Company: Actiontec Electronics Inc.

Test of: WCB5200
To: FCC CFR 47 Part 15 Subpart C 15.247 (DTS)

Report No.: ATEC15-U5 Rev A

CONDUCTED, RADIATED TEST REPORT

CONDUCTED, RADIATED TEST REPORT

FROM

Test of: Actiontec Electronics Inc. WCB5200
to

To: FCC CFR 47 Part 15 Subpart C 15.247 (DTS)

Test Report Serial No.: ATEC15-U5 Rev A

Note: this report is one of a set of reports that together address the requirements for FCC 15.247 and FCC 15.407 compliance

Report Number	Test Report Type
ATEC15-U2	FCC CFR 47 Part 15 Subpart B
ATEC15-U5	FCC CFR 47 Part 15 Subpart 15.247 Test Report
ATEC15-U8	FCC CFR 47 Part 15 Subpart 15.407 (non-DFS) Test Report

This report supersedes: NONE

Applicant: Actiontec Electronics Inc.
760 N Mary Avenue
Sunnyvale, California 94085
USA

Product Function: 11ac Wireless Network Extender

Issue Date: 7th March 2016

This Test Report is Issued Under the Authority of:

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

ACCREDITED
TESTING CERT #2381.01

MiCOM Labs is an ISO 17025 Accredited Testing Laboratory

Table of Contents

1. ACCREDITATION, LISTINGS & RECOGNITION

1.1. Testing Accreditation

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

ilac-MRA A2LA

Accredited Laboratory

A2LA has accredited

MICOM LABS

Pleasanton, CA

for technical competence in the field of

Electrical Testing

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

Presented this 4th day of February 2016.

Senior Director of Quality & Communications
For the Accreditation Council
Certificate Number 2381.01
Valid to November 30, 2017

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

1.2. Recognition

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

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

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

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

1.3. Product Certification

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

Accredited Product Certification Body

A2LA has accredited

MICOM LABS

Pleasanton, CA

This product certification body is accredited in accordance with the recognized International Standard ISO/IEC 17065:2012 *Requirements for bodies certifying products, processes and services*. This accreditation demonstrates technical competence for a defined scope and the operation of a management system.

Presented this 4th day of February 2016.

Senior Director of Quality & Communications
For the Accreditation Council
Certificate Number 2381.02
Valid to November 30, 2017

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

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

2. DOCUMENT HISTORY

Document History		
Revision	Date	Comments
Draft	26th February 2016	
Rev A	7th March 2016	Initial Release

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

3. TEST RESULT CERTIFICATE

Manufacturer:	Actiontec Electronics Inc 760 N Mary Avenue Sunnyvale California 94085 USA	**Tested By:**	MiCOM Labs, Inc. 575 Boulder Court Pleasanton California 94566 USA
Model:	WCB5200	**Telephone:**	+1 925 462 0304
Type of Equipment:	11ac Wireless Network Extender	**Fax:**	+1 925 462 0306
S/N's:	SC4E5510300022		
Test Date(s):	8th – 18th February 2016	**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:

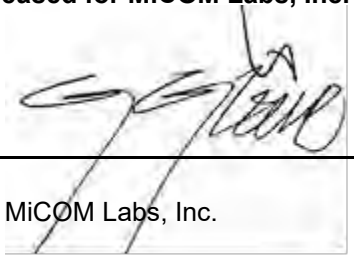
1. This document reports conditions under which testing was conducted and the results of testing performed.

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

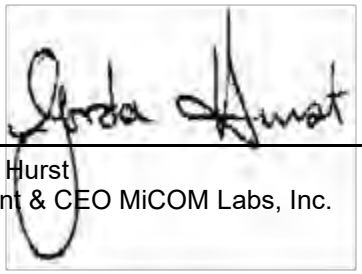
3. Test results apply only to the item(s) tested.

A2LA ACCREDITED
TESTING CERT #2381.01

Approved & Released for MiCOM Labs, Inc. by:



Graeme Grieve
Quality Manager MiCOM Labs, Inc.



Gordon Hurst
President & CEO MiCOM Labs, Inc.

4. REFERENCES AND MEASUREMENT UNCERTAINTY

4.1. Normative References

REF.	PUBLICATION	YEAR	TITLE
I	KDB 662911	Oct 31 2013	Guidance for measurement of output emission of devices that employ single transmitter with multiple outputs or systems with multiple transmitters operating simultaneously in the same frequency band
II	KDB 558074 D01 v03r03	9th June 2015	Guidance for performing compliance measurements on Digital Transmission Systems (DTS) operating under section 15.247.
III	A2LA	June 2015	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	2009	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 22	2008	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement
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	2014	Radio Frequency Devices; Subpart C – Intentional Radiators
IX	ICES-003	Issue 5 2012	Spectrum Management and Telecommunications; Interference-Causing Equipment Standard. Information Technology Equipment (ITE) – Limits and methods of measurement.
X	M 3003	Edition 3 Nov. 2012	Expression of Uncertainty and Confidence in Measurements
XI	RSS-247 Issue 1	May 2015	Digital Transmission Systems (DTSs), Frequency Hopping System (FHSs) and Licence-Exempt Local Area Network (LE-LEN) Devices
XII	RSS-Gen Issue 4	November 2014	General Requirements and Information for the Certification of Radiocommunication Equipment
XIII	KDB 644545 D03 v01	August 14th 2014	Guidance for IEEE 802.11ac New Rules
XIV	FCC 47 CFR Part 2.1033	2014	FCC requirements and rules regarding photographs and test setup diagrams.

4.2. Test and Uncertainty Procedure

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

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

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

5. PRODUCT DETAILS AND TEST CONFIGURATIONS

5.1. Technical Details

Details	Description
Purpose:	Test of the Actiontec Electronics Inc. WCB5200 to FCC CFR 47 Part 15 Subpart C 15.247 (DTS). Radio Frequency Devices; Subpart C – Intentional Radiators
Applicant:	Actiontec Electronics Inc. 760 N Mary Avenue, Sunnyvale California 94085 USA
Manufacturer:	Actiontec Electronics Inc.
Laboratory performing the tests:	MiCOM Labs, Inc. 575 Boulder Court, Pleasanton California 94566 USA
Test report reference number:	ATEC15-U5 Draft
Date EUT received:	3rd February 2016
Standard(s) applied:	FCC CFR 47 Part 15 Subpart C 15.247 (DTS)
Dates of test (from - to):	8th – 18th February 2016
No of Units Tested:	1
Type of Equipment:	11ac Wireless Network Extender
Product Family Name:	Actiontec
Model(s):	WCB5200
Location for use:	Indoor
Declared Frequency Range(s):	2400 - 2483.5 MHz;
Type of Modulation:	OFDM
EUT Modes of Operation:	802.11b; 802.11g; 802.11n HT-20; 802.11n HT-40;
Declared Nominal Output Power (Ave):	802.11b: +25dBm; 802.11g: +22dBm; 802.11n HT-20: +22dBm; 802.11n HT-40: +22dBm
Transmit/Receive Operation:	Transceiver - Half Duplex
Rated Input Voltage and Current:	AC/ DC adaptor (adaptor sold with unit) 12Vdc
Operating Temperature Range:	Declared Range 0.0°C to 40.0°C
ITU Emission Designator:	802.11b 15M5G1D 802.11g 16M7D1D 802.11n – HT-20 17M9D1D 802.11n – HT-40 36M2D1D
Equipment Dimensions:	63.5mm x 146.1mm x 203.2mm / 2.5" x 5.8" x 8.0" (W x D x H)
Weight:	0.75 pounds
Hardware Rev:	AM2
Software Rev:	v2.2.100.3bd
Primary function of equipment:	Wireless Network Extender
Secondary function of equipment:	None Provided

5.2. Scope of Test Program

Actiontec Electronics Inc. WCB5200

The scope of the test program was to test the Actiontec Electronics Inc. WCB5200 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

Actiontec Electronics Inc. WCB5200

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

Type	Description	Manufacturer	Model	Serial no.	Delivery Date
EUT	11ac Wireless Network Extender	WCB5200	WCB5200	#ATEC15-2	8th February 2016
EUT	11ac Wireless Network Extender	WCB5200	WCB5200	#ATEC15-1	5th February 2016

5.4. Antenna Details

Type	Manufacturer	Model	Family	Gain (dBi)	BF Gain	Dir BW	X-Pol	Frequency Band (MHz)
integral	Galtronics	Custom Cabled u.Fl	Dipole	2.3	-	-	-	2400 - 2483.5
integral	Galtronics	Custom Cabled u.Fl	Dipole	1.3	-	-	-	2400 - 2483.5
integral	Galtronics	Custom pcb	Dipole	4.1	-	-	-	5725 - 5850
integral	Galtronics	Custom pcb	Dipole	3.8	-	-	-	5725 - 5850

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

5.5. Cabling and I/O Ports

Port Type	Max Cable Length	# Of Ports	Screened	Conn Type	Data Type
Ethernet	100m	2	N	RJ-45	Packet Data

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
2400.0 - 2483.5 MHz				
802.11b	1.00	2412.00	2437.00	2462.00
802.11g	6.00	2412.00	2437.00	2462.00
802.11n HT-20	6.50	2412.00	2437.00	2462.00
802.11n HT-40	13.50	2422.00	2437.00	2452.00

5.7. Equipment Modifications

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

5.8. Deviations from the Test Standard

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

6. TEST SUMMARY

List of Measurements

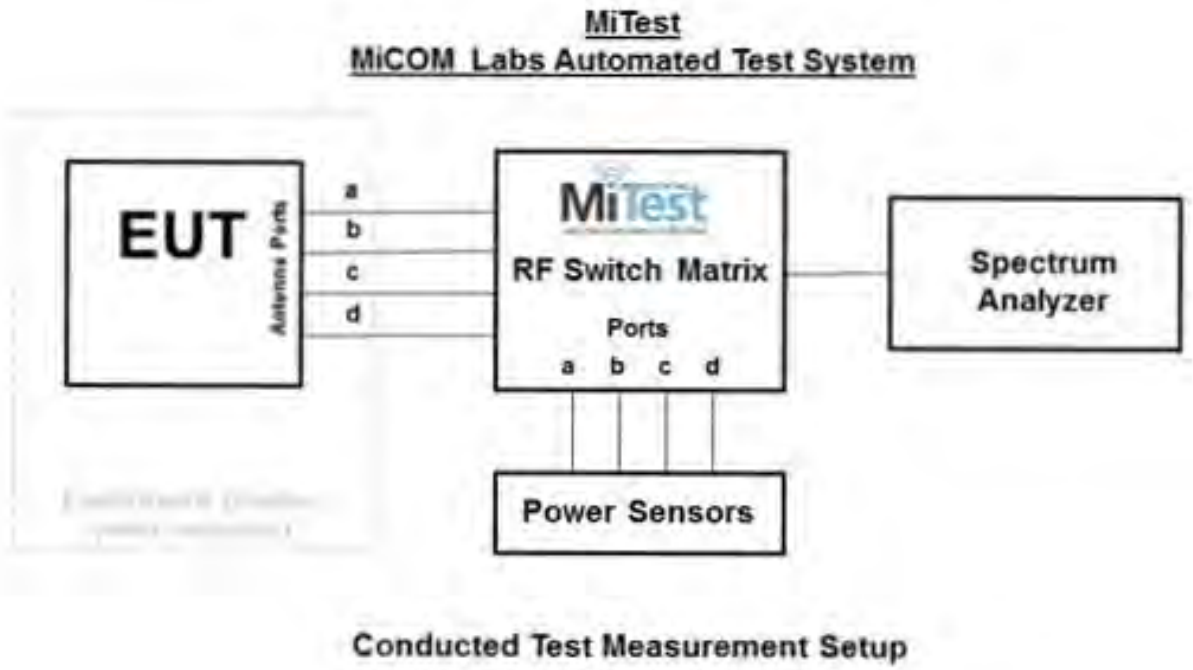
Test Header	Result	Data Link
15.247(a)(2) 6 dB & 99% Bandwidth	Complies	View Data
15.247(b), 15.31(e) Conducted Output Power	Complies	View Data
15.247(d) Emissions	Complies	-
(1) Conducted Emissions	Complies	-
(i) Conducted Spurious Emissions	Complies	View Data
(ii) Conducted Band-Edge Emissions	Complies	View Data
(2) Radiated Emissions	Complies	-
(i) 15.205 Restricted Band Emissions	Not Tested	-
(ii) 15.205 Restricted Band-Edge Emissions	Not Tested	-
(3) 15.209 Digital Emissions (0.03 - 1 GHz)	Complies*	-
(4) 15.207 AC Wireline Emissions (0.15 - 30 MHz)	Complies*	-
15.247(e) Power Spectral Density	Complies	View Data

* Results for those parameters are presented in MiCOM Labs Part 15B test report ATEC15-U2

7. TEST EQUIPMENT CONFIGURATION(S)

7.1. Conducted

Conducted RF Emission Test Set-up(s)
The following tests were performed using the conducted test set-up shown in the diagram below.
1. 6 dB & 99% Bandwidth
2. Average Output Power
3. Power Spectral Density- Average
4. Conducted Low Band-Edge Emission - Average
5. Conducted Spurious Emissions - Average
6. Conducted High Band-Edge Emission - Average



Conducted Test Measurement Setup

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

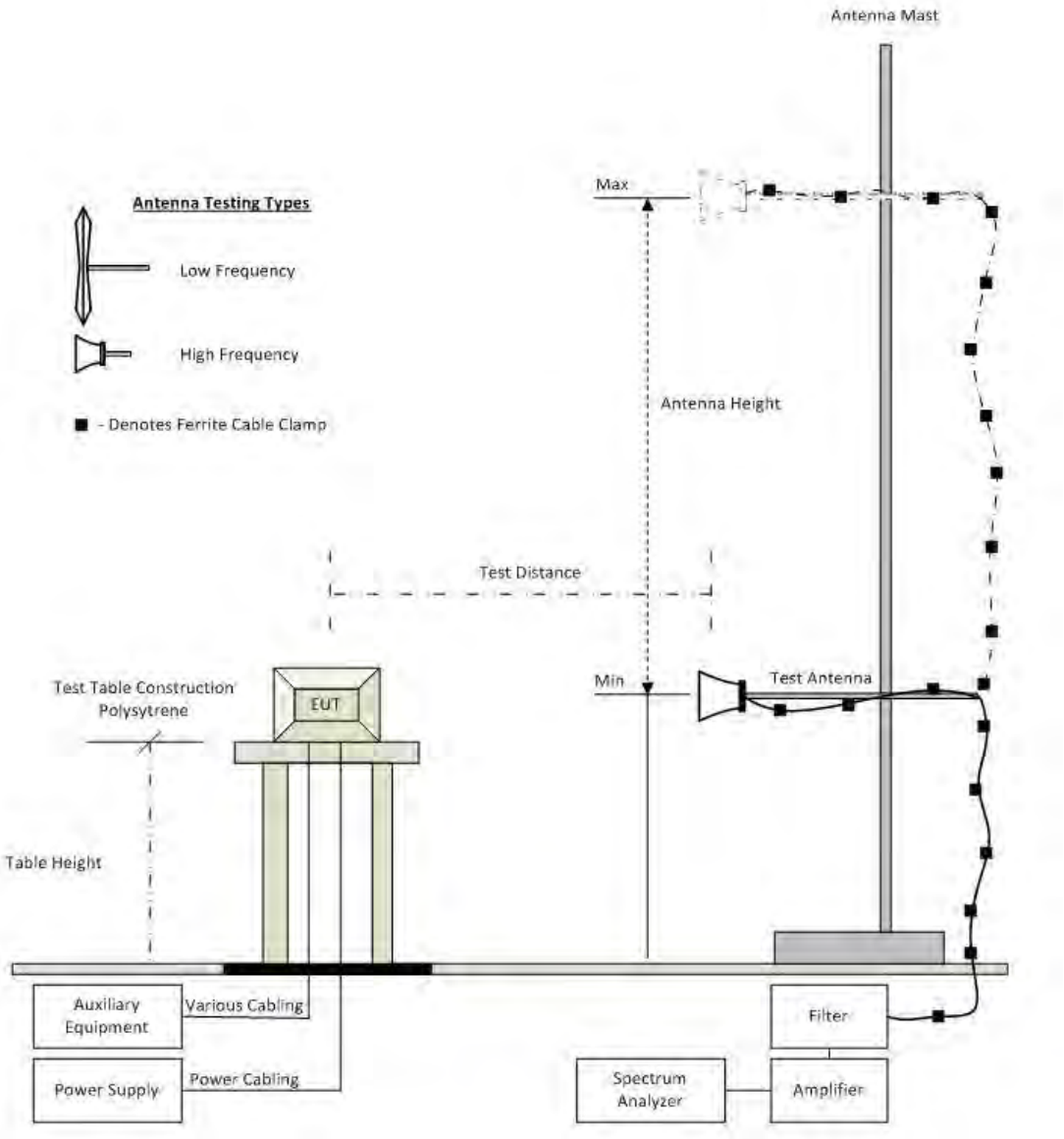
Asset#	Description	Manufacturer	Model#	Serial#	Calibration Due Date
158	Barometer/Thermometer	Control Company	4196	E2846	01 Dec 2016
287	Rohde & Schwarz 40 GHz Receiver	Rhode & Schwarz	ESIB40	100201	27 Aug 2016
376	USB 10MHz - 18GHz Average Power Sensor	Agilent	U2000A	MY51440005	23 Oct 2016
381	4x4 RF Switch Box	MiCOM Labs	MiTest RF Switch Box	MIC002	18 Jun 2016
419	Laptop with Labview Software	Lenova	W520	TS02	Not Required
420	USB to GPIB Interface	National Instruments	GPIB-USB HS	1346738	Not Required
435	USB Wideband Power Sensor	Boonton	55006	8730	31 Jul 2016
440	USB Wideband Power Sensor	Boonton	55006	9178	25 Sep 2016
441	USB Wideband Power Sensor	Boonton	55006	9179	25 Sep 2016
442	USB Wideband Power Sensor	Boonton	55006	9181	25 Sep 2016
460	Dell Computer	Dell	Optiplex330	BC944G1	Not Required
RF#2 GPIB#1	GPIB cable to Power Supply	HP	GPIB	None	Not Required
RF#2 SMA#1	EUT to Mitest box port 1	Flexco	SMA Cable port1	None	18 Jun 2016
RF#2 SMA#2	EUT to Mitest box port 2	Flexco	SMA Cable port2	None	18 Jun 2016
RF#2 SMA#3	EUT to Mitest box port 3	Flexco	SMA Cable port3	None	18 Jun 2016
RF#2 SMA#4	EUT to Mitest box port 4	Flexco	SMA Cable port4	None	18 Jun 2016
RF#2 SMA#SA	Mitest box to SA	Flexco	SMA Cable SA	None	18 Jun 2016
RF#2 USB#1	USB Cable to Mitest Box	Dynex	USB Cable	None	Not Required

7.2. Radiated Emission

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

10.7 Radiated Spurious Emissions (1 – 10 GHz)
10.8 Radiated Digital Emissions (0.03 – 1 GHz)

Radiated Emission Measurement Setup



Radiated Emission Test Setup

Asset#	Description	Manufacturer	Model#	Serial#	Calibration

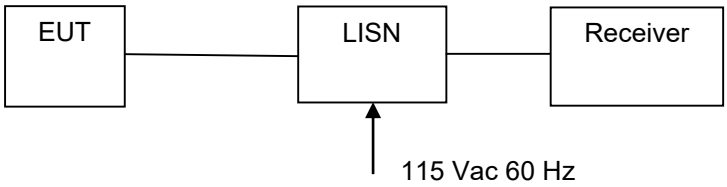
					Due Date
158	Barometer/Thermometer	Control Company	4196	E2846	01 Dec 2016
170	Video System Controller for Semi Anechoic Chamber	Panasonic	WV-CY101	04R08507	Not Required
287	Rohde & Schwarz 40 GHz Receiver	Rhode & Schwarz	ESIB40	100201	27 Aug 2016
338	Sunol 30 to 3000 MHz Antenna	Sunol	JB3	A052907	15 Aug 2016
396	2.4 GHz Notch Filter	Microtronics	BRM50701	001	18 Aug 2016
397	Amp 10 - 2500MHz	MiCOM Labs	Amp 10 - 2500 MHz	NA	24 Feb 2016
399	ETS 1-18 GHz Horn Antenna	ETS	3117	00154575	18th Oct 2016
406	Amplifier for Radiated Emissions	MiCOM Labs	40dB 1 to 18GHz Amp	0406	28 May 2016
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
447	Rad Emissions Test Software	MiCOM	Rad Emissions Test Software Version 1.0.73	447	Not Required
462	Schwarzbeck cable from Antenna to Amplifier.	Schwarzbeck	AK 9513	462	25 Feb 2016
463	Schwarzbeck cable from Amplifier to Bulkhead.	Schwarzbeck	AK 9513	463	25 Feb 2016
464	Schwarzbeck cable from Bulkhead to Receiver	Schwarzbeck	AK 9513	464	25 Feb 2016
465	Low Pass Filter DC-1000 MHz	Mini-Circuits	NLP-1200+	VUU01901402	18 Aug 2016
480	Cable - Bulkhead to Amp	SRC Haverhill	157-157-3050360	480	11 Aug 2016
481	Cable - Bulkhead to Receiver	SRC Haverhill	151-151-3050787	481	11 Aug 2016
482	Cable - Amp to Antenna	SRC Haverhill	157-157-3051574	482	11 Aug 2016

7.3. ac Wireline Emission

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

1. Section 6.1.3 ac Wireline Conducted Emissions

Conducted Test Set-Up Pictorial Representation



Measurement set up for ac Wireline Conducted Emissions Test

Asset#	Description	Manufacturer	Model#	Serial#	Calibration Due Date
158	Barometer/Thermometer	Control Company	4196	E2846	04 Dec 2016
184	Pulse Limiter	Rhode & Schwarz	ESH3Z2	357.8810.52	07 Jan 2016
190	LISN (two-line V-network)	Rhode & Schwarz	ESH3Z5	836679/006	29 Oct 2016
193	Receiver 20 Hz to 7 GHz	Rhode & Schwarz	ESI 7	838496/007	14 Jan 2016
287	Rohde & Schwarz 40 GHz Receiver	Rhode & Schwarz	ESIB40	100201	27 Aug 2016
307	BNC-CABLE	Megaphase	1689 1GVT4	15F50B002	07 Jan 2016
316	Dell desktop computer workstation with Vasona	Dell	Desktop	WS04	Not Required
372	AC Variable PS	California Instruments	1251P	L06951	Cal when used
378	Rohde & Schwarz 40 GHz Receiver with Generator	Rhode & Schwarz	ESIB40	100107/040	04 Aug 2016
388	LISN (3 Phase) 9kHz - 30MHz	Rohde & Schwarz	ESH2-Z5	892107/022	30 Oct 2016
ADAPT SMA#1	SMA Cable	Megaphase	SMA Cable #1	None	Cal when used

8. MEASUREMENT AND PRESENTATION OF TEST DATA

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

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

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

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

9. TEST RESULTS

9.1. 6 dB & 99% Bandwidth

Conducted Test Conditions for 6 dB and 99% Bandwidth			
Standard:	FCC CFR 47:15.247	**Ambient Temp. (ºC):**	24.0 - 27.5
Test Heading:	6 dB and 99 % Bandwidth	**Rel. Humidity (%):**	32 - 45
Standard Section(s):	15.247 (a)(2)	**Pressure (mBars):**	999 - 1001
Reference Document(s):	See Normative References		

Test Procedure for 6 dB and 99% Bandwidth Measurement
The bandwidth at 6 dB and 99 % was measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequency.

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

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

Limits for 6 dB and 99% Bandwidth

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

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

802.11b

Equipment Configuration for 6 dB & 99% Bandwidth

Variant:	802.11b	**Duty Cycle (%):**	99
Data Rate:	1.00 MBit/s	**Antenna Gain (dBi):**	1
Modulation:	CCK	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz) Port(s)				6 dB Bandwidth (MHz)		Limit	Lowest Margin
MHz	a	b	c	d	Highest	Lowest	KHz	MHz
2412.0	10.100	10.100	--	--	10.100	10.100	≥500.0	-9.60
2437.0	10.100	10.100	--	--	10.100	10.100	≥500.0	-9.60
2462.0	10.100	10.100	--	--	10.100	10.100	≥500.0	-9.60

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				Maximum 99% Bandwidth (MHz)		
MHz	a	b	c	d			
2412.0	15.471	15.230	--	--	15.471		
2437.0	15.471	15.311	--	--	15.471		
2462.0	15.471	15.230	--	--	15.471		

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).

802.11g

Equipment Configuration for 6 dB & 99% Bandwidth

Variant:	802.11g	**Duty Cycle (%):**	99
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	1
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz) Port(s)				6 dB Bandwidth (MHz)		Limit	Lowest Margin
MHz	a	b	c	d	Highest	Lowest	KHz	MHz
2412.0	16.593	16.593	--	--	16.593	16.593	≥500.0	-16.09
2437.0	16.593	16.593	--	--	16.593	16.593	≥500.0	-16.09
2462.0	16.593	16.593	--	--	16.593	16.593	≥500.0	-16.09

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				Maximum 99% Bandwidth (MHz)		
MHz	a	b	c	d			
2412.0	16.593	16.593	--	--	16.593		
2437.0	16.593	16.673	--	--	16.673		
2462.0	16.593	16.673	--	--	16.673		

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).

802.11n HT-20

Equipment Configuration for 6 dB & 99% Bandwidth

Variant:	802.11n HT-20	**Duty Cycle (%):**	99
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	1
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz) Port(s)				6 dB Bandwidth (MHz)		Limit	Lowest Margin
MHz	a	b	c	d	Highest	Lowest	KHz	MHz
2412.0	17.876	17.876	--	--	17.876	17.876	≥500.0	-17.38
2437.0	17.876	17.876	--	--	17.876	17.876	≥500.0	-17.38
2462.0	17.876	17.876	--	--	17.876	17.876	≥500.0	-17.38

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				Maximum 99% Bandwidth (MHz)		
MHz	a	b	c	d			
2412.0	17.876	17.876	--	--	17.876		
2437.0	17.876	17.876	--	--	17.876		
2462.0	17.876	17.876	--	--	17.876		

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

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

802.11n HT-40

Equipment Configuration for 6 dB & 99% Bandwidth

Variant:	802.11n HT-40	**Duty Cycle (%):**	99
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	1
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz) Port(s)				6 dB Bandwidth (MHz)		Limit	Lowest Margin
MHz	a	b	c	d	Highest	Lowest	KHz	MHz
2422.0	36.553	36.553	--	--	36.553	36.553	≥500.0	-36.05
2437.0	36.393	36.553	--	--	36.553	36.393	≥500.0	-35.89
2452.0	36.553	36.553	--	--	36.553	36.553	≥500.0	-36.05

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				Maximum 99% Bandwidth (MHz)		
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).

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)	**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 [$10*\text{Log}10\ (10^{a/10} + 10^{b/10} + 10^{c/10} + 10^{d/10})$]
G = Antenna Gain
Y = Beamforming Gain
x = Duty Cycle (average power measurements only)

Limits for Fundamental Emission Output Power
(b) The maximum peak conducted output power of the intentional radiator shall not exceed the following for non-frequency hopping systems:

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

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

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

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

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

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

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

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

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

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

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

802.11b

Equipment Configuration for Average Output Power

Variant:	802.11b	**Duty Cycle (%):**	99.0
Data Rate:	1.00 MBit/s	**Antenna Gain (dBi):**	1.3
Modulation:	CCK	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:	Time required (5-10 mins) to allow EUT output power to stabilize		

Test Measurement Results

Test Frequency	Measured Output Power + DCCF (+0.04 dB) (dBm) Port(s)				Calculated Total Power Σ Port(s)	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	dBm	dBm	dB	
2412.0	25.06	24.58	--	--	27.84	30.00	-2.16	58/54
2437.0	24.37	23.88	--	--	27.15	30.00	-2.85	54/54*
2462.0	23.41	23.09	--	--	26.27	30.00	-3.73	50/50**

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

DCCF - Duty Cycle Correction Factor

* Power limited by Radiated Spurious Emissions
** Power limited by Radiated Spurious Band-Edge Emissions

802.11g

Equipment Configuration for Average Output Power

Variant:	802.11g	**Duty Cycle (%):**	99.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	1.3
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:	Time required (5-10 mins) to allow EUT output power to stabilize		

Test Measurement Results

Test Frequency	Measured Output Power + DCCF (+0.04 dB) (dBm) Port(s)				Calculated Total Power Σ Port(s)	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	dBm	dBm	dB	
2412.0	21.12	21.92	--	--	24.55	30.00	-5.45	50/50**
2437.0	21.96	22.73	--	--	25.38	30.00	-4.62	61/58
2462.0	20.50	21.37	--	--	23.97	30.00	-6.03	50/50**

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

DCCF - Duty Cycle Correction Factor

* Power limited by Radiated Spurious Emissions
** Power limited by Radiated Spurious Band-Edge Emissions

802.11n HT-20

Equipment Configuration for Average Output Power

Variant:	802.11n HT-20	**Duty Cycle (%):**	99.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	1.3
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:	Time required (5-10 mins) to allow EUT output power to stabilize		

Test Measurement Results

Test Frequency	Measured Output Power + DCCF (+0.04 dB) (dBm) Port(s)				Calculated Total Power Σ Port(s)	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	dBm	dBm	dB	
2412.0	21.14	21.99	--	--	24.60	30.00	-5.40	50/50**
2437.0	21.94	22.76	--	--	25.38	30.00	-4.62	61/58
2462.0	20.49	21.39	--	--	23.98	30.00	-6.02	47/47**

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

DCCF - Duty Cycle Correction Factor

* Power limited by Radiated Spurious Emissions
** Power limited by Radiated Spurious Band-Edge Emissions

802.11n HT-40

Equipment Configuration for Average Output Power

Variant:	802.11n HT-40	**Duty Cycle (%):**	99.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	1.3
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:	Time required (5-10 mins) to allow EUT output power to stabilize		

Test Measurement Results

Test Frequency	Measured Output Power + DCCF (+0.04 dB) (dBm) Port(s)				Calculated Total Power Σ Port(s)	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	dBm	dBm	dB	
2422.0	20.74	21.47	--	--	24.13	30.00	-5.87	50/50**
2437.0	21.23	22.01	--	--	24.65	30.00	-5.35	61/58
2452.0	20.03	20.84	--	--	23.47	30.00	-6.53	47/47**

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

DCCF - Duty Cycle Correction Factor

* Power limited by Radiated Spurious Emissions
** Power limited by Radiated Spurious Band-Edge Emissions

9.3. Spurious Emissions

9.3.1. Conducted Emissions

9.3.1.1. Conducted Spurious Emissions

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

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

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

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

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

802.11b

Equipment Configuration for Transmitter Conducted Spurious Emissions

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:**	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Frequency Range	Transmitter Conducted Spurious Emissions (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	-62.044	-39.00	-62.044	-39.00	--	--	--	--
2437.0	30.0 - 26000.0	-62.044	-39.00	-62.044	-39.00	--	--	--	--
2462.0	30.0 - 26000.0	-62.044	-39.00	-62.044	-40.00	--	--	--	--

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).

802.11g

Equipment Configuration for Transmitter Conducted Spurious Emissions

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

Test Measurement Results

Test Frequency	Frequency Range	Transmitter Conducted Spurious Emissions (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	-62.044	-41.00	-62.044	-40.00	--	--	--	--
2437.0	30.0 - 26000.0	-62.044	-40.00	-62.044	-40.00	--	--	--	--
2462.0	30.0 - 26000.0	-62.044	-41.00	-62.044	-40.00	--	--	--	--

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).

802.11n HT-20

Equipment Configuration for Transmitter Conducted Spurious Emissions

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

Test Measurement Results

Test Frequency	Frequency Range	Transmitter Conducted Spurious Emissions (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	-62.044	-41.00	-62.044	-40.00	--	--	--	--
2437.0	30.0 - 26000.0	-62.044	-40.00	-62.044	-39.00	--	--	--	--
2462.0	30.0 - 26000.0	-62.044	-41.00	-62.044	-40.00	--	--	--	--

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).

802.11n HT-40

Equipment Configuration for Transmitter Conducted Spurious Emissions

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

Test Measurement Results

Test Frequency	Frequency Range	Transmitter Conducted Spurious Emissions (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	-62.044	-43.00	-62.044	-42.00	--	--	--	--
2437.0	30.0 - 26000.0	-62.044	-38.00	-62.044	-37.00	--	--	--	--
2452.0	30.0 - 26000.0	-62.044	-38.00	-62.044	-37.00	--	--	--	--

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-05 MEASUREMENT OF SPURIOUS EMISSIONS
Measurement Uncertainty:	<=40 GHz ±2.37 dB, > 40 GHz ±4.6 dB

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

9.3.1.2. Conducted Band-Edge Emissions

Conducted Low Band-Edge Emissions
802.11b

Equipment Configuration for Conducted Low Band-Edge Emissions - Average

Variant:	802.11b	**Duty Cycle (%):**	99.0
Data Rate:	1.00 MBit/s	**Antenna Gain (dBi):**	1.34
Modulation:	CCK	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
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	-28.70	-25.00	2401.80	--	--	-1.800
b	-30.22	-25.00	2401.90	--	--	-1.900

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).

802.11g

Equipment Configuration for Conducted Low Band-Edge Emissions - Average

Variant:	802.11g	**Duty Cycle (%):**	99.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	1.34
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:	Revised Limit comes from operational mode 802.11b, frequency 2412 MHz.		

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)	M1 Amplitude (dBm)	Plot Limit (dBm)	M2 Frequency (MHz)	(MHz)
a	-31.06	-30.00	2400.50	--	--	--	-0.500
b	-28.76	-30.00	2399.10	-28.76	-25.00	2401.511	-1.511

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).

802.11n HT-20

Equipment Configuration for Conducted Low Band-Edge Emissions - Average

Variant:	802.11n HT-20	**Duty Cycle (%):**	99.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	1.34
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:	Revised Limit derived from operational mode 802.11b, frequency 2412 MHz.		

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)	M1 Amplitude (dBm)	Plot Limit (dBm)	M2 Frequency (MHz)	(MHz)
a	-31.22	-30.00	2400.50	--	--	--	-0.500
b	-28.84	-30.00	2399.10	-28.84	-25.00	2401.078	-1.078

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).

802.11n HT-40

Equipment Configuration for Conducted Low Band-Edge Emissions - Average

Variant:	802.11n HT-40	**Duty Cycle (%):**	99.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	1.34
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:	Revised Limit derived from operational mode 802.11b, frequency 2412 MHz.		

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)	M1 Amplitude (dBm)	Plot Limit (dBm)	M2 Frequency (MHz)	(MHz)
a	-34.48	-34.00	2399.90	-34.48	-25.00	2402.922	-2.922
b	-32.71	-34.00	2399.60	-32.71	-25.00	2402.922	-2.922

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).

Conducted High Band-Edge Emissions
802.11b

Equipment Configuration for Conducted High Band-Edge Emissions - Average

Variant:	802.11b	**Duty Cycle (%):**	99.0
Data Rate:	1.00 MBit/s	**Antenna Gain (dBi):**	1.34
Modulation:	CCK	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
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	5.06	-25.00	2471.80	--	--	-11.700
b	-53.98	-26.00	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

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

802.11g

Equipment Configuration for Conducted High Band-Edge Emissions - Average

Variant:	802.11g	**Duty Cycle (%):**	99.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	1.34
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
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	-42.12	-30.00	2473.50	--	--	-10.000
b	-39.31	-30.00	2474.70	--	--	-8.800

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).

802.11n HT-20

Equipment Configuration for Conducted High Band-Edge Emissions - Average

Variant:	802.11n HT-20	**Duty Cycle (%):**	99.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	1.34
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
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	-40.15	-30.00	2473.50	--	--	-10.000
b	-37.61	-30.00	2475.40	--	--	-8.100

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).

802.11n HT-40

Equipment Configuration for Conducted High Band-Edge Emissions - Average

Variant:	802.11n HT-40	**Duty Cycle (%):**	99.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	1.34
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

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	-40.60	-35.00	2473.80	--	--	-9.700
b	-4.38	-34.00	2473.80	--	--	-9.700

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

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

9.3.2. Radiated Emissions

9.3.2.3. Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Galtronics Custom Cabled u.FI	**Variant:**	802.11b
Antenna Gain (dBi):	1.34	**Modulation:**	CCK
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	2412.00	**Data Rate:**	1.00 MBit/s
Power Setting:	54/54	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	2411.04	53.50	2.69	-11.80	44.39	Fundamental	Vertical	151	1	--	--	
#2	4823.93	61.10	3.54	-11.15	53.49	Max Avg	Horizontal	120	157	54.0	-0.5	Pass
#3	4823.93	63.26	3.54	-11.15	55.65	Max Peak	Horizontal	120	157	74.0	-18.4	Pass
#4	7236.59	54.54	4.25	-7.34	51.45	Peak (NRB)	Horizontal	151	102	--	--	Pass
#5	9647.74	55.64	5.29	-6.08	54.85	Peak (NRB)	Vertical	151	102	--	--	Pass

Test Notes: EUT on 150cm table powered by AC/DC PS. Connected to laptop inside chamber via USB to serial converter. Reduced power on port A to 54 from 58 to bring 4.8 GHz into compliance.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Galtronics Custom Cabled u.Fl	**Variant:**	802.11b
Antenna Gain (dBi):	1.34	**Modulation:**	CCK
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	2437.00	**Data Rate:**	1.00 MBit/s
Power Setting:	54/54	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	2441.08	59.90	2.72	-11.72	50.90	Fundamental	Vertical	101	1	--	--	
#2	4883.83	60.38	3.64	-11.27	52.75	Max Avg	Horizontal	134	360	54.0	-1.3	Pass
#3	4883.83	62.88	3.64	-11.27	55.25	Max Peak	Horizontal	134	360	74.0	-18.8	Pass
#4	7326.61	50.79	4.27	-7.26	47.80	Max Avg	Horizontal	167	37	54.0	-6.2	Pass
#5	7326.61	57.11	4.27	-7.26	54.12	Max Peak	Horizontal	167	37	74.0	-19.9	Pass
#6	9767.76	55.83	5.19	-6.20	54.82	Peak (NRB)	Horizontal	151	33	--	--	Pass

Test Notes: EUT on 150cm table powered by AC/DC PS. Connected to laptop inside chamber via USB to serial converter. Reduced power on port A to 54 from 58 to bring 4.8 GHz into compliance.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Galtronics Custom Cabled u.Fl	**Variant:**	802.11b
Antenna Gain (dBi):	1.34	**Modulation:**	CCK
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	2462.00	**Data Rate:**	1.00 MBit/s
Power Setting:	50/50	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	2462.89	60.29	2.74	-11.67	51.36	Fundamental	Vertical	101	0	--	--	
#2	4923.87	60.93	3.58	-11.38	53.13	Max Avg	Horizontal	100	336	54.0	-0.9	Pass
#3	4923.87	63.38	3.58	-11.38	55.58	Max Peak	Horizontal	100	336	74.0	-18.4	Pass
#4	7384.85	50.44	4.29	-7.17	47.56	Max Avg	Horizontal	166	40	54.0	-6.4	Pass
#5	7384.85	57.62	4.29	-7.17	54.74	Max Peak	Horizontal	166	40	74.0	-19.3	Pass
#6	9847.76	53.14	5.39	-5.94	52.59	Peak (NRB)	Horizontal	187	53	--	--	Pass

Test Notes: EUT on 150cm table powered by AC/DC PS. Connected to laptop inside chamber via USB to serial converter. Reduced power on to 50 on both port from 58 to bring 4.8 GHz into compliance.

9.3.2.4. Restricted Band-Edge Emissions

Equipment Configuration for Radiated - Lower Restricted Band-Edge Emissions			
Antenna:	Galtronics Custom Cabled u.Fl	**Variant:**	802.11b
Antenna Gain (dBi):	1.34	**Modulation:**	CCK
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	2412.00	**Data Rate:**	1.00 MBit/s
Power Setting:	51/51	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	2386.21	18.79	2.68	32.01	53.48	Max Avg	Horizontal	173	199	54.0	-0.5	Pass
#2	2386.93	27.71	2.68	32.02	62.41	Max Peak	Horizontal	173	199	74.0	-11.6	Pass

Test Notes: EUT on 150cm table powered by AC/DC PS. Connected to laptop inside chamber via USB to serial converter.

Equipment Configuration for Radiated - Lower Restricted Band-Edge Emissions

Antenna:	Galtronics Custom Cabled u.FI	**Variant:**	802.11g
Antenna Gain (dBi):	1.34	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	2412.00	**Data Rate:**	6.00 MBit/s
Power Setting:	50/50	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	2389.28	34.54	2.68	32.04	69.26	Max Peak	Horizontal	173	199	74.0	-4.7	Pass
#2	2390.00	18.01	2.69	32.04	52.74	Max Avg	Horizontal	173	199	54.0	-1.3	Pass

Test Notes: EUT on 150cm table powered by AC/DC PS. Connected to laptop inside chamber via USB to serial converter.

Equipment Configuration for Radiated - Lower Restricted Band-Edge Emissions

Antenna:	Galtronics Custom Cabled u.FI	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	1.34	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	2412.00	**Data Rate:**	6.50 MBit/s
Power Setting:	50/50	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	2390.00	19.16	2.69	32.04	53.89	Max Avg	Horizontal	173	199	54.0	-0.1	Pass
#2	2390.00	38.04	2.69	32.04	72.77	Max Peak	Horizontal	173	199	74.0	-1.2	Pass

Test Notes: EUT on 150cm table powered by AC/DC PS. Connected to laptop inside chamber via USB to serial converter.

Equipment Configuration for Radiated - Lower Restricted Band-Edge Emissions

Antenna:	Galtronics Custom Cabled u.FI	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	1.34	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	2422.00	**Data Rate:**	13.50 MBit/s
Power Setting:	50/50	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	2388.56	33.81	2.68	32.04	68.53	Max Peak	Horizontal	173	199	74.0	-5.5	Pass
#2	2390.00	18.71	2.69	32.04	53.44	Max Avg	Horizontal	173	199	54.0	-0.6	Pass

Test Notes: EUT on 150cm table powered by AC/DC PS. Connected to laptop inside chamber via USB to serial converter.

Equipment Configuration for Radiated - Upper Restricted Band-Edge Emissions

Antenna:	Galtronics Custom Cabled u.FI	**Variant:**	802.11b
Antenna Gain (dBi):	1.34	**Modulation:**	CCK
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	2462.00	**Data Rate:**	1.00 MBit/s
Power Setting:	50/50	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	2483.63	25.81	2.73	32.37	60.91	Max Peak	Horizontal	182	201	74.0	-13.1	Pass
#2	2500.03	18.02	2.73	32.40	53.15	Max Avg	Horizontal	182	201	54.0	-0.9	Pass

Test Notes: EUT on 150cm table powered by AC/DC PS. Connected to laptop inside chamber via USB to serial converter.

Equipment Configuration for Radiated - Upper Restricted Band-Edge Emissions

Antenna:	Galtronics Custom Cabled u.FI	**Variant:**	802.11g
Antenna Gain (dBi):	1.34	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	2462.00	**Data Rate:**	6.00 MBit/s
Power Setting:	50/50	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	2484.83	35.30	2.73	32.37	70.40	Max Peak	Horizontal	182	201	74.0	-3.6	Pass
#2	2500.03	18.45	2.73	32.40	53.58	Max Avg	Horizontal	182	201	54.0	-0.4	Pass

Test Notes: EUT on 150cm table powered by AC/DC PS. Connected to laptop inside chamber via USB to serial converter.

Equipment Configuration for Radiated - Upper Restricted Band-Edge Emissions

Antenna:	Galtronics Custom Cabled u.FI	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	1.34	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	2462.00	**Data Rate:**	6.50 MBit/s
Power Setting:	47/47	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	2484.03	32.33	2.73	32.37	67.43	Max Peak	Horizontal	182	201	74.0	-6.6	Pass
#2	2500.03	18.65	2.73	32.40	53.78	Max Avg	Horizontal	182	201	54.0	-0.2	Pass

Test Notes: EUT on 150cm table powered by AC/DC PS. Connected to laptop inside chamber via USB to serial converter.

Equipment Configuration for Radiated - Upper Restricted Band-Edge Emissions

Antenna:	Galtronics Custom Cabled u.FI	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	1.34	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	2452.00	**Data Rate:**	13.50 MBit/s
Power Setting:	47/47	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	2483.77	27.07	2.73	32.37	62.17	Max Peak	Horizontal	182	201	74.0	-11.8	Pass
#2	2500.03	18.38	2.73	32.40	53.51	Max Avg	Horizontal	182	201	54.0	-0.5	Pass

Test Notes: EUT on 150cm table powered by AC/DC PS. Connected to laptop inside chamber via USB to serial converter.

9.3.3. Digital Emissions (0.03 - 1 GHz)

Results for Digital Emissions (0.03 – 1 GHz) are presented in MiCOM Labs FCC Part 15B test report ATEC15-U2.

9.4. Power Spectral Density

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

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

Where the device operated with multiple antenna ports i.e. MIMO device, each port was measured separately. The Peak Power Spectral Density is the highest level found across the emission bandwidth. With multiple antenna port measurements the numerical analyzer data from each port is summed (å) and a link to this additional graphic is provided.

Testing was performed under ambient conditions at nominal voltage only.

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

Measure and sum the spectra across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The individual spectra are then summed mathematically in linear power units. Unlike in-band power measurements, in which the sum involves a single measured value (output power) from each output, measurements for compliance with PSD limits involve summing entire spectra across corresponding frequency bins on the various outputs. Consistency is maintained for any device with multiple transmitter outputs to be certain the individual outputs are all aligned with the same span and same number of points. In this instance, the linear power spectrum value within the first spectral bin of output 0 is summed with that in the first spectral bin of output 1, and the first spectral bin of output 2, and so on up to the Nth output to obtain the true value for the first frequency bin of the summed spectrum. The summed spectrum value for each frequency bin is computed in this fashion. These summed spectral values were post processed and the resulting numerical and graphical data presented.

NOTE:
It may be observed that the spectrum in some antenna port plots break the limit line however this in itself does NOT constitute a failure. In all cases a spectrum summation plot is provided in order to prove compliance. A failure occurs only after the summation of all spectrum plots have been summed and are found to be greater than the limit line.

Supporting Information
Calculated Power = A + 10 log (1/x) dBm
A = Total Power Spectral Density [10 Log10 ($10^{a/10} + 10^{b/10} + 10^{c/10} + 10^{d/10}$)]
x = Duty Cycle

Limits Power Spectral Density
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than +8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

802.11b

Equipment Configuration for Power Spectral Density - Average

Variant:	802.11b	**Duty Cycle (%):**	99.0
Data Rate:	1.00 MBit/s	**Antenna Gain (dBi):**	1.34
Modulation:	CCK	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/3KHz)				Amplitude Summation + DCCF (+0.04 dB)	Limit	Margin
MHz	a	b	c	d	dBm/3KHz	dBm/3KHz	dB
2412.0	-8.655	-9.202	--	--	-5.865	8.0	-13.9
2437.0	-8.931	-9.382	--	--	-6.096	8.0	-14.1
2462.0	-9.209	-9.558	--	--	-6.326	8.0	-14.3

Traceability to Industry Recognized Test Methodologies

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

DCCF - Duty Cycle Correction Factor

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

802.11g

Equipment Configuration for Power Spectral Density - Average

Variant:	802.11g	**Duty Cycle (%):**	99.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	1.34
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/3KHz)				Amplitude Summation + DCCF (+0.04 dB)	Limit	Margin
MHz	a	b	c	d	dBm/3KHz	dBm/3KHz	dB
2412.0	-14.294	-13.504	--	--	-10.911	8.0	-18.9
2437.0	-14.718	-13.941	--	--	-11.264	8.0	-19.3
2462.0	-14.988	-14.135	--	--	-11.544	8.0	-19.6

Traceability to Industry Recognized Test Methodologies

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

DCCF - Duty Cycle Correction Factor

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

802.11n HT-20

Equipment Configuration for Power Spectral Density - Average			
Variant:	802.11n HT-20	**Duty Cycle (%):**	99.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	1.34
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/3KHz)				Amplitude Summation + DCCF (+0.04 dB)	Limit	Margin
MHz	a	b	c	d	dBm/3KHz	dBm/3KHz	dB
2412.0	-14.830	-14.044	--	--	-11.386	8.0	-19.4
2437.0	-15.148	-14.347	--	--	-11.675	8.0	-19.7
2462.0	-15.448	-14.347	--	--	-11.869	8.0	-19.9

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

DCCF - Duty Cycle Correction Factor

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

802.11n HT-40

Equipment Configuration for Power Spectral Density - Average			
Variant:	802.11n HT-40	**Duty Cycle (%):**	99.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	1.34
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/3KHz)				Amplitude Summation + DCCF (+0.04 dB)	Limit	Margin
MHz	a	b	c	d	dBm/3KHz	dBm/3KHz	dB
2422.0	-18.766	-18.142	--	--	-15.389	8.0	-23.4
2437.0	-19.178	-18.416	--	--	-15.726	8.0	-23.7
2452.0	-19.343	-18.611	--	--	-15.955	8.0	-24.0

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).

