Company: Aruba Networks, Inc.

Test of: APIN0204, APIN0205
To: FCC CFR 47 Part 15 Subpart E 15.407

Report No.: ARUB206–U5 Rev A

CONDUCTED, RADIATED TEST REPORT

CONDUCTED, RADIATED TEST REPORT

FROM

Test of: Aruba Networks, Inc. APIN0204, APIN025
to

To: FCC CFR 47 Part 15 Subpart E 15.407

Test Report Serial No.: ARUB206–U5 Rev A

This report supersedes: NONE

Applicant:	Aruba Networks, Inc. 1344 Crossman Ave. Sunnyvale, California,94089 USA
Product Function:	Wireless Access Point
Issue Date:	27th April 2015

This Test Report is Issued Under the Authority of:

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

TESTING CERT #2381.01

MiCOM Labs is an ISO 17025 Accredited Testing Laboratory

Table of Contents

1. ACCREDITATION, LISTINGS & RECOGNITION

1.1. Testing Accreditation

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

ilac-MRA A2LA

Accredited Laboratory

A2LA has accredited

MICOM LABS

Pleasanton, CA

for technical competence in the field of

Electrical Testing

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

Presented this 28th day of February 2014.

President & CEO
For the Accreditation Council
Certificate Number 2381.01
Valid to December 31, 2015
Revised November 18, 2015

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 28th day of February 2014.

President & CEO
For the Accreditation Council
Certificate Number 2381.02
Valid to December 31, 2015
Revised November 18, 2015

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	30th December 2015	Document updated to take into account FCC new rules; 1).. increased power 5150 – 5250 MHz 2).. introduced 5725 – 5850 MHz into UNII band 3).. additional channel(s) straddling the 5725 MHz band-edge frequency
Rev A	27th April 2016	New FCC Rules Release
This document was originally under MiCOM Labs tracker ARUB170-U6.		
Rev A	4th May 2014	Initial Release

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

3. TEST RESULT CERTIFICATE

Manufacturer:	Aruba Networks, Inc. 1344 Crossman Ave. Sunnyvale California, 94089 USA	**Tested By:**	MiCOM Labs, Inc. 575 Boulder Court Pleasanton California 94566 USA
Model:	APIN0204, APIN0205	**Telephone:**	+1 925 462 0304
Type of Equipment:	Wireless LAN Access Point	**Fax:**	+1 925 462 0306
S/N's:	CM0019394		
Test Date(s):	4th December – 7th December 2015	**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:

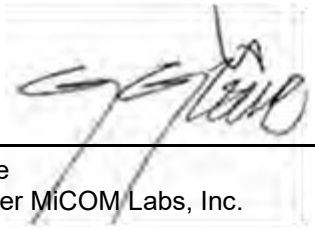
1. This document reports conditions under which testing was conducted and the results of testing performed.

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	FCC 47 CFR Part 15.407	2014	Radio Frequency Devices; Subpart E –Unlicensed National Information Infrastructure Devices
II	KDB 662911	31st Oct 2013	Guidance for measurement of output emission of devices that employ single transmitter with multiple outputs or systems with multiple transmitters operating simultaneously in the same frequency band
III	KDB 905462 D02 v02	April 8, 2016	Test guidance to demonstrate compliance for U-NII devices subject to DFS requirements.
IV	KDB 926956 D01 v01r06	April 8, 2016	U-NII Device Transition Plan
V	KDB 789033	6th June 2014	General UNII Test Procedures New Rules V01
VI	KDB 644545	August 15th 2014	Guidance for IEEE 802.11ac New Rules
VII	A2LA	June 2015	R105 - Requirement's When Making Reference to A2LA Accreditation Status
VIII	ANSI C63.10	2013	American National Standard for Testing Unlicensed Wireless Devices
IX	ANSI C63.4	2009	American National Standards for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
X	CISPR 22	2008	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement
XI	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
XII	FCC 06-96	Jun 3 2006	Memorandum Opinion and Order
XIII	M 3003	Edition 3 Nov. 2012	Expression of Uncertainty and Confidence in Measurements
XIV	FCC 47 CFR Part 2.1033	2014	FCC requirements and rules regarding photographs and test setup diagrams.

4.2. Test and Uncertainty Procedure

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

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

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

5. PRODUCT DETAILS AND TEST CONFIGURATIONS

5.1. Technical Details

Details	Description
Purpose:	Test of the Aruba Networks, Inc. APIN0204 and APIN0205 to FCC CFR 47 Part 15 Subpart E 15.407. Radio Frequency Devices; Subpart E –Unlicensed National Information Infrastructure Devices
Applicant:	Aruba Networks, Inc. 1344 Crossman Ave. Sunnyvale, California 94089 USA
Manufacturer:	As Applicant
Laboratory performing the tests:	MiCOM Labs, Inc. 575 Boulder Court Pleasanton California 94566 USA
Test report reference number:	ARUB206–U5
Date EUT received:	4th December 2015
Standard(s) applied:	FCC CFR 47 Part 15 Subpart E 15.407 (new rules)
Dates of test (from - to):	4th December – 7th December 2015
No of Units Tested:	2
Type of Equipment:	802.11a/b/g/n/ac Wireless Access Point 2x2 Spatial Multiplexing MIMO configuration
Product Family Name:	Mid-Range 2x2:2 802.11ac Access Point
Model(s):	APIN0204, APIN0205
Location for use:	Indoor
Declared Frequency Range(s):	5150 - 5250; 5250 - 5350; 5470 - 5725; 5725 - 5850 MHz;
Primary function of equipment:	Wireless Access Point for transmitting data and voice.
Secondary function of equipment:	None provided
Type of Modulation:	Per 802.11 – OFDM
EUT Modes of Operation:	802.11a; 802.11ac-80; 802.11n HT-20; 802.11n HT-40;
Declared Nominal Output Power (Ave):	+25 dBm
Transmit/Receive Operation:	Time Division Duplex
Rated Input Voltage and Current:	POE (POE adaptor sold with unit) 56Vdc
Operating Temperature Range:	Declared Range 0°C to 40°C
ITU Emission Designator:	802.11a 16M7D1D 802.11n HT-20 17M8D1D 802.11n HT-40 36M3D1D 802.11ac-80 75M8D1D
Equipment Dimensions:	150mm x 150mm x 40mm
Weight:	3 lbs
Hardware Rev:	Version P2
Software Rev:	armv7nsrd 0127

5.2. Scope Of Test Program

Aruba Networks, Inc. APIN0204 & APIN0205

The scope of the test program was to test the Aruba Networks, Inc. APIN0204 and APIN0205, 802.11a/b/g/n/ac Wireless Access Point 2x2 Spatial Multiplexing MIMO configurations in the frequency ranges 5150 - 5250 MHz and 5725 - 5850 MHz; for compliance against the following specification:

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

Compliance was to the FCC new rules for;

a).. increased power in the 5150 – 5250 MHz band

b).. introduction of the 5725 – 5850 MHz band into UNII band regulations, and

c).. add additional channel(s) straddling the 5725 MHz band-edge frequency

Test Suite
To prove compliance with the FCC's new rules the following tests were completed;
i).. Full Conducted Testing

ii).. Full Radiated Testing on all antenna's (Radiated Spurious Emissions and Radiated Band-Edge)

Model Identification
APIN0204: External Antenna (Reverse SMA)
APIN0205: Integral

APIN0204 and APIN0205 Operational Modes
Client did not provide software capability for the following operational modes and claimed these were covered under 802.11n HT-20 and 802.11n HT-40.

i).. VHT-20
ii)..VHT-40

Aruba Networks, Inc. APIN0204

Top View

Aruba Networks, Inc. APIN0205

Top View

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

Type	Description	Manufacturer	Model	Serial no.	Delivery Date
EUT	External Antenna (Reverse SMA)	Aruba Networks	APIN0204	E212044	4th December 2015
EUT	Integral Antenna	Aruba Networks	APIN0205	Test Sample	4th December 2015
Support	Laptop PC	Dell	E5440	None	--

5.4. Antenna Details

5.4.1. APIN0204 External Antennas

Type	Manufacturer	Model	Family	Gain (dBi)	BF Gain	Dir BW	X-Pol	Frequency Band (MHz)
External	Aruba Networks	AP-ANT-1B	OMNI	5.8	-	360	-	4900 - 5875
External	Aruba Networks	AP-ANT-13B	OMNI	3.3	-	360	-	4900 - 5900
External	Aruba Networks	AP-ANT-16	OMNI	4.7	-	360	-	4900 - 5900
External	Aruba Networks	AP-ANT-17	Directional 120 degr.	5.0	-	120	-	4900 - 5875
External	Aruba Networks	AP-ANT-18	Directional 60 degr.	7.5	-	60	-	5150 - 5875
External	Aruba Networks	AP-ANT-19	OMNI	6.0	-	360	-	5150 - 5875
External	Aruba Networks	AP-ANT-20	OMNI	2.0	-	360	-	5150 - 5825

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

Not Tested Antennas
AP-ANT-17 (5.0 dBi) was not tested as part of the compliance program as this antenna was a lower directional gain antenna covered by AP-ANT-18 (7.5 dBi)

5.4.2. APIN0205 Integral Antennas

Type	Manufacturer	Model	Family	Gain (dBi)	BF Gain	Dir BW	X-Pol	Frequency Band (MHz)
Integral	Aruba Networks	Metal Sheet	OMNI	4.5	-	360	-	5150 - 5875

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

5.5. Cabling and I/O Ports

Port Type	Max Cable Length	# Of Ports	Screened	Conn Type	Data Type
Ethernet	100m	1	N	RJ-45	Packet Data
RS232	100m	1	N	RJ-45	Digital
dc Jack		1	N	Jack	

5.6. Test Configurations

Results for the following configurations are provided in this report:

Operational Mode(s) (802.11a/b/g/n/ac)	Data Rate with Highest Power MBit/s	Channel Frequency (MHz)		
		Low	Mid	High
5150 - 5250 MHz				
802.11a	6.00	5180.00	5200.00	5240.00
802.11ac-80	29.30	--	5210.00	--
802.11n HT-20	6.50	5180.00	5200.00	5240.00
802.11n HT-40	13.50	5190.00	--	5230.00
5725 - 5850 MHz				
802.11a	6.00	5745.00	5785.00	5825.00
802.11ac-80	29.30	--	5775.00	--
802.11n HT-20	6.50	5745.00	5785.00	5825.00
802.11n HT-40	13.50	5755.00	--	5795.00

5.7. Equipment Modifications

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

5.8. Deviations from the Test Standard

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

6. TEST SUMMARY

List of Measurements

TEST HEADING	Result	Data Link
Conducted Test Result		
Peak Transmit Power	Complies	View Data
26 dB & 99% Bandwidth	Complies	View Data
Power Spectral Density	Complies	View Data
Radiated Emissions		
i).. Restricted Band Emissions	Complies	View Data
ii).. Restricted Band-Edge Emissions	Complies	View Data
Digital Emissions		
Digital Emissions (0.03 – 1 GHz)	Not Tested*	-
ac Wireline Emissions		
Powerline Emissions (0.15 – 30 MHz)	Not Tested*	-

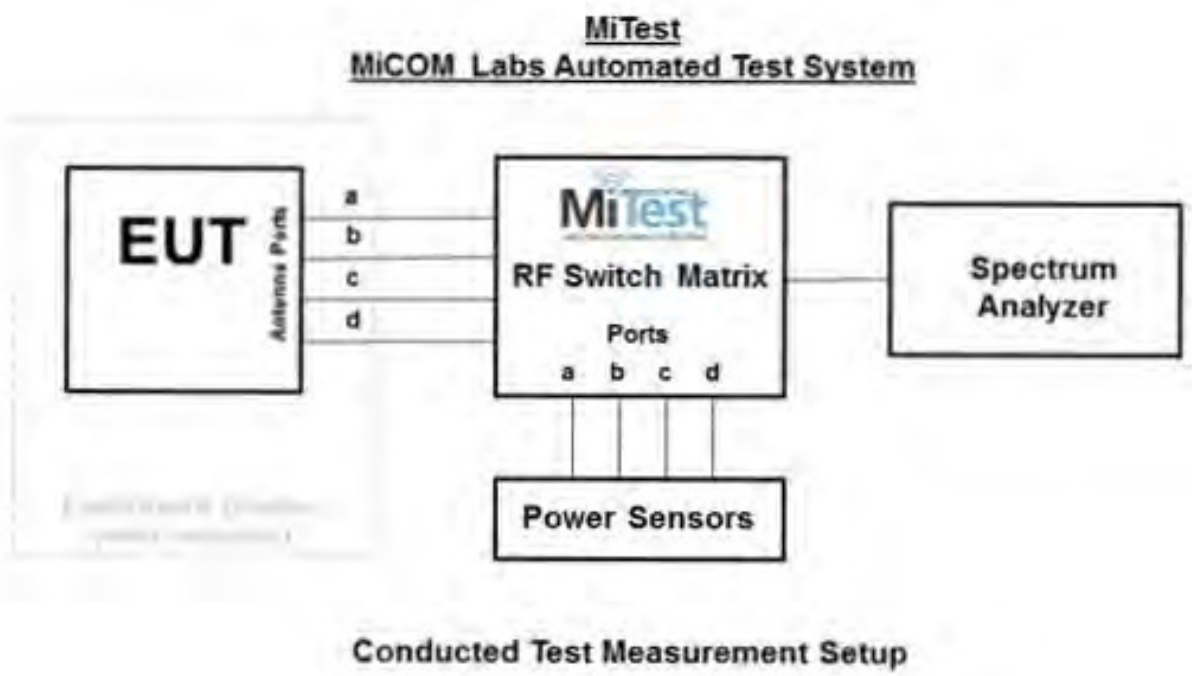
* Tested as part of the original compliance test program, see Section 5.2 Scope of Test Program

*

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. 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.

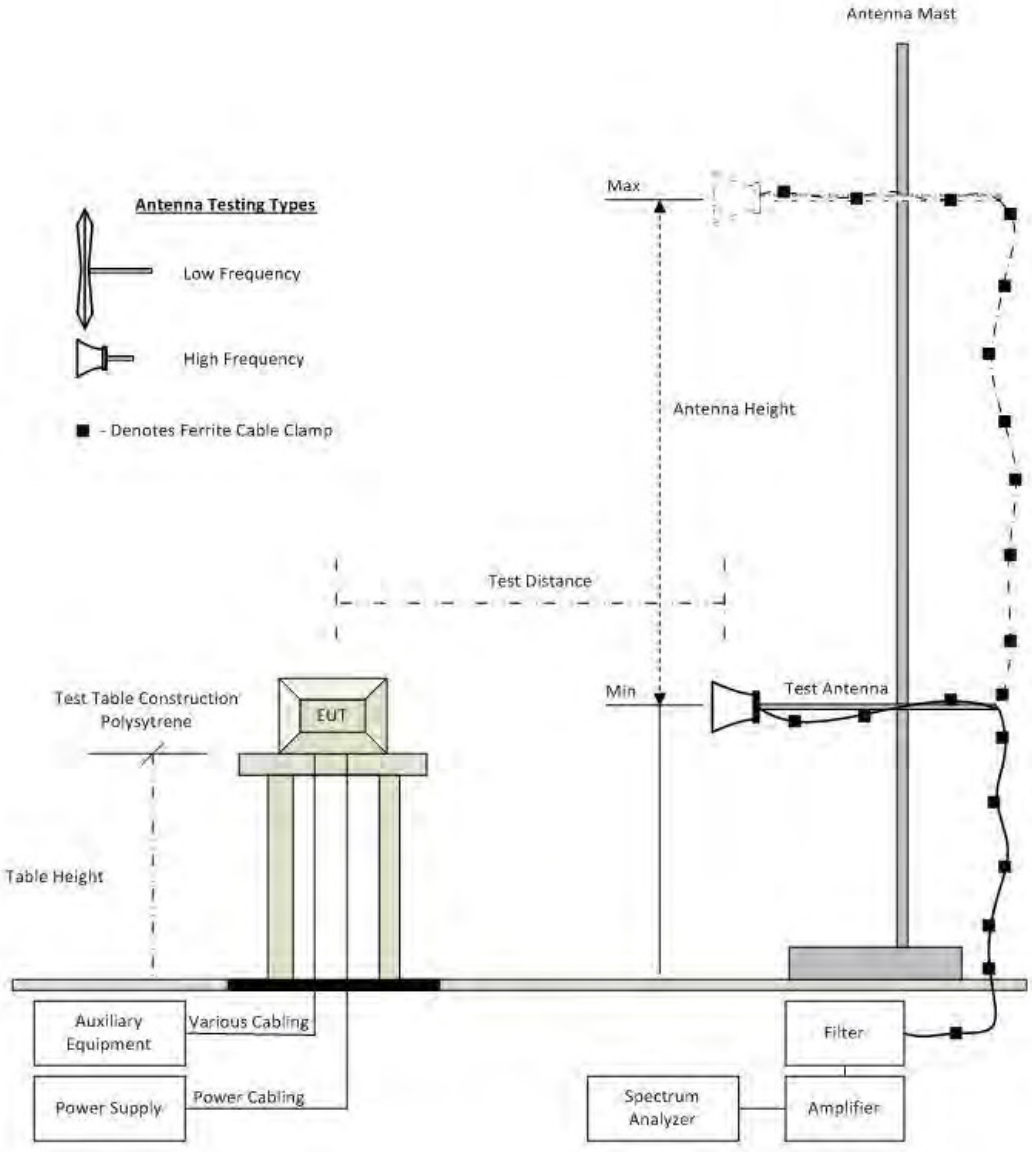
Asset#	Description	Manufacturer	Model#	Serial#	Calibration Due Date
127	Power Supply	HP	6674A	US36370530	Cal when used
158	Barometer/Thermometer	Control Company	4196	E2846	01 Dec 2016
248	Resistance Thermometer	Thermotronics	GR2105-02	9340 #1	21 Oct 2016
287	Rohde & Schwarz 40 GHz Receiver	Rhode & Schwarz	ESIB40	100201	27 Aug 2016
376	USB 10MHz - 18GHz Average Power Sensor	Agilent	U2000A	MY51440005	23 Oct 2016
378	Rohde & Schwarz 40 GHz Receiver with Generator	Rhode & Schwarz	ESIB40	100107/040	04 Aug 2016
381	4x4 RF Switch Box	MiCOM Labs	MiTest RF Switch Box	MIC002	20 Dec 2015
419	Laptop with Labview Software	Lenova	W520	TS02	Not Required
420	USB to GPIB Interface	National Instruments	GPIB-USB HS	1346738	Not Required
RF#2 GPIB#1	GPIB cable to Power Supply	HP	GPIB	None	Not Required
RF#2 SMA#1	EUT to Mitest box port 1	Flexco	SMA Cable port1	None	20 Dec 2015
RF#2 SMA#2	EUT to Mitest box port 2	Flexco	SMA Cable port2	None	20 Dec 2015
RF#2 SMA#3	EUT to Mitest box port 3	Flexco	SMA Cable port3	None	20 Dec 2015
RF#2 SMA#4	EUT to Mitest box port 4	Flexco	SMA Cable port4	None	20 Dec 2015
RF#2 SMA#SA	Mitest box to SA	Flexco	SMA Cable SA	None	20 Dec 2015
RF#2 USB#1	USB Cable to Mitest Box	Dynex	USB Cable	None	Not Required

7.2. Radiated Spurious Emission Test Set-up > 1 GHz

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

1. Radiated Spurious Emissions

Radiated Emission Measurement Setup



Radiated Emission Test Setup

Asset#	Description	Manufacturer	Model#	Serial#	Calibration Due Date
158	Barometer/Thermometer	Control Company	4196	E2846	04 Dec 2015
170	Video System Controller for Semi Anechoic Chamber	Panasonic	WV-CY101	04R08507	Not Required
287	Rohde & Schwarz 40 GHz Receiver	Rhode & Schwarz	ESIB40	100201	27 Aug 2016
338	Sunol 30 to 3000 MHz Antenna	Sunol	JB3	A052907	15 Aug 2016
342	2.4 GHz Notch Filter	EWT	EWT-14-0203	H1	18 Aug 2016
396	2.4 GHz Notch Filter	Microtronics	BRM50701	001	18 Aug 2016
399	ETS 1-18 GHz Horn Antenna	ETS	3117	00154575	10 Dec 2015
406	Amplifier for Radiated Emissions	MiCOM Labs	40dB 1 to 18GHz Amp	0406	28 May 2016
410	Desktop Computer	Dell	Inspiron 620	WS38	Not Required
411	Mast/Turntable Controller	Sunol Sciences	SC98V	060199-1D	Not Required
412	USB to GPIB Interface	National Instruments	GPIB-USB HS	11B8DC2	Not Required
413	Mast Controller	Sunol Science	TWR95-4	030801-3	Not Required
415	Turntable Controller	Sunol Sciences	Turntable Controller	None	Not Required
447	Rad Emissions Test Software	MiCOM	Version 1.0.73	447	Not Required
480	Cable - Bulkhead to Amp	SRC Haverhill	157-157-3050360	480	11 Aug 2016
481	Cable - Bulkhead to Receiver	SRC Haverhill	151-151-3050787	481	11 Aug 2016
482	Cable - Amp to Antenna	SRC Haverhill	157-157-3051574	482	11 Aug 2016

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.

Peak Transmit Power Setting
To maximize Peak Transmit Power the lowest gain antenna was used and reported in the following measurement matrix. The following measurement results have been modified to take into account measurement data from Radiated Spurious Emissions (Section 9.4.1) and Radiated Band-Edge Emissions (Section 9.4.2) for the AP-ANT-20 (2 dBi) antenna.

For the remaining antennas a power setting measurement table is provided in Section 9.4.1 Restricted Band Emissions and 9.4.2 Restricted Band-Edge Emissions for each antenna type, channel frequency and operating mode.

Equipment Configuration for Peak Transmit Power

Variant:	802.11a	**Duty Cycle (%):**	97.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power + DCCF (+0.13 dB) (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	16.28	17.65	--	--	20.03	--	30.00	-9.97	18.00
5200.0	20.33	21.46	--	--	23.94	--	30.00	-6.06	22.00
5240.0	20.53	21.63	--	--	24.13	--	30.00	-5.87	22.00

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

DCCF - Duty Cycle Correction Factor

Equipment Configuration for Peak Transmit Power

Variant:	802.11ac-80	**Duty Cycle (%):**	59.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power + DCCF (+2.29 dB) (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	
5210.0	14.72	15.53	--	--	18.16	--	30.00	-11.84	14.00

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

DCCF - Duty Cycle Correction Factor

Equipment Configuration for Peak Transmit Power

Variant:	802.11n HT-20	**Duty Cycle (%):**	92.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power + DCCF (+0.36 dB) (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	17.06	17.84	--	--	20.48	--	30.00	-9.52	18.00
5200.0	20.44	21.55	--	--	24.04	--	30.00	-5.96	22.00
5240.0	20.64	21.73	--	--	24.23	--	30.00	-5.77	22.00

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

DCCF - Duty Cycle Correction Factor

Equipment Configuration for Peak Transmit Power

Variant:	802.11n HT-40	**Duty Cycle (%):**	77.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power + DCCF (+1.14 dB) (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	13.95	14.64	--	--	17.31	--	30.00	-5.69	14.00
5230.0	20.01	20.79	--	--	23.42	--	30.00	-6.58	20.00

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

DCCF - Duty Cycle Correction Factor

Equipment Configuration for Peak Transmit Power

Variant:	802.11a	**Duty Cycle (%):**	97.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power + DCCF (+0.13 dB) (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	21.40	21.26	--	--	24.34	--	30.00	-5.66	21.00
5785.0	21.03	20.99	--	--	24.02	--	30.00	-5.98	21.00
5825.0	21.20	21.23	--	--	24.23	--	30.00	-5.77	21.00

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

DCCF - Duty Cycle Correction Factor

Equipment Configuration for Peak Transmit Power

Variant:	802.11ac-80	**Duty Cycle (%):**	59.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power + DCCF (+2.29 dB) (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	
5775.0	19.33	19.10	--	--	22.23	--	30.00	-7.77	18.00

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

DCCF - Duty Cycle Correction Factor

Equipment Configuration for Peak Transmit Power

Variant:	802.11n HT-20	**Duty Cycle (%):**	92.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power + DCCF (+0.36 dB) (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	20.46	20.22	--	--	23.35	--	30.00	-6.65	20.00
5785.0	21.07	21.09	--	--	24.09	--	30.00	-5.91	21.00
5825.0	21.26	21.20	--	--	24.24	--	30.00	-5.76	21.00

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

DCCF - Duty Cycle Correction Factor

Equipment Configuration for Peak Transmit Power

Variant:	802.11n HT-40	**Duty Cycle (%):**	77.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power + DCCF (+1.14 dB) (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	19.50	19.10	--	--	22.31	--	30.00	-7.69	18.00
5795.0	21.06	20.91	--	--	23.99	--	30.00	-6.01	20.00

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

DCCF - Duty Cycle Correction Factor

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 (%):**	97.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

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	43.086	41.283	--	--	43.086	41.283		
5200.0	43.788	42.184	--	--	43.788	42.184		
5240.0	44.790	41.283	--	--	44.790	41.283		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5180.0	28.758	28.357	--	--	28.758	28.357		
5200.0	29.659	28.758	--	--	29.659	28.758		
5240.0	30.762	28.357	--	--	30.762	28.357		

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:	802.11ac-80	**Duty Cycle (%):**	59.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5210.0	198.397	189.980	--	--	198.397	189.980		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5210.0	128.257	107.014	--	--	128.257	107.014		

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

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

Equipment Configuration for 26 dB & 99% Occupied Bandwidth

Variant:	802.11n HT-20	**Duty Cycle (%):**	92.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

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	45.391	42.184	--	--	45.391	42.184		
5200.0	46.894	46.393	--	--	46.894	46.393		
5240.0	48.597	47.495	--	--	48.597	47.495		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5180.0	28.858	26.553	--	--	28.858	26.553		
5200.0	31.162	30.361	--	--	31.162	30.361		
5240.0	32.565	29.960	--	--	32.565	29.960		

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 (%):**	77.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

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	98.798	93.186	--	--	98.798	93.186		
5230.0	97.194	85.772	--	--	97.194	85.772		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5190.0	66.934	55.711	--	--	66.934	55.711		
5230.0	60.120	46.293	--	--	60.120	46.293		

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:	802.11a	**Duty Cycle (%):**	97.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	a	b	c	d	Highest	Lowest		
5745.0	43.287	38.377	--	--	43.287	38.377		
5785.0	43.587	38.978	--	--	43.587	38.978		
5825.0	43.287	38.377	--	--	43.287	38.377		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	a	b	c	d	Highest	Lowest		
5745.0	28.858	25.551	--	--	28.858	25.551		
5785.0	28.958	25.852	--	--	28.958	25.852		
5825.0	29.158	25.451	--	--	29.158	25.451		

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:	802.11ac-80	**Duty Cycle (%):**	59.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5775.0	189.579	175.952	--	--	189.579	175.952		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5775.0	103.808	83.367	--	--	103.808	83.367		

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

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

Equipment Configuration for 26 dB & 99% Occupied Bandwidth

Variant:	802.11n HT-20	**Duty Cycle (%):**	92.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5745.0	46.393	42.385	--	--	46.393	42.385		
5785.0	46.994	42.786	--	--	46.994	42.786		
5825.0	47.395	42.485	--	--	47.395	42.485		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5745.0	30.160	26.453	--	--	30.160	26.453		
5785.0	30.661	26.353	--	--	30.661	26.353		
5825.0	30.361	25.952	--	--	30.361	25.952		

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 (%):**	77.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5755.0	96.994	86.172	--	--	96.994	86.172		
5795.0	97.194	83.166	--	--	97.194	83.166		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5755.0	61.924	45.090	--	--	61.924	45.090		
5795.0	61.723	44.289	--	--	61.723	44.289		

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. 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 (%):**	97.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Amplitude Summation + DCCF (+0.13 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/MHz**	**dBm/MHz**	**dB**
5180.0	8.941	10.328	--	--	12.832	17.0	-4.2
5200.0	9.126	10.370	--	--	12.856	17.0	-4.2
5240.0	8.969	10.371	--	--	12.529	17.0	-4.5

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

DCCF - Duty Cycle Correction Factor

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

Equipment Configuration for Power Spectral Density

Variant:	802.11ac-80	**Duty Cycle (%):**	59.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Amplitude Summation + DCCF (+2.29 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/MHz**	**dBm/MHz**	**dB**
5210.0	-0.712	0.153	--	--	4.422	17.0	-12.6

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-20	**Duty Cycle (%):**	92.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Amplitude Summation + DCCF (+0.36 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/MHz**	**dBm/MHz**	**dB**
5180.0	8.274	9.128	--	--	11.606	17.0	-5.4
5200.0	8.027	9.811	--	--	11.924	17.0	-5.1
5240.0	8.983	9.394	--	--	12.218	17.0	-4.8

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

DCCF - Duty Cycle Correction Factor

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

Equipment Configuration for Power Spectral Density

Variant:	802.11n HT-40	**Duty Cycle (%):**	77.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Amplitude Summation + DCCF (+1.14 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/MHz**	**dBm/MHz**	**dB**
5190.0	3.231	4.852	--	--	8.116	17.0	-8.9
5230.0	3.275	4.736	--	--	7.390	17.0	-9.6

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:	802.11a	**Duty Cycle (%):**	97.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/500 KHz)				Amplitude Summation + DCCF (+0.13 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/500 KHz**	**dBm/500 KHz**	**dB**
5745.0	7.742	7.775	--	--	10.665	30.0	-19.3
5785.0	7.361	7.715	--	--	10.572	30.0	-19.4
5825.0	7.448	7.791	--	--	10.462	30.0	-19.5

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

DCCF - Duty Cycle Correction Factor

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

Equipment Configuration for Power Spectral Density

Variant:	802.11ac-80	**Duty Cycle (%):**	59.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/500 KHz)				Amplitude Summation + DCCF (+2.29 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/500 KHz**	**dBm/500 KHz**	**dB**
5775.0	-2.667	-3.388	--	--	1.785	30.0	-28.2

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 (%):**	92.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/500 KHz)				Amplitude Summation + DCCF (+0.36 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/500 KHz**	**dBm/500 KHz**	**dB**
5745.0	6.708	6.990	--	--	9.780	30.0	-20.2
5785.0	6.411	7.312	--	--	10.257	30.0	-19.8
5825.0	6.993	7.094	--	--	10.373	30.0	-19.6

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

DCCF - Duty Cycle Correction Factor

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

Equipment Configuration for Power Spectral Density			
Variant:	802.11n HT-40	**Duty Cycle (%):**	77.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	2.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	CC
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/500 KHz)				Amplitude Summation + DCCF (+1.14 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/500 KHz**	**dBm/500 KHz**	**dB**
5755.0	1.415	2.638	--	--	5.626	30.0	-24.4
5795.0	2.848	1.864	--	--	5.675	30.0	-24.3

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

DCCF - Duty Cycle Correction Factor

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

9.4. Radiated Spurious Emissions

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 and waveguide filter was used to remove the fundamental frequency. The highest emissions relative to the limit are listed for each frequency spanned. Measurements on any restricted band frequency or frequencies above 1 GHz are based on the use of measurement instrumentation employing peak and average detectors. All measurements were performed using a resolution bandwidth of 1 MHz.

Test configuration and setup for 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 or Waveguide 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).

9.4.1. Restricted Band Emissions

9.4.1.1 AP-ANT-1B

Equipment Configuration for Radiated Spurious - Restricted Band Emissions			
Antenna:	Aruba Networks AP-ANT1B	**Variant:**	802.11a
Antenna Gain (dBi):	5.80	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5186.25	69.38	3.68	-11.49	61.57	Fundamental	Vertical	100	1	--	--	
#2	6906.65	52.68	4.11	-7.54	49.25	Peak (NRB)	Vertical	151	192	--	--	Pass
#3	10357.80	61.55	5.55	-5.28	61.82	Peak (NRB)	Vertical	151	360	--	--	Pass
Test Notes: EUT on 150cm table, powered by PDsine 90001 GR POE												

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT1B	**Variant:**	802.11a
Antenna Gain (dBi):	5.80	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5200.00	**Data Rate:**	6.00 MBit/s
Power Setting:	22	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5196.91	72.41	3.66	-11.47	64.60	Fundamental	Vertical	101	0	--	--	
#2	6933.35	54.73	4.11	-7.49	51.35	Peak (NRB)	Vertical	151	7	--	--	Pass
#3	10403.25	58.40	5.42	-5.02	58.80	Peak (NRB)	Vertical	151	7	--	--	Pass
Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE												

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT1B	**Variant:**	802.11a
Antenna Gain (dBi):	5.80	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5240.00	**Data Rate:**	6.00 MBit/s
Power Setting:	22	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5236.83	72.66	3.63	-11.37	64.92	Fundamental	Vertical	101	1	--	--	
#2	6986.72	55.66	4.13	-7.45	52.34	Peak (NRB)	Vertical	151	9	--	--	Pass
#3	10477.19	55.37	5.44	-4.48	56.33	Peak (NRB)	Vertical	151	9	--	--	Pass
Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE												

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT1B	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5747.85	59.81	3.85	-10.63	53.03	Fundamental	Vertical	101	0	--	--	
#2	6216.89	52.59	3.91	-8.80	47.70	Peak (NRB)	Vertical	151	360	--	--	Pass
#3	11489.02	48.19	5.45	-4.85	48.79	Max Avg	Vertical	150	323	54.0	-5.2	Pass
#4	11489.02	62.63	5.45	-4.85	63.23	Max Peak	Vertical	150	323	74.0	-10.8	Pass
#5	17238.56	46.03	6.47	0.34	52.84	Peak (NRB)	Horizontal	151	360	--	--	Pass
Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE												

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT1B	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5785.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5787.62	66.99	3.79	-10.43	60.35	Fundamental	Vertical	101	1	--	--	
#2	6270.63	55.44	3.92	-8.51	50.85	Peak (NRB)	Vertical	101	1	--	--	Pass
#3	11572.22	44.91	5.42	-4.63	45.70	Max Avg	Vertical	142	339	54.0	-8.3	Pass
#4	11572.22	58.72	5.42	-4.63	59.51	Max Peak	Vertical	142	339	74.0	-14.5	Pass
#5	17354.43	50.19	6.27	-0.01	56.45	Peak (NRB)	Vertical	101	1	--	--	Pass
Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE												

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT1B	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5823.13	65.34	3.83	-10.25	58.92	Fundamental	Vertical	101	1	--	--	
#2	6309.30	57.69	3.92	-8.38	53.23	Peak (NRB)	Vertical	101	1	--	--	Pass
#3	11648.94	41.28	5.44	-4.47	42.25	Max Avg	Vertical	159	359	54.0	-11.8	Pass
#4	11648.94	56.29	5.44	-4.47	57.26	Max Peak	Vertical	159	359	74.0	-16.7	Pass
#5	17478.96	48.40	6.33	-0.60	54.13	Peak (NRB)	Vertical	200	1	--	--	Pass
Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE												

NRB: Non-Restricted Band Emissions

9.4.1.2 AP-ANT-13B

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT13B	**Variant:**	802.11a
Antenna Gain (dBi):	3.30	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5187.45	69.76	3.68	-11.49	61.95	Fundamental	Horizontal	101	1	--	--	
#2	6906.82	57.10	4.11	-7.54	53.67	Peak (NRB)	Horizontal	151	44	--	--	Pass
#3	10362.45	60.89	5.58	-5.26	61.21	Peak (NRB)	Horizontal	151	44	--	--	Pass
Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE												

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT13B	**Variant:**	802.11a
Antenna Gain (dBi):	3.30	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5200.00	**Data Rate:**	6.00 MBit/s
Power Setting:	22	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5198.36	72.22	3.66	-11.47	64.41	Fundamental	Horizontal	151	1	--	--	
#2	6933.43	57.28	4.11	-7.49	53.90	Peak (NRB)	Horizontal	151	50	--	--	Pass
#3	10405.90	61.67	5.45	-4.99	62.13	Peak (NRB)	Vertical	151	50	--	--	Pass
#4	15608.30	37.06	6.01	-0.20	42.87	Max Avg	Horizontal	134	58	54.0	-11.1	Pass
#5	15608.30	51.39	6.01	-0.20	57.20	Max Peak	Horizontal	134	58	74.0	-16.8	Pass

Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT13B	**Variant:**	802.11a
Antenna Gain (dBi):	3.30	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5240.00	**Data Rate:**	6.00 MBit/s
Power Setting:	22	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5238.12	73.97	3.63	-11.37	66.23	Fundamental	Horizontal	151	1	--	--	
#2	6986.65	56.66	4.13	-7.45	53.34	Peak (NRB)	Horizontal	151	41	--	--	Pass
#3	10486.29	51.10	5.42	-4.42	52.10	Peak (NRB)	Vertical	151	41	--	--	Pass
#4	15717.56	35.78	6.05	0.18	42.01	Max Avg	Vertical	147	340	54.0	-12.0	Pass
#5	15717.56	49.12	6.05	0.18	55.35	Max Peak	Vertical	147	340	74.0	-18.7	Pass

Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT13B	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5752.10	62.85	3.84	-10.62	56.07	Fundamental	Horizontal	151	22	--	--	
#2	6218.09	57.42	3.92	-8.80	52.54	Peak (NRB)	Horizontal	151	22	--	--	Pass
#3	11493.51	48.50	5.44	-4.84	49.10	Max Avg	Horizontal	112	31	54.0	-4.9	Pass
#4	11493.51	62.77	5.44	-4.84	63.37	Max Peak	Horizontal	112	31	74.0	-10.6	Pass
#5	17234.99	46.76	6.44	0.35	53.55	Peak (NRB)	Horizontal	151	22	--	--	Pass
Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE												

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT13B	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5785.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5783.93	65.93	3.80	-10.45	59.28	Fundamental	Horizontal	101	1	--	--	
#2	6272.14	55.74	3.92	-8.50	51.16	Peak (NRB)	Horizontal	151	1	--	--	Pass
#3	7713.36	51.03	4.41	-6.85	48.59	Max Avg	Horizontal	137	33	54.0	-5.4	Pass
#4	7713.36	56.93	4.41	-6.85	54.49	Max Peak	Horizontal	137	33	74.0	-19.5	Pass
#5	11569.02	47.52	5.48	-4.65	48.35	Max Avg	Horizontal	173	296	54.0	-5.7	Pass
#6	11569.02	62.09	5.48	-4.65	62.92	Max Peak	Horizontal	173	296	74.0	-11.1	Pass
#7	17369.25	51.19	6.45	-0.08	57.56	Peak (NRB)	Horizontal	151	64	--	--	Pass

Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT13B	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5819.56	65.03	3.83	-10.26	58.60	Fundamental	Horizontal	151	1	--	--	
#2	6308.66	59.09	3.92	-8.38	54.63	Peak (NRB)	Horizontal	151	51	--	--	Pass
#3	11649.14	46.28	5.44	-4.47	47.25	Max Avg	Horizontal	155	38	54.0	-6.8	Pass
#4	11649.14	60.07	5.44	-4.47	61.04	Max Peak	Horizontal	155	38	74.0	-13.0	Pass
#5	14631.34	50.19	5.73	-3.56	52.36	Peak (NRB)	Vertical	151	318	--	--	Pass
#6	17479.16	52.18	6.33	-0.60	57.91	Peak (NRB)	Horizontal	151	318	--	--	Pass

Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE

NRB: Non-Restricted Band Emissions

9.4.1.3 AP-ANT-16

Equipment Configuration for Radiated Spurious - Restricted Band Emissions			
Antenna:	Aruba Networks AP-ANT-16	**Variant:**	802.11a
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5187.05	69.39	3.68	-11.49	61.58	Fundamental	Horizontal	100	1	--	--	
#2	6906.74	55.84	4.11	-7.54	52.41	Peak (NRB)	Vertical	100	0	--	--	Pass
#3	10353.71	61.14	5.52	-5.30	61.36	Peak (NRB)	Horizontal	151	53	--	--	Pass

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT-16	**Variant:**	802.11a
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5200.00	**Data Rate:**	6.00 MBit/s
Power Setting:	22	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5201.48	72.87	3.66	-11.46	65.07	Fundamental	Horizontal	100	1	--	--	
#2	6933.43	55.75	4.11	-7.49	52.37	Peak (NRB)	Horizontal	200	32	--	--	Pass
#3	10399.56	57.70	5.40	-5.03	58.07	Peak (NRB)	Horizontal	148	0	--	--	Pass

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT-16	**Variant:**	802.11a
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5240.00	**Data Rate:**	6.00 MBit/s
Power Setting:	22	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5236.83	75.12	3.63	-11.37	67.38	Fundamental	Horizontal	100	11	--	--	
#2	6986.69	54.13	4.13	-7.45	50.81	Peak (NRB)	Horizontal	200	27	--	--	Pass
#3	10484.01	56.28	5.41	-4.44	57.25	Peak (NRB)	Horizontal	148	27	--	--	Pass

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT-16	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	3830.05	58.32	3.21	-10.83	50.70	Max Avg	Horizontal	100	316	54.0	-3.3	Pass
#2	3830.05	62.30	3.21	-10.83	54.68	Max Peak	Horizontal	100	316	74.0	-19.3	Pass
#3	5752.50	63.18	3.84	-10.61	56.41	Fundamental	Horizontal	101	66	--	--	
#4	6216.95	57.62	3.91	-8.80	52.73	Peak (NRB)	Horizontal	101	0	--	--	Pass
#5	11488.78	48.18	5.45	-4.85	48.78	Max Avg	Vertical	103	329	54.0	-5.2	Pass
#6	11488.78	63.05	5.45	-4.85	63.65	Max Peak	Vertical	103	329	74.0	-10.4	Pass
#7	17238.60	49.71	6.47	0.34	56.52	Peak (NRB)	Vertical	101	61	--	--	Pass

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT-16	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5785.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	3856.66	57.76	3.23	-10.81	50.18	Max Avg	Horizontal	123	321	54.0	-3.8	Pass
#2	3856.66	61.73	3.23	-10.81	54.15	Max Peak	Horizontal	123	321	74.0	-19.9	Pass
#3	5787.70	65.00	3.79	-10.43	58.36	Fundamental	Horizontal	200	1	--	--	
#4	6273.34	59.92	3.92	-8.50	55.34	Peak (NRB)	Horizontal	148	52	--	--	Pass
#5	11571.14	48.83	5.44	-4.64	49.63	Max Avg	Horizontal	153	305	54.0	-4.4	Pass
#6	11571.14	61.96	5.44	-4.64	62.76	Max Peak	Horizontal	153	305	74.0	-11.2	Pass
#7	17365.29	49.24	6.37	-0.06	55.55	Peak (NRB)	Horizontal	148	22	--	--	Pass

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT-16	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	3883.41	58.10	3.25	-10.76	50.59	Max Avg	Horizontal	107	313	54.0	-3.4	Pass
#2	3883.41	61.88	3.25	-10.76	54.37	Max Peak	Horizontal	107	313	74.0	-19.6	Pass
#3	5818.08	69.00	3.82	-10.28	62.54	Fundamental	Horizontal	101	55	--	--	
#4	6310.10	59.84	3.91	-8.37	55.38	Peak (NRB)	Horizontal	200	55	--	--	Pass
#5	7766.69	50.78	4.43	-6.71	48.50	Peak (NRB)	Horizontal	148	360	--	--	Pass
#6	11649.46	44.73	5.44	-4.47	45.70	Max Avg	Horizontal	148	302	54.0	-8.3	Pass
#7	11649.46	58.25	5.44	-4.47	59.22	Max Peak	Horizontal	148	302	74.0	-14.8	Pass
#8	17478.52	51.37	6.33	-0.60	57.10	Peak (NRB)	Horizontal	148	0	--	--	Pass

NRB: Non-Restricted Band Emissions

9.4.1.4 AP-ANT-18

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT18	**Variant:**	802.11a
Antenna Gain (dBi):	7.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	18	**Tested By:**	jmh

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5184.25	68.47	3.68	-11.49	60.66	Fundamental	Horizontal	101	1	--	--	
#2	6906.74	54.99	4.11	-7.54	51.56	Peak (NRB)	Horizontal	100	28	--	--	Pass
#3	10362.53	56.14	5.58	-5.25	56.47	Peak (NRB)	Horizontal	100	0	--	--	Pass
Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE												

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT18	**Variant:**	802.11a
Antenna Gain (dBi):	7.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5200.00	**Data Rate:**	6.00 MBit/s
Power Setting:	22	**Tested By:**	jmh

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5194.43	72.27	3.67	-11.47	64.47	Fundamental	Horizontal	101	0	--	--	
#2	6933.35	53.46	4.11	-7.49	50.08	Peak (NRB)	Horizontal	101	23	--	--	Pass
#3	10406.22	52.61	5.45	-4.99	53.07	Peak (NRB)	Horizontal	101	23	--	--	Pass
Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE												

