Company: MikroTik

Test of: RBLHG-5HPnD Wireless Module

To: FCC CFR 47 Part 15 Subpart E 15.407

Report No.: MIKO62-U2 Rev A

TEST REPORT

TEST REPORT

FROM

MiCOM Labs
opening wireless markets

Test of: MikroTik RBLHG-5HPnD Wireless Module

To: FCC CFR 47 Part 15 Subpart E 15.407

Test Report Serial No.: MIKO62-U2 Rev A

This report supersedes: NONE

Applicant:	MikroTik Pernavas 46 Riga LV 1009 Latvia
Product Function:	WLAN Access Point
Issue Date:	1st September 2017

This Test Report is Issued Under the Authority of:

MiCOM Labs, Inc.
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Pleasanton California 94566
USA
Phone: +1 (925) 462-0304
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A2LA ACCREDITED
TESTING CERT #2381.01

MiCOM Labs is an ISO 17025 Accredited Testing Laboratory

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1. ACCREDITATION, LISTINGS & RECOGNITION

1.1. TESTING ACCREDITATION

MiCOM Labs, Inc. is an accredited Electrical testing laboratory per the international standard ISO/IEC 17025:2005. 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

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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	29th August 2017	
Rev A	1st September 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	**Tested By:**	MiCOM Labs, Inc. 575 Boulder Court Pleasanton California 94566 USA
Model:	RBLHG-5HPnD Wireless Module	**Telephone:** **Fax:**	+1 925 462 0304 +1 925 462 0306
Type Of Equipment:	WLAN Access Point		
S/N's:	77D306DDE6FC/720		
Test Date(s):	12th June 2017 (Conducted) 25th August 2017 (Radiated)	**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.

A2LA ACCREDITED
TESTING CERT #2381.01

Approved & Released for MiCOM Labs, Inc. by:

Graeme Grieve
Quality Manager MiCOM Labs, Inc.

Gordon Hurst
President & CEO MiCOM Labs, Inc.

4. REFERENCES AND MEASUREMENT UNCERTAINTY

4.1. Normative References

REF.	PUBLICATION	YEAR	TITLE
I	KDB 662911 D01 & D02	Oct 31 2013	Guidance for measurement of output emission of devices that employ single transmitter with multiple outputs or systems with multiple transmitters operating simultaneously in the same frequency band
II	KDB 905462 D07 v02	22nd August 2016	Test guidance to demonstrate compliance for U-NII devices subject to DFS requirements.
III	KDB 926956 D01 v02	22nd August 2016	U-NII Device Transition Plan
IV	KDB 789033 D02 v01r03	22nd August 2016	General UNII Test Procedures New Rules
V	A2LA	June 2015	R105 - Requirement's When Making Reference to A2LA Accreditation Status
VI	ANSI C63.10	2013	American National Standard for Testing Unlicensed Wireless Devices
VII	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
VIII	CISPR 32	2012	Electromagnetic compatibility of multimedia equipment - Emission requirements
IX	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
X	FCC 06-96	Jun 30 2006	Memorandum Opinion and Order
XI	FCC 47 CFR Part 15.407	2016	Radio Frequency Devices; Subpart E –Unlicensed National Information Infrastructure Devices
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-5HPnD Module to FCC CFR 47 Part 15 Subpart E 15.407
Applicant:	MikroTik Pernavas 46 Riga LV 1009 Latvia
Manufacturer:	As Applicant
Laboratory performing the tests:	MiCOM Labs, Inc. 575 Boulder Court Pleasanton California 94566 USA
Test report reference number:	MIKO62-U2 Draft
Date EUT received:	7th June 2017
Standard(s) applied:	FCC CFR 47 Part 15 Subpart E 15.407
Dates of test (from - to):	12th June – 25th August 2017
No of Units Tested:	1
Product Family Name:	Wireless Module
Model(s):	RBLHG-5HPnD
Location for use:	Indoor and Outdoor
Declared Frequency Range(s):	5150 - 5250 MHz; 5725 - 5850 MHz;
Type of Modulation:	OFDM
EUT Modes of Operation:	802.11a, 802.11n HT20, 802.11n HT-40
Declared Nominal Output Power (dBm):	30.00
No. of Transmit/Receive Chains:	2
Rated Input Voltage and Current:	POE(POE adaptor sold with unit) 24 Vdc
Operating Temperature Range:	Declared Range -20°C to 40°C
ITU Emission Designator:	802.11a: 16M6D1D 802.11n HT-20: 17M9D1D 802.11n HT-40: 37M3D1D
Equipment Dimensions:	70 x 16 x 17 mm
Weight:	50g
Hardware Rev:	r2
Software Rev:	RouterOS v6.38.5

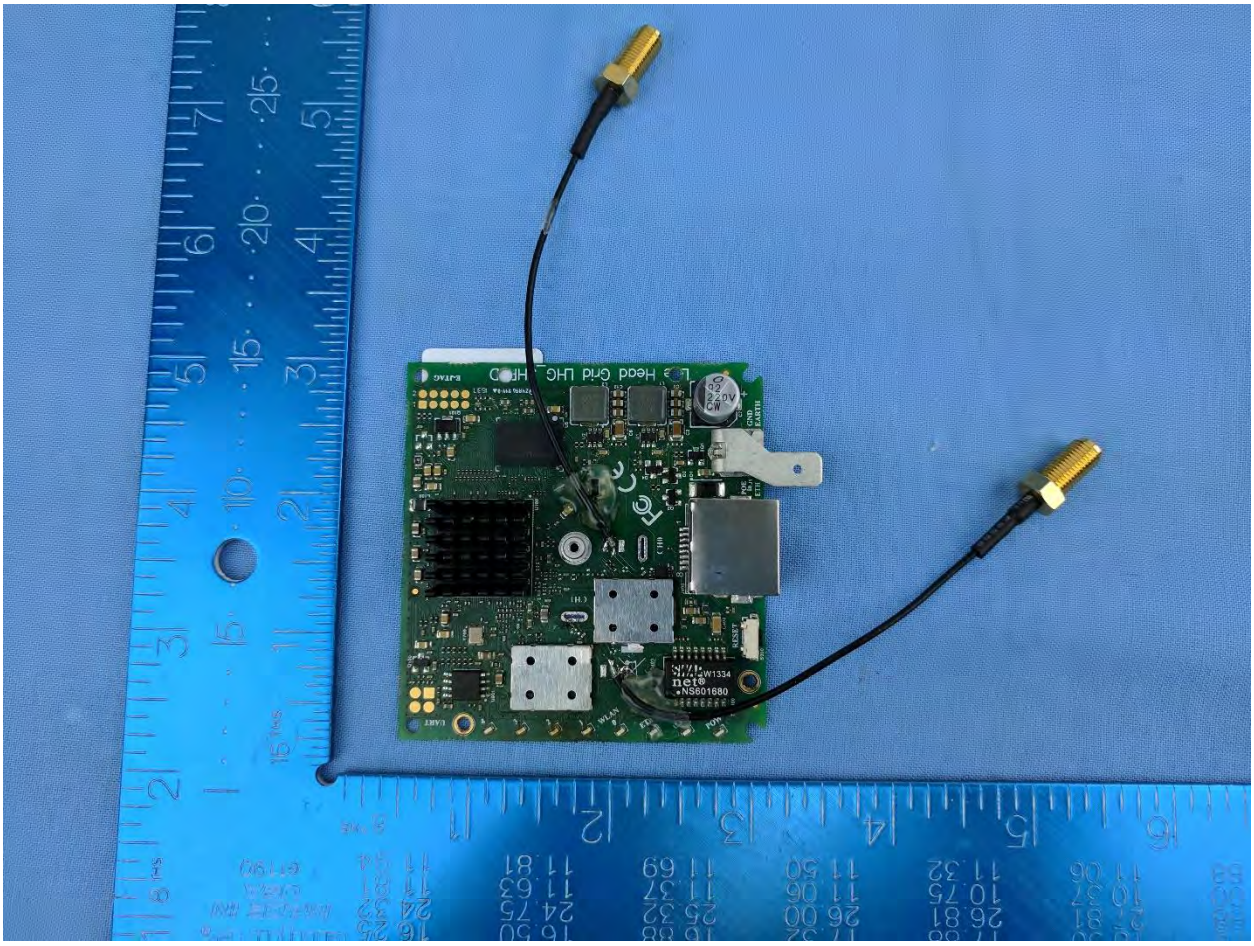
5.2. Scope Of Test Program

MikroTik RBLHG-5HPnD

The scope of the test program was to test the MikroTik RBLHG-5HPnD wireless module in the frequency ranges 5150 - 5250 MHz; 5725 - 5850 MHz (non-DFS bands) 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-5HPnD Wireless Module



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-5HPnD Module	77D306DDE6FC/720	7th 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]	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	Port Description	Qty	Screened (Yes/ No)	Length
DC Voltage	24 V_{DC} Jack	1	Yes	< 3m
Ethernet	Ethernet PoE Port	1	Yes	> 3m

5.6. Test Configurations

Results for the following configurations are provided in this report:

Operational Mode(s) (802.11)	Data Rate 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 (Limited to 27 dBi Dish Antenna)

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

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

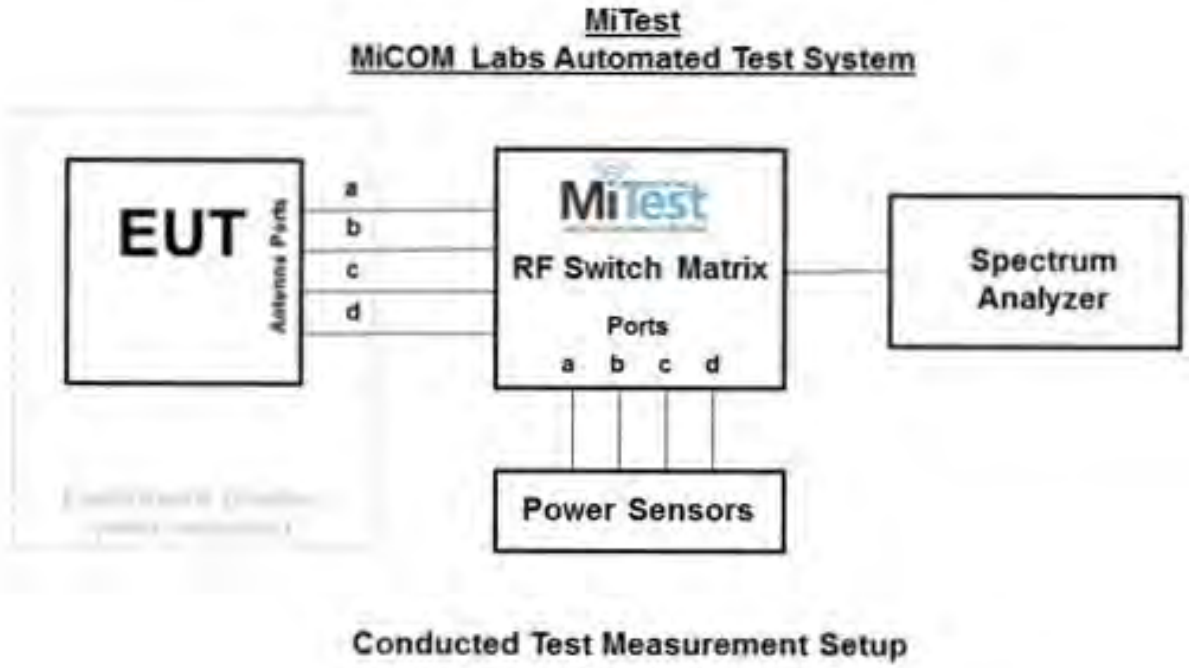
Test Header	Result	Data Link
Peak Transmit Power	Complies	View Data
26 dB & 99% Bandwidth	Complies	View Data
6 dB & 99% Bandwidth	Complies	View Data
Power Spectral Density	Complies	View Data
Radiated	Complies	-
TX Spurious & Restricted Band Emissions	Complies	View Data
Restricted Edge & Band-Edge Emissions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



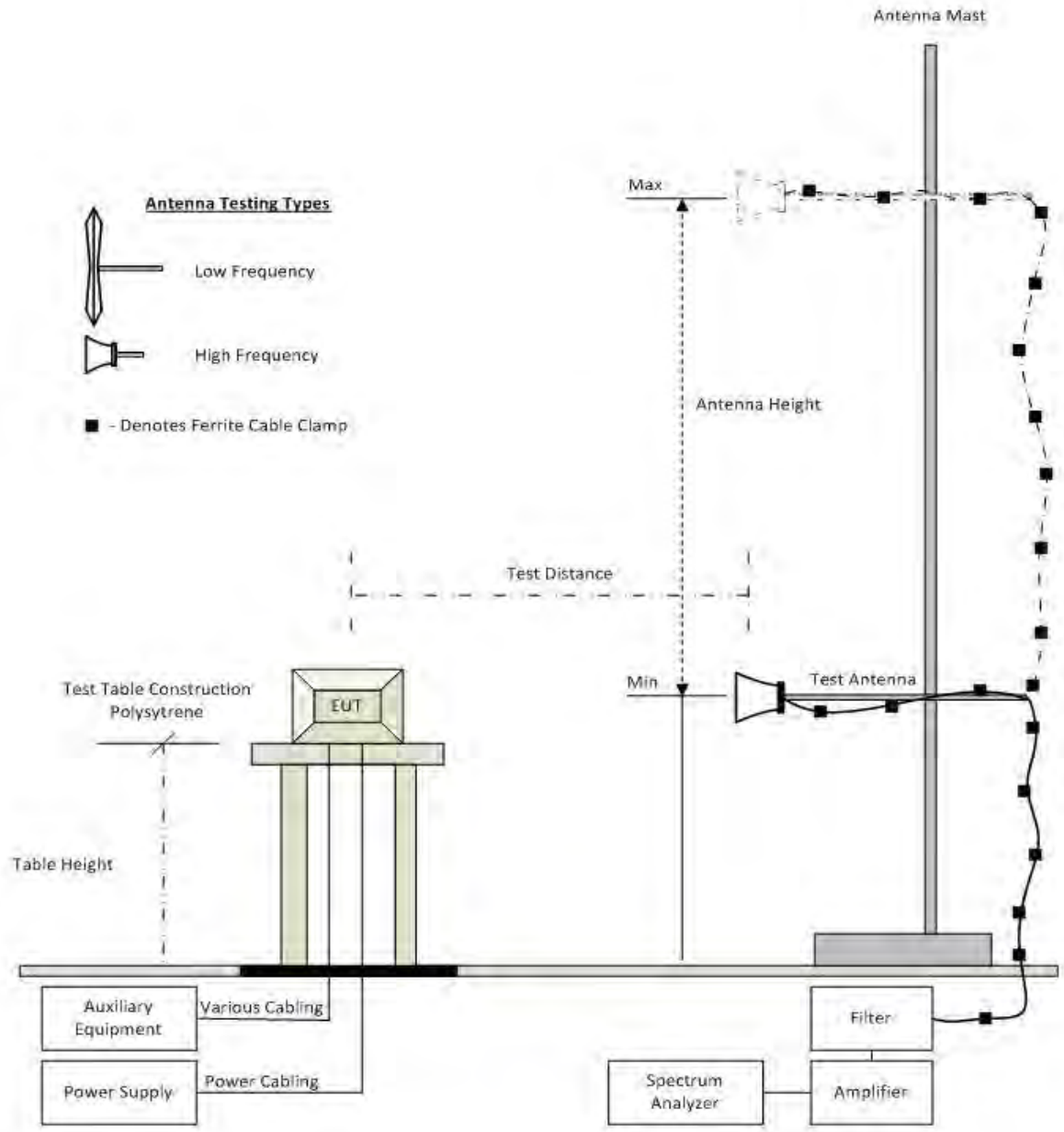
Conducted Test Measurement Setup

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
287	Rohde & Schwarz 40 GHz Receiver	Rhode & Schwarz	ESIB40	100201	2 May 2018
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
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 (%):**	94.0
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	
5180.0	6.77	11.14	--	--	12.49	--	27.00	-14.51	16.00
5200.0	13.38	19.14	--	--	20.16	--	27.00	-6.84	30.00
5240.0	13.85	19.77	--	---	20.76	--	27.00	-6.24	30.00

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

Equipment Configuration for Peak Transmit Power			
Variant:	802.11n HT-20	**Duty Cycle (%):**	97.0
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) 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	6.03	10.59	--	--	11.89	--	27.00	-15.11	16.00
5200.0	13.73	19.26	--	--	20.33	--	27.00	-6.67	30.00
5240.0	14.12	19.61	--	--	20.69	--	27.00	-6.31	30.00

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 (%):**	87.0
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) 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	4.38	9.04	--	--	10.32	--	27.00	-16.68	15.00
5230.0	13.07	19.22	--	--	20.16	--	27.00	-6.84	30.00

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

Equipment Configuration for Peak Transmit Power

Variant:	802.11a	**Duty Cycle (%):**	87.0
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	11.25	16.00	--	--	17.25	--	27.00	-9.75	23.00
5785.0	11.27	13.23	--	--	15.37	--	27.00	-11.63	19.00
5825.0	17.01	16.06	--	--	19.57	--	27.00	-7.43	16.00

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

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

Equipment Configuration for Peak Transmit Power			
Variant:	802.11n HT-20	**Duty Cycle (%):**	87.0
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) 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	14.29	21.88	--	--	22.58	--	27.00	-4.42	30.00
5785.0	13.34	22.05	--	--	22.60	--	27.00	-4.40	30.00
5825.0	12.73	22.08	--	--	22.56	--	27.00	-4.44	30.00

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

Equipment Configuration for Peak Transmit Power			
Variant:	802.11n HT-40	**Duty Cycle (%):**	87.0
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) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dB	
5755.0	14.30	21.54	--	--	22.29	--	27.00	-4.71	30.00
5795.0	12.93	21.89	--	--	22.41	--	27.00	-4.59	30.00

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 (%):**	94.0
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	23.968	22.685	--	--	23.968	22.685		
5200.0	21.563	23.246	--	--	23.246	21.563		
5240.0	22.124	22.766	--	--	22.766	22.124		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5180.0	16.673	16.673	--	--	16.673	16.673		
5200.0	16.593	16.834	--	--	16.834	16.593		
5240.0	16.673	16.754	--	--	16.754	16.673		

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

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

Equipment Configuration for 26 dB & 99% Occupied Bandwidth

Variant:	802.11n HT-20	**Duty Cycle (%):**	97.0
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	22.766	23.888	--	--	23.888	22.766		
5200.0	22.846	24.128	--	--	24.128	22.846		
5240.0	23.006	24.369	--	--	24.369	23.006		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5180.0	17.796	17.796	--	--	17.796	17.796		
5200.0	17.876	17.796	--	--	17.876	17.796		
5240.0	17.715	17.956	--	--	17.956	17.715		

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 (%):**	87.0
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	53.387	52.585	--	--	53.387	52.585		
5230.0	52.265	51.623	--	--	52.265	51.623		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5190.0	36.874	37.355	--	--	37.355	36.874		
5230.0	37.034	37.355	--	--	37.355	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).

9.3. 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 (%):**	87.0
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	16.353	--	--	16.353	16.273		
5785.0	16.273	16.353	--	--	16.353	16.273		
5825.0	16.353	16.353	--	--	16.353	16.353		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5745.0	16.513	16.513	--	--	16.513	16.513		
5785.0	16.513	16.593	--	--	16.593	16.513		
5825.0	16.513	16.593	--	--	16.593	16.513		

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 (%):**	87.0
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	17.555	--	--	17.555	17.555		
5785.0	16.914	17.315	--	--	17.315	16.914		
5825.0	17.555	17.555	--	--	17.555	17.555		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5745.0	17.796	17.715	--	--	17.796	17.715		
5785.0	17.635	17.715	--	--	17.715	17.635		
5825.0	17.635	17.796	--	--	17.796	17.635		

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

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

Equipment Configuration for 6 dB & 99% Bandwidth			
Variant:	802.11n HT-40	**Duty Cycle (%):**	87.0
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	35.912	36.393	--	--	36.393	35.912		
5795.0	36.393	36.393	--	--	36.393	36.393		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5755.0	36.232	36.393	--	--	36.393	36.232		
5795.0	36.393	36.393	--	--	36.393	36.393		

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 (%):**	94.0
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 (+0.27 dB)	Limit	Margin
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5180.0	3.873	7.083	--	--	8.701	14.0	-5.3
5200.0	3.105	6.279	--	--	7.817	14.0	-6.2
5240.0	2.781	7.508	--	--	8.774	14.0	-5.2

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

DCCF - Duty Cycle Correction Factor

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

Equipment Configuration for Power Spectral Density			
Variant:	802.11n HT-20	**Duty Cycle (%):**	97.0
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 (+0.13 dB)	Limit	Margin
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5180.0	2.907	7.329	--	--	8.134	14.0	-5.9
5200.0	1.882	6.858	--	--	8.030	14.0	-6.0
5240.0	3.662	6.921	--	--	8.398	14.0	-5.6

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

DCCF - Duty Cycle Correction Factor

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

Equipment Configuration for Power Spectral Density			
Variant:	802.11n HT-40	**Duty Cycle (%):**	87.0
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 (+0.6 dB)	Limit	Margin
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5190.0	-1.400	2.863	--	--	4.151	14.0	-9.9
5230.0	-9.321	-6.873	--	--	-4.827	14.0	-18.8

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:	802.11a	**Duty Cycle (%):**	87.0
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 (+0.6 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/500 KHz**	**dBm/500 KHz**	**dB**
5745.0	0.966	6.161	--	--	7.500	27.0	-19.5
5785.0	-4.885	0.666	--	--	1.788	27.0	-25.2
5825.0	0.261	7.753	--	--	8.885	27.0	-18.1

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-20	**Duty Cycle (%):**	87.0
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 (+0.6 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/500 KHz**	**dBm/500 KHz**	**dB**
5745.0	1.092	6.439	--	--	7.499	27.0	-19.5
5785.0	0.779	5.840	--	--	7.260	27.0	-19.8
5825.0	0.194	6.413	--	--	7.929	27.0	-19.1

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 (%):**	87.0
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 (+0.6 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/500 KHz**	**dBm/500 KHz**	**dB**
5755.0	-2.103	1.143	--	--	2.633	27.0	-24.4
5795.0	-3.714	2.087	--	--	3.039	27.0	-24.0

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

DCCF - Duty Cycle Correction Factor

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

9.5. 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. Dual Polarity 9 dBi

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	5183.71	74.63	3.68	-11.49	66.82	Fundamental	Horizontal	101	0	--	--	
#2	10357.66	49.07	5.55	-5.28	49.34	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:	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:	30	**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	5206.31	66.10	3.65	-11.45	58.30	Fundamental	Vertical	100	0	--	--	
#2	10404.29	61.24	5.44	-5.00	61.68	Peak (NRB)	Vertical	100	360	--	--	Pass
#3	15596.33	49.68	6.03	-0.26	55.45	Max Peak	Vertical	178	3	74.0	-18.6	Pass
#4	15596.33	32.77	6.03	-0.26	38.54	Max Avg	Vertical	178	3	54.0	-15.5	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):	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:	30	**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	5235.31	89.15	3.63	-11.37	81.41	Fundamental	Horizontal	100	0	--	--	
#2	10480.04	56.40	5.41	-4.45	57.36	Peak (NRB)	Vertical	100	0	--	--	Pass
#3	15719.03	56.11	6.08	0.18	62.37	Max Peak	Vertical	138	157	74.0	-11.6	Pass
#4	15719.03	38.81	6.08	0.18	45.07	Max Avg	Vertical	138	157	54.0	-8.9	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):	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:	23	**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	3829.95	61.18	3.21	-10.83	53.56	Max Peak	Vertical	149	172	74.0	-20.4	Pass
#2	3829.95	58.57	3.21	-10.83	50.95	Max Avg	Vertical	149	172	54.0	-3.1	Pass
#3	5738.61	65.72	3.82	-10.67	58.87	Fundamental	Horizontal	100	0	--	--	
#4	11489.40	67.90	5.45	-4.84	68.51	Max Peak	Horizontal	195	185	74.0	-5.5	Pass
#5	11489.40	52.89	5.45	-4.84	53.50	Max Avg	Horizontal	195	185	54.0	-0.5	Pass
#6	17235.68	46.94	6.46	0.35	53.75	Peak (NRB)	Horizontal	144	186	--	--	Pass

Test Notes: EUT on table powered by POE injector. Connected 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:	19	**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	3856.66	61.45	3.23	-10.81	53.87	Max Peak	Vertical	156	181	74.0	-20.1	Pass
#2	3856.66	58.98	3.23	-10.81	51.40	Max Avg	Vertical	156	181	54.0	-2.6	Pass
#3	5788.11	58.61	3.79	-10.43	51.97	Fundamental	Horizontal	100	0	--	--	
#4	11569.55	66.93	5.46	-4.64	67.75	Max Peak	Horizontal	192	187	74.0	-6.3	Pass
#5	11569.55	51.98	5.46	-4.64	52.80	Max Avg	Horizontal	192	187	54.0	-1.2	Pass
#6	17360.00	49.78	6.28	-0.04	56.02	Peak (NRB)	Horizontal	151	178	--	--	Pass

Test Notes: EUT on table powered by POE injector. Connected 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:	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	3883.29	62.44	3.25	-10.76	54.93	Max Peak	Vertical	150	187	74.0	-19.1	Pass
#2	3883.29	60.38	3.25	-10.76	52.87	Max Avg	Vertical	150	187	54.0	-1.1	Pass
#3	5830.79	61.37	3.84	-10.22	54.99	Fundamental	Horizontal	100	0	--	--	
#4	11648.83	64.82	5.44	-4.47	65.79	Max Peak	Horizontal	178	195	74.0	-8.2	Pass
#5	11648.83	49.99	5.44	-4.47	50.96	Max Avg	Horizontal	178	195	54.0	-3.0	Pass
#6	17476.58	50.39	6.30	-0.59	56.10	Peak (NRB)	Horizontal	151	179	--	--	Pass

Test Notes: EUT on table powered by POE injector. Connected to laptop outside chamber.

9.5.1.2. 16 dBi Dual Polarity

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	16	**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:	14	**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	5184.59	74.58	3.68	-11.49	66.77	Fundamental	Vertical	151	0	--	--	
#2	10357.99	52.12	5.55	-5.28	52.39	Peak (NRB)	Horizontal	151	32	--	--	Pass
Test Notes: EUT powered by POE, connected to laptop outside chamber												

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	16	**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:	23	**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	4861.77	62.14	3.56	-11.21	54.49	Max Peak	Vertical	156	1	74.0	-19.5	Pass
#2	4861.77	48.43	3.56	-11.21	40.78	Max Avg	Vertical	156	1	54.0	-13.2	Pass
#3	5207.08	89.58	3.65	-11.44	81.79	Fundamental	Horizontal	100	0	--	--	
#4	10397.57	54.31	5.38	-5.05	54.64	Peak (NRB)	Horizontal	151	23	--	--	Pass
#5	15603.38	54.09	6.02	-0.22	59.89	Max Peak	Horizontal	159	323	74.0	-14.1	Pass
#6	15603.38	39.78	6.02	-0.22	45.58	Max Avg	Horizontal	159	323	54.0	-8.4	Pass

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

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	16	**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:	23	**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	4860.34	59.76	3.57	-11.21	52.12	Max Peak	Vertical	175	1	74.0	-21.9	Pass
#2	4860.34	45.96	3.57	-11.21	38.32	Max Avg	Vertical	175	1	54.0	-15.7	Pass
#3	5234.64	90.26	3.63	-11.37	82.52	Fundamental	Vertical	100	0	--	--	
#4	10484.77	52.38	5.41	-4.42	53.37	Peak (NRB)	Vertical	100	0	--	--	Pass
#5	15714.48	53.29	6.01	0.17	59.47	Max Peak	Vertical	150	1	74.0	-14.5	Pass
#6	15714.48	37.14	6.01	0.17	43.32	Max Avg	Vertical	150	1	54.0	-10.7	Pass

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

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	16	**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:	21	**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	4862.10	58.19	3.56	-11.23	50.52	Max Peak	Vertical	131	12	74.0	-23.5	Pass
#2	4862.10	44.38	3.56	-11.23	36.71	Max Avg	Vertical	131	12	54.0	-17.3	Pass
#3	5738.72	69.45	3.82	-10.67	62.60	Fundamental	Vertical	100	0	--	--	
#4	11490.51	67.84	5.45	-4.84	68.45	Max Peak	Horizontal	152	343	74.0	-5.6	Pass
#5	11490.51	53.30	5.45	-4.84	53.91	Max Avg	Horizontal	152	343	54.0	-0.1	Pass
#6	17235.90	43.93	6.46	0.35	50.74	Peak (NRB)	Horizontal	151	0	--	--	Pass
Test Notes: EUT powered by POE, connected to laptop outside chamber												

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	16	**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:	21	**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	4862.87	59.07	3.56	-11.23	51.40	Max Peak	Vertical	156	4	74.0	-22.6	Pass
#2	4862.87	45.31	3.56	-11.23	37.64	Max Avg	Vertical	156	4	54.0	-16.4	Pass
#3	5790.32	65.13	3.79	-10.42	58.50	Fundamental	Vertical	151	0	--	--	
#4	11571.75	64.64	5.42	-4.63	65.43	Max Peak	Vertical	173	200	74.0	-8.6	Pass
#5	11571.75	49.87	5.42	-4.63	50.66	Max Avg	Vertical	173	200	54.0	-3.3	Pass
#6	17358.05	45.45	6.28	-0.04	51.69	Peak (NRB)	Horizontal	151	0	--	--	Pass

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

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	16	**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:	20	**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	4928.04	58.05	3.60	-11.39	50.26	Max Peak	Horizontal	176	5	74.0	-23.7	Pass
#2	4928.04	47.42	3.60	-11.39	39.63	Max Avg	Horizontal	176	5	54.0	-14.4	Pass
#3	5829.13	65.50	3.84	-10.23	59.11	Fundamental	Vertical	100	0	--	--	
#4	11649.82	67.11	5.44	-4.47	68.08	Max Peak	Horizontal	148	344	74.0	-5.9	Pass
#5	11649.82	52.84	5.44	-4.47	53.81	Max Avg	Horizontal	148	344	54.0	-0.2	Pass
#6	17476.14	44.65	6.30	-0.59	50.36	Peak (NRB)	Horizontal	151	0	--	--	Pass

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

9.5.1.3. 27 dBi Dish Antenna

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	27 Dish	**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:	4	**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	5177.76	64.99	3.69	-11.51	57.17	Fundamental	Vertical	181	5	--	--	
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	27 Dish	**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:	12	**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	69.58	3.65	-11.45	61.78	Fundamental	Vertical	200	0	--	--	
#2	6374.96	52.51	3.95	-8.11	48.35	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:	27 Dish	**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:	12	**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	5239.16	71.43	3.63	-11.37	63.69	Fundamental	Vertical	200	0	--	--	
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	27 Dish	**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:	12	**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	11488.75	54.33	5.45	-4.85	54.93	Max Peak	Horizontal	193	6	74.0	-19.1	Pass
#2	11488.75	39.49	5.45	-4.85	40.09	Max Avg	Horizontal	193	6	54.0	-13.9	Pass
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	27 Dish	**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:	12	**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	11568.47	55.52	5.48	-4.65	56.35	Max Peak	Vertical	194	1	74.0	-17.7	Pass
#2	11568.47	40.50	5.48	-4.65	41.33	Max Avg	Vertical	194	1	54.0	-12.7	Pass
Test Notes: EUT powered by POE, connected to laptop outside chamber.												

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	27 Dish	**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:	12	**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	5827.93	53.21	3.84	-10.24	46.81	Fundamental	Vertical	200	5	--	--	
#2	11648.08	56.20	5.44	-4.47	57.17	Max Peak	Horizontal	195	0	74.0	-16.8	Pass
#3	11648.08	41.32	5.44	-4.47	42.29	Max Avg	Horizontal	195	0	54.0	-11.7	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

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	65.12	53.42	16
802.11n HT-20	5180.00	5150.00	65.27	53.25	16
802.11n HT-40	5190.00	5150.00	68.50	53.73	15

5725 – 5850 MHz Radiated Band-Edge Emissions

Dual Polarity		Band-Edge Freq	dBµV/m @	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	Limit	
802.11a	5745.00	5725.00	65.50	30
802.11n HT-20	5745.00	5725.00	65.10	30
802.11n HT-40	5755.00	5725.00	64.01	30
802.11a	5825.00	5850.00	60.56	30
802.11n HT-20	5825.00	5850.00	63.89	30
802.11n HT-40	5795.00	5850.00	62.44	30

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):	9.00	**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

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	5132.77	15.61	3.69	34.12	53.42	Max Avg	Horizontal	103	353	54.0	-0.6	Pass
#2	5132.77	27.31	3.69	34.12	65.12	Max Peak	Horizontal	103	353	74.0	-8.9	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
Test Notes: EUT powered by POE injector. Connected to laptop outside chamber.												

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Dual Polarity	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	9.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.50 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	15.47	3.67	34.11	53.25	Max Avg	Horizontal	103	353	54.0	-0.8	Pass
#2	5150.00	27.49	3.67	34.11	65.27	Max Peak	Horizontal	103	353	74.0	-8.7	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
Test Notes: EUT powered by POE injector. Connected to laptop outside chamber.												

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Dual Polarity	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	9.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5190.00	**Data Rate:**	13.50 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	5148.50	30.71	3.68	34.11	68.50	Max Peak	Horizontal	103	353	74.0	-5.5	Pass
#2	5150.00	15.95	3.67	34.11	53.73	Max Avg	Horizontal	103	353	54.0	-0.3	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
Test Notes: EUT powered by POE injector. Connected to laptop outside chamber.												

Equipment Configuration for 5725 MHz Radiated Band-Edge 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:	30	**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	5650.07	27.57	3.75	34.18	65.50	Max Peak	Horizontal	124	357	68.2	-2.7	Pass
#2	5723.92	52.92	3.79	34.35	91.06	Max Peak	Horizontal	124	357	119.9	-28.9	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE injector. 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):	9.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.50 MBit/s
Power Setting:	30	**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	27.17	3.75	34.18	65.10	Max Peak	Horizontal	124	357	68.2	-3.1	Pass
#2	5724.28	56.54	3.79	34.35	94.68	Max Peak	Horizontal	124	357	119.9	-25.2	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE injector. 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):	9.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5755.00	**Data Rate:**	13.50 MBit/s
Power Setting:	30	**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	26.08	3.75	34.18	64.01	Max Peak	Horizontal	124	357	68.2	-4.2	Pass
#2	5713.82	53.54	3.82	34.34	91.70	Max Peak	Horizontal	124	357	109.1	-17.4	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE injector. Connected to laptop outside chamber.												

Equipment Configuration for 5850 MHz Radiated Band-Edge 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:	30	**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	46.55	3.81	34.63	84.99	Max Peak	Horizontal	124	357	122.2	-37.2	Pass
#3	5919.46	21.90	3.85	34.81	60.56	Max Peak	Horizontal	124	357	72.6	-12.1	Pass
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE injector. 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):	9.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.50 MBit/s
Power Setting:	30	**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	5855.99	46.43	3.84	34.64	84.91	Max Peak	Horizontal	124	357	110.5	-25.6	Pass
#3	5900.10	25.30	3.82	34.77	63.89	Max Peak	Horizontal	124	357	86.7	-22.8	Pass
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE injector. 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):	9	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5795.00	**Data Rate:**	13.50 MBit/s
Power Setting:	30	**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	5853.23	41.44	3.82	34.63	79.89	Max Peak	Horizontal	124	357	115.4	-35.5	Pass
#3	5923.61	23.78	3.84	34.82	62.44	Max Peak	Horizontal	124	357	68.9	-6.5	Pass
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE injector. Connected to laptop outside chamber.												

9.5.2.5. 16 dBi Dual Polarity

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	64.93	53.71	12
802.11n HT-20	5180.00	5150.00	64.56	53.52	12
802.11n HT-40	5190.00	5150.00	67.21	52.85	14

5725 – 5850 MHz Radiated Band-Edge Emissions

MikroTik16		Band-Edge Freq	dBµV/m @	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	Limit	
802.11a	5745.00	5725.00	63.75	16
802.11n HT-20	5745.00	5725.00	62.57	16
802.11n HT-40	5755.00	5725.00	61.39	16
802.11a	5825.00	5850.00	58.91	16
802.11n HT-20	5825.00	5850.00	57.77	16
802.11n HT-40	5795.00	5850.00	58.48	16

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):	16.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	12	**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	5134.27	15.90	3.69	34.12	53.71	Max Avg	Horizontal	190	2	54.0	-0.3	Pass
#2	5135.77	27.12	3.69	34.12	64.93	Max Peak	Horizontal	190	2	74.0	-9.1	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):	16.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.50 MBit/s
Power Setting:	12	**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	5134.27	15.71	3.69	34.12	53.52	Max Avg	Horizontal	190	2	54.0	-0.5	Pass
#2	5135.77	26.75	3.69	34.12	64.56	Max Peak	Horizontal	190	2	74.0	-9.4	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):	16.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5190.00	**Data Rate:**	13.50 MBit/s
Power Setting:	14	**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	15.07	3.67	34.11	52.85	Max Avg	Horizontal	190	2	54.0	-1.2	Pass
#2	5150.00	29.43	3.67	34.11	67.21	Max Peak	Horizontal	190	2	74.0	-6.8	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):	16.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	16	**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	5649.61	25.82	3.75	34.18	63.75	Max Peak	Vertical	132	1	68.2	-4.5	Pass
#2	5725.00	31.57	3.79	34.35	69.71	Max Peak	Vertical	132	1	122.2	-52.5	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):	16.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.50 MBit/s
Power Setting:	16	**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	5649.97	24.64	3.75	34.18	62.57	Max Peak	Horizontal	132	1	68.2	-5.7	Pass
#2	5725.00	35.05	3.79	34.35	73.19	Max Peak	Horizontal	132	1	122.2	-49.0	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):	16.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5755.00	**Data Rate:**	13.50 MBit/s
Power Setting:	16	**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	5649.97	23.46	3.75	34.18	61.39	Max Peak	Horizontal	132	1	68.2	-6.8	Pass
#2	5725.00	36.59	3.79	34.35	74.73	Max Peak	Horizontal	132	1	122.2	-47.5	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):	16.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	16	**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	20.69	3.81	34.63	59.13	Max Peak	Horizontal	132	1	122.2	-63.1	Pass
#3	5900.10	20.32	3.82	34.77	58.91	Max Peak	Horizontal	132	1	86.7	-27.8	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-20
Antenna Gain (dBi):	16.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.50 MBit/s
Power Setting:	16	**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	21.66	3.81	34.63	60.10	Max Peak	Horizontal	132	1	122.2	-62.1	Pass
#3	5908.86	19.15	3.83	34.79	57.77	Max Peak	Horizontal	132	1	80.0	-22.3	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):	16.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5795.00	**Data Rate:**	13.50 MBit/s
Power Setting:	16	**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	23.64	3.81	34.63	62.08	Max Peak	Horizontal	132	1	122.2	-60.1	Pass
#3	5899.64	19.89	3.82	34.77	58.48	Max Peak	Horizontal	132	1	86.7	-28.2	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	63.28	53.16	1
802.11n HT-20	5180.00	5150.00	64.01	53.55	1
802.11n HT-40	5190.00	5150.00	63.46	53.26	4

5725 – 5850 MHz Radiated Band-Edge Emissions

MikroTik27		Band-Edge Freq	dBµV/m @	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	Limit	
802.11a	5745.00	5725.00	66.49	12
802.11n HT-20	5745.00	5725.00	66.01	12
802.11n HT-40	5755.00	5725.00	66.63	12
802.11a	5825.00	5850.00	60.83	12
802.11n HT-20	5825.00	5850.00	62.73	12
802.11n HT-40	5795.00	5850.00	62.60	12

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):	27.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	1	**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	4974.95	15.29	3.62	34.25	53.16	Max Avg	Horizontal	184	0	54.0	-0.8	Pass
#2	4974.95	25.41	3.62	34.25	63.28	Max Peak	Horizontal	184	0	74.0	-10.7	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):	27.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.50 MBit/s
Power Setting:	1	**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	4974.95	15.68	3.62	34.25	53.55	Max Avg	Horizontal	184	0	54.0	-0.5	Pass
#2	4974.95	26.14	3.62	34.25	64.01	Max Peak	Horizontal	184	0	74.0	-10.0	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:	Dish Antenna	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	27.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5190.00	**Data Rate:**	13.50 MBit/s
Power Setting:	4	**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	4974.95	15.39	3.62	34.25	53.26	Max Avg	Horizontal	184	0	54.0	-0.7	Pass
#2	4974.95	25.59	3.62	34.25	63.46	Max Peak	Horizontal	184	0	74.0	-10.5	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):	27.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	12	**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	5624.72	28.52	3.76	34.21	66.49	Max Peak	Horizontal	183	0	68.2	-1.7	Pass
#2	5725.00	27.29	3.79	34.35	65.43	Max Peak	Horizontal	183	0	122.2	-56.8	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):	27.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.50 MBit/s
Power Setting:	12	**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	5624.72	28.04	3.76	34.21	66.01	Max Peak	Horizontal	183	0	68.2	-2.2	Pass
#2	5725.00	30.00	3.79	34.35	68.14	Max Peak	Horizontal	183	0	122.2	-54.1	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):	27.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5755.00	**Data Rate:**	13.50 MBit/s
Power Setting:	12	**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	5624.89	28.66	3.76	34.21	66.63	Max Peak	Horizontal	183	0	68.2	-1.6	Pass
#2	5725.00	25.64	3.79	34.35	63.78	Max Peak	Horizontal	183	0	122.2	-58.4	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):	27.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	12	**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	23.58	3.81	34.63	62.02	Max Peak	Horizontal	183	0	122.2	-60.2	Pass
#3	5925.45	22.17	3.84	34.82	60.83	Max Peak	Horizontal	183	0	68.2	-1.5	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:	Dish Antenna	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	27.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.50 MBit/s
Power Setting:	12	**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	23.64	3.81	34.63	62.08	Max Peak	Horizontal	183	0	122.2	-60.2	Pass
#3	5924.99	24.07	3.84	34.82	62.73	Max Peak	Horizontal	183	0	68.2	-5.0	Pass
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to lattop outside chamber												

Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

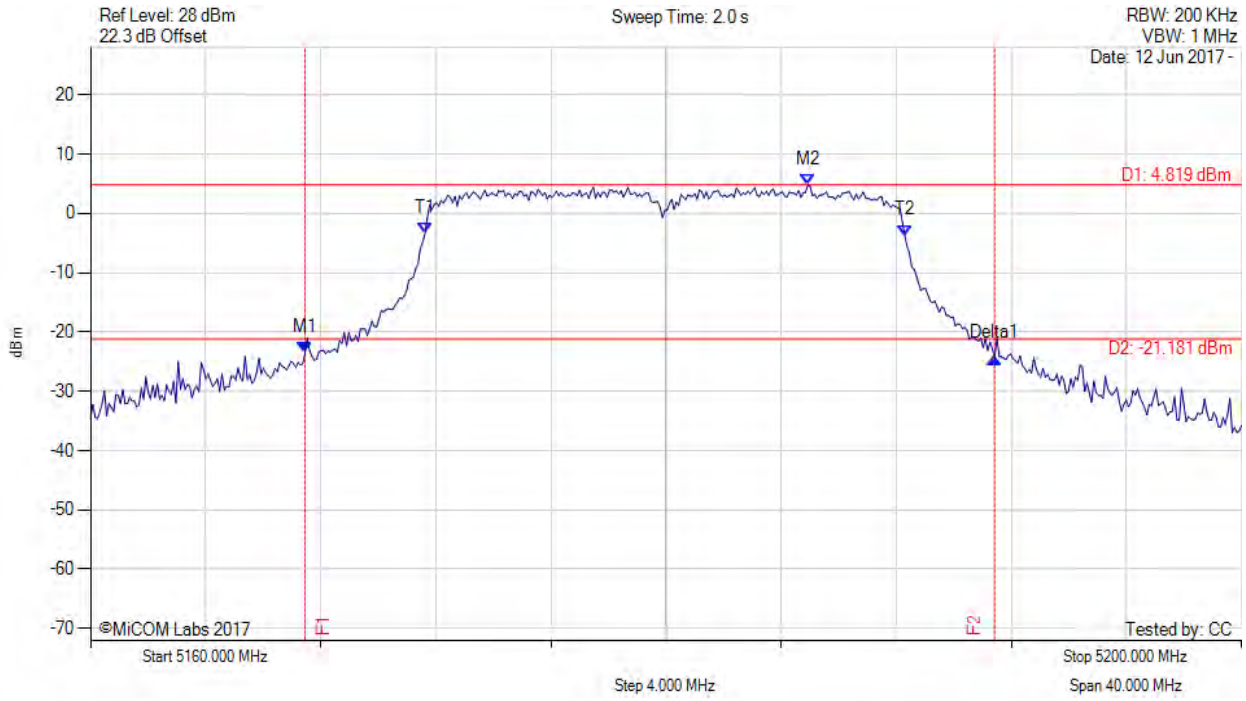
Antenna:	Dish Antenna	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	27.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5795.00	**Data Rate:**	13.50 MBit/s
Power Setting:	12	**Tested By:**	JMH

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	24.12	3.81	34.63	62.56	Max Peak	Horizontal	183	0	122.2	-59.7	Pass
#3	5924.99	23.94	3.84	34.82	62.60	Max Peak	Horizontal	183	0	68.2	-5.6	Pass
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to lattop outside chamber												

A. APPENDIX - GRAPHICAL IMAGES

A.1. 26 dB & 99% Bandwidth

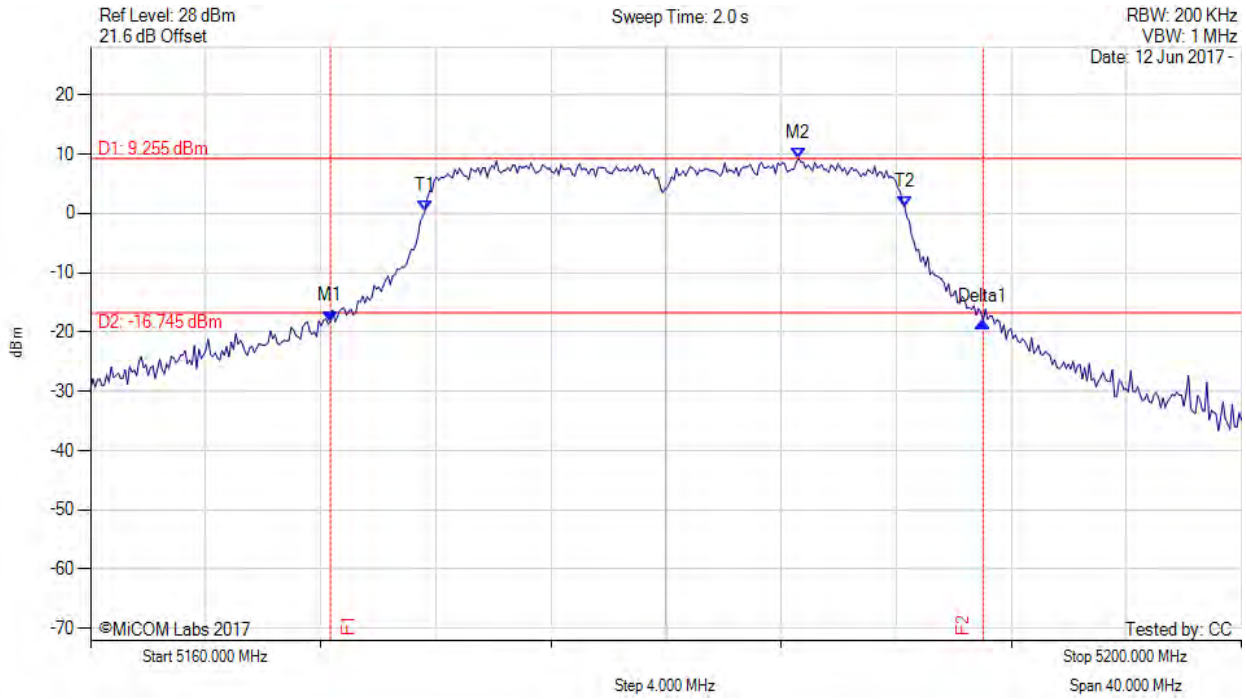


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5167.455 MHz : -23.525 dBm M2 : 5184.930 MHz : 4.819 dBm Delta1 : 23.968 MHz : -0.755 dB T1 : 5171.623 MHz : -3.444 dBm T2 : 5188.297 MHz : -3.694 dBm OBW : 16.673 MHz	Measured 26 dB Bandwidth: 23.968 MHz Measured 99% Bandwidth: 16.673 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5180.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

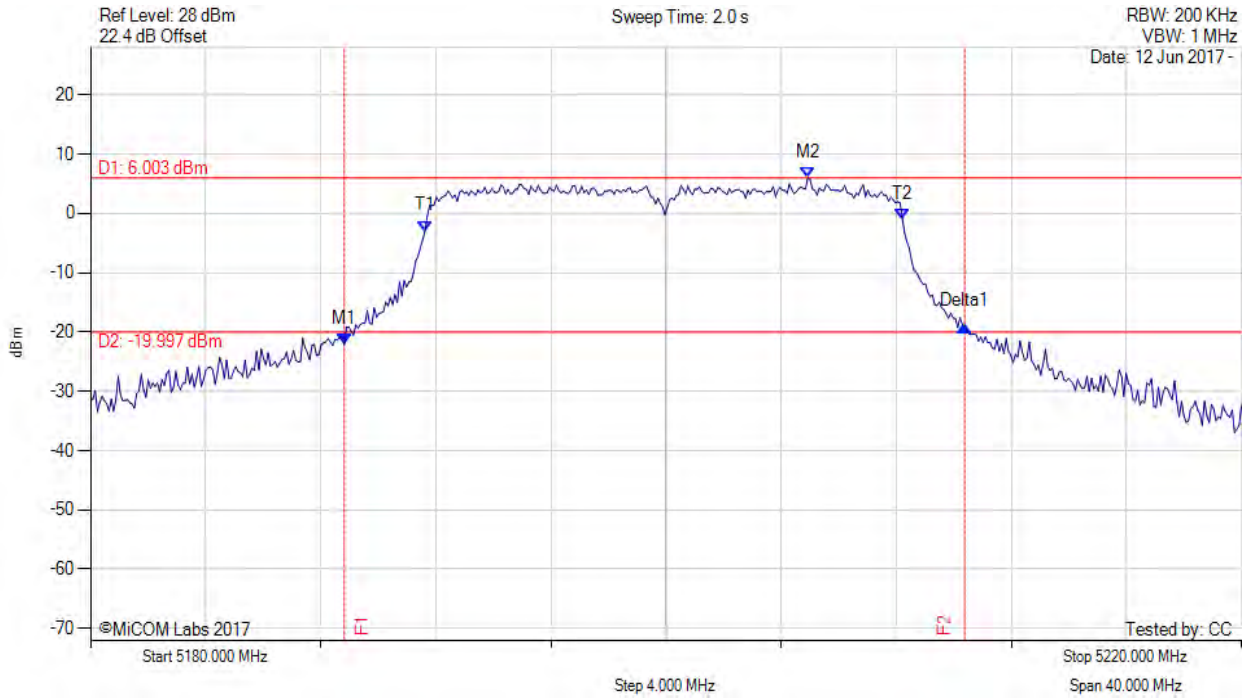


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5168.337 MHz : -18.197 dBm M2 : 5184.609 MHz : 9.255 dBm Delta1 : 22.685 MHz : -0.075 dB T1 : 5171.623 MHz : 0.424 dBm T2 : 5188.297 MHz : 1.150 dBm OBW : 16.673 MHz	Measured 26 dB Bandwidth: 22.685 MHz Measured 99% Bandwidth: 16.673 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5200.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

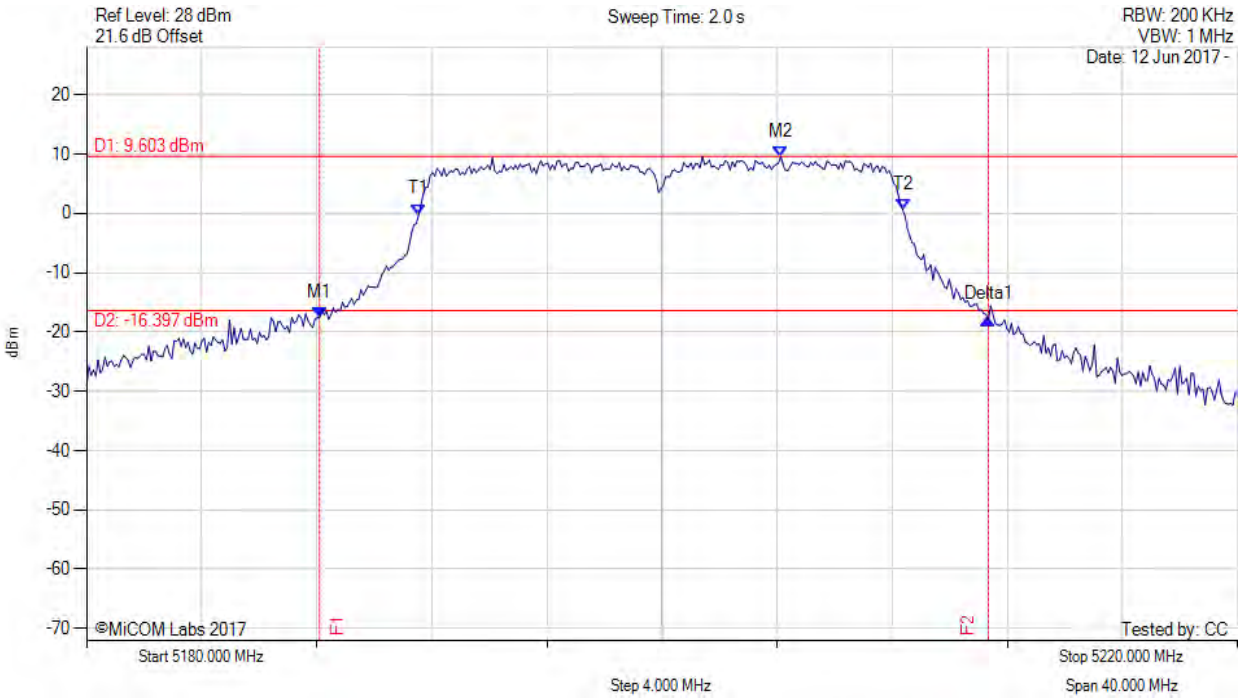


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5188.818 MHz : -22.134 dBm M2 : 5204.930 MHz : 6.003 dBm Delta1 : 21.563 MHz : 3.215 dB T1 : 5191.623 MHz : -2.990 dBm T2 : 5208.216 MHz : -0.940 dBm OBW : 16.593 MHz	Measured 26 dB Bandwidth: 21.563 MHz Measured 99% Bandwidth: 16.593 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5200.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

