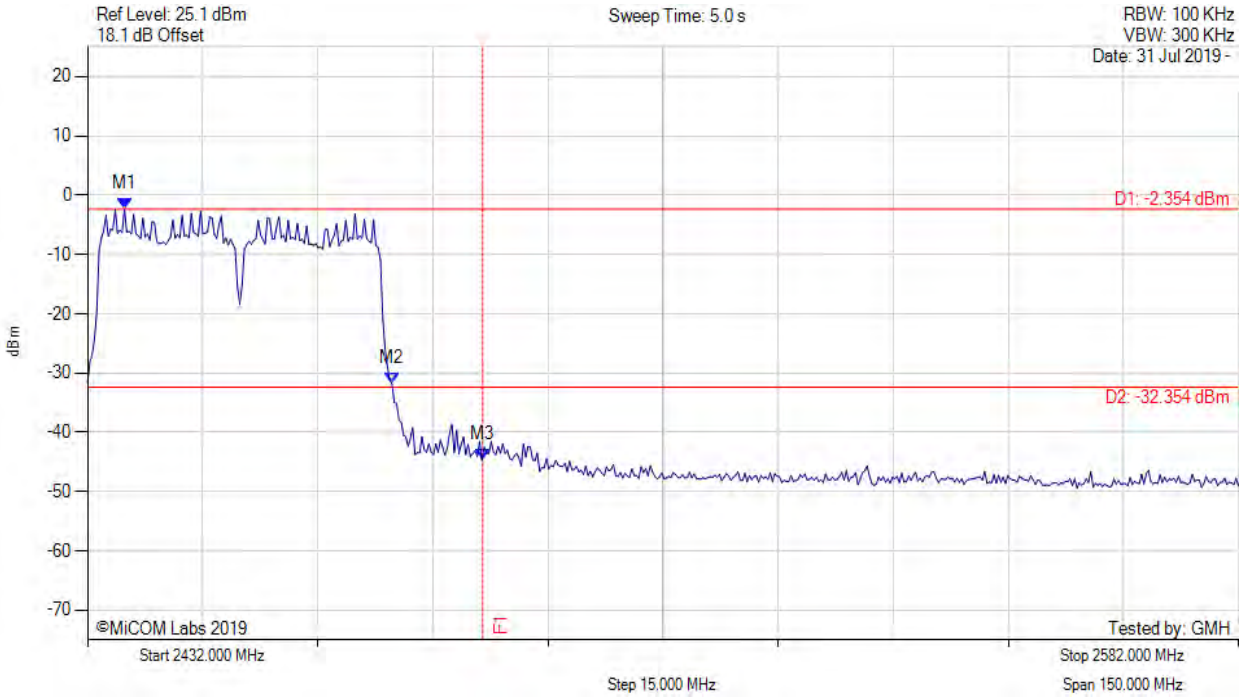
CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 2452.00 MHz, Chain b, Temp: 20, Voltage: 55 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2436.810 MHz : -2.354 dBm M2 : 2471.679 MHz : -31.796 dBm M3 : 2483.500 MHz : -44.674 dBm	Channel Frequency: 2452.00 MHz

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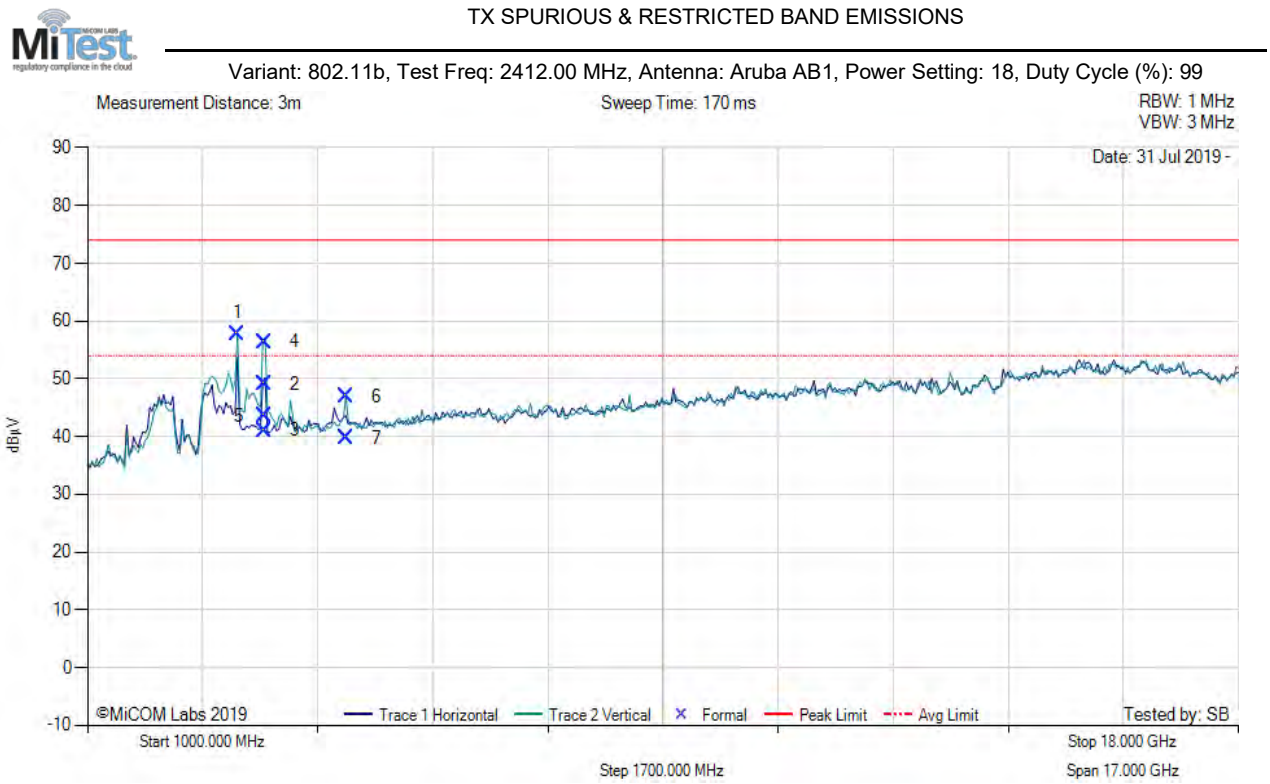
A.3.2. Radiated Emissions