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT18	**Variant:**	802.11a
Antenna Gain (dBi):	7.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5240.00	**Data Rate:**	6.00 MBit/s
Power Setting:	22	**Tested By:**	jmh

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5238.84	73.20	3.63	-11.37	65.46	Fundamental	Horizontal	101	1	--	--	
#2	6986.62	51.63	4.13	-7.45	48.31	Peak (NRB)	Horizontal	101	30	--	--	Pass
#3	10478.35	54.85	5.44	-4.47	55.82	Peak (NRB)	Horizontal	101	4	--	--	Pass
Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE												

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT18	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	jmh

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	3830.01	54.88	3.21	-10.83	47.26	Max Avg	Horizontal	178	23	54.0	-6.7	Pass
#2	3830.01	60.21	3.21	-10.83	52.59	Max Peak	Horizontal	178	23	74.0	-21.4	Pass
#3	5752.34	66.46	3.84	-10.62	59.68	Fundamental	Vertical	151	80	--	--	
#4	6216.47	60.30	3.91	-8.80	55.41	Peak (NRB)	Vertical	148	0	--	--	Pass
#5	7660.05	50.50	4.37	-6.95	47.92	Max Avg	Horizontal	172	307	54.0	-6.1	Pass
#6	7660.05	56.41	4.37	-6.95	53.83	Max Peak	Horizontal	172	307	74.0	-20.2	Pass
#7	11493.43	50.74	5.44	-4.84	51.34	Max Avg	Vertical	154	345	54.0	-2.7	Pass
#8	11493.43	63.85	5.44	-4.84	64.45	Max Peak	Vertical	154	345	74.0	-9.6	Pass
#9	17238.56	52.36	6.47	0.34	59.17	Peak (NRB)	Vertical	151	360	--	--	Pass

Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT18	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5785.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	jmh

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	3856.69	55.44	3.23	-10.81	47.86	Max Avg	Horizontal	196	23	54.0	-6.1	Pass
#2	3856.69	59.80	3.23	-10.81	52.22	Max Peak	Horizontal	196	23	74.0	-21.8	Pass
#3	5789.10	70.09	3.79	-10.42	63.46	Fundamental	Horizontal	151	1	--	--	
#4	6274.55	58.96	3.92	-8.50	54.38	Peak (NRB)	Vertical	151	48	--	--	Pass
#5	11568.78	47.33	5.48	-4.65	48.16	Max Avg	Horizontal	153	347	54.0	-5.8	Pass
#6	11568.78	62.23	5.48	-4.65	63.06	Max Peak	Horizontal	153	347	74.0	-10.9	Pass
#7	17358.39	50.79	6.28	-0.03	57.04	Peak (NRB)	Horizontal	151	25	--	--	Pass

Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT18	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	jmh

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	3883.35	54.77	3.25	-10.76	47.26	Max Avg	Vertical	106	352	54.0	-6.7	Pass
#2	3883.35	59.69	3.25	-10.76	52.18	Max Peak	Vertical	106	352	74.0	-21.8	Pass
#3	5819.48	69.89	3.82	-10.28	63.43	Fundamental	Horizontal	151	0	--	--	
#4	6308.58	60.24	3.92	-8.38	55.78	Peak (NRB)	Vertical	151	0	--	--	Pass
#5	7766.67	50.58	4.43	-6.71	48.30	Peak (NRB)	Horizontal	151	97	--	--	Pass
#6	11643.85	44.25	5.47	-4.47	45.25	Max Avg	Vertical	166	342	54.0	-8.8	Pass
#7	11643.85	59.25	5.47	-4.47	60.25	Max Peak	Vertical	166	342	74.0	-13.8	Pass
#8	17479.16	53.71	6.33	-0.60	59.44	Peak (NRB)	Horizontal	151	0	--	--	Pass

Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE

NRB: Non-Restricted Band Emissions

9.4.1.5 AP-ANT-19

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT19	**Variant:**	802.11a
Antenna Gain (dBi):	6.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5183.21	71.79	3.68	-11.50	63.97	Fundamental	Vertical	151	1	--	--	
#2	6906.74	55.16	4.11	-7.54	51.73	Peak (NRB)	Vertical	151	16	--	--	Pass
#3	10356.03	52.21	5.54	-5.28	52.47	Peak (NRB)	Vertical	151	16	--	--	Pass
Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE												

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT19	**Variant:**	802.11a
Antenna Gain (dBi):	6.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5200.00	**Data Rate:**	6.00 MBit/s
Power Setting:	22	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5198.12	77.86	3.66	-11.47	70.05	Fundamental	Vertical	151	1	--	--	
#2	6933.43	58.47	4.11	-7.49	55.09	Peak (NRB)	Vertical	151	13	--	--	Pass
#3	10395.80	53.88	5.37	-5.06	54.19	Peak (NRB)	Vertical	151	13	--	--	Pass
Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE												

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT19	**Variant:**	802.11a
Antenna Gain (dBi):	6.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5240.00	**Data Rate:**	6.00 MBit/s
Power Setting:	22	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5238.12	78.17	3.63	-11.37	70.43	Fundamental	Vertical	151	1	--	--	
#2	6986.73	54.29	4.13	-7.45	50.97	Peak (NRB)	Vertical	151	45	--	--	Pass
#3	10488.38	52.84	5.43	-4.40	53.87	Peak (NRB)	Horizontal	151	0	--	--	Pass
Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE												

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT19	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	3830.05	55.11	3.21	-10.83	47.49	Max Avg	Vertical	146	35	54.0	-6.5	Pass
#2	3830.05	59.94	3.21	-10.83	52.32	Max Peak	Vertical	146	35	74.0	-21.7	Pass
#3	5752.66	64.69	3.84	-10.61	57.92	Fundamental	Vertical	151	1	--	--	
#4	6216.71	62.41	3.91	-8.80	57.52	Peak (NRB)	Vertical	151	38	--	--	Pass
#5	7660.00	55.18	4.37	-6.95	52.60	Peak (Scan)	Vertical	151	38	74.0	-21.4	Pass
#6	7660.00	51.07	4.37	-6.95	48.49	Max Avg	Vertical	169	291	54.0	-5.5	Pass
#7	7660.00	56.41	4.37	-6.95	53.83	Max Peak	Vertical	169	291	74.0	-20.2	Pass
#8	11488.70	47.98	5.45	-4.85	48.58	Max Avg	Vertical	102	345	54.0	-5.4	Pass
#9	11488.70	61.65	5.45	-4.85	62.25	Max Peak	Vertical	102	345	74.0	-11.8	Pass
#10	17239.04	48.45	6.47	0.34	55.26	Peak (NRB)	Vertical	151	0	--	--	Pass

Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT19	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5785.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5786.09	71.68	3.79	-10.44	65.03	Fundamental	Vertical	151	0	--	--	
#2	6274.19	57.82	3.92	-8.50	53.24	Peak (NRB)	Vertical	151	0	--	--	Pass
#3	7713.39	52.98	4.41	-6.85	50.54	Max Avg	Vertical	159	330	54.0	-3.5	Pass
#4	7713.39	58.25	4.41	-6.85	55.81	Max Peak	Vertical	159	330	74.0	-18.2	Pass
#5	11569.10	44.80	5.48	-4.65	45.63	Max Avg	Vertical	149	137	54.0	-8.4	Pass
#6	11569.10	59.37	5.48	-4.65	60.20	Max Peak	Vertical	149	137	74.0	-13.8	Pass
#7	17359.85	47.31	6.28	-0.04	53.55	Peak (NRB)	Vertical	151	0	--	--	Pass

Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT19	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5820.76	71.62	3.83	-10.26	65.19	Fundamental	Vertical	151	17	--	--	
#2	6067.45	56.68	3.88	-9.61	50.95	Peak (NRB)	Vertical	151	17	--	--	Pass
#3	6309.82	60.62	3.91	-8.37	56.16	Peak (NRB)	Vertical	151	360	--	--	Pass
#4	7766.69	53.03	4.43	-6.71	50.75	Peak (NRB)	Vertical	151	360	--	--	Pass
#5	11649.98	42.89	5.44	-4.47	43.86	Max Avg	Vertical	152	150	54.0	-10.1	Pass
#6	11649.98	56.29	5.44	-4.47	57.26	Max Peak	Vertical	152	150	74.0	-16.7	Pass
#7	17476.03	46.59	6.28	-0.59	52.28	Peak (NRB)	Vertical	151	360	--	--	Pass

Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE

NRB: Non-Restricted Band Emissions

9.4.1.6 AP-ANT-20

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT-20	**Variant:**	802.11a
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5184.41	67.84	3.68	-11.49	60.03	Fundamental	Vertical	101	1	--	--	
#2	6906.64	54.16	4.11	-7.54	50.73	Peak (NRB)	Horizontal	151	1	--	--	Pass
#3	10367.34	58.70	5.59	-5.23	59.06	Peak (NRB)	Vertical	151	1	--	--	Pass
Test Notes: EUT on 150cm table powered by POE, PDsine 9001GR												

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT-20	**Variant:**	802.11a
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5200.00	**Data Rate:**	6.00 MBit/s
Power Setting:	22	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5199.08	71.58	3.66	-11.47	63.77	Fundamental	Vertical	101	0	--	--	
#2	6933.39	52.31	4.11	-7.49	48.93	Peak (NRB)	Vertical	151	0	--	--	Pass
#3	10397.88	57.46	5.38	-5.05	57.79	Peak (NRB)	Vertical	151	0	--	--	Pass
Test Notes: EUT on 150cm table powered by POE PDSine 9001GR												

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT-20	**Variant:**	802.11a
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5240.00	**Data Rate:**	6.00 MBit/s
Power Setting:	22	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5242.73	69.89	3.63	-11.36	62.16	Fundamental	Horizontal	101	0	--	--	
#2	6986.68	53.50	4.13	-7.45	50.18	Peak (NRB)	Vertical	151	0	--	--	Pass
#3	10482.24	54.15	5.41	-4.44	55.12	Peak (NRB)	Horizontal	151	0	--	--	Pass
Test Notes: EUT on 150cm table powered by POE PDSine 9001GR												

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT-20	**Variant:**	802.11a
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5750.10	59.84	3.85	-10.63	53.06	Fundamental	Vertical	151	0	--	--	
#2	6217.15	56.20	3.91	-8.80	51.31	Peak (NRB)	Horizontal	151	360	--	--	Pass
#3	11489.54	52.47	5.45	-4.84	53.08	Max Avg	Vertical	115	356	54.0	-0.9	Pass
#4	11489.54	66.03	5.45	-4.84	66.64	Max Peak	Vertical	115	356	74.0	-7.4	Pass
#5	17238.80	48.77	6.47	0.34	55.58	Peak (NRB)	Vertical	151	360	--	--	Pass

Test Notes: EUT on 150cm table powered by POE PDSine 9001GR

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT-20	**Variant:**	802.11a
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5785.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5784.81	63.34	3.80	-10.44	56.70	Fundamental	Vertical	151	1	--	--	
#2	6272.14	56.96	3.92	-8.50	52.38	Peak (NRB)	Vertical	151	1	--	--	Pass
#3	7713.44	49.40	4.41	-6.85	46.96	Max Avg	Vertical	144	52	54.0	-7.0	Pass
#4	7713.44	55.66	4.41	-6.85	53.22	Max Peak	Vertical	144	52	74.0	-20.8	Pass
#5	11572.54	47.85	5.42	-4.63	48.64	Max Avg	Vertical	114	352	54.0	-5.4	Pass
#6	11572.54	61.68	5.42	-4.63	62.47	Max Peak	Vertical	114	352	74.0	-11.5	Pass
#7	17359.45	49.08	6.28	-0.04	55.32	Peak (NRB)	Vertical	151	0	--	--	Pass

Test Notes: EUT on 150cm table powered by POE PDSine 9001GR

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks AP-ANT-20	**Variant:**	802.11a
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5819.52	65.74	3.83	-10.26	59.31	Fundamental	Vertical	101	1	--	--	
#2	6305.77	58.44	3.93	-8.39	53.98	Peak (NRB)	Vertical	101	1	--	--	Pass
#3	7766.66	50.83	4.43	-6.71	48.55	Peak (NRB)	Vertical	151	1	--	--	Pass
#4	11649.74	44.94	5.44	-4.47	45.91	Max Avg	Vertical	150	39	54.0	-8.1	Pass
#5	11649.74	57.85	5.44	-4.47	58.82	Max Peak	Vertical	150	39	74.0	-15.2	Pass
#6	17478.36	53.79	6.31	-0.60	59.50	Peak (NRB)	Horizontal	151	1	--	--	Pass

Test Notes: EUT on 150cm table powered by POE PDSine 9001GR

NRB: Non-Restricted Band Emissions

9.4.1.7 Integral (APIN0205)

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks Metal Sheet	**Variant:**	802.11a
Antenna Gain (dBi):	4.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5187.53	70.13	3.68	-11.49	62.32	Fundamental	Horizontal	151	0	--	--	
#2	6906.71	56.84	4.11	-7.54	53.41	Peak (NRB)	Horizontal	151	0	--	--	Pass
#3	10354.99	62.70	5.53	-5.30	62.93	Peak (NRB)	Horizontal	151	0	--	--	Pass
Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE												

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks Metal Sheet	**Variant:**	802.11a
Antenna Gain (dBi):	4.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5200.00	**Data Rate:**	6.00 MBit/s
Power Setting:	22	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5198.20	73.36	3.66	-11.47	65.55	Fundamental	Horizontal	200	1	--	--	
#2	6933.31	54.32	4.11	-7.49	50.94	Peak (NRB)	Horizontal	200	1	--	--	Pass
#3	10405.66	60.70	5.45	-4.99	61.16	Peak (NRB)	Horizontal	198	1	--	--	Pass
Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE												

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks Metal Sheet	**Variant:**	802.11a
Antenna Gain (dBi):	4.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5240.00	**Data Rate:**	6.00 MBit/s
Power Setting:	22	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5238.76	74.65	3.63	-11.37	66.91	Fundamental	Horizontal	200	1	--	--	
#2	6986.64	55.02	4.13	-7.45	51.70	Peak (NRB)	Horizontal	200	1	--	--	Pass
#3	10486.37	58.37	5.42	-4.42	59.37	Peak (NRB)	Horizontal	200	1	--	--	Pass
Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE												

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks Metal Sheet	**Variant:**	802.11a
Antenna Gain (dBi):	4.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5749.94	58.11	3.85	-10.63	51.33	Fundamental	Horizontal	151	0	--	--	
#2	6219.67	55.84	3.92	-8.78	50.98	Peak (NRB)	Horizontal	151	0	--	--	Pass
#3	11492.15	50.14	5.44	-4.84	50.74	Max Avg	Vertical	130	6	54.0	-3.3	Pass
#4	11492.15	63.58	5.44	-4.84	64.18	Max Peak	Vertical	130	6	74.0	-9.8	Pass
#5	17239.77	48.07	6.47	0.34	54.88	Peak (NRB)	Horizontal	151	360	--	--	Pass
Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE												

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks Metal Sheet	**Variant:**	802.11a
Antenna Gain (dBi):	4.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5785.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5786.49	65.86	3.79	-10.44	59.21	Fundamental	Horizontal	101	1	--	--	
#2	6266.85	57.01	3.93	-8.52	52.42	Peak (NRB)	Horizontal	101	1	--	--	Pass
#3	7713.28	50.35	4.41	-6.85	47.91	Max Avg	Horizontal	183	355	54.0	-6.1	Pass
#4	7713.28	55.66	4.41	-6.85	53.22	Max Peak	Horizontal	183	355	74.0	-20.8	Pass
#5	11573.83	52.13	5.42	-4.62	52.93	Max Avg	Horizontal	193	38	54.0	-1.1	Pass
#6	11573.83	65.52	5.42	-4.62	66.32	Max Peak	Horizontal	193	38	74.0	-7.7	Pass
#7	17357.99	52.77	6.28	-0.03	59.02	Peak (NRB)	Vertical	101	1	--	--	Pass

Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE

NRB: Non-Restricted Band Emissions

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks Metal Sheet	**Variant:**	802.11a
Antenna Gain (dBi):	4.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	3883.34	51.09	3.25	-10.76	43.58	Max Avg	Vertical	145	25	54.0	-10.4	Pass
#2	3883.34	56.92	3.25	-10.76	49.41	Max Peak	Vertical	145	25	74.0	-24.6	Pass
#3	5820.32	70.42	3.83	-10.26	63.99	Fundamental	Horizontal	151	1	--	--	
#4	6304.09	57.72	3.94	-8.40	53.26	Peak (NRB)	Horizontal	151	1	--	--	Pass
#5	7766.60	53.82	4.43	-6.71	51.54	Peak (NRB)	Vertical	151	1	--	--	Pass
#6	11652.71	49.86	5.49	-4.46	50.89	Max Avg	Horizontal	131	35	54.0	-3.1	Pass
#7	11652.71	62.82	5.49	-4.46	63.85	Max Peak	Horizontal	131	35	74.0	-10.2	Pass
#8	17478.28	47.92	6.31	-0.60	53.63	Peak (NRB)	Horizontal	151	1	--	--	Pass

Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE

NRB: Non-Restricted Band Emissions

9.4.2. Restricted Band-Edge Emissions

9.4.2.1 AP-ANT-1B

The following matrix is a summary of the band-edge emissions. Graphical data is available in Section A.4 Restricted Band-Edge Emissions.

Frequency Band 5150 – 5250 MHz

Aruba Networks AP-ANT-1B		Band-Edge Freq	Peak (Limit 74.0dBµV/m)	Average (Limit 54.0dBµV/m)	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5180.00	5150.00	67.90	52.88	17.00
802.11ac-80	5210.00	5150.00	68.66	52.13	13.00
802.11n HT-20	5180.00	5150.00	68.77	53.58	18.00
802.11n HT-40	5190.00	5150.00	68.23	53.25	14.00

Frequency Band 5725 – 5850 MHz

Aruba Networks AP-ANT-1B		Band-Edge Freq	1st Marker (Limit 68.2dBµV/m)	2nd Marker (Limit 78.2dBµV/m)	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5745.00	5725.00	63.03	76.45	21.00
802.11a	5825.00	5850.00	59.79	68.75	21.00
802.11ac-80	5775.00	5725.00	65.29	67.99	17.00
802.11ac-80	5775.00	5850.00	67.68	69.22	17.00
802.11n HT-20	5745.00	5725.00	61.32	75.09	20.00
802.11n HT-20	5825.00	5850.00	61.36	70.48	21.00
802.11n HT-40	5755.00	5725.00	67.61	72.11	18.00
802.11n HT-40	5795.00	5850.00	64.03	67.87	21.00

9.4.2.2 AP-ANT-13B

The following matrix is a summary of the band-edge emissions. Graphical data is available in Section A.4 Restricted Band-Edge Emissions.

Frequency Band 5150 – 5250 MHz

Aruba Networks AP-ANT-13B		Band-Edge Freq	Peak (Limit 74.0dBµV/m)	Average (Limit 54.0dBµV/m)	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5180.00	5150.00	68.61	53.52	16.00
802.11ac-80	5210.00	5150.00	67.14	52.47	11.00
802.11n HT-20	5180.00	5150.00	68.61	53.52	16.00
802.11n HT-40	5190.00	5150.00	67.59	51.71	12.00

Frequency Band 5725 – 5850 MHz

Aruba Networks AP-ANT-13B		Band-Edge Freq	1st Marker (Limit 68.2dBµV/m)	2nd Marker (Limit 78.2dBµV/m)	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5745.00	5725.00	62.53	75.49	20.00
802.11a	5825.00	5850.00	63.00	72.83	21.00
802.11ac-80	5775.00	5725.00	67.69	70.63	17.00
802.11ac-80	5775.00	5850.00	66.39	68.42	17.00
802.11n HT-20	5745.00	5725.00	62.73	77.75	20.00
802.11n HT-20	5825.00	5850.00	64.29	74.50	21.00
802.11n HT-40	5755.00	5725.00	67.24	72.38	17.00
802.11n HT-40	5795.00	5850.00	66.74	71.27	21.00

9.4.2.3 AP-ANT-16

The following matrix is a summary of the band-edge emissions. Graphical data is available in Section A.4 Restricted Band-Edge Emissions.

Frequency Band 5150 – 5250 MHz

Aruba Networks AP-ANT-16		Band-Edge Freq	Peak (Limit 74.0dBµV/m)	Average (Limit 54.0dBµV/m)	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5180.00	5150.00	69.24	52.40	19.00
802.11ac-80	5210.00	5150.00	71.24	53.89	15.50
802.11n HT-20	5180.00	5150.00	72.37	53.43	20.00
802.11n HT-40	5190.00	5150.00	69.21	53.16	15.50

Frequency Band 5725 – 5850 MHz

Aruba Networks AP-ANT-16		Band-Edge Freq	1st Marker (Limit 68.2dBµV/m)	2nd Marker (Limit 78.2dBµV/m)	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5745.00	5725.00	63.77	77.79	21.00
802.11a	5825.00	5850.00	60.74	70.80	21.00
802.11ac-80	5775.00	5725.00	67.86	71.29	18.00
802.11ac-80	5775.00	5850.00	66.14	68.19	18.00
802.11n HT-20	5745.00	5725.00	60.54	75.46	20.00
802.11n HT-20	5825.00	5850.00	63.52	72.19	21.00
802.11n HT-40	5755.00	5725.00	66.88	72.13	18.00
802.11n HT-40	5795.00	5850.00	62.38	66.25	21.00

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks AP-ANT-16	**Variant:**	802.11a
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	19	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5150.00	14.62	3.67	34.11	52.40	Max Avg	Horizontal	143	18	54.0	-1.6	Pass
#2	5150.00	31.46	3.67	34.11	69.24	Max Peak	Horizontal	143	18	74.0	-4.8	Pass

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks AP-ANT-16	**Variant:**	802.11ac-80
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5210.00	**Data Rate:**	29.30 MBit/s
Power Setting:	15.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5144.79	33.44	3.69	34.11	71.24	Max Peak	Horizontal	143	18	74.0	-2.8	Pass
#2	5148.70	16.11	3.67	34.11	53.89	Max Avg	Horizontal	143	18	54.0	-0.1	Pass

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks AP-ANT-16	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.50 MBit/s
Power Setting:	20	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5150.00	15.65	3.67	34.11	53.43	Max Avg	Horizontal	143	18	54.0	-0.6	Pass
#2	5150.00	34.59	3.67	34.11	72.37	Max Peak	Horizontal	143	18	74.0	-1.6	Pass

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks AP-ANT-16	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5190.00	**Data Rate:**	13.50 MBit/s
Power Setting:	15.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5147.39	31.42	3.68	34.11	69.21	Max Peak	Horizontal	143	18	74.0	-4.8	Pass
#2	5150.00	15.38	3.67	34.11	53.16	Max Avg	Horizontal	143	18	54.0	-0.8	Pass

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks AP-ANT-16	**Variant:**	802.11a
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5714.70	25.62	3.81	34.34	63.77	Marker	Horizontal	197	302	68.2	-4.5	Pass
#2	5724.56	39.65	3.79	34.35	77.79	Marker	Horizontal	197	302	78.2	-0.4	Pass

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks AP-ANT-16	**Variant:**	802.11ac-80
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5775.00	**Data Rate:**	29.30 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5714.28	29.70	3.82	34.34	67.86	Marker	Horizontal	197	302	68.2	-0.4	Pass
#2	5723.80	33.15	3.79	34.35	71.29	Marker	Horizontal	197	302	78.2	-6.9	Pass

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks AP-ANT-16	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.50 MBit/s
Power Setting:	20	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5715.00	22.39	3.81	34.34	60.54	Marker	Horizontal	197	302	68.2	-7.7	Pass
#2	5725.00	37.32	3.79	34.35	75.46	Marker	Horizontal	197	302	78.2	-2.8	Pass

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks AP-ANT-16	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5755.00	**Data Rate:**	13.50 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5715.00	28.73	3.81	34.34	66.88	Marker	Horizontal	197	302	68.2	-1.4	Pass
#2	5723.80	33.99	3.79	34.35	72.13	Marker	Horizontal	197	302	78.2	-6.1	Pass

Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks AP-ANT-16	**Variant:**	802.11a
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#2	5852.10	32.35	3.82	34.63	70.80	Marker	Horizontal	184	53	78.2	-7.4	Pass
#3	5861.75	22.23	3.85	34.66	60.74	Marker	Horizontal	184	53	68.2	-7.5	Pass

Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks AP-ANT-16	**Variant:**	802.11ac-80
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5775.00	**Data Rate:**	29.30 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#2	5852.35	29.74	3.82	34.63	68.19	Marker	Horizontal	184	53	78.2	-10.0	Pass
#3	5862.63	27.63	3.85	34.66	66.14	Marker	Horizontal	184	53	68.2	-2.1	Pass

Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks AP-ANT-16	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.50 MBit/s
Power Setting:	21	**Tested By:**	jmh

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5850.00	33.75	3.81	34.63	72.19	Marker	Horizontal	132	40	78.2	-6.0	Pass
#3	5860.00	25.01	3.86	34.65	63.52	Marker	Horizontal	132	40	68.2	-4.7	Pass

Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE

Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks AP-ANT-16	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5795.00	**Data Rate:**	13.50 MBit/s
Power Setting:	21	**Tested By:**	jmh

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#2	5852.61	27.80	3.82	34.63	66.25	Marker	Horizontal	132	40	78.2	-12.0	Pass
#3	5860.00	23.87	3.86	34.65	62.38	Marker	Horizontal	132	40	68.2	-5.9	Pass

Test Notes: EUT on 150cm table. Powered by PDSine 9001GR POE

9.4.2.4 AP-ANT-18

The following matrix is a summary of the band-edge emissions. Graphical data is available in Section A.4 Restricted Band-Edge Emissions.

Frequency Band 5150 – 5250 MHz

Aruba Networks AP-ANT-18		Band-Edge Freq	Peak (Limit 74.0dBµV/m)	Average (Limit 54.0dBµV/m)	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5180.00	5150.00	69.24	52.40	19.00
802.11ac-80	5210.00	5150.00	71.24	53.89	15.50
802.11n HT-20	5180.00	5150.00	72.37	53.43	20.00
802.11n HT-40	5190.00	5150.00	69.21	53.16	15.50

Frequency Band 5725 – 5850 MHz

Aruba Networks AP-ANT-18		Band-Edge Freq	1st Marker (Limit 68.2dBµV/m)	2nd Marker (Limit 78.2dBµV/m)	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5745.00	5725.00	63.77	77.98	20.00
802.11a	5825.00	5850.00	63.16	74.50	21.00
802.11ac-80	5775.00	5725.00	67.50	71.06	17.25
802.11ac-80	5775.00	5850.00	67.48	69.31	17.25
802.11n HT-20	5745.00	5725.00	63.25	78.15	20.00
802.11n HT-20	5825.00	5850.00	65.00	75.34	21.00
802.11n HT-40	5755.00	5725.00	67.88	73.03	17.50
802.11n HT-40	5795.00	5850.00	67.62	72.00	21.00

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks AP-ANT-18	**Variant:**	802.11a
Antenna Gain (dBi):	7.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	17.25	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5103.11	16.10	3.58	34.13	53.81	Max Avg	Horizontal	160	335	54.0	-0.2	Pass
#2	5148.70	31.11	3.67	34.11	68.89	Max Peak	Horizontal	160	335	74.0	-5.1	Pass

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks AP-ANT-18	**Variant:**	802.11ac-80
Antenna Gain (dBi):	7.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5210.00	**Data Rate:**	29.30 MBit/s
Power Setting:	13	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5147.39	15.73	3.68	34.11	53.52	Max Avg	Horizontal	160	335	54.0	-0.5	Pass
#2	5148.70	30.89	3.67	34.11	68.67	Max Peak	Horizontal	160	335	74.0	-5.3	Pass

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks AP-ANT-18	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	7.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.50 MBit/s
Power Setting:	17.25	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5150.00	15.88	3.67	34.11	53.66	Max Avg	Horizontal	160	335	54.0	-0.3	Pass
#2	5150.00	30.90	3.67	34.11	68.68	Max Peak	Horizontal	160	335	74.0	-5.3	Pass

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks AP-ANT-18	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	7.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5190.00	**Data Rate:**	13.50 MBit/s
Power Setting:	14	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5142.18	31.68	3.70	34.12	69.50	Max Peak	Horizontal	160	335	74.0	-4.5	Pass
#2	5150.00	15.83	3.67	34.11	53.61	Max Avg	Horizontal	160	335	54.0	-0.4	Pass

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks AP-ANT-18	**Variant:**	802.11a
Antenna Gain (dBi):	7.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	20	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5714.76	25.62	3.81	34.34	63.77	Marker	Horizontal	148	-6	68.2	-4.5	Pass
#2	5724.52	39.84	3.79	34.35	77.98	Marker	Horizontal	148	-6	78.2	-0.3	Pass

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks AP-ANT-18	**Variant:**	802.11ac-80
Antenna Gain (dBi):	7.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5775.00	**Data Rate:**	29.30 MBit/s
Power Setting:	17.25	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5714.52	29.35	3.81	34.34	67.50	Marker	Horizontal	148	-6	68.2	-0.7	Pass
#2	5723.80	32.92	3.79	34.35	71.06	Marker	Horizontal	148	-6	78.2	-7.2	Pass

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks AP-ANT-18	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	7.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.50 MBit/s
Power Setting:	20.00	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5715.00	25.10	3.81	34.34	63.25	Marker	Horizontal	148	-6	68.2	-5.0	Pass
#2	5725.00	40.01	3.79	34.35	78.15	Marker	Horizontal	148	-6	78.2	-0.1	Pass

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks AP-ANT-18	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	7.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5755.00	**Data Rate:**	13.50 MBit/s
Power Setting:	17.50	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5715.00	29.73	3.81	34.34	67.88	Marker	Horizontal	148	-6	68.2	-0.4	Pass
#2	5723.80	34.89	3.79	34.35	73.03	Marker	Horizontal	148	-6	78.2	-5.2	Pass

Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks AP-ANT-18	**Variant:**	802.11a
Antenna Gain (dBi):	7.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5850.00	36.06	3.81	34.63	74.50	Marker	Horizontal	148	355	78.2	-3.7	Pass
#3	5860.00	24.65	3.86	34.65	63.16	Marker	Horizontal	148	355	68.2	-5.1	Pass

Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks AP-ANT-18	**Variant:**	802.11ac-80
Antenna Gain (dBi):	7.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5775.00	**Data Rate:**	29.30 MBit/s
Power Setting:	17.25	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5850.00	30.87	3.81	34.63	69.31	Marker	Horizontal	148	355	78.2	-8.9	Pass
#3	5860.00	28.97	3.86	34.65	67.48	Marker	Horizontal	148	355	8.2	-0.8	Pass

Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks AP-ANT-18	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	7.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.50 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5850.00	36.90	3.81	34.63	75.34	Marker	Horizontal	148	355	78.2	-2.9	Pass
#3	5860.00	26.49	3.86	34.65	65.00	Marker	Horizontal	148	355	68.2	-3.2	Pass

Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks AP-ANT-18	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	7.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5795.00	**Data Rate:**	13.50 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#2	5852.61	33.55	3.82	34.63	72.00	Marker	Horizontal	148	355	78.2	-6.2	Pass
#3	5860.00	29.11	3.86	34.65	67.62	Marker	Horizontal	148	355	68.2	-0.6	Pass

9.4.2.5 AP-ANT-19

The following matrix is a summary of the band-edge emissions. Graphical data is available in Section A.4 Restricted Band-Edge Emissions.

Frequency Band 5150 – 5250 MHz

Aruba Networks AP-ANT-19		Band-Edge Freq	Peak (Limit 74.0dBµV/m)	Average (Limit 54.0dBµV/m)	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5180.00	5150.00	66.95	53.34	15.00
802.11ac-80	5210.00	5150.00	69.48	53.31	12.00
802.11n HT-20	5180.00	5150.00	67.52	53.16	16.00
802.11n HT-40	5190.00	5150.00	67.52	53.16	13.00

Frequency Band 5725 – 5850 MHz

Aruba Networks AP-ANT-19		Band-Edge Freq	1st Marker (Limit 68.2dBµV/m)	2nd Marker (Limit 78.2dBµV/m)	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5745.00	5725.00	64.32	77.51	20.00
802.11a	5825.00	5850.00	64.00	74.87	21.00
802.11ac-80	5775.00	5725.00	67.26	69.94	16.00
802.11ac-80	5775.00	5850.00	67.76	70.36	18.00
802.11n HT-20	5745.00	5725.00	62.90	77.34	19.00
802.11n HT-20	5825.00	5850.00	63.20	73.53	21.00
802.11n HT-40	5755.00	5725.00	66.90	71.59	16.00
802.11n HT-40	5795.00	5850.00	66.57	71.03	21.00

9.4.2.6 AP-ANT-20

The following matrix is a summary of the band-edge emissions. Graphical data is available in Section A.4 Restricted Band-Edge Emissions.

Frequency Band 5150 – 5250 MHz

Aruba Networks AP-ANT-20		Band-Edge Freq	Peak (Limit 74.0dBµV/m)	Average (Limit 54.0dBµV/m)	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5180.00	5150.00	68.33	53.10	18.00
802.11ac-80	5210.00	5150.00	69.93	52.13	14.00
802.11n HT-20	5180.00	5150.00	68.85	52.06	18.00
802.11n HT-40	5190.00	5150.00	69.93	52.13	14.00

Frequency Band 5725 – 5850 MHz

Aruba Networks AP-ANT-20		Band-Edge Freq	1st Marker (Limit 68.2dBµV/m)	2nd Marker (Limit 78.2dBµV/m)	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5745.00	5725.00	61.89	76.29	21.00
802.11a	5825.00	5850.00	60.26	68.97	21.00
802.11ac-80	5775.00	5725.00	71.35	67.28	18.00
802.11ac-80	5775.00	5850.00	68.00	69.98	19.00
802.11n HT-20	5745.00	5725.00	59.59	75.29	20.00
802.11n HT-20	5825.00	5850.00	61.20	70.38	21.00
802.11n HT-40	5755.00	5725.00	66.39	72.54	18.00
802.11n HT-40	5795.00	5850.00	63.79	67.81	21.00

9.4.2.7 Integral (APIN0205)

The following matrix is a summary of the band-edge emissions. Graphical data is available in Section A.4 Restricted Band-Edge Emissions.

Frequency Band 5150 – 5250 MHz

Aruba Networks Integral APIN0205		Band-Edge Freq	Peak (Limit 74.0dBµV/m)	Average (Limit 54.0dBµV/m)	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5180.00	5150.00	69.36	53.40	17.00
802.11ac-80	5210.00	5150.00	68.33	53.28	13.00
802.11n HT-20	5180.00	5150.00	67.83	53.46	18.00
802.11n HT-40	5190.00	5150.00	69.56	53.19	14.00

Frequency Band 5725 – 5850 MHz

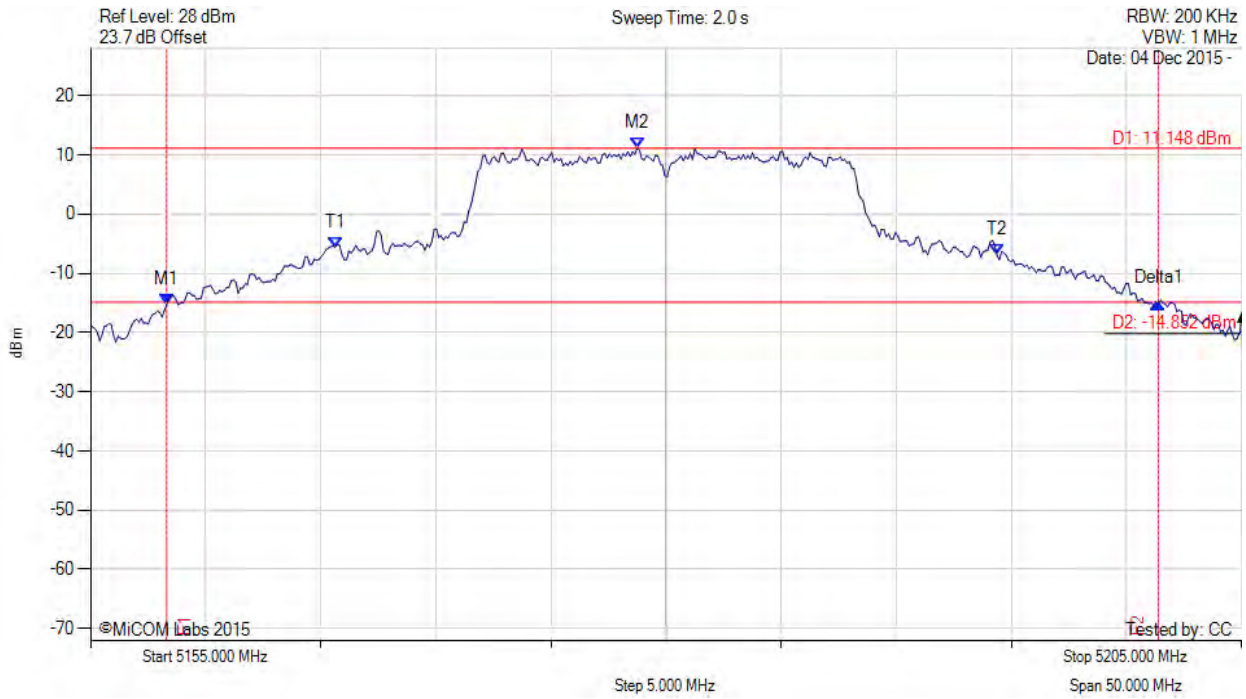
Aruba Networks APIN0205		Band-Edge Freq	1st Marker (Limit 68.2dBµV/m)	2nd Marker (Limit 78.2dBµV/m)	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5745.00	5725.00	62.57	75.50	21.00
802.11a	5825.00	5850.00	61.24	66.85	21.00
802.11ac-80	5775.00	5725.00	66.10	68.27	17.00
802.11ac-80	5775.00	5850.00	65.54	68.06	18.00
802.11n HT-20	5745.00	5725.00	62.36	75.96	20.00
802.11n HT-20	5825.00	5850.00	60.30	70.17	21.00
802.11n HT-40	5755.00	5725.00	66.03	69.90	17.00
802.11n HT-40	5795.00	5850.00	61.87	65.98	21.00

APPENDIX A - GRAPHICAL IMAGES

A.1. 26 dB & 99% Bandwidth

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5180.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

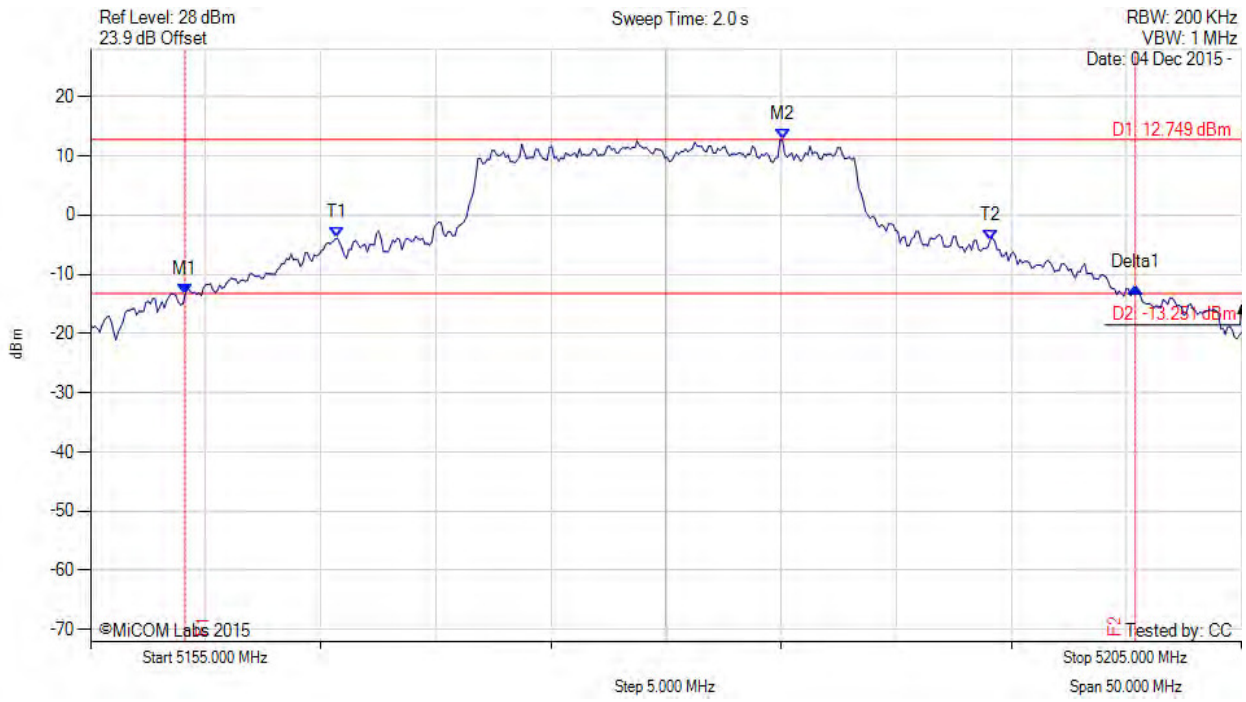


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5158.307 MHz : -15.331 dBm M2 : 5178.747 MHz : 11.148 dBm Delta1 : 43.086 MHz : 0.209 dB T1 : 5165.621 MHz : -5.583 dBm T2 : 5194.379 MHz : -6.946 dBm OBW : 28.758 MHz	Measured 26 dB Bandwidth: 43.086 MHz Measured 99% Bandwidth: 28.758 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5180.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

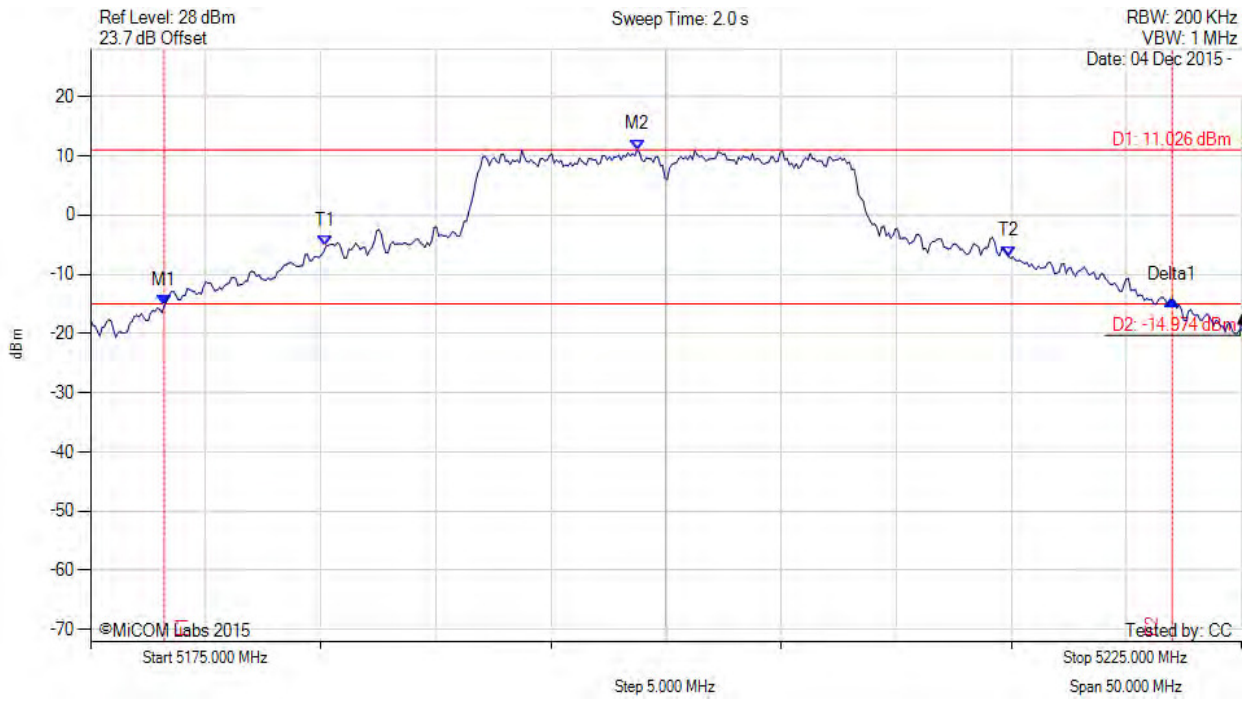


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5159.108 MHz : -13.419 dBm M2 : 5185.060 MHz : 12.749 dBm Delta1 : 41.283 MHz : 1.104 dB T1 : 5165.721 MHz : -3.873 dBm T2 : 5194.078 MHz : -4.255 dBm OBW : 28.357 MHz	Measured 26 dB Bandwidth: 41.283 MHz Measured 99% Bandwidth: 28.357 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5200.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