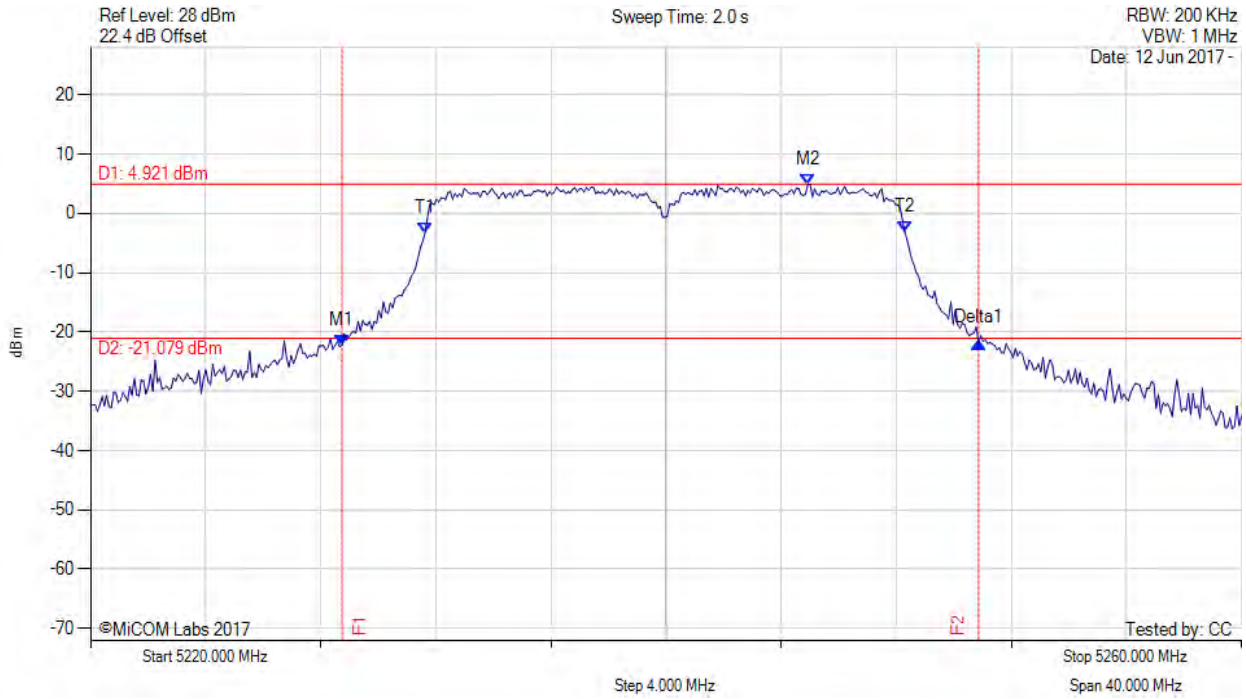


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5188.096 MHz : -17.635 dBm M2 : 5204.128 MHz : 9.603 dBm Delta1 : 23.246 MHz : -0.289 dB T1 : 5191.543 MHz : -0.202 dBm T2 : 5208.377 MHz : 0.536 dBm OBW : 16.834 MHz	Measured 26 dB Bandwidth: 23.246 MHz Measured 99% Bandwidth: 16.834 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5240.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

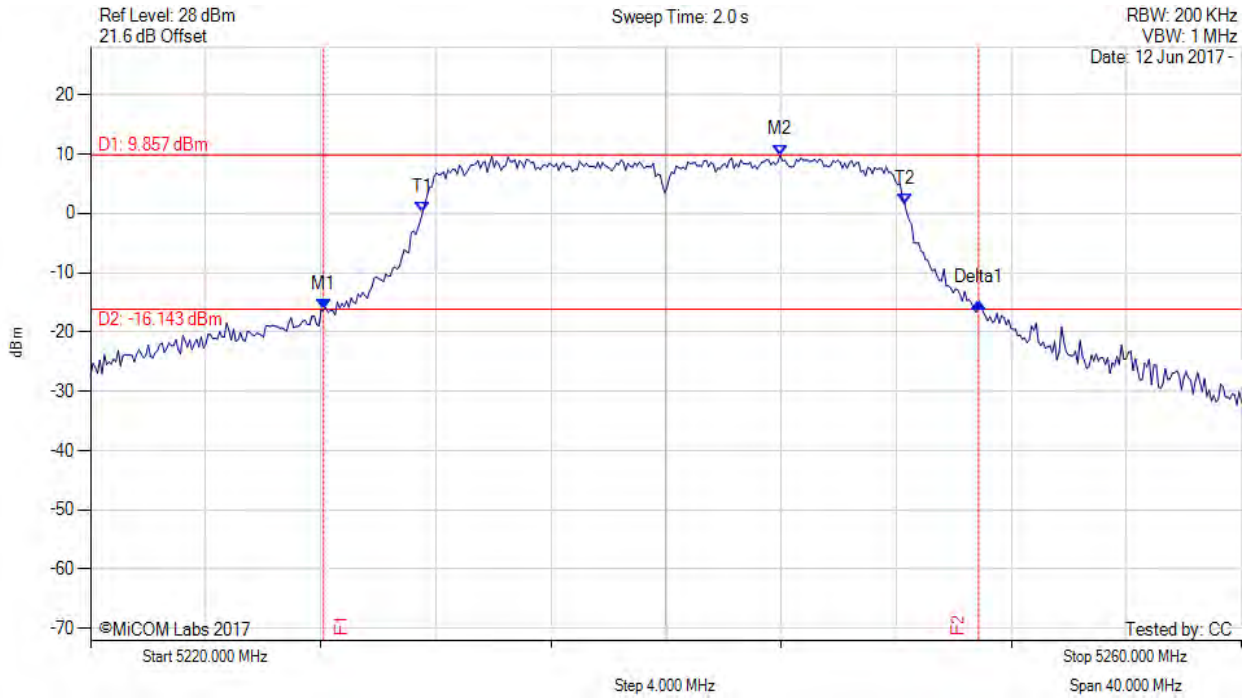


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5228.737 MHz : -22.260 dBm M2 : 5244.930 MHz : 4.921 dBm Delta1 : 22.124 MHz : 0.429 dB T1 : 5231.623 MHz : -3.364 dBm T2 : 5248.297 MHz : -3.163 dBm OBW : 16.673 MHz	Measured 26 dB Bandwidth: 22.124 MHz Measured 99% Bandwidth: 16.673 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5240.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5228.096 MHz : -16.297 dBm M2 : 5243.968 MHz : 9.857 dBm Delta1 : 22.766 MHz : 1.176 dB T1 : 5231.543 MHz : 0.229 dBm T2 : 5248.297 MHz : 1.604 dBm OBW : 16.754 MHz	Measured 26 dB Bandwidth: 22.766 MHz Measured 99% Bandwidth: 16.754 MHz

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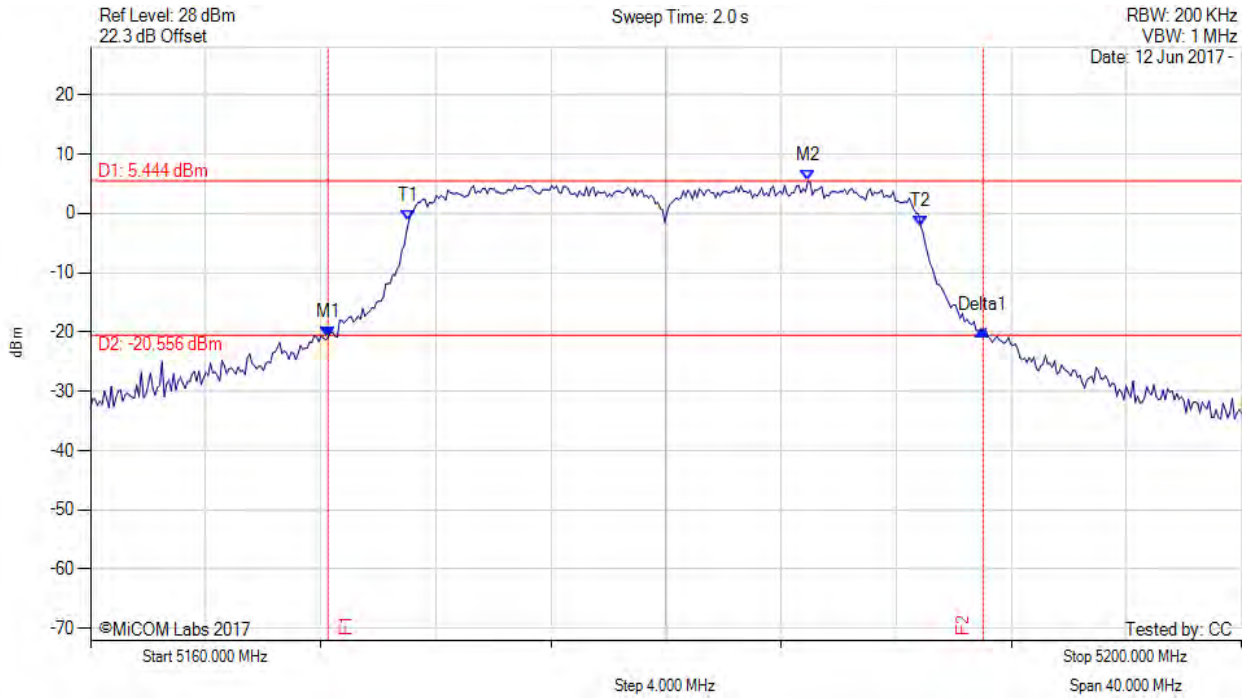
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5180.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

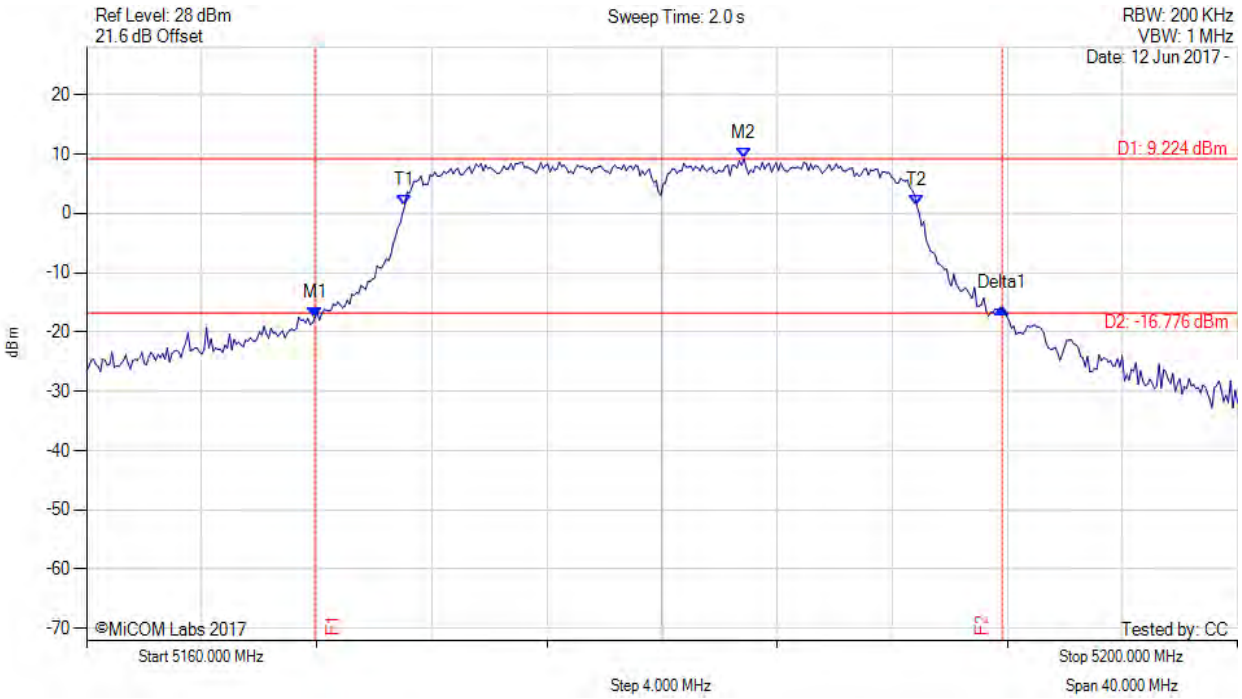


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5168.257 MHz : -20.897 dBm M2 : 5184.930 MHz : 5.444 dBm Delta1 : 22.766 MHz : 1.222 dB T1 : 5171.062 MHz : -1.290 dBm T2 : 5188.858 MHz : -2.219 dBm OBW : 17.796 MHz	Measured 26 dB Bandwidth: 22.766 MHz Measured 99% Bandwidth: 17.796 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5180.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

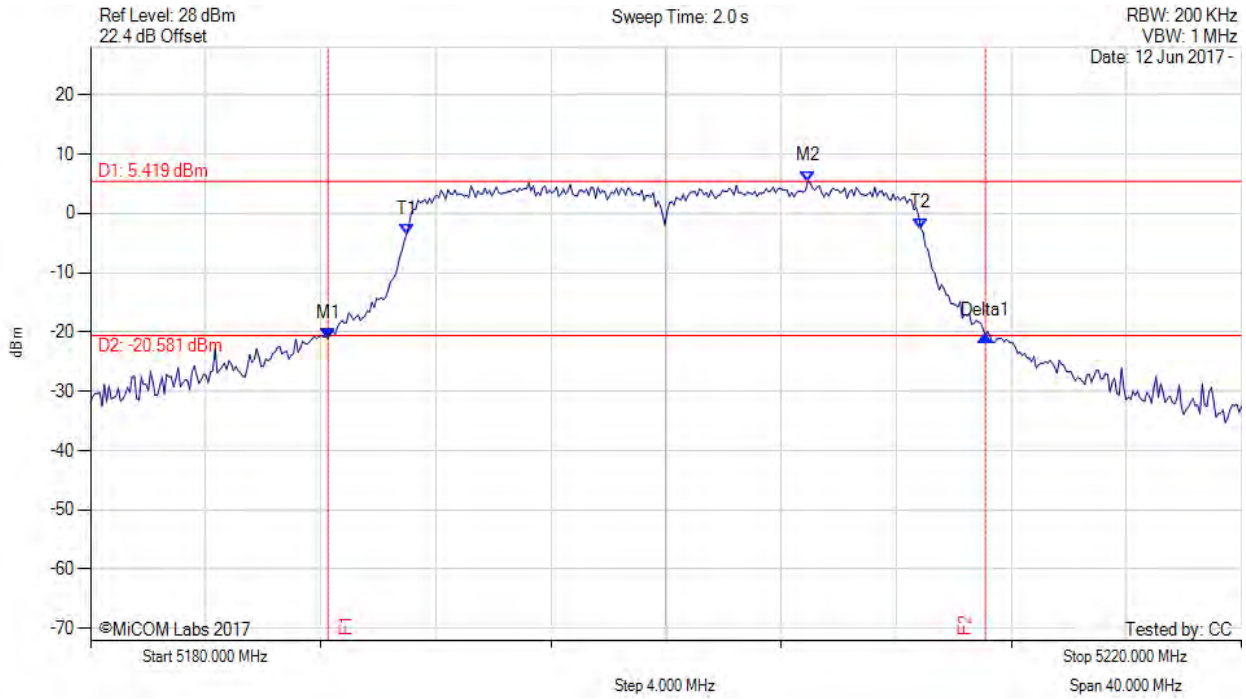


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5167.936 MHz : -17.627 dBm M2 : 5182.846 MHz : 9.224 dBm Delta1 : 23.888 MHz : 1.594 dB T1 : 5171.062 MHz : 1.327 dBm T2 : 5188.858 MHz : 1.256 dBm OBW : 17.796 MHz	Measured 26 dB Bandwidth: 23.888 MHz Measured 99% Bandwidth: 17.796 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5200.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

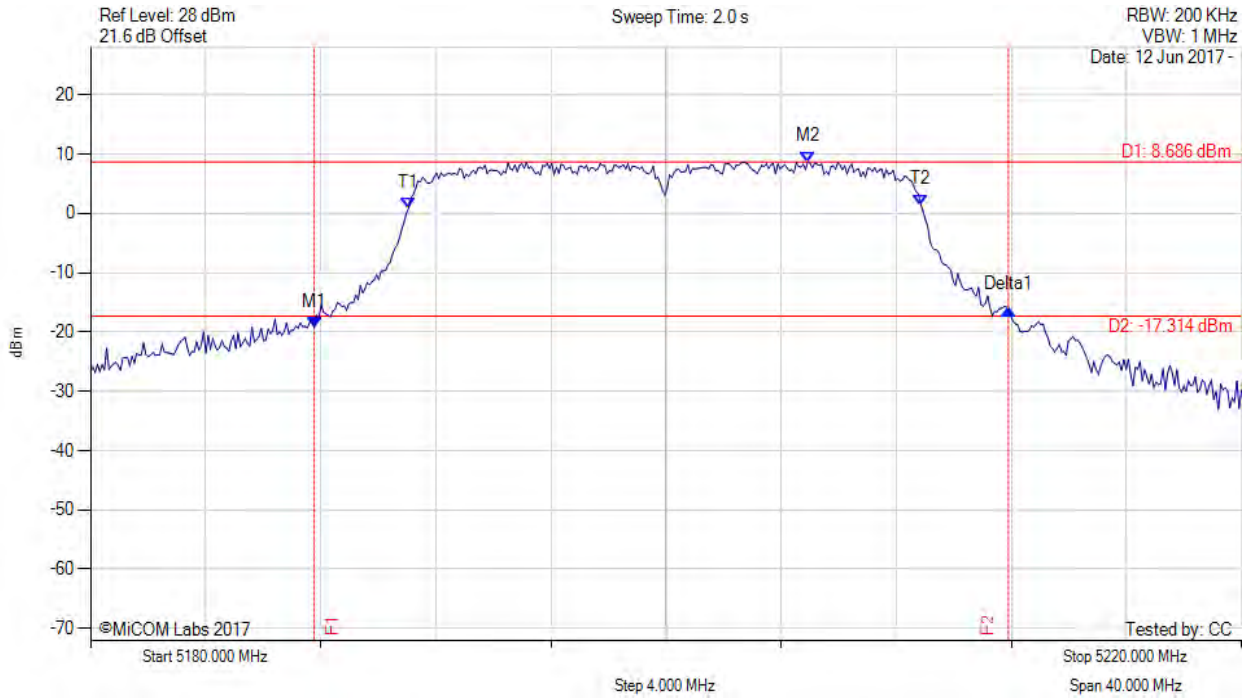


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5188.257 MHz : -21.060 dBm M2 : 5204.930 MHz : 5.419 dBm Delta1 : 22.846 MHz : 0.484 dB T1 : 5190.982 MHz : -3.480 dBm T2 : 5208.858 MHz : -2.514 dBm OBW : 17.876 MHz	Measured 26 dB Bandwidth: 22.846 MHz Measured 99% Bandwidth: 17.876 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5200.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

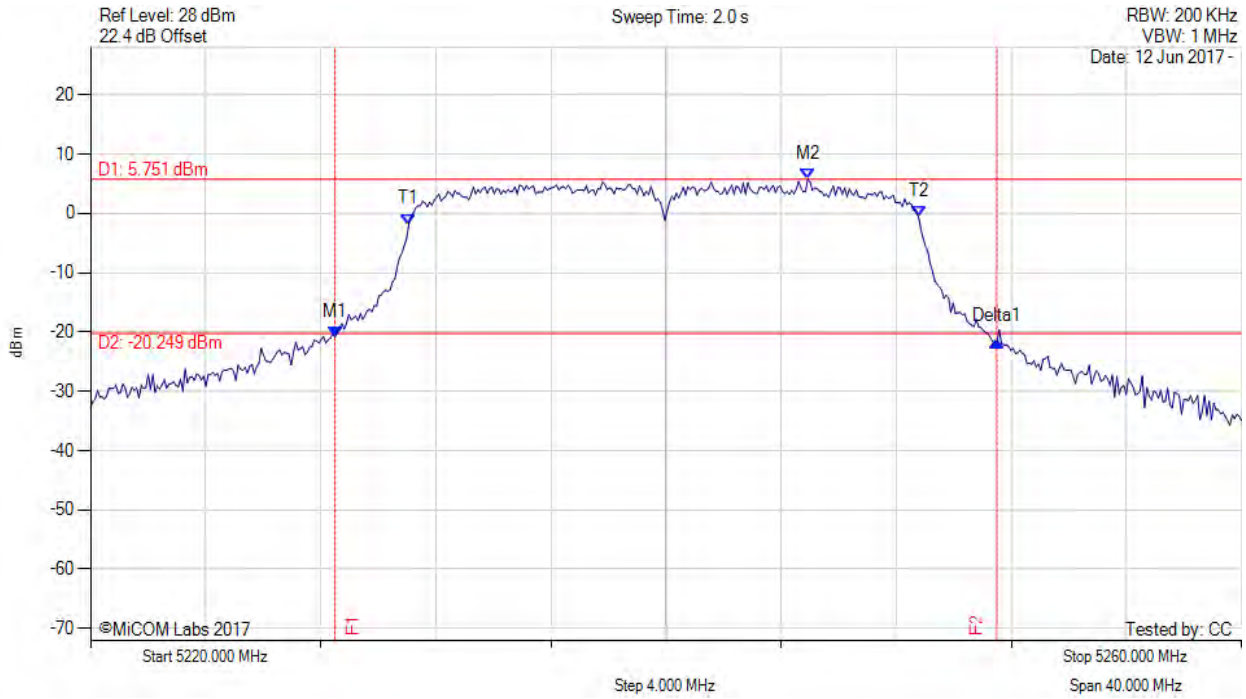


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5187.776 MHz : -19.228 dBm M2 : 5204.930 MHz : 8.686 dBm Delta1 : 24.128 MHz : 3.065 dB T1 : 5191.062 MHz : 0.941 dBm T2 : 5208.858 MHz : 1.449 dBm OBW : 17.796 MHz	Measured 26 dB Bandwidth: 24.128 MHz Measured 99% Bandwidth: 17.796 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5240.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

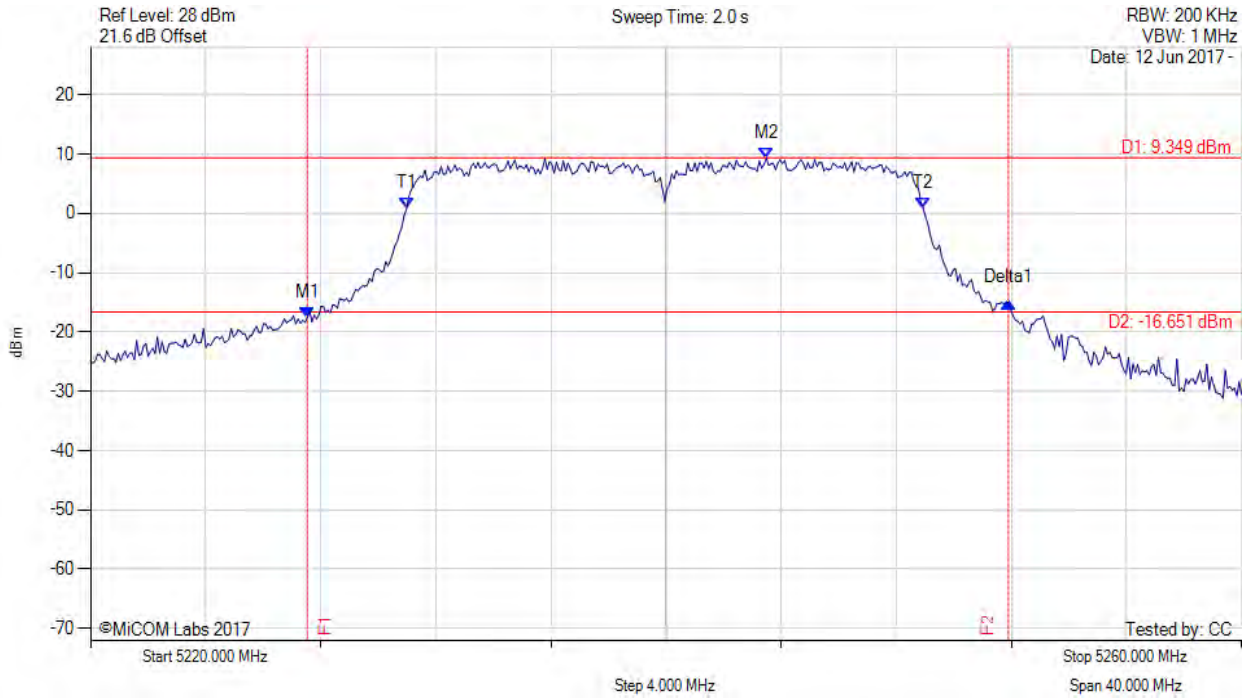


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5228.497 MHz : -20.832 dBm M2 : 5244.930 MHz : 5.751 dBm Delta1 : 23.006 MHz : -0.826 dB T1 : 5231.062 MHz : -1.835 dBm T2 : 5248.778 MHz : -0.594 dBm OBW : 17.715 MHz	Measured 26 dB Bandwidth: 23.006 MHz Measured 99% Bandwidth: 17.715 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5240.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

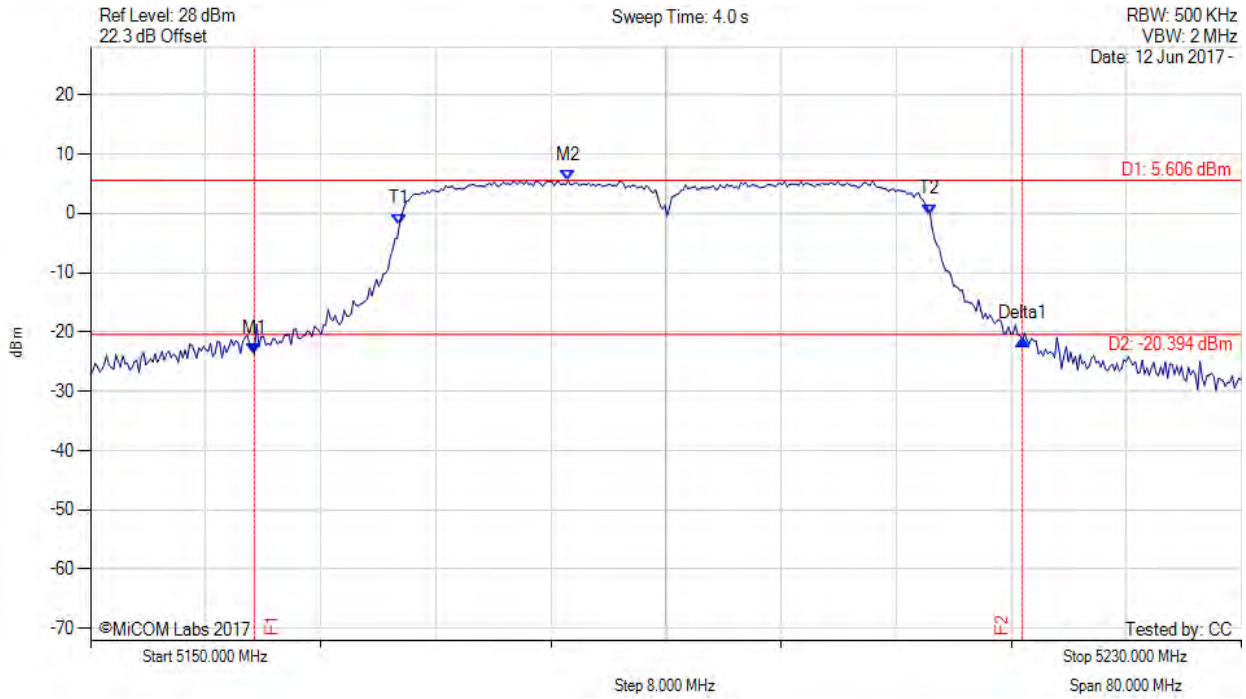


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5227.535 MHz : -17.586 dBm M2 : 5243.487 MHz : 9.349 dBm Delta1 : 24.369 MHz : 2.526 dB T1 : 5230.982 MHz : 0.791 dBm T2 : 5248.938 MHz : 0.896 dBm OBW : 17.956 MHz	Measured 26 dB Bandwidth: 24.369 MHz Measured 99% Bandwidth: 17.956 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5190.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

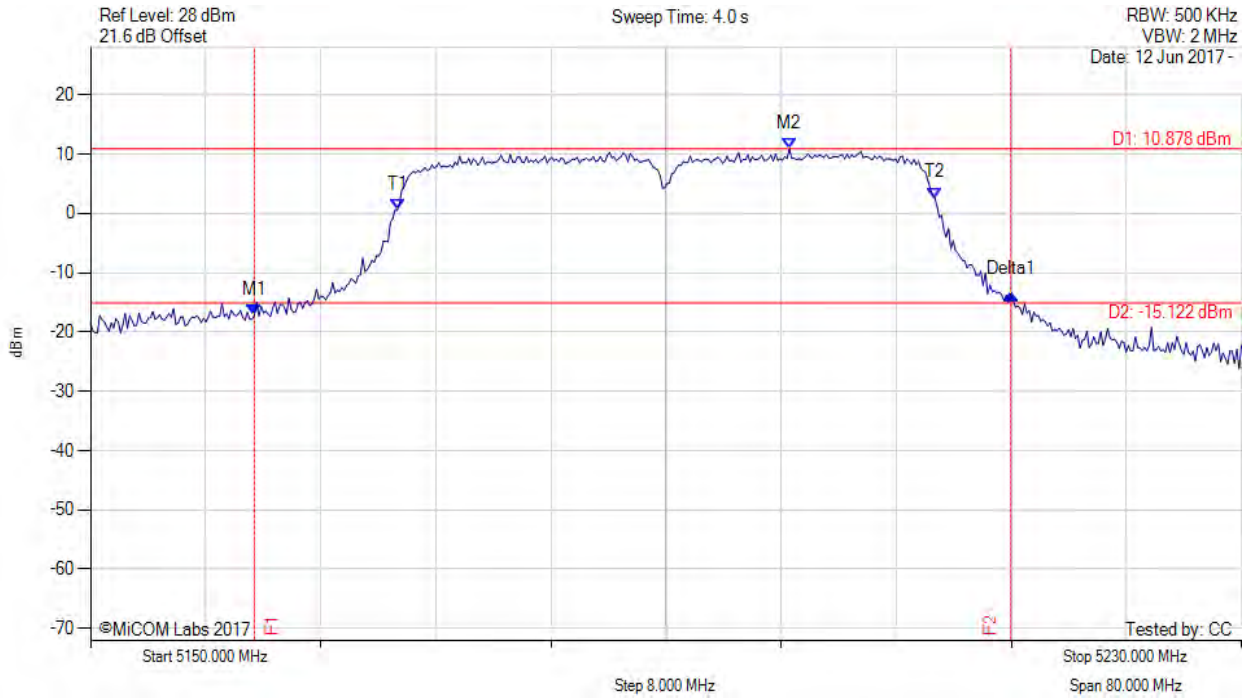


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5161.383 MHz : -23.694 dBm M2 : 5183.186 MHz : 5.606 dBm Delta1 : 53.387 MHz : 2.483 dB T1 : 5171.483 MHz : -1.837 dBm T2 : 5208.357 MHz : -0.184 dBm OBW : 36.874 MHz	Measured 26 dB Bandwidth: 53.387 MHz Measured 99% Bandwidth: 36.874 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5190.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

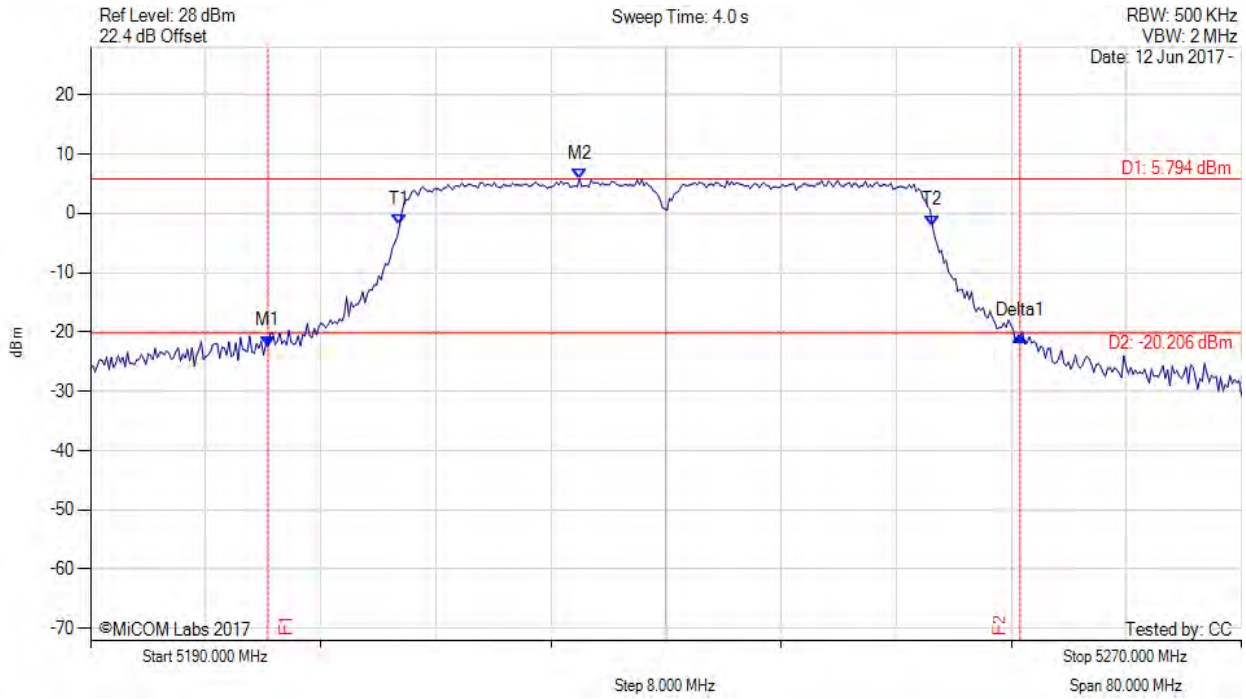


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5161.383 MHz : -17.163 dBm M2 : 5198.577 MHz : 10.878 dBm Delta1 : 52.585 MHz : 3.561 dB T1 : 5171.323 MHz : 0.555 dBm T2 : 5208.677 MHz : 2.601 dBm OBW : 37.355 MHz	Measured 26 dB Bandwidth: 52.585 MHz Measured 99% Bandwidth: 37.355 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5230.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

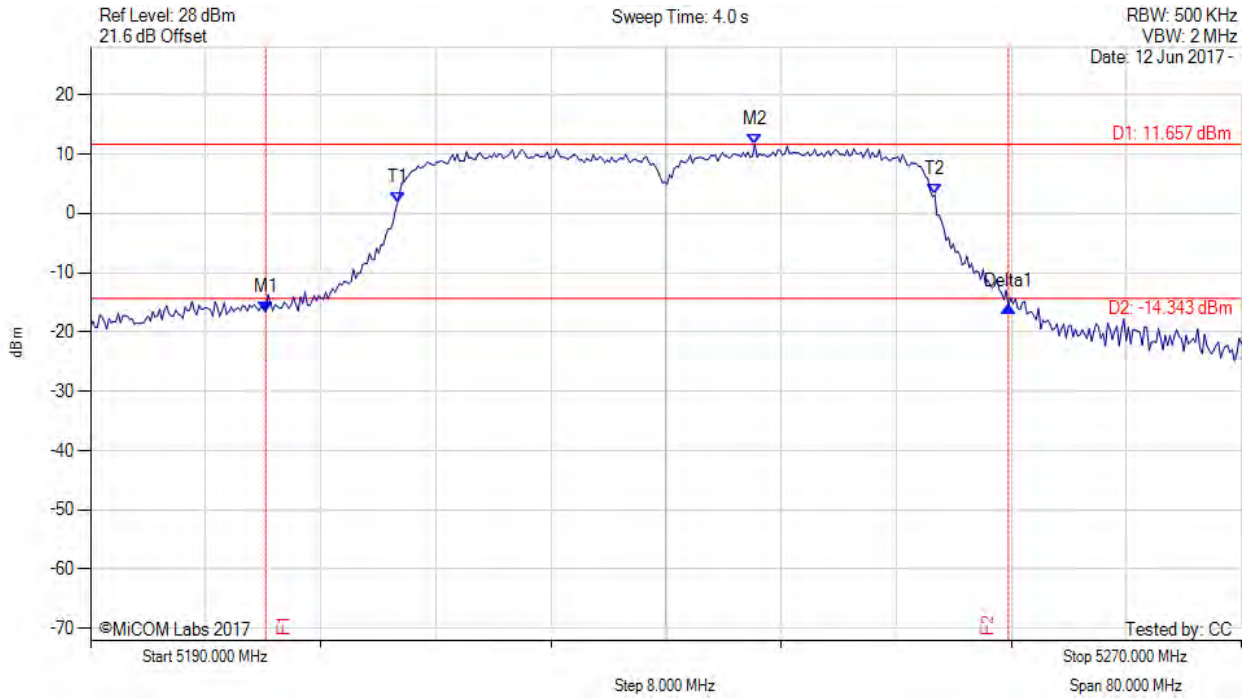


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5202.345 MHz : -22.400 dBm M2 : 5223.988 MHz : 5.794 dBm Delta1 : 52.265 MHz : 1.775 dB T1 : 5211.483 MHz : -2.022 dBm T2 : 5248.517 MHz : -2.057 dBm OBW : 37.034 MHz	Measured 26 dB Bandwidth: 52.265 MHz Measured 99% Bandwidth: 37.034 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5230.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc



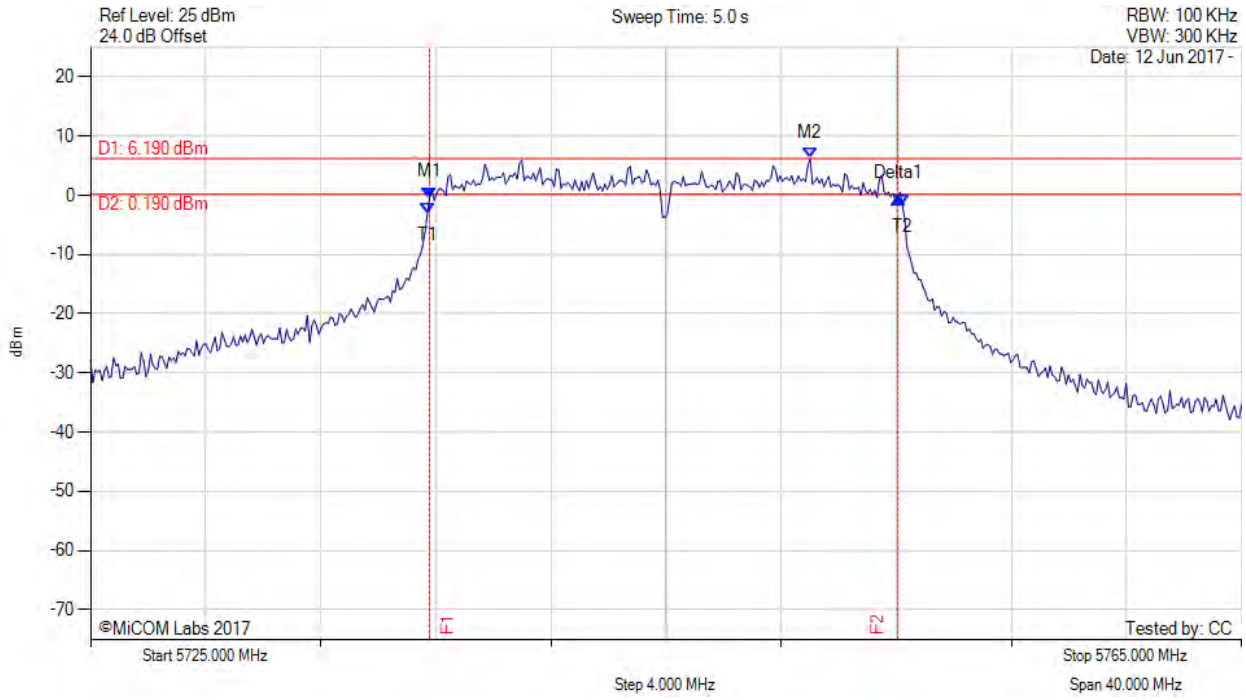
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5202.184 MHz : -16.629 dBm M2 : 5236.172 MHz : 11.657 dBm Delta1 : 51.623 MHz : 0.881 dB T1 : 5211.323 MHz : 1.708 dBm T2 : 5248.677 MHz : 3.111 dBm OBW : 37.355 MHz	Measured 26 dB Bandwidth: 51.623 MHz Measured 99% Bandwidth: 37.355 MHz

back to matrix

A.2. 6 dB & 99% Bandwidth

6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5745.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

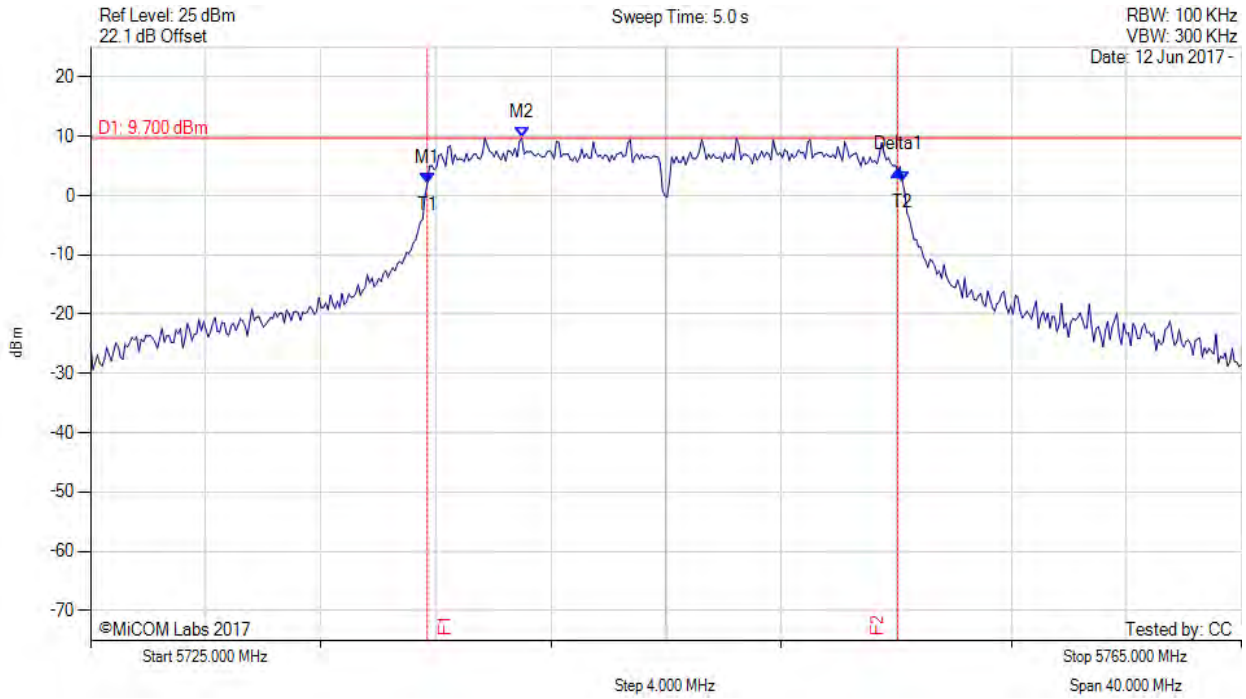


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5736.784 MHz : -0.375 dBm M2 : 5750.010 MHz : 6.190 dBm Delta1 : 16.273 MHz : -0.057 dB T1 : 5736.703 MHz : -3.176 dBm T2 : 5753.216 MHz : -1.721 dBm OBW : 16.513 MHz	Measured 6 dB Bandwidth: 16.273 MHz Measured 99% Bandwidth: 16.513 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5745.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

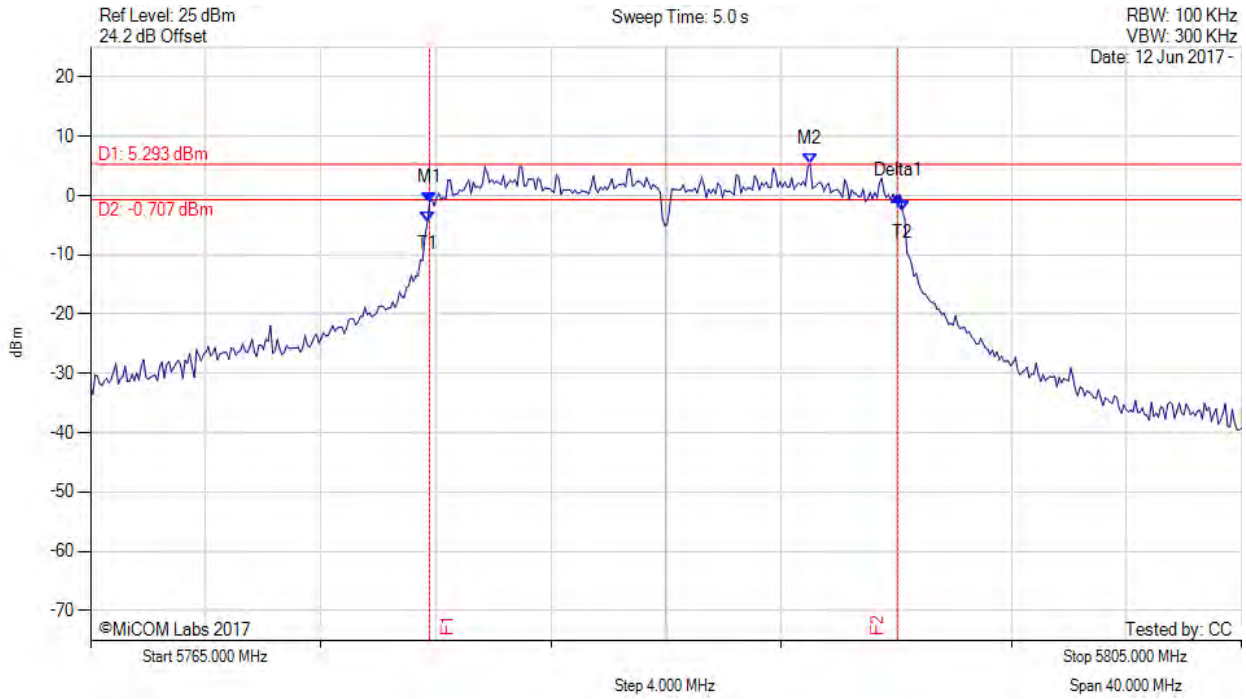


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5736.703 MHz : 2.082 dBm M2 : 5739.990 MHz : 9.700 dBm Delta1 : 16.353 MHz : 2.217 dB T1 : 5736.703 MHz : 2.082 dBm T2 : 5753.216 MHz : 2.375 dBm OBW : 16.513 MHz	Measured 6 dB Bandwidth: 16.353 MHz Measured 99% Bandwidth: 16.513 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5785.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

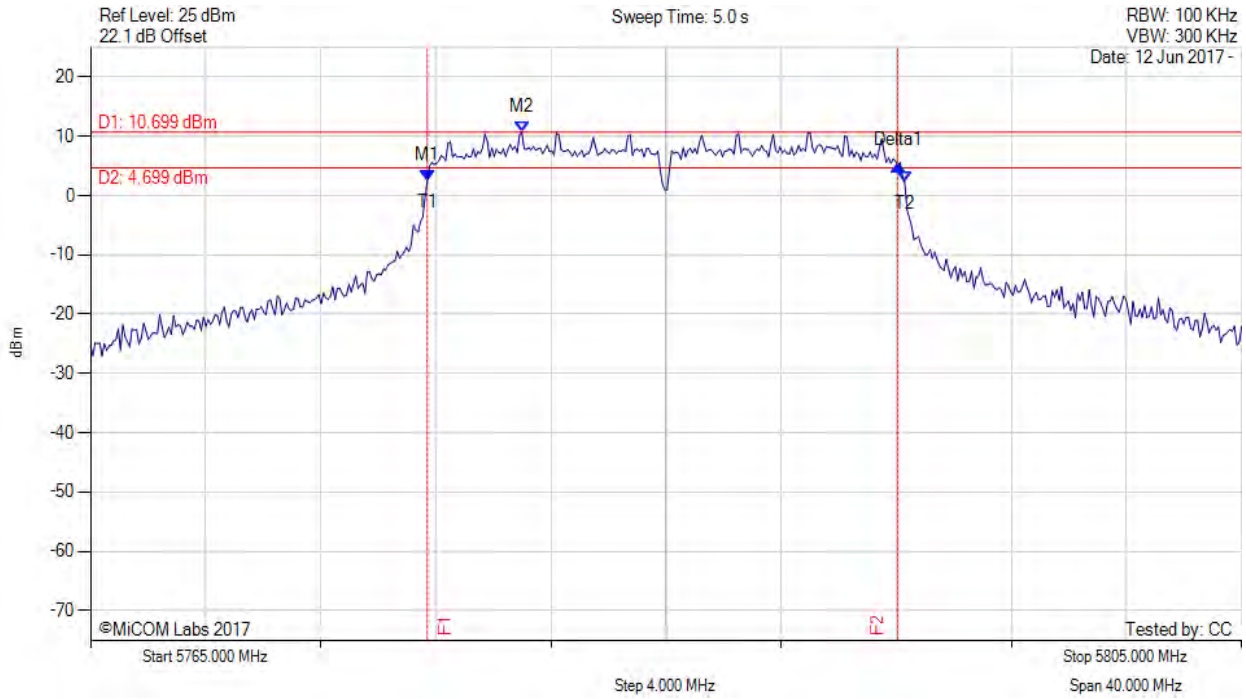


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5776.784 MHz : -1.119 dBm M2 : 5790.010 MHz : 5.293 dBm Delta1 : 16.273 MHz : 0.984 dB T1 : 5776.703 MHz : -4.577 dBm T2 : 5793.216 MHz : -2.624 dBm OBW : 16.513 MHz	Measured 6 dB Bandwidth: 16.273 MHz Measured 99% Bandwidth: 16.513 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5785.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

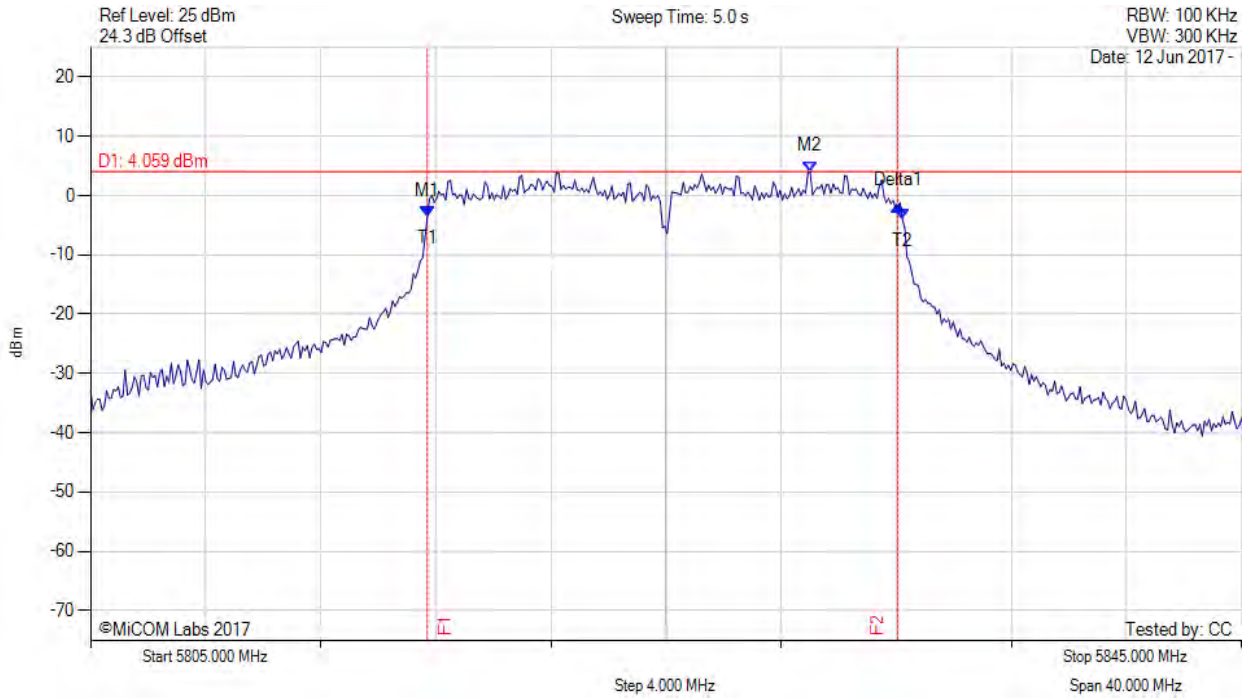


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5776.703 MHz : 2.486 dBm M2 : 5779.990 MHz : 10.699 dBm Delta1 : 16.353 MHz : 2.518 dB T1 : 5776.703 MHz : 2.486 dBm T2 : 5793.297 MHz : 2.202 dBm OBW : 16.593 MHz	Measured 6 dB Bandwidth: 16.353 MHz Measured 99% Bandwidth: 16.593 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5825.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

