Company: Aruba Networks, Inc.

Test of: APEX0100, APEX0101
To: FCC CFR 47 Part 15 Subpart E 15.407

Report No.: ARUB190–U5 Rev A

CONDUCTED & RADIATED TEST REPORT

CONDUCTED & RADIATED TEST REPORT

FROM

MiCOM Labs
opening wireless markets

Test of: Aruba Networks, Inc. APEX0100, APEX0101
to

To: FCC CFR 47 Part 15 Subpart E 15.407

Test Report Serial No.: ARUB190–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:	18th April 2016

This Test Report is Issued Under the Authority of:

MiCOM Labs, Inc.
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A2LA ACCREDITED
TESTING CERT #2381.01

MiCOM Labs is an ISO 17025 Accredited Testing Laboratory

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1. ACCREDITATION, LISTINGS & RECOGNITION

1.1. Test Accreditation

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

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Accredited Laboratory

A2LA has accredited

MICOM LABS

Pleasanton, CA

for technical competence in the field of

Electrical Testing

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

Presented this 4th day of February 2016.

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

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

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1.2. Recognition

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

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

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

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

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1.3. Product Certification

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

Accredited Product Certification Body

A2LA has accredited

MICOM LABS

Pleasanton, CA

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

Presented this 4th day of February 2016.

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

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

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

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2. DOCUMENT HISTORY

Document History		
Revision	Date	Comments
Draft	18th April 2016	
Rev A	3rd May 2016	Initial Release

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

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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:	APEX0100, APEX0101	**Telephone:** **Fax:**	+1 925 462 0304 +1 925 462 0306
Type Of Equipment:	Wireless Access Point		
S/N's:	CL0000181		
Test Date(s):	6th January – 13th April 2016	**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:

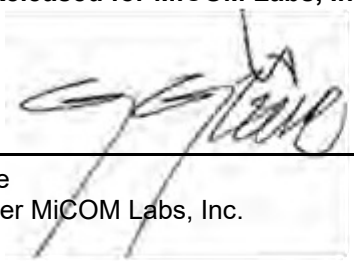
1. This document reports conditions under which testing was conducted and the results of testing performed.

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

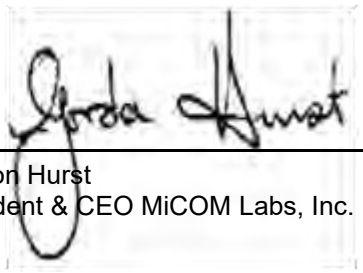
3. Test results apply only to the item(s) tested.

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.

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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	Oct 31 2013	Guidance for measurement of output emission of devices that employ single transmitter with multiple outputs or systems with multiple transmitters operating simultaneously in the same frequency band
III	KDB 905462 D07 v01r01	8th April, 2016	Test guidance to demonstrate compliance for U-NII devices subject to DFS requirements.
IV	KDB 926956 DO1 v01r05	7th April 2016	U-NII Device Transition Plan
V	KDB 789033 D02 v01r02	8th April, 2016	General UNII Test Procedures New Rules V01
VI	KDB 644545 D03 v01	August 14th 2014	Guidance for IEEE 802.11ac New Rules
VII	FCC 47 CFR Part 2.1033	2014	FCC requirements and rules regarding photographs and test setup diagrams.
VIII	A2LA	June 2015	R105 - Requirement's When Making Reference to A2LA Accreditation Status
IX	ANSI C63.10	2013	American National Standard for Testing Unlicensed Wireless Devices
X	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
XI	CISPR 22	2008	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement
XII	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
XIII	FCC 06-96	Jun 3 2006	Memorandum Opinion and Order
XIV	M 3003	Edition 3 Nov. 2012	Expression of Uncertainty and Confidence in Measurements

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4.2. Test and Uncertainty Procedure

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

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

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

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5. PRODUCT DETAILS AND TEST CONFIGURATIONS

5.1. Technical Details

Details	Description
Purpose:	Test of the Aruba Networks, Inc. APEX0100, APEX0101 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:	ARUB190 – U5 Draft Report
Date EUT received:	4th January 2016
Standard(s) applied:	FCC CFR 47 Part 15 Subpart E 15.407
Dates of test (from - to):	6th January – 7th January 2016
No of Units Tested:	1
Type of Equipment:	802.11a/b/g/n Wireless Access Point 3x3 Spatial Multiplexing MIMO configuration
Product Family Name:	Mid-range 3x3:2 802.11ac Access Point
Model(s):	APEX0100 & APEX0101
Location for use:	Outdoor
Declared Frequency Range(s):	5150 - 5250 MHz; 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:	Bandwidth: 20, 40, 80 MHz
Transmit/Receive Operation:	Transceiver - Half Duplex
Rated Input Voltage and Current:	POE (POE adaptor sold with unit) 48Vdc
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:	APEX0100; 5.5 X 9 X 9.4 inches APEX0101; 10.6 X 9 X 9.4 inches.
Weight:	APEX0100; 5.3 lbs APEX0101; 5.3 lbs
Hardware Rev:	2.0
Software Rev:	e500rd_nov13_cl373362.ari

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5.2. Scope Of Test Program

Aruba Networks, Inc APEX0100 & APEX0101

The scope of the test program was to test the Aruba Networks, Inc APEX0100 & APEX0101, 802.11a/b/g/n Wireless Access Point 3x3 Spatial Multiplexing MIMO configurations to the new FCC rules for frequency ranges 5150 - 5250 MHz; 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

Model Identification
APEX0101: External Antenna (N-Type connectors)
APEX0100: Integral Antenna

APEX0100 and APEX0101 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

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Aruba Networks, Inc. APEX0100

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Aruba Networks, Inc. APEX0101

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

Type	Description	Manufacturer	Model	Serial no.	Delivery Date
EUT	External Antenna	Aruba Networks	APEX0101	CL0000181	4th January 2016
EUT	Integral Antenna	Aruba Networks	APEX0100	CL0025401	4th January 2016
Support	Laptop PC	Dell	E5440	None	--