9.5. AC Wireline Emissions (0.15 – 30 MHz)

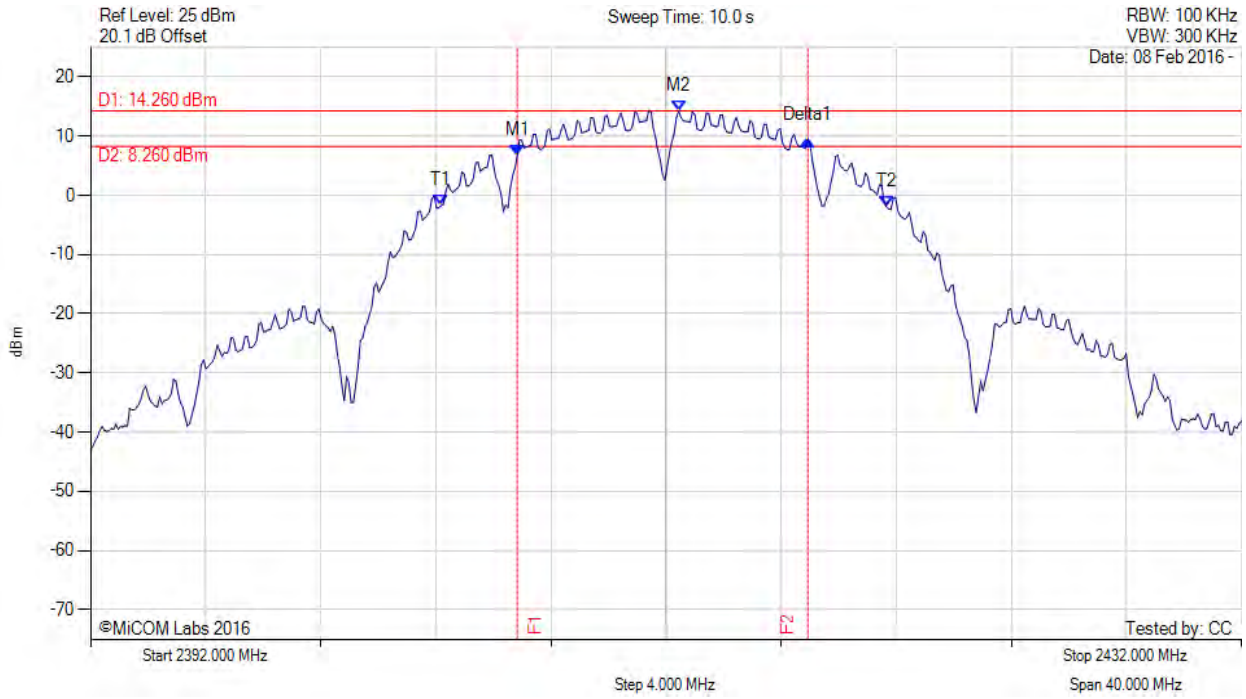
Results for AC Wireline Emissions (0.15 – 30 MHz) are presented in MiCOM Labs FCC Part 15B test report ATEC15-U2.

A. APPENDIX - GRAPHICAL IMAGES

A.1. 6 dB & 99% Bandwidth

6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2412.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

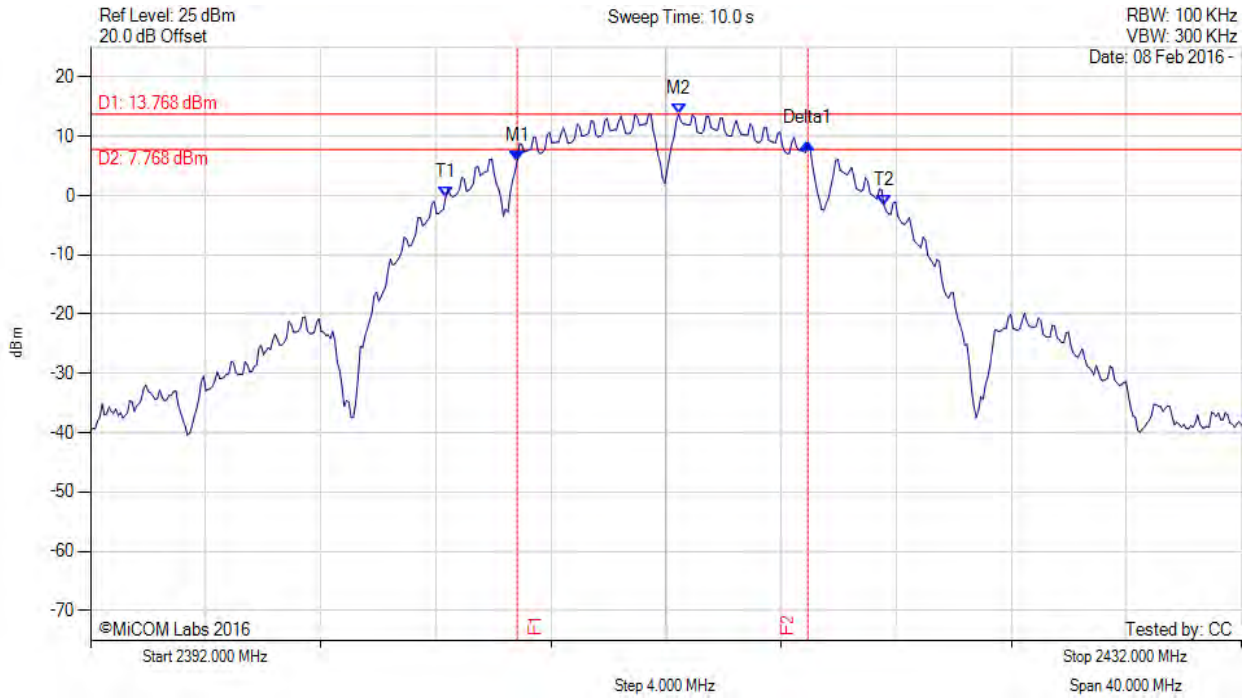


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2406.830 MHz : 6.641 dBm M2 : 2412.441 MHz : 14.260 dBm Delta1 : 10.100 MHz : 2.744 dB T1 : 2404.184 MHz : -1.746 dBm T2 : 2419.655 MHz : -1.856 dBm OBW : 15.471 MHz	Measured 6 dB Bandwidth: 10.100 MHz Limit: ≥500.0 kHz Margin: -9.60 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2412.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

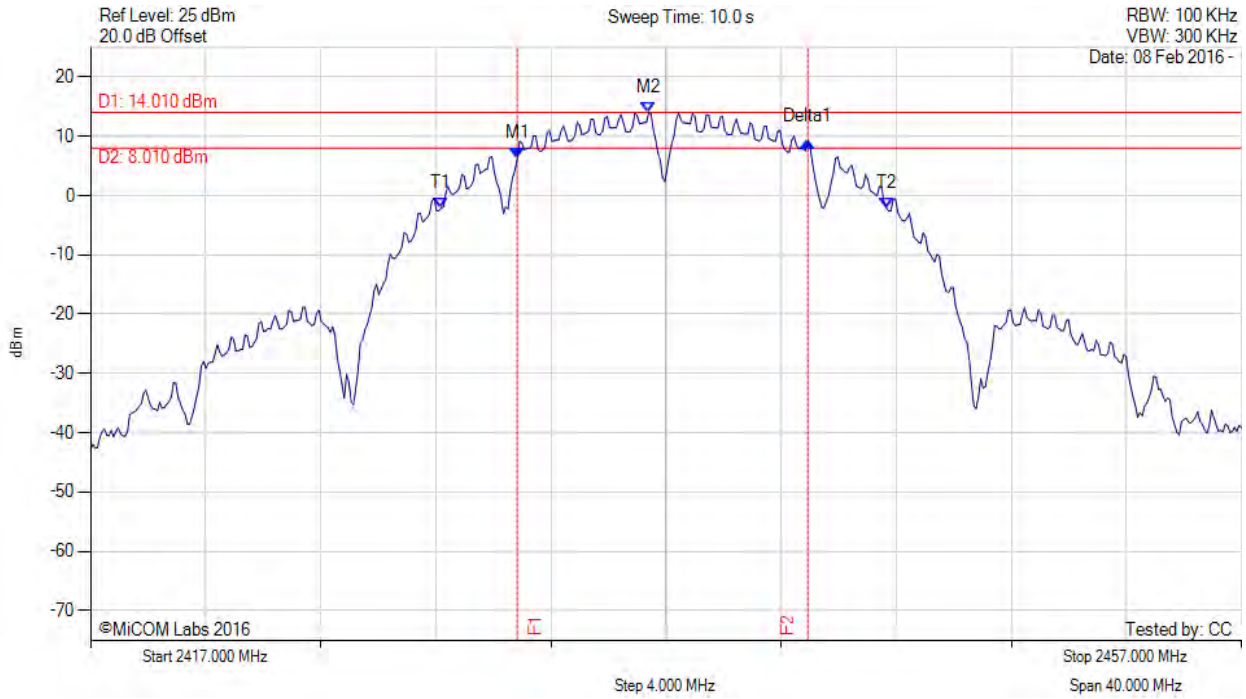


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2406.830 MHz : 5.883 dBm M2 : 2412.441 MHz : 13.768 dBm Delta1 : 10.100 MHz : 2.925 dB T1 : 2404.345 MHz : -0.190 dBm T2 : 2419.575 MHz : -1.638 dBm OBW : 15.230 MHz	Measured 6 dB Bandwidth: 10.100 MHz Limit: ≥500.0 kHz Margin: -9.60 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

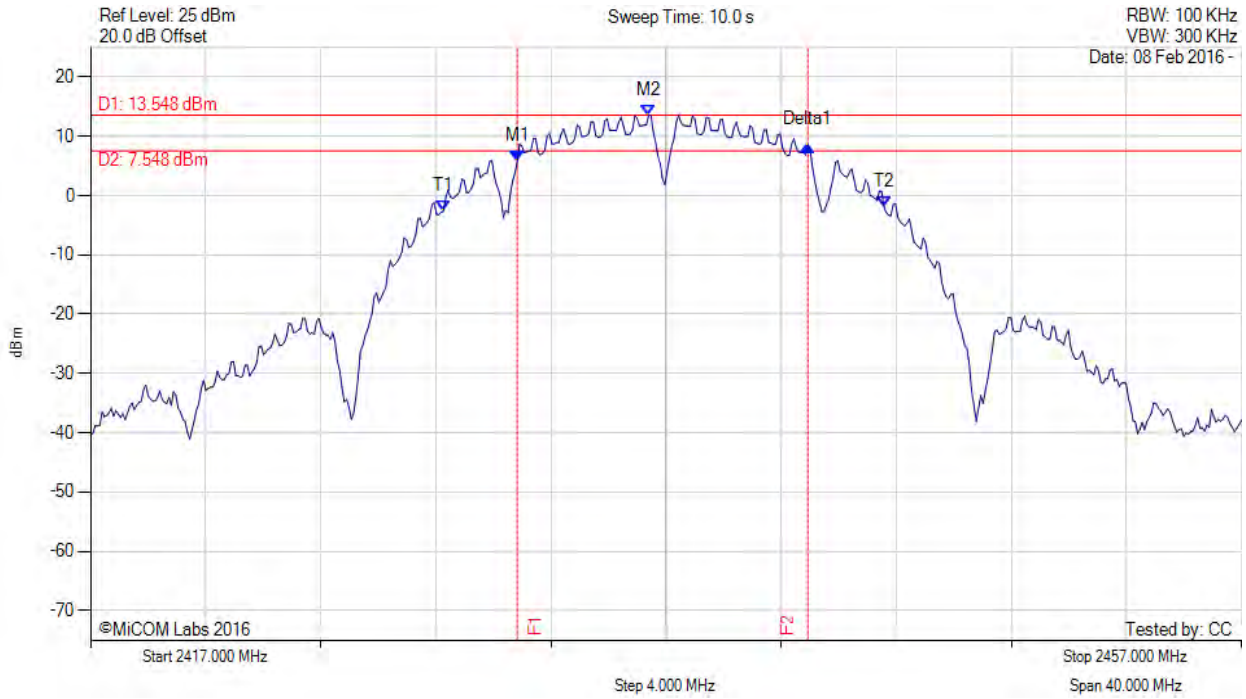


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2431.830 MHz : 6.288 dBm M2 : 2436.399 MHz : 14.010 dBm Delta1 : 10.100 MHz : 2.829 dB T1 : 2429.184 MHz : -2.130 dBm T2 : 2444.655 MHz : -2.041 dBm OBW : 15.471 MHz	Measured 6 dB Bandwidth: 10.100 MHz Limit: ≥500.0 kHz Margin: -9.60 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2437.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

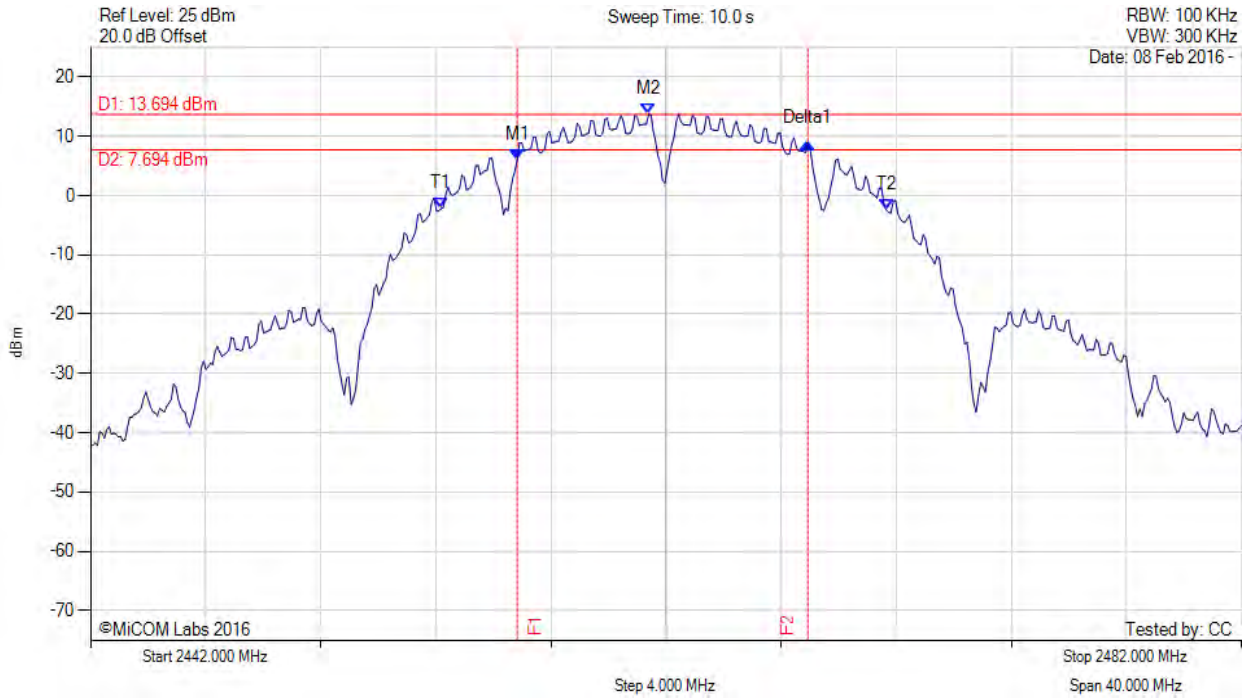


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2431.830 MHz : 5.763 dBm M2 : 2436.399 MHz : 13.548 dBm Delta1 : 10.100 MHz : 2.737 dB T1 : 2429.265 MHz : -2.612 dBm T2 : 2444.575 MHz : -1.896 dBm OBW : 15.311 MHz	Measured 6 dB Bandwidth: 10.100 MHz Limit: ≥500.0 kHz Margin: -9.60 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2462.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

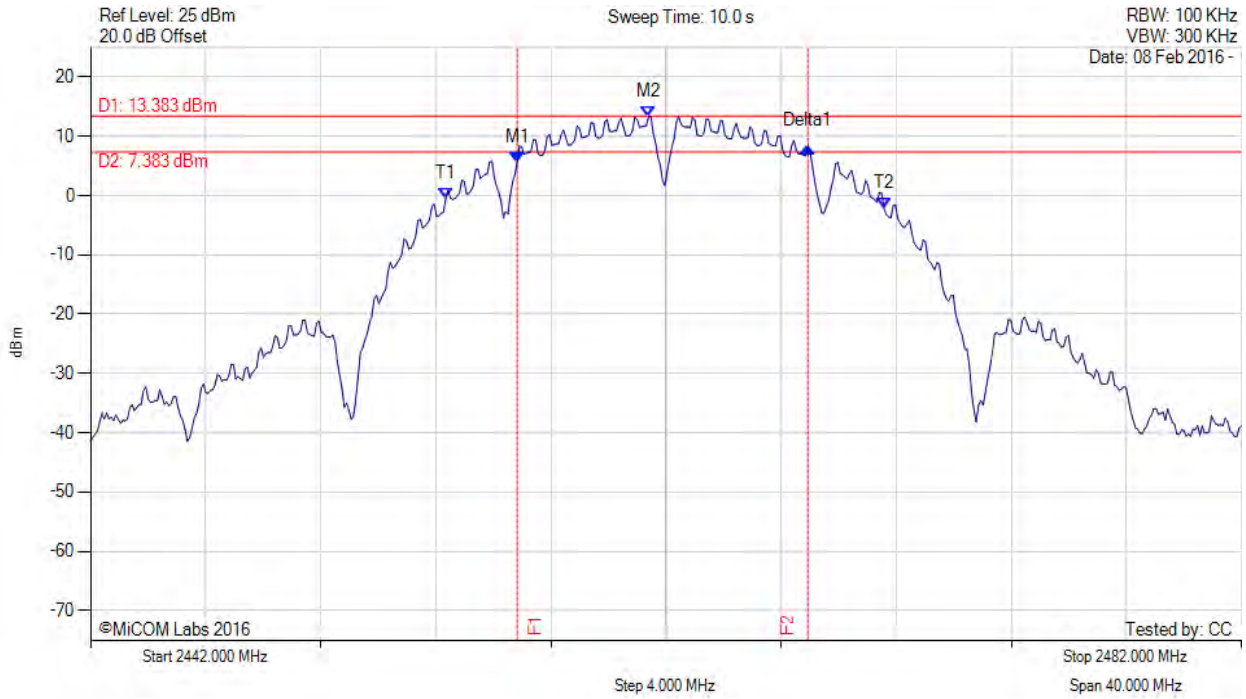


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2456.830 MHz : 6.133 dBm M2 : 2461.399 MHz : 13.694 dBm Delta1 : 10.100 MHz : 2.644 dB T1 : 2454.184 MHz : -2.212 dBm T2 : 2469.655 MHz : -2.405 dBm OBW : 15.471 MHz	Measured 6 dB Bandwidth: 10.100 MHz Limit: ≥500.0 kHz Margin: -9.60 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11b, Channel: 2462.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

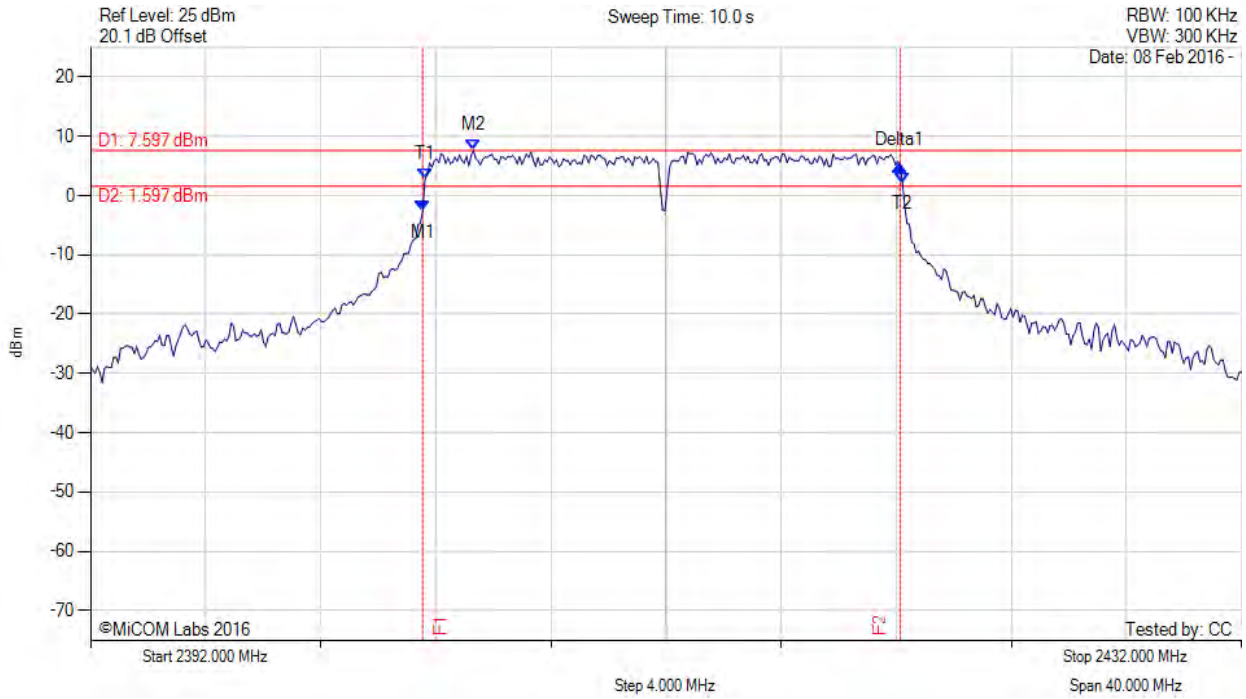


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2456.830 MHz : 5.659 dBm M2 : 2461.399 MHz : 13.383 dBm Delta1 : 10.100 MHz : 2.613 dB T1 : 2454.345 MHz : -0.524 dBm T2 : 2469.575 MHz : -2.116 dBm OBW : 15.230 MHz	Measured 6 dB Bandwidth: 10.100 MHz Limit: ≥500.0 kHz Margin: -9.60 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2412.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

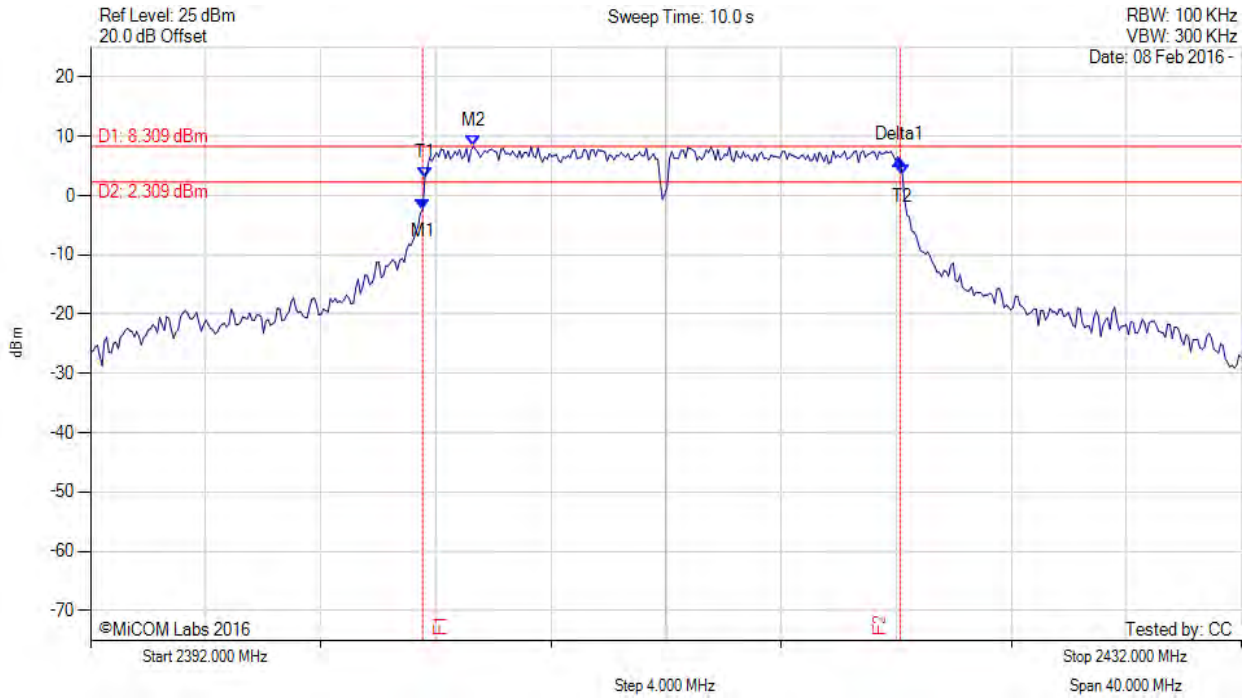


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2403.543 MHz : -2.639 dBm M2 : 2405.307 MHz : 7.597 dBm Delta1 : 16.593 MHz : 7.698 dB T1 : 2403.623 MHz : 2.726 dBm T2 : 2420.216 MHz : 2.167 dBm OBW : 16.593 MHz	Measured 6 dB Bandwidth: 16.593 MHz Limit: ≥500.0 kHz Margin: -16.09 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2412.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

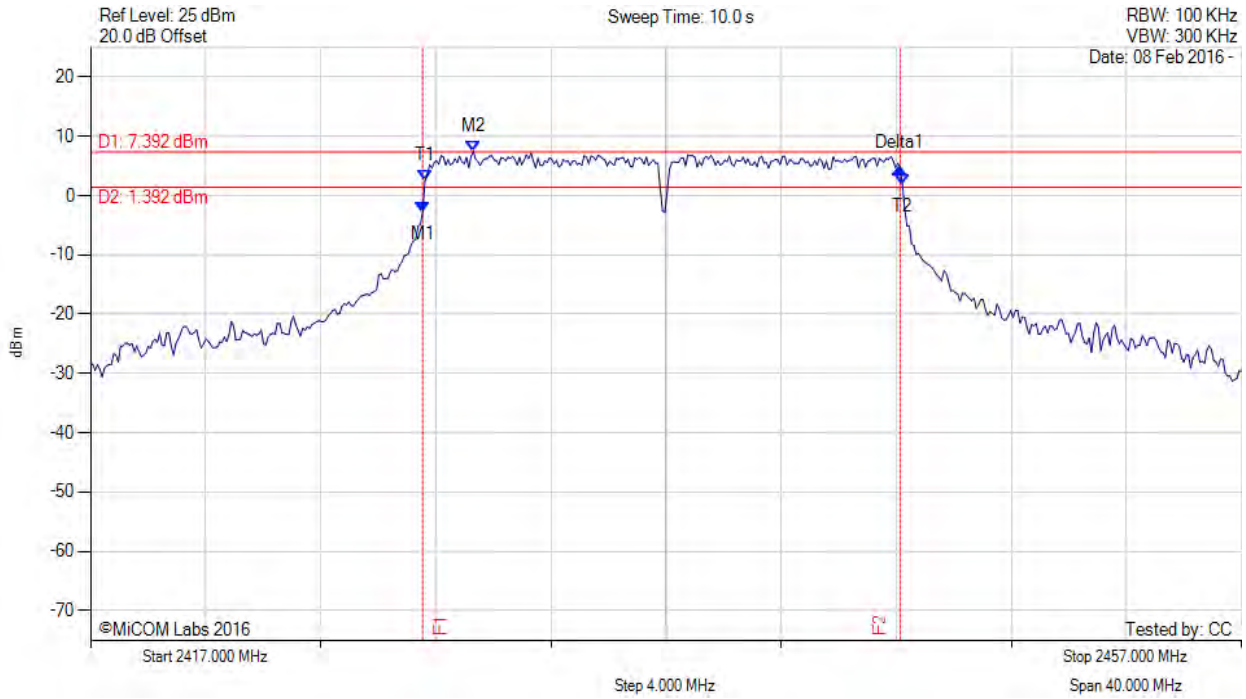


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2403.543 MHz : -2.423 dBm M2 : 2405.307 MHz : 8.309 dBm Delta1 : 16.593 MHz : 8.395 dB T1 : 2403.623 MHz : 3.064 dBm T2 : 2420.216 MHz : 3.485 dBm OBW : 16.593 MHz	Measured 6 dB Bandwidth: 16.593 MHz Limit: ≥500.0 kHz Margin: -16.09 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

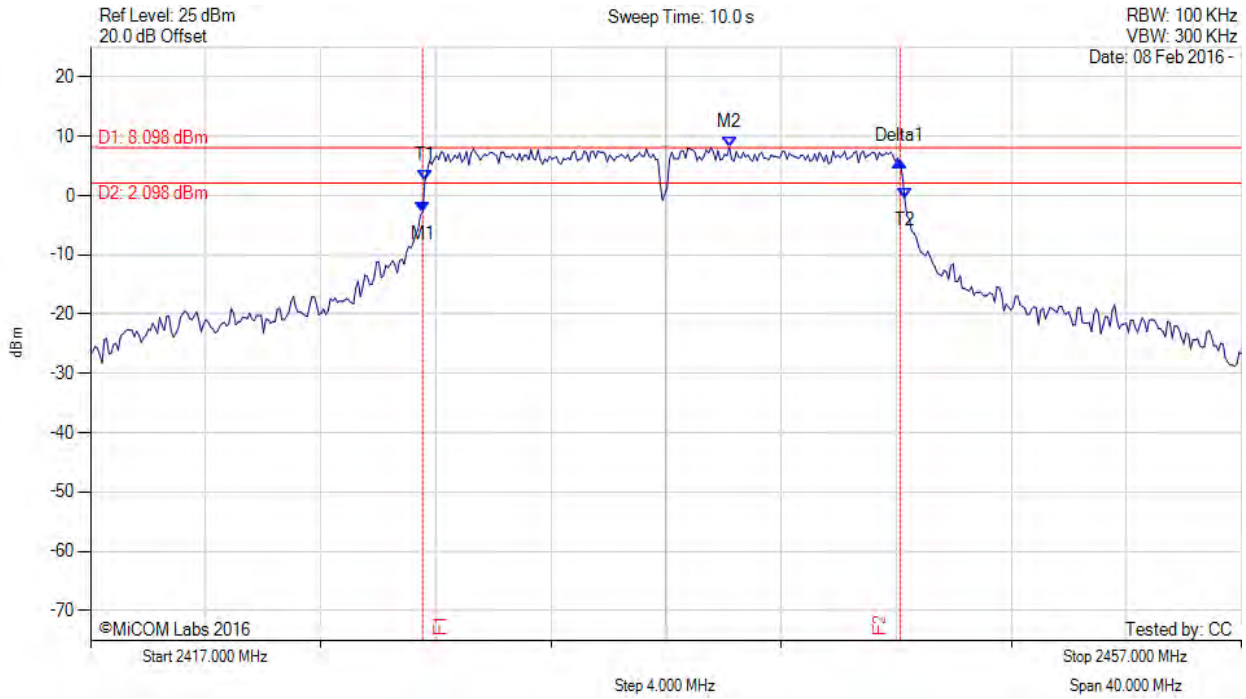


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2428.543 MHz : -2.840 dBm M2 : 2430.307 MHz : 7.392 dBm Delta1 : 16.593 MHz : 7.490 dB T1 : 2428.623 MHz : 2.521 dBm T2 : 2445.216 MHz : 1.832 dBm OBW : 16.593 MHz	Measured 6 dB Bandwidth: 16.593 MHz Limit: ≥500.0 kHz Margin: -16.09 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2437.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

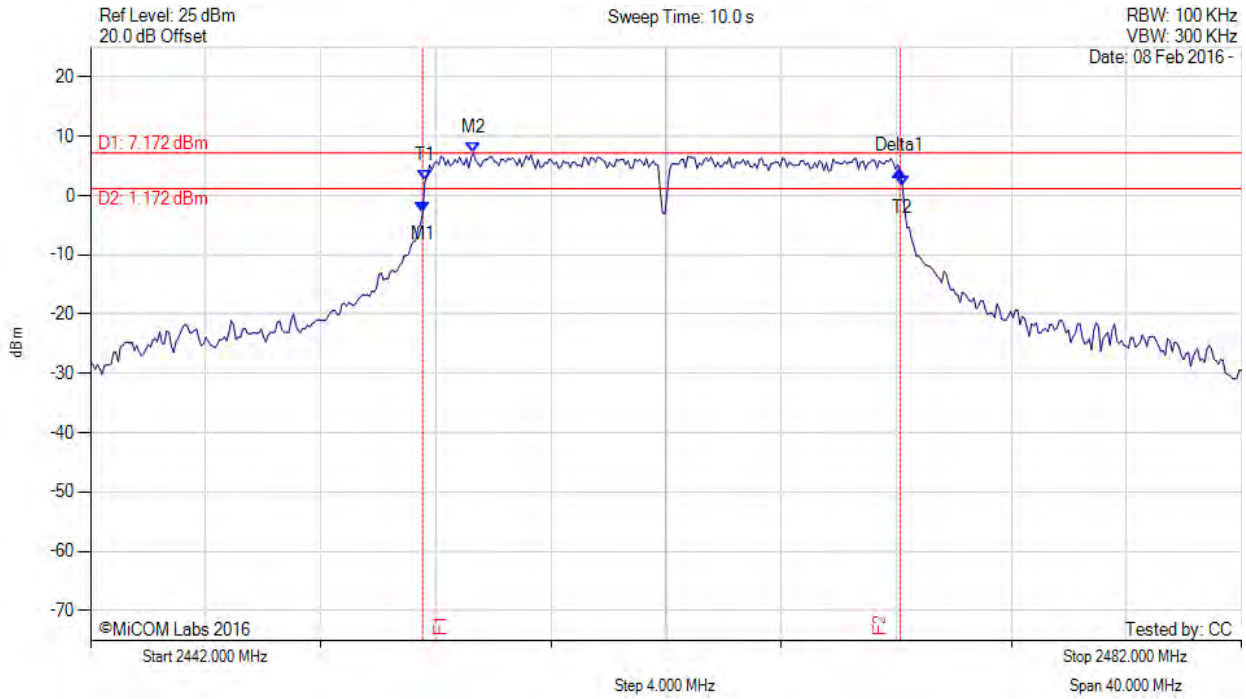


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2428.543 MHz : -2.814 dBm M2 : 2439.204 MHz : 8.098 dBm Delta1 : 16.593 MHz : 8.542 dB T1 : 2428.623 MHz : 2.586 dBm T2 : 2445.297 MHz : -0.536 dBm OBW : 16.673 MHz	Measured 6 dB Bandwidth: 16.593 MHz Limit: ≥500.0 kHz Margin: -16.09 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2462.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

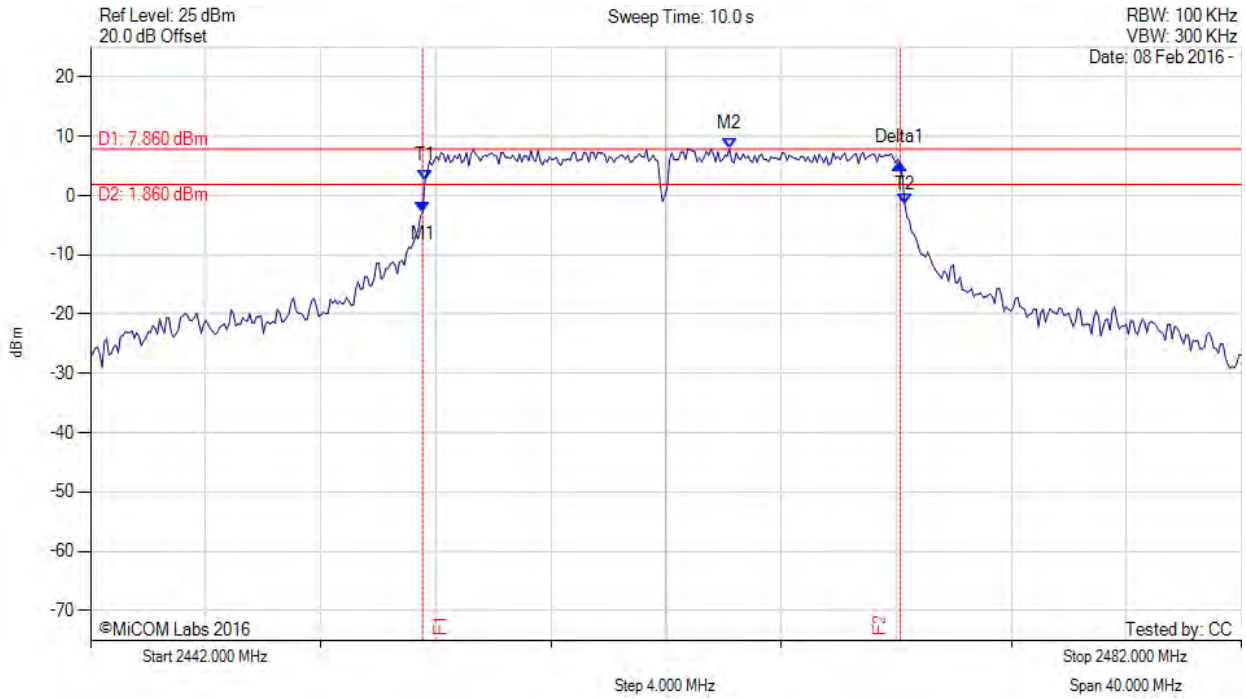


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2453.543 MHz : -2.887 dBm M2 : 2455.307 MHz : 7.172 dBm Delta1 : 16.593 MHz : 7.114 dB T1 : 2453.623 MHz : 2.476 dBm T2 : 2470.216 MHz : 1.529 dBm OBW : 16.593 MHz	Measured 6 dB Bandwidth: 16.593 MHz Limit: ≥500.0 kHz Margin: -16.09 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11g, Channel: 2462.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

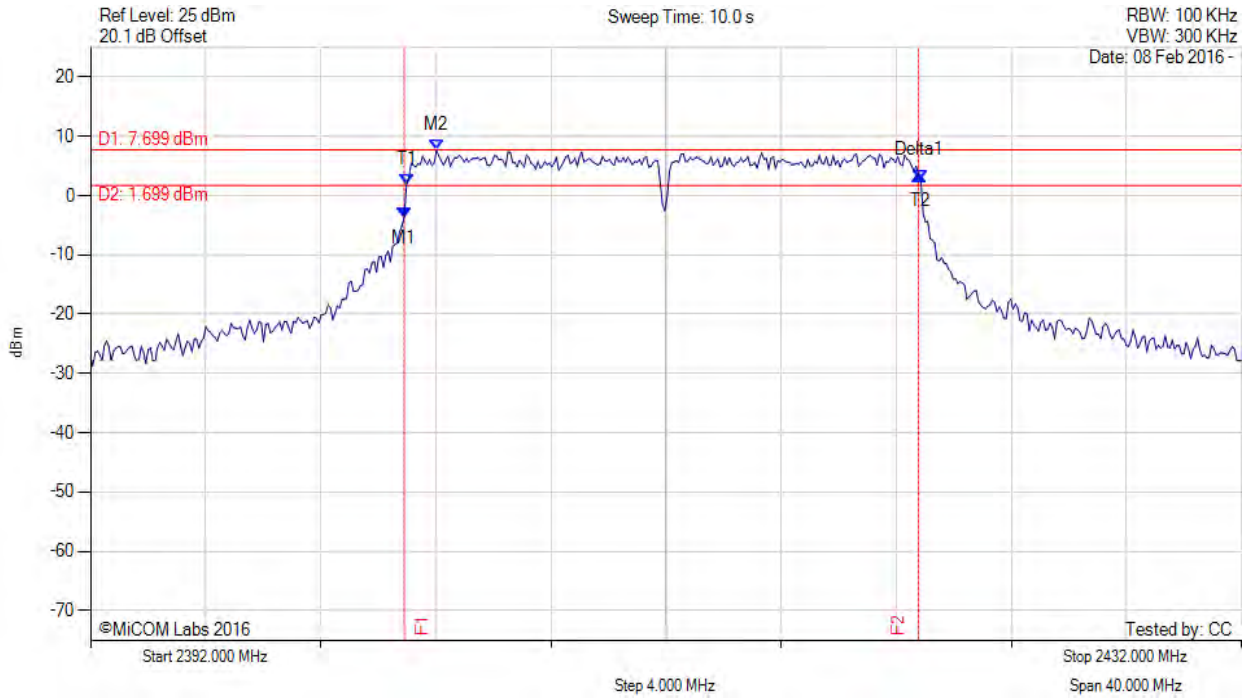


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2453.543 MHz : -2.838 dBm M2 : 2464.204 MHz : 7.860 dBm Delta1 : 16.593 MHz : 8.304 dB T1 : 2453.623 MHz : 2.519 dBm T2 : 2470.297 MHz : -1.455 dBm OBW : 16.673 MHz	Measured 6 dB Bandwidth: 16.593 MHz Limit: ≥500.0 kHz Margin: -16.09 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

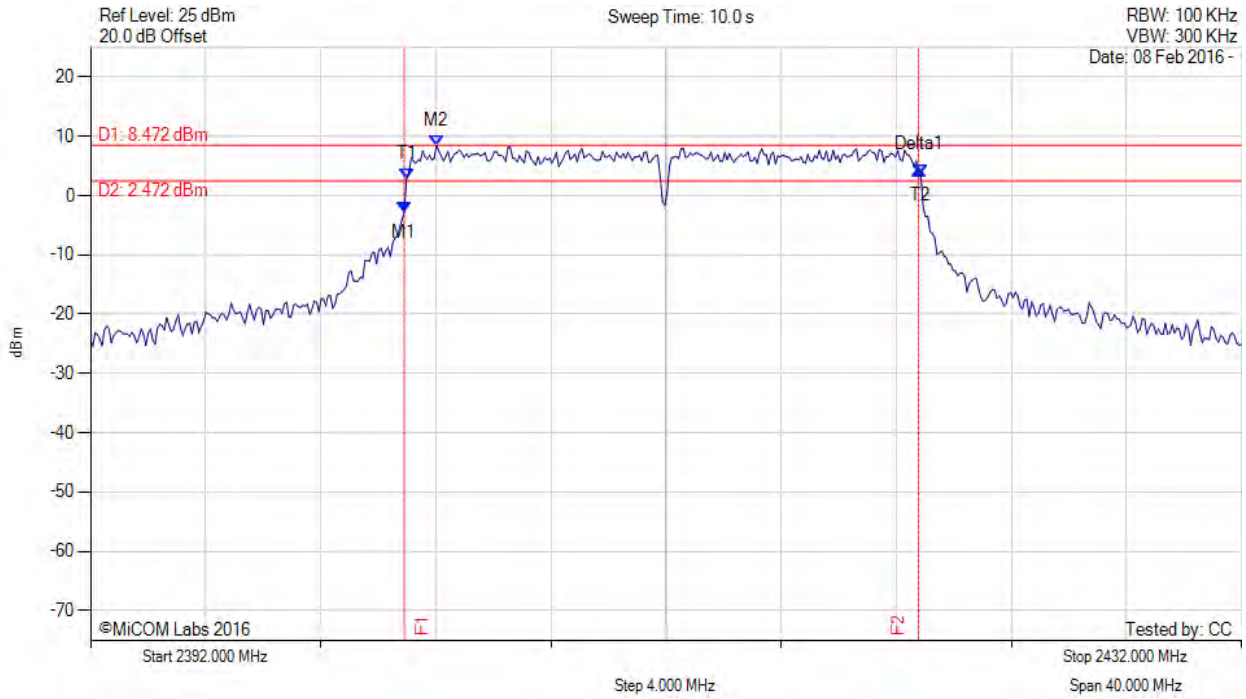


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2402.902 MHz : -3.649 dBm M2 : 2404.024 MHz : 7.699 dBm Delta1 : 17.876 MHz : 7.031 dB T1 : 2402.982 MHz : 1.850 dBm T2 : 2420.858 MHz : 2.576 dBm OBW : 17.876 MHz	Measured 6 dB Bandwidth: 17.876 MHz Limit: ≥500.0 kHz Margin: -17.38 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

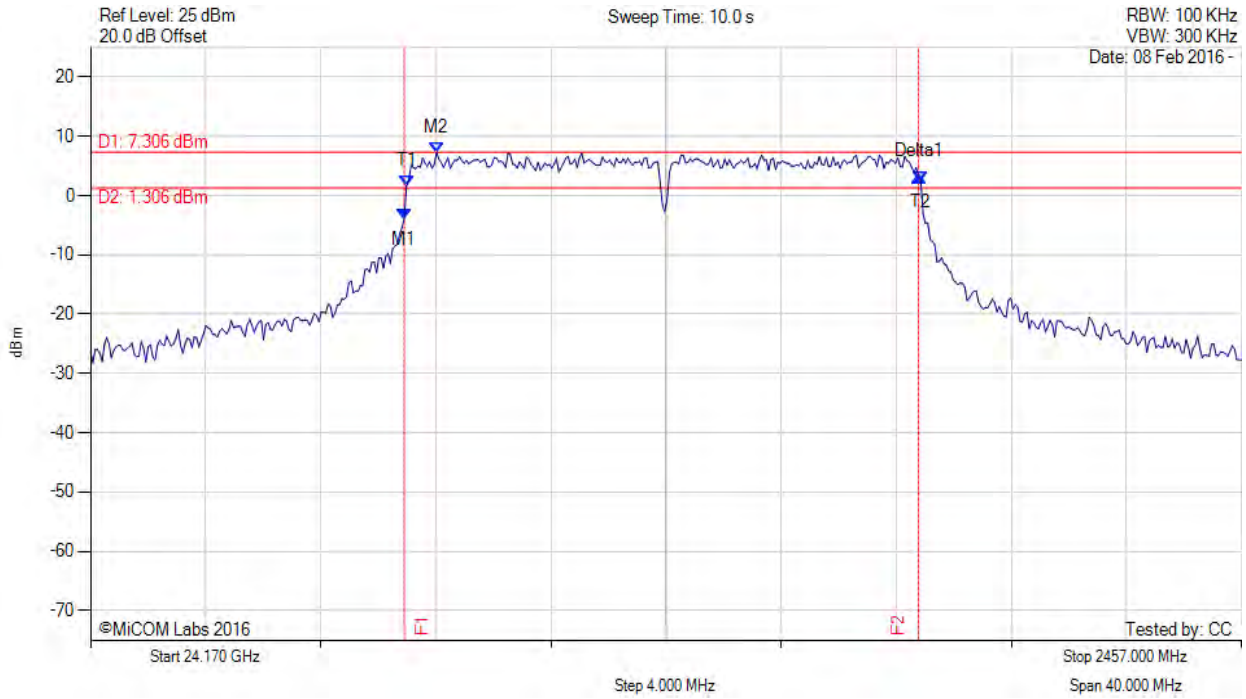


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2402.902 MHz : -2.761 dBm M2 : 2404.024 MHz : 8.472 dBm Delta1 : 17.876 MHz : 7.126 dB T1 : 2402.982 MHz : 2.759 dBm T2 : 2420.858 MHz : 3.593 dBm OBW : 17.876 MHz	Measured 6 dB Bandwidth: 17.876 MHz Limit: ≥500.0 kHz Margin: -17.38 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

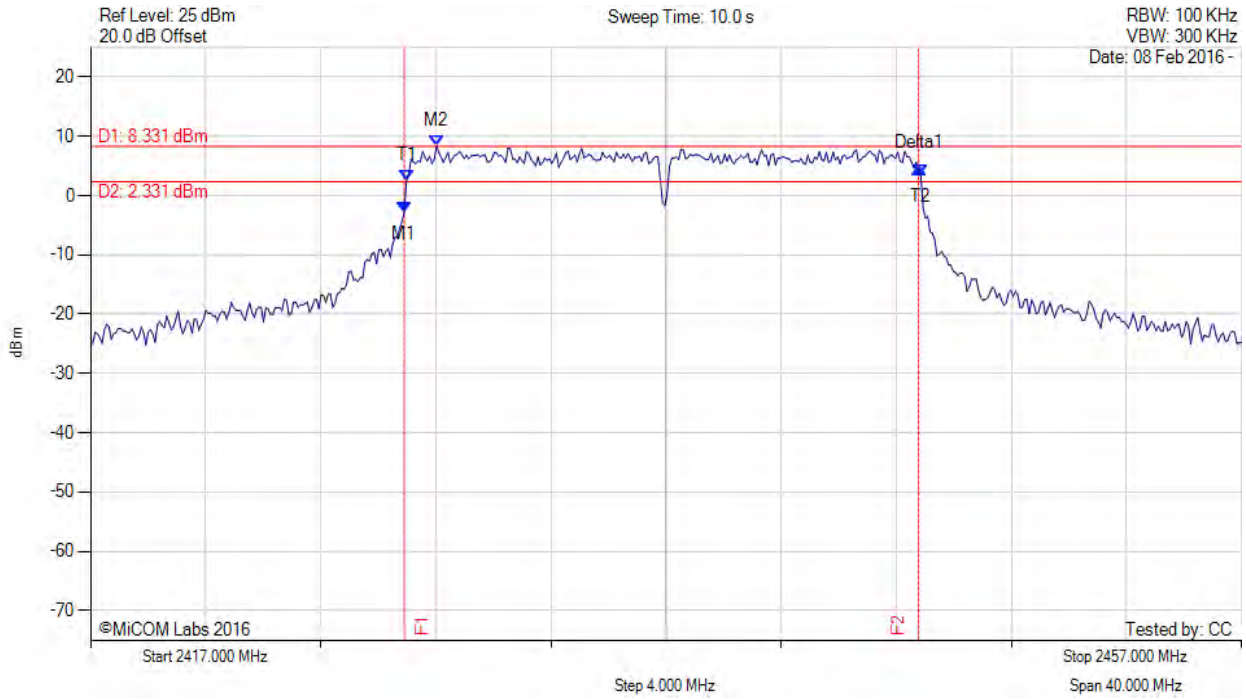


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2427.902 MHz : -3.912 dBm M2 : 2429.024 MHz : 7.306 dBm Delta1 : 17.876 MHz : 7.118 dB T1 : 2427.982 MHz : 1.661 dBm T2 : 2445.858 MHz : 2.375 dBm OBW : 17.876 MHz	Channel Frequency: 2437.00 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

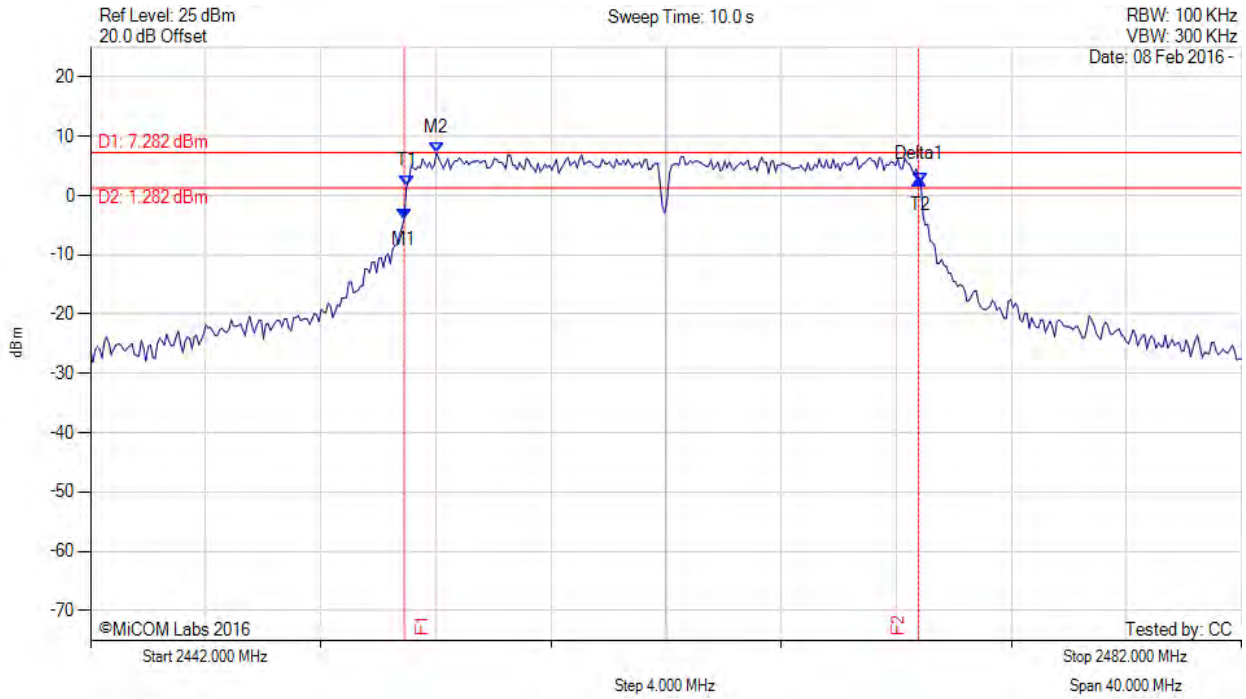


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	ERROR!!! MULTIPLE TEST RESULTS MATCHES...	Measured 6 dB Bandwidth: 17.876 MHz Limit: ≥500.0 kHz Margin: -17.38 MHz ERROR!!! MULTIPLE TEST RESULTS MATCHES...