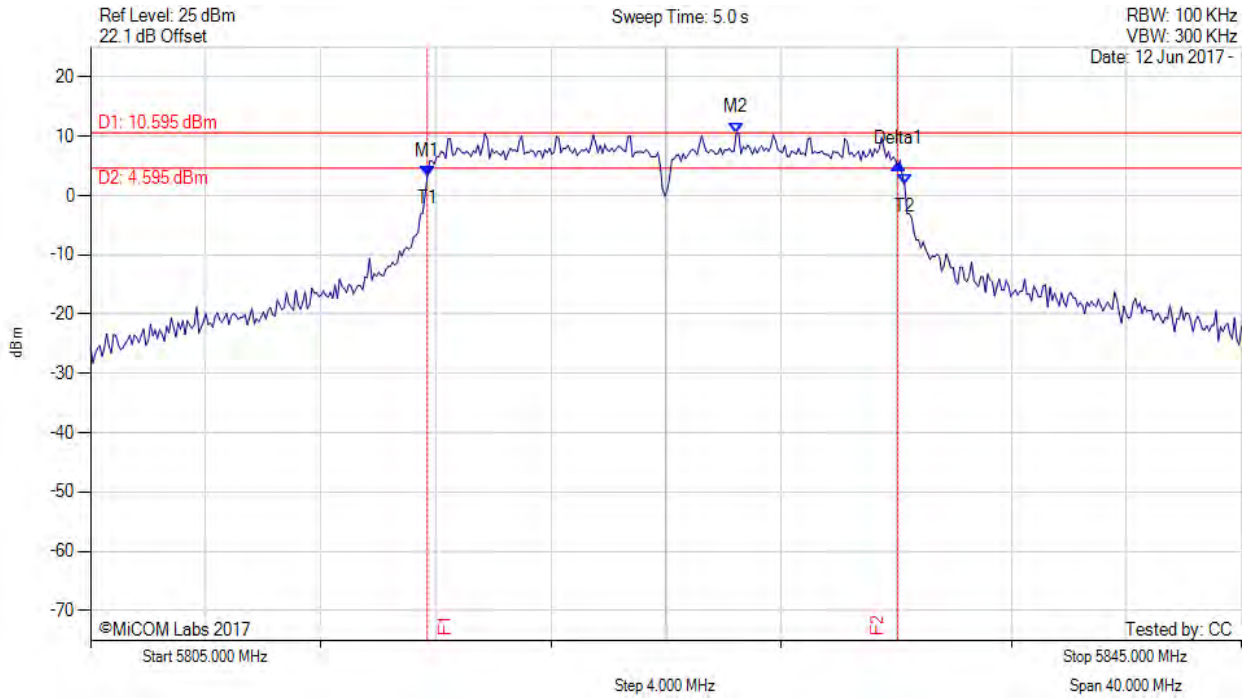


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5816.703 MHz : -3.590 dBm M2 : 5830.010 MHz : 4.059 dBm Delta1 : 16.353 MHz : 1.936 dB T1 : 5816.703 MHz : -3.590 dBm T2 : 5833.216 MHz : -4.048 dBm OBW : 16.513 MHz	Measured 6 dB Bandwidth: 16.353 MHz Measured 99% Bandwidth: 16.513 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5825.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

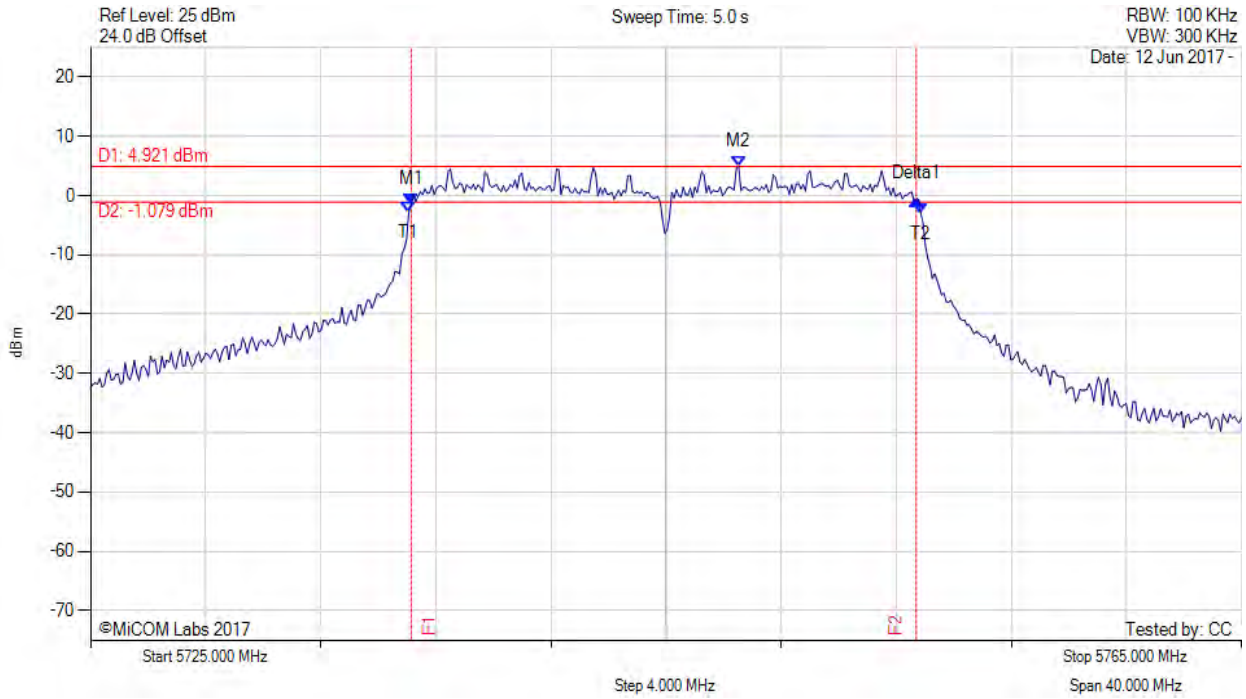


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5816.703 MHz : 3.221 dBm M2 : 5827.445 MHz : 10.595 dBm Delta1 : 16.353 MHz : 2.048 dB T1 : 5816.703 MHz : 3.221 dBm T2 : 5833.297 MHz : 1.769 dBm OBW : 16.593 MHz	Measured 6 dB Bandwidth: 16.353 MHz Measured 99% Bandwidth: 16.593 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

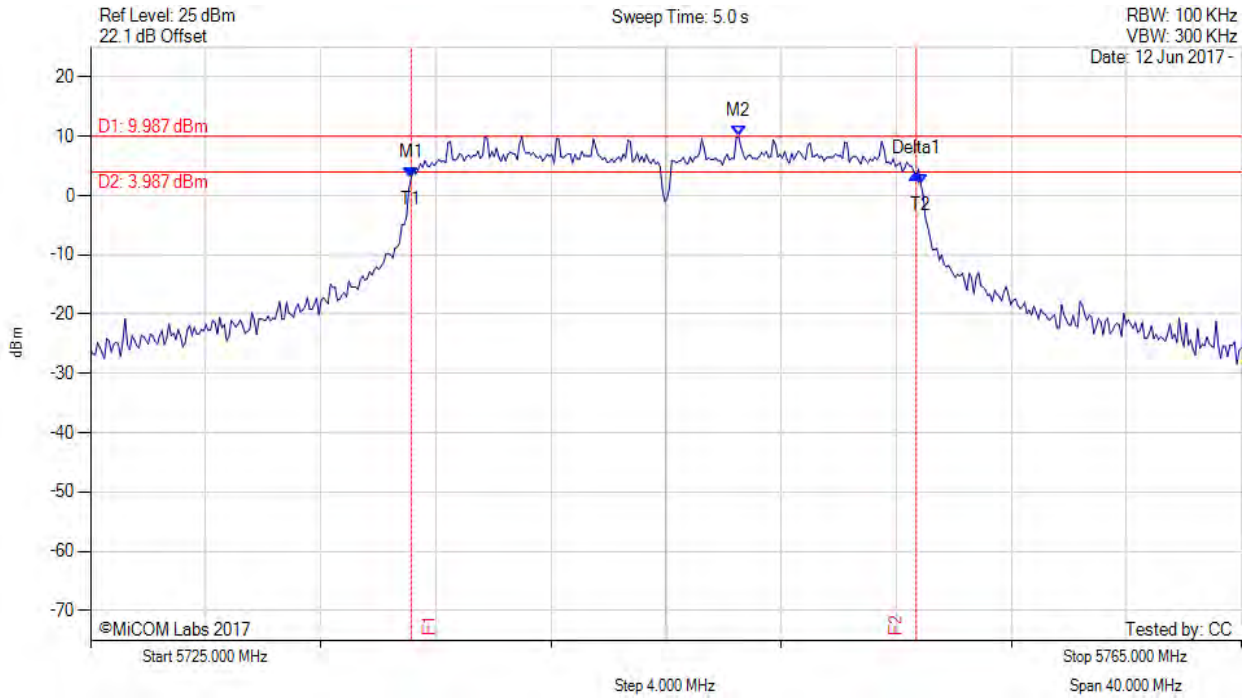


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5736.142 MHz : -1.498 dBm M2 : 5747.525 MHz : 4.921 dBm Delta1 : 17.555 MHz : 0.870 dB T1 : 5736.062 MHz : -2.761 dBm T2 : 5753.858 MHz : -2.997 dBm OBW : 17.796 MHz	Measured 6 dB Bandwidth: 17.555 MHz Measured 99% Bandwidth: 17.796 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

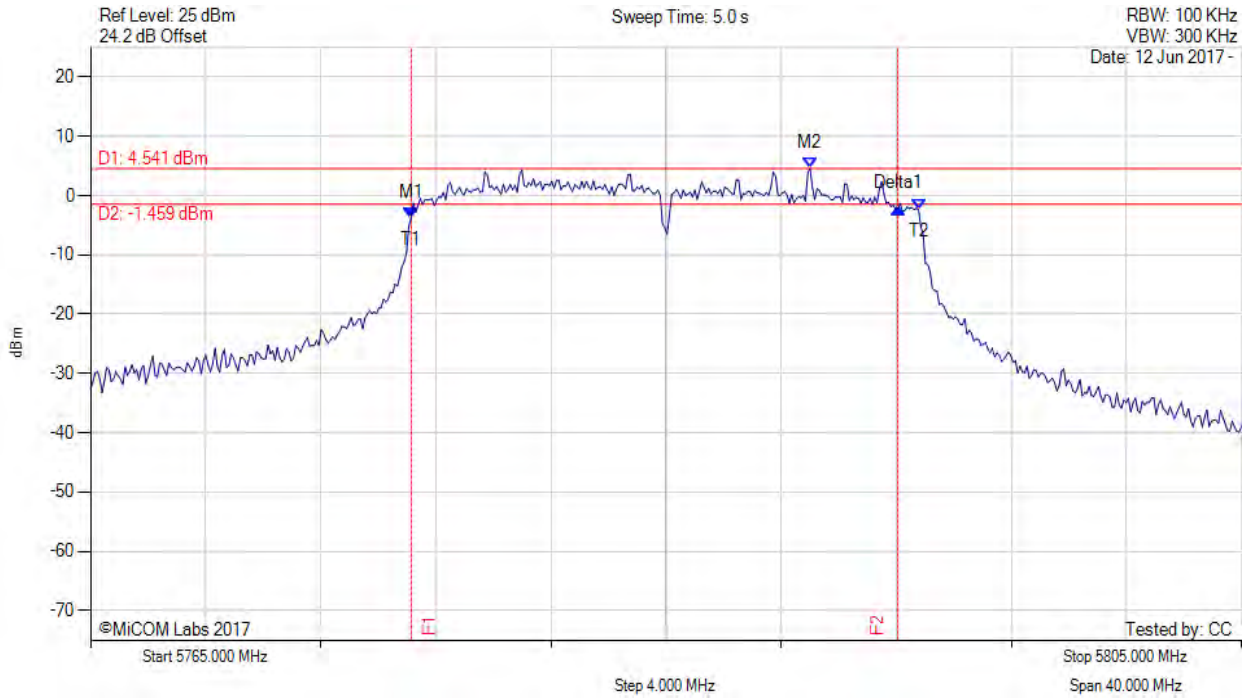


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5736.142 MHz : 3.017 dBm M2 : 5747.525 MHz : 9.987 dBm Delta1 : 17.555 MHz : 0.637 dB T1 : 5736.142 MHz : 3.017 dBm T2 : 5753.858 MHz : 1.941 dBm OBW : 17.715 MHz	Measured 6 dB Bandwidth: 17.555 MHz Measured 99% Bandwidth: 17.715 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

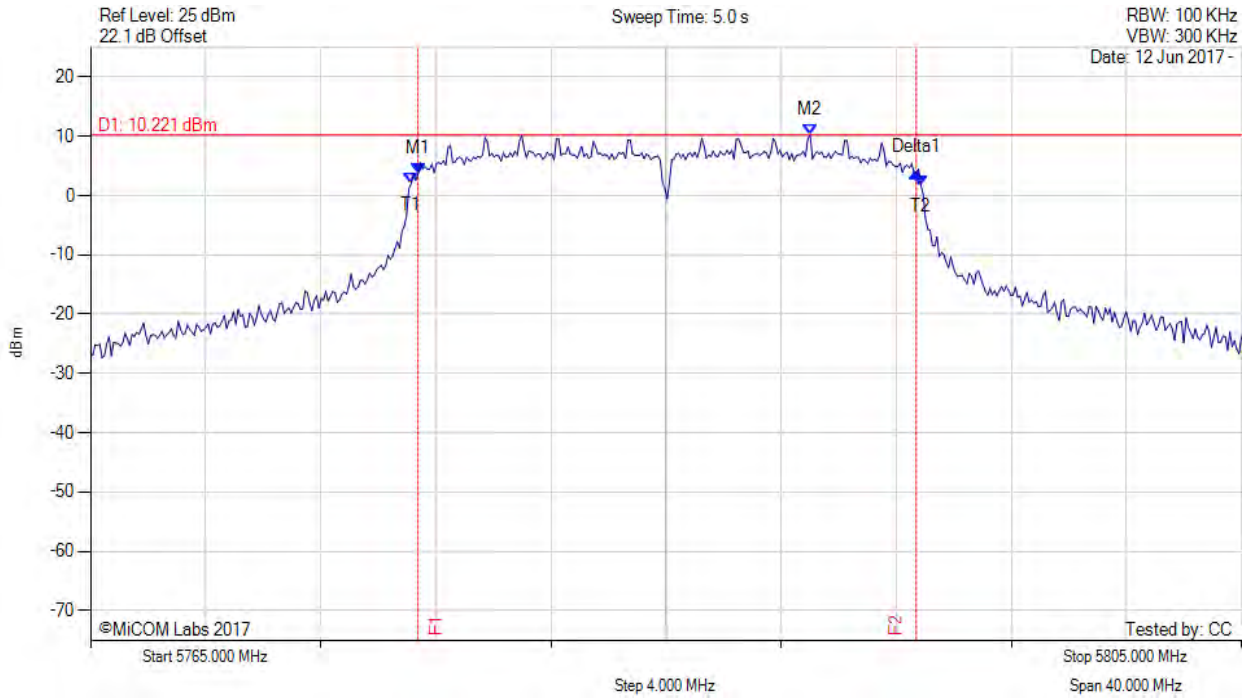


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5776.142 MHz : -3.830 dBm M2 : 5790.010 MHz : 4.541 dBm Delta1 : 16.914 MHz : 1.613 dB T1 : 5776.142 MHz : -3.830 dBm T2 : 5793.778 MHz : -2.360 dBm OBW : 17.635 MHz	Measured 6 dB Bandwidth: 16.914 MHz Measured 99% Bandwidth: 17.635 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

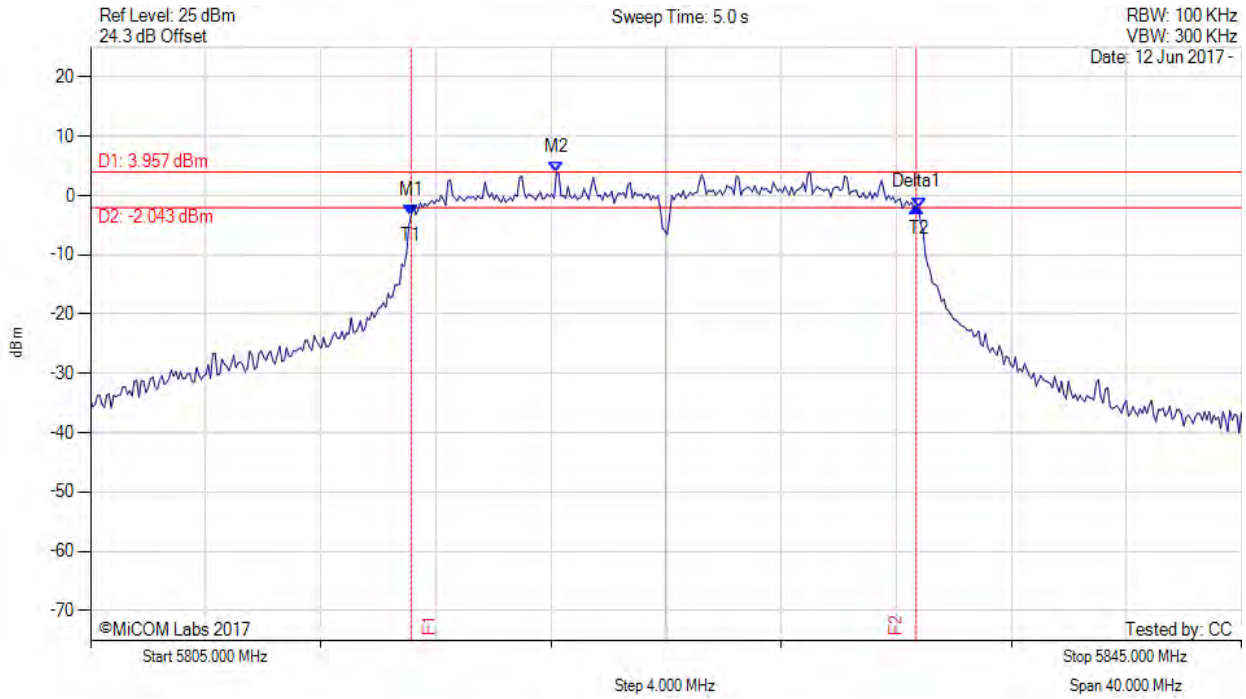


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5776.383 MHz : 3.646 dBm M2 : 5790.010 MHz : 10.221 dBm Delta1 : 17.315 MHz : 0.295 dB T1 : 5776.142 MHz : 1.966 dBm T2 : 5793.858 MHz : 1.697 dBm OBW : 17.715 MHz	Measured 6 dB Bandwidth: 17.315 MHz Measured 99% Bandwidth: 17.715 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

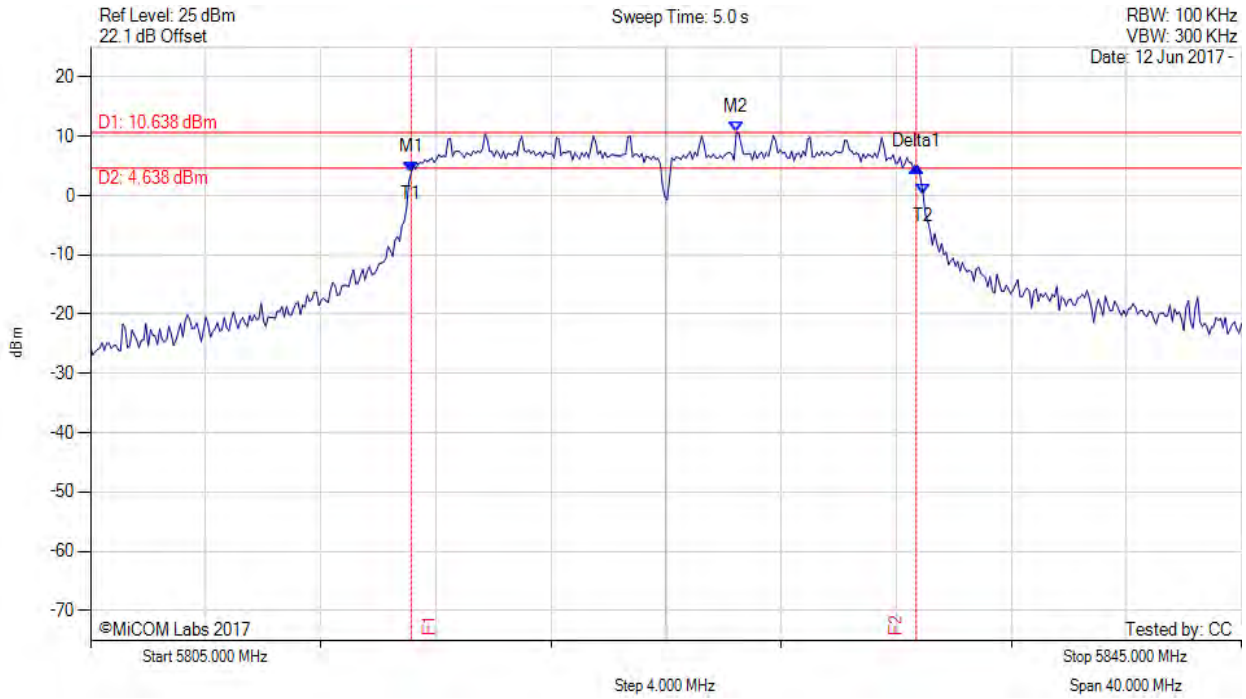


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5816.142 MHz : -3.241 dBm M2 : 5821.192 MHz : 3.957 dBm Delta1 : 17.555 MHz : 1.275 dB T1 : 5816.142 MHz : -3.241 dBm T2 : 5833.778 MHz : -2.035 dBm OBW : 17.635 MHz	Measured 6 dB Bandwidth: 17.555 MHz Measured 99% Bandwidth: 17.635 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

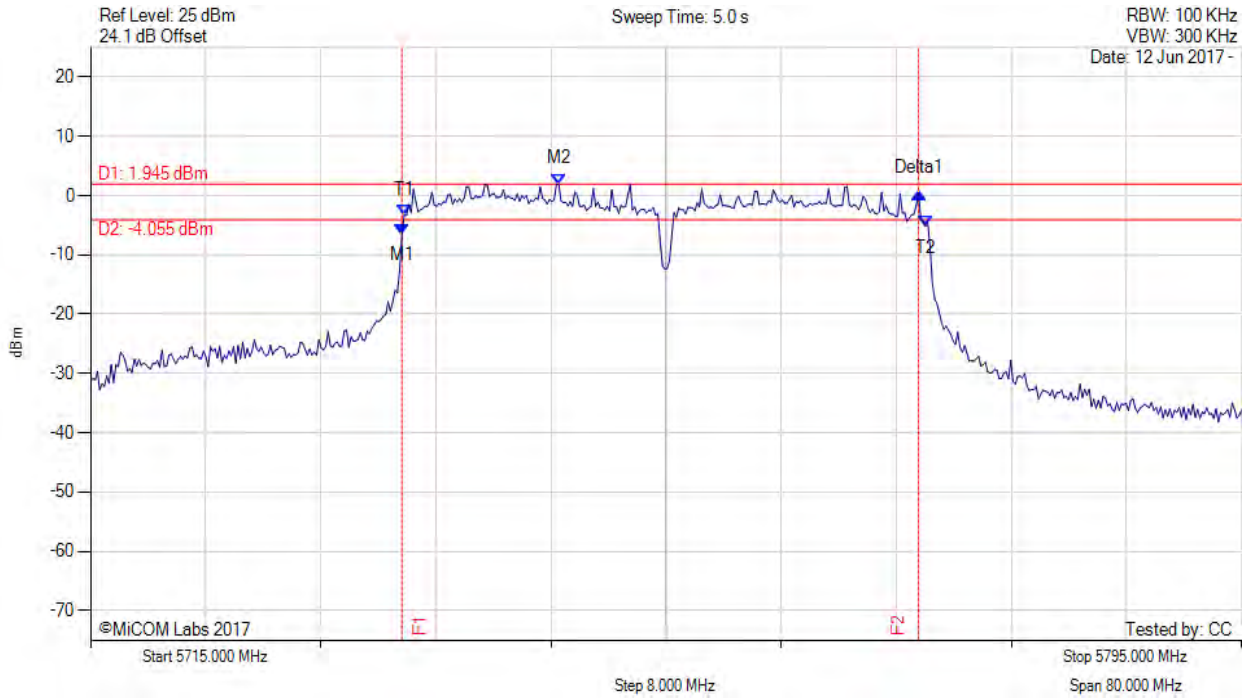


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5816.142 MHz : 3.853 dBm M2 : 5827.445 MHz : 10.638 dBm Delta1 : 17.555 MHz : 0.923 dB T1 : 5816.142 MHz : 3.853 dBm T2 : 5833.938 MHz : 0.129 dBm OBW : 17.796 MHz	Measured 6 dB Bandwidth: 17.555 MHz Measured 99% Bandwidth: 17.796 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

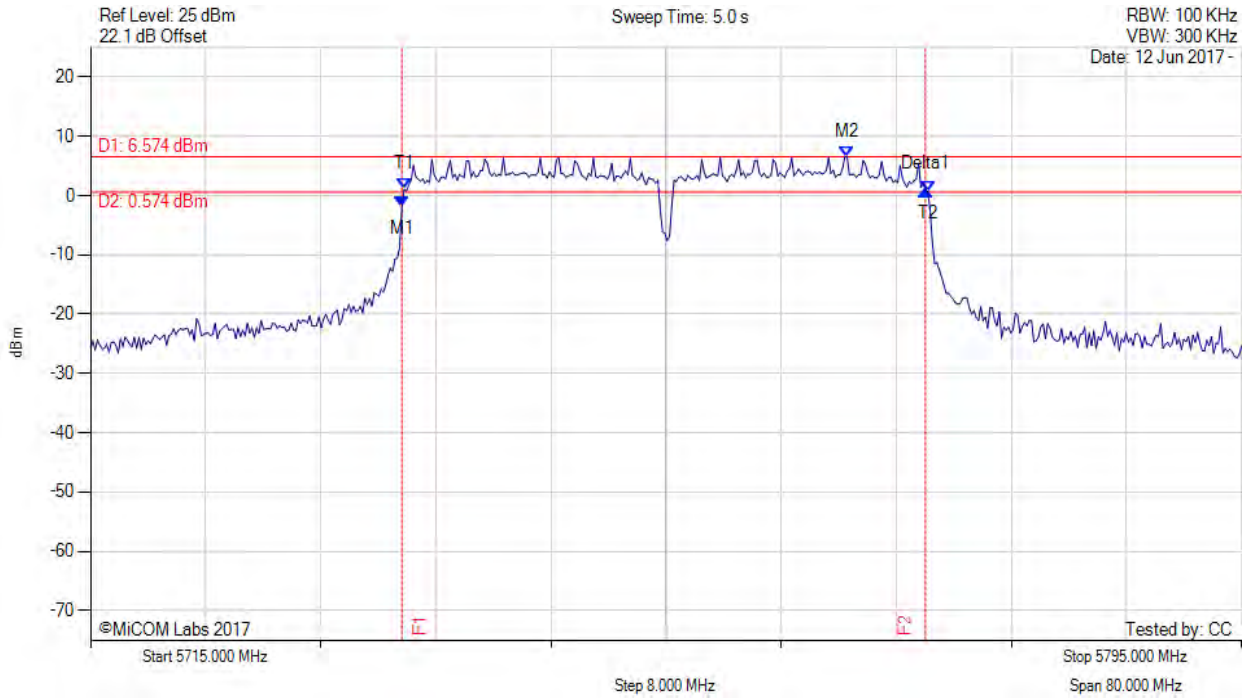


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5736.643 MHz : -6.497 dBm M2 : 5747.545 MHz : 1.945 dBm Delta1 : 35.912 MHz : 6.923 dB T1 : 5736.804 MHz : -3.298 dBm T2 : 5773.036 MHz : -5.217 dBm OBW : 36.232 MHz	Measured 6 dB Bandwidth: 35.912 MHz Measured 99% Bandwidth: 36.232 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

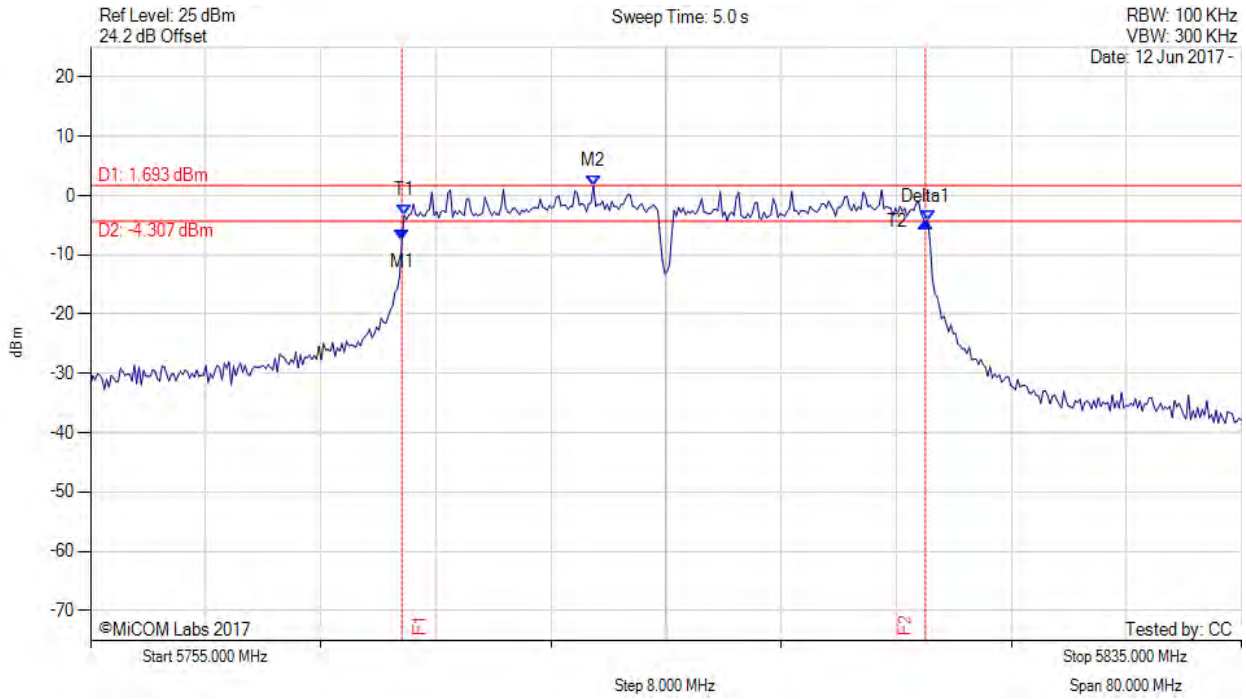


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5736.643 MHz : -1.884 dBm M2 : 5767.585 MHz : 6.574 dBm Delta1 : 36.393 MHz : 2.904 dB T1 : 5736.804 MHz : 1.051 dBm T2 : 5773.196 MHz : 0.662 dBm OBW : 36.393 MHz	Measured 6 dB Bandwidth: 36.393 MHz Measured 99% Bandwidth: 36.393 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

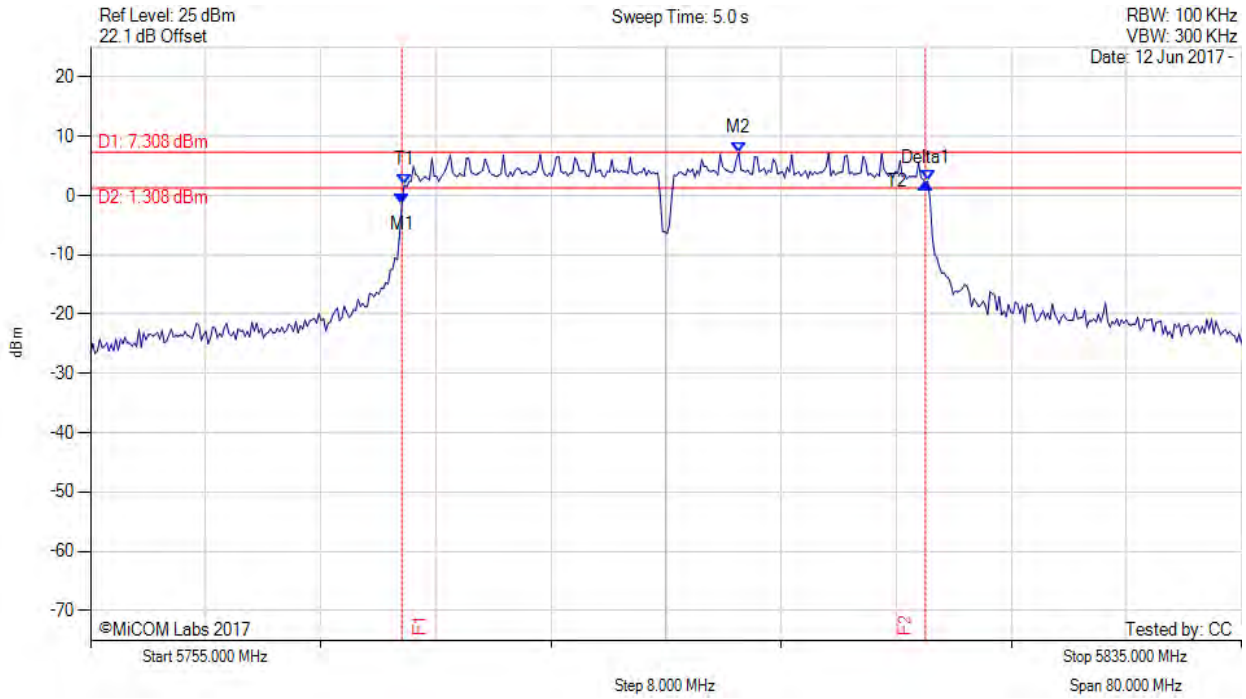


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5776.643 MHz : -7.524 dBm M2 : 5789.950 MHz : 1.693 dBm Delta1 : 36.393 MHz : 2.984 dB T1 : 5776.804 MHz : -3.332 dBm T2 : 5813.196 MHz : -4.213 dBm OBW : 36.393 MHz	Measured 6 dB Bandwidth: 36.393 MHz Measured 99% Bandwidth: 36.393 MHz

back to matrix

6 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc



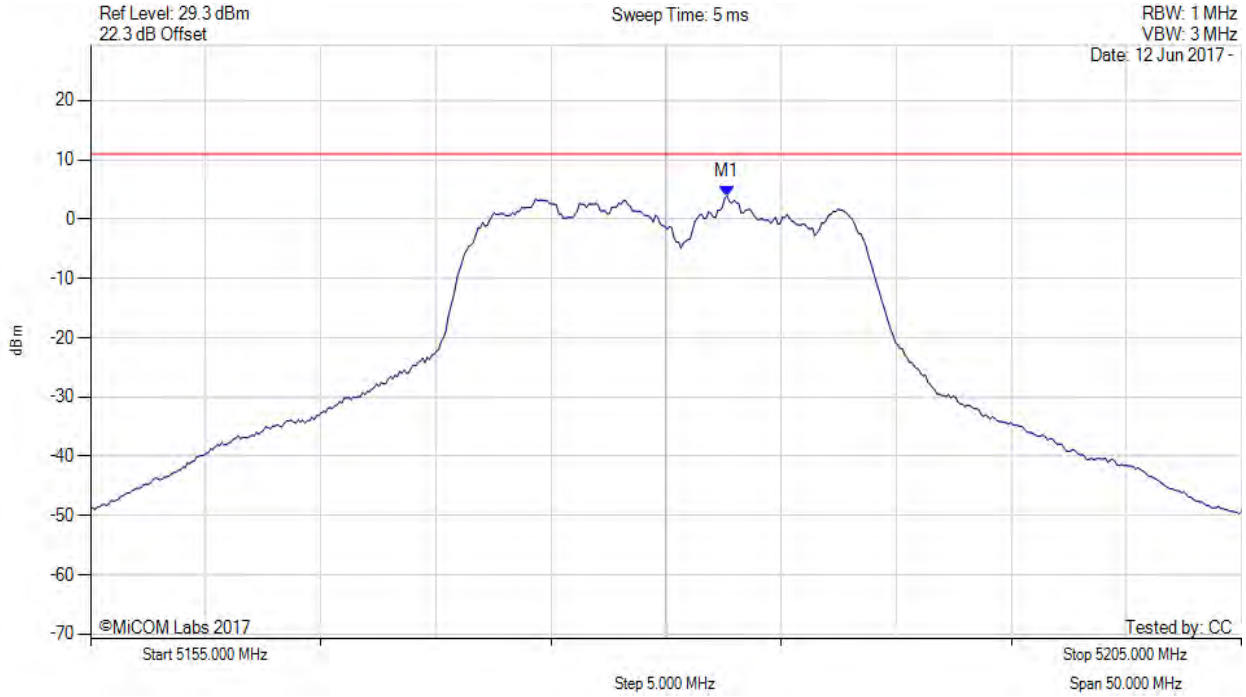
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5776.643 MHz : -1.321 dBm M2 : 5800.050 MHz : 7.308 dBm Delta1 : 36.393 MHz : 3.441 dB T1 : 5776.804 MHz : 1.809 dBm T2 : 5813.196 MHz : 2.468 dBm OBW : 36.393 MHz	Measured 6 dB Bandwidth: 36.393 MHz Measured 99% Bandwidth: 36.393 MHz

back to matrix

A.3. Power Spectral Density

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5180.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

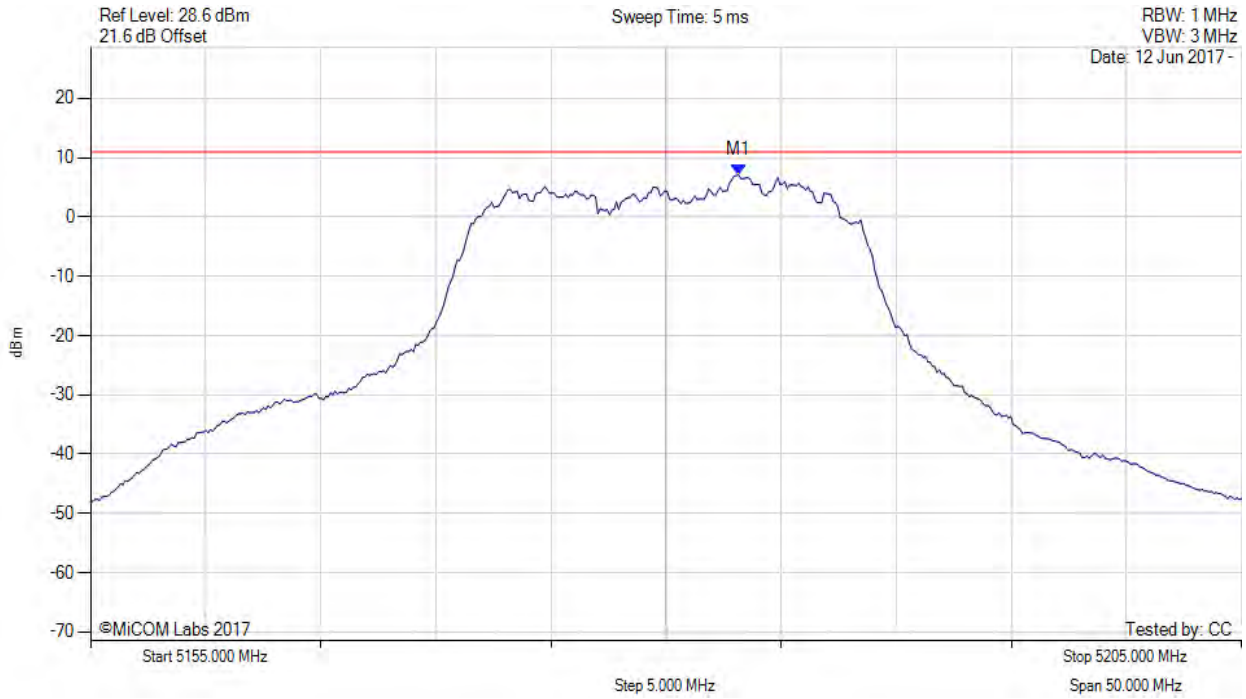


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5182.655 MHz : 3.873 dBm	Limit: ≤ 10.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5180.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

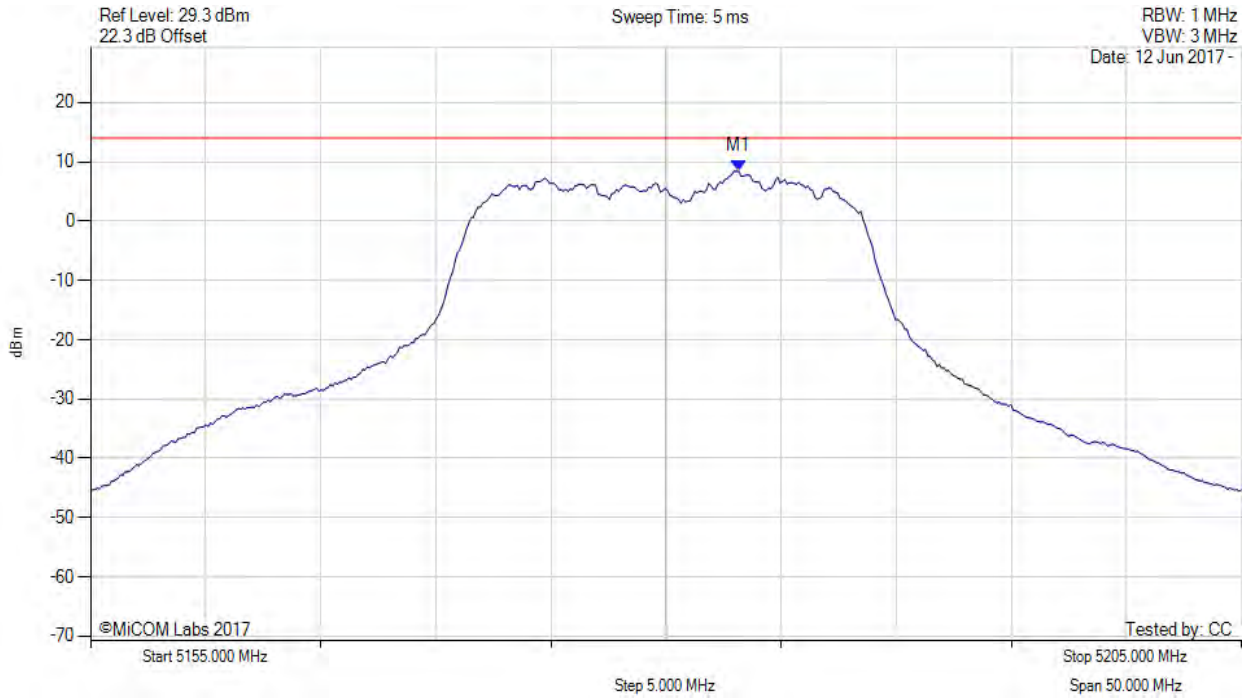


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5183.156 MHz : 7.083 dBm	Limit: ≤ 10.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5180.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

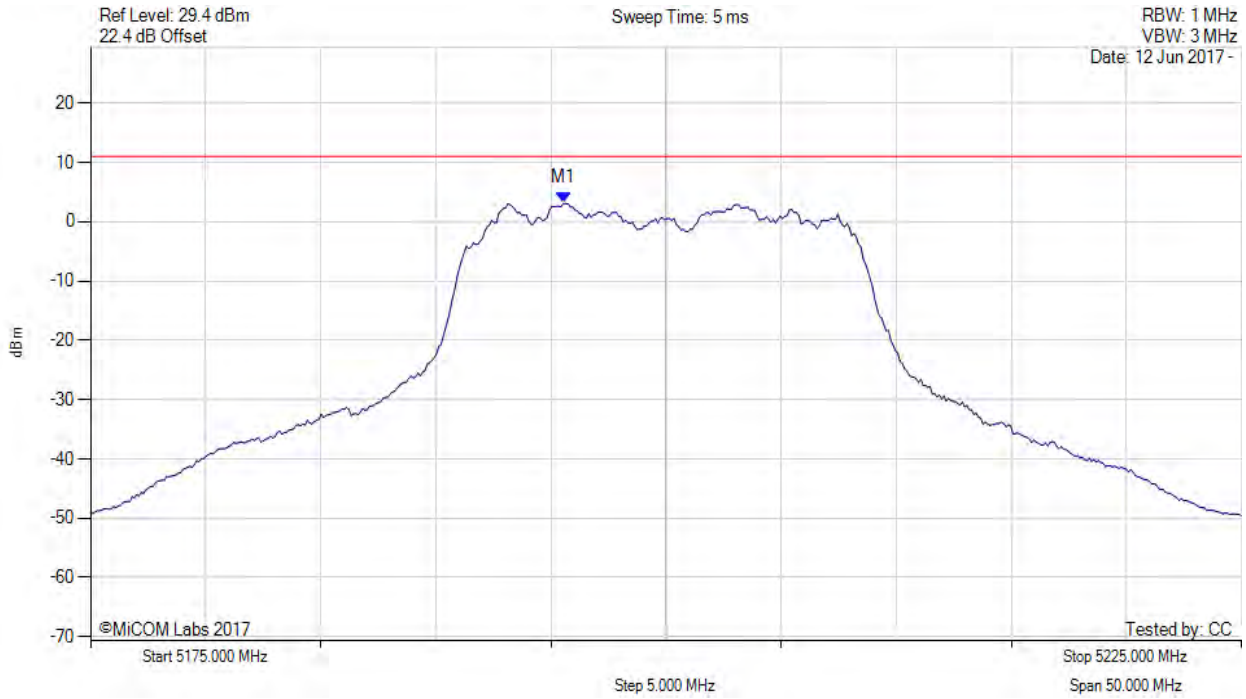


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5183.200 MHz : 8.432 dBm M1 + DCCF : 5183.200 MHz : 8.701 dBm Duty Cycle Correction Factor : +0.27 dB	Limit: ≤ 14.0 dBm Margin: -5.3 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5200.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

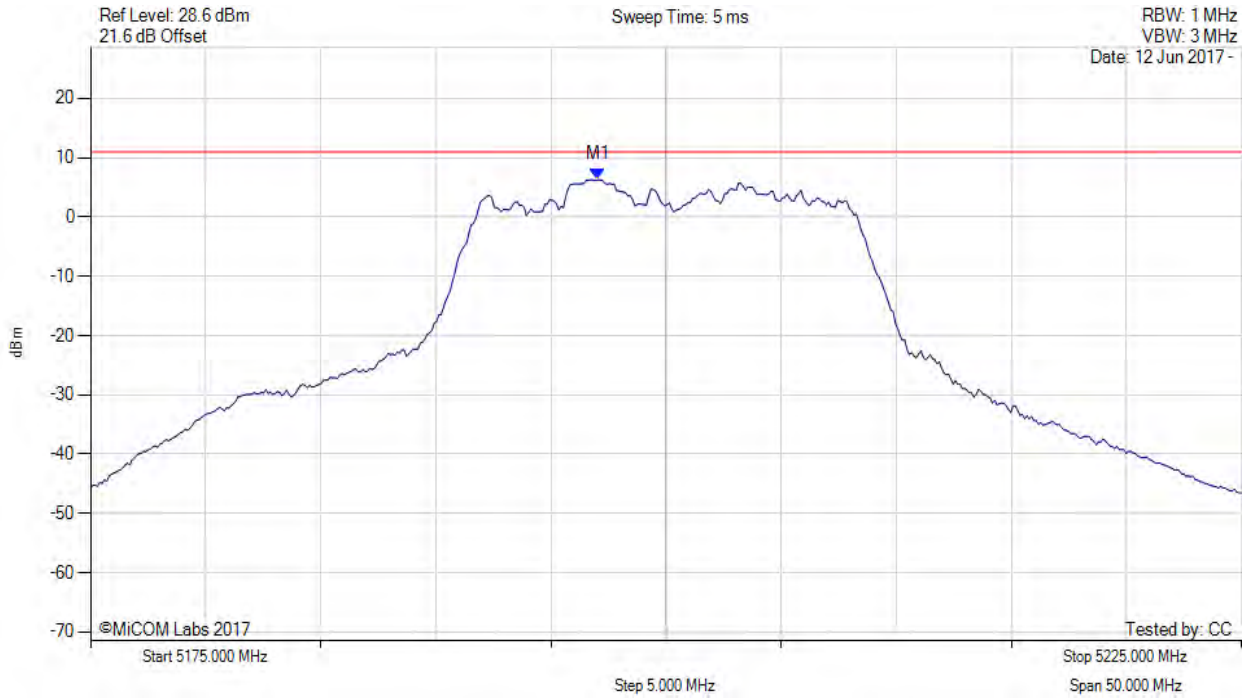


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5195.541 MHz : 3.105 dBm	Limit: ≤ 10.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5200.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

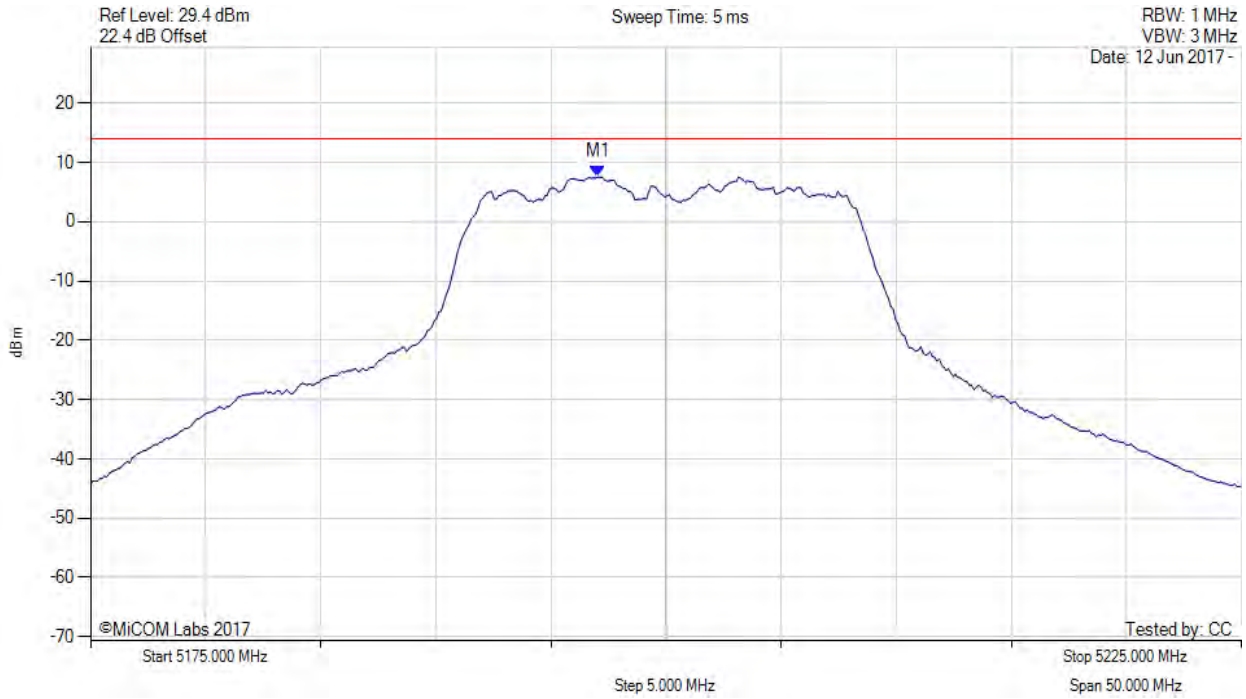


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5197.044 MHz : 6.279 dBm	Channel Frequency: 5200.00 MHz

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5200.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