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	3215.99	71.48	-2.04	-11.58	57.86	Peak (NRB)	Vertical	100	0	--	--	Pass
2	3618.56	63.05	-2.16	-11.77	49.12	Max Peak	Horizontal	137	336	74.0	-24.9	Pass
3	3618.56	54.98	-2.16	-11.77	41.05	Max Avg	Horizontal	137	336	54.0	-13.0	Pass
4	3618.56	70.35	-2.16	-11.77	56.42	Max Peak	Vertical	152	28	74.0	-17.6	Pass
5	3618.56	57.50	-2.16	-11.77	43.57	Max Avg	Vertical	152	28	54.0	-10.4	Pass
6	4823.88	61.90	-2.52	-12.43	46.95	Max Peak	Vertical	99	332	74.0	-27.1	Pass
7	4823.88	54.74	-2.52	-12.43	39.79	Max Avg	Vertical	99	332	54.0	-14.2	Pass

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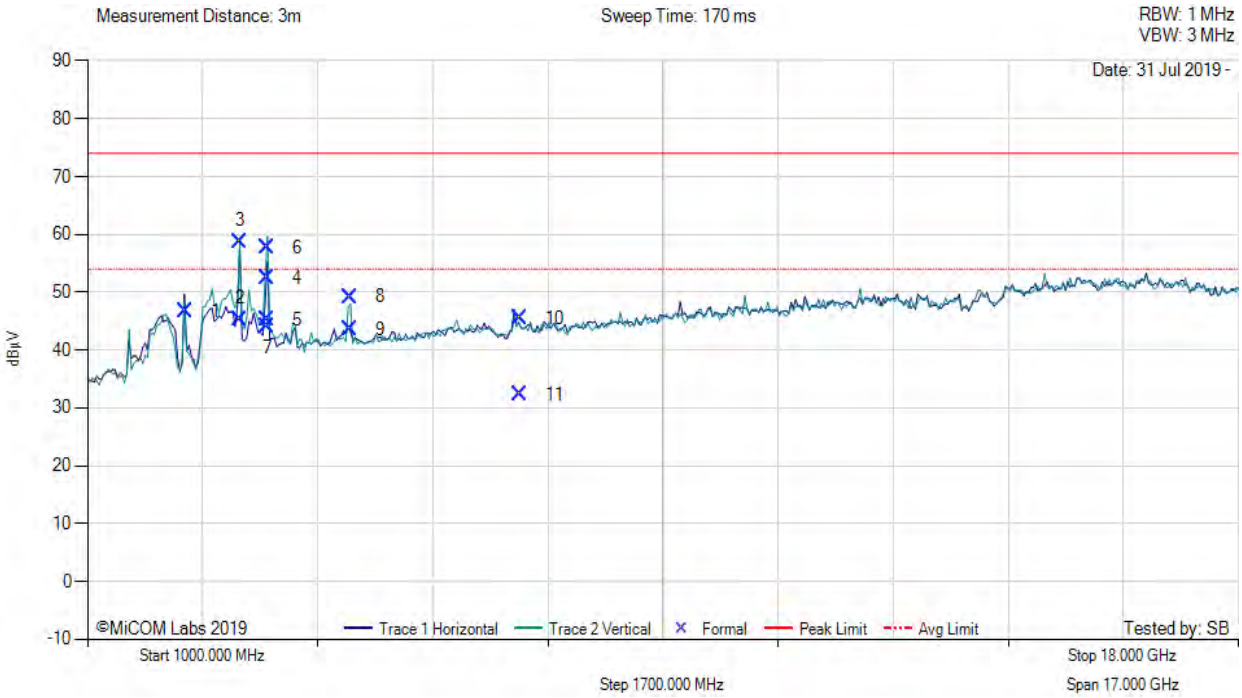
TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11b, Test Freq: 2437.00 MHz, Antenna: Aruba AB1, Power Setting: 17, Duty Cycle (%): 99