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

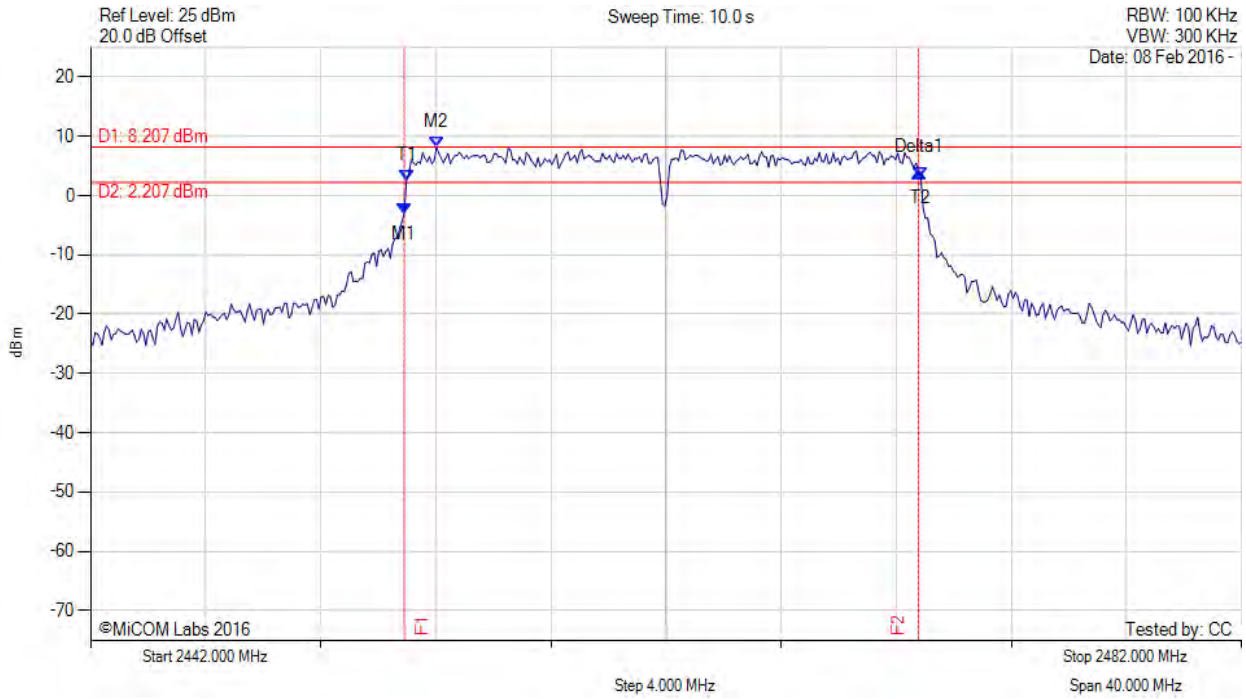


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2452.902 MHz : -3.950 dBm M2 : 2454.024 MHz : 7.282 dBm Delta1 : 17.876 MHz : 6.667 dB T1 : 2452.982 MHz : 1.522 dBm T2 : 2470.858 MHz : 2.102 dBm OBW : 17.876 MHz	Measured 6 dB Bandwidth: 17.876 MHz Limit: ≥500.0 kHz Margin: -17.38 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

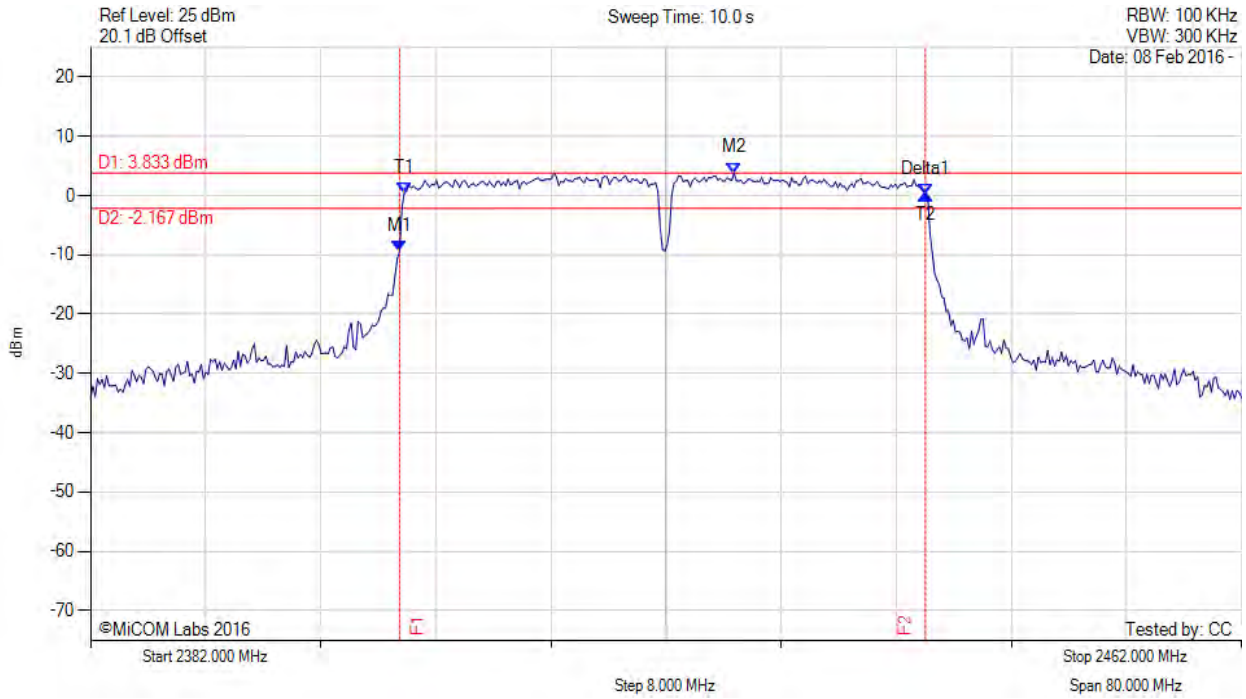


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2452.902 MHz : -2.984 dBm M2 : 2454.024 MHz : 8.207 dBm Delta1 : 17.876 MHz : 6.884 dB T1 : 2452.982 MHz : 2.554 dBm T2 : 2470.858 MHz : 3.097 dBm OBW : 17.876 MHz	Measured 6 dB Bandwidth: 17.876 MHz Limit: ≥500.0 kHz Margin: -17.38 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 2422.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

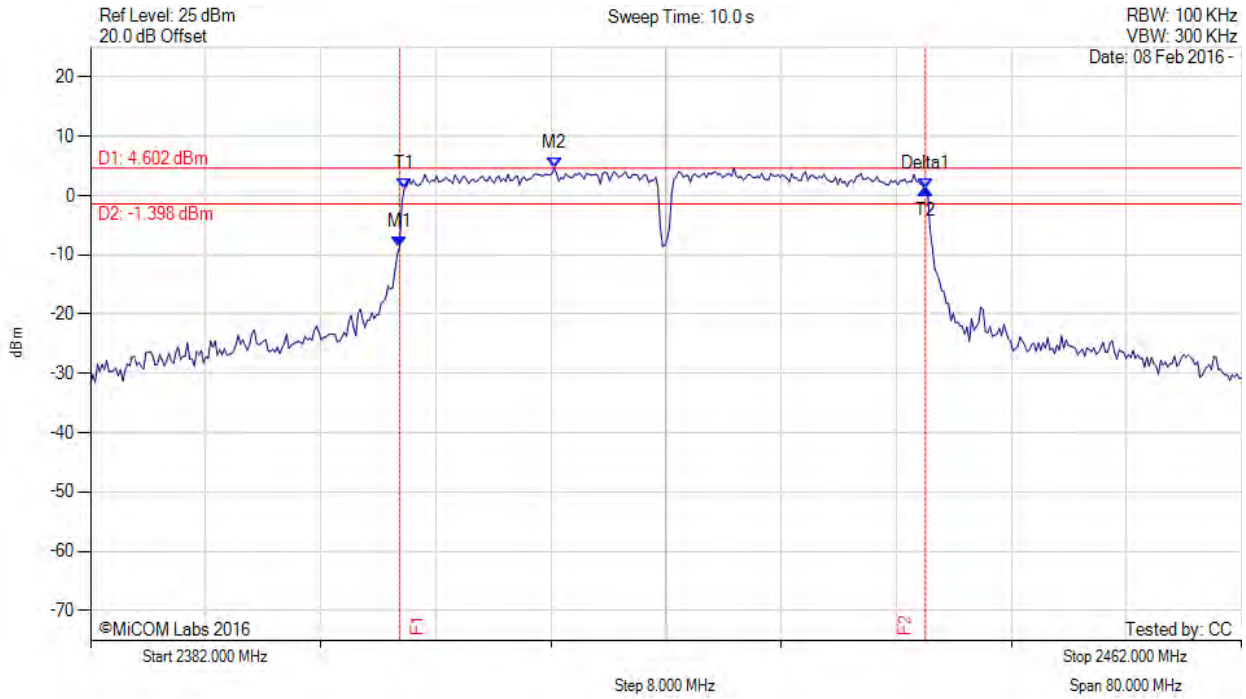


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2403.483 MHz : -9.395 dBm M2 : 2426.729 MHz : 3.833 dBm Delta1 : 36.553 MHz : 9.689 dB T1 : 2403.804 MHz : 0.355 dBm T2 : 2440.036 MHz : 0.294 dBm OBW : 36.232 MHz	Measured 6 dB Bandwidth: 36.553 MHz Limit: ≥500.0 kHz Margin: -36.05 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 2422.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

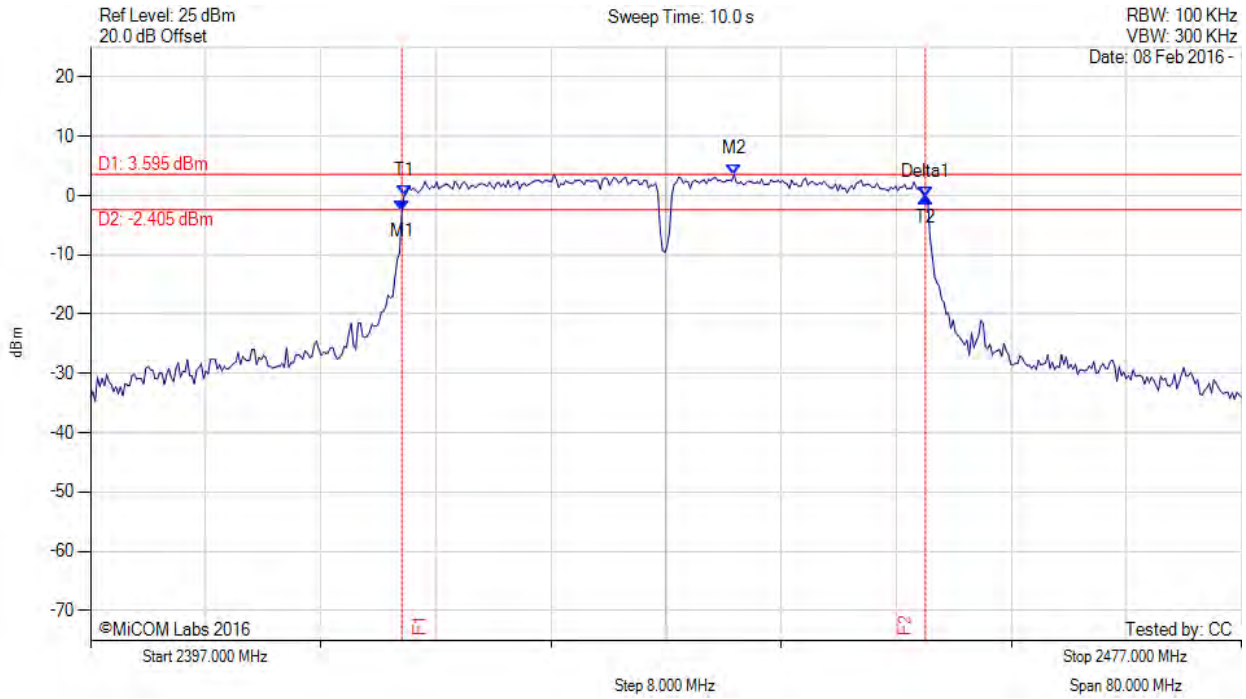


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2403.483 MHz : -8.624 dBm M2 : 2414.224 MHz : 4.602 dBm Delta1 : 36.553 MHz : 9.711 dB T1 : 2403.804 MHz : 1.112 dBm T2 : 2440.036 MHz : 1.087 dBm OBW : 36.232 MHz	Measured 6 dB Bandwidth: 36.553 MHz Limit: ≥500.0 kHz Margin: -36.05 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

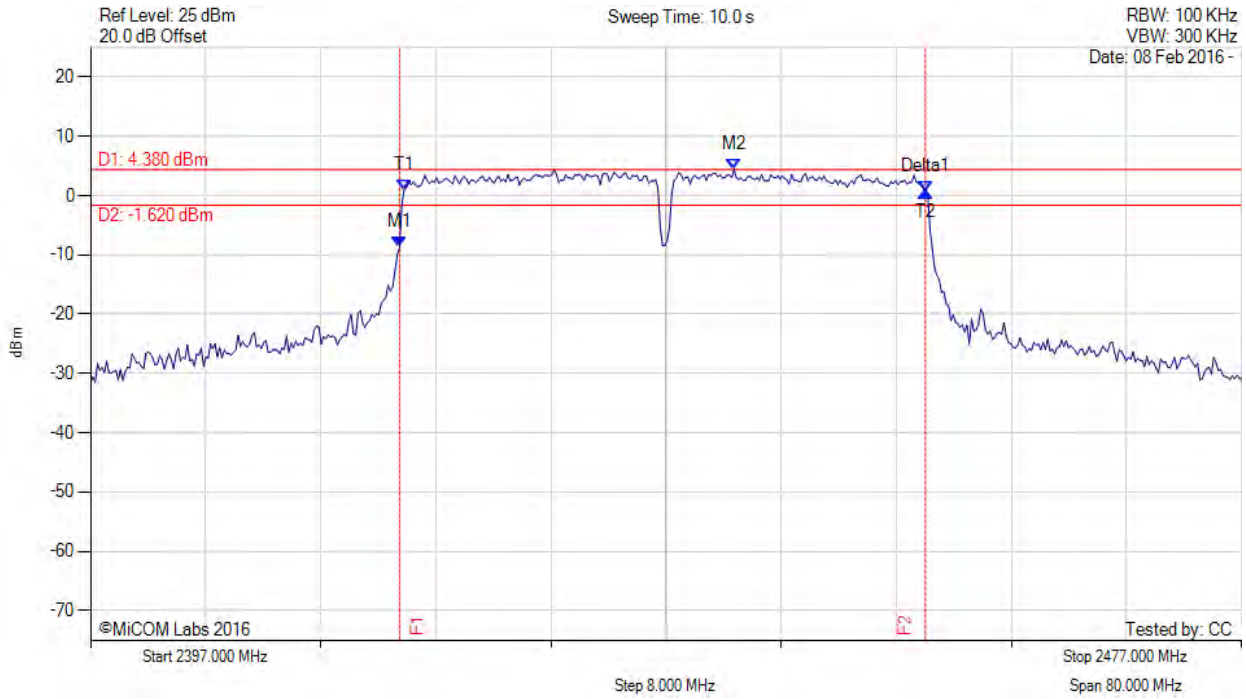


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2418.643 MHz : -2.494 dBm M2 : 2441.729 MHz : 3.595 dBm Delta1 : 36.393 MHz : 2.282 dB T1 : 2418.804 MHz : 0.001 dBm T2 : 2455.036 MHz : -0.212 dBm OBW : 36.232 MHz	Measured 6 dB Bandwidth: 36.393 MHz Limit: ≥500.0 kHz Margin: -35.89 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 2437.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

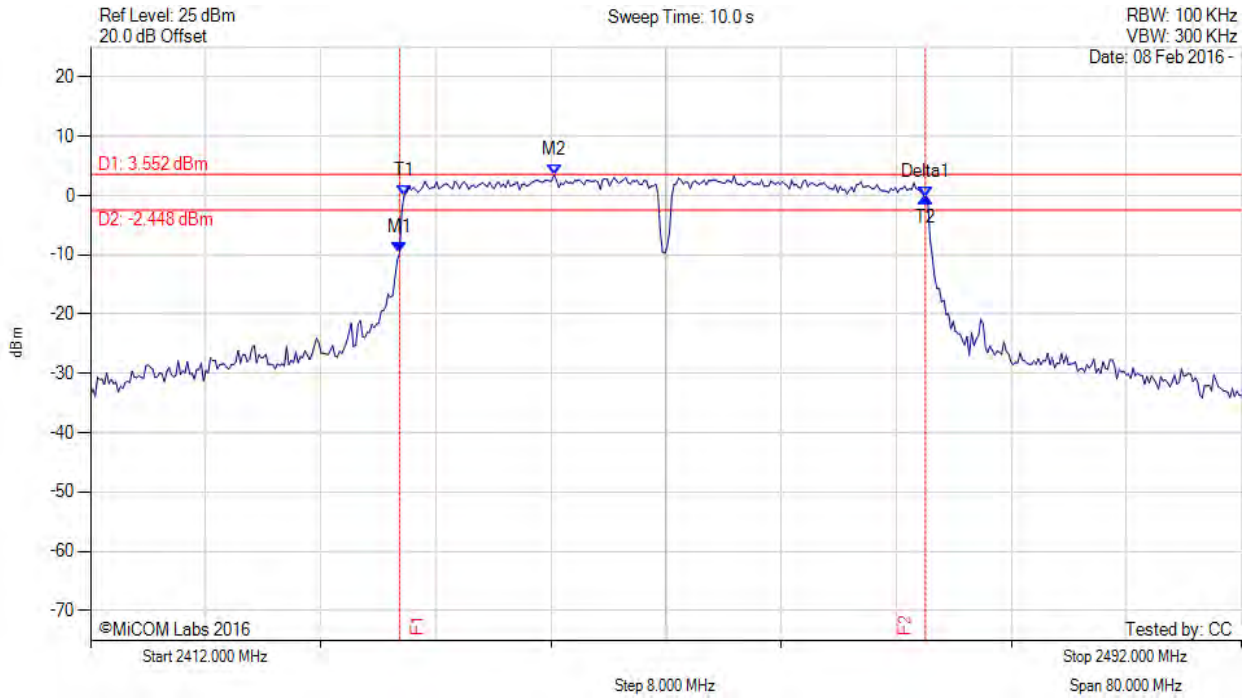


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2418.483 MHz : -8.752 dBm M2 : 2441.729 MHz : 4.380 dBm Delta1 : 36.553 MHz : 9.496 dB T1 : 2418.804 MHz : 0.969 dBm T2 : 2455.036 MHz : 0.744 dBm OBW : 36.232 MHz	Measured 6 dB Bandwidth: 36.553 MHz Limit: ≥500.0 kHz Margin: -36.05 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 2452.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

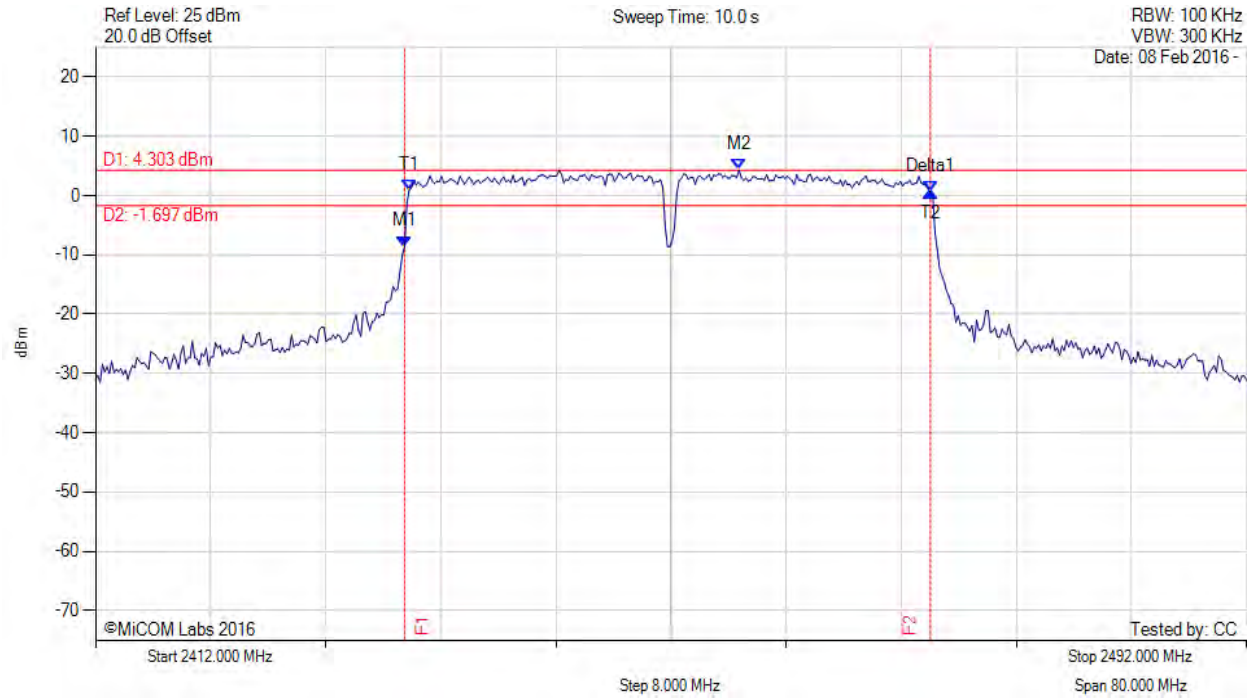


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2433.483 MHz : -9.643 dBm M2 : 2444.224 MHz : 3.552 dBm Delta1 : 36.553 MHz : 9.422 dB T1 : 2433.804 MHz : 0.048 dBm T2 : 2470.036 MHz : -0.220 dBm OBW : 36.232 MHz	Measured 6 dB Bandwidth: 36.553 MHz Limit: ≥500.0 kHz Margin: -36.05 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 2452.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 2433.483 MHz : -8.577 dBm M2 : 2456.729 MHz : 4.303 dBm Delta1 : 36.553 MHz : 9.142 dB T1 : 2433.804 MHz : 0.920 dBm T2 : 2470.036 MHz : 0.565 dBm OBW : 36.232 MHz	Measured 6 dB Bandwidth: 36.553 MHz Limit: ≥500.0 kHz Margin: -36.05 MHz

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A.2. Conducted Output Power

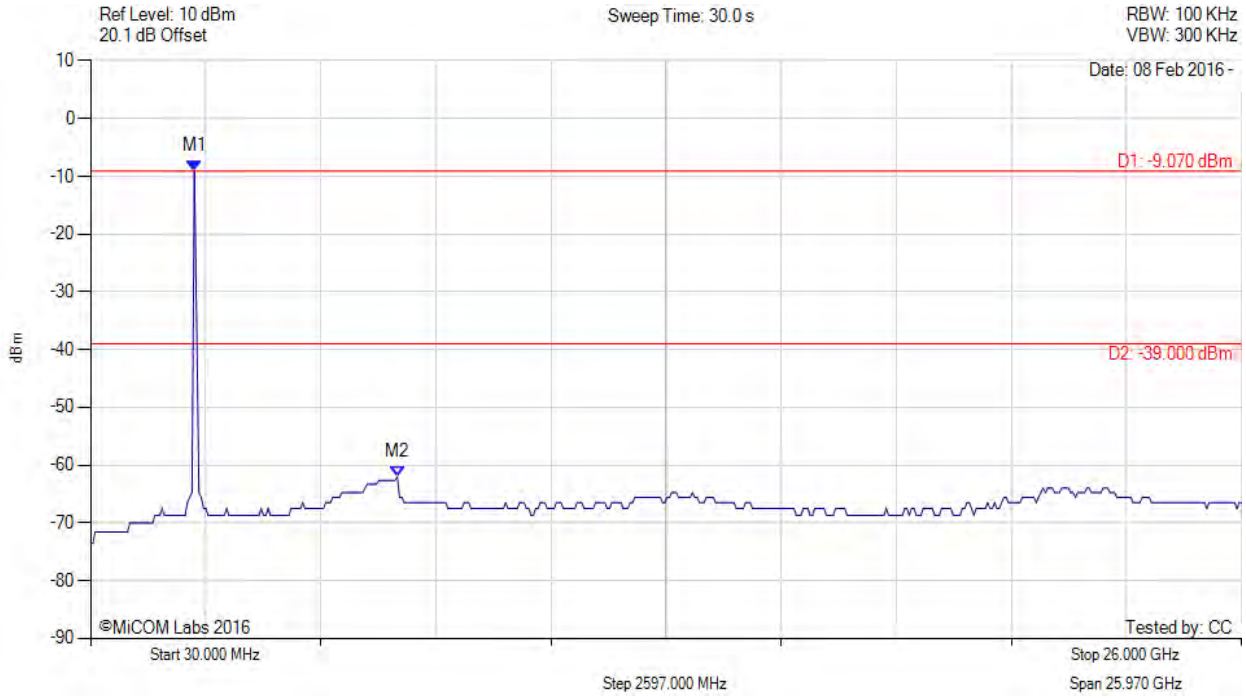
A.3. Emissions

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: Ambient, Voltage: 12 Vdc

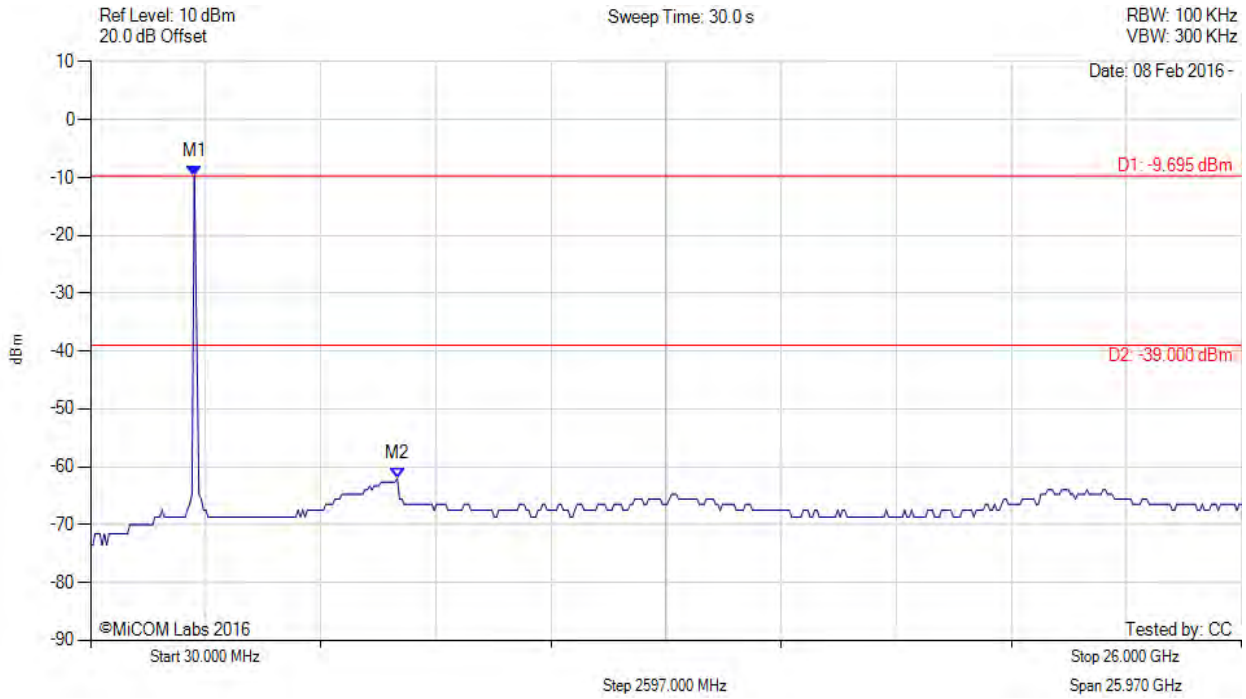


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2371.984 MHz : -9.070 dBm M2 : 6951.864 MHz : -62.044 dBm	Limit: -39.00 dBm Margin: -23.04 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2412.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

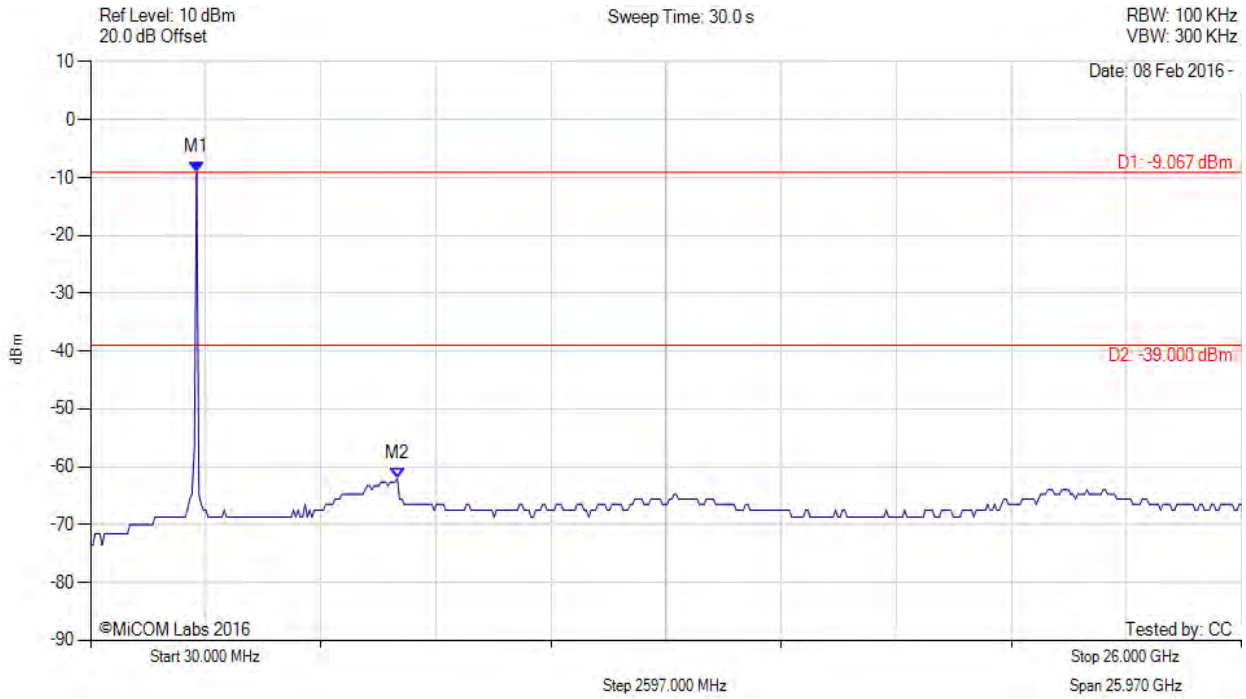


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2371.984 MHz : -9.695 dBm M2 : 6951.864 MHz : -62.044 dBm	Limit: -39.00 dBm Margin: -23.04 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

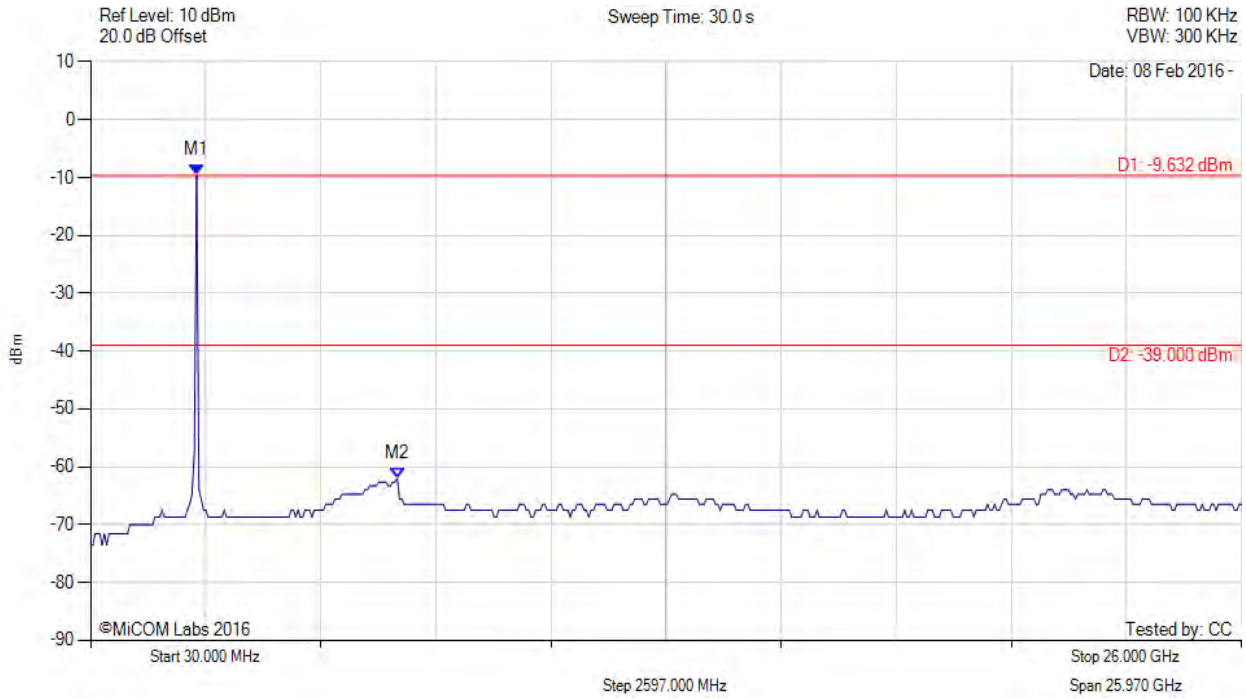


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2424.028 MHz : -9.067 dBm M2 : 6951.864 MHz : -62.044 dBm	Limit: -39.00 dBm Margin: -23.04 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2437.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

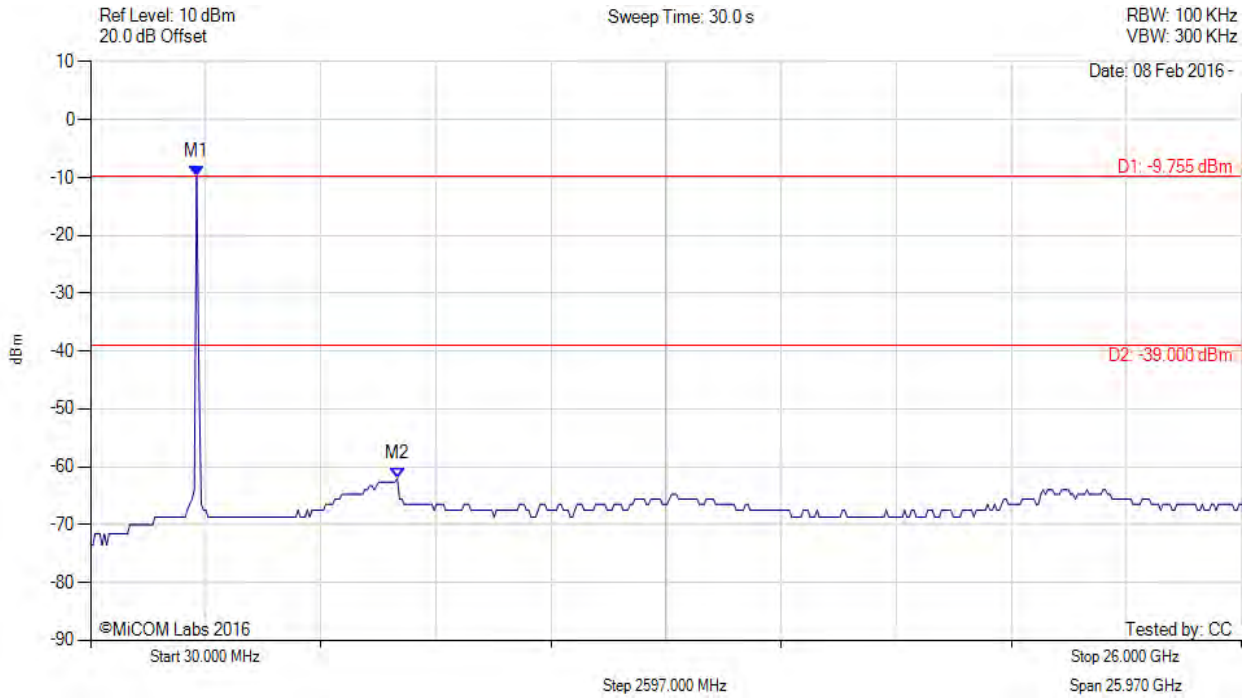


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2424.028 MHz : -9.632 dBm M2 : 6951.864 MHz : -62.044 dBm	Limit: -39.00 dBm Margin: -23.04 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

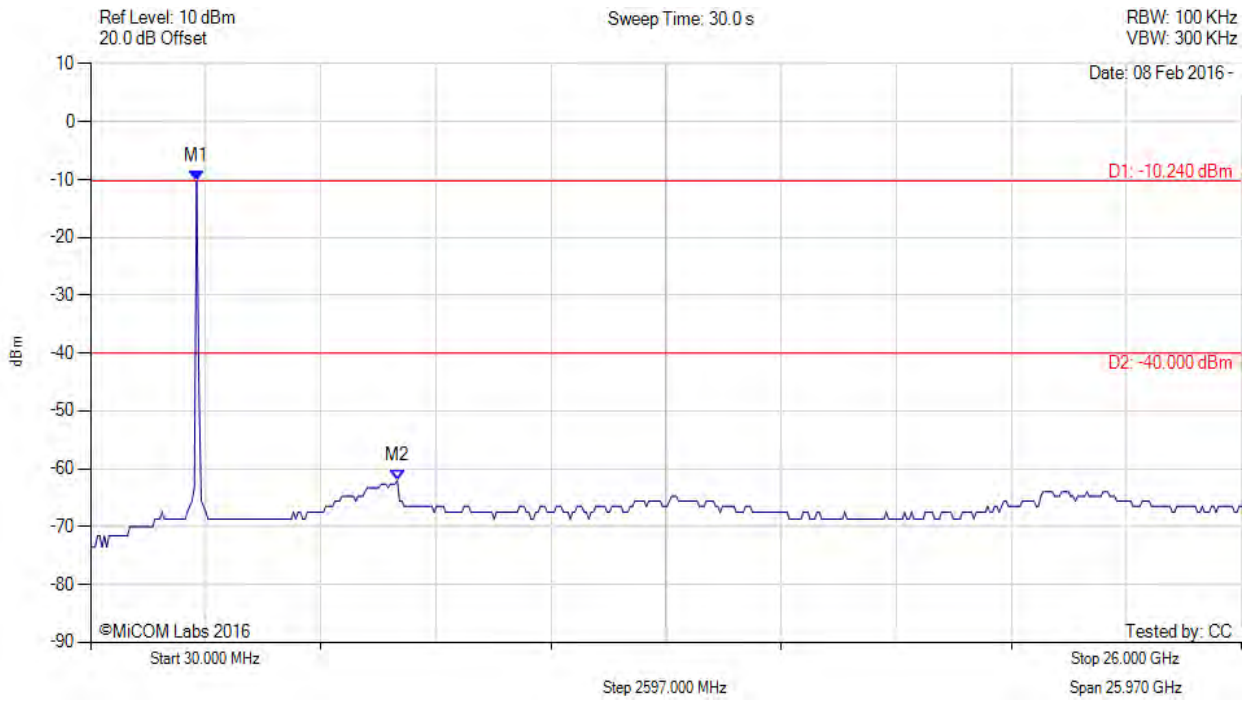


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2424.028 MHz : -9.755 dBm M2 : 6951.864 MHz : -62.044 dBm	Limit: -39.00 dBm Margin: -23.04 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

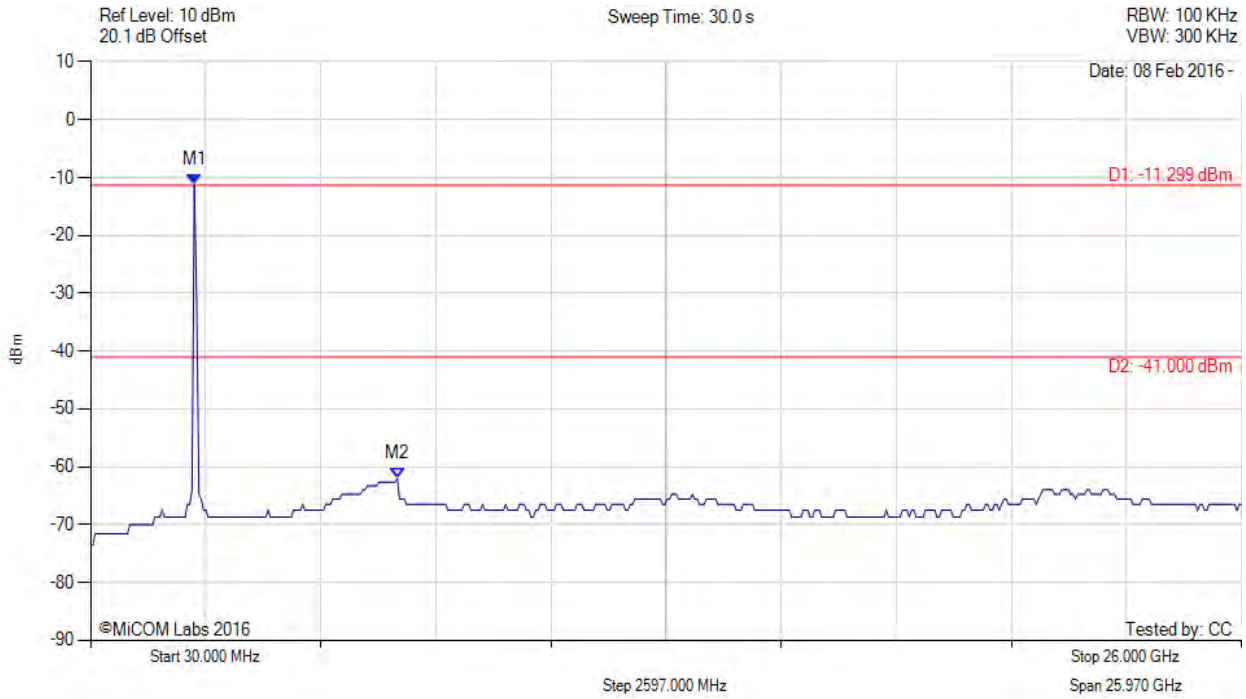


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2424.028 MHz : -10.240 dBm M2 : 6951.864 MHz : -62.044 dBm	Limit: -40.00 dBm Margin: -22.04 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

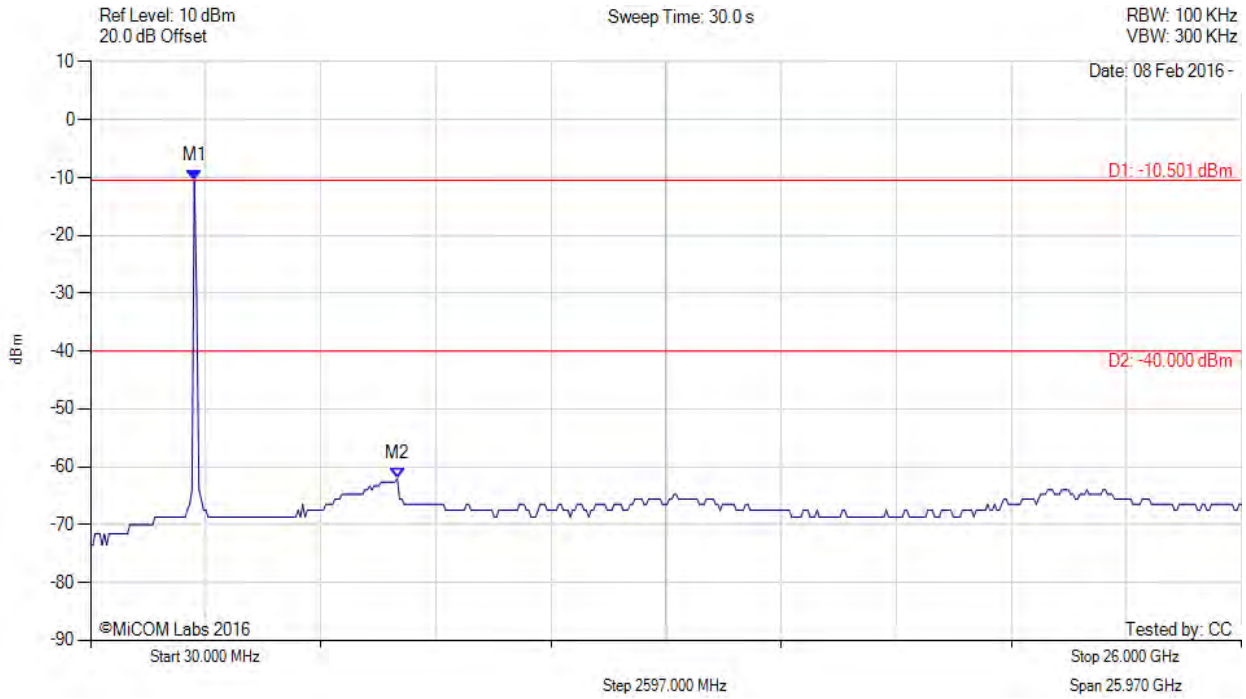


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2371.984 MHz : -11.299 dBm M2 : 6951.864 MHz : -62.044 dBm	Limit: -41.00 dBm Margin: -21.04 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