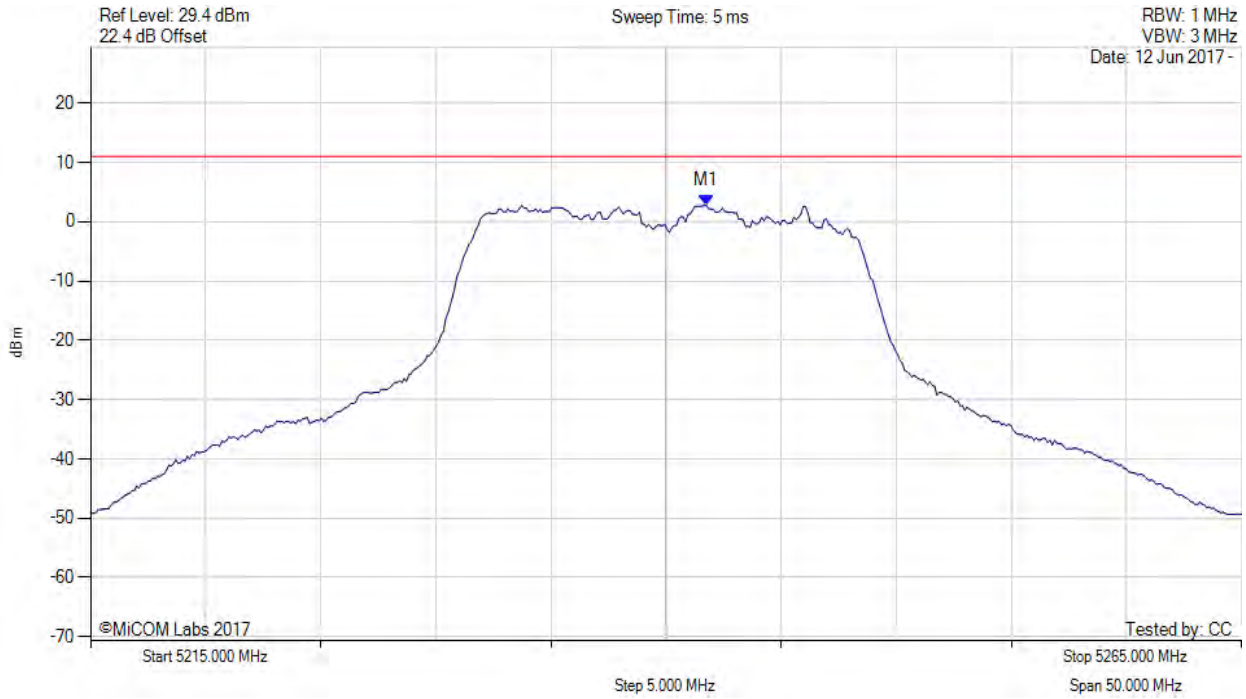


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5197.000 MHz : 7.548 dBm M1 + DCCF : 5197.000 MHz : 7.817 dBm Duty Cycle Correction Factor : +0.27 dB	Limit: ≤ 14.0 dBm Margin: -6.2 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5240.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

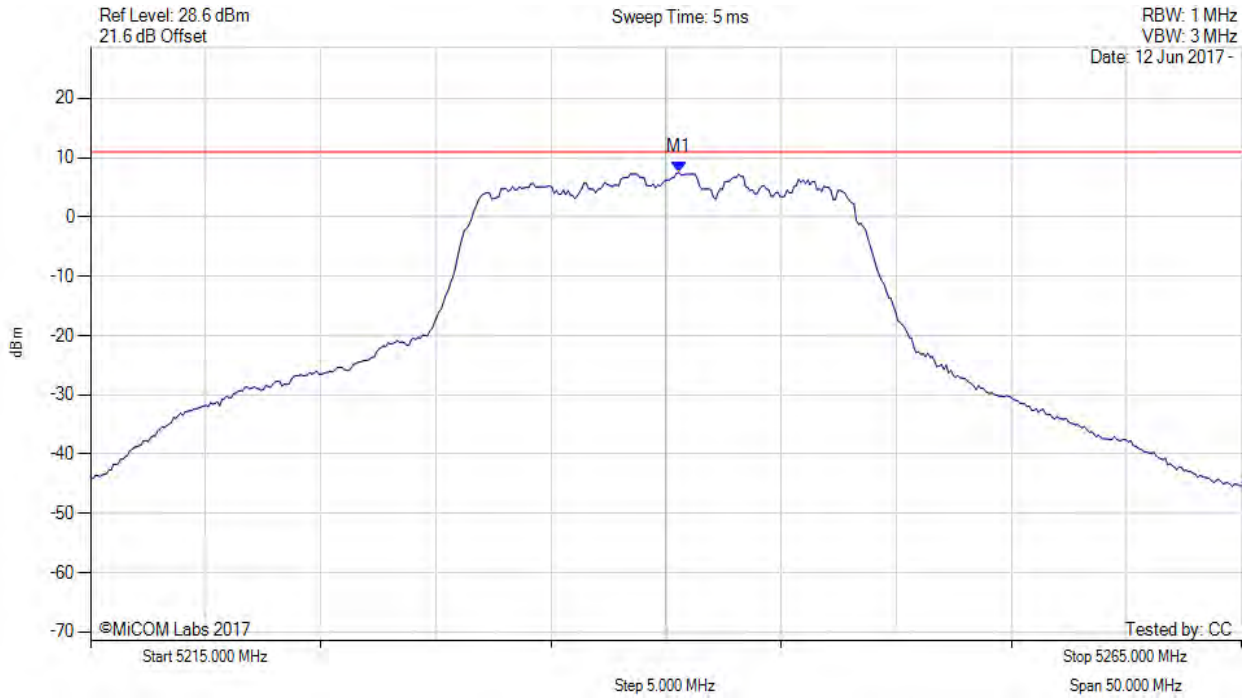


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5241.754 MHz : 2.781 dBm	Limit: ≤ 10.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5240.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

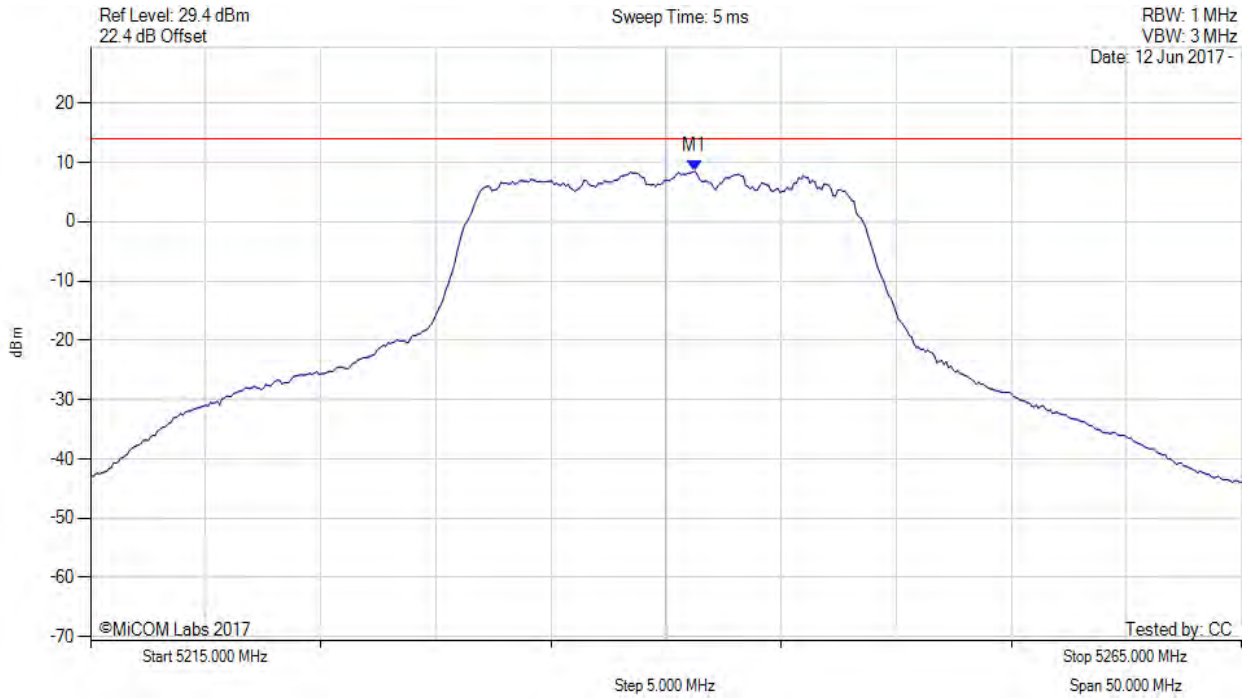


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5240.551 MHz : 7.508 dBm	Limit: ≤ 10.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5240.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

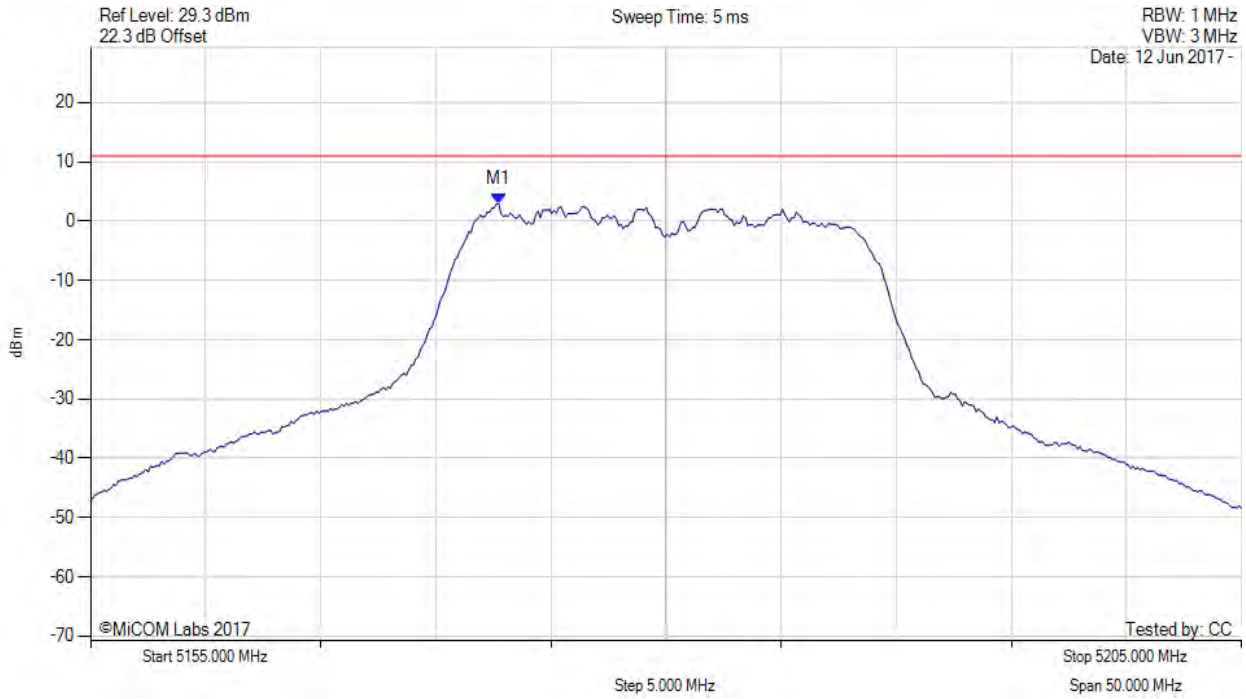


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5241.300 MHz : 8.505 dBm M1 + DCCF : 5241.300 MHz : 8.774 dBm Duty Cycle Correction Factor : +0.27 dB	Limit: ≤ 14.0 dBm Margin: -5.2 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5180.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

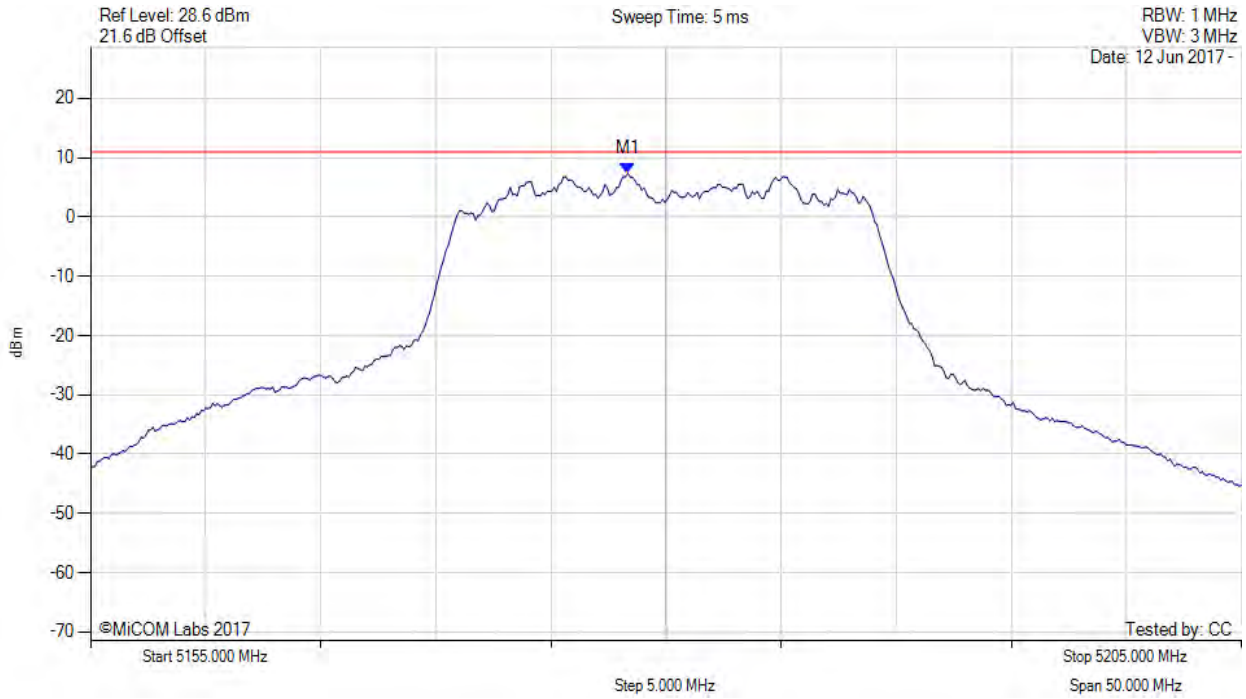


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5172.735 MHz : 2.907 dBm	Limit: ≤ 10.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5180.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

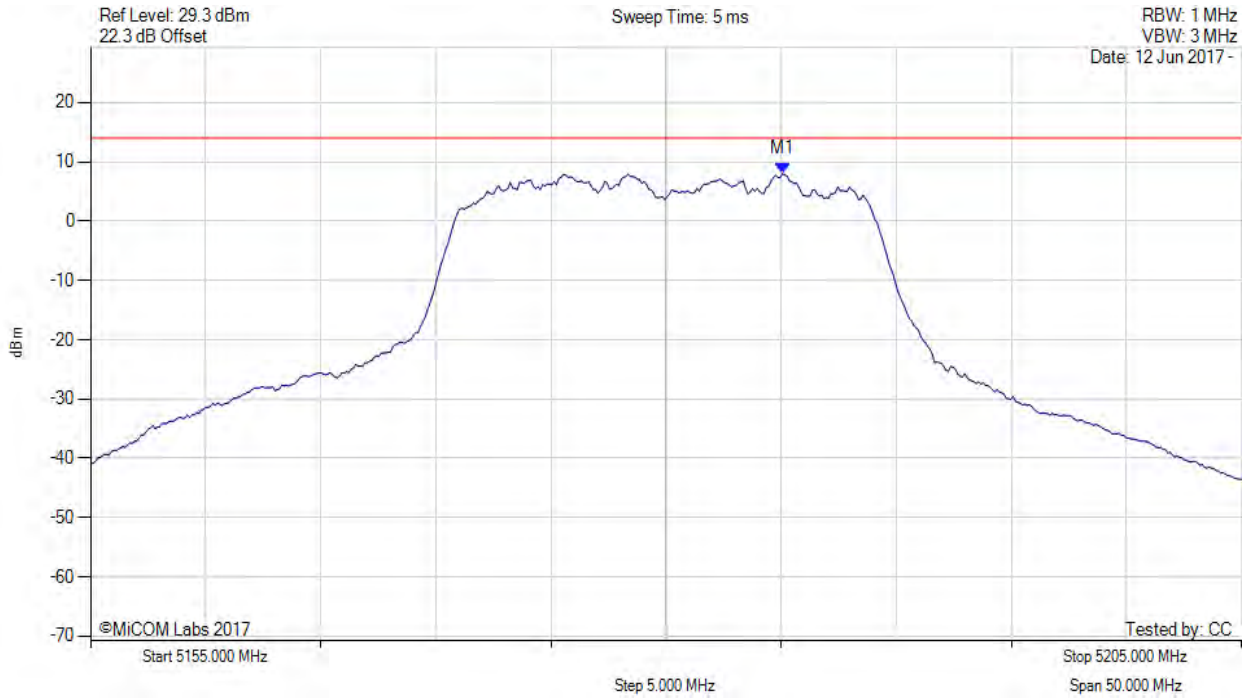


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5178.347 MHz : 7.329 dBm	Limit: ≤ 10.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5180.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

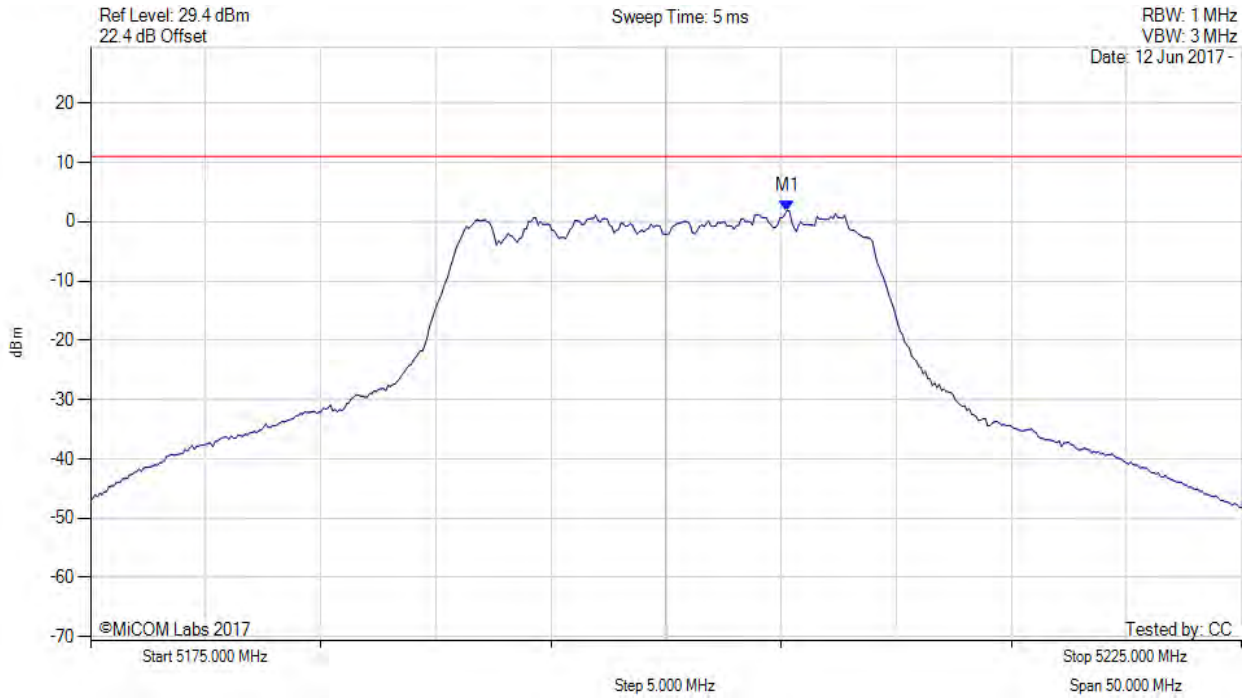


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5185.100 MHz : 8.002 dBm M1 + DCCF : 5185.100 MHz : 8.134 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 14.0 dBm Margin: -5.9 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5200.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

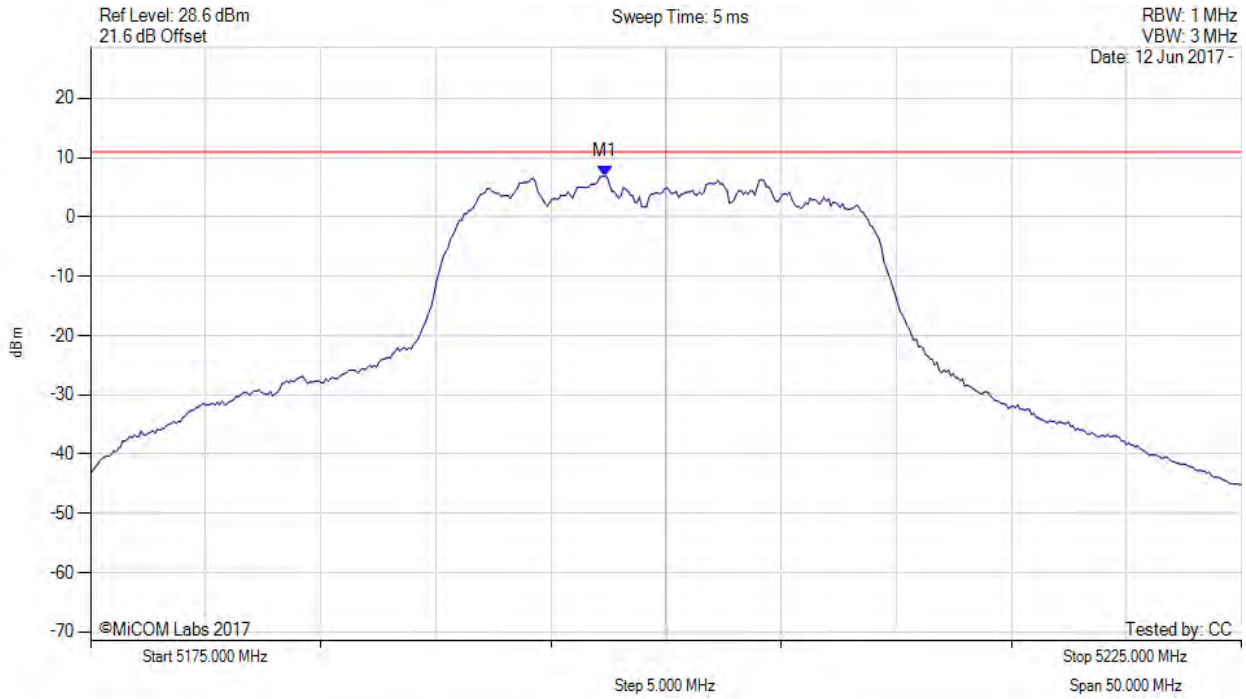


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5205.261 MHz : 1.882 dBm	Limit: ≤ 10.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5200.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

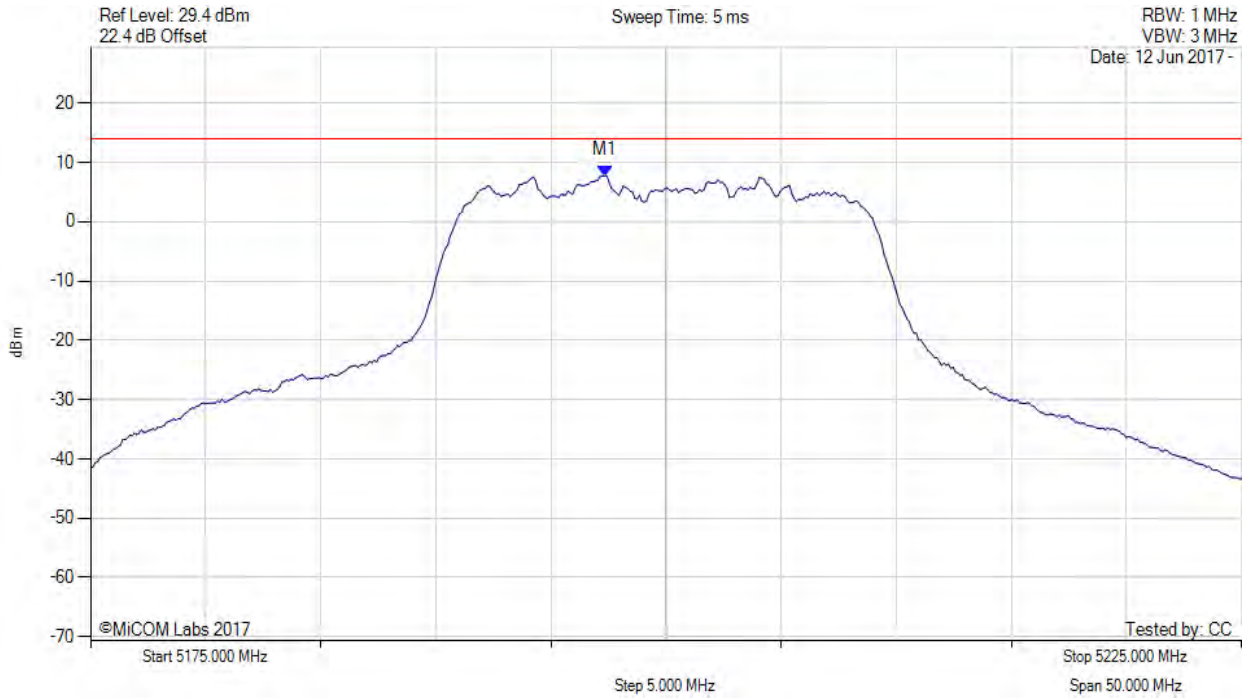


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5197.345 MHz : 6.858 dBm	Channel Frequency: 5200.00 MHz

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5200.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

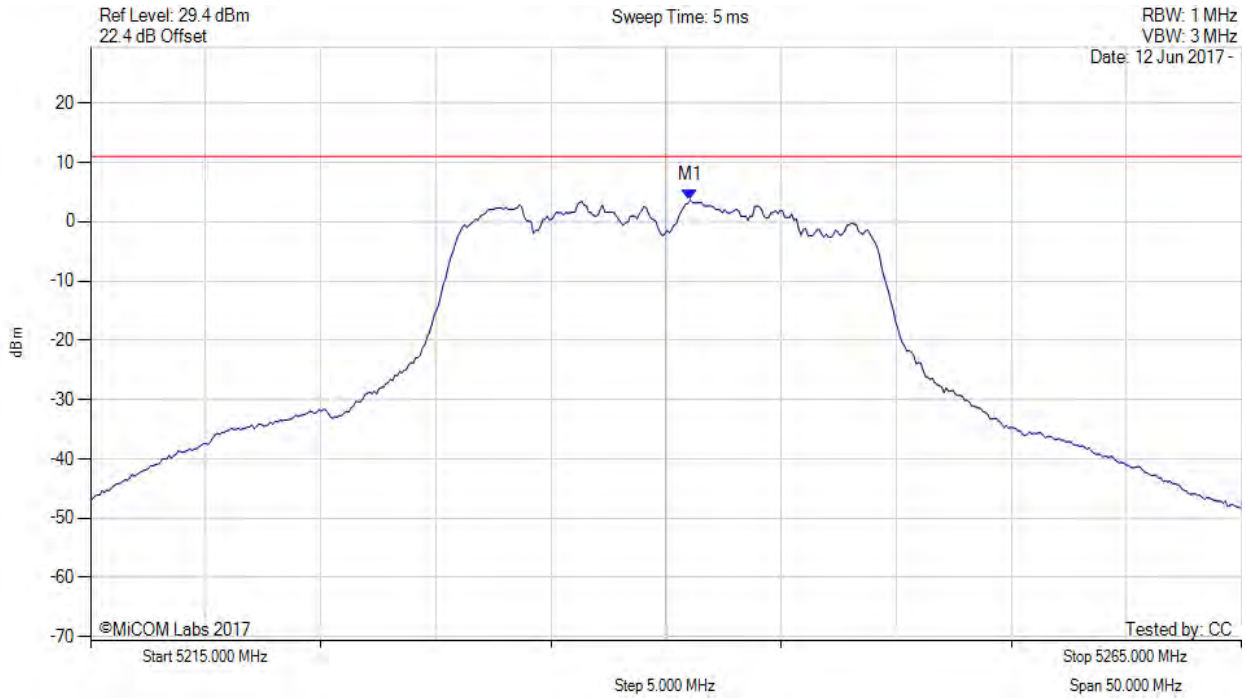


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5197.300 MHz : 7.761 dBm M1 + DCCF : 5197.300 MHz : 8.030 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 14.0 dBm Margin: -6.0 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5240.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

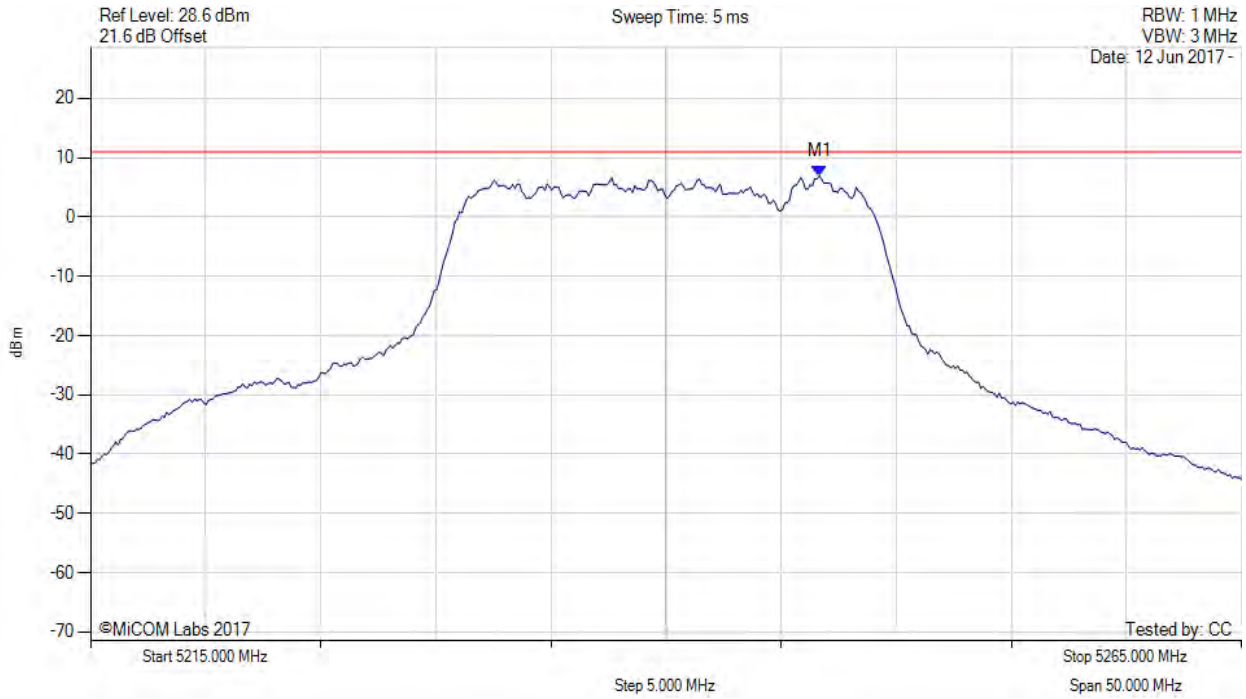


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5241.052 MHz : 3.662 dBm	Limit: ≤ 10.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5240.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

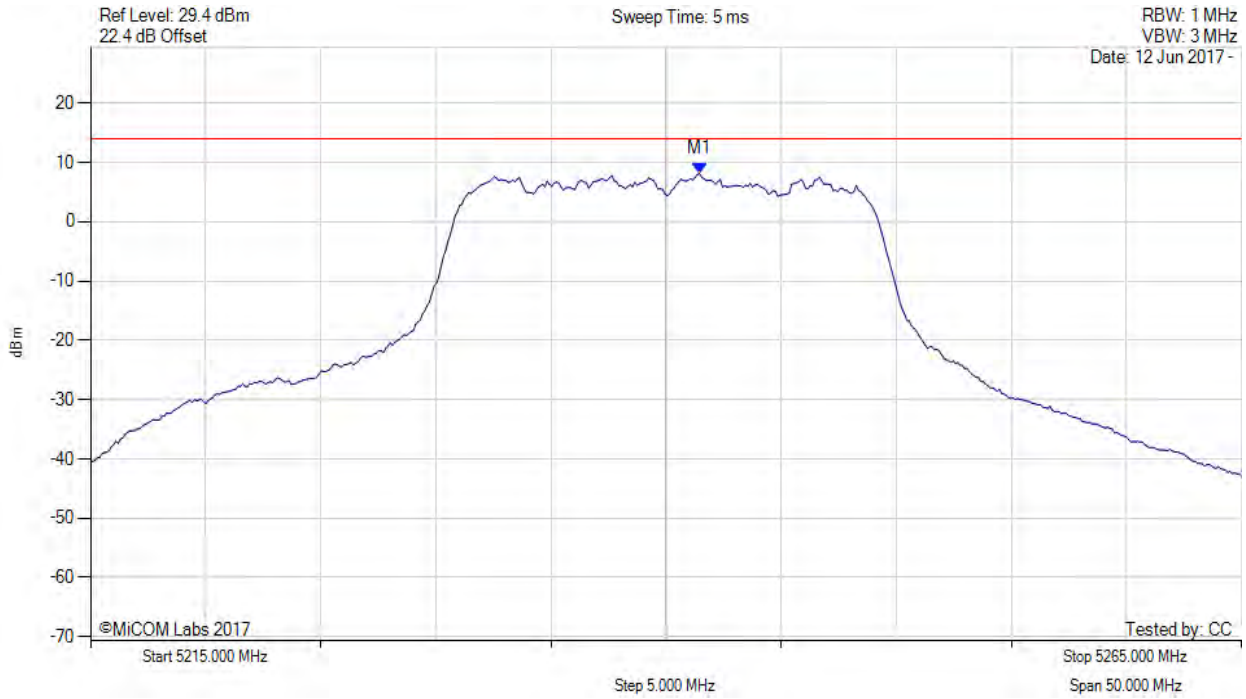


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5246.663 MHz : 6.921 dBm	Limit: ≤ 10.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5240.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

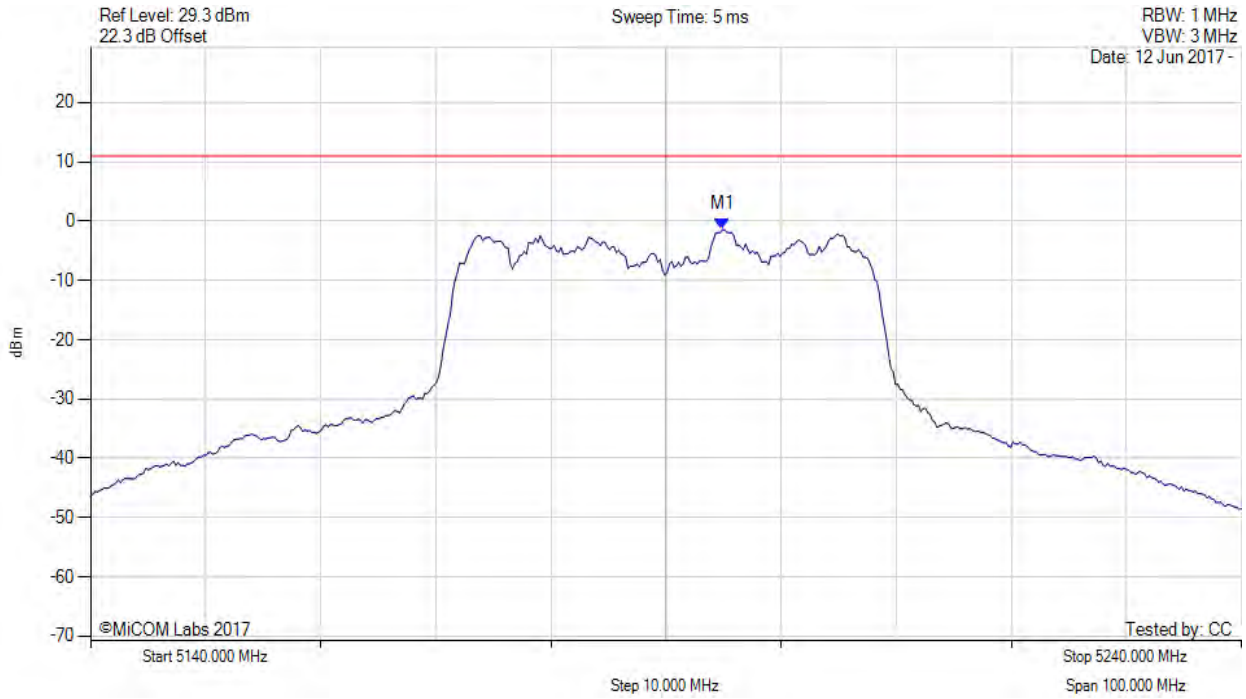


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5241.500 MHz : 8.129 dBm M1 + DCCF : 5241.500 MHz : 8.398 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 14.0 dBm Margin: -5.6 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5190.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

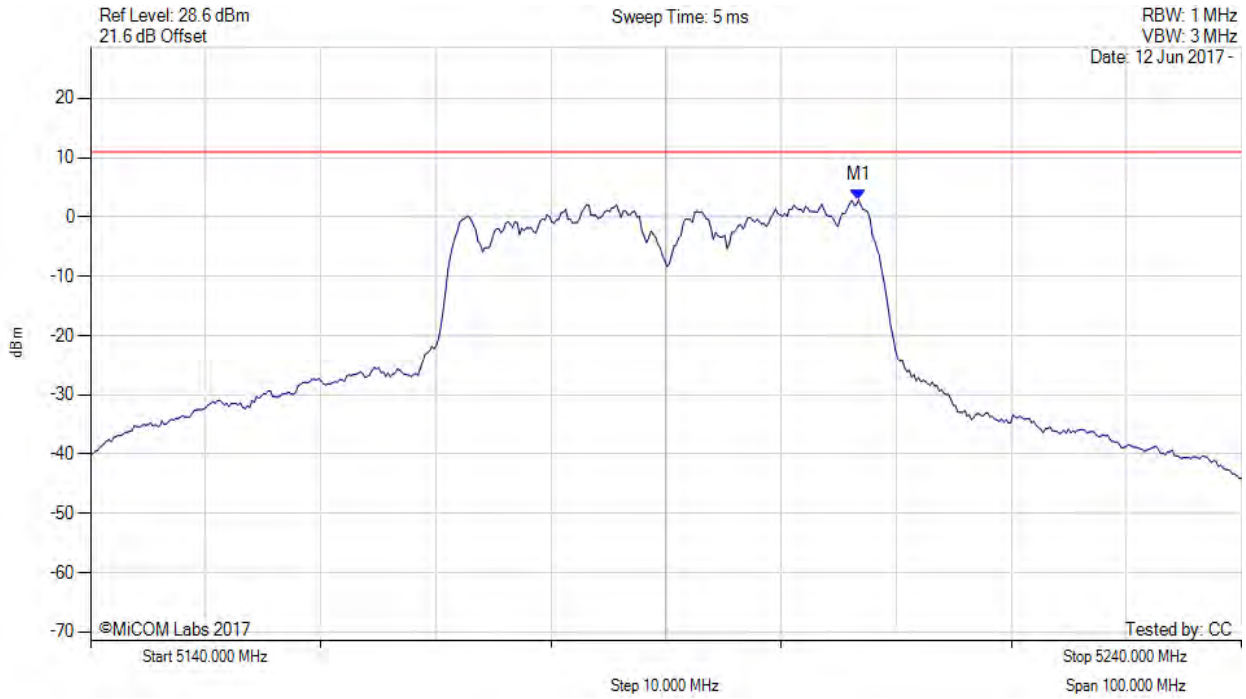


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5194.910 MHz : -1.400 dBm	Limit: ≤ 10.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5190.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

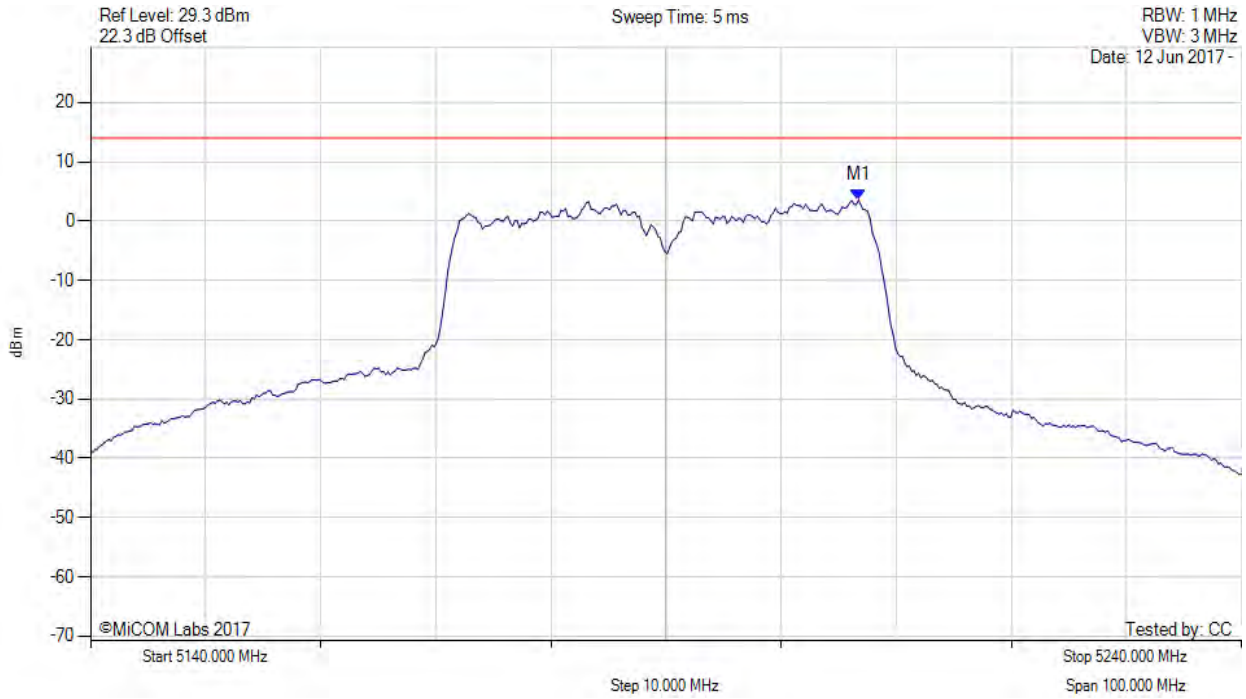


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5206.733 MHz : 2.863 dBm	Limit: ≤ 10.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5190.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

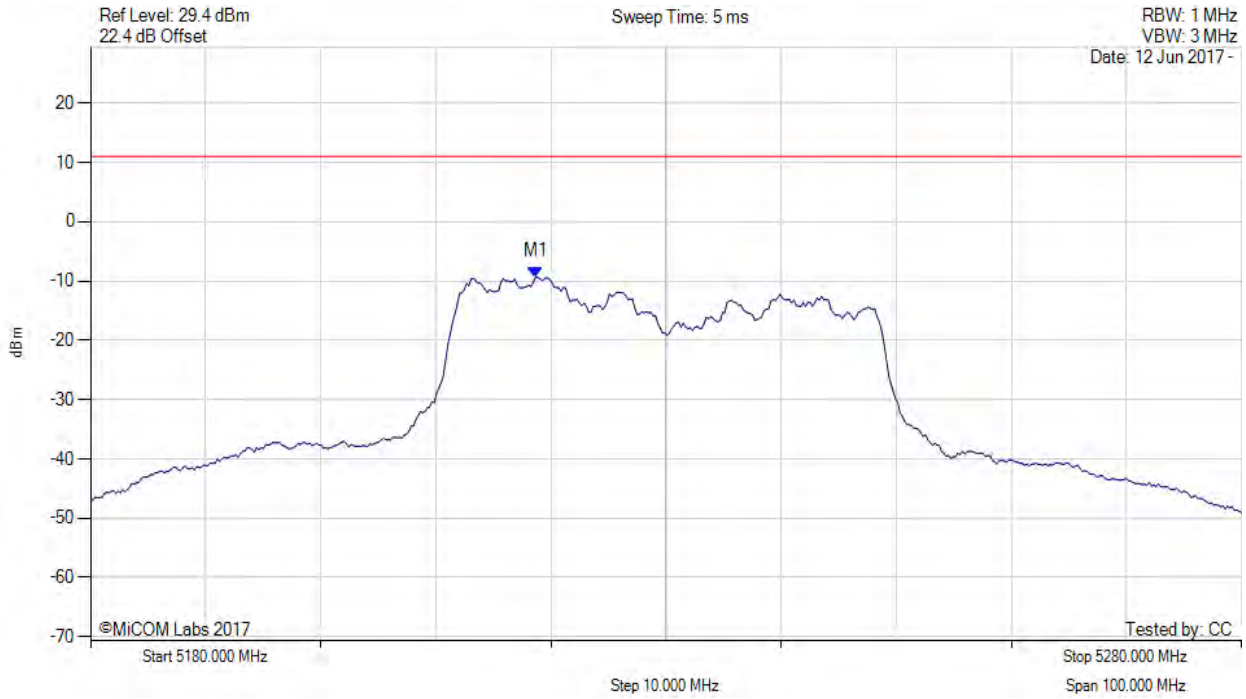


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5206.700 MHz : 3.546 dBm M1 + DCCF : 5206.700 MHz : 4.151 dBm Duty Cycle Correction Factor : +0.6 dB	Limit: ≤ 14.0 dBm Margin: -9.9 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5230.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

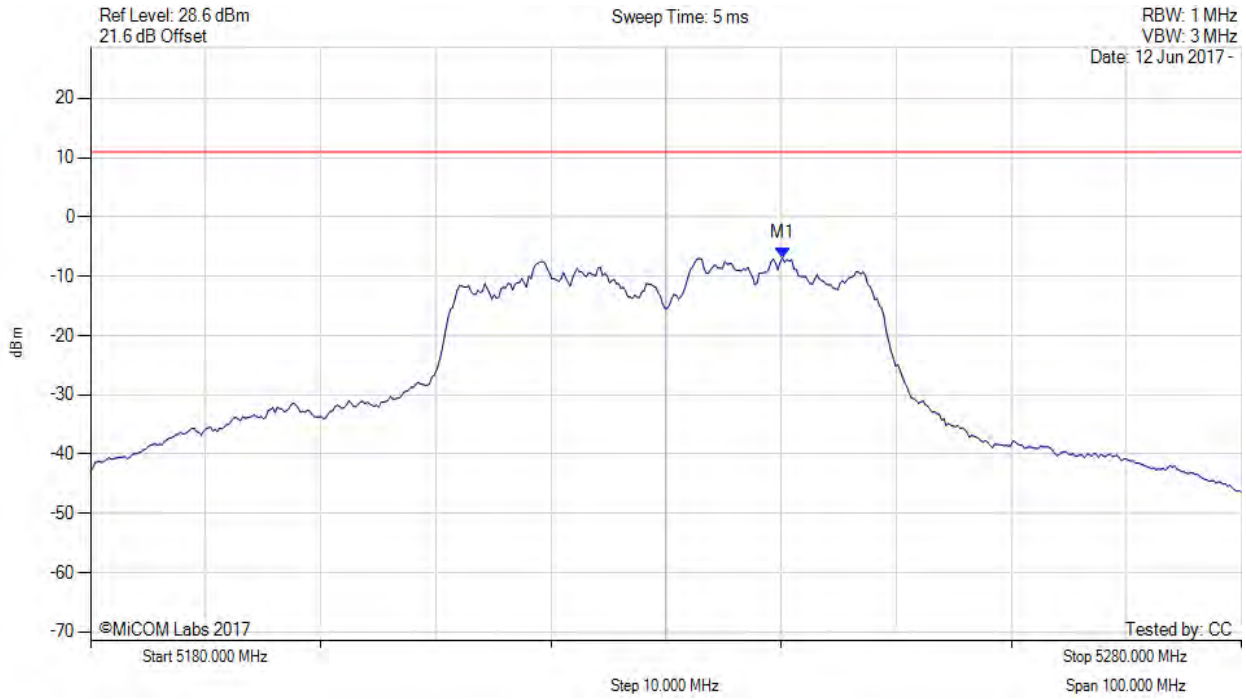


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5218.677 MHz : -9.321 dBm	Limit: ≤ 10.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5230.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

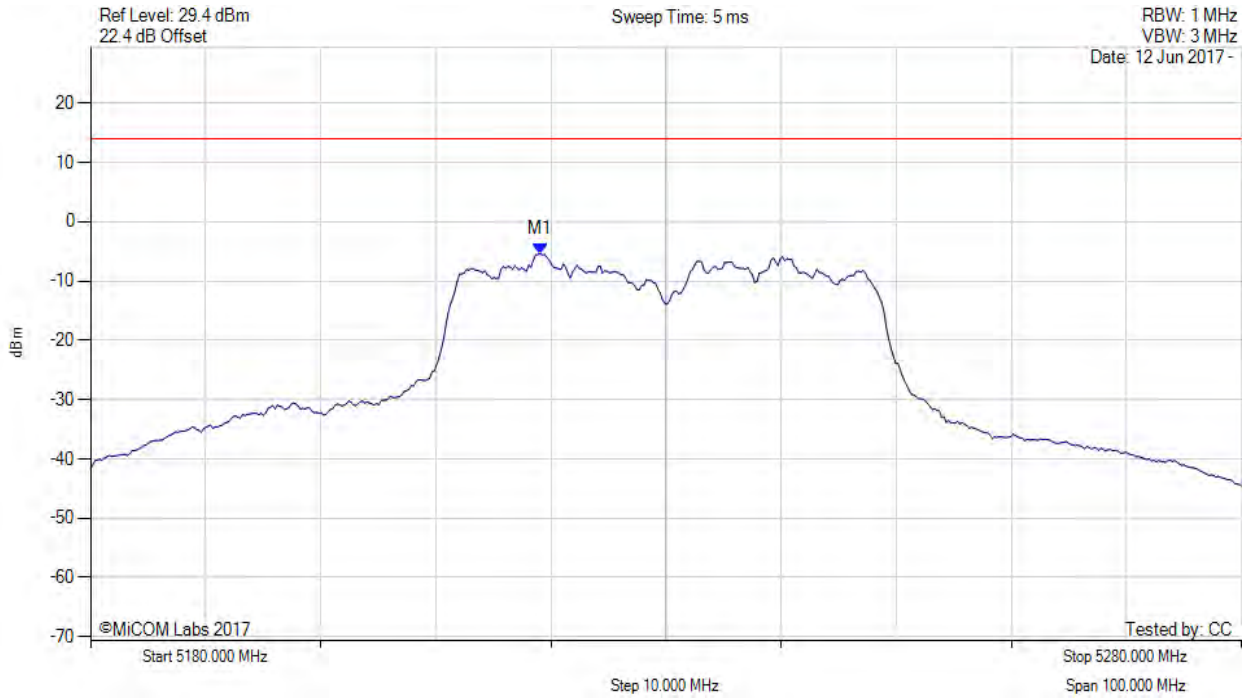


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5240.120 MHz : -6.873 dBm	Limit: ≤ 10.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5230.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

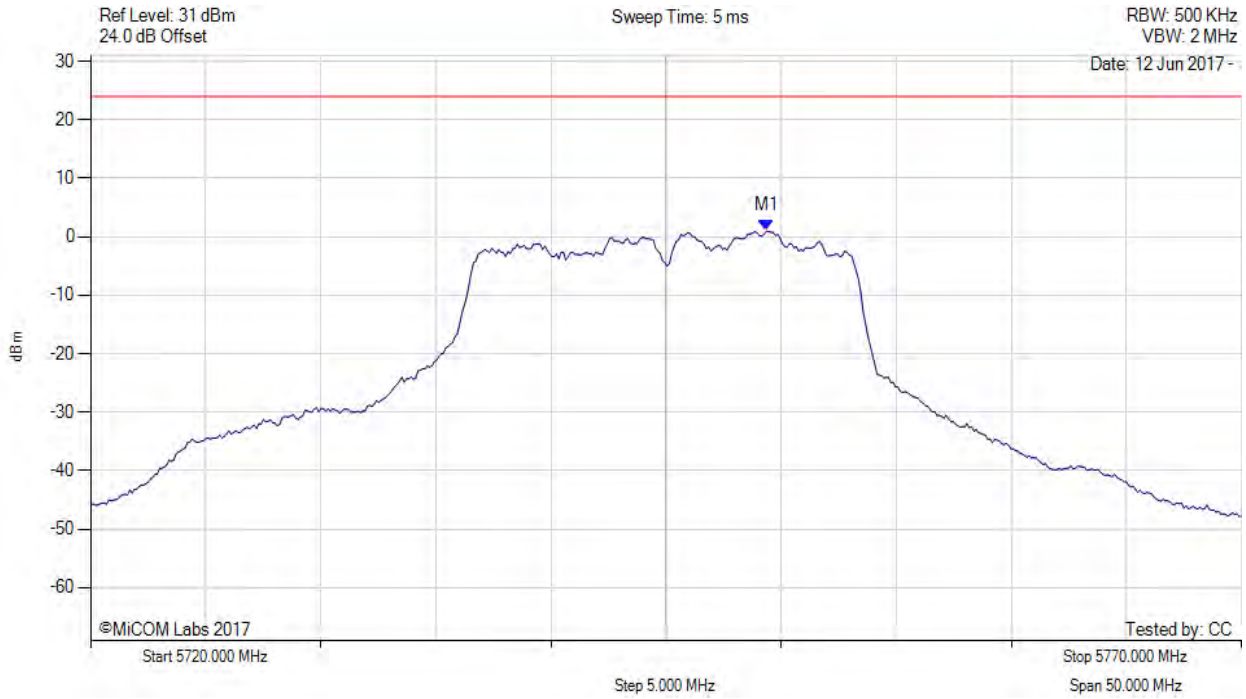


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5219.100 MHz : -5.432 dBm M1 + DCCF : 5219.100 MHz : -4.827 dBm Duty Cycle Correction Factor : +0.6 dB	Limit: ≤ 14.0 dBm Margin: -18.8 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5745.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