1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	2437.98	60.50	-1.78	-12.10	46.62	Fundamental	Horizontal	151	0	--	--	
2	3249.32	59.08	-2.06	-11.61	45.41	Peak (NRB)	Horizontal	151	0	--	--	Pass
3	3249.36	72.46	-2.06	-11.61	58.79	Peak (NRB)	Vertical	151	0	--	--	Pass
4	3655.28	66.40	-2.16	-11.86	52.38	Max Peak	Horizontal	119	26	74.0	-21.6	Pass
5	3655.28	59.27	-2.16	-11.86	45.25	Max Avg	Horizontal	119	26	54.0	-8.8	Pass
6	3656.17	71.69	-2.15	-11.86	57.68	Max Peak	Vertical	153	7	74.0	-16.3	Pass
7	3656.17	58.01	-2.15	-11.86	44.00	Max Avg	Vertical	153	7	54.0	-10.0	Pass
8	4873.92	64.37	-2.51	-12.61	49.25	Max Peak	Vertical	180	14	74.0	-24.8	Pass
9	4873.92	58.72	-2.51	-12.61	43.60	Max Avg	Vertical	180	14	54.0	-10.4	Pass
10	7379.06	56.48	-3.03	-8.00	45.45	Max Peak	Horizontal	98	230	74.0	-28.6	Pass
11	7379.06	43.31	-3.03	-8.00	32.28	Max Avg	Horizontal	98	230	54.0	-21.7	Pass

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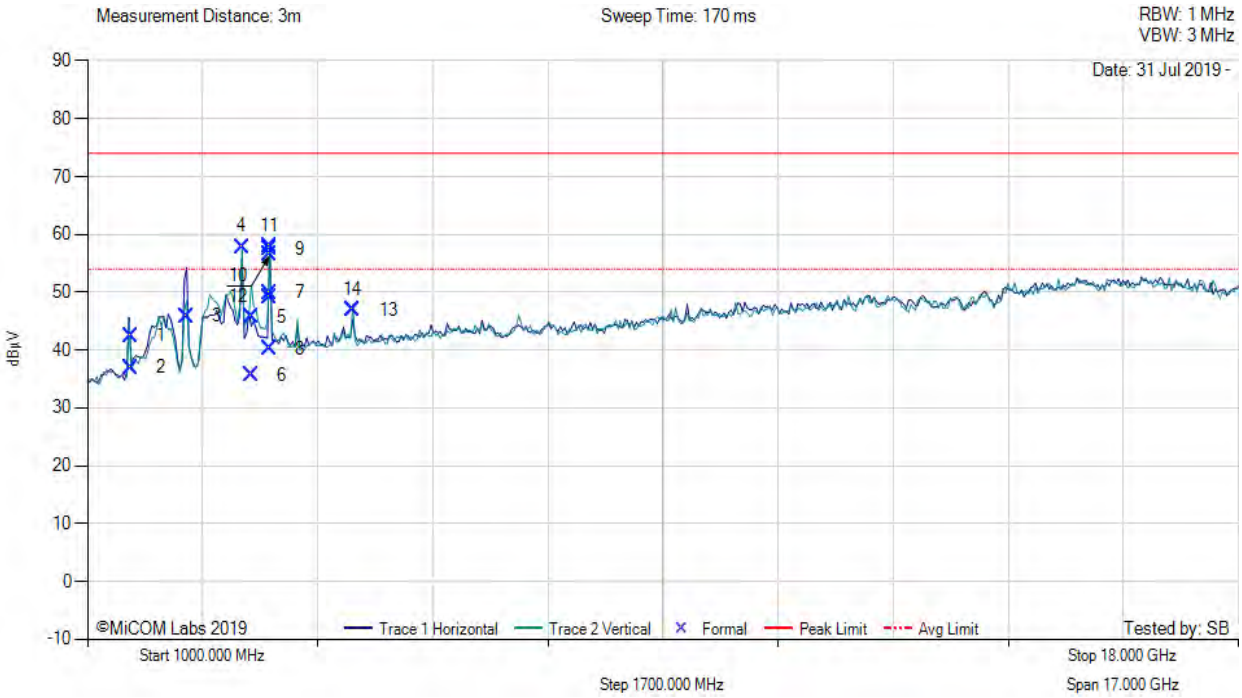
TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11b, Test Freq: 2462.00 MHz, Antenna: Aruba AB1, Power Setting: 17, Duty Cycle (%): 99



1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	1641.70	59.97	-1.46	-16.01	42.50	Max Peak	Vertical	186	23	74.0	-31.5	Pass
2	1641.70	54.46	-1.46	-16.01	36.99	Max Avg	Vertical	186	23	54.0	-17.0	Pass
3	2463.11	59.57	-1.79	-11.96	45.82	Peak (NRB)	Horizontal	100	0	--	--	Pass
4	3282.37	71.54	-2.04	-11.69	57.81	Peak (NRB)	Vertical	150	0	--	--	Pass
5	3424.80	60.04	-2.10	-12.14	45.80	Max Peak	Horizontal	186	334	74.0	-28.2	Pass
6	3424.80	49.87	-2.10	-12.14	35.63	Max Avg	Horizontal	186	334	54.0	-18.4	Pass
7	3692.53	63.79	-2.17	-11.68	49.94	Max Peak	Horizontal	197	282	74.0	-24.1	Pass
8	3692.53	54.00	-2.17	-11.68	40.15	Max Avg	Horizontal	197	282	54.0	-13.9	Pass
9	3692.73	71.26	-2.17	-11.68	57.41	Peak (Scan)	Vertical	100	0	74.0	-16.6	Pass
10	3692.87	70.30	-2.17	-11.68	56.45	Peak (Scan)	Horizontal	100	0	74.0	-17.6	Pass
11	3693.20	71.87	-2.17	-11.67	58.03	Max Peak	Vertical	167	31	74.0	-16.0	Pass
12	3693.20	63.08	-2.17	-11.67	49.24	Max Avg	Vertical	167	31	54.0	-4.8	Pass
13	4924.10	61.91	-2.56	-12.35	47.00	Peak (Scan)	Vertical	150	0	74.0	-27.0	Pass
14	4924.10	61.91	-2.56	-12.35	47.00	Peak (Scan)	Horizontal	150	0	74.0	-27.0	Pass