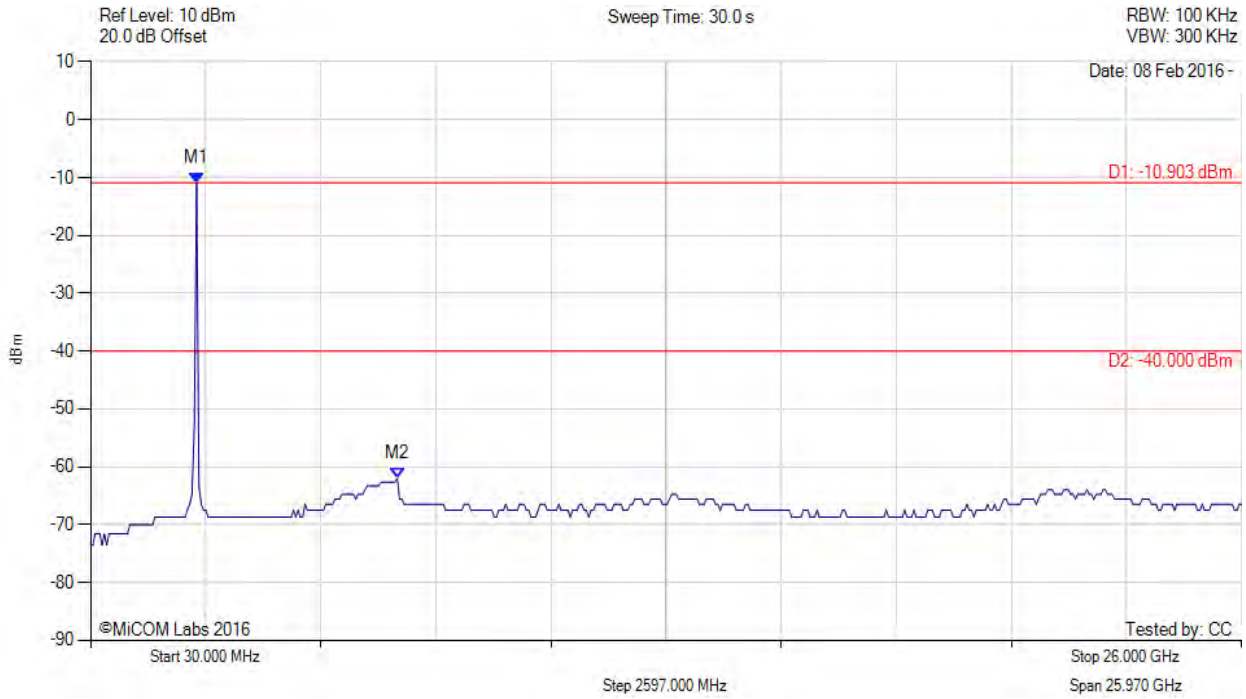


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2371.984 MHz : -10.501 dBm M2 : 6951.864 MHz : -62.044 dBm	Limit: -40.00 dBm Margin: -22.04 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

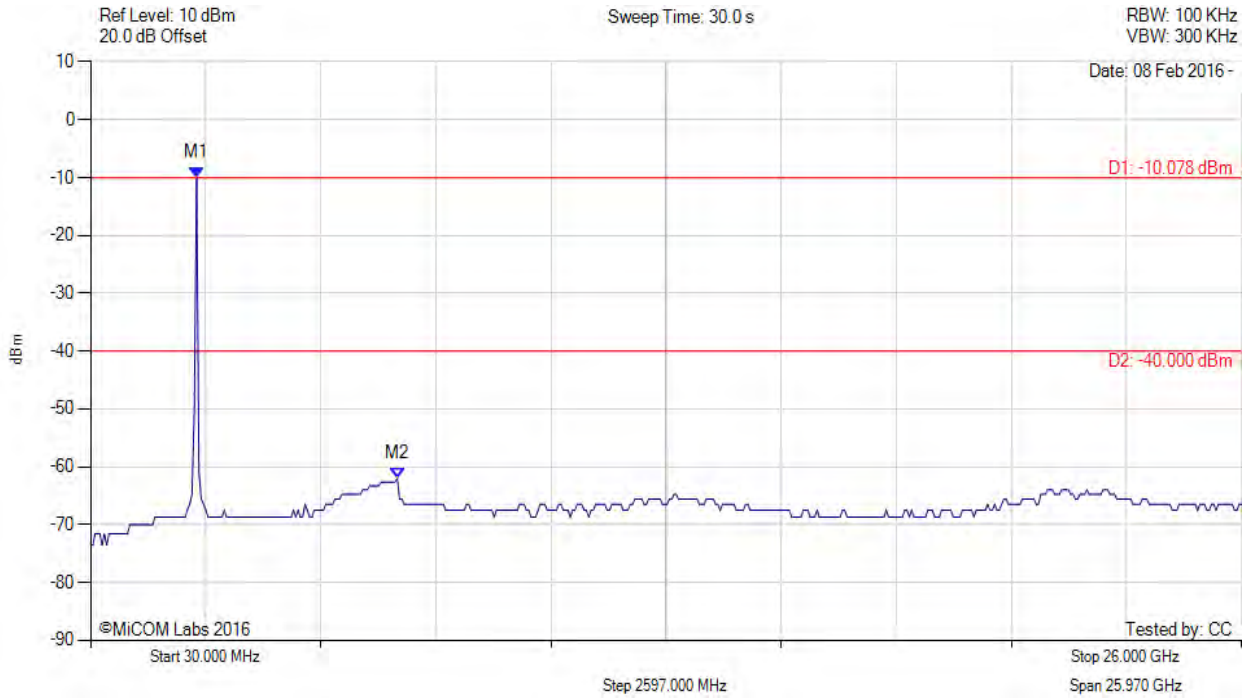


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2424.028 MHz : -10.903 dBm M2 : 6951.864 MHz : -62.044 dBm	Limit: -40.00 dBm Margin: -22.04 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2437.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

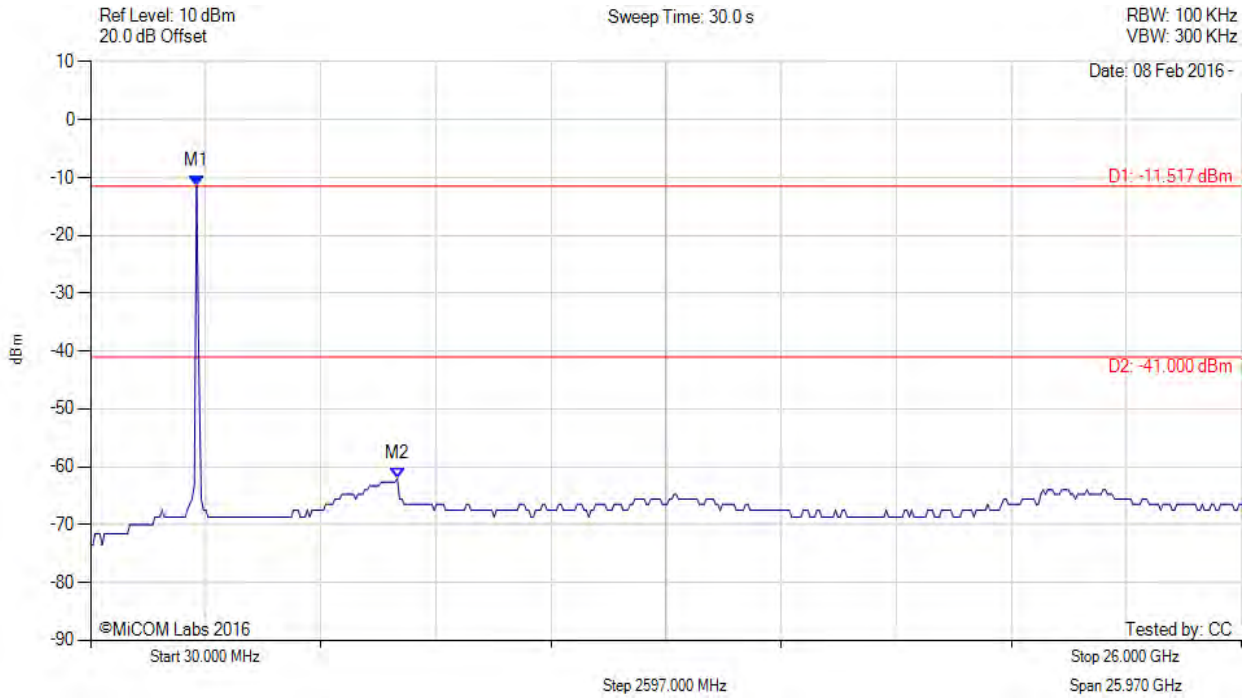


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2424.028 MHz : -10.078 dBm M2 : 6951.864 MHz : -62.044 dBm	Limit: -40.00 dBm Margin: -22.04 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

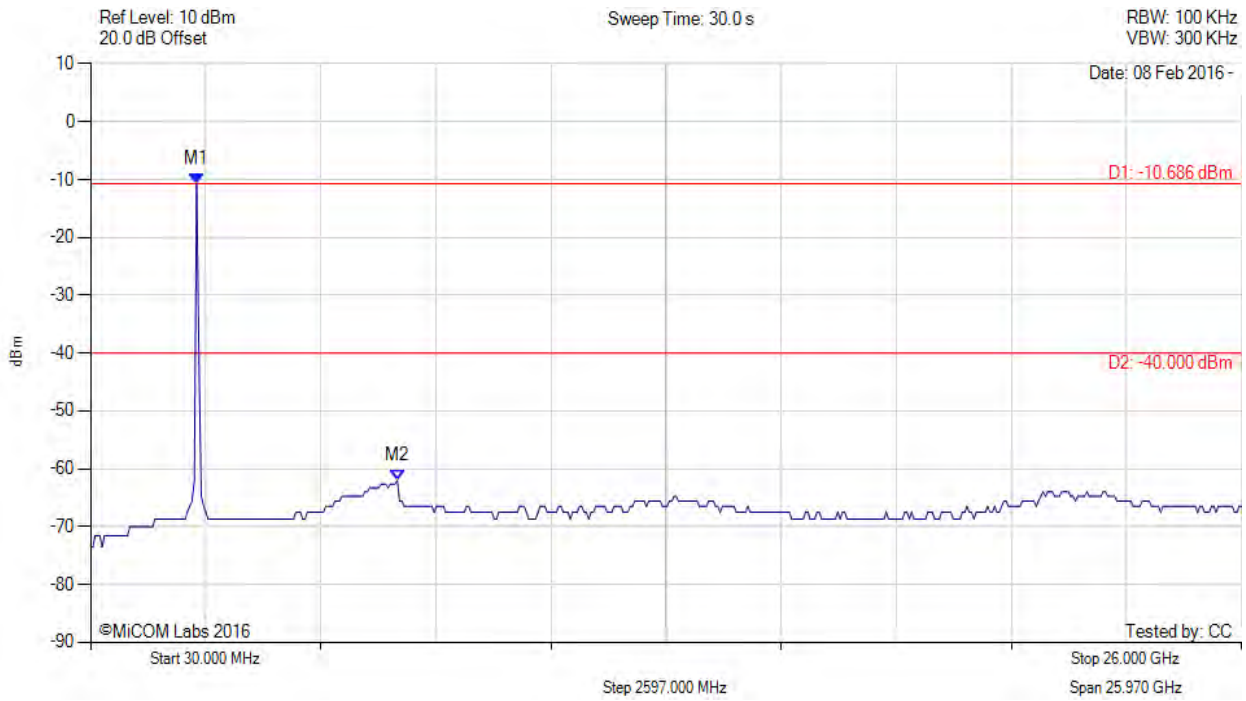


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2424.028 MHz : -11.517 dBm M2 : 6951.864 MHz : -62.044 dBm	Limit: -41.00 dBm Margin: -21.04 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

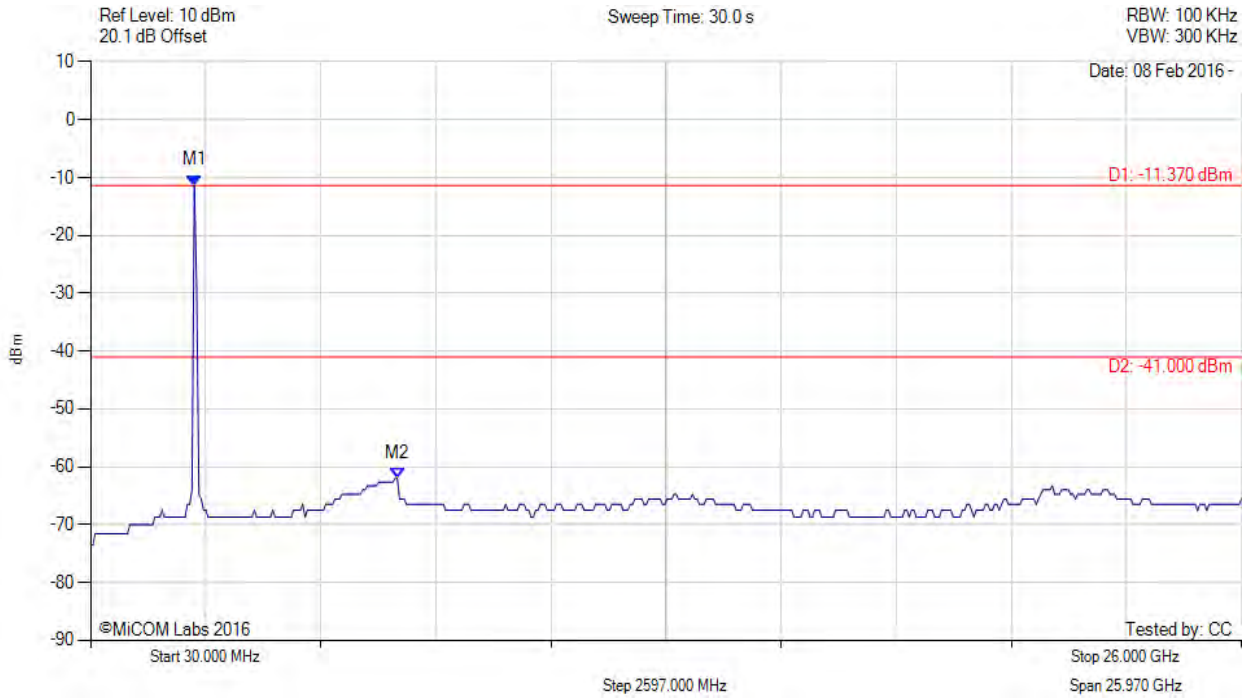


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2424.028 MHz : -10.686 dBm M2 : 6951.864 MHz : -62.044 dBm	Limit: -40.00 dBm Margin: -22.04 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

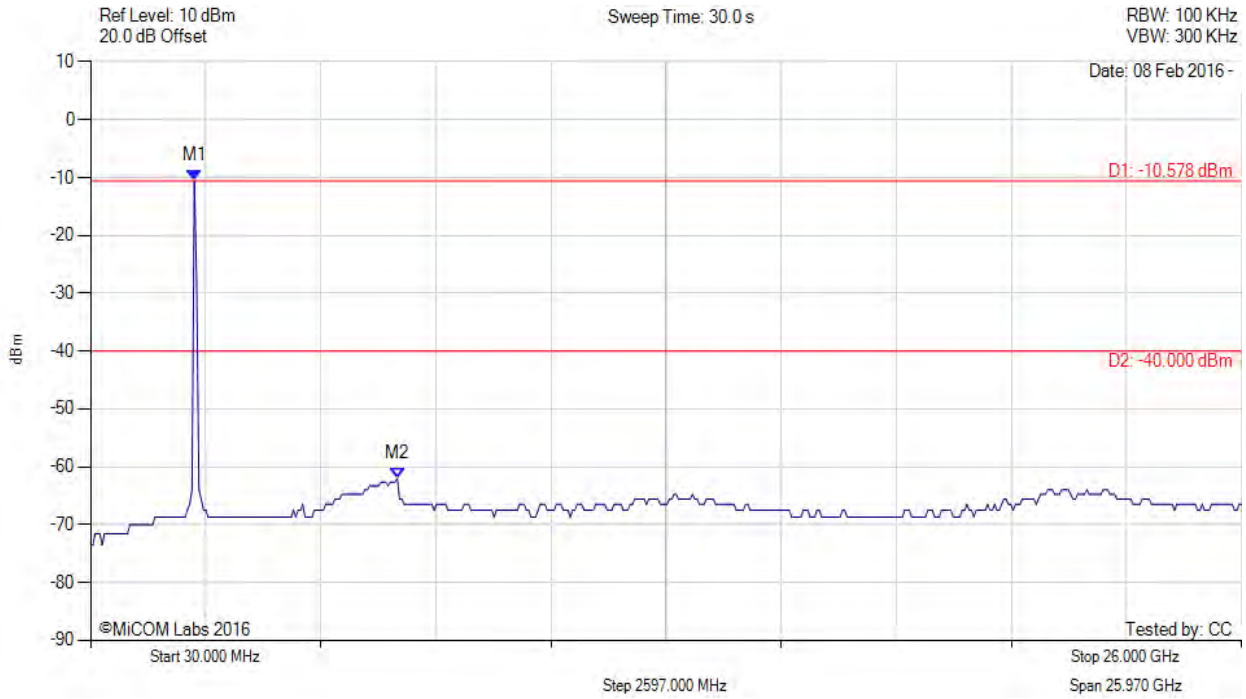


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2371.984 MHz : -11.370 dBm M2 : 6951.864 MHz : -62.044 dBm	Limit: -41.00 dBm Margin: -21.04 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

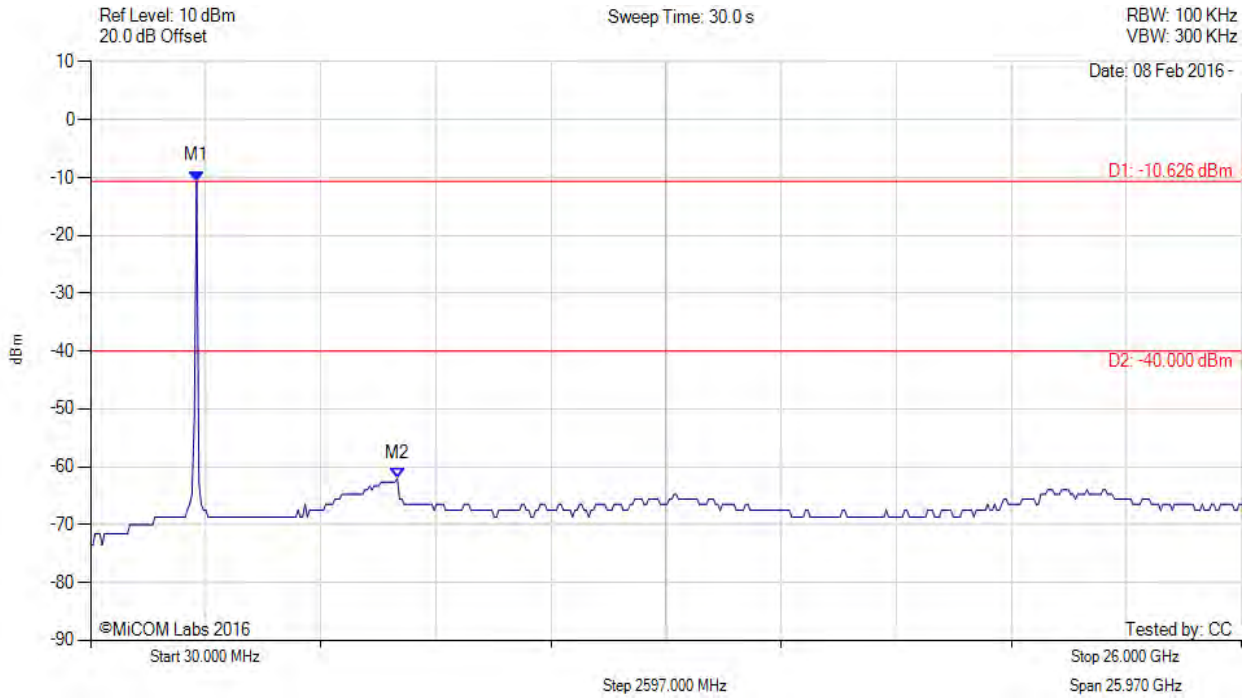


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2371.984 MHz : -10.578 dBm M2 : 6951.864 MHz : -62.044 dBm	Limit: -40.00 dBm Margin: -22.04 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

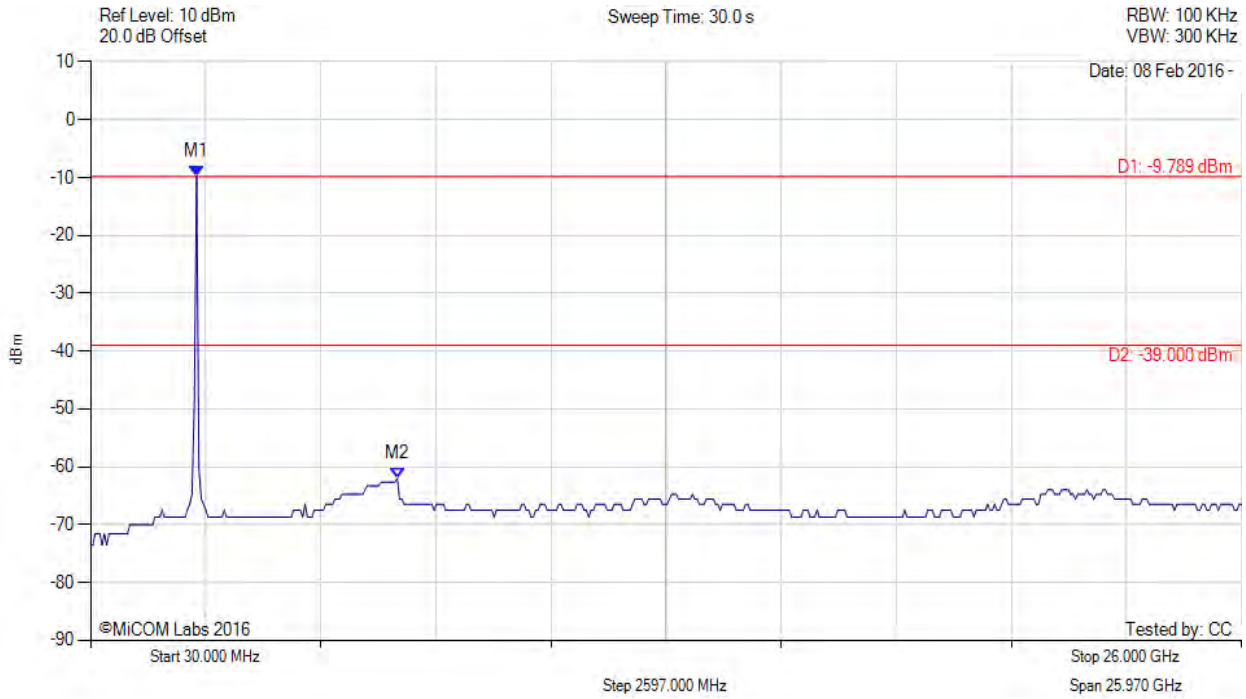


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2424.028 MHz : -10.626 dBm M2 : 6951.864 MHz : -62.044 dBm	Limit: -40.00 dBm Margin: -22.04 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

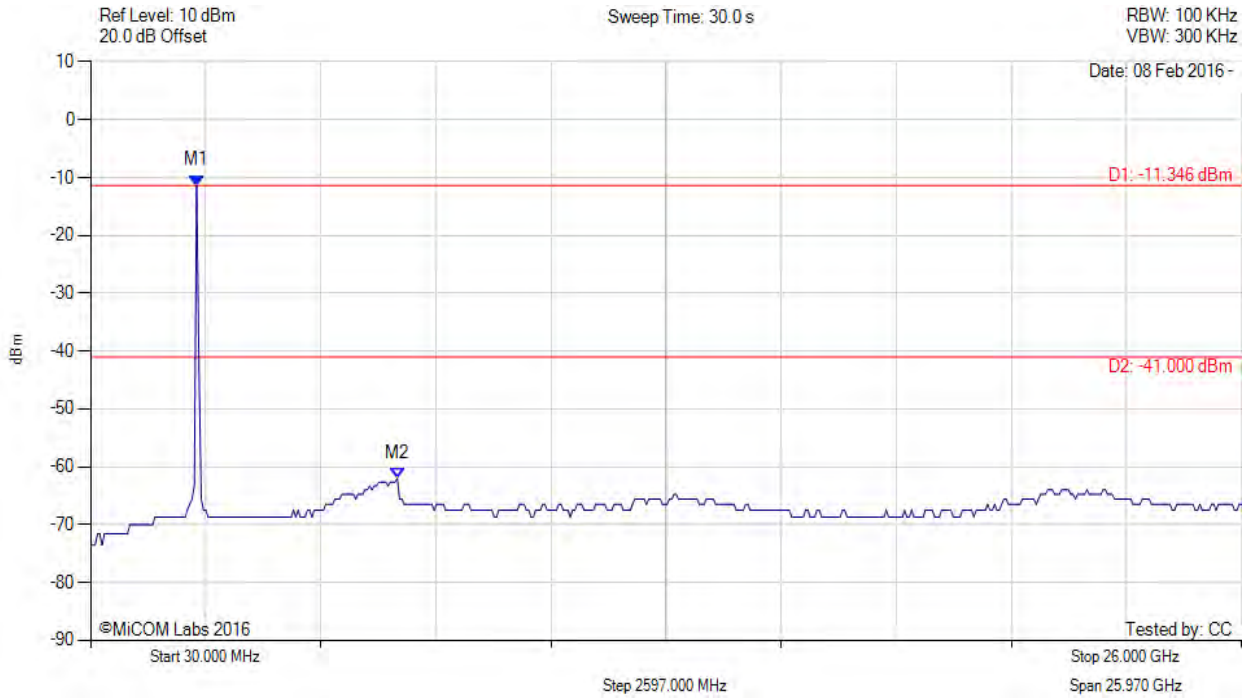


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2424.028 MHz : -9.789 dBm M2 : 6951.864 MHz : -62.044 dBm	Limit: -39.00 dBm Margin: -23.04 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

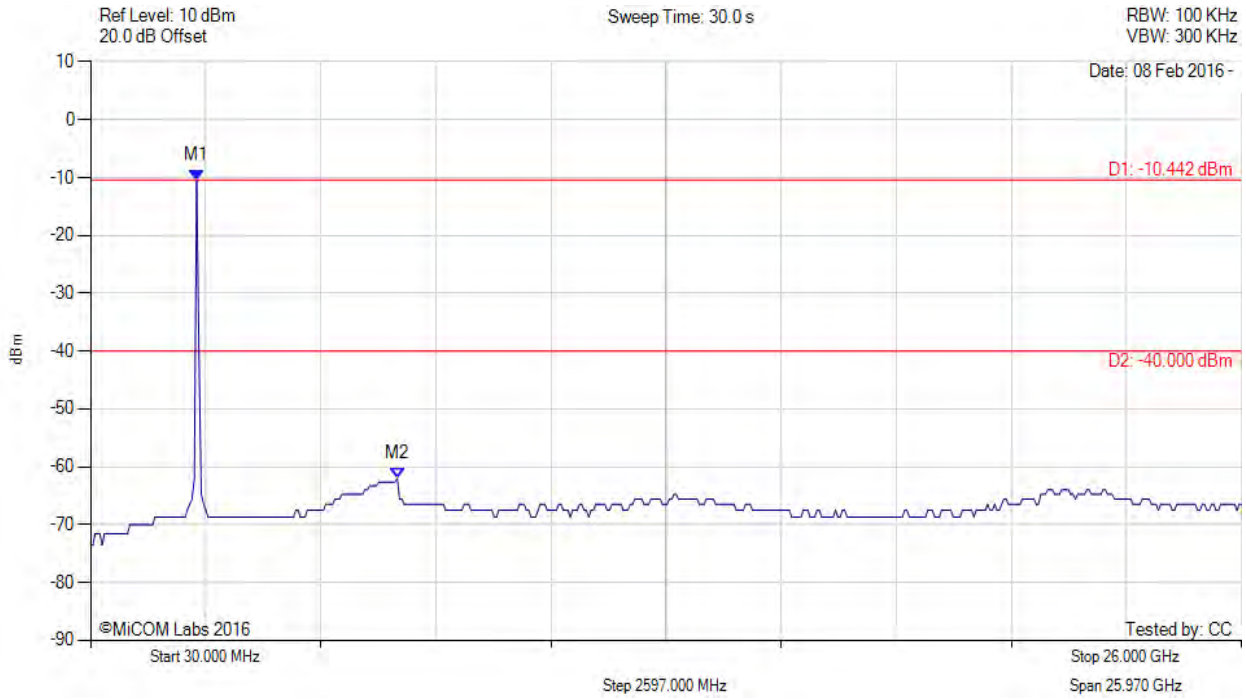


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2424.028 MHz : -11.346 dBm M2 : 6951.864 MHz : -62.044 dBm	Limit: -41.00 dBm Margin: -21.04 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

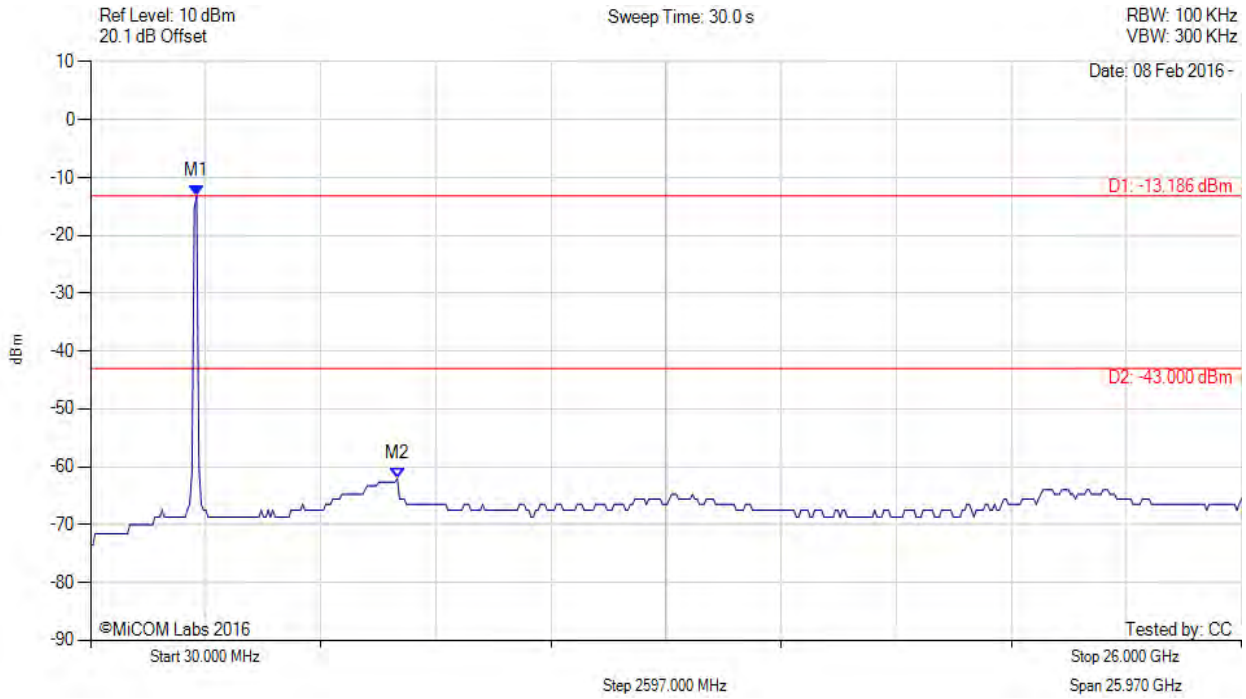


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2424.028 MHz : -10.442 dBm M2 : 6951.864 MHz : -62.044 dBm	Limit: -40.00 dBm Margin: -22.04 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 2422.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

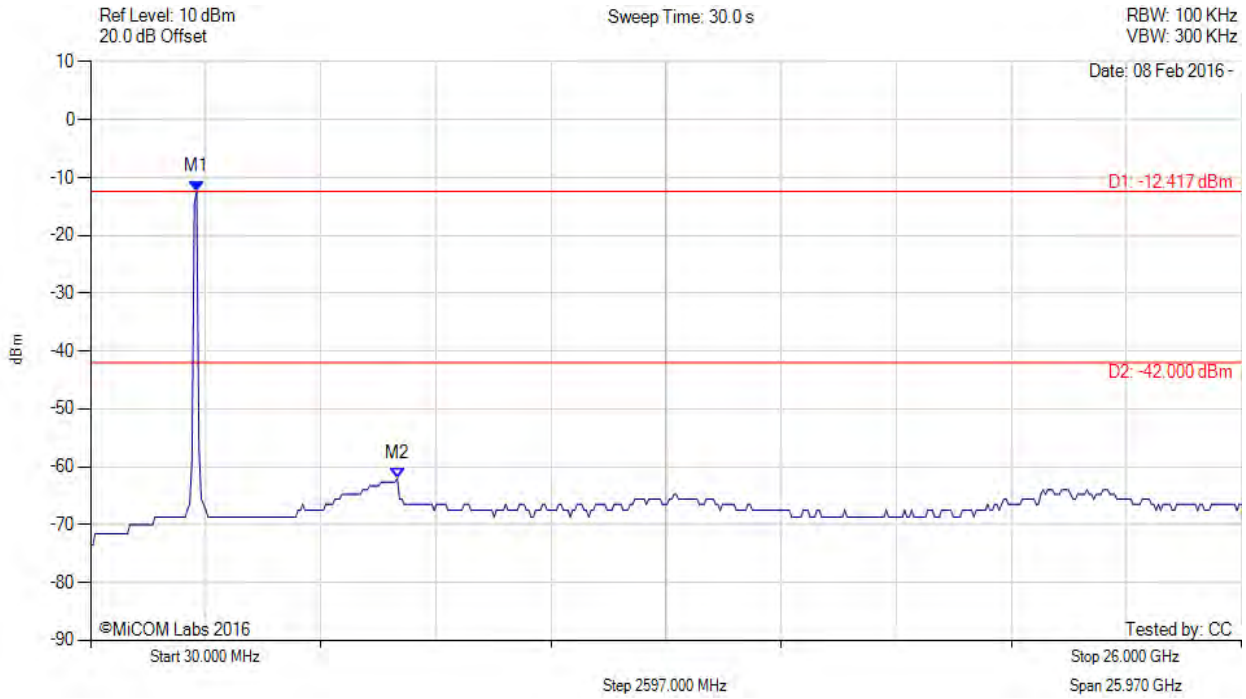


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2424.028 MHz : -13.186 dBm M2 : 6951.864 MHz : -62.044 dBm	Limit: -43.00 dBm Margin: -19.04 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 2422.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

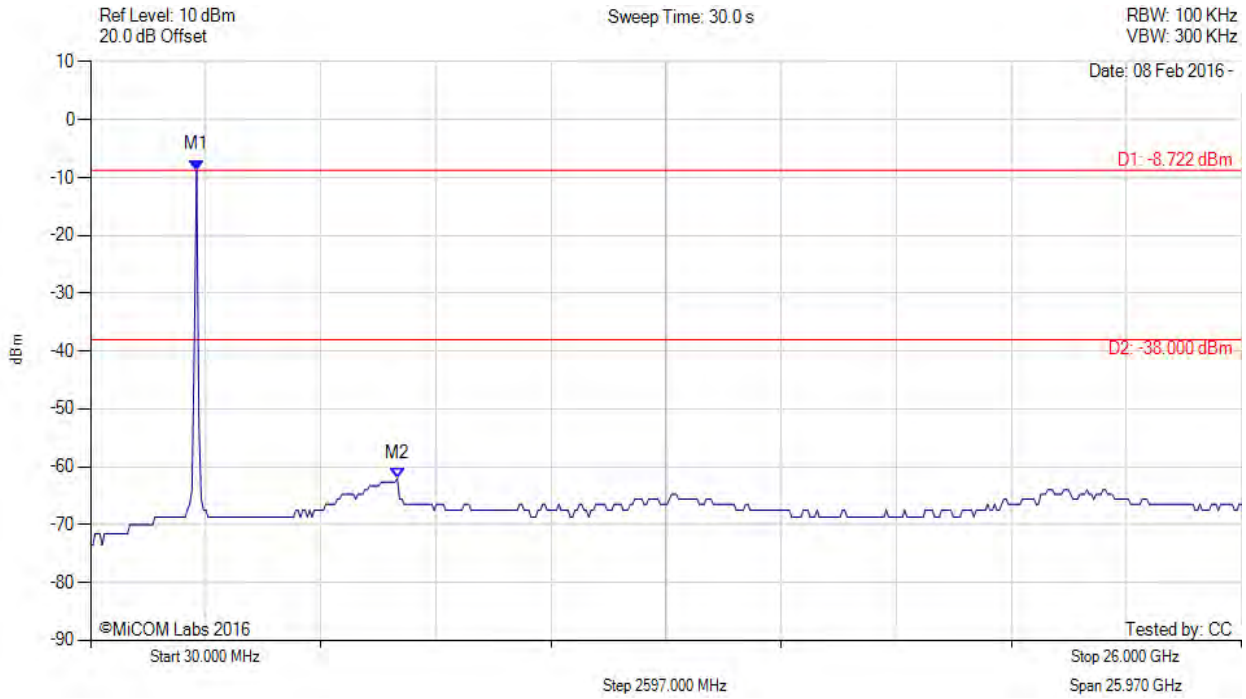


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2424.028 MHz : -12.417 dBm M2 : 6951.864 MHz : -62.044 dBm	Limit: -42.00 dBm Margin: -20.04 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

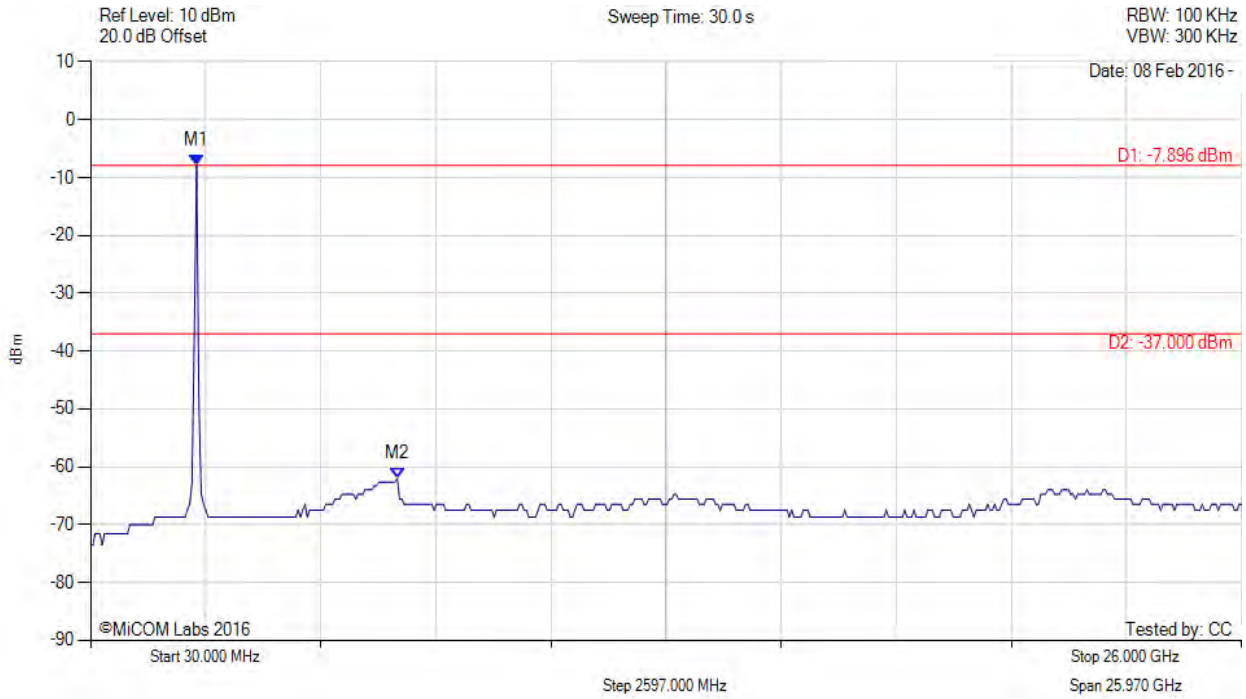


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2424.028 MHz : -8.722 dBm M2 : 6951.864 MHz : -62.044 dBm	Limit: -38.00 dBm Margin: -24.04 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 2437.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

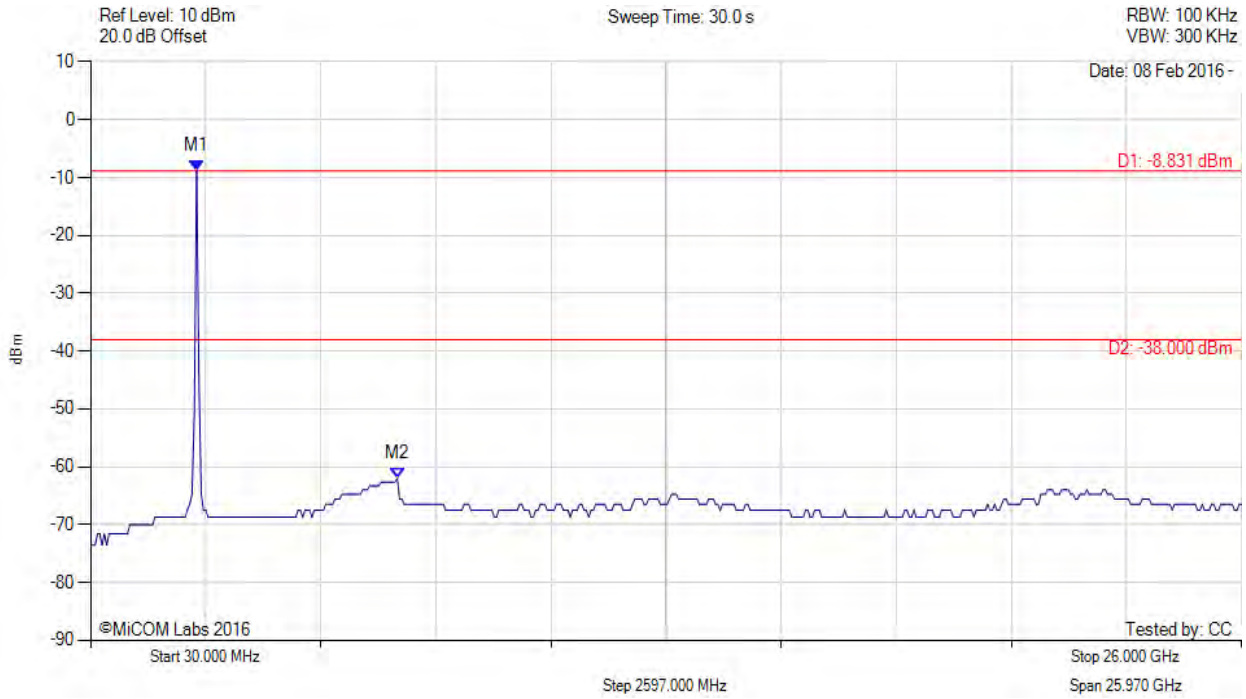


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2424.028 MHz : -7.896 dBm M2 : 6951.864 MHz : -62.044 dBm	Limit: -37.00 dBm Margin: -25.04 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 2452.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

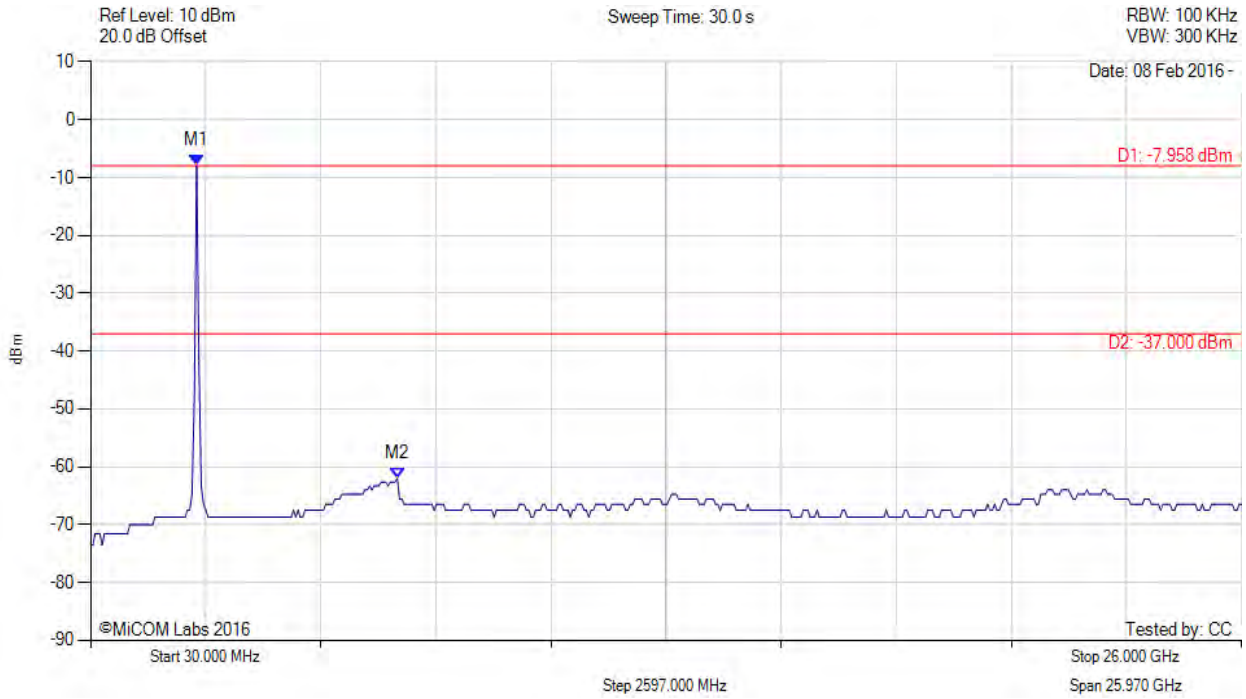


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2424.028 MHz : -8.831 dBm M2 : 6951.864 MHz : -62.044 dBm	Limit: -38.00 dBm Margin: -24.04 dB

back to matrix

CONDUCTED SPURIOUS EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 2452.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2424.028 MHz : -7.958 dBm M2 : 6951.864 MHz : -62.044 dBm	Limit: -37.00 dBm Margin: -25.04 dB

