Company: MikroTik

Test of: RBLHG-5nD Wireless Module

To: FCC CFR 47 Part 15 Subpart E 15.407

Report No.: MIKO61-U2 Rev B

COMPLETE TEST REPORT

TEST REPORT

FROM

MiCOM Labs
opening wireless markets

Test of: MikroTik RBLHG-5nD Wireless Module

To: FCC CFR 47 Part 15 Subpart E 15.407

Test Report Serial No.: MIKO61-U2 Rev B

This report supersedes: MIKO61-U2 Rev A

Applicant: MikroTik
Pernavas 46
Riga, LV 1009
Latvia

Product Function: WLAN Access Point

Issue Date: 5th September 2017

This Test Report is Issued Under the Authority of:

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

A2LA ACCREDITED
TESTING CERT #2381.01

MiCOM Labs is an ISO 17025 Accredited Testing Laboratory

Table of Contents

1. ACCREDITATION, LISTINGS & RECOGNITION

1.1. TESTING ACCREDITATION

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

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	31st August 2017	Draft report for client review.
Rev A	5th September 2017	Initial Release
Rev B	31st October 2017	Changed module name
Test report initially issued under Tracker: MIKO58-U2_Rev A		
Rev A	29th June 2017	Initial release.

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

3. TEST RESULT CERTIFICATE

Manufacturer:	MikroTik Pernavas 46 Riga LV 1009 Latvia
Model:	RBLHG-5nD Wireless Module
Type Of Equipment:	WLAN Access Point
S/N's:	6675059C191F/548 667505FC3D00/614
Test Date(s):	21th April - 30th August 2017

Tested By:	MiCOM Labs, Inc. 575 Boulder Court Pleasanton California 94566 USA
Telephone:	+1 925 462 0304
Fax:	+1 925 462 0306
Website:	www.micomlabs.com

STANDARD(S)	TEST RESULTS
FCC CFR 47 Part 15 Subpart E 15.407	EQUIPMENT COMPLIES

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

Notes:

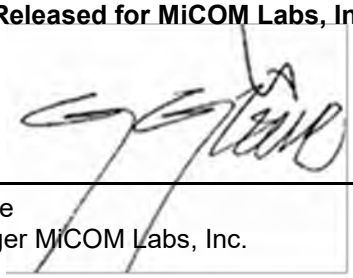
1. This document reports conditions under which testing was conducted and the results of testing performed.

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

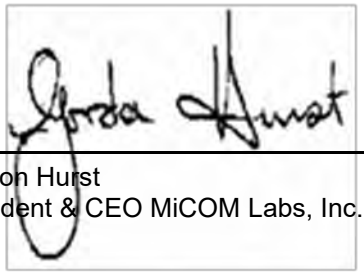
3. Test results apply only to the item(s) tested.

ACCREDITED
TESTING CERT #2381.01

Approved & Released for MiCOM Labs, Inc. by:



Graeme Grieve
Quality Manager MiCOM Labs, Inc.



Gordon Hurst
President & CEO MiCOM Labs, Inc.

4. REFERENCES AND MEASUREMENT UNCERTAINTY

4.1. Normative References

REF.	PUBLICATION	YEAR	TITLE
I	FCC 47 CFR Part 15.407	2016	Radio Frequency Devices; Subpart E –Unlicensed National Information Infrastructure Devices
II	KDB 662911 D01 & D02	Oct 31 2013	Guidance for measurement of output emission of devices that employ single transmitter with multiple outputs or systems with multiple transmitters operating simultaneously in the same frequency band
III	KDB 905462 D07 v02	22nd August 2016	Test guidance to demonstrate compliance for U-NII devices subject to DFS requirements.
IV	KDB 926956 D01 v02	22nd August 2016	U-NII Device Transition Plan
V	KDB 789033 D02 v01r03	22nd August 2016	General UNII Test Procedures New Rules
VI	A2LA	June 2015	R105 - Requirement's When Making Reference to A2LA Accreditation Status
VII	ANSI C63.10	2013	American National Standard for Testing Unlicensed Wireless Devices
VIII	ANSI C63.4	2014	American National Standards for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
IX	CISPR 32	2012	Electromagnetic compatibility of multimedia equipment - Emission requirements
X	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
XI	FCC 06-96	Jun 30 2006	Memorandum Opinion and Order
XII	ICES-003	Issue 6 Jan 2016	Spectrum Management and Telecommunications; Interference-Causing Equipment Standard. Information Technology Equipment (Including Digital Apparatus) – Limits and methods of measurement.
XIII	M 3003	Edition 3 Nov.2012	Expression of Uncertainty and Confidence in Measurements
XIV	RSS-247 Issue 2	Feb 2017	Digital Transmission Systems (DTSs), Frequency Hopping System (FHSs) and Licence-Exempt Local Area Network (LE-LEN) Devices
XV	RSS-Gen Issue 4	November 2014	General Requirements and Information for the Certification of Radiocommunication Equipment
XVI	KDB 644545 D03 v01	August 14th 2014	Guidance for IEEE 802.11ac New Rules
XVII	FCC 47 CFR Part 2.1033	2016	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 MikroTik RBLHG-5nD Module to FCC CFR 47 Part 15 Subpart E 15.407. Radio Frequency Devices; Subpart E –Unlicensed National Information Infrastructure Devices
Applicant:	MikroTik Pernavas 46 Riga LV 1009 Latvia
Manufacturer:	MikroTik
Laboratory performing the tests:	MiCOM Labs, Inc. 575 Boulder Court Pleasanton California 94566 USA
Test report reference number:	MIKO61-U2
Date EUT received:	13th April 2017
Standard(s) applied:	FCC CFR 47 Part 15 Subpart E 15.407
Dates of test (from - to):	26th April – 30th August 2017
No of Units Tested:	2
Product Family Name:	RouterBOARD
Model(s):	RBLHG-5nD
Location for use:	Indoor/Outdoor
Declared Frequency Range(s):	5150 - 5250 MHz; 5725 - 5850 MHz;
EUT Modes of Operation:	802.11a;802.11n-HT-20;802.11n-HT-40;
Declared Nominal Output Power (dBm):	27.00
Transmit/Receive Operation:	Transceiver Half Duplex
Rated Input Voltage and Current:	POE(POE adaptor sold with unit) 24 Vdc
Operating Temperature Range:	Declared Range -24°C to 40°C
ITU Emission Designator:	802.11a: 20M7D1D 802.11n HT-20: 21M4D1D 802.11n HT-40: 39M2D1D
Equipment Dimensions:	70 X 67 X 16 mm
Weight:	0.040 Kg
Hardware Rev:	4
Software Rev:	v6.39.2

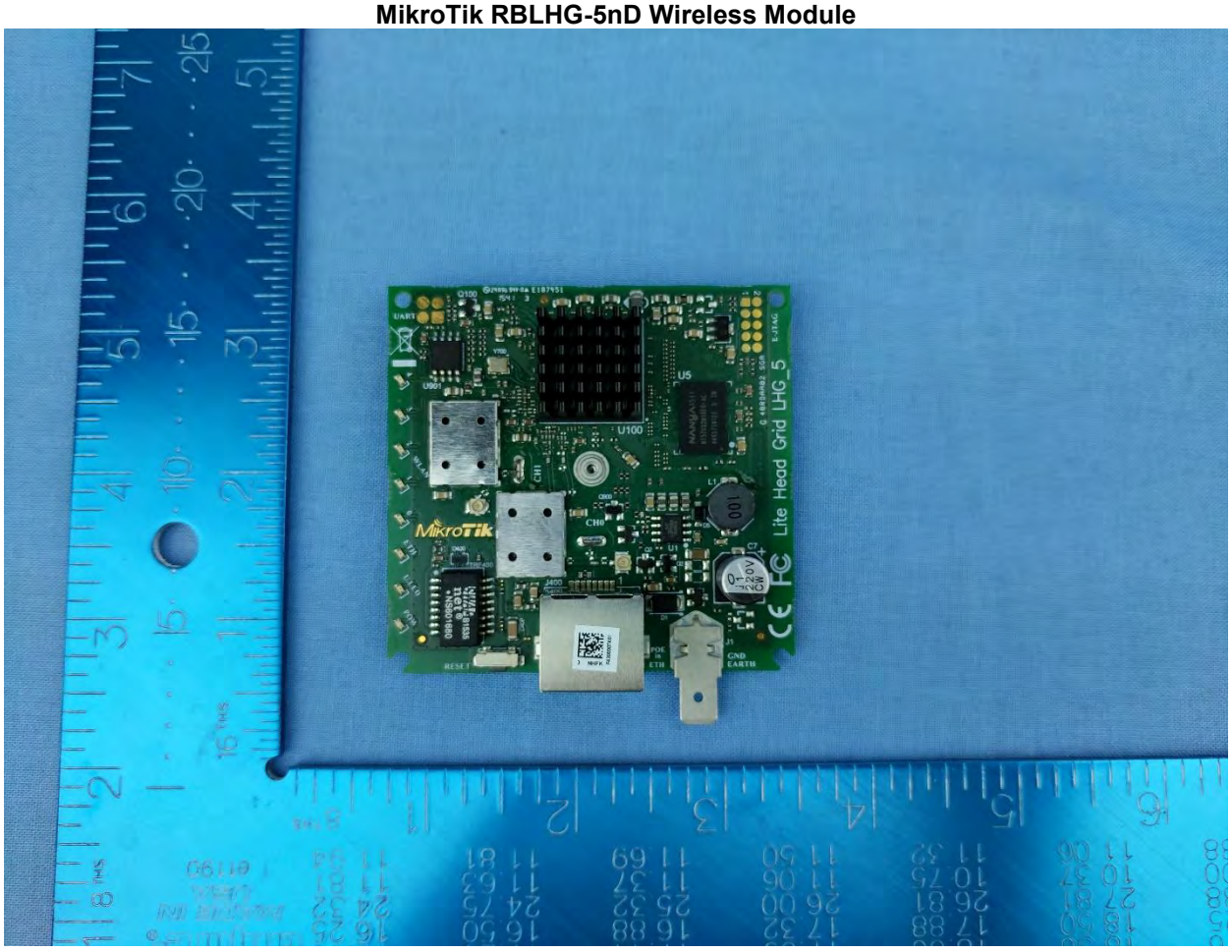
5.2. Scope Of Test Program

MikroTik RBLHG-5nD Wireless Module

The scope of the test program was to test the MikroTik RBLHG-5nD wireless Module in the frequency ranges 5150 - 5250 MHz; and 5725 - 5850 MHz; for compliance against the following specification:

FCC CFR 47 Part 15 Subpart E 15.407
Radio Frequency Devices; Subpart E –Unlicensed National Information Infrastructure Devices

MikroTik RBLHG-5nD Wireless Module



Front View

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

Type	Description	Manf	Model	Serial No.	Delivery Date
EUT	802.11a/n WLAN Access Point	MikroTik	RBLHG-5nD	6675059C191F/548	13th April 2017
EUT	802.11a/n WLAN Access Point	MikroTik	RBLHG-5nD	72AB022A1E8F/635	12th June 2017
Support	Laptop PC	DELL	E7450	None	N/A

5.4. Antenna Details

Type	Manufacturer	Model	Gain (dBi)	BF Gain	Dir BW	X-Pol	Frequency Band (MHz)
integral	MikroTik	Dual Polarity, Directional	9.0	-	360	-	5150 – 5250 5725 - 5850
integral	MikroTik	Dual Polarity, Directional	16.0	-	360	-	5150 – 5250 5725 - 5850
integral	MikroTik	Parabolic Dish[1]	21.0	-	360		5150 – 5250 5725 - 5850
integral	MikroTik	Parabolic Dish[1]	24.5	-	360	-	5150 – 5250 5725 - 5850
integral	MikroTik	Parabolic Dish	27.0	-	360	-	5150 – 5250 5725 - 5850

[1] – not tested, covered by testing 27.0 dBi Parabolic Dish

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

5.5. Cabling and I/O Ports

Port Type	Max Cable Length	# of Ports	Screened	Conn Type	Data Type	Bit Rate	Bit Rate	Bit Rate
4	50	1	--	RJ45	Data	10/100OutdoorsEthernet Type PoE IN	Outdoors	Ethernet Type PoE IN

5.6. Test Configurations

Results for the following configurations are provided in this report:

Operational Mode(s) (802.11)	Data Rate with Highest Power MBit/s	Channel Frequency (MHz)		
		Low	Mid	High
5150 - 5250 MHz				
a	6.00	5180.00	5200.00	5240.00
HT-20	6.50	5180.00	5200.00	5240.00
HT-40	13.50	5190.00	--	5230.00
5725 - 5850 MHz				
a	6.00	5745.00	5785.00	5825.00
HT-20	6.50	5745.00	5785.00	5825.00
HT-40	13.50	5755.00	--	5795.00

5.7. Equipment Modifications

The following modifications were required to bring the equipment into compliance:

1. Issue with wireless heatsink

Compliance Failure - transmitter spurious emissions issue (emission limited to 16 dBi Directional and 27 dBi Dish Antenna's)

Compliance Fix - the wireless chipset heat sync was causing the issue, client requested this be removed and retested. Once removed the 16 dBi directional and 27 dBi dish antenna complied. Previously with the heat sync present, the unit failed transmitter spurious at power setting 1, and the 16 dBi directional antenna failed band edge.

5.8. Deviations from the Test Standard

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

6. TEST SUMMARY

List of Measurements

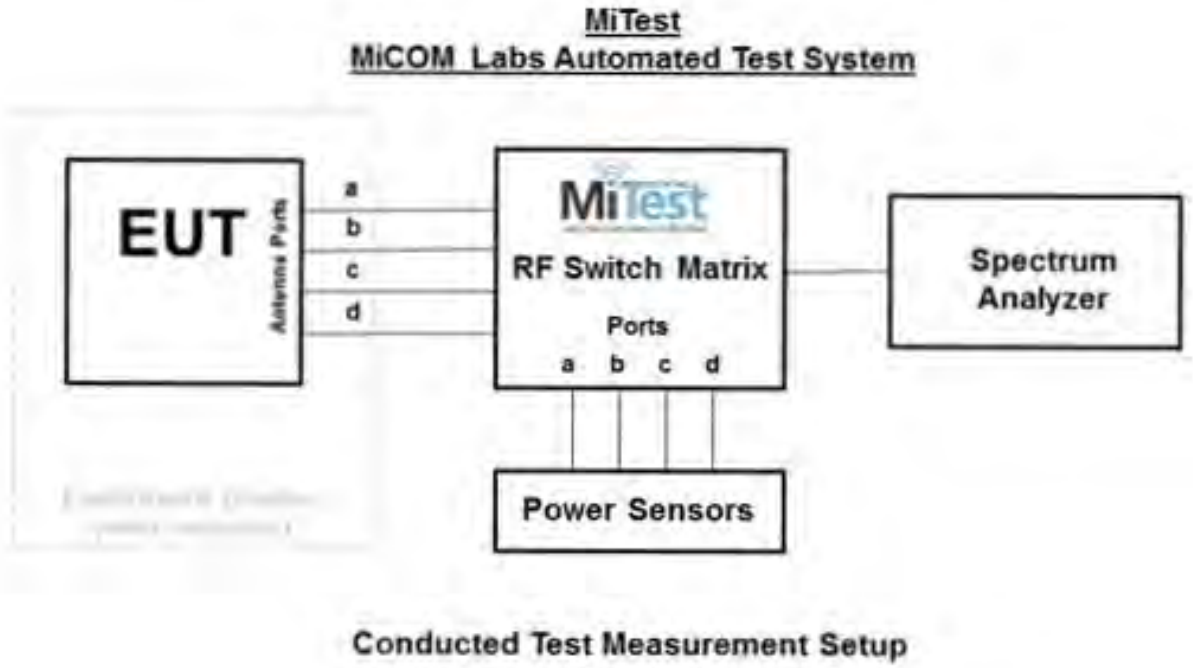
Test Header	Result	Data Link
Peak Transmit Power	Complies	View Data
26 dB & 99% Bandwidth	Complies	View Data
6 dB & 99% Bandwidth	Complies	View Data
Power Spectral Density	Complies	View Data
Radiated	Complies	-
TX Spurious & Restricted Band Emissions	Complies	View Data
Restricted Edge & Band-Edge Emissions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

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. Peak Transmit Power
2. 26 dB 99% Bandwidth
3. 6 dB 99% Bandwidth
4. Power Spectral Density



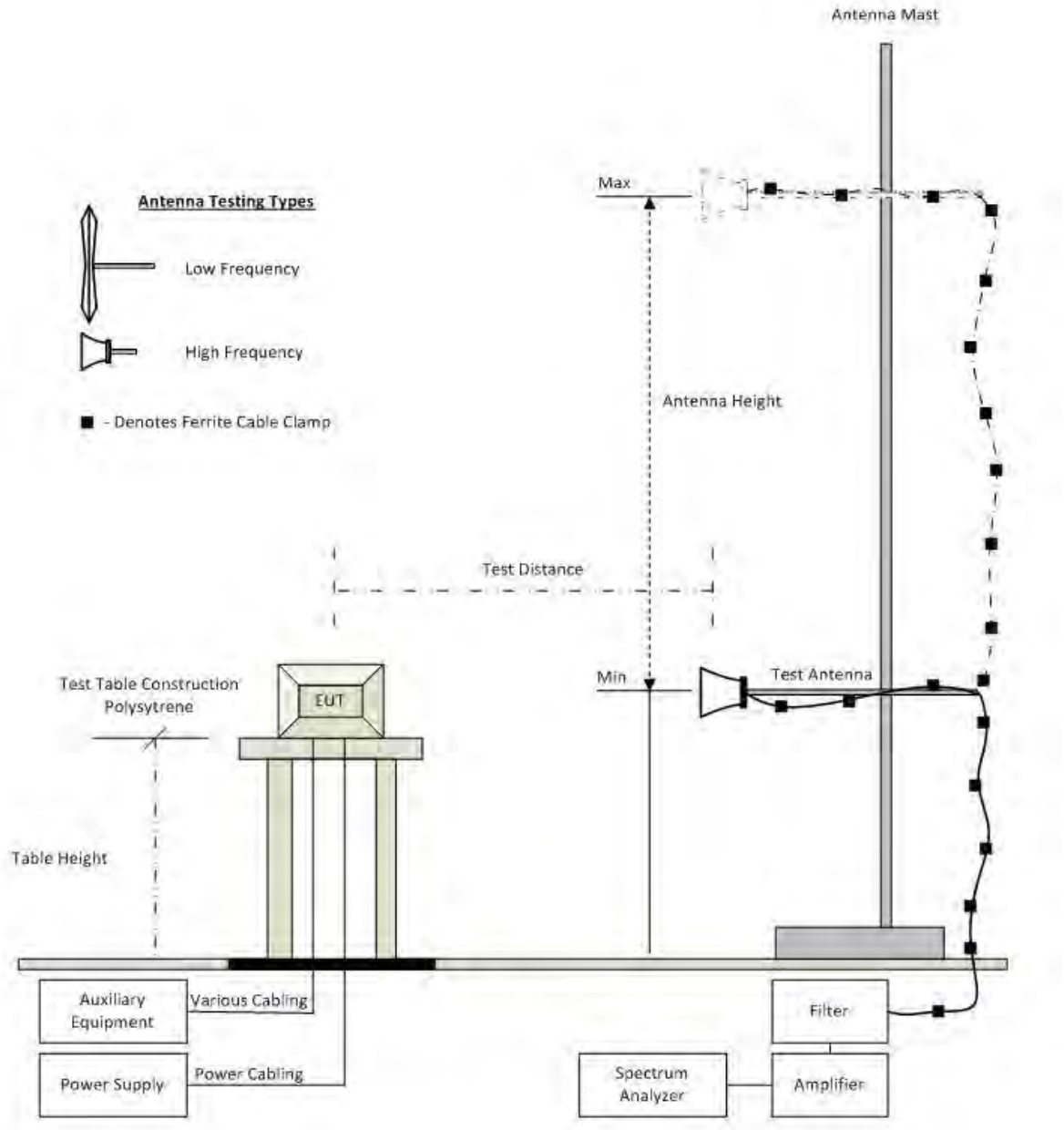
Conducted Test Measurement Setup

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
127	Power Supply	HP	6674A	US36370530	Cal when used
158	Barometer/Thermometer	Control Company	4196	E2846	30 Nov 2017
248	Resistance Thermometer	Thermotronics	GR2105-02	9340 #1	21 Oct 2017
287	Rohde & Schwarz 40 GHz Receiver	Rhode & Schwarz	ESIB40	100201	2 May 2018
376	USB 10MHz - 18GHz Average Power Sensor	Agilent	U2000A	MY51440005	23 Oct 2017
381	4x4 RF Switch Box	MiCOM Labs	MiTest RF Switch Box	MIC002	2 Oct 2017
398	MiTest RF Conducted Test Software	MiCOM	MiTest ATS	Version 4.1	Not Required
419	Laptop with Labview Software	Lenova	W520	TS02	Not Required
420	USB to GPIB Interface	National Instruments	GPIB-USB HS	1346738	Not Required
440	USB Wideband Power Sensor	Boonton	55006	9178	25 Sep 2017
442	USB Wideband Power Sensor	Boonton	55006	9181	6 Oct 2017
445	PoE Injector	D-Link	DPE-101GL	QTAH1E2000625	Not Required
460	Dell Computer with installation of MiTest executable.	Dell	Optiplex330	BC944G1	Not Required
461	Spectrum Analyzer	Agilent	E4440A	MY46185537	13 Nov 2017
493	USB Wideband Power Sensor	Boonton	55006	9634	10 Mar 2018
494	USB Wideband Power Sensor	Boonton	55006	9726	10 Mar 2018
74	Environmental Chamber Chamber 3	Tenney	TTC	12808-1	29 Sep 2017
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	2 Oct 2017
RF#2 SMA#2	EUT to Mitest box port 2	Flexco	SMA Cable port2	None	2 Oct 2017
RF#2 SMA#3	EUT to Mitest box port 3	Flexco	SMA Cable port3	None	2 Oct 2017
RF#2 SMA#4	EUT to Mitest box port 4	Flexco	SMA Cable port4	None	2 Oct 2017
RF#2 SMA#SA	Mitest box to SA	Flexco	SMA Cable SA	None	2 Oct 2017
RF#2 USB#1	USB Cable to Mitest Box	Dynex	USB Cable	None	Not Required

7.2. Radiated Emissions - 3m Chamber

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



Radiated Emission Test Setup

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

Asset#	Description	Manufacturer	Model#	Serial#	Calibration Due Date
158	Barometer/Thermometer	Control Company	4196	E2846	30 Nov 2017
170	Video System Controller for Semi Anechoic Chamber	Panasonic	WV-CU101	04R08507	Not Required
287	Rohde & Schwarz 40 GHz Receiver	Rhode & Schwarz	ESIB40	100201	2 May 2018
338	Sunol 30 to 3000 MHz Antenna	Sunol	JB3	A052907	30 Oct 2017
342	2.4 GHz Notch Filter	EWT	EWT-14-0203	H1	30 Oct 2017
397	Amp 10 - 2500MHz	MiCOM Labs	Amp 10 - 2500 MHz	NA	9 Oct 2017
399	ETS 1-18 GHz Horn Antenna	ETS	3117	00154575	10 Oct 2017
406	Amplifier for Radiated Emissions	MiCOM Labs	40dB 1 to 18GHz Amp	0406	9 Oct 2017
410	Desktop Computer	Dell	Inspiron 620	WS38	Not Required
411	Mast/Turntable Controller	Sunol Sciences	SC98V	060199-1D	Not Required
412	USB to GPIB Interface	National Instruments	GPIB-USB HS	11B8DC2	Not Required
413	Mast Controller	Sunol Science	TWR95-4	030801-3	Not Required
415	Turntable Controller	Sunol Sciences	Turntable Controller	None	Not Required
416	Gigabit ethernet filter	ETS-Lingren	Gigafoil 260366	None	Not Required
447	MiTest Rad Emissions Test Software	MiCOM	Test Software Version 1.0	447	Not Required
462	Schwarzbeck cable from Antenna to Amplifier.	Schwarzbeck	AK 9513	462	30 Oct 2017
463	Schwarzbeck cable from Amplifier to Bulkhead.	Schwarzbeck	AK 9513	463	30 Oct 2017
464	Schwarzbeck cable from Bulkhead to Receiver	Schwarzbeck	AK 9513	464	30 Oct 2017
480	Cable - Bulkhead to Amp	SRC Haverhill	157-3050360	480	30 Oct 2017
481	Cable - Bulkhead to Receiver	SRC Haverhill	151-3050787	481	30 Oct 2017
482	Cable - Amp to Antenna	SRC Haverhill	157-3051574	482	30 Oct 2017

8. MEASUREMENT AND PRESENTATION OF TEST DATA

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

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

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

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

9. TEST RESULTS

9.1. Peak Transmit Power

Conducted Test Conditions for Maximum Conducted Output Power			
Standard:	FCC CFR 47:15.407	**Ambient Temp. (ºC):**	24.0 - 27.5
Test Heading:	Maximum Conducted Output Power	**Rel. Humidity (%):**	32 - 45
Standard Section(s):	15.407 (a)	**Pressure (mBars):**	999 - 1001
Reference Document(s):	See Normative References		

Test Procedure for Maximum Conducted Output Power Measurement
Method PM (Measurement using an RF average power meter). KDB 789033 defines a methodology using an average wideband power meter. Measurements were made while the EUT was operating in a continuous transmission mode (100% duty cycle) at the appropriate center frequency. All operational modes and frequency bands were measured independently and the resultant calculated. Where the device operated with multiple antenna ports i.e. MIMO device, each port was measured and reported separately. A summation (Σ) of each antenna port output power is provided which includes any offset due to Duty Cycle Correction Factor (DCCF). Testing was performed under ambient conditions at nominal voltage.

Test configuration and setup used for the measurement was per the Conducted Test Set-up section specified in this document.
Supporting Information
Calculated Power = A + G + Y+ 10 log (1/x) dBm

A = Total Power [10*Log10 ($10^{a/10}$ + $10^{b/10}$ + $10^{c/10}$ + $10^{d/10}$)]
G = Antenna Gain
Y = Beamforming Gain
x = Duty Cycle (average power measurements only)

Limits Maximum Conducted Output Power

Operating Frequency Band 5150-5250 MHz

15. 407 (a)(1)
(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band

of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Operating Frequency Band 5250-5350 and 5470 – 5725 MHz

15. 407 (a)(2)
For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Operating Frequency Band 5725 – 5850 MHz

15. 407 (a)(3)
For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

Equipment Configuration for Peak Transmit Power

Variant:	802.11a	**Duty Cycle (%):**	92.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	9.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:	EUT restricted by radiated band-edge.		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dB	
5180.0	15.82	16.10	--	--	18.97	--	27.00	-8.03	16.00
5200.0	19.33	18.50	--	--	21.95	--	27.00	-5.05	25.00
5240.0	19.18	18.35	--	--	21.80	--	27.00	-5.20	25.00

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

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

Equipment Configuration for Peak Transmit Power

Variant:	802.11n HT-20	**Duty Cycle (%):**	92.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	9.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:	EUT restricted by radiated band-edge.		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dB	
5180.0	14.66	15.04	--	--	17.86	--	27.00	-9.14	15.00
5200.0	19.25	18.13	--	--	21.74	--	27.00	-5.26	25.00
5240.0	19.04	18.24	--	--	21.67	--	27.00	-5.33	25.00

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

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

Equipment Configuration for Peak Transmit Power

Variant:	802.11n HT-40	**Duty Cycle (%):**	81.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	9.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:	EUT restricted by radiated band-edge.		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dB	
5190.0	9.12	9.82	--	--	12.49	--	27.00	-14.51	10.00
5230.0	16.63	16.01	--	--	19.34	--	27.00	-7.66	19.00

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

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

Equipment Configuration for Peak Transmit Power

Variant:	802.11a	**Duty Cycle (%):**	92.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	9.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:	None		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dB	
5745.0	19.47	17.68	--	--	21.68	--	27.00	-5.32	25.00
5785.0	19.06	17.42	--	--	21.33	--	27.00	-5.67	25.00
5825.0	18.15	17.05	--	--	20.65	--	27.00	-6.35	25.00

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

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

Equipment Configuration for Peak Transmit Power

Variant:	802.11n HT-20	**Duty Cycle (%):**	92.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	9.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:	None		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dB	
5745.0	19.43	17.51	--	--	21.59	--	27.00	-5.41	25.00
5785.0	19.21	17.52	--	--	21.46	--	27.00	-5.54	25.00
5825.0	17.98	16.89	--	--	20.48	--	27.00	-6.52	25.00

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

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

Equipment Configuration for Peak Transmit Power

Variant:	802.11n HT-40	**Duty Cycle (%):**	81.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	9.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:	None		

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dB	
5755.0	19.12	17.60	--	--	21.44	--	27.00	-5.56	25.00
5795.0	18.77	17.27	--	--	21.09	--	27.00	-5.91	25.00

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

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

9.2. 26 dB & 99% Bandwidth

Conducted Test Conditions for 26 dB and 99% Bandwidth			
Standard:	FCC CFR 47:15.407	**Ambient Temp. (ºC):**	24.0 - 27.5
Test Heading:	26 dB and 99 % Bandwidth	**Rel. Humidity (%):**	32 - 45
Standard Section(s):	15.407 (a)	**Pressure (mBars):**	999 - 1001
Reference Document(s):	See Normative References		

Test Procedure for 26 dB and 99% Bandwidth Measurement
The bandwidth at 26 dB and 99 % is measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequency. The Resolution Bandwidth was set to approximately 1% of the emission bandwidth.
Testing was performed under ambient conditions at nominal voltage. Where the device operated with multiple antenna ports i.e. MIMO device, each port was measured and reported.

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

Equipment Configuration for 26 dB & 99% Occupied Bandwidth			
Variant:	802.11a	**Duty Cycle (%):**	92.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	9.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:	None		

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5180.0	37.595	37.114	--	--	37.595	37.114		
5200.0	36.794	36.152	--	--	36.794	36.152		
5240.0	36.633	37.114	--	--	37.114	36.633		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5180.0	20.601	19.319	--	--	20.601	19.319		
5200.0	20.762	19.238	--	--	20.762	19.238		
5240.0	20.842	19.639	--	--	20.842	19.639		

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

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

Equipment Configuration for 26 dB & 99% Occupied Bandwidth

Variant:	802.11n HT-20	**Duty Cycle (%):**	92.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	9.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:	None		

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5180.0	38.477	37.435	--	--	38.477	37.435		
5200.0	35.511	39.679	--	--	39.679	35.511		
5240.0	38.958	37.595	--	--	38.958	37.595		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5180.0	21.483	19.960	--	--	21.483	19.960		
5200.0	20.441	19.559	--	--	20.441	19.559		
5240.0	21.403	19.719	--	--	21.403	19.719		

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

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

Equipment Configuration for 26 dB & 99% Occupied Bandwidth

Variant:	802.11n HT-40	**Duty Cycle (%):**	81.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	9.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:	None		

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5190.0	78.717	78.717	--	--	78.717	78.717		
5230.0	76.954	78.717	--	--	78.717	76.954		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5190.0	39.279	38.798	--	--	39.279	38.798		
5230.0	37.515	37.836	--	--	37.836	37.515		

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

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

9.3. 6 dB & 99% Bandwidth

Conducted Test Conditions for 6 dB and 99% Bandwidth			
Standard:	FCC CFR 47:15.407	**Ambient Temp. (ºC):**	24.0 - 27.5
Test Heading:	6 dB and 99 % Bandwidth	**Rel. Humidity (%):**	32 - 45
Standard Section(s):	15.407 (a)	**Pressure (mBars):**	999 - 1001
Reference Document(s):	See Normative References		

Test Procedure for 6 dB and 99% Bandwidth Measurement
The bandwidth at 6 dB and 99 % is measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequency. The Resolution Bandwidth was set to 100 kHz.
Testing was performed under ambient conditions at nominal voltage. Where the device operated with multiple antenna ports i.e. MIMO device, each port was measured and reported.

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

Equipment Configuration for 6 dB & 99% Bandwidth			
Variant:	802.11a	**Duty Cycle (%):**	92.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	9.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:	None		

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz) Port(s)				6 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5745.0	16.273	16.273	--	--	16.273	16.273		
5785.0	15.471	16.032	--	--	16.032	15.471		
5825.0	15.150	16.032	--	--	16.032	15.150		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5745.0	18.597	20.762	--	--	20.762	18.597		
5785.0	17.715	19.238	--	--	19.238	17.715		
5825.0	17.074	17.074	--	--	17.074	17.074		

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

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

Equipment Configuration for 6 dB & 99% Bandwidth			
Variant:	802.11n HT-20	**Duty Cycle (%):**	92.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	9.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:	None		

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz) Port(s)				6 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5745.0	17.555	16.433	--	--	17.555	16.433		
5785.0	17.555	17.154	--	--	17.555	17.154		
5825.0	17.315	17.315	--	--	17.315	17.315		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5745.0	19.238	21.403	--	--	21.403	19.238		
5785.0	18.597	19.639	--	--	19.639	18.597		
5825.0	18.116	17.956	--	--	18.116	17.956		

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

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

Equipment Configuration for 6 dB & 99% Bandwidth			
Variant:	802.11n HT-40	**Duty Cycle (%):**	81.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	9.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:	None		

Test Measurement Results

Test Frequency	Measured 6 dB Bandwidth (MHz) Port(s)				6 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5755.0	35.431	36.072	--	--	36.072	35.431		
5795.0	35.752	35.752	--	--	35.752	35.752		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5755.0	38.477	42.806	--	--	42.806	38.477		
5795.0	37.034	39.920	--	--	39.920	37.034		

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

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

9.4. Power Spectral Density

Conducted Test Conditions for Power Spectral Density			
Standard:	FCC CFR 47:15.407	**Ambient Temp. (ºC):**	24.0 - 27.5
Test Heading:	Power Spectral Density	**Rel. Humidity (%):**	32 - 45
Standard Section(s):	15.407 (a)	**Pressure (mBars):**	999 - 1001
Reference Document(s):	See Normative References		

Test Procedure for Power Spectral Density
The in-band power spectral density was measured using the test technique specified in KDB 789033. A 1 MHz measurement bandwidth was implemented for the analyzer sweep. Once the sweep is complete the analyzer trace data is downloaded and used for post processing purposes.
Where the device operated with multiple antenna ports i.e. MIMO device, each port was measured separately. The Peak Power Spectral Density is the highest level found across the emission bandwidth. With multiple antenna port measurements the numerical analyzer data from each port is summed (å) and a link to this additional graphic is provided.

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

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

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

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

Limits Power Spectral Density

Operating Frequency Band 5150-5250 MHz

15. 407 (a)(1)
(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the

frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Operating Frequency Band 5250-5350 and 5470 – 5725 MHz

15. 407 (a)(2)
For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Operating Frequency Band 5725 – 5850 MHz

15. 407 (a)(3)
For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

Equipment Configuration for Power Spectral Density			
Variant:	802.11a	**Duty Cycle (%):**	92.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	9.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:	None		

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Summation Peak Marker + DCCF (+0.36 dB)	Limit	Margin
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5180.0	8.899	7.127	--	--	10.765	14.0	-3.2
5200.0	8.196	5.610	--	--	9.973	14.0	-4.0
5240.0	8.142	6.520	--	--	10.180	14.0	-3.8

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

DCCF - Duty Cycle Correction Factor

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

Equipment Configuration for Power Spectral Density			
Variant:	802.11n HT-20	**Duty Cycle (%):**	92.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	9.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:	None		

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Summation Peak Marker + DCCF (+0.36 dB)	Limit	Margin
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5180.0	8.025	6.832	--	--	10.489	14.0	-3.5
5200.0	8.620	6.540	--	--	10.016	14.0	-4.0
5240.0	7.951	6.736	--	--	10.223	14.0	-3.8

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

DCCF - Duty Cycle Correction Factor

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

Equipment Configuration for Power Spectral Density			
Variant:	802.11n HT-40	**Duty Cycle (%):**	81.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	9.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:	None		

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Summation Peak Marker + DCCF (+0.92 dB)	Limit	Margin
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5190.0	2.294	1.900	--	--	5.368	14.0	-8.6
5230.0	0.683	-0.929	--	--	3.724	14.0	-10.3

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

DCCF - Duty Cycle Correction Factor

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

Equipment Configuration for Power Spectral Density			
Variant:	802.11a	**Duty Cycle (%):**	92.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	9.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:	None		

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/500 KHz)				Summation Peak Marker + DCCF (+0.36 dB)	Limit	Margin
MHz	a	b	c	d	dBm/500 KHz	dBm/500 KHz	dB
5745.0	6.395	3.841	--	--	7.930	27.0	-19.1
5785.0	6.230	4.520	--	--	8.383	27.0	-18.6
5825.0	5.858	3.935	--	--	7.507	27.0	-19.5

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

DCCF - Duty Cycle Correction Factor

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

Equipment Configuration for Power Spectral Density			
Variant:	802.11n HT-20	**Duty Cycle (%):**	92.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	9.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:	None		

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/500 KHz)				Summation Peak Marker + DCCF (+0.36 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/500 KHz**	**dBm/500 KHz**	**dB**
5745.0	4.786	2.957	--	--	6.679	27.0	-20.3
5785.0	5.414	2.845	--	--	7.444	27.0	-19.6
5825.0	5.510	2.963	--	--	6.944	27.0	-20.1

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

DCCF - Duty Cycle Correction Factor

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

Equipment Configuration for Power Spectral Density			
Variant:	802.11n HT-40	**Duty Cycle (%):**	81.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	9.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:	None		

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/500 KHz)				Summation Peak Marker + DCCF (+0.92 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/500 KHz**	**dBm/500 KHz**	**dB**
5755.0	1.306	-0.527	--	--	3.668	27.0	-23.3
5795.0	1.331	-1.742	--	--	3.254	27.0	-23.8

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

DCCF - Duty Cycle Correction Factor

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

9.5. Radiated

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

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

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

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

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

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

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

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

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

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

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

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

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

Field Strength Calculation
The field strength is calculated by adding the Antenna Factor and Cable Loss, and subtracting Amplifier Gain from the measured reading. All factors are included in the reported data.
FS = R + AF + CORR - FO

where:

FS = Field Strength
R = Measured Spectrum analyzer Input Amplitude
AF = Antenna Factor
CORR = Correction Factor = CL – AG + NFL
CL = Cable Loss
AG = Amplifier Gain
FO = Distance Falloff Factor
NFL = Notch Filter Loss

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

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

where P is the EIRP in Watts

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

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

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

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

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

13.36-13.41			

(b) Except as provided in paragraphs (d) and (e) of this section, the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in §15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in §15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in §15.35 apply to these measurements.

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

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

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

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

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

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

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

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

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

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

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

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

9.5.1. TX Spurious & Restricted Band Emissions

9.5.1.1. MikroTik Dual polarity

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Dual polarity	**Variant:**	802.11a
Antenna Gain (dBi):	9.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	16	**Tested By:**	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5182.72	74.03	3.68	-11.50	66.21	Fundamental	Horizontal	100	0	--	--	
#2	10357.33	62.41	5.55	-5.28	62.68	Peak (NRB)	Horizontal	200	27	--	--	Pass
Test Notes: Eut powered by POE , conected to laptop outside chamber												

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Dual polarity	**Variant:**	802.11a
Antenna Gain (dBi):	9.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5200.00	**Data Rate:**	6.00 MBit/s
Power Setting:	25	**Tested By:**	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5201.13	81.40	3.66	-11.46	73.60	Fundamental	Horizontal	100	0	--	--	
#2	10402.81	59.64	5.42	-5.02	60.04	Peak (NRB)	Horizontal	200	100	--	--	Pass
Test Notes: Eut powered by POE , conected to laptop outside chamber												

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Dual polarity	**Variant:**	802.11a
Antenna Gain (dBi):	9.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5240.00	**Data Rate:**	6.00 MBit/s
Power Setting:	25	**Tested By:**	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5235.69	84.22	3.63	-11.37	76.48	Fundamental	Horizontal	100	0	--	--	
#2	10476.73	62.47	5.44	-4.48	63.43	Peak (NRB)	Horizontal	200	47	--	--	Pass
Test Notes: Eut powered by POE , conected to laptop outside chamber												

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Dual polarity	**Variant:**	802.11a
Antenna Gain (dBi):	9.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	25	**Tested By:**	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5742.36	60.98	3.83	-10.66	54.15	Fundamental	Horizontal	100	0	--	--	
#2	11483.80	58.27	5.46	-4.86	58.87	Max Peak	Horizontal	190	49	74.0	-15.1	Pass
#3	11483.80	42.41	5.46	-4.86	43.01	Max Avg	Horizontal	190	49	54.0	-11.0	Pass
Test Notes: Eut powered by POE , conected to laptop outside chamber												

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Dual polarity	**Variant:**	802.11a
Antenna Gain (dBi):	9.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5785.00	**Data Rate:**	6.00 MBit/s
Power Setting:	25	**Tested By:**	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	4620.08	58.46	3.54	-11.34	50.66	Max Peak	Vertical	148	352	74.0	-23.3	Pass
#2	4620.08	43.97	3.54	-11.34	36.17	Max Avg	Vertical	148	352	54.0	-17.8	Pass
#3	5791.43	59.16	3.79	-10.41	52.54	Fundamental	Horizontal	100	0	--	--	
#4	11570.93	62.24	5.44	-4.64	63.04	Max Peak	Horizontal	194	34	74.0	-11.0	Pass
#5	11570.93	45.95	5.44	-4.64	46.75	Max Avg	Horizontal	194	34	54.0	-7.3	Pass
#6	17357.53	51.90	6.28	-0.03	58.15	Peak (NRB)	Horizontal	148	72	--	--	Pass
Test Notes: Eut powered by POE , conected to laptop outside chamber												

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Dual polarity	**Variant:**	802.11a
Antenna Gain (dBi):	9.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	25	**Tested By:**	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	4622.09	57.83	3.55	-11.34	50.04	Max Peak	Vertical	126	21	74.0	-24.0	Pass
#2	4622.09	44.59	3.55	-11.34	36.80	Max Avg	Vertical	126	21	54.0	-17.2	Pass
#3	5829.35	63.11	3.84	-10.23	56.72	Fundamental	Horizontal	100	0	--	--	
#4	11648.24	61.74	5.44	-4.47	62.71	Max Peak	Horizontal	188	137	74.0	-11.3	Pass
#5	11648.24	45.34	5.44	-4.47	46.31	Max Avg	Horizontal	188	137	54.0	-7.7	Pass
#6	17477.02	46.63	6.31	-0.60	52.34	Peak (NRB)	Horizontal	151	134	--	--	Pass
Test Notes: Eut powered by POE , conected to laptop outside chamber												

9.5.1.2. MikroTik MikroTik16

Equipment Configuration for TX Spurious & Restricted Band Emissions			
Antenna:	Dual polarity	**Variant:**	802.11a
Antenna Gain (dBi):	16.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	11	**Tested By:**	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5175.55	71.21	3.69	-11.51	63.39	Fundamental	Vertical	151	0	--	--	
#2	6124.89	53.73	3.92	-9.36	48.29	Peak (NRB)	Vertical	151	0	--	--	Pass
#3	6906.62	49.91	4.11	-7.54	46.48	Peak (NRB)	Horizontal	151	30	--	--	Pass
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Dual polarity	**Variant:**	802.11a
Antenna Gain (dBi):	16.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5200.00	**Data Rate:**	6.00 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5204.99	83.61	3.65	-11.45	75.81	Fundamental	Vertical	151	0	--	--	
#2	6933.31	53.27	4.11	-7.49	49.89	Peak (NRB)	Horizontal	151	0	--	--	Pass
#3	10390.63	49.00	5.38	-5.09	49.29	Peak (NRB)	Horizontal	151	17	--	--	Pass
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Dual polarity	**Variant:**	802.11a
Antenna Gain (dBi):	16.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5240.00	**Data Rate:**	6.00 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5243.79	86.17	3.63	-11.36	78.44	Fundamental	Vertical	100	0	--	--	
#2	6100.02	54.35	3.88	-9.50	48.73	Peak (NRB)	Vertical	100	0	--	--	Pass
#3	6986.68	50.17	4.13	-7.45	46.85	Peak (NRB)	Horizontal	100	52	--	--	Pass
#4	10478.82	48.05	5.43	-4.46	49.02	Peak (NRB)	Horizontal	150	14	--	--	Pass

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

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Dual polarity	**Variant:**	802.11a
Antenna Gain (dBi):	16.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5738.50	63.12	3.82	-10.67	56.27	Fundamental	Vertical	100	0	--	--	
#2	11489.53	54.85	5.45	-4.84	55.46	Max Peak	Horizontal	186	188	74.0	-18.5	Pass
#3	11489.53	40.07	5.45	-4.84	40.68	Max Avg	Horizontal	186	188	54.0	-13.3	Pass
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Dual polarity	**Variant:**	802.11a
Antenna Gain (dBi):	16.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5785.00	**Data Rate:**	6.00 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5790.21	59.88	3.79	-10.42	53.25	Fundamental	Vertical	100	0	--	--	
#2	11570.10	56.54	5.44	-4.64	57.34	Max Peak	Horizontal	184	190	74.0	-16.7	Pass
#3	11570.10	41.29	5.44	-4.64	42.09	Max Avg	Horizontal	184	190	54.0	-11.9	Pass
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Dual polarity	**Variant:**	802.11a
Antenna Gain (dBi):	16.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5830.24	63.76	3.84	-10.22	57.38	Fundamental	Vertical	100	0	--	--	
#2	6124.93	52.98	3.92	-9.36	47.54	Peak (NRB)	Vertical	100	0	--	--	Pass
#3	11650.25	55.80	5.46	-4.47	56.79	Max Peak	Horizontal	180	188	74.0	-17.2	Pass
#4	11650.25	39.97	5.46	-4.47	40.96	Max Avg	Horizontal	180	188	54.0	-13.0	Pass

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

9.5.1.3. MikroTik MikroTik27

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Dish 27	**Variant:**	802.11a
Antenna Gain (dBi):	27.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	3	**Tested By:**	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	4512.53	62.63	3.53	-11.55	54.61	Max Peak	Vertical	181	3	74.0	-19.4	Pass
#2	4512.53	48.55	3.53	-11.55	40.53	Max Avg	Vertical	181	3	54.0	-13.5	Pass
#3	5173.79	62.15	3.70	-11.52	54.33	Fundamental	Vertical	200	0	--	--	
#4	6400.07	52.31	3.95	-8.04	48.22	Peak (NRB)	Horizontal	200	0	--	--	Pass
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Dish 27	**Variant:**	802.11a
Antenna Gain (dBi):	27.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5200.00	**Data Rate:**	6.00 MBit/s
Power Setting:	8	**Tested By:**	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	4525.04	61.87	3.47	-11.50	53.84	Max Peak	Vertical	193	1	74.0	-20.2	Pass
#2	4525.04	48.18	3.47	-11.50	40.15	Max Avg	Vertical	193	1	54.0	-13.9	Pass
#3	5206.42	84.09	3.65	-11.45	76.29	Fundamental	Vertical	200	0	--	--	
#4	6400.02	50.29	3.95	-8.04	46.20	Peak (NRB)	Horizontal	200	0	--	--	Pass
#5	6933.54	49.31	4.11	-7.49	45.93	Peak (NRB)	Horizontal	200	10	--	--	Pass
#6	10402.14	51.19	5.42	-5.02	51.59	Peak (NRB)	Horizontal	200	0	--	--	Pass
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Dish 27	**Variant:**	802.11a
Antenna Gain (dBi):	27.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5240.00	**Data Rate:**	6.00 MBit/s
Power Setting:	8	**Tested By:**	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	4522.80	60.76	3.49	-11.51	52.74	Max Peak	Vertical	177	1	74.0	-21.3	Pass
#2	4522.80	47.14	3.49	-11.51	39.12	Max Avg	Vertical	177	1	54.0	-14.9	Pass
#3	5237.95	85.55	3.63	-11.37	77.81	Fundamental	Vertical	200	0	--	--	
#4	6399.91	49.73	3.95	-8.05	45.63	Peak (NRB)	Horizontal	200	0	--	--	Pass
#5	10478.05	53.11	5.43	-4.46	54.08	Peak (NRB)	Horizontal	200	9	--	--	Pass
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Dish 27	**Variant:**	802.11a
Antenna Gain (dBi):	27.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	3	**Tested By:**	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	4514.71	62.62	3.54	-11.54	54.62	Max Peak	Vertical	182	4	74.0	-19.4	Pass
#2	4514.71	48.87	3.54	-11.54	40.87	Max Avg	Vertical	182	4	54.0	-13.1	Pass
#3	5741.26	53.32	3.83	-10.66	46.49	Fundamental	Vertical	200	0	--	--	
#4	6399.97	53.30	3.95	-8.05	49.20	Peak (NRB)	Horizontal	200	0	--	--	Pass
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Dish 27	**Variant:**	802.11a
Antenna Gain (dBi):	27.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5785.00	**Data Rate:**	6.00 MBit/s
Power Setting:	8	**Tested By:**	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	4774.65	64.22	3.63	-11.12	56.73	Max Peak	Vertical	190	2	74.0	-17.3	Pass
#2	4774.65	50.40	3.63	-11.12	42.91	Max Avg	Vertical	190	2	54.0	-11.1	Pass
#3	5790.77	61.46	3.79	-10.41	54.84	Fundamental	Vertical	200	0	--	--	
#4	6399.98	53.23	3.95	-8.05	49.13	Peak (NRB)	Horizontal	200	0	--	--	Pass
#5	11570.66	52.65	5.44	-4.64	53.45	Max Peak	Horizontal	192	358	74.0	-20.6	Pass
#6	11570.66	38.33	5.44	-4.64	39.13	Max Avg	Horizontal	192	358	54.0	-14.9	Pass
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Dish 27	**Variant:**	802.11a
Antenna Gain (dBi):	27.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	3	**Tested By:**	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	4535.30	61.33	3.45	-11.46	53.32	Max Peak	Vertical	187	0	74.0	-20.7	Pass
#2	4535.30	47.58	3.45	-11.46	39.57	Max Avg	Vertical	187	0	54.0	-14.4	Pass
#3	5828.48	52.82	3.84	-10.24	46.42	Fundamental	Horizontal	200	0	--	--	
#4	6400.01	52.19	3.95	-8.04	48.10	Peak (NRB)	Horizontal	200	0	--	--	Pass
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

9.5.2. Restricted Edge & Band-Edge Emissions

9.5.2.4. 9 dBi Dual Polarity Antenna

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5150 - 5250 MHz

Dual polarity		Band-Edge Freq	Limit 74.0dBµV/m	Limit 54.0dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5180.00	5150.00	70.22	53.73	16
802.11n HT-20	5180.00	5150.00	71.25	52.43	15
802.11n HT-40	5190.00	5150.00	70.68	53.63	10

Radiated Band-Edge Emissions

Dual polarity		Band-Edge Freq	dBµV/m @	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	Limit	
802.11a	5725.00	5725.00	60.87	25
802.11n HT-20	5725.00	5725.00	61.48	25
802.11n HT-40	5725.00	5725.00	64.13	25
802.11a	5850.00	5850.00	57.64	25
802.11n HT-20	5850.00	5850.00	56.95	25
802.11n HT-40	5850.00	5850.00	60.48	25

Click on the links to view the data.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Dual polarity	**Variant:**	802.11a
Antenna Gain (dBi):	9 dBi	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	16	**Tested By:**	JMH

Test Measurement Results

4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5150.00	15.95	3.67	34.11	53.73	Max Avg	Vertical	139	359	54.0	-0.3	Pass
#2	5150.00	32.44	3.67	34.11	70.22	Max Peak	Vertical	139	359	74.0	-3.8	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
Test Notes: Eut powered by POE , connected to laptop outside chamber												

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Dual polarity	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	9 dBi	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.50 MBit/s
Power Setting:	15	**Tested By:**	JMH

Test Measurement Results

4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5150.00	14.65	3.67	34.11	52.43	Max Avg	Vertical	139	359	54.0	-1.6	Pass
#2	5150.00	33.47	3.67	34.11	71.25	Max Peak	Vertical	139	359	74.0	-2.8	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
Test Notes: Eut powered by POE , conected to laptop outside chamber												

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Dual polarity	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	9 dBi	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5190.00	**Data Rate:**	13.50 MBit/s
Power Setting:	10	**Tested By:**	JMH

Test Measurement Results

4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5148.50	32.89	3.68	34.11	70.68	Max Peak	Vertical	139	359	74.0	-3.3	Pass
#2	5150.00	15.85	3.67	34.11	53.63	Max Avg	Vertical	139	359	54.0	-0.4	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
Test Notes: Eut powered by POE , conected to laptop outside chamber												

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Dual polarity	**Variant:**	802.11a
Antenna Gain (dBi):	9 dBi	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	25	**Tested By:**	JMH

Test Measurement Results

5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5624.82	22.90	3.76	34.21	60.87	Max Peak	Horizontal	104	1	68.2	-7.4	Pass
#2	5714.90	46.31	3.81	34.34	84.46	Max Peak	Horizontal	104	1	109.4	-24.9	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: Eut powered by POE , conected to laptop outside chamber												

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Dual polarity	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	9 dBi	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.50 MBit/s
Power Setting:	25	**Tested By:**	JMH

Test Measurement Results

5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5649.71	23.55	3.75	34.18	61.48	Max Peak	Horizontal	104	1	68.2	-6.8	Pass
#2	5713.46	48.73	3.82	34.34	86.89	Max Peak	Horizontal	104	1	108.8	-22.0	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: Eut powered by POE , conected to laptop outside chamber												

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Dual polarity	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	9 dBi	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5755.00	**Data Rate:**	13.50 MBit/s
Power Setting:	25	**Tested By:**	JMH

Test Measurement Results

5600.00 - 5780.00 MHz

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5648.99	26.20	3.75	34.18	64.13	Max Peak	Horizontal	104	1	68.2	-4.1	Pass
#2	5713.63	56.07	3.82	34.34	94.23	Max Peak	Horizontal	104	1	109.1	-14.9	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Eut powered by POE , conected to laptop outside chamber

Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Dual polarity	**Variant:**	802.11a
Antenna Gain (dBi):	9 dBi	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	25	**Tested By:**	JMH

Test Measurement Results

5770.00 - 6000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#2	5854.61	50.14	3.83	34.64	88.61	Max Peak	Horizontal	104	1	111.1	-22.5	Pass
#3	5930.06	18.97	3.84	34.83	57.64	Max Peak	Horizontal	104	1	68.2	-10.6	Pass
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: Eut powered by POE , conected to laptop outside chamber												

Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Dual polarity	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	9 dBi	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.50 MBit/s
Power Setting:	25	**Tested By:**	JMH

Test Measurement Results

5770.00 - 6000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#2	5855.99	47.58	3.84	34.64	86.06	Max Peak	Horizontal	104	1	110.1	-24.0	Pass
#3	5961.40	18.23	3.83	34.89	56.95	Max Peak	Horizontal	104	1	68.2	-11.3	Pass
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: Eut powered by POE , conected to laptop outside chamber												

Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Dual polarity	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	9 dBi	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5795.00	**Data Rate:**	13.50 MBit/s
Power Setting:	25	**Tested By:**	JMH

Test Measurement Results

5770.00 - 6000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#2	5863.37	43.17	3.85	34.66	81.68	Max Peak	Horizontal	104	1	108.9	-27.2	Pass
#3	5928.22	21.82	3.83	34.83	60.48	Max Peak	Horizontal	104	1	68.2	-7.8	Pass
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: Eut powered by POE , conected to laptop outside chamber												

9.5.2.5. 16 dBi Dual Polarity Antenna

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5150 - 5250 MHz

MikroTik16		Band-Edge Freq	Limit 74.0dBµV/m	Limit 54.0dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5180.00	5150.00	65.01	53.78	8
802.11n HT-20	5180.00	5150.00	64.44	53.69	8
802.11n HT-40	5190.00	5150.00	68.78	53.05	11

5725 MHz Radiated Lower Band-Edge Emissions

MikroTik16		Band-Edge Freq	dBµV/m @	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	Limit	
802.11a	5725.00	5725.00	65.35	18
802.11n HT-20	5725.00	5725.00	53.17	18
802.11n HT-40	5725.00	5725.00	51.40	18
802.11a	5850.00	5850.00	50.76	18
802.11n HT-20	5850.00	5850.00	50.16	18
802.11n HT-40	5850.00	5850.00	50.31	18