5.4. Antenna Details

Type	Manufacturer	Model	Family	Gain (dBi)	BF Gain	Dir BW	X-Pol	Frequency Band (MHz)
external	Aruba Networks	ANT-3x3-D905	Directional	5.0	-	360	-	5150 – 5250 5725 - 5850
external	Aruba Networks	ANT-2x2-D607*	Directional	7.0	-	360	-	5150 – 5250 5725 - 5850
external	Aruba Networks	ANT-2x2-D805*	Directional	5.0	-	360	-	5150 – 5250 5725 - 5850
external	Aruba Networks	ANT-3x3-5010*	OMNI	10.0	-	360	-	5150 – 5250 5725 - 5850
external	Aruba Networks	ANT-2x2-5314*	Directional	14.0	-	360	-	5150 – 5250 5725 - 5850
external	Aruba Networks	ANT-3x3-5712*	Directional	11.5	-	360	-	5150 – 5250 5725 - 5850
integral	Aruba Networks	Integral	Directional	5.0	-	360	-	5150 – 5250 5725 - 5850

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

* Tested antennas

5.5. Cabling and I/O Ports

Port Type	Max Cable Length	# Of Ports	Screened	Conn Type	Data Type
Ethernet (POE)	100m	1	N	RJ-45	Packet Data
Ethernet	100m	1	N	RJ-45	Packet Data
Micro USB Connector	1.5	1	N	USB	Maintenance Terminal
Vac Connector	3m	1	N	Vac Connector	--
RF Antenna Connector	--	6	N	Antenna Connector	--

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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	--	5775.00
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

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6. TEST SUMMARY

List of Measurements

Test Header	Result	Data Link
(a) Peak Transmit Power	Complies	View Data
(a) 26 dB & 99% Bandwidth	Complies	View Data
(a)(5) 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	See MiCOM Labs report ARUB169-U3	
15.209 Digital Emissions	Complies	--
ac Wireline Emissions	See MiCOM Labs report ARUB169-U3	
15.207 AC Wireline Emissions	Complies	--

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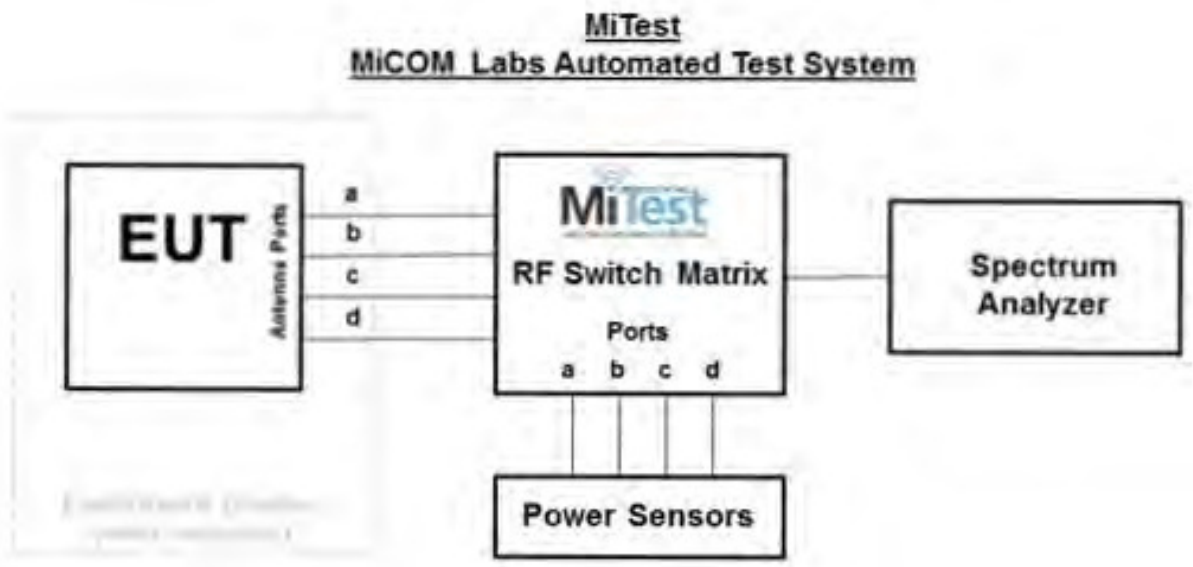
7. TEST EQUIPMENT CONFIGURATION(S)

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.

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Asset#	Description	Manufacturer	Model#	Serial#	Calibration Due Date
158	Barometer/Thermometer	Control Company	4196	E2846	04 Dec 2016
287	Rohde & Schwarz 40 GHz Receiver	Rhode & Schwarz	ESIB40	100201	27 Aug 2016
376	USB 10MHz - 18GHz Average Power Sensor	Agilent	U2000A	MY51440005	23 Oct 2016
381	4x4 RF Switch Box	MiCOM Labs	MiTest RF Switch Box	MIC002	18 Jun 2016
419	Laptop with Labview Software	Lenova	W520	TS02	Not Required
420	USB to GPIB Interface	National Instruments	GPIB-USB HS	1346738	Not Required
435	USB Wideband Power Sensor	Boonton	55006	8730	31 Jul 2016
440	USB Wideband Power Sensor	Boonton	55006	9178	25 Sep 2016
441	USB Wideband Power Sensor	Boonton	55006	9179	25 Sep 2016
442	USB Wideband Power Sensor	Boonton	55006	9181	25 Sep 2016
460	Dell Computer	Dell	Optiplex330	BC944G1	Not Required
RF#2 GPIB#1	GPIB cable to Power Supply	HP	GPIB	None	Not Required
RF#2 SMA#1	EUT to Mitest box port 1	Flexco	SMA Cable port1	None	18 Jun 2016
RF#2 SMA#2	EUT to Mitest box port 2	Flexco	SMA Cable port2	None	18 Jun 2016
RF#2 SMA#3	EUT to Mitest box port 3	Flexco	SMA Cable port3	None	18 Jun 2016
RF#2 SMA#4	EUT to Mitest box port 4	Flexco	SMA Cable port4	None	18 Jun 2016
RF#2 SMA#SA	Mitest box to SA	Flexco	SMA Cable SA	None	18 Jun 2016
RF#2 USB#1	USB Cable to Mitest Box	Dynex	USB Cable	None	Not Required