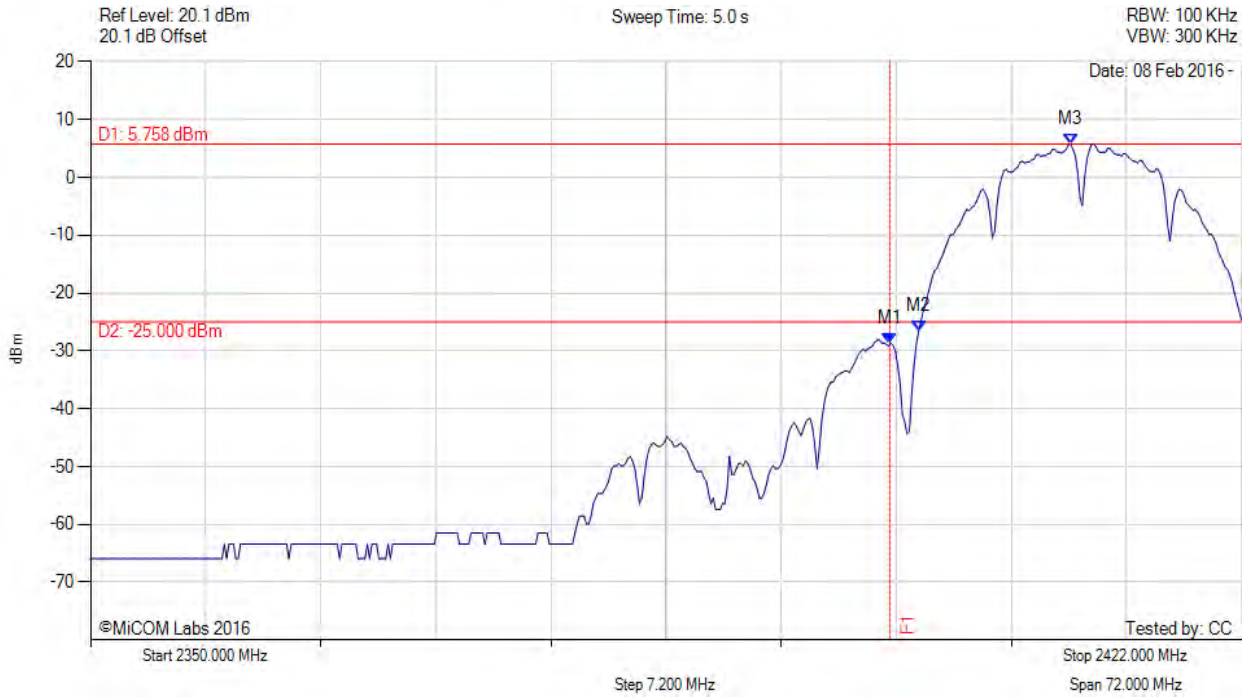
back to matrix

A.3.1.2. Conducted Band-Edge Emissions

Conducted Low Band-Edge Emissions

CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2412.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2400.000 MHz : -28.696 dBm M2 : 2401.800 MHz : -26.553 dBm M3 : 2411.323 MHz : 5.758 dBm	Channel Frequency: 2412.00 MHz

back to matrix

CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

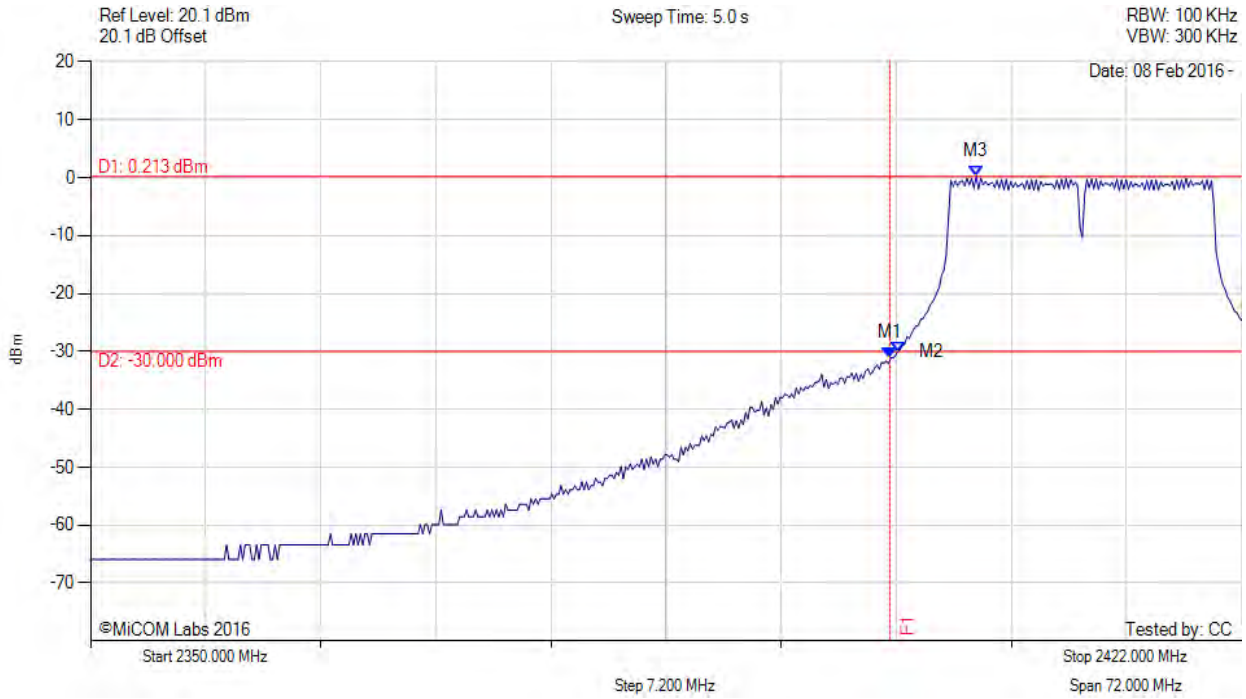
Variant: 802.11b, Channel: 2412.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2400.000 MHz : -30.222 dBm M2 : 2401.944 MHz : -26.377 dBm M3 : 2411.323 MHz : 5.261 dBm	Channel Frequency: 2412.00 MHz

back to matrix

CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

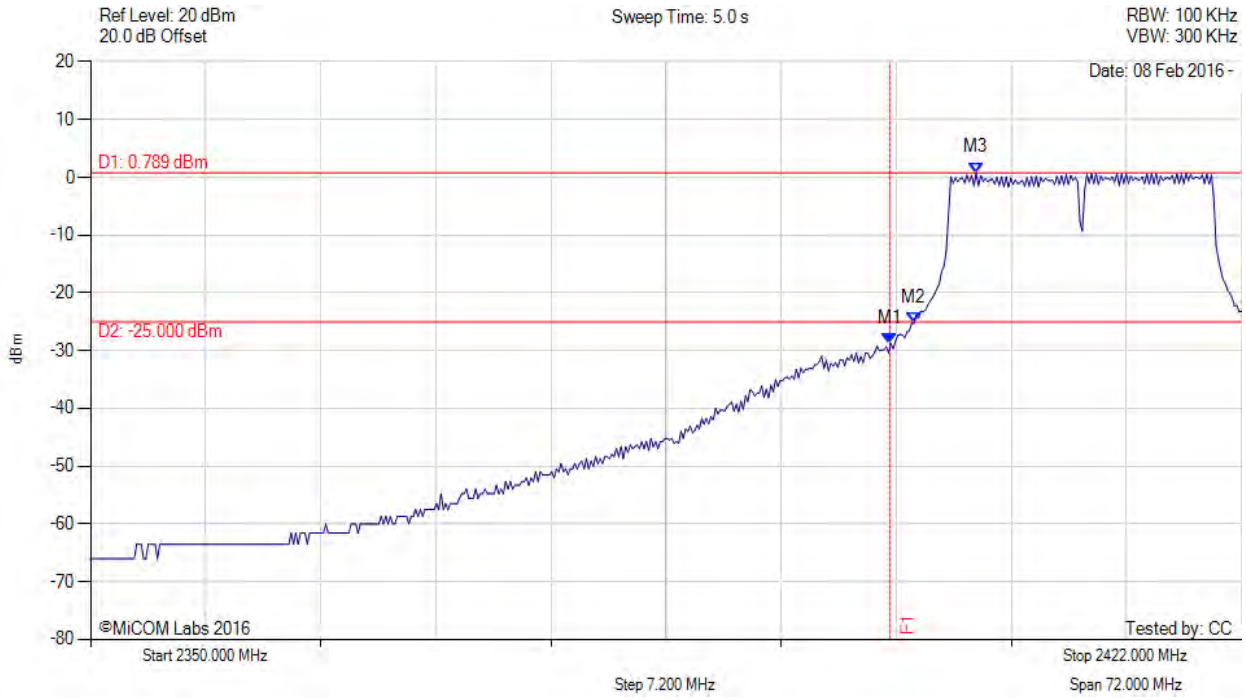


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2400.000 MHz : -31.063 dBm M2 : 2400.501 MHz : -30.075 dBm M3 : 2405.407 MHz : 0.213 dBm	Channel Frequency: 2412.00 MHz

back to matrix

Revised Low Band-Edge Emissions - Average

Variant: 802.11g, Channel: 2412.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

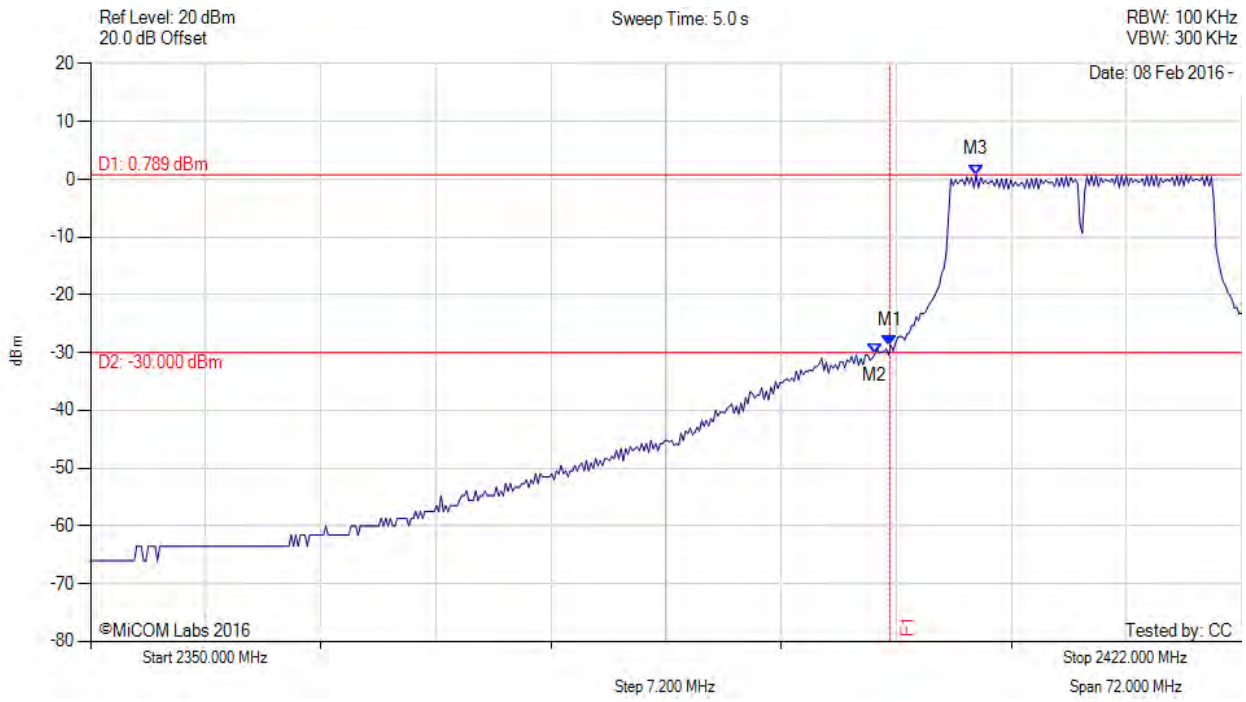


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2400.000 MHz : -28.756 dBm M2 : 2401.511 MHz : -25.274 dBm M3 : 2405.407 MHz : 0.789 dBm	Channel Frequency: 2412.00 MHz

back to matrix

CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

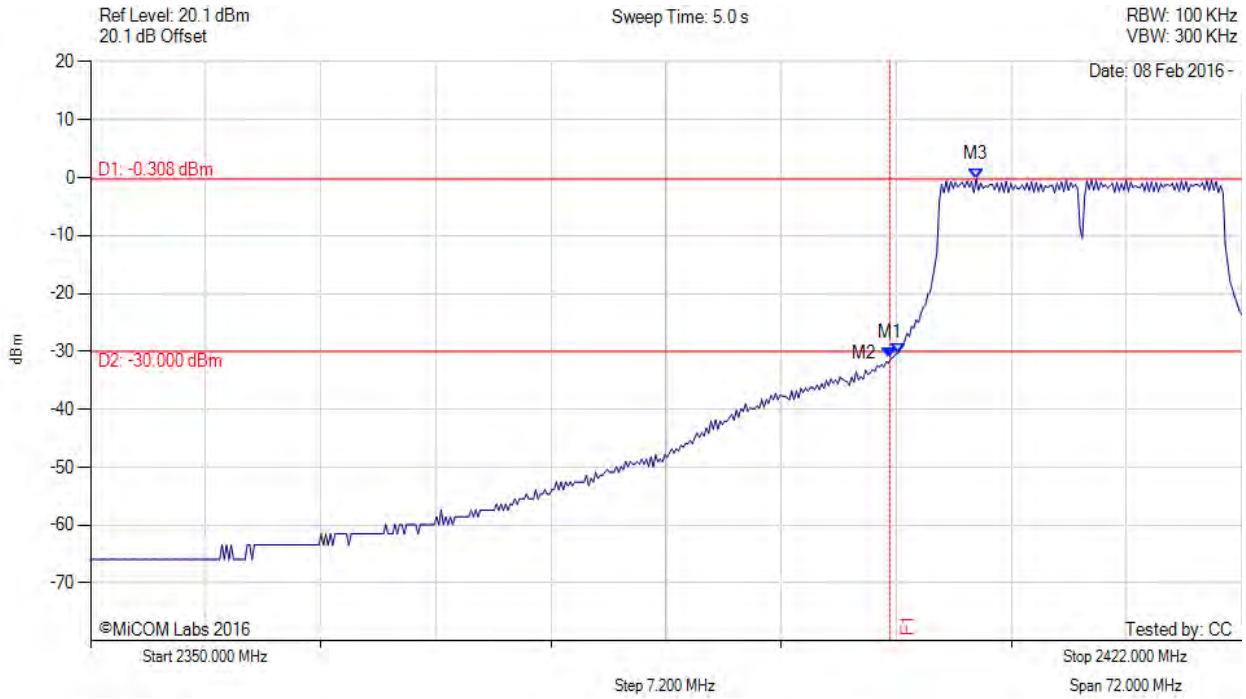


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2400.000 MHz : -28.756 dBm M2 : 2399.058 MHz : -30.269 dBm M3 : 2405.407 MHz : 0.789 dBm	Channel Frequency: 2412.00 MHz

back to matrix

CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

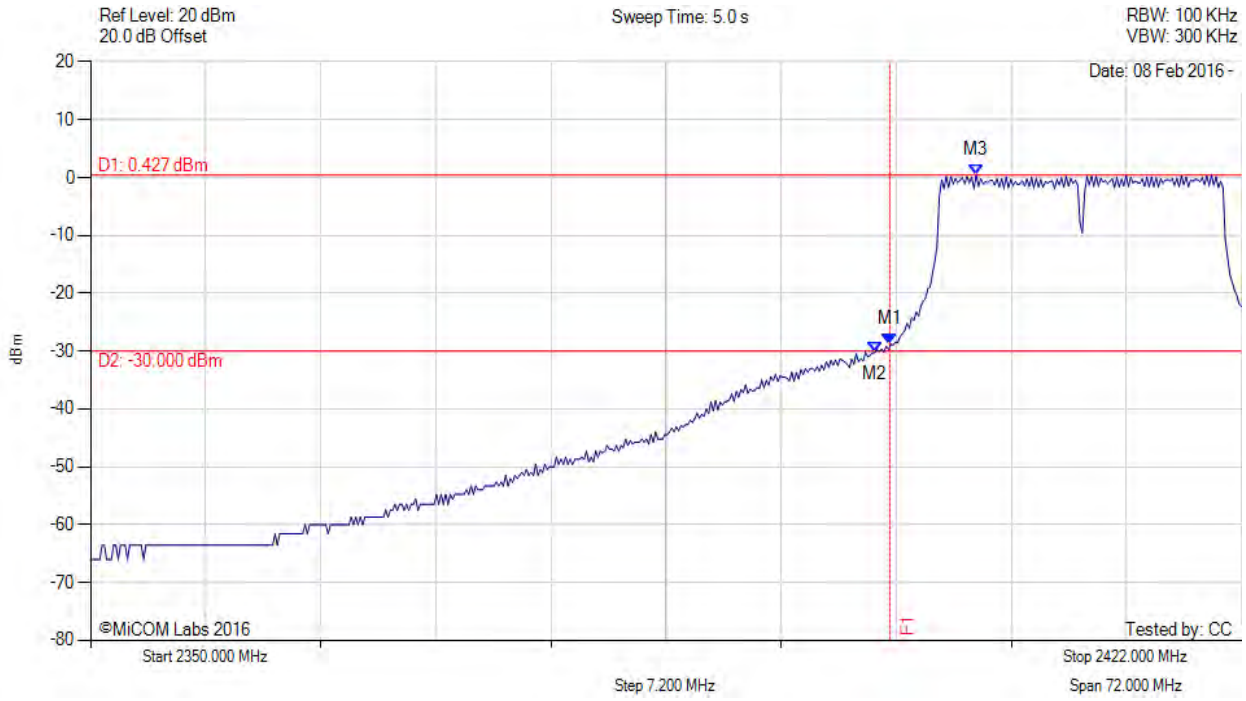


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2400.000 MHz : -31.222 dBm M2 : 2400.501 MHz : -30.360 dBm M3 : 2405.407 MHz : -0.308 dBm	Channel Frequency: 2412.00 MHz

back to matrix

Revised CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

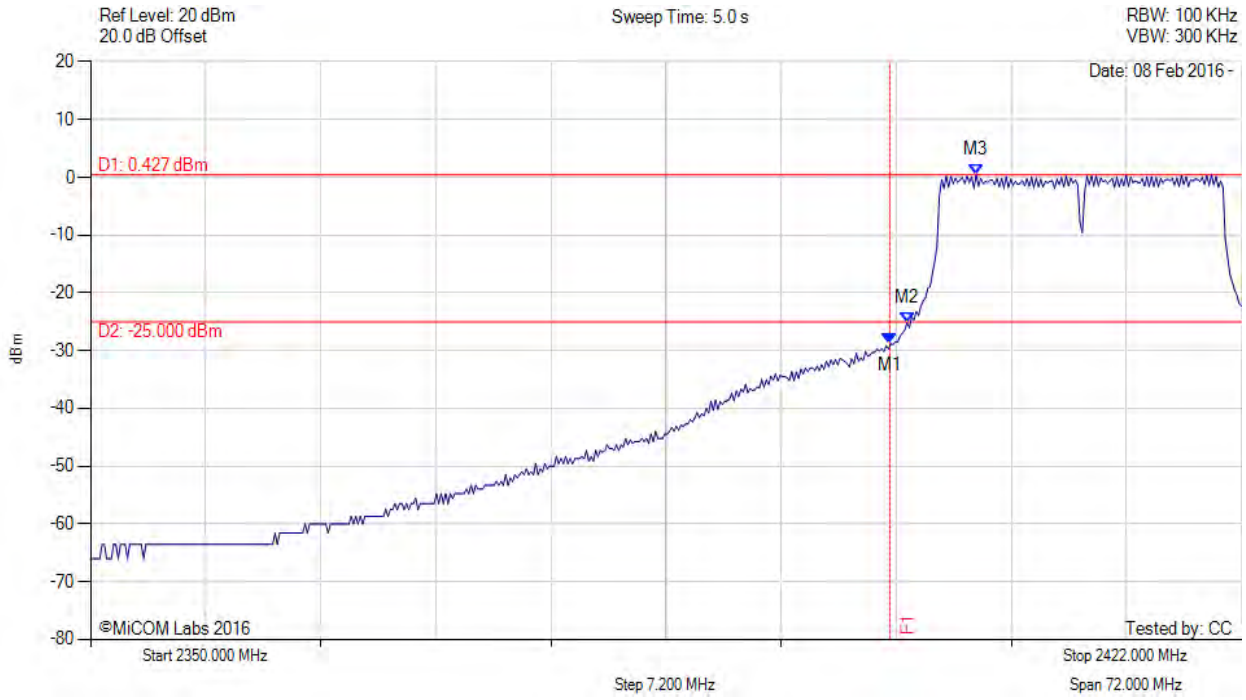


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2400.000 MHz : -28.836 dBm M2 : 2399.058 MHz : -30.269 dBm M3 : 2405.407 MHz : 0.427 dBm	Channel Frequency: 2412.00 MHz

back to matrix

Low Band-Edge Emissions - Average

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

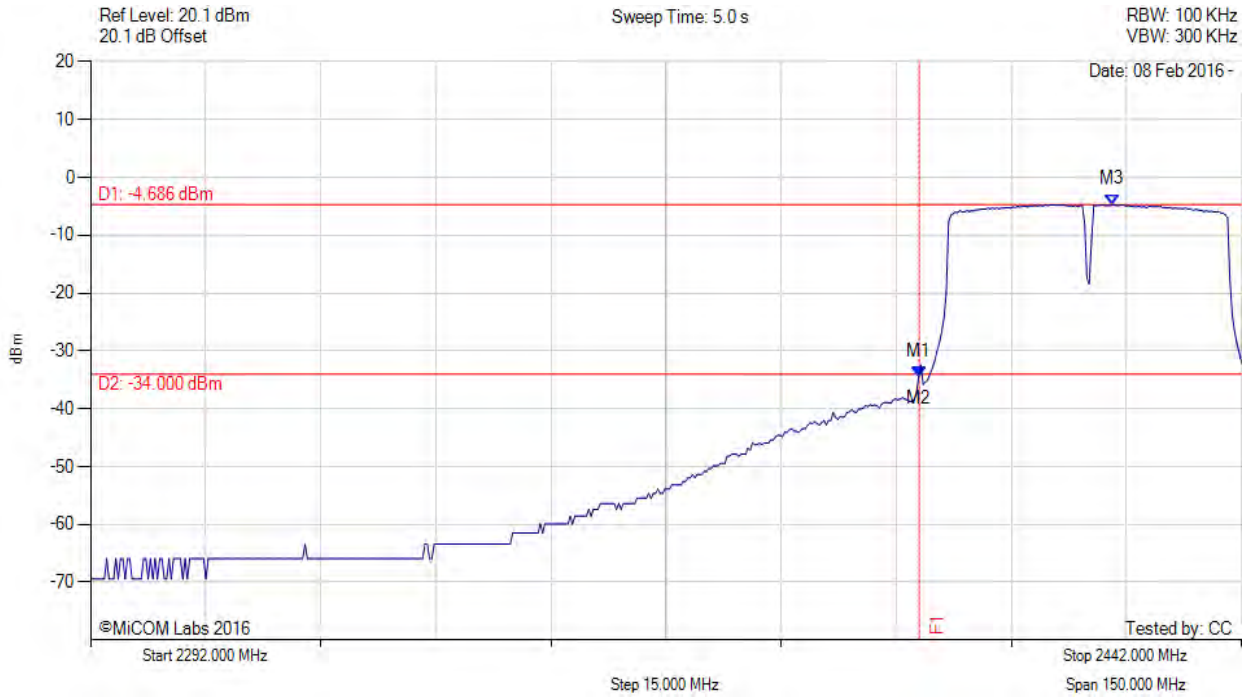


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2400.000 MHz : -28.836 dBm M2 : 2401.078 MHz : -25.195 dBm M3 : 2405.407 MHz : 0.427 dBm	Channel Frequency: 2412.00 MHz

back to matrix

CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 2422.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

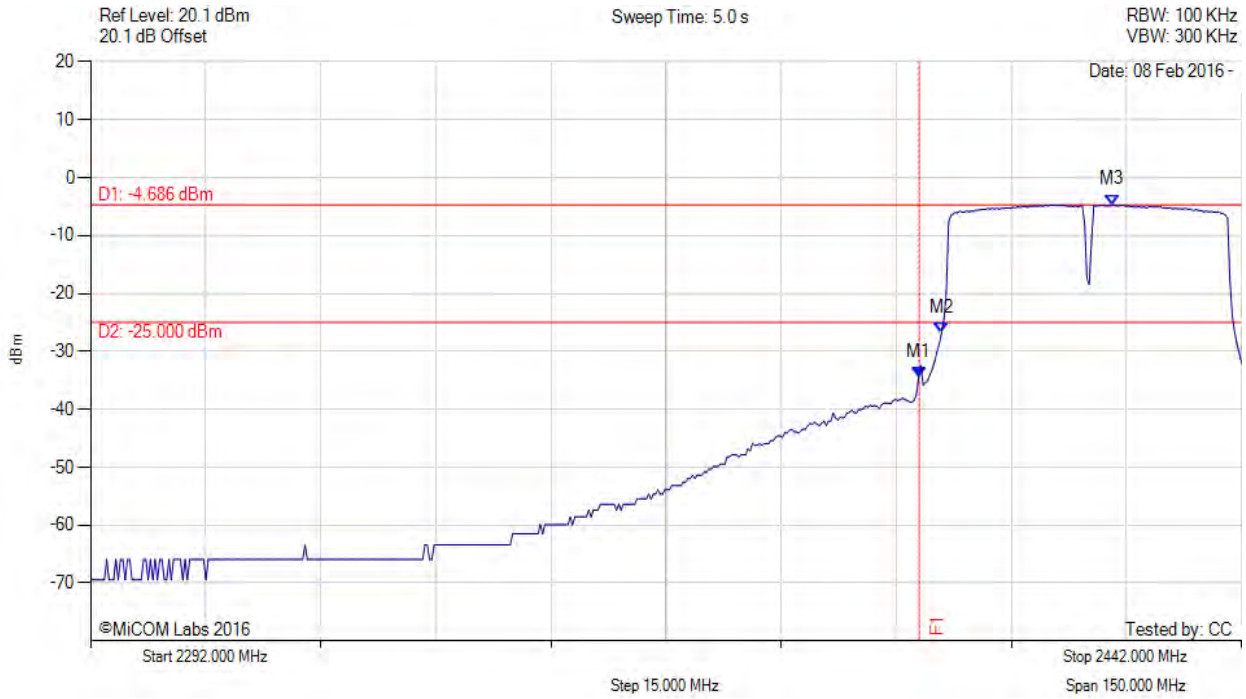


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2400.000 MHz : -34.481 dBm M2 : 2399.916 MHz : -34.481 dBm M3 : 2425.166 MHz : -4.686 dBm	Channel Frequency: 2422.00 MHz

back to matrix

Revised Low Band-Edge Emissions - Average

Variant: 802.11n HT-40, Channel: 2412.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2400.000 MHz : -34.481 dBm M2 : 2402.922 MHz : -26.742 dBm M3 : 2425.166 MHz : -4.686 dBm	Channel Frequency: 2412.00 MHz

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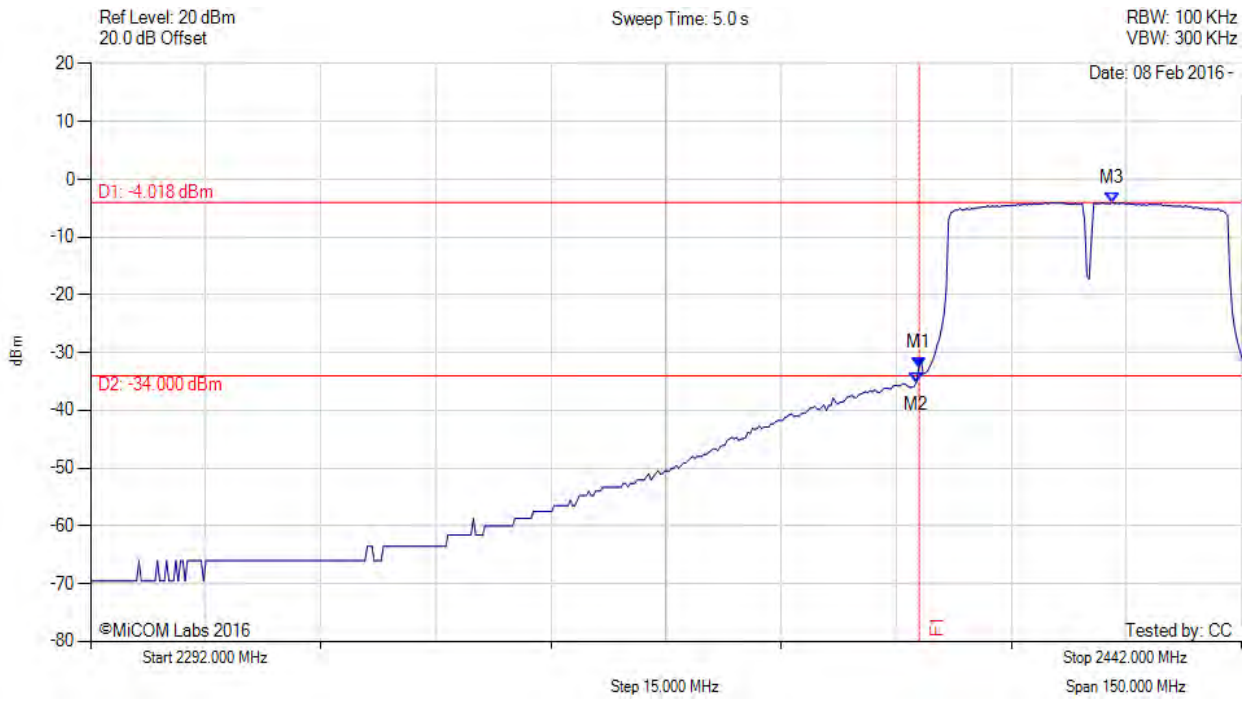
CONDUCTED LOW BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 2422.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2400.000 MHz : -32.705 dBm M2 : 2399.615 MHz : -35.225 dBm M3 : 2425.166 MHz : -4.018 dBm	Channel Frequency: 2422.00 MHz

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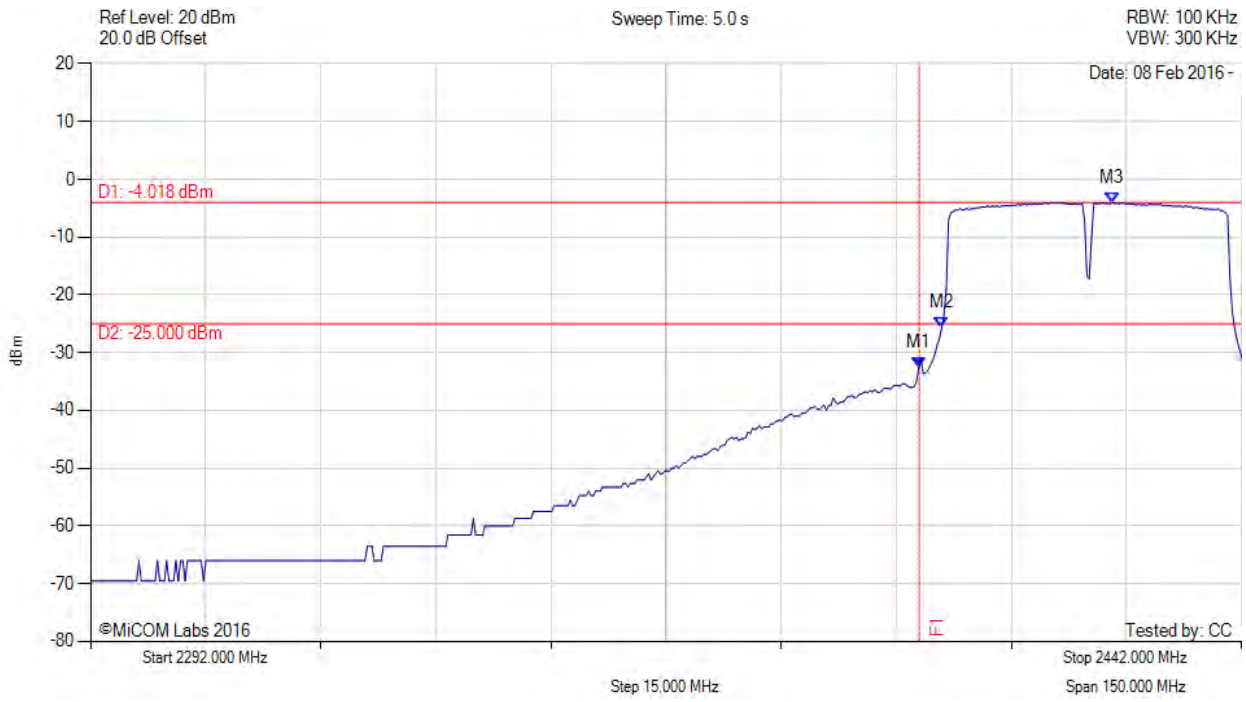
Revised Low Band-Edge Emissions - Average

Variant: 802.11n HT-40, Channel: 2412.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2400.000 MHz : -32.705 dBm M2 : 2402.922 MHz : -25.766 dBm M3 : 2425.166 MHz : -4.018 dBm	Channel Frequency: 2412.00 MHz

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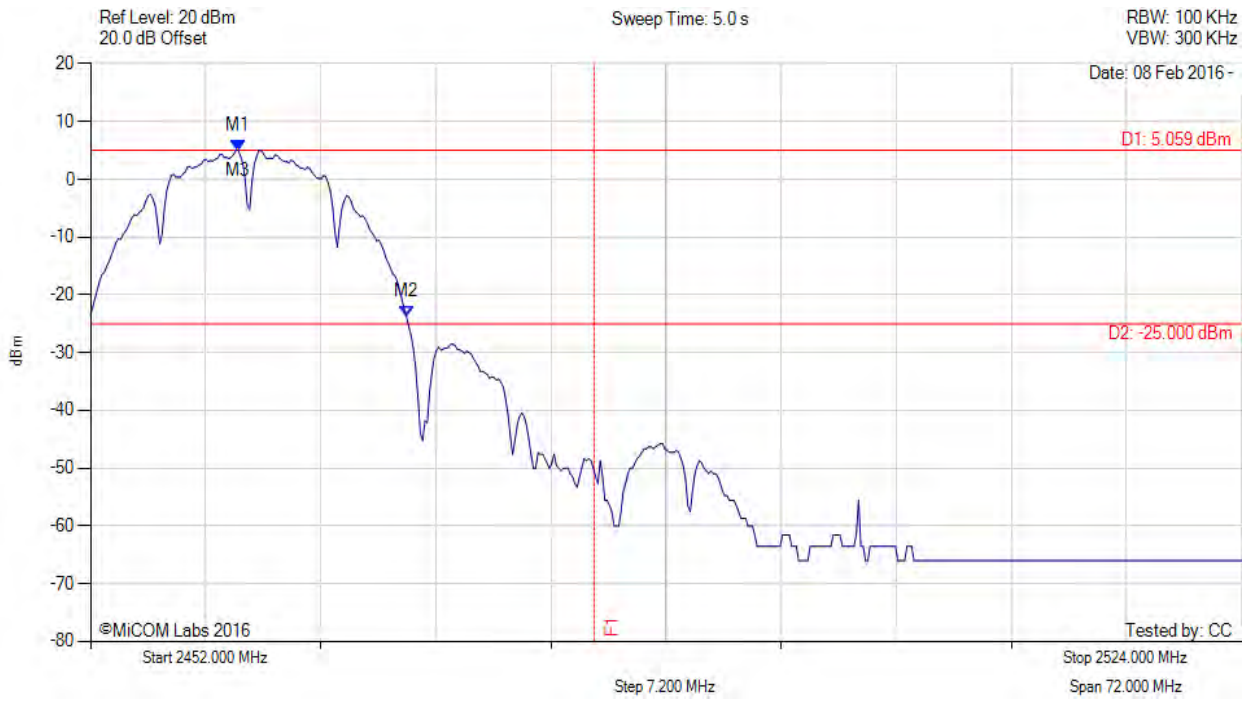
Conducted High Band-Edge Emissions

CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2461.234 MHz : 5.059 dBm M2 : 2471.768 MHz : -23.789 dBm M3 : 2461.234 MHz : 5.059 dBm	Channel Frequency: 2462.00 MHz

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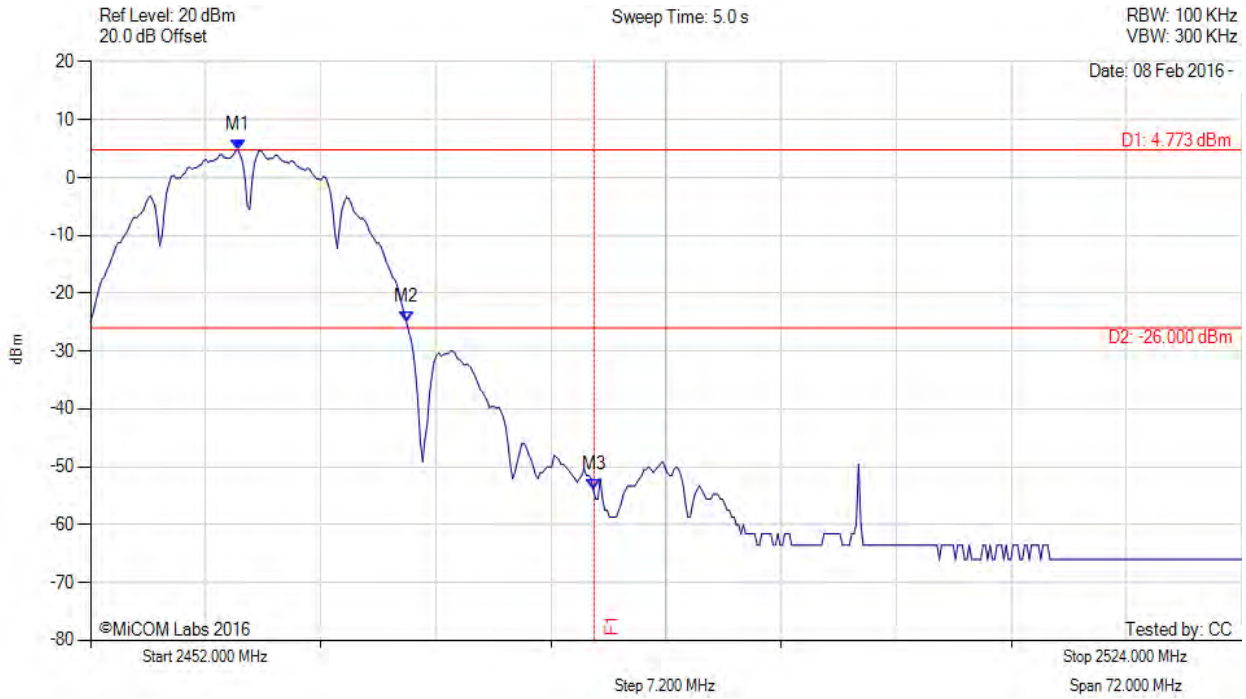
CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2461.234 MHz : 4.773 dBm M2 : 2471.768 MHz : -24.987 dBm M3 : 2483.500 MHz : -53.982 dBm	Channel Frequency: 2462.00 MHz

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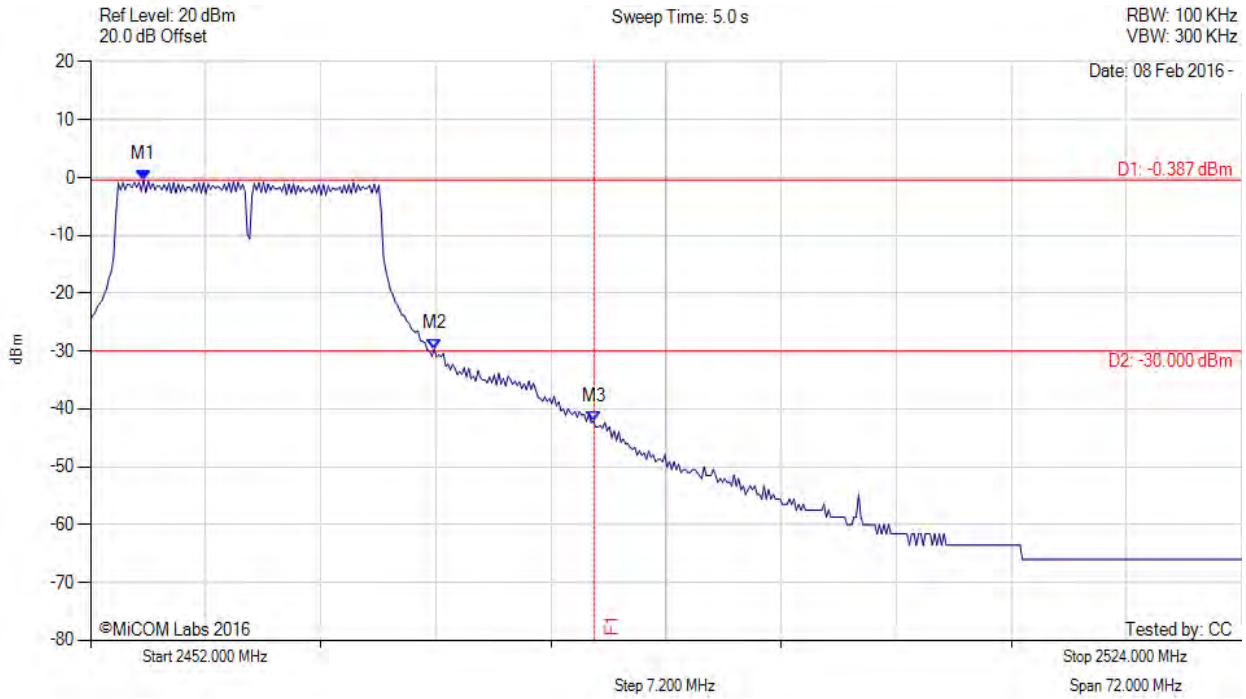
CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2455.319 MHz : -0.387 dBm M2 : 2473.499 MHz : -29.632 dBm M3 : 2483.500 MHz : -42.123 dBm	Channel Frequency: 2462.00 MHz

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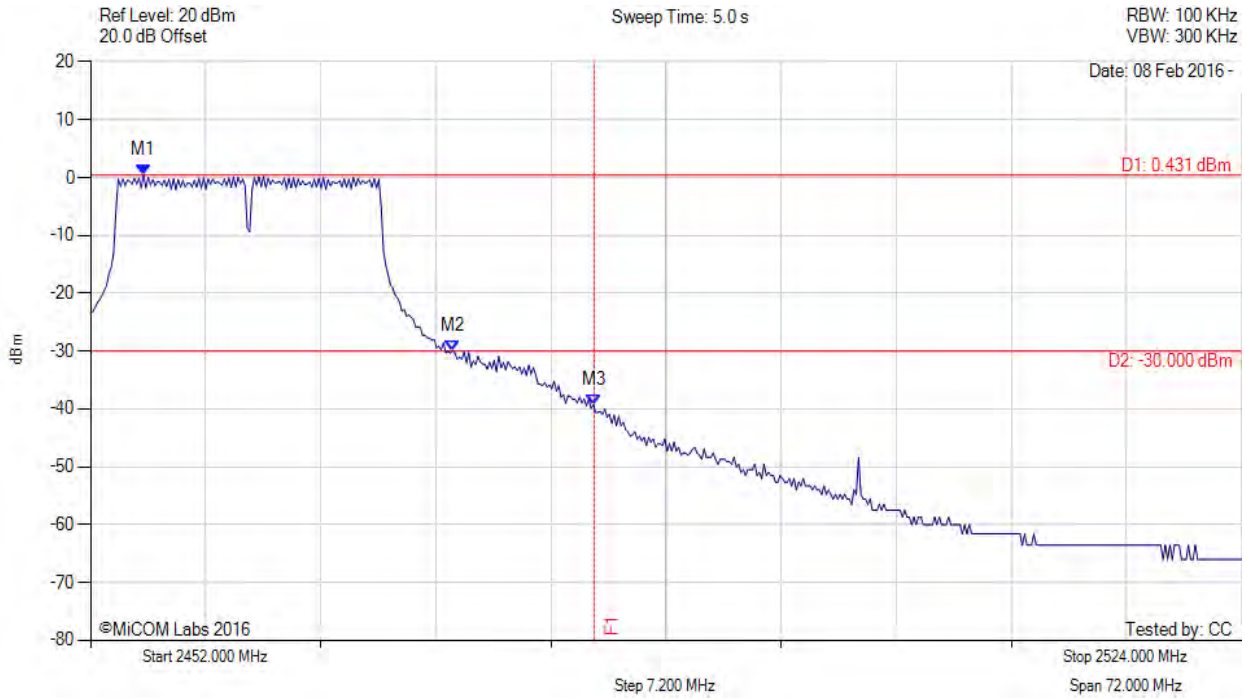
CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2455.319 MHz : 0.431 dBm M2 : 2474.653 MHz : -29.899 dBm M3 : 2483.500 MHz : -39.307 dBm	Channel Frequency: 2462.00 MHz

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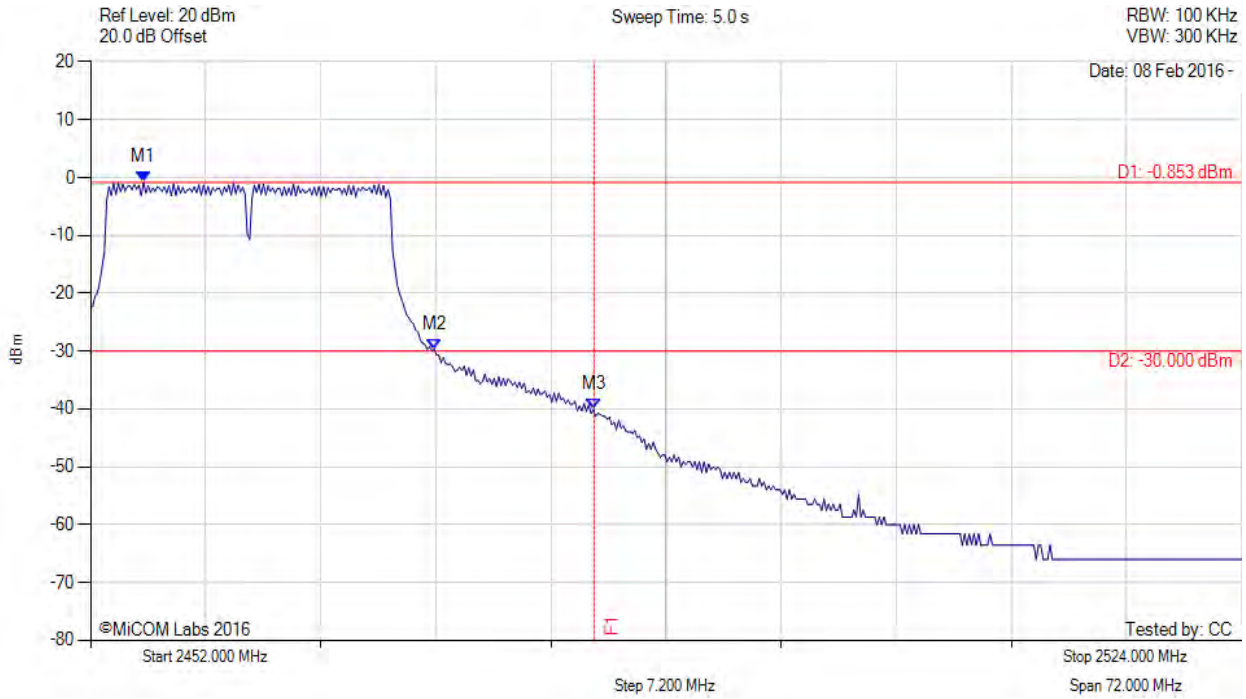
CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2455.319 MHz : -0.853 dBm M2 : 2473.499 MHz : -29.676 dBm M3 : 2483.500 MHz : -40.148 dBm	Channel Frequency: 2462.00 MHz

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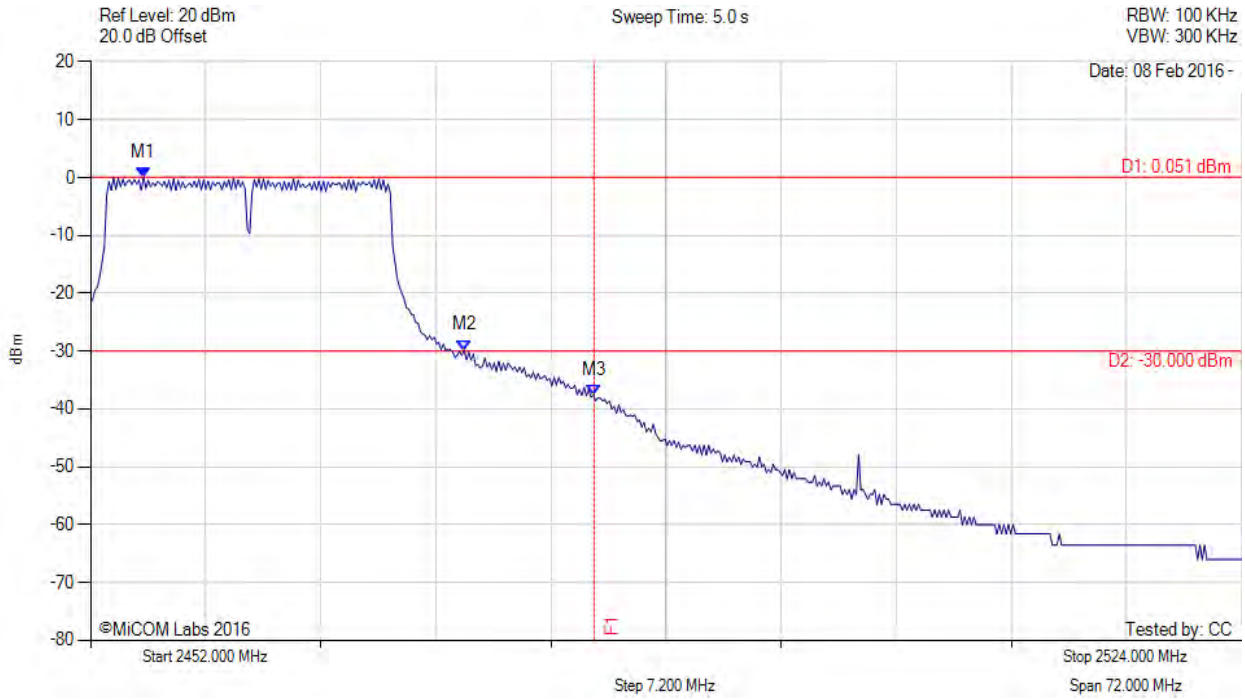
CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2455.319 MHz : 0.051 dBm M2 : 2475.375 MHz : -29.854 dBm M3 : 2483.500 MHz : -37.613 dBm	Channel Frequency: 2462.00 MHz