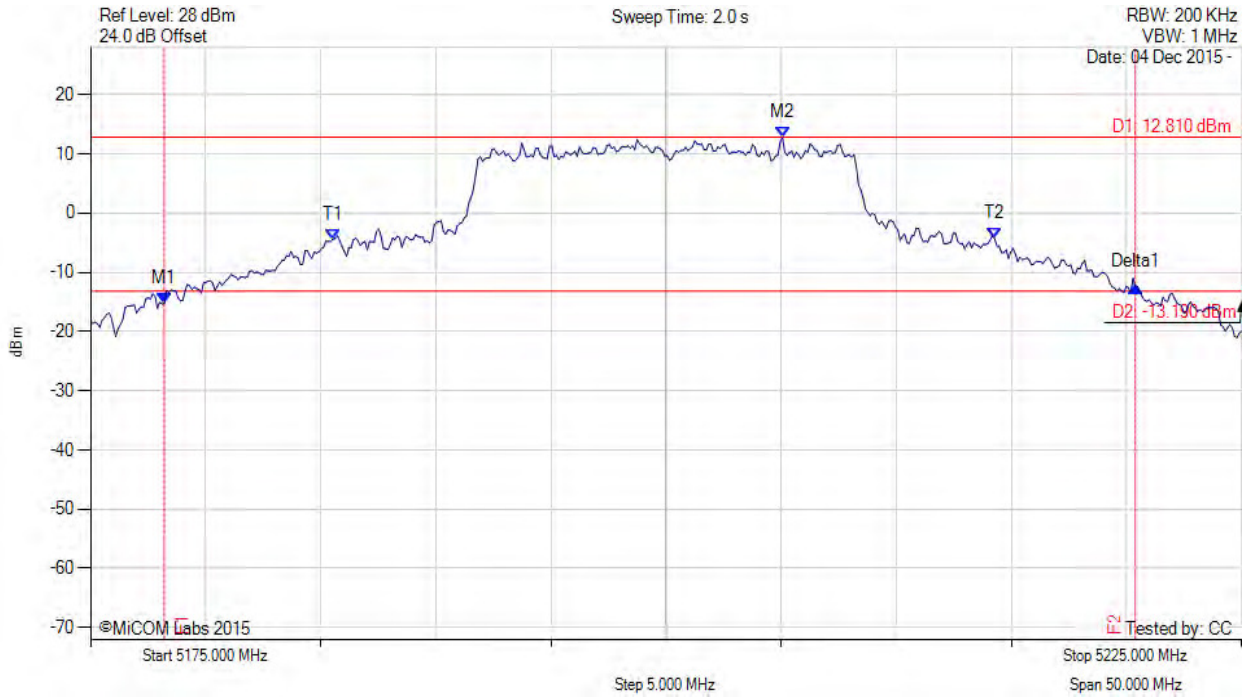


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5178.206 MHz : -15.303 dBm M2 : 5198.747 MHz : 11.026 dBm Delta1 : 43.788 MHz : 1.068 dB T1 : 5185.220 MHz : -5.313 dBm T2 : 5214.880 MHz : -6.970 dBm OBW : 29.659 MHz	Measured 26 dB Bandwidth: 43.788 MHz Measured 99% Bandwidth: 29.659 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5200.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

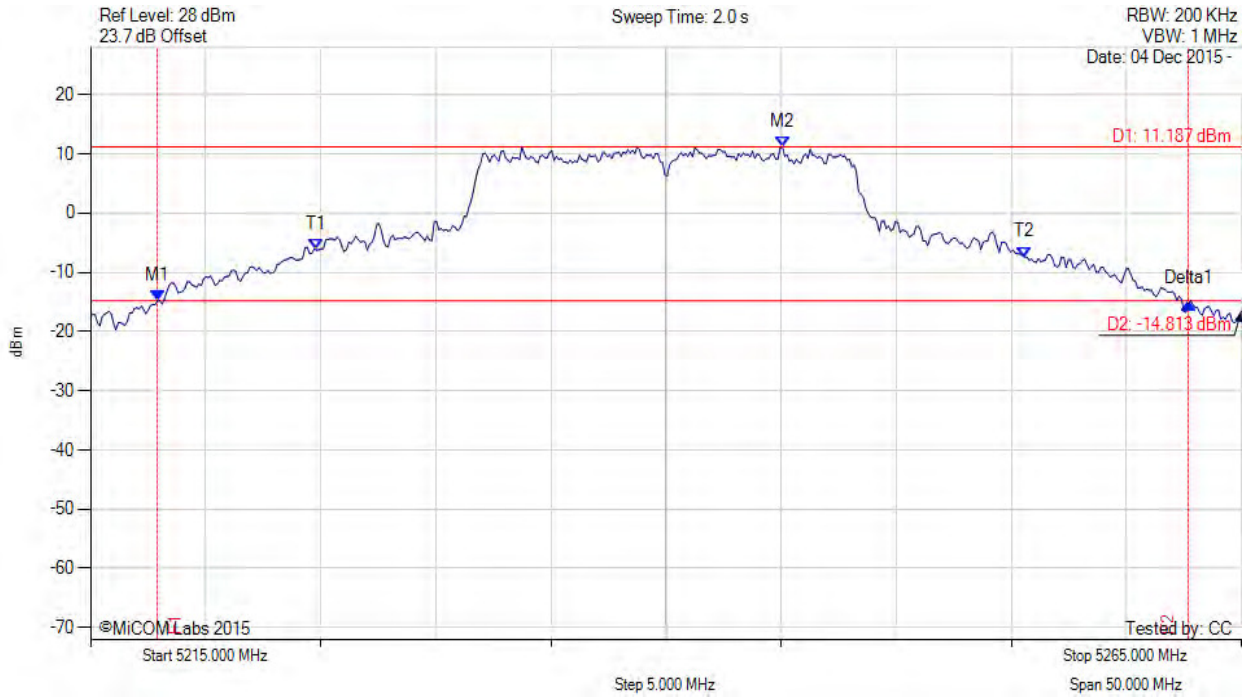


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5178.206 MHz : -15.244 dBm M2 : 5205.060 MHz : 12.810 dBm Delta1 : 42.184 MHz : 2.754 dB T1 : 5185.521 MHz : -4.420 dBm T2 : 5214.279 MHz : -4.337 dBm OBW : 28.758 MHz	Measured 26 dB Bandwidth: 42.184 MHz Measured 99% Bandwidth: 28.758 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5240.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

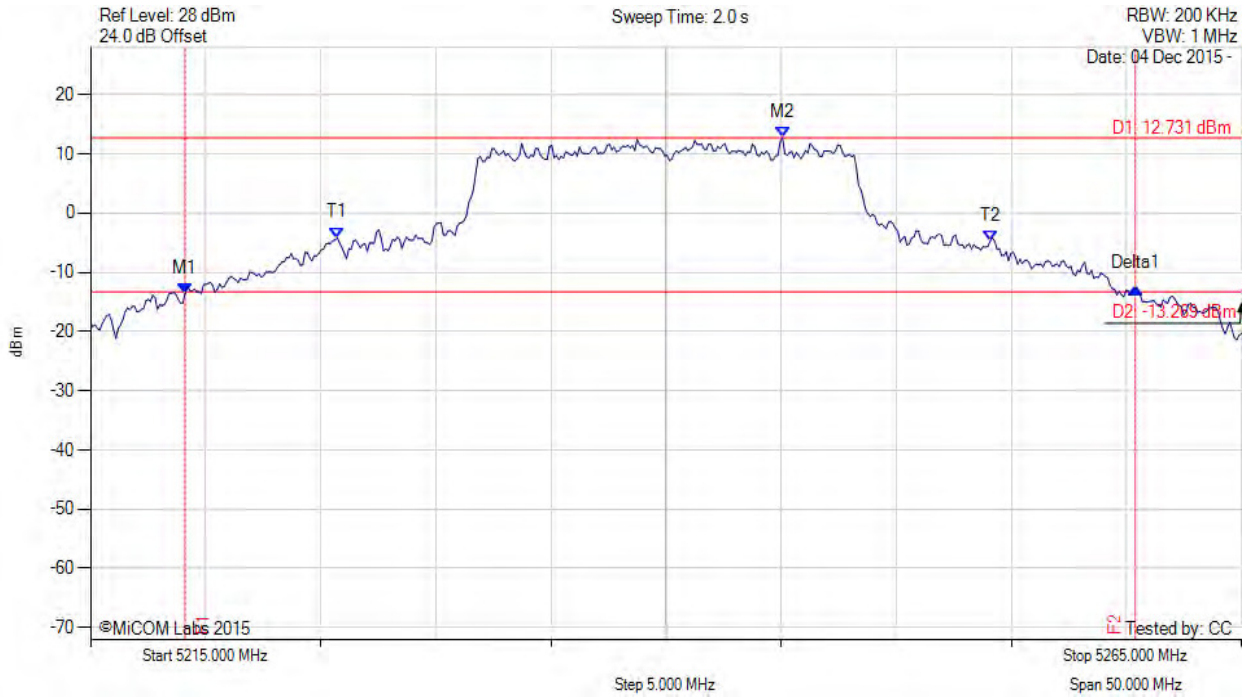


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5217.906 MHz : -14.882 dBm M2 : 5245.060 MHz : 11.187 dBm Delta1 : 44.790 MHz : -0.325 dB T1 : 5224.820 MHz : -6.234 dBm T2 : 5255.581 MHz : -7.436 dBm OBW : 30.762 MHz	Measured 26 dB Bandwidth: 44.790 MHz Measured 99% Bandwidth: 30.762 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5240.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

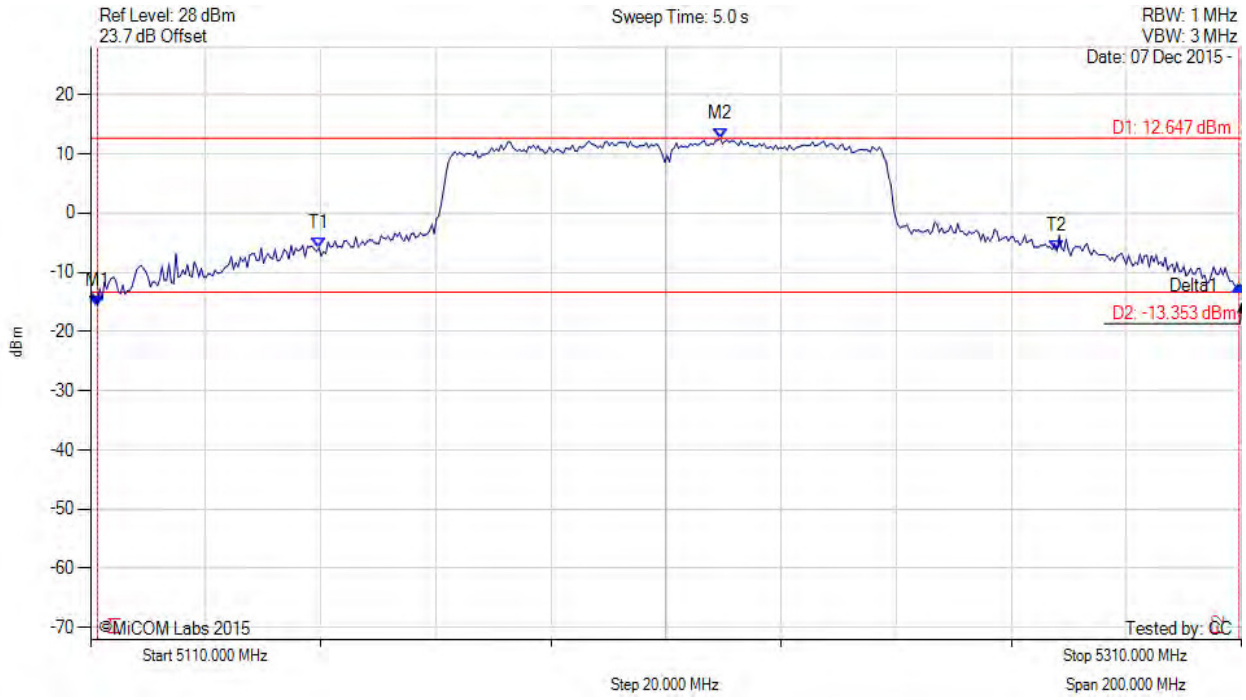


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5219.108 MHz : -13.553 dBm M2 : 5245.060 MHz : 12.731 dBm Delta1 : 41.283 MHz : 0.816 dB T1 : 5225.721 MHz : -4.170 dBm T2 : 5254.078 MHz : -4.804 dBm OBW : 28.357 MHz	Measured 26 dB Bandwidth: 41.283 MHz Measured 99% Bandwidth: 28.357 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5210.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

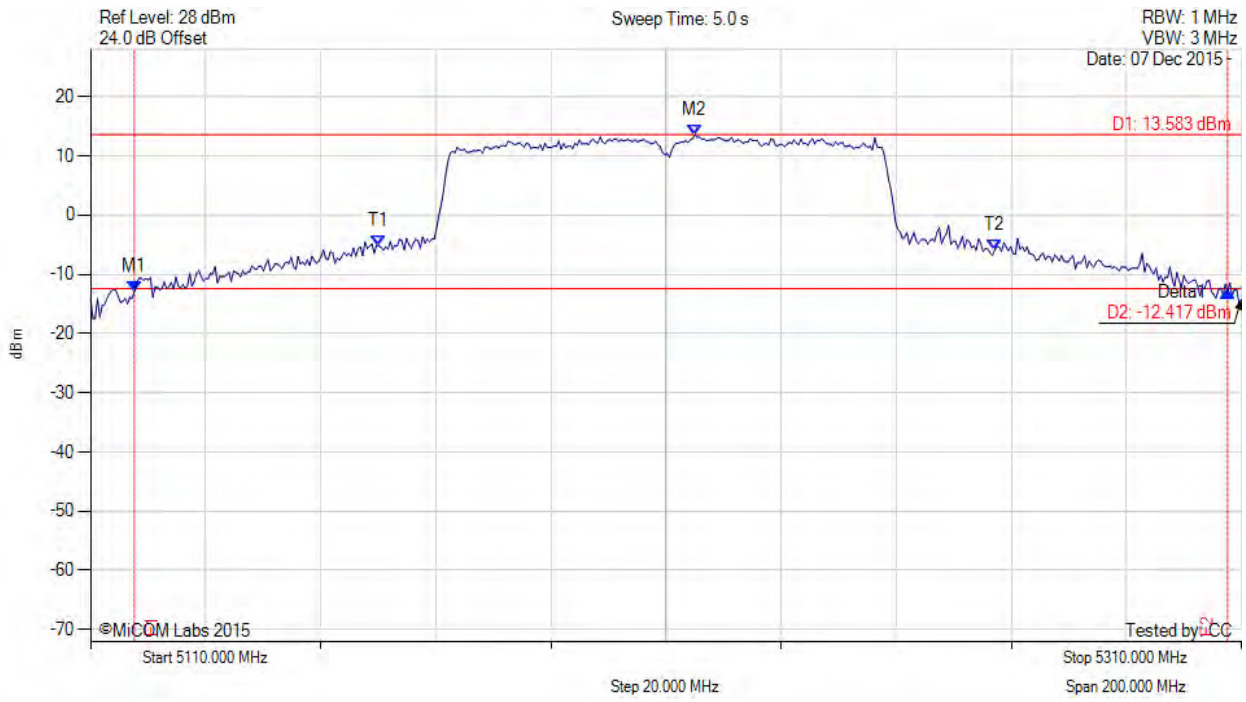


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5111.202 MHz : -15.658 dBm M2 : 5219.419 MHz : 12.647 dBm Delta1 : 198.397 MHz : 3.352 dB T1 : 5149.679 MHz : -5.876 dBm T2 : 5277.936 MHz : -6.478 dBm OBW : 128.257 MHz	Measured 26 dB Bandwidth: 198.397 MHz Measured 99% Bandwidth: 128.257 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5210.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

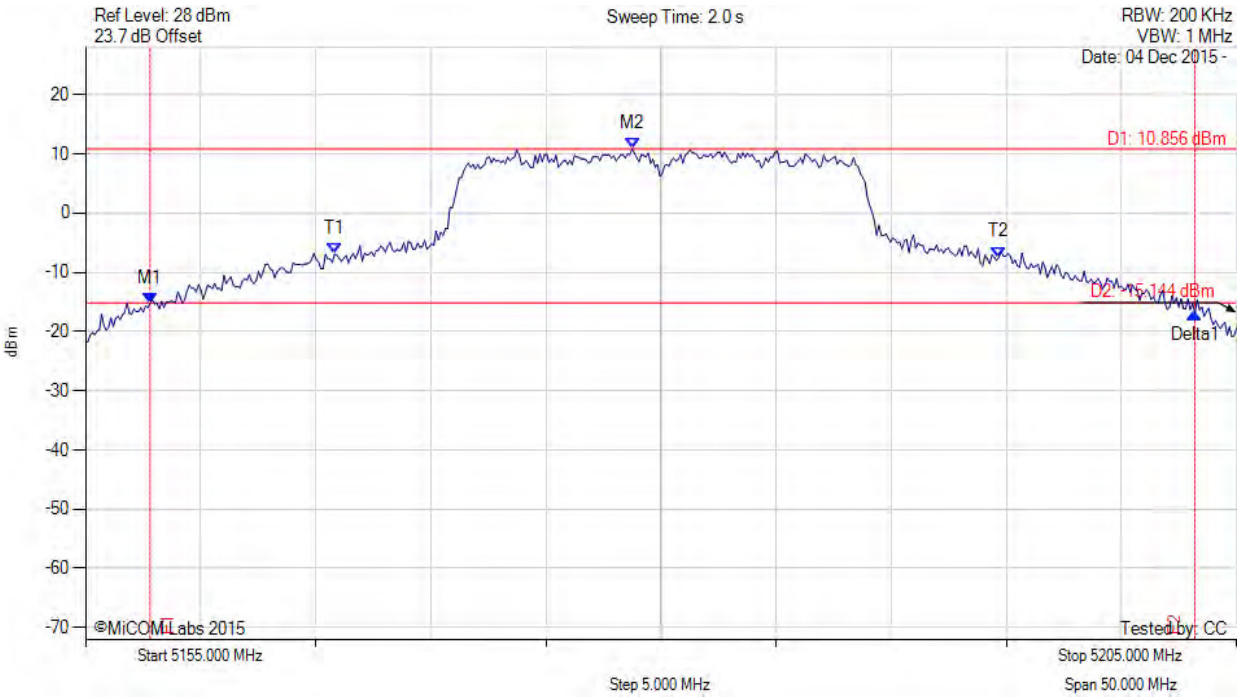


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5117.615 MHz : -12.901 dBm M2 : 5215.010 MHz : 13.583 dBm Delta1 : 189.980 MHz : 0.008 dB T1 : 5160.100 MHz : -5.187 dBm T2 : 5267.114 MHz : -5.913 dBm OBW : 107.014 MHz	Measured 26 dB Bandwidth: 189.980 MHz Measured 99% Bandwidth: 107.014 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5180.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

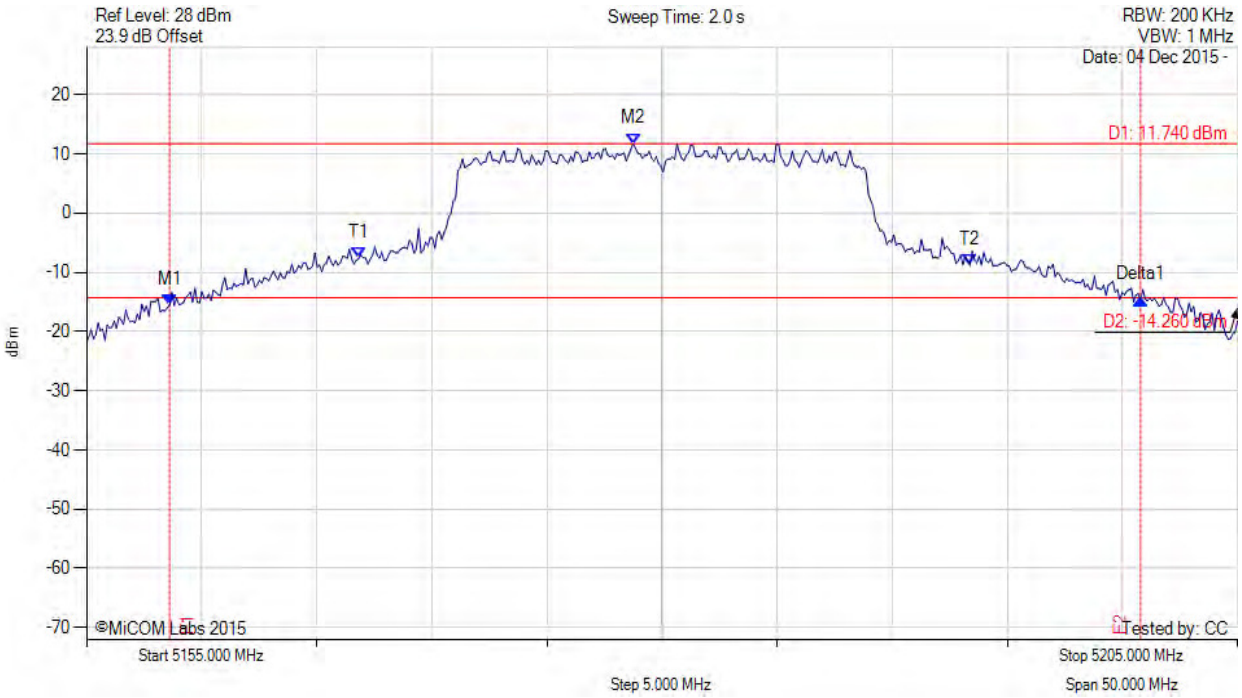


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5157.806 MHz : -15.162 dBm M2 : 5178.747 MHz : 10.856 dBm Delta1 : 45.391 MHz : -1.767 dB T1 : 5165.822 MHz : -6.899 dBm T2 : 5194.679 MHz : -7.448 dBm OBW : 28.858 MHz	Measured 26 dB Bandwidth: 45.391 MHz Measured 99% Bandwidth: 28.858 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5180.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

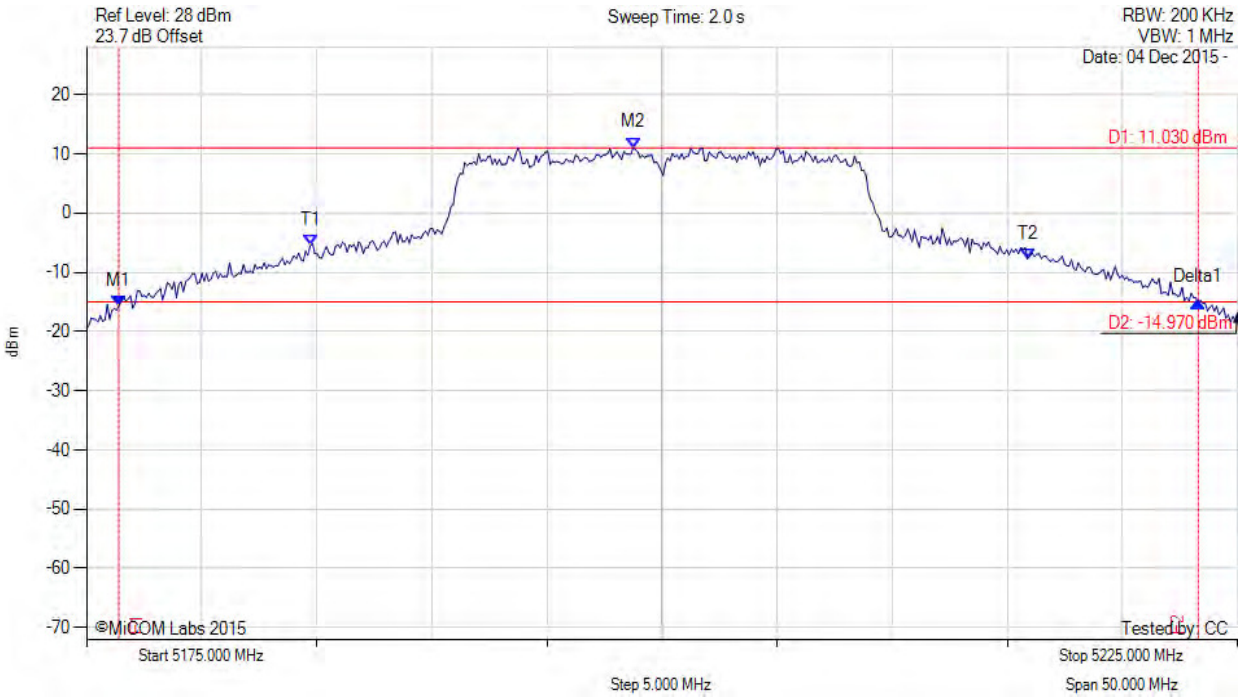


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5158.607 MHz : -15.561 dBm M2 : 5178.747 MHz : 11.740 dBm Delta1 : 42.184 MHz : 0.946 dB T1 : 5166.824 MHz : -7.648 dBm T2 : 5193.377 MHz : -8.813 dBm OBW : 26.553 MHz	Measured 26 dB Bandwidth: 42.184 MHz Measured 99% Bandwidth: 26.553 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5200.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

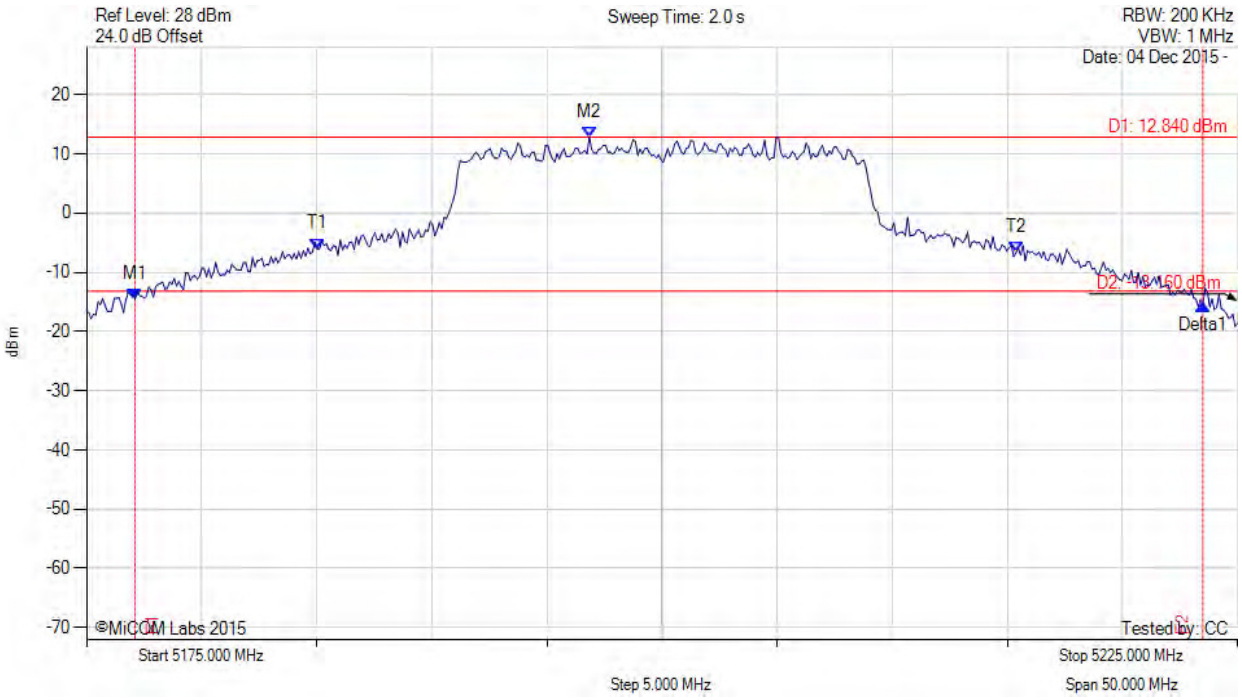


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5176.403 MHz : -15.730 dBm M2 : 5198.747 MHz : 11.030 dBm Delta1 : 46.894 MHz : 0.728 dB T1 : 5184.719 MHz : -5.541 dBm T2 : 5215.882 MHz : -7.713 dBm OBW : 31.162 MHz	Measured 26 dB Bandwidth: 46.894 MHz Measured 99% Bandwidth: 31.162 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5200.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

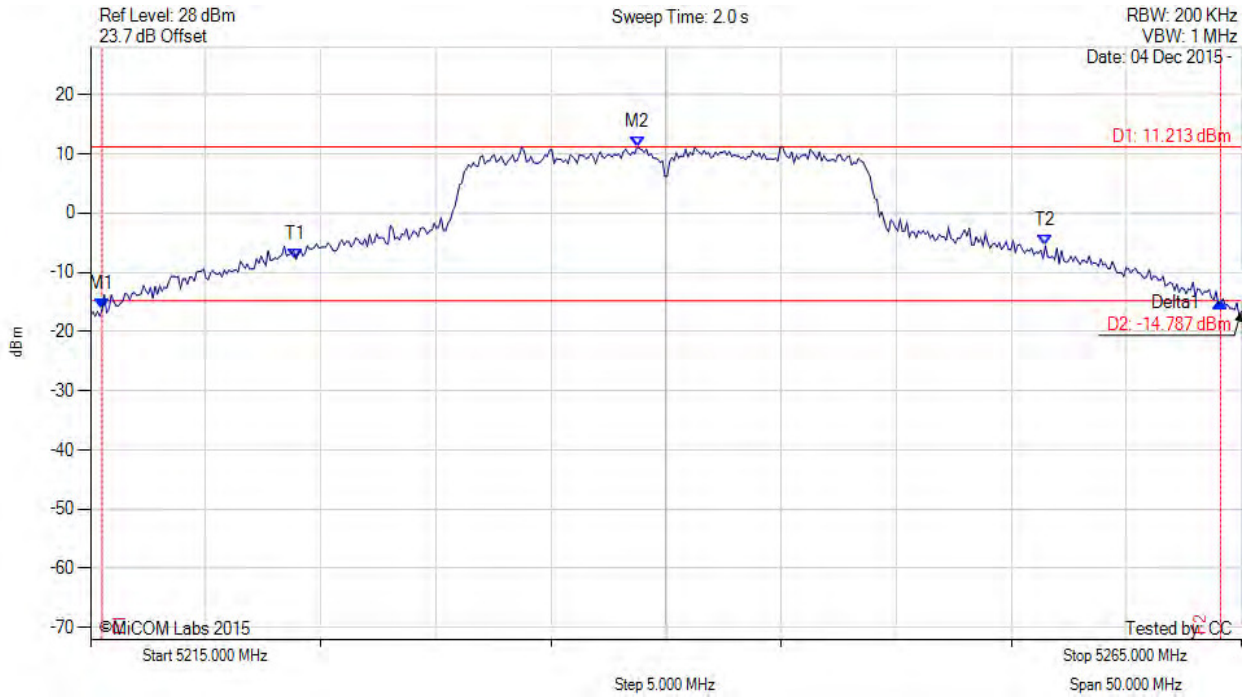


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5177.104 MHz : -14.515 dBm M2 : 5196.844 MHz : 12.840 dBm Delta1 : 46.393 MHz : -0.881 dB T1 : 5185.020 MHz : -6.035 dBm T2 : 5215.381 MHz : -6.702 dBm OBW : 30.361 MHz	Measured 26 dB Bandwidth: 46.393 MHz Measured 99% Bandwidth: 30.361 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5240.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

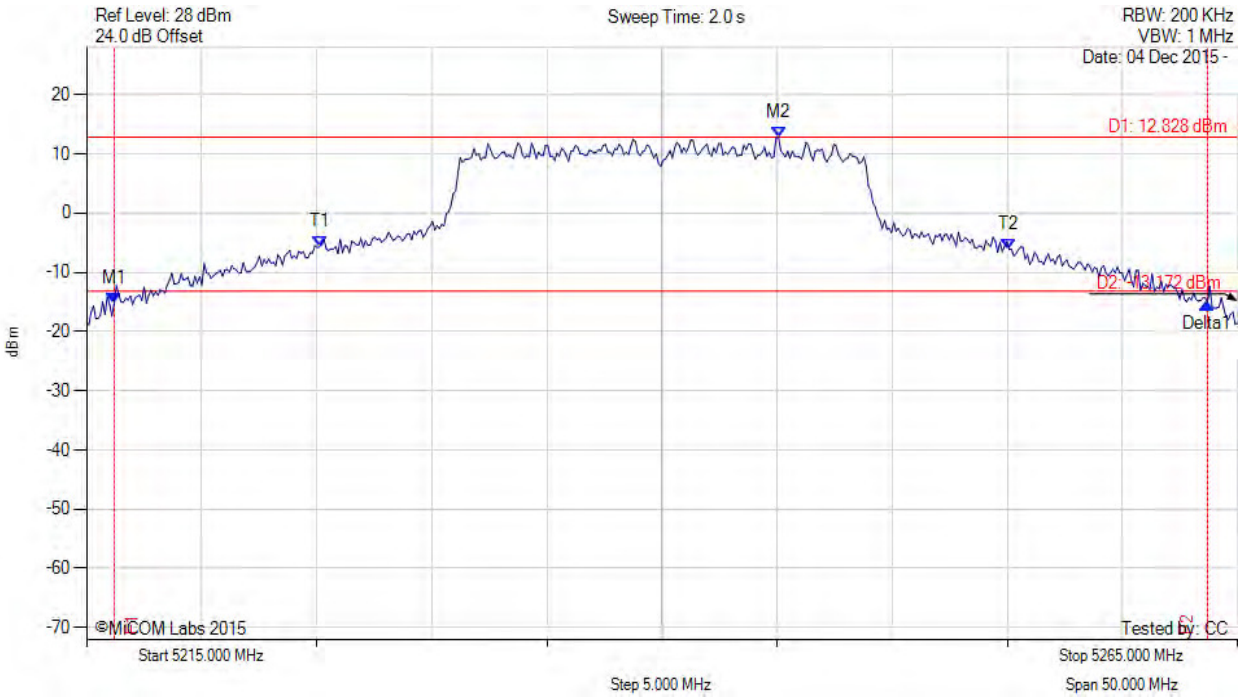


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5215.501 MHz : -16.283 dBm M2 : 5238.747 MHz : 11.213 dBm Delta1 : 48.597 MHz : 1.153 dB T1 : 5223.918 MHz : -7.839 dBm T2 : 5256.483 MHz : -5.526 dBm OBW : 32.565 MHz	Measured 26 dB Bandwidth: 48.597 MHz Measured 99% Bandwidth: 32.565 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5240.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

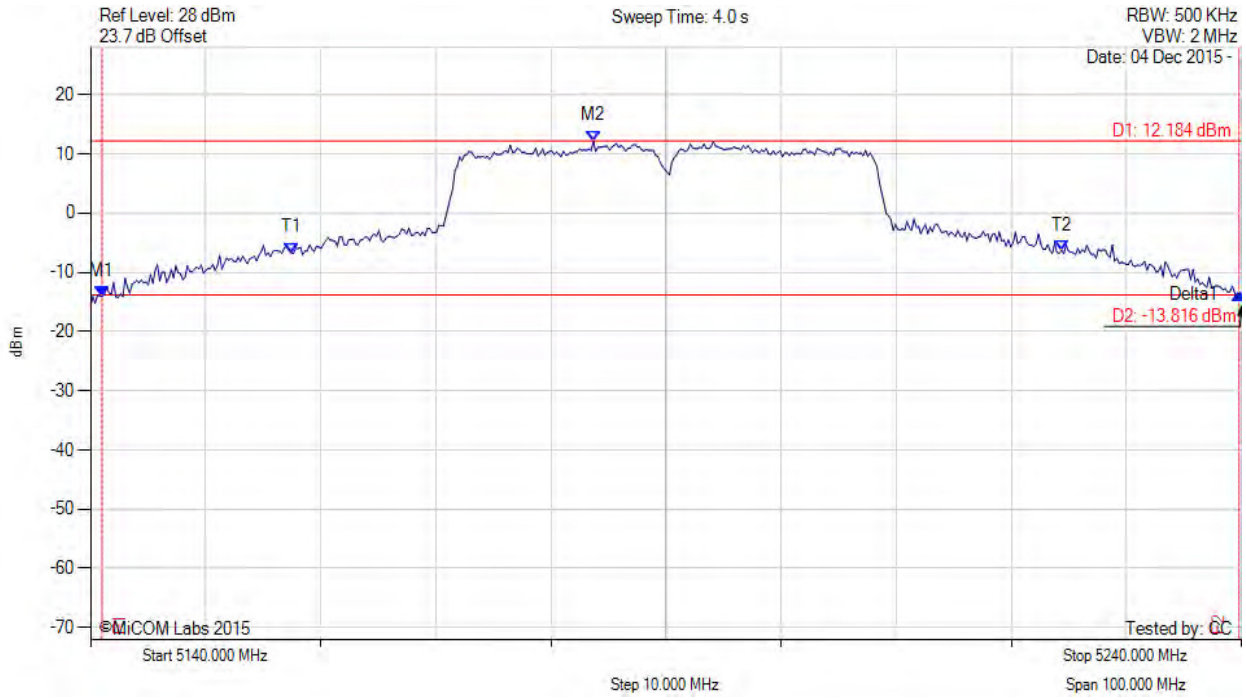


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5216.202 MHz : -15.227 dBm M2 : 5245.060 MHz : 12.828 dBm Delta1 : 47.495 MHz : 0.024 dB T1 : 5225.120 MHz : -5.681 dBm T2 : 5255.080 MHz : -6.098 dBm OBW : 29.960 MHz	Measured 26 dB Bandwidth: 47.495 MHz Measured 99% Bandwidth: 29.960 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5190.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

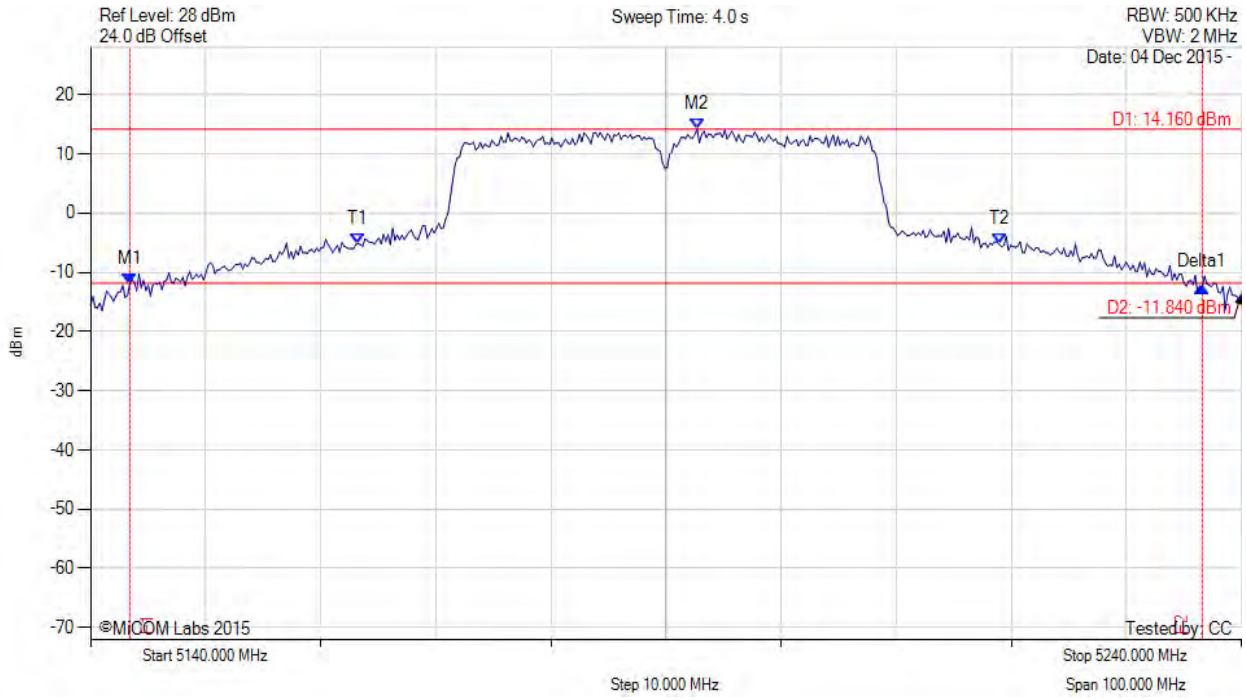


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5141.002 MHz : -14.048 dBm M2 : 5183.687 MHz : 12.184 dBm Delta1 : 98.798 MHz : 0.458 dB T1 : 5157.435 MHz : -6.747 dBm T2 : 5224.369 MHz : -6.289 dBm OBW : 66.934 MHz	Measured 26 dB Bandwidth: 98.798 MHz Measured 99% Bandwidth: 66.934 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5190.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

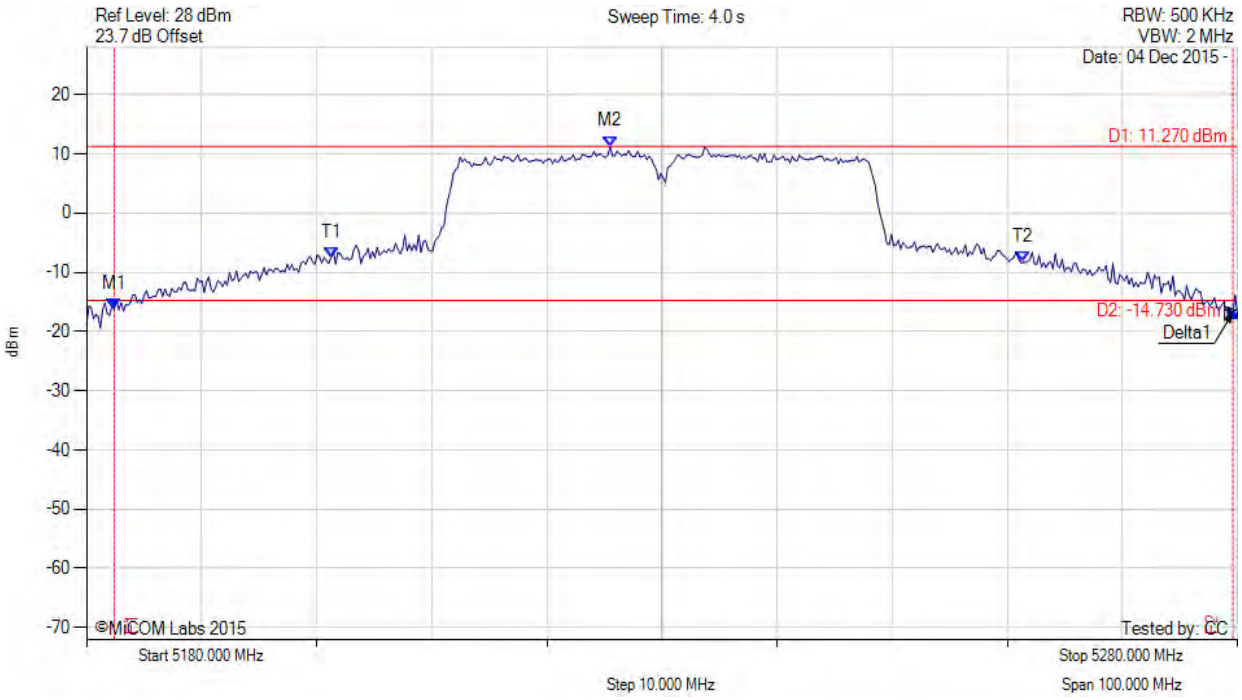


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5143.407 MHz : -11.996 dBm M2 : 5192.705 MHz : 14.160 dBm Delta1 : 93.186 MHz : -0.506 dB T1 : 5163.246 MHz : -5.146 dBm T2 : 5218.958 MHz : -5.278 dBm OBW : 55.711 MHz	Measured 26 dB Bandwidth: 93.186 MHz Measured 99% Bandwidth: 55.711 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5230.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