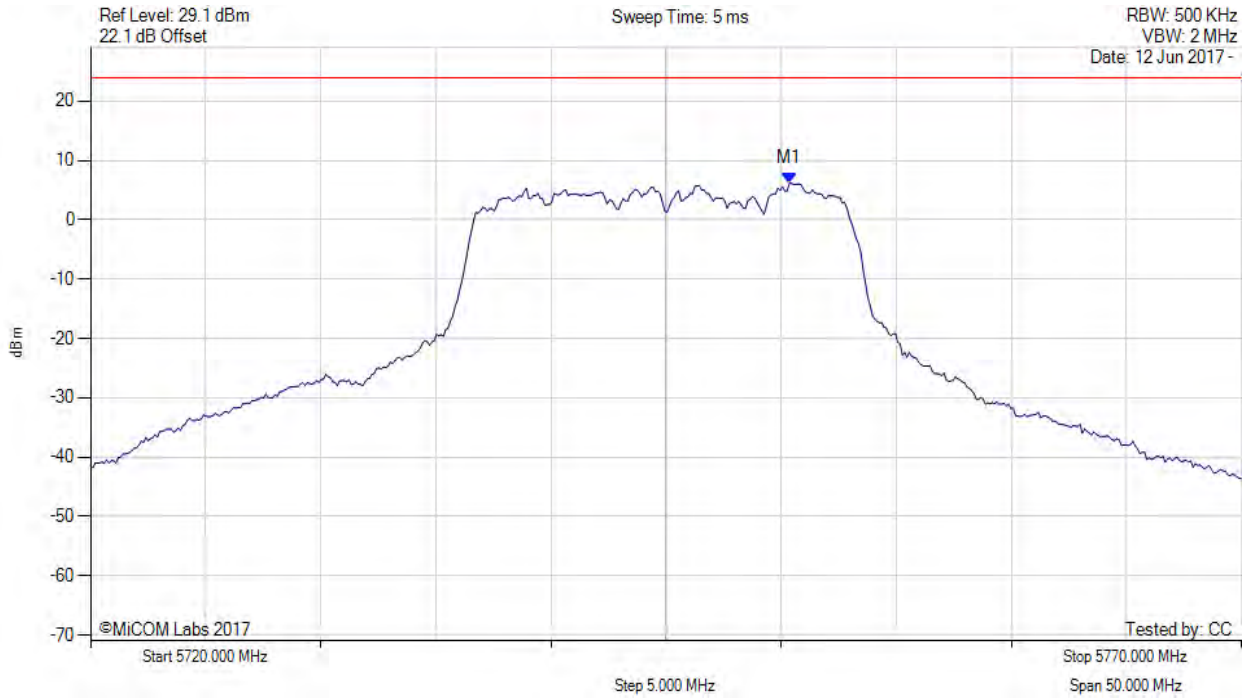


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5749.359 MHz : 0.966 dBm	Limit: ≤ 23.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5745.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

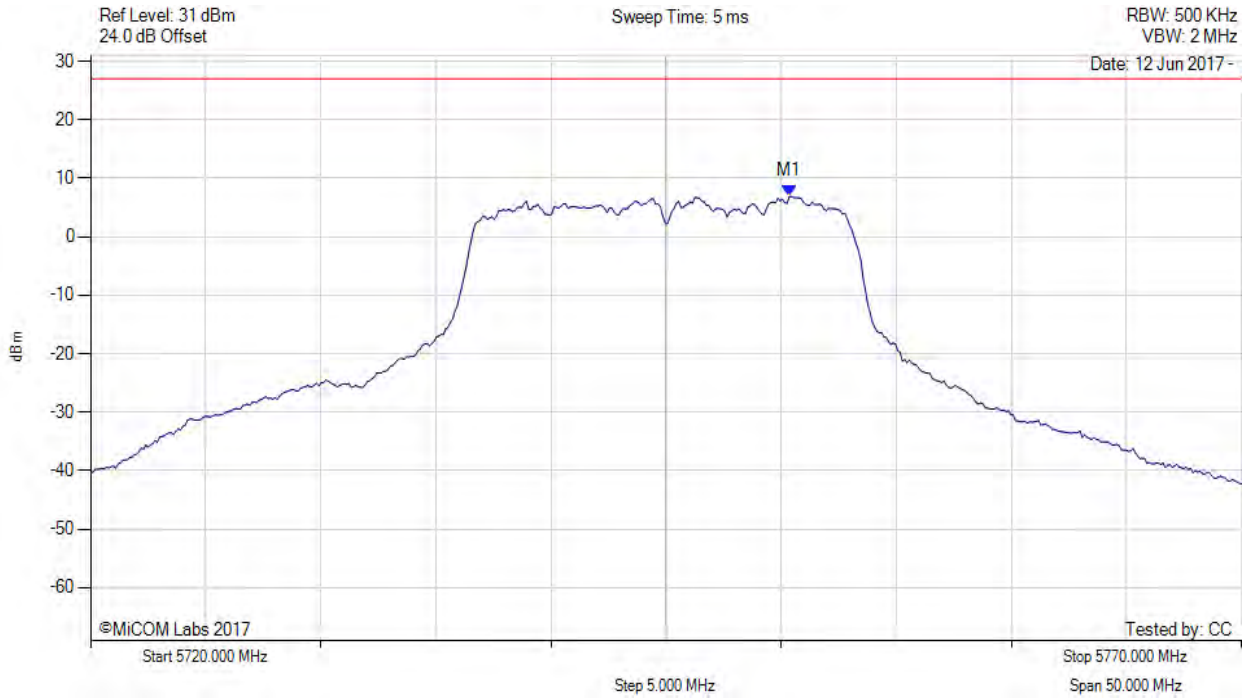


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5750.361 MHz : 6.161 dBm	Limit: ≤ 23.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5745.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

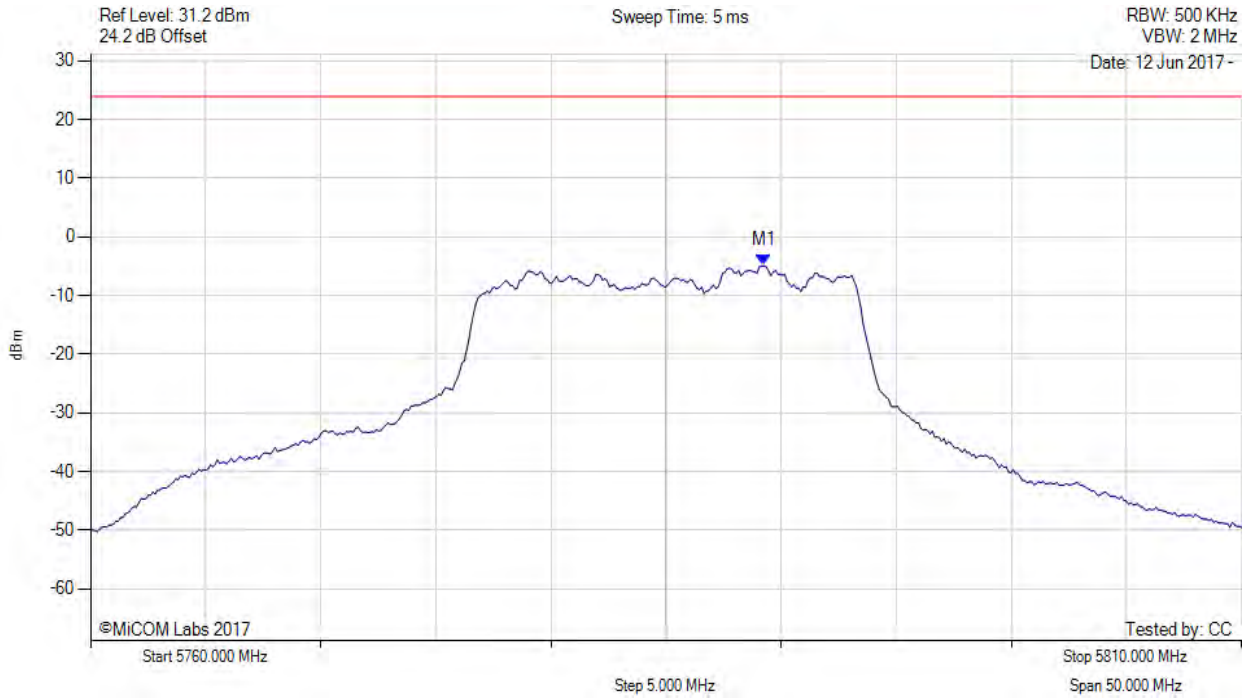


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5750.400 MHz : 6.895 dBm M1 + DCCF : 5750.400 MHz : 7.500 dBm Duty Cycle Correction Factor : +0.6 dB	Limit: ≤ 27.0 dBm Margin: -19.5 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5785.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

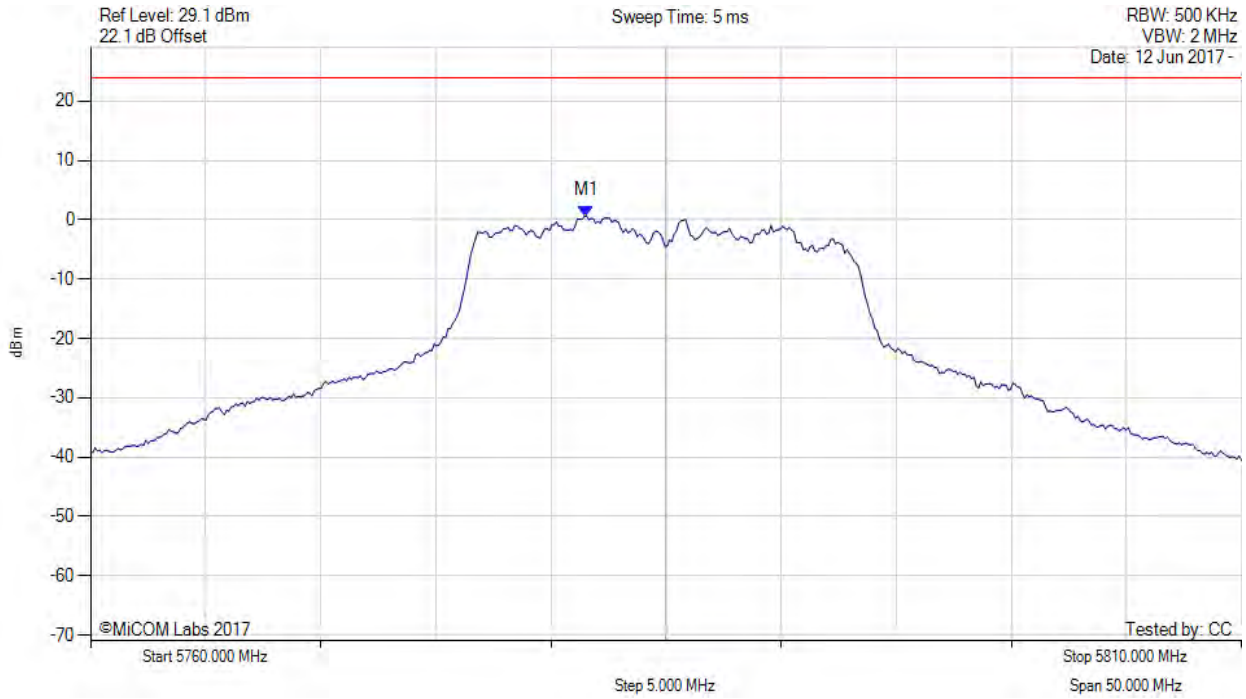


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5789.259 MHz : -4.885 dBm	Limit: ≤ 23.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5785.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

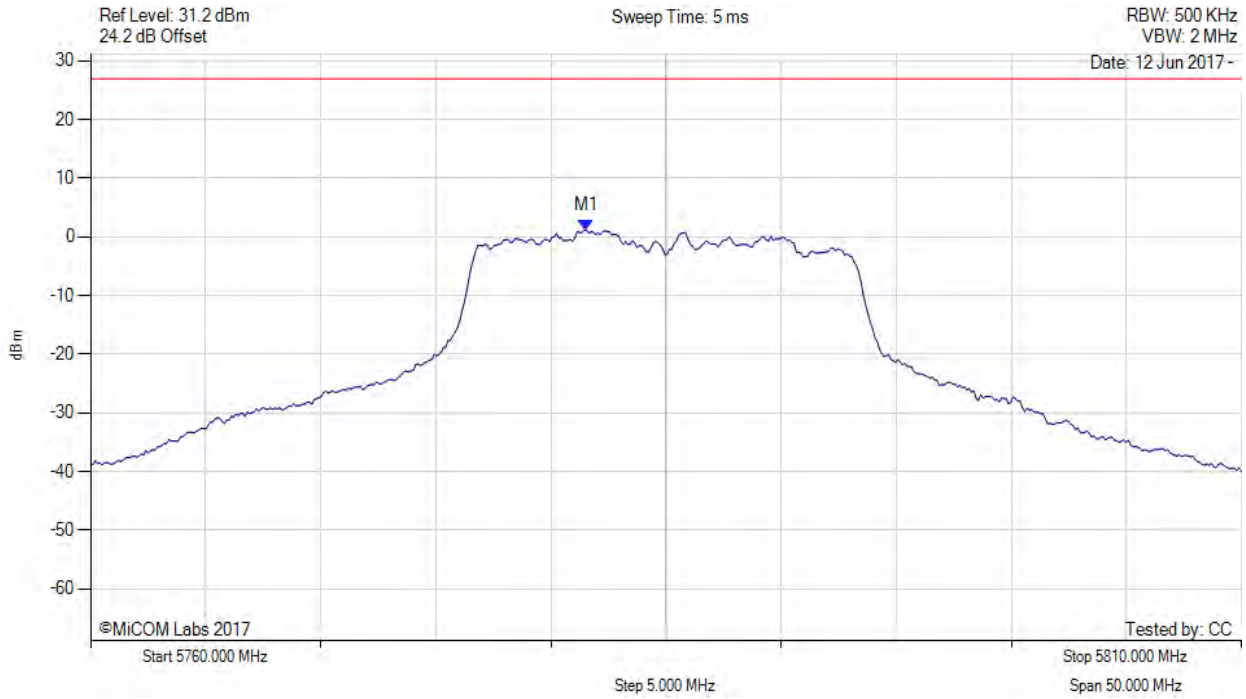


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5781.543 MHz : 0.666 dBm	Channel Frequency: 5785.00 MHz

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5785.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

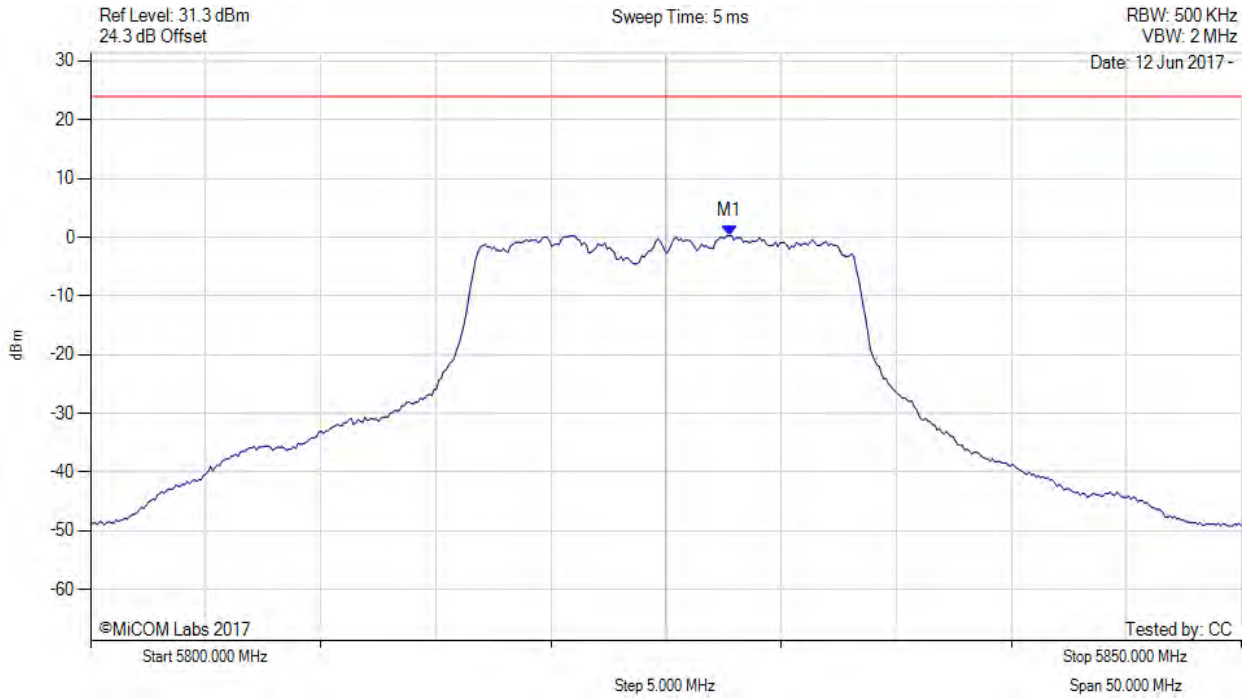


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5781.500 MHz : 1.183 dBm M1 + DCCF : 5781.500 MHz : 1.788 dBm Duty Cycle Correction Factor : +0.6 dB	Limit: ≤ 27.0 dBm Margin: -25.2 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5825.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

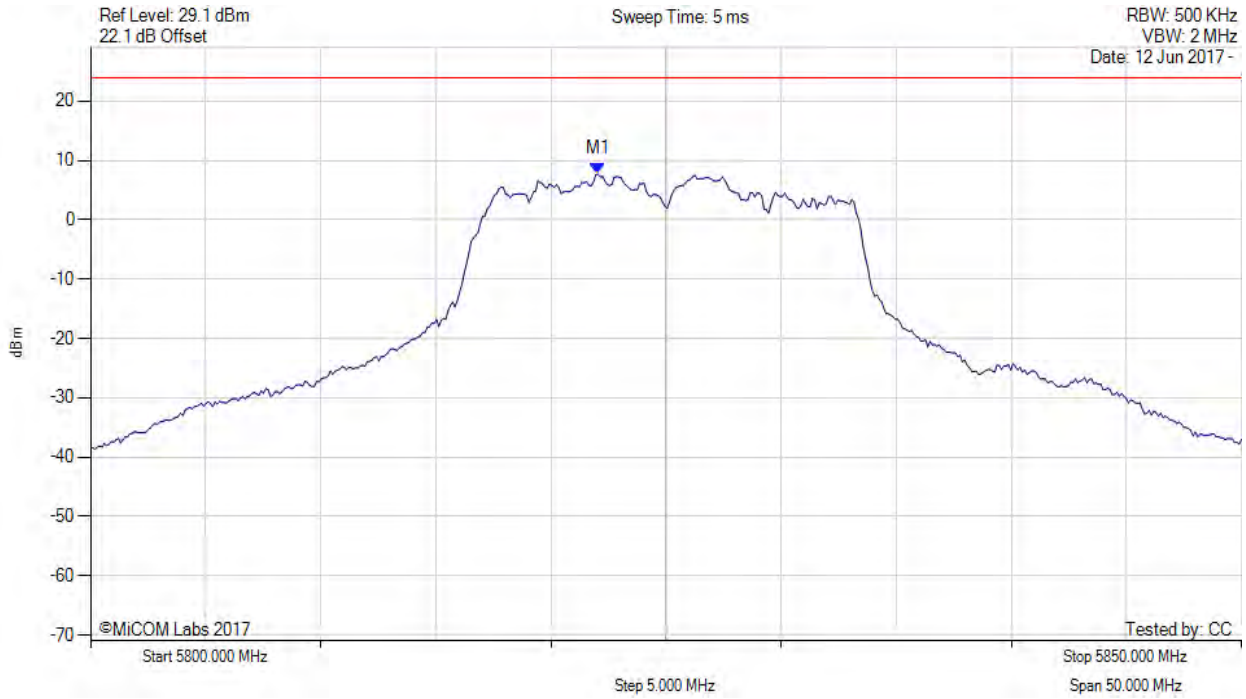


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5827.756 MHz : 0.261 dBm	Limit: ≤ 23.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5825.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

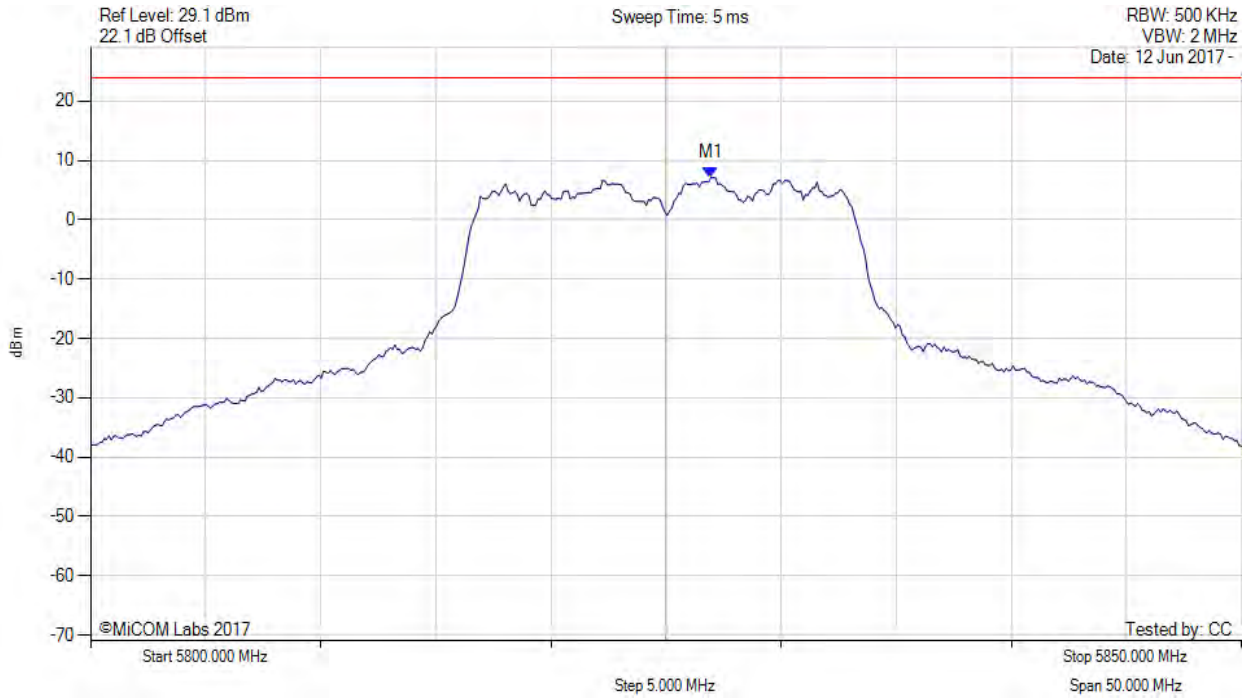


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5822.044 MHz : 7.753 dBm	Limit: ≤ 23.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5825.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

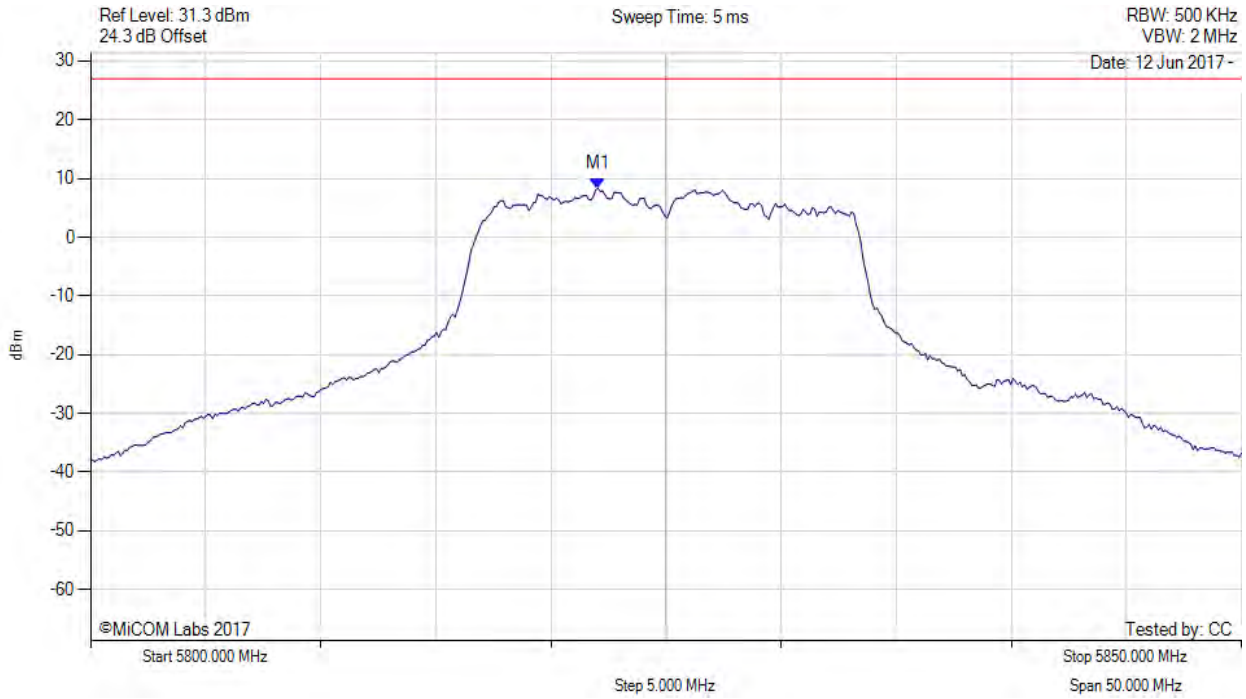


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5826.954 MHz : 7.199 dBm	Limit: ≤ 23.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5825.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

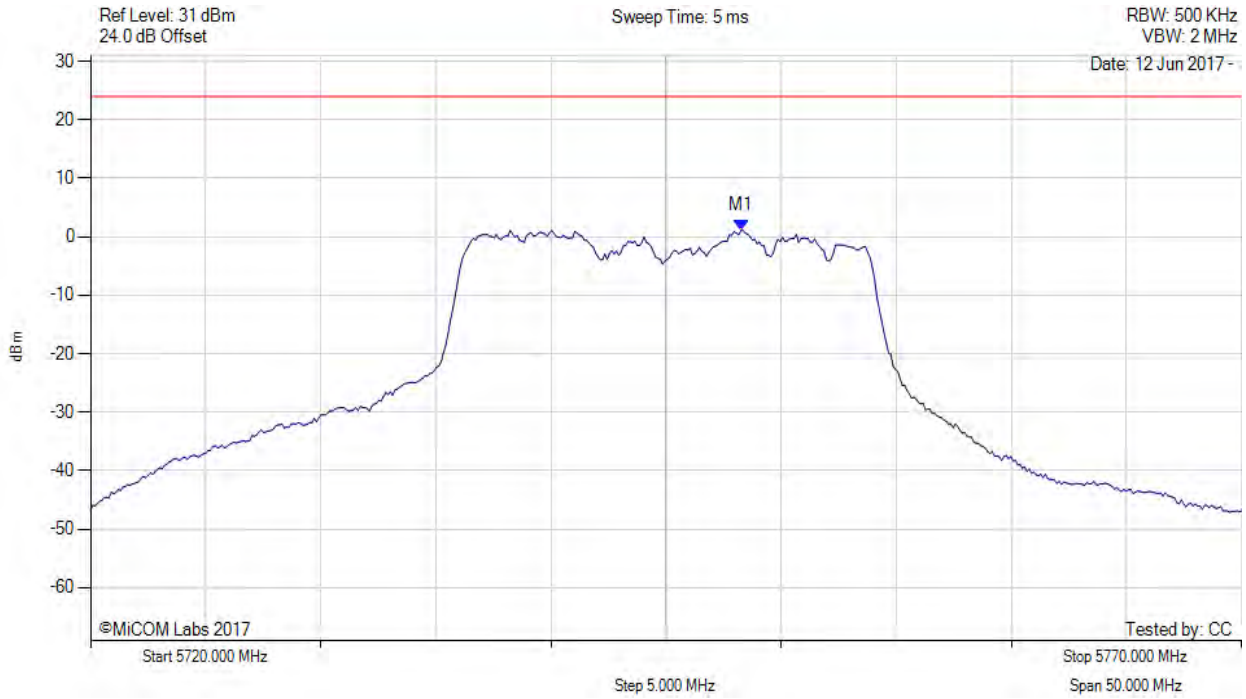


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5822.000 MHz : 8.280 dBm M1 + DCCF : 5822.000 MHz : 8.885 dBm Duty Cycle Correction Factor : +0.6 dB	Limit: ≤ 27.0 dBm Margin: -18.1 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

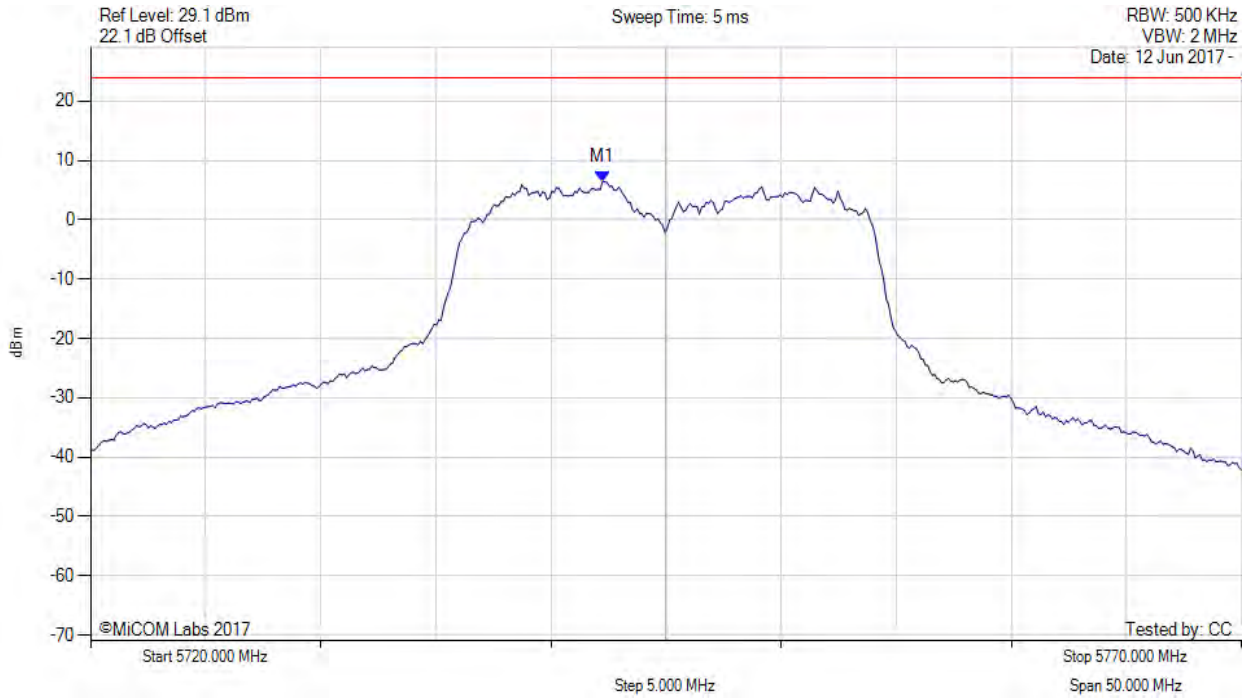


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5748.257 MHz : 1.092 dBm	Limit: ≤ 23.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

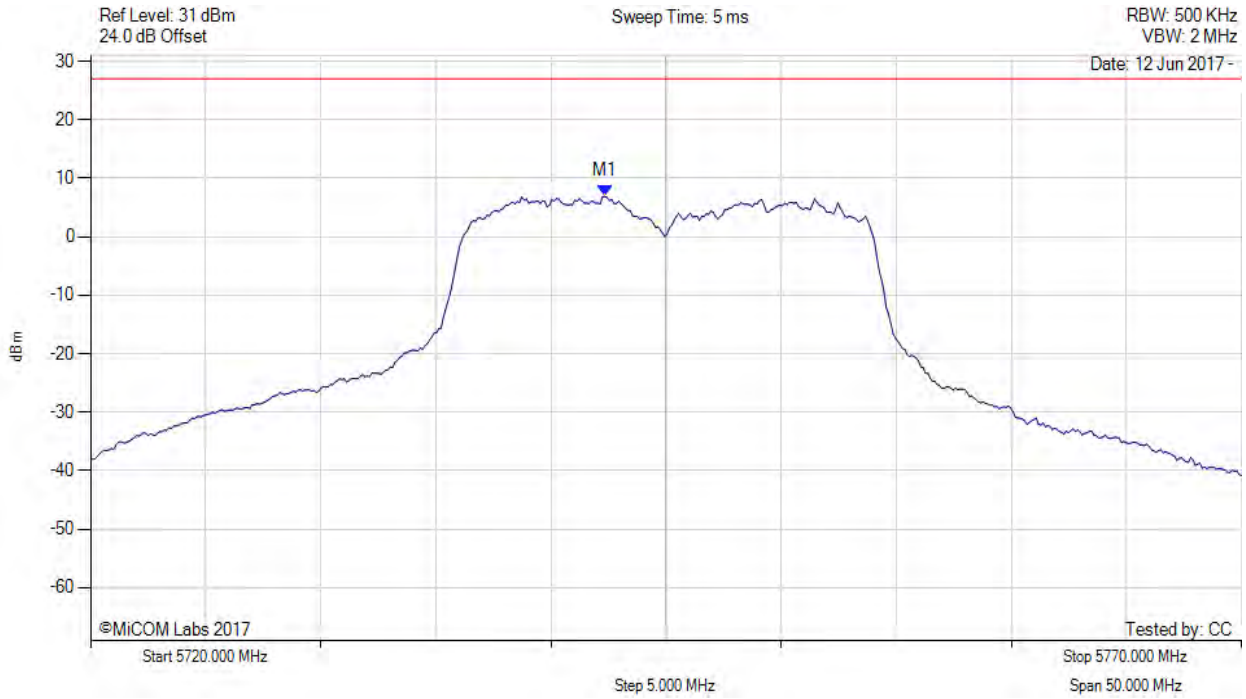


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5742.244 MHz : 6.439 dBm	Limit: ≤ 23.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5745.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

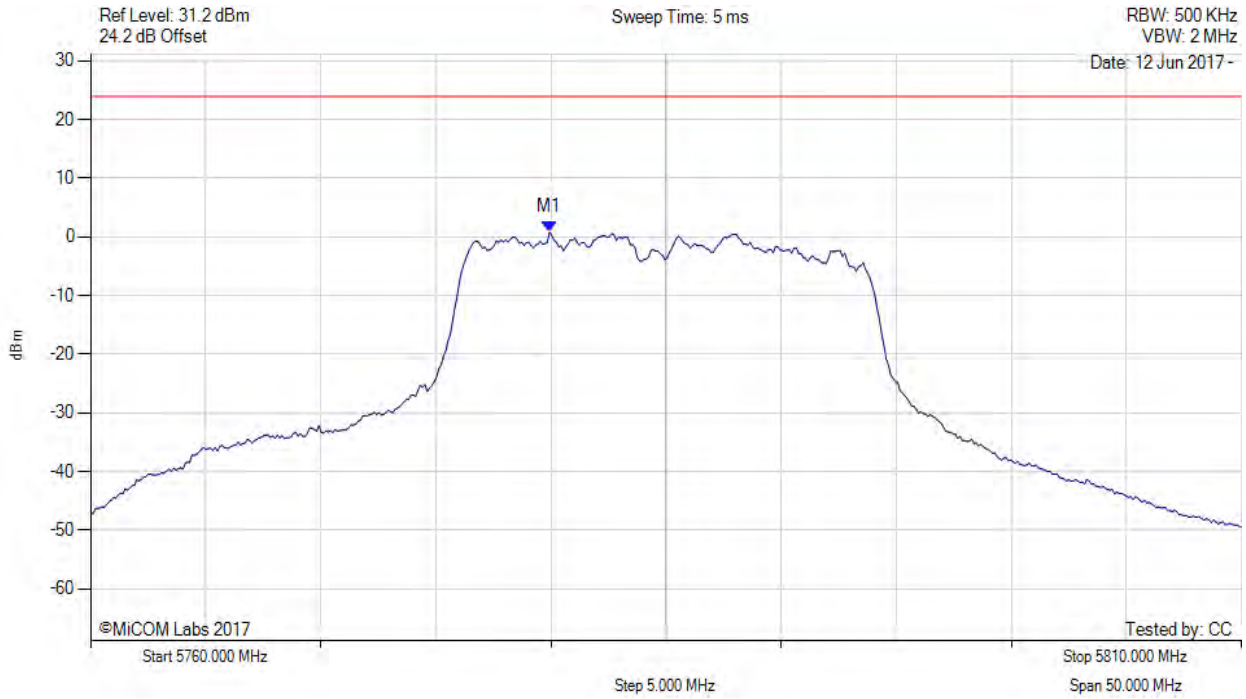


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5742.300 MHz : 6.894 dBm M1 + DCCF : 5742.300 MHz : 7.499 dBm Duty Cycle Correction Factor : +0.6 dB	Limit: ≤ 27.0 dBm Margin: -19.5 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

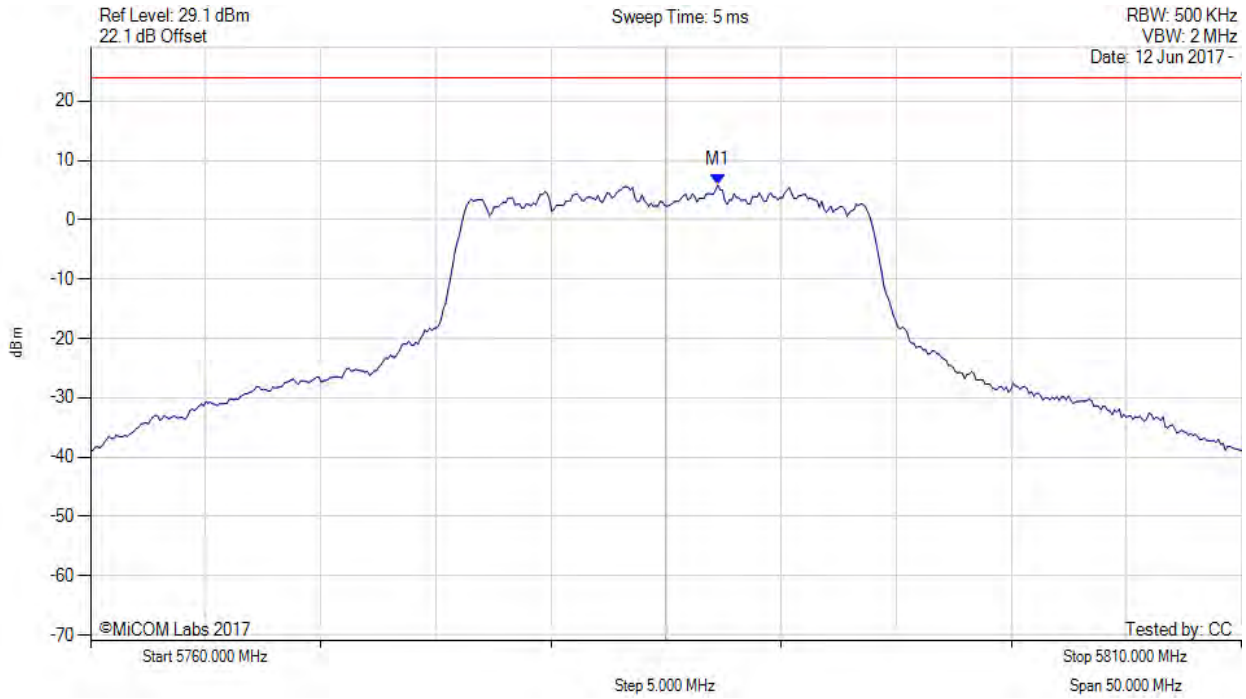


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5779.940 MHz : 0.779 dBm	Limit: ≤ 23.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

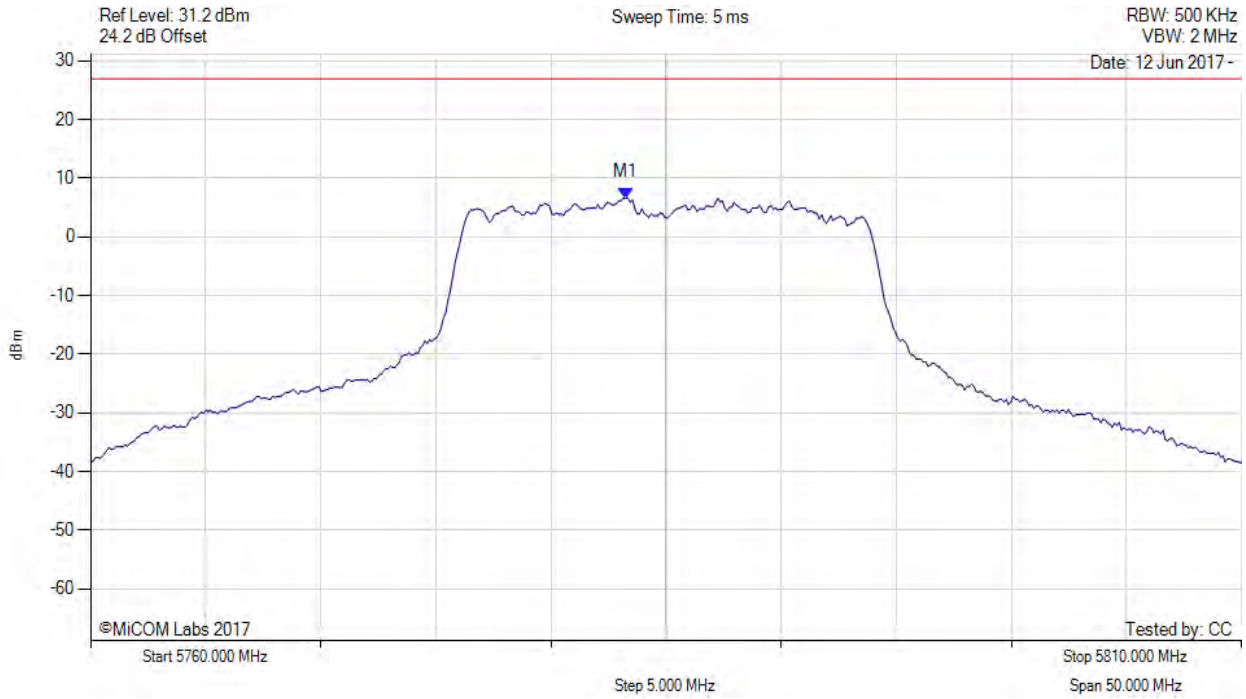


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5787.255 MHz : 5.840 dBm	Channel Frequency: 5785.00 MHz

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5785.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

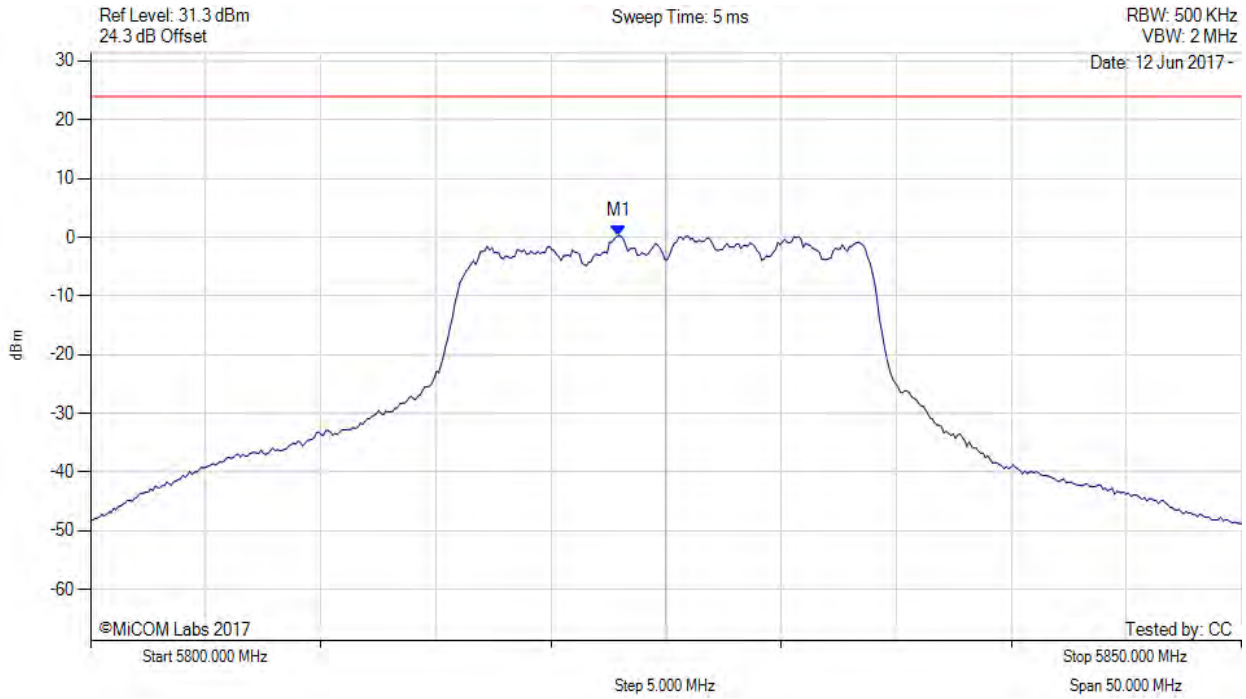


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5783.200 MHz : 6.655 dBm M1 + DCCF : 5783.200 MHz : 7.260 dBm Duty Cycle Correction Factor : +0.6 dB	Limit: ≤ 27.0 dBm Margin: -19.8 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

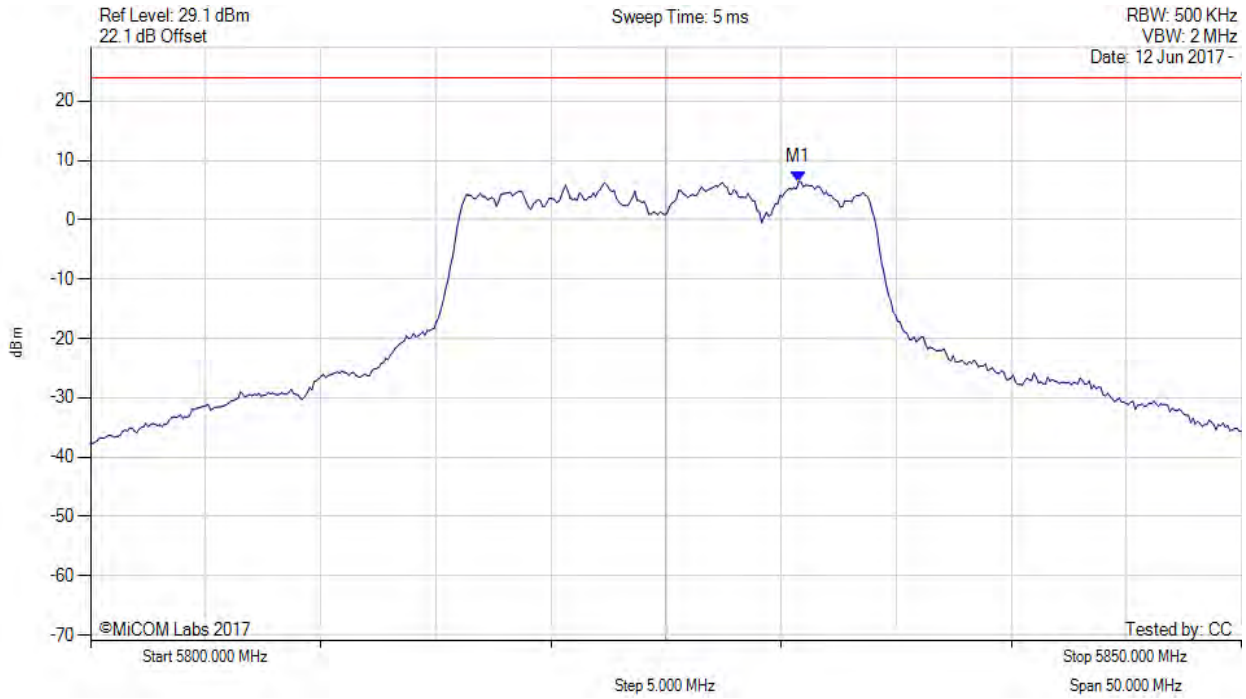


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5822.946 MHz : 0.194 dBm	Limit: ≤ 23.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

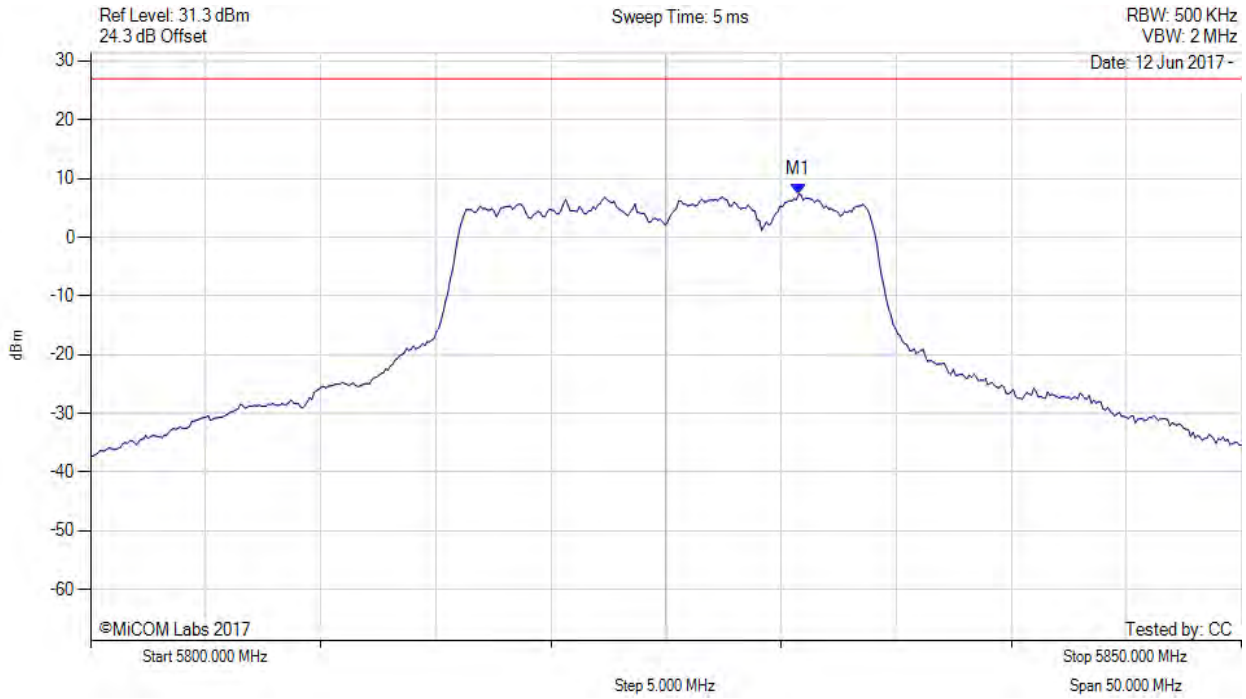


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5830.762 MHz : 6.413 dBm	Limit: ≤ 23.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5825.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

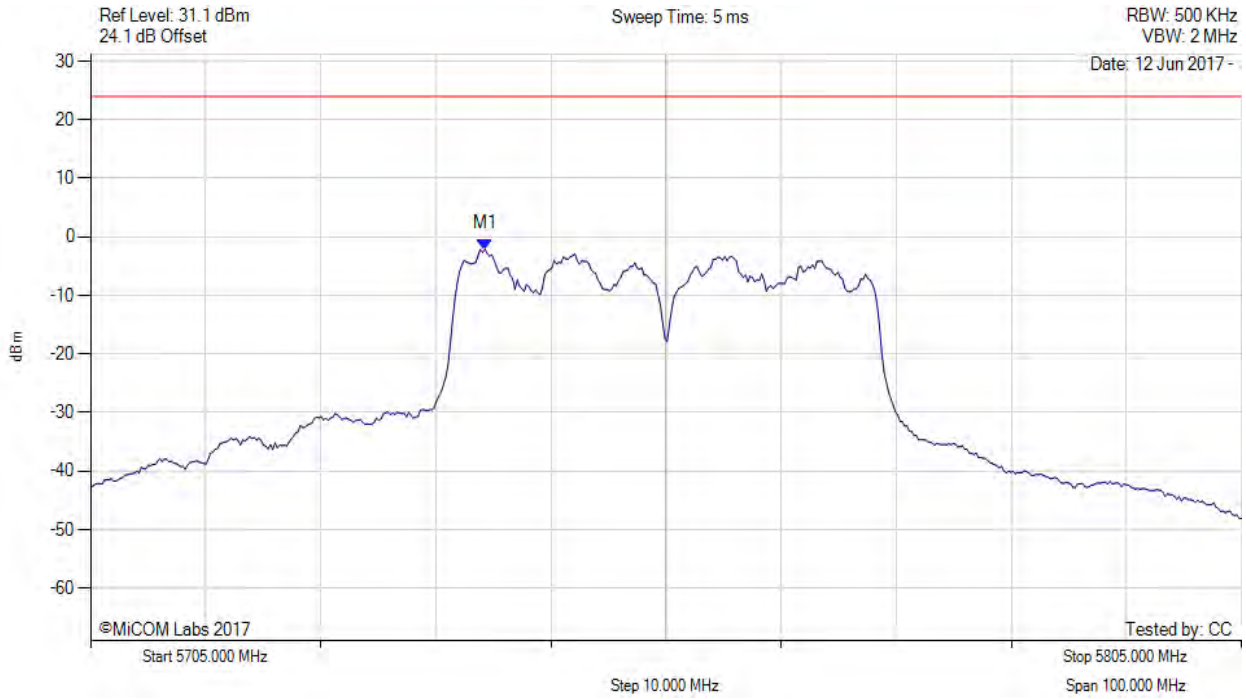


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5830.800 MHz : 7.324 dBm M1 + DCCF : 5830.800 MHz : 7.929 dBm Duty Cycle Correction Factor : +0.6 dB	Limit: ≤ 27.0 dBm Margin: -19.1 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