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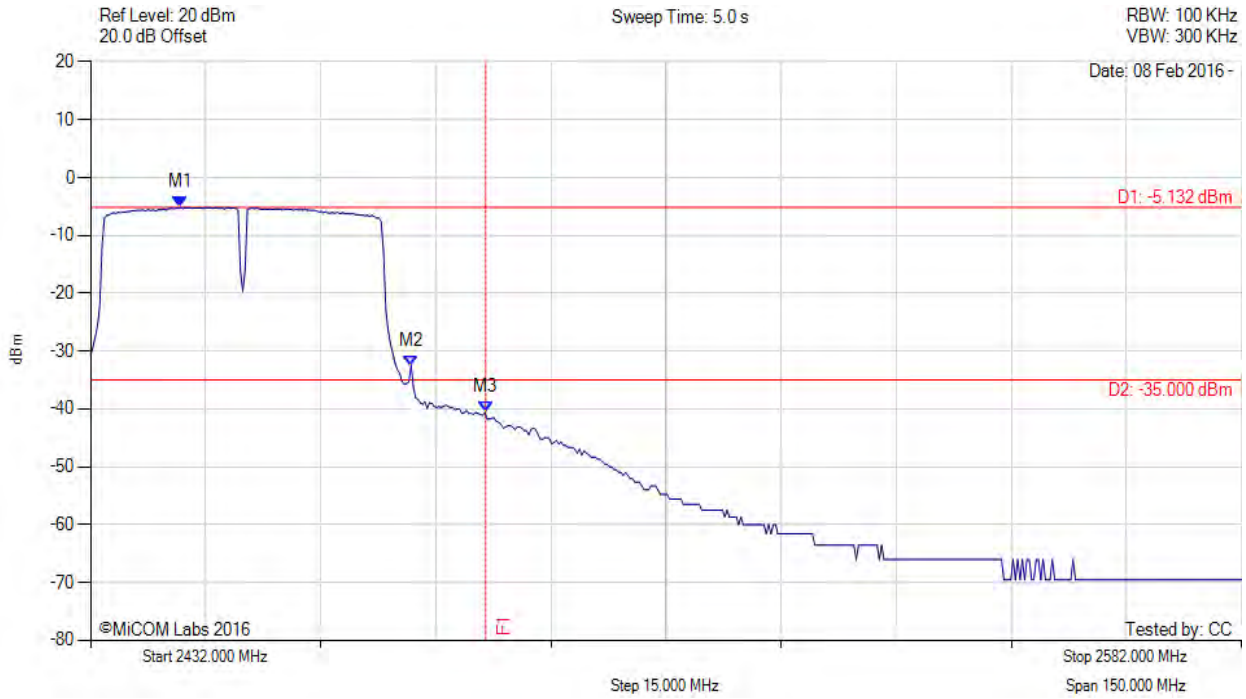
CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 2452.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2443.723 MHz : -5.132 dBm M2 : 2473.784 MHz : -32.520 dBm M3 : 2483.500 MHz : -40.602 dBm	Channel Frequency: 2452.00 MHz

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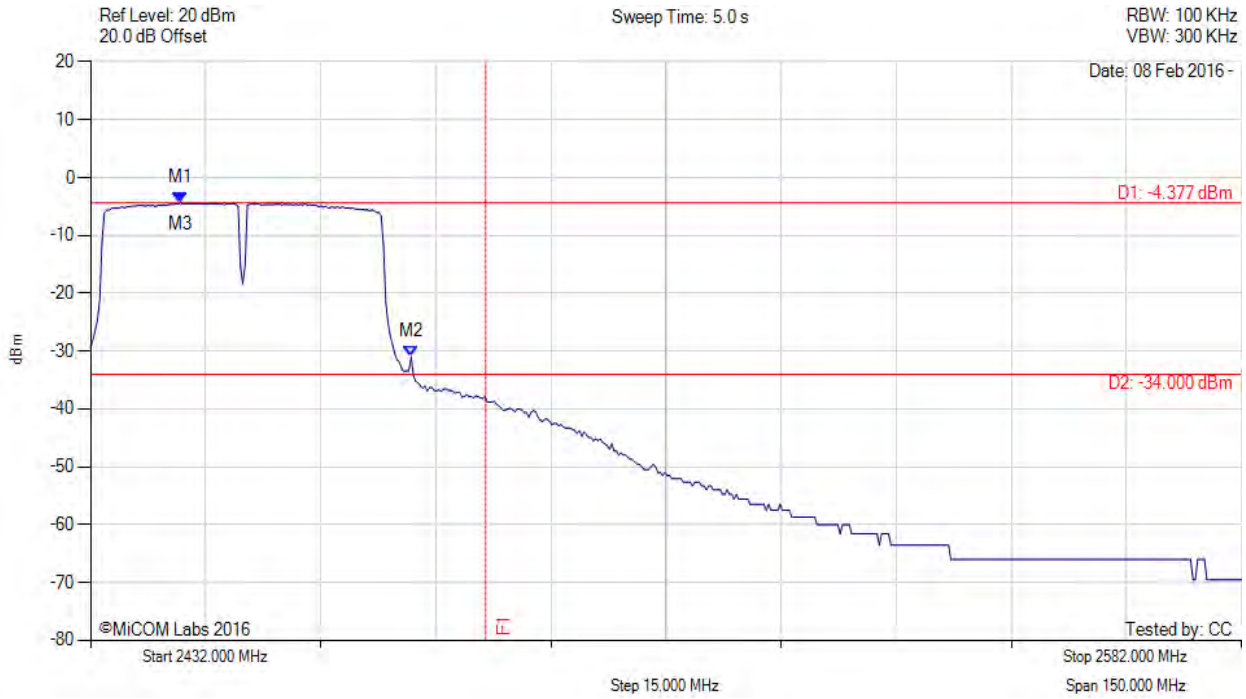
CONDUCTED HIGH BAND-EDGE EMISSIONS - AVERAGE

Variant: 802.11n HT-40, Channel: 2452.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 10 Trace Mode = VIEW	M1 : 2443.723 MHz : -4.377 dBm M2 : 2473.784 MHz : -31.008 dBm M3 : 2443.723 MHz : -4.377 dBm	Channel Frequency: 2452.00 MHz

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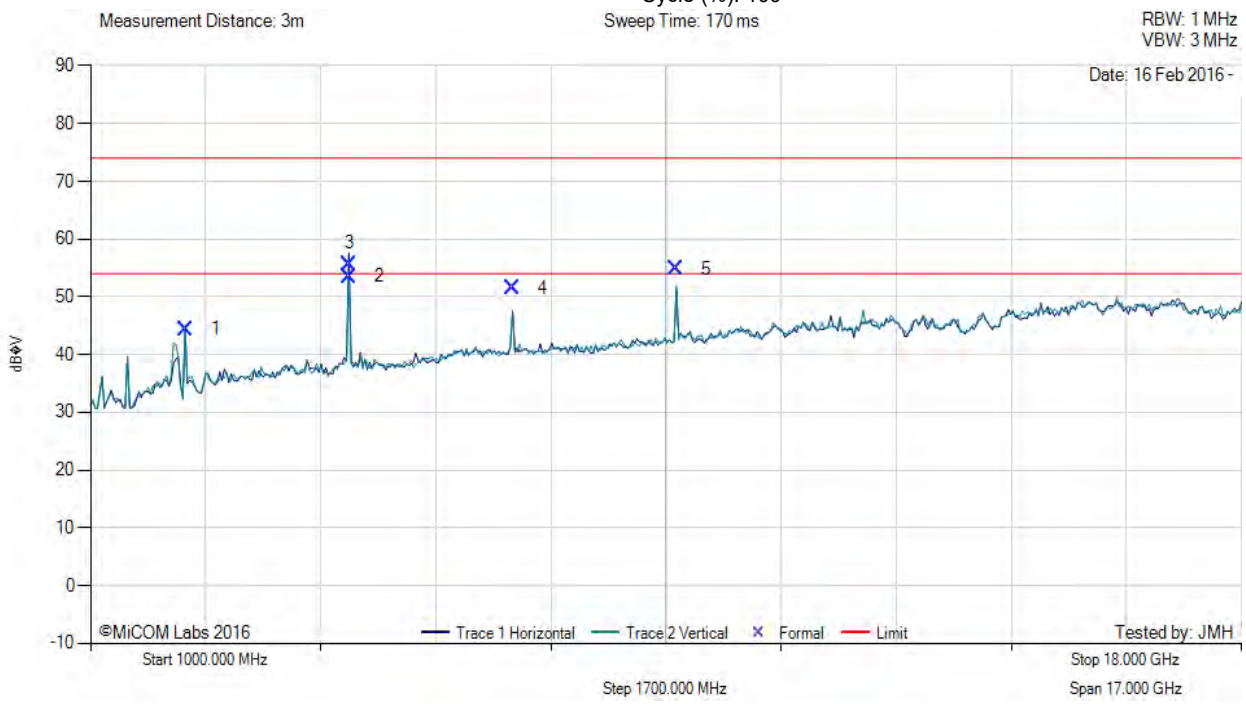
A.3.2. Radiated Emissions

A.3.2.3. Restricted Band Emissions

RADIATED SPURIOUS - RESTRICTED BAND EMISSIONS

Variant: 802.11b, Test Freq: 2412.00 MHz, Antenna: Galtronics Custom Cabled u.FI, Power Setting: 54/54, Duty Cycle (%): 100



Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	2411.04	53.50	2.69	-11.80	44.39	Fundamental	Vertical	151	1	--	--	
2	4823.93	61.10	3.54	-11.15	53.49	Max Avg	Horizontal	120	157	54.0	-0.5	Pass
3	4823.93	63.26	3.54	-11.15	55.65	Max Peak	Horizontal	120	157	74.0	-18.4	Pass
4	7236.59	54.54	4.25	-7.34	51.45	Peak (NRB)	Horizontal	151	102	--	--	Pass
5	9647.74	55.64	5.29	-6.08	54.85	Peak (NRB)	Vertical	151	102	--	--	Pass

Test Notes: EUT on 150cm table powered by AC/DC PS. Connected to laptop inside chamber via USB to serial converter. Reduced power on port A to 54 from 58 to bring 4.8 GHz into compliance.

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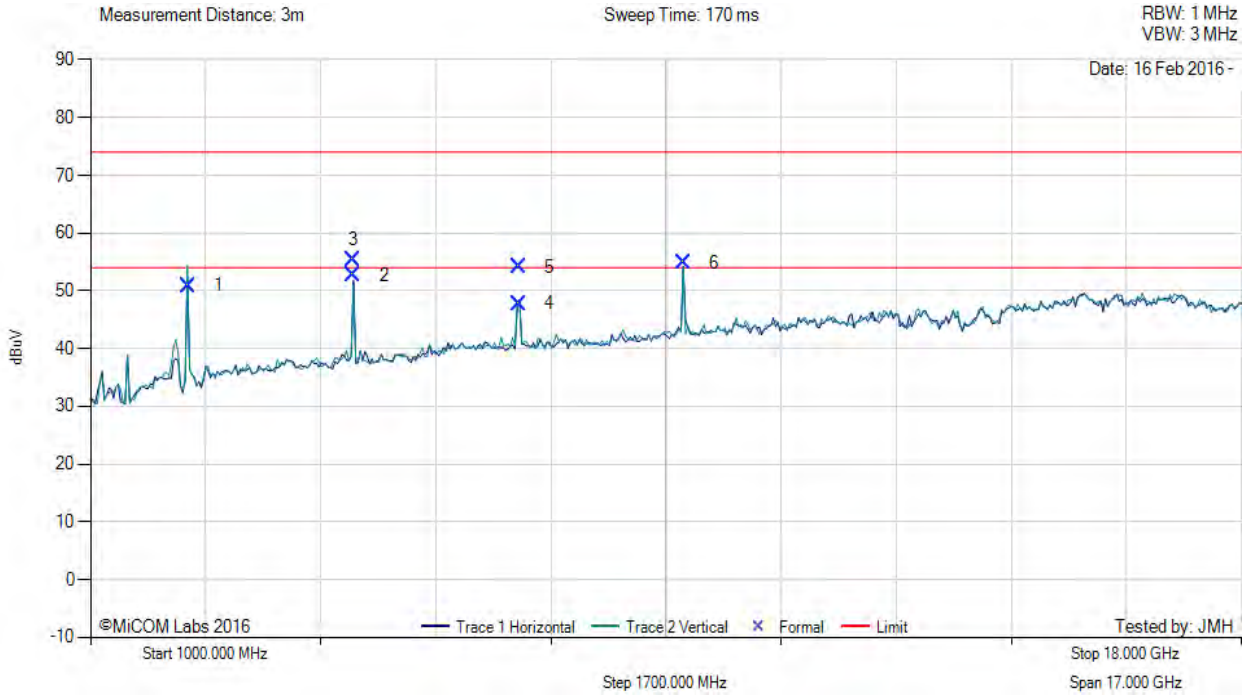
RADIATED SPURIOUS - RESTRICTED BAND EMISSIONS

Variant: 802.11b, Test Freq: 2437.00 MHz, Antenna: Galtronics Custom Cabled u.FI, Power Setting: 54/54, Duty Cycle (%): 100



Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	2441.08	59.90	2.72	-11.72	50.90	Fundamental	Vertical	101	1	--	--	
2	4883.83	60.38	3.64	-11.27	52.75	Max Avg	Horizontal	134	360	54.0	-1.3	Pass
3	4883.83	62.88	3.64	-11.27	55.25	Max Peak	Horizontal	134	360	74.0	-18.8	Pass
4	7326.61	50.79	4.27	-7.26	47.80	Max Avg	Horizontal	167	37	54.0	-6.2	Pass
5	7326.61	57.11	4.27	-7.26	54.12	Max Peak	Horizontal	167	37	74.0	-19.9	Pass
6	9767.76	55.83	5.19	-6.20	54.82	Peak (NRB)	Horizontal	151	33	--	--	Pass

Test Notes: EUT on 150cm table powered by AC/DC PS. Connected to laptop inside chamber via USB to serial converter. Reduced power on port A to 54 from 58 to bring 4.8 GHz into compliance.

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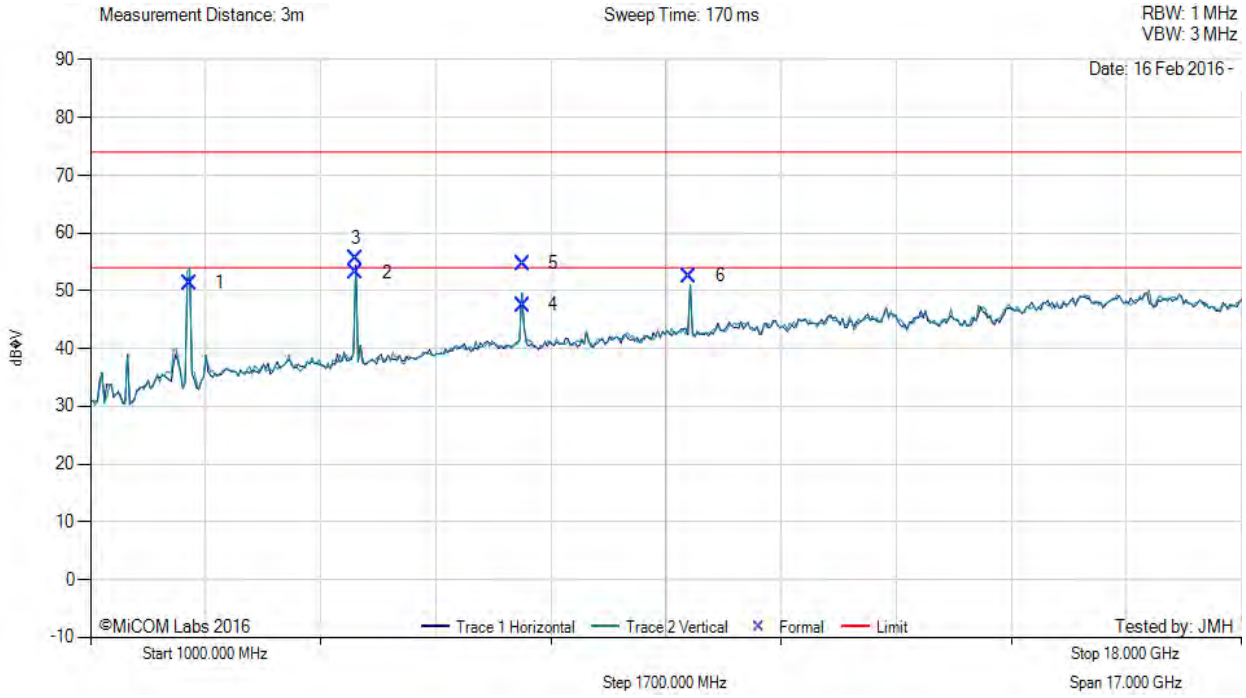
RADIATED SPURIOUS - RESTRICTED BAND EMISSIONS

Variant: 802.11b, Test Freq: 2462.00 MHz, Antenna: Galtronics Custom Cabled u.FI, Power Setting: 50/50, Duty Cycle (%): 100



Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	2462.89	60.29	2.74	-11.67	51.36	Fundamental	Vertical	101	0	--	--	
2	4923.87	60.93	3.58	-11.38	53.13	Max Avg	Horizontal	100	336	54.0	-0.9	Pass
3	4923.87	63.38	3.58	-11.38	55.58	Max Peak	Horizontal	100	336	74.0	-18.4	Pass
4	7384.85	50.44	4.29	-7.17	47.56	Max Avg	Horizontal	166	40	54.0	-6.4	Pass
5	7384.85	57.62	4.29	-7.17	54.74	Max Peak	Horizontal	166	40	74.0	-19.3	Pass
6	9847.76	53.14	5.39	-5.94	52.59	Peak (NRB)	Horizontal	187	53	--	--	Pass

Test Notes: EUT on 150cm table powered by AC/DC PS. Connected to laptop inside chamber via USB to serial converter. Reduced power on to 50 on both port from 58 to bring 4.8 GHz into compliance.

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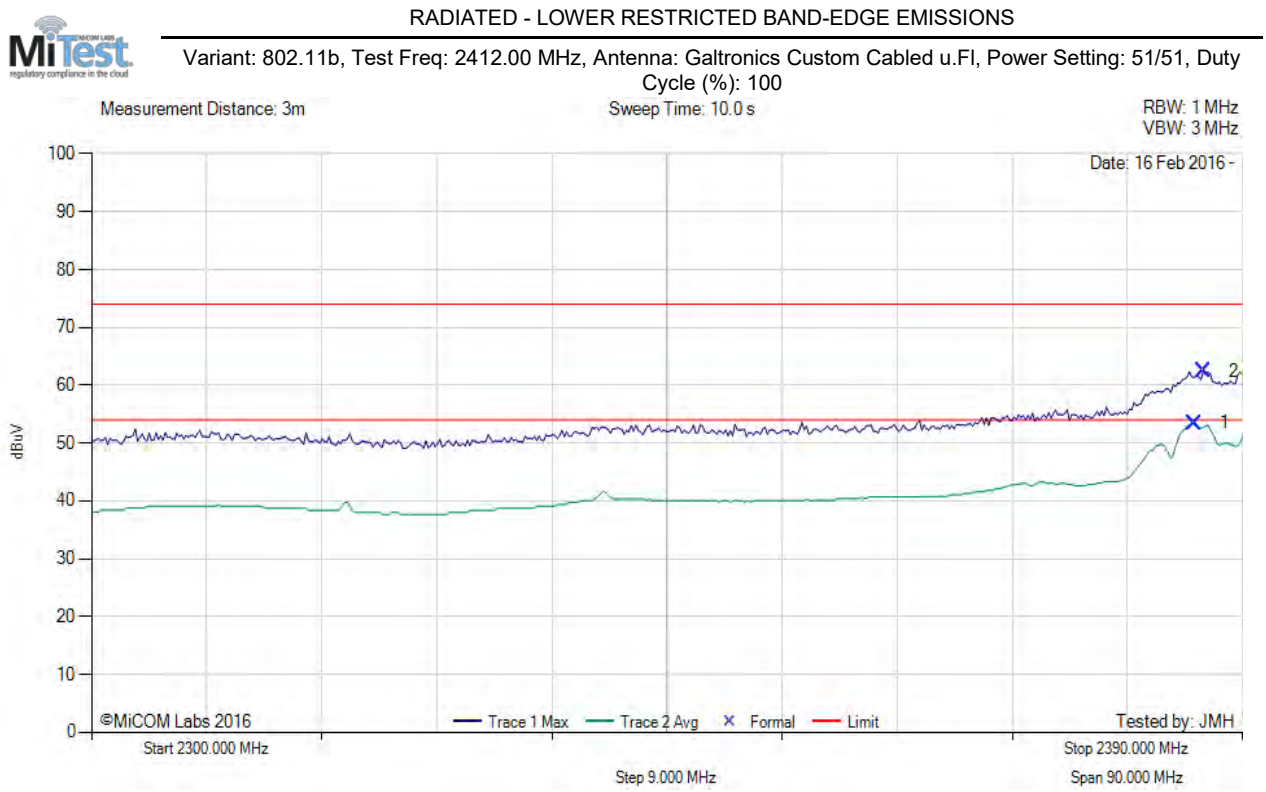
A.3.2.4. Restricted Band-Edge Emissions



Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	2386.21	18.79	2.68	32.01	53.48	Max Avg	Horizontal	173	199	54.0	-0.5	Pass
2	2386.93	27.71	2.68	32.02	62.41	Max Peak	Horizontal	173	199	74.0	-11.6	Pass

Test Notes: EUT on 150cm table powered by AC/DC PS. Connected to laptop inside chamber via USB to serial converter.

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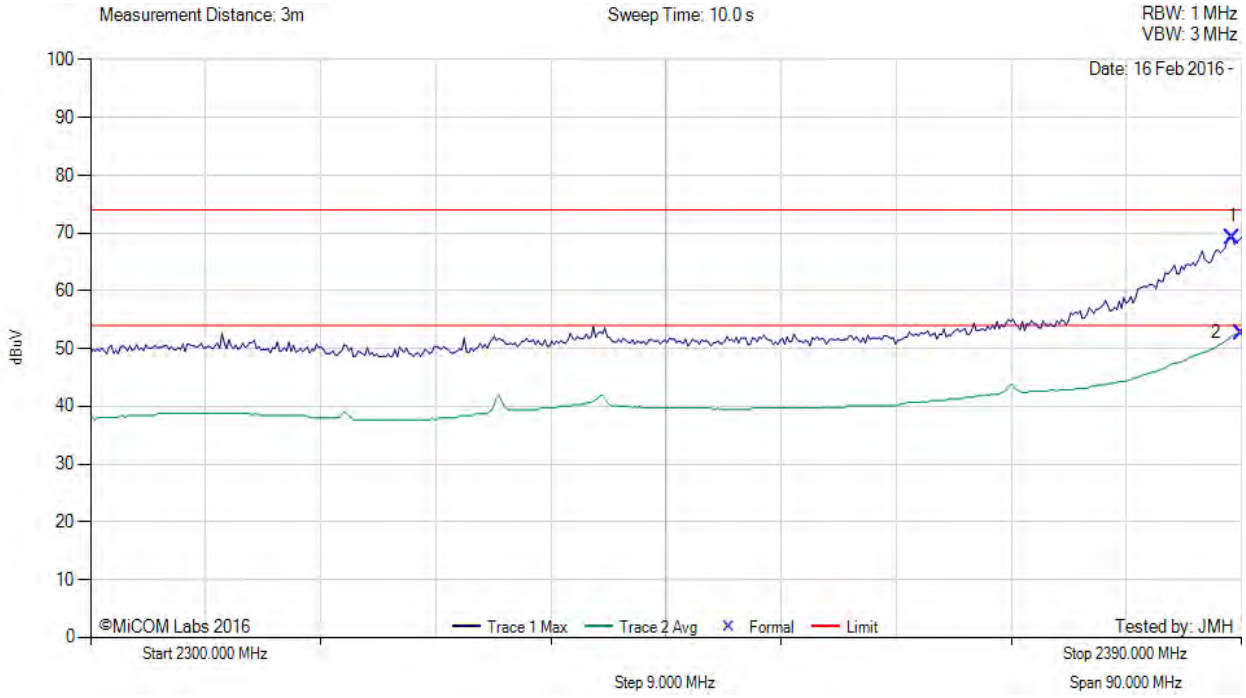
RADIATED - LOWER RESTRICTED BAND-EDGE EMISSIONS

Variant: 802.11g, Test Freq: 2412.00 MHz, Antenna: Galtronics Custom Cabled u.FI, Power Setting: 50/50, Duty Cycle (%): 100



Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	2389.28	34.54	2.68	32.04	69.26	Max Peak	Horizontal	173	199	74.0	-4.7	Pass
2	2390.00	18.01	2.69	32.04	52.74	Max Avg	Horizontal	173	199	54.0	-1.3	Pass

Test Notes: EUT on 150cm table powered by AC/DC PS. Connected to laptop inside chamber via USB to serial converter.

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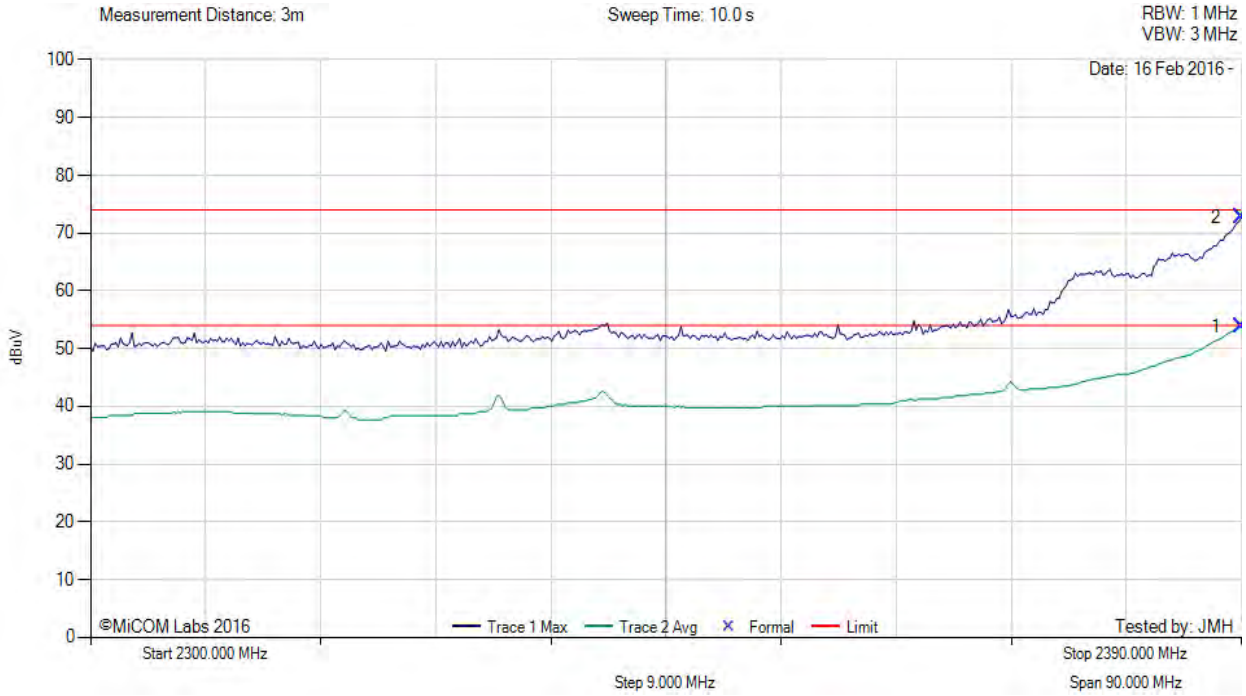
RADIATED - LOWER RESTRICTED BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 2412.00 MHz, Antenna: Galtronics Custom Cabled u.FI, Power Setting: 50/50, Duty Cycle (%): 100



Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	2390.00	19.16	2.69	32.04	53.89	Max Avg	Horizontal	173	199	54.0	-0.1	Pass
2	2390.00	38.04	2.69	32.04	72.77	Max Peak	Horizontal	173	199	74.0	-1.2	Pass

Test Notes: EUT on 150cm table powered by AC/DC PS. Connected to laptop inside chamber via USB to serial converter.

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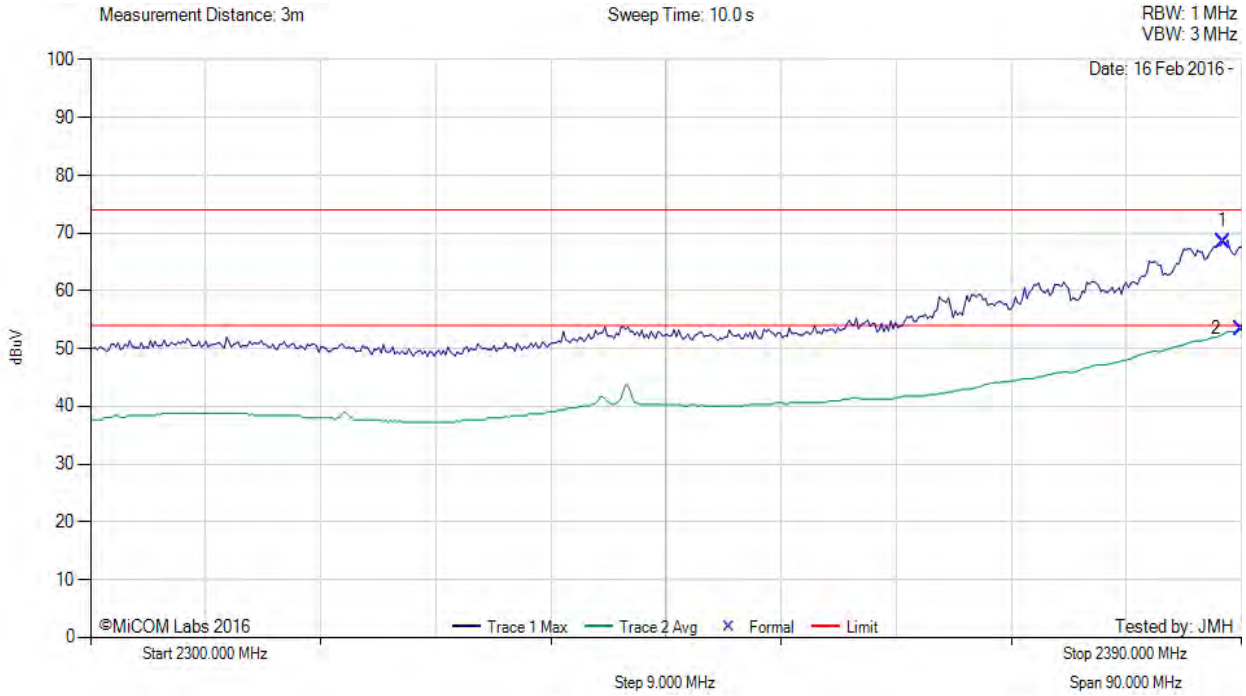
RADIATED - LOWER RESTRICTED BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 2422.00 MHz, Antenna: Galtronics Custom Cabled u.FI, Power Setting: 50/50, Duty Cycle (%): 100



Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	2388.56	33.81	2.68	32.04	68.53	Max Peak	Horizontal	173	199	74.0	-5.5	Pass
2	2390.00	18.71	2.69	32.04	53.44	Max Avg	Horizontal	173	199	54.0	-0.6	Pass

Test Notes: EUT on 150cm table powered by AC/DC PS. Connected to laptop inside chamber via USB to serial converter.

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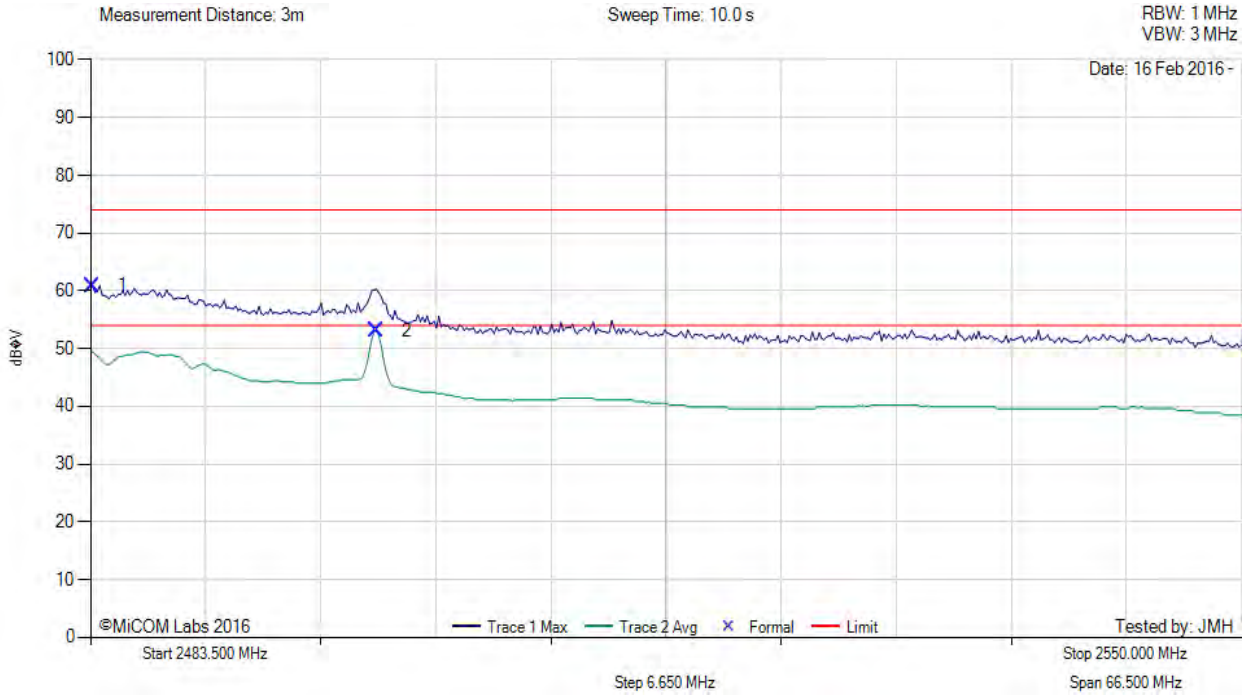
RADIATED - UPPER RESTRICTED BAND-EDGE EMISSIONS

Variant: 802.11b, Test Freq: 2462.00 MHz, Antenna: Galtronics Custom Cabled u.FI, Power Setting: 50/50, Duty Cycle (%): 100



Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	2483.63	25.81	2.73	32.37	60.91	Max Peak	Horizontal	182	201	74.0	-13.1	Pass
2	2500.03	18.02	2.73	32.40	53.15	Max Avg	Horizontal	182	201	54.0	-0.9	Pass

Test Notes: EUT on 150cm table powered by AC/DC PS. Connected to laptop inside chamber via USB to serial converter.

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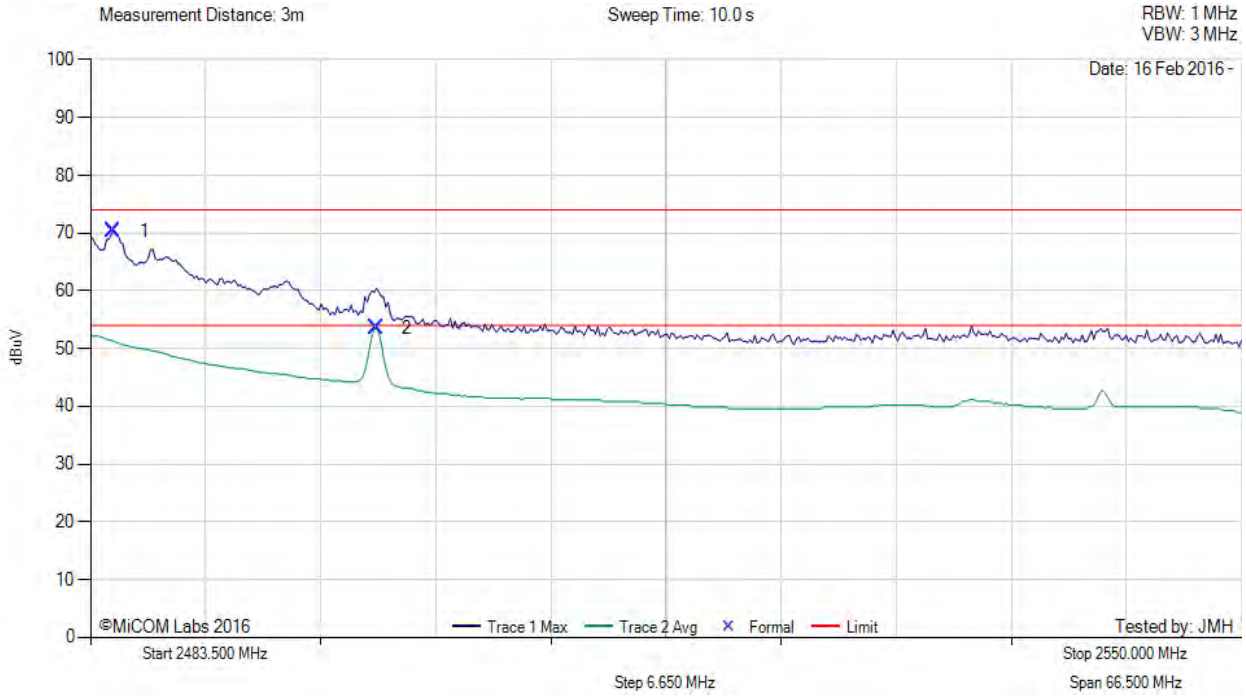
RADIATED - UPPER RESTRICTED BAND-EDGE EMISSIONS

Variant: 802.11g, Test Freq: 2462.00 MHz, Antenna: Galtronics Custom Cabled u.FI, Power Setting: 50/50, Duty Cycle (%): 100



Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	2484.83	35.30	2.73	32.37	70.40	Max Peak	Horizontal	182	201	74.0	-3.6	Pass
2	2500.03	18.45	2.73	32.40	53.58	Max Avg	Horizontal	182	201	54.0	-0.4	Pass

Test Notes: EUT on 150cm table powered by AC/DC PS. Connected to laptop inside chamber via USB to serial converter.

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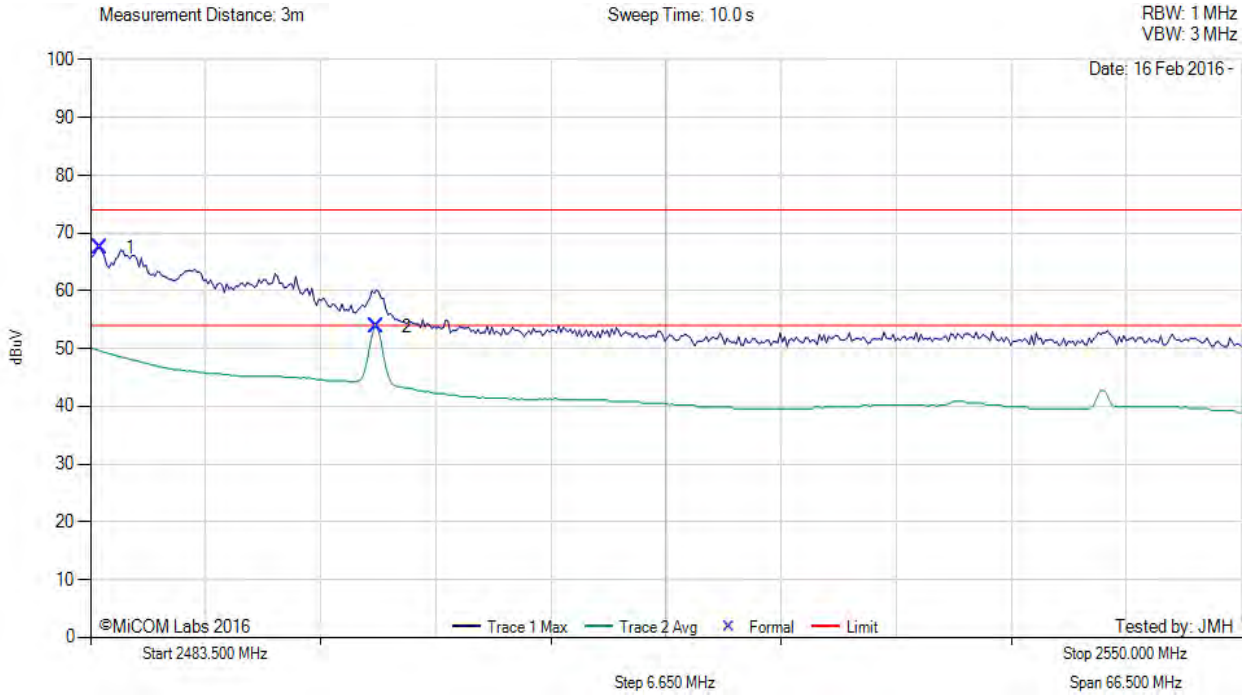
RADIATED - UPPER RESTRICTED BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 2462.00 MHz, Antenna: Galtronics Custom Cabled u.FI, Power Setting: 47/47, Duty Cycle (%): 100



Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	2484.03	32.33	2.73	32.37	67.43	Max Peak	Horizontal	182	201	74.0	-6.6	Pass
2	2500.03	18.65	2.73	32.40	53.78	Max Avg	Horizontal	182	201	54.0	-0.2	Pass

Test Notes: EUT on 150cm table powered by AC/DC PS. Connected to laptop inside chamber via USB to serial converter.

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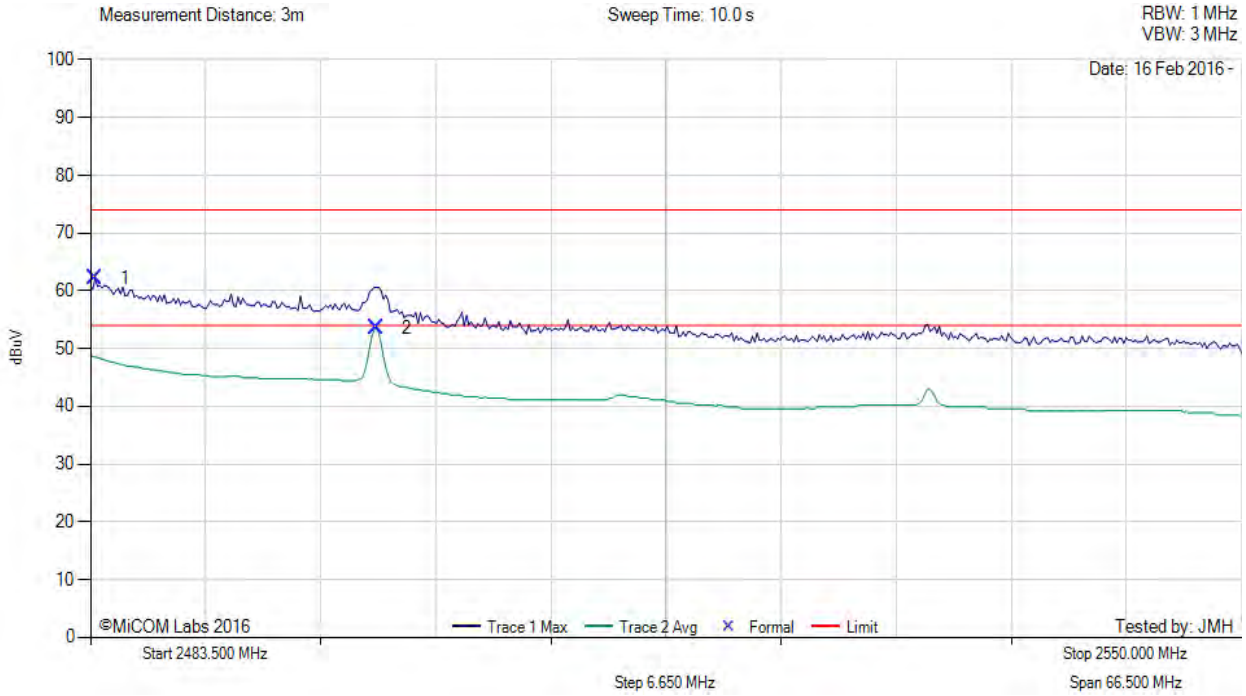
RADIATED - UPPER RESTRICTED BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 2452.00 MHz, Antenna: Galtronics Custom Cabled u.FI, Power Setting: 47/47, Duty Cycle (%): 100



Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	2483.77	27.07	2.73	32.37	62.17	Max Peak	Horizontal	182	201	74.0	-11.8	Pass
2	2500.03	18.38	2.73	32.40	53.51	Max Avg	Horizontal	182	201	54.0	-0.5	Pass

Test Notes: EUT on 150cm table powered by AC/DC PS. Connected to laptop inside chamber via USB to serial converter.