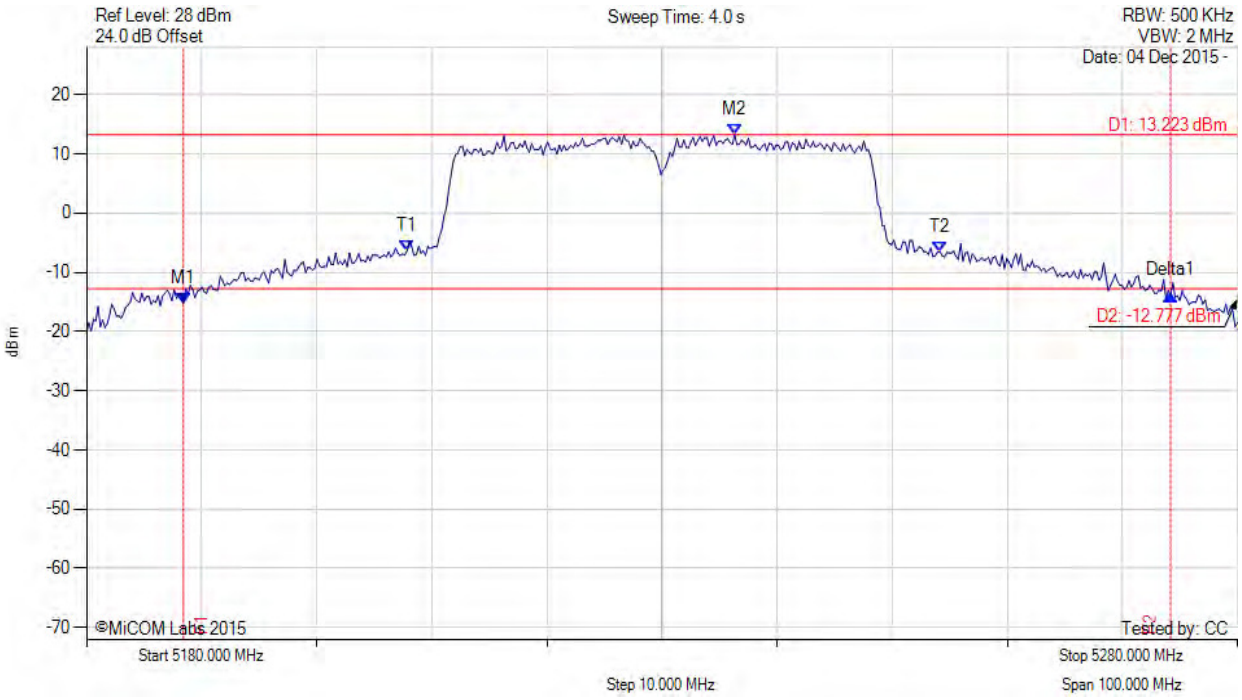


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5182.405 MHz : -16.205 dBm M2 : 5225.491 MHz : 11.270 dBm Delta1 : 97.194 MHz : -0.535 dB T1 : 5201.242 MHz : -7.466 dBm T2 : 5261.363 MHz : -8.306 dBm OBW : 60.120 MHz	Measured 26 dB Bandwidth: 97.194 MHz Measured 99% Bandwidth: 60.120 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5230.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

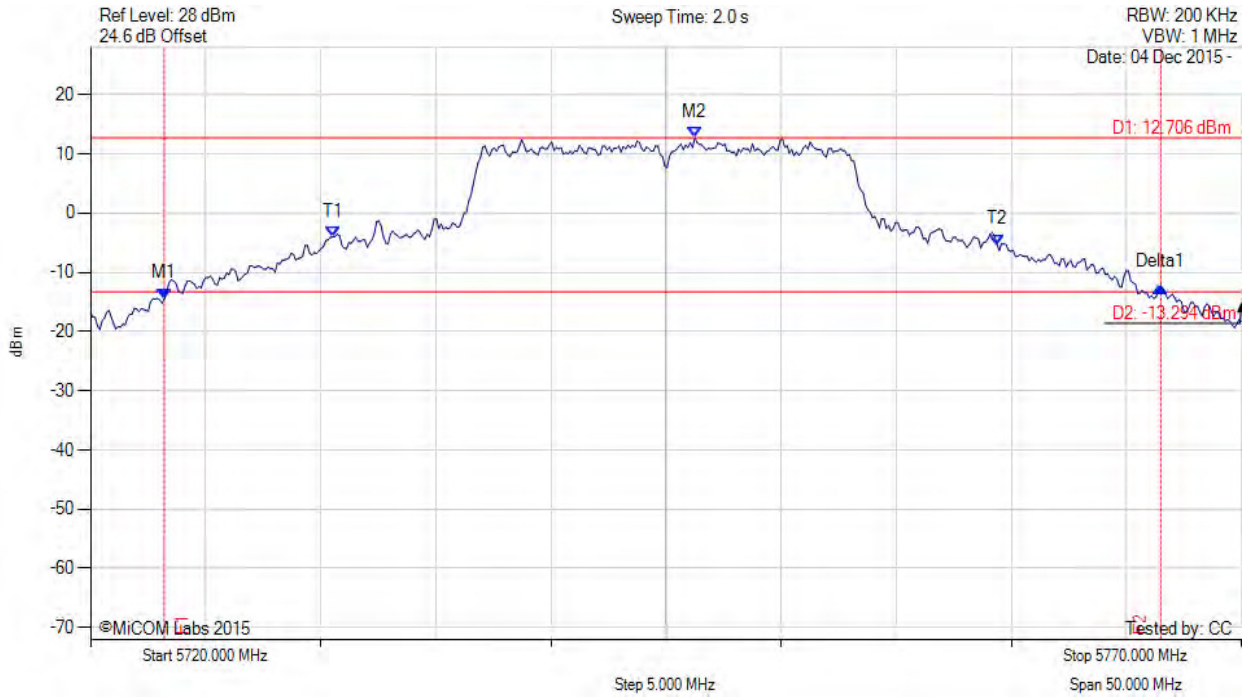


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5188.417 MHz : -15.191 dBm M2 : 5236.313 MHz : 13.223 dBm Delta1 : 85.772 MHz : 1.234 dB T1 : 5207.856 MHz : -6.307 dBm T2 : 5254.148 MHz : -6.531 dBm OBW : 46.293 MHz	Measured 26 dB Bandwidth: 85.772 MHz Measured 99% Bandwidth: 46.293 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

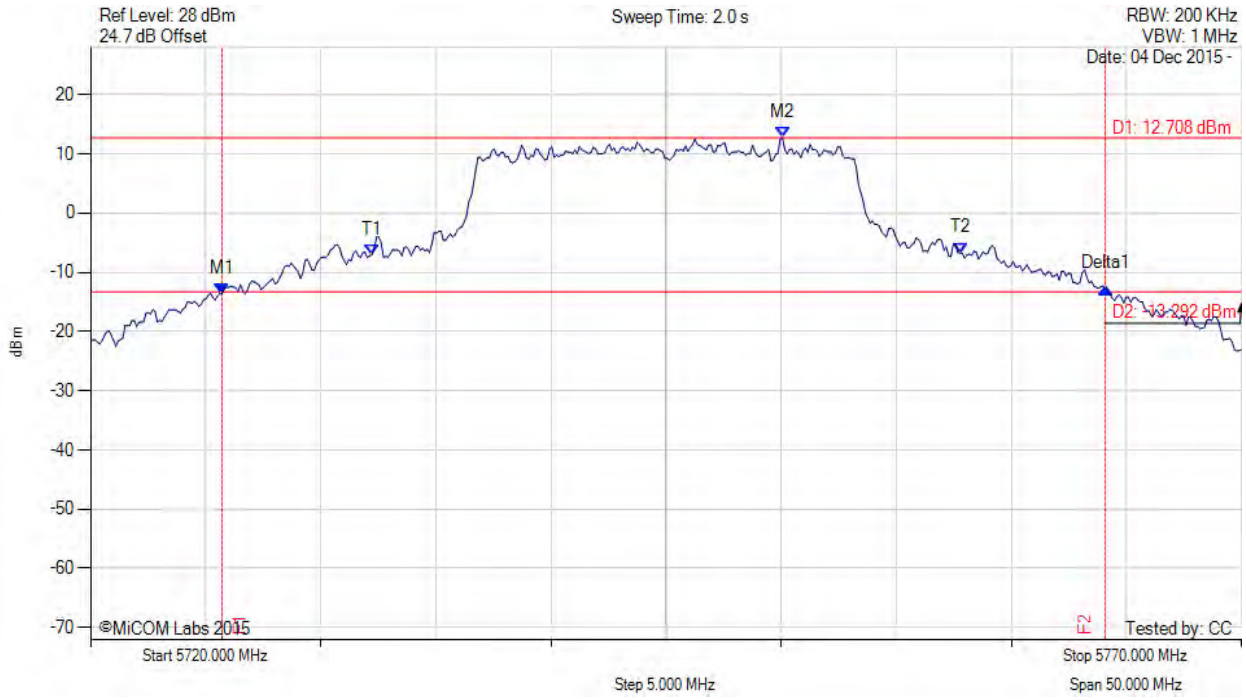


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5723.206 MHz : -14.446 dBm M2 : 5746.253 MHz : 12.706 dBm Delta1 : 43.287 MHz : 1.969 dB T1 : 5730.521 MHz : -4.023 dBm T2 : 5759.379 MHz : -5.345 dBm OBW : 28.858 MHz	Measured 26 dB Bandwidth: 43.287 MHz Measured 99% Bandwidth: 28.858 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5745.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

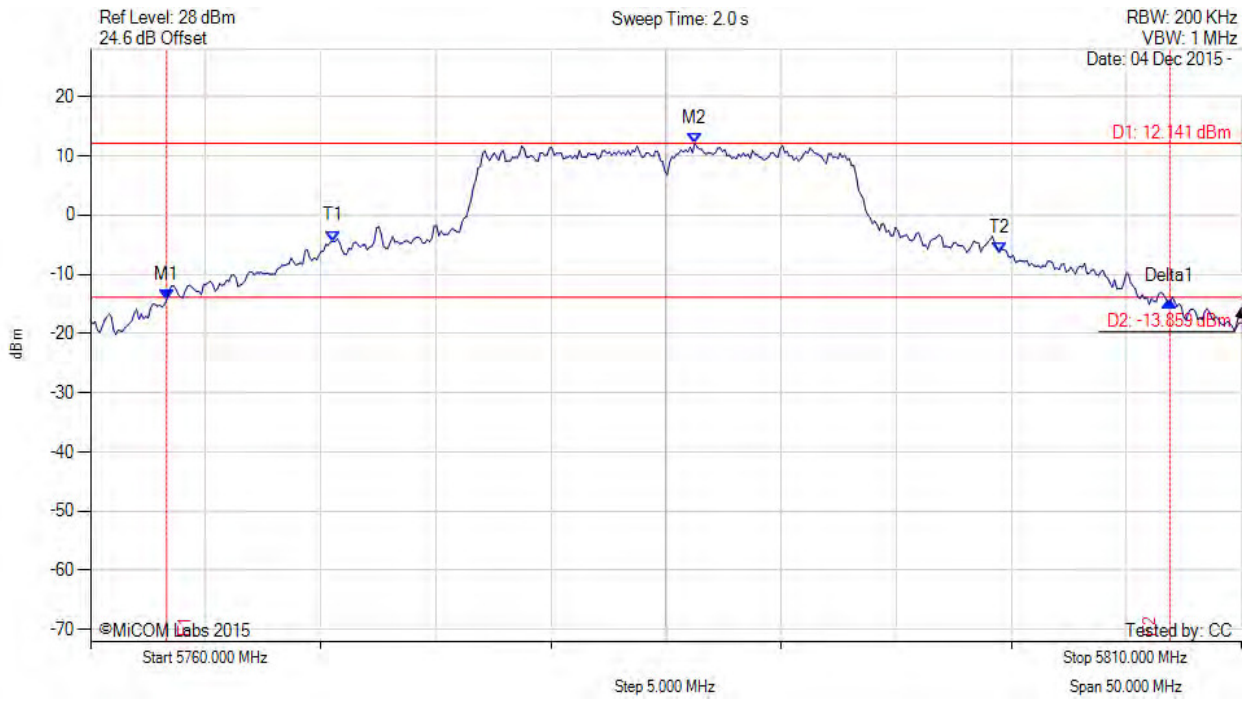


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5725.711 MHz : -13.678 dBm M2 : 5750.060 MHz : 12.708 dBm Delta1 : 38.377 MHz : 0.944 dB T1 : 5732.224 MHz : -7.090 dBm T2 : 5757.776 MHz : -6.726 dBm OBW : 25.551 MHz	Measured 26 dB Bandwidth: 38.377 MHz Measured 99% Bandwidth: 25.551 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5785.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

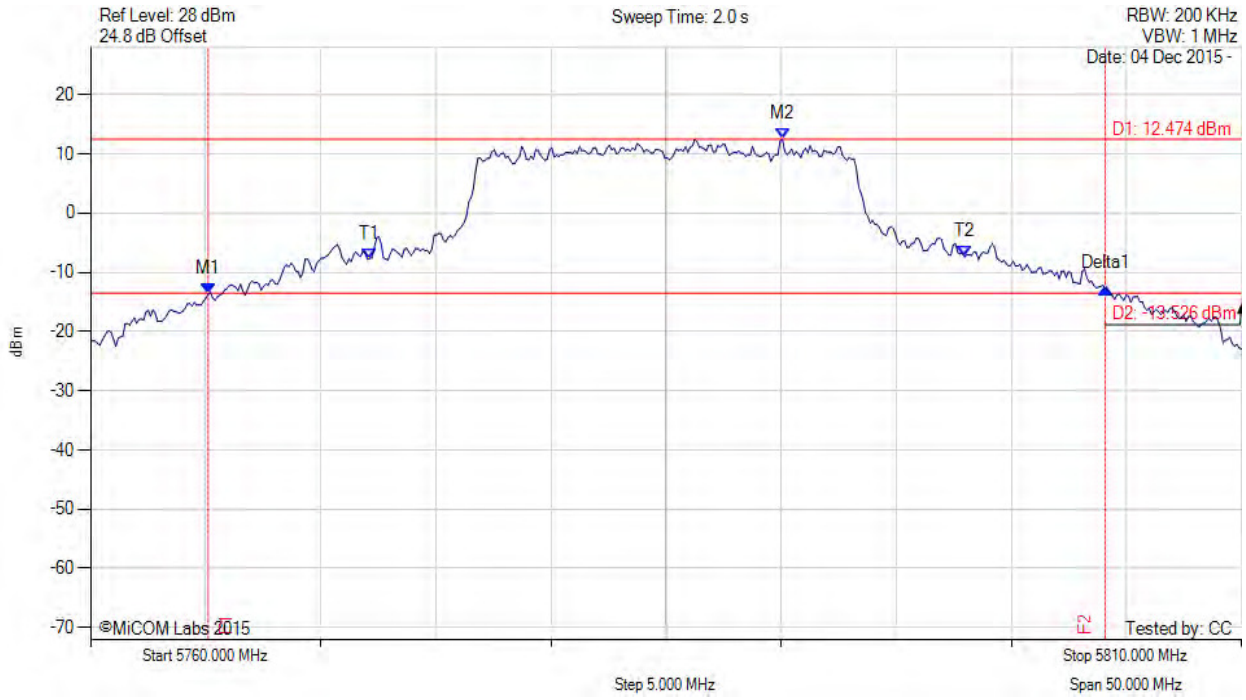


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5763.307 MHz : -14.288 dBm M2 : 5786.253 MHz : 12.141 dBm Delta1 : 43.587 MHz : -0.378 dB T1 : 5770.521 MHz : -4.396 dBm T2 : 5799.479 MHz : -6.287 dBm OBW : 28.958 MHz	Measured 26 dB Bandwidth: 43.587 MHz Measured 99% Bandwidth: 28.958 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5785.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

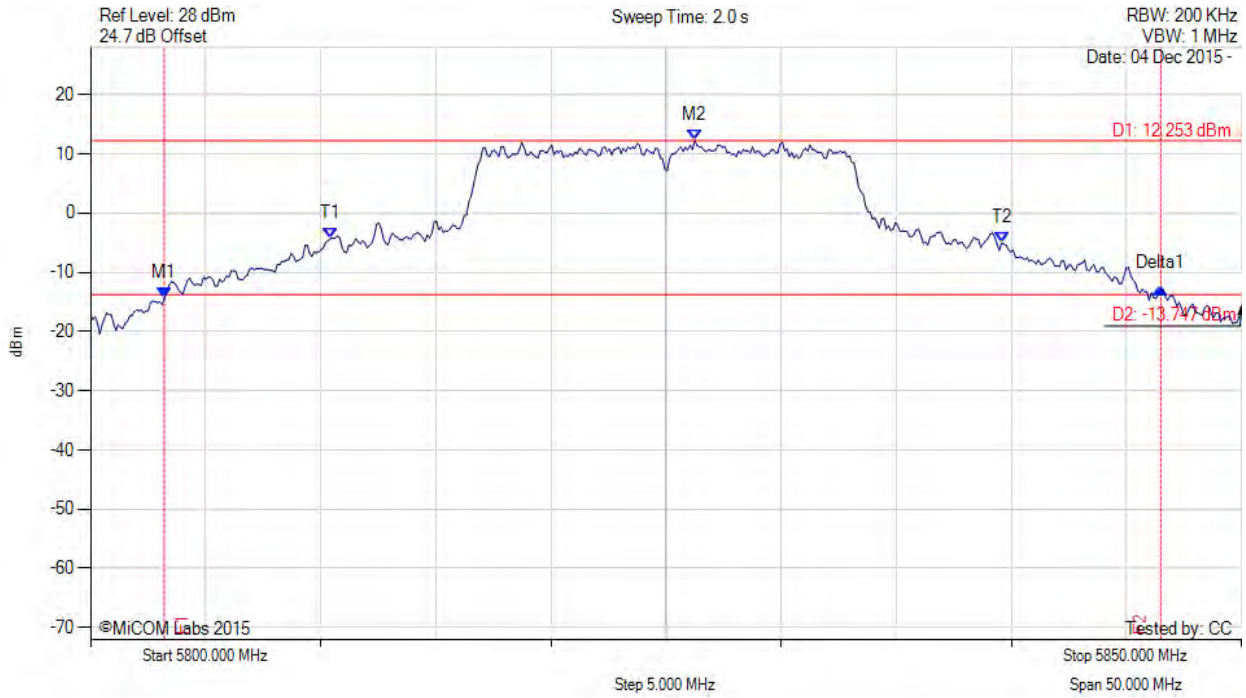


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5765.110 MHz : -13.678 dBm M2 : 5790.060 MHz : 12.474 dBm Delta1 : 38.978 MHz : 1.068 dB T1 : 5772.124 MHz : -7.690 dBm T2 : 5797.976 MHz : -7.397 dBm OBW : 25.852 MHz	Measured 26 dB Bandwidth: 38.978 MHz Measured 99% Bandwidth: 25.852 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

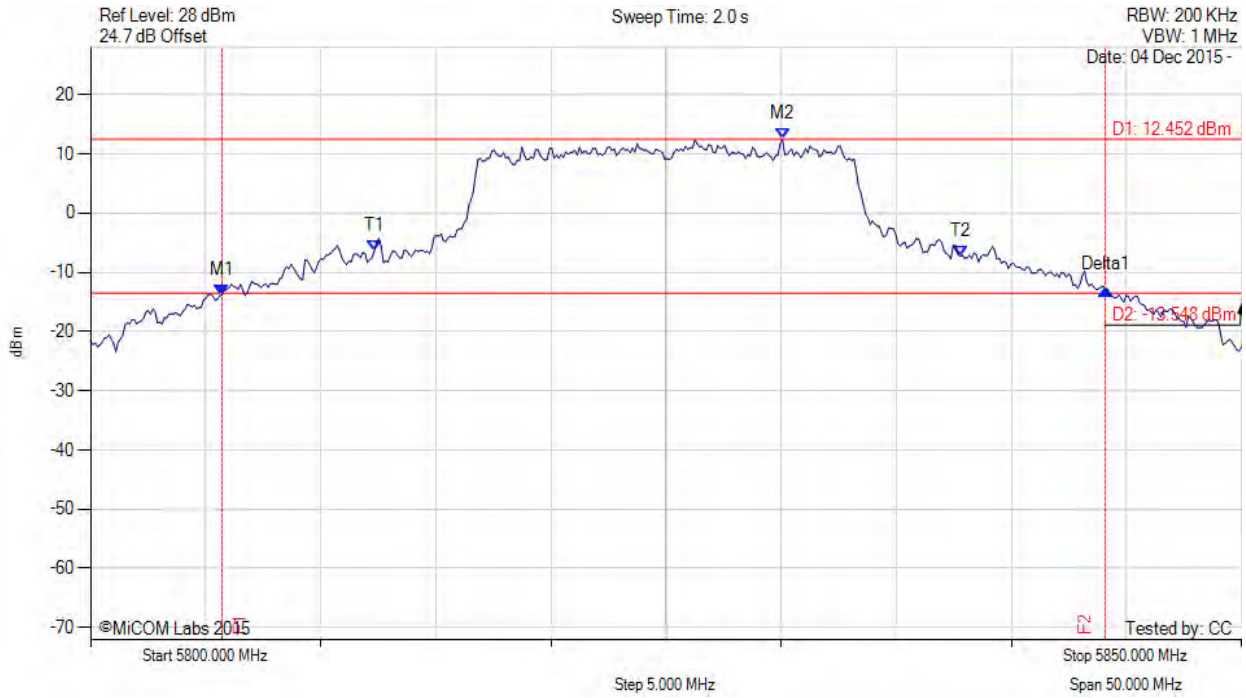


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5803.206 MHz : -14.408 dBm M2 : 5826.253 MHz : 12.253 dBm Delta1 : 43.287 MHz : 1.723 dB T1 : 5810.421 MHz : -4.322 dBm T2 : 5839.579 MHz : -5.083 dBm OBW : 29.158 MHz	Measured 26 dB Bandwidth: 43.287 MHz Measured 99% Bandwidth: 29.158 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5825.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

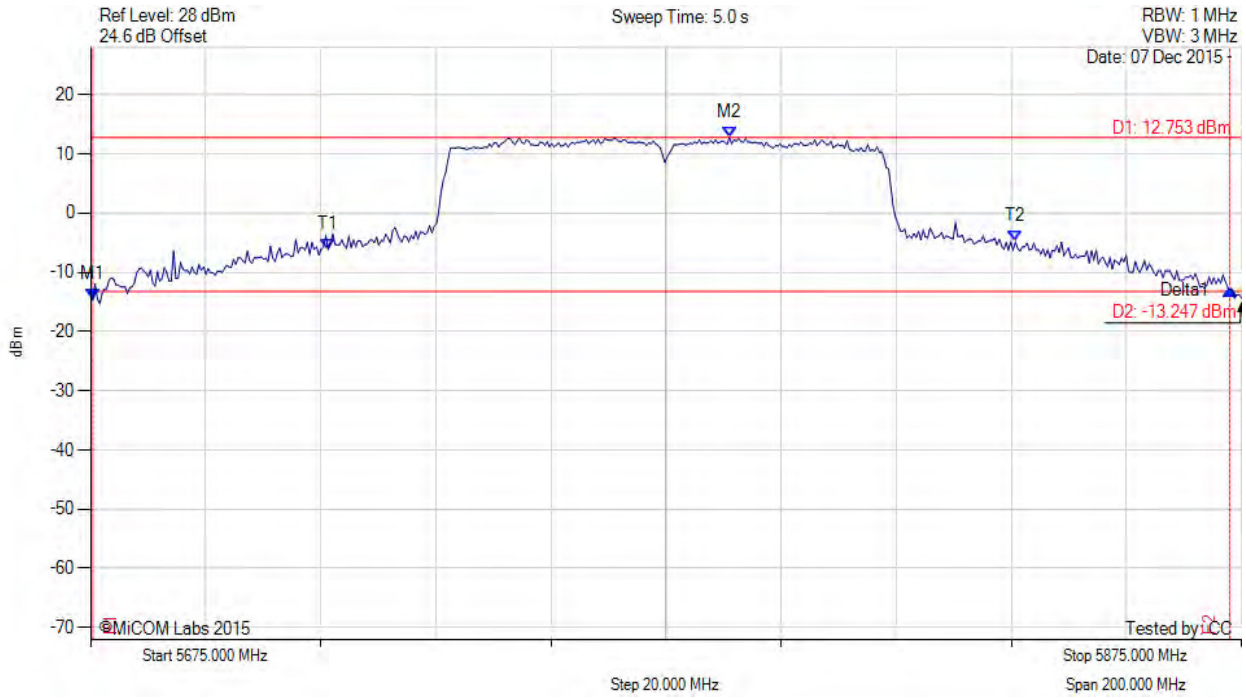


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5805.711 MHz : -13.791 dBm M2 : 5830.060 MHz : 12.452 dBm Delta1 : 38.377 MHz : 0.909 dB T1 : 5812.325 MHz : -6.468 dBm T2 : 5837.776 MHz : -7.279 dBm OBW : 25.451 MHz	Measured 26 dB Bandwidth: 38.377 MHz Measured 99% Bandwidth: 25.451 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

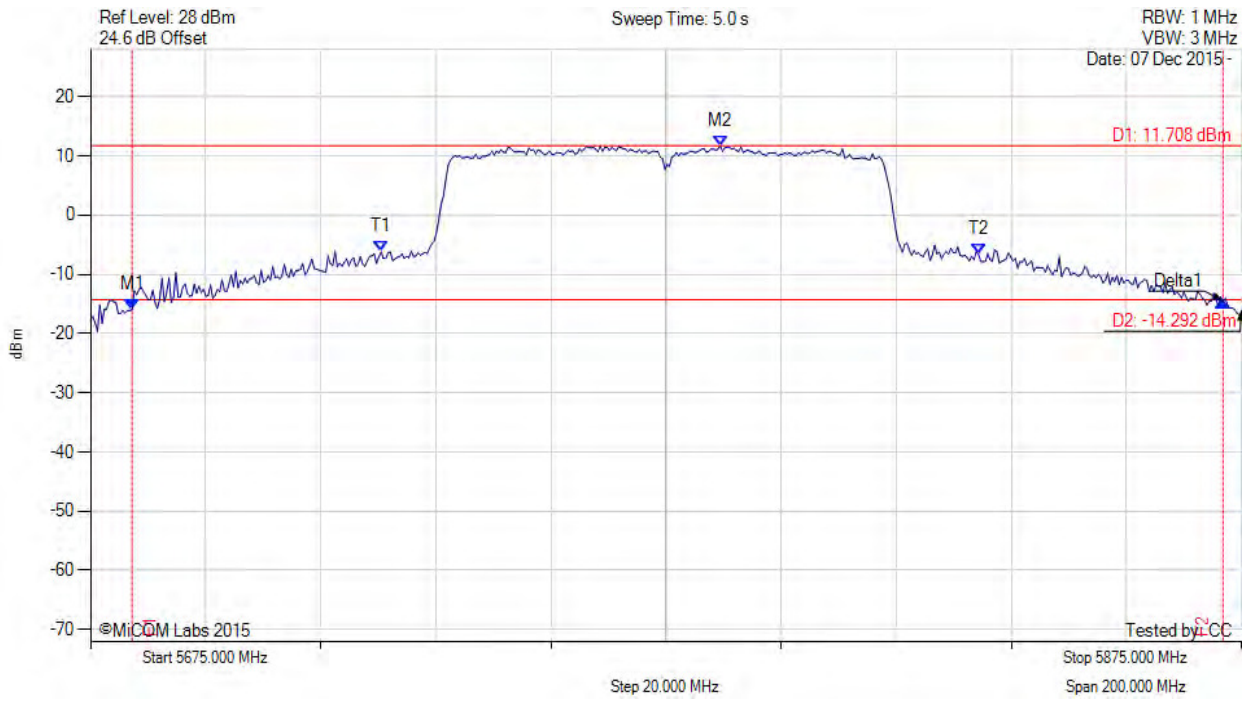


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5675.401 MHz : -14.662 dBm M2 : 5786.022 MHz : 12.753 dBm Delta1 : 197.595 MHz : 1.769 dB T1 : 5716.283 MHz : -6.145 dBm T2 : 5835.721 MHz : -4.821 dBm OBW : 119.439 MHz	Measured 26 dB Bandwidth: 197.595 MHz Measured 99% Bandwidth: 119.439 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

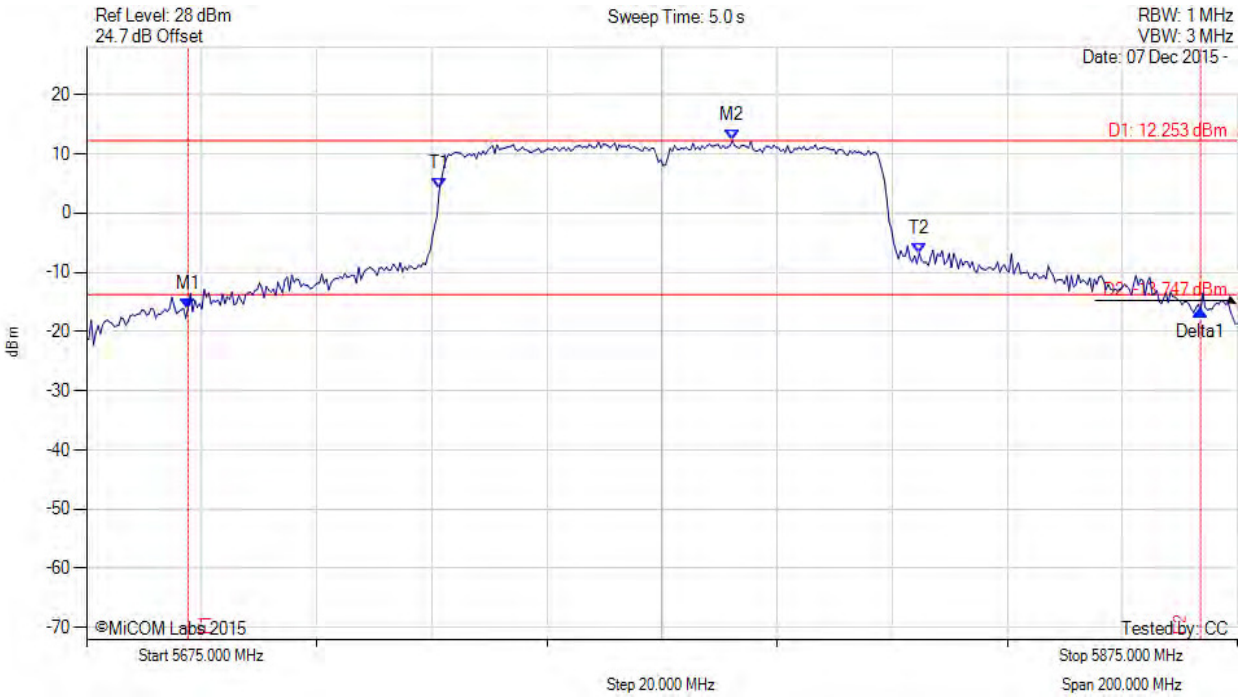


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5682.214 MHz : -16.020 dBm M2 : 5784.419 MHz : 11.708 dBm Delta1 : 189.579 MHz : 1.487 dB T1 : 5725.501 MHz : -6.216 dBm T2 : 5829.309 MHz : -6.576 dBm OBW : 103.808 MHz	Measured 26 dB Bandwidth: 189.579 MHz Measured 99% Bandwidth: 103.808 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

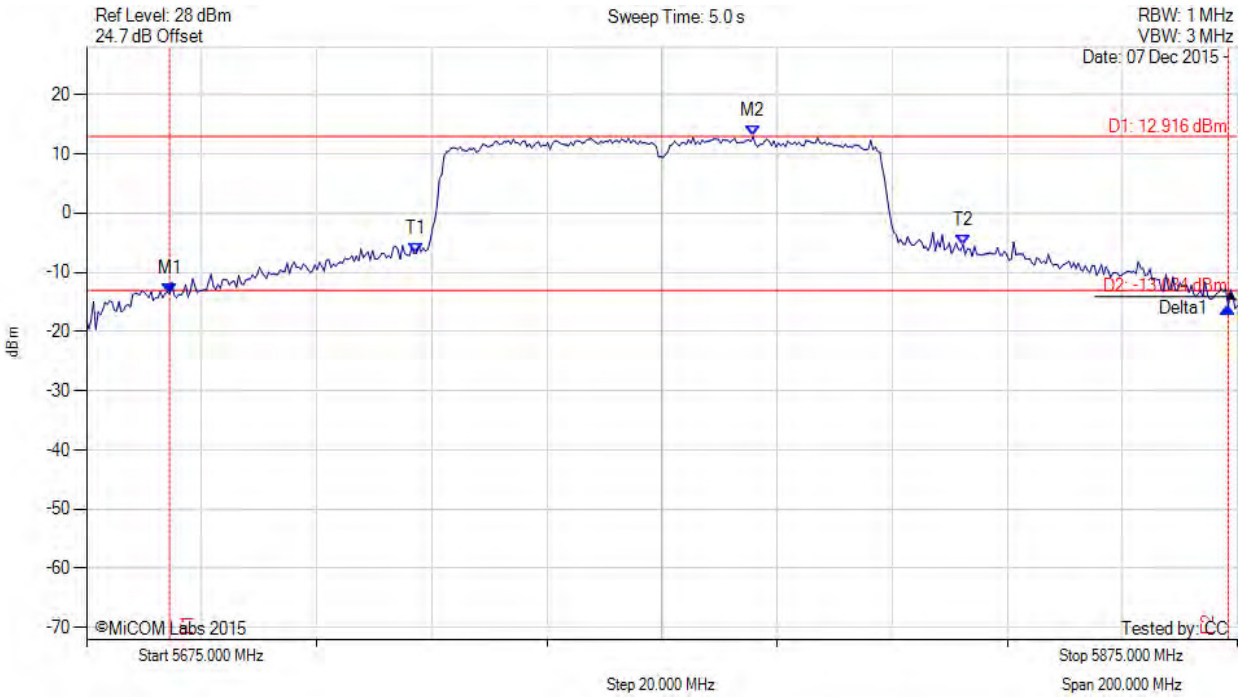


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5692.635 MHz : -16.153 dBm M2 : 5787.224 MHz : 12.253 dBm Delta1 : 175.952 MHz : -0.279 dB T1 : 5736.323 MHz : 4.075 dBm T2 : 5819.689 MHz : -6.793 dBm OBW : 83.367 MHz	Measured 26 dB Bandwidth: 175.952 MHz Measured 99% Bandwidth: 83.367 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

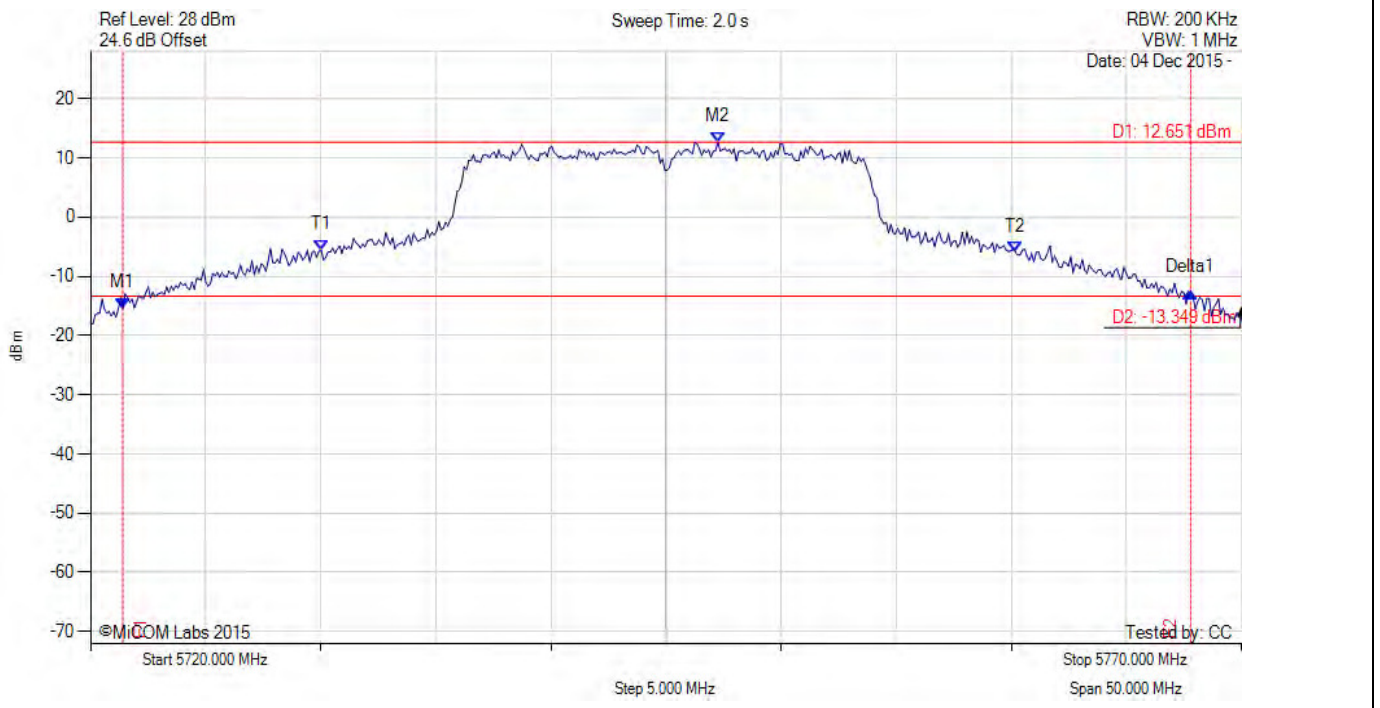


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5689.429 MHz : -13.558 dBm M2 : 5790.832 MHz : 12.916 dBm Delta1 : 183.968 MHz : -2.367 dB T1 : 5732.315 MHz : -6.765 dBm T2 : 5827.305 MHz : -5.351 dBm OBW : 94.990 MHz	Measured 26 dB Bandwidth: 183.968 MHz Measured 99% Bandwidth: 94.990 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

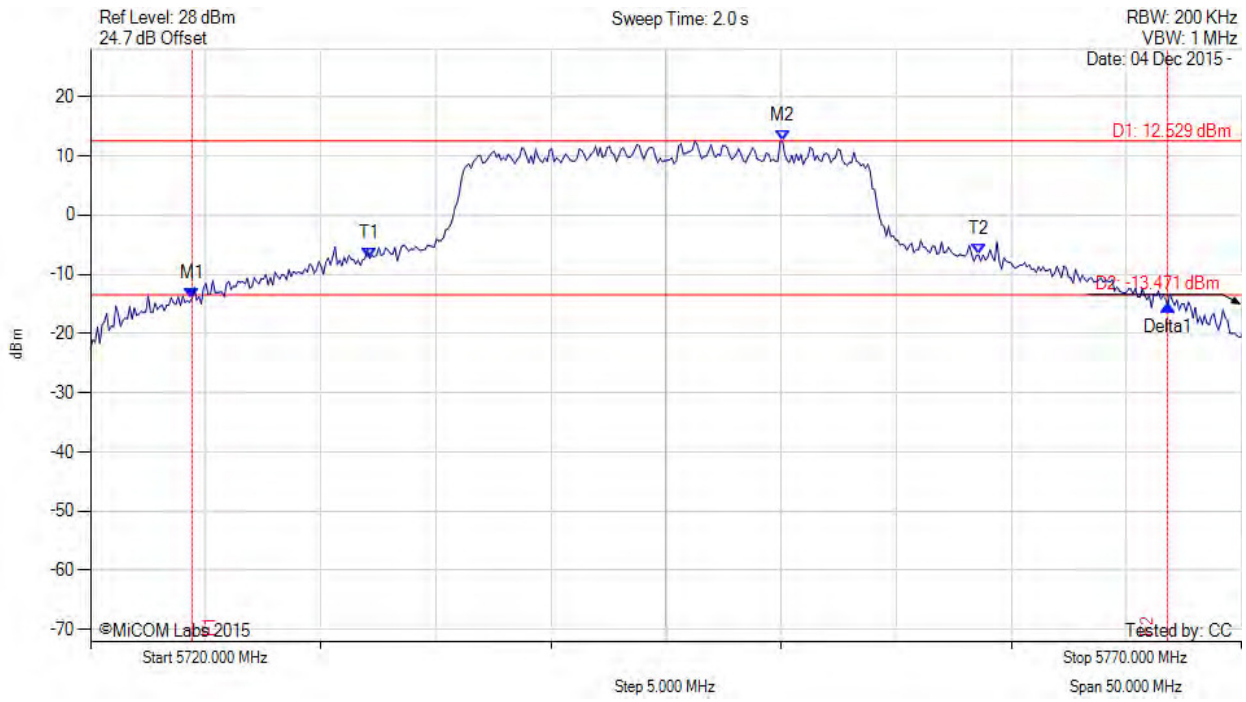


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5721.403 MHz : -15.394 dBm M2 : 5747.255 MHz : 12.651 dBm Delta1 : 46.393 MHz : 2.652 dB T1 : 5730.020 MHz : -5.575 dBm T2 : 5760.180 MHz : -5.925 dBm OBW : 30.160 MHz	Measured 26 dB Bandwidth: 46.393 MHz Measured 99% Bandwidth: 30.160 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

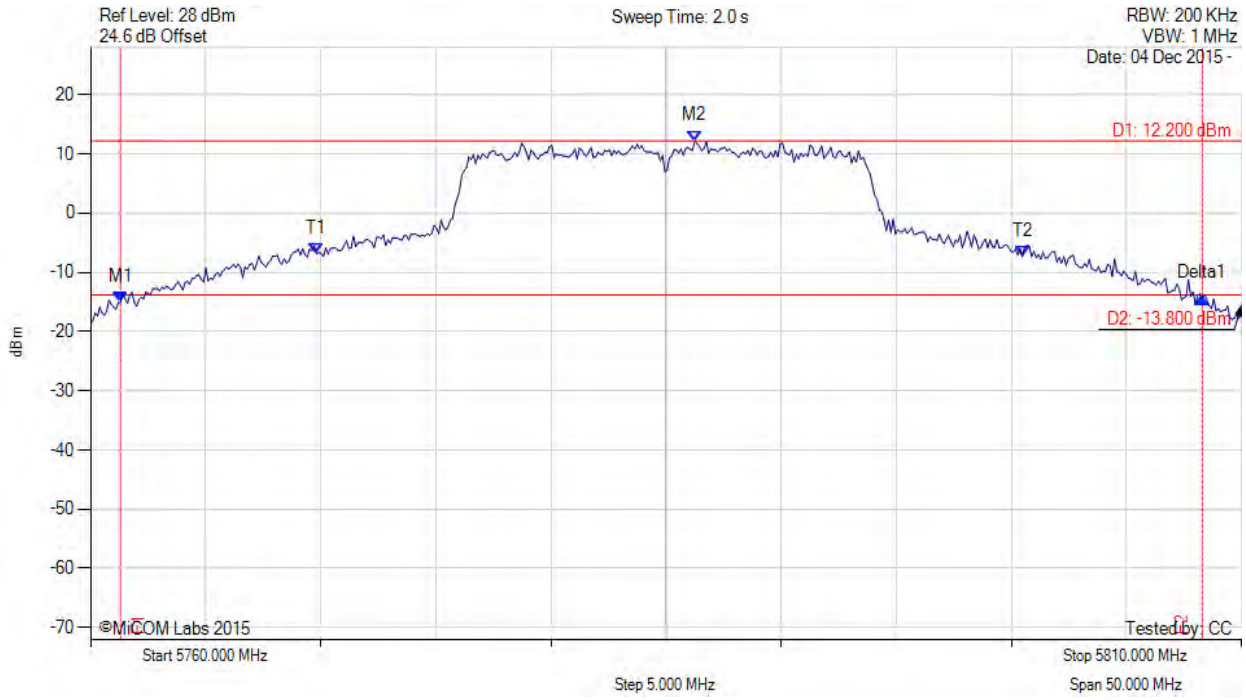


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5724.409 MHz : -14.029 dBm M2 : 5750.060 MHz : 12.529 dBm Delta1 : 42.385 MHz : -1.273 dB T1 : 5732.124 MHz : -7.338 dBm T2 : 5758.577 MHz : -6.708 dBm OBW : 26.453 MHz	Measured 26 dB Bandwidth: 42.385 MHz Measured 99% Bandwidth: 26.453 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