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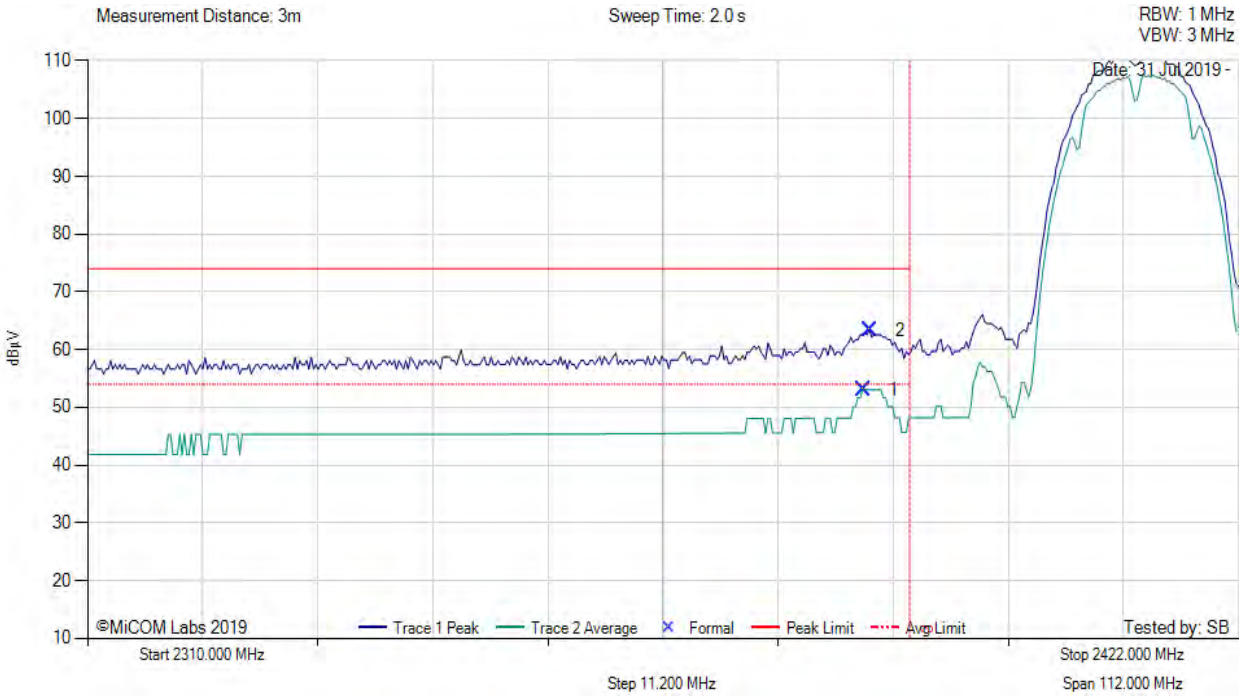
A.3.2.4. Restricted Edge & Band-Edge Emissions

RADIATED - LOWER RESTRICTED BAND-EDGE EMISSIONS

Variant: 802.11b, Test Freq: 2412.00 MHz, Antenna: Aruba AB1, Power Setting: 18, Duty Cycle (%): 99



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	2385.51	22.86	-1.77	31.94	53.03	Max Avg	Horizontal	156	11	54.0	-1.0	Pass
2	2386.18	33.19	-1.77	31.94	63.36	Max Peak	Horizontal	156	11	74.0	-10.6	Pass
3	2390.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

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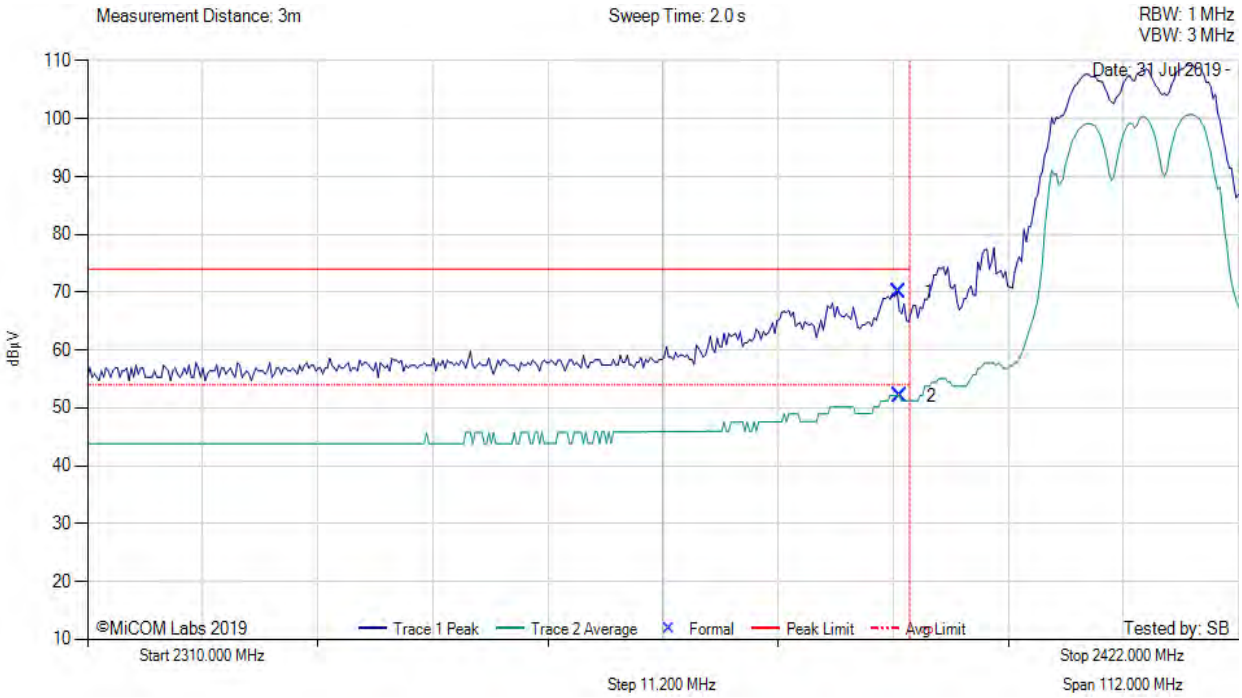
RADIATED - LOWER RESTRICTED BAND-EDGE EMISSIONS