Click on the links to view the data.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Dual Polarity	**Variant:**	802.11a
Antenna Gain (dBi):	16	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	8	**Tested By:**	JMH

Test Measurement Results

4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5125.95	16.00	3.66	34.12	53.78	Max Avg	Horizontal	199	15	54.0	-0.2	Pass
#2	5125.95	27.23	3.66	34.12	65.01	Max Peak	Horizontal	199	15	74.0	-9.0	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Dual Polarity	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	16	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.50 MBit/s
Power Setting:	8	**Tested By:**	JMH

Test Measurement Results

4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5125.25	15.91	3.66	34.12	53.69	Max Avg	Horizontal	199	15	54.0	-0.3	Pass
#2	5125.55	26.66	3.66	34.12	64.44	Max Peak	Horizontal	199	15	74.0	-9.6	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Dual Polarity	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	16	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5190.00	**Data Rate:**	13.50 MBit/s
Power Setting:	11	**Tested By:**	JMH

Test Measurement Results

4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5150.00	15.27	3.67	34.11	53.05	Max Avg	Horizontal	199	15	54.0	-1.0	Pass
#2	5150.00	31.00	3.67	34.11	68.78	Max Peak	Horizontal	199	15	74.0	-5.2	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Dual Polarity	**Variant:**	802.11a
Antenna Gain (dBi):	16	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5637.08	27.39	3.77	34.19	65.35	Max Peak	Horizontal	200	12	68.2	-2.9	Pass
#2	5725.00	50.45	3.79	34.35	88.59	Max Peak	Horizontal	200	12	122.2	-33.6	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Dual Polarity	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	16	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.50 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5639.97	15.22	3.76	34.19	53.17	Max Peak	Horizontal	200	12	68.2	-15.1	Pass
#2	5725.00	31.08	3.79	34.35	69.22	Max Peak	Horizontal	200	12	122.2	-53.0	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Dual Polarity	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	16	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5755.00	**Data Rate:**	13.50 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5641.41	13.45	3.76	34.19	51.40	Max Peak	Horizontal	200	12	68.2	-16.8	Pass
#2	5725.00	33.51	3.79	34.35	71.65	Max Peak	Horizontal	200	12	122.2	-50.6	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Dual Polarity	**Variant:**	802.11a
Antenna Gain (dBi):	16	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

5770.00 - 6000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#2	5850.92	14.32	3.81	34.63	52.76	Max Peak	Horizontal	200	12	121.2	-68.44	Pass
#3	5975.23	11.98	3.87	34.91	50.76	Max Peak	Horizontal	200	12	68.2	-17.5	Pass
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Dual Polarity	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	16	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.50 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

5770.00 - 6000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5850.00	16.81	3.81	34.63	55.25	Max Peak	Horizontal	200	12	122.2	-66.95	Pass
#3	5975.23	11.38	3.87	34.91	50.16	Max Peak	Horizontal	200	12	68.2	-18.1	Pass
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Dual Polarity	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	16	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5795.00	**Data Rate:**	13.50 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

5770.00 - 6000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5850.00	16.30	3.81	34.63	54.74	Max Peak	Horizontal	200	12	122.2	-67.46	Pass
#3	5975.23	11.53	3.87	34.91	50.31	Max Peak	Horizontal	200	12	68.2	-17.9	Pass
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

9.5.2.6. 27 dBi Dish Antenna

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5150 - 5250 MHz

MikroTik27		Band-Edge Freq	Limit 74.0dBµV/m	Limit 54.0dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5180.00	5150.00	65.73	53.06	3
802.11n HT-20	5180.00	5150.00	64.53	53.26	3
802.11n HT-40	5190.00	5150.00	64.93	53.16	2

5725 MHz Radiated Lower Band-Edge Emissions

MikroTik27		Band-Edge Freq	dBµV/m @	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	Limit	
802.11a	5725.00	5725.00	67.37	3
802.11n HT-20	5725.00	5725.00	67.71	2
802.11n HT-40	5725.00	5725.00	67.78	2
802.11a	5850.00	5850.00	58.60	3
802.11n HT-20	5850.00	5850.00	58.55	3
802.11n HT-40	5850.00	5850.00	57.81	3

Click on the links to view the data.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Dish Antenna	**Variant:**	802.11a
Antenna Gain (dBi):	27	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	3	**Tested By:**	JMH

Test Measurement Results

4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5104.21	15.35	3.58	34.13	53.06	Max Avg	Horizontal	200	3	54.0	-0.9	Pass
#2	5135.77	27.92	3.69	34.12	65.73	Max Peak	Horizontal	200	3	74.0	-8.3	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Dish Antenna	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	27	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.50 MBit/s
Power Setting:	3	**Tested By:**	JMH

Test Measurement Results

4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5104.21	15.55	3.58	34.13	53.26	Max Avg	Horizontal	200	3	54.0	-0.7	Pass
#2	5131.26	26.72	3.69	34.12	64.53	Max Peak	Horizontal	200	3	74.0	-9.5	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Dish Antenna	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	27	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5190.00	**Data Rate:**	13.50 MBit/s
Power Setting:	2	**Tested By:**	JMH

Test Measurement Results

4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5104.21	15.45	3.58	34.13	53.16	Max Avg	Horizontal	200	3	54.0	-0.8	Pass
#2	5104.21	27.22	3.58	34.13	64.93	Max Peak	Horizontal	200	3	74.0	-9.1	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Dish Antenna	**Variant:**	802.11a
Antenna Gain (dBi):	27	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	3	**Tested By:**	JMH

Test Measurement Results

5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5649.71	29.44	3.75	34.18	67.37	Max Peak	Vertical	199	2	68.2	-0.9	Pass
#2	5699.75	29.23	3.86	34.33	67.42	Max Peak	Vertical	199	2	105.0	-37.6	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Dish Antenna	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	27	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.50 MBit/s
Power Setting:	2	**Tested By:**	JMH

Test Measurement Results

5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5624.82	29.74	3.76	34.21	67.71	Max Peak	Vertical	199	2	68.2	-0.5	Pass
#2	5699.75	30.73	3.86	34.33	68.92	Max Peak	Vertical	199	2	105.0	-36.1	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Dish Antenna	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	27	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5755.00	**Data Rate:**	13.50 MBit/s
Power Setting:	2	**Tested By:**	JMH

Test Measurement Results

5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5624.82	29.81	3.76	34.21	67.78	Max Peak	Vertical	199	2	68.2	-0.5	Pass
#2	5699.75	31.79	3.86	34.33	69.98	Max Peak	Vertical	199	2	105.0	-35.0	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Dish Antenna	**Variant:**	802.11a
Antenna Gain (dBi):	27	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	3	**Tested By:**	JMH

Test Measurement Results

5770.00 - 6000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#2	5874.89	23.83	3.80	34.70	62.33	Max Peak	Vertical	199	2	105.4	-43.1	Pass
#3	5924.99	19.94	3.84	34.82	58.60	Max Peak	Vertical	199	2	68.2	-9.6	Pass
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Dish Antenna	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	27	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.50 MBit/s
Power Setting:	3	**Tested By:**	JMH

Test Measurement Results

5770.00 - 6000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#2	5874.43	22.25	3.80	34.69	60.74	Max Peak	Vertical	199	2	105.5	-44.8	Pass
#3	5924.99	19.89	3.84	34.82	58.55	Max Peak	Vertical	199	2	68.2	-9.7	Pass
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

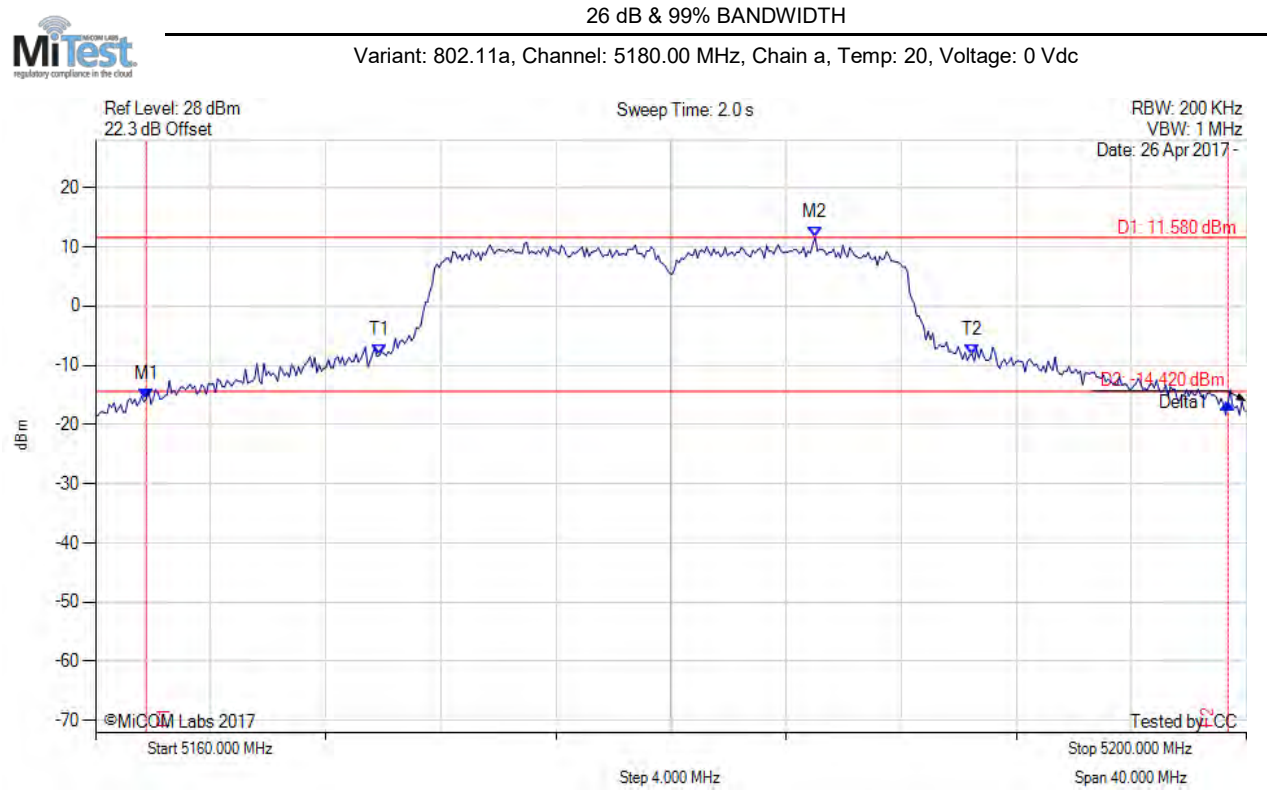
Antenna:	Dish Antenna	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	27	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5795.00	**Data Rate:**	13.50 MBit/s
Power Setting:	3	**Tested By:**	JMH

Test Measurement Results

5770.00 - 6000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#2	5875.09	23.45	3.80	34.70	61.95	Max Peak	Vertical	199	2	105.1	-43.2	Pass
#3	5983.07	19.00	3.89	34.92	57.81	Max Peak	Vertical	199	2	68.2	-10.4	Pass
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

A. APPENDIX - GRAPHICAL IMAGES

A.1. 26 dB & 99% Bandwidth

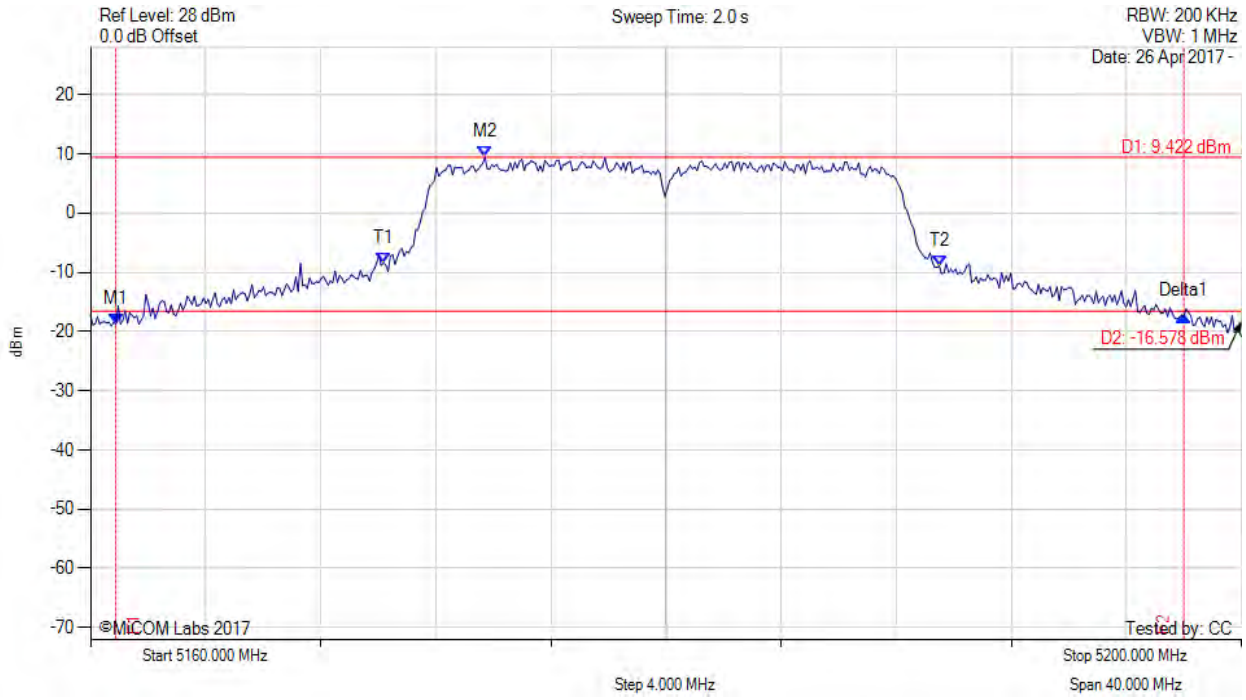


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5161.764 MHz : -15.750 dBm M2 : 5185.010 MHz : 11.580 dBm Delta1 : 37.595 MHz : -0.571 dB T1 : 5169.860 MHz : -8.323 dBm T2 : 5190.461 MHz : -8.195 dBm OBW : 20.601 MHz	Measured 26 dB Bandwidth: 37.595 MHz Measured 99% Bandwidth: 20.601 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5180.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc

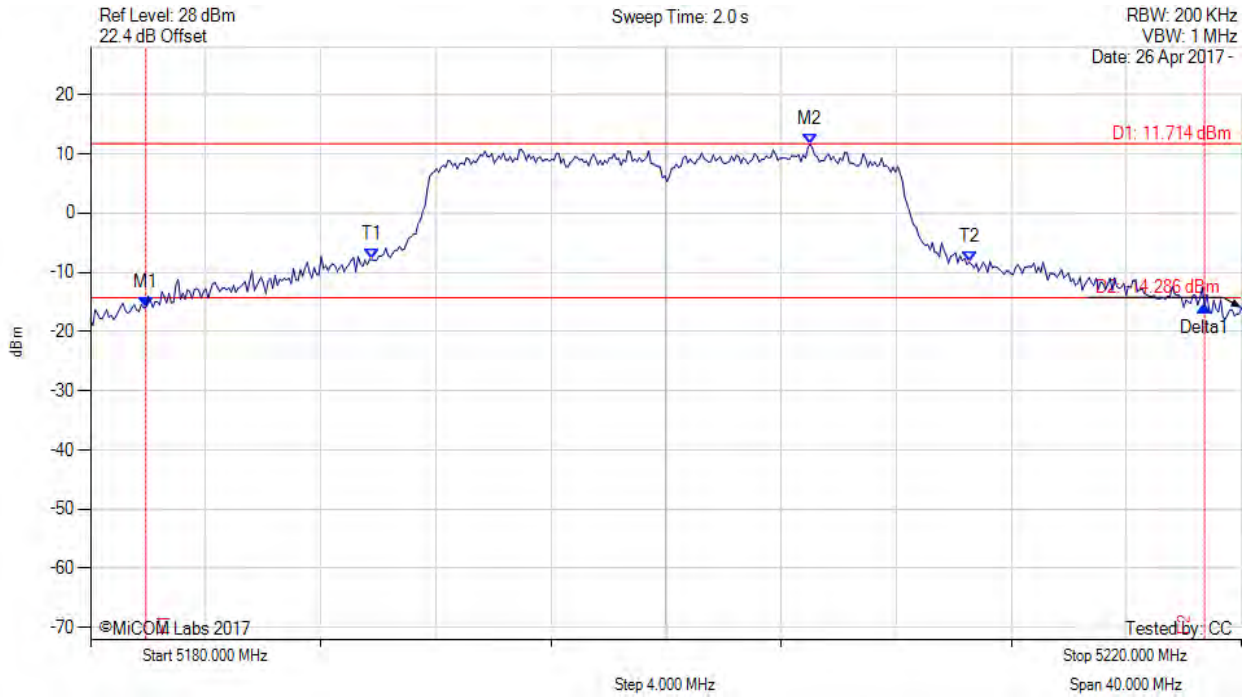


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5160.882 MHz : -18.792 dBm M2 : 5173.707 MHz : 9.422 dBm Delta1 : 37.114 MHz : 1.348 dB T1 : 5170.180 MHz : -8.435 dBm T2 : 5189.499 MHz : -8.949 dBm OBW : 19.319 MHz	Measured 26 dB Bandwidth: 37.114 MHz Measured 99% Bandwidth: 19.319 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5200.00 MHz, Chain a, Temp: 20, Voltage: 0 Vdc

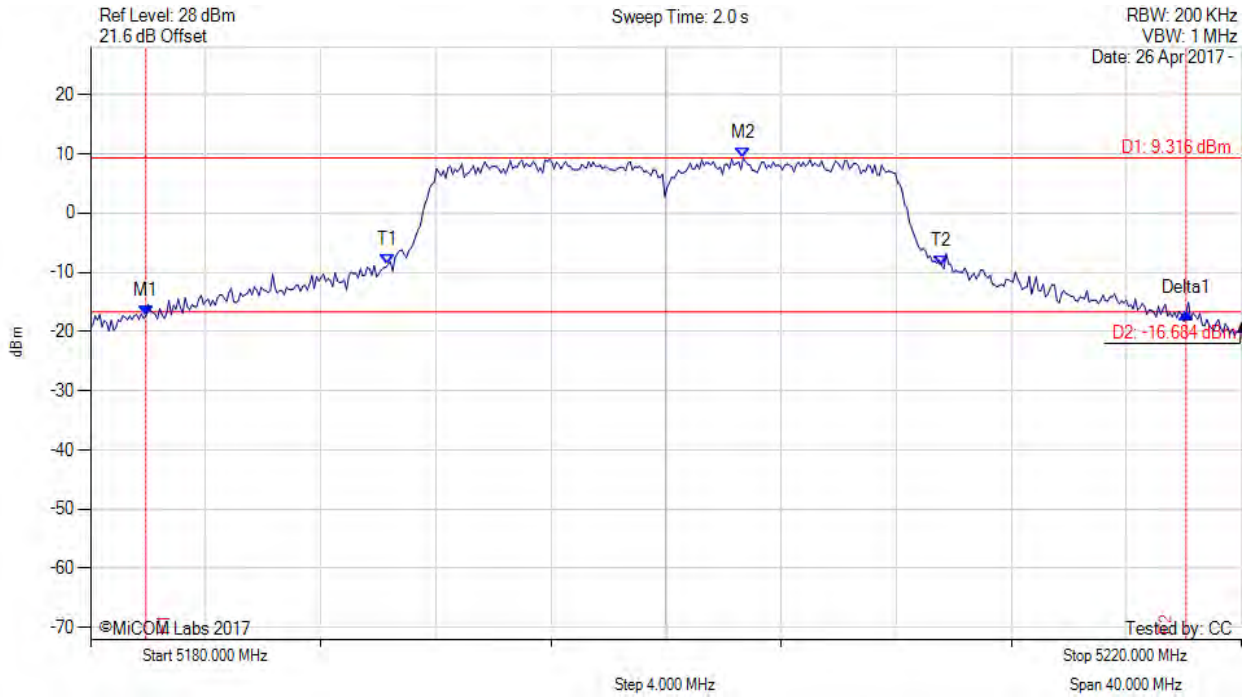


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5181.924 MHz : -15.963 dBm M2 : 5205.010 MHz : 11.714 dBm Delta1 : 36.794 MHz : 0.142 dB T1 : 5189.780 MHz : -7.851 dBm T2 : 5210.541 MHz : -8.282 dBm OBW : 20.762 MHz	Measured 26 dB Bandwidth: 36.794 MHz Measured 99% Bandwidth: 20.762 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5200.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc

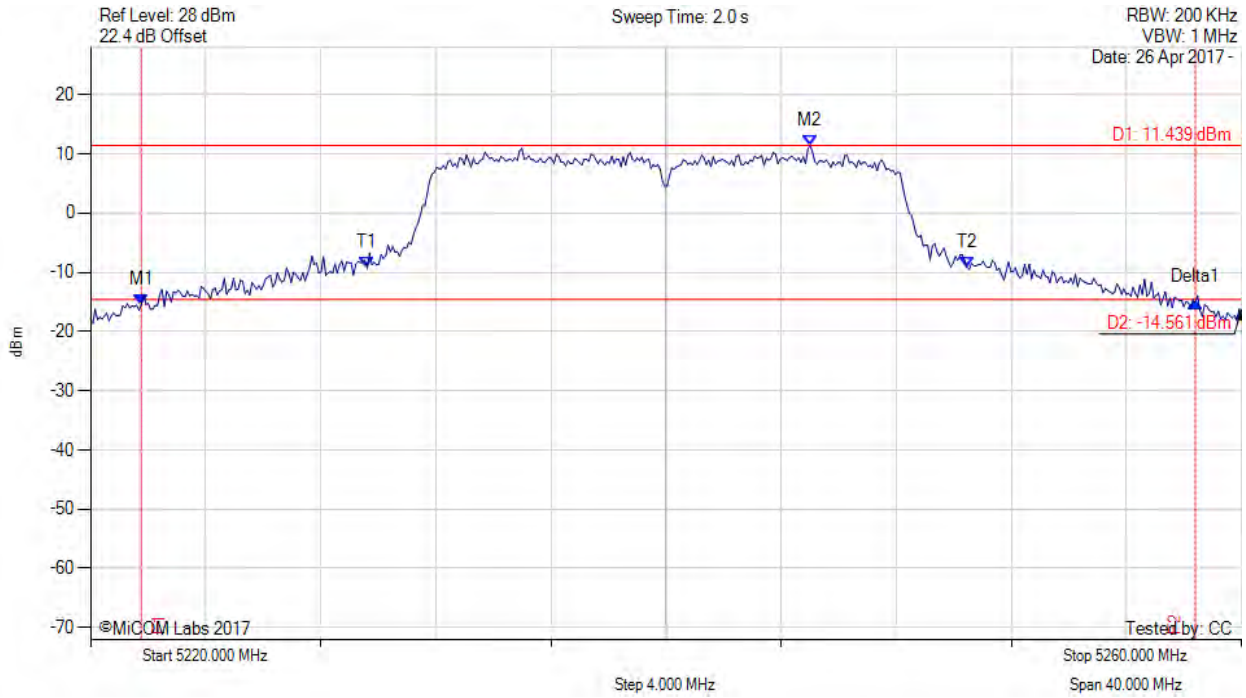


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5181.924 MHz : -17.403 dBm M2 : 5202.685 MHz : 9.316 dBm Delta1 : 36.152 MHz : 0.594 dB T1 : 5190.341 MHz : -8.711 dBm T2 : 5209.579 MHz : -8.919 dBm OBW : 19.238 MHz	Measured 26 dB Bandwidth: 36.152 MHz Measured 99% Bandwidth: 19.238 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5240.00 MHz, Chain a, Temp: 20, Voltage: 0 Vdc

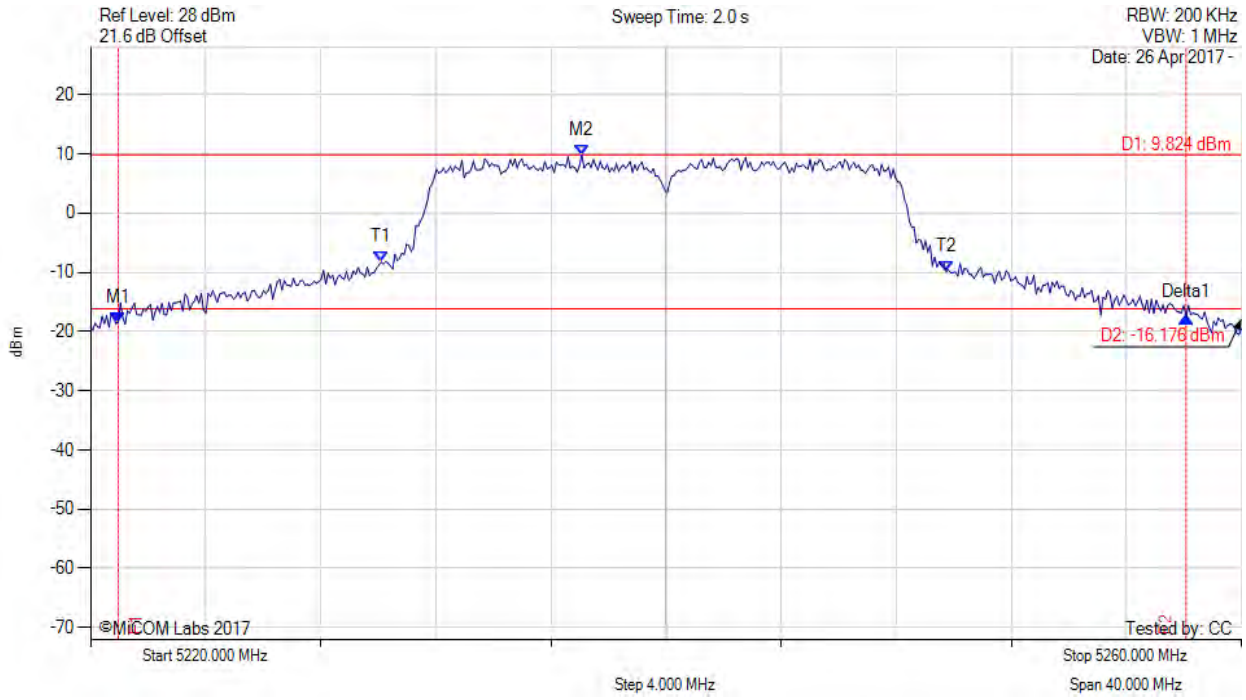


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5221.764 MHz : -15.481 dBm M2 : 5245.010 MHz : 11.439 dBm Delta1 : 36.633 MHz : 0.393 dB T1 : 5229.619 MHz : -9.283 dBm T2 : 5250.461 MHz : -9.169 dBm OBW : 20.842 MHz	Measured 26 dB Bandwidth: 36.633 MHz Measured 99% Bandwidth: 20.842 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5240.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc

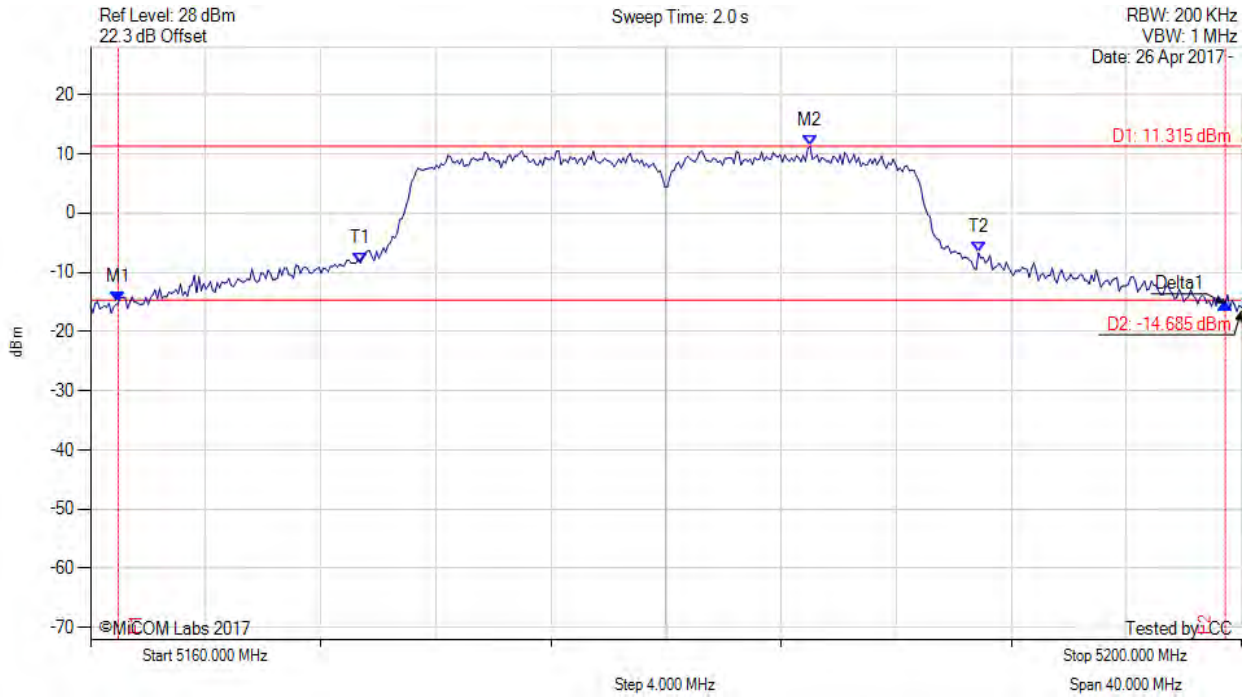


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5220.962 MHz : -18.434 dBm M2 : 5237.074 MHz : 9.824 dBm Delta1 : 37.114 MHz : 0.911 dB T1 : 5230.100 MHz : -8.284 dBm T2 : 5249.739 MHz : -9.818 dBm OBW : 19.639 MHz	Measured 26 dB Bandwidth: 37.114 MHz Measured 99% Bandwidth: 19.639 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5180.00 MHz, Chain a, Temp: 20, Voltage: 0 Vdc

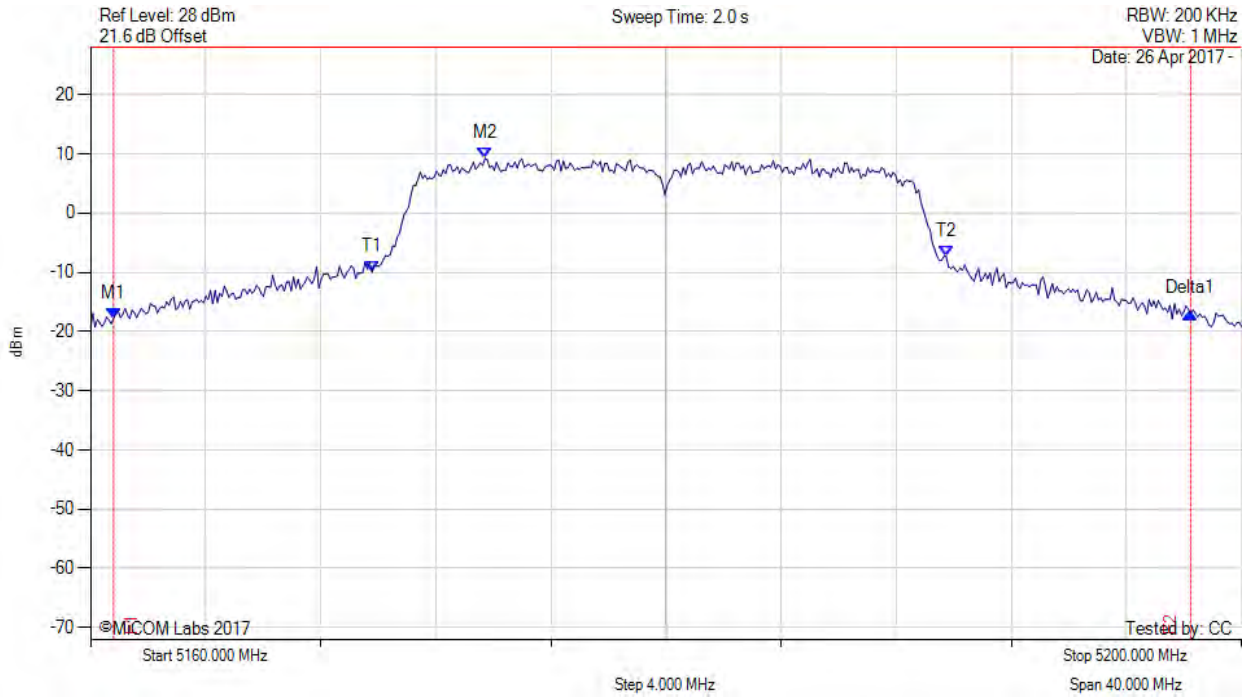


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5160.962 MHz : -15.130 dBm M2 : 5185.010 MHz : 11.315 dBm Delta1 : 38.477 MHz : -0.230 dB T1 : 5169.379 MHz : -8.424 dBm T2 : 5190.862 MHz : -6.692 dBm OBW : 21.483 MHz	Measured 26 dB Bandwidth: 38.477 MHz Measured 99% Bandwidth: 21.483 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5180.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc

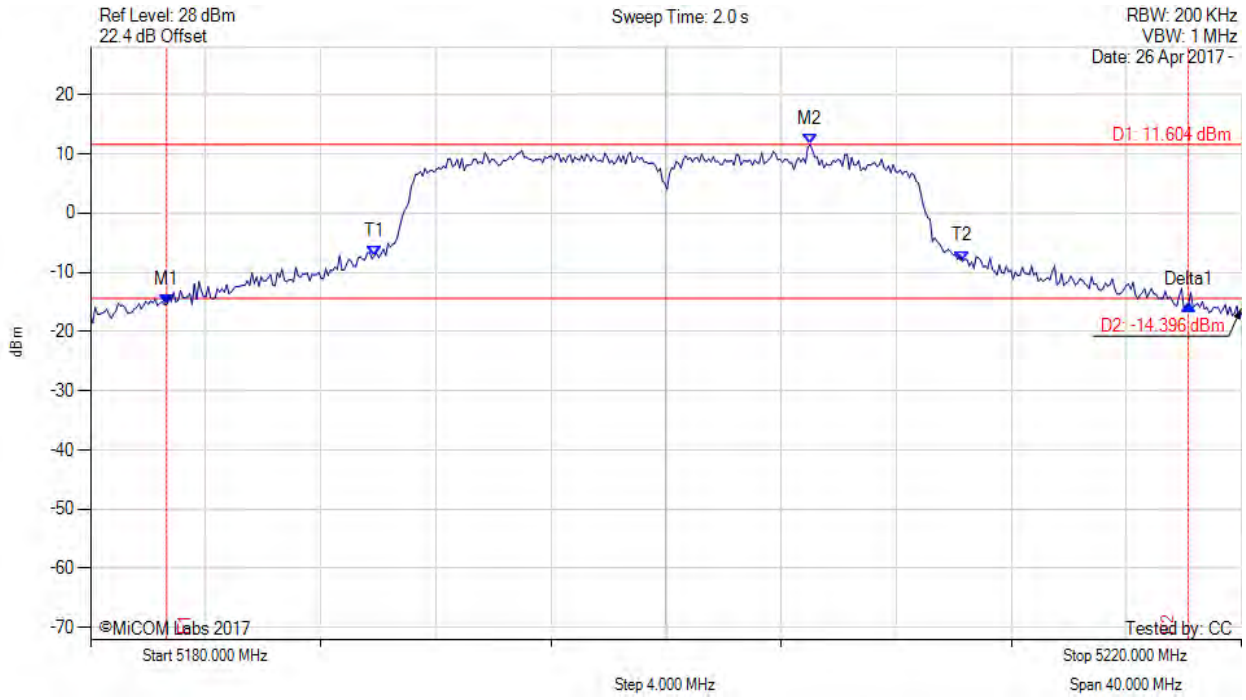


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5160.802 MHz : -17.745 dBm M2 : 5173.707 MHz : 9.220 dBm Delta1 : 37.435 MHz : 0.763 dB T1 : 5169.780 MHz : -9.966 dBm T2 : 5189.739 MHz : -7.344 dBm OBW : 19.960 MHz	Measured 26 dB Bandwidth: 37.435 MHz Measured 99% Bandwidth: 19.960 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5200.00 MHz, Chain a, Temp: 20, Voltage: 0 Vdc

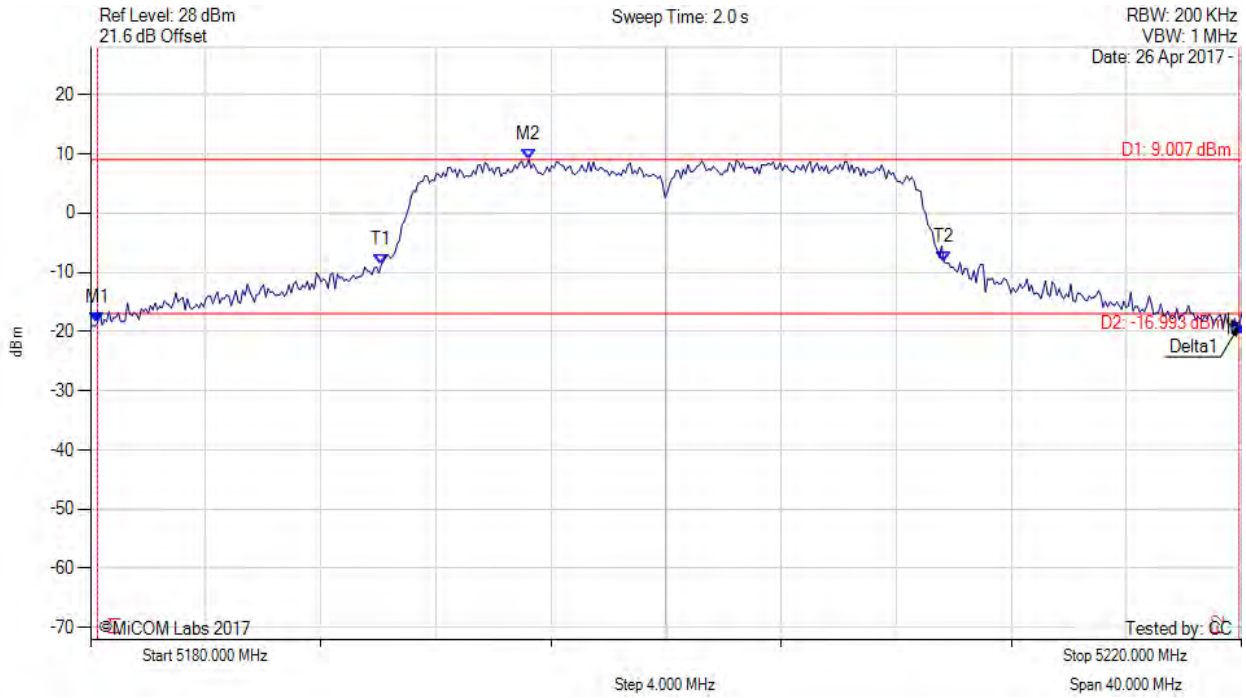


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5182.645 MHz : -15.435 dBm M2 : 5205.010 MHz : 11.604 dBm Delta1 : 35.511 MHz : -0.063 dB T1 : 5189.860 MHz : -7.247 dBm T2 : 5210.301 MHz : -8.140 dBm OBW : 20.441 MHz	Measured 26 dB Bandwidth: 35.511 MHz Measured 99% Bandwidth: 20.441 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5200.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc

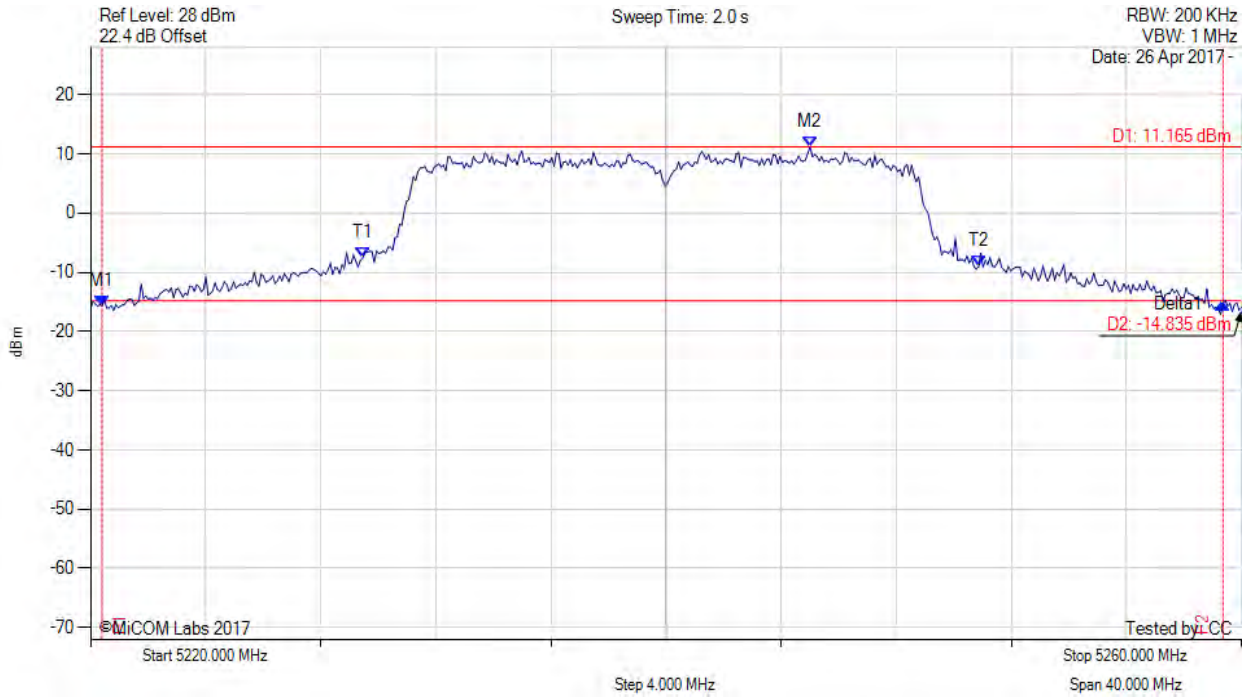


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5180.240 MHz : -18.544 dBm M2 : 5195.230 MHz : 9.007 dBm Delta1 : 39.679 MHz : -0.466 dB T1 : 5190.100 MHz : -8.729 dBm T2 : 5209.659 MHz : -8.221 dBm OBW : 19.559 MHz	Measured 26 dB Bandwidth: 39.679 MHz Measured 99% Bandwidth: 19.559 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5240.00 MHz, Chain a, Temp: 20, Voltage: 0 Vdc

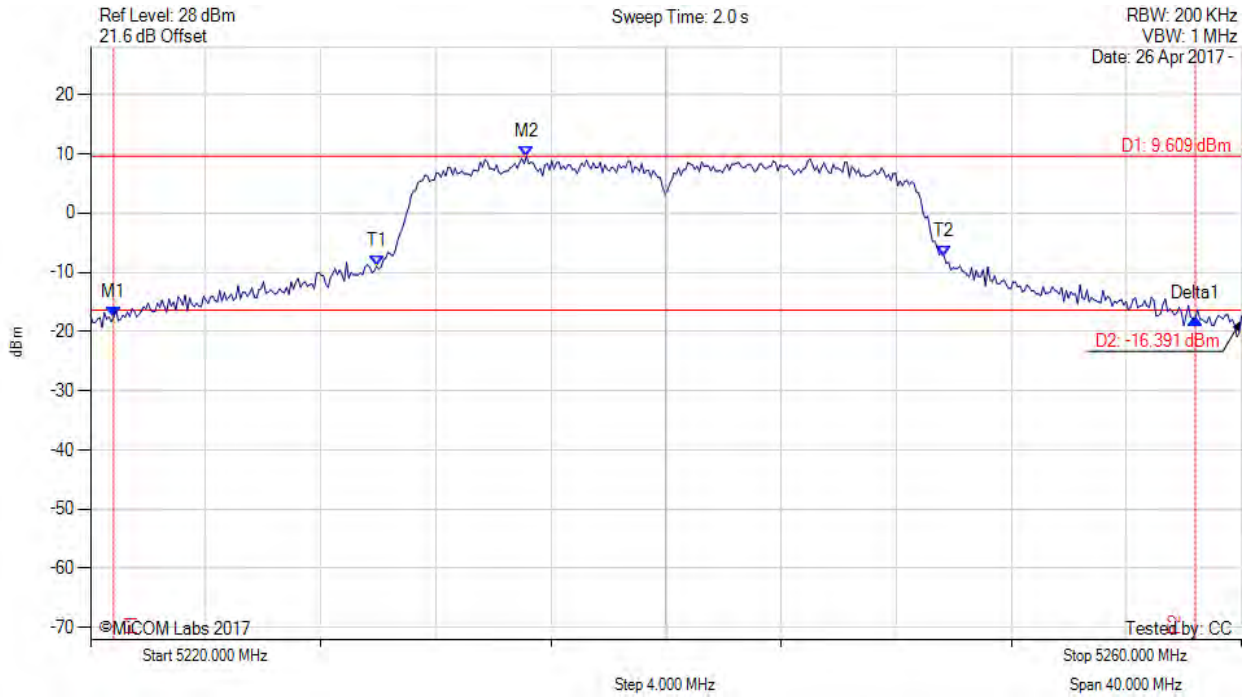


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5220.401 MHz : -15.634 dBm M2 : 5245.010 MHz : 11.165 dBm Delta1 : 38.958 MHz : 0.354 dB T1 : 5229.459 MHz : -7.619 dBm T2 : 5250.862 MHz : -9.047 dBm OBW : 21.403 MHz	Measured 26 dB Bandwidth: 38.958 MHz Measured 99% Bandwidth: 21.403 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5240.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc

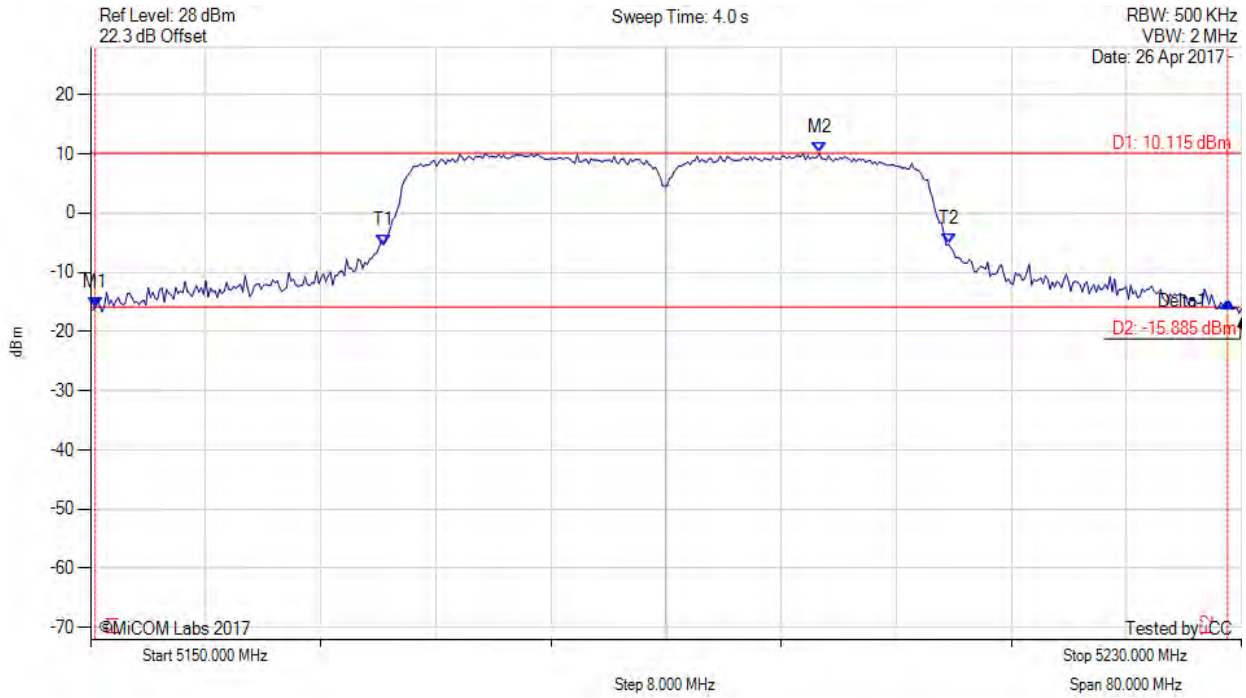


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5220.802 MHz : -17.550 dBm M2 : 5235.150 MHz : 9.609 dBm Delta1 : 37.595 MHz : -0.205 dB T1 : 5229.940 MHz : -8.980 dBm T2 : 5249.659 MHz : -7.304 dBm OBW : 19.719 MHz	Measured 26 dB Bandwidth: 37.595 MHz Measured 99% Bandwidth: 19.719 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5190.00 MHz, Chain a, Temp: 20, Voltage: 0 Vdc

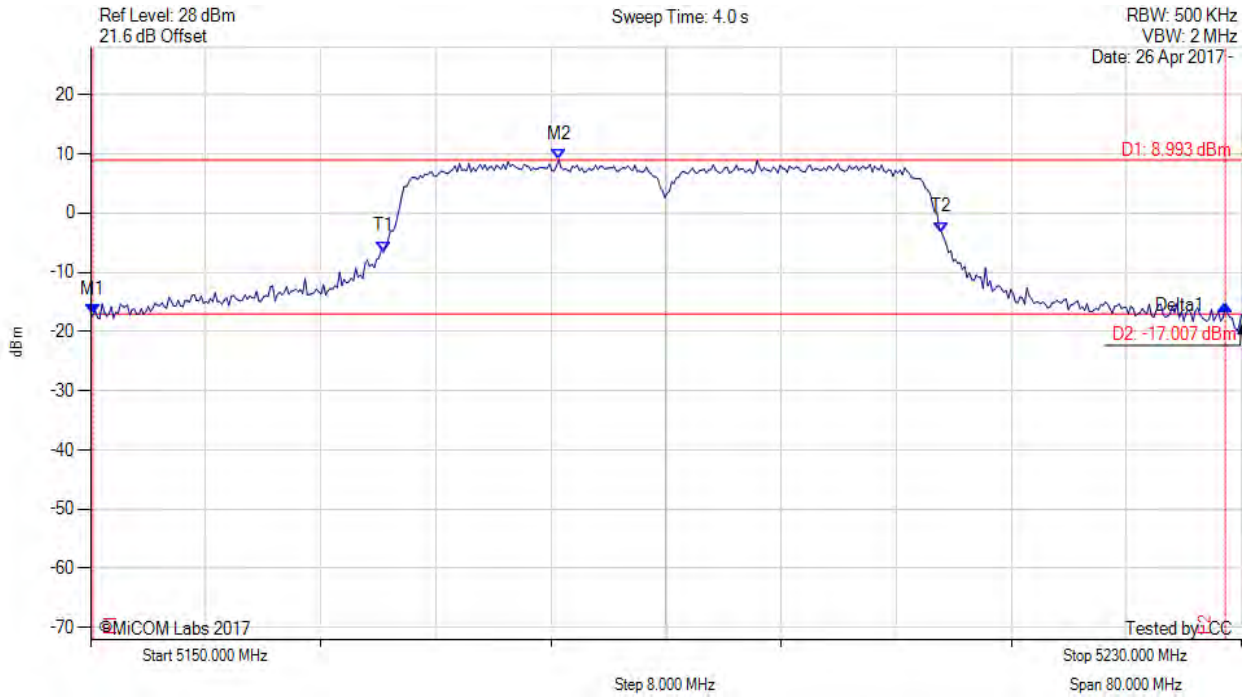


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5150.321 MHz : -15.959 dBm M2 : 5200.661 MHz : 10.115 dBm Delta1 : 78.717 MHz : 1.013 dB T1 : 5170.361 MHz : -5.384 dBm T2 : 5209.639 MHz : -5.284 dBm OBW : 39.279 MHz	Measured 26 dB Bandwidth: 78.717 MHz Measured 99% Bandwidth: 39.279 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5190.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc

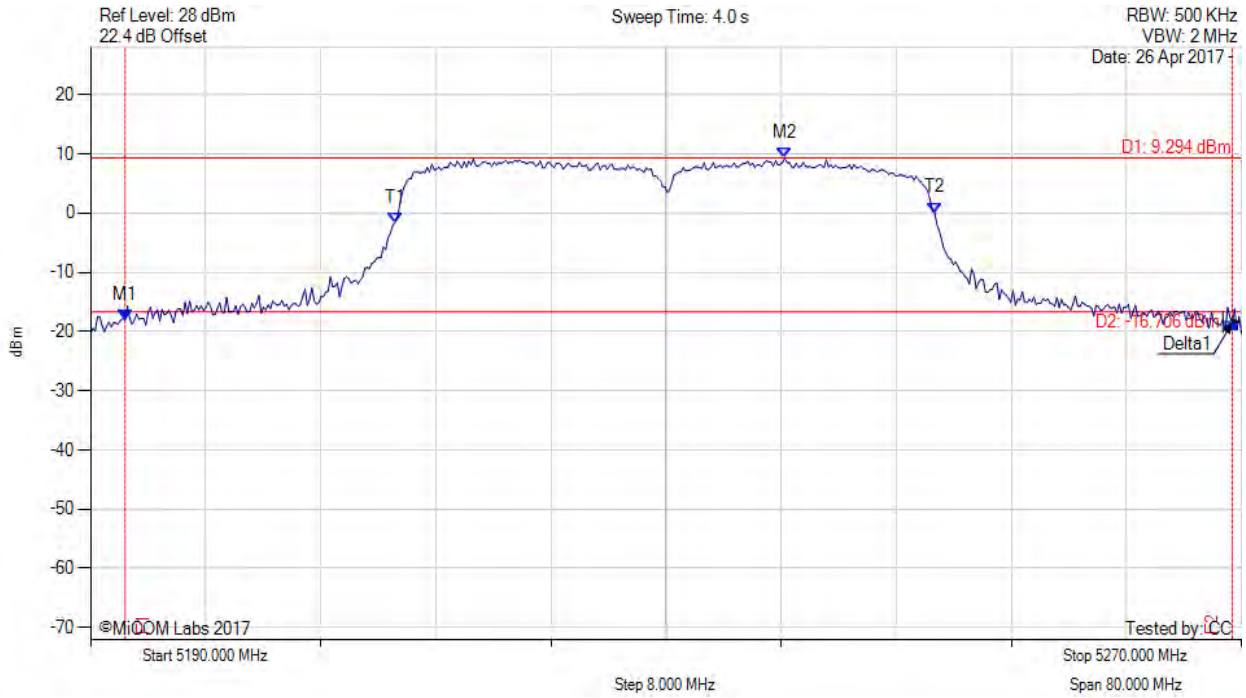


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5150.160 MHz : -17.228 dBm M2 : 5182.545 MHz : 8.993 dBm Delta1 : 78.717 MHz : 1.739 dB T1 : 5170.361 MHz : -6.502 dBm T2 : 5209.158 MHz : -3.232 dBm OBW : 38.798 MHz	Measured 26 dB Bandwidth: 78.717 MHz Measured 99% Bandwidth: 38.798 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5230.00 MHz, Chain a, Temp: 20, Voltage: 0 Vdc