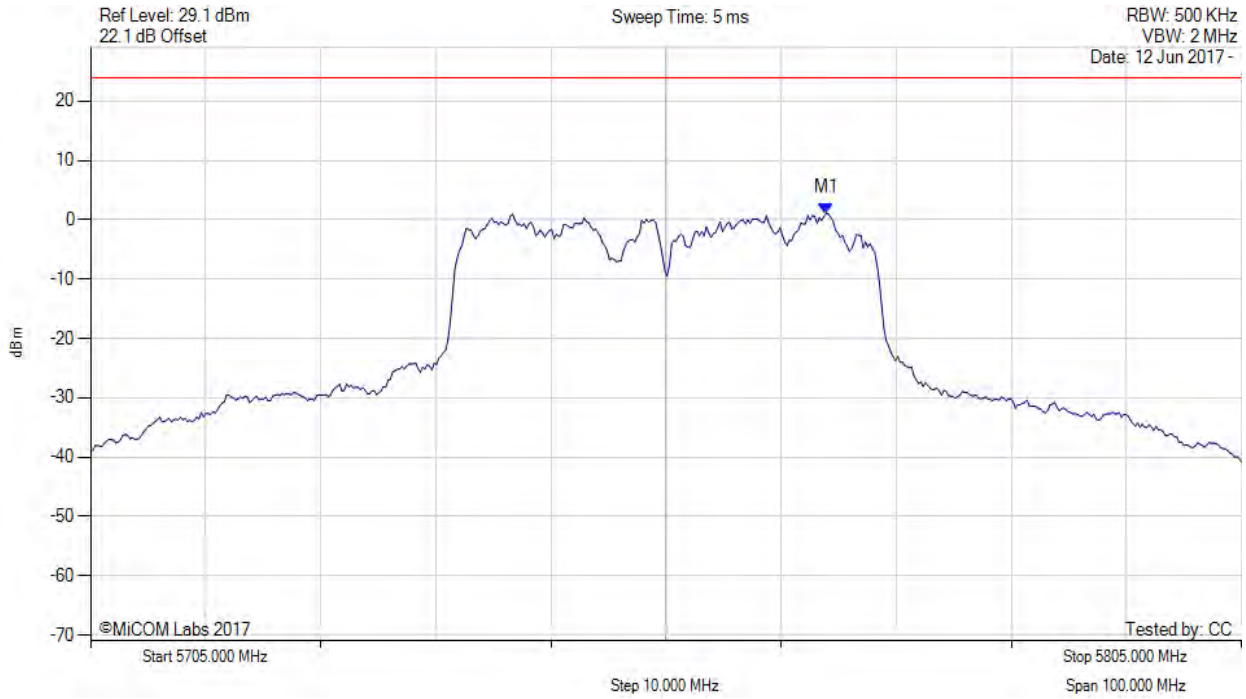


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5739.269 MHz : -2.103 dBm	Limit: ≤ 23.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

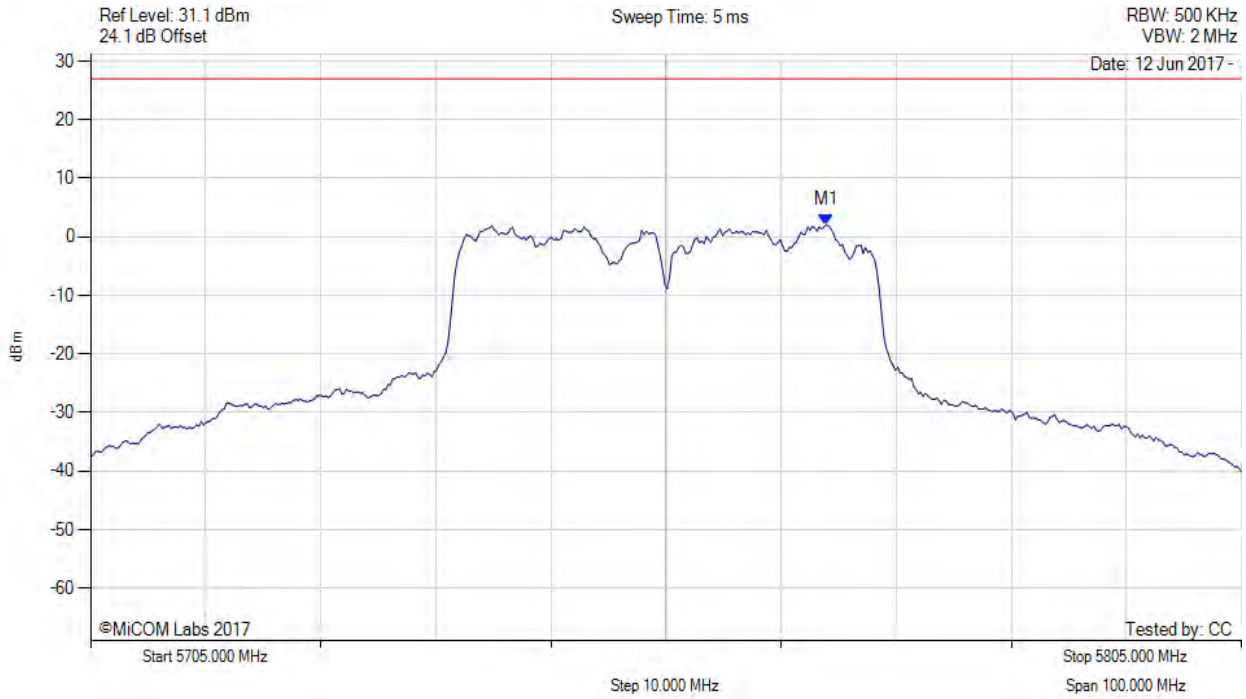


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5768.928 MHz : 1.143 dBm	Limit: ≤ 23.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5755.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

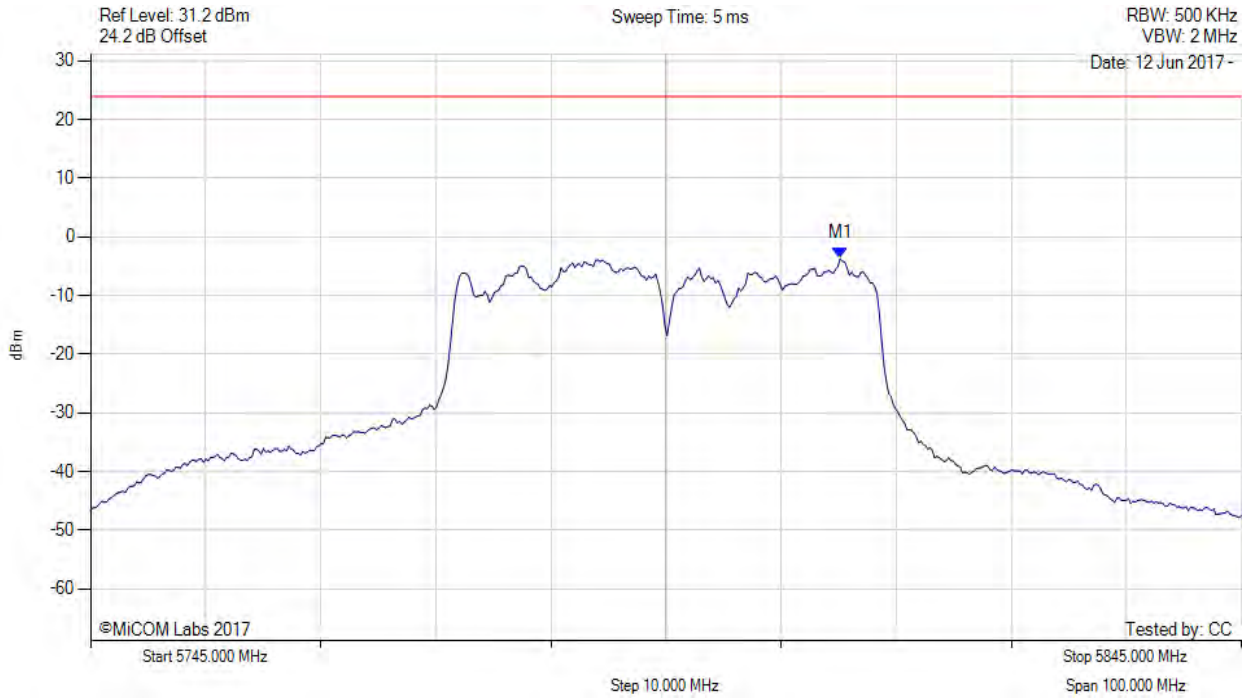


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5768.900 MHz : 2.028 dBm M1 + DCCF : 5768.900 MHz : 2.633 dBm Duty Cycle Correction Factor : +0.6 dB	Limit: ≤ 27.0 dBm Margin: -24.4 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

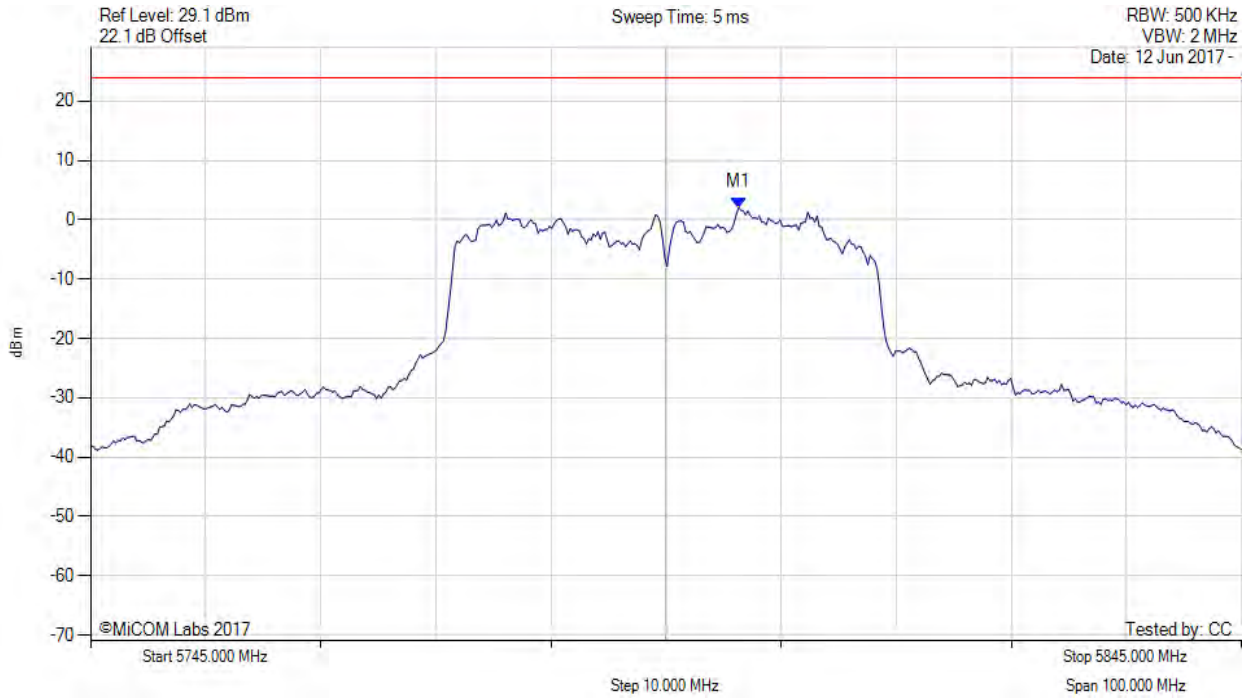


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5810.130 MHz : -3.714 dBm	Limit: ≤ 23.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

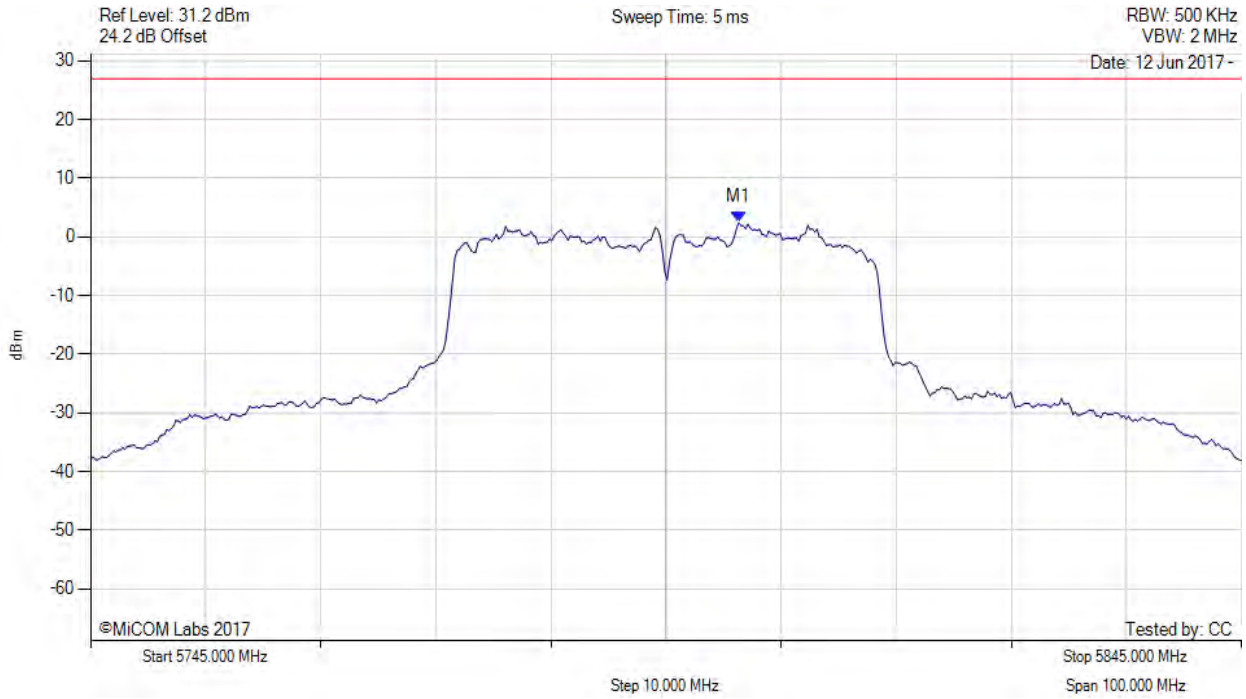


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5801.313 MHz : 2.087 dBm	Limit: ≤ 23.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5795.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc



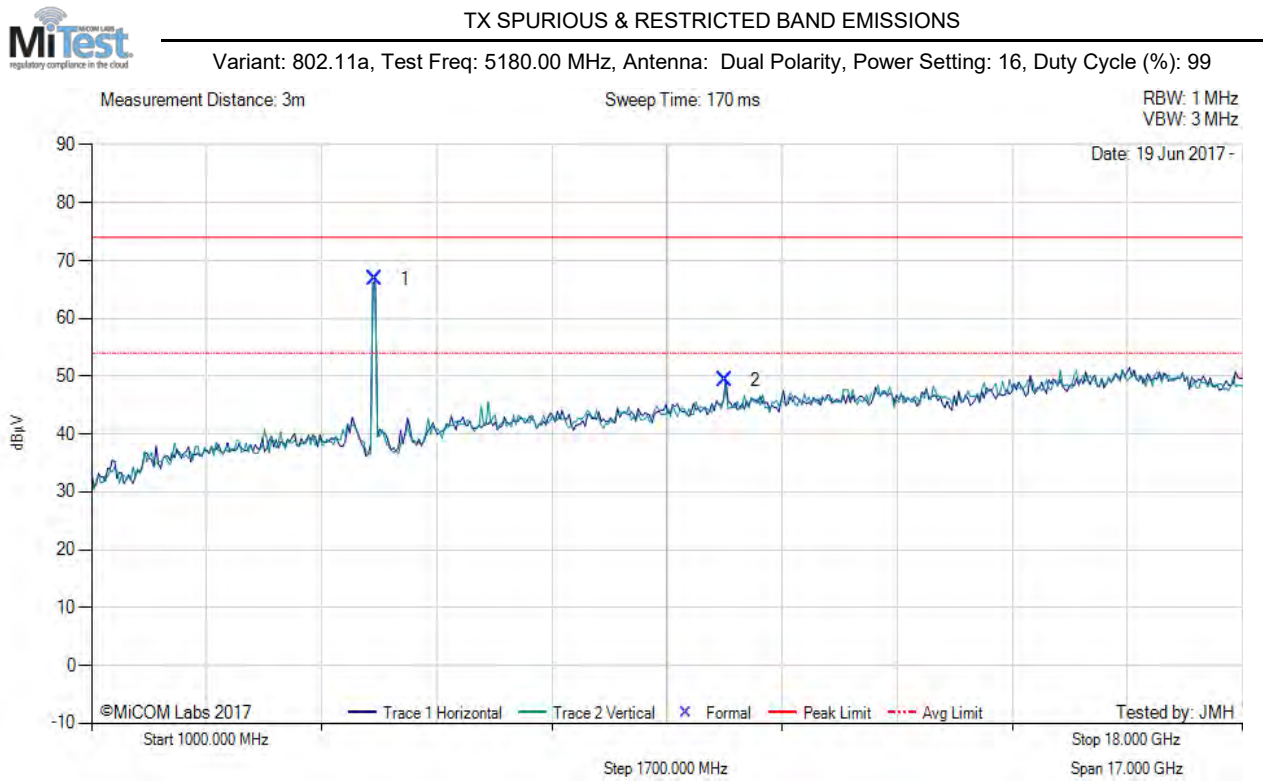
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5801.300 MHz : 2.434 dBm M1 + DCCF : 5801.300 MHz : 3.039 dBm Duty Cycle Correction Factor : +0.6 dB	Limit: ≤ 27.0 dBm Margin: -24.0 dB

back to matrix

A.4. Radiated

A.4.1. TX Spurious & Restricted Band Emissions

A.4.1.1. 9 dBi Dual Polarity



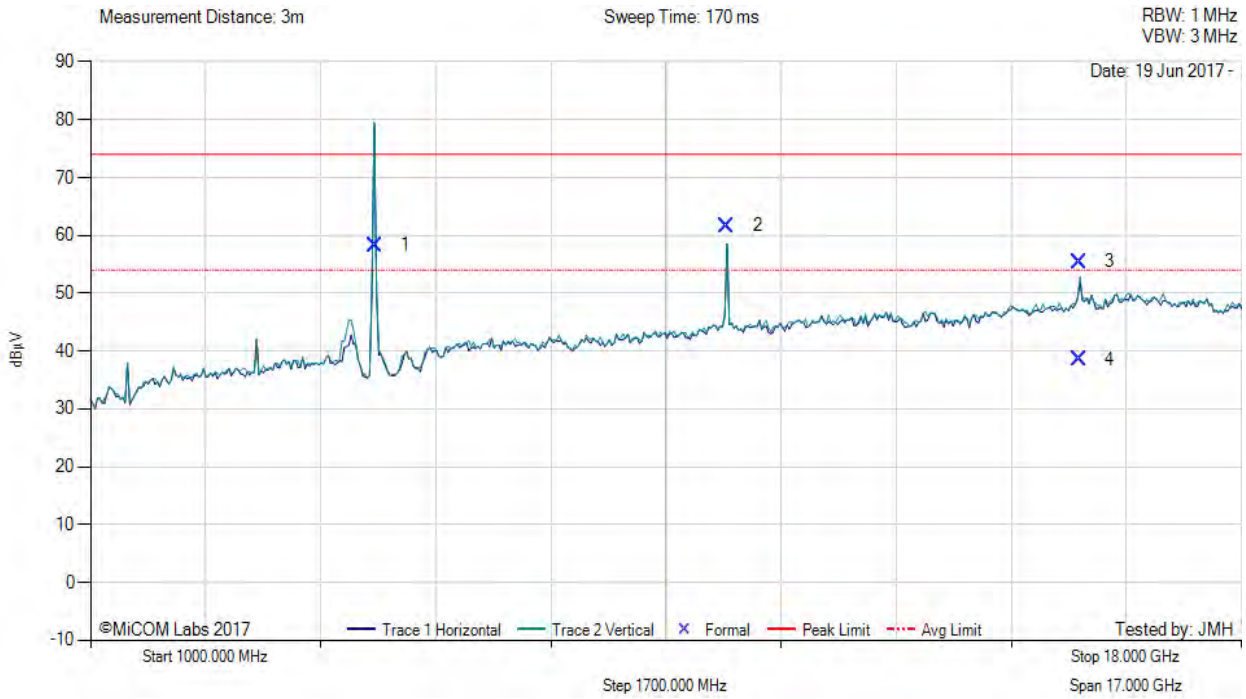
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5183.71	74.63	3.68	-11.49	66.82	Fundamental	Horizontal	101	0	--	--	
2	10357.66	49.07	5.55	-5.28	49.34	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: Dual Polarity, Power Setting: 30, Duty Cycle (%): 99



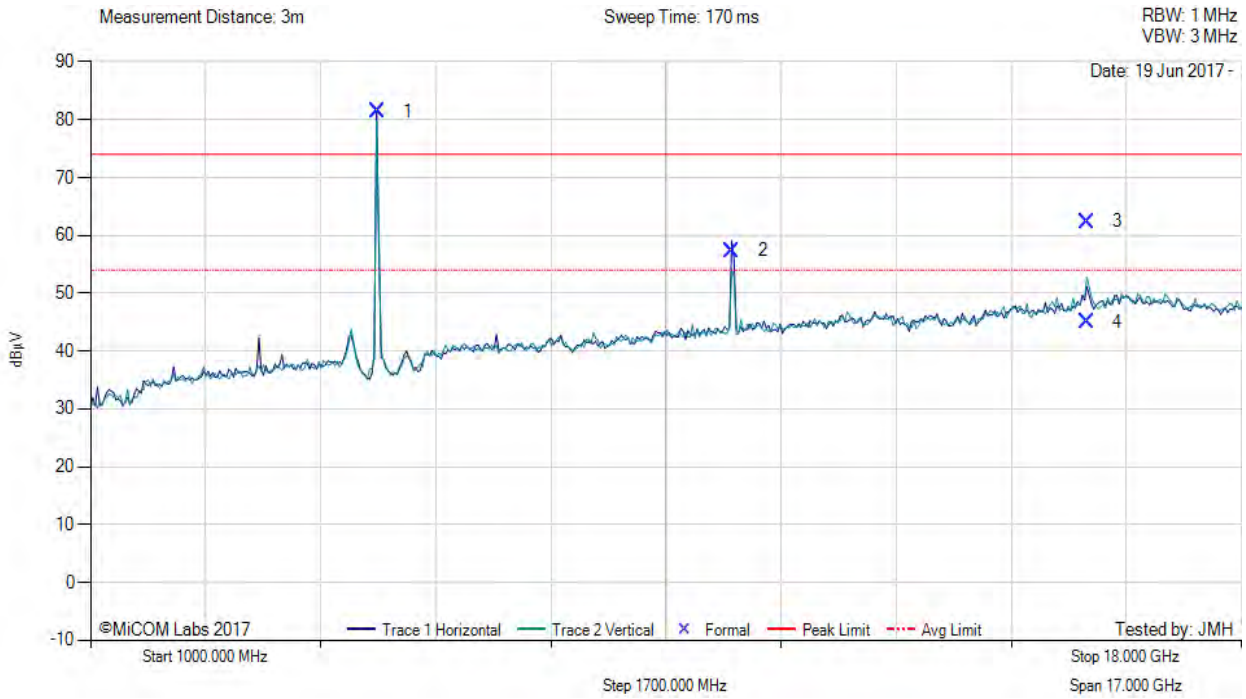
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5206.31	66.10	3.65	-11.45	58.30	Fundamental	Vertical	100	0	--	--	
2	10404.29	61.24	5.44	-5.00	61.68	Peak (NRB)	Vertical	100	360	--	--	Pass
3	15596.33	49.68	6.03	-0.26	55.45	Max Peak	Vertical	178	3	74.0	-18.6	Pass
4	15596.33	32.77	6.03	-0.26	38.54	Max Avg	Vertical	178	3	54.0	-15.5	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: Dual Polarity, Power Setting: 30, Duty Cycle (%): 99



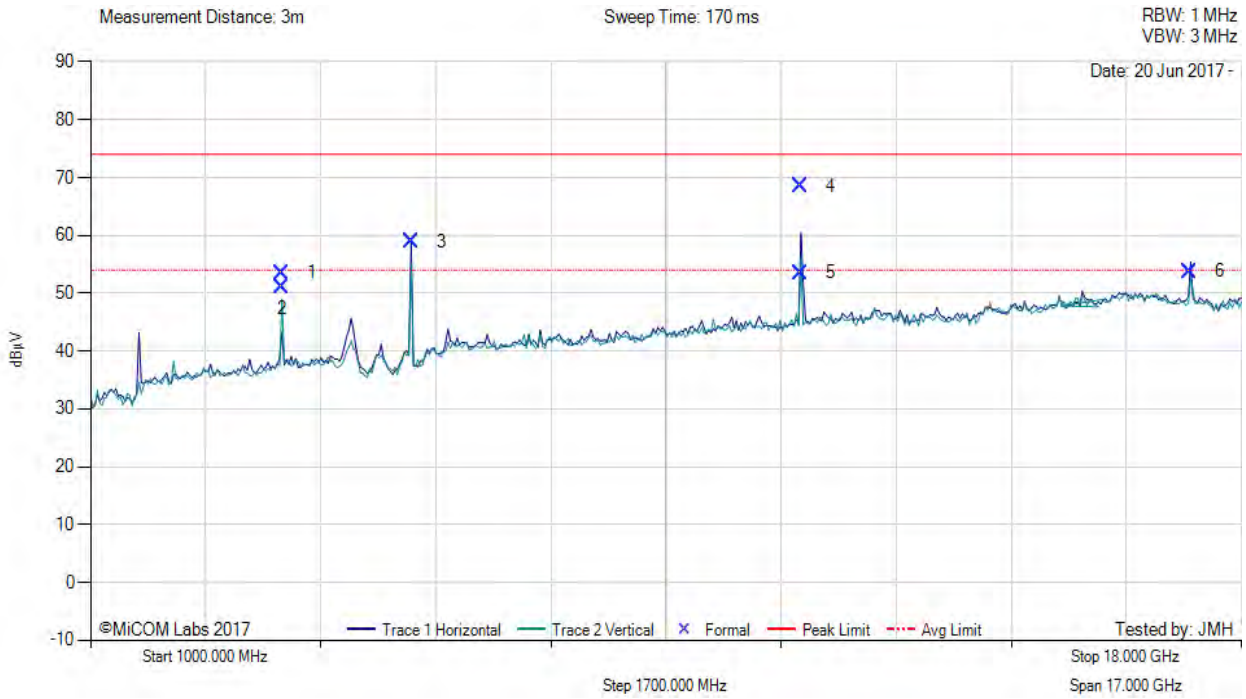
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5235.31	89.15	3.63	-11.37	81.41	Fundamental	Horizontal	100	0	--	--	
2	10480.04	56.40	5.41	-4.45	57.36	Peak (NRB)	Vertical	100	0	--	--	Pass
3	15719.03	56.11	6.08	0.18	62.37	Max Peak	Vertical	138	157	74.0	-11.6	Pass
4	15719.03	38.81	6.08	0.18	45.07	Max Avg	Vertical	138	157	54.0	-8.9	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: Dual Polarity, Power Setting: 23, Duty Cycle (%): 99



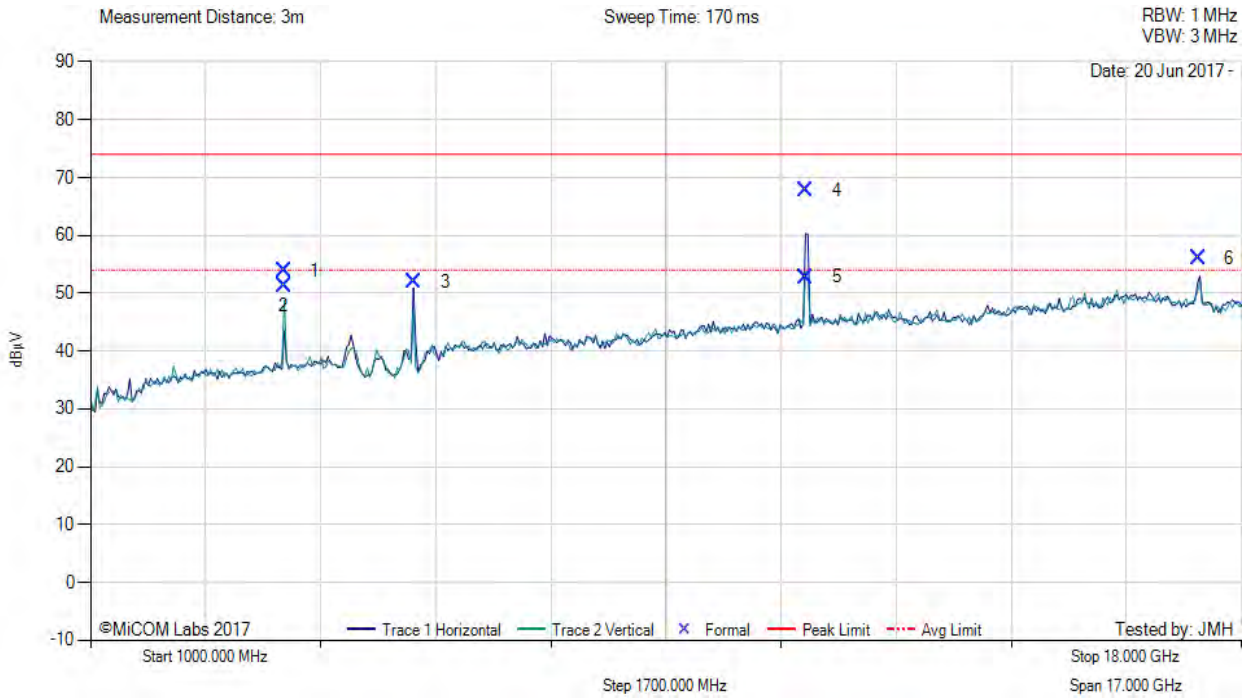
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	3829.95	61.18	3.21	-10.83	53.56	Max Peak	Vertical	149	172	74.0	-20.4	Pass
2	3829.95	58.57	3.21	-10.83	50.95	Max Avg	Vertical	149	172	54.0	-3.1	Pass
3	5738.61	65.72	3.82	-10.67	58.87	Fundamental	Horizontal	100	0	--	--	
4	11489.40	67.90	5.45	-4.84	68.51	Max Peak	Horizontal	195	185	74.0	-5.5	Pass
5	11489.40	52.89	5.45	-4.84	53.50	Max Avg	Horizontal	195	185	54.0	-0.5	Pass
6	17235.68	46.94	6.46	0.35	53.75	Peak (NRB)	Horizontal	144	186	--	--	Pass

Test Notes: EUT on table powered by POE injector. Connected 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: 19, Duty Cycle (%): 99



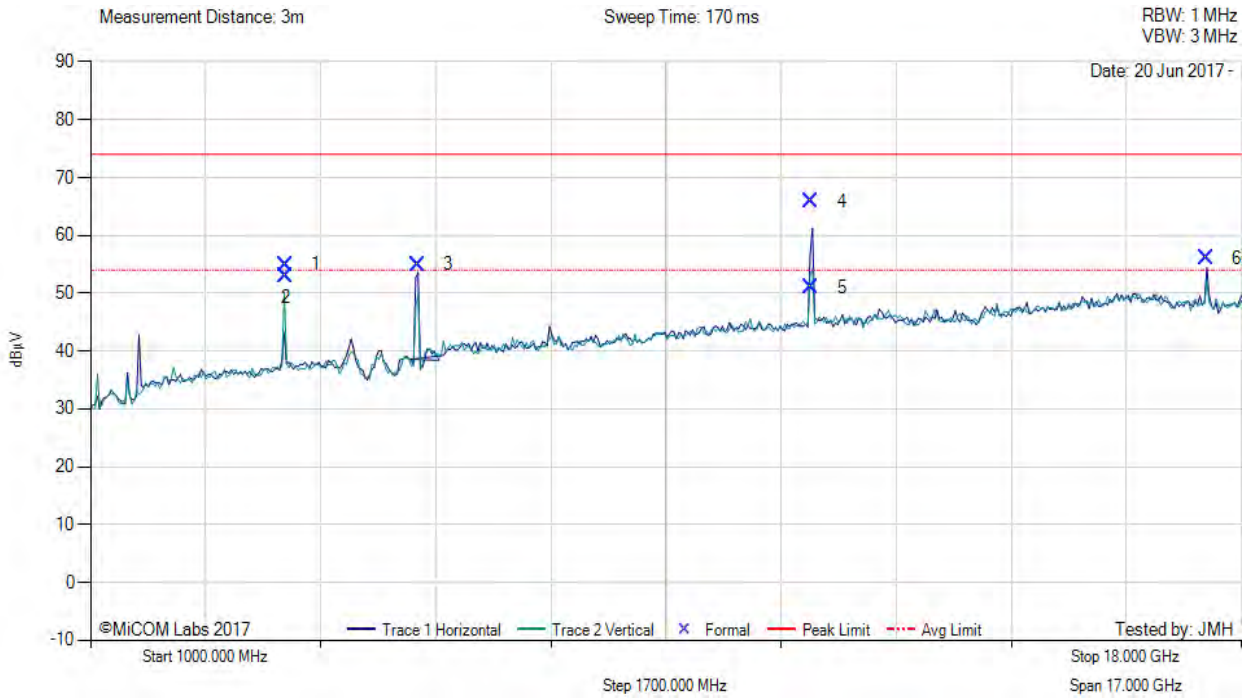
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	3856.66	61.45	3.23	-10.81	53.87	Max Peak	Vertical	156	181	74.0	-20.1	Pass
2	3856.66	58.98	3.23	-10.81	51.40	Max Avg	Vertical	156	181	54.0	-2.6	Pass
3	5788.11	58.61	3.79	-10.43	51.97	Fundamental	Horizontal	100	0	--	--	
4	11569.55	66.93	5.46	-4.64	67.75	Max Peak	Horizontal	192	187	74.0	-6.3	Pass
5	11569.55	51.98	5.46	-4.64	52.80	Max Avg	Horizontal	192	187	54.0	-1.2	Pass
6	17360.00	49.78	6.28	-0.04	56.02	Peak (NRB)	Horizontal	151	178	--	--	Pass

Test Notes: EUT on table powered by POE injector. Connected 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: 16, Duty Cycle (%): 99

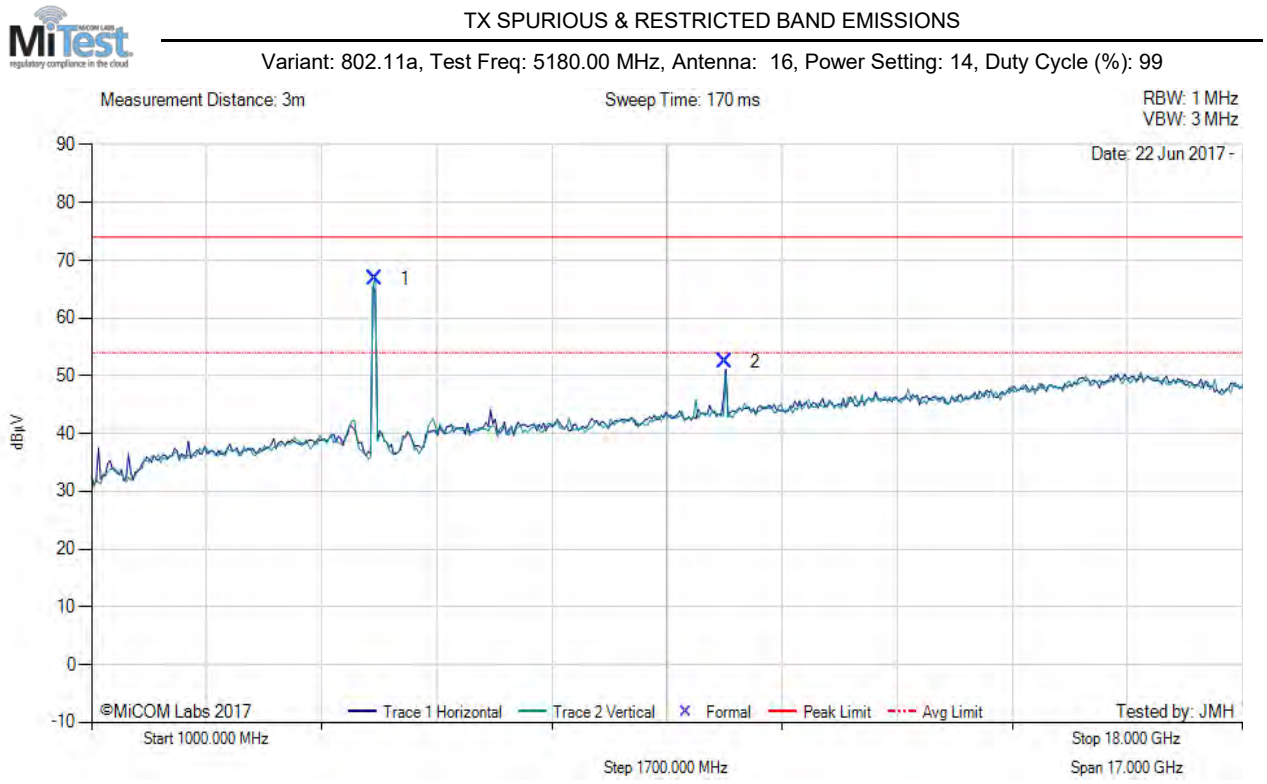


1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	3883.29	62.44	3.25	-10.76	54.93	Max Peak	Vertical	150	187	74.0	-19.1	Pass
2	3883.29	60.38	3.25	-10.76	52.87	Max Avg	Vertical	150	187	54.0	-1.1	Pass
3	5830.79	61.37	3.84	-10.22	54.99	Fundamental	Horizontal	100	0	--	--	
4	11648.83	64.82	5.44	-4.47	65.79	Max Peak	Horizontal	178	195	74.0	-8.2	Pass
5	11648.83	49.99	5.44	-4.47	50.96	Max Avg	Horizontal	178	195	54.0	-3.0	Pass
6	17476.58	50.39	6.30	-0.59	56.10	Peak (NRB)	Horizontal	151	179	--	--	Pass

Test Notes: EUT on table powered by POE injector. Connected to laptop outside chamber.

back to matrix

A.4.1.2. 16 dBi Dual Polarity



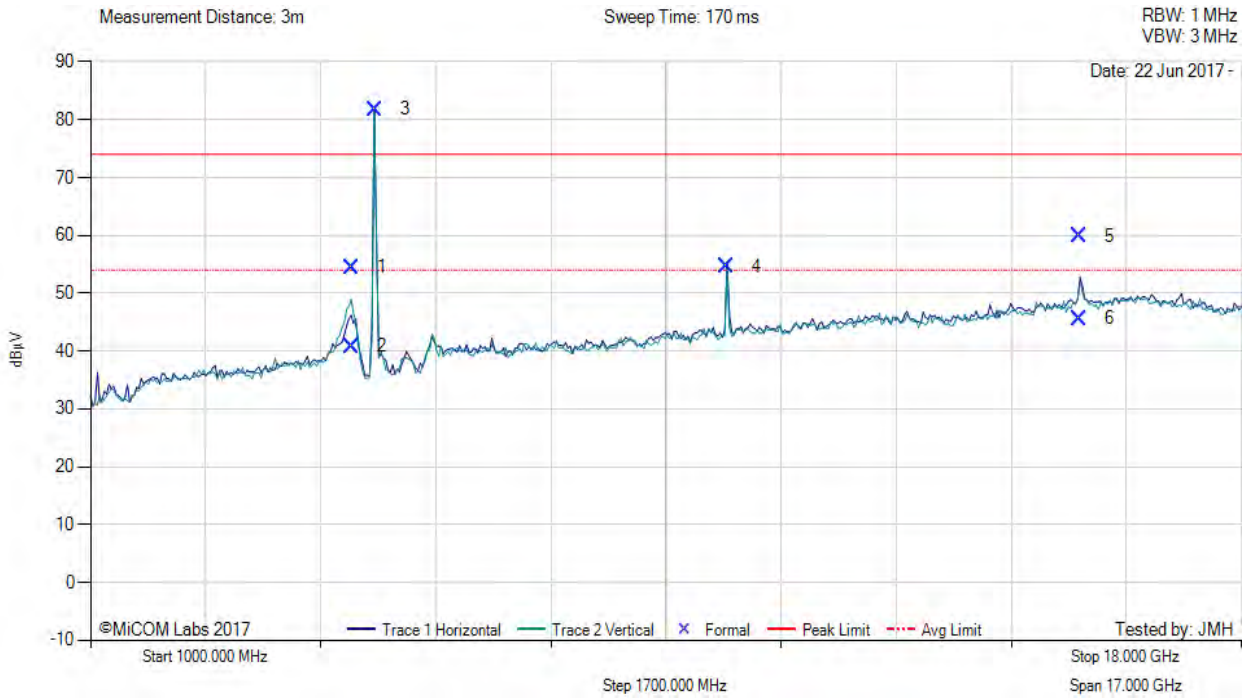
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5184.59	74.58	3.68	-11.49	66.77	Fundamental	Vertical	151	0	--	--	
2	10357.99	52.12	5.55	-5.28	52.39	Peak (NRB)	Horizontal	151	32	--	--	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: 23, Duty Cycle (%): 99



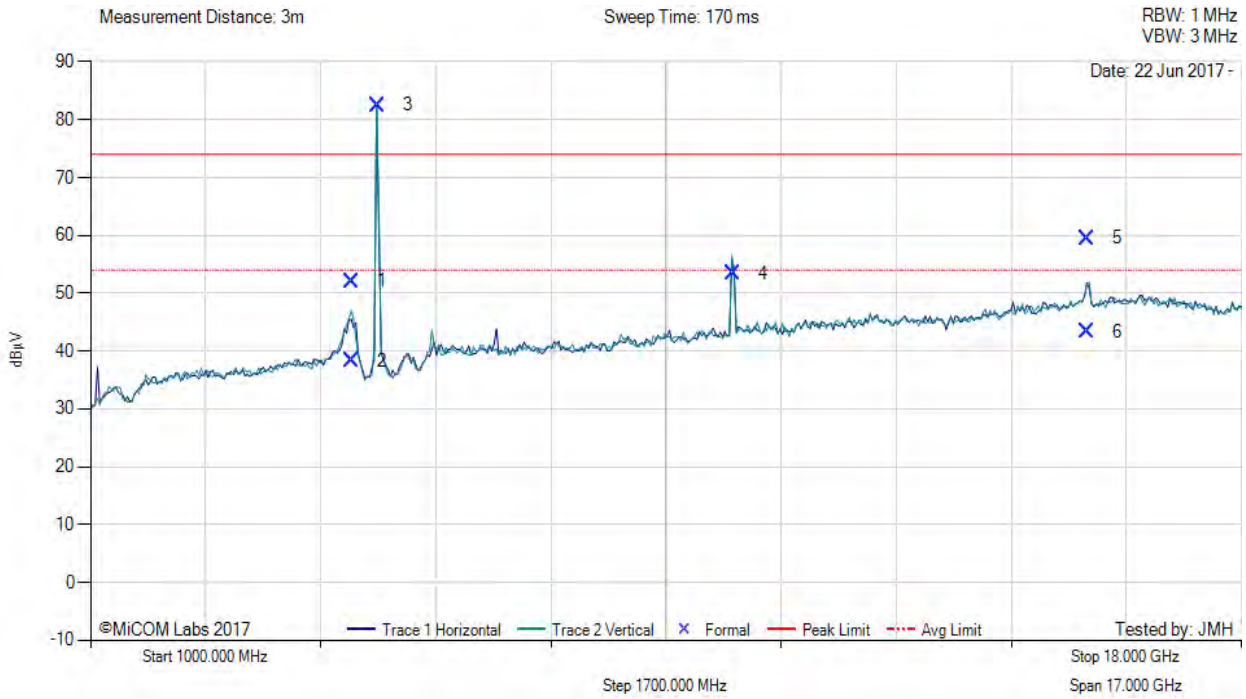
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	4861.77	62.14	3.56	-11.21	54.49	Max Peak	Vertical	156	1	74.0	-19.5	Pass
2	4861.77	48.43	3.56	-11.21	40.78	Max Avg	Vertical	156	1	54.0	-13.2	Pass
3	5207.08	89.58	3.65	-11.44	81.79	Fundamental	Horizontal	100	0	--	--	
4	10397.57	54.31	5.38	-5.05	54.64	Peak (NRB)	Horizontal	151	23	--	--	Pass
5	15603.38	54.09	6.02	-0.22	59.89	Max Peak	Horizontal	159	323	74.0	-14.1	Pass
6	15603.38	39.78	6.02	-0.22	45.58	Max Avg	Horizontal	159	323	54.0	-8.4	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: 23, Duty Cycle (%): 99



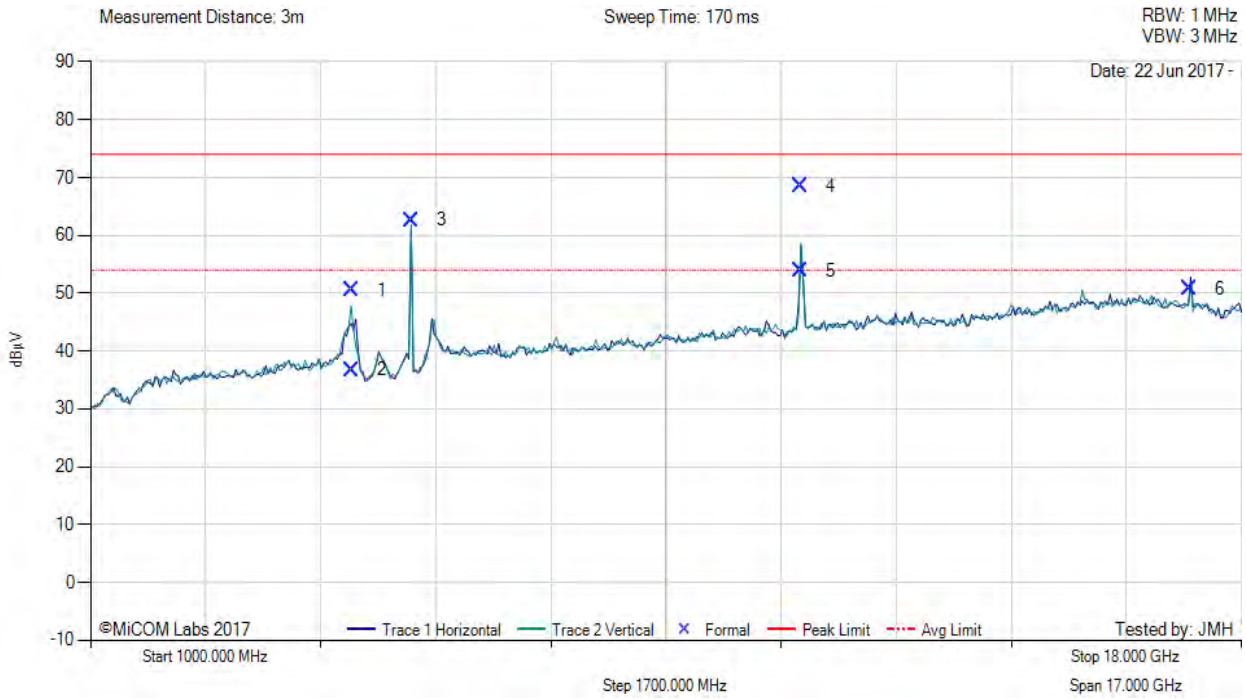
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	4860.34	59.76	3.57	-11.21	52.12	Max Peak	Vertical	175	1	74.0	-21.9	Pass
2	4860.34	45.96	3.57	-11.21	38.32	Max Avg	Vertical	175	1	54.0	-15.7	Pass
3	5234.64	90.26	3.63	-11.37	82.52	Fundamental	Vertical	100	0	--	--	
4	10484.77	52.38	5.41	-4.42	53.37	Peak (NRB)	Vertical	100	0	--	--	Pass
5	15714.48	53.29	6.01	0.17	59.47	Max Peak	Vertical	150	1	74.0	-14.5	Pass
6	15714.48	37.14	6.01	0.17	43.32	Max Avg	Vertical	150	1	54.0	-10.7	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: 21, Duty Cycle (%): 99



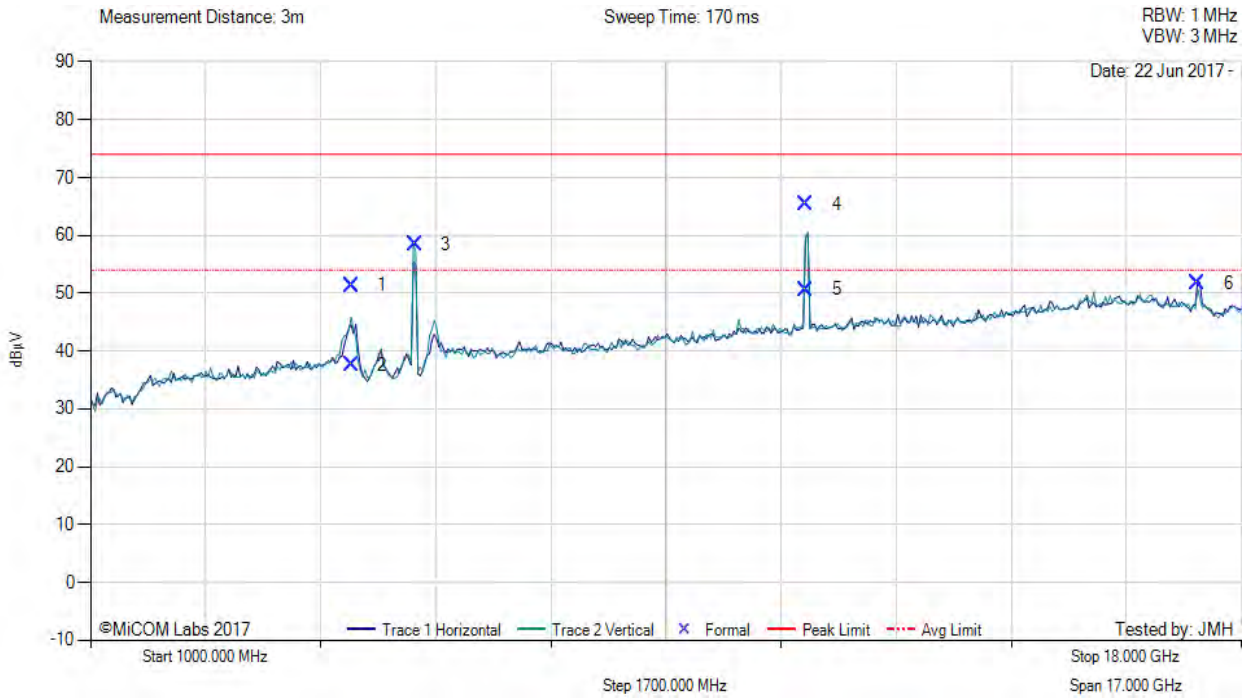
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	4862.10	58.19	3.56	-11.23	50.52	Max Peak	Vertical	131	12	74.0	-23.5	Pass
2	4862.10	44.38	3.56	-11.23	36.71	Max Avg	Vertical	131	12	54.0	-17.3	Pass
3	5738.72	69.45	3.82	-10.67	62.60	Fundamental	Vertical	100	0	--	--	
4	11490.51	67.84	5.45	-4.84	68.45	Max Peak	Horizontal	152	343	74.0	-5.6	Pass
5	11490.51	53.30	5.45	-4.84	53.91	Max Avg	Horizontal	152	343	54.0	-0.1	Pass
6	17235.90	43.93	6.46	0.35	50.74	Peak (NRB)	Horizontal	151	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: 16, Power Setting: 21, Duty Cycle (%): 99