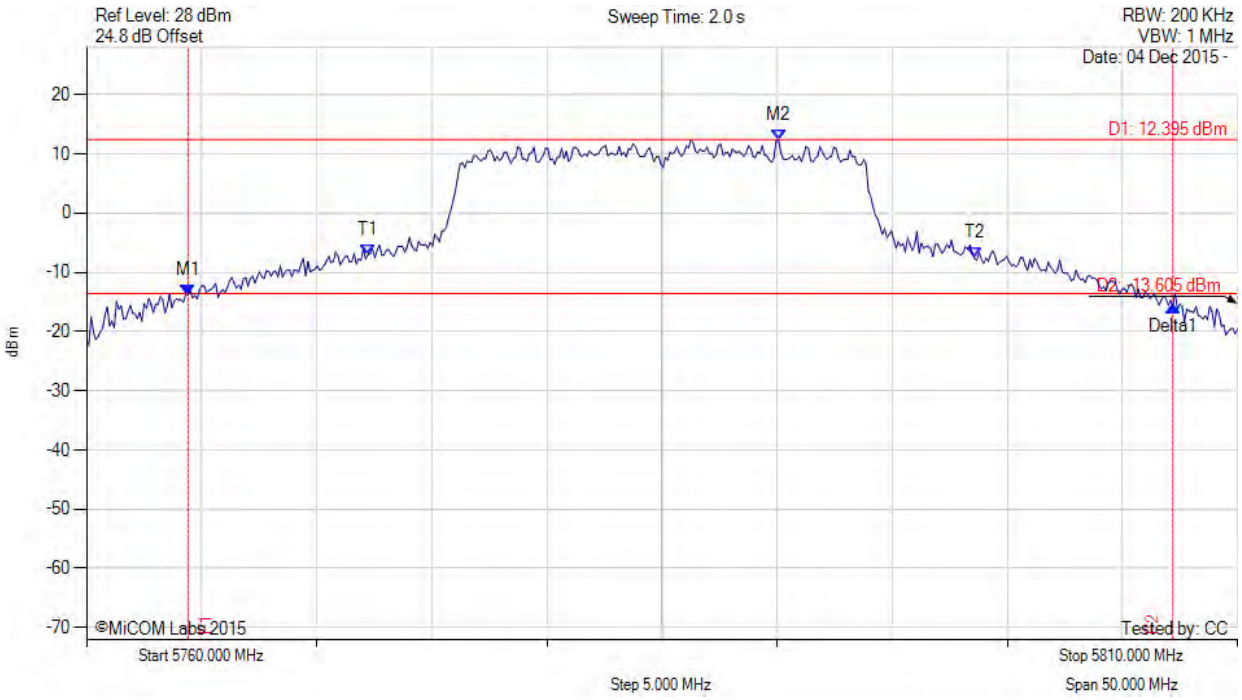


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5761.303 MHz : -15.060 dBm M2 : 5786.253 MHz : 12.200 dBm Delta1 : 46.994 MHz : 0.736 dB T1 : 5769.820 MHz : -6.883 dBm T2 : 5800.481 MHz : -7.349 dBm OBW : 30.661 MHz	Measured 26 dB Bandwidth: 46.994 MHz Measured 99% Bandwidth: 30.661 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

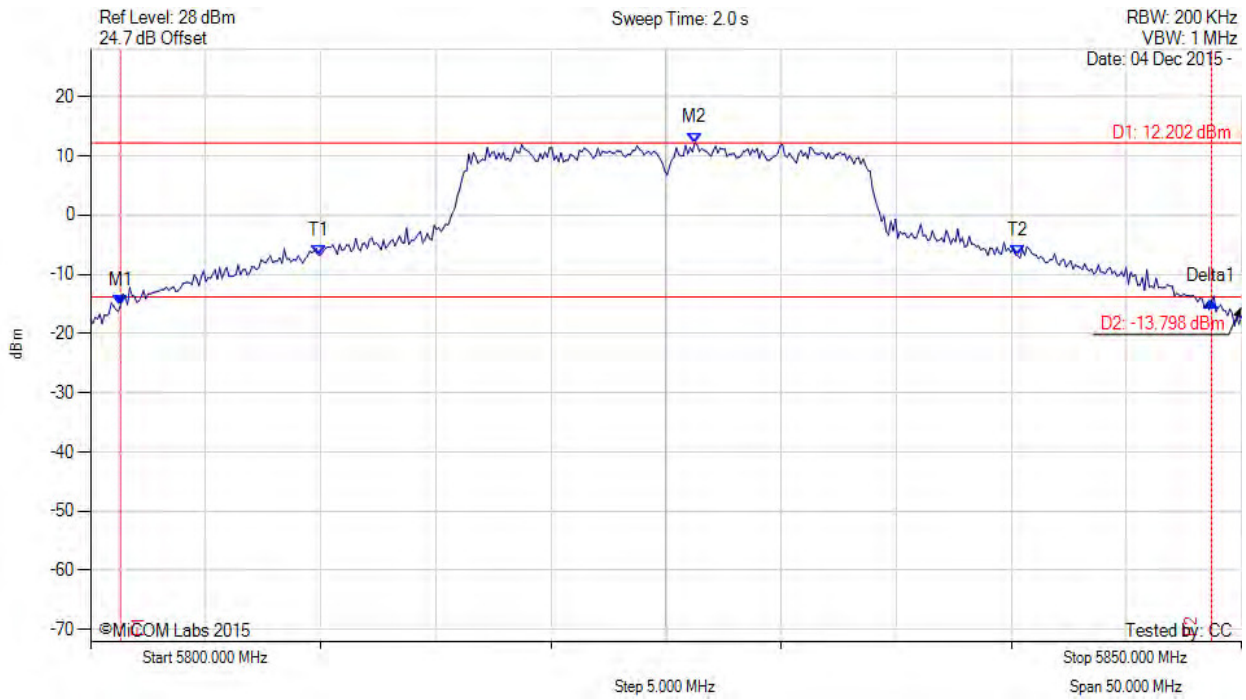


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5764.409 MHz : -13.777 dBm M2 : 5790.060 MHz : 12.395 dBm Delta1 : 42.786 MHz : -1.916 dB T1 : 5772.224 MHz : -7.023 dBm T2 : 5798.577 MHz : -7.627 dBm OBW : 26.353 MHz	Measured 26 dB Bandwidth: 42.786 MHz Measured 99% Bandwidth: 26.353 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

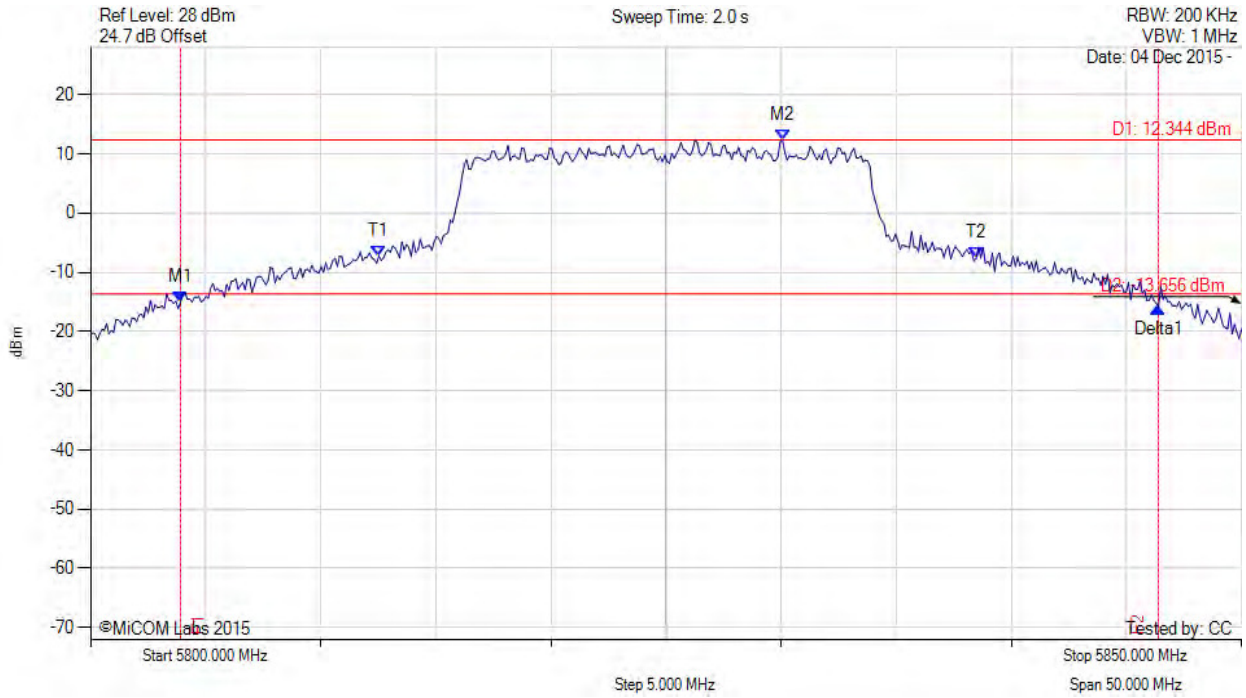


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5801.303 MHz : -15.284 dBm M2 : 5826.253 MHz : 12.202 dBm Delta1 : 47.395 MHz : 0.641 dB T1 : 5809.920 MHz : -6.812 dBm T2 : 5840.281 MHz : -6.854 dBm OBW : 30.361 MHz	Measured 26 dB Bandwidth: 47.395 MHz Measured 99% Bandwidth: 30.361 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

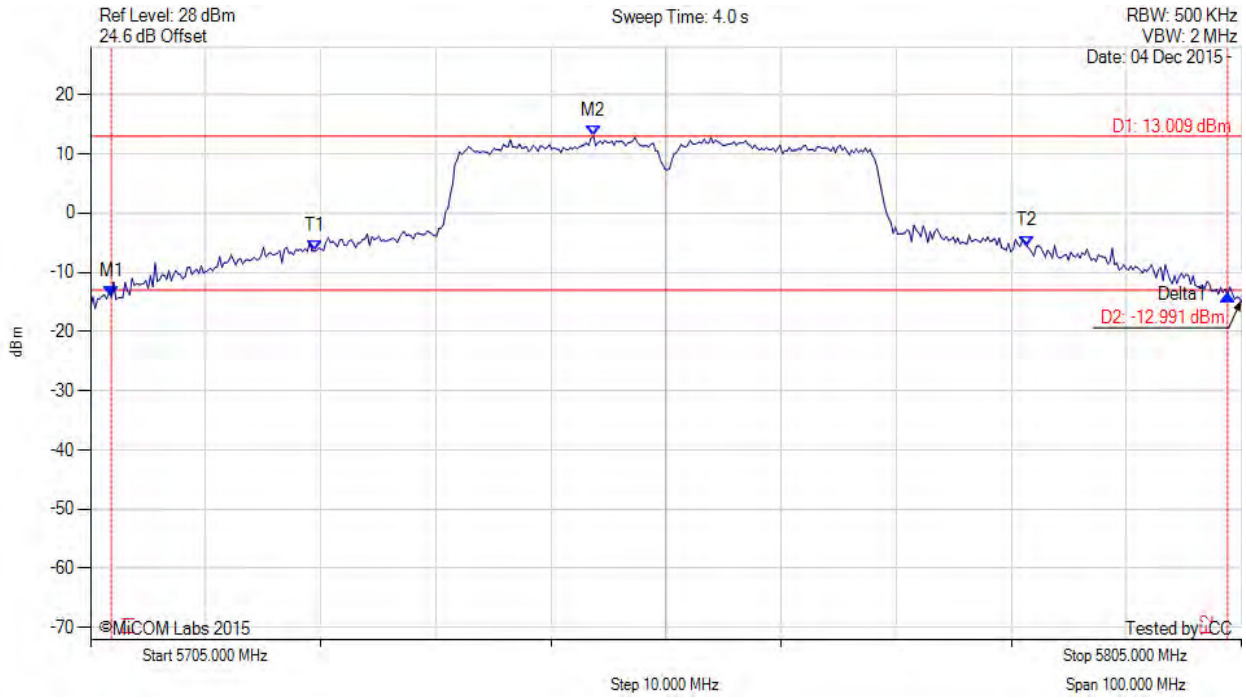


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5803.908 MHz : -15.008 dBm M2 : 5830.060 MHz : 12.344 dBm Delta1 : 42.485 MHz : -0.992 dB T1 : 5812.525 MHz : -7.243 dBm T2 : 5838.477 MHz : -7.627 dBm OBW : 25.952 MHz	Measured 26 dB Bandwidth: 42.485 MHz Measured 99% Bandwidth: 25.952 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

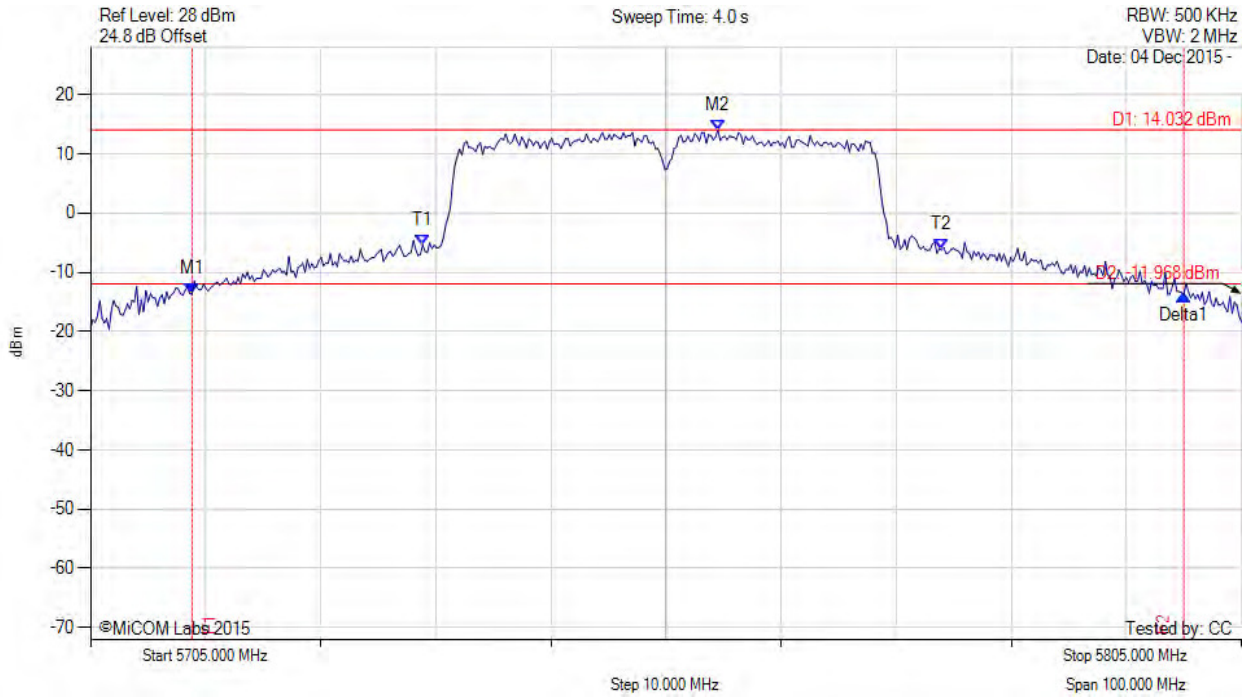


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5706.804 MHz : -14.198 dBm M2 : 5748.687 MHz : 13.009 dBm Delta1 : 96.994 MHz : 0.388 dB T1 : 5724.439 MHz : -6.421 dBm T2 : 5786.363 MHz : -5.567 dBm OBW : 61.924 MHz	Measured 26 dB Bandwidth: 96.994 MHz Measured 99% Bandwidth: 61.924 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

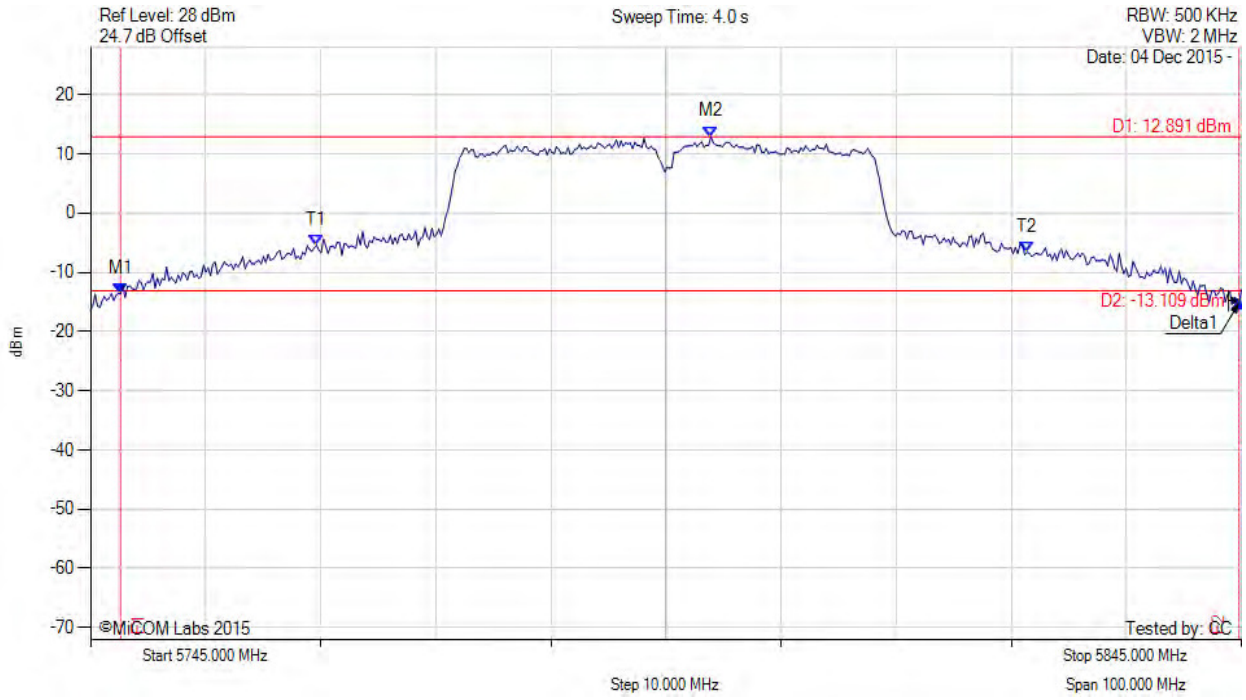


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5713.818 MHz : -13.710 dBm M2 : 5759.509 MHz : 14.032 dBm Delta1 : 86.172 MHz : -0.033 dB T1 : 5733.858 MHz : -5.378 dBm T2 : 5778.948 MHz : -6.216 dBm OBW : 45.090 MHz	Measured 26 dB Bandwidth: 86.172 MHz Measured 99% Bandwidth: 45.090 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

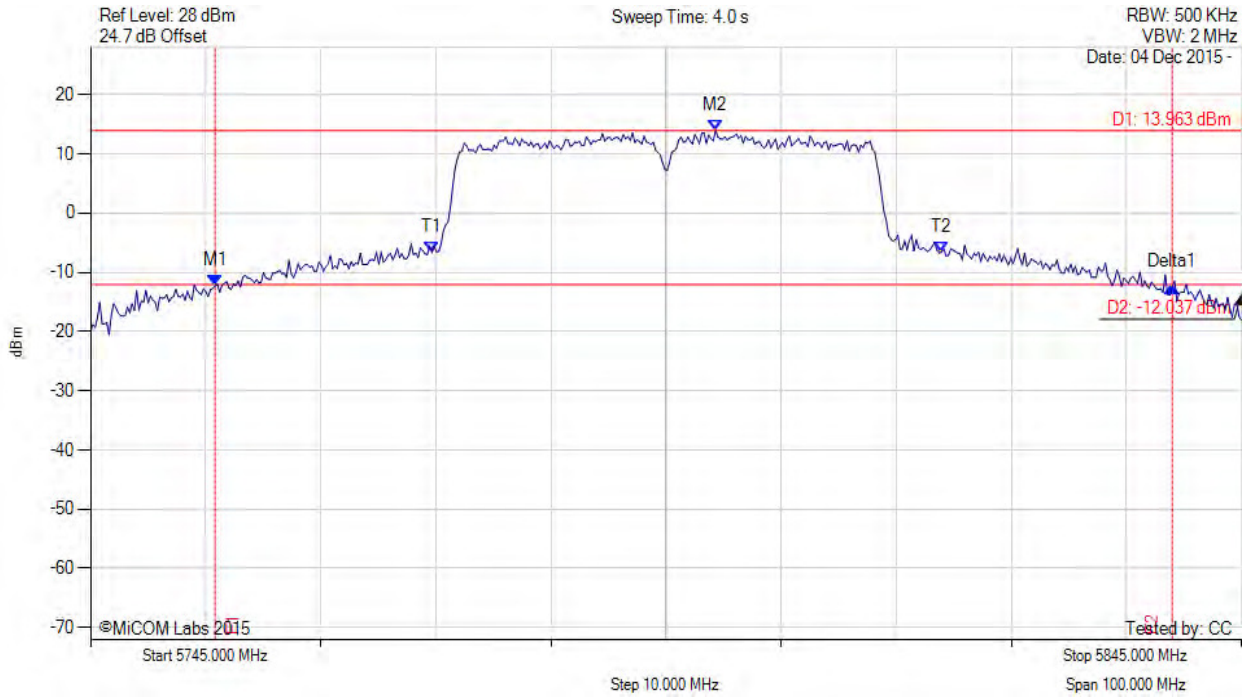


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5747.605 MHz : -13.578 dBm M2 : 5798.908 MHz : 12.891 dBm Delta1 : 97.194 MHz : -1.525 dB T1 : 5764.639 MHz : -5.394 dBm T2 : 5826.363 MHz : -6.629 dBm OBW : 61.723 MHz	Measured 26 dB Bandwidth: 97.194 MHz Measured 99% Bandwidth: 61.723 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc



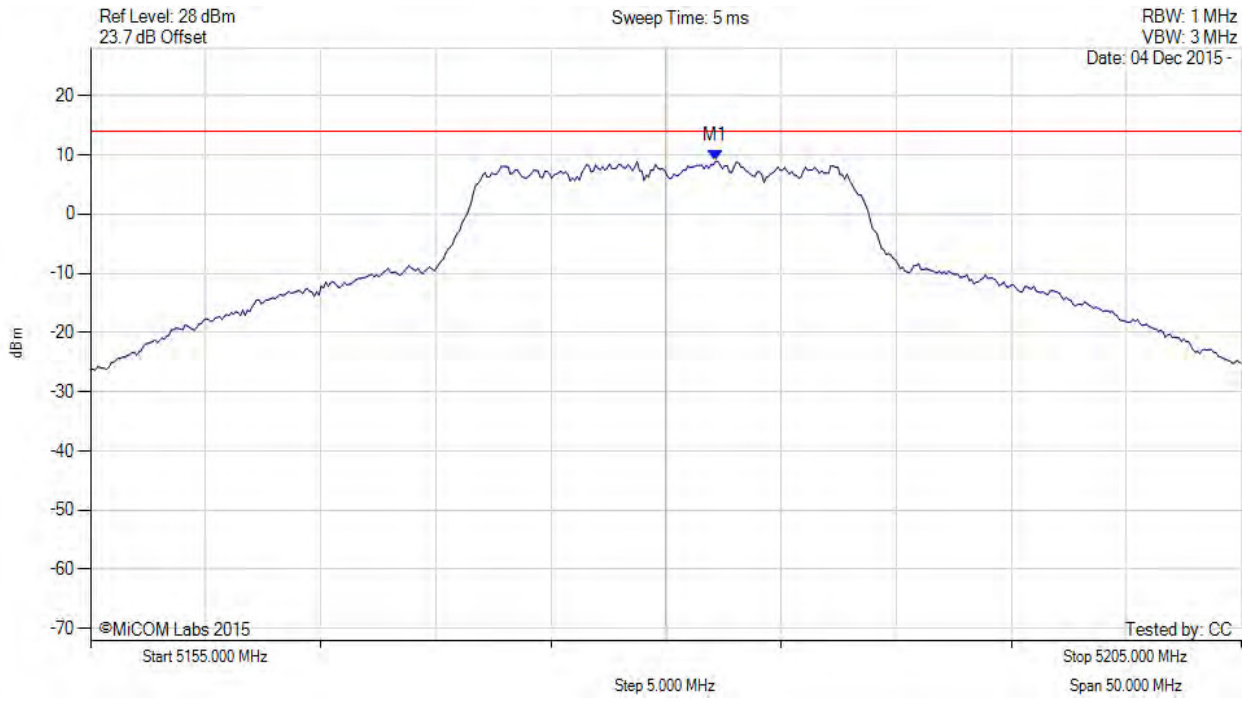
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5755.822 MHz : -12.307 dBm M2 : 5799.309 MHz : 13.963 dBm Delta1 : 83.166 MHz : -0.138 dB T1 : 5774.659 MHz : -6.686 dBm T2 : 5818.948 MHz : -6.574 dBm OBW : 44.289 MHz	Measured 26 dB Bandwidth: 83.166 MHz Measured 99% Bandwidth: 44.289 MHz

back to matrix

A.2. Power Spectral Density

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5180.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

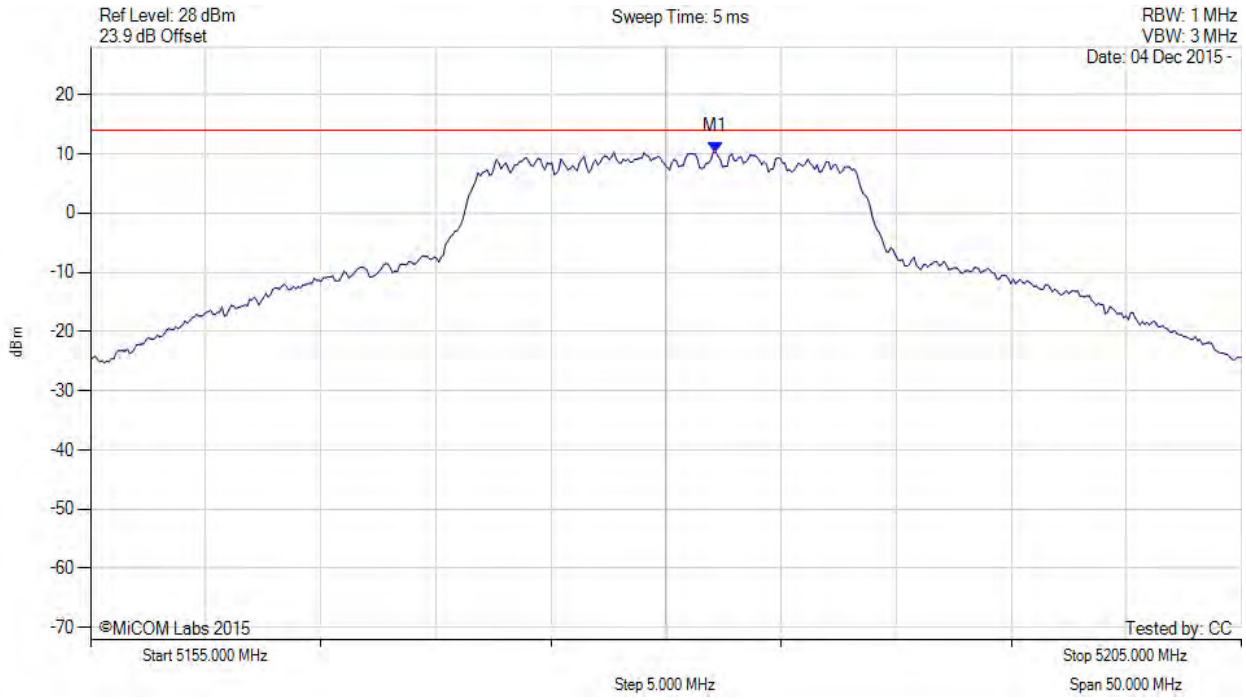


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5182.154 MHz : 8.941 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5180.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

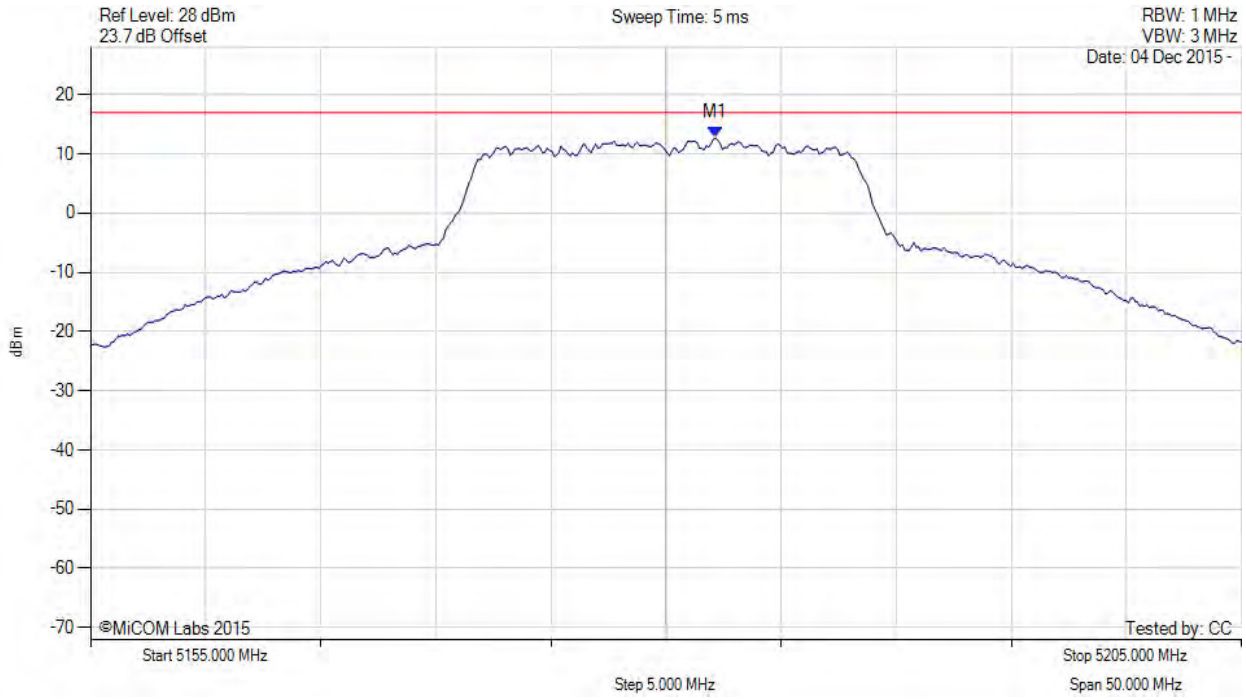


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5182.154 MHz : 10.328 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5180.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

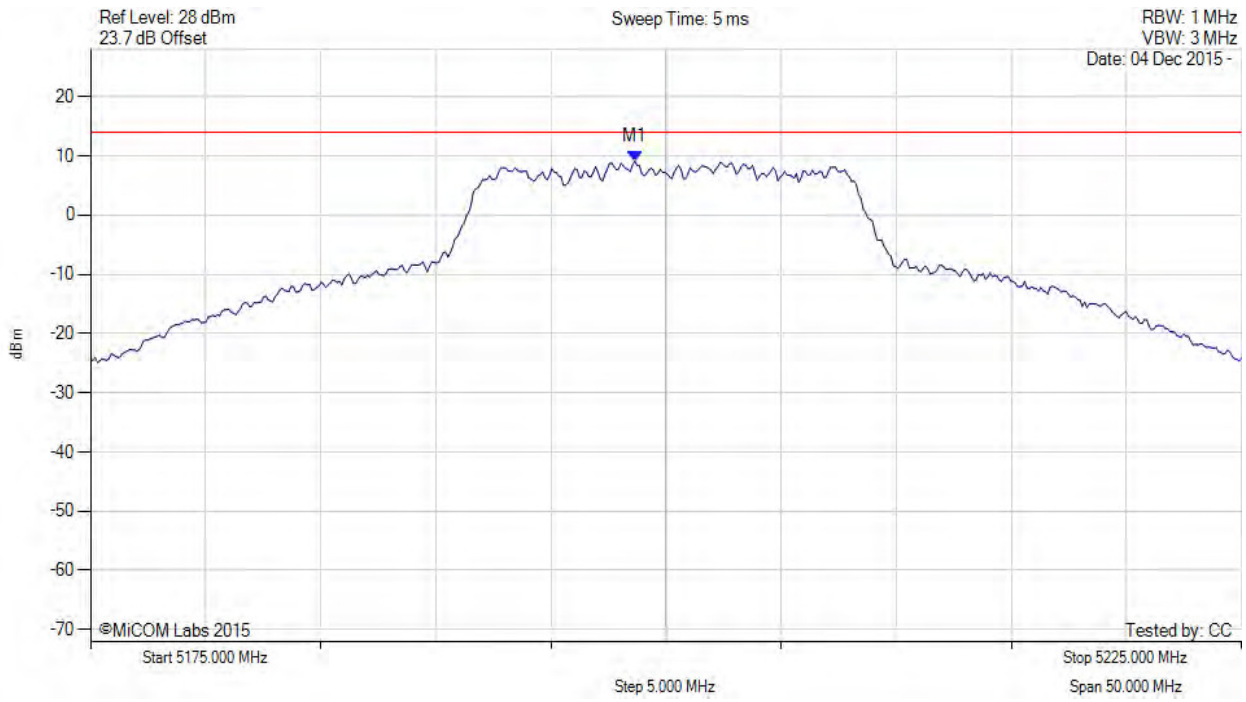


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5182.200 MHz : 12.700 dBm M1 + DCCF : 5182.200 MHz : 12.832 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 17.0 dBm Margin: -4.2 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5200.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

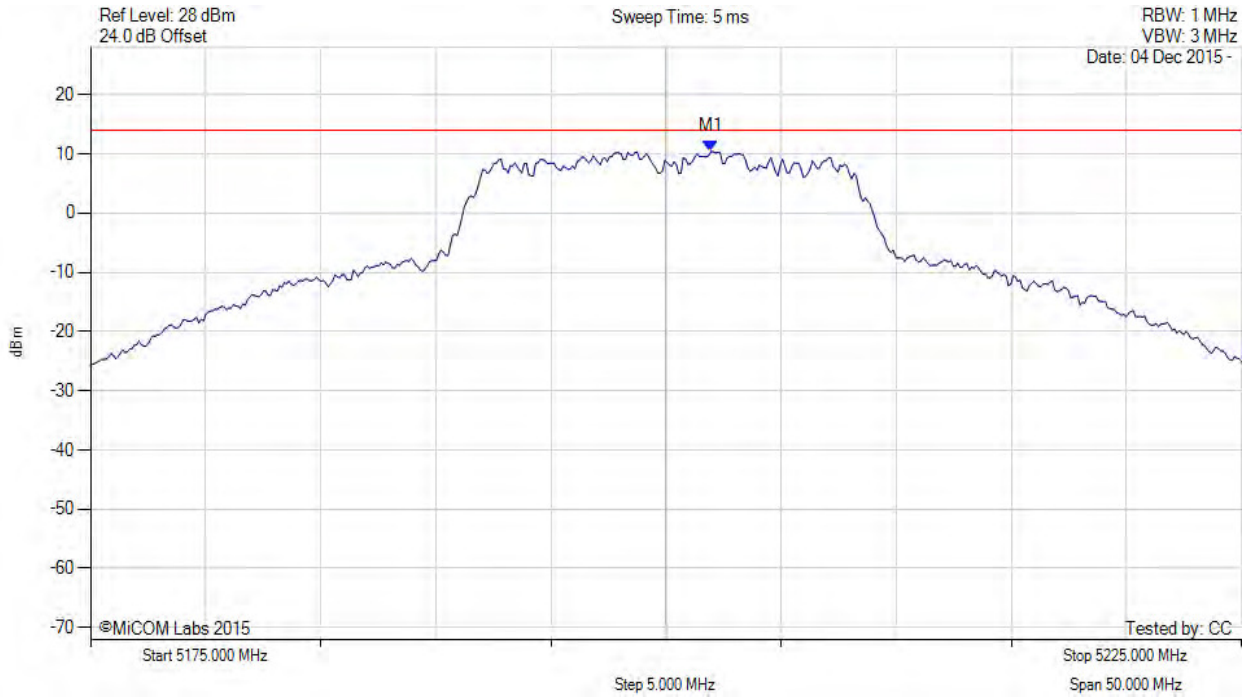


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5198.647 MHz : 9.126 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5200.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

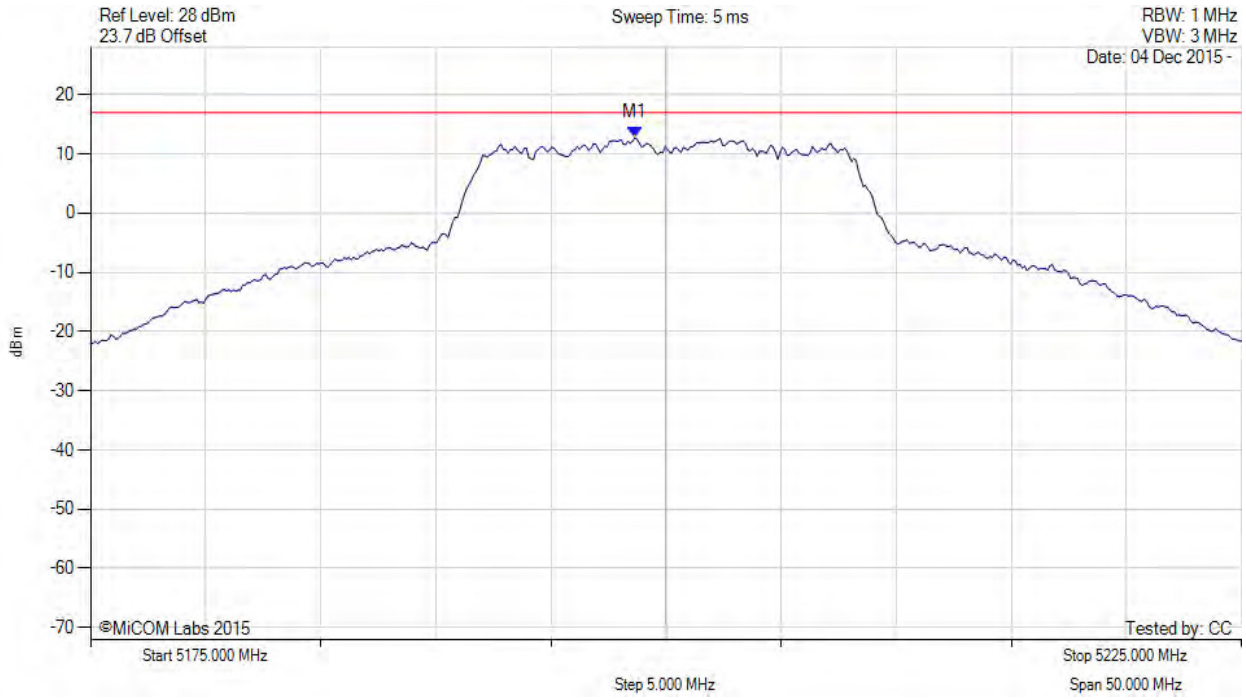


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5201.954 MHz : 10.370 dBm	Channel Frequency: 5200.00 MHz

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5200.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

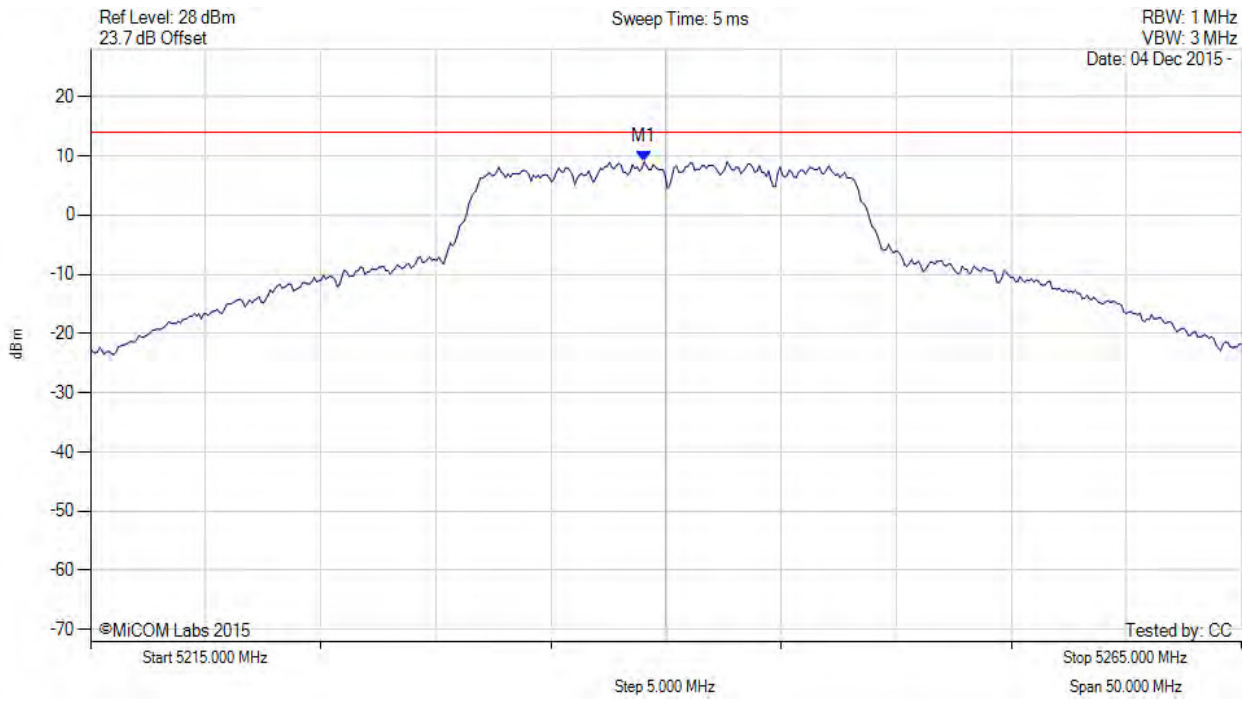


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5198.600 MHz : 12.724 dBm M1 + DCCF : 5198.600 MHz : 12.856 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 17.0 dBm Margin: -4.2 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5240.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

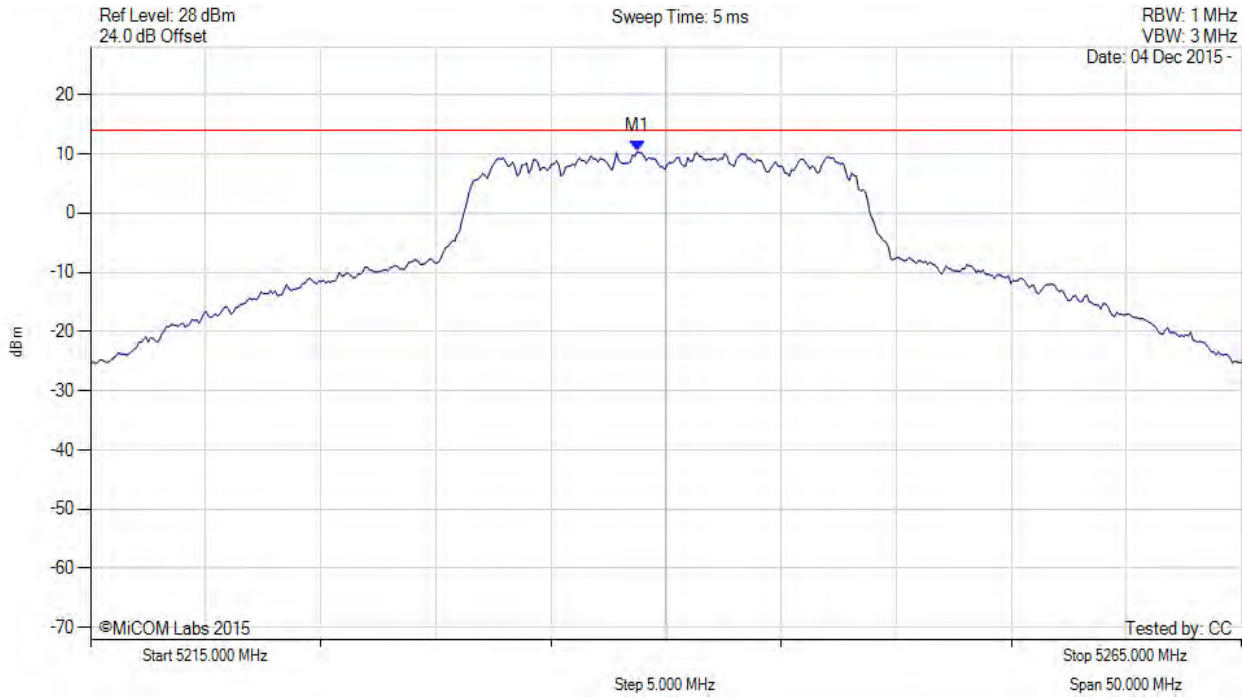


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5239.048 MHz : 8.969 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5240.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