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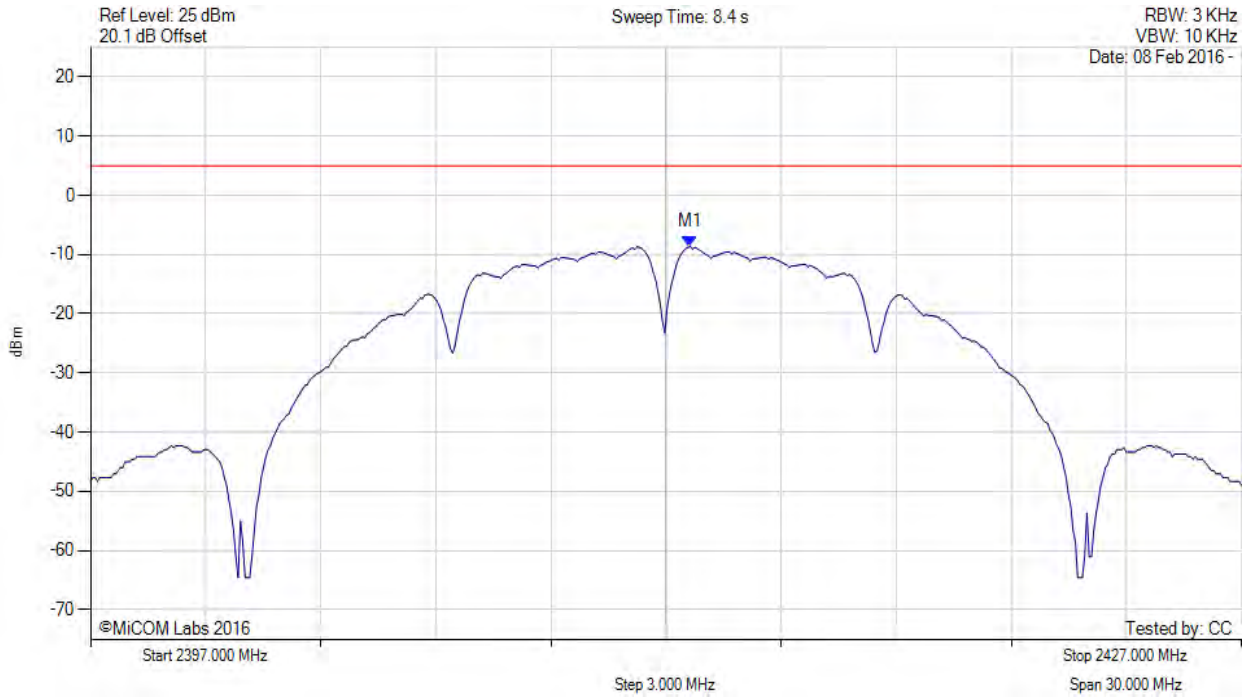
A.4. Power Spectral Density

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2412.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2412.631 MHz : -8.655 dBm	Limit: ≤ 4.990 dBm

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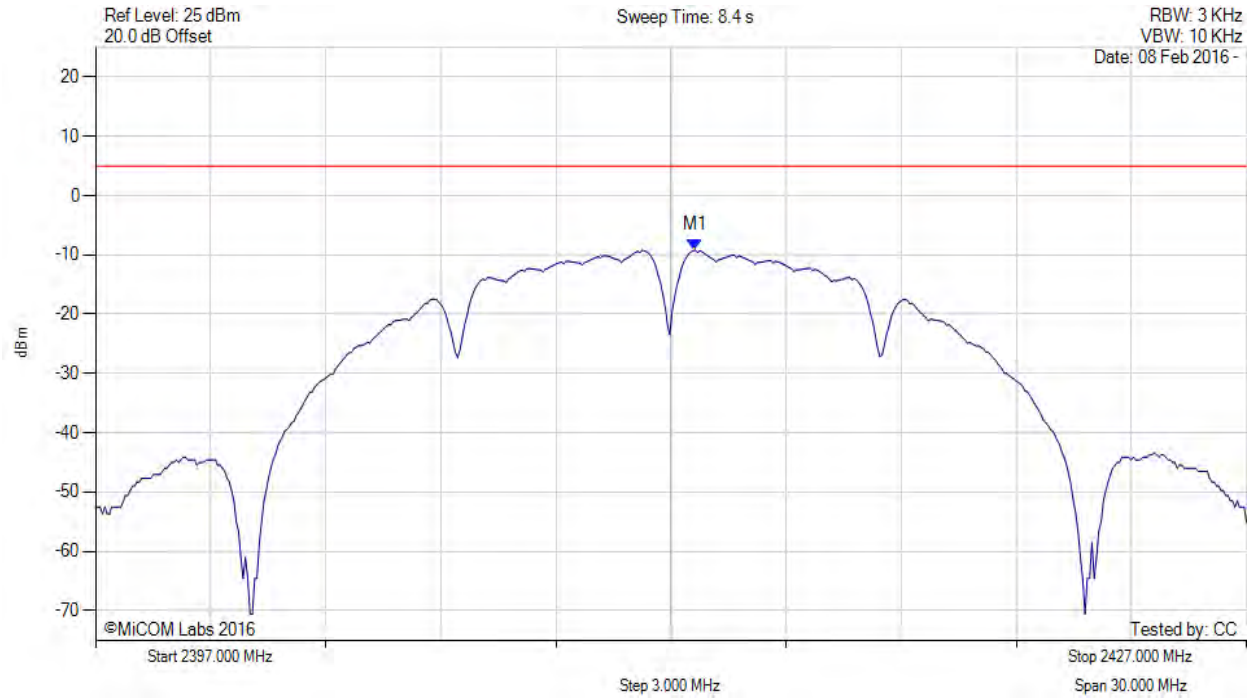
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2412.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

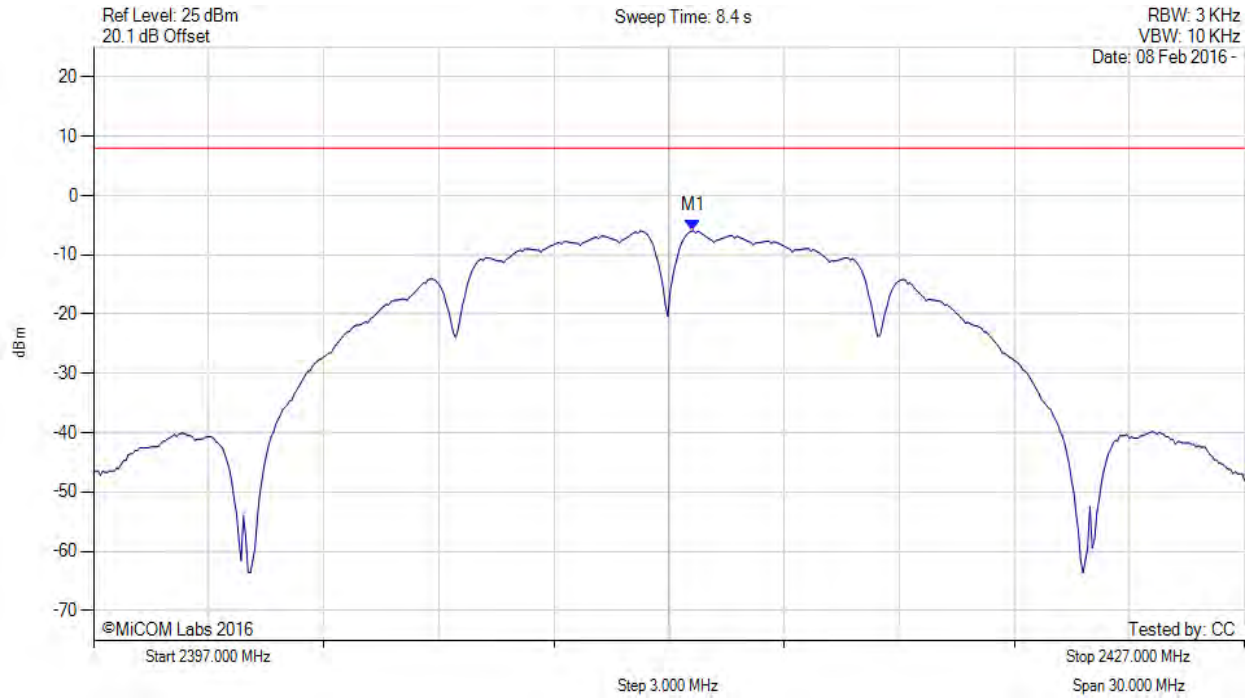


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2412.631 MHz : -9.202 dBm	Limit: ≤ 4.990 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2412.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc

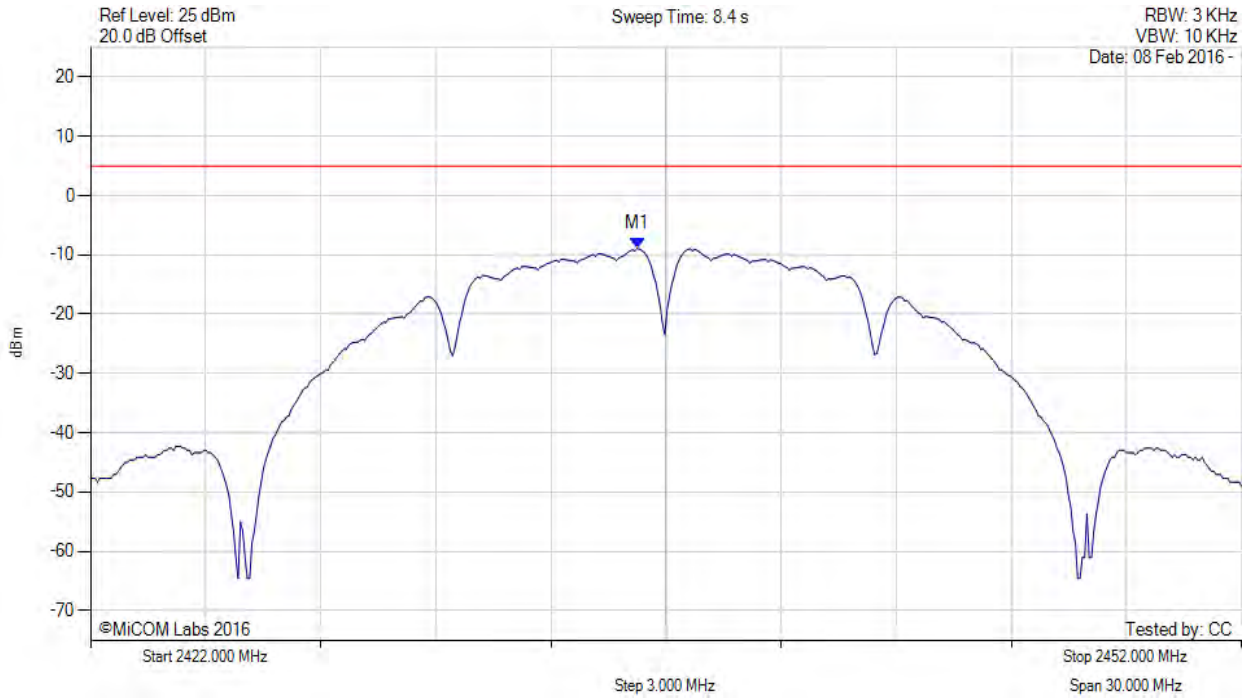


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2412.600 MHz : -5.909 dBm M1 + DCCF : 2412.600 MHz : -5.865 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 8.0 dBm Margin: -13.9 dB

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

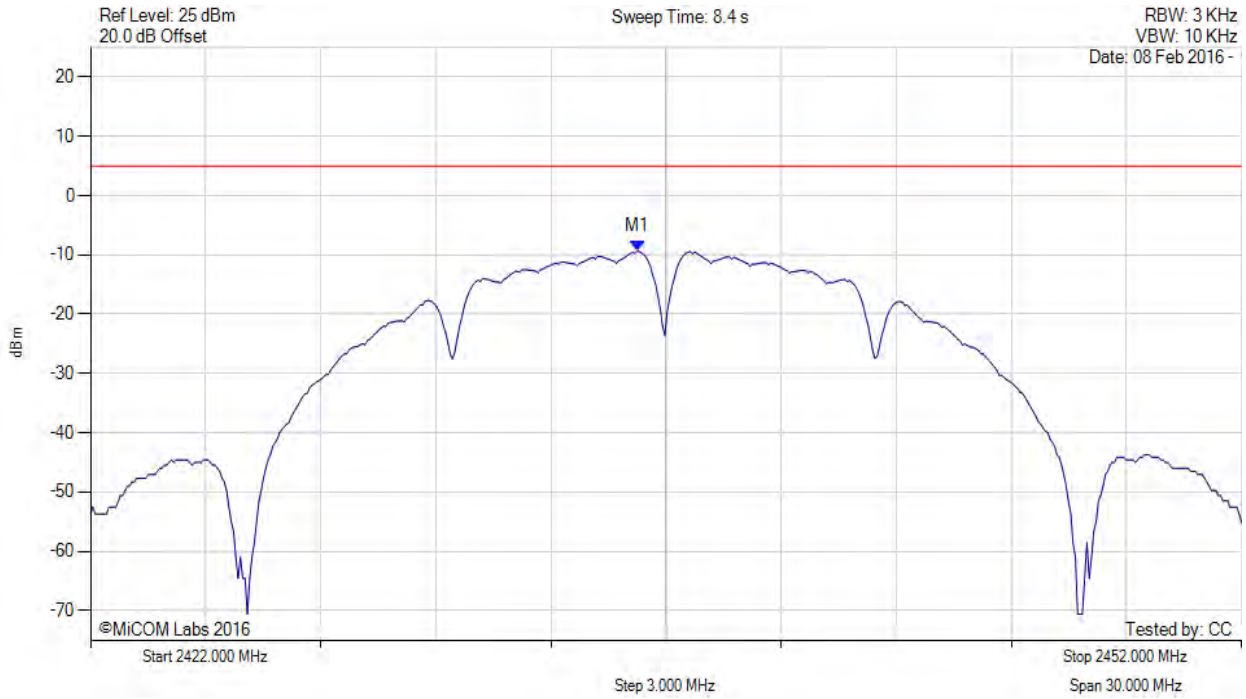


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2436.248 MHz : -8.931 dBm	Limit: ≤ 4.990 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2437.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

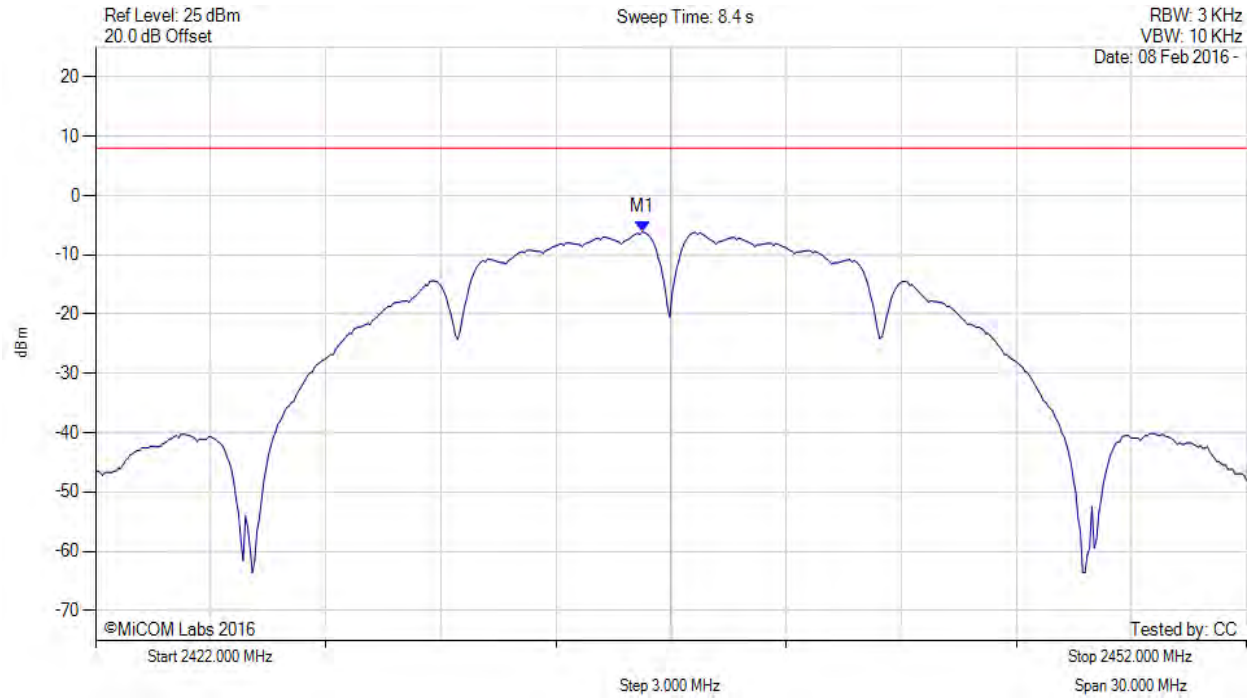


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2436.248 MHz : -9.382 dBm	Limit: ≤ 4.990 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2437.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc

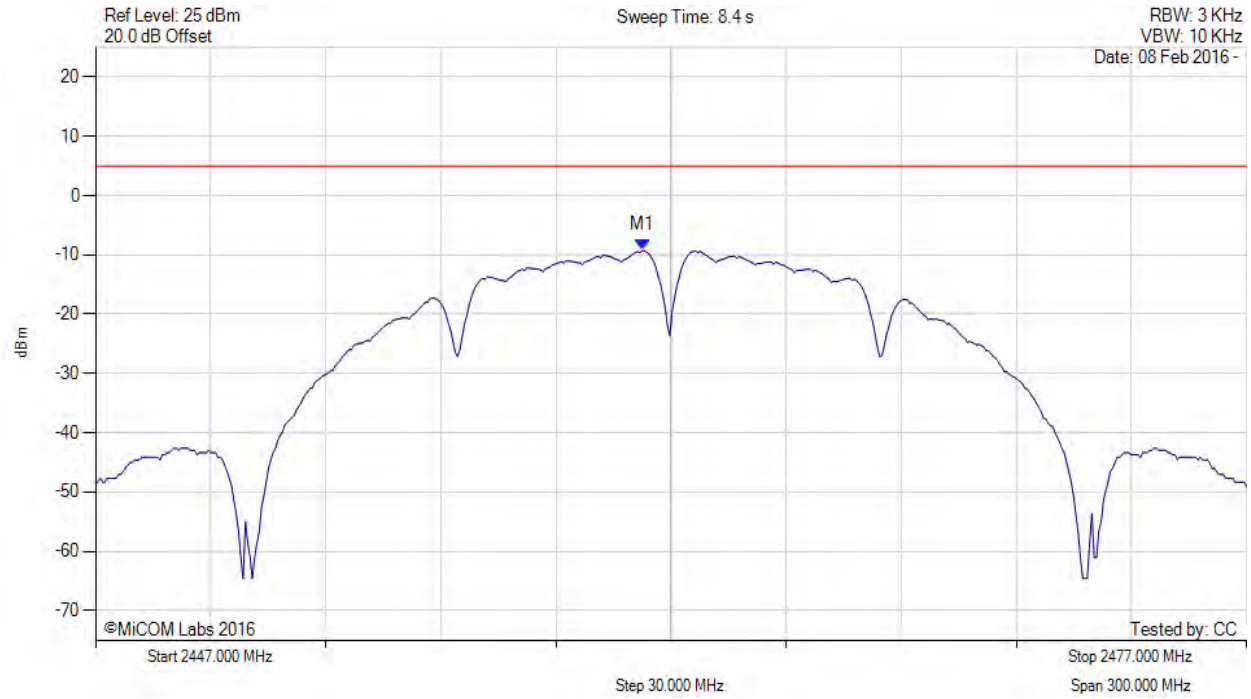


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2436.200 MHz : -6.140 dBm M1 + DCCF : 2436.200 MHz : -6.096 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 8.0 dBm Margin: -14.1 dB

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

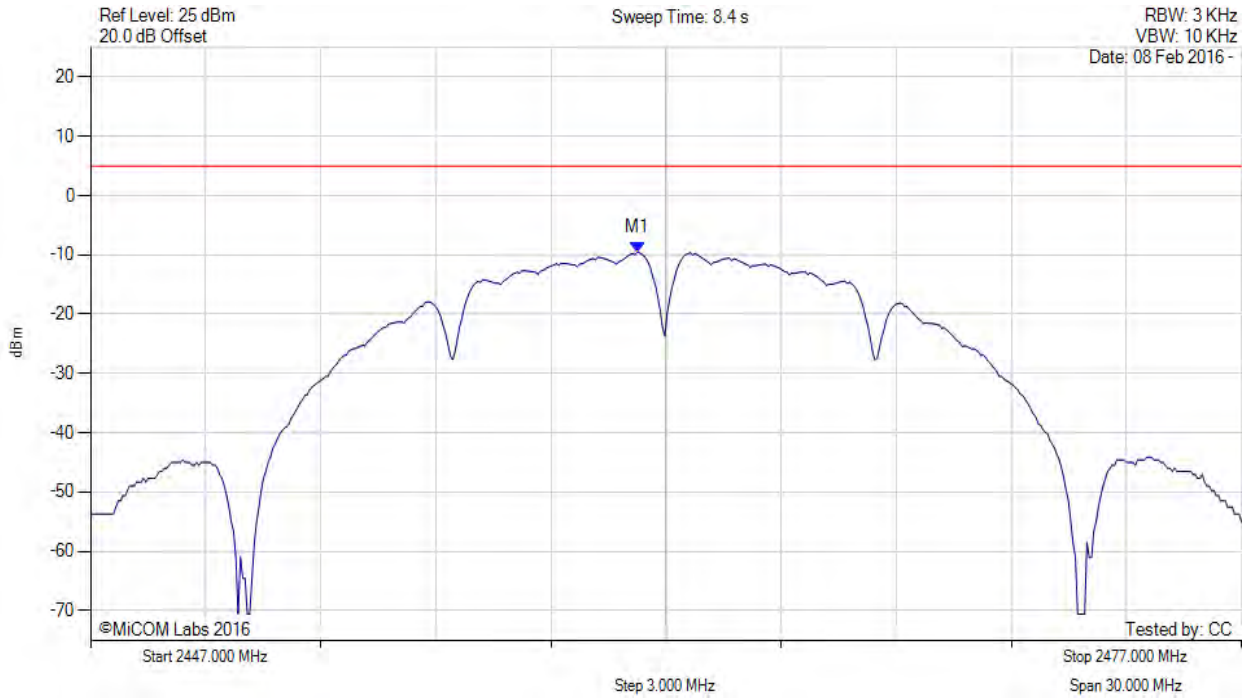


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2461.248 MHz : -9.209 dBm	Limit: ≤ 4.990 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

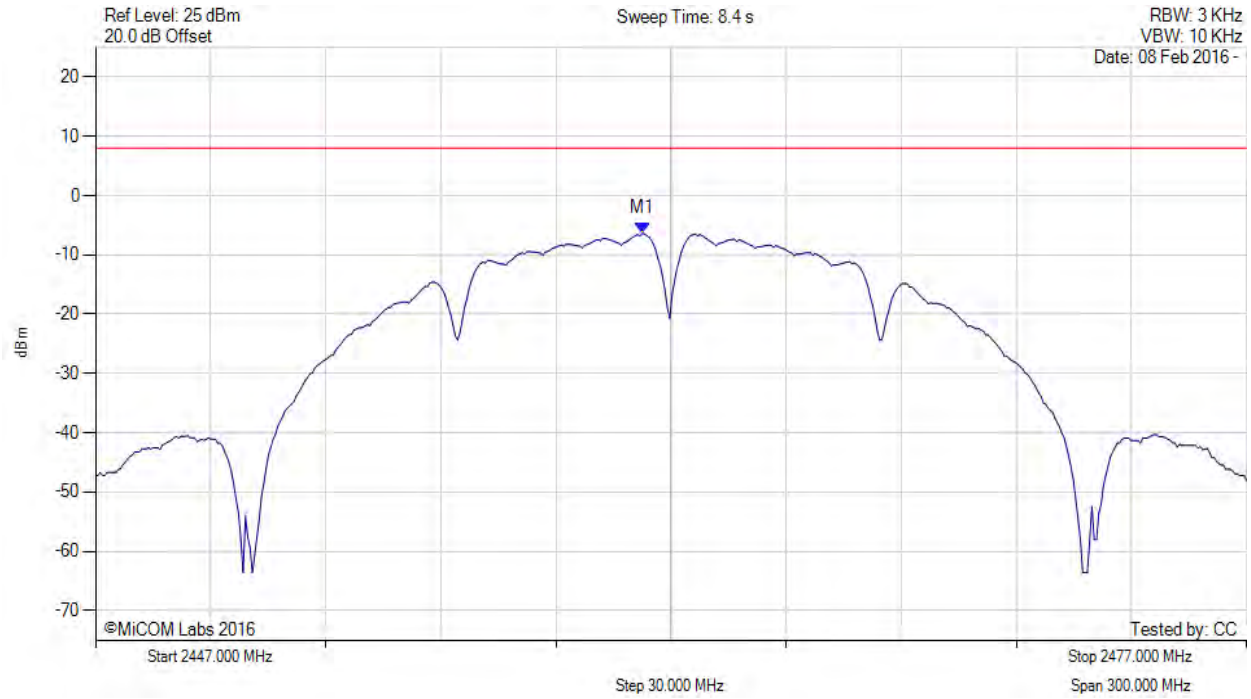


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2461.248 MHz : -9.558 dBm	Limit: ≤ 4.990 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11b, Channel: 2462.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc

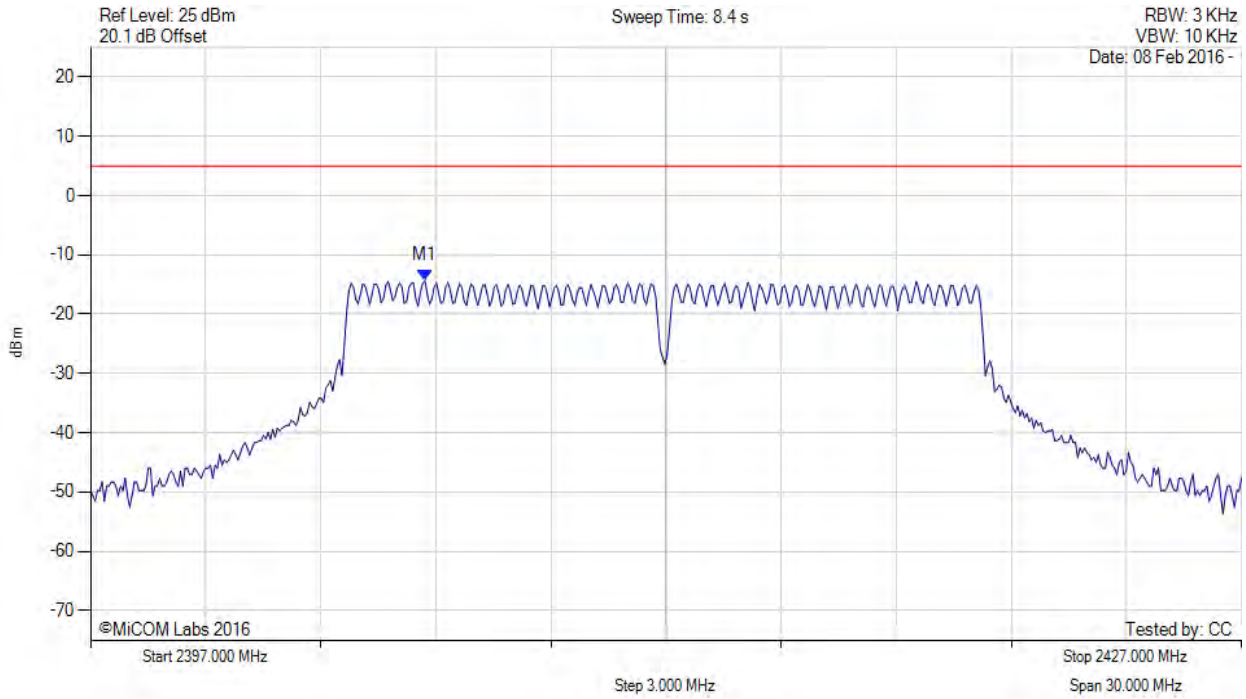


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2461.200 MHz : -6.370 dBm M1 + DCCF : 2461.200 MHz : -6.326 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 8.0 dBm Margin: -14.3 dB

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

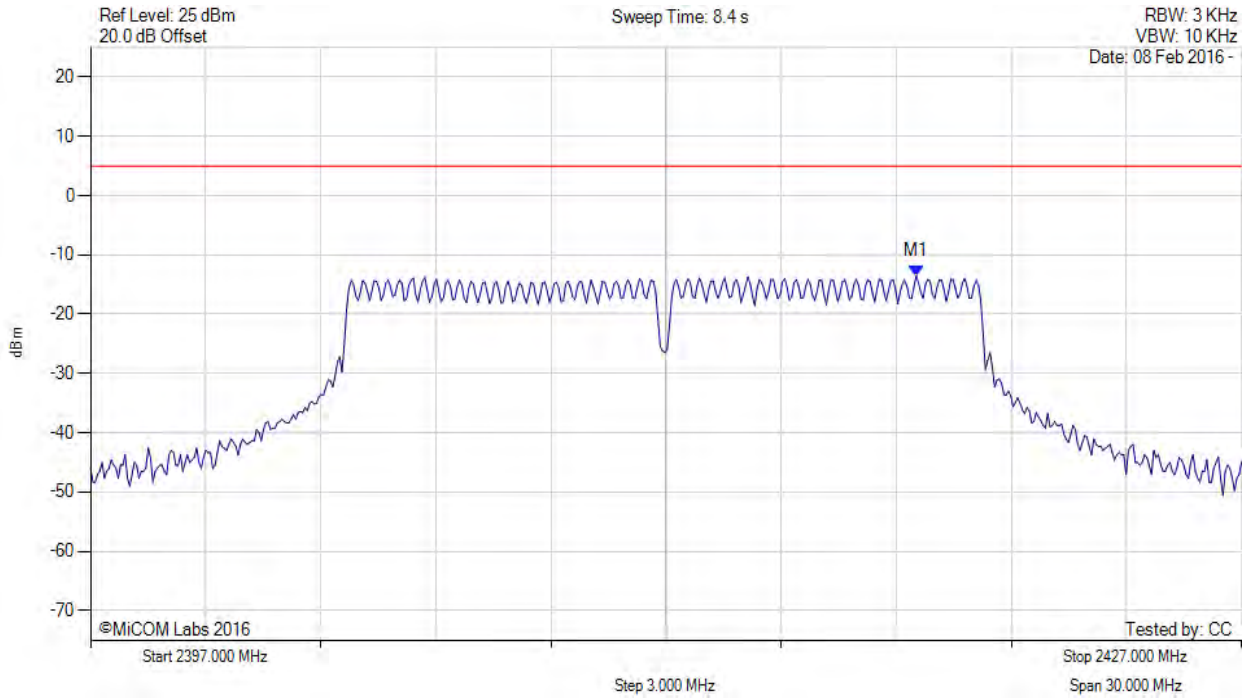


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2405.717 MHz : -14.294 dBm	Limit: ≤ 4.990 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

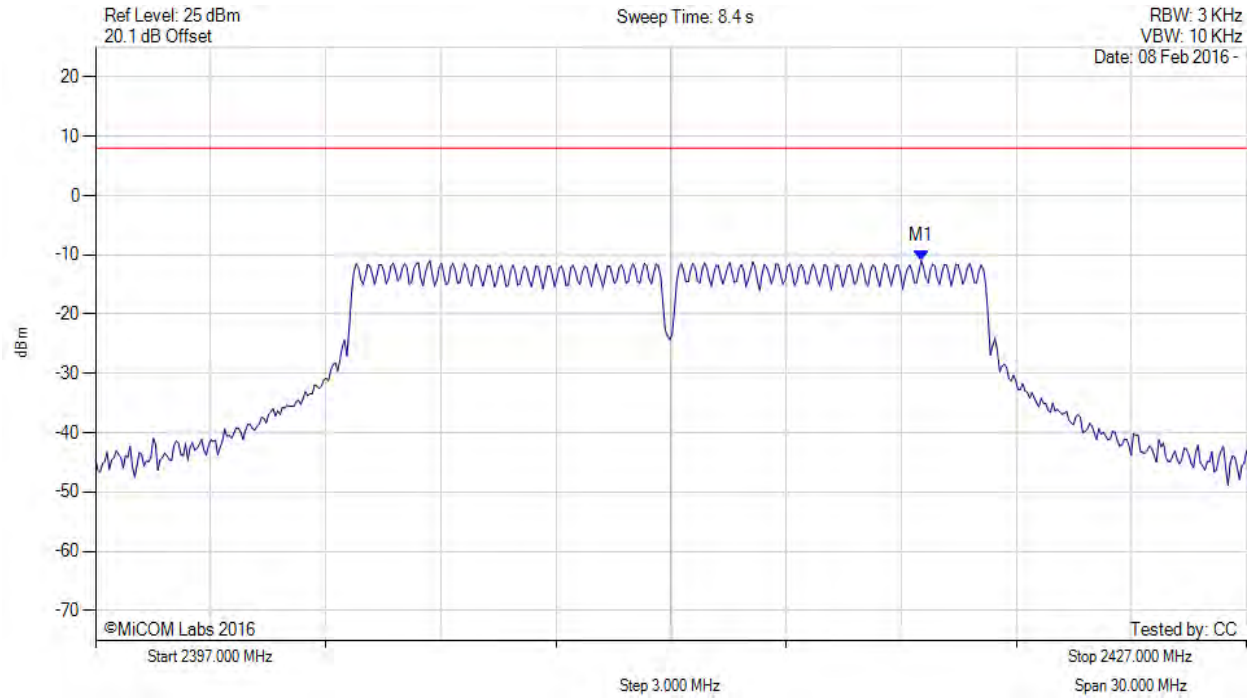


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2418.523 MHz : -13.504 dBm	Limit: ≤ 4.990 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2412.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc

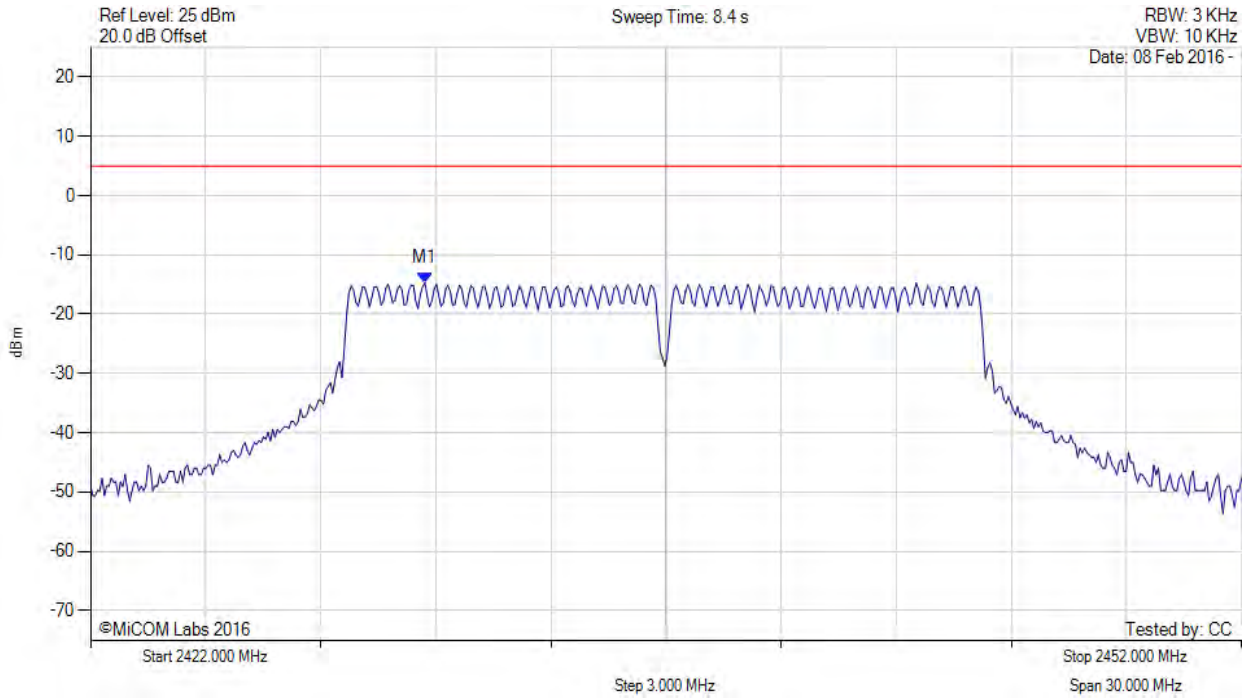


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2418.500 MHz : -10.955 dBm M1 + DCCF : 2418.500 MHz : -10.911 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 8.0 dBm Margin: -18.9 dB

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

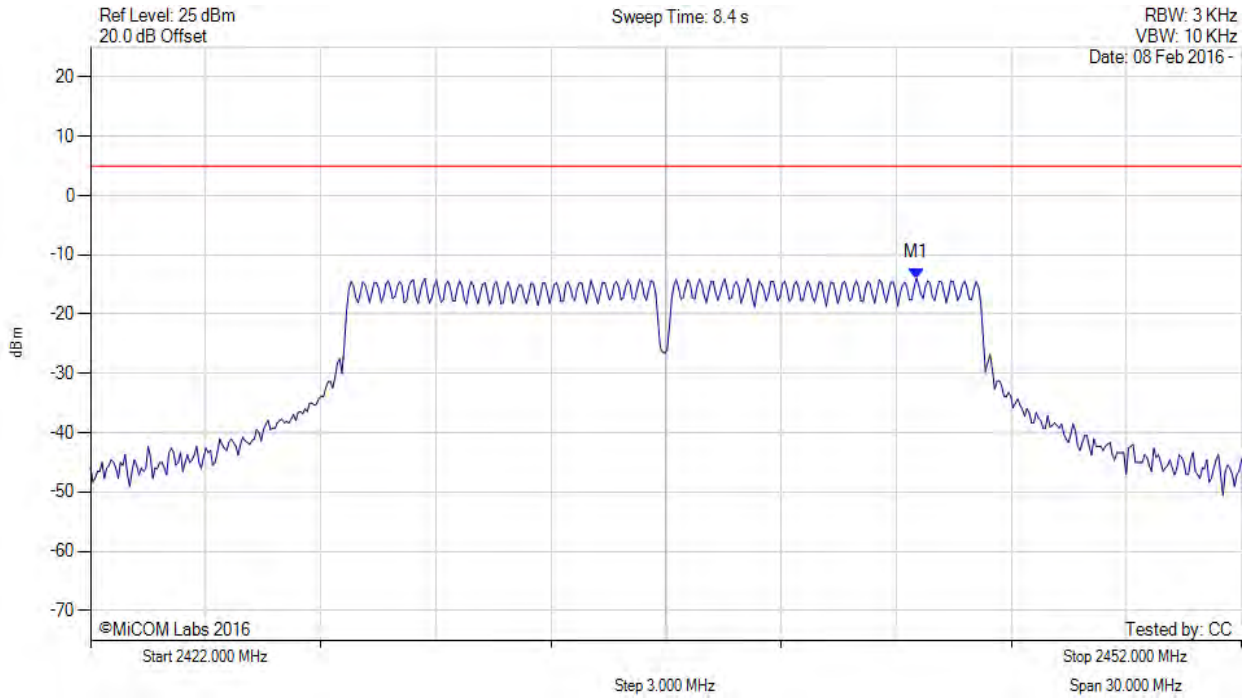


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2430.717 MHz : -14.718 dBm	Limit: ≤ 4.990 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2437.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

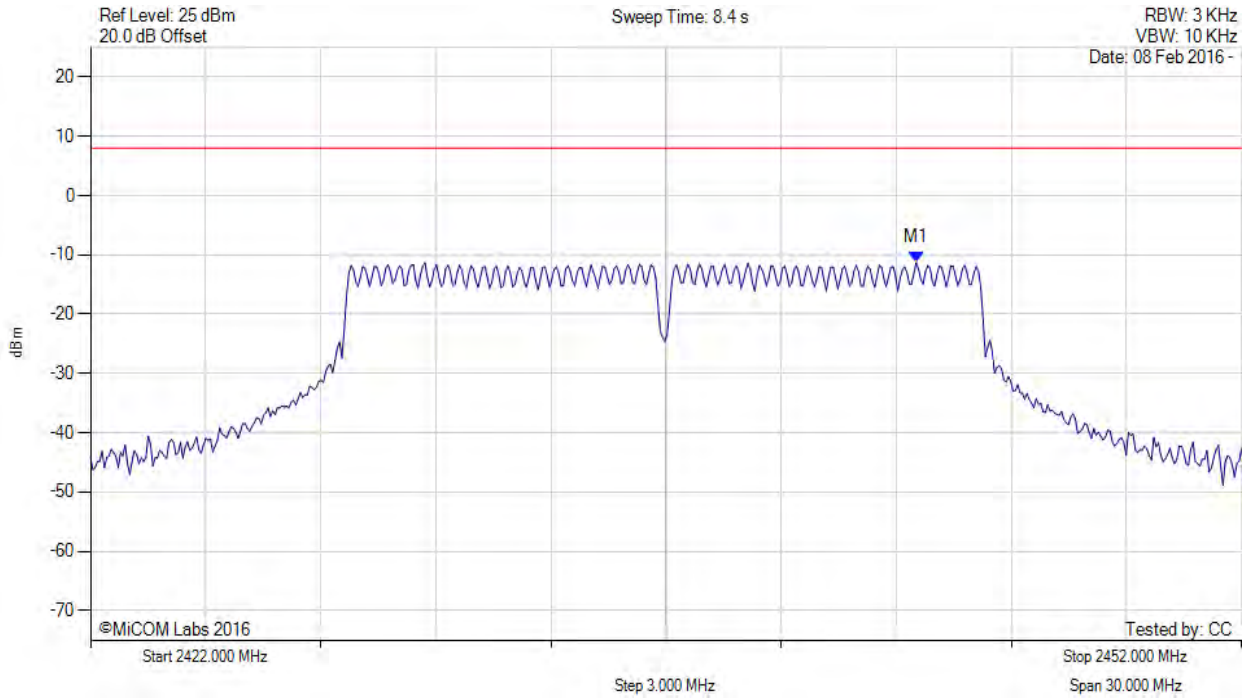


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2443.523 MHz : -13.941 dBm	Limit: ≤ 4.990 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2437.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc

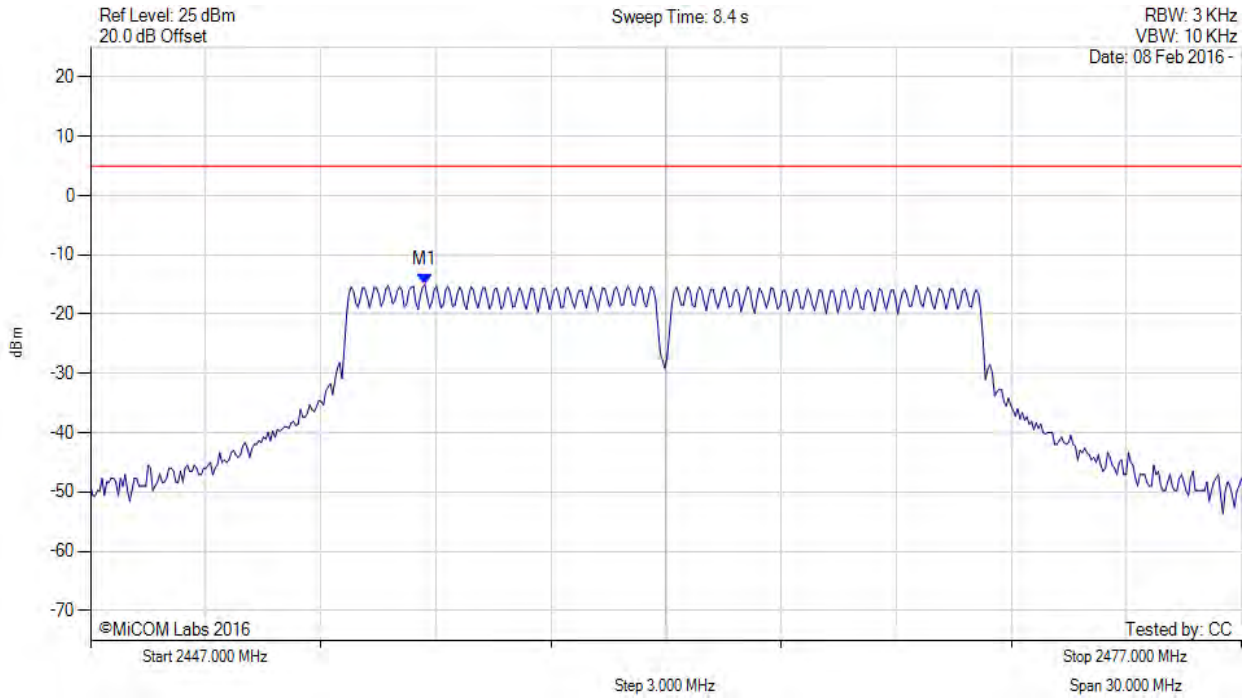


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2443.500 MHz : -11.308 dBm M1 + DCCF : 2443.500 MHz : -11.264 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 8.0 dBm Margin: -19.3 dB

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

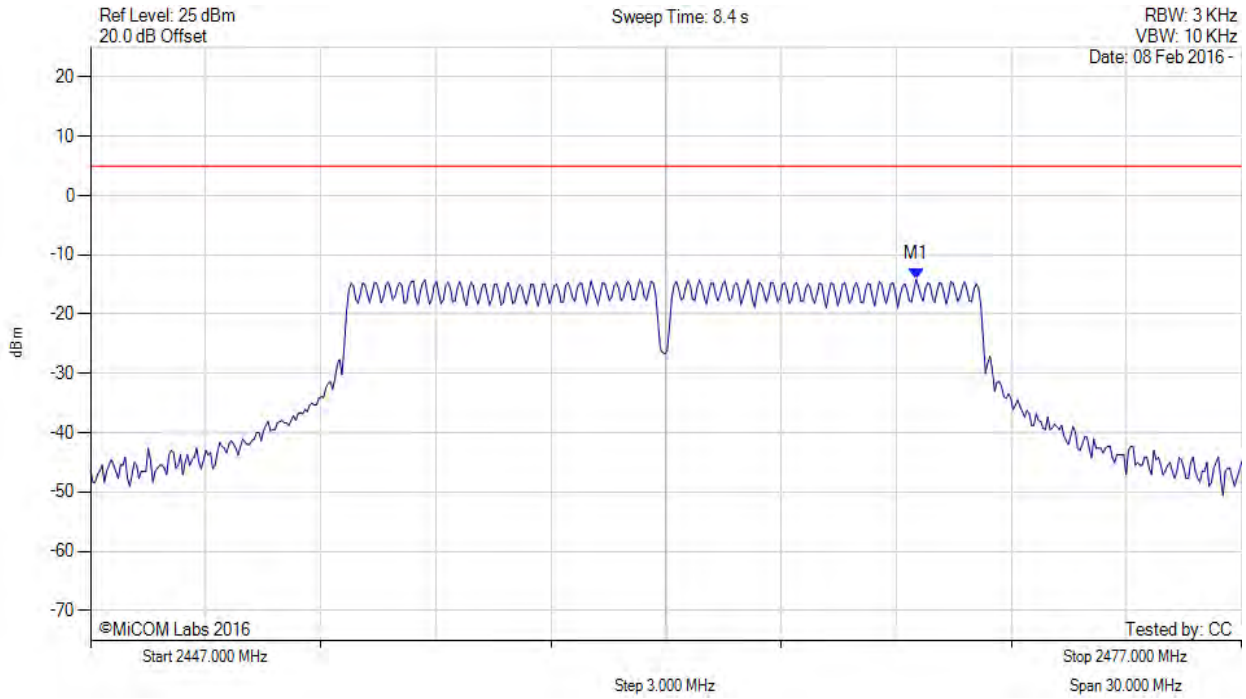


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2455.717 MHz : -14.988 dBm	Limit: ≤ 4.990 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

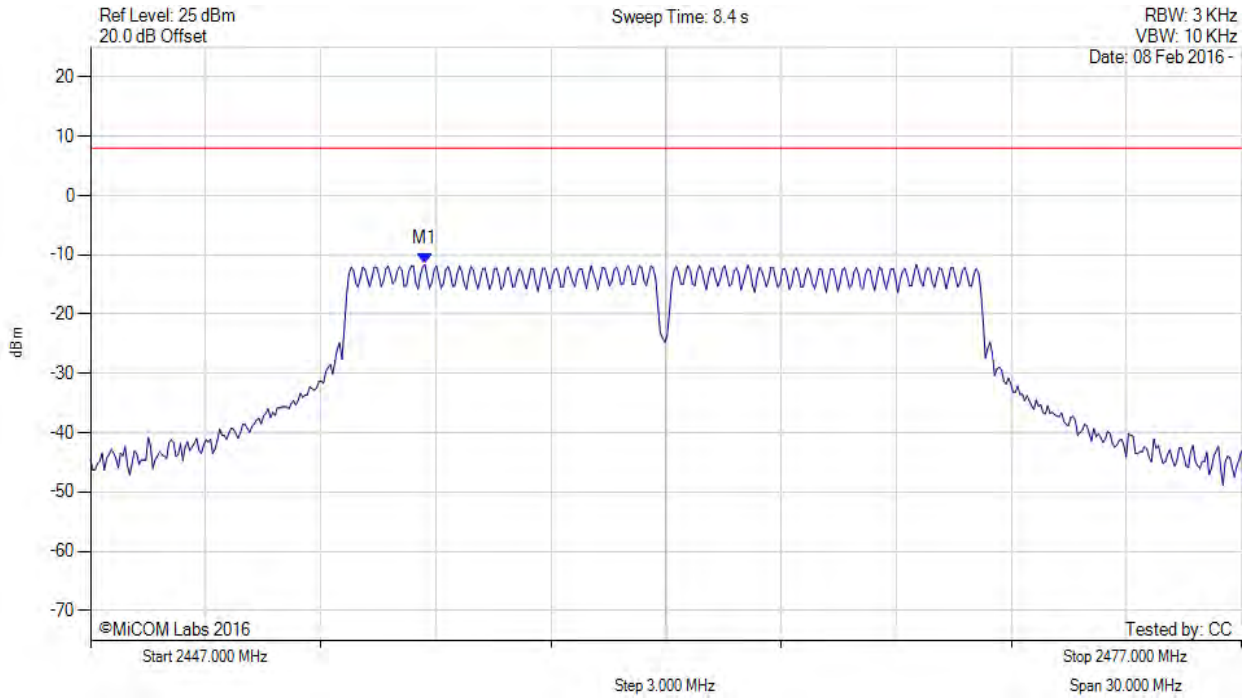


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2468.523 MHz : -14.135 dBm	Limit: ≤ 4.990 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11g, Channel: 2462.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc

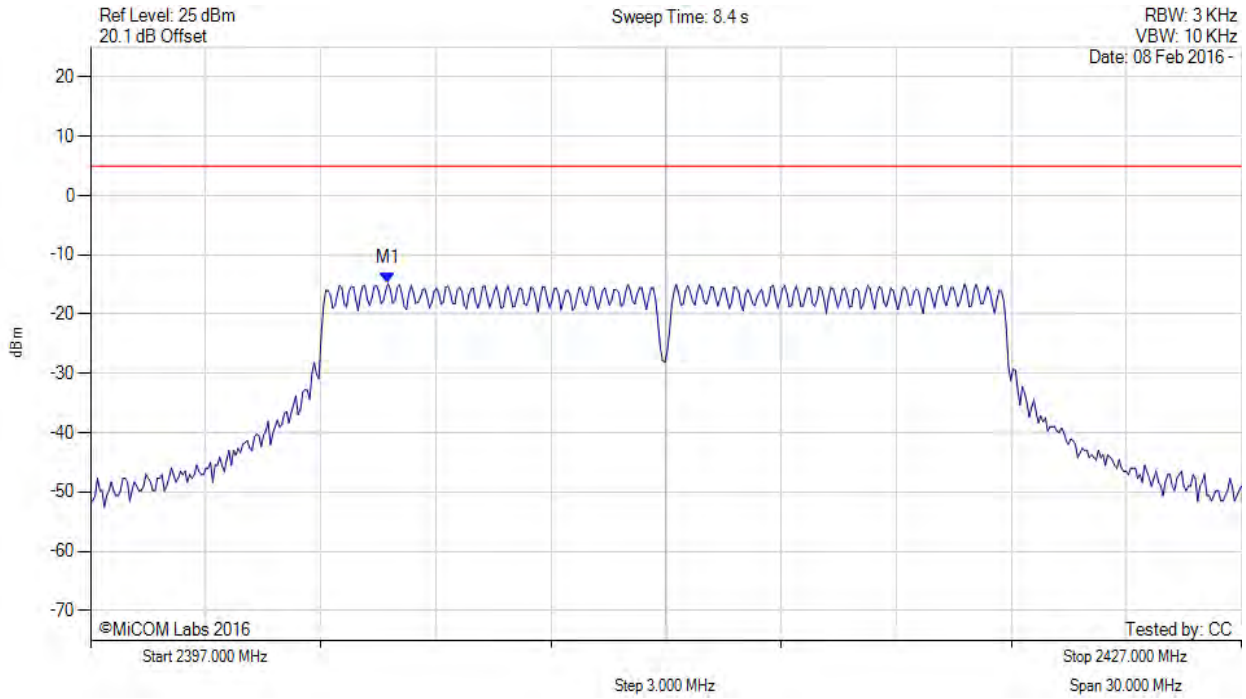


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2455.700 MHz : -11.588 dBm M1 + DCCF : 2455.700 MHz : -11.544 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 8.0 dBm Margin: -19.6 dB