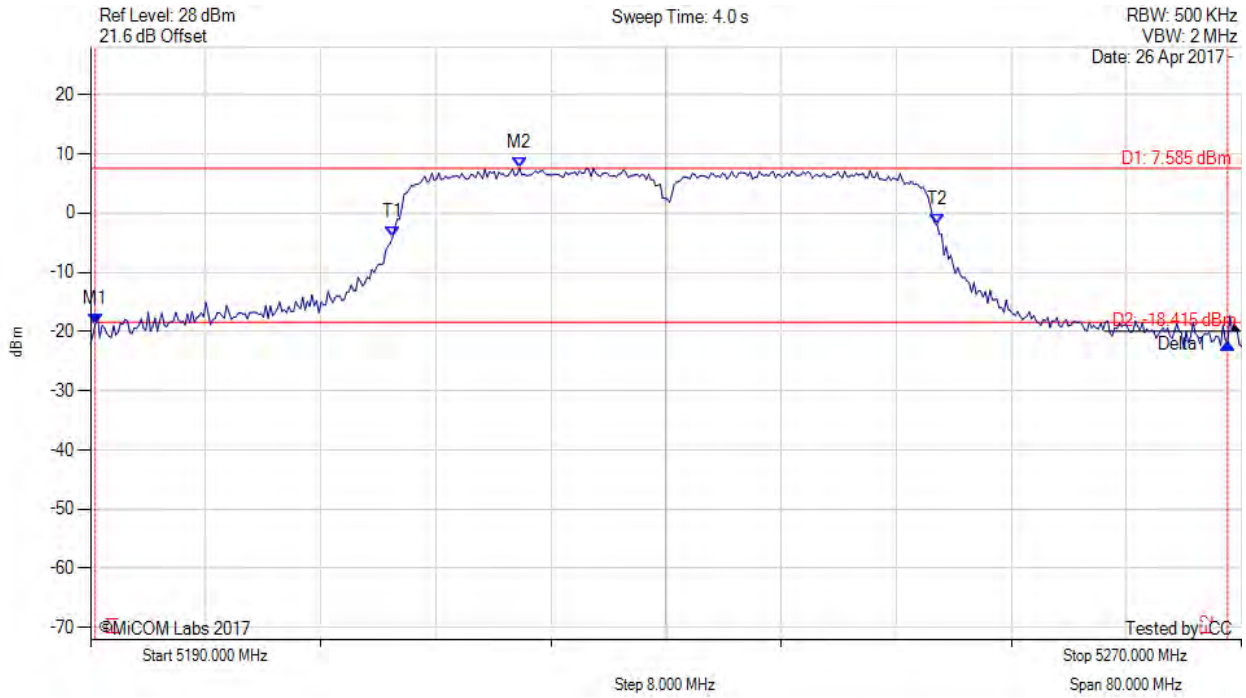


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5192.405 MHz : -17.971 dBm M2 : 5238.257 MHz : 9.294 dBm Delta1 : 76.954 MHz : -0.545 dB T1 : 5211.162 MHz : -1.628 dBm T2 : 5248.677 MHz : 0.046 dBm OBW : 37.515 MHz	Measured 26 dB Bandwidth: 76.954 MHz Measured 99% Bandwidth: 37.515 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5230.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5190.321 MHz : -18.817 dBm M2 : 5219.820 MHz : 7.585 dBm Delta1 : 78.717 MHz : -3.240 dB T1 : 5211.002 MHz : -4.070 dBm T2 : 5248.838 MHz : -1.874 dBm OBW : 37.836 MHz	Measured 26 dB Bandwidth: 78.717 MHz Measured 99% Bandwidth: 37.836 MHz

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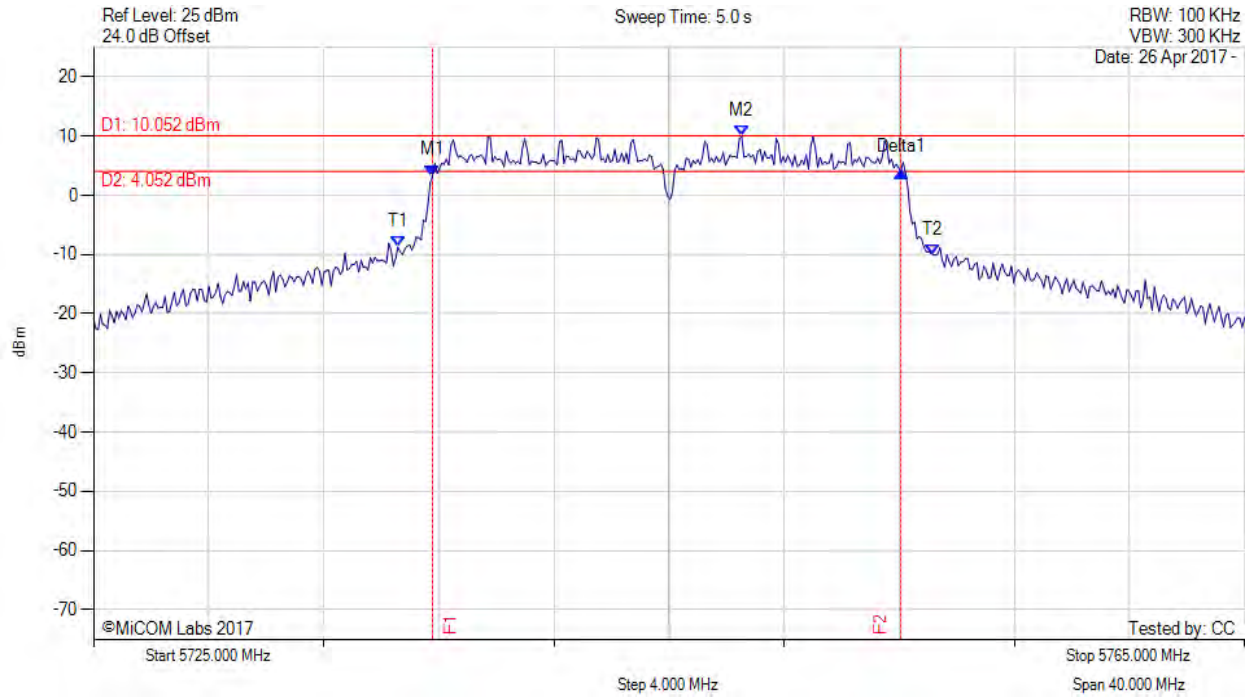
A.2. 6 dB & 99% Bandwidth

6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5745.00 MHz, Chain a, Temp: 20, Voltage: 0 Vdc

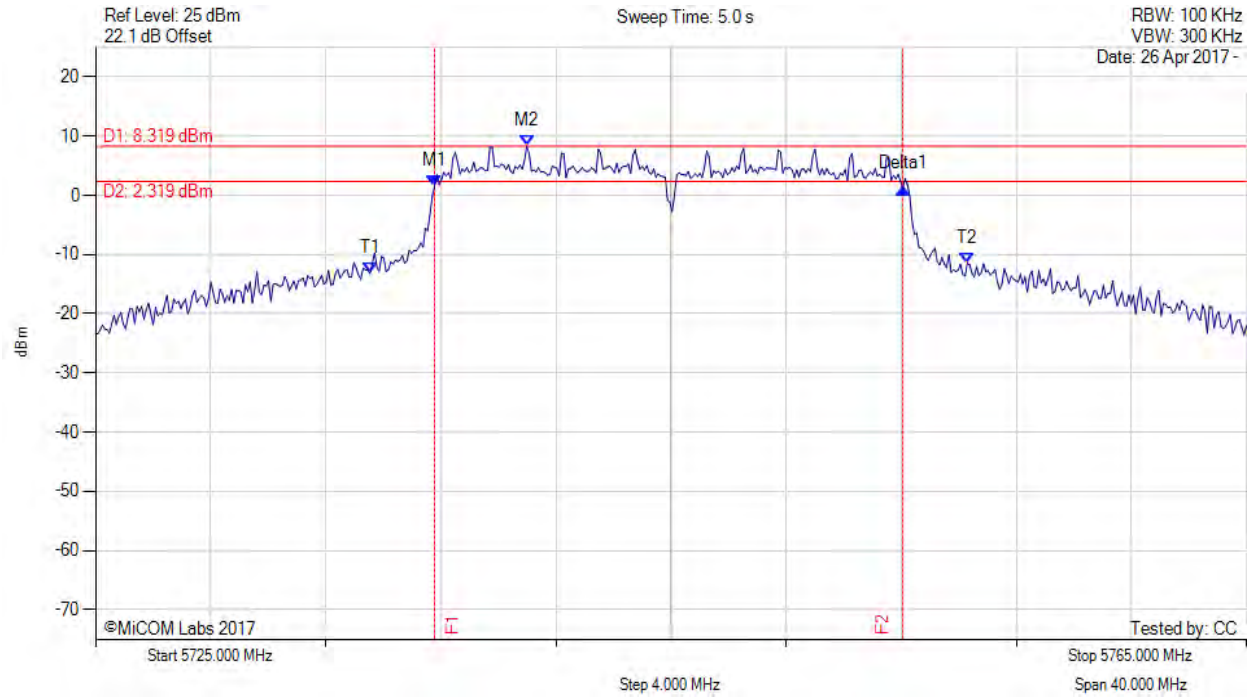


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5736.784 MHz : 3.359 dBm M2 : 5747.525 MHz : 10.052 dBm Delta1 : 16.273 MHz : 0.669 dB T1 : 5735.581 MHz : -8.740 dBm T2 : 5754.178 MHz : -10.025 dBm OBW : 18.597 MHz	Measured 6 dB Bandwidth: 16.273 MHz Measured 99% Bandwidth: 18.597 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5745.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc

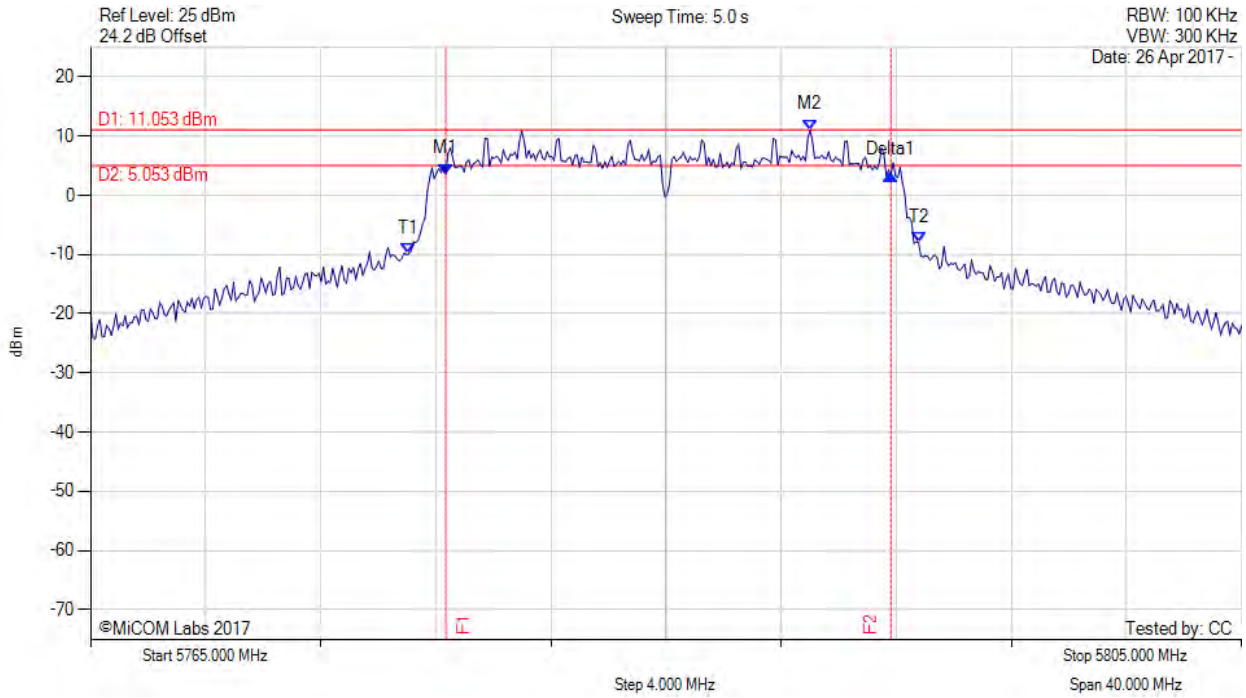


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5736.784 MHz : 1.522 dBm M2 : 5739.990 MHz : 8.319 dBm Delta1 : 16.273 MHz : -0.327 dB T1 : 5734.539 MHz : -13.182 dBm T2 : 5755.301 MHz : -11.481 dBm OBW : 20.762 MHz	Measured 6 dB Bandwidth: 16.273 MHz Measured 99% Bandwidth: 20.762 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5785.00 MHz, Chain a, Temp: 20, Voltage: 0 Vdc

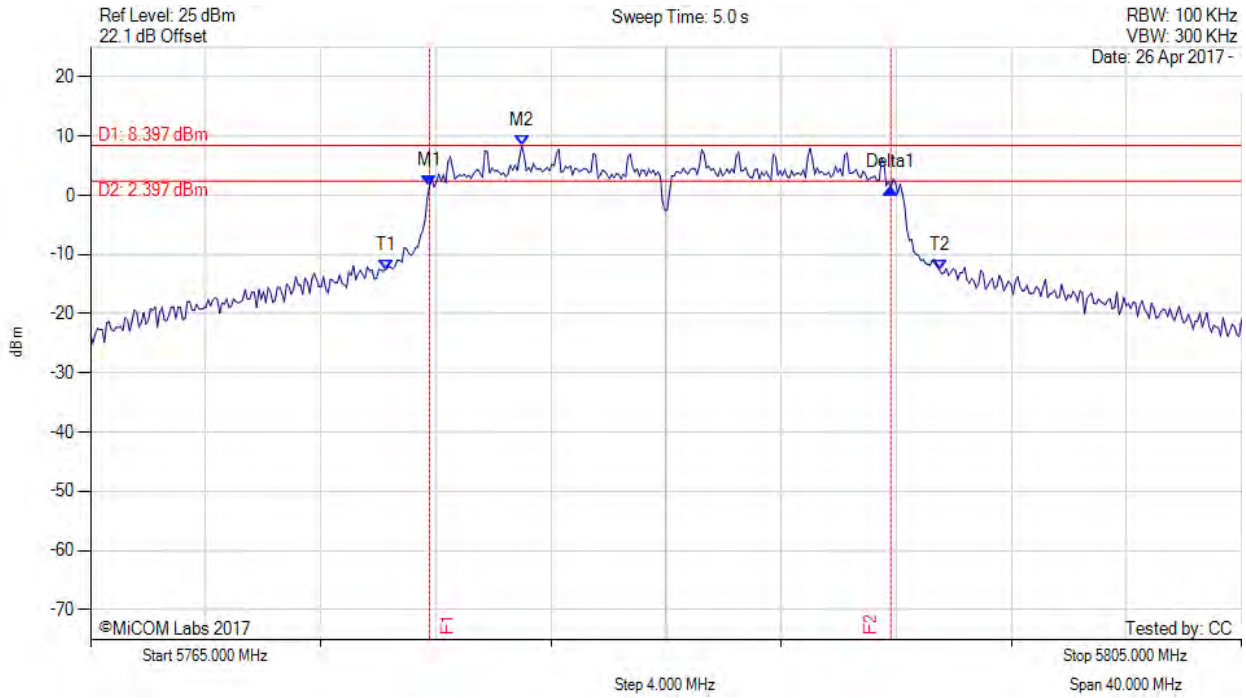


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5777.345 MHz : 3.587 dBm M2 : 5790.010 MHz : 11.053 dBm Delta1 : 15.471 MHz : -0.116 dB T1 : 5776.062 MHz : -9.901 dBm T2 : 5793.778 MHz : -7.943 dBm OBW : 17.715 MHz	Measured 6 dB Bandwidth: 15.471 MHz Measured 99% Bandwidth: 17.715 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5785.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc

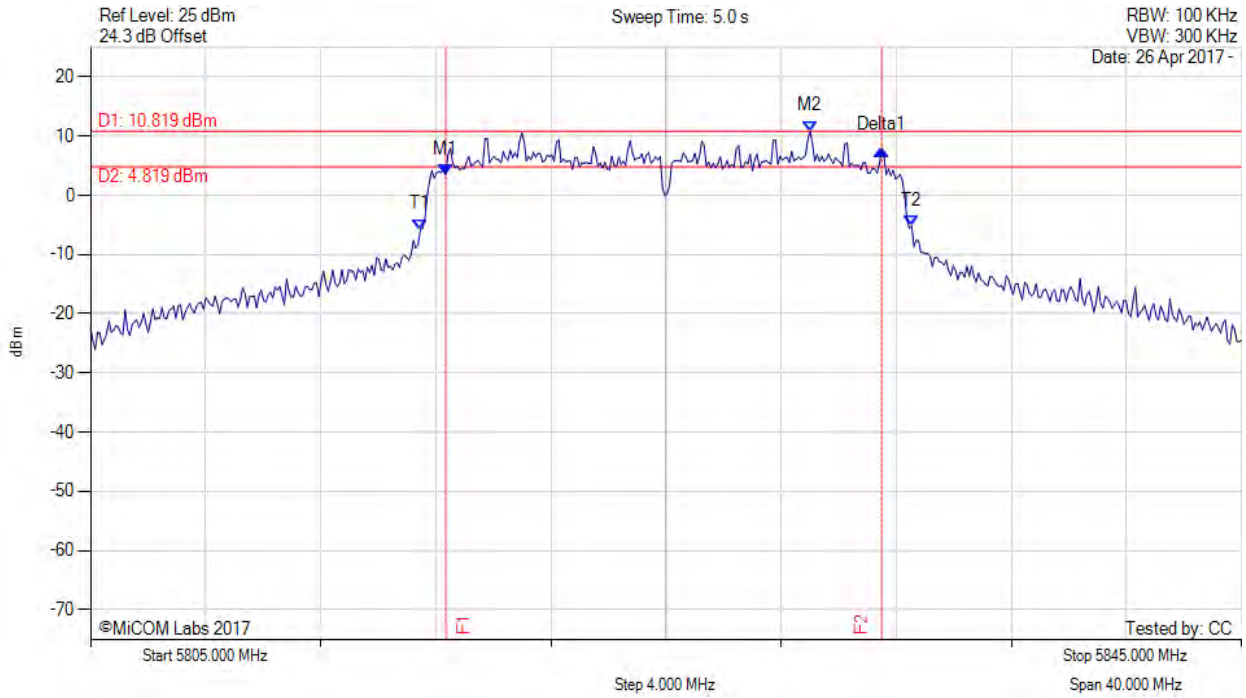


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5776.784 MHz : 1.557 dBm M2 : 5779.990 MHz : 8.397 dBm Delta1 : 16.032 MHz : -0.313 dB T1 : 5775.261 MHz : -12.553 dBm T2 : 5794.499 MHz : -12.575 dBm OBW : 19.238 MHz	Measured 6 dB Bandwidth: 16.032 MHz Measured 99% Bandwidth: 19.238 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5825.00 MHz, Chain a, Temp: 20, Voltage: 0 Vdc

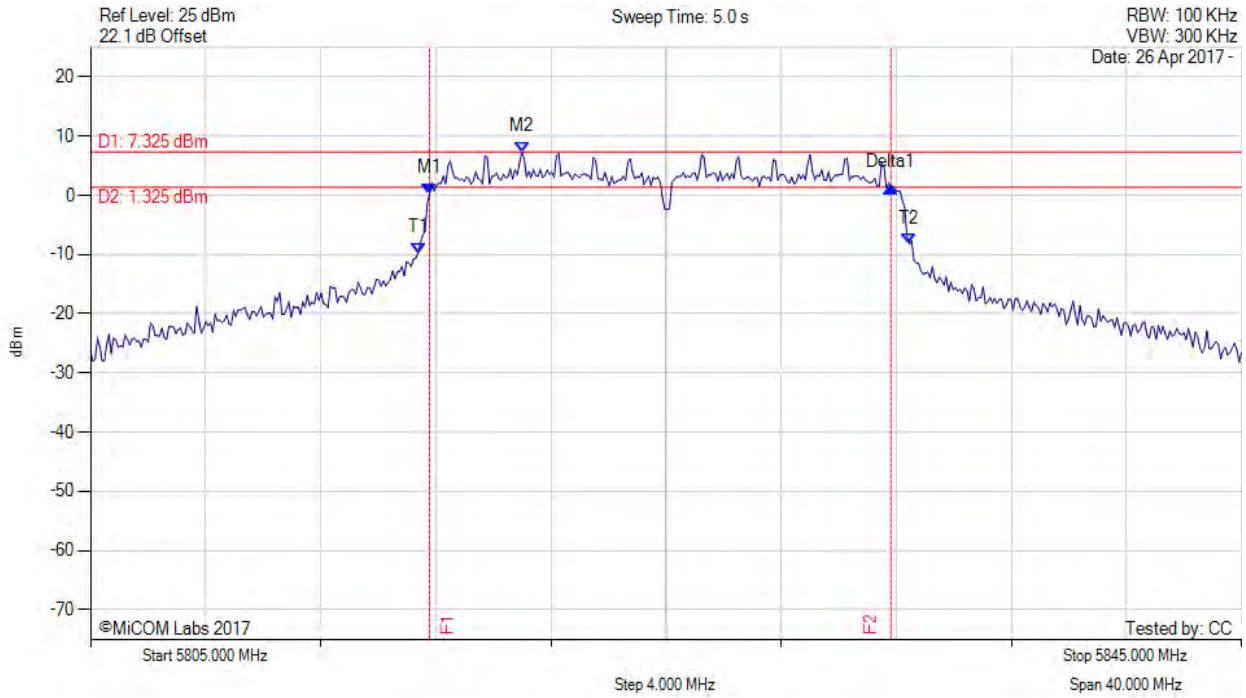


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5817.345 MHz : 3.507 dBm M2 : 5830.010 MHz : 10.819 dBm Delta1 : 15.150 MHz : 4.220 dB T1 : 5816.463 MHz : -5.769 dBm T2 : 5833.537 MHz : -5.120 dBm OBW : 17.074 MHz	Measured 6 dB Bandwidth: 15.150 MHz Measured 99% Bandwidth: 17.074 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5825.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc

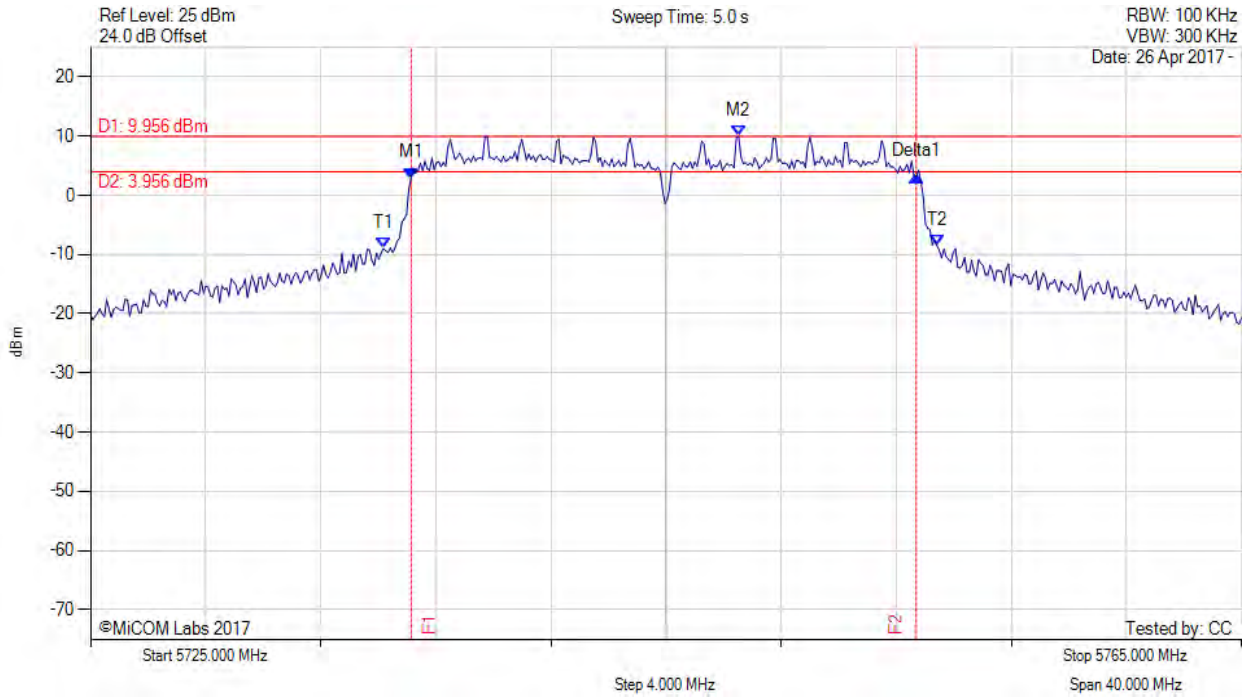


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5816.784 MHz : 0.327 dBm M2 : 5819.990 MHz : 7.325 dBm Delta1 : 16.032 MHz : 1.121 dB T1 : 5816.383 MHz : -9.742 dBm T2 : 5833.457 MHz : -8.266 dBm OBW : 17.074 MHz	Measured 6 dB Bandwidth: 16.032 MHz Measured 99% Bandwidth: 17.074 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain a, Temp: 20, Voltage: 0 Vdc

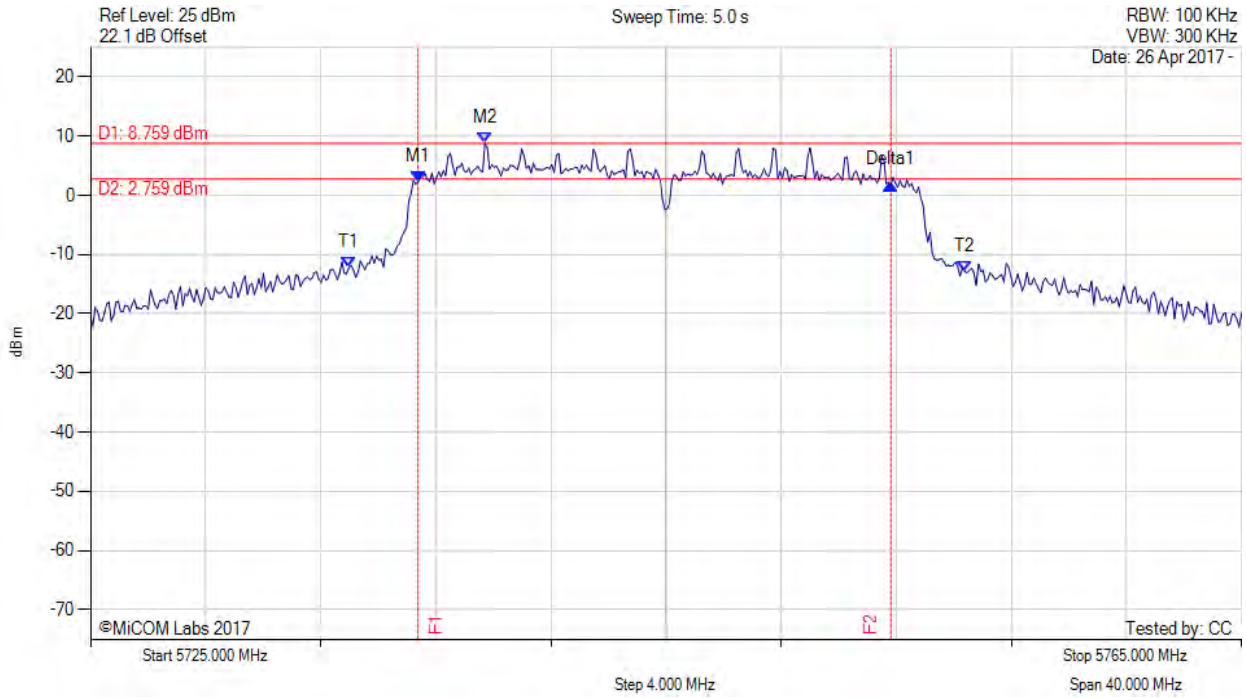


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5736.142 MHz : 2.889 dBm M2 : 5747.525 MHz : 9.956 dBm Delta1 : 17.555 MHz : 0.260 dB T1 : 5735.180 MHz : -9.014 dBm T2 : 5754.419 MHz : -8.477 dBm OBW : 19.238 MHz	Measured 6 dB Bandwidth: 17.555 MHz Measured 99% Bandwidth: 19.238 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc

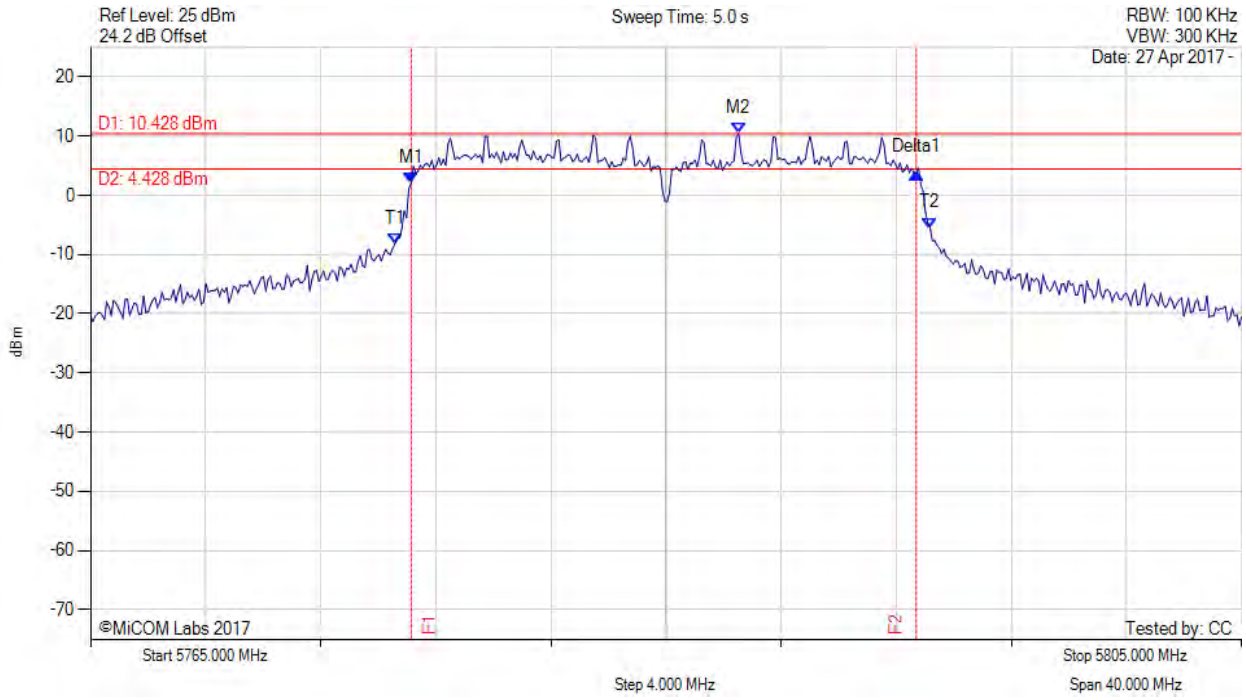


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5736.383 MHz : 2.244 dBm M2 : 5738.707 MHz : 8.759 dBm Delta1 : 16.433 MHz : -0.458 dB T1 : 5733.978 MHz : -12.216 dBm T2 : 5755.381 MHz : -12.842 dBm OBW : 21.403 MHz	Measured 6 dB Bandwidth: 16.433 MHz Measured 99% Bandwidth: 21.403 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain a, Temp: 20, Voltage: 0 Vdc

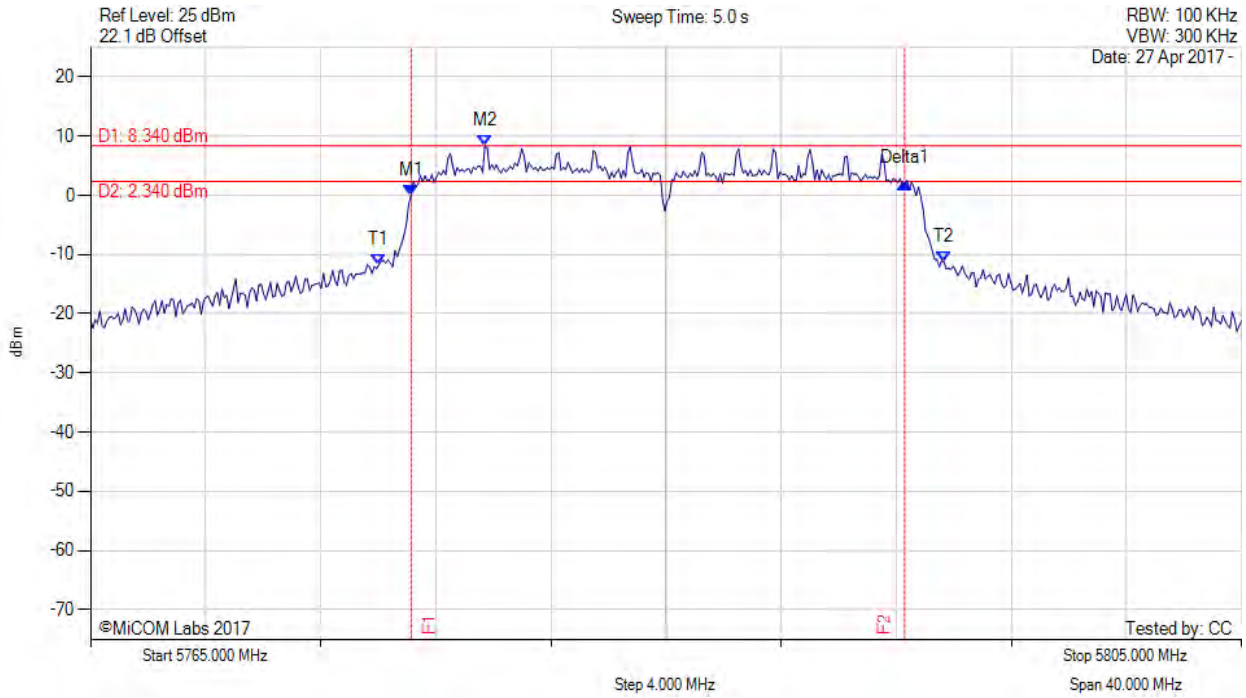


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5776.142 MHz : 2.072 dBm M2 : 5787.525 MHz : 10.428 dBm Delta1 : 17.555 MHz : 1.753 dB T1 : 5775.581 MHz : -8.142 dBm T2 : 5794.178 MHz : -5.524 dBm OBW : 18.597 MHz	Measured 6 dB Bandwidth: 17.555 MHz Measured 99% Bandwidth: 18.597 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc

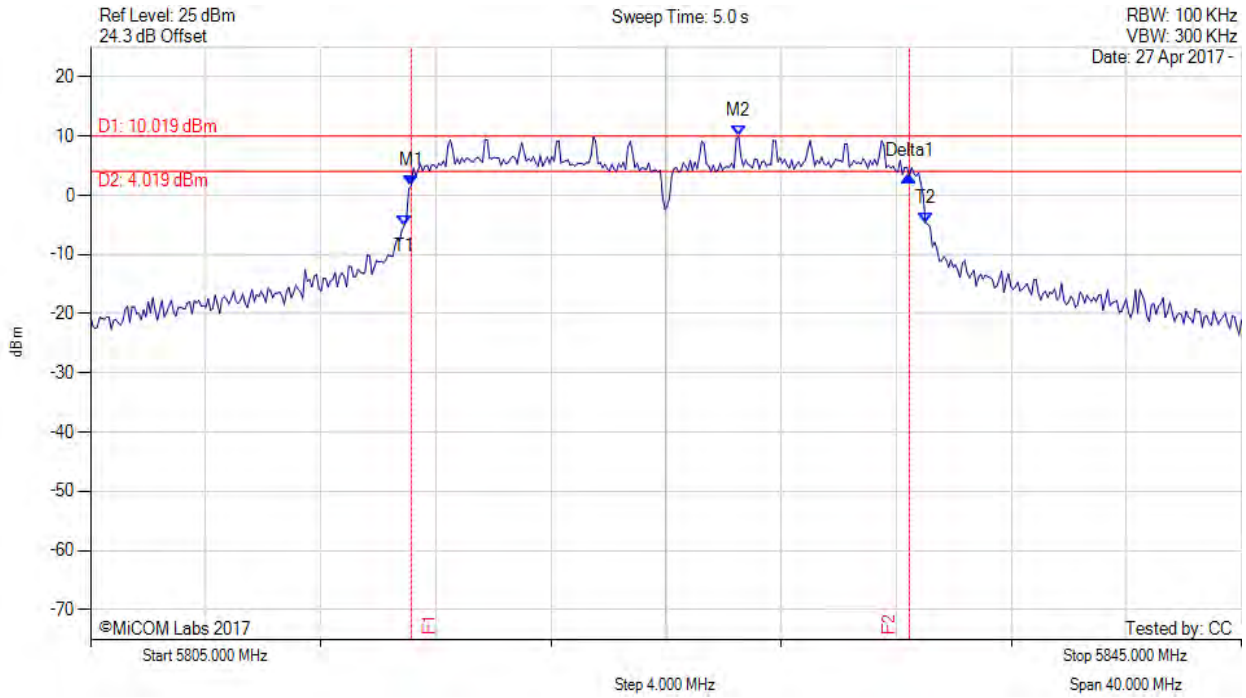


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5776.142 MHz : 0.003 dBm M2 : 5778.707 MHz : 8.340 dBm Delta1 : 17.154 MHz : 2.137 dB T1 : 5775.020 MHz : -11.729 dBm T2 : 5794.659 MHz : -11.262 dBm OBW : 19.639 MHz	Measured 6 dB Bandwidth: 17.154 MHz Measured 99% Bandwidth: 19.639 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain a, Temp: 20, Voltage: 0 Vdc

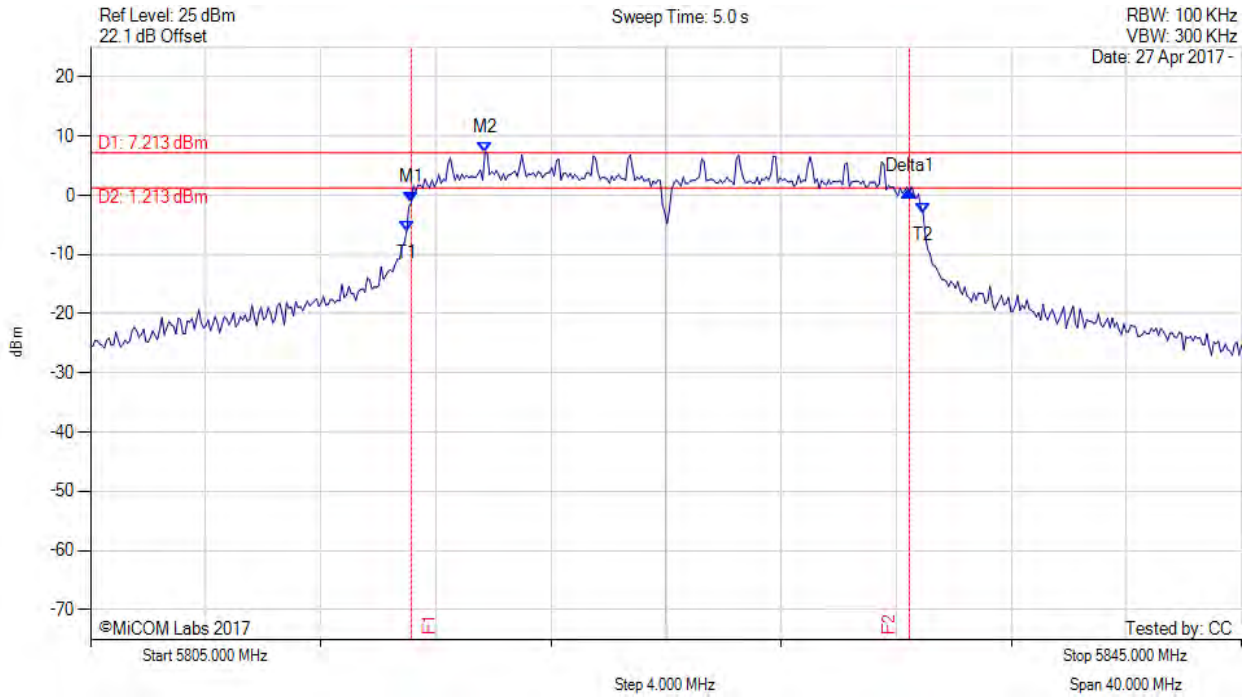


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5816.142 MHz : 1.590 dBm M2 : 5827.525 MHz : 10.019 dBm Delta1 : 17.315 MHz : 1.607 dB T1 : 5815.902 MHz : -5.128 dBm T2 : 5834.018 MHz : -4.705 dBm OBW : 18.116 MHz	Measured 6 dB Bandwidth: 17.315 MHz Measured 99% Bandwidth: 18.116 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc

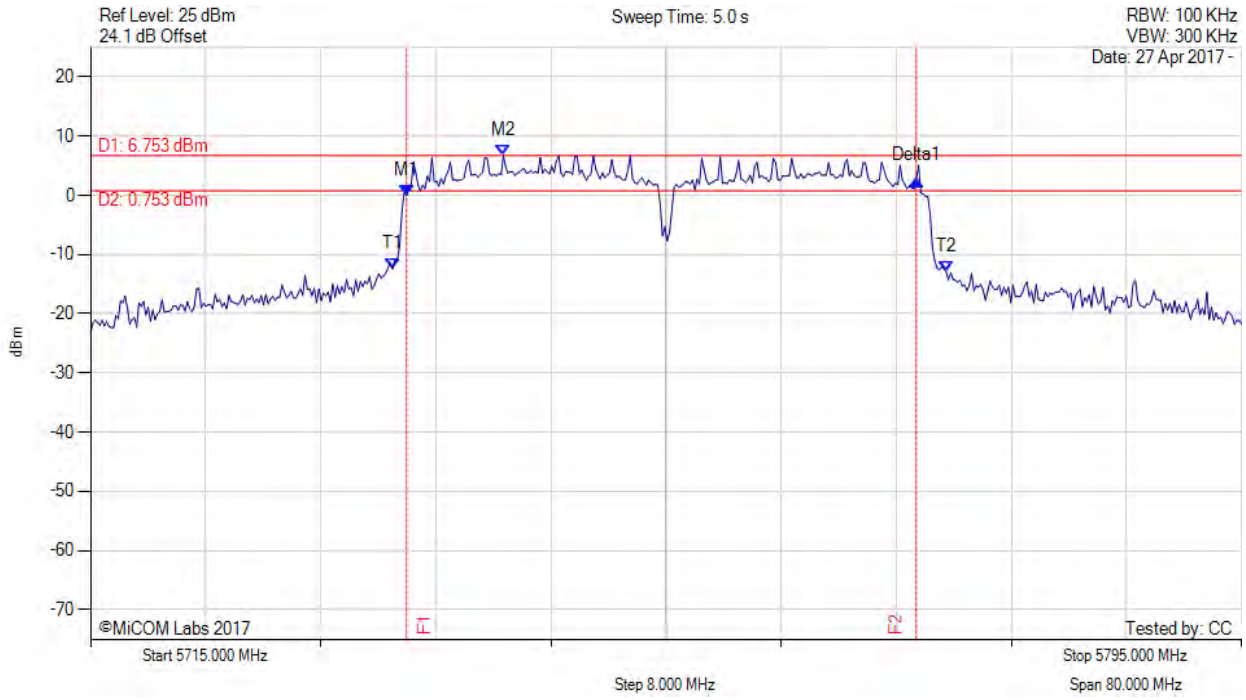


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5816.142 MHz : -1.300 dBm M2 : 5818.707 MHz : 7.213 dBm Delta1 : 17.315 MHz : 1.938 dB T1 : 5815.982 MHz : -6.196 dBm T2 : 5833.938 MHz : -3.149 dBm OBW : 17.956 MHz	Measured 6 dB Bandwidth: 17.315 MHz Measured 99% Bandwidth: 17.956 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain a, Temp: 20, Voltage: 0 Vdc

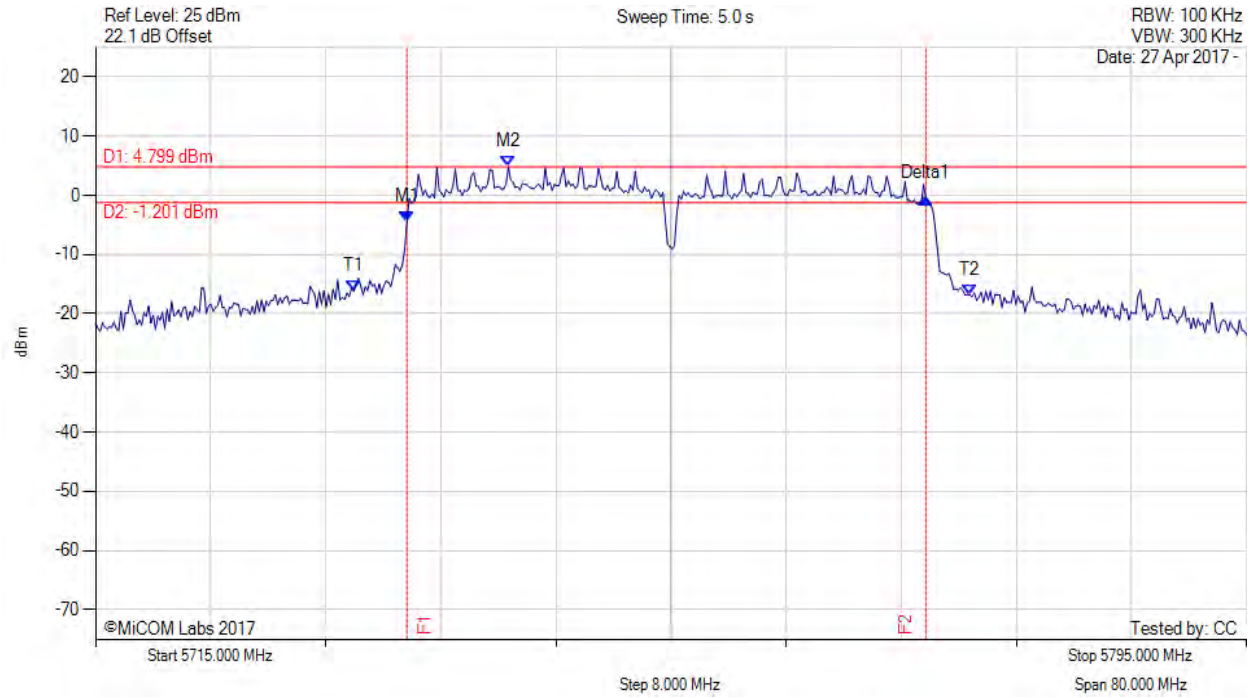


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5736.964 MHz : -0.027 dBm M2 : 5743.697 MHz : 6.753 dBm Delta1 : 35.431 MHz : 2.626 dB T1 : 5736.002 MHz : -12.380 dBm T2 : 5774.479 MHz : -12.942 dBm OBW : 38.477 MHz	Measured 6 dB Bandwidth: 35.431 MHz Measured 99% Bandwidth: 38.477 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc

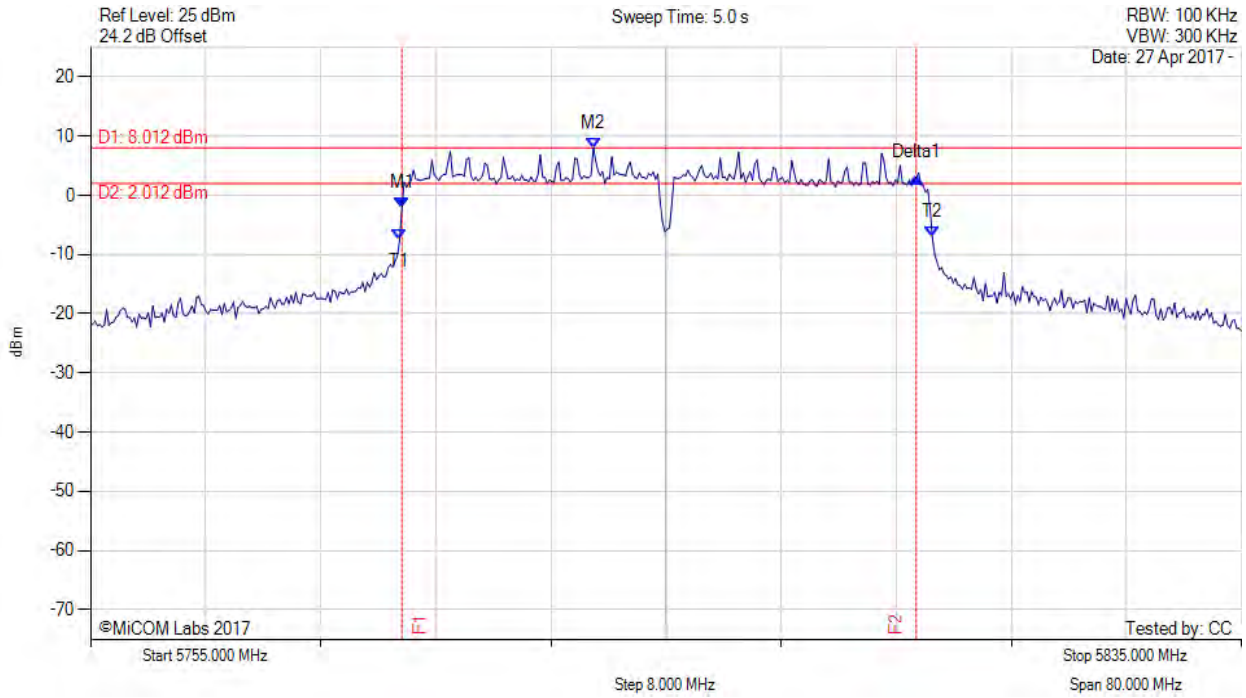


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5736.643 MHz : -4.524 dBm M2 : 5743.697 MHz : 4.799 dBm Delta1 : 36.072 MHz : 4.029 dB T1 : 5732.956 MHz : -16.177 dBm T2 : 5775.762 MHz : -16.812 dBm OBW : 42.806 MHz	Measured 6 dB Bandwidth: 36.072 MHz Measured 99% Bandwidth: 42.806 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain a, Temp: 20, Voltage: 0 Vdc

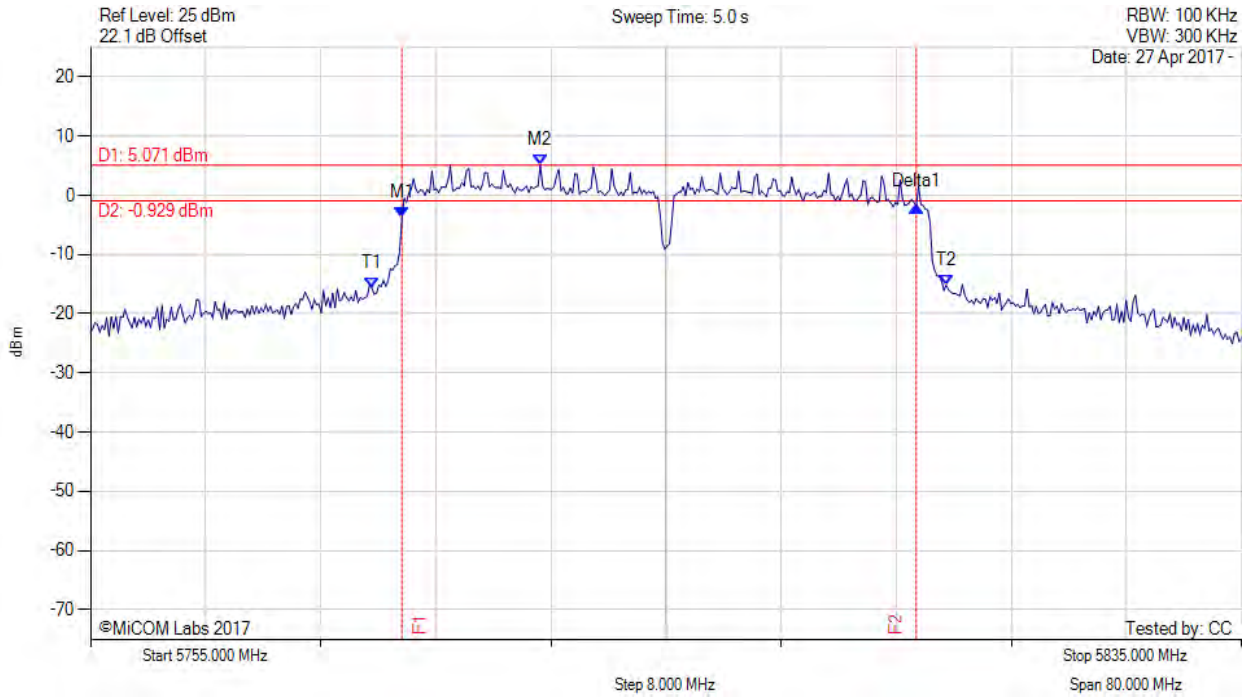


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5776.643 MHz : -2.039 dBm M2 : 5789.950 MHz : 8.012 dBm Delta1 : 35.752 MHz : 4.983 dB T1 : 5776.483 MHz : -7.589 dBm T2 : 5813.517 MHz : -7.080 dBm OBW : 37.034 MHz	Measured 6 dB Bandwidth: 35.752 MHz Measured 99% Bandwidth: 37.034 MHz

back to matrix

6 dB & 99% BANDWIDTH

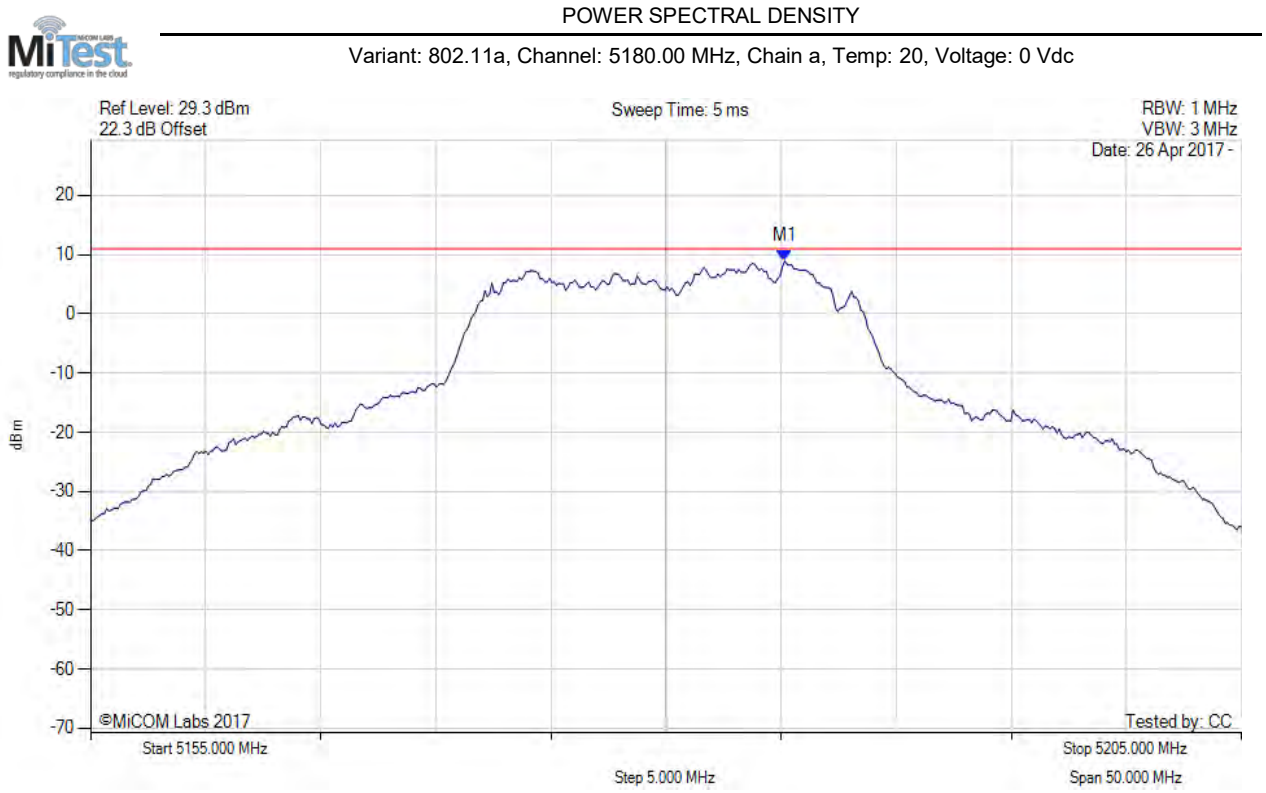
Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5776.643 MHz : -3.859 dBm M2 : 5786.263 MHz : 5.071 dBm Delta1 : 35.752 MHz : 2.052 dB T1 : 5774.559 MHz : -15.677 dBm T2 : 5814.479 MHz : -15.173 dBm OBW : 39.920 MHz	Measured 6 dB Bandwidth: 35.752 MHz Measured 99% Bandwidth: 39.920 MHz

back to matrix

A.3. Power Spectral Density

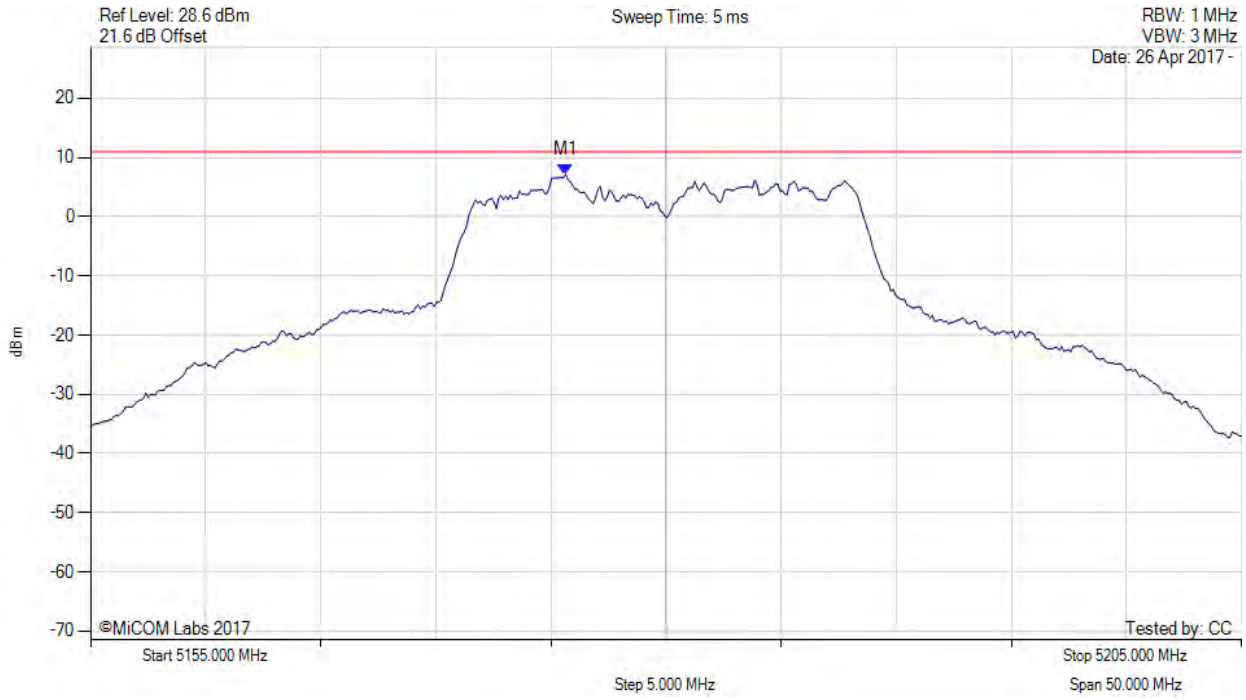


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5185.160 MHz : 8.899 dBm	Limit: ≤ 10.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5180.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc