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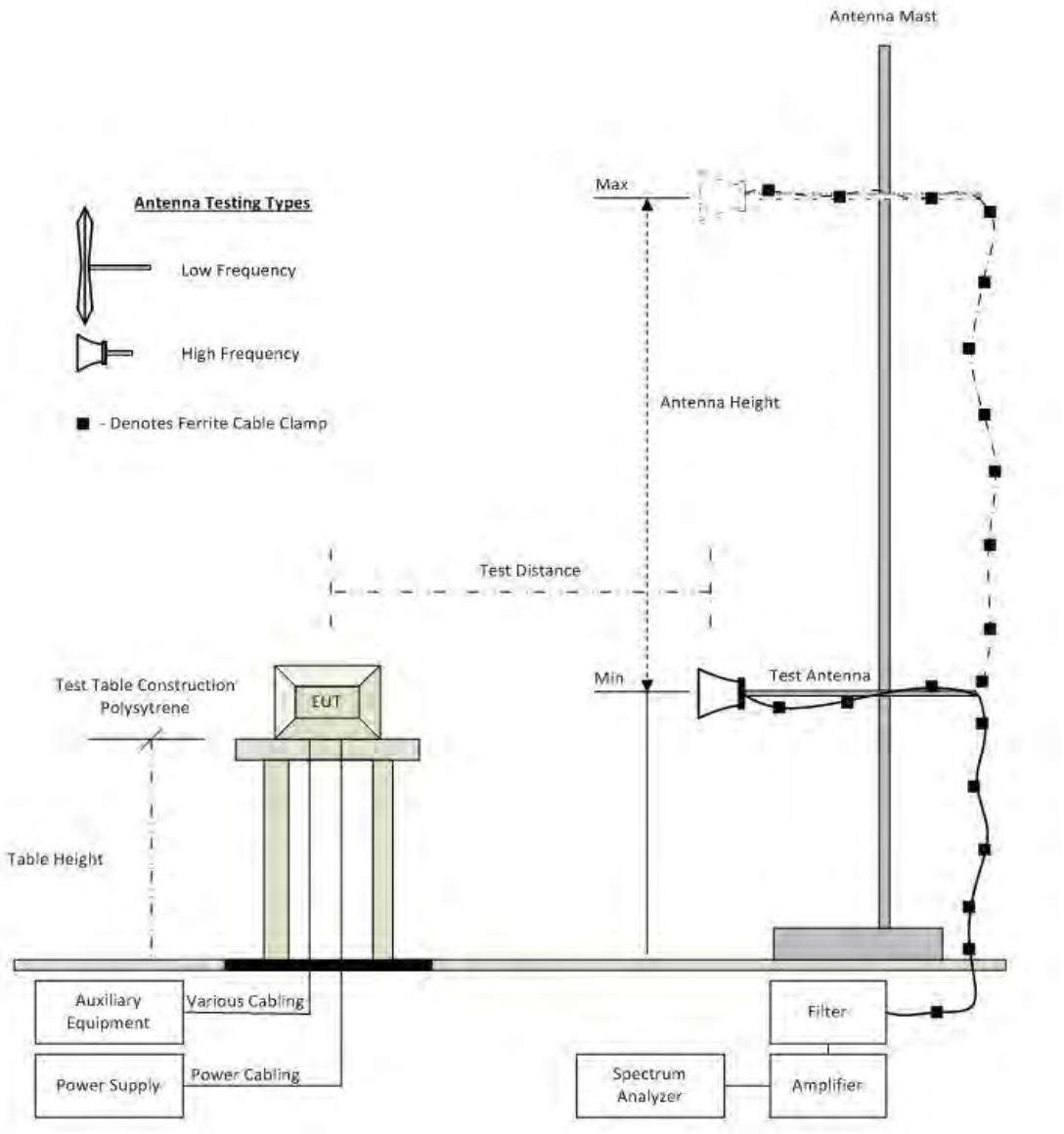
7.2. Radiated Spurious Emission Test Set-up

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

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

Radiated Emission Measurement Setup



Radiated Emission Test Setup

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Asset#	Description	Manufacturer	Model#	Serial#	Calibration Due Date
158	Barometer/Thermometer	Control Company	4196	E2846	04 Dec 2016
170	Video System Controller for Semi Anechoic Chamber	Panasonic	WV-CY101	04R08507	Not Required
287	Rohde & Schwarz 40 GHz Receiver	Rhode & Schwarz	ESIB40	100201	27 Aug 2016
338	Sunol 30 to 3000 MHz Antenna	Sunol	JB3	A052907	15 Aug 2016
396	2.4 GHz Notch Filter	Microtronics	BRM50701	001	18 Aug 2016
397	Amp 10 - 2500MHz	MiCOM Labs	Amp 10 - 2500 MHz	NA	24 Feb 2016
399	ETS 1-18 GHz Horn Antenna	ETS	3117	00154575	18th Oct 2016
406	Amplifier for Radiated Emissions	MiCOM Labs	40dB 1 to 18GHz Amp	0406	28 May 2016
410	Desktop Computer	Dell	Inspiron 620	WS38	Not Required
411	Mast/Turntable Controller	Sunol Sciences	SC98V	060199-1D	Not Required
412	USB to GPIB Interface	National Instruments	GPIB-USB HS	11B8DC2	Not Required
413	Mast Controller	Sunol Science	TWR95-4	030801-3	Not Required
415	Turntable Controller	Sunol Sciences	Turntable Controller	None	Not Required
447	Rad Emissions Test Software	MiCOM	Rad Emissions Test Software Version 1.0.73	447	Not Required
462	Schwarzbeck cable from Antenna to Amplifier.	Schwarzbeck	AK 9513	462	25 Feb 2016
463	Schwarzbeck cable from Amplifier to Bulkhead.	Schwarzbeck	AK 9513	463	25 Feb 2016
464	Schwarzbeck cable from Bulkhead to Receiver	Schwarzbeck	AK 9513	464	25 Feb 2016
465	Low Pass Filter DC-1000 MHz	Mini-Circuits	NLP-1200+	VUU01901402	18 Aug 2016
480	Cable - Bulkhead to Amp	SRC Haverhill	157-157-3050360	480	11 Aug 2016
481	Cable - Bulkhead to Receiver	SRC Haverhill	151-151-3050787	481	11 Aug 2016
482	Cable - Amp to Antenna	SRC Haverhill	157-157-3051574	482	11 Aug 2016

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8. MEASUREMENT AND PRESENTATION OF TEST DATA

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

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

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

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

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.

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(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.