Variant: 802.11g, Test Freq: 2412.00 MHz, Antenna: Aruba AB1, Power Setting: 16, Duty Cycle (%): 99



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	2388.88	39.92	-1.77	31.95	70.10	Max Peak	Horizontal	156	11	74.0	-3.9	Pass
2	2389.10	21.97	-1.77	31.95	52.15	Max Avg	Horizontal	156	11	54.0	-1.9	Pass
3	2390.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

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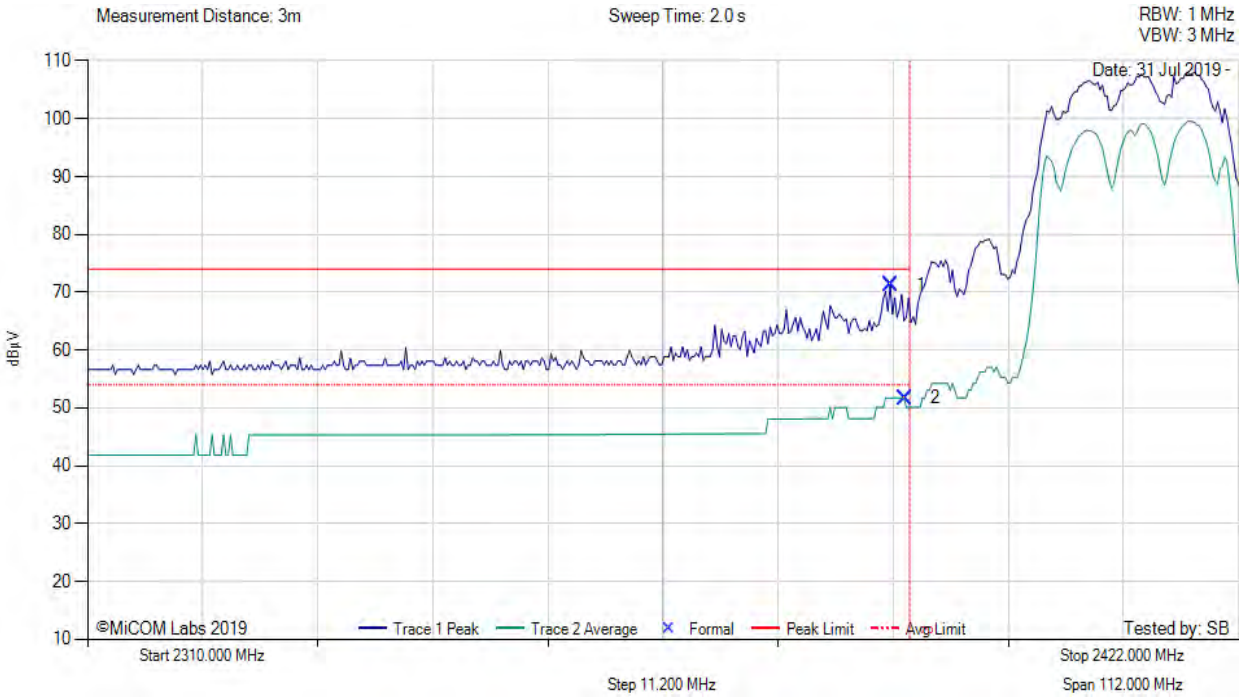
RADIATED - LOWER RESTRICTED BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 2412.00 MHz, Antenna: Aruba AB1, Power Setting: 15, Duty Cycle (%): 99



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	41.08	-1.77	31.95	71.26	Max Peak	Horizontal	156	11	74.0	-2.7	Pass
2	2389.55	21.53	-1.77	31.96	51.72	Max Avg	Horizontal	156	11	54.0	-2.3	Pass
3	2390.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