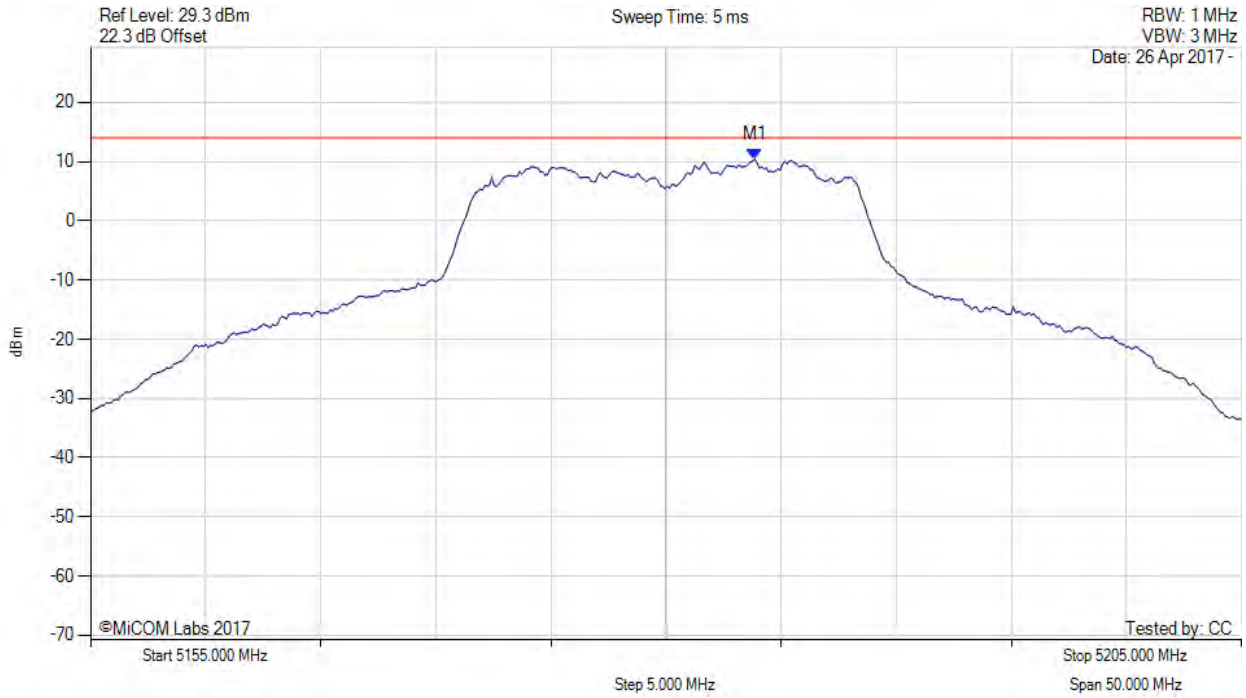


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5175.641 MHz : 7.127 dBm	Limit: ≤ 10.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5180.00 MHz, SUM, Temp: 20, Voltage: 0 Vdc

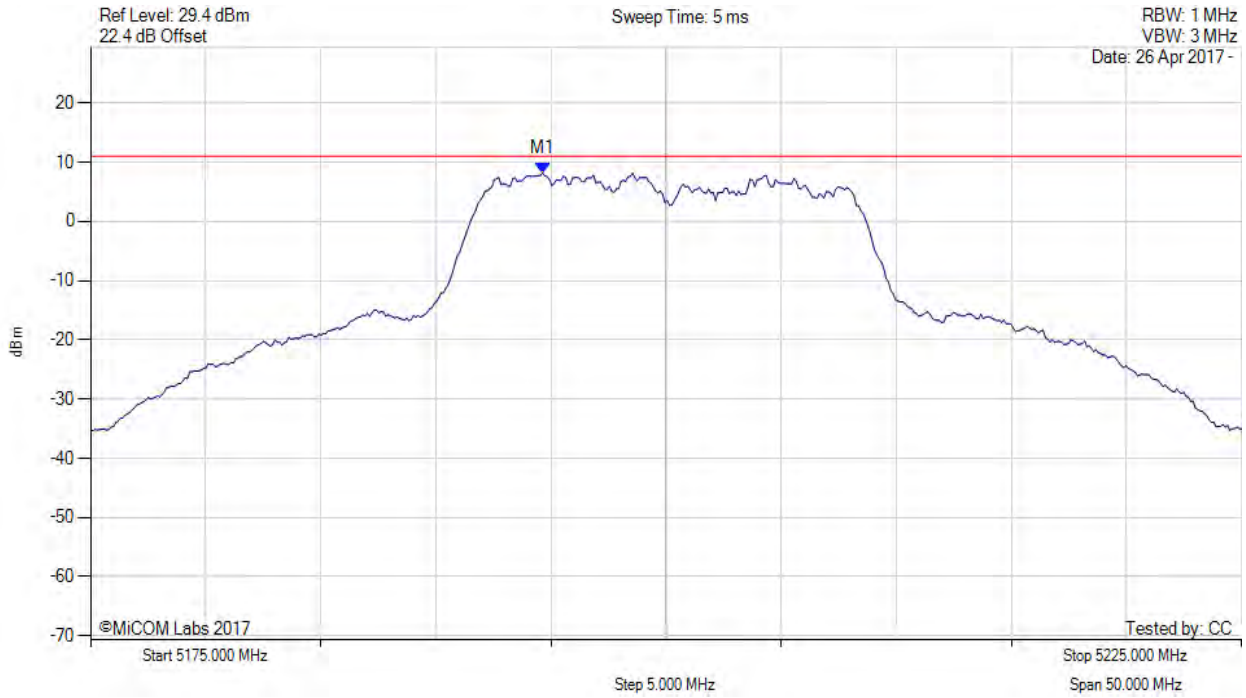


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5183.900 MHz : 10.403 dBm M1 + DCCF : 5183.900 MHz : 10.765 dBm Duty Cycle Correction Factor : +0.36 dB	Limit: ≤ 14.0 dBm Margin: -3.2 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5200.00 MHz, Chain a, Temp: 20, Voltage: 0 Vdc

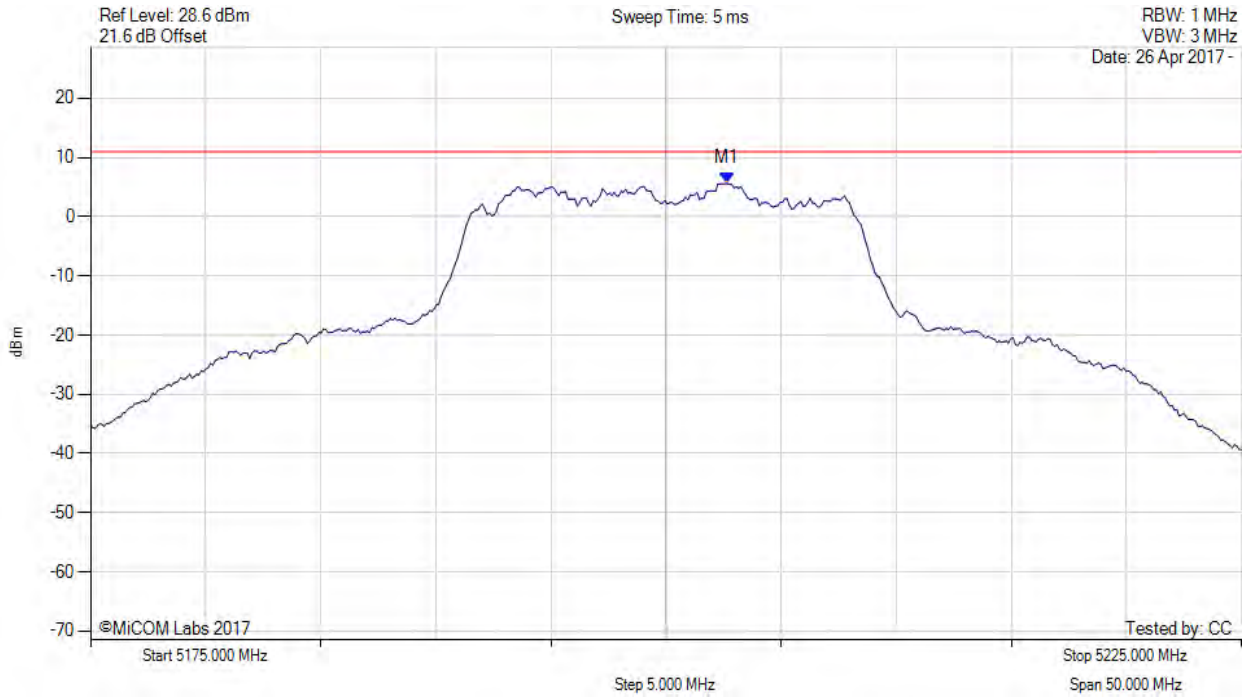


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5194.639 MHz : 8.196 dBm	Limit: ≤ 10.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5200.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc

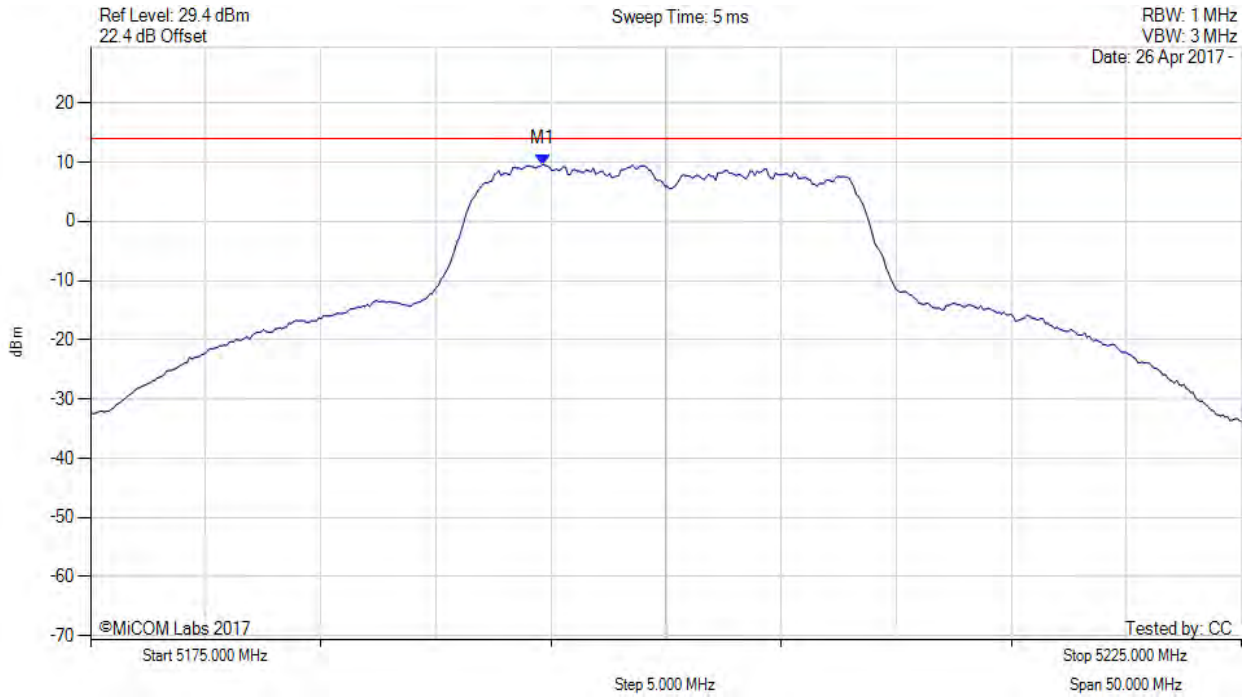


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5202.655 MHz : 5.610 dBm	Channel Frequency: 5200.00 MHz

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5200.00 MHz, SUM, Temp: 20, Voltage: 0 Vdc

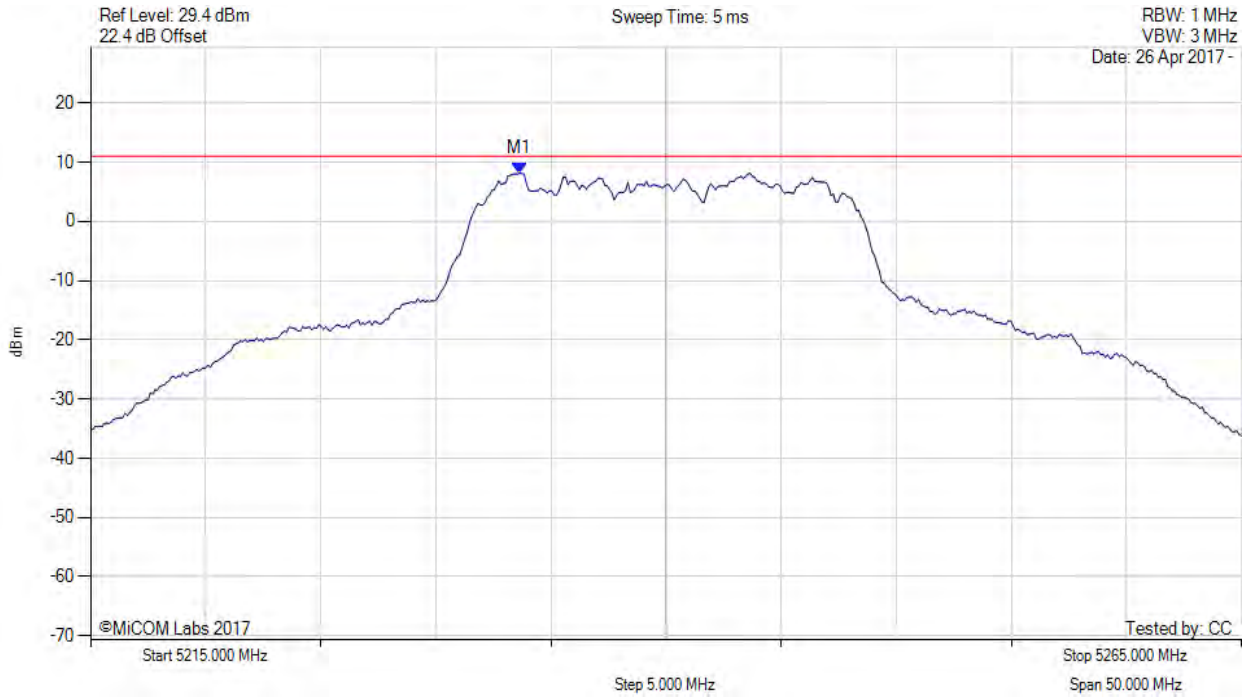


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5194.600 MHz : 9.611 dBm M1 + DCCF : 5194.600 MHz : 9.973 dBm Duty Cycle Correction Factor : +0.36 dB	Limit: ≤ 14.0 dBm Margin: -4.0 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5240.00 MHz, Chain a, Temp: 20, Voltage: 0 Vdc

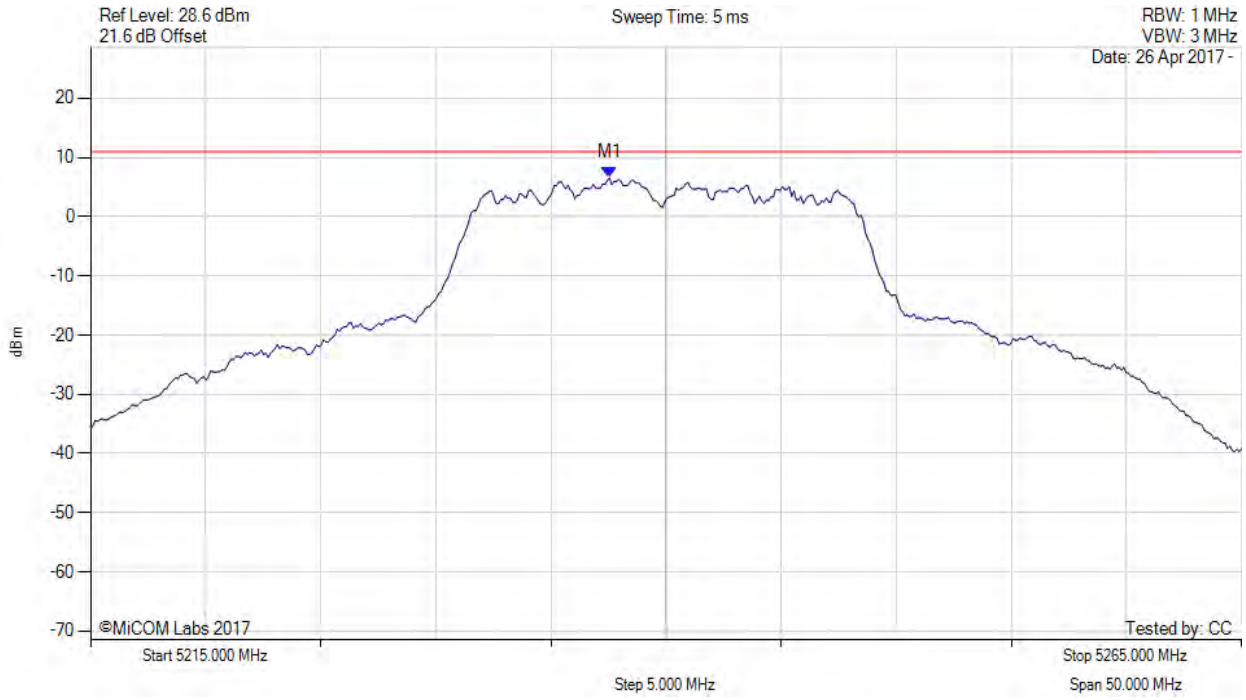


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5233.637 MHz : 8.142 dBm	Limit: ≤ 10.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5240.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc

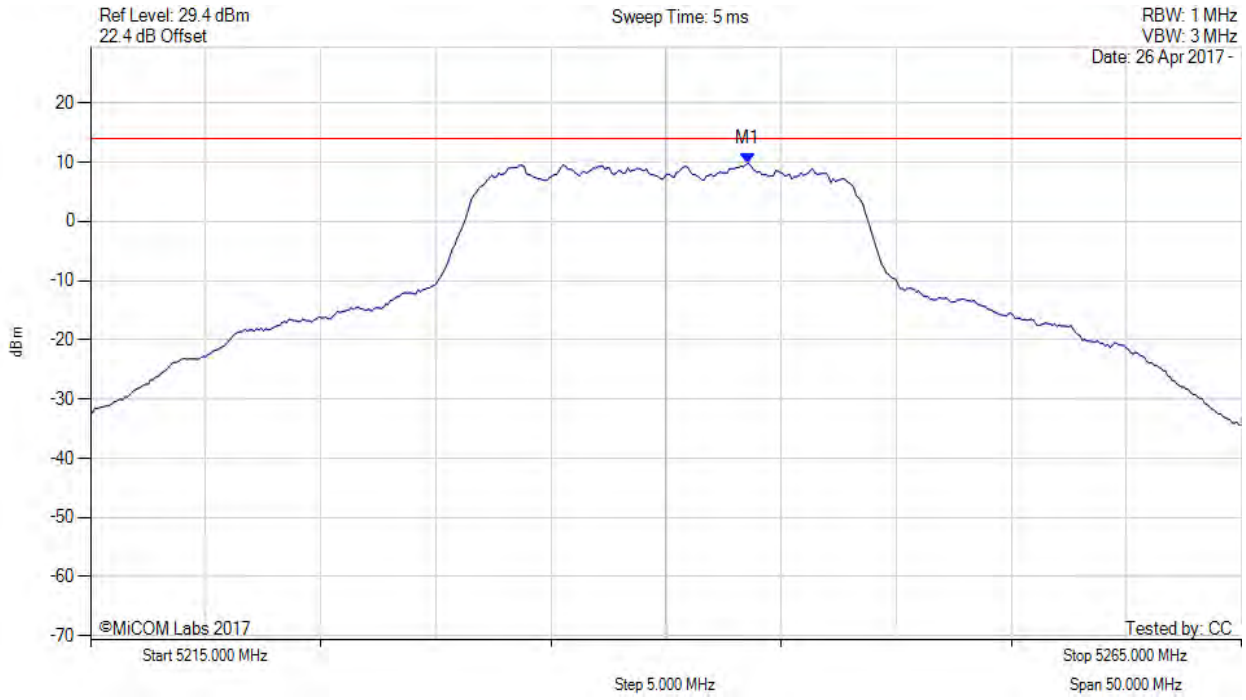


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5237.545 MHz : 6.520 dBm	Limit: ≤ 10.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5240.00 MHz, SUM, Temp: 20, Voltage: 0 Vdc

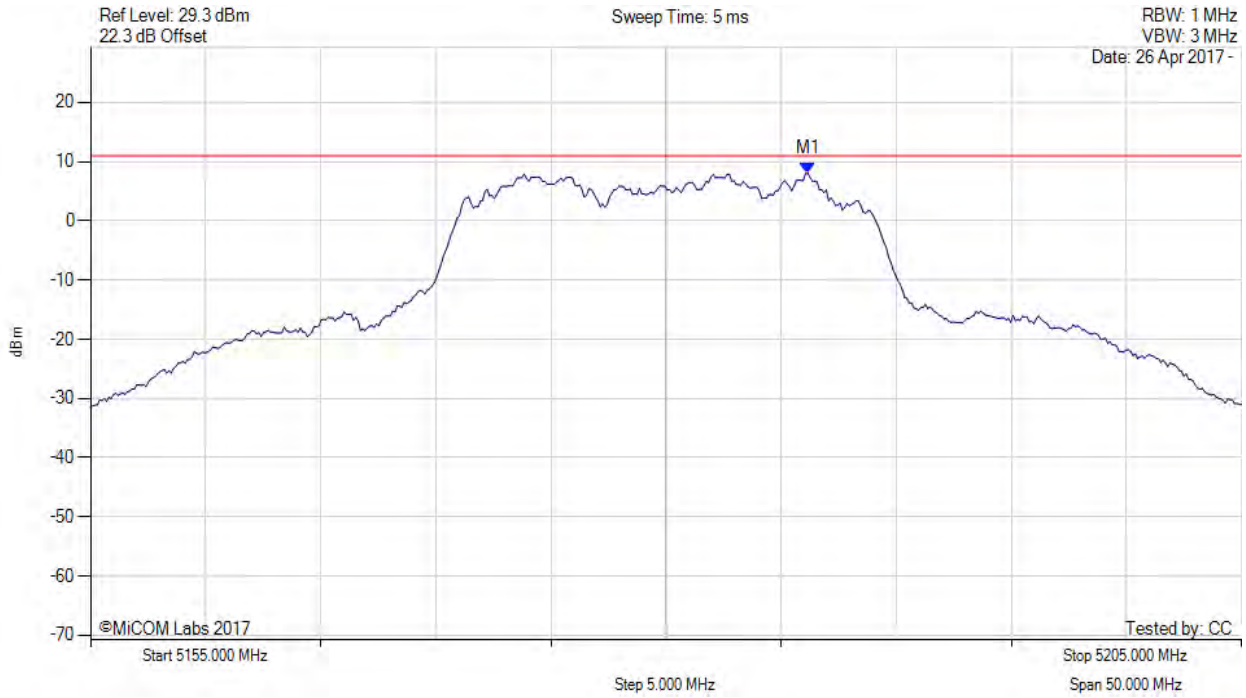


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5243.600 MHz : 9.818 dBm M1 + DCCF : 5243.600 MHz : 10.180 dBm Duty Cycle Correction Factor : +0.36 dB	Limit: ≤ 14.0 dBm Margin: -3.8 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5180.00 MHz, Chain a, Temp: 20, Voltage: 0 Vdc

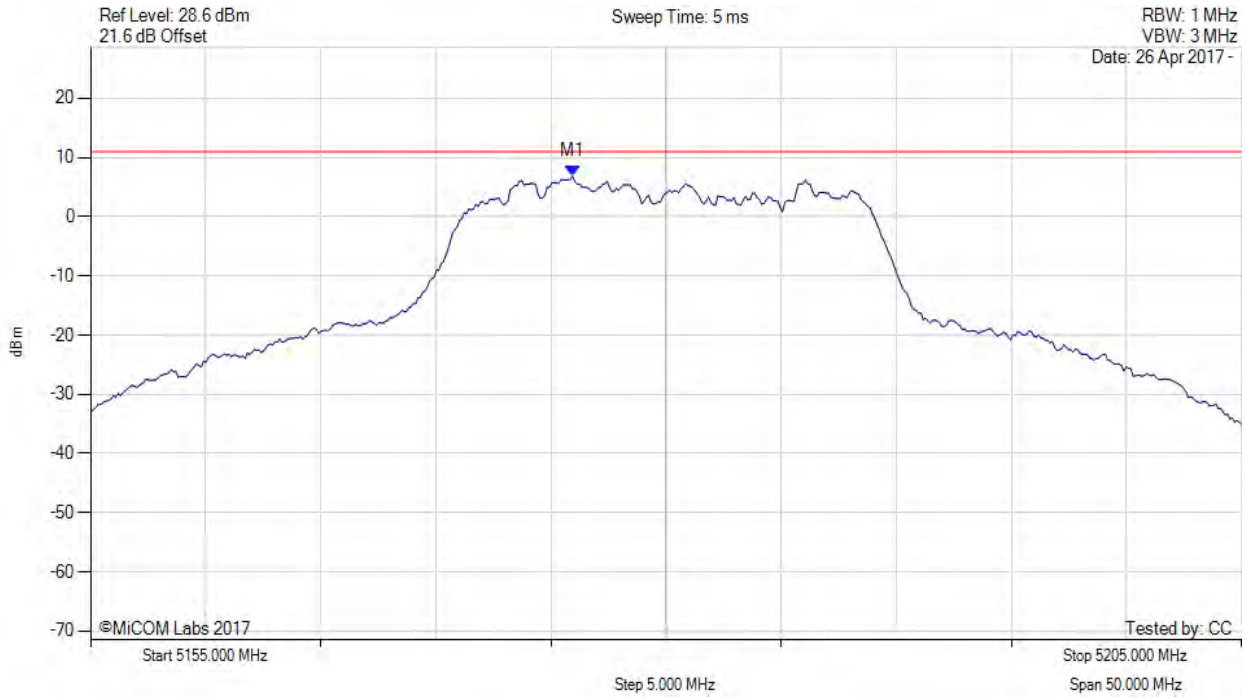


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5186.162 MHz : 8.025 dBm	Limit: ≤ 10.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5180.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc

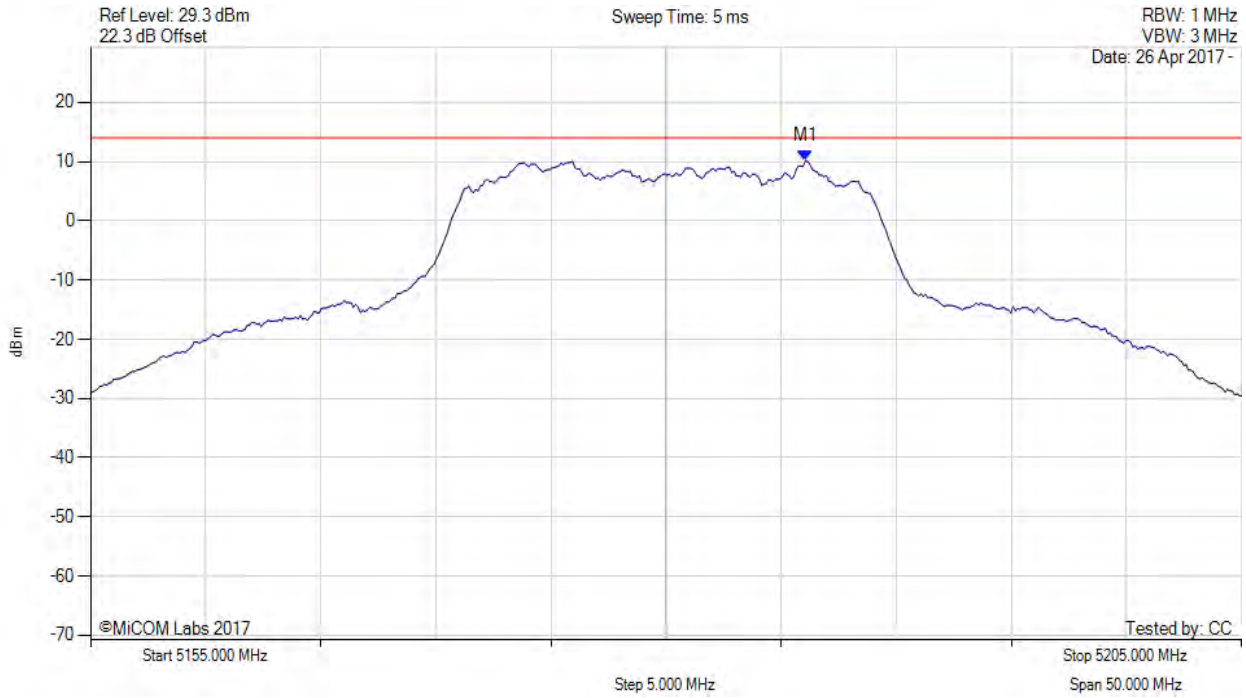


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5175.942 MHz : 6.832 dBm	Limit: ≤ 10.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5180.00 MHz, SUM, Temp: 20, Voltage: 0 Vdc

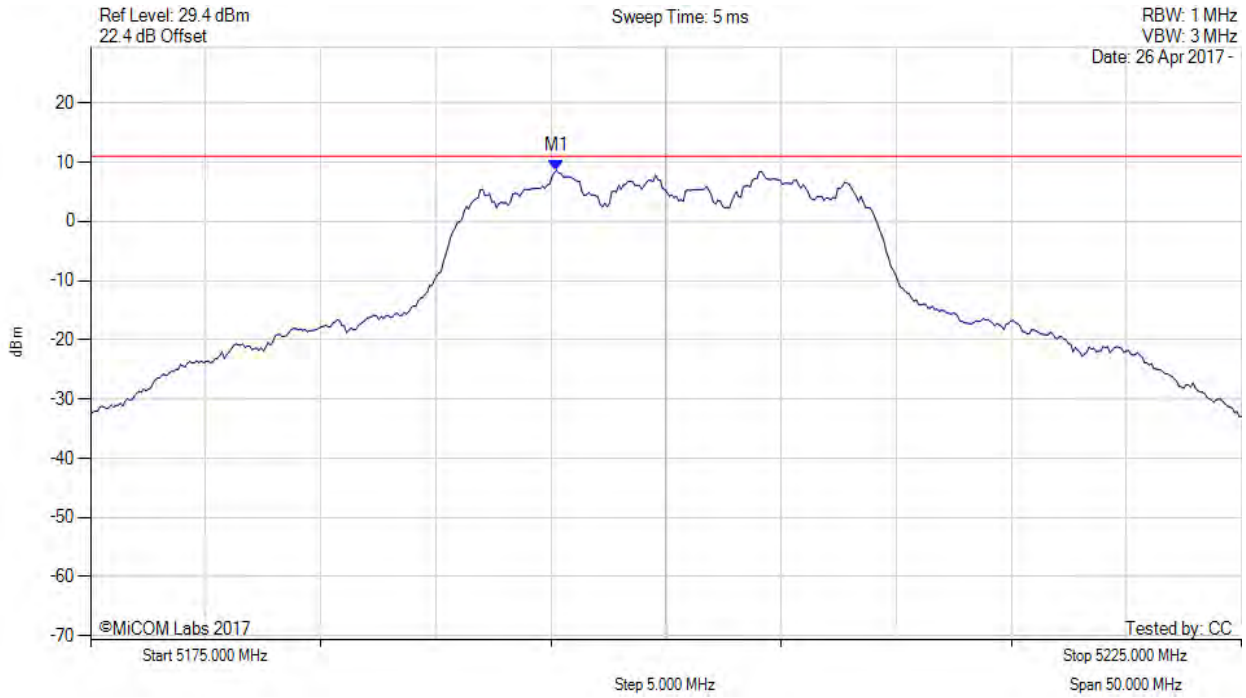


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5186.100 MHz : 10.127 dBm M1 + DCCF : 5186.100 MHz : 10.489 dBm Duty Cycle Correction Factor : +0.36 dB	Limit: ≤ 14.0 dBm Margin: -3.5 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5200.00 MHz, Chain a, Temp: 20, Voltage: 0 Vdc

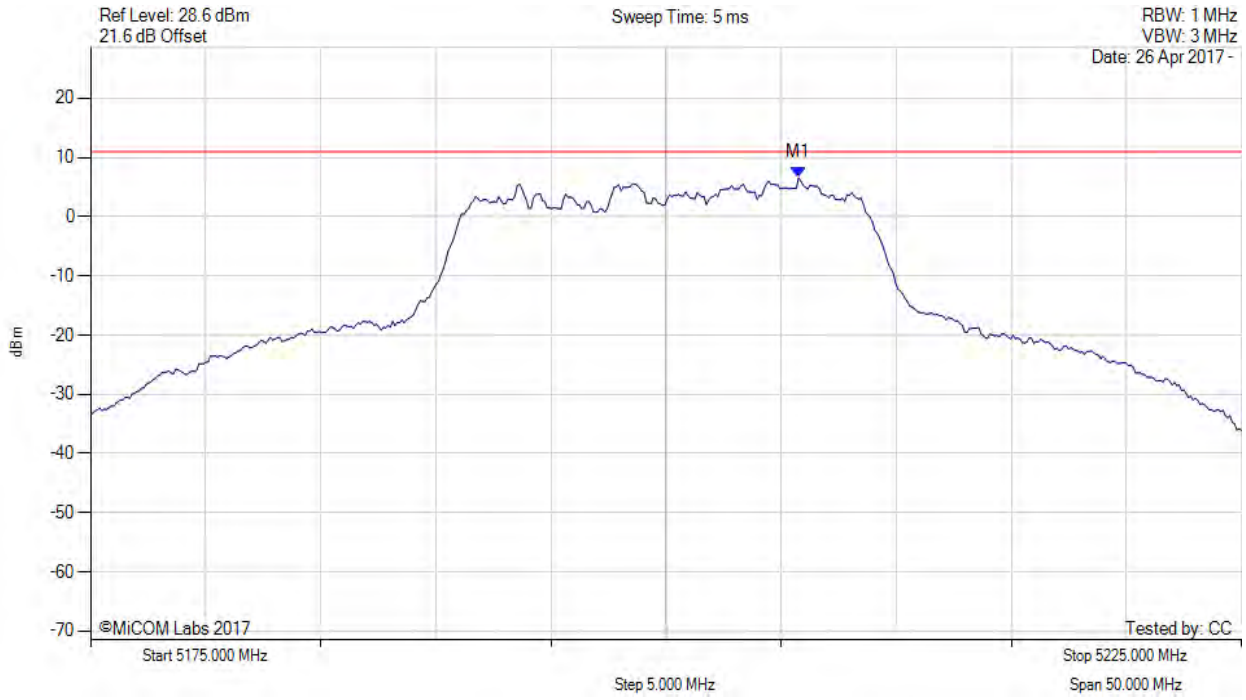


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5195.240 MHz : 8.620 dBm	Limit: ≤ 10.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5200.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc

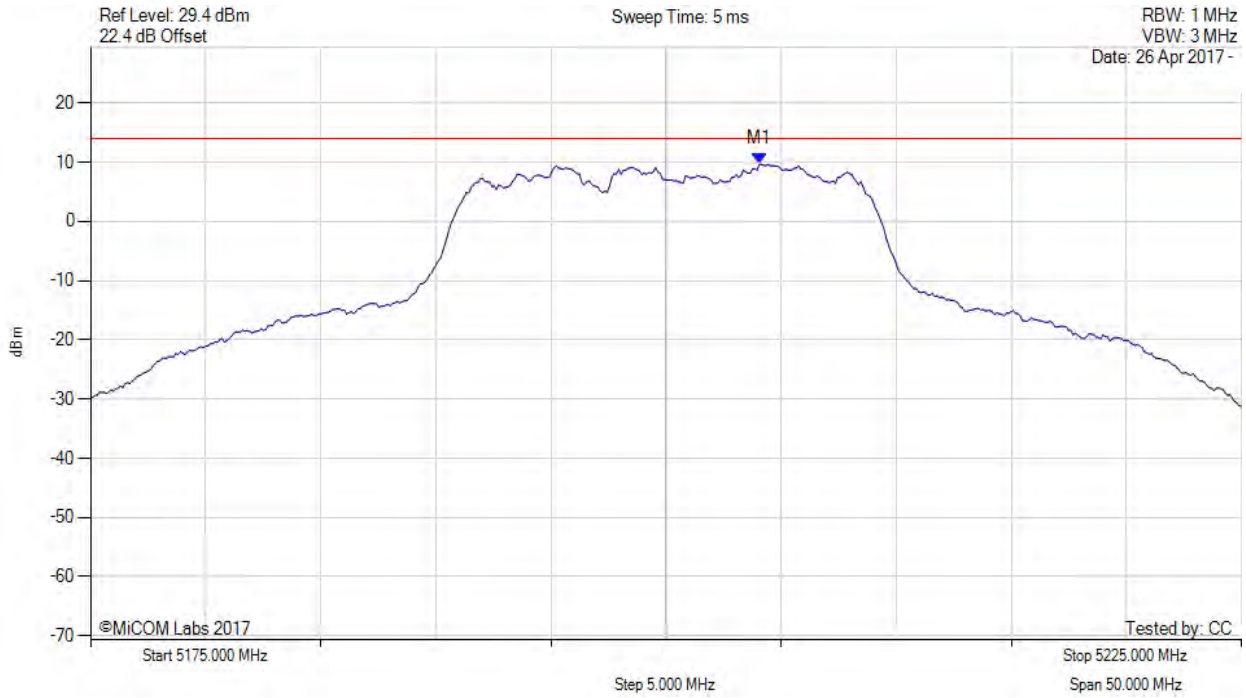


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5205.762 MHz : 6.540 dBm	Channel Frequency: 5200.00 MHz

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5200.00 MHz, SUM, Temp: 20, Voltage: 0 Vdc

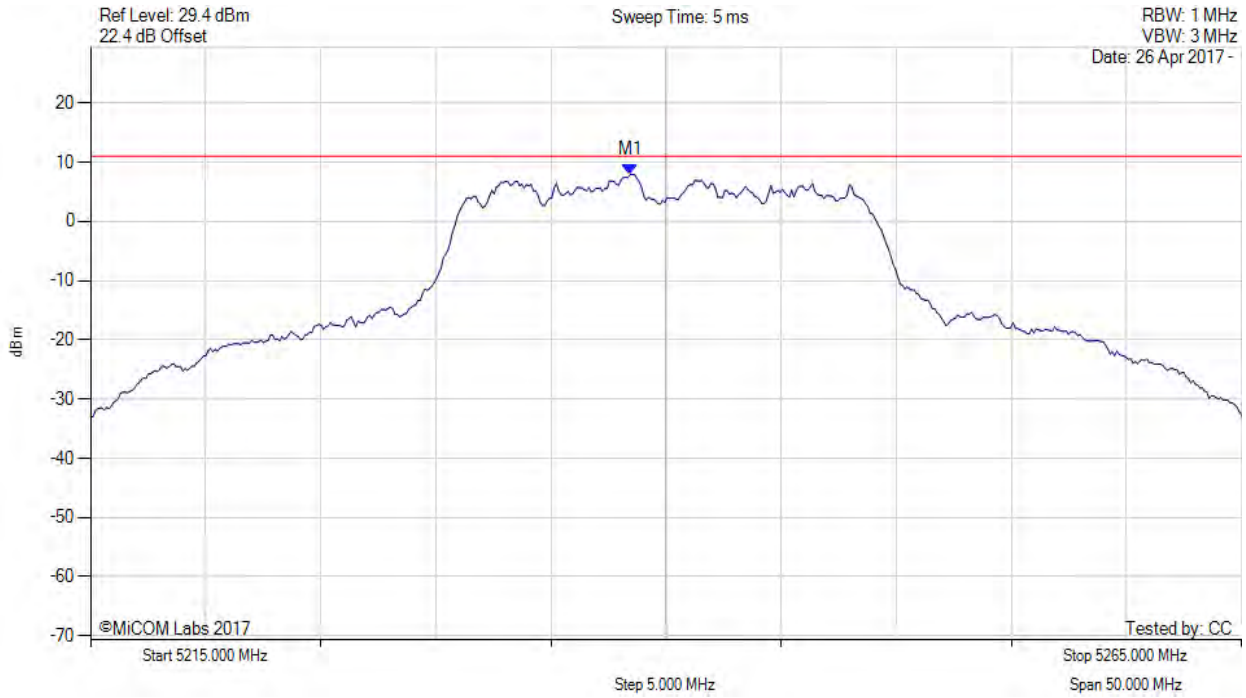


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5204.100 MHz : 9.654 dBm M1 + DCCF : 5204.100 MHz : 10.016 dBm Duty Cycle Correction Factor : +0.36 dB	Limit: ≤ 14.0 dBm Margin: -4.0 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5240.00 MHz, Chain a, Temp: 20, Voltage: 0 Vdc

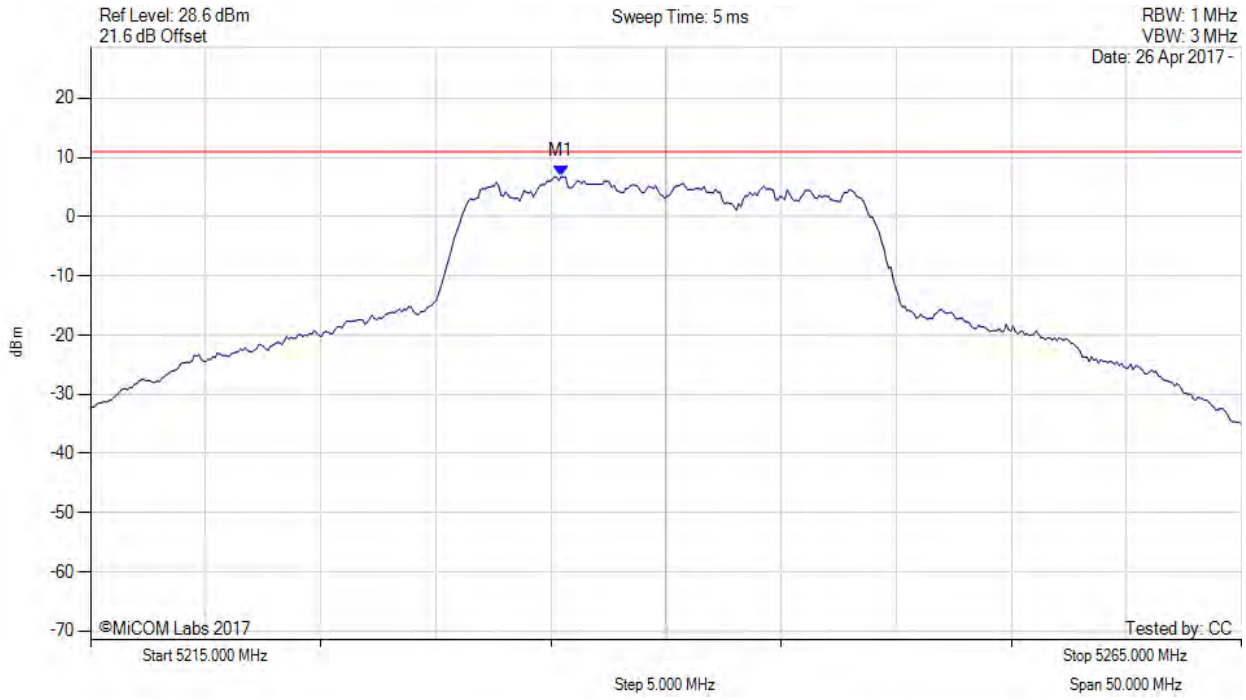


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5238.447 MHz : 7.951 dBm	Limit: ≤ 10.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5240.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc

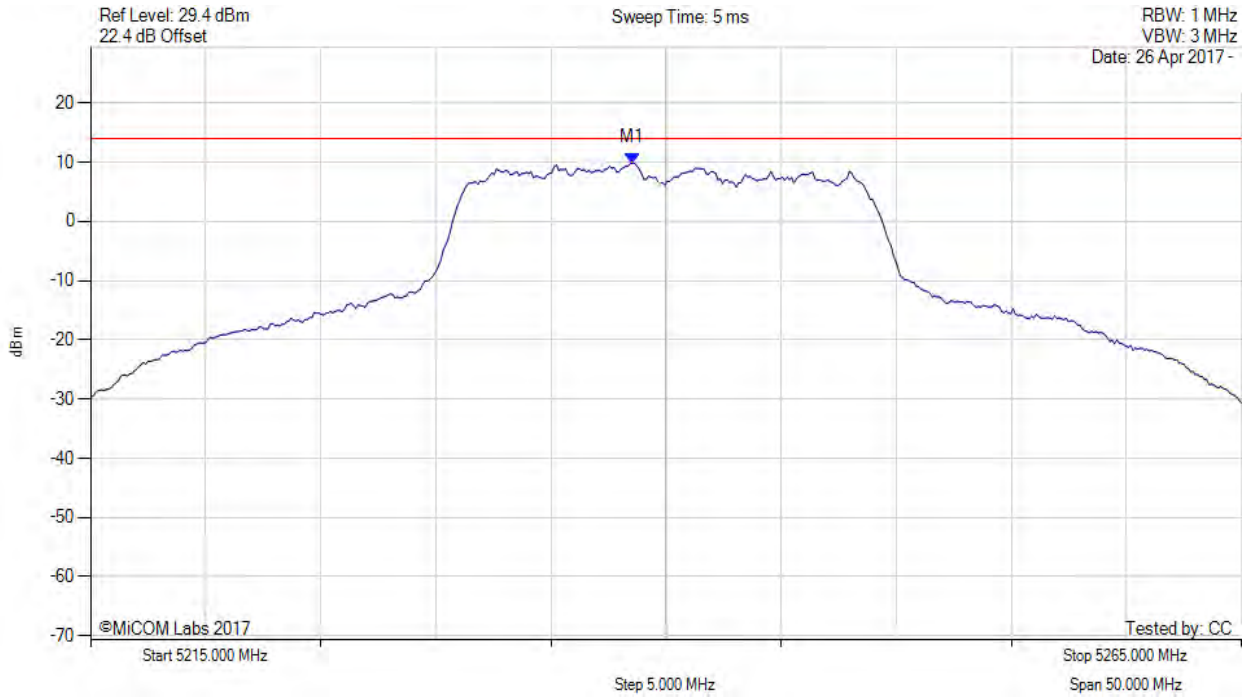


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5235.441 MHz : 6.736 dBm	Limit: ≤ 10.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5240.00 MHz, SUM, Temp: 20, Voltage: 0 Vdc

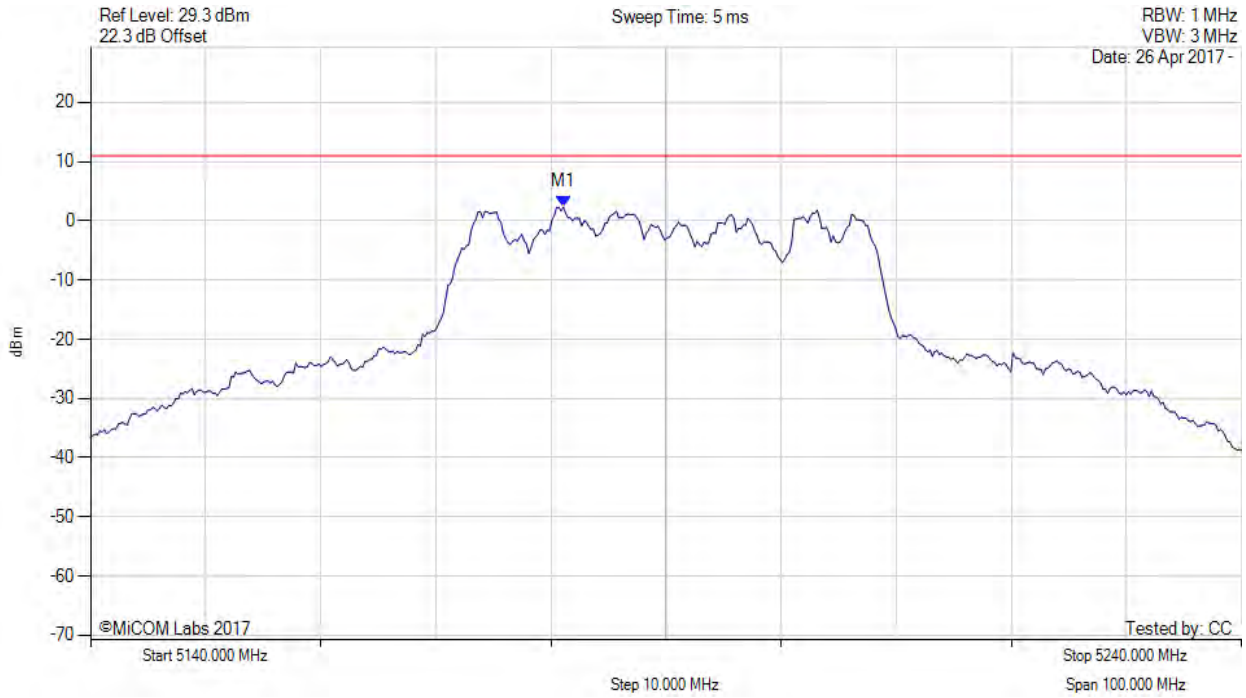


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5238.500 MHz : 9.861 dBm M1 + DCCF : 5238.500 MHz : 10.223 dBm Duty Cycle Correction Factor : +0.36 dB	Limit: ≤ 14.0 dBm Margin: -3.8 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5190.00 MHz, Chain a, Temp: 20, Voltage: 0 Vdc

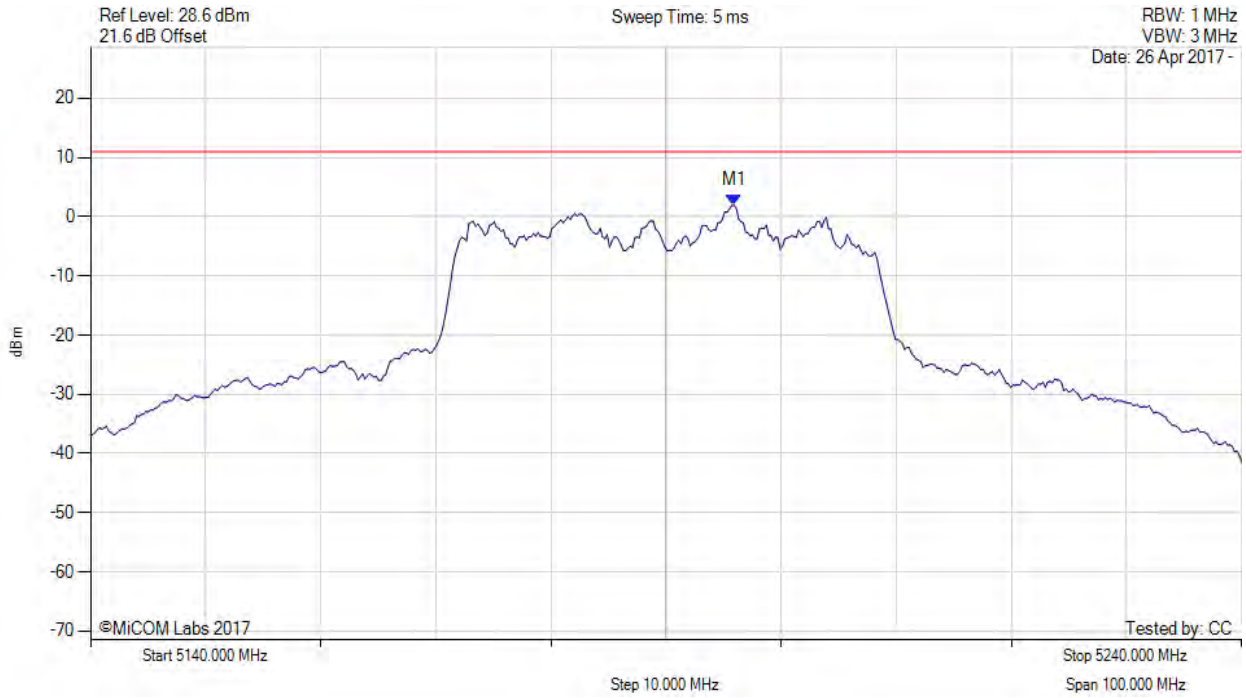


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5181.082 MHz : 2.294 dBm	Limit: ≤ 10.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5190.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc

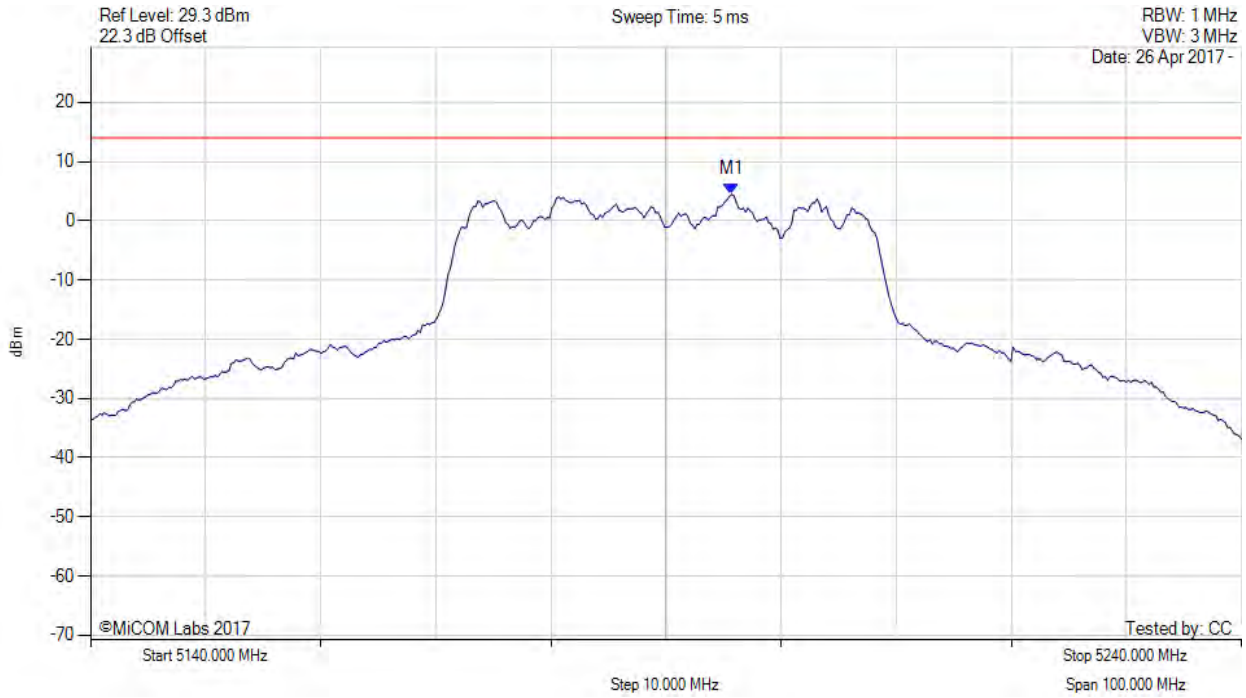


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5195.912 MHz : 1.900 dBm	Limit: ≤ 10.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5190.00 MHz, SUM, Temp: 20, Voltage: 0 Vdc