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Equipment Configuration for Peak Transmit Power

Variant:	802.11a	**Duty Cycle (%):**	94.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	5.00
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 (+0.27 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	23.40	23.83	23.62	--	28.39	--	30.00	-1.61	90.00*
5200.0	24.19	24.91	24.38	--	29.27	--	30.00	-0.73	94.00
5240.0	23.35	23.96	23.12	--	28.26	--	30.00	-1.74	91.00

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

DCCF - Duty Cycle Correction Factor

*Power reduction due to radiated band-edge

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Equipment Configuration for Peak Transmit Power

Variant:	802.11ac-80	**Duty Cycle (%):**	85.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	5.00
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 (+0.71 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	23.20	24.05	23.97	--	28.52	--	30.00	-0.23	89.00*

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

DCCF - Duty Cycle Correction Factor

*Power reduction due to radiated band-edge

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uipment Configuration for Peak Transmit Power

Variant:	802.11n HT-20	**Duty Cycle (%):**	94.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	5.00
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 (+0.27 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	20.68	21.39	21.02	--	25.81	--	30.00	-4.19	80.00*
5200.0	24.15	24.69	24.46	--	29.21	--	30.00	-0.79	94.00
5240.0	24.11	24.94	24.25	--	29.22	--	30.00	-0.78	94.00

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

DCCF - Duty Cycle Correction Factor

*Power reduction due to radiated band-edge

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Equipment Configuration for Peak Transmit Power

Variant:	802.11n HT-40	**Duty Cycle (%):**	85.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	5.00
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 (+0.71 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	20.37	21.01	20.69	--	25.46	--	30.00	-4.54	78.00*
5230.0	24.36	25.07	24.70	--	29.49	--	30.00	-0.51	94.00

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

DCCF - Duty Cycle Correction Factor

*Power reduction due to radiated band-edge

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Equipment Configuration for Peak Transmit Power

Variant:	802.11a	**Duty Cycle (%):**	94.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	5.00
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 (+0.27 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	24.90	25.21	24.48	--	29.64	--	30.00	-0.36	95.00
5785.0	24.58	24.96	24.23	--	29.37	--	30.00	-0.63	95.00
5825.0	24.62	25.03	24.24	--	29.41	--	30.00	-0.59	95.00

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

DCCF - Duty Cycle Correction Factor

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Equipment Configuration for Peak Transmit Power

Variant:	802.11ac-80	**Duty Cycle (%):**	85.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	5.00
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 (+0.71 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	24.91	25.64	24.85	--	29.92	--	30.00	-0.08	94.00

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

DCCF - Duty Cycle Correction Factor

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Equipment Configuration for Peak Transmit Power

Variant:	802.11n HT-20	**Duty Cycle (%):**	94.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	5.00
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 (+0.27 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	24.42	24.97	24.19	--	29.31	--	30.00	-0.69	95.00
5785.0	24.13	24.68	23.92	--	29.03	--	30.00	-0.97	95.00
5825.0	24.30	24.63	23.82	--	29.03	--	30.00	-0.97	95.00

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

DCCF - Duty Cycle Correction Factor

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Equipment Configuration for Peak Transmit Power

Variant:	802.11n HT-40	**Duty Cycle (%):**	85.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	5.00
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 (+0.71 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	25.10	25.68	24.86	--	29.99	--	30.00	-0.01	95.00
5795.0	25.02	25.46	24.56	--	29.80	--	30.00	-0.20	95.00

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

DCCF - Duty Cycle Correction Factor

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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.

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Equipment Configuration for 26 dB & 99% Occupied Bandwidth

Variant:	802.11a	**Duty Cycle (%):**	94.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	5.00
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	20.641	21.643	24.549	--	24.549	20.641		
5200.0	20.441	20.341	20.441	--	20.441	20.341		
5240.0	20.341	20.341	21.142	--	21.142	20.341		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5180.0	16.834	16.934	16.934	--	16.934	16.834		
5200.0	16.834	16.834	16.834	--	16.834	16.834		
5240.0	16.733	16.834	16.834	--	16.834	16.733		

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

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

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Equipment Configuration for 26 dB & 99% Occupied Bandwidth			
Variant:	802.11ac-80	**Duty Cycle (%):**	85.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	5.00
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	100.601	113.026	116.633	--	116.633	100.601		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5210.0	76.553	76.553	76.553	--	76.553	76.553		

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

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

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Equipment Configuration for 26 dB & 99% Occupied Bandwidth

Variant:	802.11n HT-20	**Duty Cycle (%):**	94.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	5.00
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	21.042	25.952	29.259	--	29.259	21.042		
5200.0	20.641	25.651	31.463	--	31.463	20.641		
5240.0	21.343	23.046	26.453	--	26.453	21.343		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5180.0	17.936	17.936	18.036	--	18.036	17.936		
5200.0	17.936	17.936	17.936	--	17.936	17.936		
5240.0	17.936	17.936	18.036	--	18.036	17.936		

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

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

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Equipment Configuration for 26 dB & 99% Occupied Bandwidth			
Variant:	802.11n HT-40	**Duty Cycle (%):**	85.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	5.00
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	52.305	41.884	57.315	--	57.315	41.884		
5230.0	44.890	43.287	64.329	--	64.329	43.287		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5190.0	36.874	36.673	36.673	--	36.874	36.673		
5230.0	36.673	36.673	36.874	--	36.874	36.673		

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

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

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Equipment Configuration for 26 dB & 99% Occupied Bandwidth

Variant:	802.11a	**Duty Cycle (%):**	94.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	5.00
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	20.341	20.341	20.240	--	20.341	20.240		
5785.0	20.240	20.441	20.140	--	20.441	20.140		
5825.0	20.240	20.441	20.240	--	20.441	20.240		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5745.0	16.834	16.733	16.834	--	16.834	16.733		
5785.0	16.834	16.733	16.733	--	16.834	16.733		
5825.0	16.834	16.733	16.834	--	16.834	16.733		

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

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

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Equipment Configuration for 26 dB & 99% Occupied Bandwidth

Variant:	802.11ac-80	**Duty Cycle (%):**	85.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	5.00
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	93.387	115.832	99.399	--	115.832	93.387		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5775.0	76.553	76.954	76.152	--	76.954	76.152		

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

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

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Equipment Configuration for 26 dB & 99% Occupied Bandwidth			
Variant:	802.11n HT-20	**Duty Cycle (%):**	94.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	5.00
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	20.441	23.246	21.643	--	23.246	20.441		
5785.0	20.441	23.848	20.741	--	23.848	20.441		
5825.0	20.441	24.148	20.441	--	24.148	20.441		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5745.0	17.936	17.836	17.836	--	17.936	17.836		
5785.0	17.936	17.836	17.836	--	17.936	17.836		
5825.0	17.936	17.735	17.735	--	17.936	17.735		

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

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

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Equipment Configuration for 26 dB & 99% Occupied Bandwidth			
Variant:	802.11n HT-40	**Duty Cycle (%):**	85.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	5.00
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	49.699	48.898	45.090	--	49.699	45.090		
5795.0	44.890	48.297	44.890	--	48.297	44.890		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5755.0	36.673	36.473	36.673	--	36.673	36.473		
5795.0	36.673	36.473	36.673	--	36.673	36.473		

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

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

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9.3. 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.