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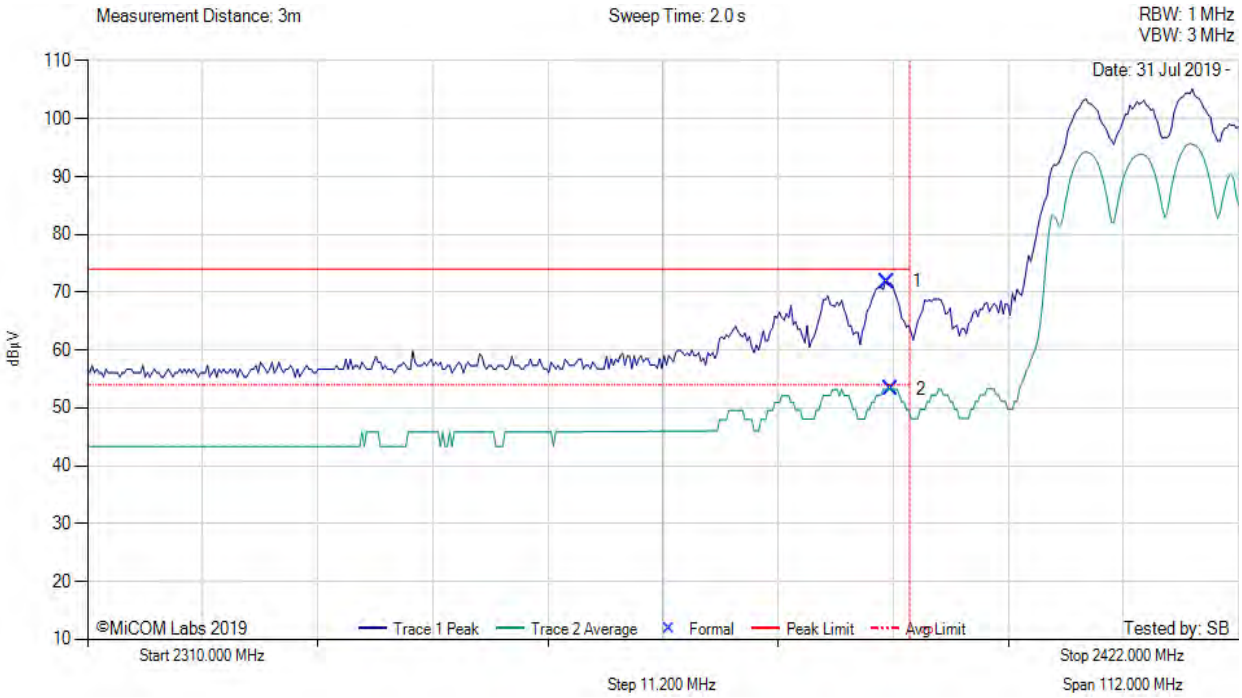
RADIATED - LOWER RESTRICTED BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 2422.00 MHz, Antenna: Aruba AB1, Power Setting: 13, Duty Cycle (%): 99



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	2387.76	41.69	-1.77	31.95	71.87	Max Peak	Horizontal	156	11	74.0	-2.1	Pass
2	2388.20	23.05	-1.77	31.95	53.23	Max Avg	Horizontal	156	11	54.0	-0.8	Pass
3	2390.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

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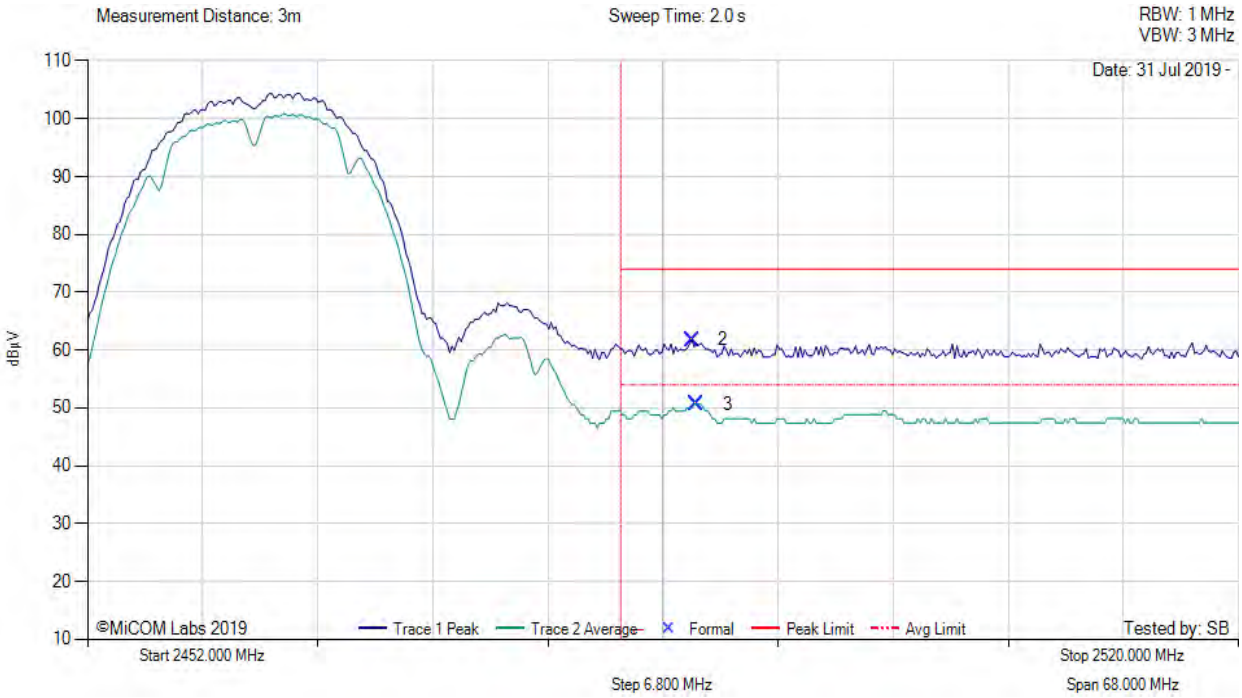
RADIATED - UPPER RESTRICTED BAND-EDGE EMISSIONS