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

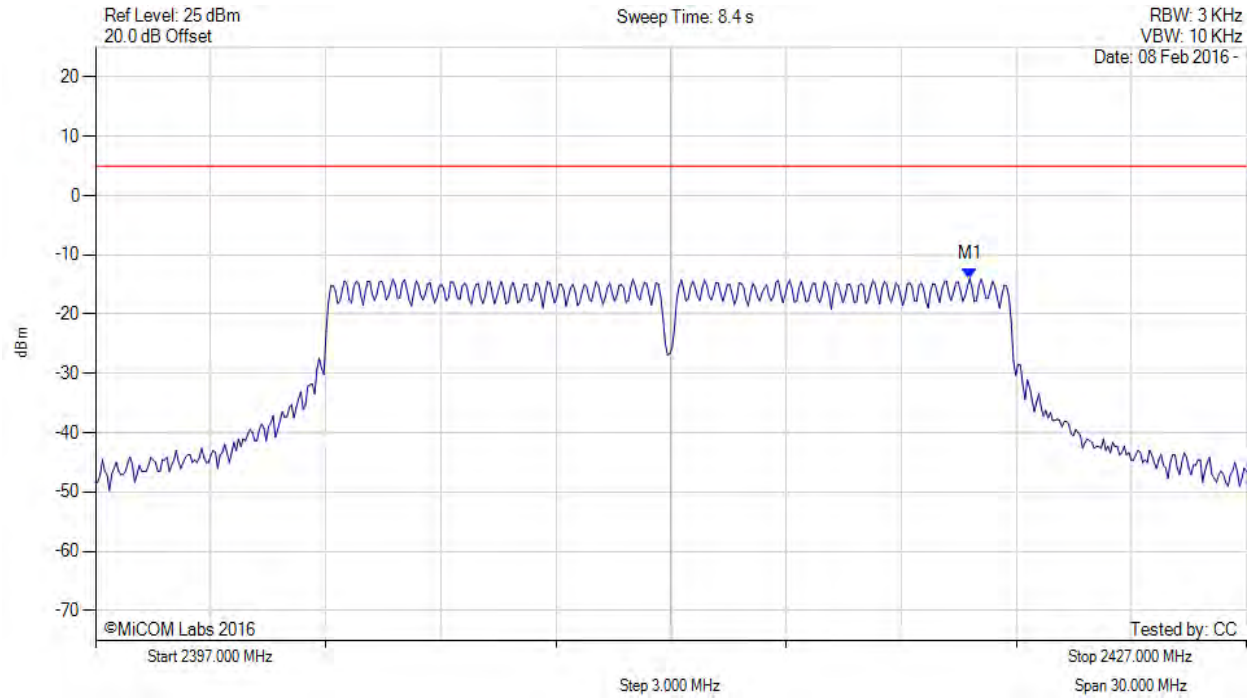


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2404.756 MHz : -14.830 dBm	Limit: ≤ 4.990 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

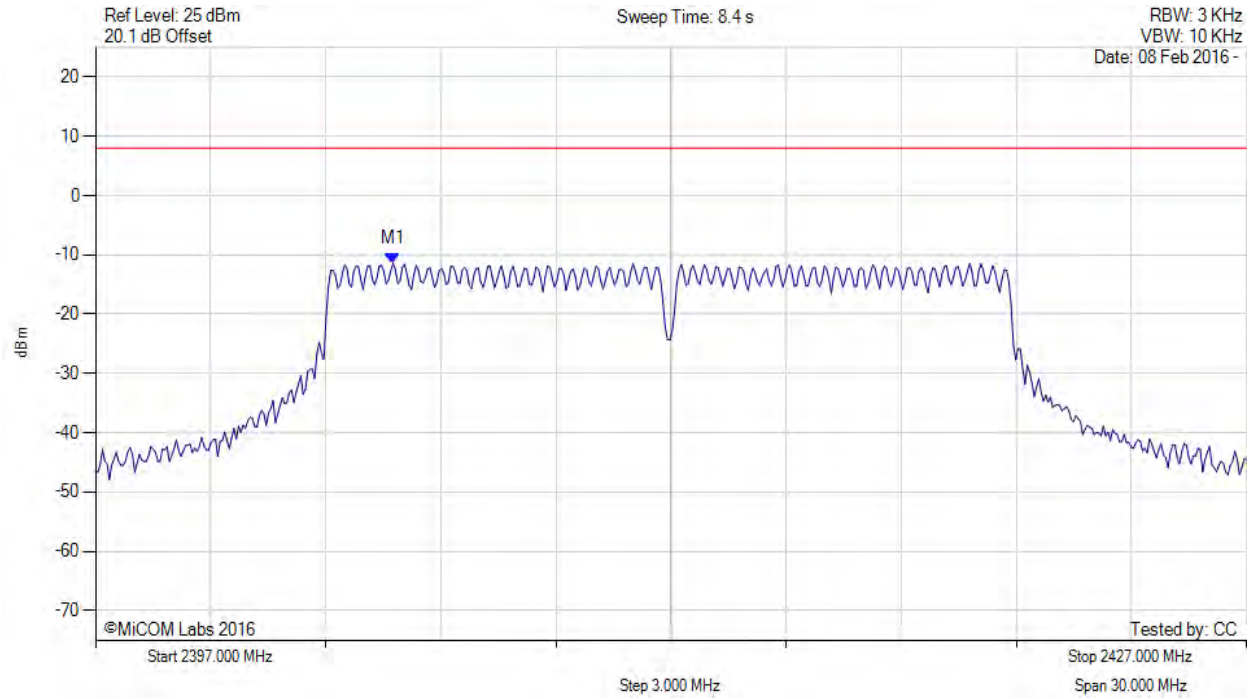


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2419.786 MHz : -14.044 dBm	Limit: ≤ 4.990 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2412.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc

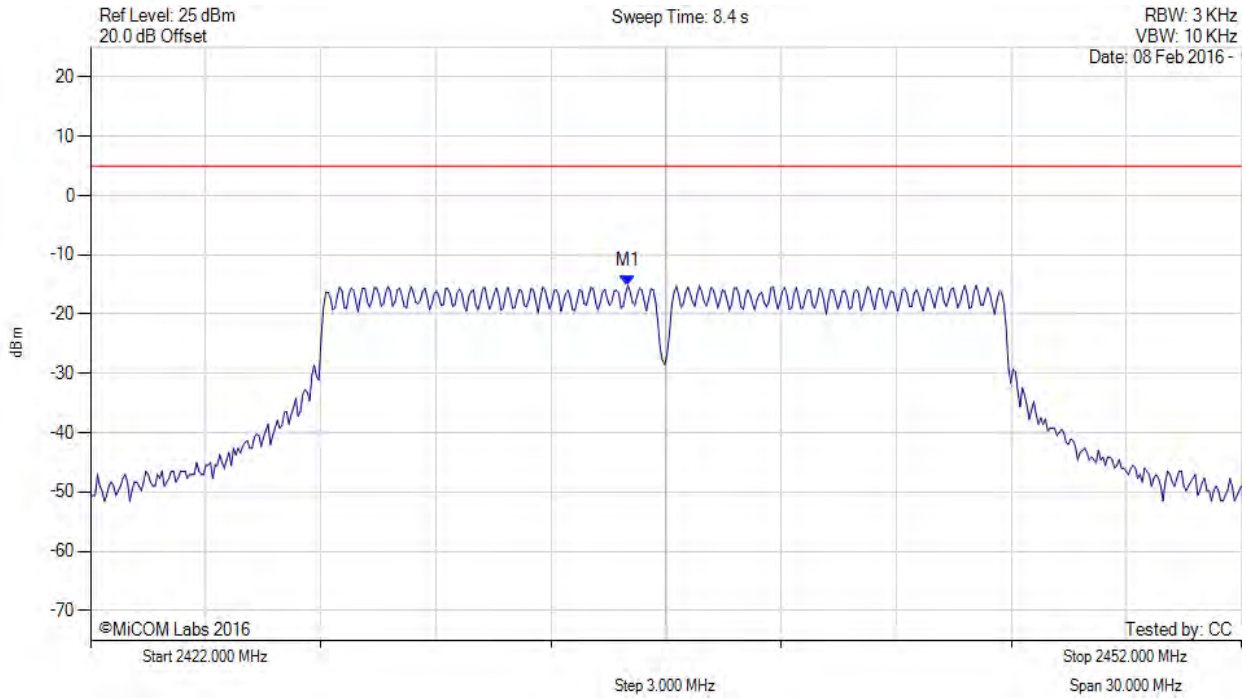


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2404.800 MHz : -11.430 dBm M1 + DCCF : 2404.800 MHz : -11.386 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 8.0 dBm Margin: -19.4 dB

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

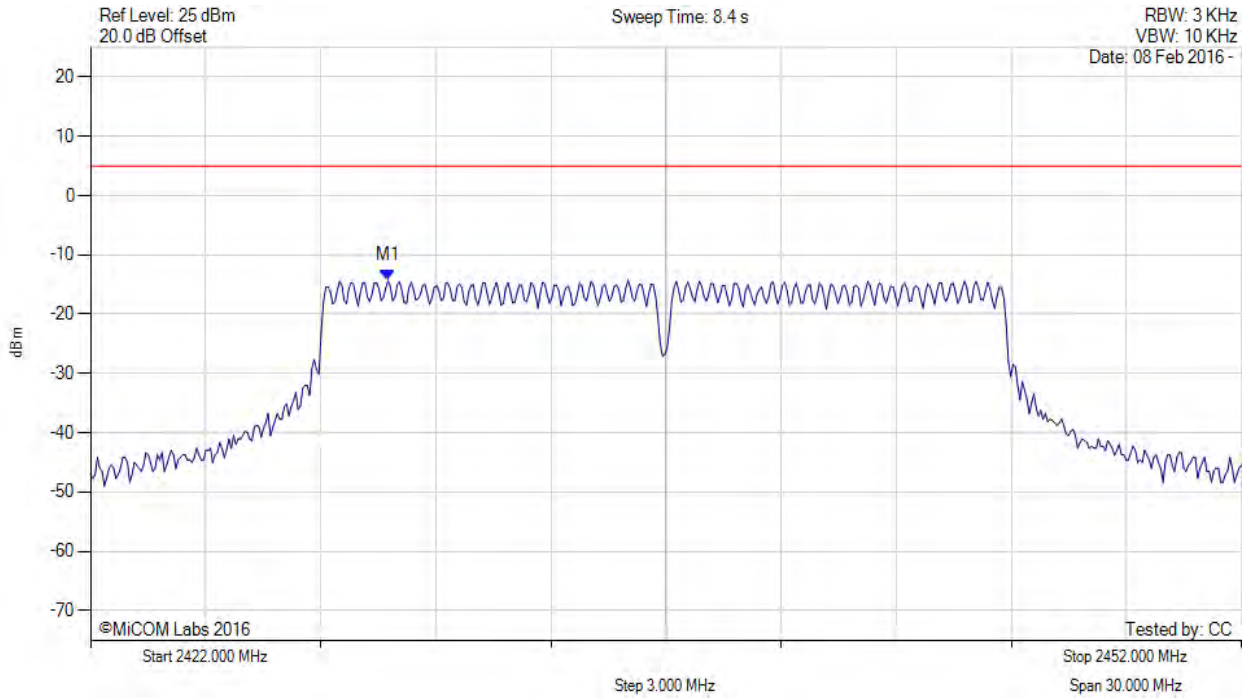


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2436.008 MHz : -15.148 dBm	Limit: ≤ 4.990 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2437.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

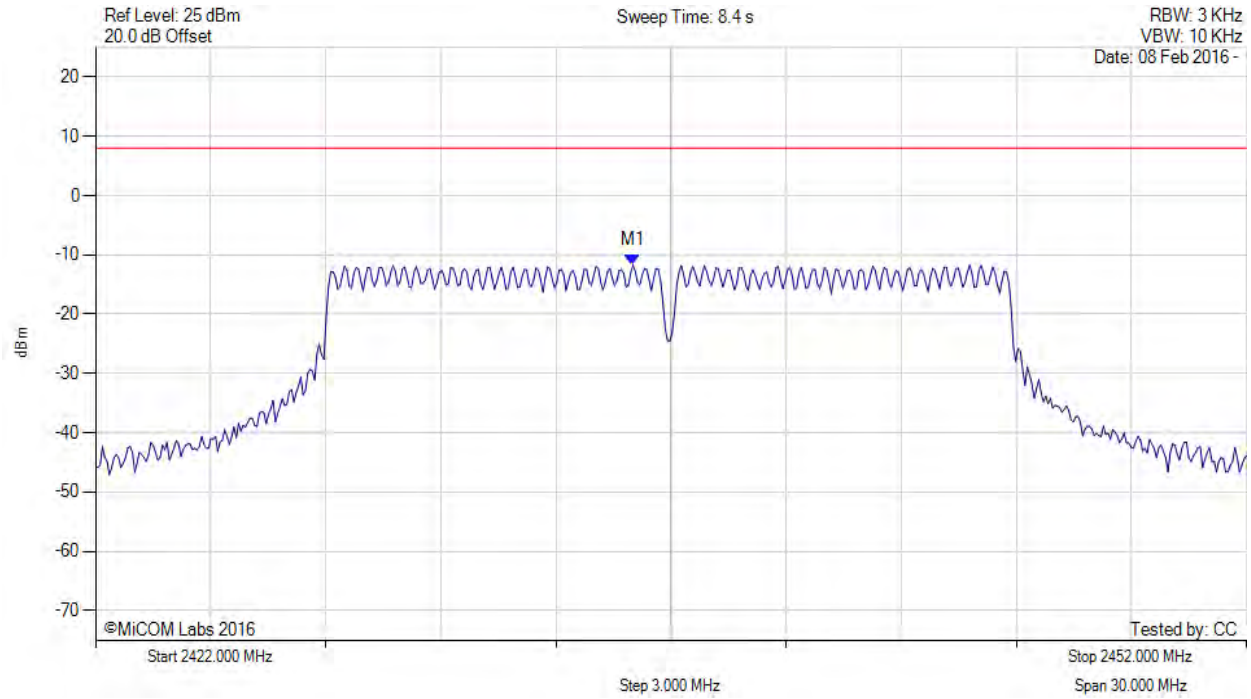


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2429.756 MHz : -14.347 dBm	Limit: ≤ 4.990 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2437.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc

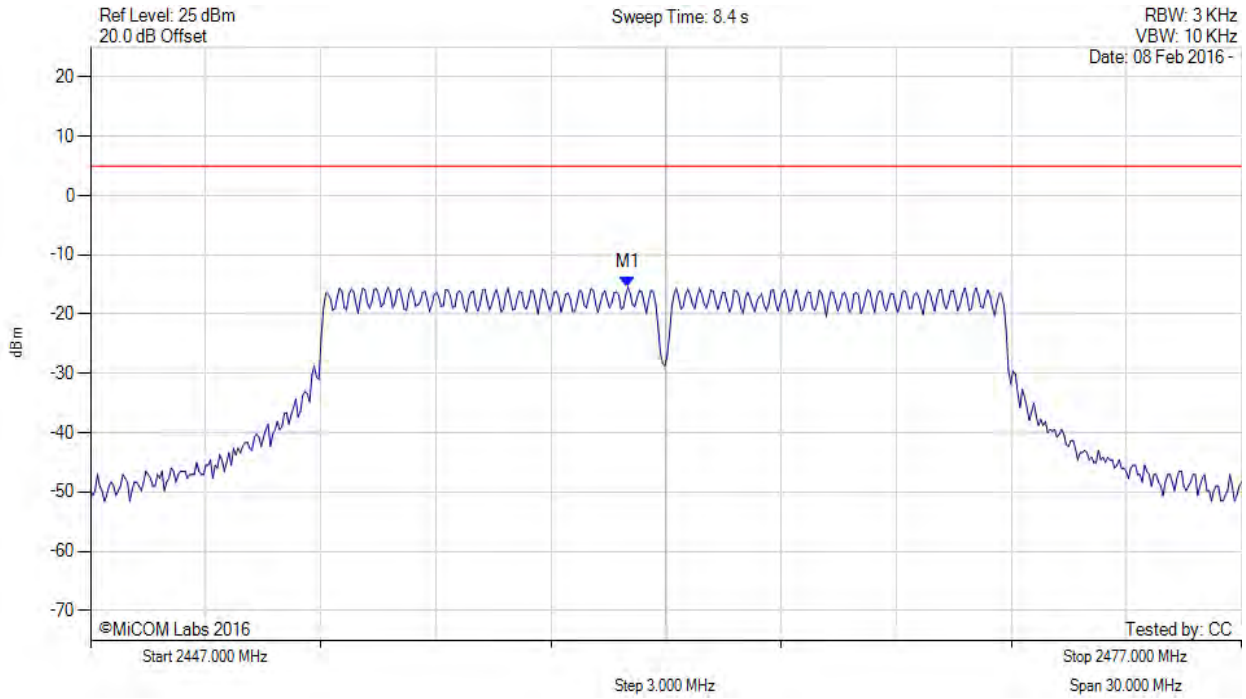


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2436.000 MHz : -11.719 dBm M1 + DCCF : 2436.000 MHz : -11.675 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 8.0 dBm Margin: -19.7 dB

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

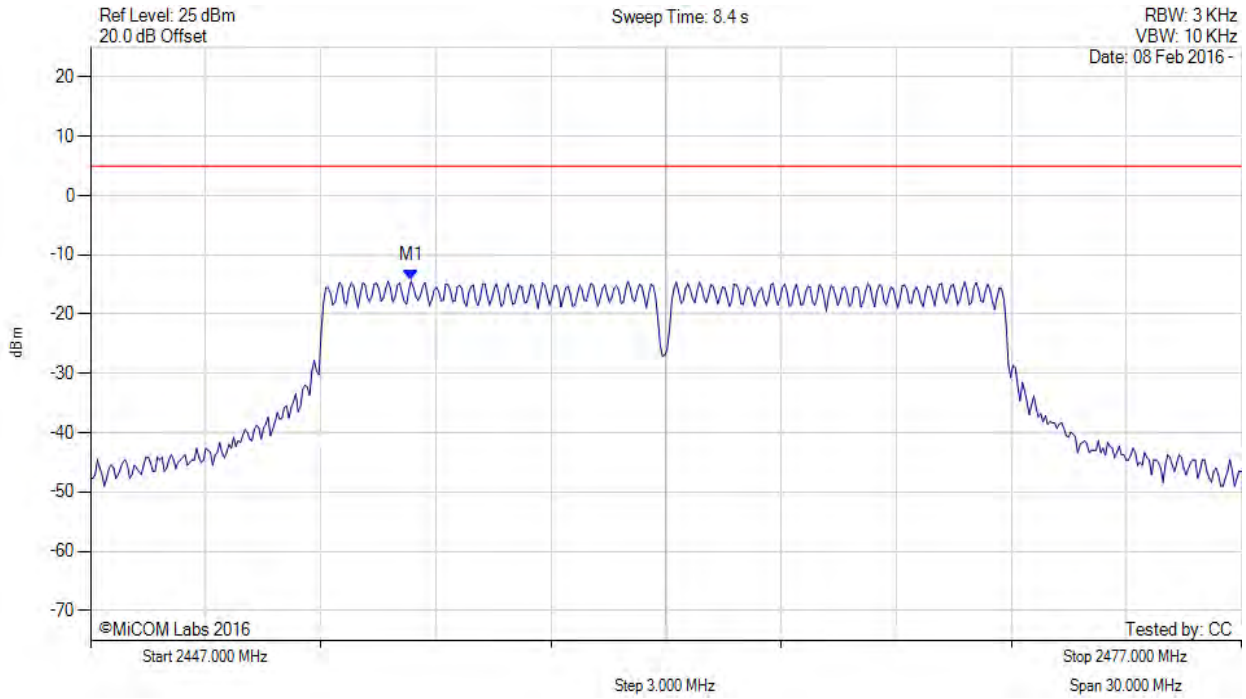


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2461.008 MHz : -15.448 dBm	Limit: ≤ 4.990 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

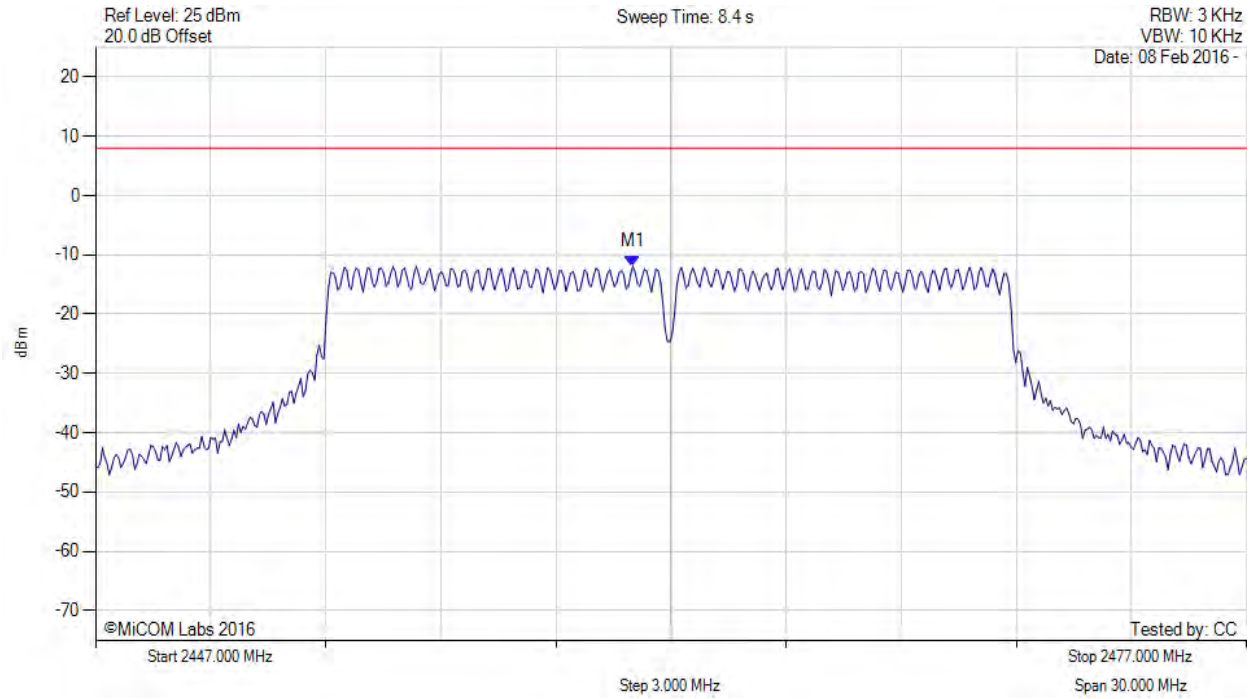


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2455.357 MHz : -14.347 dBm	Limit: ≤ 4.990 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-20, Channel: 2462.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc

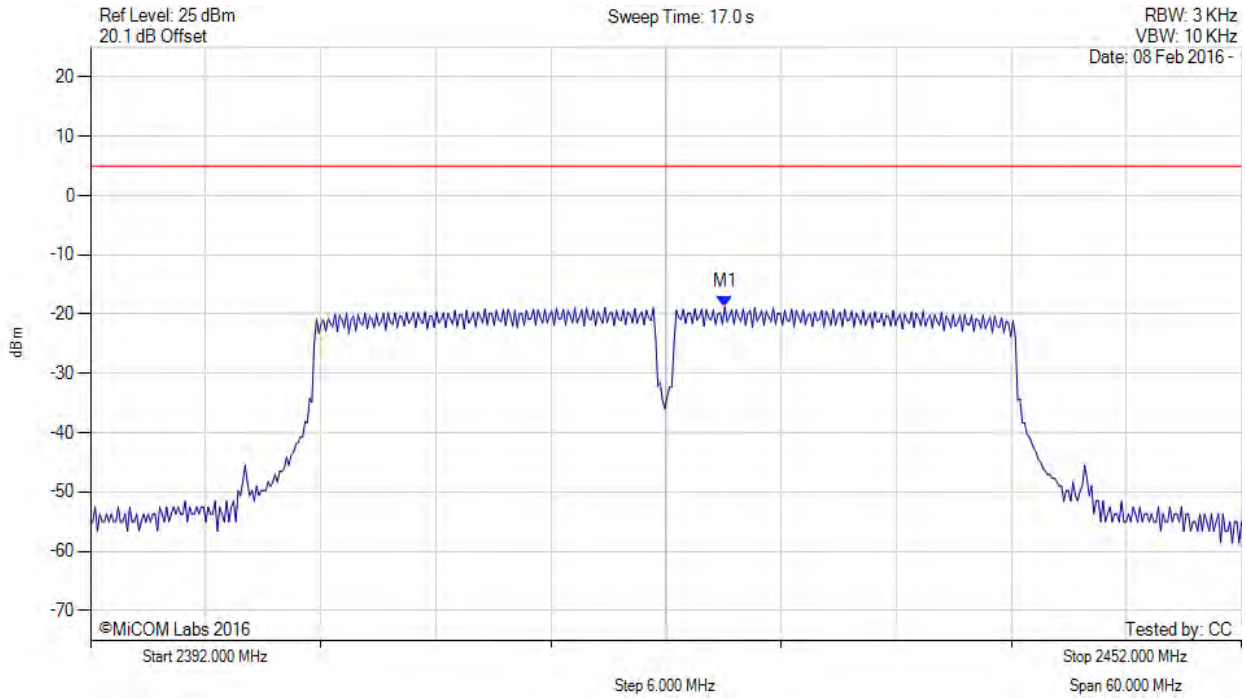


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2461.000 MHz : -11.913 dBm M1 + DCCF : 2461.000 MHz : -11.869 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 8.0 dBm Margin: -19.9 dB

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 2422.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

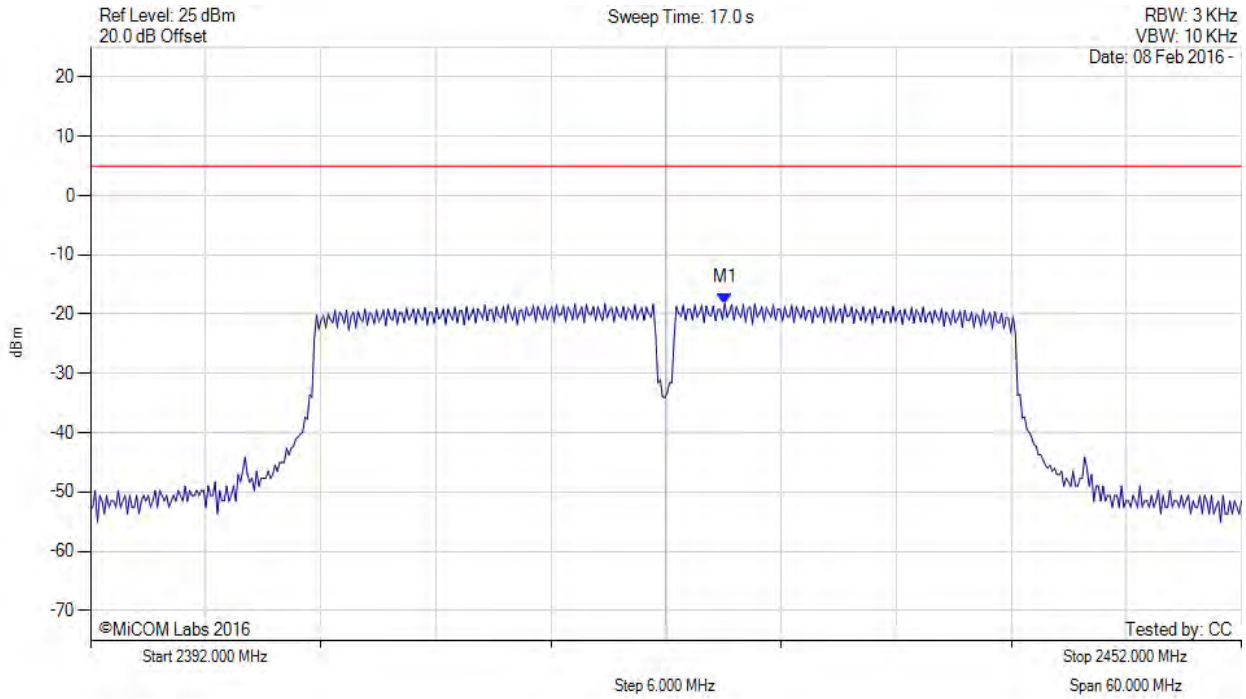


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2425.066 MHz : -18.766 dBm	Limit: ≤ 4.990 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 2422.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

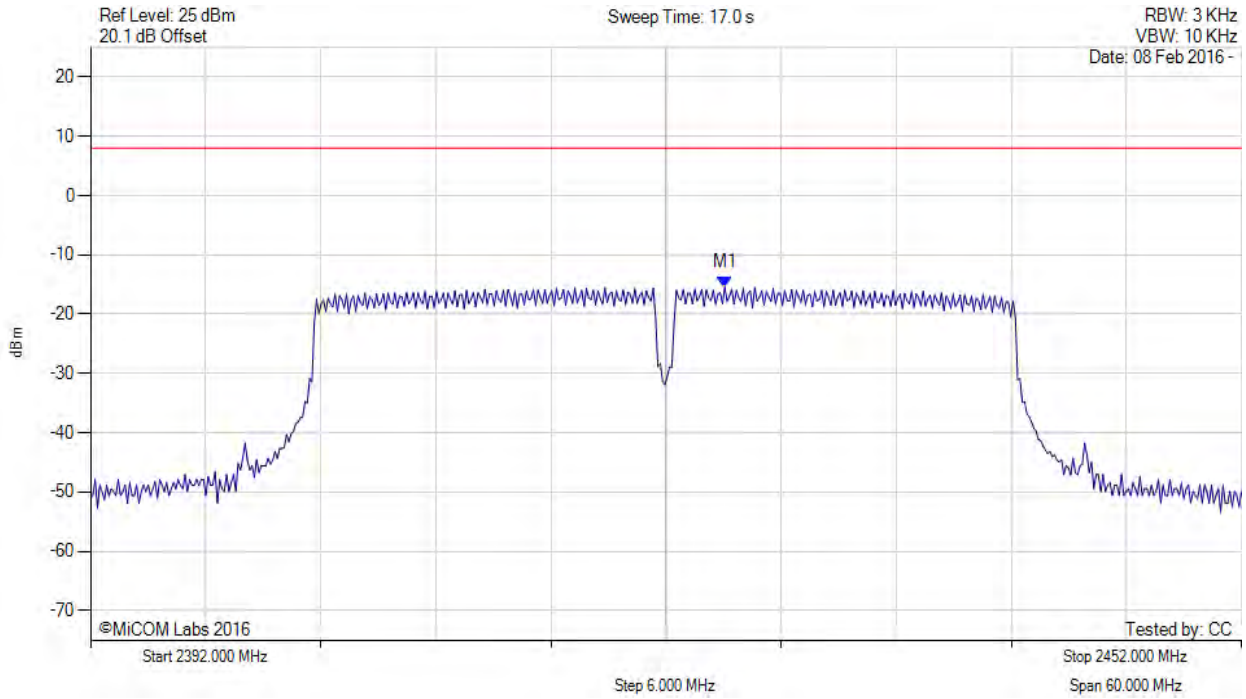


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2425.066 MHz : -18.142 dBm	Limit: ≤ 4.990 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 2422.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc

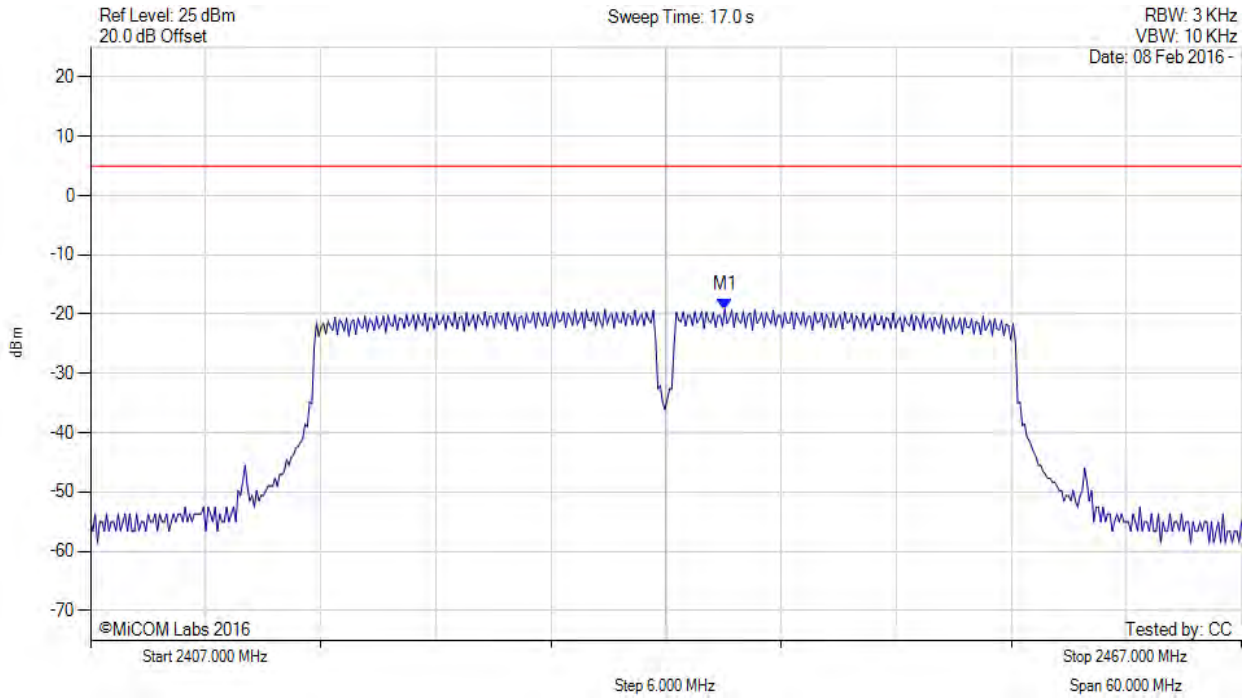


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2425.100 MHz : -15.433 dBm M1 + DCCF : 2425.100 MHz : -15.389 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 8.0 dBm Margin: -23.4 dB

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 2437.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc

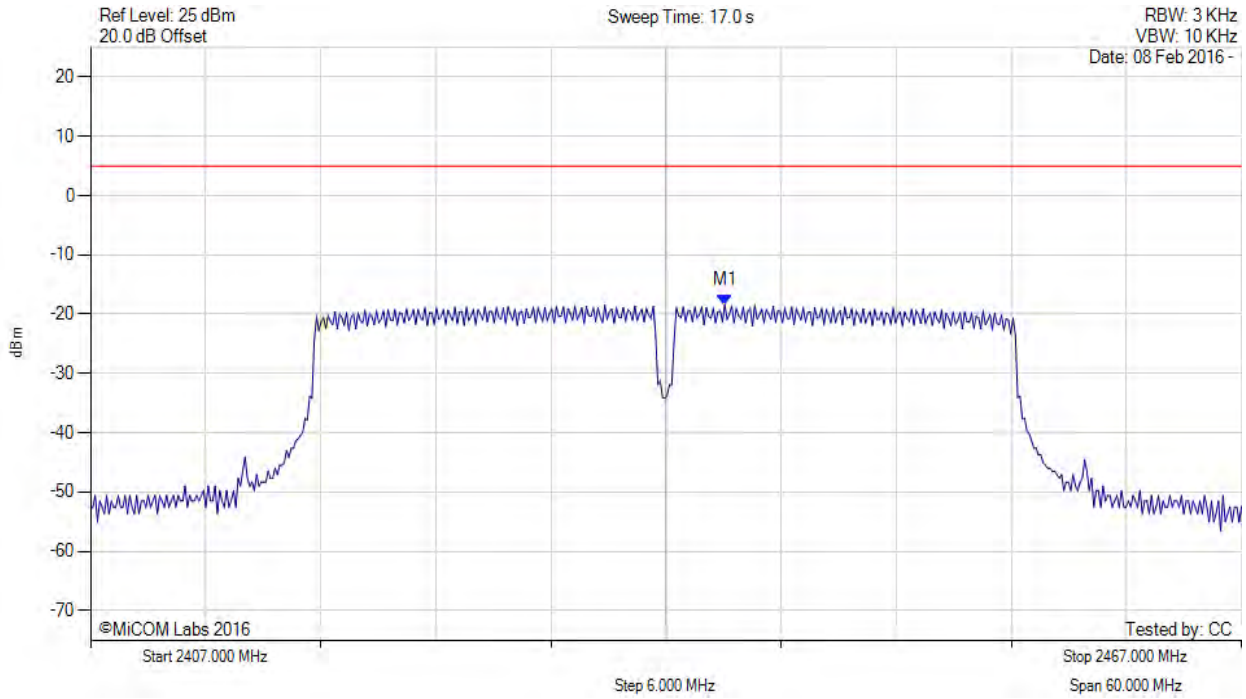


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2440.066 MHz : -19.178 dBm	Limit: ≤ 4.990 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 2437.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc

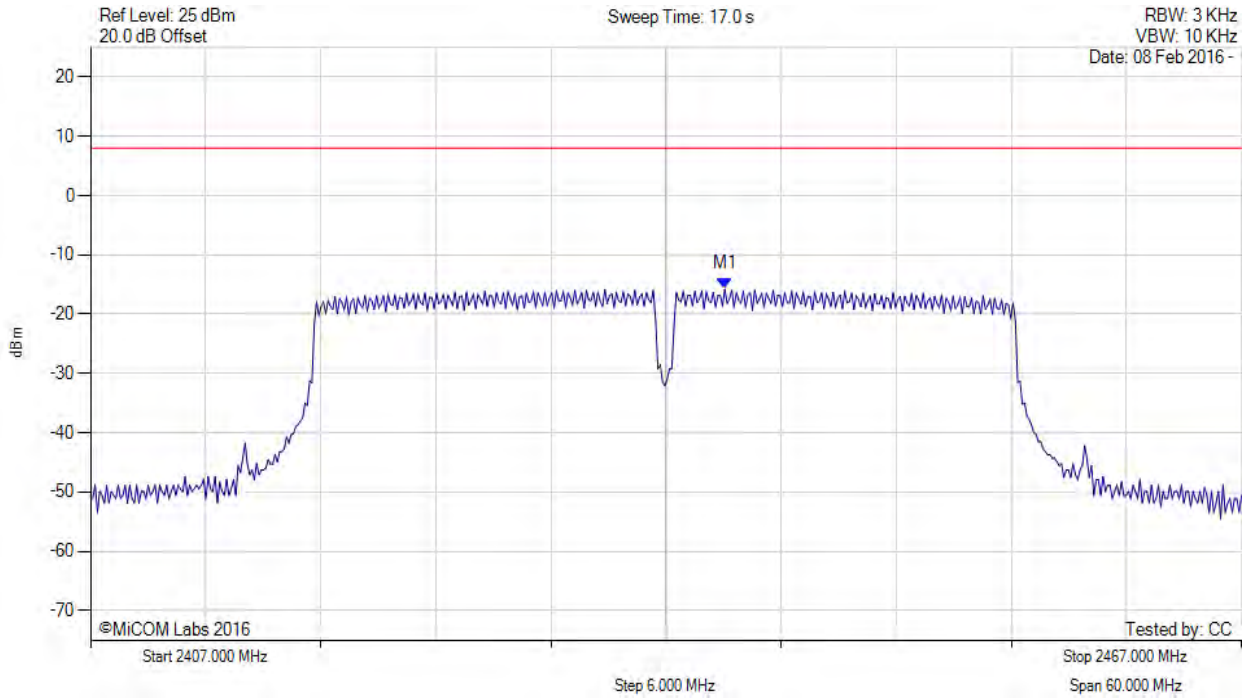


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2440.066 MHz : -18.416 dBm	Limit: ≤ 4.990 dBm

back to matrix

POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 2437.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2440.100 MHz : -15.770 dBm M1 + DCCF : 2440.100 MHz : -15.726 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 8.0 dBm Margin: -23.7 dB

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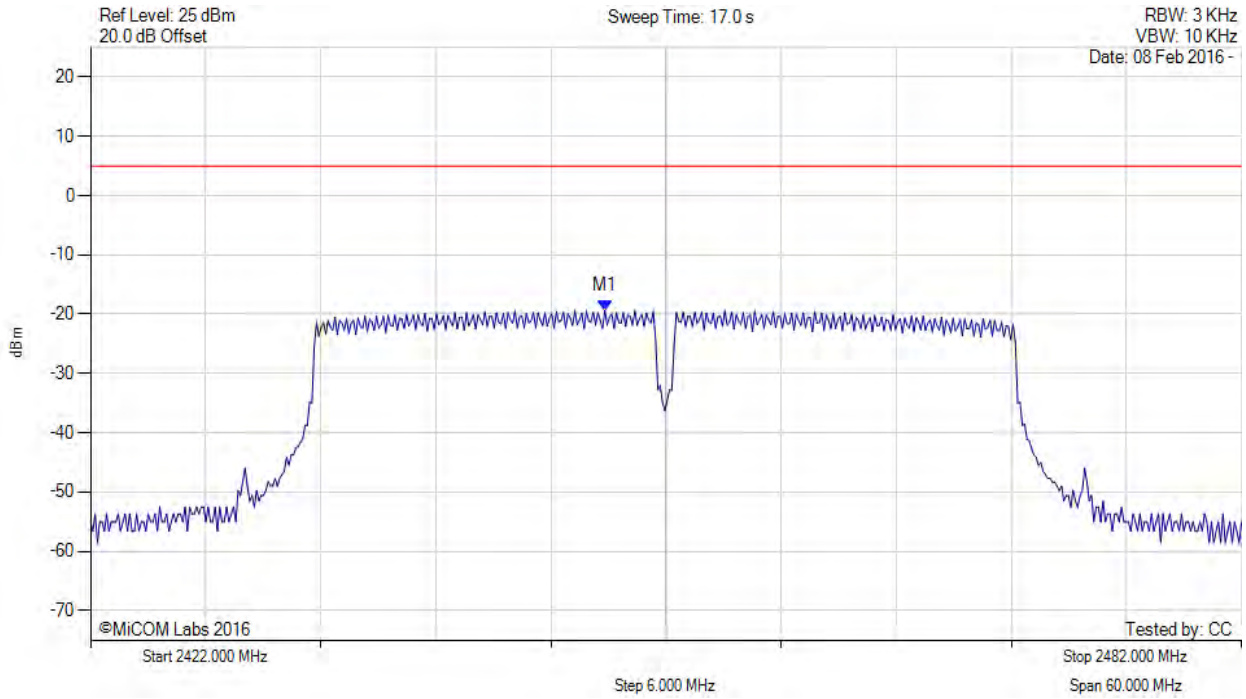
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 2452.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2448.814 MHz : -19.343 dBm	Limit: ≤ 4.990 dBm

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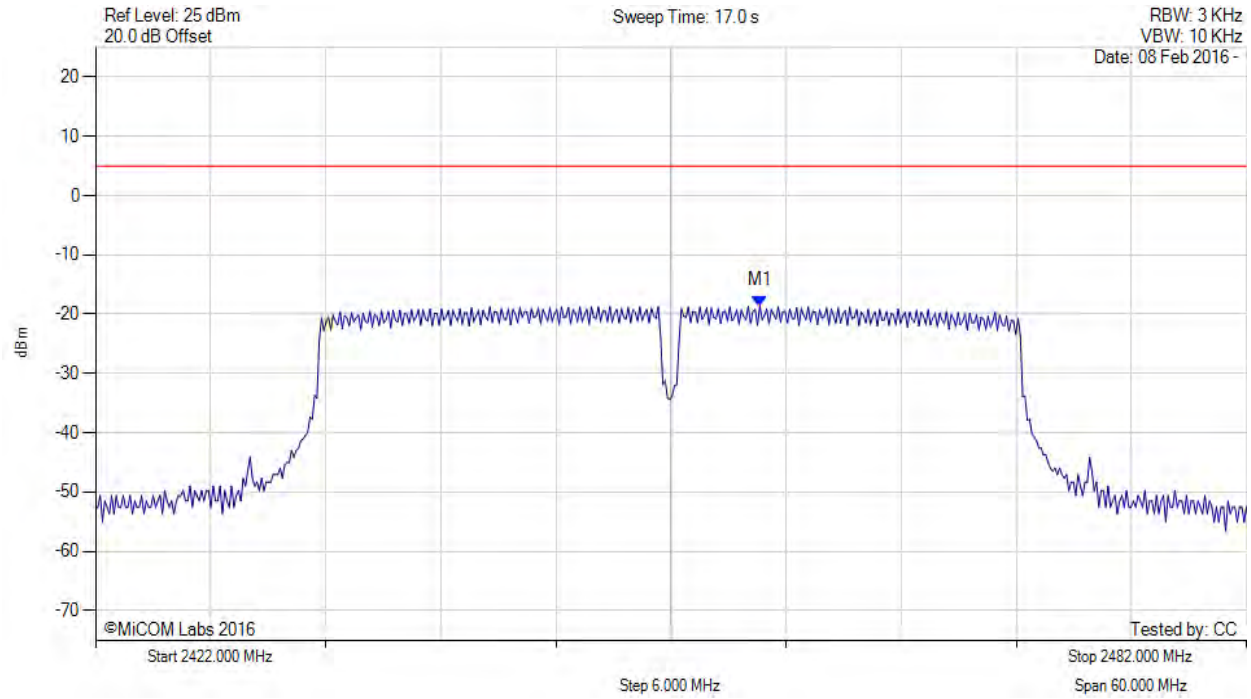
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 2452.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2456.629 MHz : -18.611 dBm	Limit: ≤ 4.990 dBm

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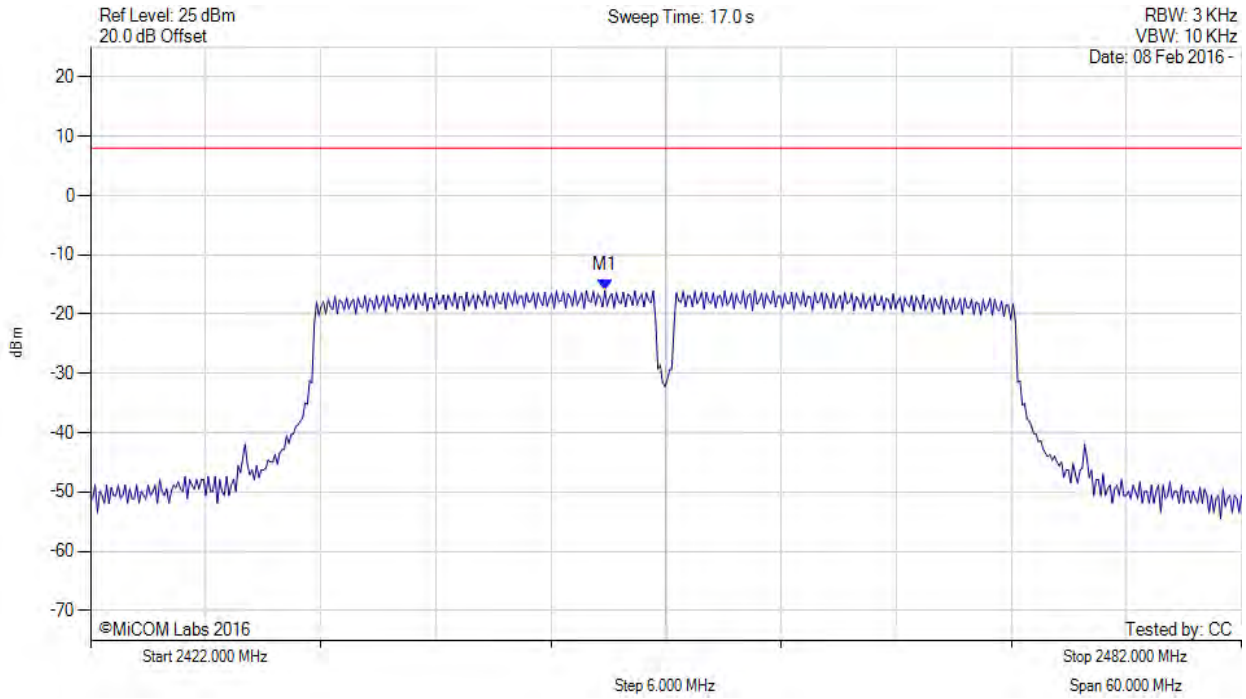
POWER SPECTRAL DENSITY - AVERAGE

Variant: 802.11n HT-40, Channel: 2452.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVERAGE Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 2448.800 MHz : -15.999 dBm M1 + DCCF : 2448.800 MHz : -15.955 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 8.0 dBm Margin: -24.0 dB

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