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(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.

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Equipment Configuration for Power Spectral Density			
Variant:	802.11a	**Duty Cycle (%):**	94.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	5.00
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 (+0.27 dB)	Limit	Margin
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5180.0	12.013	13.539	12.620	--	16.574	17.0	-0.4
5200.0	11.820	12.410	13.378	--	16.197	17.0	-0.8
5240.0	11.340	13.790	11.619	--	16.889	17.0	-0.1

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

DCCF - Duty Cycle Correction Factor

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

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Equipment Configuration for Power Spectral Density			
Variant:	802.11ac-80	**Duty Cycle (%):**	85.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	5.00
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 (+0.71 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/MHz**	**dBm/MHz**	**dB**
5210.0	6.557	7.457	6.908	--	11.354	17.0	-5.6

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

DCCF - Duty Cycle Correction Factor

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

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Equipment Configuration for Power Spectral Density			
Variant:	802.11n HT-20	**Duty Cycle (%):**	94.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	5.00
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 (+0.27 dB)	Limit	Margin
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5180.0	11.876	13.379	12.051	--	16.599	17.0	-0.4
5200.0	12.529	12.871	12.080	--	16.583	17.0	-0.4
5240.0	11.611	12.544	12.074	--	16.308	17.0	-0.7

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

DCCF - Duty Cycle Correction Factor

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

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Equipment Configuration for Power Spectral Density			
Variant:	802.11n HT-40	**Duty Cycle (%):**	85.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	5.00
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 (+0.71 dB)	Limit	Margin
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5190.0	8.377	7.609	8.934	--	12.629	17.0	-4.3
5230.0	9.395	7.998	9.359	--	12.554	17.0	-4.4

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

DCCF - Duty Cycle Correction Factor

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

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Equipment Configuration for Power Spectral Density

Variant:	802.11a	**Duty Cycle (%):**	94.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	5.00
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 (+0.27 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/500 KHz**	**dBm/500 KHz**	**dB**
5745.0	9.881	11.485	10.799	--	15.157	30.0	-14.8
5785.0	9.977	10.816	9.537	--	15.037	30.0	-14.9
5825.0	10.018	10.538	10.907	--	14.260	30.0	-15.7

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

DCCF - Duty Cycle Correction Factor

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

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Equipment Configuration for Power Spectral Density			
Variant:	802.11ac-80	**Duty Cycle (%):**	85.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	5.00
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 (+0.71 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/500 KHz**	**dBm/500 KHz**	**dB**
5775.0	4.622	4.994	4.492	--	8.874	30.0	-21.1

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

DCCF - Duty Cycle Correction Factor

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

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Equipment Configuration for Power Spectral Density			
Variant:	802.11n HT-20	**Duty Cycle (%):**	94.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	5.00
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 (+0.27 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/500 KHz**	**dBm/500 KHz**	**dB**
5745.0	10.775	9.634	9.450	--	14.303	30.0	-15.7
5785.0	10.510	9.838	8.622	--	13.827	30.0	-16.1
5825.0	9.950	10.142	10.399	--	14.943	30.0	-15.0

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

DCCF - Duty Cycle Correction Factor

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

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Equipment Configuration for Power Spectral Density			
Variant:	802.11n HT-40	**Duty Cycle (%):**	85.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	5.00
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 (+0.71 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/500 KHz**	**dBm/500 KHz**	**dB**
5755.0	6.142	6.336	6.548	--	10.524	30.0	-19.4
5795.0	7.075	6.802	4.814	--	11.202	30.0	-18.8

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

DCCF - Duty Cycle Correction Factor

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

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9.4. Radiated

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

Test Procedure for Radiated Spurious and Band-Edge Emissions
Radiated emissions for restricted bands above 1 GHz are measured in the anechoic chamber at a 3-meter distance on every azimuth in both horizontal and vertical polarities. The emissions are recorded and maximized as a function of azimuth by rotation through 360° with a spectrum analyzer in peak hold mode. Depending on the frequency band spanned a notch filter 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

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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			

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

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

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

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

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

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

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

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

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

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

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

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

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

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9.4.1. Restricted Band Emissions

9.4.1.1. Aruba Networks ANT-2x2-5314

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks ANT-2x2-5314	**Variant:**	802.11a
Antenna Gain (dBi):	14.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	62	**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	5178.75	75.36	3.69	-11.51	67.54	Fundamental	Horizontal	101	1	--	--	

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 5G notch to protect RCVR from fund. +1 dB for external cables. Max Cond Pwr - Ant Gain over 6 dBi

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Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks ANT-2x2-5314	**Variant:**	802.11a
Antenna Gain (dBi):	14.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5200.00	**Data Rate:**	6.00 MBit/s
Power Setting:	62	**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	5201.08	80.95	3.66	-11.46	73.15	Fundamental	Horizontal	101	1	--	--	

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 5G notch to protect RCVR from fund. +1 dB for external cables. Max Cond Pwr - Ant Gain over 6 dBi

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Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks ANT-2x2-5314	**Variant:**	802.11a
Antenna Gain (dBi):	14.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5240.00	**Data Rate:**	6.00 MBit/s
Power Setting:	59	**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	5235.87	82.53	3.63	-11.37	74.79	Fundamental	Horizontal	101	1	--	--	

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 5G notch to protect RCVR from fund. +1 dB for external cables. Max Cond Pwr - Ant Gain over 6 dBi

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Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks ANT-2x2-5314	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	63	**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	5737.51	61.13	3.82	-10.67	54.28	Fundamental	Vertical	101	1	--	--	
#2	6223.92	59.78	3.92	-8.75	54.95	Peak (NRB)	Horizontal	101	1	--	--	Pass

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 5G notch to protect RCVR from fund. +1 dB for external cables. Max Cond Pwr - Ant Gain over 6 dBi

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Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks ANT-2x2-5314	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5785.00	**Data Rate:**	6.00 MBit/s
Power Setting:	63	**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	5792.47	59.34	3.78	-10.40	52.72	Fundamental	Horizontal	101	1	--	--	
#2	6272.10	57.58	3.92	-8.50	53.00	Peak (NRB)	Horizontal	101	1	--	--	Pass

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 5G notch to protect RCVR from fund. +1 dB for external cables. Max Cond Pwr - Ant Gain over 6 dBi

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Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks ANT-2x2-5314	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	63	**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	5823.65	61.80	3.83	-10.25	55.38	Fundamental	Horizontal	101	1	--	--	
#2	6066.25	57.01	3.88	-9.61	51.28	Peak (NRB)	Horizontal	101	1	--	--	Pass
#3	6307.14	59.69	3.93	-8.39	55.23	Peak (NRB)	Vertical	101	1	--	--	Pass

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 5G notch to protect RCVR from fund. +1 dB for external cables. Max Cond Pwr - Ant Gain over 6 dBi

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9.4.1.2. Aruba Networks ANT-2x2-D607

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks ANT-2x2-D607	**Variant:**	802.11a
Antenna Gain (dBi):	7.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	94	**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	5178.11	77.58	3.69	-11.51	69.76	Fundamental	Vertical	101	1	--	--	

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 5G notch to protect RCVR from fund.