Variant: 802.11b, Test Freq: 2462.00 MHz, Antenna: Aruba AB1, Power Setting: 18, Duty Cycle (%): 99



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	2487.72	31.27	-1.78	32.33	61.82	Max Peak	Horizontal	156	11	74.0	-12.2	Pass
3	2488.00	20.08	-1.78	32.33	50.63	Max Avg	Horizontal	156	11	54.0	-3.4	Pass
1	2483.50	--	--	--	--	Restricted-Band	--	--	--	--	--	--

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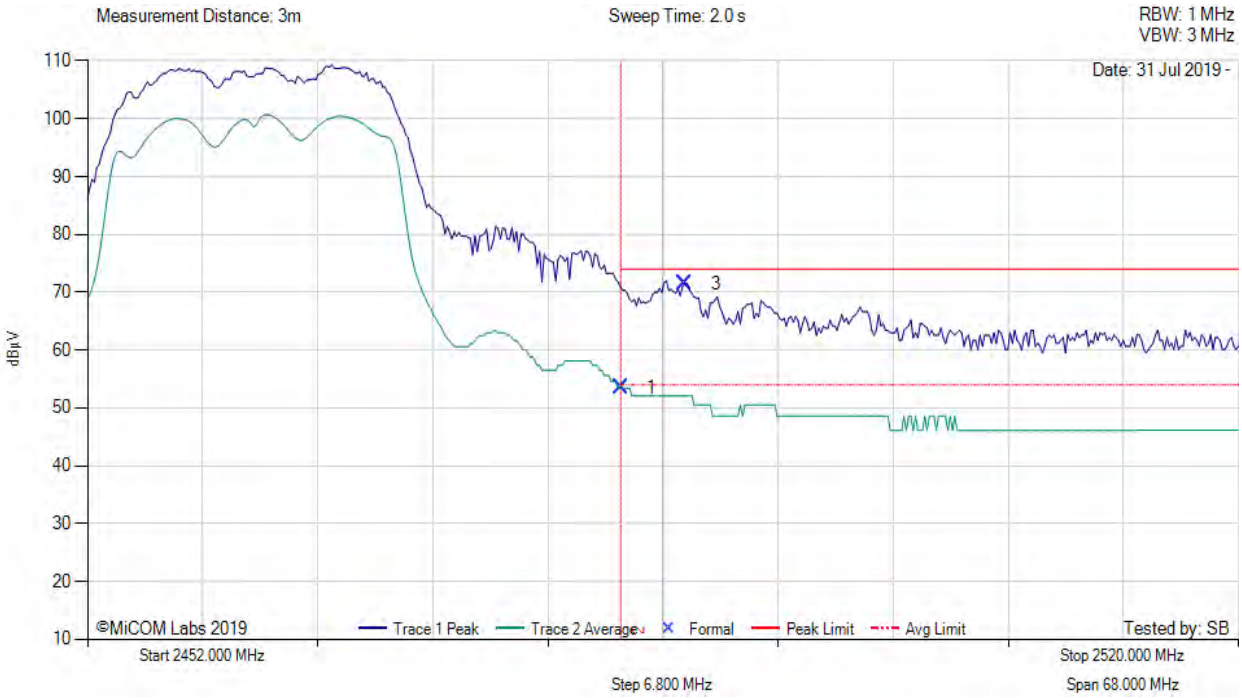
RADIATED - UPPER RESTRICTED BAND-EDGE EMISSIONS

Variant: 802.11g, Test Freq: 2462.00 MHz, Antenna: Aruba AB1, Power Setting: 16, Duty Cycle (%): 99



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	22.89	-1.78	32.33	53.44	Max Avg	Horizontal	156	11	54.0	-0.6	Pass
3	2487.32	40.96	-1.78	32.33	71.51	Max Peak	Horizontal	156	11	74.0	-2.5	Pass
2	2483.50	--	--	--	--	Restricted-Band	--	--	--	--	--	--