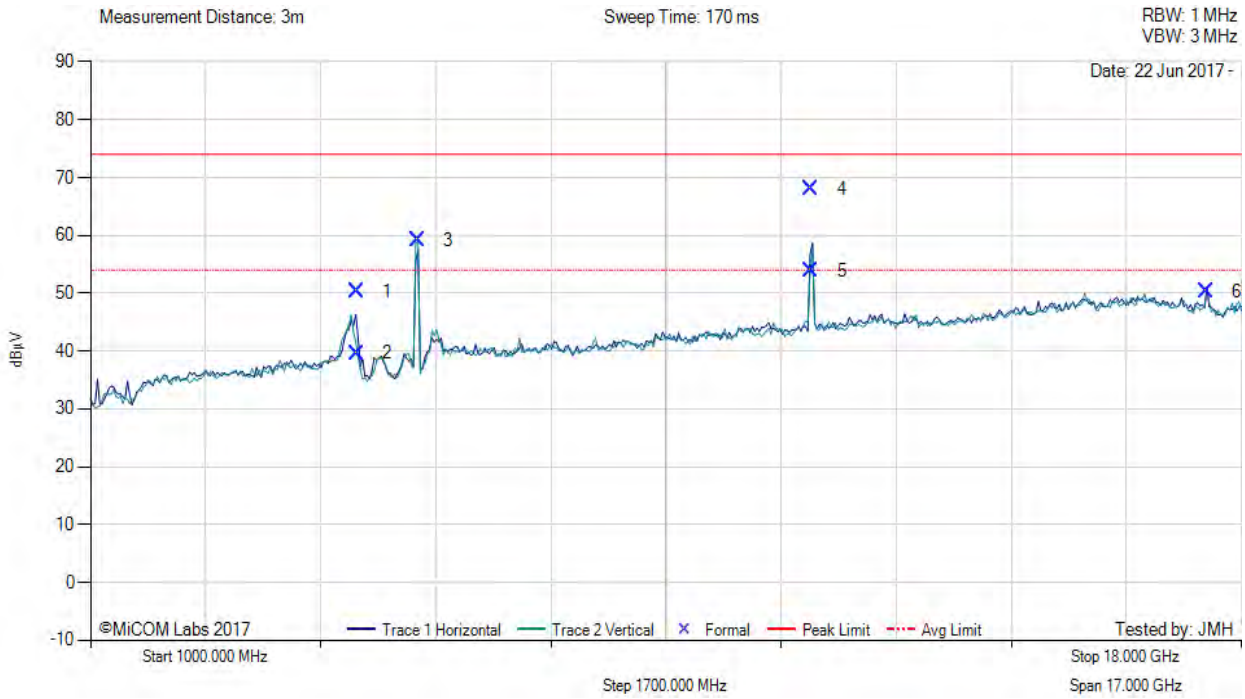
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	4862.87	59.07	3.56	-11.23	51.40	Max Peak	Vertical	156	4	74.0	-22.6	Pass
2	4862.87	45.31	3.56	-11.23	37.64	Max Avg	Vertical	156	4	54.0	-16.4	Pass
3	5790.32	65.13	3.79	-10.42	58.50	Fundamental	Vertical	151	0	--	--	
4	11571.75	64.64	5.42	-4.63	65.43	Max Peak	Vertical	173	200	74.0	-8.6	Pass
5	11571.75	49.87	5.42	-4.63	50.66	Max Avg	Vertical	173	200	54.0	-3.3	Pass
6	17358.05	45.45	6.28	-0.04	51.69	Peak (NRB)	Horizontal	151	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: 5825.00 MHz, Antenna: 16, Power Setting: 20, Duty Cycle (%): 99

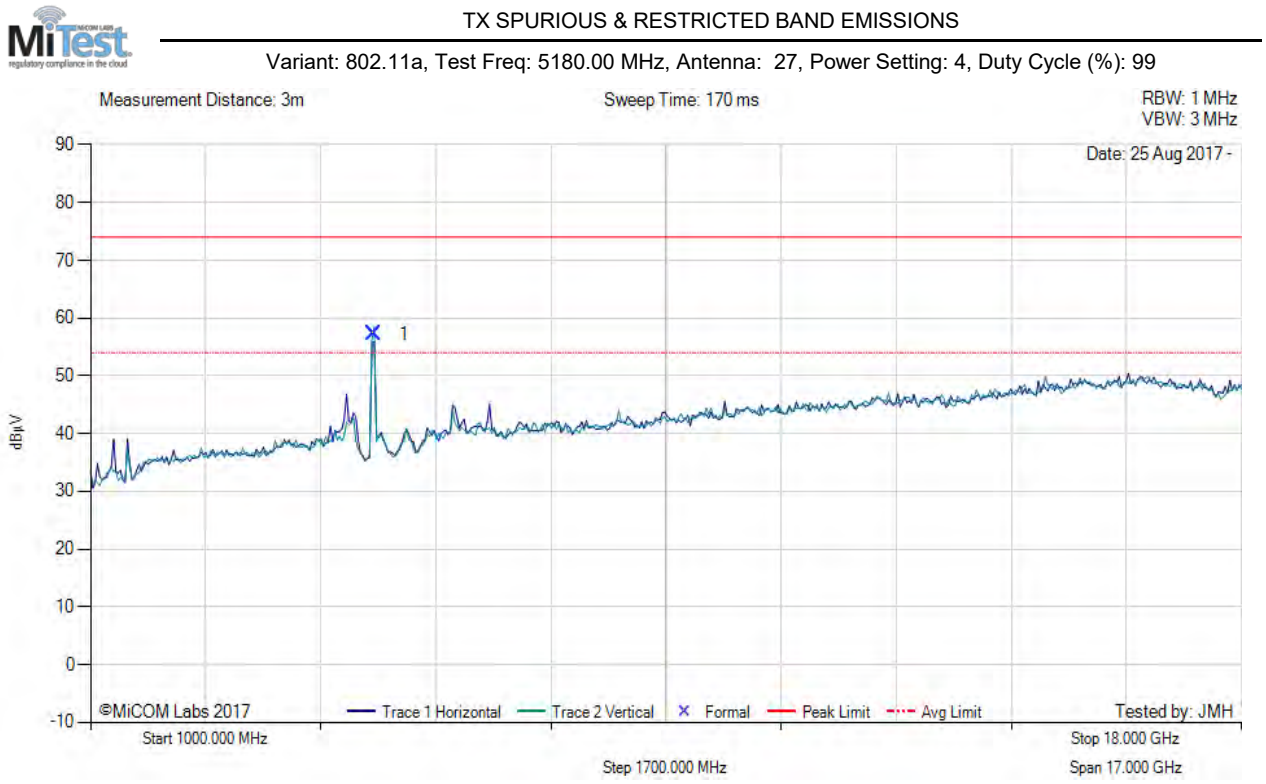


1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	4928.04	58.05	3.60	-11.39	50.26	Max Peak	Horizontal	176	5	74.0	-23.7	Pass
2	4928.04	47.42	3.60	-11.39	39.63	Max Avg	Horizontal	176	5	54.0	-14.4	Pass
3	5829.13	65.50	3.84	-10.23	59.11	Fundamental	Vertical	100	0	--	--	
4	11649.82	67.11	5.44	-4.47	68.08	Max Peak	Horizontal	148	344	74.0	-5.9	Pass
5	11649.82	52.84	5.44	-4.47	53.81	Max Avg	Horizontal	148	344	54.0	-0.2	Pass
6	17476.14	44.65	6.30	-0.59	50.36	Peak (NRB)	Horizontal	151	0	--	--	Pass

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

back to matrix

A.4.1.3. 27 dBi Dish Antenna



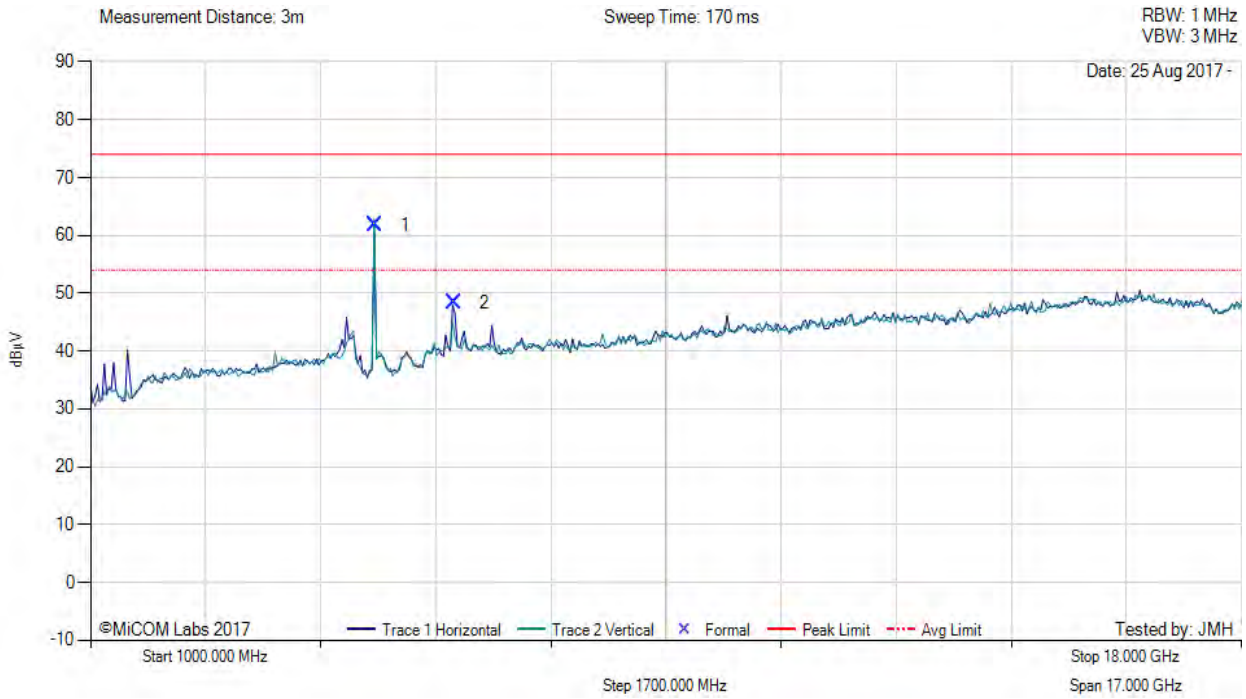
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5177.76	64.99	3.69	-11.51	57.17	Fundamental	Vertical	181	5	--	--	

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: 12, Duty Cycle (%): 99



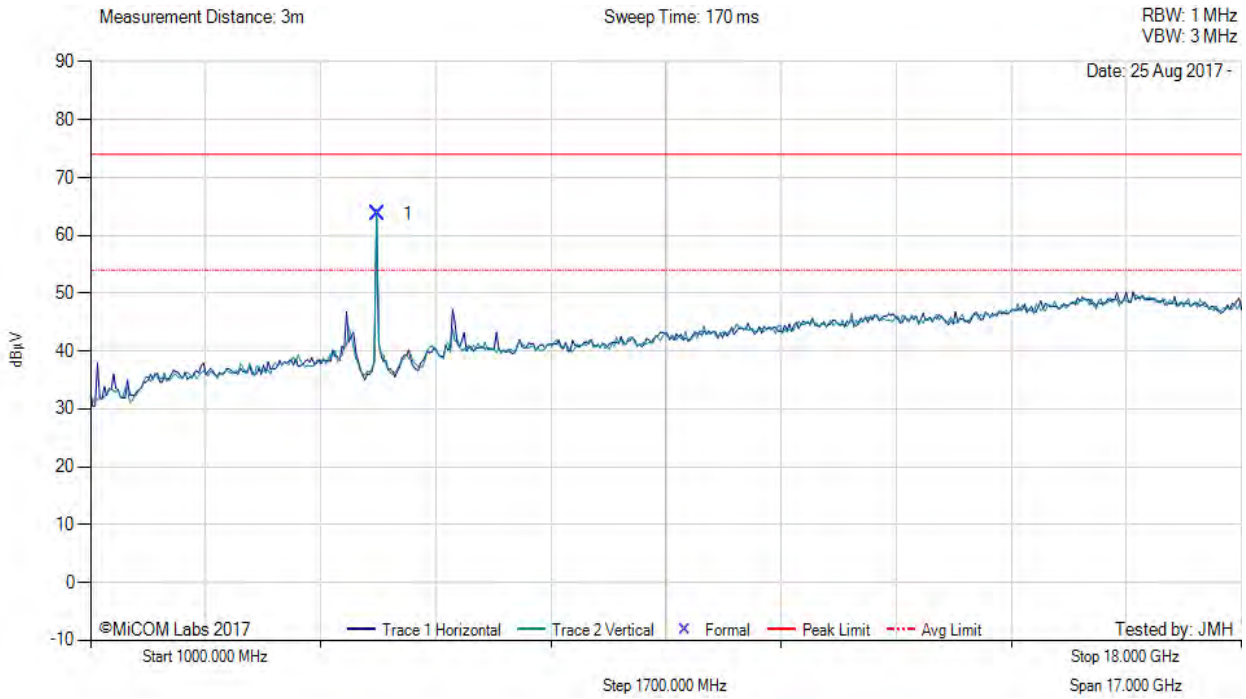
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5204.99	69.58	3.65	-11.45	61.78	Fundamental	Vertical	200	0	--	--	
2	6374.96	52.51	3.95	-8.11	48.35	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: 12, Duty Cycle (%): 99



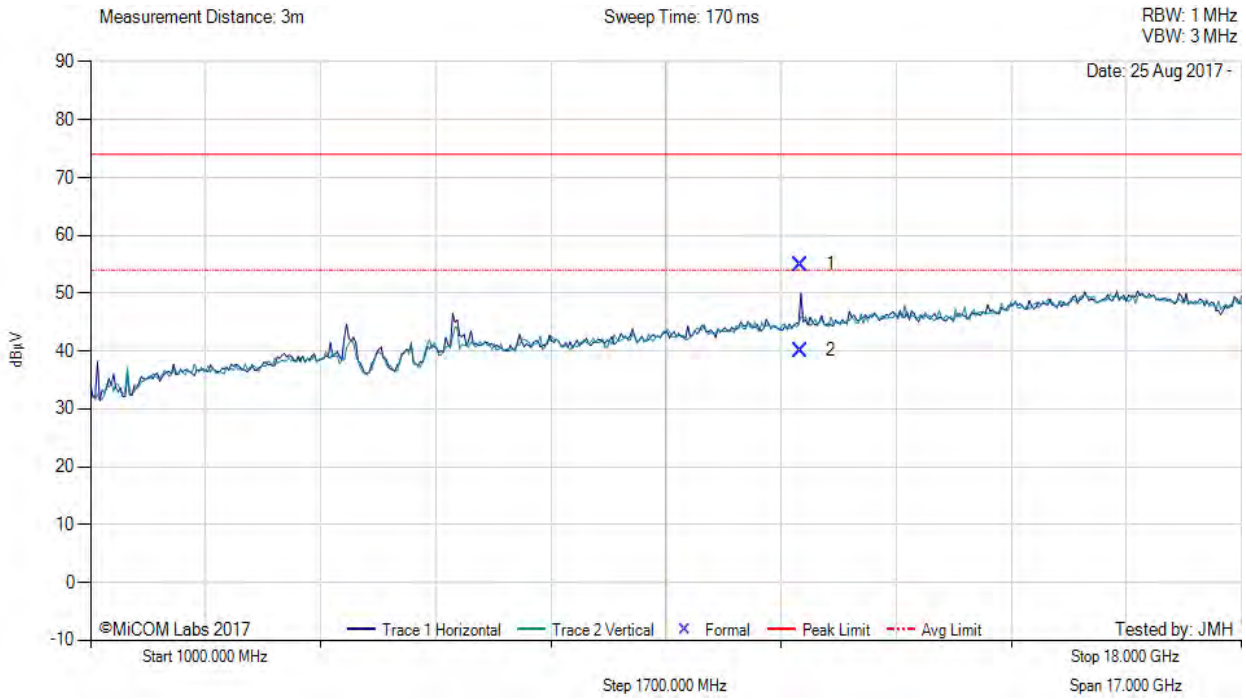
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5239.16	71.43	3.63	-11.37	63.69	Fundamental	Vertical	200	0	--	--	

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: 12, Duty Cycle (%): 99



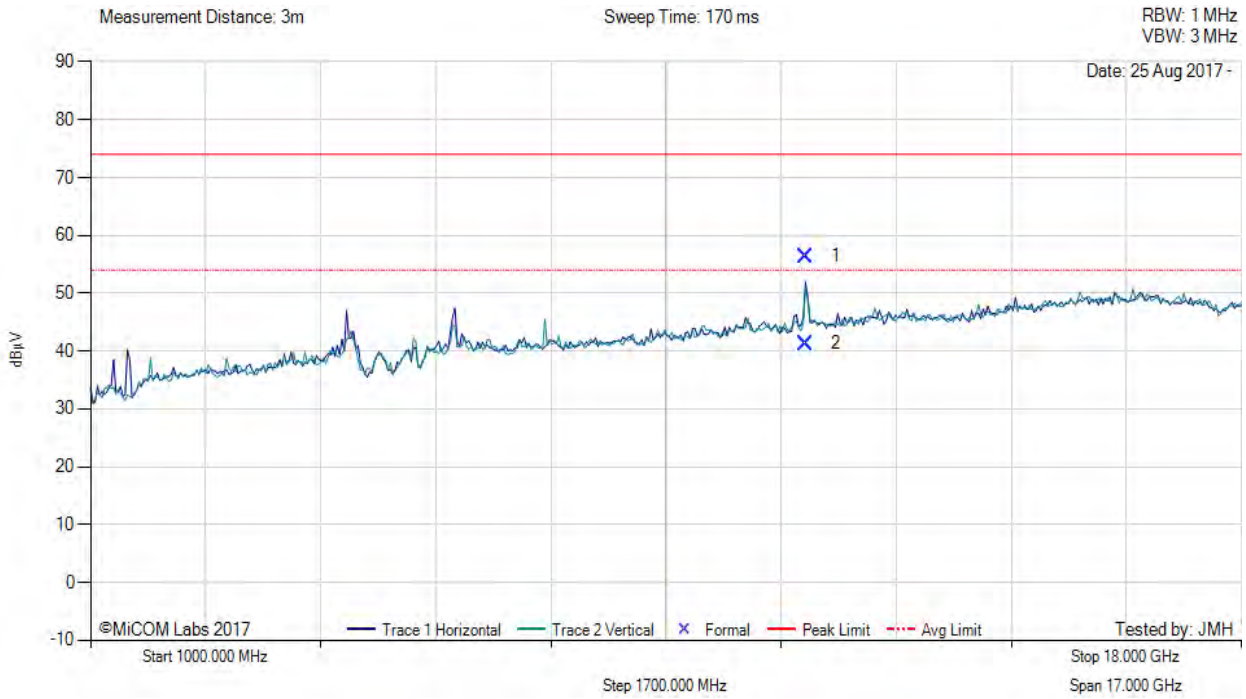
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	11488.75	54.33	5.45	-4.85	54.93	Max Peak	Horizontal	193	6	74.0	-19.1	Pass
2	11488.75	39.49	5.45	-4.85	40.09	Max Avg	Horizontal	193	6	54.0	-13.9	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: 5785.00 MHz, Antenna: 27, Power Setting: 12, Duty Cycle (%): 99



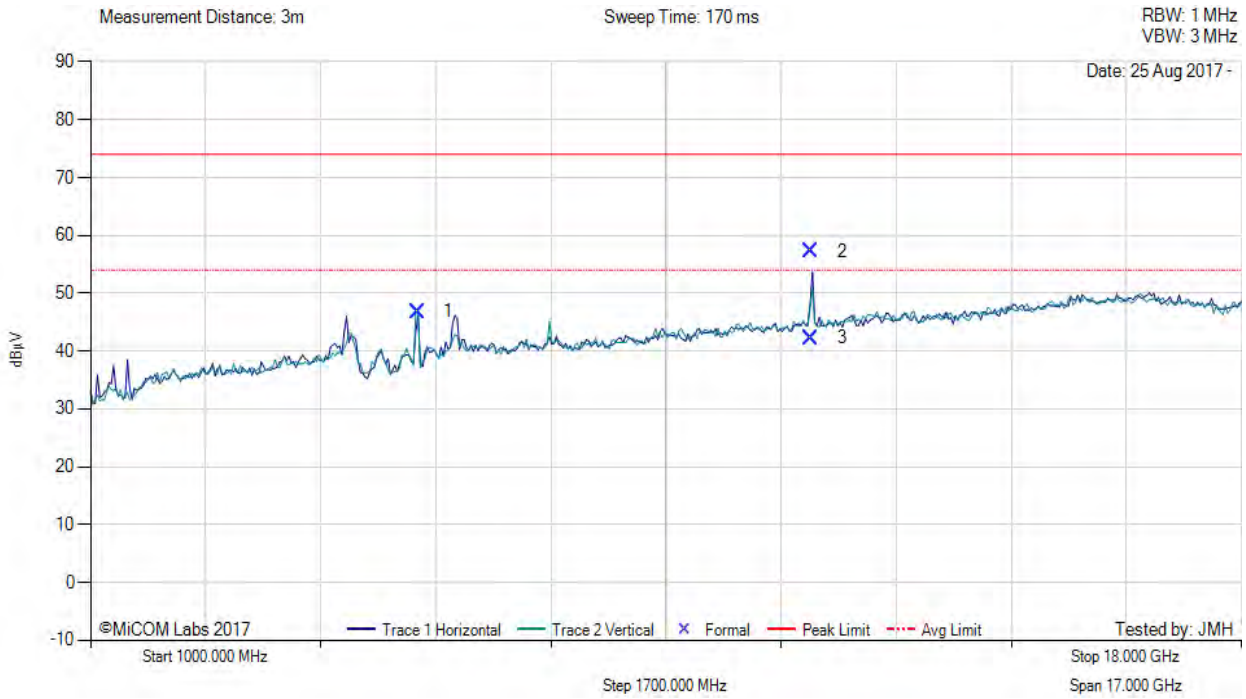
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	11568.47	55.52	5.48	-4.65	56.35	Max Peak	Vertical	194	1	74.0	-17.7	Pass
2	11568.47	40.50	5.48	-4.65	41.33	Max Avg	Vertical	194	1	54.0	-12.7	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: 12, Duty Cycle (%): 99



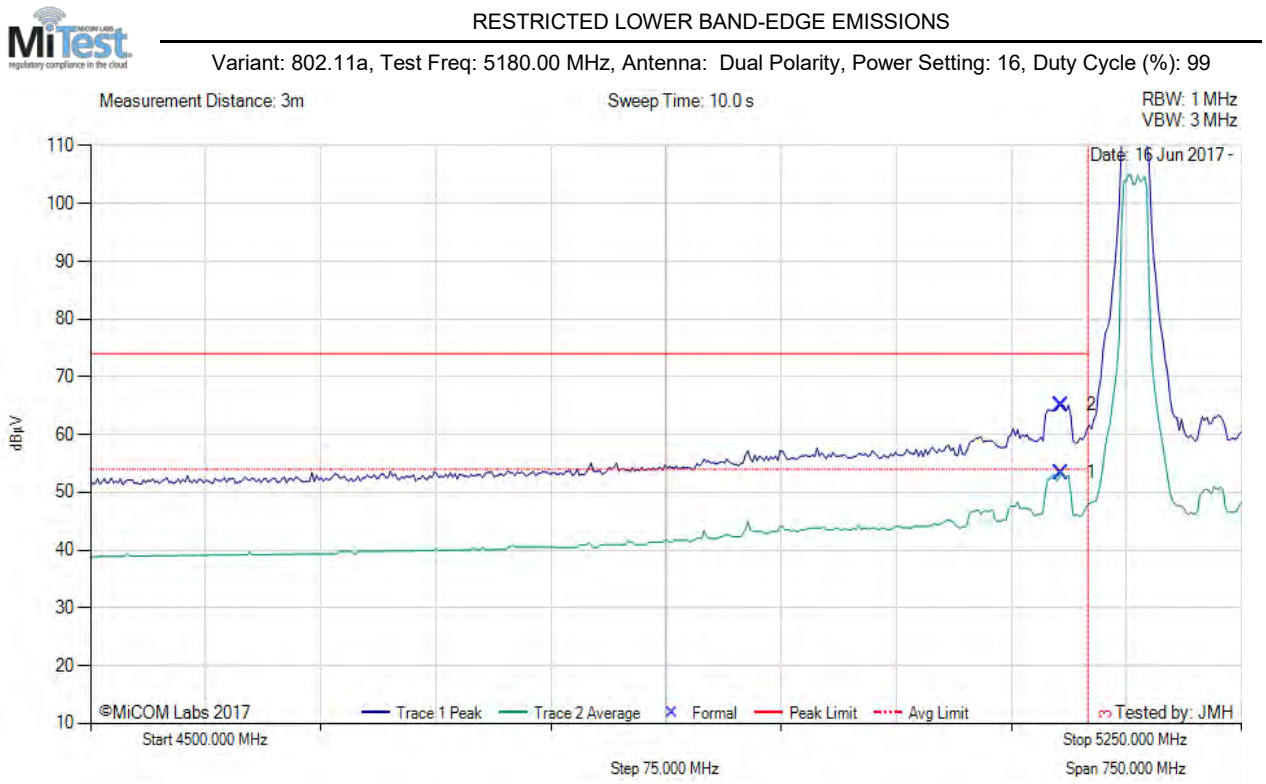
1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5827.93	53.21	3.84	-10.24	46.81	Fundamental	Vertical	200	5	--	--	
2	11648.08	56.20	5.44	-4.47	57.17	Max Peak	Horizontal	195	0	74.0	-16.8	Pass
3	11648.08	41.32	5.44	-4.47	42.29	Max Avg	Horizontal	195	0	54.0	-11.7	Pass

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

back to matrix

A.4.2. Restricted Edge & Band-Edge Emissions

A.4.2.4. 9 dBi Dual Polarity



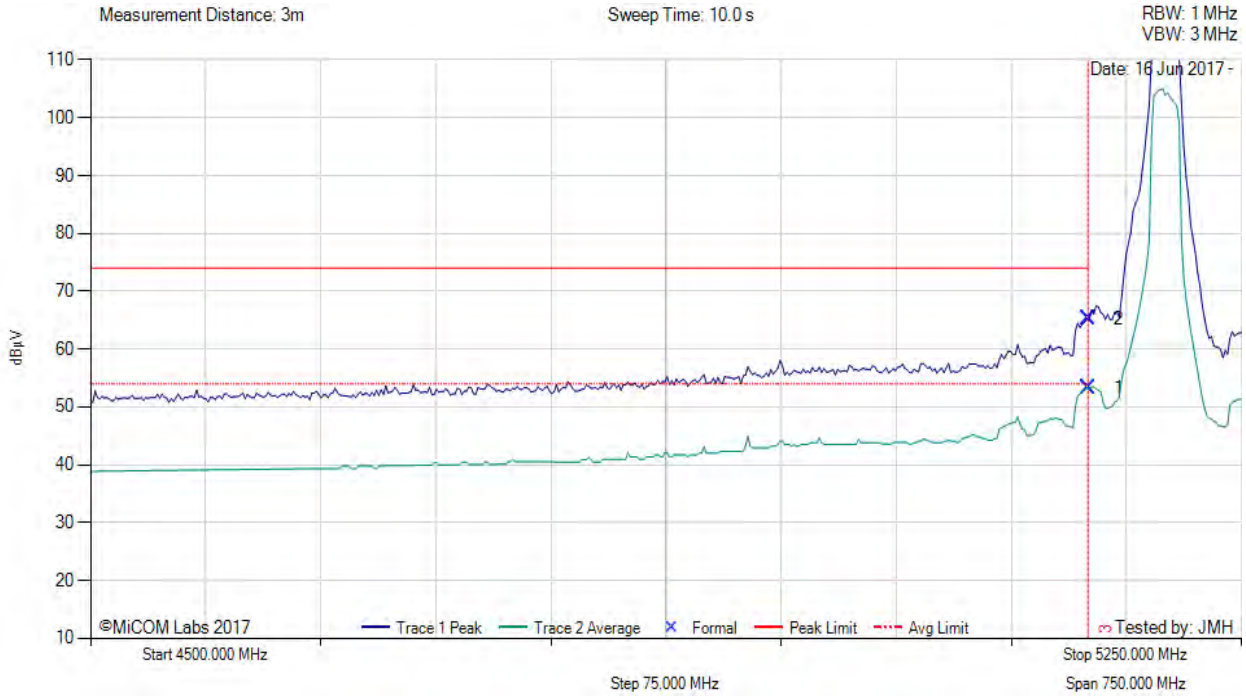
4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5132.77	15.61	3.69	34.12	53.42	Max Avg	Horizontal	103	353	54.0	-0.6	Pass
2	5132.77	27.31	3.69	34.12	65.12	Max Peak	Horizontal	103	353	74.0	-8.9	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: EUT powered by POE injector. Connected 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: 16, Duty Cycle (%): 99



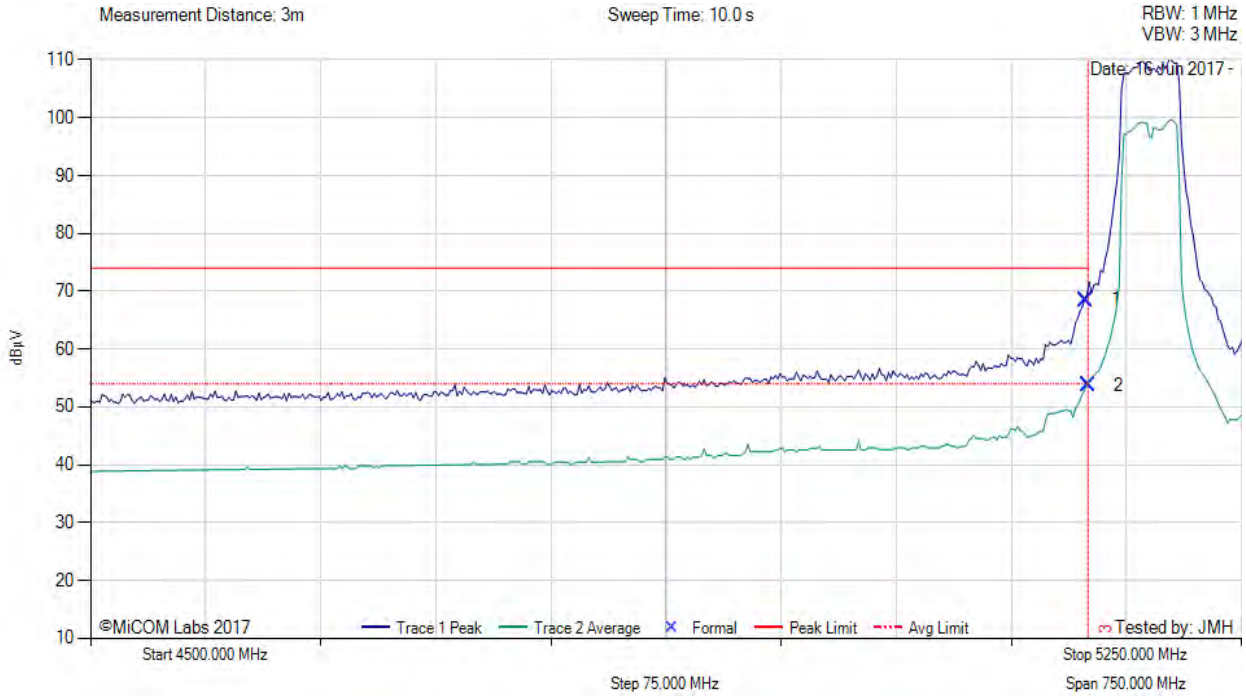
4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5150.00	15.47	3.67	34.11	53.25	Max Avg	Horizontal	103	353	54.0	-0.8	Pass
2	5150.00	27.49	3.67	34.11	65.27	Max Peak	Horizontal	103	353	74.0	-8.7	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: EUT powered by POE injector. Connected 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: 15, Duty Cycle (%): 99



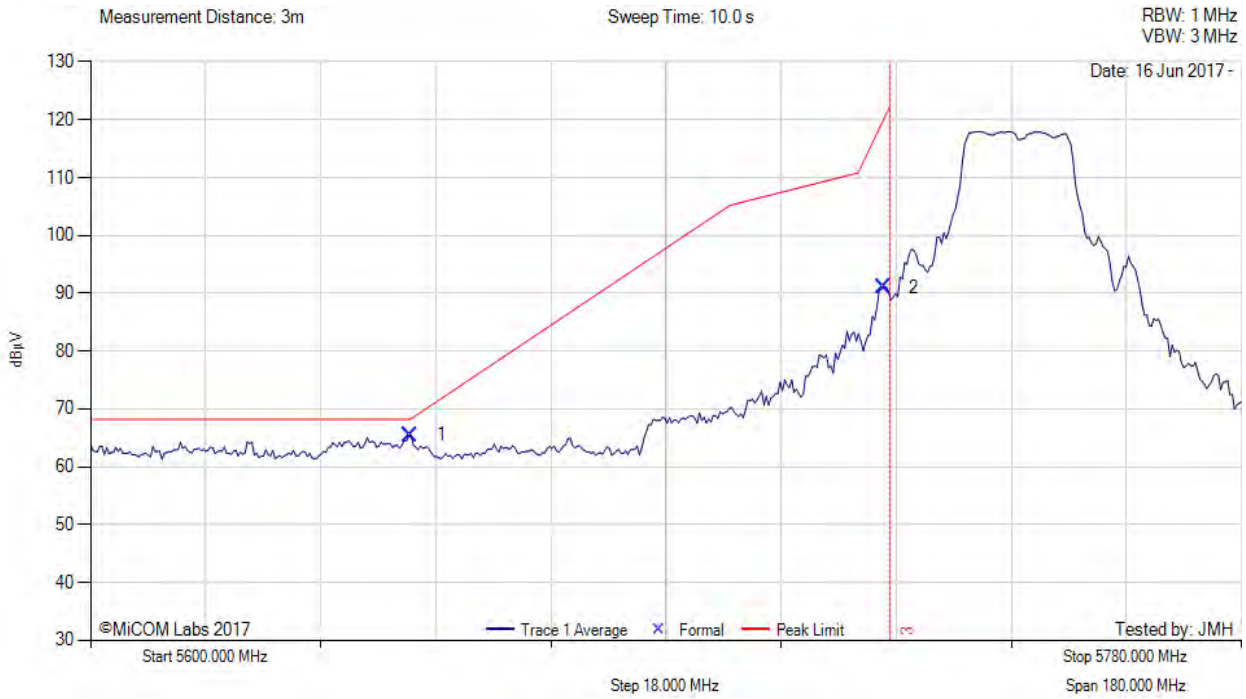
4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5148.50	30.71	3.68	34.11	68.50	Max Peak	Horizontal	103	353	74.0	-5.5	Pass
2	5150.00	15.95	3.67	34.11	53.73	Max Avg	Horizontal	103	353	54.0	-0.3	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: EUT powered by POE injector. Connected to laptop outside chamber.

back to matrix

5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: IC Dual Polarity, Power Setting: 30, Duty Cycle (%): 99



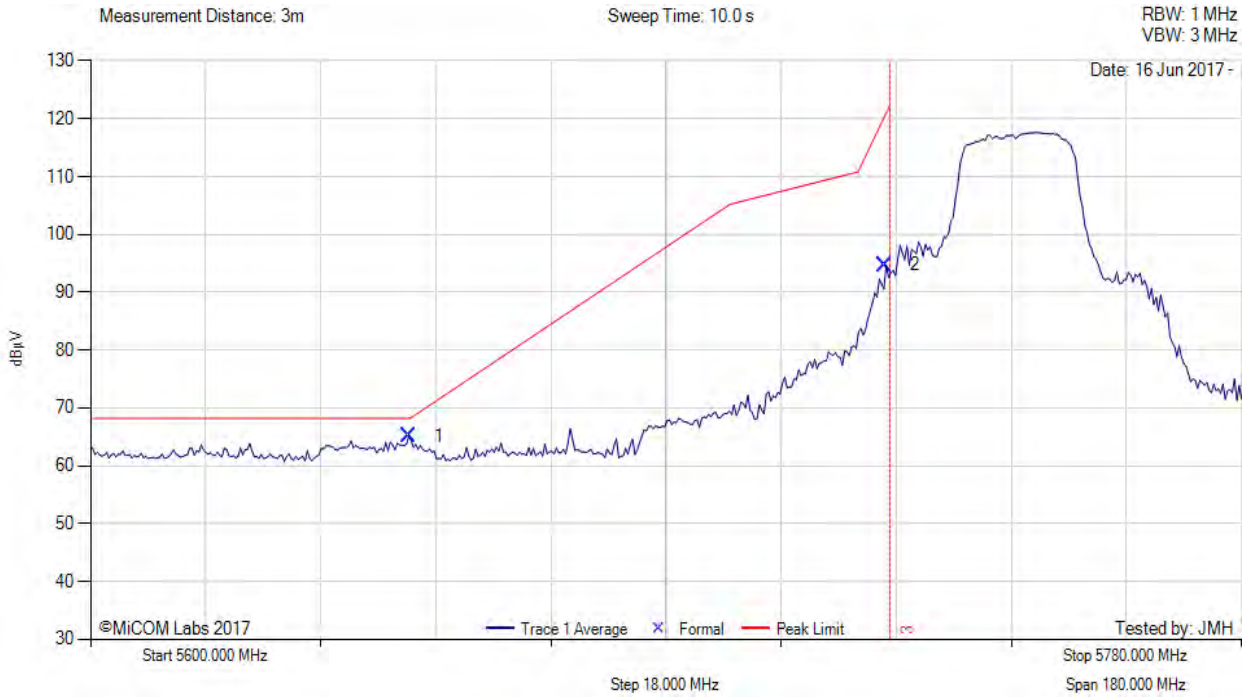
5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5650.07	27.57	3.75	34.18	65.50	Max Peak	Horizontal	124	357	68.2	-2.7	Pass
2	5723.92	52.92	3.79	34.35	91.06	Max Peak	Horizontal	124	357	119.9	-28.9	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE injector. Connected to laptop outside chamber.

back to matrix

5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 5745.00 MHz, Antenna: IC Dual Polarity, Power Setting: 30, Duty Cycle (%): 99



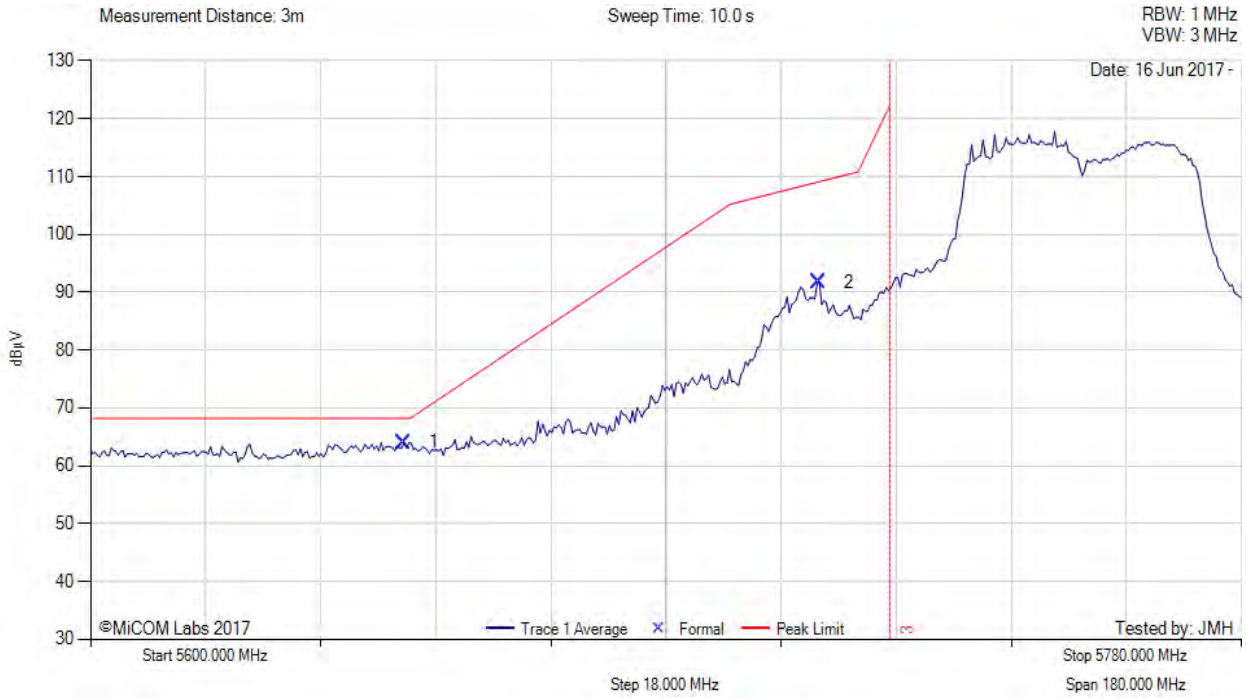
5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5649.71	27.17	3.75	34.18	65.10	Max Peak	Horizontal	124	357	68.2	-3.1	Pass
2	5724.28	56.54	3.79	34.35	94.68	Max Peak	Horizontal	124	357	119.9	-25.2	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE injector. Connected to laptop outside chamber.

back to matrix

5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 5755.00 MHz, Antenna: IC Dual Polarity, Power Setting: 30, Duty Cycle (%): 99



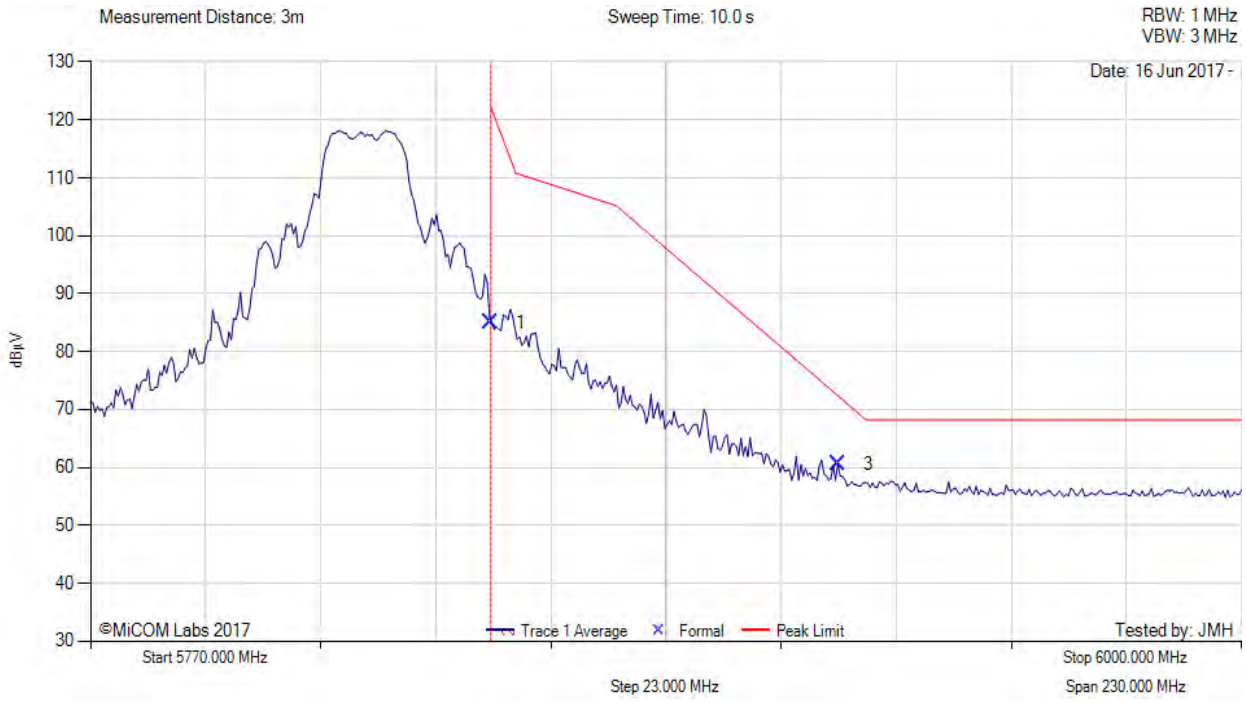
5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5648.99	26.08	3.75	34.18	64.01	Max Peak	Horizontal	124	357	68.2	-4.2	Pass
2	5713.82	53.54	3.82	34.34	91.70	Max Peak	Horizontal	124	357	109.1	-17.4	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE injector. Connected to laptop outside chamber.

back to matrix

5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11a, Test Freq: 5825.00 MHz, Antenna: IC Dual Polarity, Power Setting: 30, Duty Cycle (%): 99



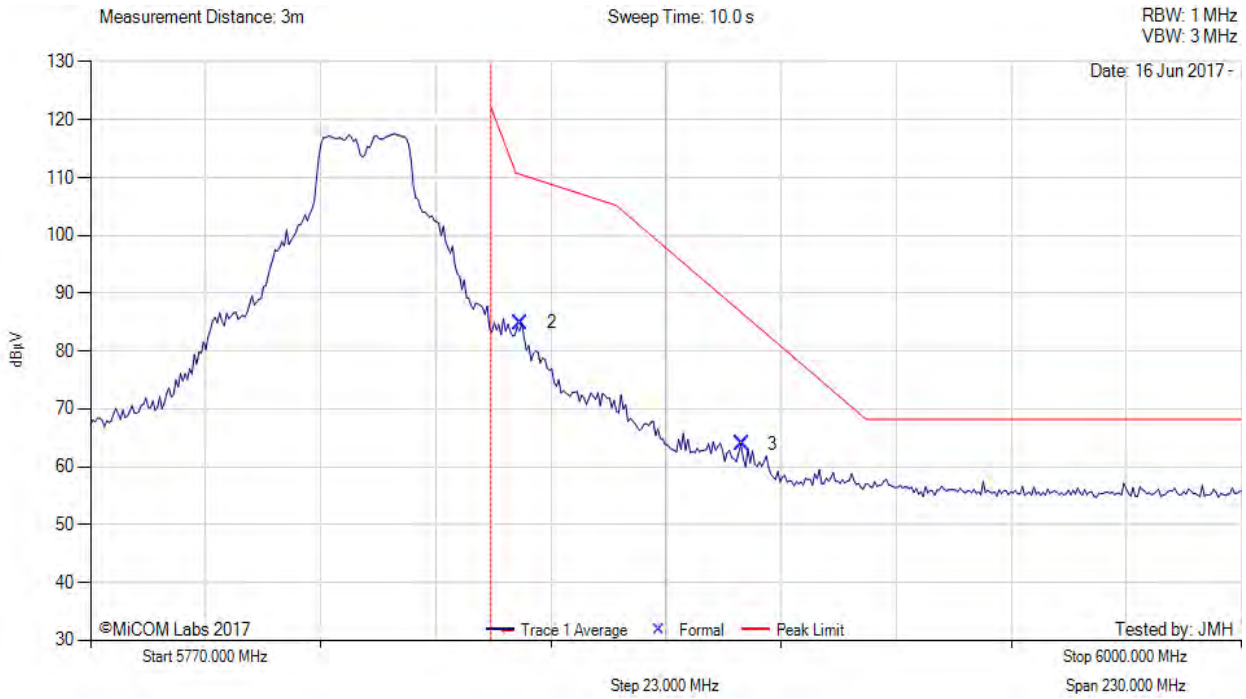
5770.00 - 6000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5850.00	46.55	3.81	34.63	84.99	Max Peak	Horizontal	124	357	122.2	-37.2	Pass
3	5919.46	21.90	3.85	34.81	60.56	Max Peak	Horizontal	124	357	72.6	-12.1	Pass
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE injector. 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: IC Dual Polarity, Power Setting: 30, Duty Cycle (%): 99



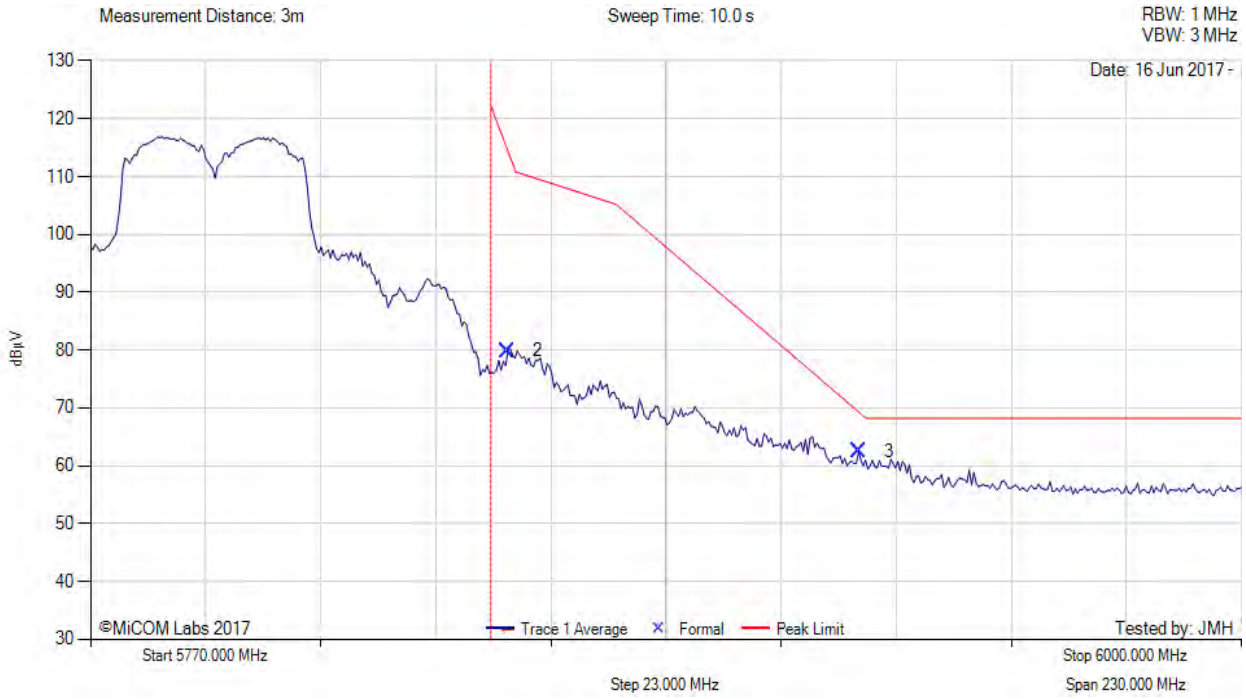
5770.00 - 6000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
2	5855.99	46.43	3.84	34.64	84.91	Max Peak	Horizontal	124	357	110.5	-25.6	Pass
3	5900.10	25.30	3.82	34.77	63.89	Max Peak	Horizontal	124	357	86.7	-22.8	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE injector. 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: IC Dual Polarity, Power Setting: 30, Duty Cycle (%): 99

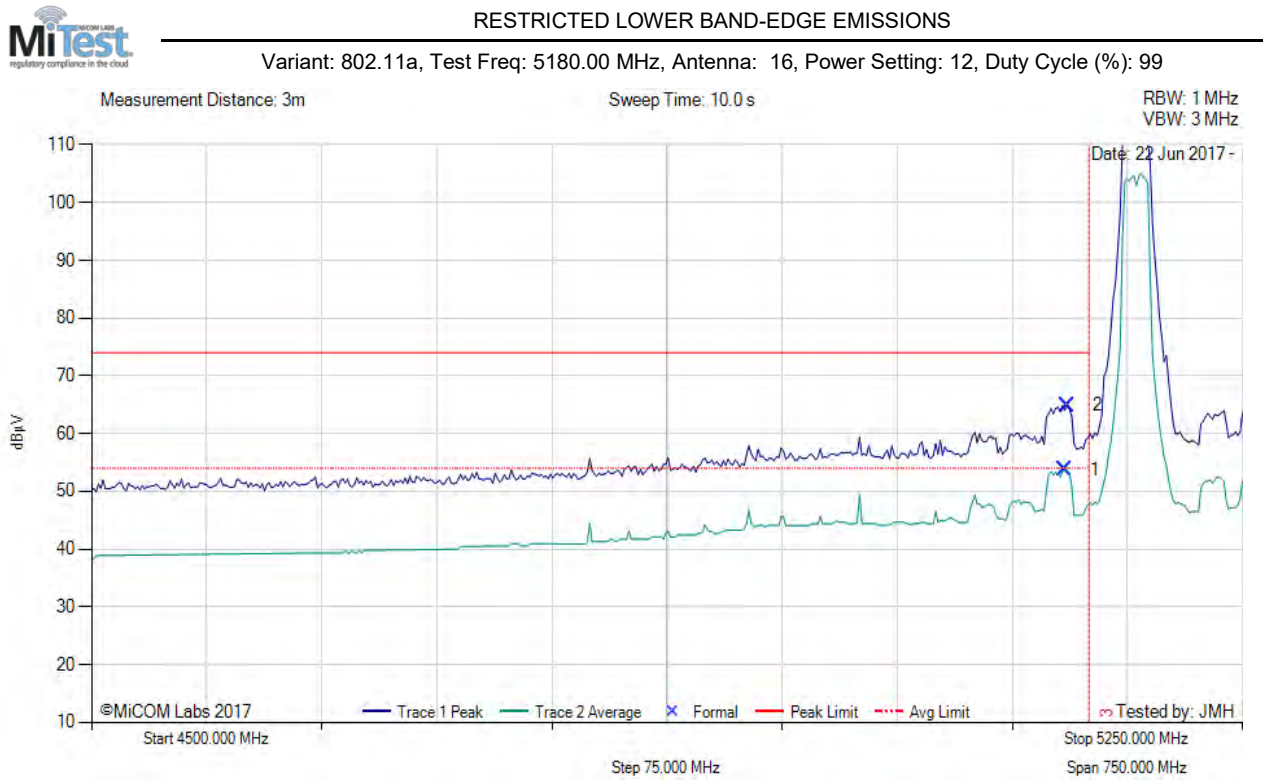


5770.00 - 6000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
2	5853.23	41.44	3.82	34.63	79.89	Max Peak	Horizontal	124	357	115.4	-35.5	Pass
3	5923.61	23.78	3.84	34.82	62.44	Max Peak	Horizontal	124	357	68.9	-6.5	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE injector. Connected to laptop outside chamber.

back to matrix

A.4.2.5. 16 dBi 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	5134.27	15.90	3.69	34.12	53.71	Max Avg	Horizontal	190	2	54.0	-0.3	Pass
2	5135.77	27.12	3.69	34.12	64.93	Max Peak	Horizontal	190	2	74.0	-9.1	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: 12, Duty Cycle (%): 99