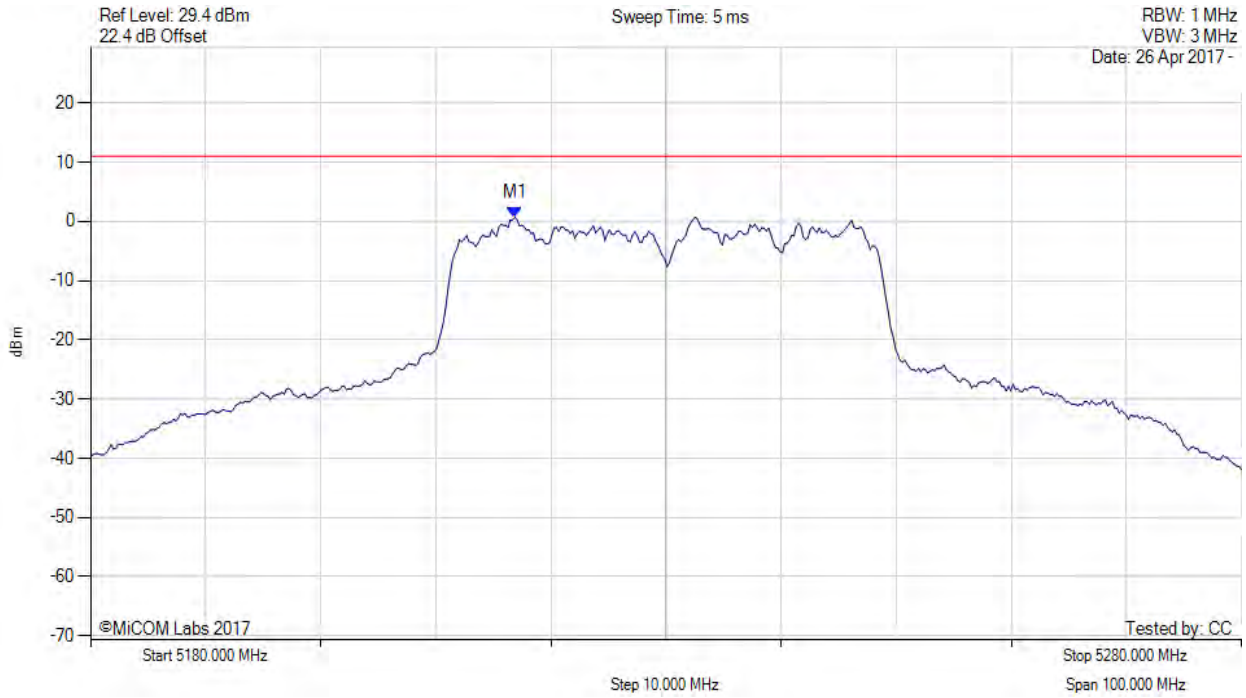


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5195.700 MHz : 4.453 dBm M1 + DCCF : 5195.700 MHz : 5.368 dBm Duty Cycle Correction Factor : +0.92 dB	Limit: ≤ 14.0 dBm Margin: -8.6 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5230.00 MHz, Chain a, Temp: 20, Voltage: 0 Vdc

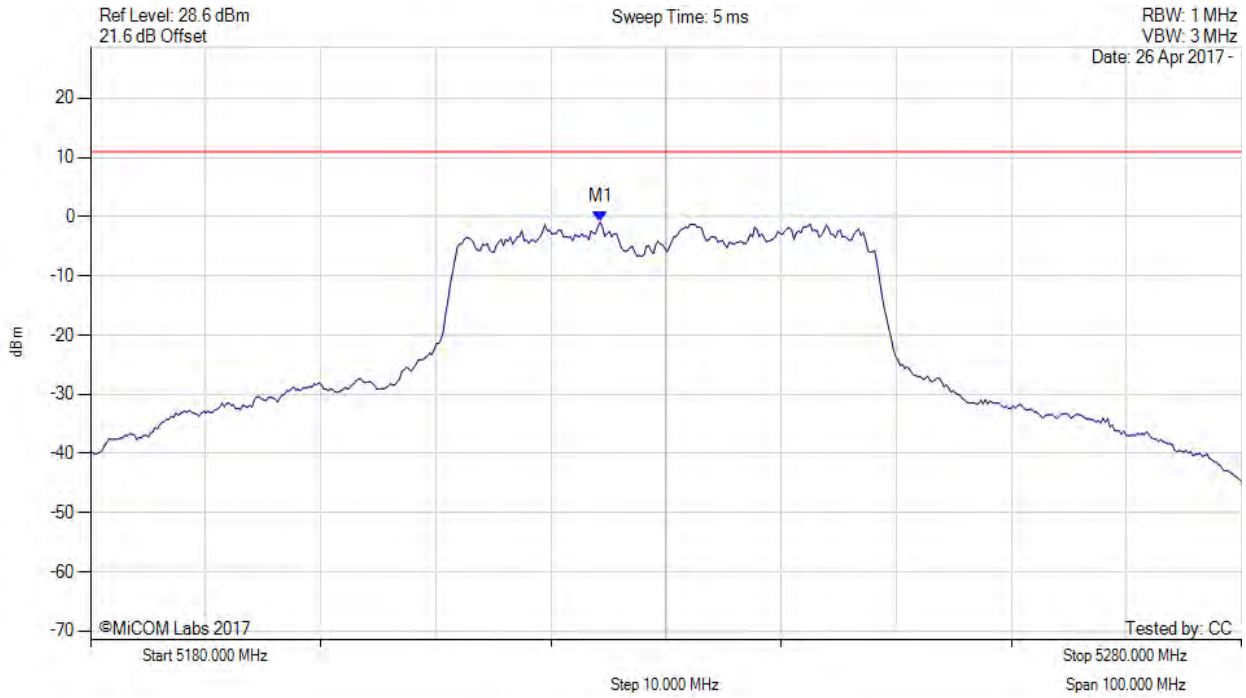


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5216.874 MHz : 0.683 dBm	Limit: ≤ 10.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5230.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc

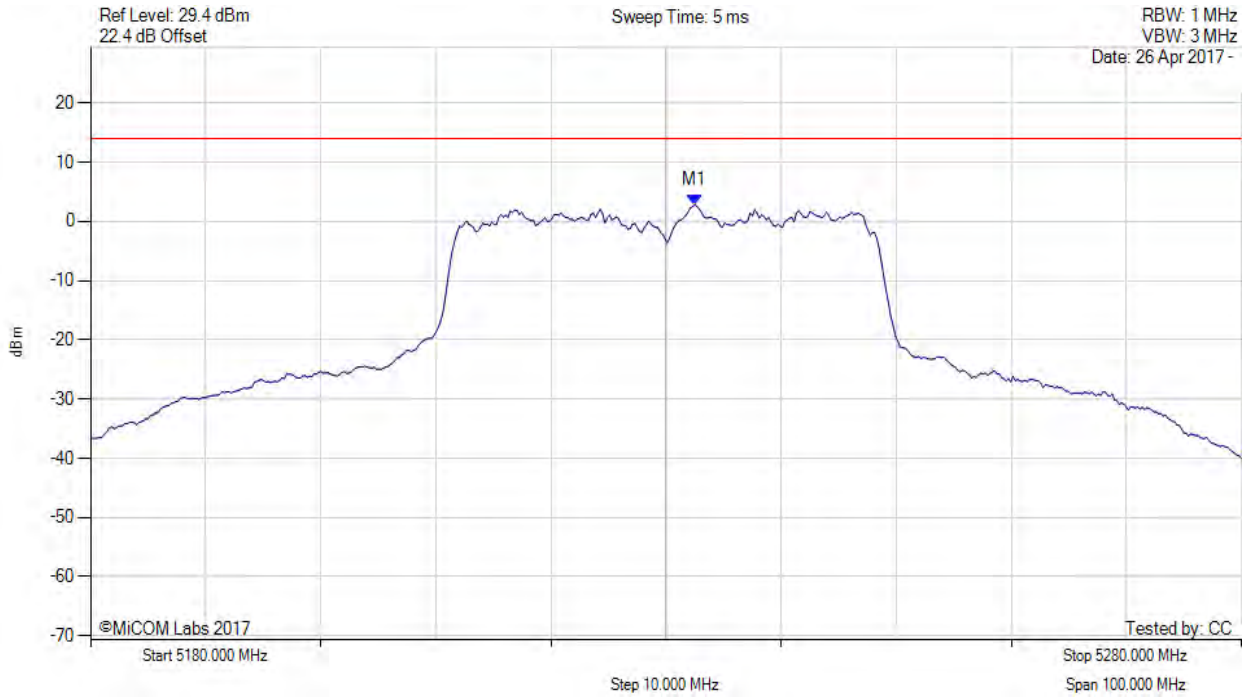


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5224.289 MHz : -0.929 dBm	Limit: ≤ 10.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5230.00 MHz, SUM, Temp: 20, Voltage: 0 Vdc

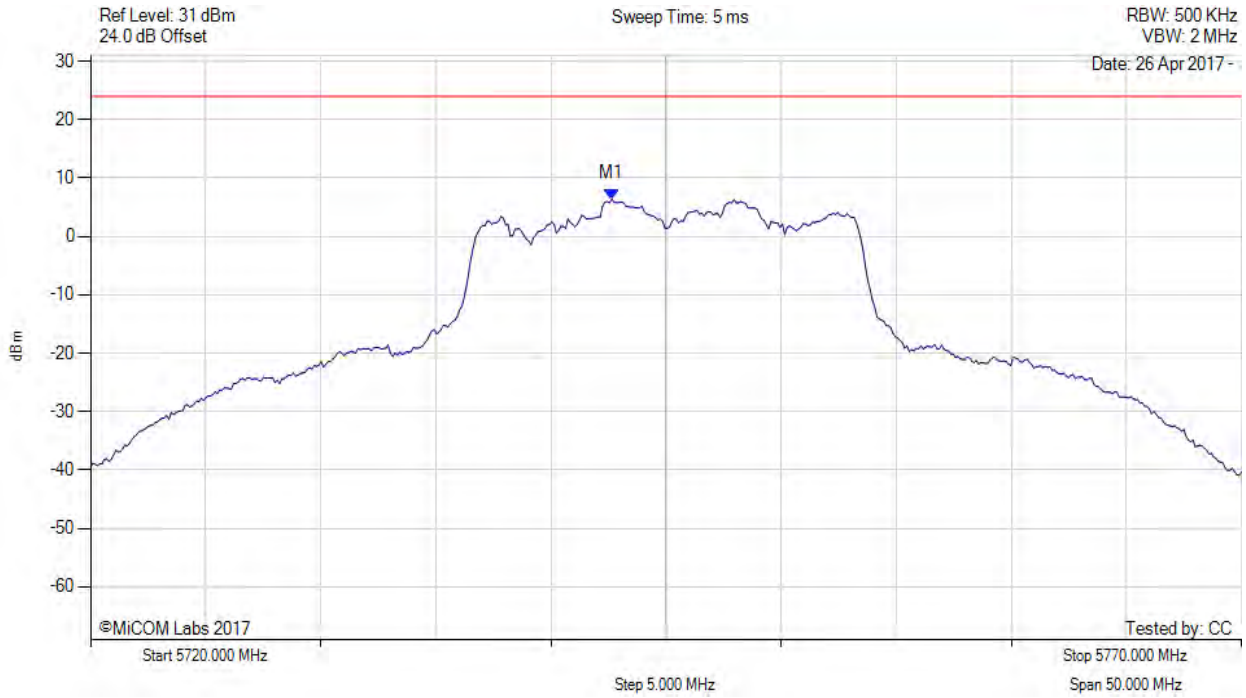


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5232.500 MHz : 2.809 dBm M1 + DCCF : 5232.500 MHz : 3.724 dBm Duty Cycle Correction Factor : +0.92 dB	Limit: ≤ 14.0 dBm Margin: -10.3 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5745.00 MHz, Chain a, Temp: 20, Voltage: 0 Vdc

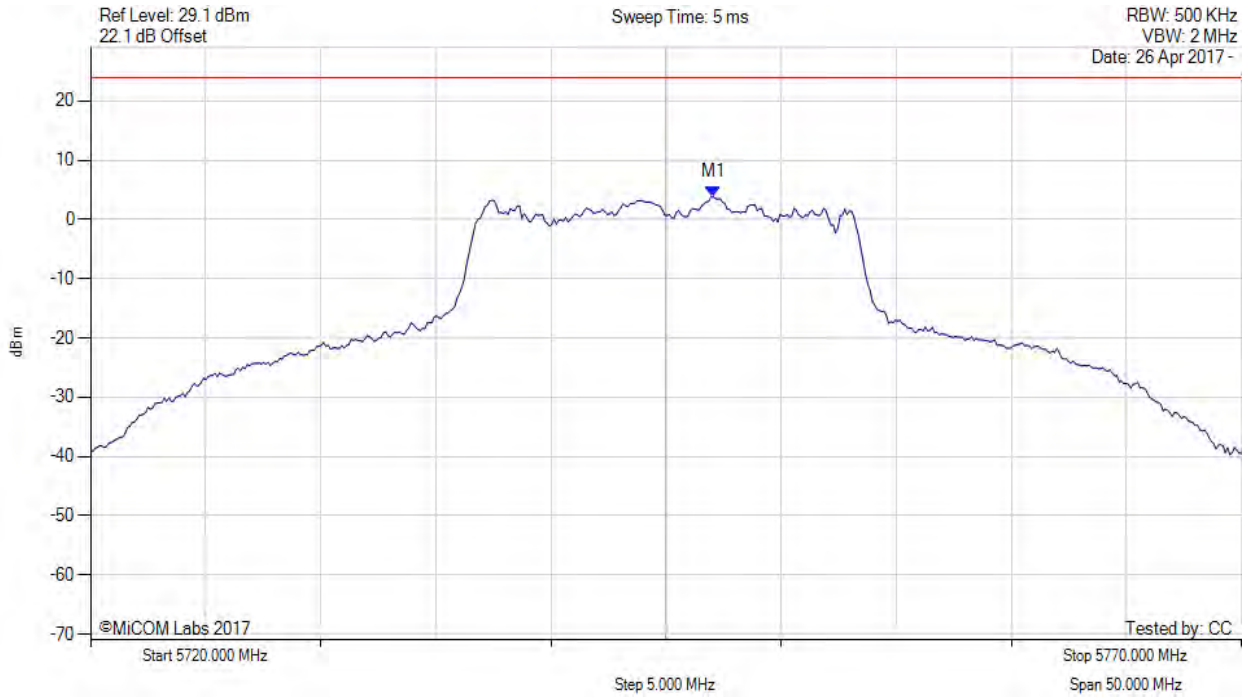


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5742.645 MHz : 6.395 dBm	Limit: ≤ 23.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5745.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc

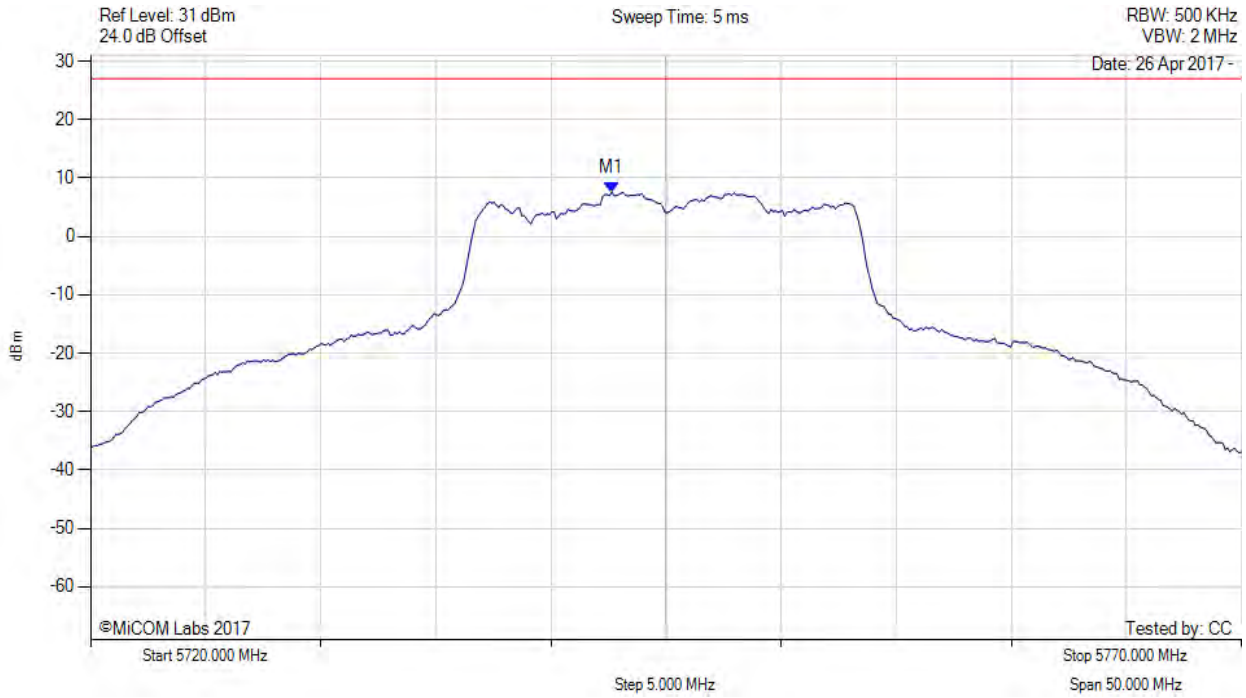


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5747.054 MHz : 3.841 dBm	Limit: ≤ 23.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5745.00 MHz, SUM, Temp: 20, Voltage: 0 Vdc

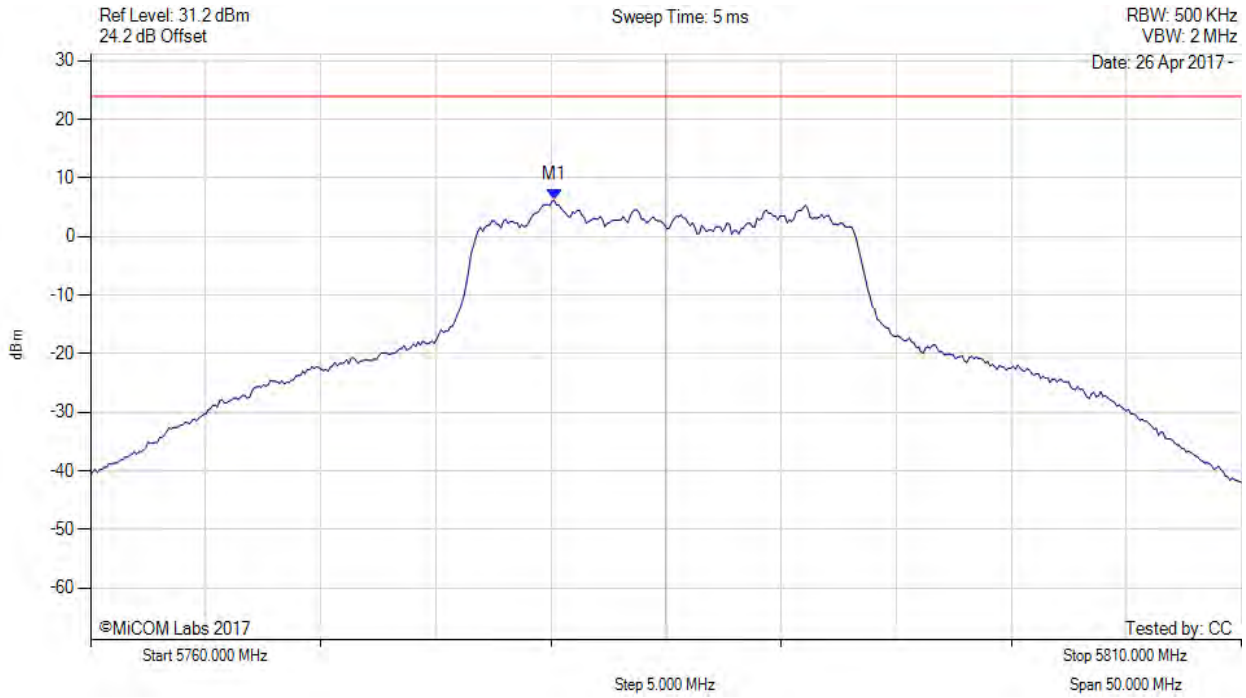


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5742.600 MHz : 7.568 dBm M1 + DCCF : 5742.600 MHz : 7.930 dBm Duty Cycle Correction Factor : +0.36 dB	Limit: ≤ 27.0 dBm Margin: -19.1 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5785.00 MHz, Chain a, Temp: 20, Voltage: 0 Vdc

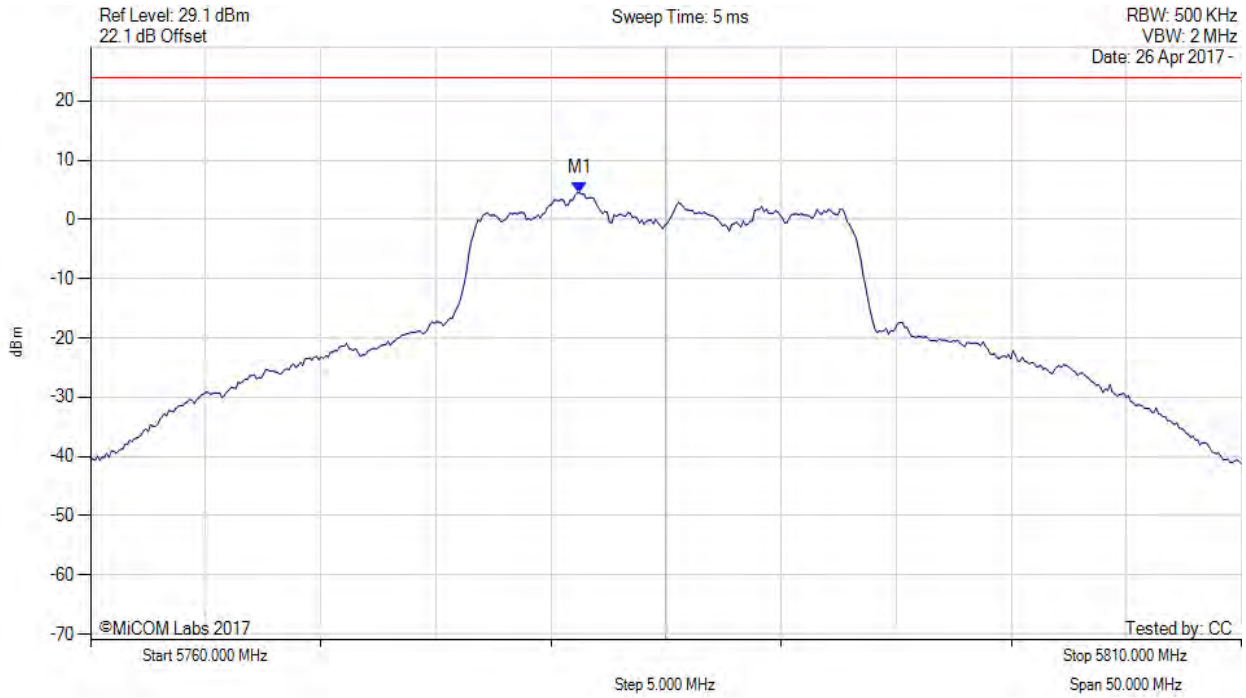


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5780.140 MHz : 6.230 dBm	Limit: ≤ 23.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5785.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc

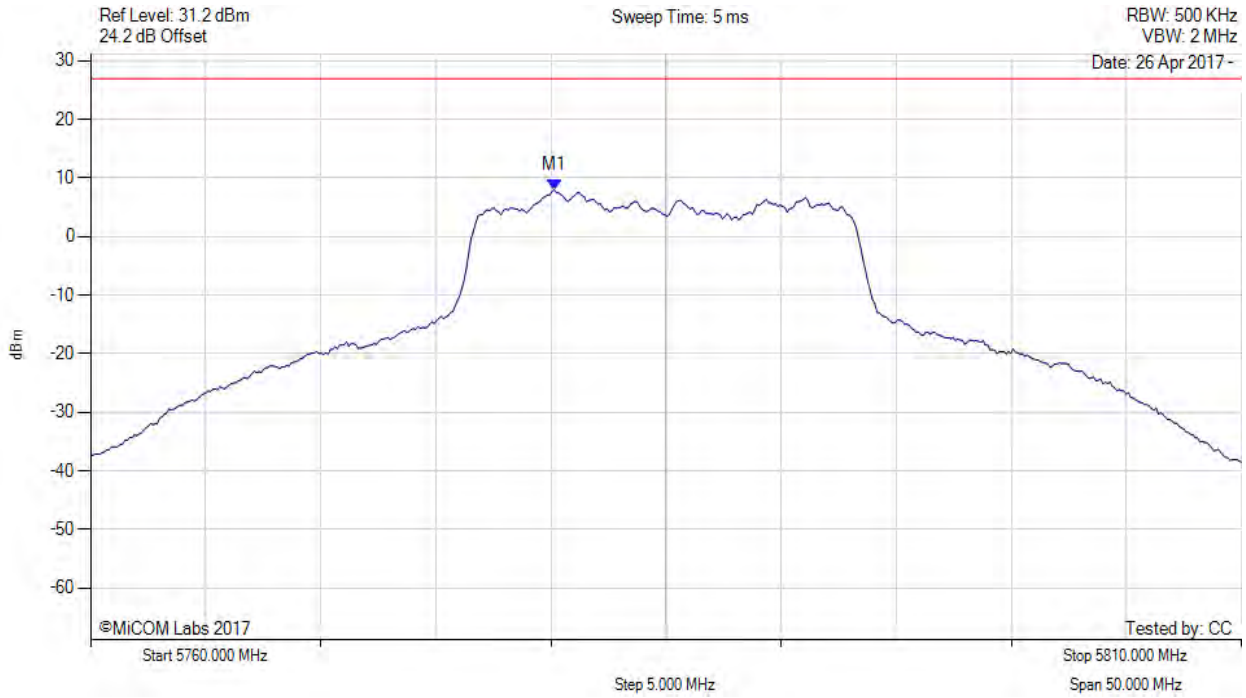


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5781.242 MHz : 4.520 dBm	Channel Frequency: 5785.00 MHz

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5785.00 MHz, SUM, Temp: 20, Voltage: 0 Vdc

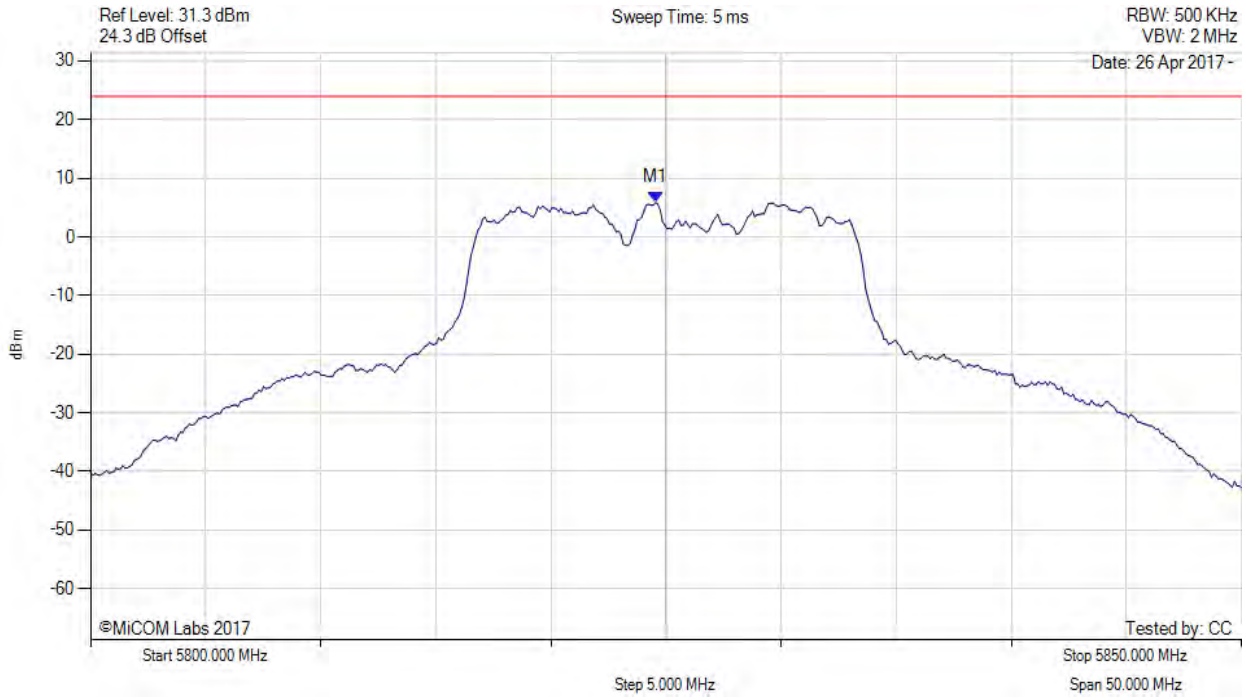


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5780.100 MHz : 8.021 dBm M1 + DCCF : 5780.100 MHz : 8.383 dBm Duty Cycle Correction Factor : +0.36 dB	Limit: ≤ 27.0 dBm Margin: -18.6 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5825.00 MHz, Chain a, Temp: 20, Voltage: 0 Vdc

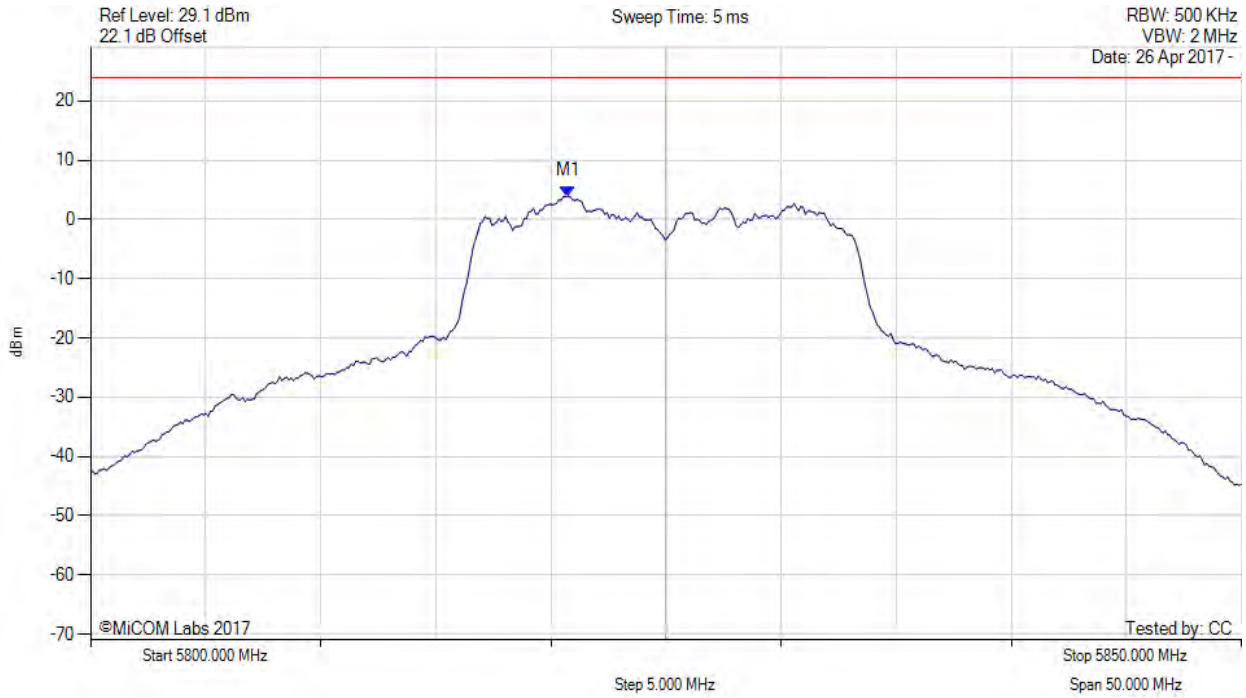


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5824.549 MHz : 5.858 dBm	Limit: ≤ 23.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5825.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc

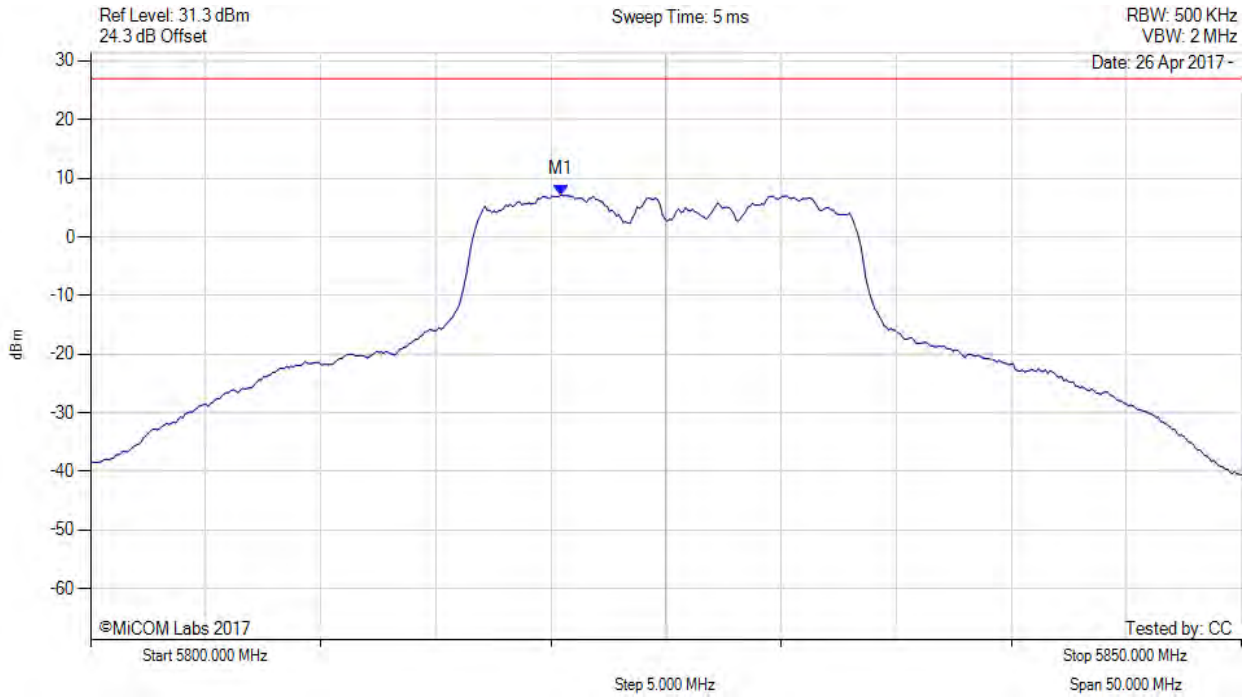


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5820.741 MHz : 3.935 dBm	Limit: ≤ 23.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5825.00 MHz, SUM, Temp: 20, Voltage: 0 Vdc

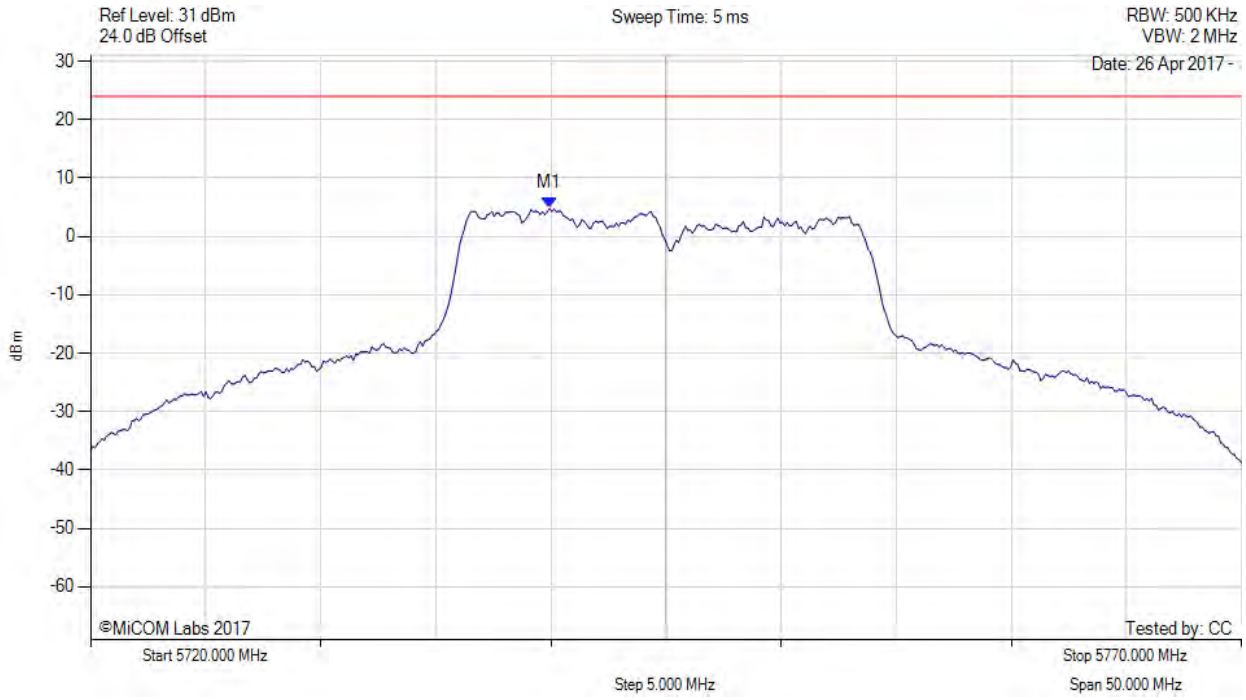


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5820.400 MHz : 7.145 dBm M1 + DCCF : 5820.400 MHz : 7.507 dBm Duty Cycle Correction Factor : +0.36 dB	Limit: ≤ 27.0 dBm Margin: -19.5 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain a, Temp: 20, Voltage: 0 Vdc

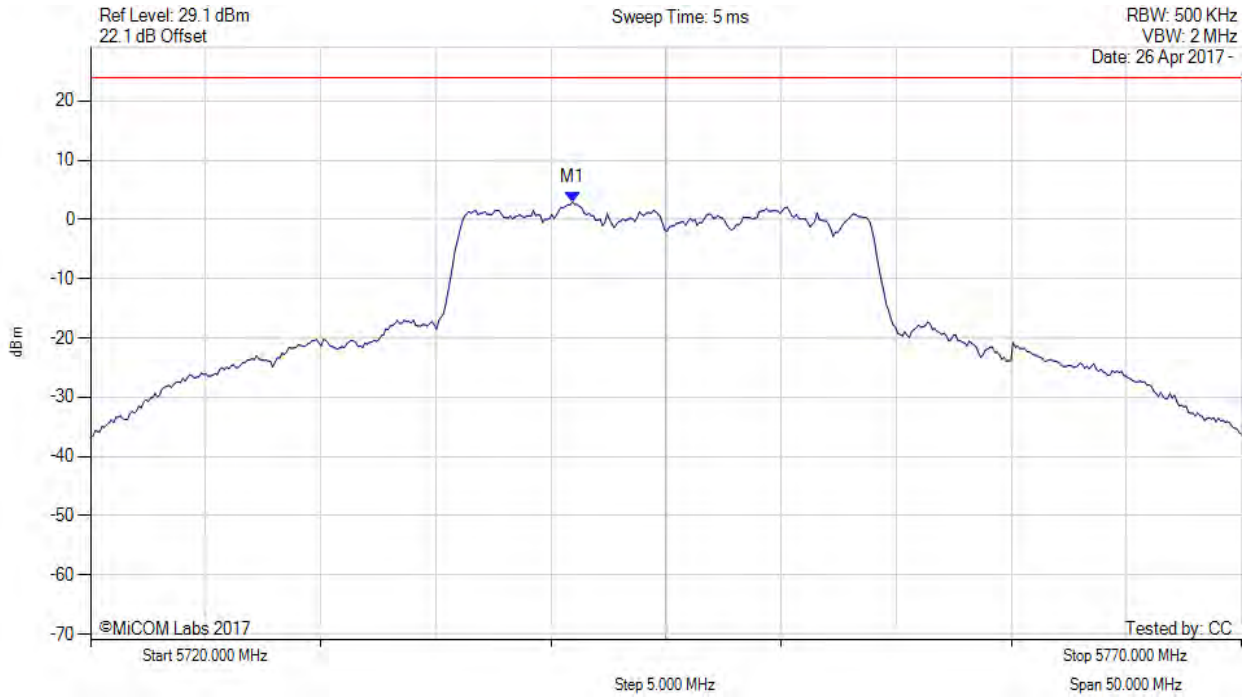


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5739.940 MHz : 4.786 dBm	Limit: ≤ 23.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc

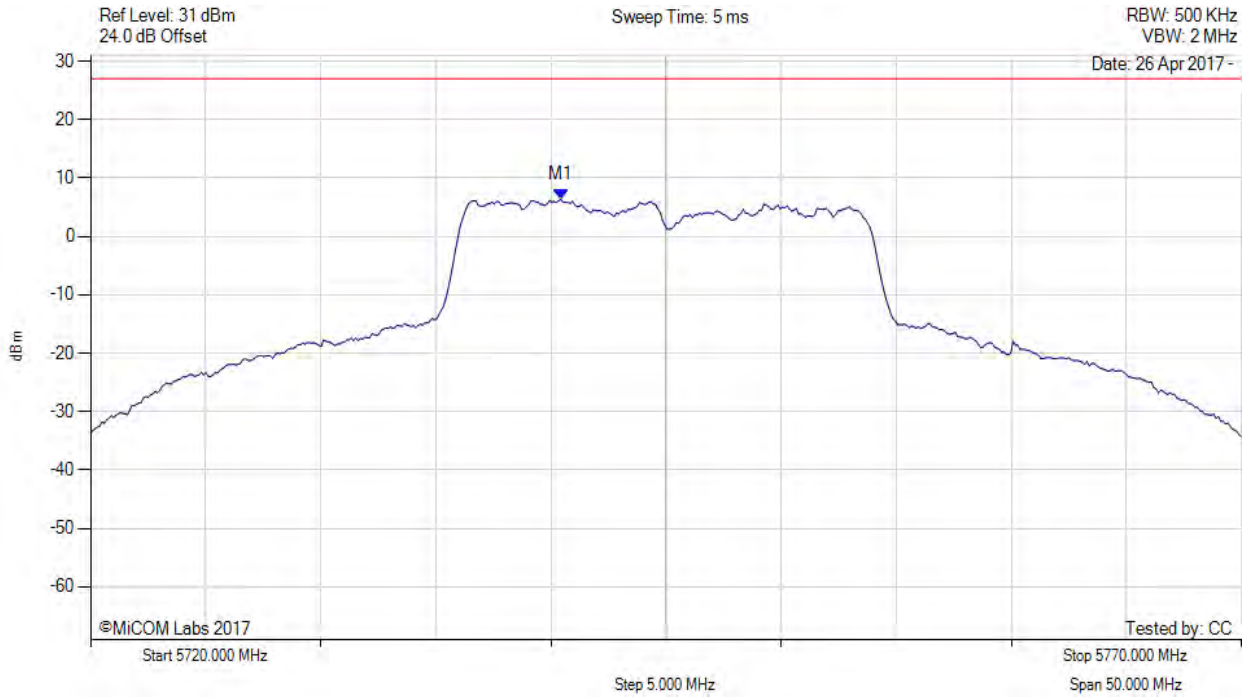


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5740.942 MHz : 2.957 dBm	Limit: ≤ 23.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5745.00 MHz, SUM, Temp: 20, Voltage: 0 Vdc

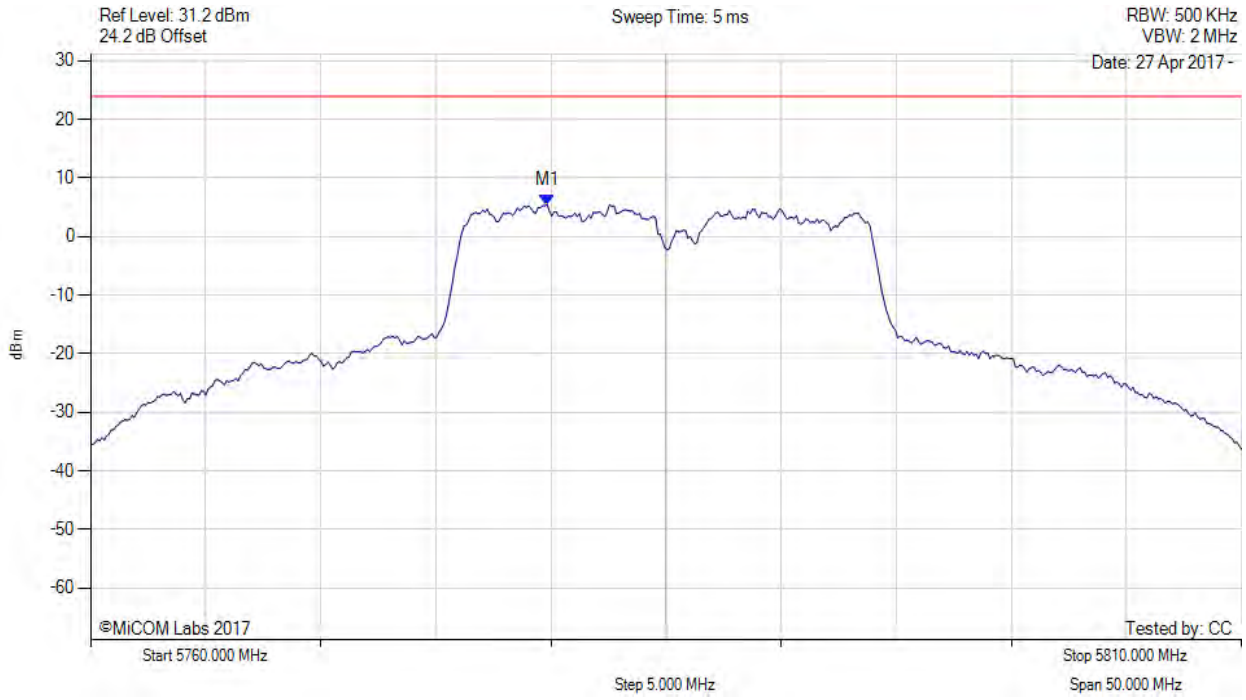


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5740.400 MHz : 6.317 dBm M1 + DCCF : 5740.400 MHz : 6.679 dBm Duty Cycle Correction Factor : +0.36 dB	Limit: ≤ 27.0 dBm Margin: -20.3 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain a, Temp: 20, Voltage: 0 Vdc

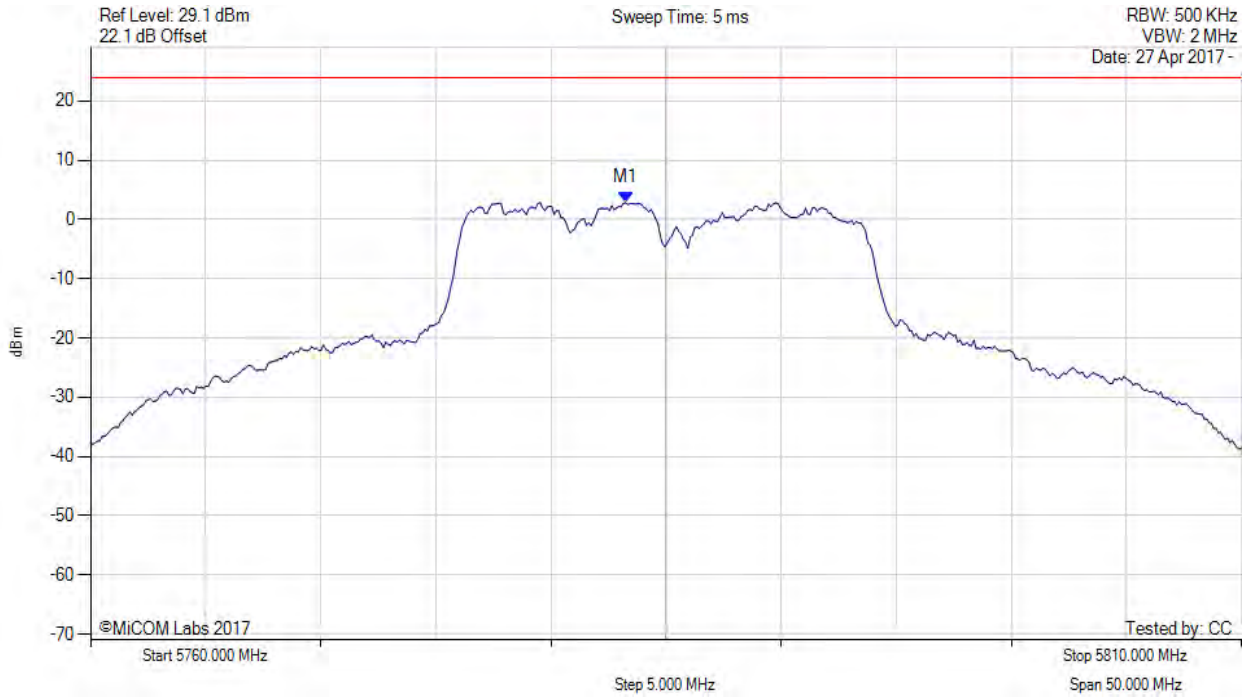


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5779.840 MHz : 5.414 dBm	Limit: ≤ 23.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc

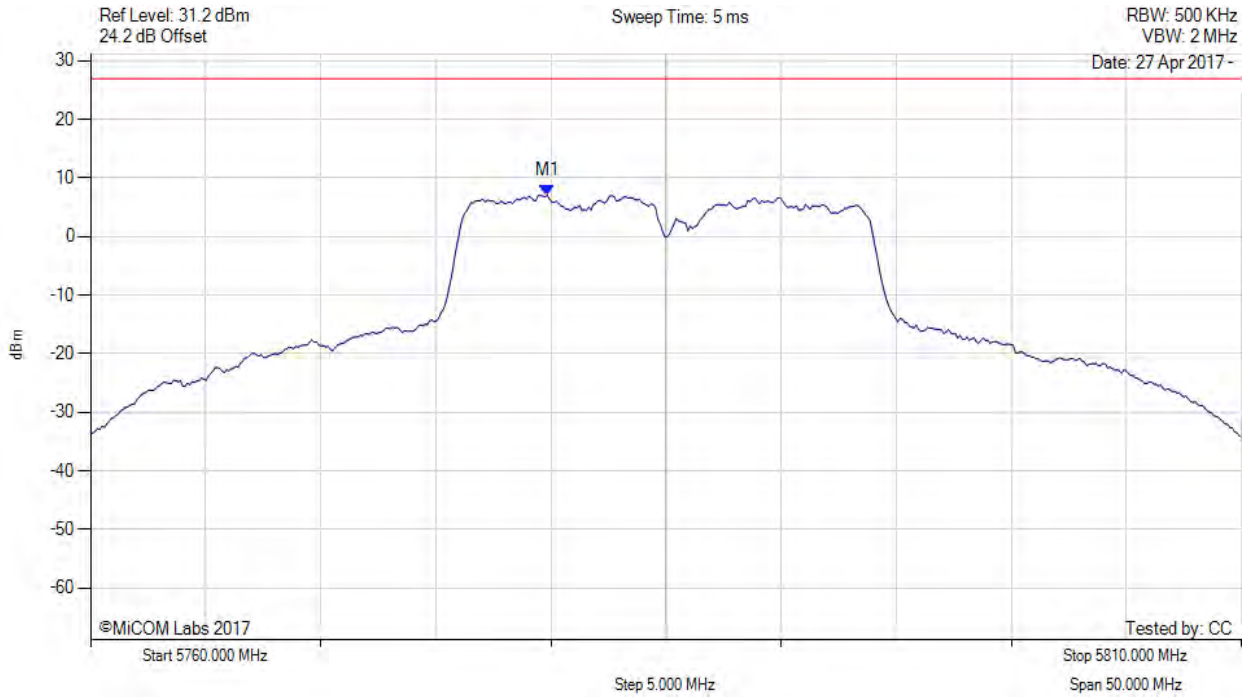


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5783.246 MHz : 2.845 dBm	Channel Frequency: 5785.00 MHz

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5785.00 MHz, SUM, Temp: 20, Voltage: 0 Vdc

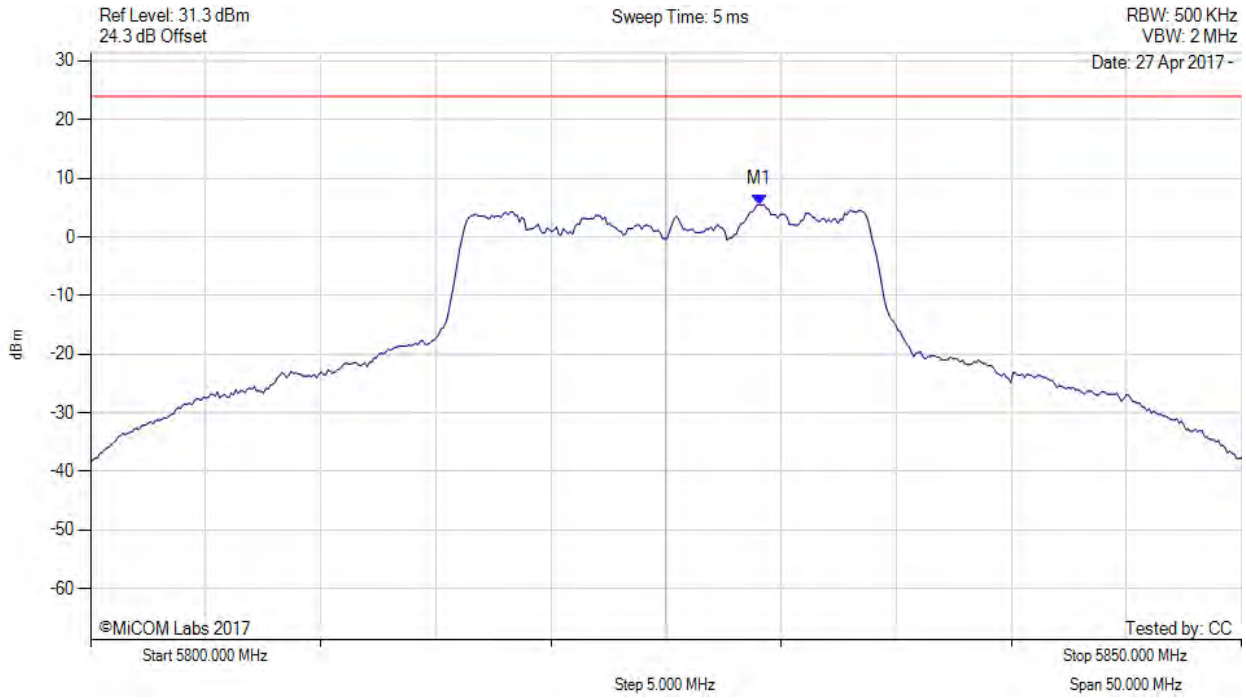


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5779.800 MHz : 7.082 dBm M1 + DCCF : 5779.800 MHz : 7.444 dBm Duty Cycle Correction Factor : +0.36 dB	Limit: ≤ 27.0 dBm Margin: -19.6 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain a, Temp: 20, Voltage: 0 Vdc