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Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks ANT-2x2-D607	**Variant:**	802.11a
Antenna Gain (dBi):	7.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5200.00	**Data Rate:**	6.00 MBit/s
Power Setting:	94	**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	5198.44	82.71	3.66	-11.47	74.90	Fundamental	Vertical	101	1	--	--	

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 5G notch to protect RCVR from fund.

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Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks ANT-2x2-D607	**Variant:**	802.11a
Antenna Gain (dBi):	7.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5240.00	**Data Rate:**	6.00 MBit/s
Power Setting:	91	**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	5238.28	84.99	3.63	-11.37	77.25	Fundamental	Vertical	101	1	--	--	
#2	10479.45	49.37	5.43	-4.46	50.34	Peak (NRB)	Horizontal	151	0	--	--	Pass

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 5G notch to protect RCVR from fund.

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Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks ANT-2x2-D607	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	95	**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	5740.48	58.19	3.83	-10.67	51.35	Fundamental	Vertical	101	1	--	--	
#2	6226.09	61.50	3.92	-8.74	56.68	Peak (NRB)	Horizontal	151	1	--	--	Pass
#3	11491.59	40.63	5.44	-4.84	41.23	Max Avg	Horizontal	153	23	54.0	-12.8	Pass
#4	11491.59	54.23	5.44	-4.84	54.83	Max Peak	Horizontal	153	23	74.0	-19.2	Pass

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 5G notch to protect RCVR from fund.

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Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks ANT-2x2-D607	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5785.00	**Data Rate:**	6.00 MBit/s
Power Setting:	95	**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	5783.29	63.15	3.80	-10.46	56.49	Fundamental	Vertical	151	1	--	--	
#2	6265.29	60.72	3.93	-8.53	56.12	Peak (NRB)	Vertical	151	1	--	--	Pass
#3	11571.18	40.28	5.44	-4.64	41.08	Max Avg	Horizontal	136	65	54.0	-12.9	Pass
#4	11571.18	53.36	5.44	-4.64	54.16	Max Peak	Horizontal	136	65	74.0	-19.8	Pass

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 5G notch to protect RCVR from fund.

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Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks ANT-2x2-D607	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	95	**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	5827.22	67.65	3.84	-10.24	61.25	Fundamental	Horizontal	101	1	--	--	
#2	6069.30	57.67	3.88	-9.60	51.95	Peak (NRB)	Horizontal	151	1	--	--	Pass
#3	6307.78	60.71	3.92	-8.39	56.24	Peak (NRB)	Vertical	151	1	--	--	Pass
#4	11649.38	40.63	5.44	-4.47	41.60	Max Avg	Horizontal	196	40	54.0	-12.4	Pass
#5	11649.38	54.19	5.44	-4.47	55.16	Max Peak	Horizontal	196	40	74.0	-18.8	Pass

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 5G notch to protect RCVR from fund.

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9.4.1.3. Aruba Networks ANT-2x2-D805

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks ANT-2x2-D805	**Variant:**	802.11a
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	90	**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	5186.57	77.53	3.68	-11.49	69.72	Fundamental	Horizontal	101	1	--	--	
#2	10360.04	49.84	5.57	-5.27	50.14	Peak (NRB)	Vertical	200	1	--	--	Pass

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 5G notch to protect RCVR from fund. Power reduced to max 5150 Band Edge setting.

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Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks ANT-2x2-D805	**Variant:**	802.11a
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5200.00	**Data Rate:**	6.00 MBit/s
Power Setting:	94	**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	5201.08	83.62	3.66	-11.46	75.82	Fundamental	Vertical	101	1	--	--	
#2	10404.37	50.64	5.43	-5.01	51.06	Peak (NRB)	Horizontal	151	1	--	--	Pass

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 5G notch to protect RCVR from fund.

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Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks ANT-2x2-D805	**Variant:**	802.11a
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5240.00	**Data Rate:**	6.00 MBit/s
Power Setting:	91	**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	5238.20	86.74	3.63	-11.37	79.00	Fundamental	Horizontal	101	1	--	--	
#2	10476.29	52.92	5.45	-4.49	53.88	Peak (NRB)	Horizontal	151	1	--	--	Pass

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 5G notch to protect RCVR from fund.

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Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks ANT-2x2-D805	**Variant:**	802.11a
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	95	**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	5737.51	60.93	3.82	-10.67	54.08	Fundamental	Vertical	101	0	--	--	
#2	6225.21	59.82	3.92	-8.74	55.00	Peak (NRB)	Vertical	101	0	--	--	Pass

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 5G notch to protect RCVR from fund.

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Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks ANT-2x2-D805	**Variant:**	802.11a
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5785.00	**Data Rate:**	6.00 MBit/s
Power Setting:	95	**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	5787.70	62.87	3.79	-10.43	56.23	Fundamental	Vertical	101	1	--	--	
#2	6265.77	59.01	3.93	-8.53	54.41	Peak (NRB)	Horizontal	151	1	--	--	Pass

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 5G notch to protect RCVR from fund.

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Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks ANT-2x2-D805	**Variant:**	802.11a
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	95	**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	5827.30	66.41	3.84	-10.24	60.01	Fundamental	Vertical	101	0	--	--	
#2	6063.93	57.65	3.89	-9.62	51.92	Peak (NRB)	Horizontal	151	0	--	--	Pass
#3	6303.21	59.08	3.95	-8.42	54.61	Peak (NRB)	Vertical	200	0	--	--	Pass
#4	11642.06	39.71	5.48	-4.47	40.72	Max Avg	Vertical	122	339	54.0	-13.3	Pass
#5	11642.06	53.22	5.48	-4.47	54.23	Max Peak	Vertical	122	339	74.0	-19.8	Pass

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 5G notch to protect RCVR from fund.