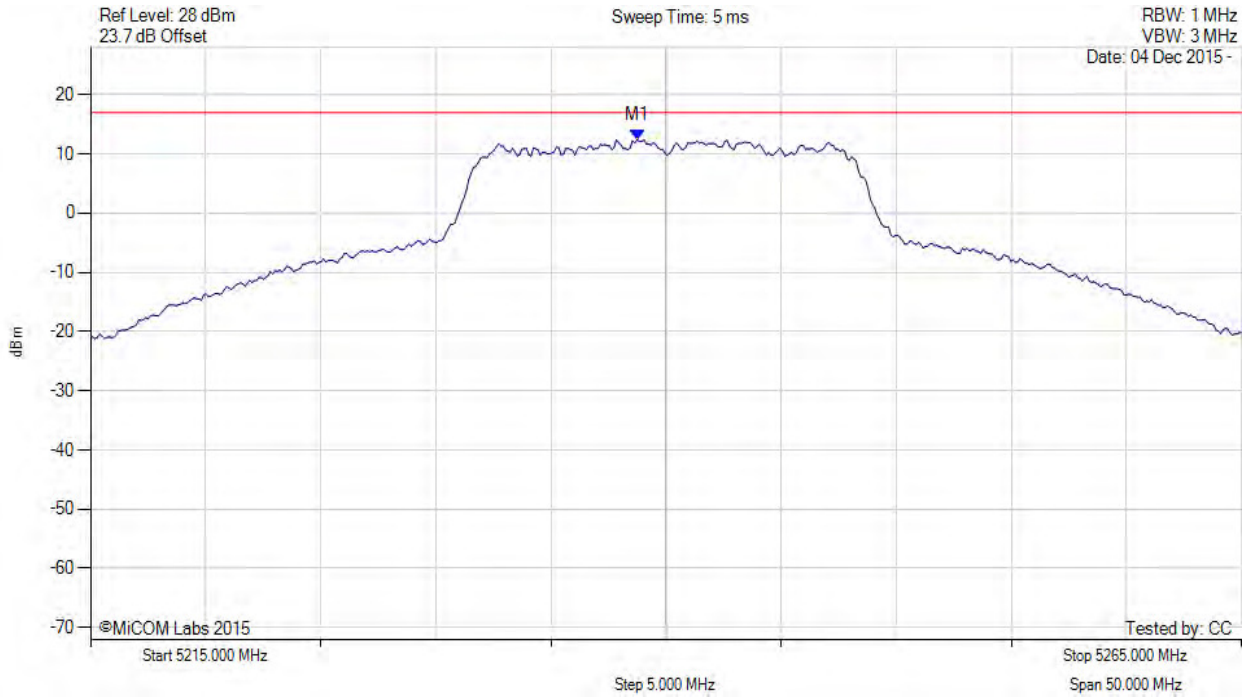


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5238.747 MHz : 10.371 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5240.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

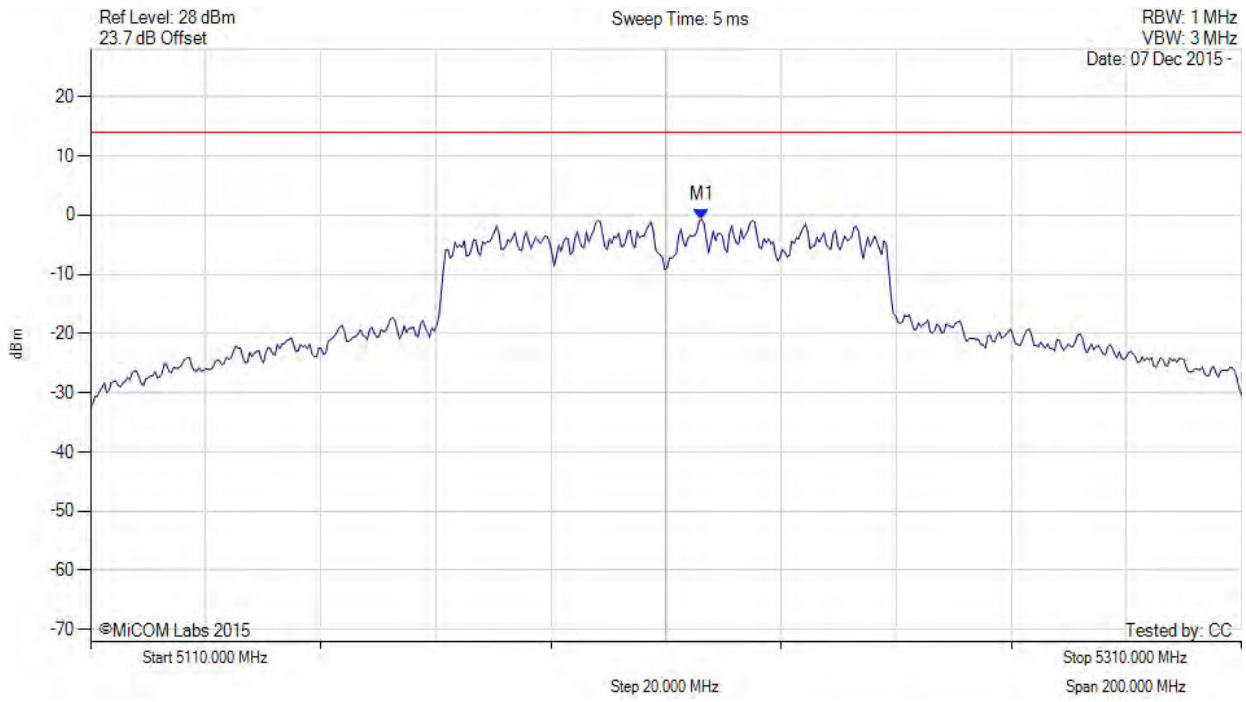


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5238.700 MHz : 12.397 dBm M1 + DCCF : 5238.700 MHz : 12.529 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 17.0 dBm Margin: -4.5 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5210.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

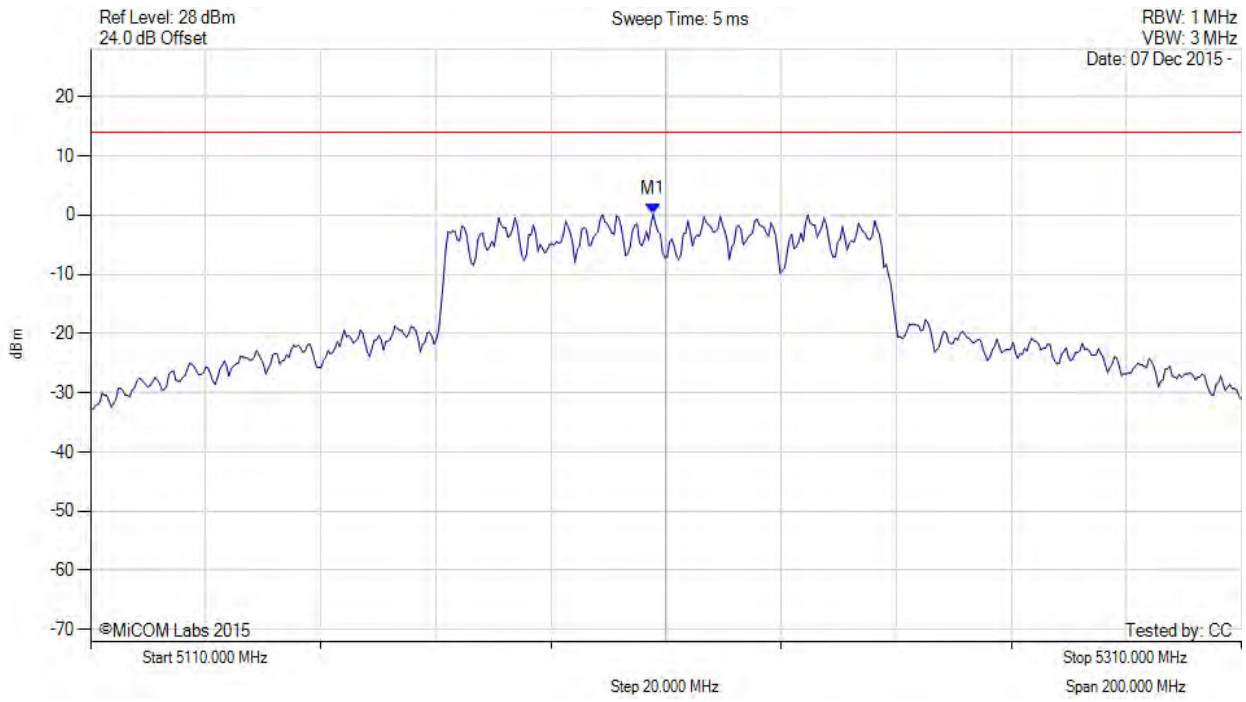


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5216.212 MHz : -0.712 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5210.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

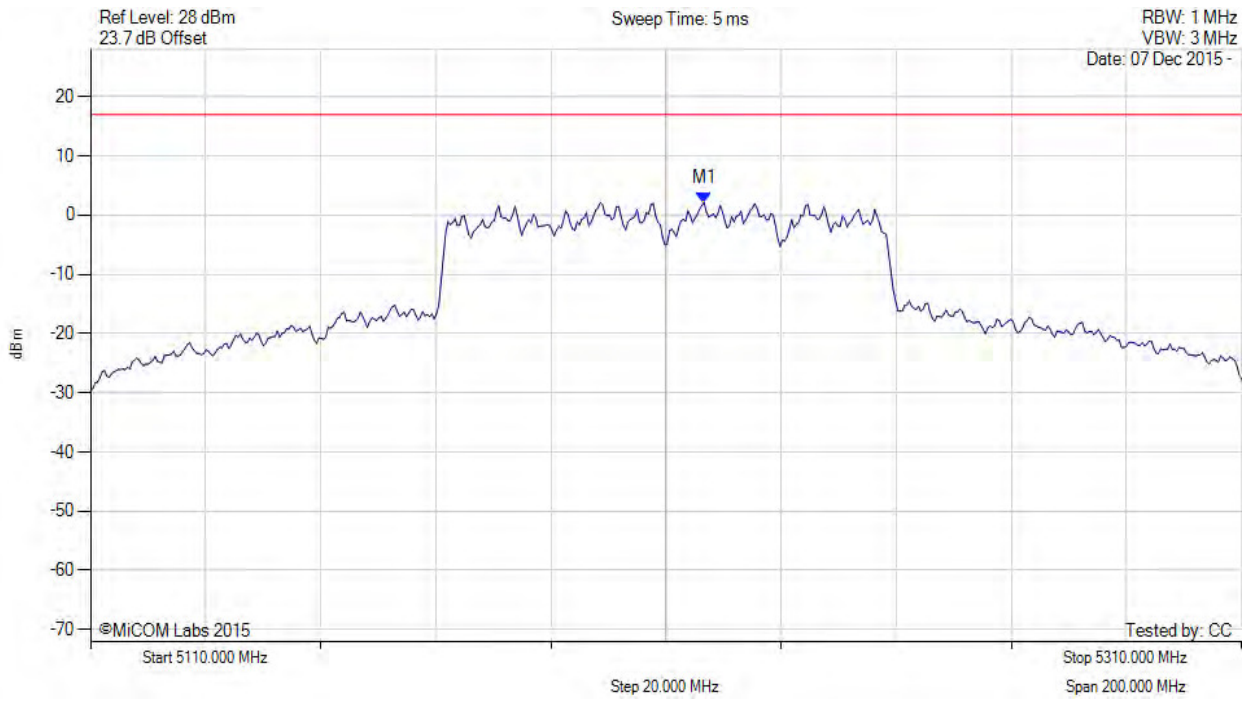


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5207.796 MHz : 0.153 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5210.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

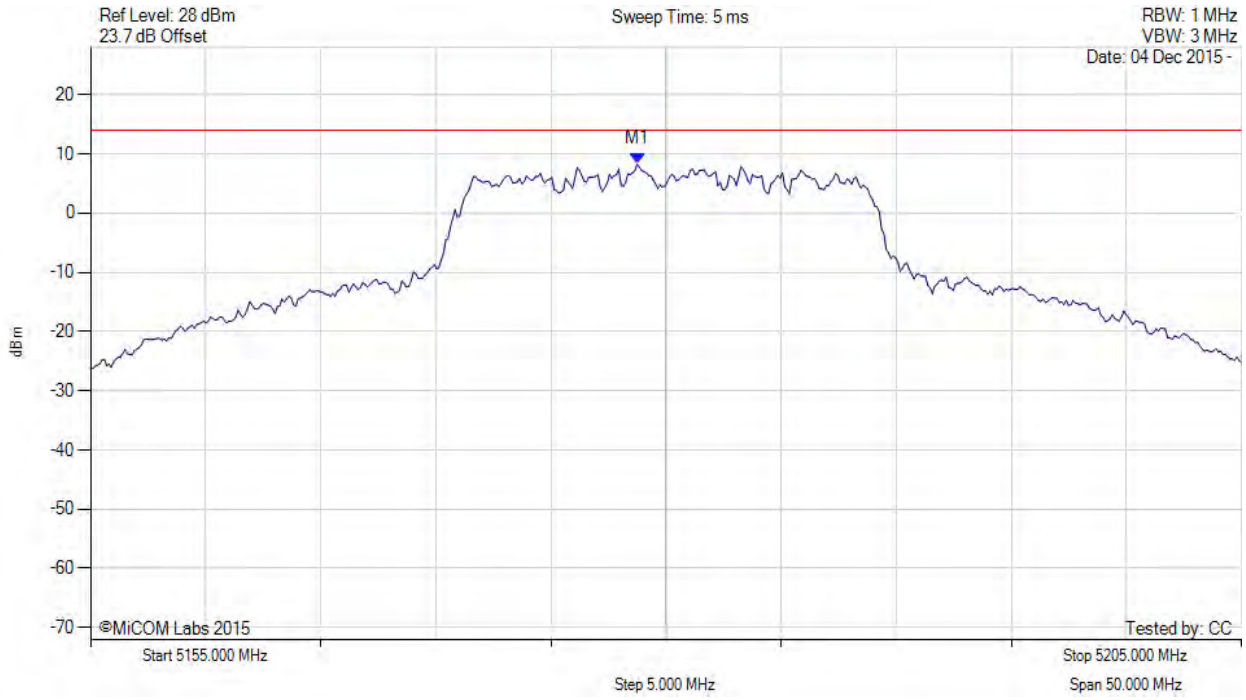


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5216.600 MHz : 2.131 dBm M1 + DCCF : 5216.600 MHz : 4.422 dBm Duty Cycle Correction Factor : +2.29 dB	Limit: ≤ 17.0 dBm Margin: -12.6 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5180.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

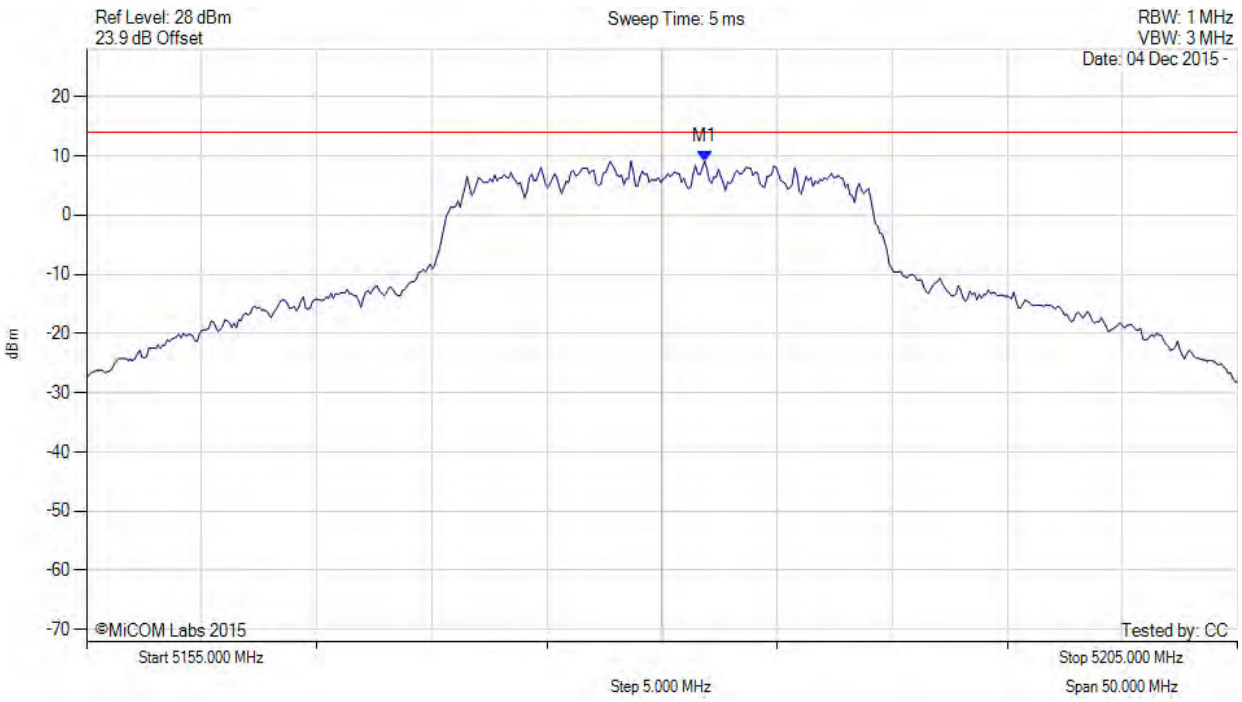


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5178.747 MHz : 8.274 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5180.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

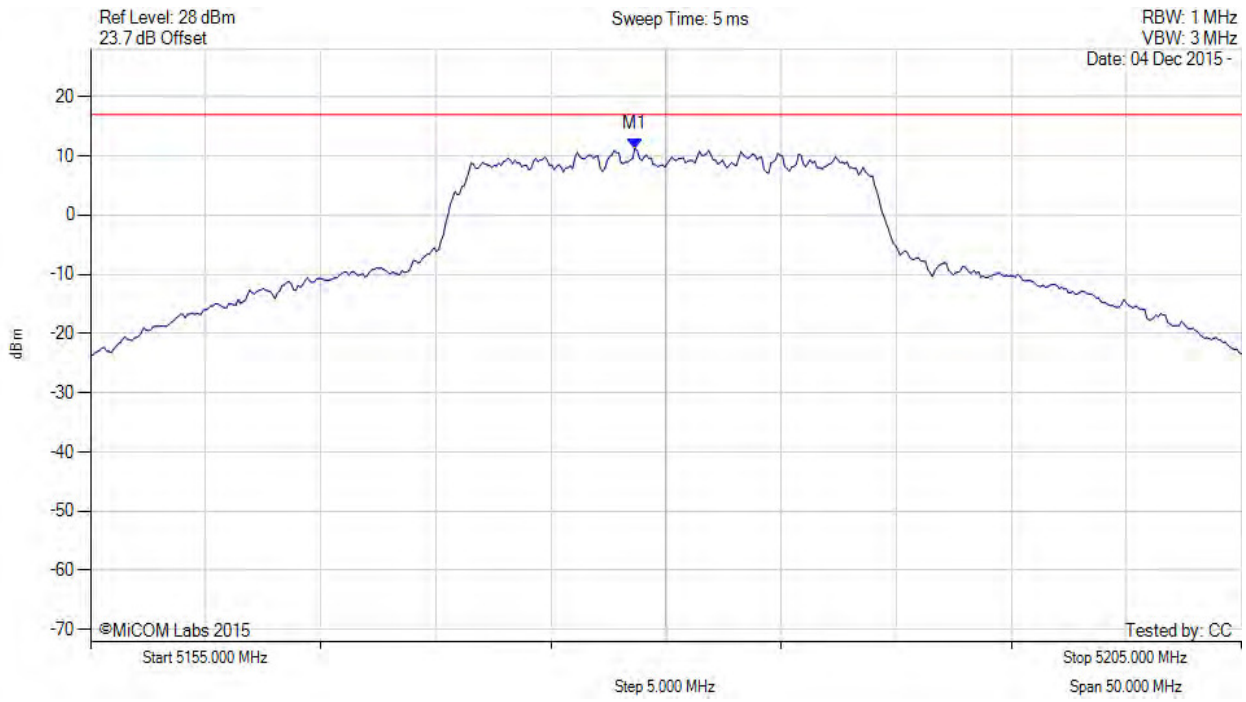


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5181.854 MHz : 9.128 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5180.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

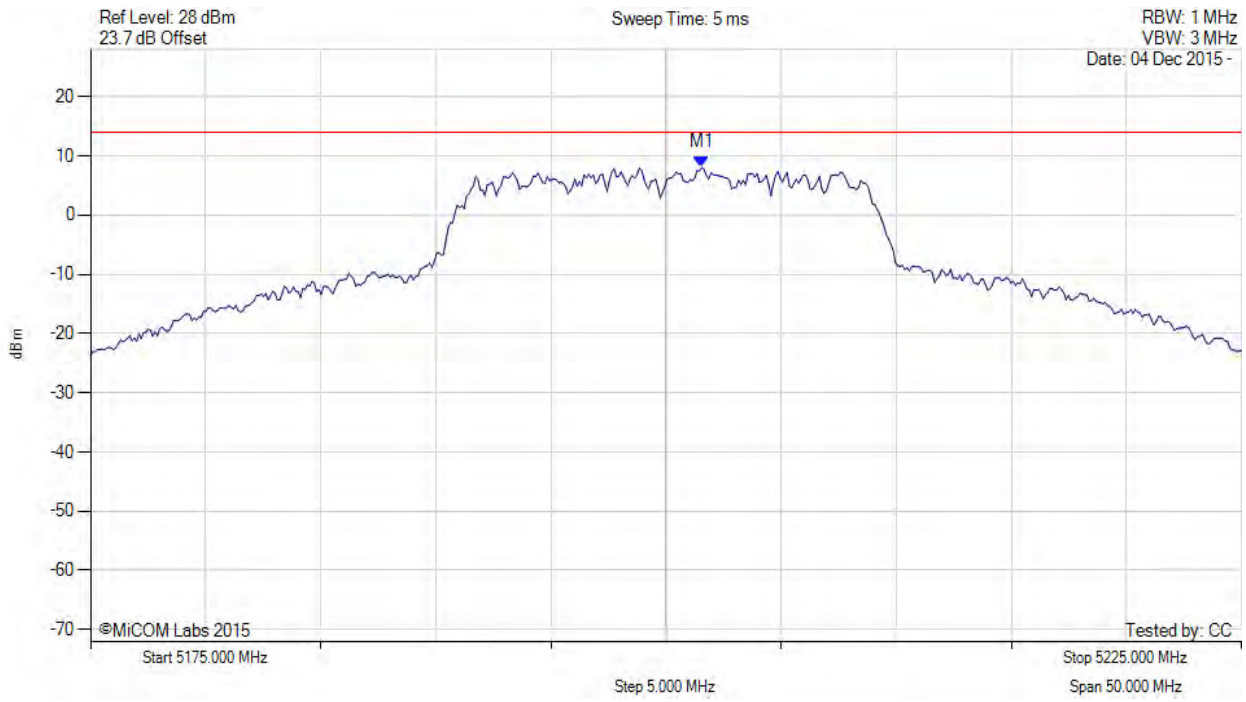


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5178.600 MHz : 11.244 dBm M1 + DCCF : 5178.600 MHz : 11.606 dBm Duty Cycle Correction Factor : +0.36 dB	Limit: ≤ 17.0 dBm Margin: -5.4 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5200.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

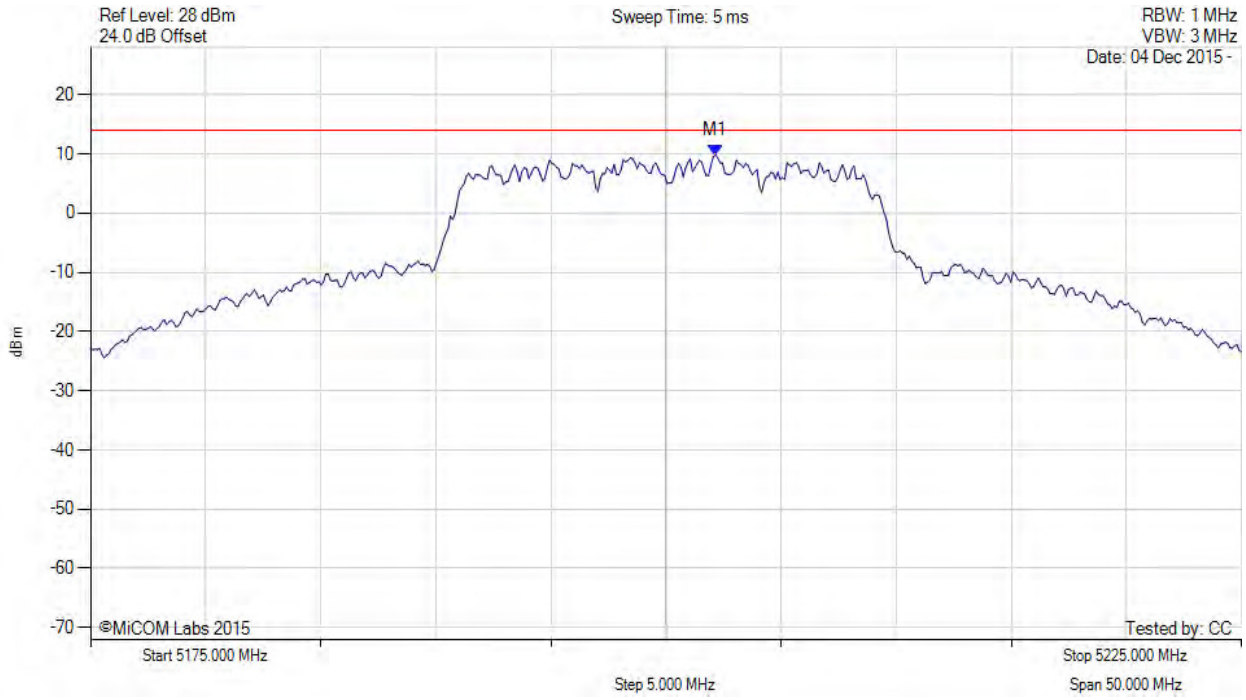


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5201.553 MHz : 8.027 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5200.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

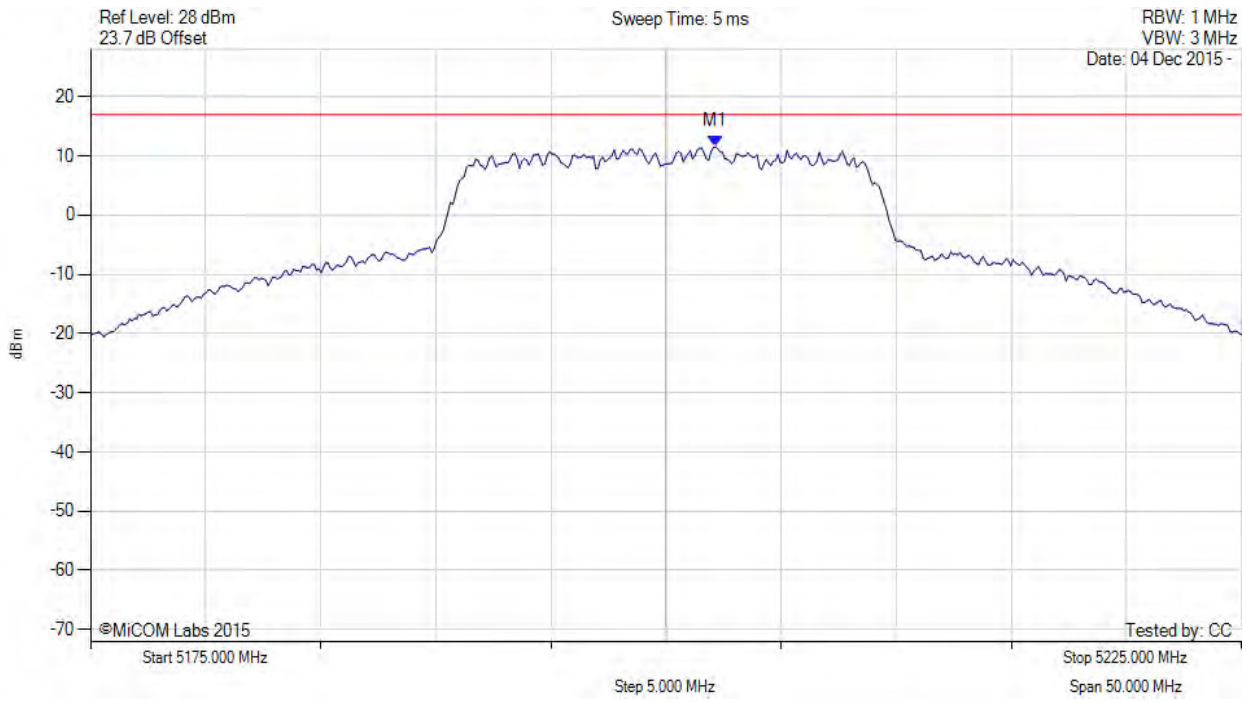


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5202.154 MHz : 9.811 dBm	Channel Frequency: 5200.00 MHz

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5200.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

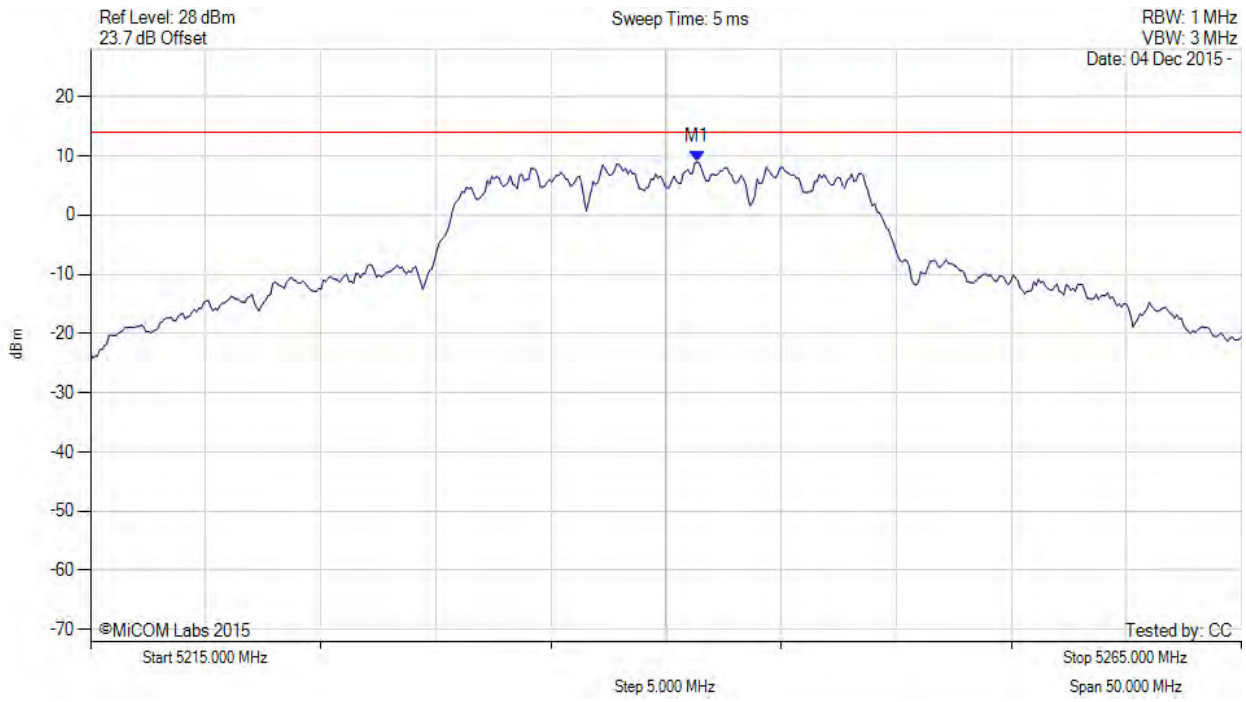


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5202.200 MHz : 11.562 dBm M1 + DCCF : 5202.200 MHz : 11.924 dBm Duty Cycle Correction Factor : +0.36 dB	Limit: ≤ 17.0 dBm Margin: -5.1 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5240.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

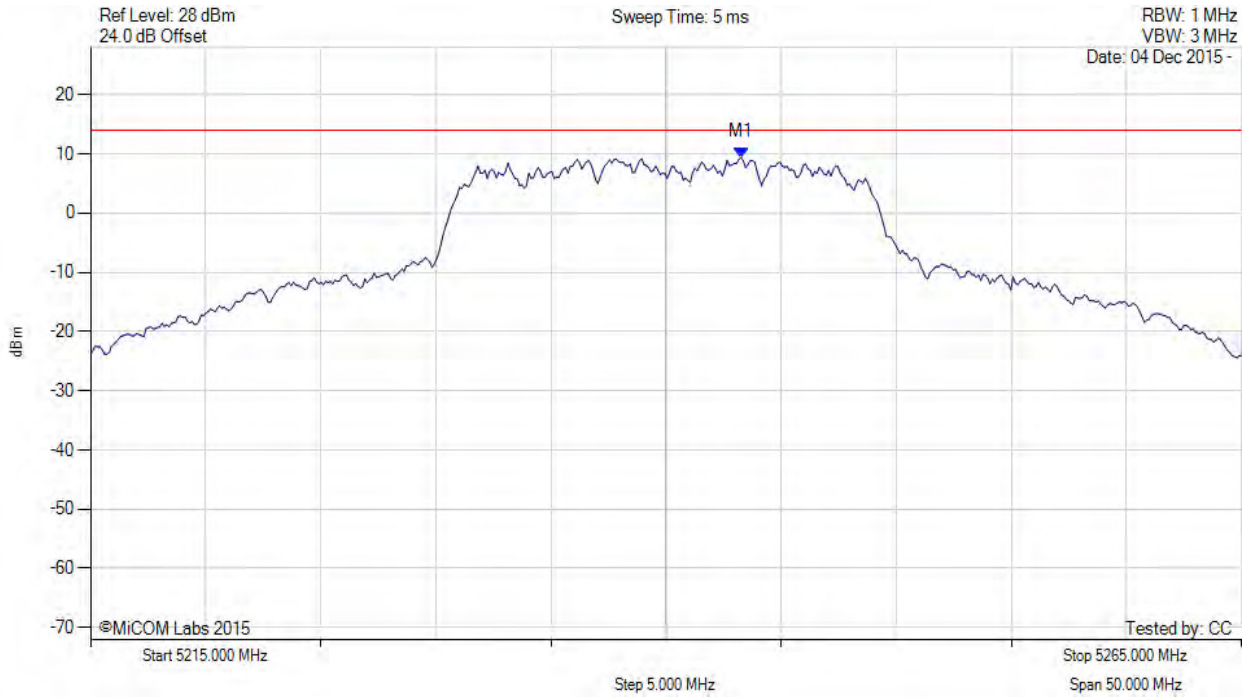


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5241.353 MHz : 8.983 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5240.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

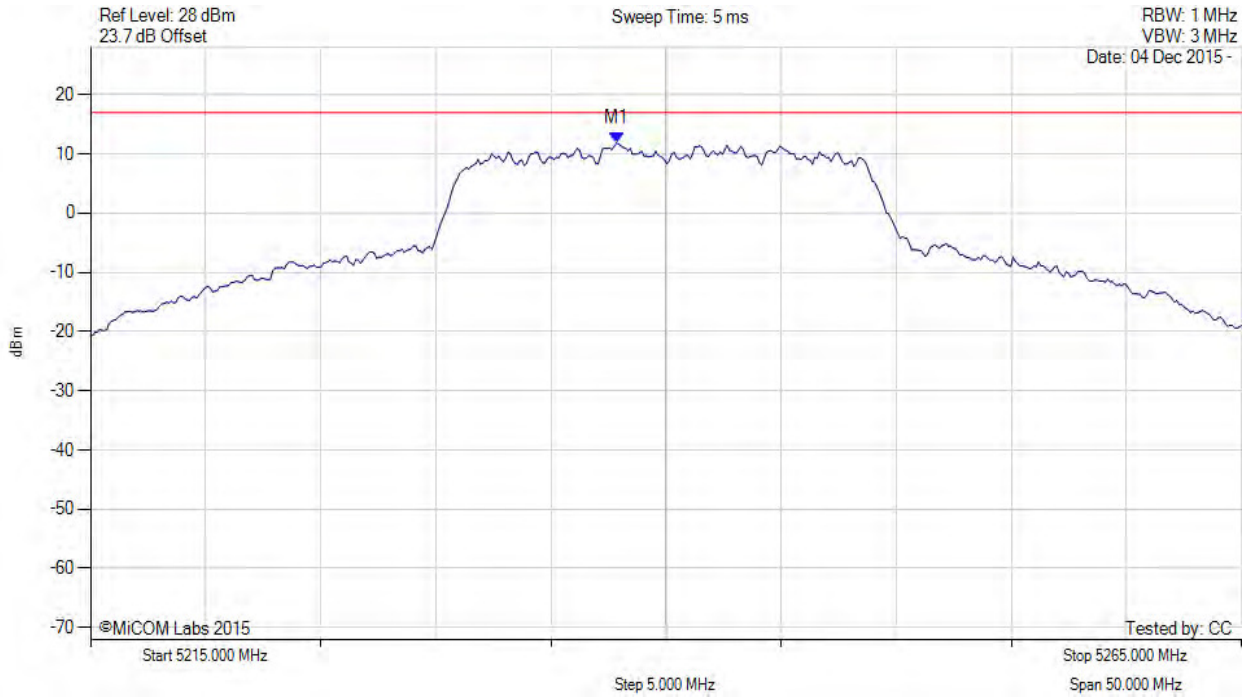


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5243.257 MHz : 9.394 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5240.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

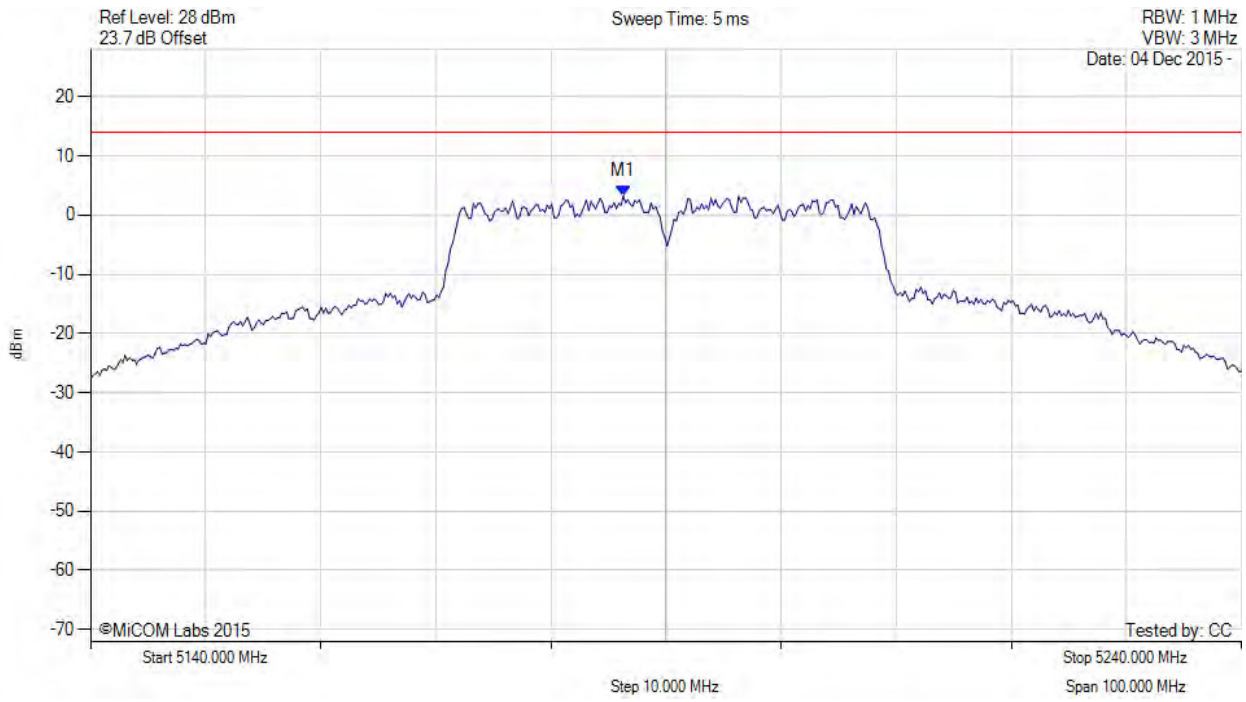


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5237.800 MHz : 11.856 dBm M1 + DCCF : 5237.800 MHz : 12.218 dBm Duty Cycle Correction Factor : +0.36 dB	Limit: ≤ 17.0 dBm Margin: -4.8 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5190.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

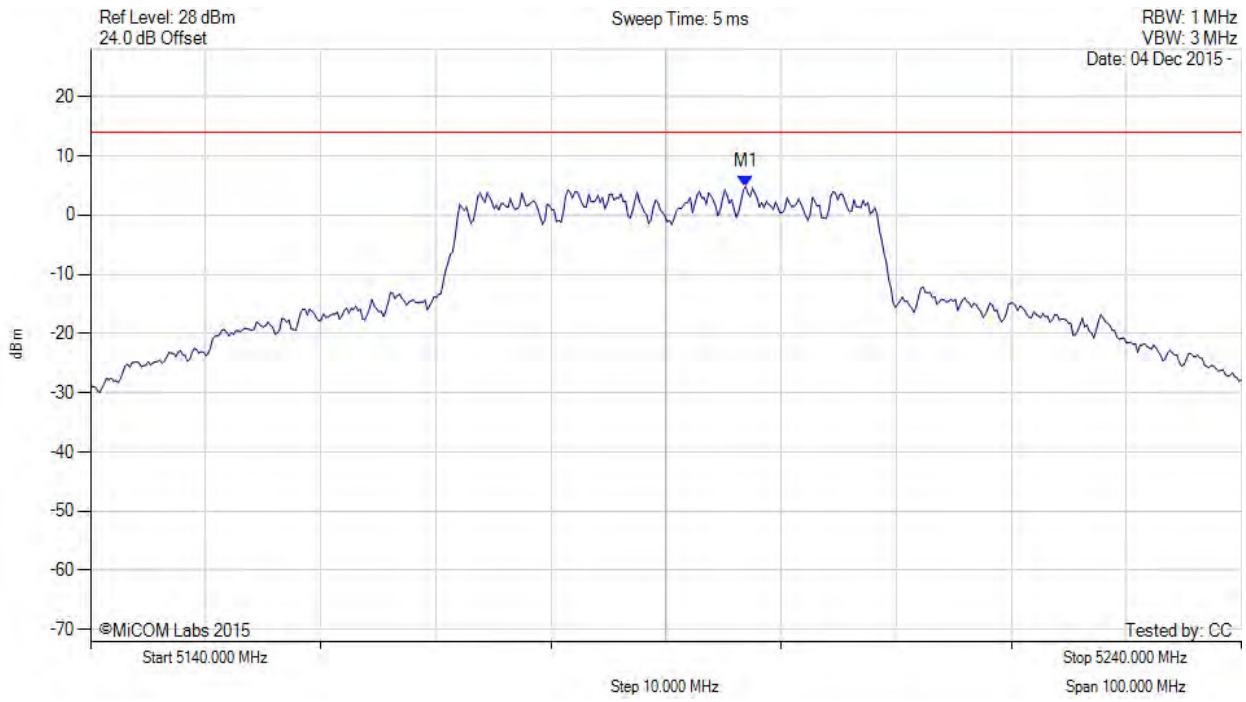


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5186.293 MHz : 3.231 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5190.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