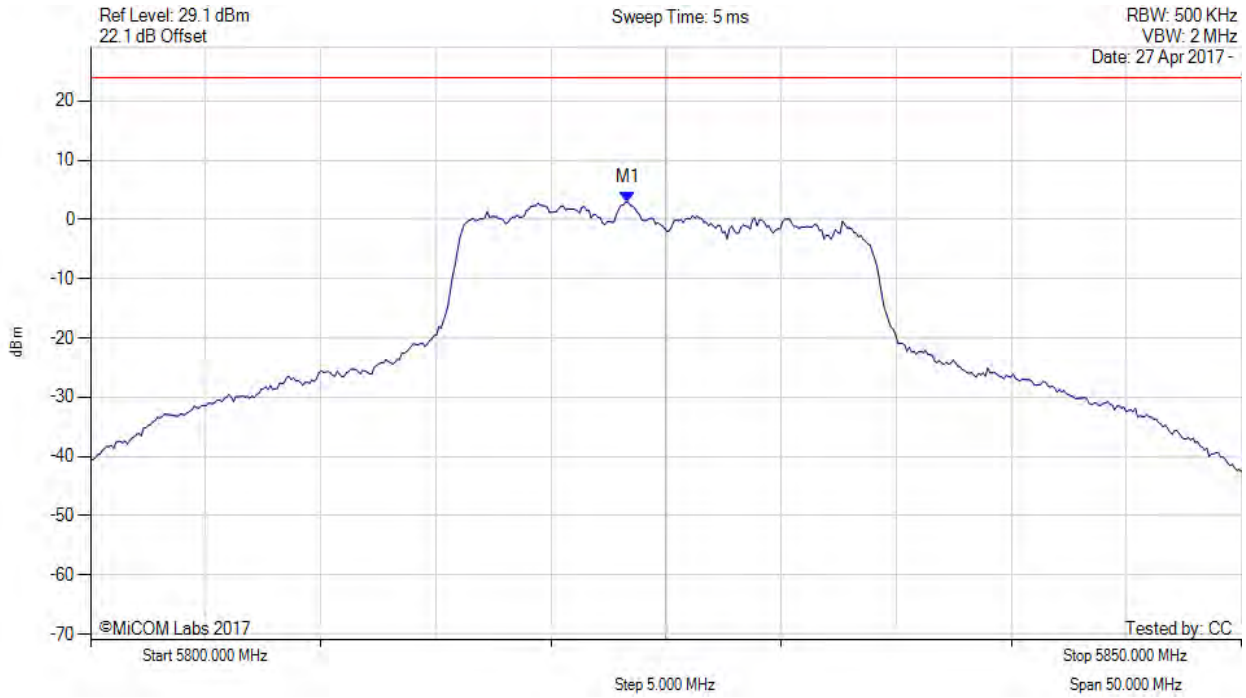


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5829.058 MHz : 5.510 dBm	Limit: ≤ 23.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc

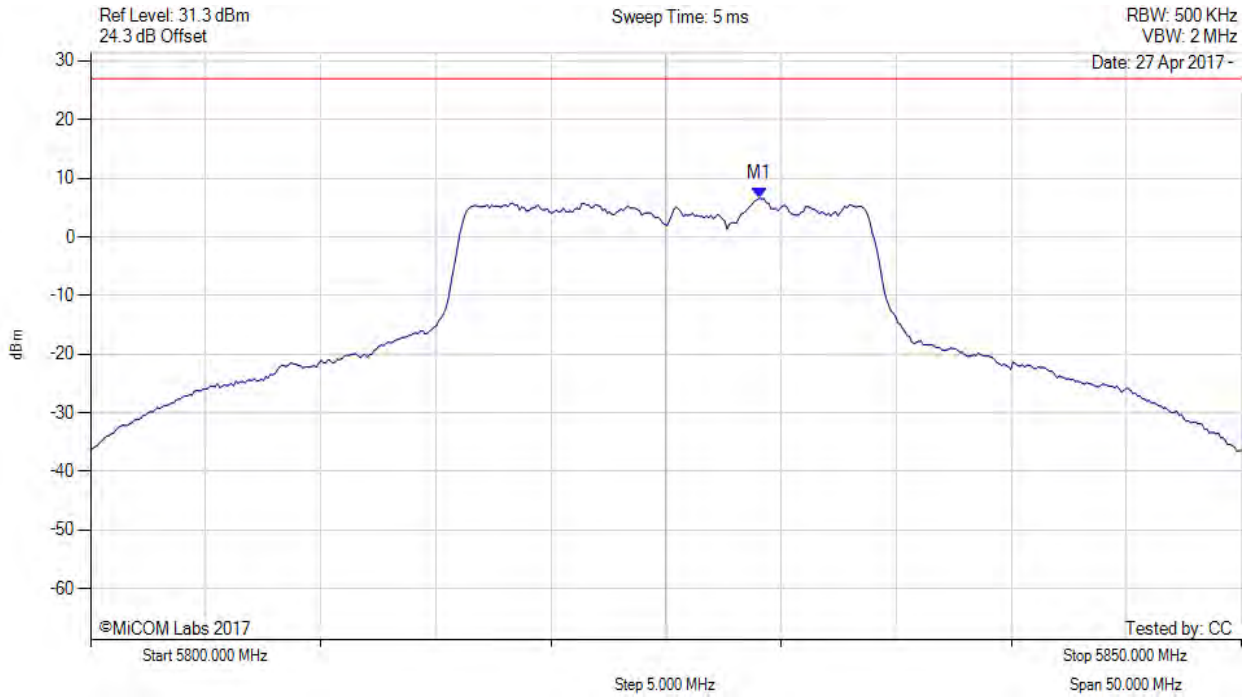


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5823.347 MHz : 2.963 dBm	Limit: ≤ 23.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5825.00 MHz, SUM, Temp: 20, Voltage: 0 Vdc

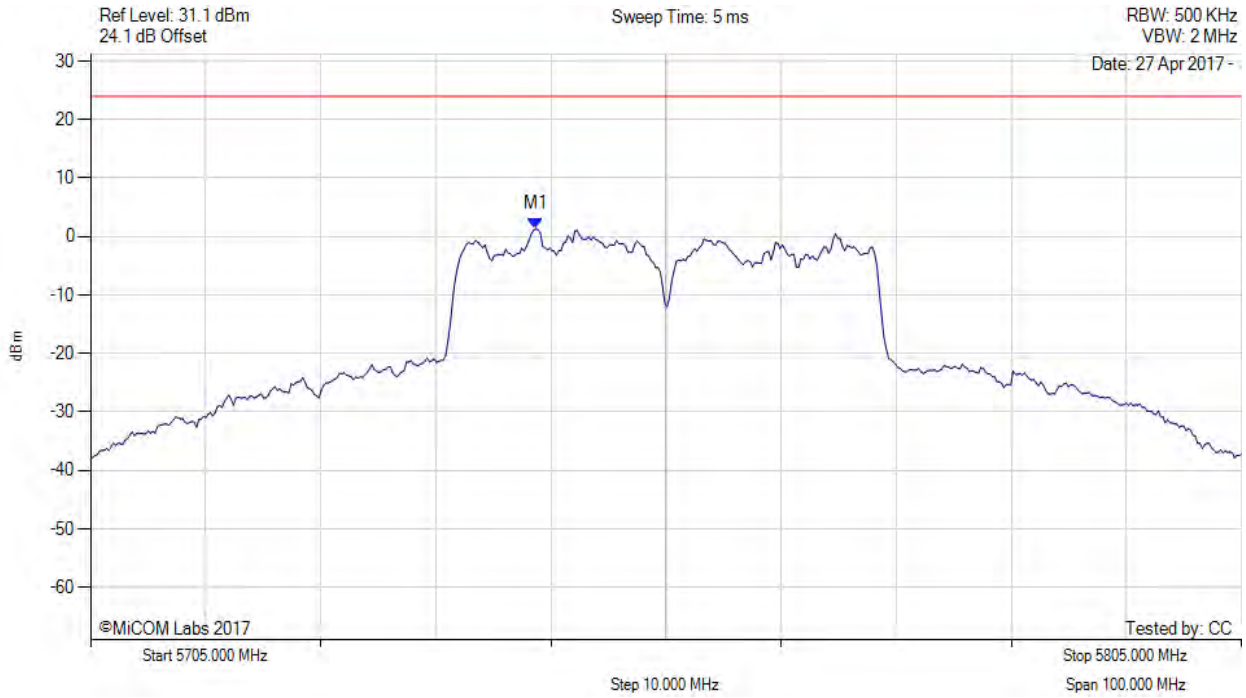


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5829.100 MHz : 6.582 dBm M1 + DCCF : 5829.100 MHz : 6.944 dBm Duty Cycle Correction Factor : +0.36 dB	Limit: ≤ 27.0 dBm Margin: -20.1 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain a, Temp: 20, Voltage: 0 Vdc

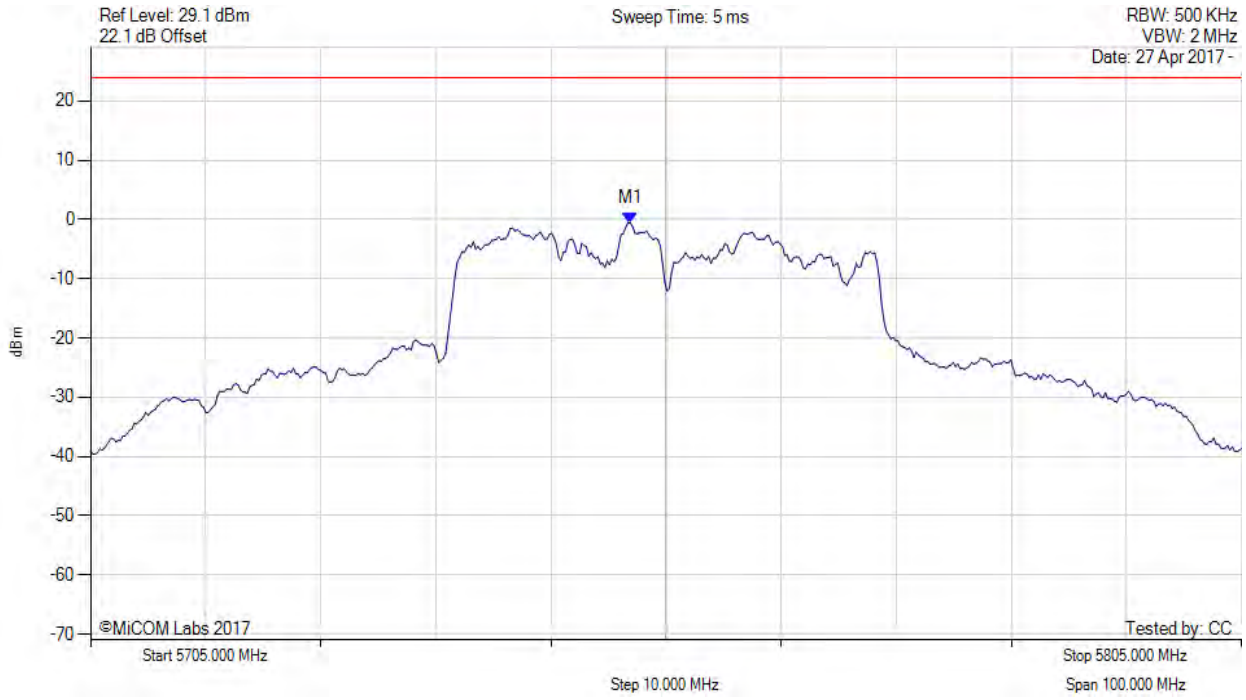


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5743.677 MHz : 1.306 dBm	Limit: ≤ 23.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc

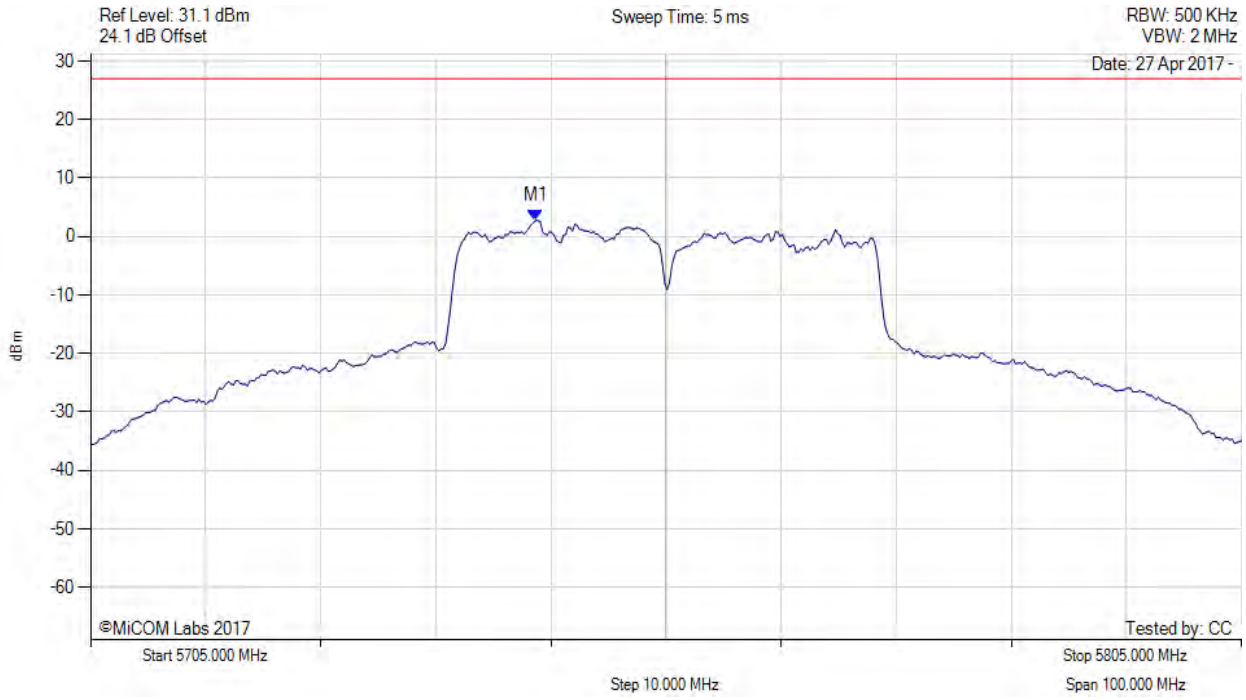


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5751.894 MHz : -0.527 dBm	Limit: ≤ 23.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5755.00 MHz, SUM, Temp: 20, Voltage: 0 Vdc

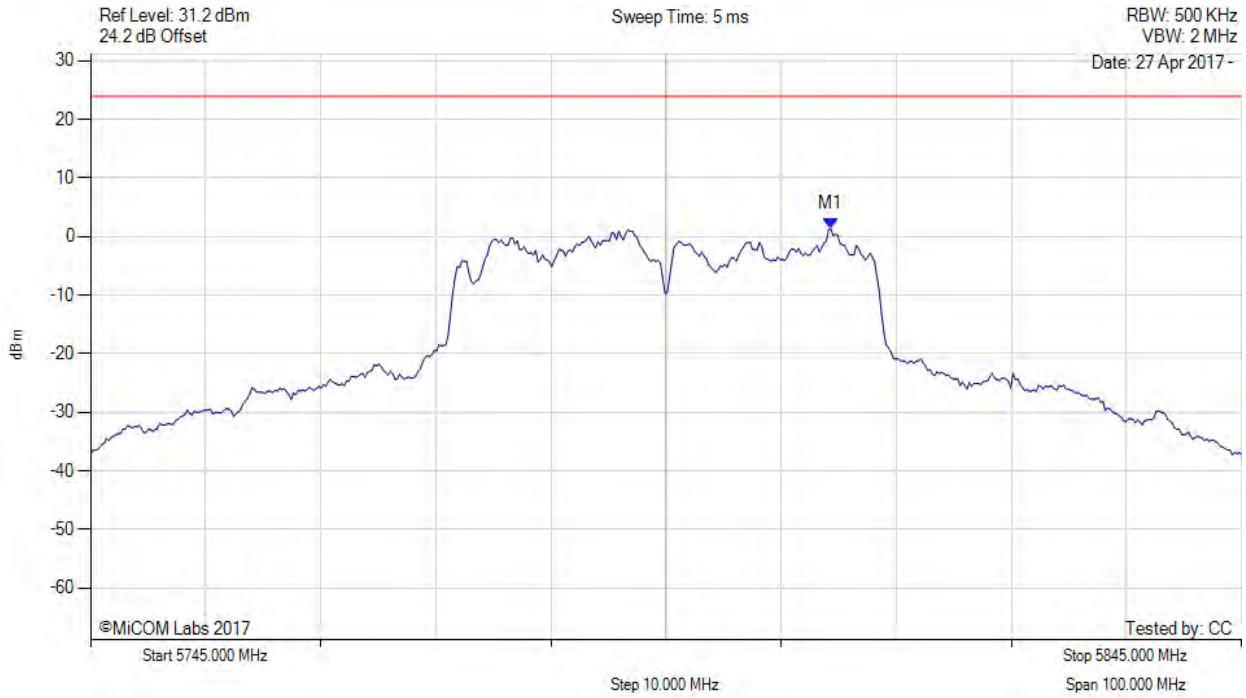


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5743.700 MHz : 2.753 dBm M1 + DCCF : 5743.700 MHz : 3.668 dBm Duty Cycle Correction Factor : +0.92 dB	Limit: ≤ 27.0 dBm Margin: -23.3 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain a, Temp: 20, Voltage: 0 Vdc

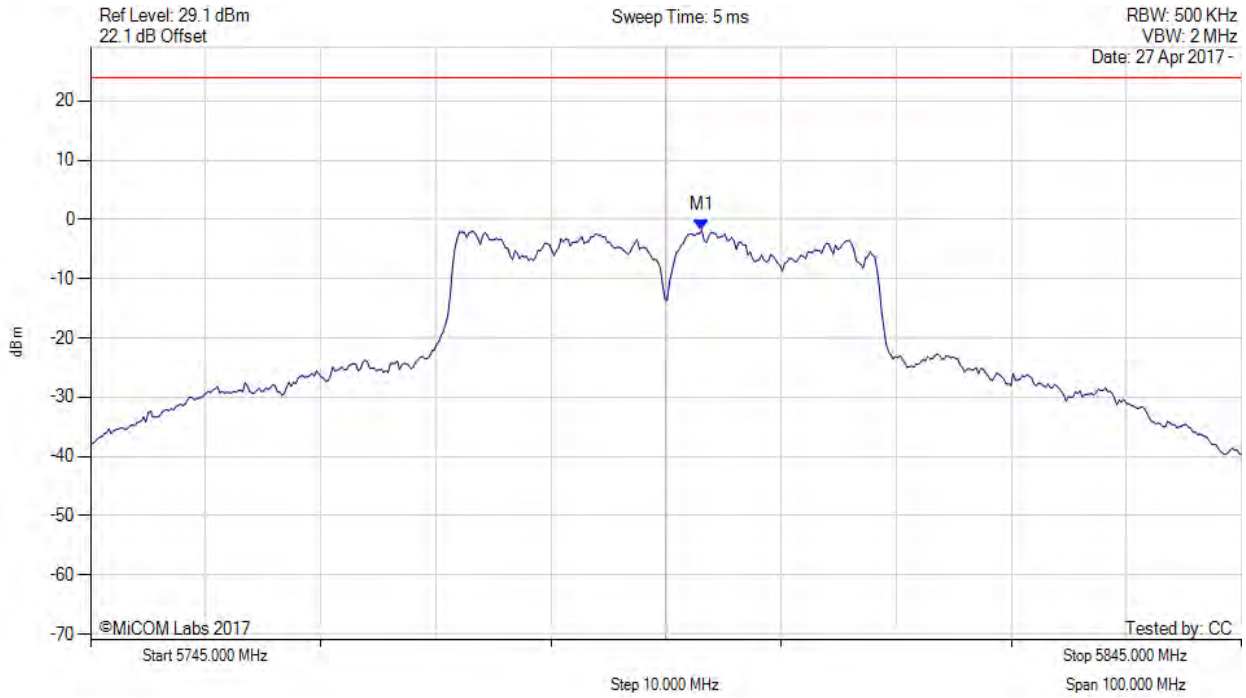


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5809.329 MHz : 1.331 dBm	Limit: ≤ 23.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain b, Temp: 20, Voltage: 0 Vdc

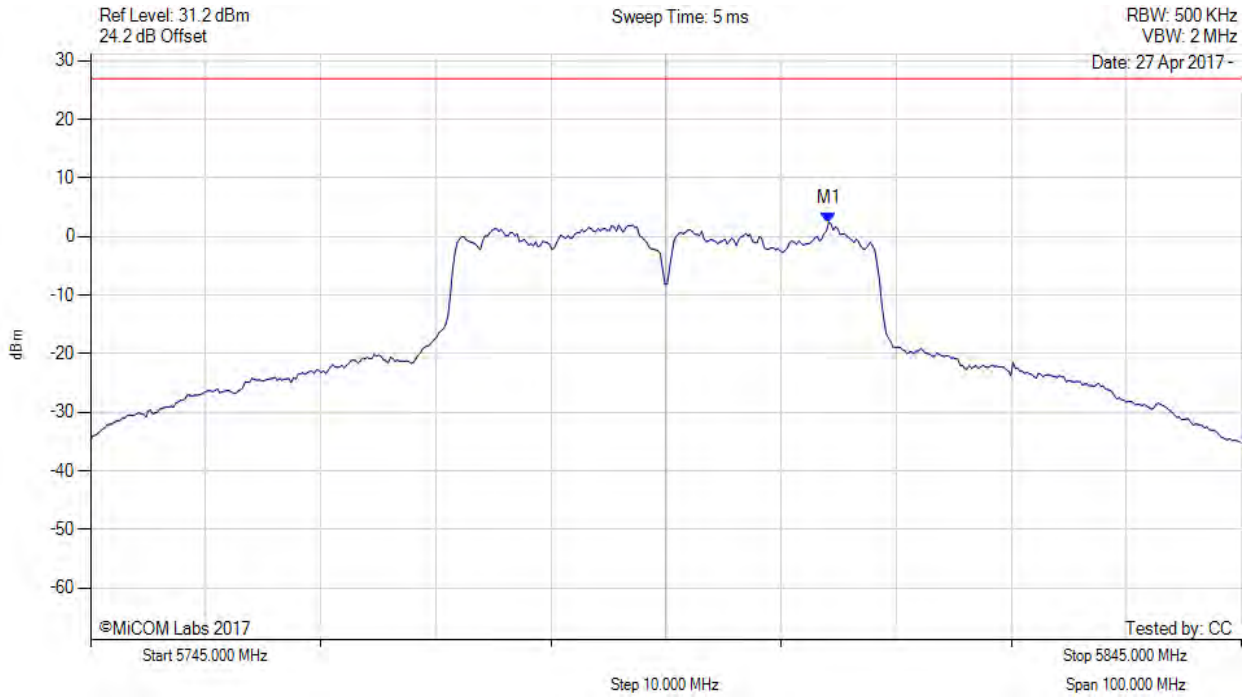


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5798.106 MHz : -1.742 dBm	Limit: ≤ 23.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5795.00 MHz, SUM, Temp: 20, Voltage: 0 Vdc



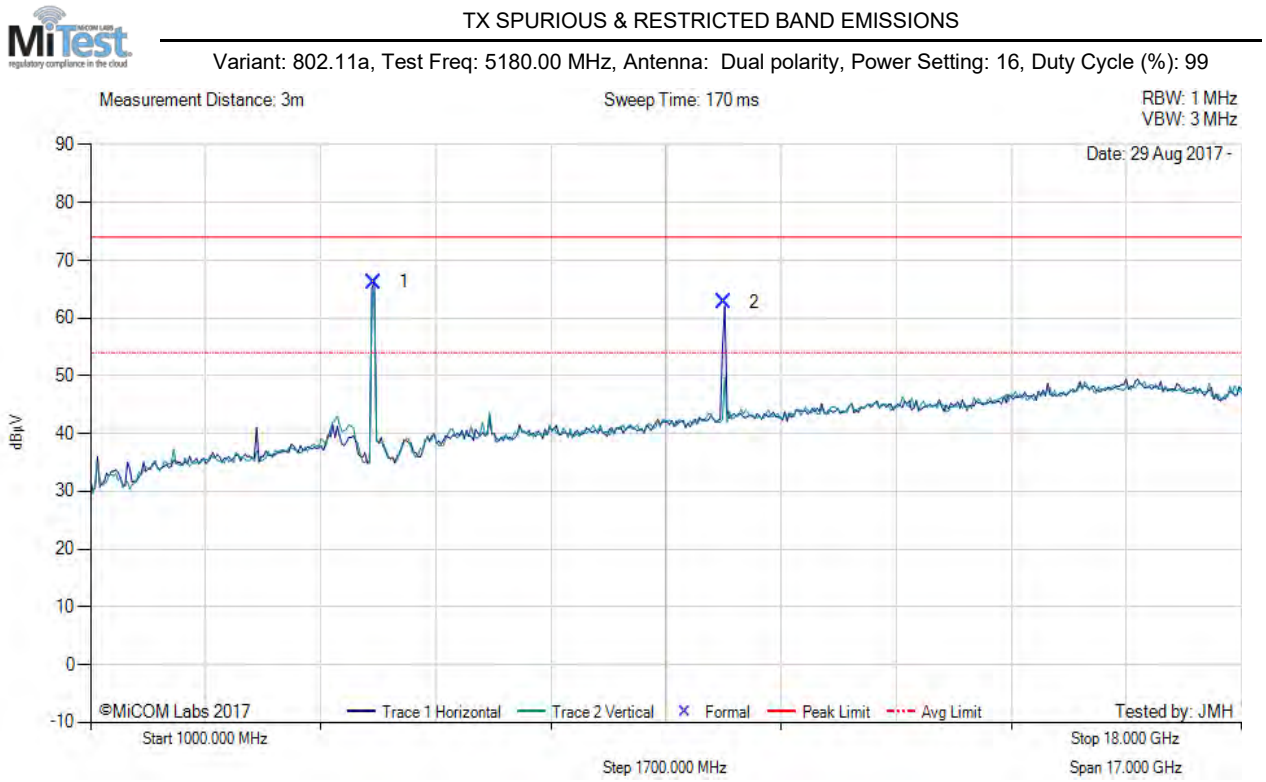
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5809.100 MHz : 2.339 dBm M1 + DCCF : 5809.100 MHz : 3.254 dBm Duty Cycle Correction Factor : +0.92 dB	Limit: ≤ 27.0 dBm Margin: -23.8 dB

back to matrix

A.4. Radiated

A.4.1. TX Spurious & Restricted Band Emissions

A.4.1.1. MikroTik Dual polarity



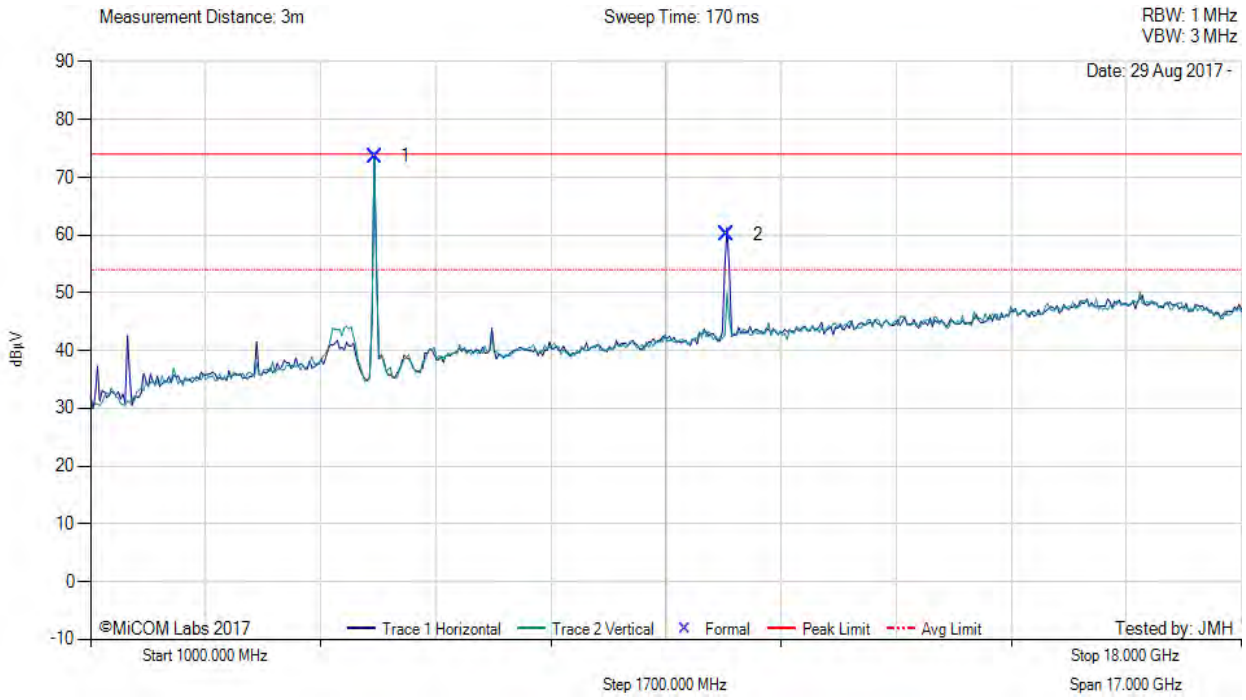
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5182.72	74.03	3.68	-11.50	66.21	Fundamental	Horizontal	100	0	--	--	
2	10357.33	62.41	5.55	-5.28	62.68	Peak (NRB)	Horizontal	200	27	--	--	Pass

Test Notes: Eut powered by POE , conected to laptop outside chamber

back to matrix

TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5200.00 MHz, Antenna: Dual polarity, Power Setting: 25, Duty Cycle (%): 99



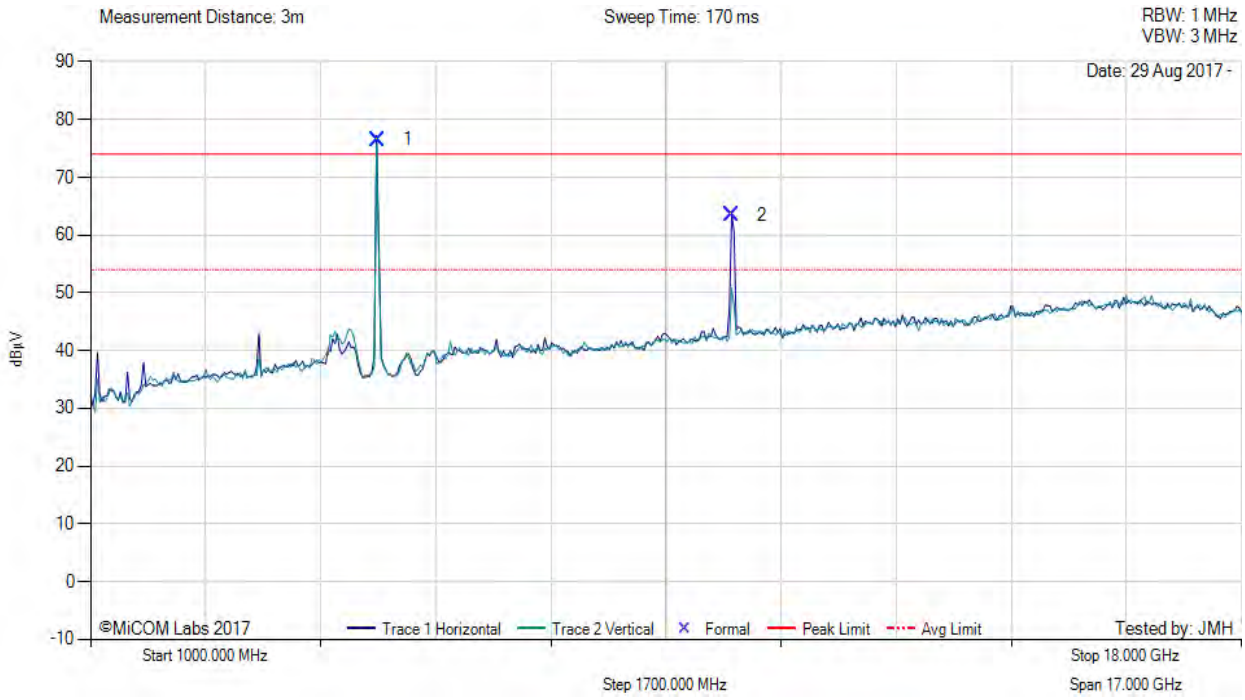
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5201.13	81.40	3.66	-11.46	73.60	Fundamental	Horizontal	100	0	--	--	
2	10402.81	59.64	5.42	-5.02	60.04	Peak (NRB)	Horizontal	200	100	--	--	Pass

Test Notes: Eut powered by POE , conected to laptop outside chamber

back to matrix

TX SPURIOUS & RESTRICTED BAND EMISSIONS

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



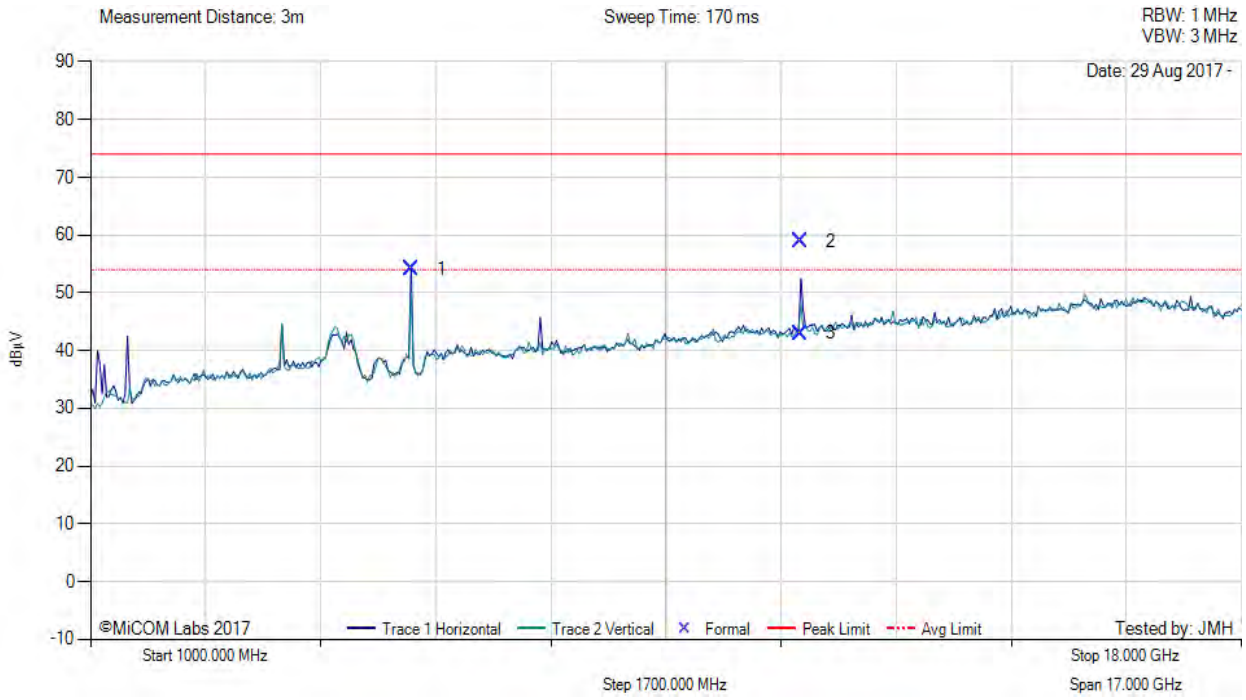
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5235.69	84.22	3.63	-11.37	76.48	Fundamental	Horizontal	100	0	--	--	
2	10476.73	62.47	5.44	-4.48	63.43	Peak (NRB)	Horizontal	200	47	--	--	Pass

Test Notes: Eut powered by POE , conected to laptop outside chamber

back to matrix

TX SPURIOUS & RESTRICTED BAND EMISSIONS

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



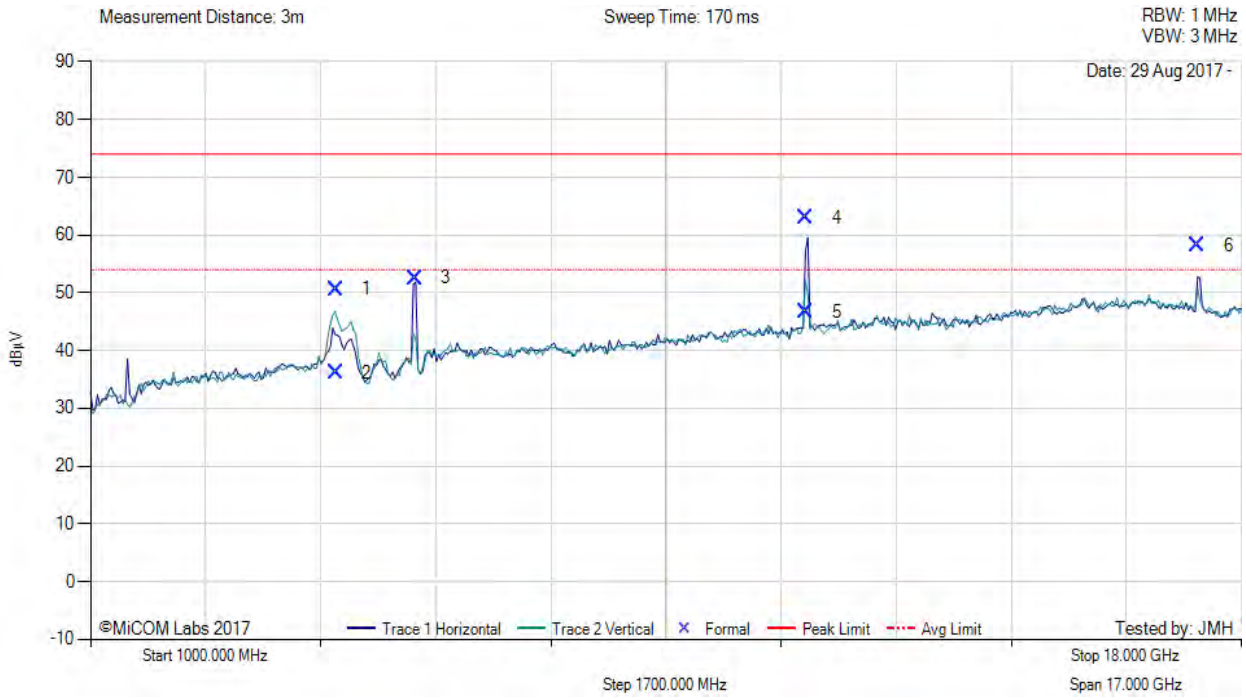
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5742.36	60.98	3.83	-10.66	54.15	Fundamental	Horizontal	100	0	--	--	
2	11483.80	58.27	5.46	-4.86	58.87	Max Peak	Horizontal	190	49	74.0	-15.1	Pass
3	11483.80	42.41	5.46	-4.86	43.01	Max Avg	Horizontal	190	49	54.0	-11.0	Pass

Test Notes: Eut powered by POE , conected to laptop outside chamber

back to matrix

TX SPURIOUS & RESTRICTED BAND EMISSIONS

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



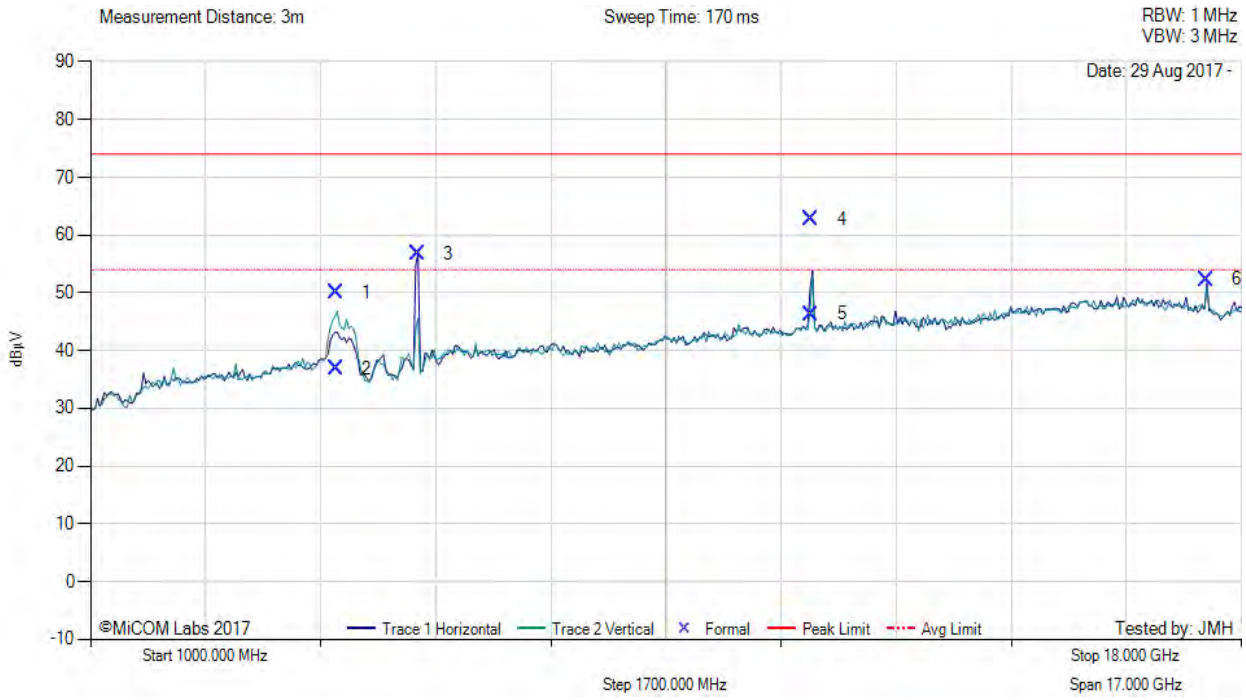
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	4620.08	58.46	3.54	-11.34	50.66	Max Peak	Vertical	148	352	74.0	-23.3	Pass
2	4620.08	43.97	3.54	-11.34	36.17	Max Avg	Vertical	148	352	54.0	-17.8	Pass
3	5791.43	59.16	3.79	-10.41	52.54	Fundamental	Horizontal	100	0	--	--	
4	11570.93	62.24	5.44	-4.64	63.04	Max Peak	Horizontal	194	34	74.0	-11.0	Pass
5	11570.93	45.95	5.44	-4.64	46.75	Max Avg	Horizontal	194	34	54.0	-7.3	Pass
6	17357.53	51.90	6.28	-0.03	58.15	Peak (NRB)	Horizontal	148	72	--	--	Pass

Test Notes: Eut powered by POE , conected to laptop outside chamber

back to matrix

TX SPURIOUS & RESTRICTED BAND EMISSIONS

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

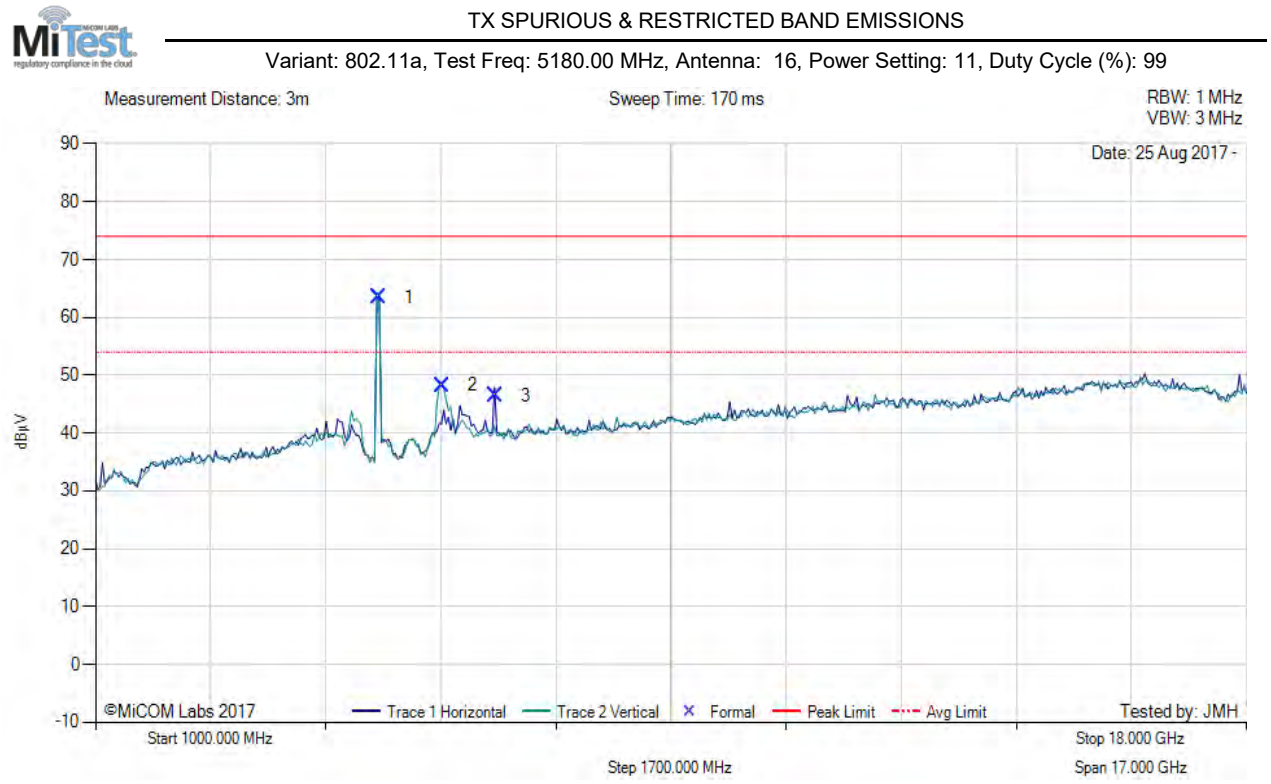


1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	4622.09	57.83	3.55	-11.34	50.04	Max Peak	Vertical	126	21	74.0	-24.0	Pass
2	4622.09	44.59	3.55	-11.34	36.80	Max Avg	Vertical	126	21	54.0	-17.2	Pass
3	5829.35	63.11	3.84	-10.23	56.72	Fundamental	Horizontal	100	0	--	--	
4	11648.24	61.74	5.44	-4.47	62.71	Max Peak	Horizontal	188	137	74.0	-11.3	Pass
5	11648.24	45.34	5.44	-4.47	46.31	Max Avg	Horizontal	188	137	54.0	-7.7	Pass
6	17477.02	46.63	6.31	-0.60	52.34	Peak (NRB)	Horizontal	151	134	--	--	Pass

Test Notes: Eut powered by POE , conected to laptop outside chamber

back to matrix

A.4.1.2. MikroTik MikroTik16



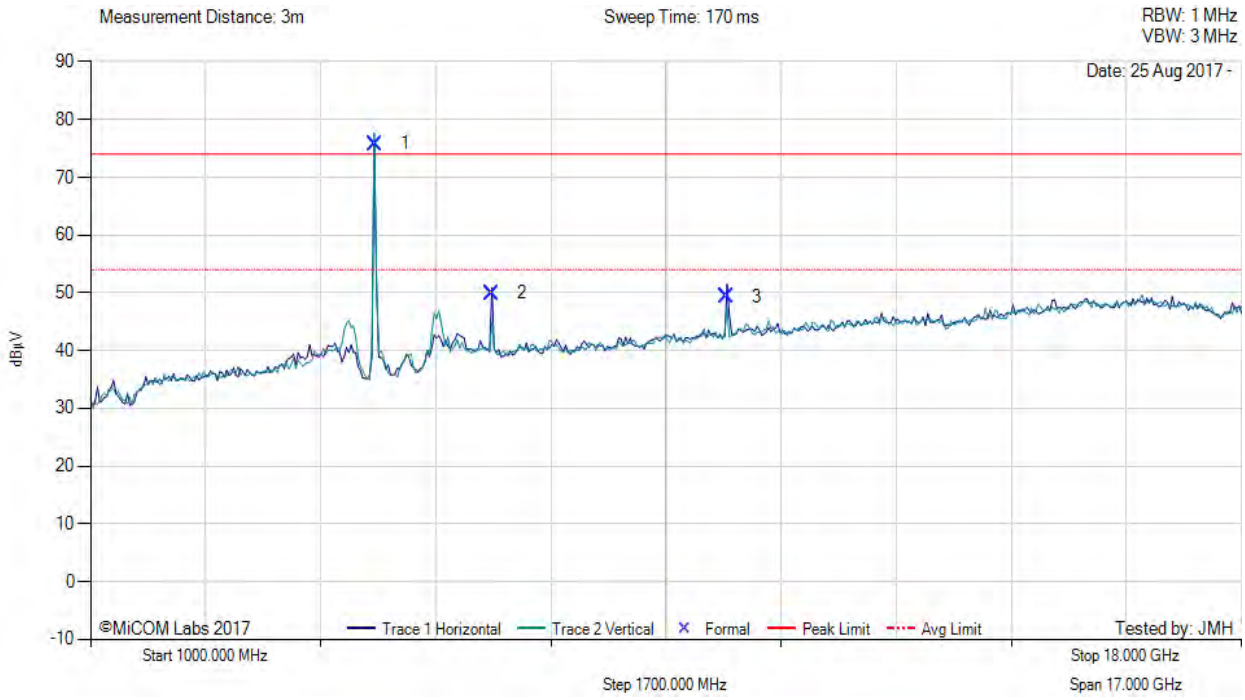
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5175.55	71.21	3.69	-11.51	63.39	Fundamental	Vertical	151	0	--	--	
2	6124.89	53.73	3.92	-9.36	48.29	Peak (NRB)	Vertical	151	0	--	--	Pass
3	6906.62	49.91	4.11	-7.54	46.48	Peak (NRB)	Horizontal	151	30	--	--	Pass

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

back to matrix

TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5200.00 MHz, Antenna: 16, Power Setting: 18, Duty Cycle (%): 99



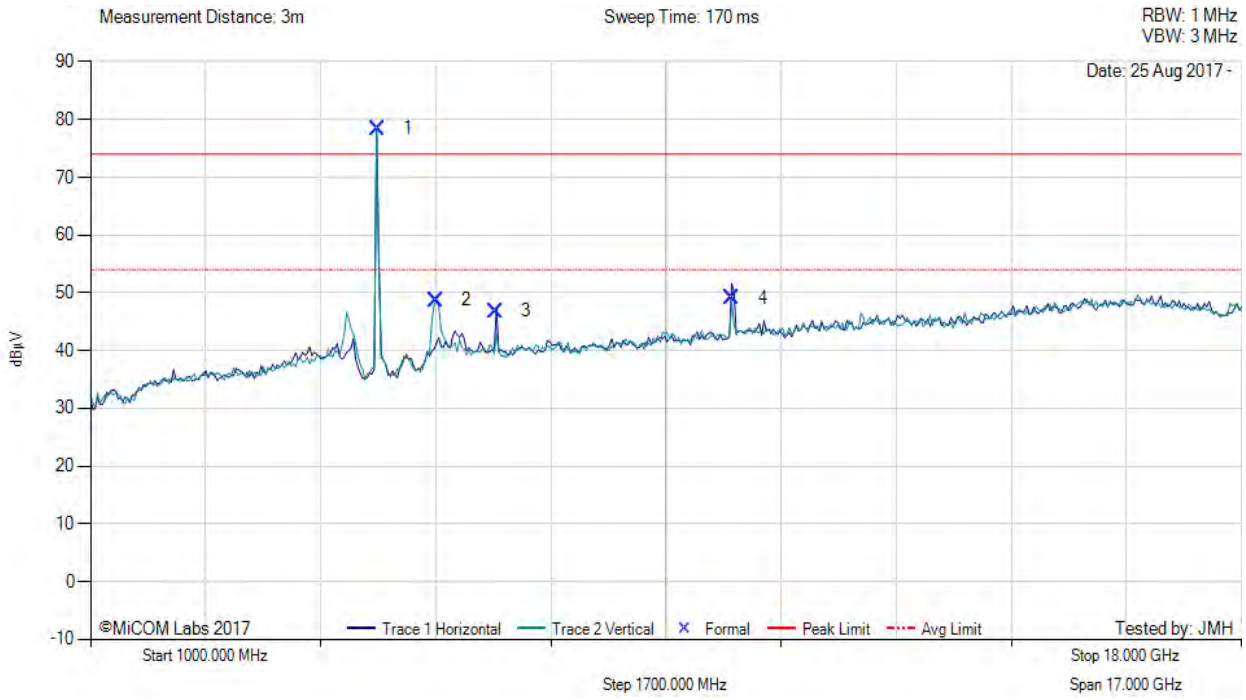
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5204.99	83.61	3.65	-11.45	75.81	Fundamental	Vertical	151	0	--	--	
2	6933.31	53.27	4.11	-7.49	49.89	Peak (NRB)	Horizontal	151	0	--	--	Pass
3	10390.63	49.00	5.38	-5.09	49.29	Peak (NRB)	Horizontal	151	17	--	--	Pass

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

back to matrix

TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5240.00 MHz, Antenna: 16, Power Setting: 18, Duty Cycle (%): 99



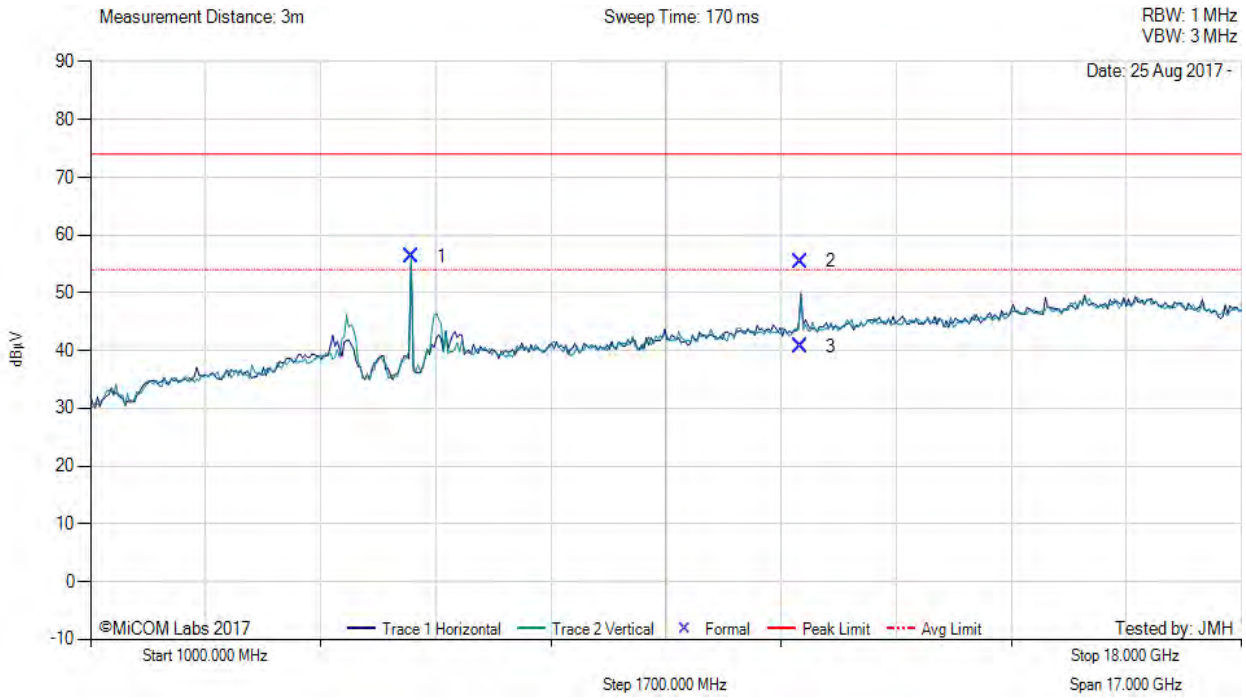
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5243.79	86.17	3.63	-11.36	78.44	Fundamental	Vertical	100	0	--	--	
2	6100.02	54.35	3.88	-9.50	48.73	Peak (NRB)	Vertical	100	0	--	--	Pass
3	6986.68	50.17	4.13	-7.45	46.85	Peak (NRB)	Horizontal	100	52	--	--	Pass
4	10478.82	48.05	5.43	-4.46	49.02	Peak (NRB)	Horizontal	150	14	--	--	Pass

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

back to matrix

TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: 16, Power Setting: 18, Duty Cycle (%): 99