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9.4.1.4. Aruba Networks ANT-3x3-5010

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks ANT-3x3-5010	**Variant:**	802.11a
Antenna Gain (dBi):	10.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	62	**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	5183.05	77.42	3.68	-11.50	69.60	Fundamental	Vertical	200	1	--	--	

Test Notes: EUT on table powered by AC. Connected to laptop outside chamber via enet. Power reduced to max band edge level.

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Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks ANT-3x3-5010	**Variant:**	802.11a
Antenna Gain (dBi):	10.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5200.00	**Data Rate:**	6.00 MBit/s
Power Setting:	94	**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	4766.25	48.53	3.60	-11.11	41.02	Max Avg	Vertical	182	47	54.0	-13.0	Pass
#2	4766.25	59.14	3.60	-11.11	51.63	Max Peak	Vertical	182	47	74.0	-22.4	Pass
#3	5203.65	80.28	3.65	-11.45	72.48	Fundamental	Vertical	137	0	--	--	
#4	10406.46	50.42	5.45	-4.99	50.88	Peak (NRB)	Vertical	151	127	--	--	Pass

Test Notes: EUT on table powered by AC. Connected to laptop outside chamber via enet.

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Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks ANT-3x3-5010	**Variant:**	802.11a
Antenna Gain (dBi):	10.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5240.00	**Data Rate:**	6.00 MBit/s
Power Setting:	91	**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	4800.44	46.76	3.52	-11.12	39.16	Max Avg	Vertical	173	74	54.0	-14.8	Pass
#2	4800.44	57.88	3.52	-11.12	50.28	Max Peak	Vertical	173	74	74.0	-23.7	Pass
#3	5233.15	79.77	3.63	-11.39	72.01	Fundamental	Vertical	101	1	--	--	
#4	10475.59	55.02	5.45	-4.49	55.98	Peak (NRB)	Vertical	200	213	--	--	Pass

Test Notes: EUT on table powered by AC. Connected to laptop outside chamber via enet.

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Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks ANT-3x3-5010	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	95	**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	5738.08	68.60	3.82	-10.67	61.75	Fundamental	Vertical	200	6	--	--	
#2	6223.76	61.80	3.92	-8.75	56.97	Peak (NRB)	Vertical	200	6	--	--	Pass
#3	11487.50	44.60	5.45	-4.85	45.20	Max Avg	Vertical	198	140	54.0	-8.8	Pass
#4	11487.50	57.58	5.45	-4.85	58.18	Max Peak	Vertical	198	140	74.0	-15.8	Pass

Test Notes: EUT on table powered by AC. Connected to laptop outside chamber via enet.

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Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks ANT-3x3-5010	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5785.00	**Data Rate:**	6.00 MBit/s
Power Setting:	95	**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	5790.38	67.58	3.79	-10.42	60.95	Fundamental	Vertical	200	1	--	--	
#2	6020.05	55.86	3.86	-9.70	50.02	Peak (NRB)	Vertical	200	1	--	--	Pass
#3	6264.14	62.26	3.93	-8.53	57.66	Peak (NRB)	Vertical	200	1	--	--	Pass
#4	11568.98	40.91	5.48	-4.65	41.74	Max Avg	Vertical	178	102	54.0	-12.3	Pass
#5	11568.98	56.19	5.48	-4.65	57.02	Max Peak	Vertical	178	102	74.0	-17.0	Pass

Test Notes: EUT on table powered by AC. Connected to laptop outside chamber via enet.

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Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks ANT-3x3-5010	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	95	**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	5829.50	71.00	3.84	-10.22	64.62	Fundamental	Vertical	199	1	--	--	
#2	6070.63	62.04	3.88	-9.60	56.32	Peak (NRB)	Vertical	199	1	--	--	Pass
#3	6306.46	62.89	3.93	-8.39	58.43	Peak (NRB)	Vertical	199	1	--	--	Pass
#4	11645.90	44.01	5.46	-4.47	45.00	Max Avg	Vertical	198	312	54.0	-9.0	Pass
#5	11645.90	58.14	5.46	-4.47	59.13	Max Peak	Vertical	198	312	74.0	-14.9	Pass

Test Notes: EUT on table powered by AC. Connected to laptop outside chamber via enet.

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9.4.1.5. Aruba Networks ANT-3x3-5712

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks ANT-3x3-5712	**Variant:**	802.11a
Antenna Gain (dBi):	11.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	72	**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	5182.24	77.80	3.69	-11.50	69.99	Fundamental	Vertical	101	1	--	--	

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 5G notch to protect RCVR from fund +1 dB for external cables. Power level set from highest band edge setting HT20 (72)

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Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks ANT-3x3-5712	**Variant:**	802.11a
Antenna Gain (dBi):	11.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5200.00	**Data Rate:**	6.00 MBit/s
Power Setting:	95	**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	4766.03	45.42	3.60	-11.11	37.91	Max Avg	Vertical	173	351	54.0	-16.1	Pass
#2	4766.03	55.96	3.60	-11.11	48.45	Max Peak	Vertical	173	351	74.0	-25.6	Pass
#3	5202.20	85.05	3.66	-11.46	77.25	Fundamental	Vertical	101	1	--	--	
#4	10409.18	53.13	5.48	-4.97	53.64	Peak (NRB)	Vertical	151	1	--	--	Pass

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 5G notch to protect RCVR from fund. +1 dB for external cables.

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Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks ANT-3x3-5712	**Variant:**	802.11a
Antenna Gain (dBi):	11.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5240.00	**Data Rate:**	6.00 MBit/s
Power Setting:	91	**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	4802.42	44.25	3.51	-11.12	36.64	Max Avg	Vertical	163	356	54.0	-17.4	Pass
#2	4802.42	54.58	3.51	-11.12	46.97	Max Peak	Vertical	163	356	74.0	-27.0	Pass
#3	5232.59	85.66	3.63	-11.39	77.90	Fundamental	Vertical	101	0	--	--	
#4	10484.86	54.55	5.41	-4.42	55.54	Peak (NRB)	Horizontal	151	0	--	--	Pass

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 5G notch to protect RCVR from fund. +1 dB for external cables.