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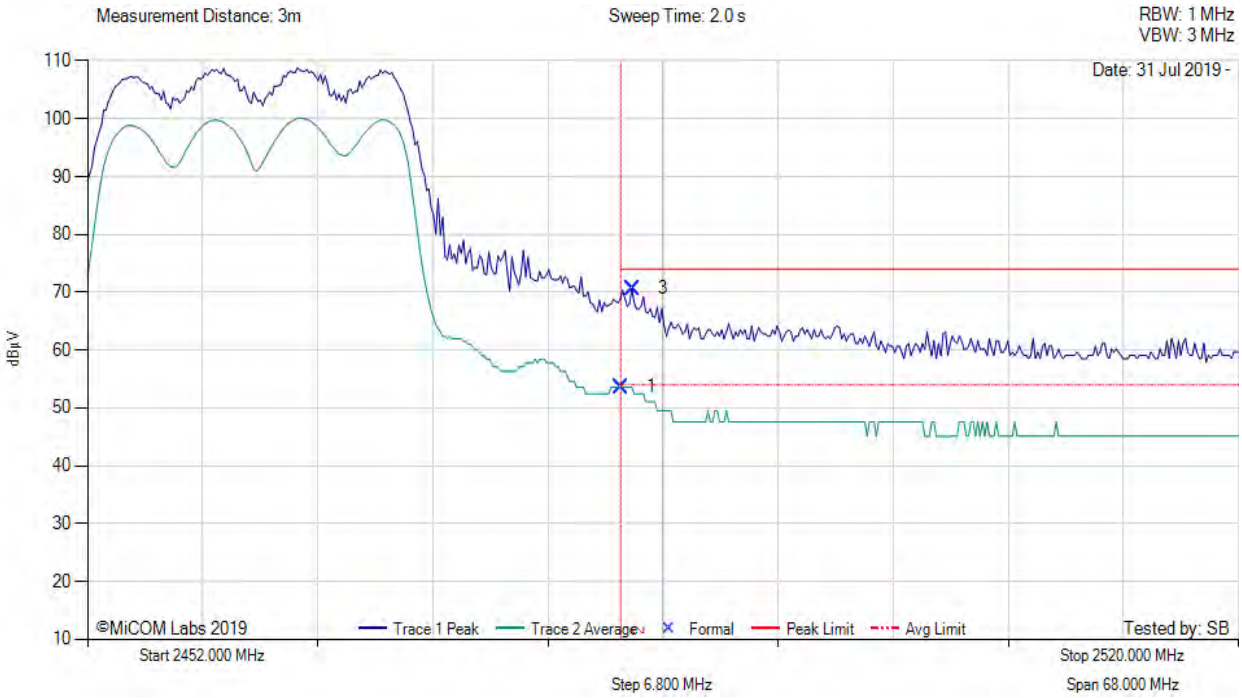
RADIATED - UPPER RESTRICTED BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 2462.00 MHz, Antenna: Aruba AB1, Power Setting: 14, Duty Cycle (%): 99



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	23.05	-1.78	32.33	53.60	Max Avg	Horizontal	156	11	54.0	-0.4	Pass
3	2484.18	40.11	-1.78	32.33	70.66	Max Peak	Horizontal	156	11	74.0	-3.3	Pass
2	2483.50	--	--	--	--	Restricted-Band	--	--	--	--	--	--

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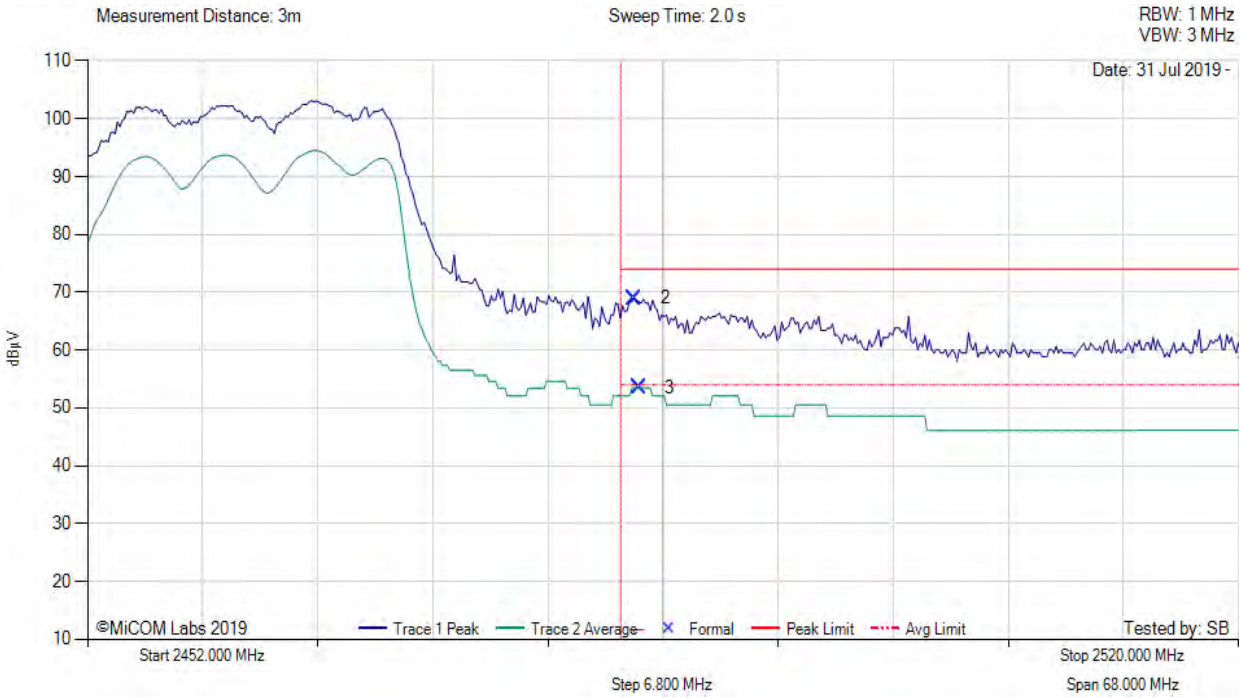
RADIATED - UPPER RESTRICTED BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 2452.00 MHz, Antenna: Aruba AB1, Power Setting: 12, Duty Cycle (%): 99



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	2484.32	38.46	-1.78	32.33	69.01	Max Peak	Horizontal	156	11	74.0	-5.0	Pass
3	2484.59	22.89	-1.78	32.33	53.44	Max Avg	Horizontal	156	11	54.0	-0.6	Pass
1	2483.50	--	--	--	--	Restricted-Band	--	--	--	--	--	--

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