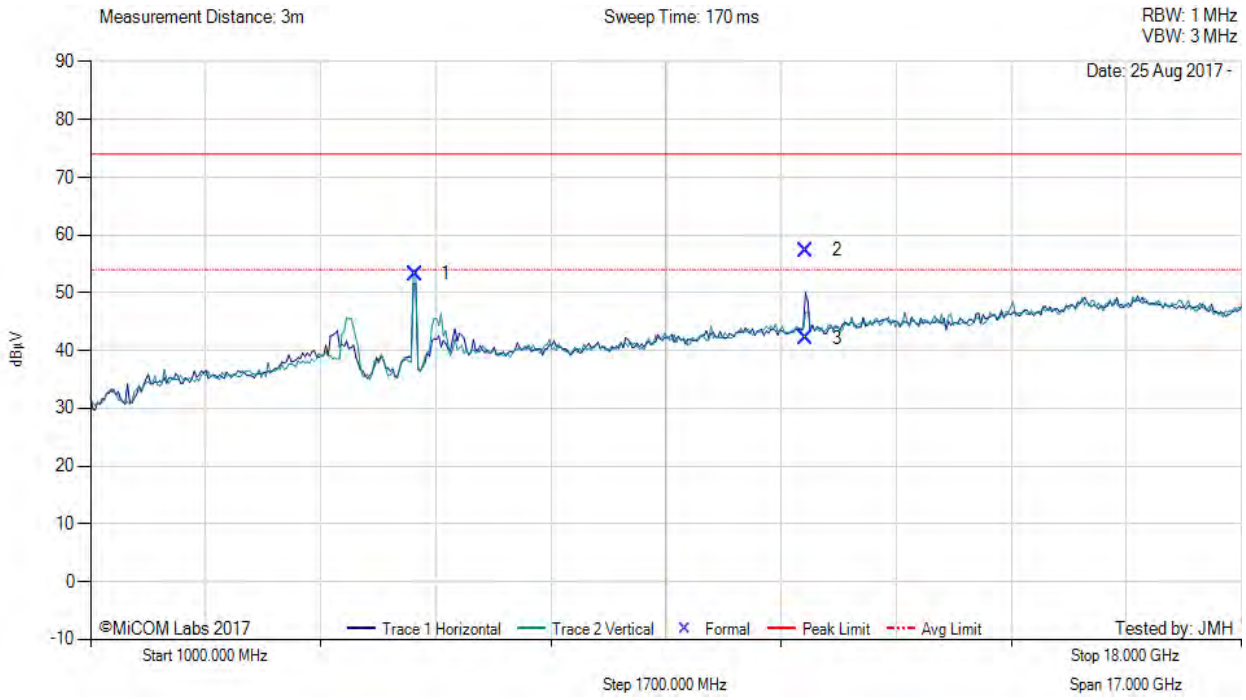
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5738.50	63.12	3.82	-10.67	56.27	Fundamental	Vertical	100	0	--	--	
2	11489.53	54.85	5.45	-4.84	55.46	Max Peak	Horizontal	186	188	74.0	-18.5	Pass
3	11489.53	40.07	5.45	-4.84	40.68	Max Avg	Horizontal	186	188	54.0	-13.3	Pass

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

back to matrix

TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5785.00 MHz, Antenna: 16, Power Setting: 18, Duty Cycle (%): 99



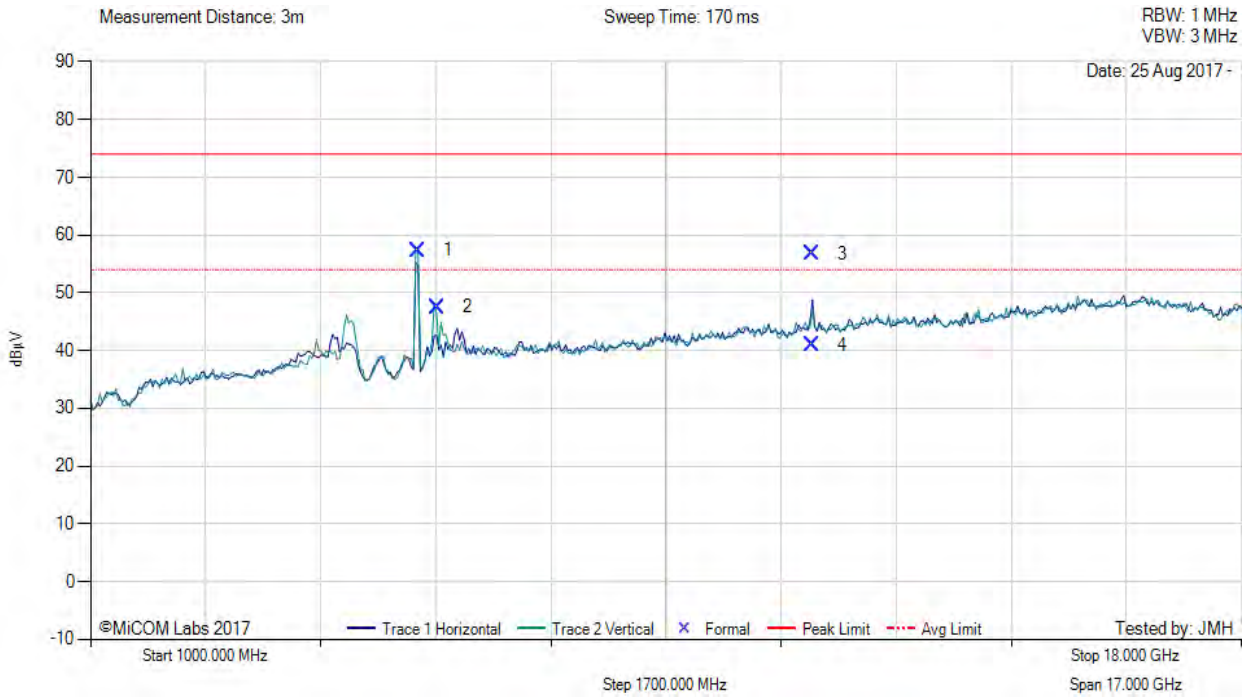
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5790.21	59.88	3.79	-10.42	53.25	Fundamental	Vertical	100	0	--	--	
2	11570.10	56.54	5.44	-4.64	57.34	Max Peak	Horizontal	184	190	74.0	-16.7	Pass
3	11570.10	41.29	5.44	-4.64	42.09	Max Avg	Horizontal	184	190	54.0	-11.9	Pass

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

back to matrix

TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5825.00 MHz, Antenna: 16, Power Setting: 18, Duty Cycle (%): 99

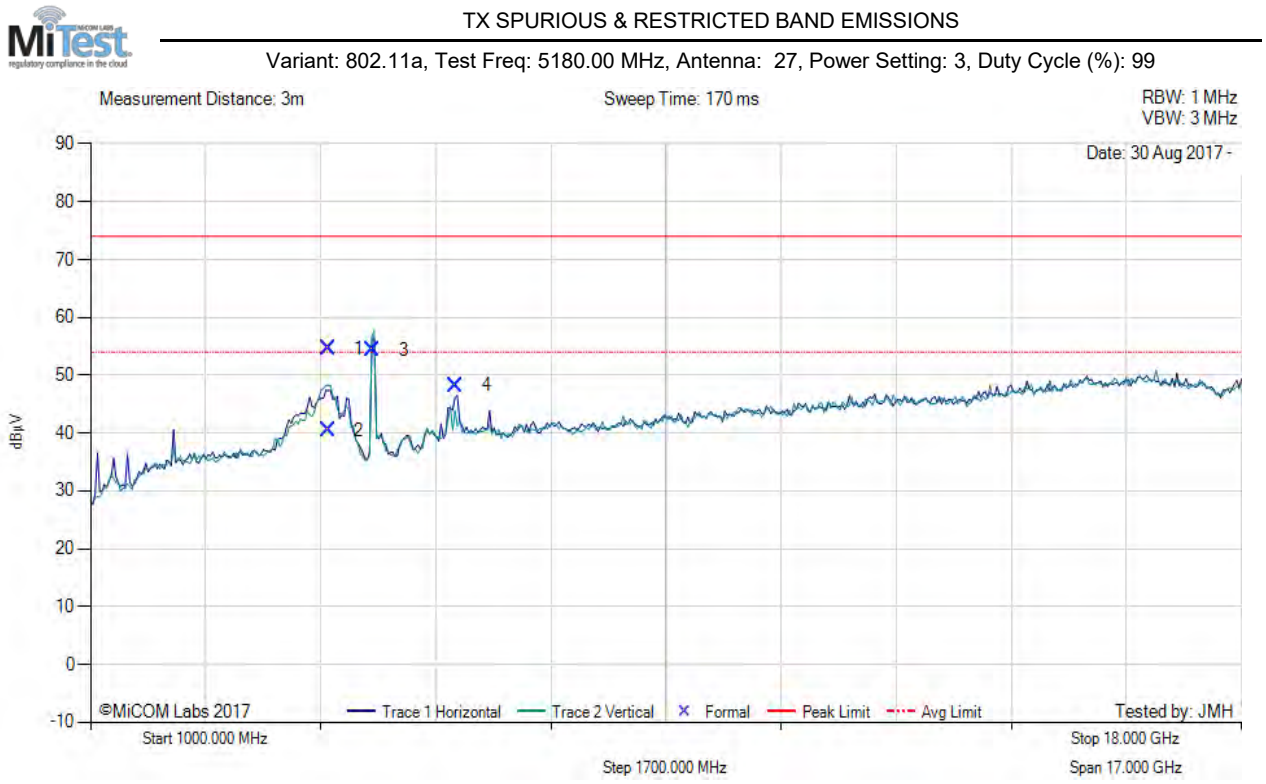


1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5830.24	63.76	3.84	-10.22	57.38	Fundamental	Vertical	100	0	--	--	
2	6124.93	52.98	3.92	-9.36	47.54	Peak (NRB)	Vertical	100	0	--	--	Pass
3	11650.25	55.80	5.46	-4.47	56.79	Max Peak	Horizontal	180	188	74.0	-17.2	Pass
4	11650.25	39.97	5.46	-4.47	40.96	Max Avg	Horizontal	180	188	54.0	-13.0	Pass

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

back to matrix

A.4.1.3. MikroTik MikroTik27



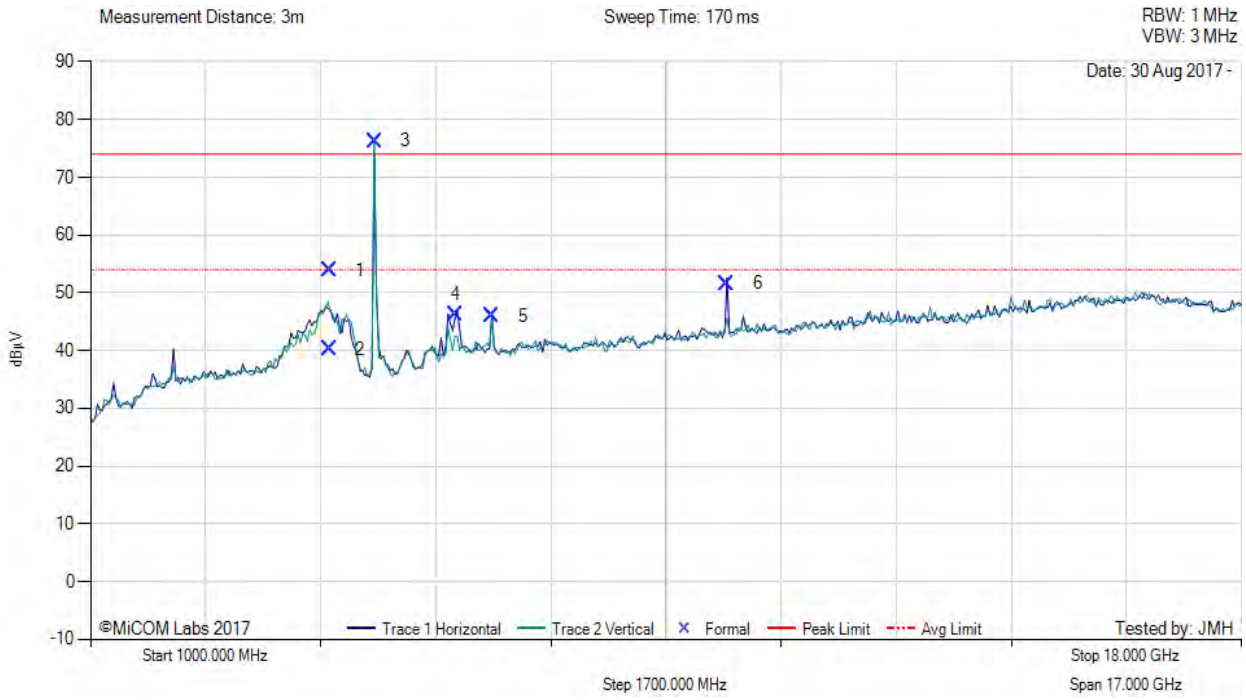
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	4512.53	62.63	3.53	-11.55	54.61	Max Peak	Vertical	181	3	74.0	-19.4	Pass
2	4512.53	48.55	3.53	-11.55	40.53	Max Avg	Vertical	181	3	54.0	-13.5	Pass
3	5173.79	62.15	3.70	-11.52	54.33	Fundamental	Vertical	200	0	--	--	
4	6400.07	52.31	3.95	-8.04	48.22	Peak (NRB)	Horizontal	200	0	--	--	Pass

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

back to matrix

TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5200.00 MHz, Antenna: 27, Power Setting: 8, Duty Cycle (%): 99



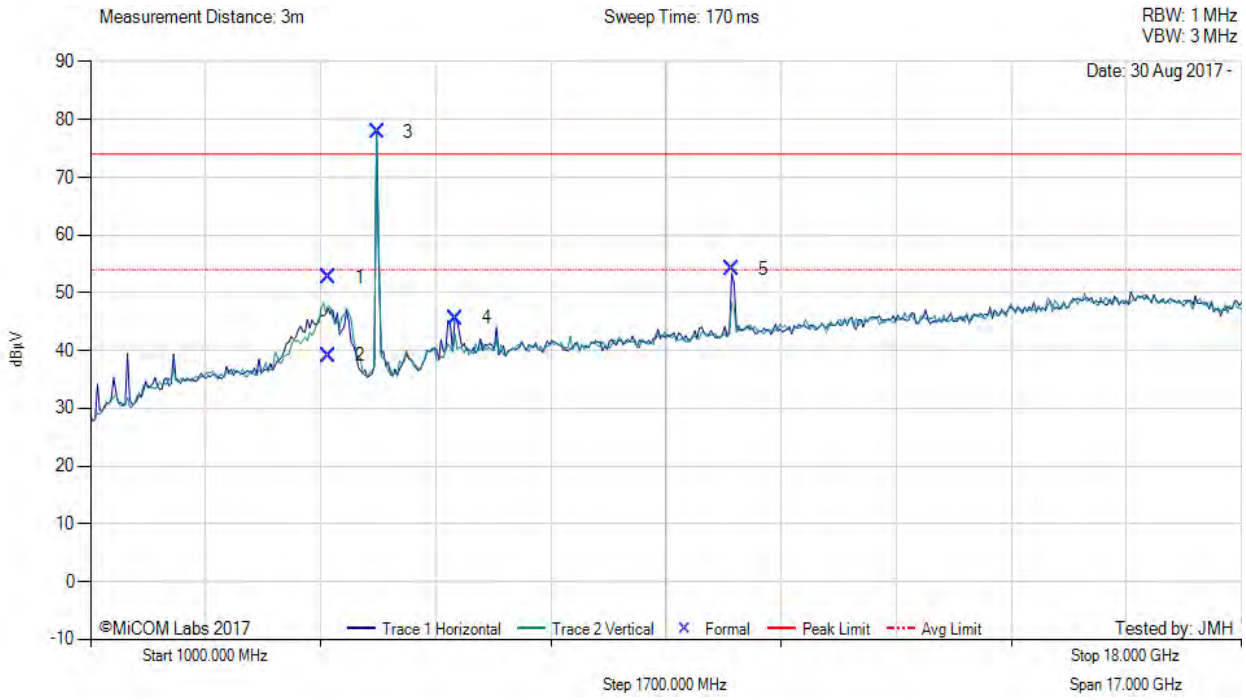
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	4525.04	61.87	3.47	-11.50	53.84	Max Peak	Vertical	193	1	74.0	-20.2	Pass
2	4525.04	48.18	3.47	-11.50	40.15	Max Avg	Vertical	193	1	54.0	-13.9	Pass
3	5206.42	84.09	3.65	-11.45	76.29	Fundamental	Vertical	200	0	--	--	
4	6400.02	50.29	3.95	-8.04	46.20	Peak (NRB)	Horizontal	200	0	--	--	Pass
5	6933.54	49.31	4.11	-7.49	45.93	Peak (NRB)	Horizontal	200	10	--	--	Pass
6	10402.14	51.19	5.42	-5.02	51.59	Peak (NRB)	Horizontal	200	0	--	--	Pass

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

back to matrix

TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5240.00 MHz, Antenna: 27, Power Setting: 8, Duty Cycle (%): 99



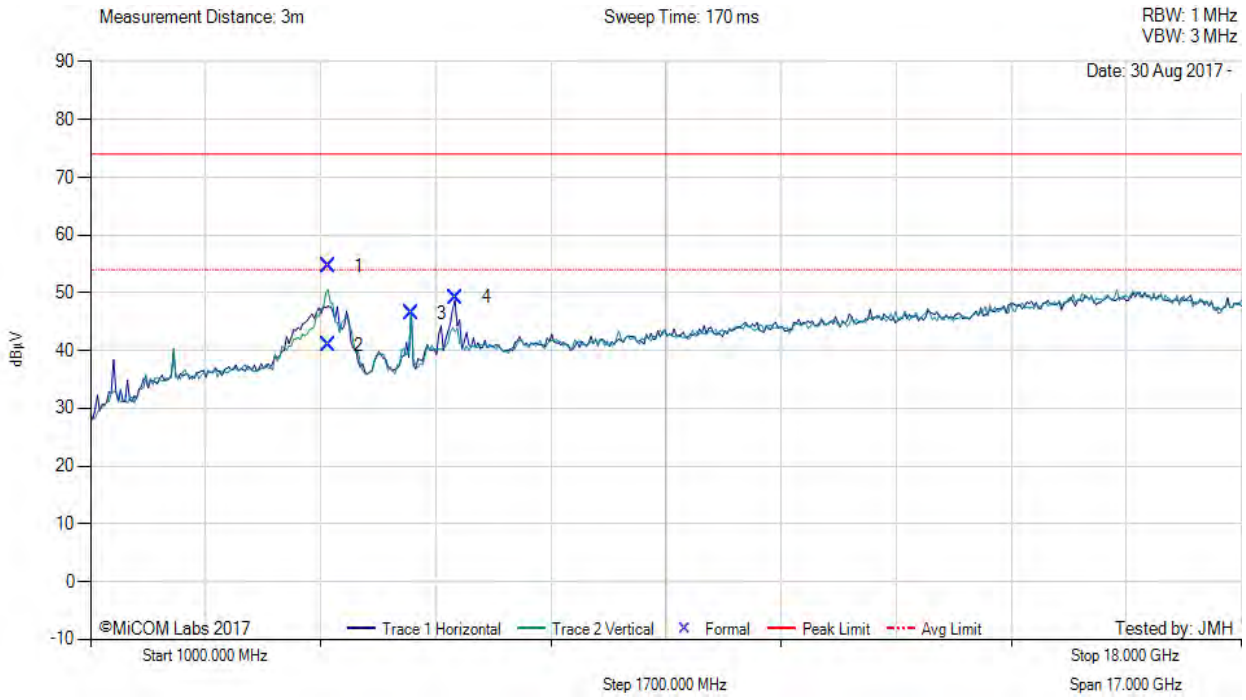
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	4522.80	60.76	3.49	-11.51	52.74	Max Peak	Vertical	177	1	74.0	-21.3	Pass
2	4522.80	47.14	3.49	-11.51	39.12	Max Avg	Vertical	177	1	54.0	-14.9	Pass
3	5237.95	85.55	3.63	-11.37	77.81	Fundamental	Vertical	200	0	--	--	
4	6399.91	49.73	3.95	-8.05	45.63	Peak (NRB)	Horizontal	200	0	--	--	Pass
5	10478.05	53.11	5.43	-4.46	54.08	Peak (NRB)	Horizontal	200	9	--	--	Pass

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

back to matrix

TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: 27, Power Setting: 3, Duty Cycle (%): 99



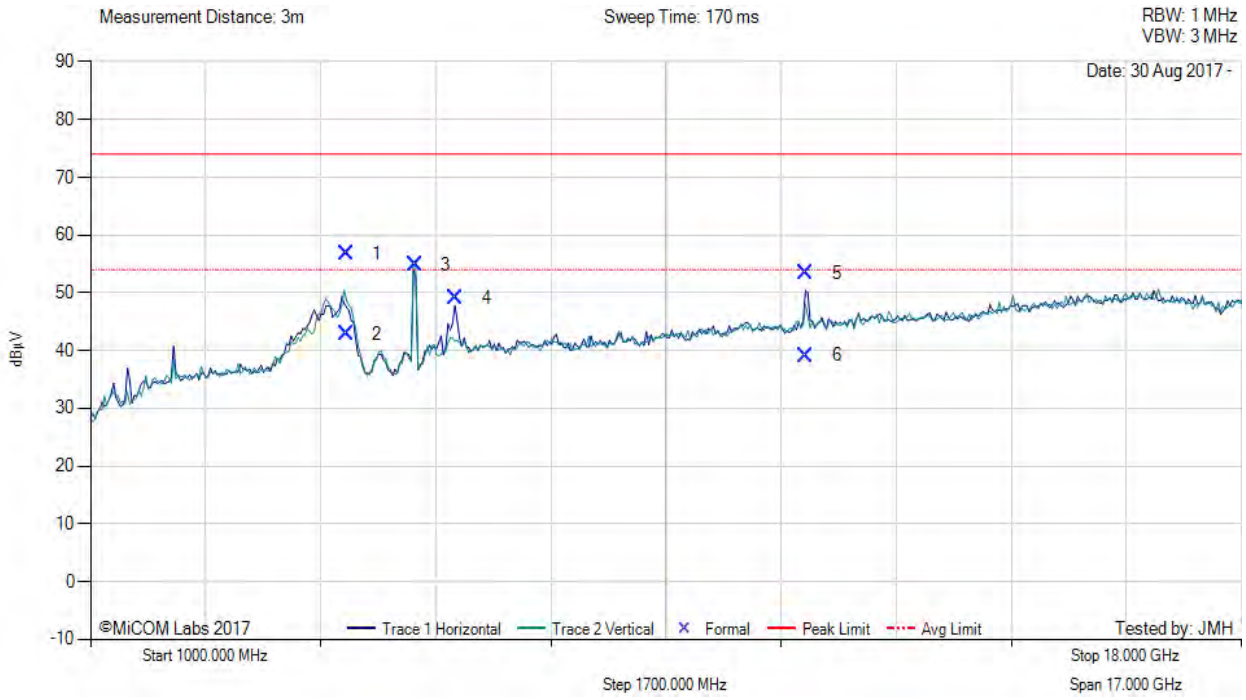
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	4514.71	62.62	3.54	-11.54	54.62	Max Peak	Vertical	182	4	74.0	-19.4	Pass
2	4514.71	48.87	3.54	-11.54	40.87	Max Avg	Vertical	182	4	54.0	-13.1	Pass
3	5741.26	53.32	3.83	-10.66	46.49	Fundamental	Vertical	200	0	--	--	
4	6399.97	53.30	3.95	-8.05	49.20	Peak (NRB)	Horizontal	200	0	--	--	Pass

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

back to matrix

TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5785.00 MHz, Antenna: 27, Power Setting: 8, Duty Cycle (%): 99



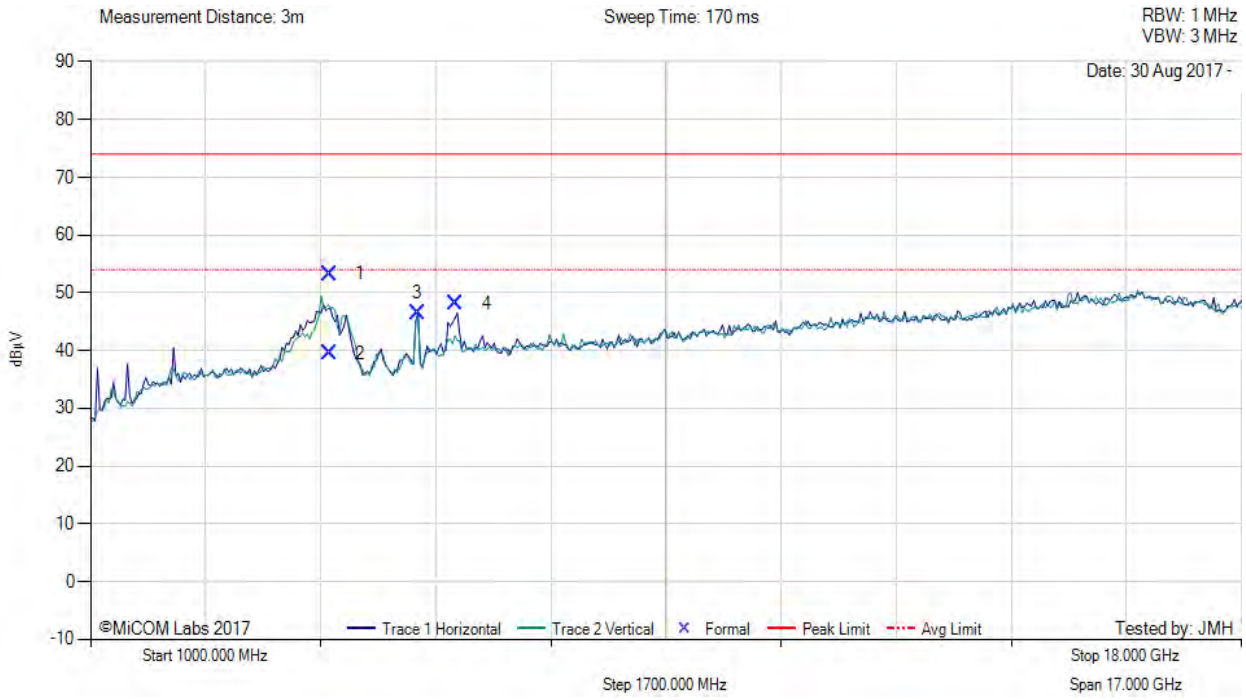
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	4774.65	64.22	3.63	-11.12	56.73	Max Peak	Vertical	190	2	74.0	-17.3	Pass
2	4774.65	50.40	3.63	-11.12	42.91	Max Avg	Vertical	190	2	54.0	-11.1	Pass
3	5790.77	61.46	3.79	-10.41	54.84	Fundamental	Vertical	200	0	--	--	
4	6399.98	53.23	3.95	-8.05	49.13	Peak (NRB)	Horizontal	200	0	--	--	Pass
5	11570.66	52.65	5.44	-4.64	53.45	Max Peak	Horizontal	192	358	74.0	-20.6	Pass
6	11570.66	38.33	5.44	-4.64	39.13	Max Avg	Horizontal	192	358	54.0	-14.9	Pass

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

back to matrix

TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5825.00 MHz, Antenna: 27, Power Setting: 3, Duty Cycle (%): 99



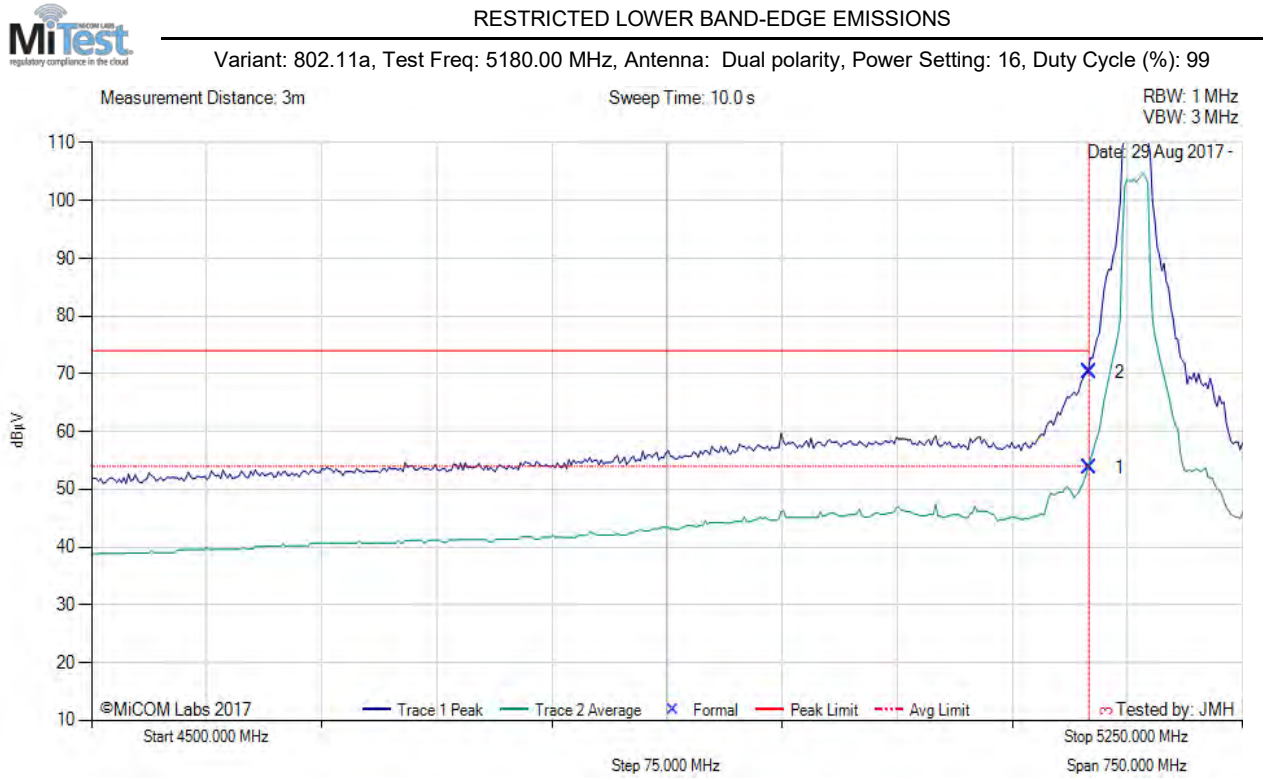
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	4535.30	61.33	3.45	-11.46	53.32	Max Peak	Vertical	187	0	74.0	-20.7	Pass
2	4535.30	47.58	3.45	-11.46	39.57	Max Avg	Vertical	187	0	54.0	-14.4	Pass
3	5828.48	52.82	3.84	-10.24	46.42	Fundamental	Horizontal	200	0	--	--	
4	6400.01	52.19	3.95	-8.04	48.10	Peak (NRB)	Horizontal	200	0	--	--	Pass

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

back to matrix

A.4.2. Restricted Edge & Band-Edge Emissions

A.1.2.1 MikroTik Dual polarity



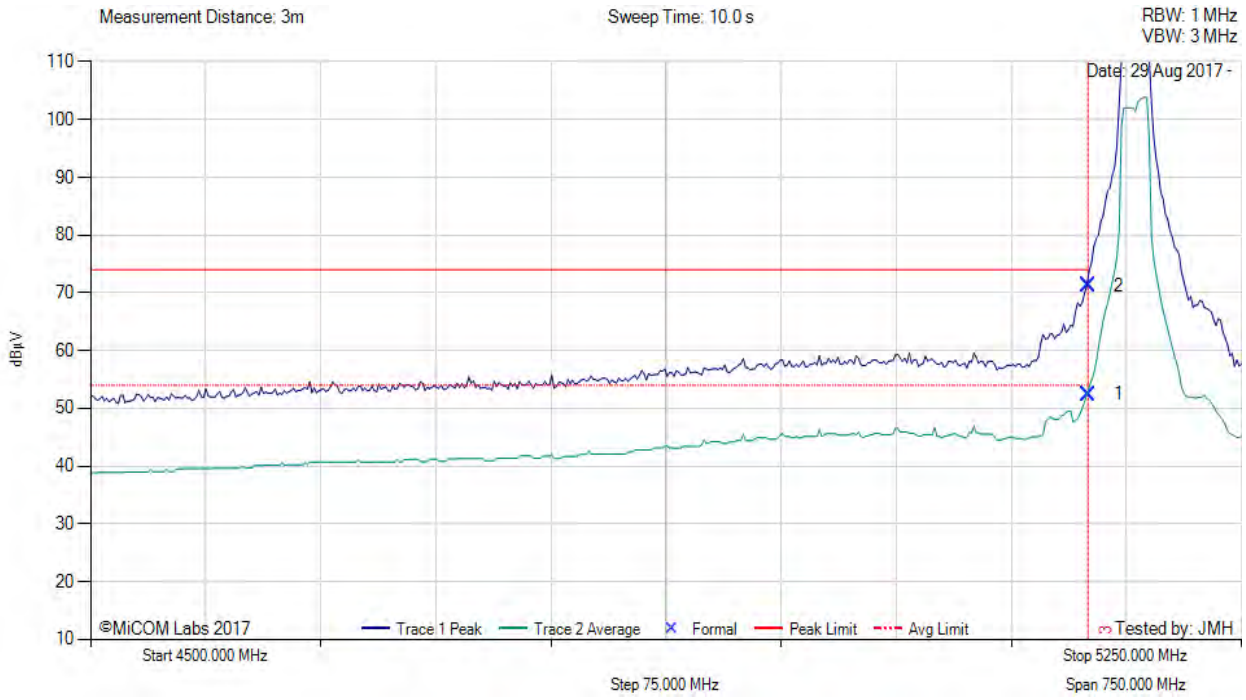
4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5150.00	15.95	3.67	34.11	53.73	Max Avg	Vertical	139	359	54.0	-0.3	Pass
2	5150.00	32.44	3.67	34.11	70.22	Max Peak	Vertical	139	359	74.0	-3.8	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: Eut powered by POE , conected to laptop outside chamber

back to matrix

RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 5180.00 MHz, Antenna: Dual polarity, Power Setting: 15, Duty Cycle (%): 99



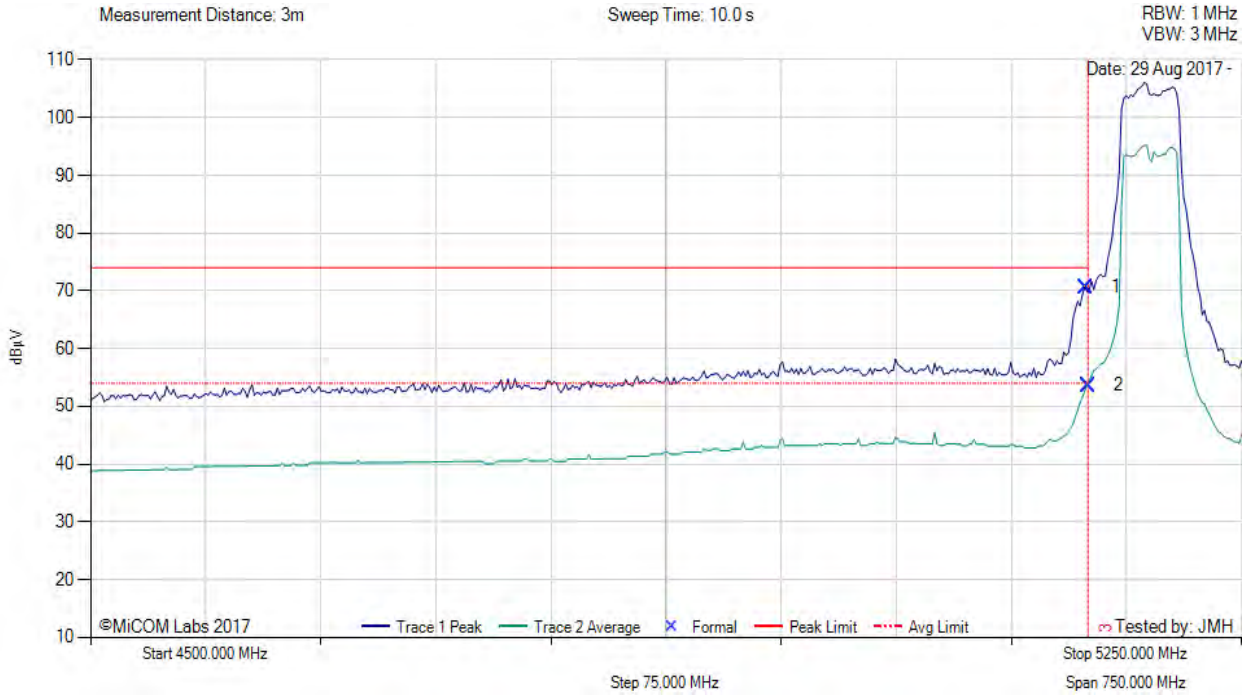
4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5150.00	14.65	3.67	34.11	52.43	Max Avg	Vertical	139	359	54.0	-1.6	Pass
2	5150.00	33.47	3.67	34.11	71.25	Max Peak	Vertical	139	359	74.0	-2.8	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: Eut powered by POE , conected to laptop outside chamber

back to matrix

RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 5190.00 MHz, Antenna: Dual polarity, Power Setting: 10, Duty Cycle (%): 99



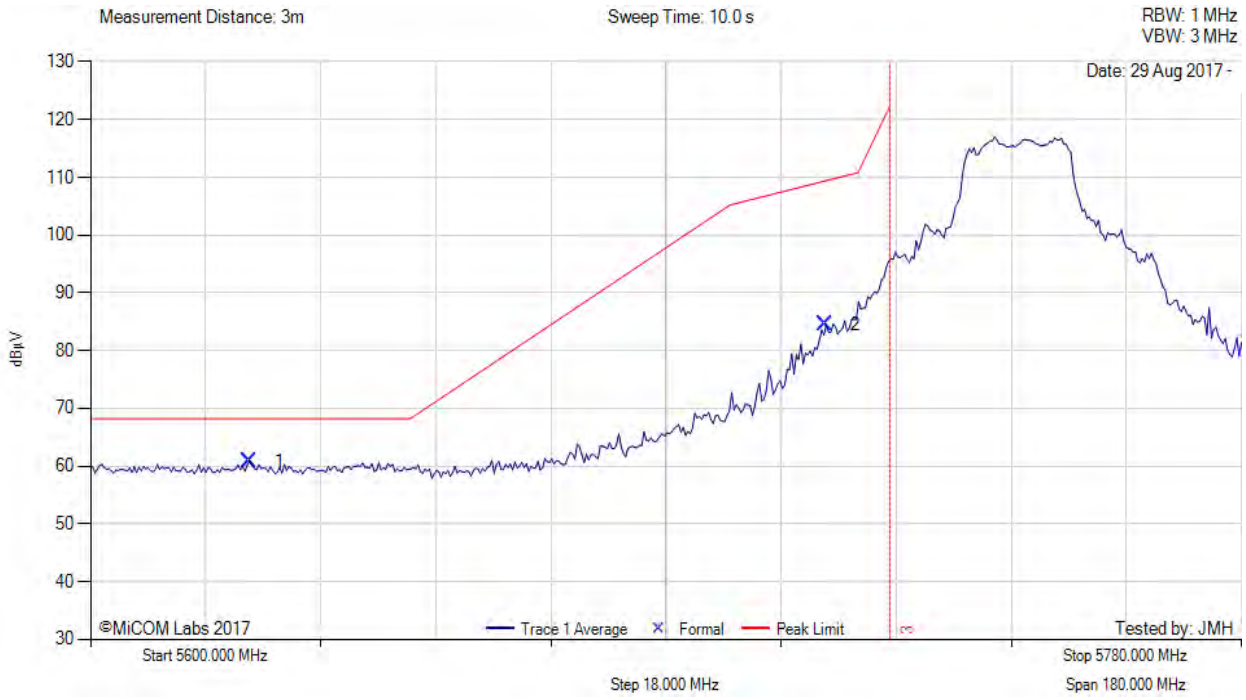
4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5148.50	32.89	3.68	34.11	70.68	Max Peak	Vertical	139	359	74.0	-3.3	Pass
2	5150.00	15.85	3.67	34.11	53.63	Max Avg	Vertical	139	359	54.0	-0.4	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: Eut powered by POE , conected to laptop outside chamber

back to matrix

5725 MHz RADIATED BAND-EDGE EMISSIONS

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



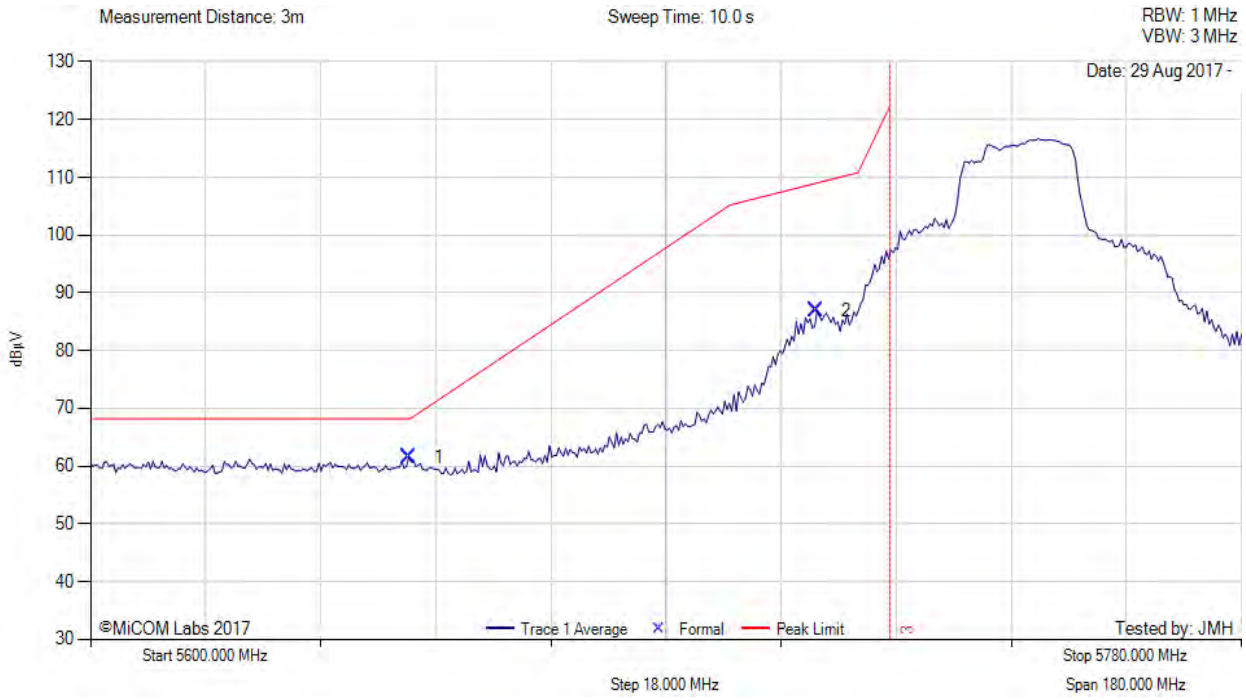
5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5624.82	22.90	3.76	34.21	60.87	Max Peak	Horizontal	104	1	68.2	-7.4	Pass
2	5714.90	46.31	3.81	34.34	84.46	Max Peak	Horizontal	104	1	109.4	-24.9	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Eut powered by POE , conected to laptop outside chamber

back to matrix

5725 MHz RADIATED BAND-EDGE EMISSIONS

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



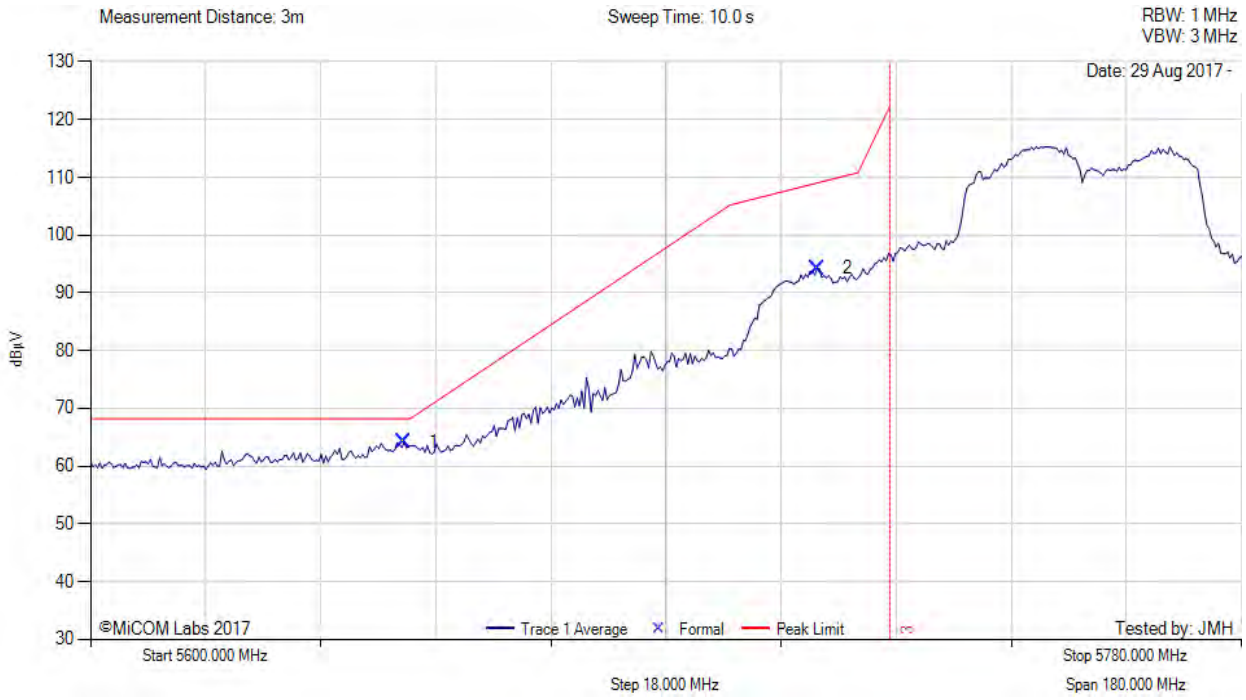
5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5649.71	23.55	3.75	34.18	61.48	Max Peak	Horizontal	104	1	68.2	-6.8	Pass
2	5713.46	48.73	3.82	34.34	86.89	Max Peak	Horizontal	104	1	108.8	-22.0	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Eut powered by POE , conected to laptop outside chamber

back to matrix

5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 5755.00 MHz, Antenna: Dual polarity, Power Setting: 25, Duty Cycle (%): 99



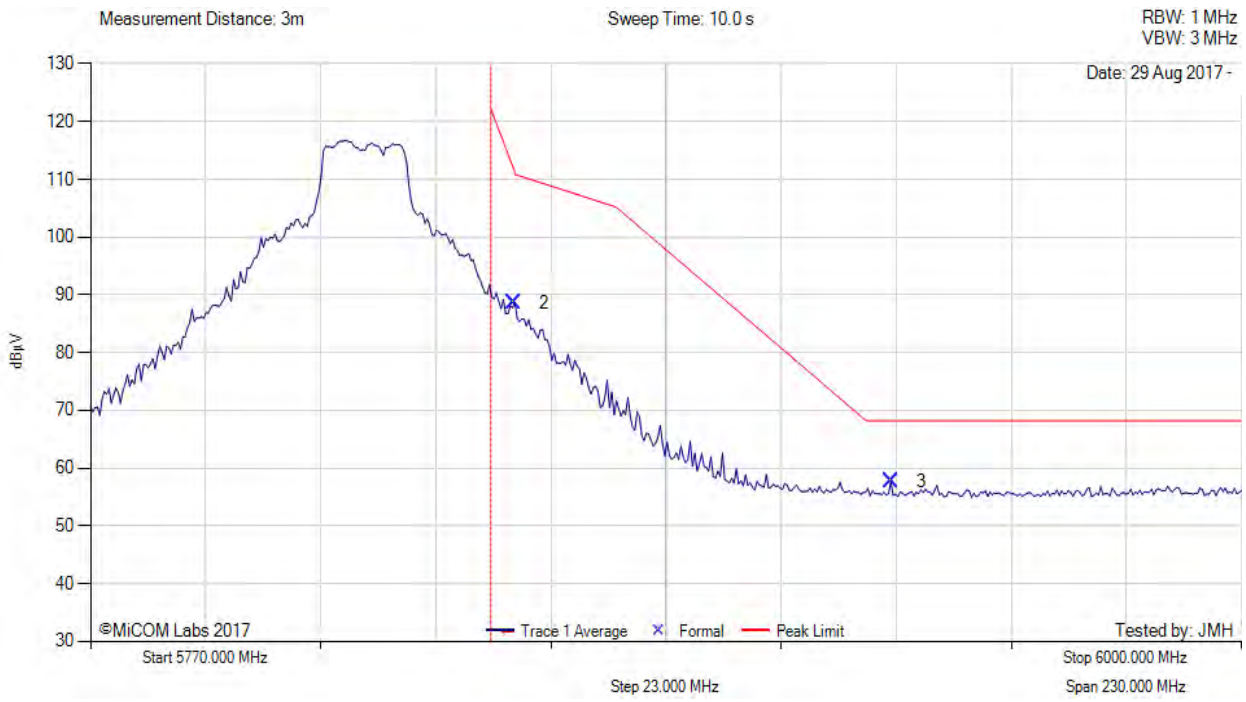
5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5648.99	26.20	3.75	34.18	64.13	Max Peak	Horizontal	104	1	68.2	-4.1	Pass
2	5713.63	56.07	3.82	34.34	94.23	Max Peak	Horizontal	104	1	109.1	-14.9	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Eut powered by POE , conected to laptop outside chamber

back to matrix

5850 MHz RADIATED BAND-EDGE EMISSIONS

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



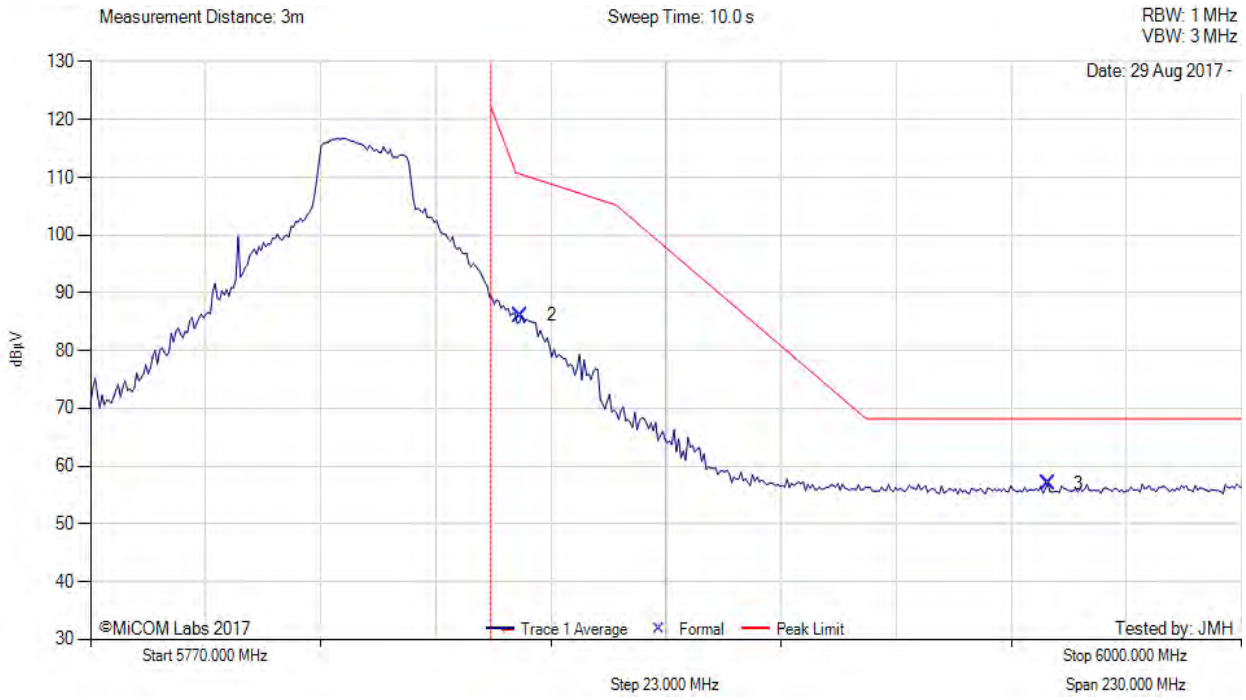
5770.00 - 6000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
2	5854.61	50.14	3.83	34.64	88.61	Max Peak	Horizontal	104	1	111.1	-22.5	Pass
3	5930.06	18.97	3.84	34.83	57.64	Max Peak	Horizontal	104	1	68.2	-10.6	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Eut powered by POE , conected to laptop outside chamber

back to matrix

5850 MHz RADIATED BAND-EDGE EMISSIONS

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



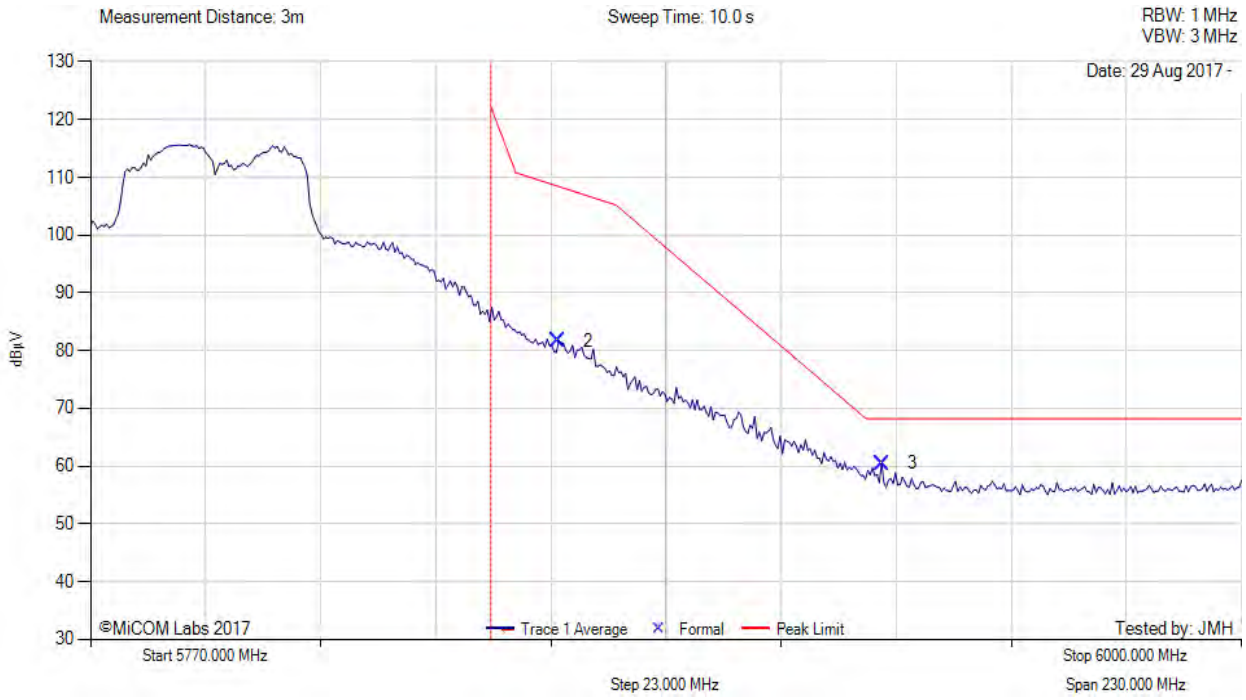
5770.00 - 6000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
2	5855.99	47.58	3.84	34.64	86.06	Max Peak	Horizontal	104	1	110.1	-24.0	Pass
3	5961.40	18.23	3.83	34.89	56.95	Max Peak	Horizontal	104	1	68.2	-11.3	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Eut powered by POE , conected to laptop outside chamber

back to matrix

5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 5795.00 MHz, Antenna: Dual polarity, Power Setting: 25, Duty Cycle (%): 99