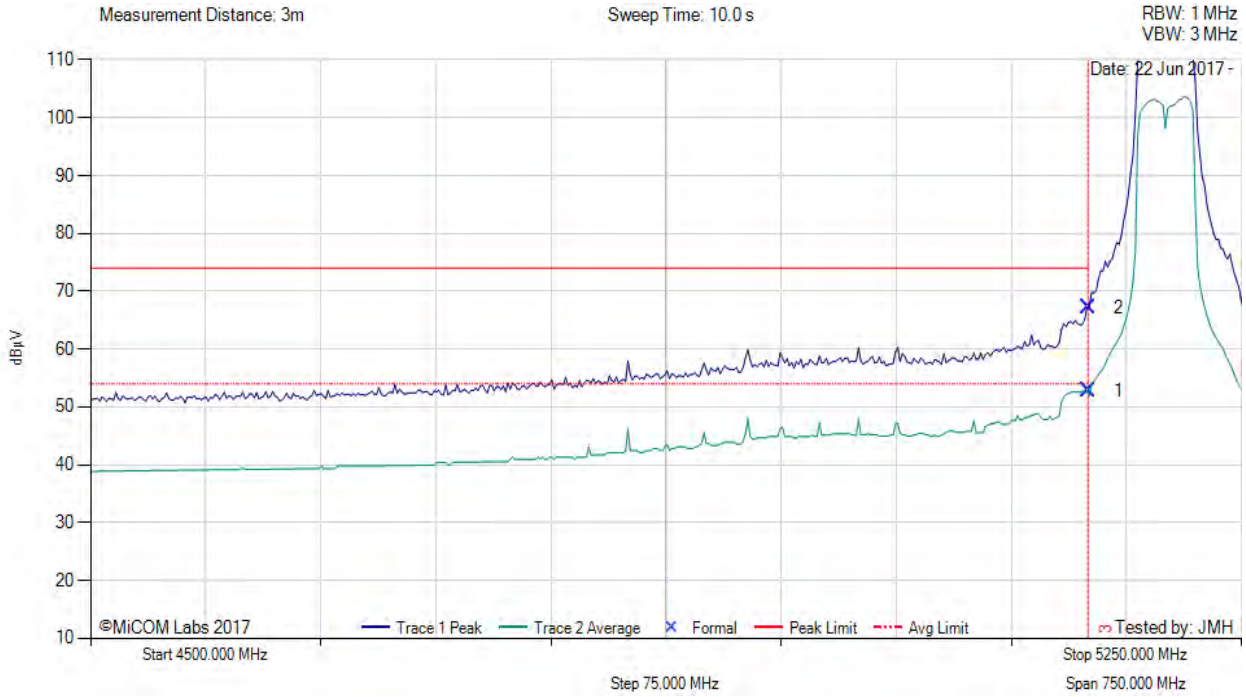
4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5134.27	15.71	3.69	34.12	53.52	Max Avg	Horizontal	190	2	54.0	-0.5	Pass
2	5135.77	26.75	3.69	34.12	64.56	Max Peak	Horizontal	190	2	74.0	-9.4	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: 14, Duty Cycle (%): 99

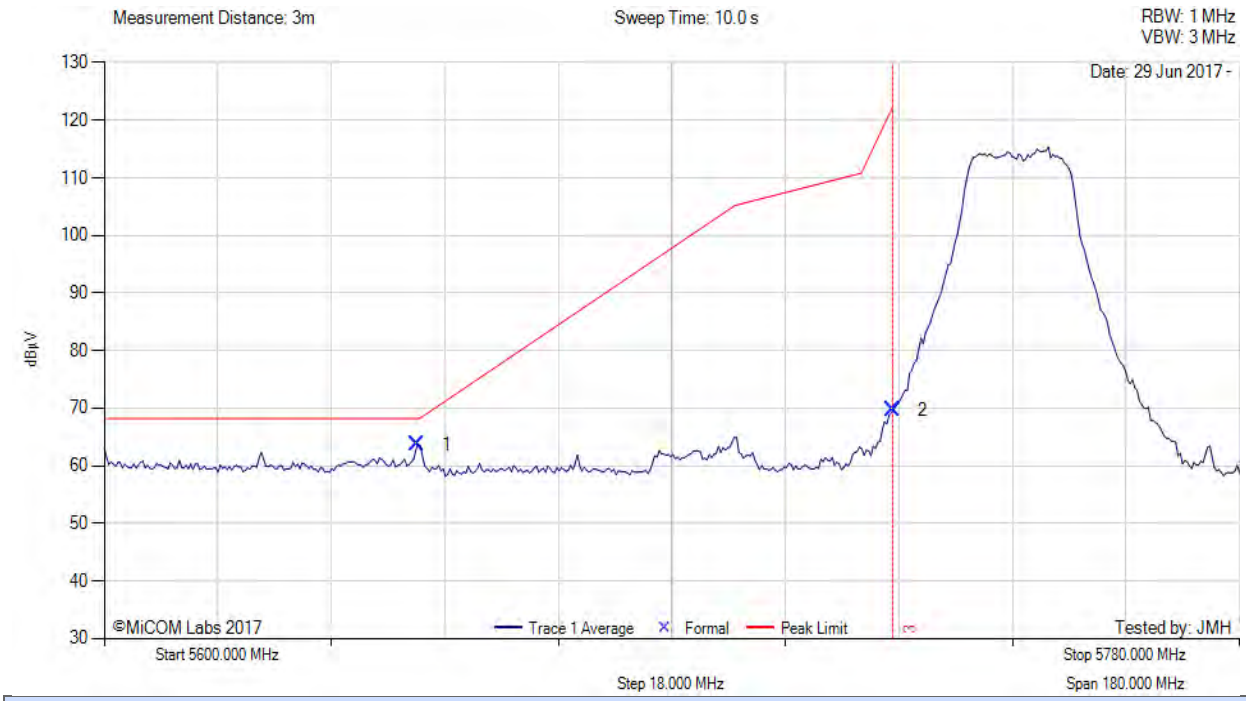


4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5150.00	15.07	3.67	34.11	52.85	Max Avg	Horizontal	190	2	54.0	-1.2	Pass
2	5150.00	29.43	3.67	34.11	67.21	Max Peak	Horizontal	190	2	74.0	-6.8	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

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

back to matrix

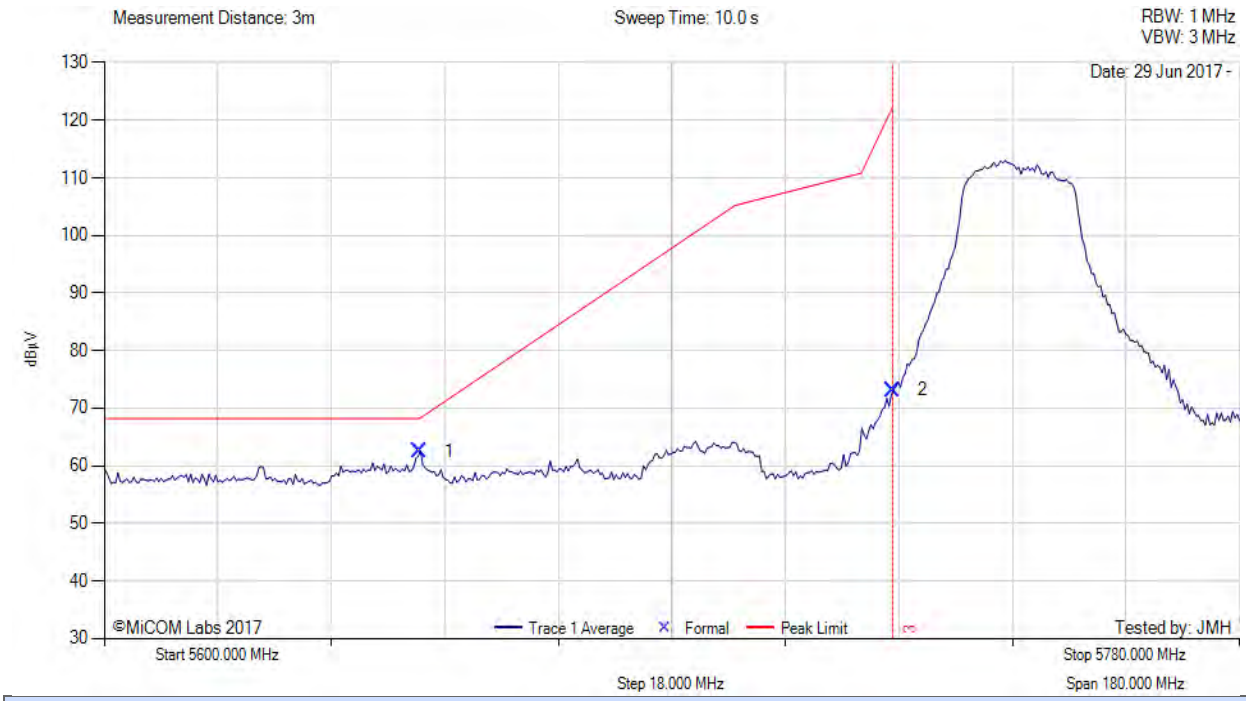
Variant: , Test Freq:5745.00 MHz, Power Setting: 16, Duty Cycle (%): 99



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	5649.61	25.82	3.75	34.18	63.75	Max Peak	Vertical	132	1	68.2	-4.5	Pass
2	5725.00	31.57	3.79	34.35	69.71	Max Peak	Vertical	132	1	122.2	-52.5	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber												

back to matrix

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



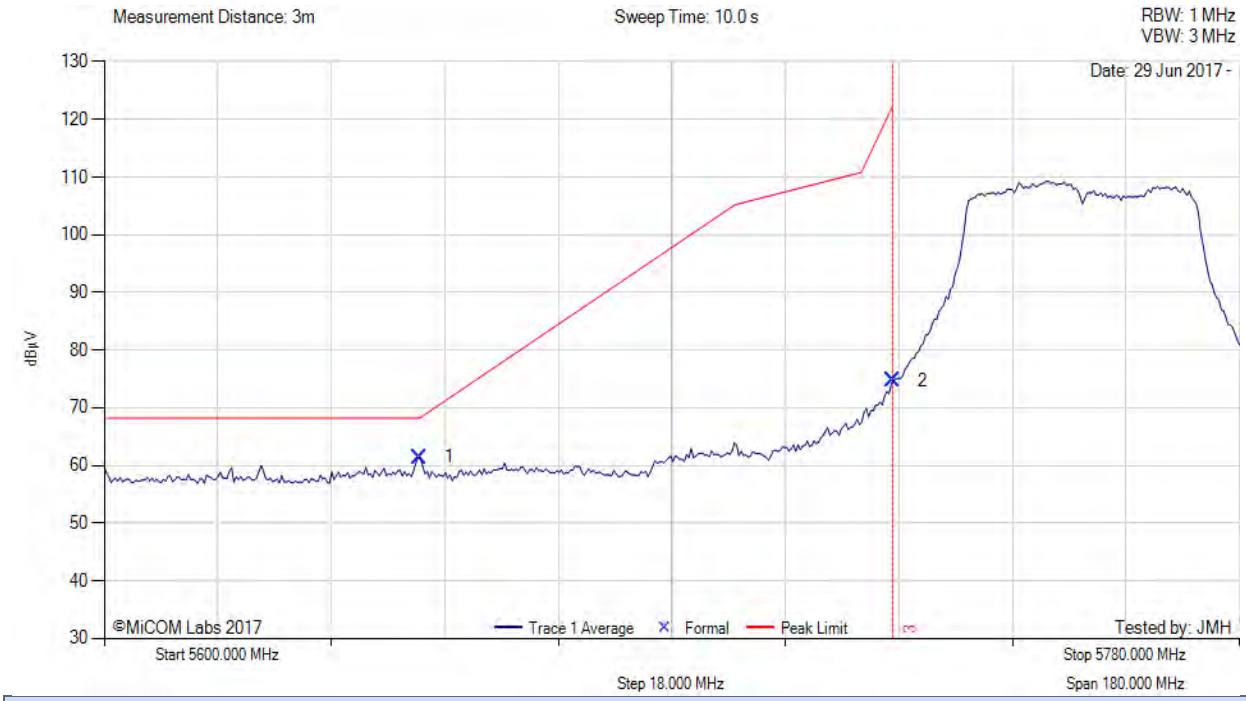
5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5649.97	24.64	3.75	34.18	62.57	Max Peak	Horizontal	132	1	68.2	-5.7	Pass
2	5725.00	35.05	3.79	34.35	73.19	Max Peak	Horizontal	132	1	122.2	-49.0	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: 16, Duty Cycle (%): 99

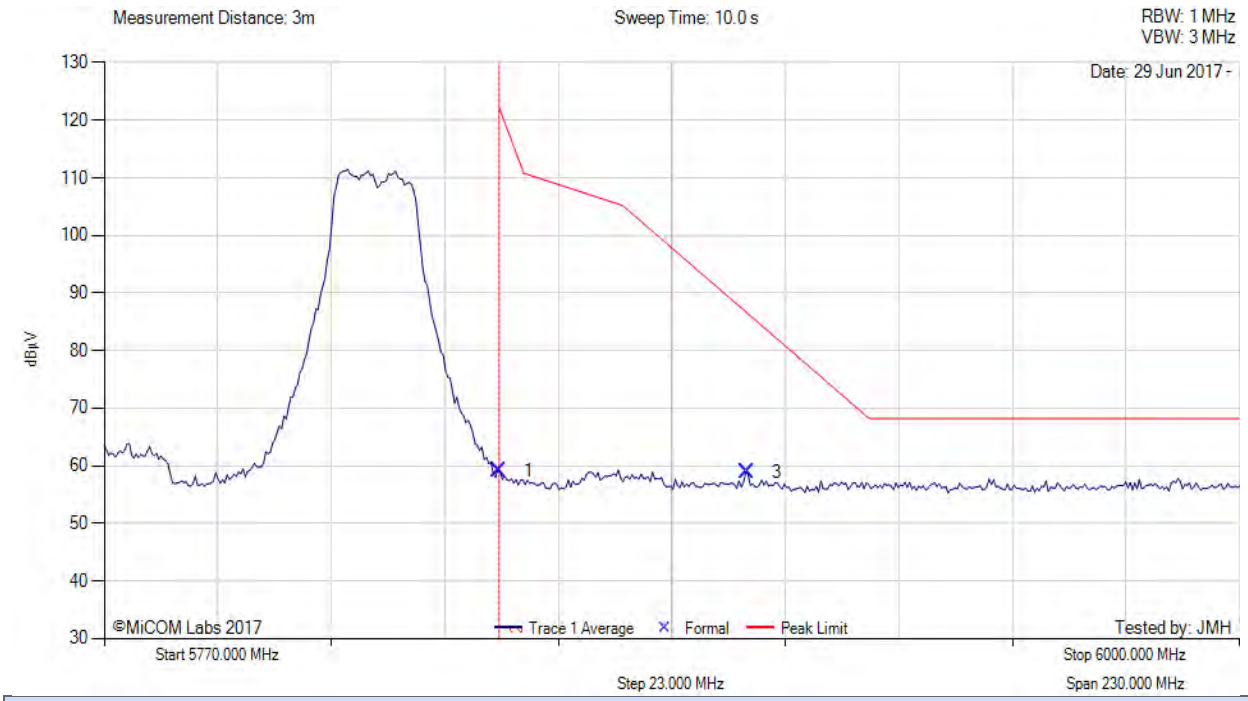


5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5649.97	23.46	3.75	34.18	61.39	Max Peak	Horizontal	132	1	68.2	-6.8	Pass
2	5725.00	36.59	3.79	34.35	74.73	Max Peak	Horizontal	132	1	122.2	-47.5	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

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

back to matrix

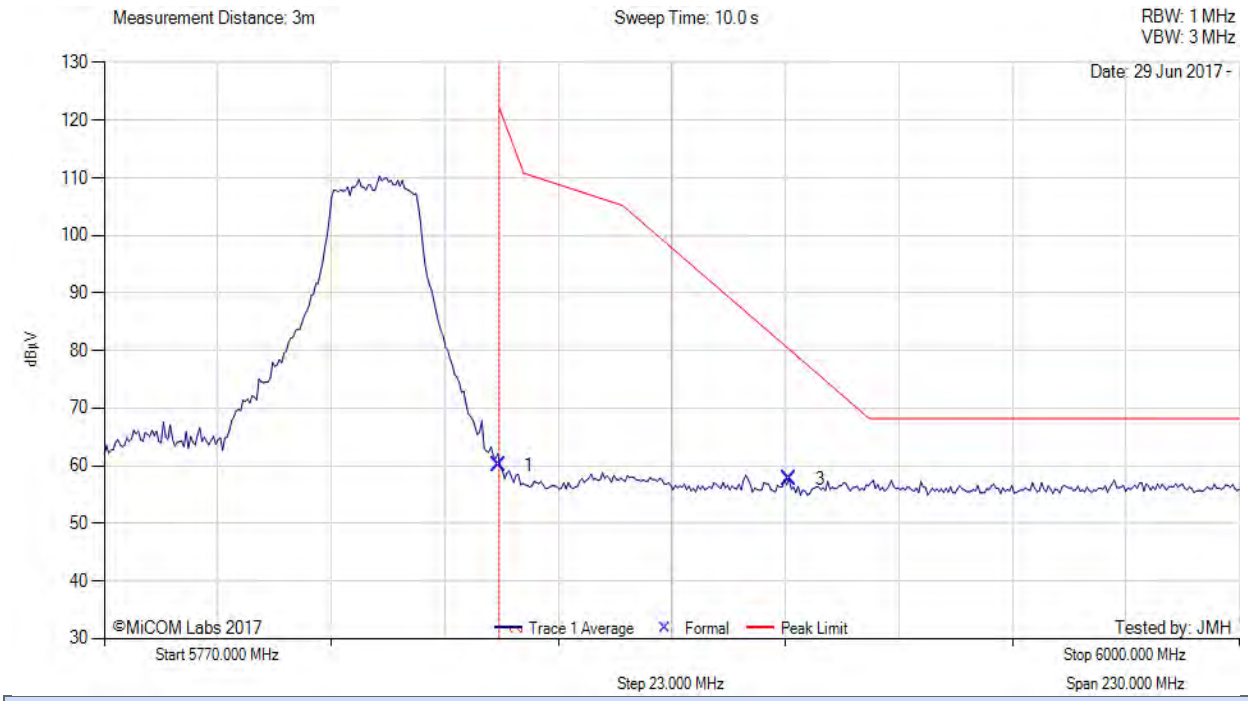
Variant: , Test Freq: 5825.00 MHz, Power Setting: 16, Duty Cycle (%): 99



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	20.69	3.81	34.63	59.13	Max Peak	Horizontal	132	1	122.2	-63.1	Pass
3	5900.10	20.32	3.82	34.77	58.91	Max Peak	Horizontal	132	1	86.7	-27.8	Pass
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber												

back to matrix

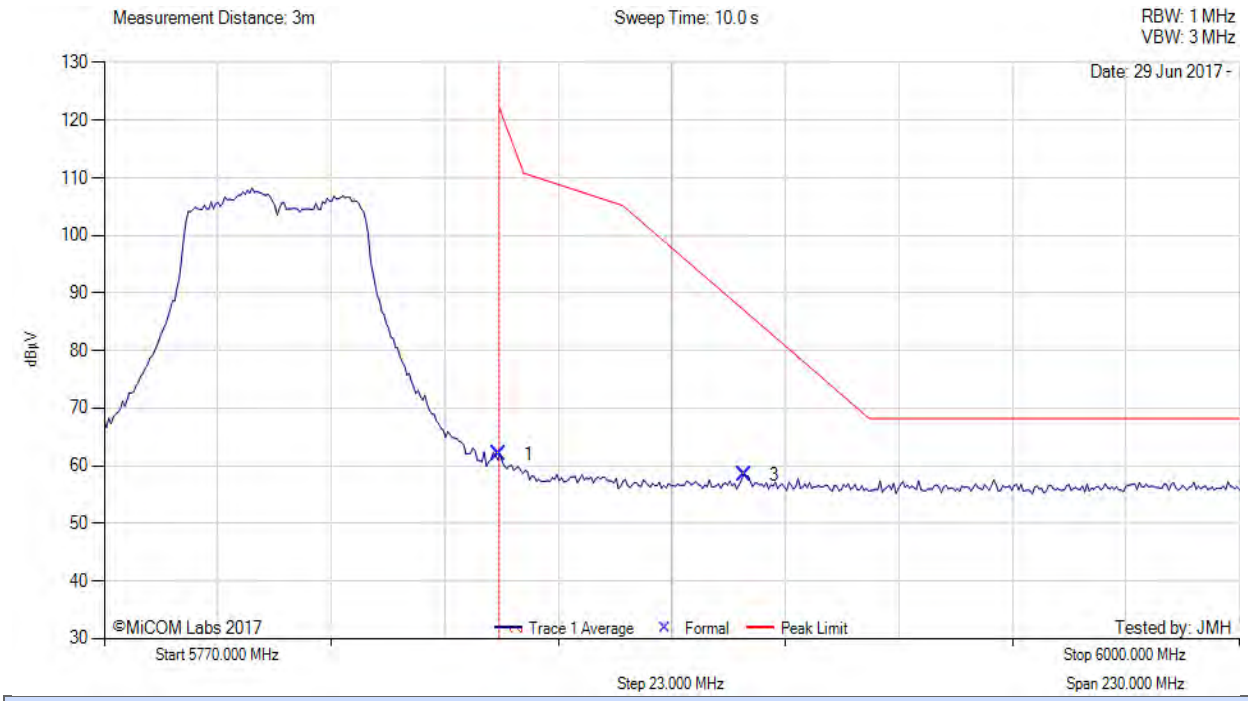
Variant: , Test Freq: 5825.00 MHz, Power Setting: 16, Duty Cycle (%): 99



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	21.66	3.81	34.63	60.10	Max Peak	Horizontal	132	1	122.2	-62.1	Pass
3	5908.86	19.15	3.83	34.79	57.77	Max Peak	Horizontal	132	1	80.0	-22.3	Pass
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber												

back to matrix

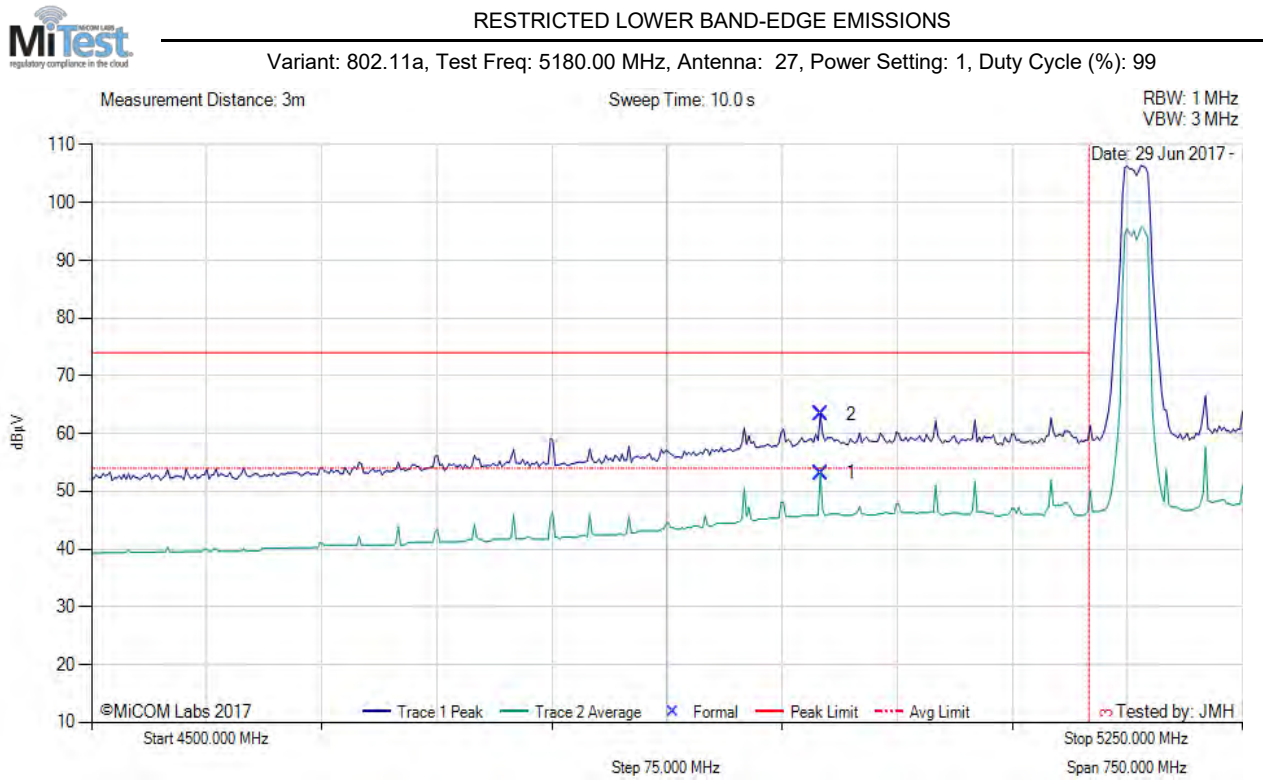
Variant: 802.11n HT-40, Test Freq: 5795.00 MHz, Power Setting: 16, Duty Cycle (%): 99



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	23.64	3.81	34.63	62.08	Max Peak	Horizontal	132	1	122.2	-60.1	Pass
3	5899.64	19.89	3.82	34.77	58.48	Max Peak	Horizontal	132	1	86.7	-28.2	Pass
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by POE, connected to laptop outside chamber												

back to matrix

A.4.2.6. 27 dBi Dish Antenna



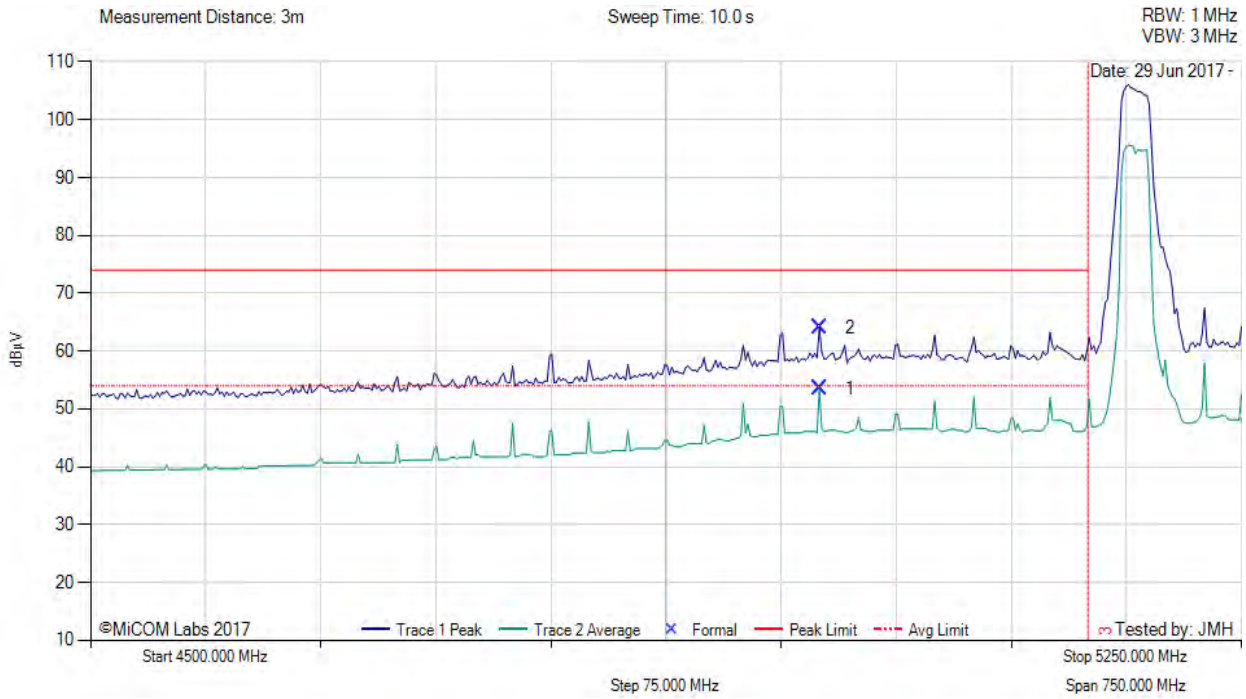
4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	4974.95	15.29	3.62	34.25	53.16	Max Avg	Horizontal	184	0	54.0	-0.8	Pass
2	4974.95	25.41	3.62	34.25	63.28	Max Peak	Horizontal	184	0	74.0	-10.7	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: 1, Duty Cycle (%): 99



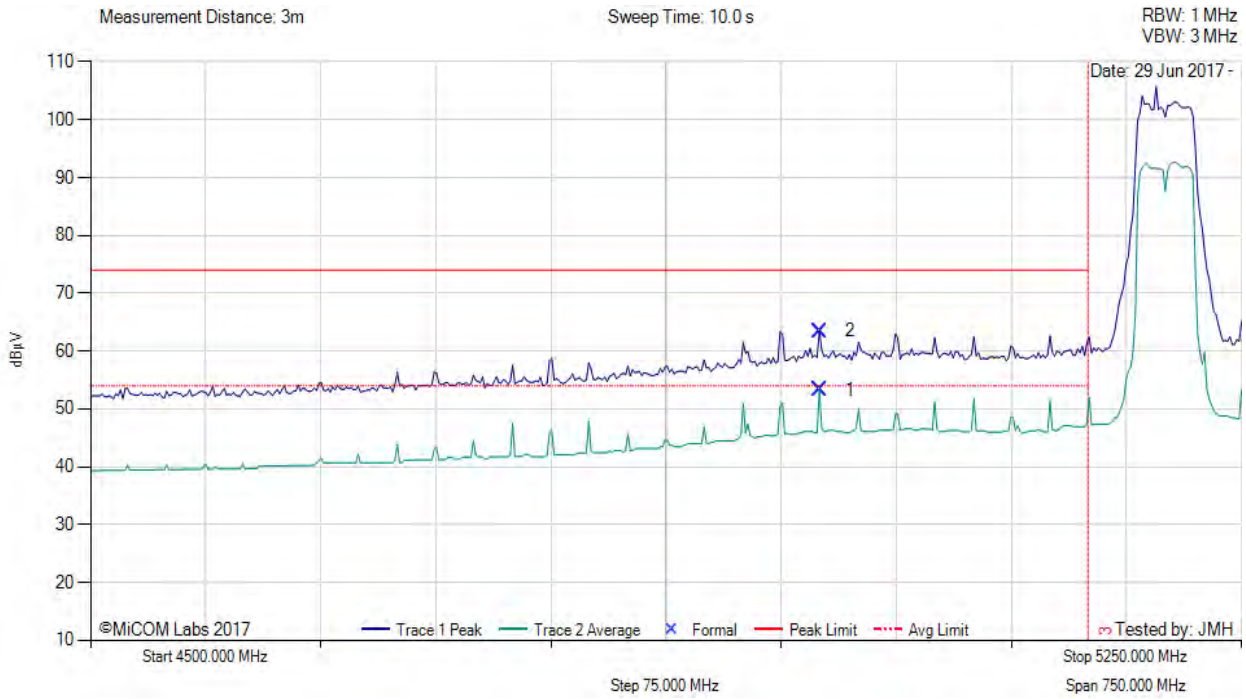
4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	4974.95	15.68	3.62	34.25	53.55	Max Avg	Horizontal	184	0	54.0	-0.5	Pass
2	4974.95	26.14	3.62	34.25	64.01	Max Peak	Horizontal	184	0	74.0	-10.0	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-40, Test Freq: 5190.00 MHz, Antenna: 27, Power Setting: 4, Duty Cycle (%): 99

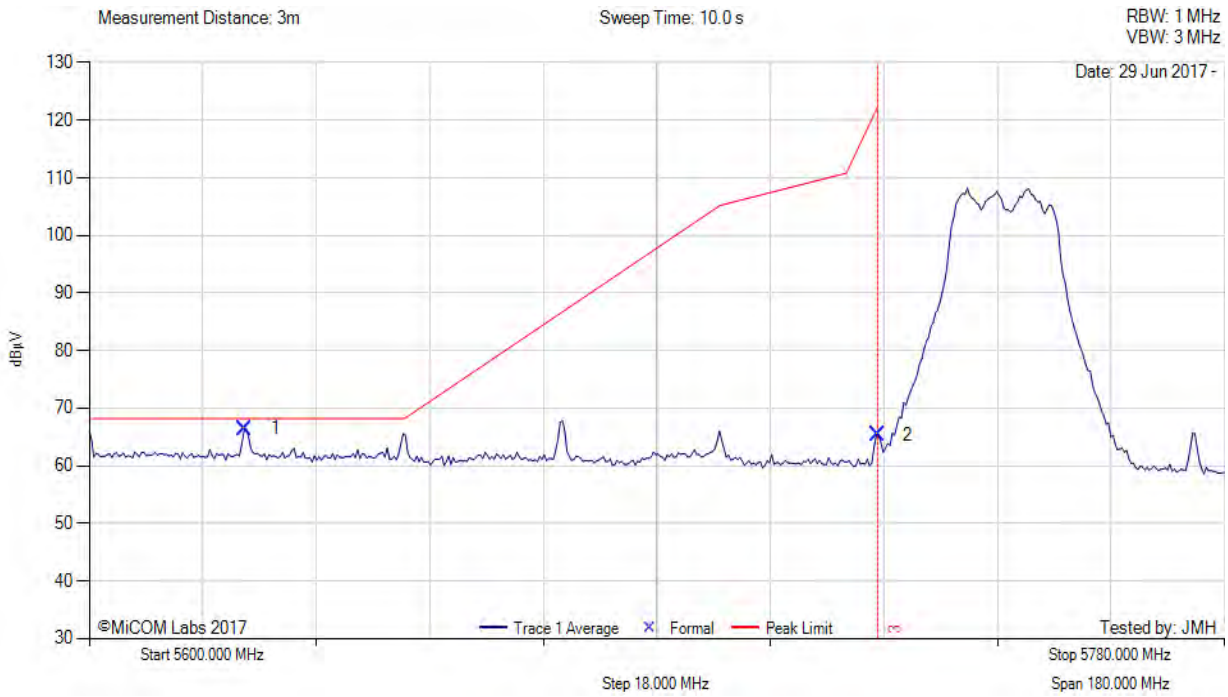


4500.00 - 5250.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	4974.95	15.39	3.62	34.25	53.26	Max Avg	Horizontal	184	0	54.0	-0.7	Pass
2	4974.95	25.59	3.62	34.25	63.46	Max Peak	Horizontal	184	0	74.0	-10.5	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

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

back to matrix

Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: IC MikroTik27, Power Setting: 12, Duty Cycle (%): 99



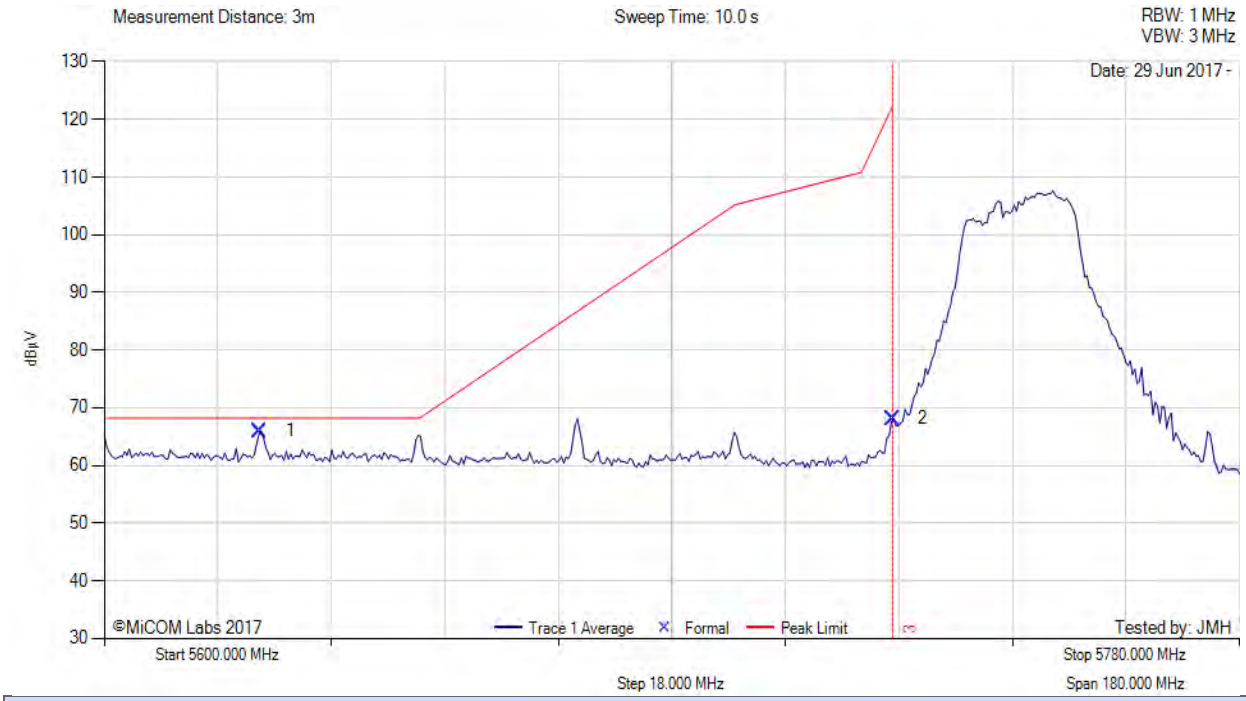
5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5624.72	28.52	3.76	34.21	66.49	Max Peak	Horizontal	183	0	68.2	-1.7	Pass
2	5725.00	27.29	3.79	34.35	65.43	Max Peak	Horizontal	183	0	122.2	-56.8	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: 12, Duty Cycle (%): 99

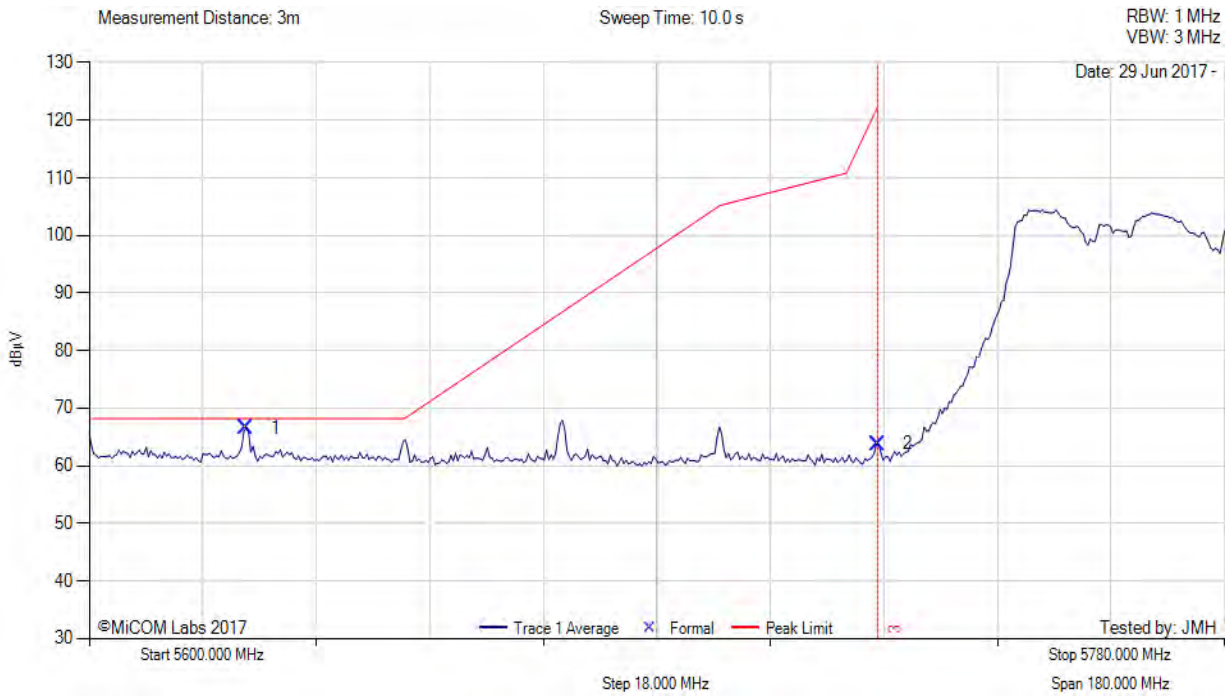


5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5624.72	28.04	3.76	34.21	66.01	Max Peak	Horizontal	183	0	68.2	-2.2	Pass
2	5725.00	30.00	3.79	34.35	68.14	Max Peak	Horizontal	183	0	122.2	-54.1	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

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

back to matrix

Variant: 802.11n HT-40, Test Freq: 5755.00 MHz, Antenna: IC MikroTik27, Power Setting: 12, Duty Cycle (%): 99



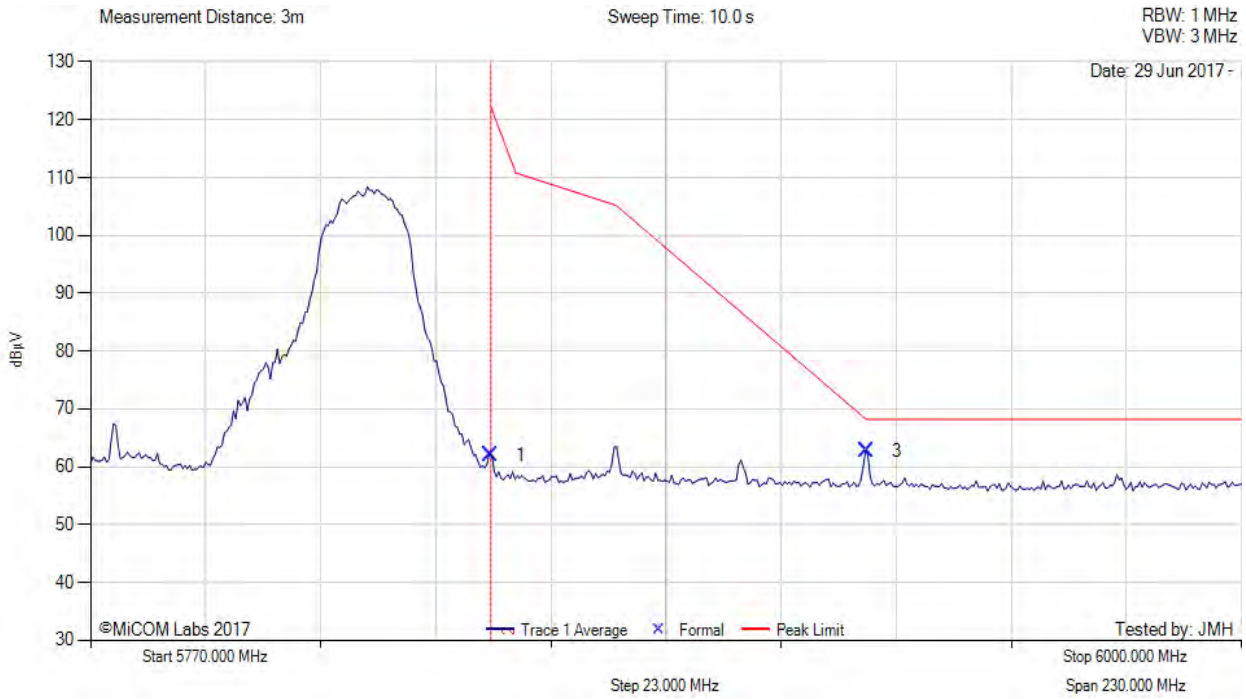
5600.00 - 5780.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5624.89	28.66	3.76	34.21	66.63	Max Peak	Horizontal	183	0	68.2	-1.6	Pass
2	5725.00	25.64	3.79	34.35	63.78	Max Peak	Horizontal	183	0	122.2	-58.4	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: , Test Freq: 0.00 MHz, Antenna: MikroTik MikroTik27, Power Setting: 12, Duty Cycle (%): 99

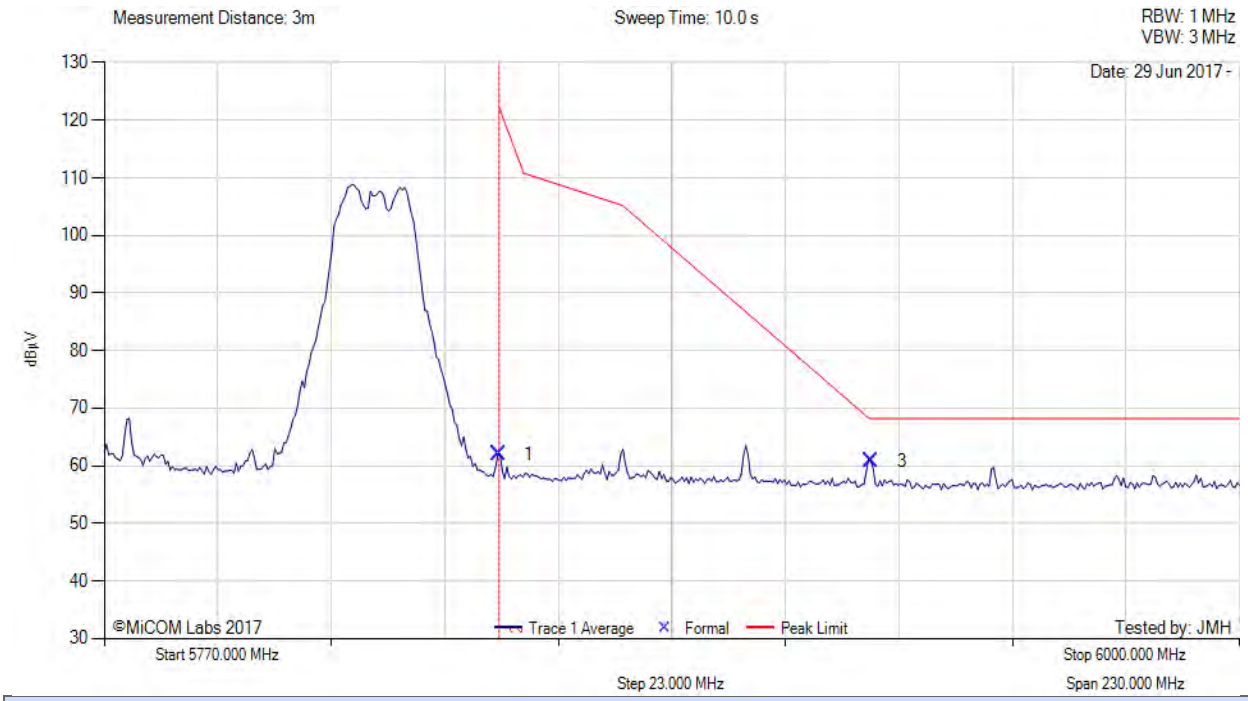


5770.00 - 6000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5850.00	23.64	3.81	34.63	62.08	Max Avg	Horizontal	183	0	68.2	-6.2	Pass
3	5924.99	24.07	3.84	34.82	62.73	Max Avg	Horizontal	183	0	86.0	-23.2	Pass
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

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

back to matrix

Variant: 802.11a, Test Freq: 5825.00 MHz, Antenna: IC MikroTik27, Power Setting: 12, Duty Cycle (%): 99



5770.00 - 6000.00 MHz

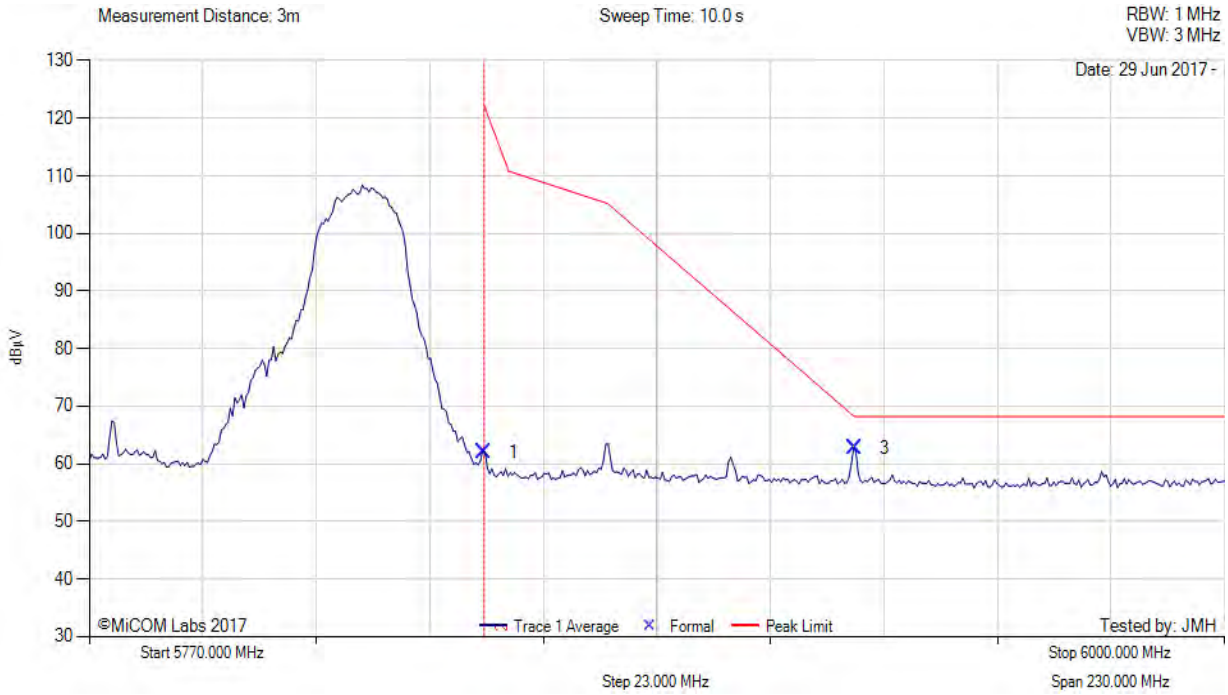
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5850.00	23.58	3.81	34.63	62.02	Max Peak	Horizontal	183	0	122.2	-60.2	Pass
3	5925.45	22.17	3.84	34.82	60.83	Max Peak	Horizontal	183	0	68.2	-1.5	Pass
2	5850.00	--	--	--	--	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-20, Test Freq: 5825.00 MHz, Antenna: IC MikroTik27, Power Setting: 12, Duty Cycle (%): 99



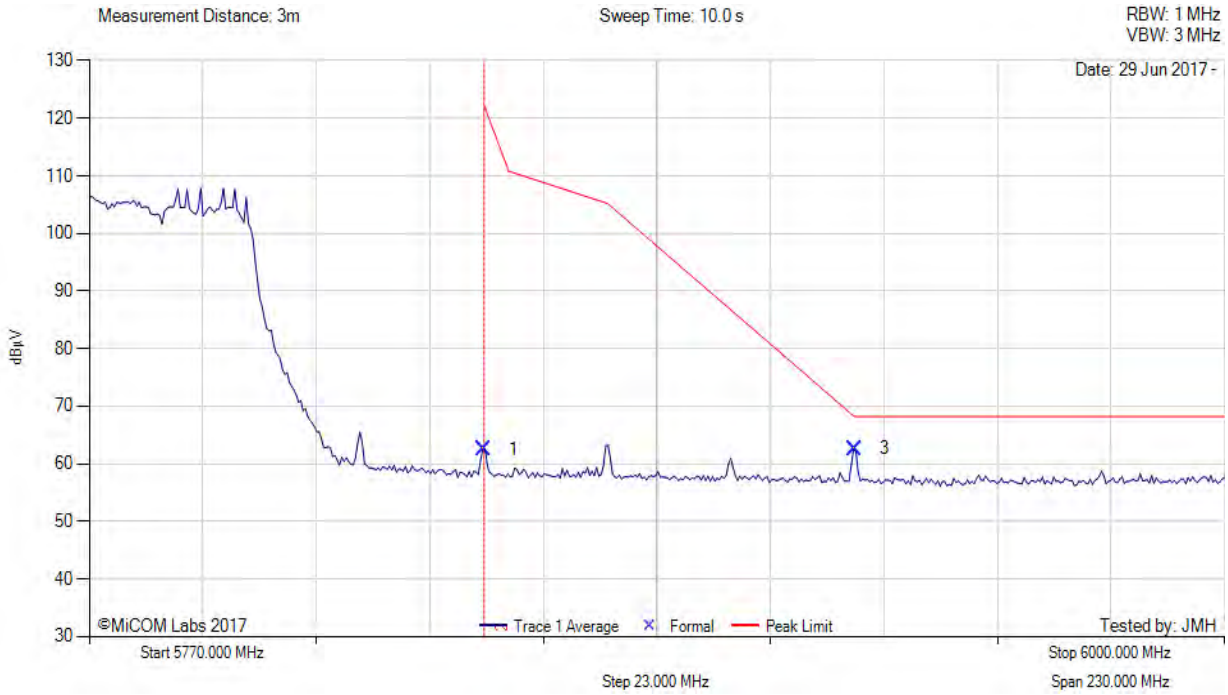
5770.00 - 6000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5850.00	23.64	3.81	34.63	62.08	Max Peak	Horizontal	183	0	122.2	-60.2	Pass
3	5924.99	24.07	3.84	34.82	62.73	Max Peak	Horizontal	183	0	68.2	-5.0	Pass
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

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

back to matrix

5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 5795.00 MHz, Antenna: IC MikroTik27, Power Setting: 12, 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	24.12	3.81	34.63	62.56	Max Peak	Horizontal	183	0	122.2	-59.7	Pass
3	5924.99	23.94	3.84	34.82	62.60	Max Peak	Horizontal	183	0	68.2	-5.6	Pass
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

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

back to matrix

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