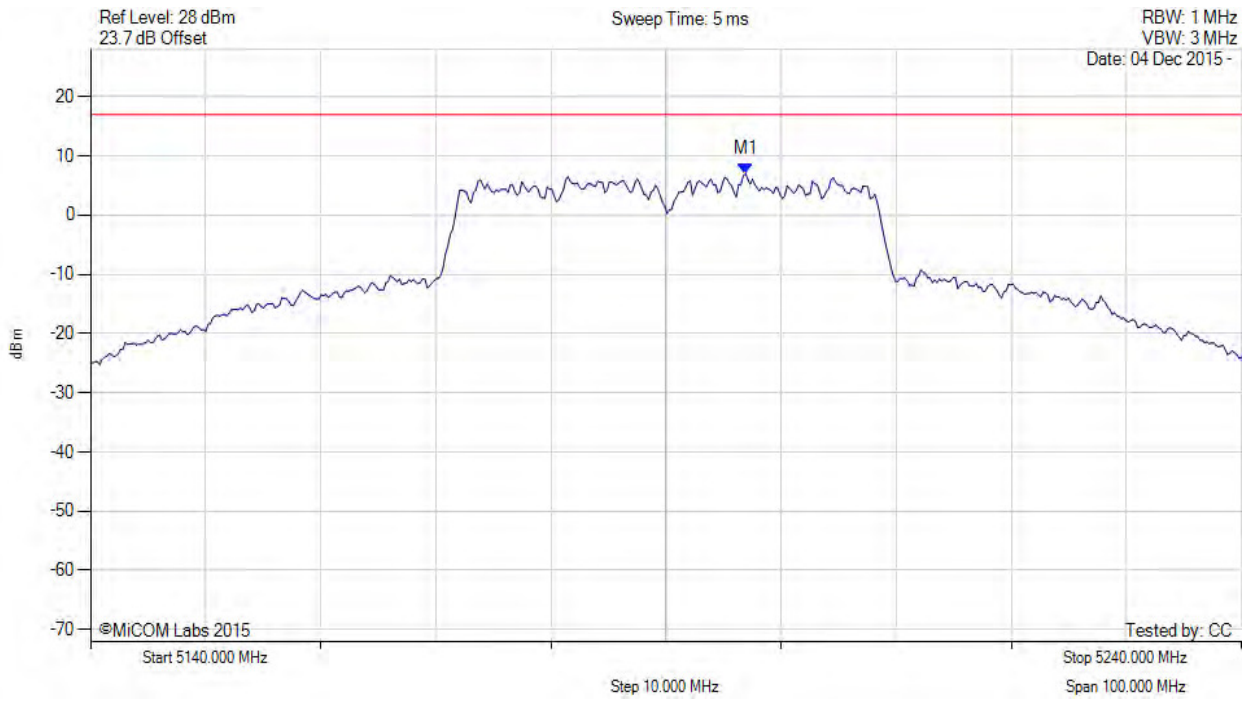


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5196.914 MHz : 4.852 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5190.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

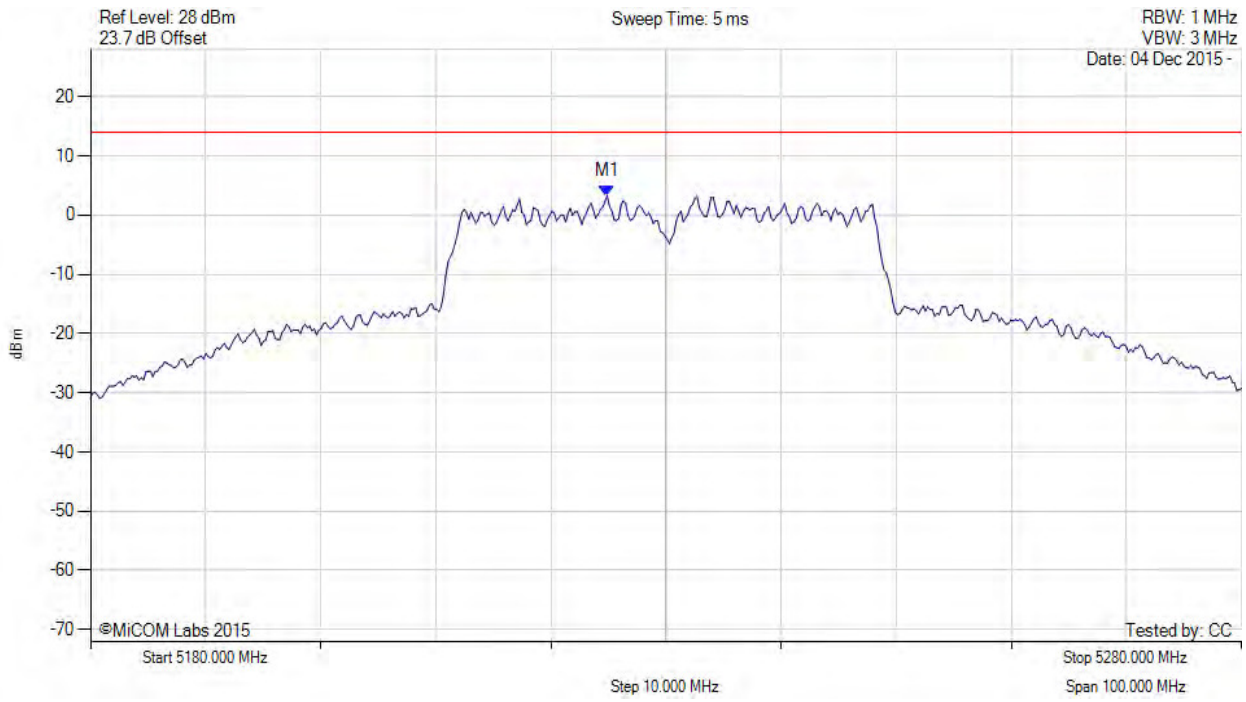


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5196.900 MHz : 6.981 dBm M1 + DCCF : 5196.900 MHz : 8.116 dBm Duty Cycle Correction Factor : +1.14 dB	Limit: ≤ 17.0 dBm Margin: -8.9 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5230.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

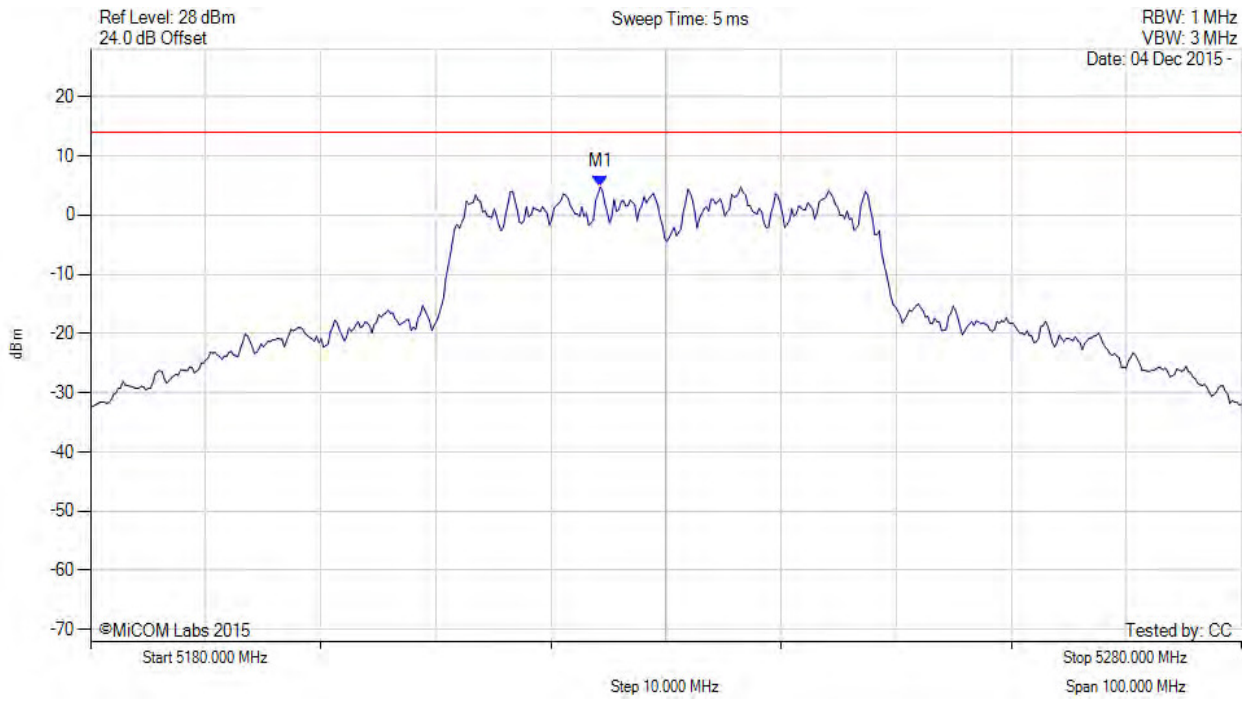


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5224.890 MHz : 3.275 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5230.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

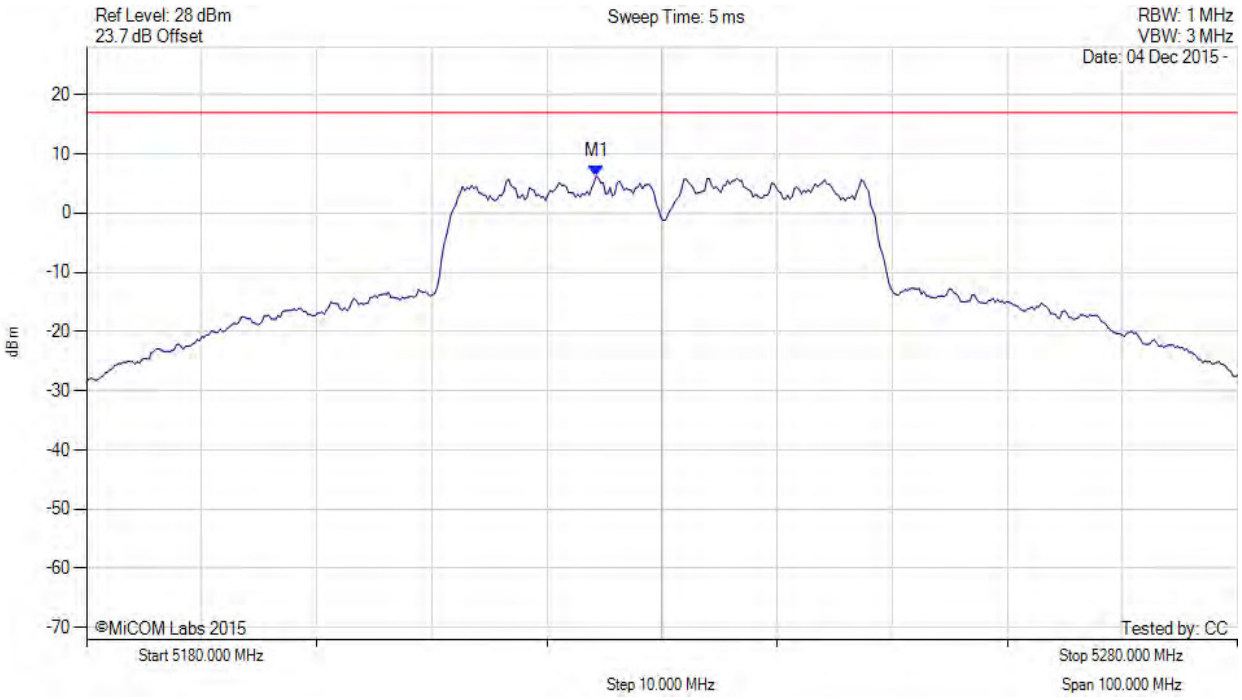


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5224.289 MHz : 4.736 dBm	Limit: ≤ 13.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5230.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

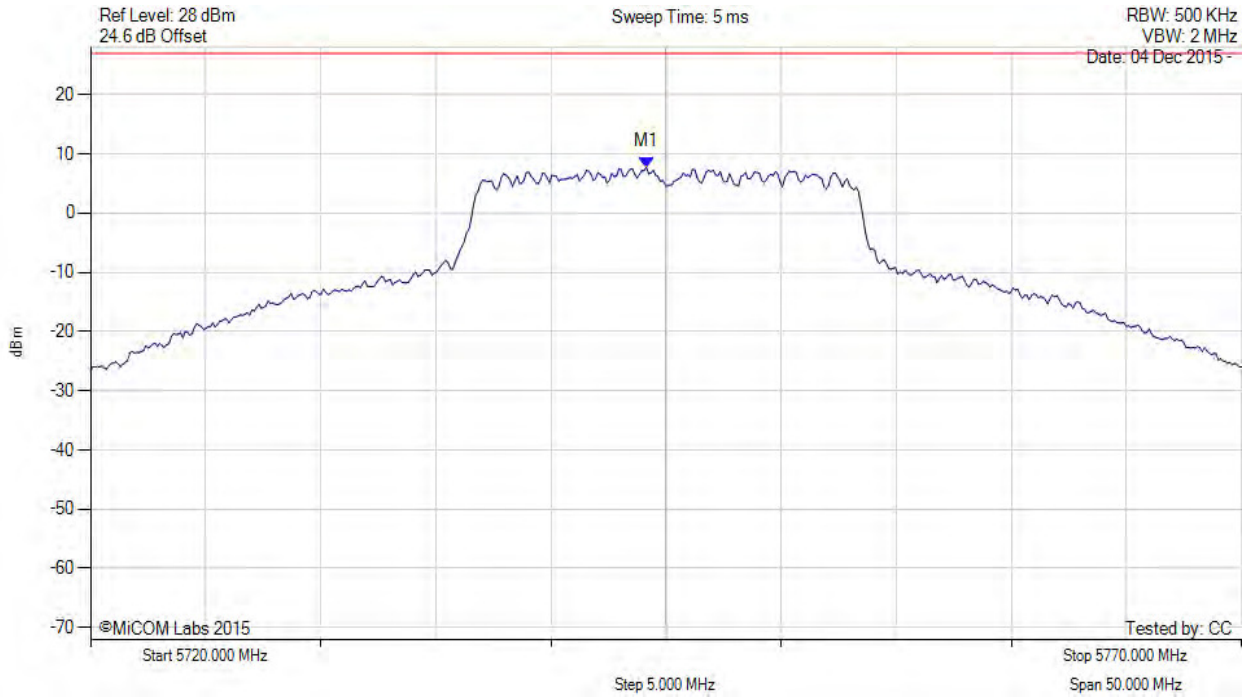


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5224.300 MHz : 6.255 dBm M1 + DCCF : 5224.300 MHz : 7.390 dBm Duty Cycle Correction Factor : +1.14 dB	Limit: ≤ 17.0 dBm Margin: -9.6 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

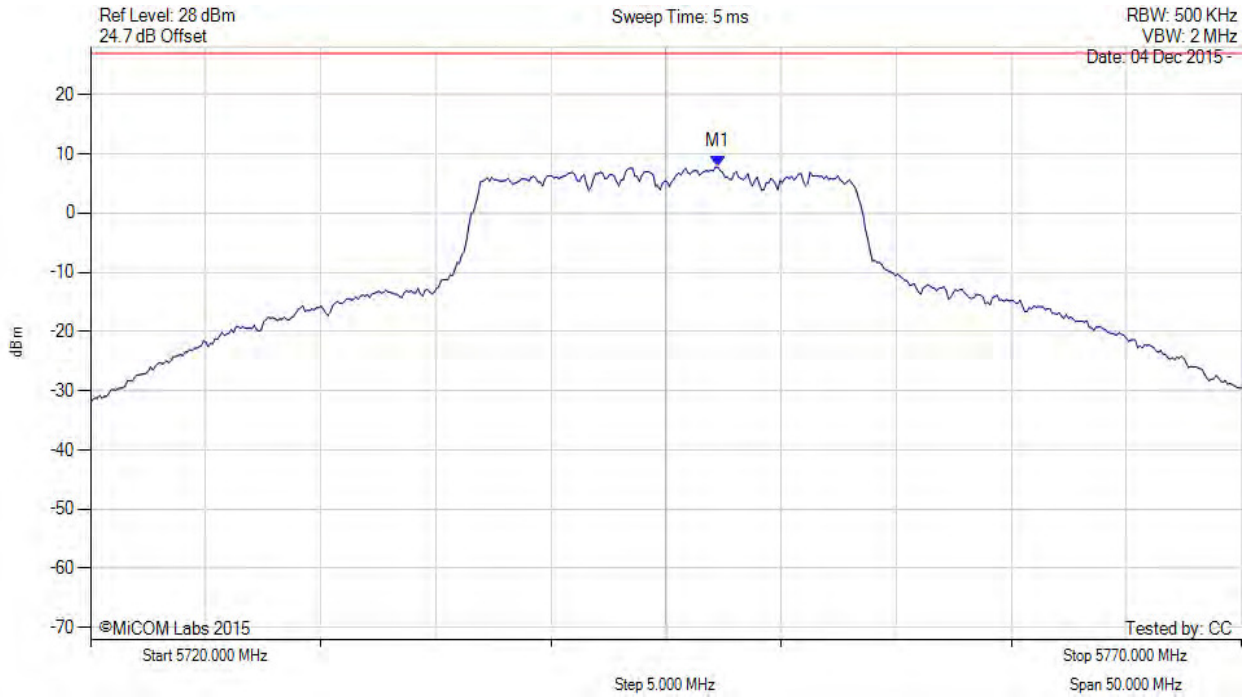


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5744.148 MHz : 7.742 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5745.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

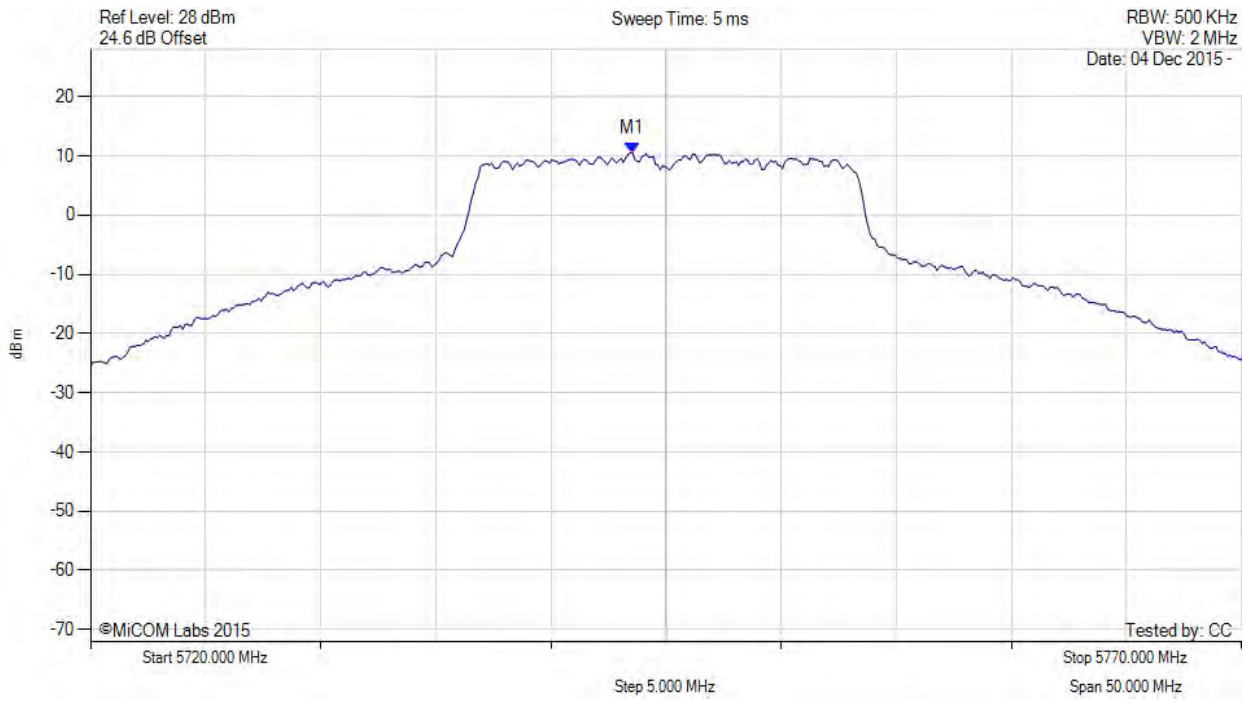


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5747.255 MHz : 7.775 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5745.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

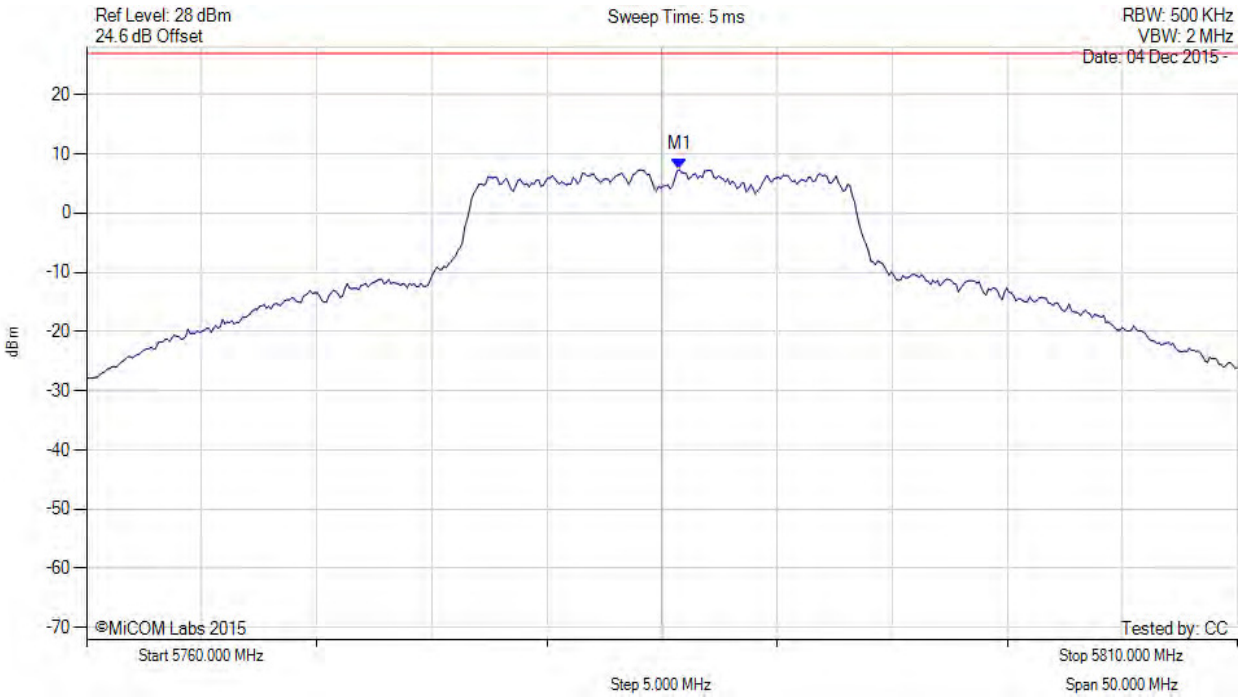


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5743.500 MHz : 10.533 dBm M1 + DCCF : 5743.500 MHz : 10.665 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 30.0 dBm Margin: -19.3 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5785.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

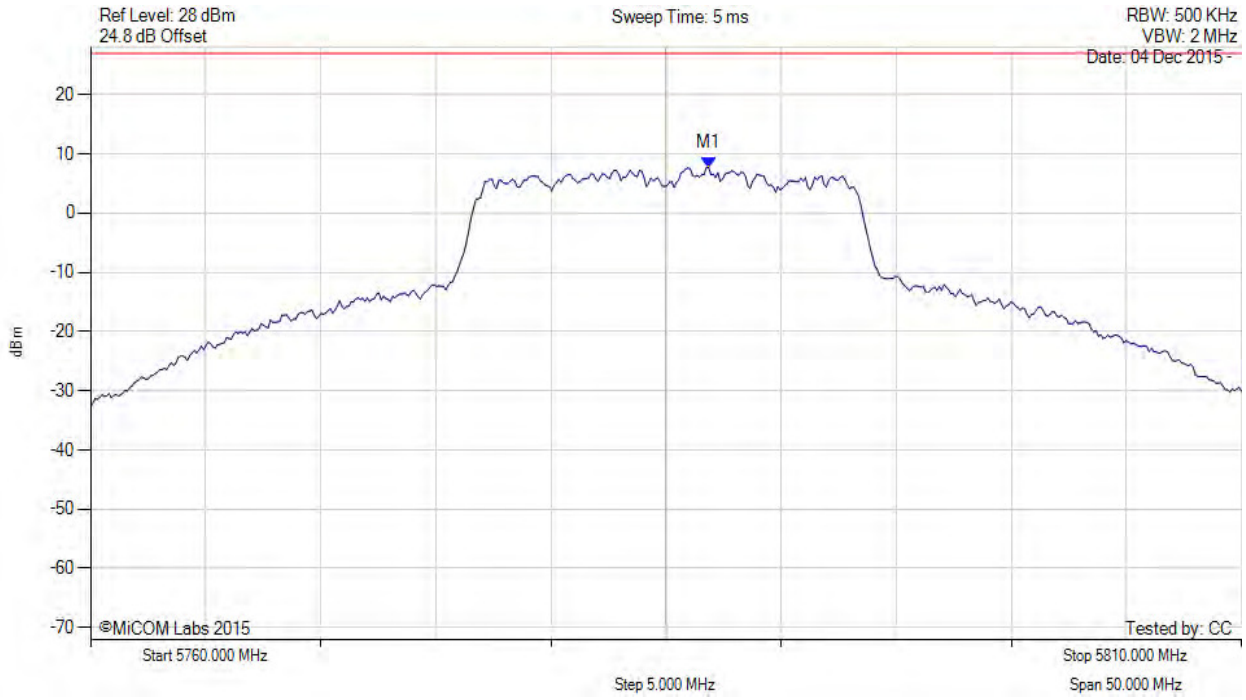


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5785.752 MHz : 7.361 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5785.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

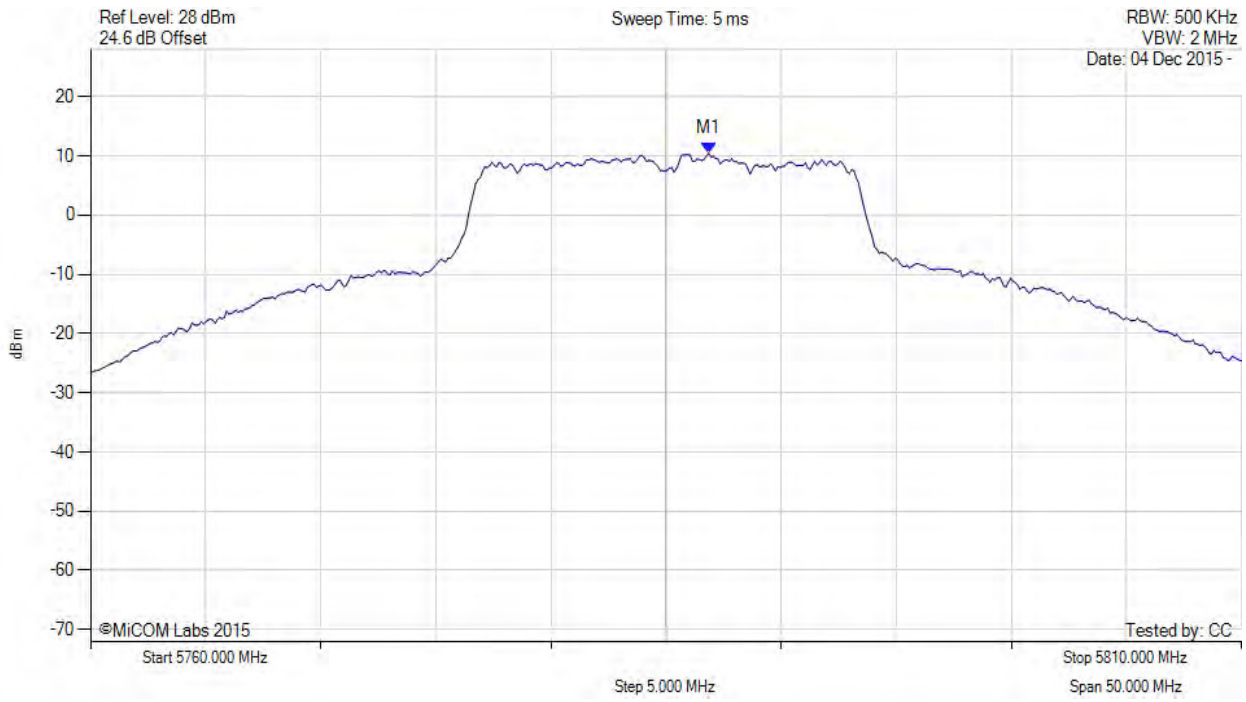


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5786.854 MHz : 7.715 dBm	Channel Frequency: 5785.00 MHz

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5785.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

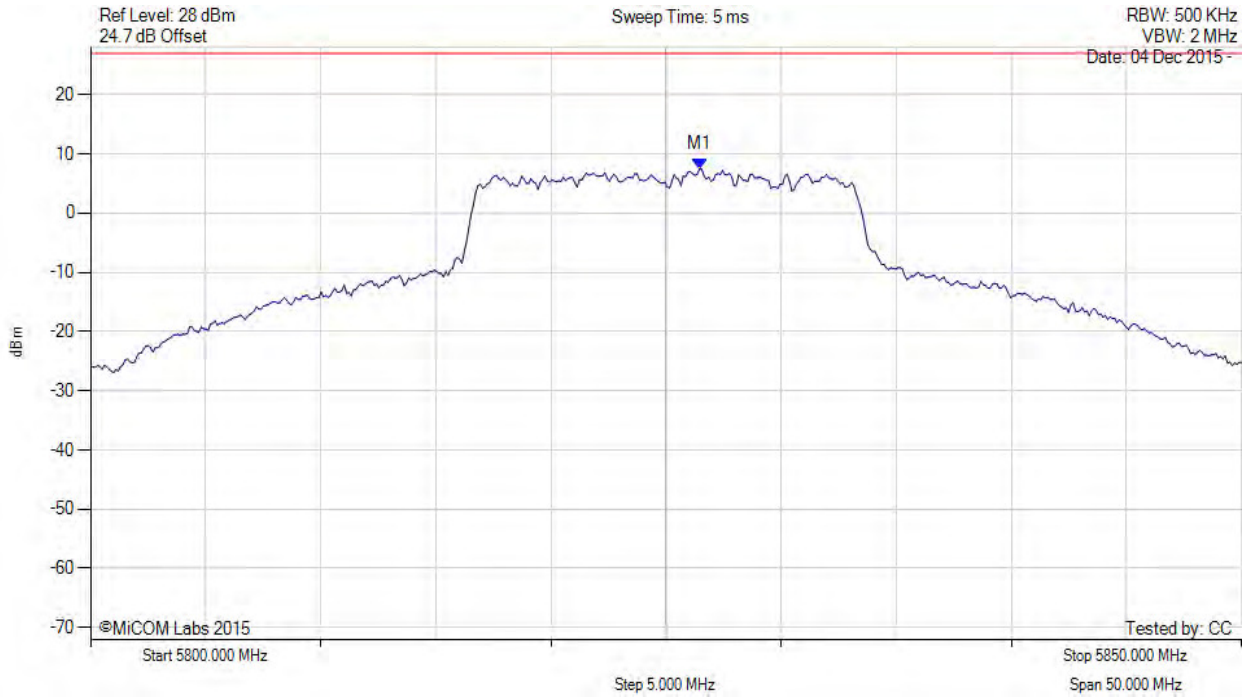


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5786.900 MHz : 10.440 dBm M1 + DCCF : 5786.900 MHz : 10.572 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 30.0 dBm Margin: -19.4 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

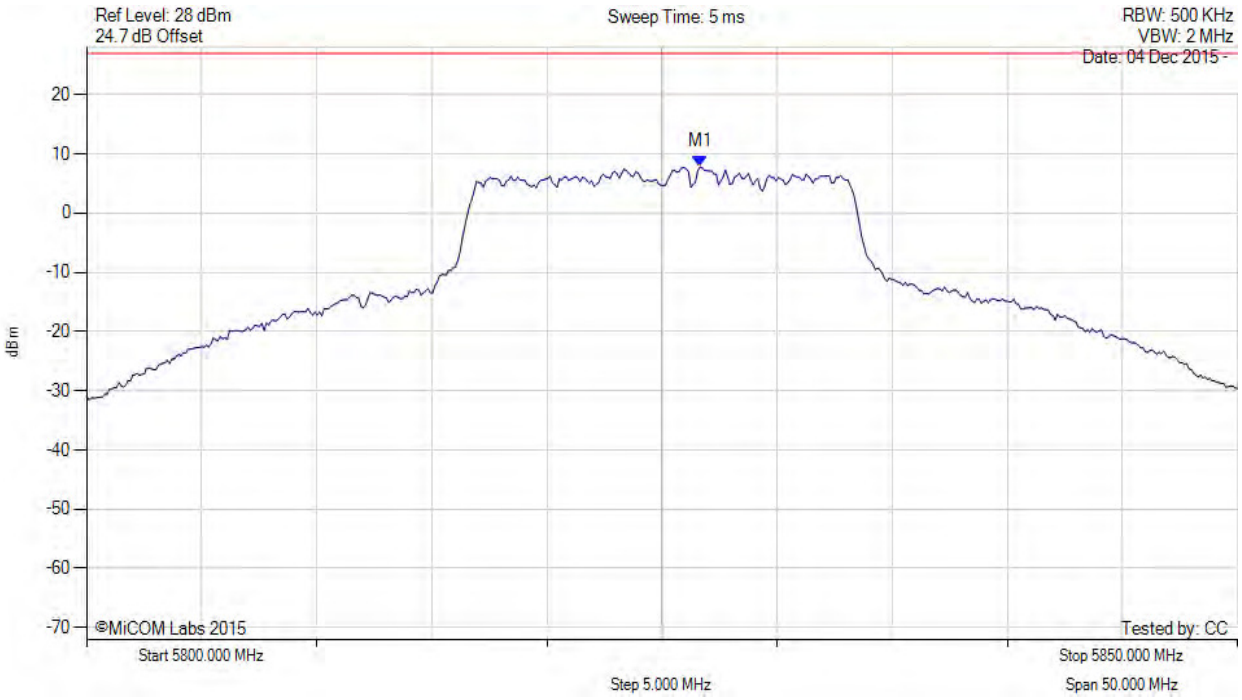


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5826.453 MHz : 7.448 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5825.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

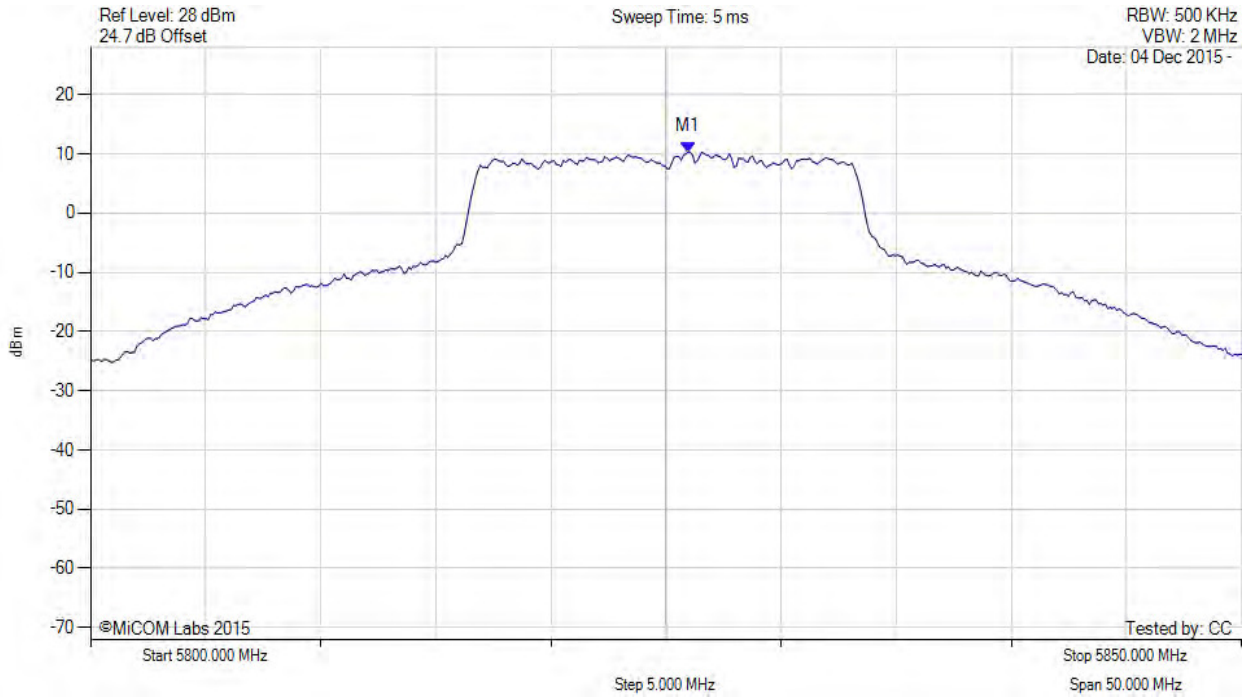


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5826.653 MHz : 7.791 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5825.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

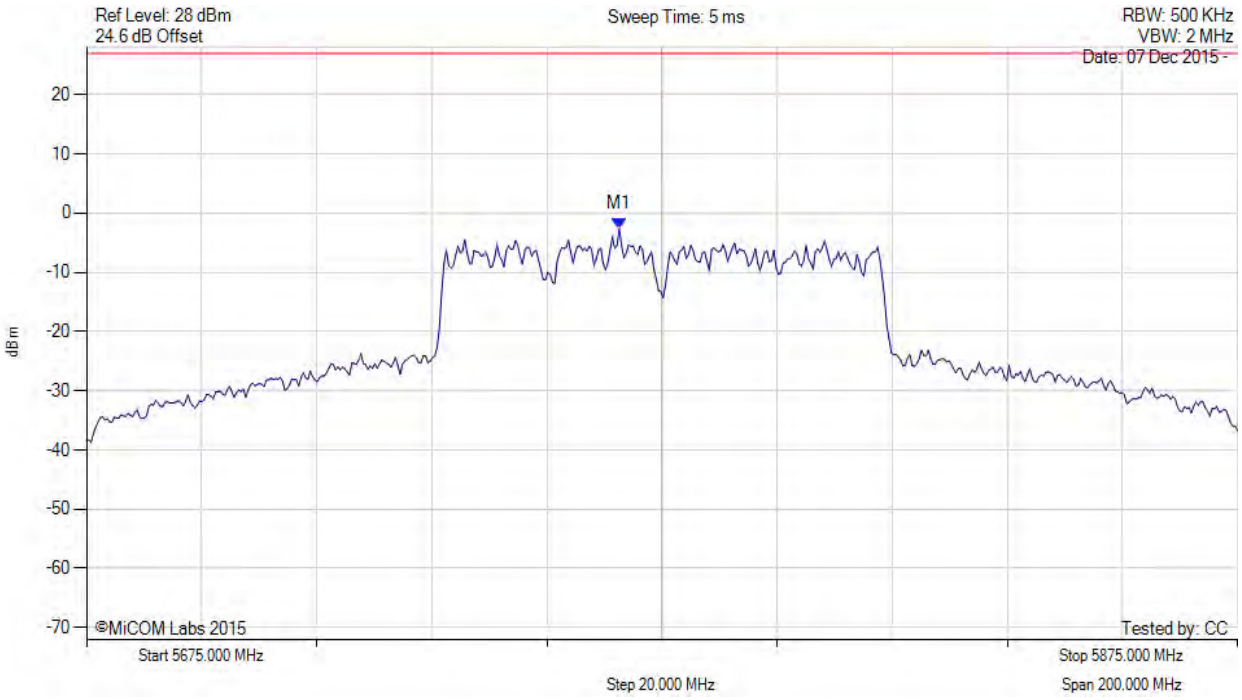


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5826.000 MHz : 10.330 dBm M1 + DCCF : 5826.000 MHz : 10.462 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 30.0 dBm Margin: -19.5 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

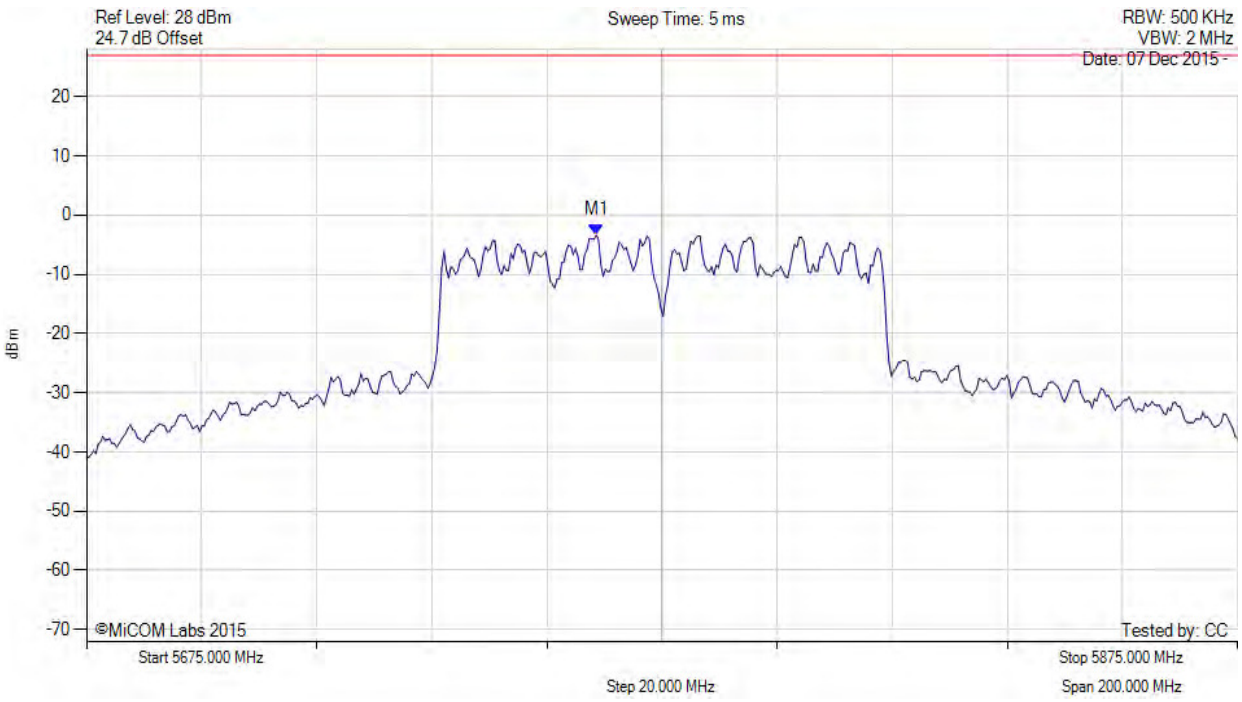


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5767.585 MHz : -2.667 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

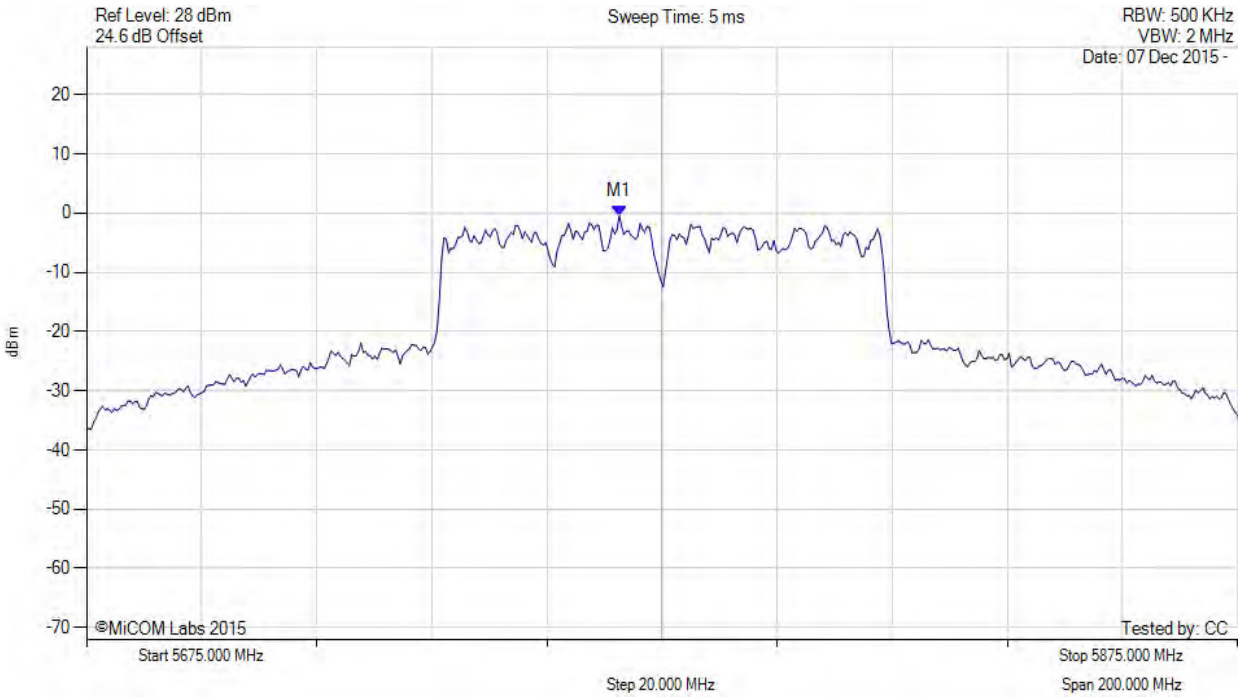


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5763.577 MHz : -3.388 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5775.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