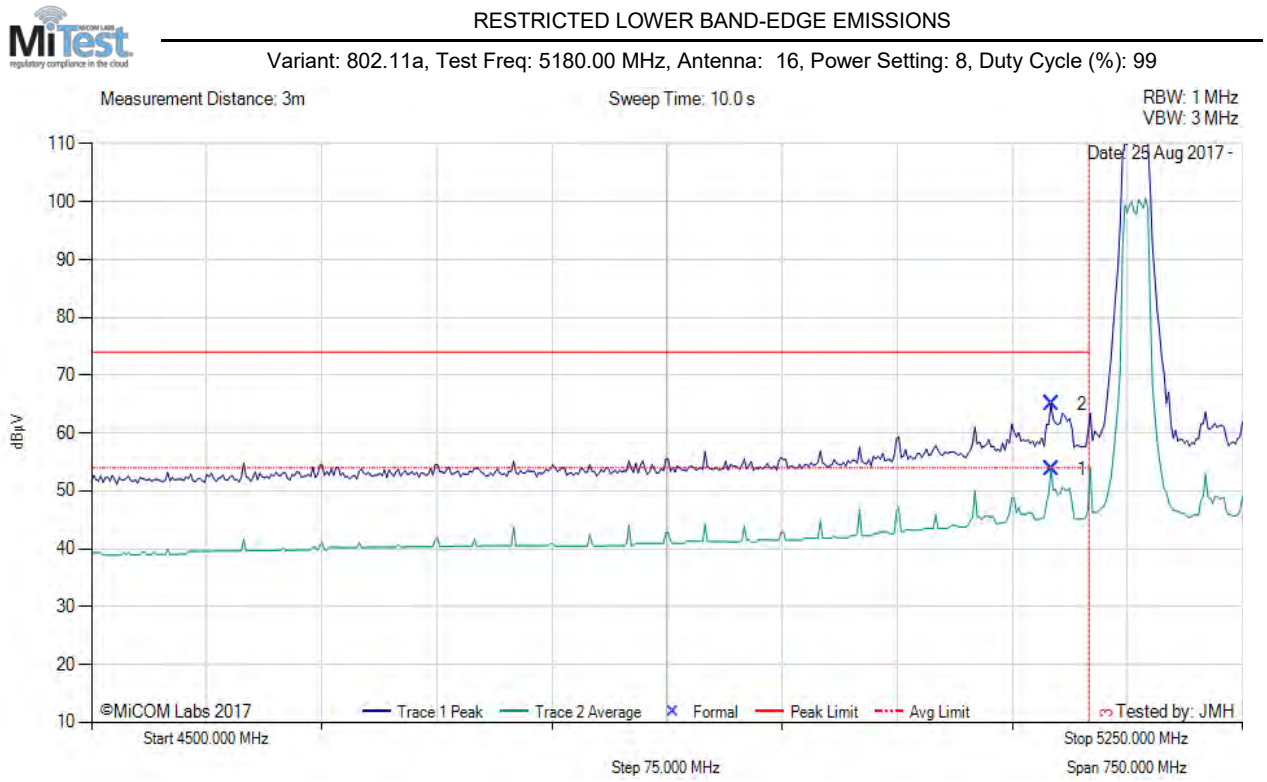


5770.00 - 6000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
2	5863.37	43.17	3.85	34.66	81.68	Max Peak	Horizontal	104	1	108.9	-27.2	Pass
3	5928.22	21.82	3.83	34.83	60.48	Max Peak	Horizontal	104	1	68.2	-7.8	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Eut powered by POE , conected to laptop outside chamber

back to matrix

A.1.2.2 MikroTik MikroTik16



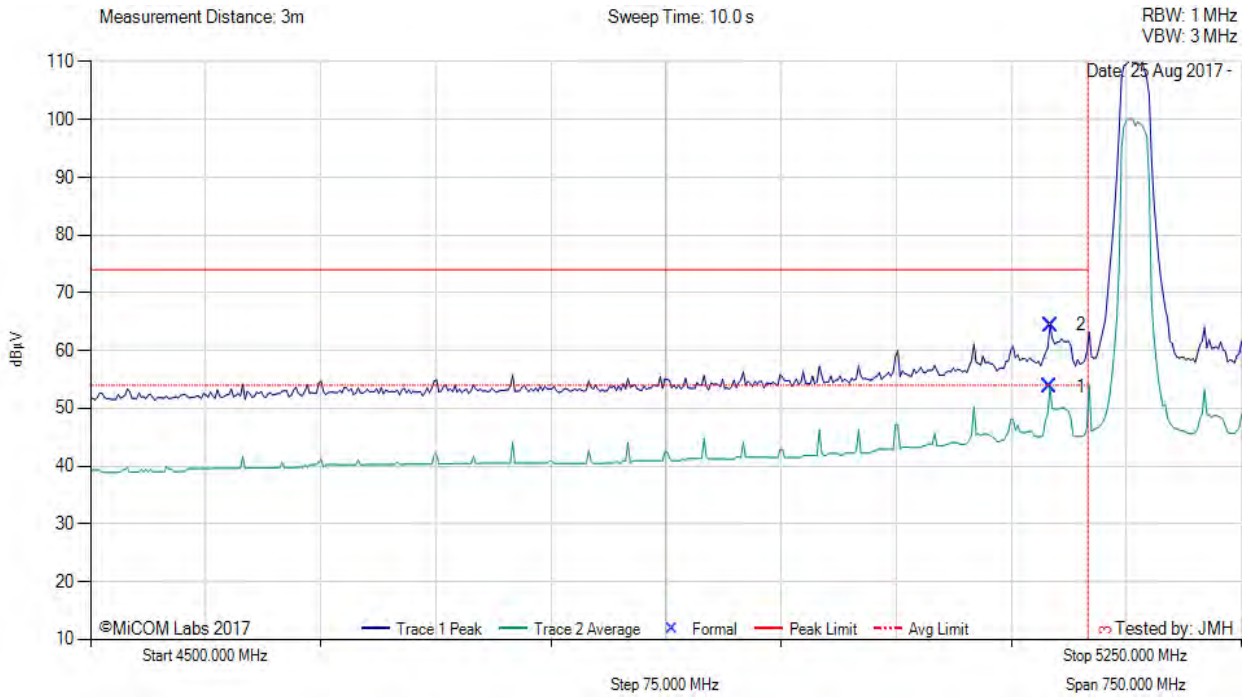
4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5125.95	16.00	3.66	34.12	53.78	Max Avg	Horizontal	199	15	54.0	-0.2	Pass
2	5125.95	27.23	3.66	34.12	65.01	Max Peak	Horizontal	199	15	74.0	-9.0	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

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

back to matrix

RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 5180.00 MHz, Antenna: 16, Power Setting: 8, Duty Cycle (%): 99



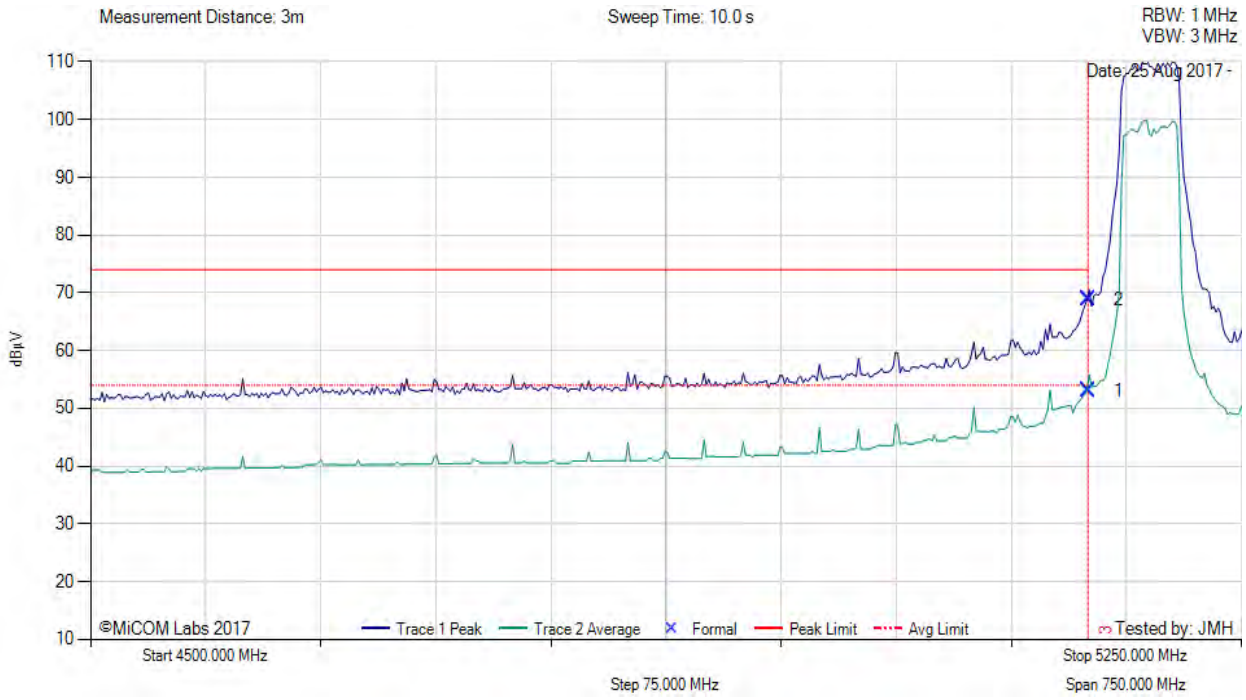
4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5125.25	15.91	3.66	34.12	53.69	Max Avg	Horizontal	199	15	54.0	-0.3	Pass
2	5125.55	26.66	3.66	34.12	64.44	Max Peak	Horizontal	199	15	74.0	-9.6	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

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

back to matrix

RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 5190.00 MHz, Antenna: 16, Power Setting: 11, Duty Cycle (%): 99



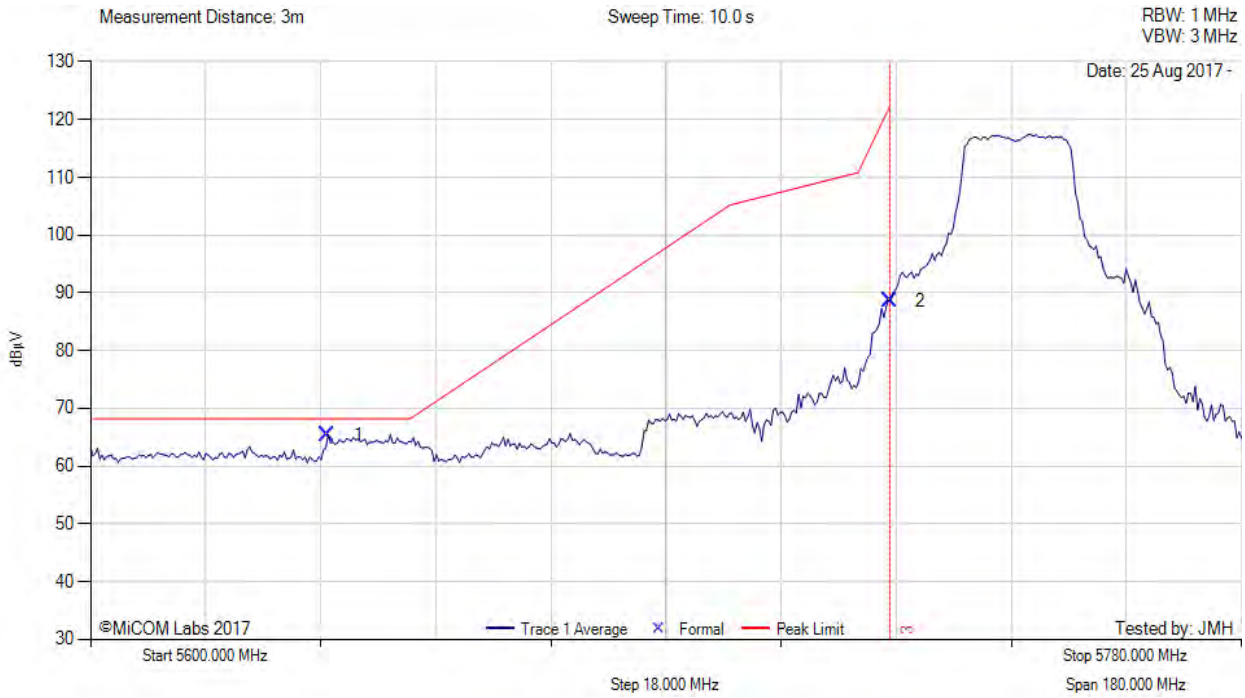
4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5150.00	15.27	3.67	34.11	53.05	Max Avg	Horizontal	199	15	54.0	-1.0	Pass
2	5150.00	31.00	3.67	34.11	68.78	Max Peak	Horizontal	199	15	74.0	-5.2	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

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

back to matrix

5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: 16, Power Setting: 18, Duty Cycle (%): 99



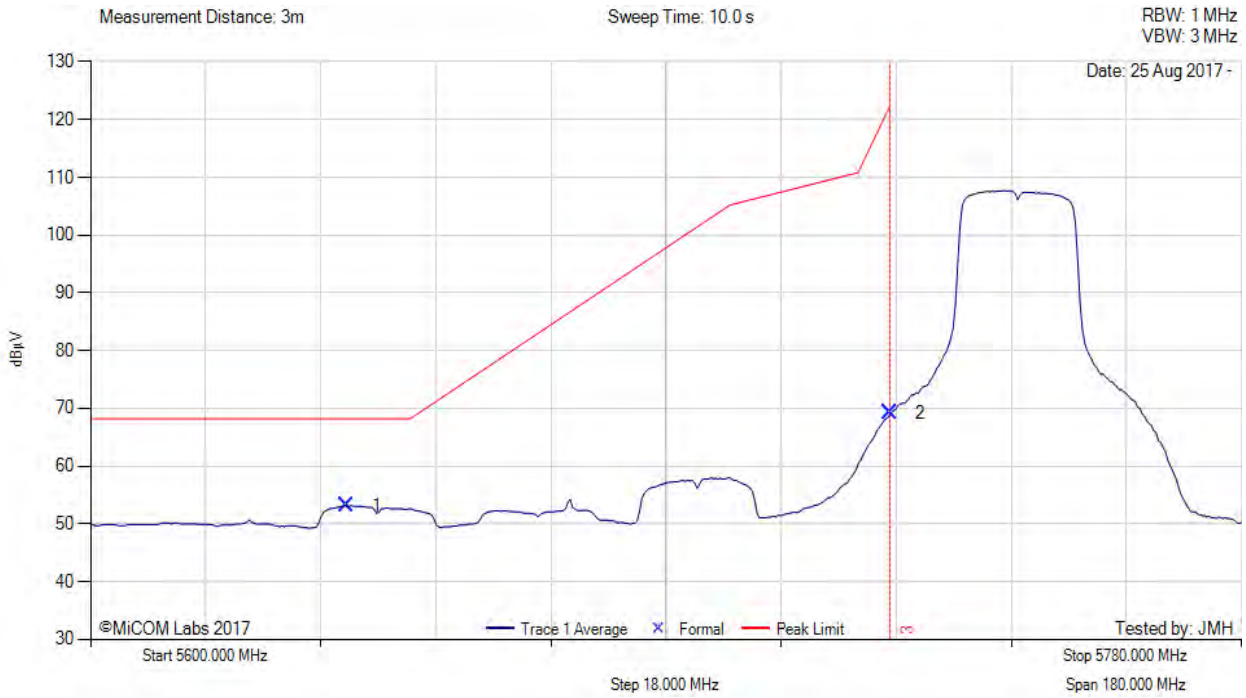
5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5637.08	27.39	3.77	34.19	65.35	Max Peak	Horizontal	200	12	68.2	-2.9	Pass
2	5725.00	50.45	3.79	34.35	88.59	Max Peak	Horizontal	200	12	122.2	-33.6	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

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

back to matrix

5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 5745.00 MHz, Antenna: 16, Power Setting: 18, Duty Cycle (%): 99



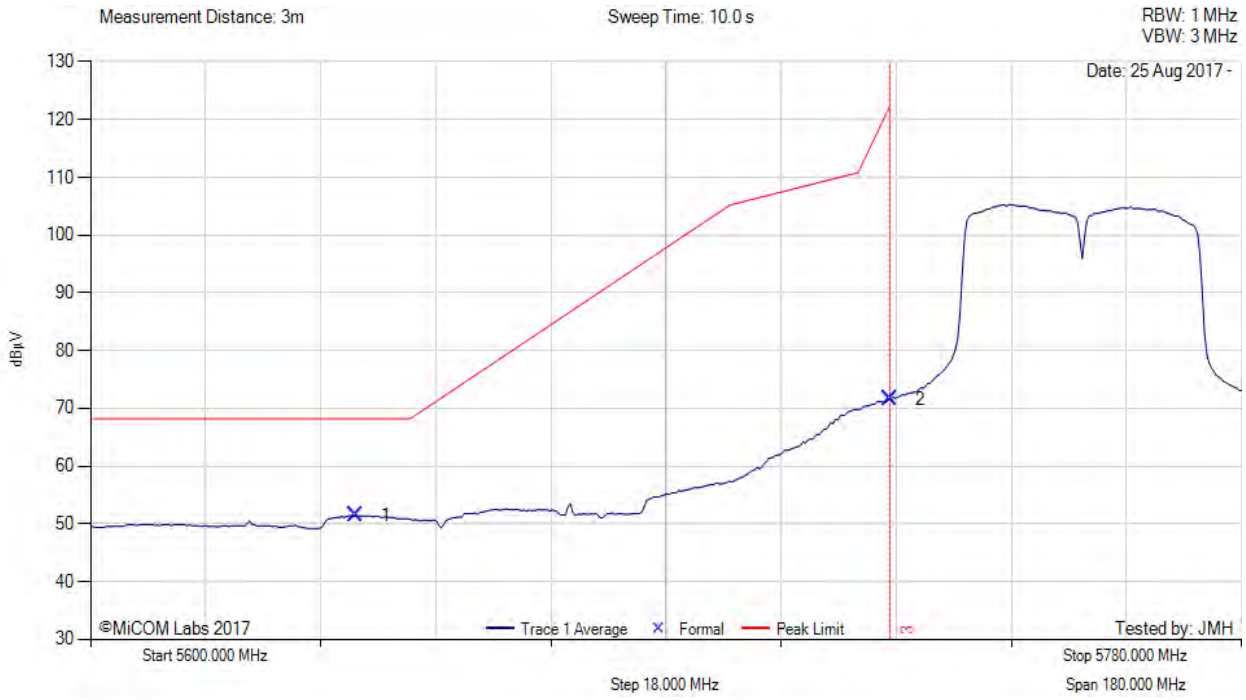
5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5639.97	15.22	3.76	34.19	53.17	Max Peak	Horizontal	200	12	68.2	-15.1	Pass
2	5725.00	31.08	3.79	34.35	69.22	Max Peak	Horizontal	200	12	122.2	-53.0	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

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

back to matrix

5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 5755.00 MHz, Antenna: 16, Power Setting: 18, Duty Cycle (%): 99



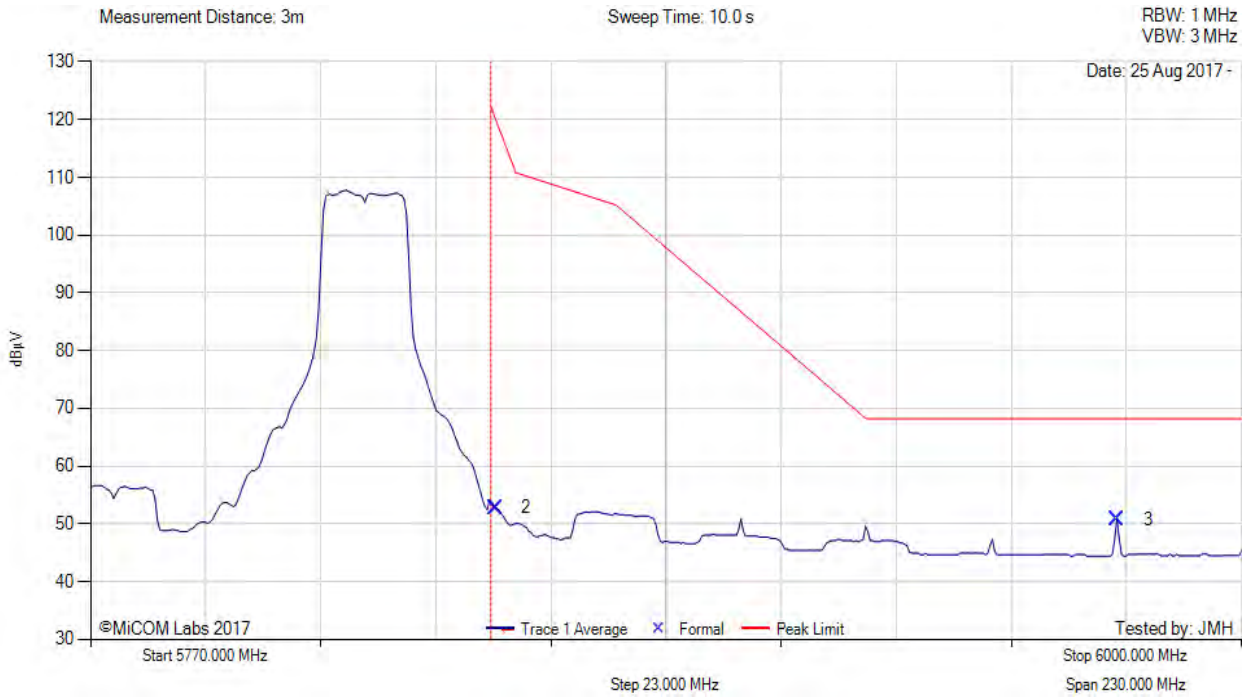
5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5641.41	13.45	3.76	34.19	51.40	Max Peak	Horizontal	200	12	68.2	-16.8	Pass
2	5725.00	33.51	3.79	34.35	71.65	Max Peak	Horizontal	200	12	122.2	-50.6	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

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

back to matrix

5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11a, Test Freq: 5825.00 MHz, Antenna: 16, Power Setting: 18, Duty Cycle (%): 99



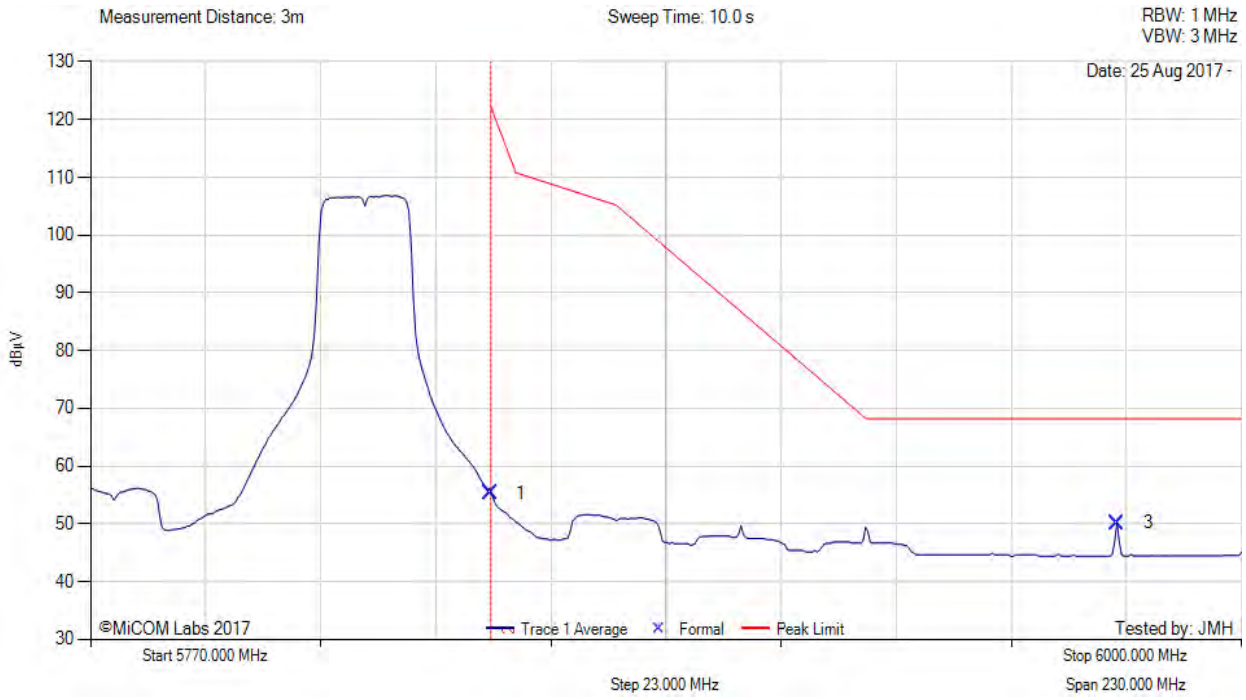
5770.00 - 6000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
2	5850.92	14.32	3.81	34.63	52.76	Max Peak	Horizontal	200	12	121.2	-68.44	Pass
3	5975.23	11.98	3.87	34.91	50.76	Max Peak	Horizontal	200	12	68.2	-17.5	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

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

back to matrix

5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 5825.00 MHz, Antenna: 16, Power Setting: 18, Duty Cycle (%): 99



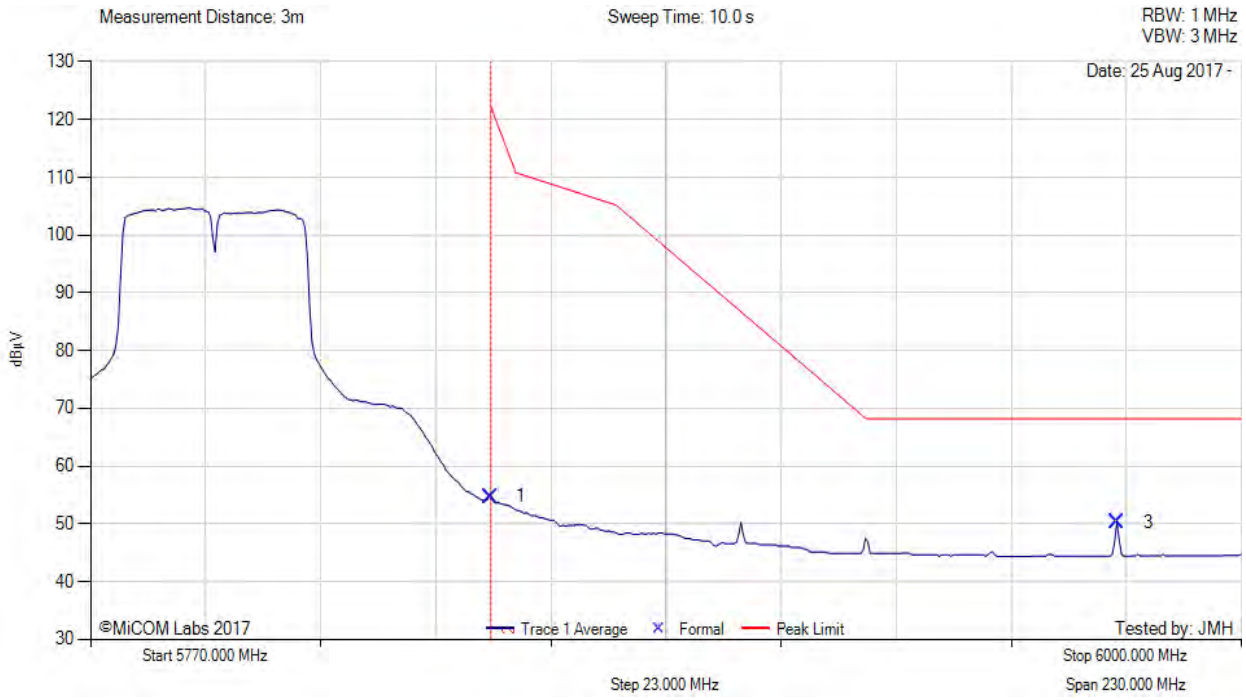
5770.00 - 6000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5850.00	16.81	3.81	34.63	55.25	Max Peak	Horizontal	200	12	122.2	-66.95	Pass
3	5975.23	11.38	3.87	34.91	50.16	Max Peak	Horizontal	200	12	68.2	-18.1	Pass
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

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

back to matrix

5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 5795.00 MHz, Antenna: 16, Power Setting: 18, Duty Cycle (%): 99

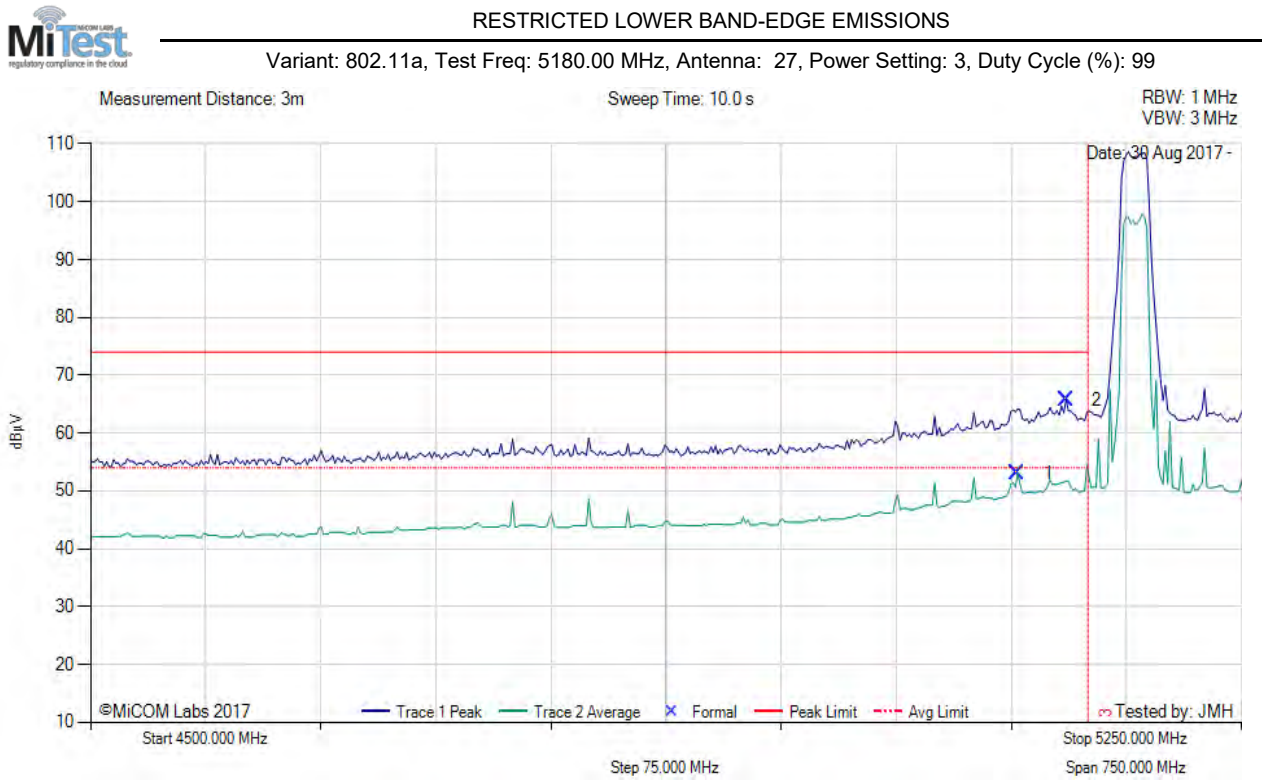


5770.00 - 6000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5850.00	16.30	3.81	34.63	54.74	Max Peak	Horizontal	200	12	122.2	-67.46	Pass
3	5975.23	11.53	3.87	34.91	50.31	Max Peak	Horizontal	200	12	68.2	-17.9	Pass
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

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

back to matrix

A.4.2.4. MikroTik MikroTik27



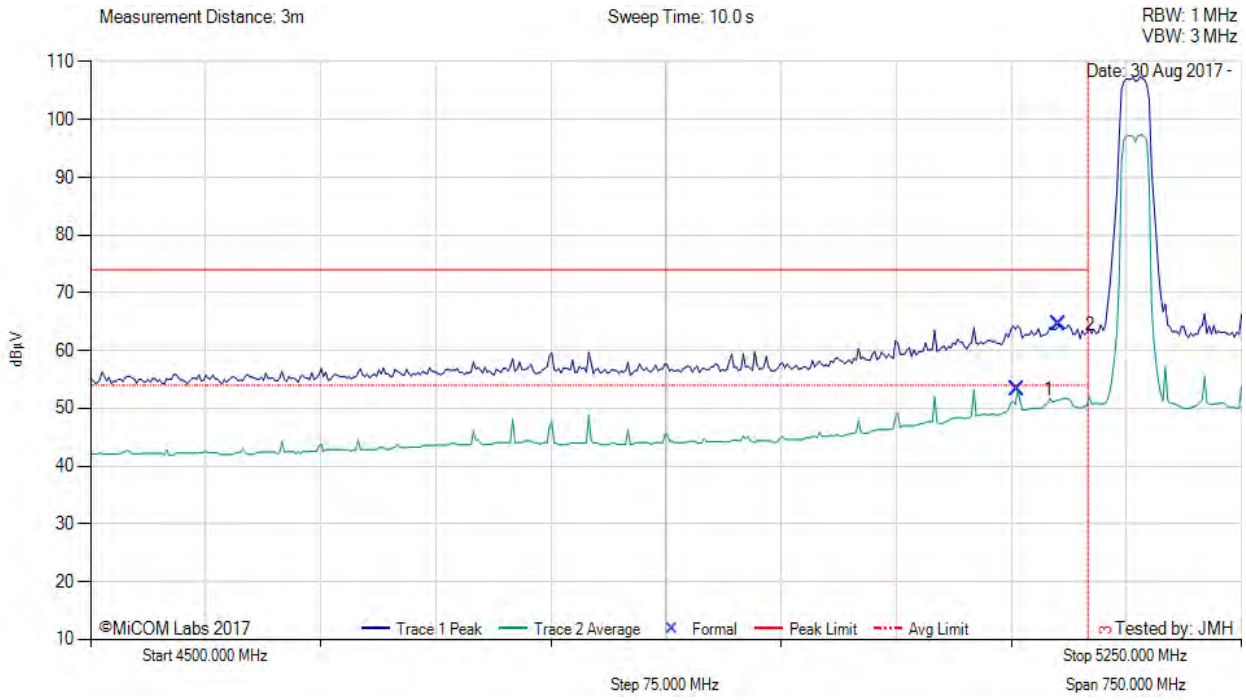
4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5104.21	15.35	3.58	34.13	53.06	Max Avg	Horizontal	200	3	54.0	-0.9	Pass
2	5135.77	27.92	3.69	34.12	65.73	Max Peak	Horizontal	200	3	74.0	-8.3	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

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

back to matrix

RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 5180.00 MHz, Antenna: 27, Power Setting: 3, Duty Cycle (%): 99



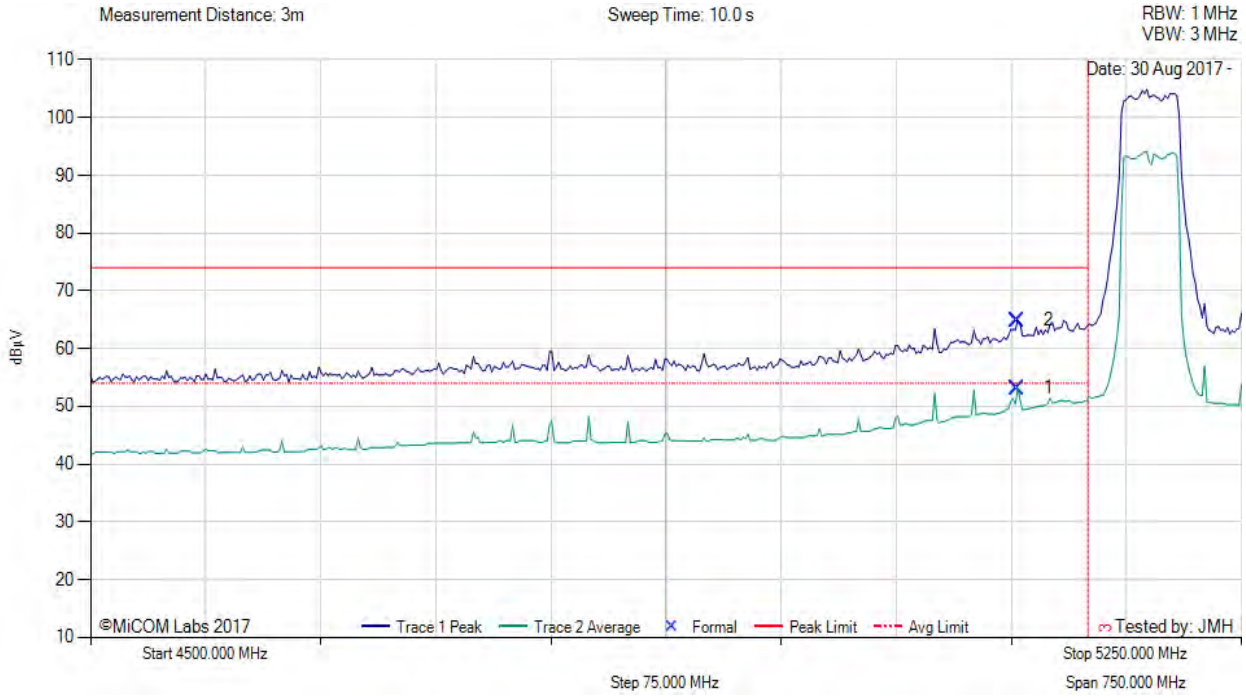
4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5104.21	15.55	3.58	34.13	53.26	Max Avg	Horizontal	200	3	54.0	-0.7	Pass
2	5131.26	26.72	3.69	34.12	64.53	Max Peak	Horizontal	200	3	74.0	-9.5	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

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

back to matrix

RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 5190.00 MHz, Antenna: 27, Power Setting: 2, Duty Cycle (%): 99



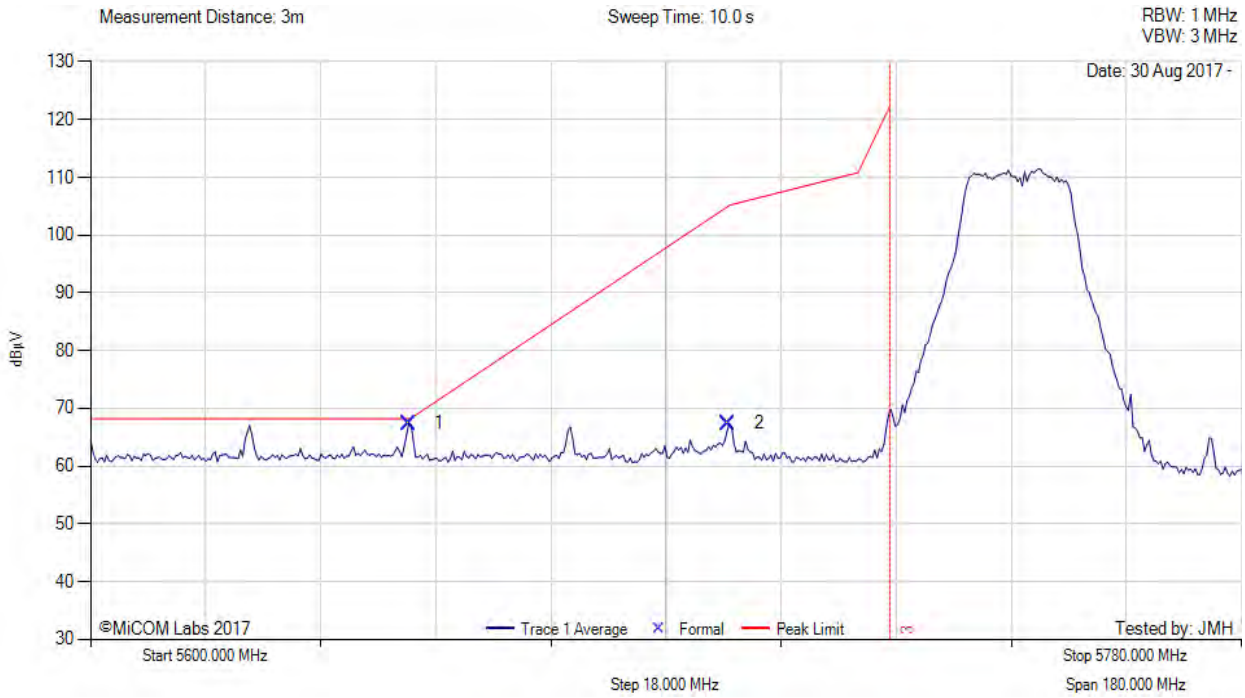
4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5104.21	15.45	3.58	34.13	53.16	Max Avg	Horizontal	200	3	54.0	-0.8	Pass
2	5104.21	27.22	3.58	34.13	64.93	Max Peak	Horizontal	200	3	74.0	-9.1	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

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

back to matrix

5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: 27, Power Setting: 3, Duty Cycle (%): 99



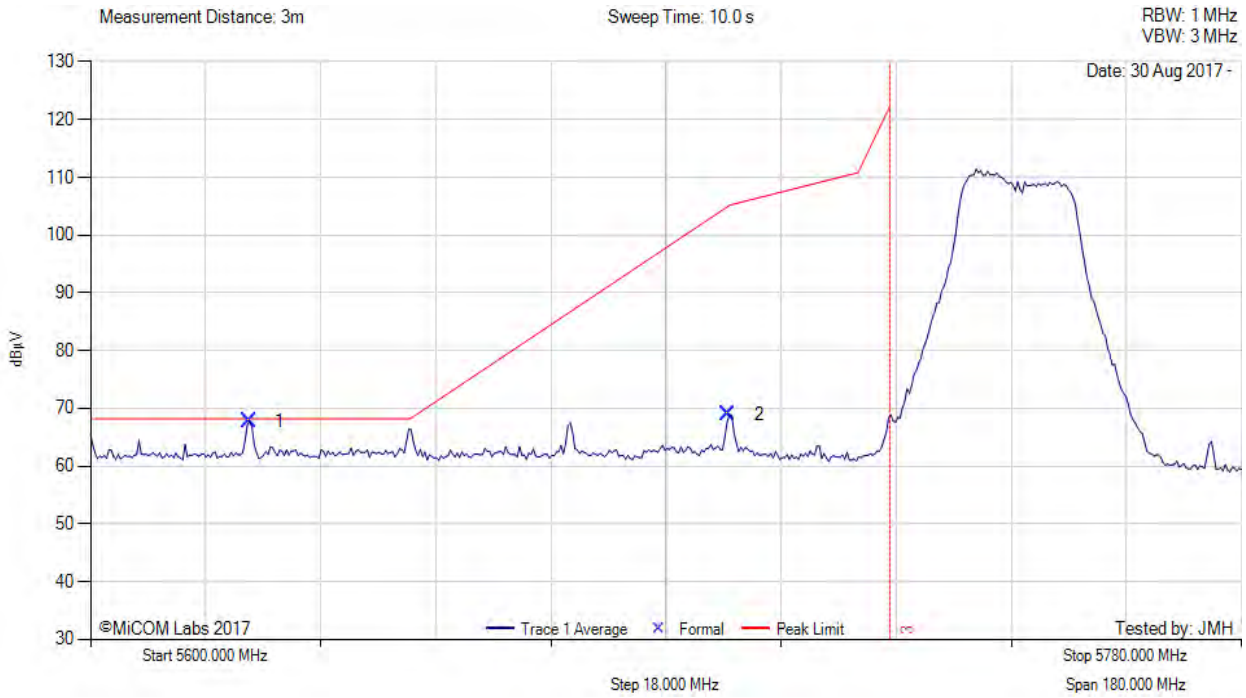
5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5649.71	29.44	3.75	34.18	67.37	Max Peak	Vertical	199	2	68.2	-0.9	Pass
2	5699.75	29.23	3.86	34.33	67.42	Max Peak	Vertical	199	2	105.0	-37.6	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

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

back to matrix

5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 5745.00 MHz, Antenna: 27, Power Setting: 2, Duty Cycle (%): 99



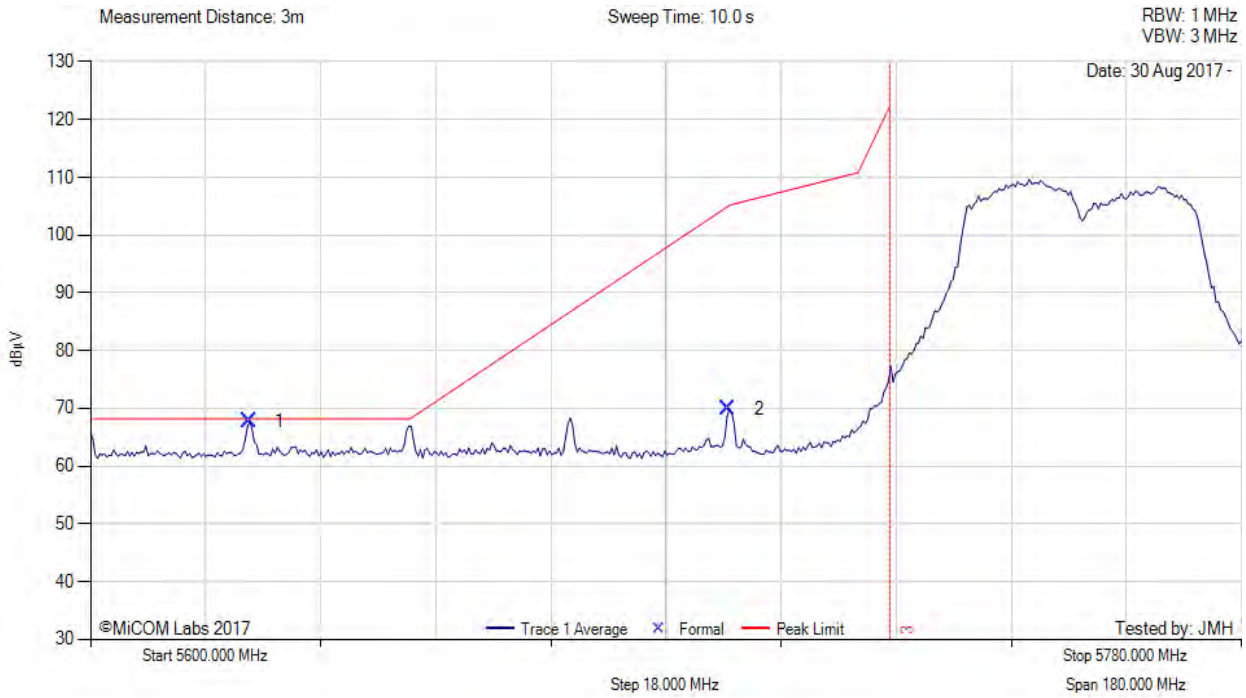
5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5624.82	29.74	3.76	34.21	67.71	Max Peak	Vertical	199	2	68.2	-0.5	Pass
2	5699.75	30.73	3.86	34.33	68.92	Max Peak	Vertical	199	2	105.0	-36.1	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

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

back to matrix

5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 5755.00 MHz, Antenna: 27, Power Setting: 2, Duty Cycle (%): 99



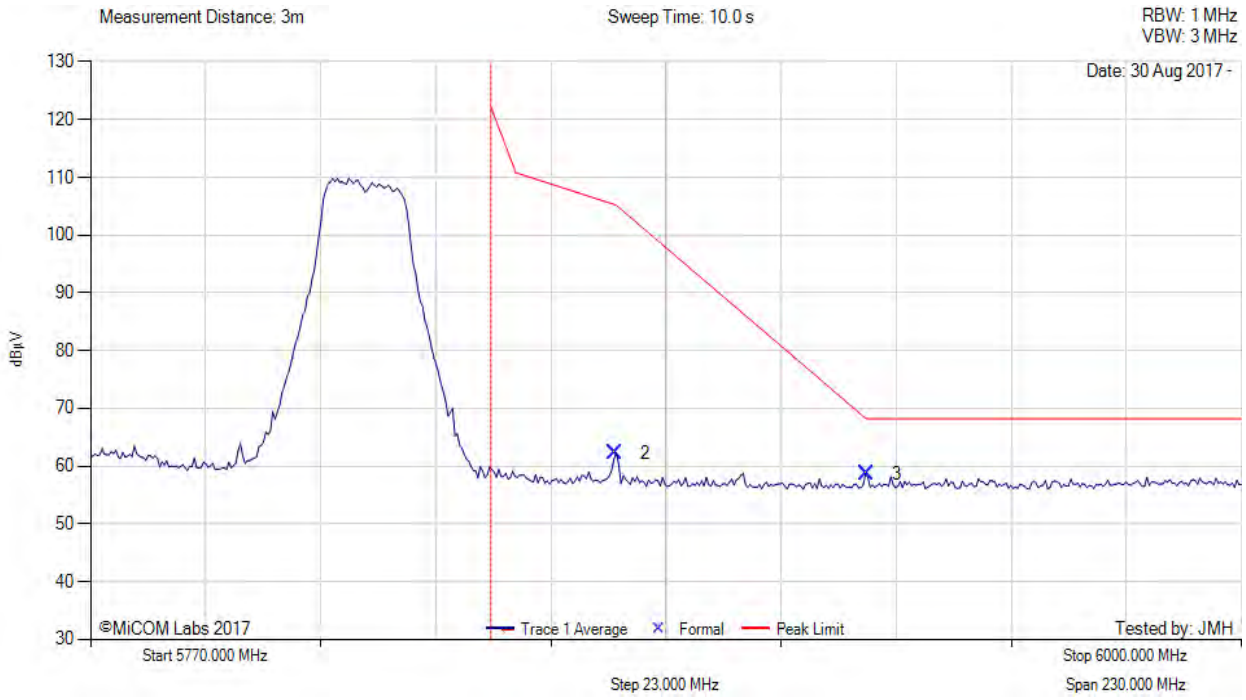
5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5624.82	29.81	3.76	34.21	67.78	Max Peak	Vertical	199	2	68.2	-0.5	Pass
2	5699.75	31.79	3.86	34.33	69.98	Max Peak	Vertical	199	2	105.0	-35.0	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

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

back to matrix

5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11a, Test Freq: 5825.00 MHz, Antenna: 27, Power Setting: 3, Duty Cycle (%): 99



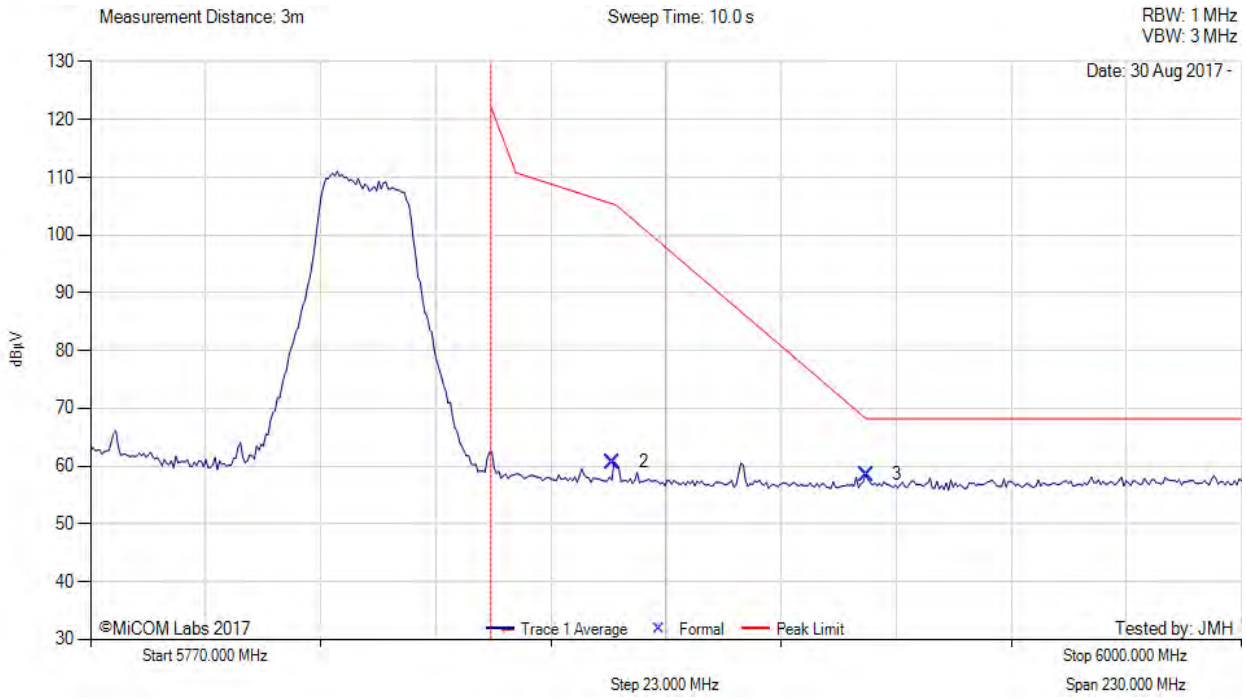
5770.00 - 6000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
2	5874.89	23.83	3.80	34.70	62.33	Max Peak	Vertical	199	2	105.4	-43.1	Pass
3	5924.99	19.94	3.84	34.82	58.60	Max Peak	Vertical	199	2	68.2	-9.6	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

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

back to matrix

5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 5825.00 MHz, Antenna: 27, Power Setting: 3, Duty Cycle (%): 99



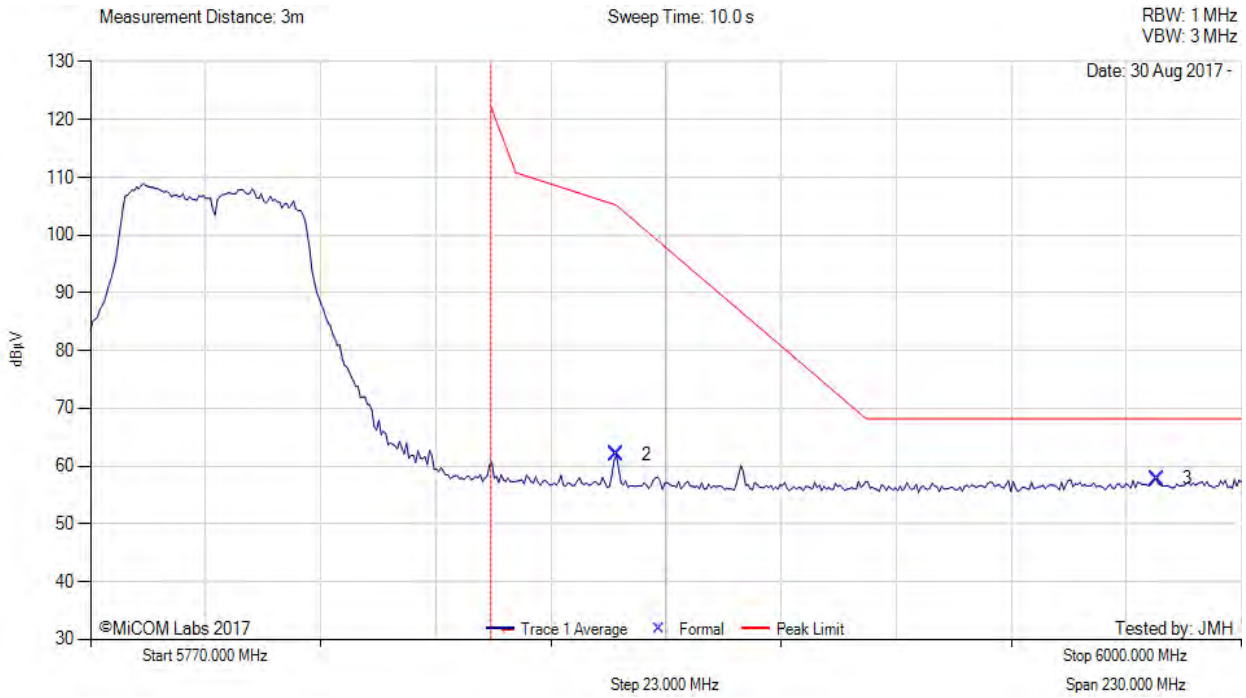
5770.00 - 6000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
2	5874.43	22.25	3.80	34.69	60.74	Max Peak	Vertical	199	2	105.5	-44.8	Pass
3	5924.99	19.89	3.84	34.82	58.55	Max Peak	Vertical	199	2	68.2	-9.7	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

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

back to matrix

5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 5795.00 MHz, Antenna: 27, Power Setting: 3, Duty Cycle (%): 99



5770.00 - 6000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
2	5875.09	23.45	3.80	34.70	61.95	Max Peak	Vertical	199	2	105.1	-43.2	Pass
3	5983.07	19.00	3.89	34.92	57.81	Max Peak	Vertical	199	2	68.2	-10.4	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

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

back to matrix

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