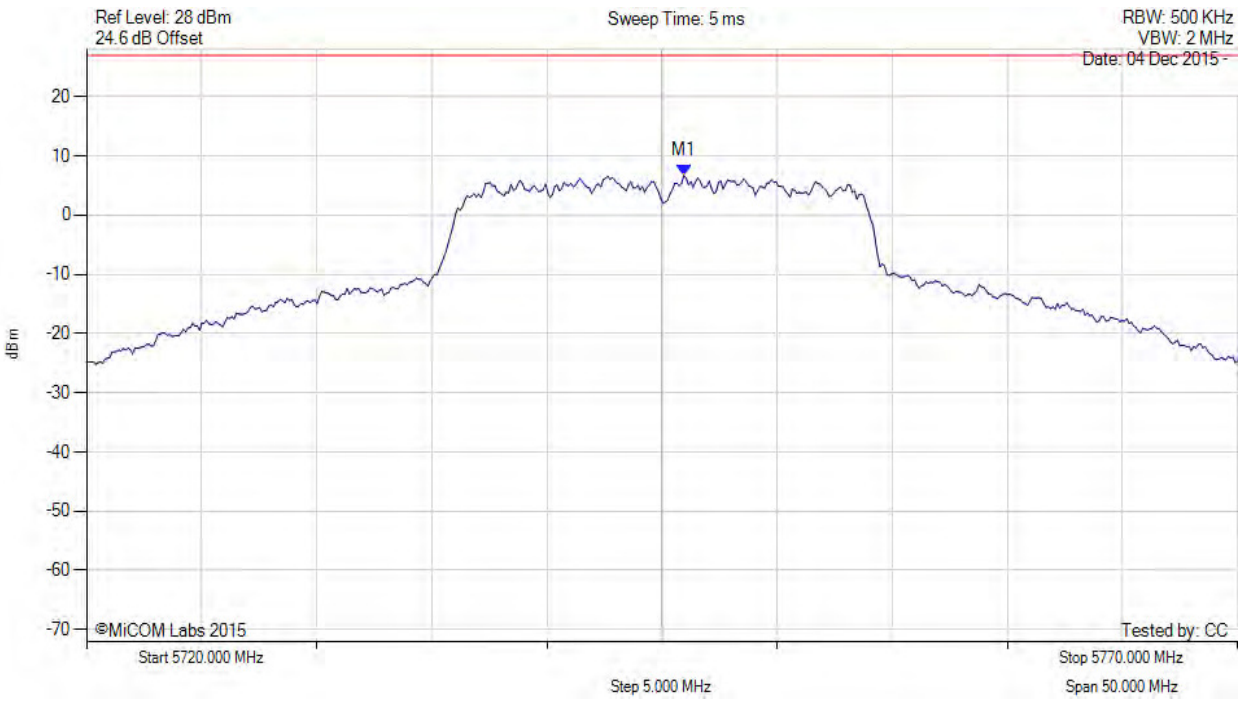


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5767.600 MHz : -0.506 dBm M1 + DCCF : 5767.600 MHz : 1.785 dBm Duty Cycle Correction Factor : +2.29 dB	Limit: ≤ 30.0 dBm Margin: -28.2 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

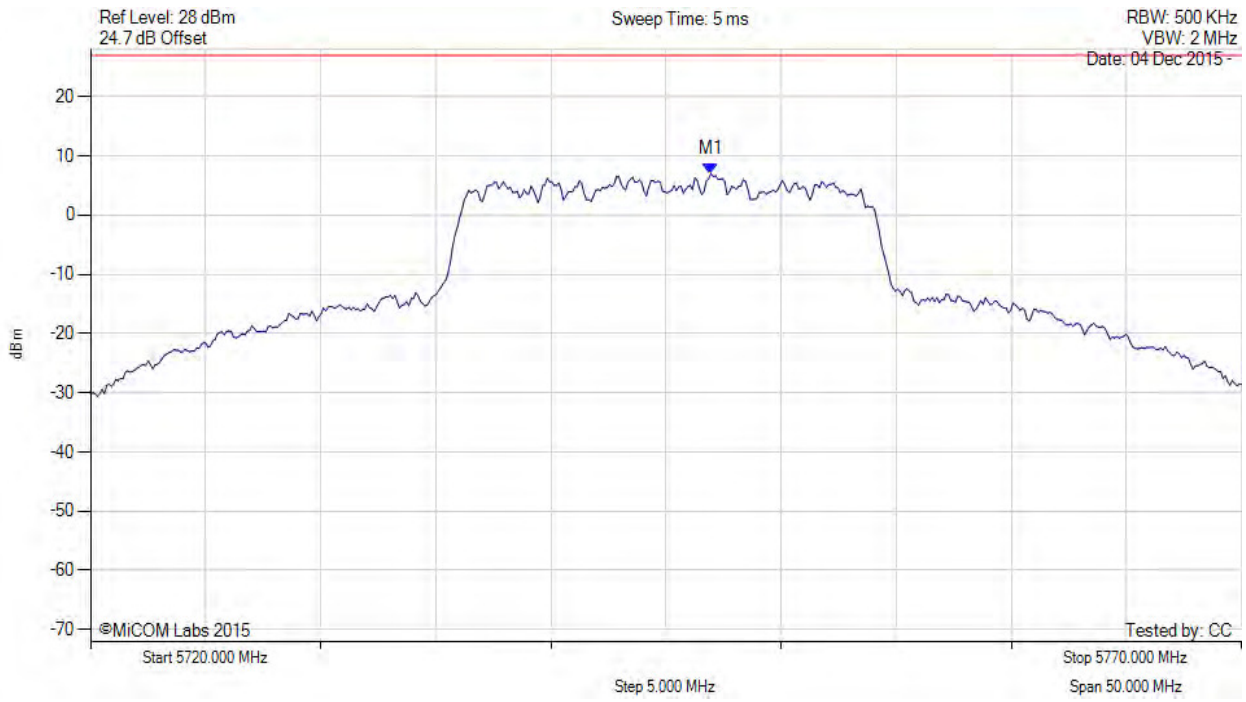


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5745.952 MHz : 6.708 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

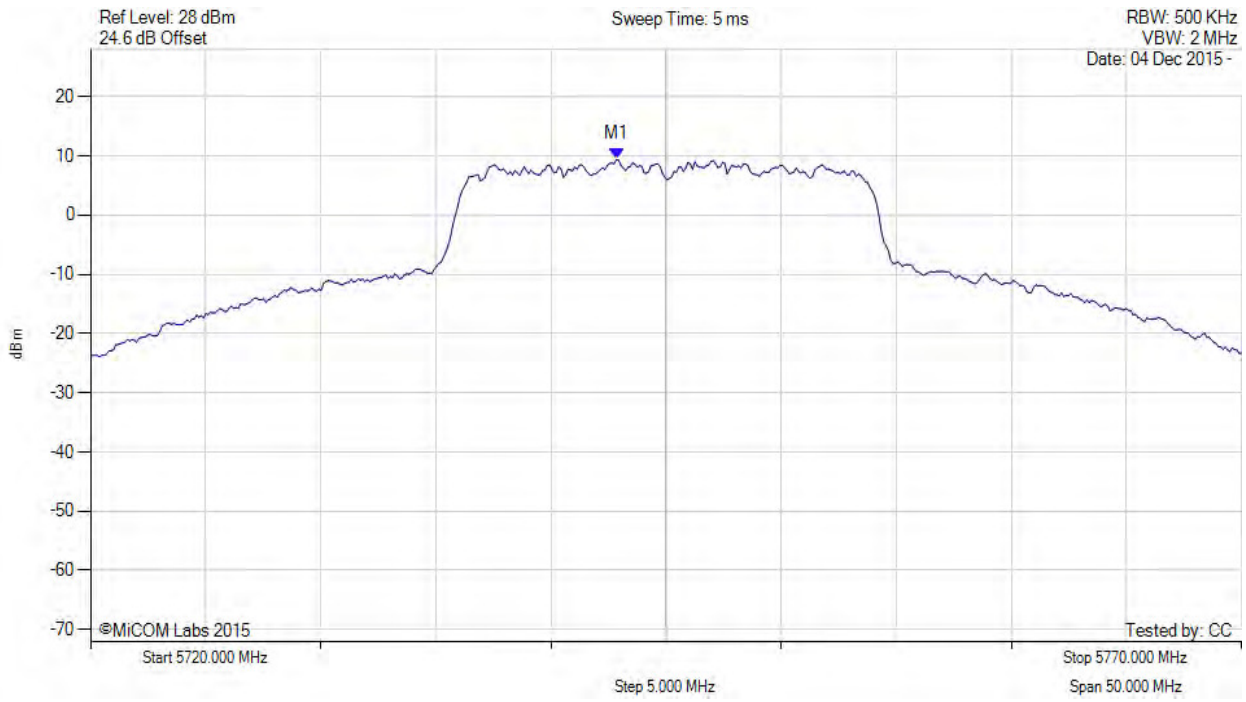


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5746.954 MHz : 6.990 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5745.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

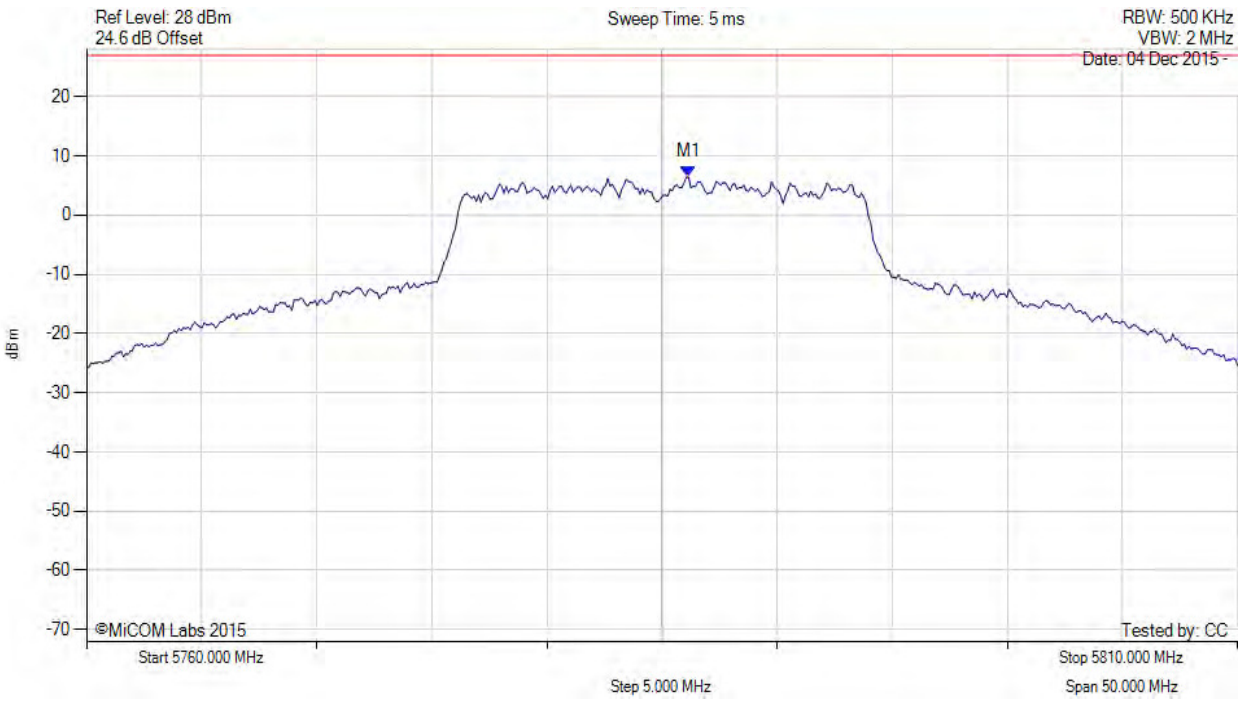


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5742.800 MHz : 9.418 dBm M1 + DCCF : 5742.800 MHz : 9.780 dBm Duty Cycle Correction Factor : +0.36 dB	Limit: ≤ 30.0 dBm Margin: -20.2 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

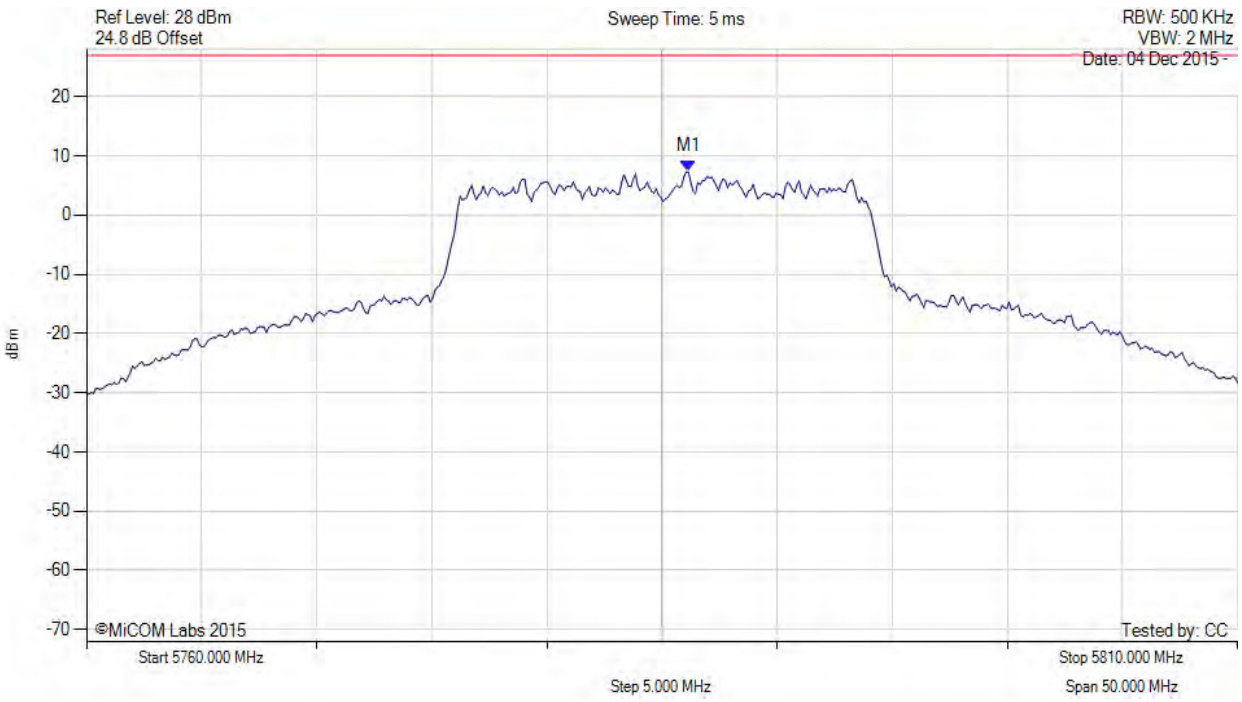


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5786.152 MHz : 6.411 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

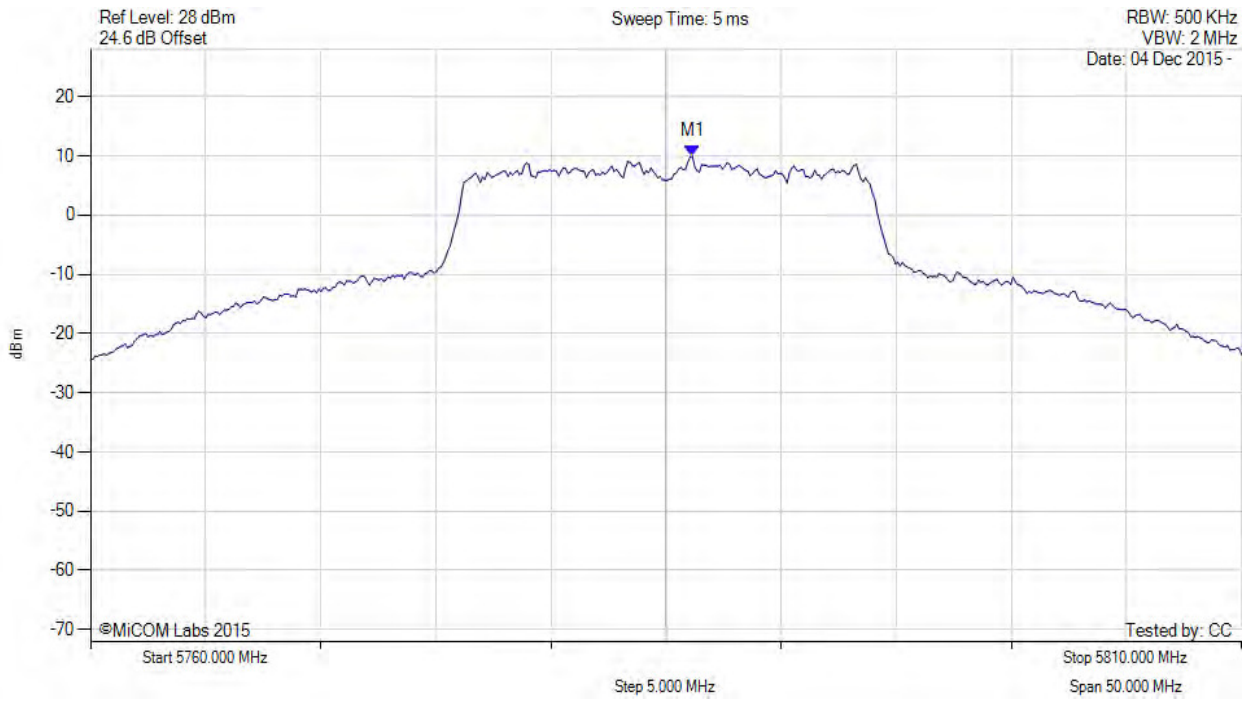


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5786.152 MHz : 7.312 dBm	Channel Frequency: 5785.00 MHz

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5785.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

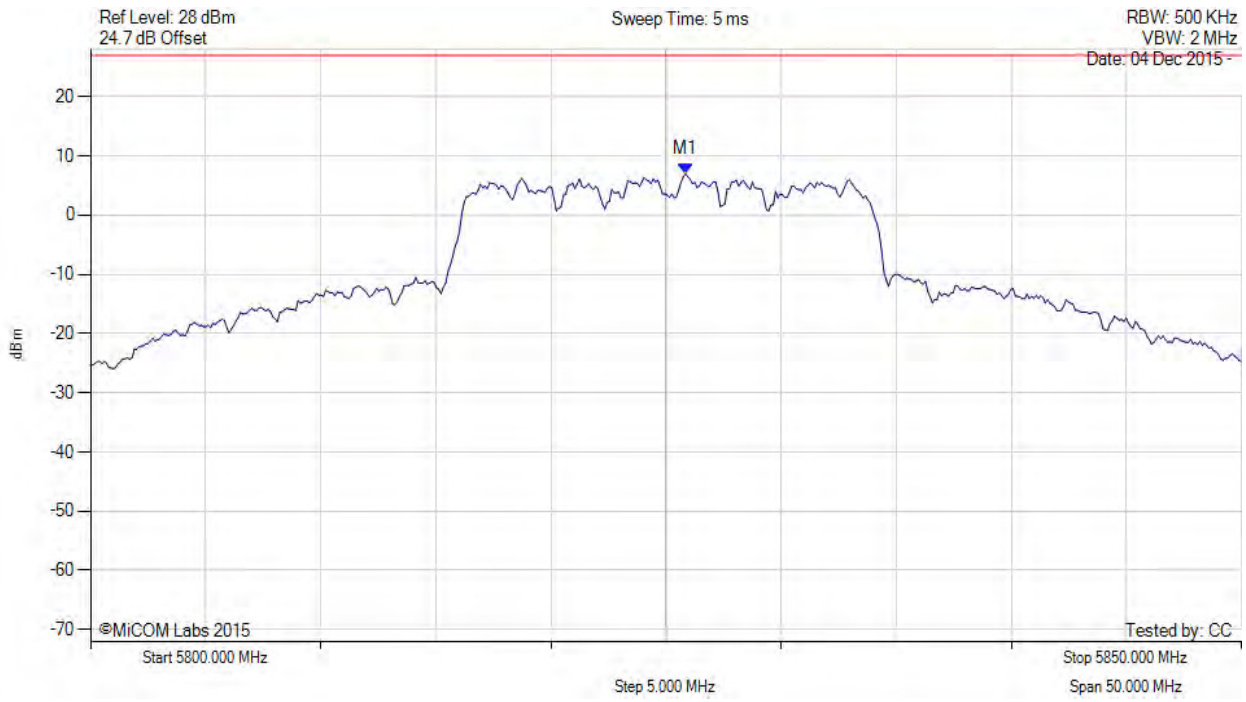


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5786.200 MHz : 9.895 dBm M1 + DCCF : 5786.200 MHz : 10.257 dBm Duty Cycle Correction Factor : +0.36 dB	Limit: ≤ 30.0 dBm Margin: -19.8 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

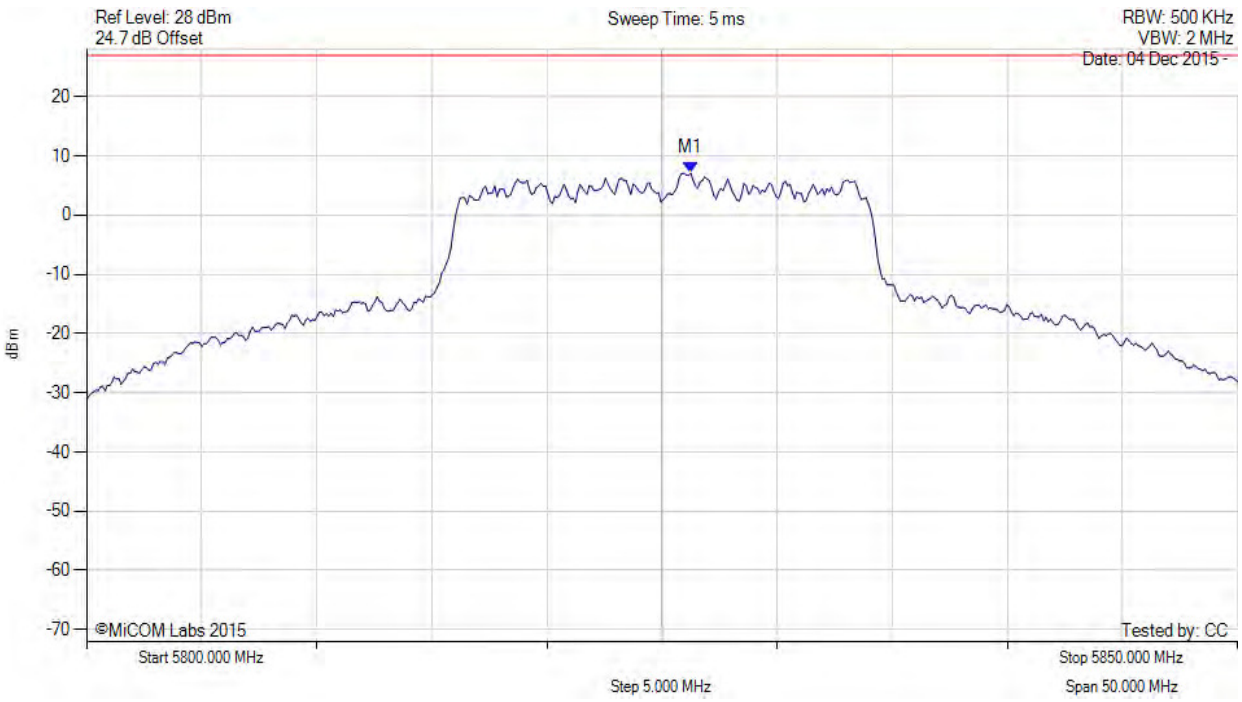


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5825.852 MHz : 6.993 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

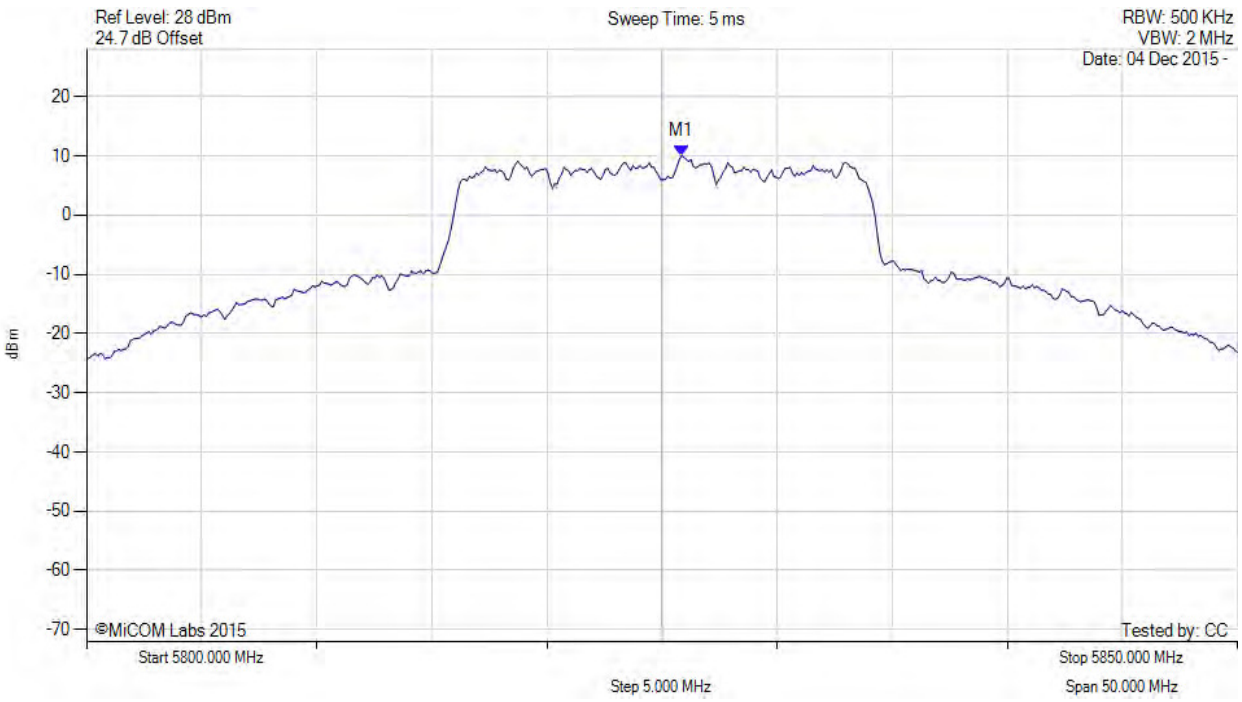


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5826.253 MHz : 7.094 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5825.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

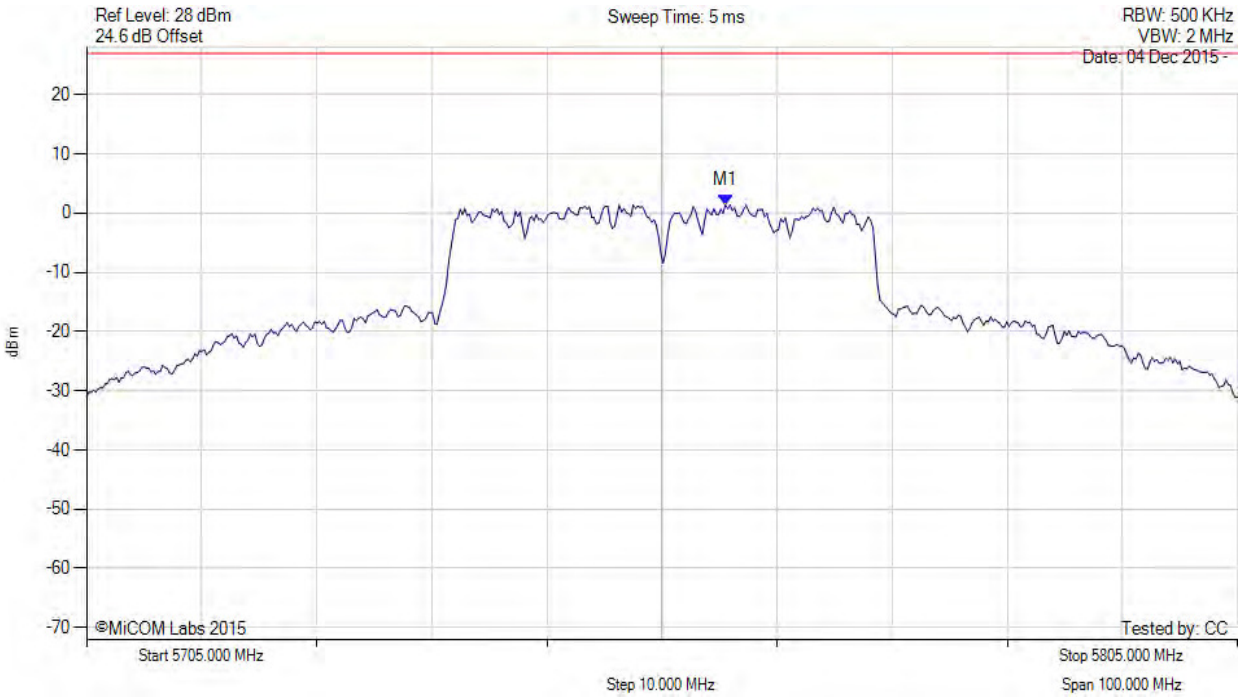


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5825.900 MHz : 10.011 dBm M1 + DCCF : 5825.900 MHz : 10.373 dBm Duty Cycle Correction Factor : +0.36 dB	Limit: ≤ 30.0 dBm Margin: -19.6 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

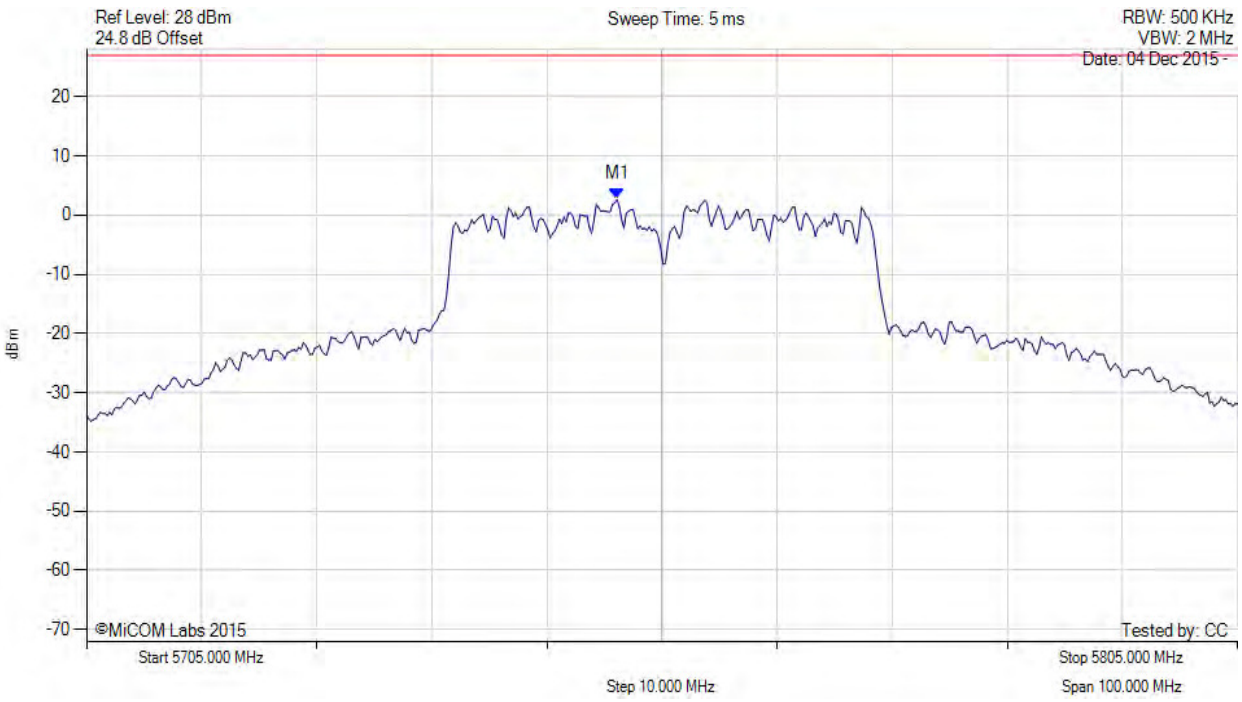


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5760.511 MHz : 1.415 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

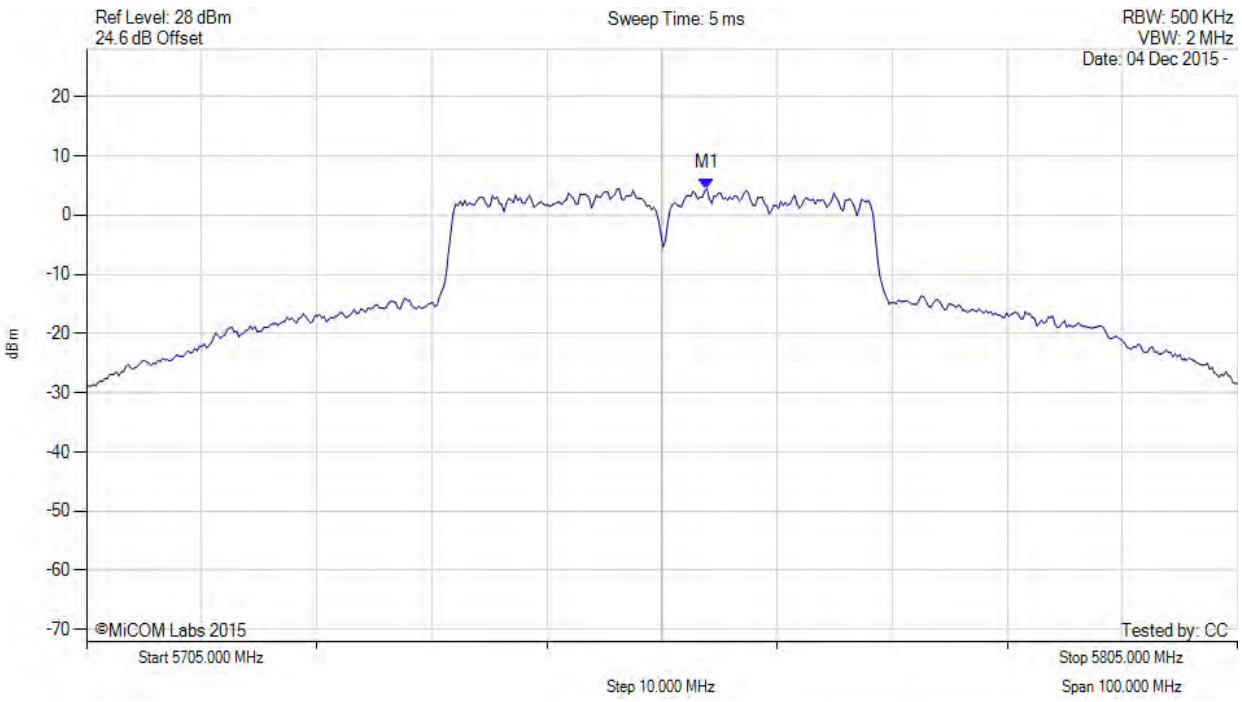


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5751.092 MHz : 2.638 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5755.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc

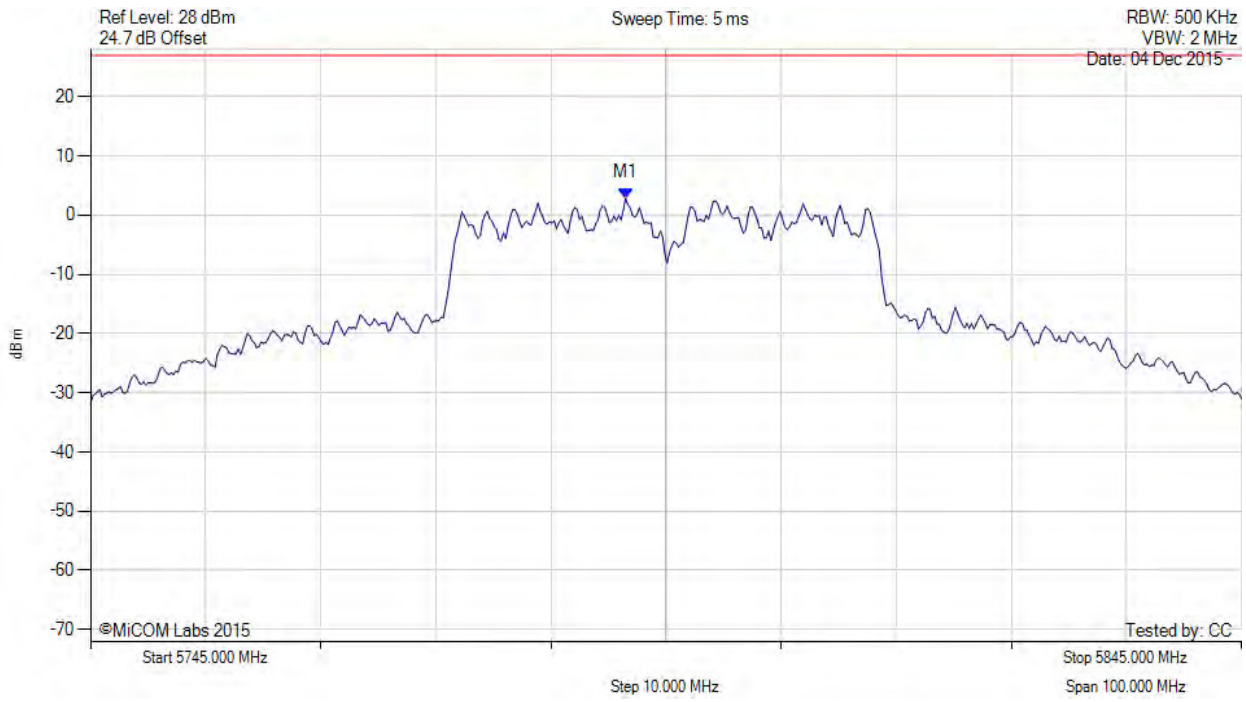


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5758.900 MHz : 4.491 dBm M1 + DCCF : 5758.900 MHz : 5.626 dBm Duty Cycle Correction Factor : +1.14 dB	Limit: ≤ 30.0 dBm Margin: -24.4 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain a, Temp: Ambient, Voltage: 56 Vdc

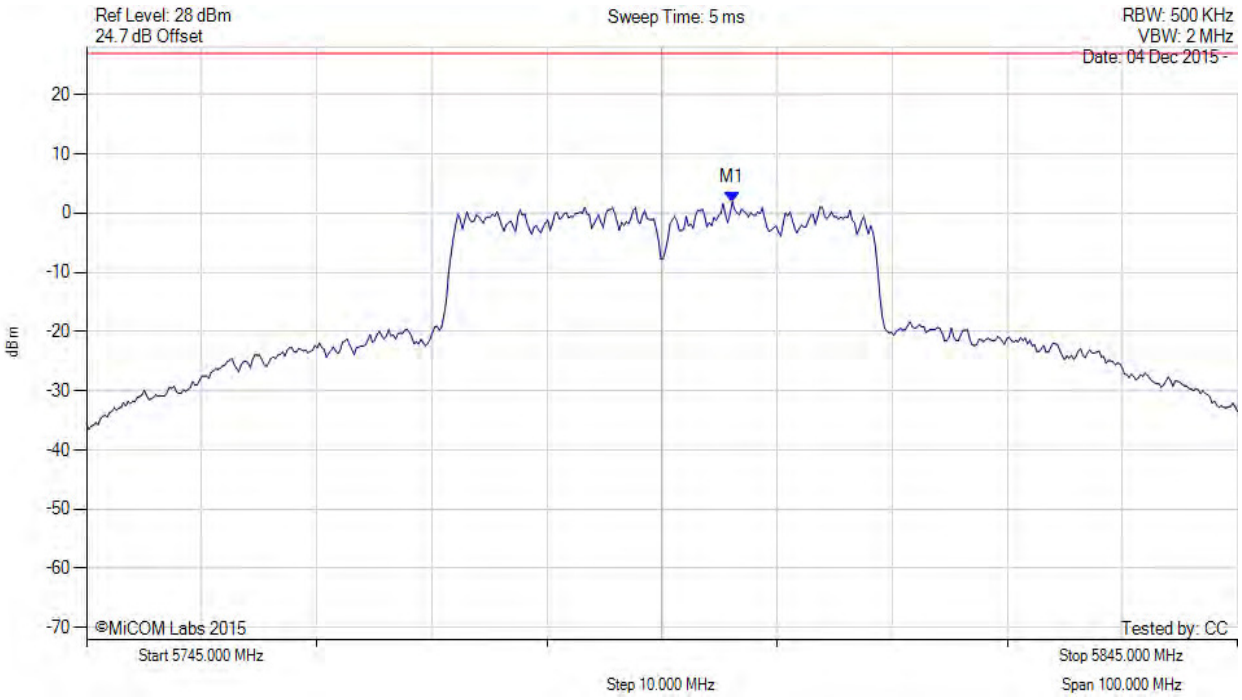


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5791.493 MHz : 2.848 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain b, Temp: Ambient, Voltage: 56 Vdc

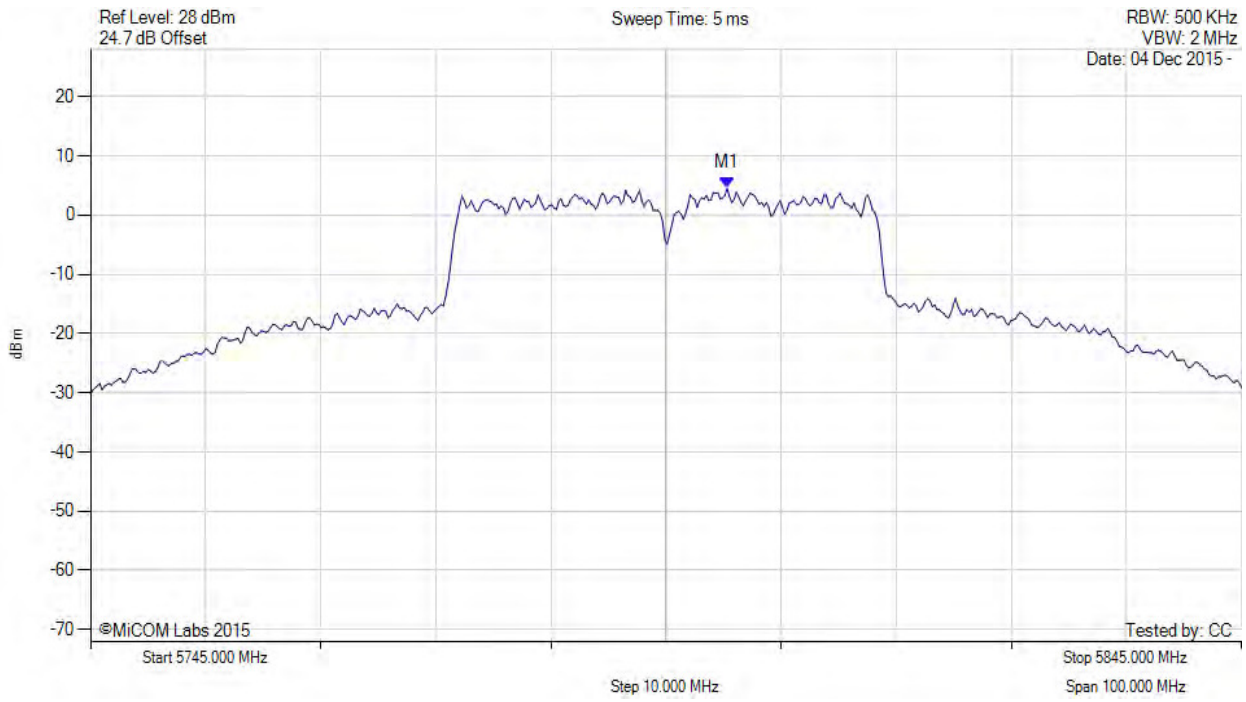


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5801.112 MHz : 1.864 dBm	Limit: ≤ 26.990 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5795.00 MHz, SUM, Temp: Ambient, Voltage: 56 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5800.300 MHz : 4.540 dBm M1 + DCCF : 5800.300 MHz : 5.675 dBm Duty Cycle Correction Factor : +1.14 dB	Limit: ≤ 30.0 dBm Margin: -24.3 dB

back to matrix