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Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks ANT-3x3-5712	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	95	**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	5738.08	62.22	3.82	-10.67	55.37	Fundamental	Vertical	101	0	--	--	
#2	6222.00	63.20	3.92	-8.76	58.36	Peak (NRB)	Vertical	151	0	--	--	Pass

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 5G notch to protect RCVR from fund. +1 dB for external cables.

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Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks ANT-3x3-5712	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5785.00	**Data Rate:**	6.00 MBit/s
Power Setting:	95	**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	5789.46	63.24	3.79	-10.42	56.61	Fundamental	Vertical	101	1	--	--	
#2	6274.71	58.74	3.92	-8.50	54.16	Peak (NRB)	Vertical	200	18	--	--	Pass
#3	11551.00	40.25	5.77	-4.71	41.31	Peak (Scan)	Vertical	200	0	74.0	-32.7	Pass
#4	11572.80	34.43	5.42	-4.63	35.22	Max Avg	Vertical	192	8	54.0	-18.8	Pass
#5	11572.80	49.10	5.42	-4.63	49.89	Max Peak	Vertical	192	8	74.0	-24.1	Pass

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 5G notch to protect RCVR from fund. +1 dB for external cables.

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Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks ANT-3x3-5712	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	95	**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	5829.30	72.02	3.84	-10.23	65.63	Fundamental	Vertical	101	1	--	--	
#2	6070.74	64.93	3.88	-9.60	59.21	Peak (NRB)	Vertical	200	1	--	--	Pass
#3	6308.42	65.94	3.92	-8.39	61.47	Peak (NRB)	Vertical	200	1	--	--	Pass
#4	11650.87	35.19	5.46	-4.47	36.18	Max Avg	Vertical	125	3	54.0	-17.8	Pass
#5	11650.87	48.23	5.46	-4.47	49.22	Max Peak	Vertical	125	3	74.0	-24.8	Pass

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 5G notch to protect RCVR from fund. +1 dB for external cables.

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9.4.1.6. Aruba Networks Integral

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks Integral	**Variant:**	802.11a
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	94	**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	1394.97	45.54	2.25	-15.54	32.25	Max Avg	Vertical	112	319	54.0	-21.8	Pass
#2	1394.97	63.83	2.25	-15.54	50.54	Max Peak	Vertical	112	319	74.0	-23.5	Pass
#3	4746.63	46.82	3.55	-11.11	39.26	Max Avg	Horizontal	127	312	54.0	-14.7	Pass
#4	4746.63	58.95	3.55	-11.11	51.39	Max Peak	Horizontal	127	312	74.0	-22.6	Pass
#5	5170.38	78.65	3.71	-11.53	70.83	Fundamental	Horizontal	101	1	--	--	
#6	10361.47	50.35	5.57	-5.26	50.66	Peak (NRB)	Horizontal	101	118	--	--	Pass

Test Notes: AP-275 powered by 7010 controller poe port, connected to laptop via mini-USB in chamber

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Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks Integral	**Variant:**	802.11a
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5200.00	**Data Rate:**	6.00 MBit/s
Power Setting:	94	**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	4765.08	49.27	3.59	-11.11	41.75	Max Avg	Horizontal	107	314	54.0	-12.3	Pass
#2	4765.08	60.79	3.59	-11.11	53.27	Max Peak	Horizontal	107	314	74.0	-20.7	Pass
#3	5201.72	82.94	3.66	-11.46	75.14	Fundamental	Horizontal	101	1	--	--	
#4	10401.81	49.66	5.42	-5.02	50.06	Peak (NRB)	Horizontal	100	0	--	--	Pass

Test Notes: AP-275 powered by 7010 controller poe port, connected to laptop via mini-USB in chamber

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Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks Integral	**Variant:**	802.11a
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5240.00	**Data Rate:**	6.00 MBit/s
Power Setting:	91	**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	4802.02	47.22	3.51	-11.12	39.61	Max Avg	Horizontal	139	318	54.0	-14.4	Pass
#2	4802.02	58.97	3.51	-11.12	51.36	Max Peak	Horizontal	139	318	74.0	-22.6	Pass
#3	5232.51	82.41	3.63	-11.39	74.65	Fundamental	Vertical	101	1	--	--	
Test Notes: AP-275 powered by 7010 controller poe port, connected to laptop via mini-USB in chamber												

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Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks Integral	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	95	**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	5740.08	61.96	3.83	-10.67	55.12	Fundamental	Vertical	101	22	--	--	
#2	6221.80	57.87	3.92	-8.76	53.03	Peak (NRB)	Vertical	101	162	--	--	Pass

Test Notes: AP-275 powered by 7010 controller poe port, connected to laptop via mini-USB in chamber

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Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks Integral	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5785.00	**Data Rate:**	6.00 MBit/s
Power Setting:	95	**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	5791.58	62.68	3.78	-10.40	56.06	Fundamental	Vertical	101	7	--	--	
#2	6270.14	56.66	3.93	-8.51	52.08	Peak (NRB)	Horizontal	101	7	--	--	Pass
#3	11569.46	38.51	5.48	-4.65	39.34	Max Avg	Horizontal	113	333	54.0	-14.7	Pass
#4	11569.46	52.92	5.48	-4.65	53.75	Max Peak	Horizontal	113	333	74.0	-20.3	Pass

Test Notes: AP-275 powered by 7010 controller poe port, connected to laptop via mini-USB in chamber

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Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Aruba Networks Integral	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	95	**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	5830.75	67.77	3.84	-10.22	61.39	Fundamental	Vertical	101	6	--	--	
#2	6071.10	60.34	3.88	-9.60	54.62	Peak (NRB)	Horizontal	200	79	--	--	Pass
#3	6304.89	57.34	3.94	-8.40	52.88	Peak (NRB)	Horizontal	200	79	--	--	Pass
#4	11643.13	42.59	5.47	-4.47	43.59	Max Avg	Horizontal	125	324	54.0	-10.4	Pass
#5	11643.13	57.48	5.47	-4.47	58.48	Max Peak	Horizontal	125	324	74.0	-15.5	Pass

Test Notes: AP-275 powered by 7010 controller poe port, connected to laptop via mini-USB in chamber

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9.4.2. Restricted Band-Edge Emissions

9.4.2.7. Aruba Networks ANT-2x2-5314

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5150 - 5250 MHz

Aruba Networks ANT-2x2-5314		Band-Edge Freq	Limit 74.0dBµV/m	Limit 54.0dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5180.00	5150.00	65.50	53.72	48
802.11ac-80	5210.00	5150.00	70.69	51.89	42
802.11n HT-20	5180.00	5150.00	64.32	51.89	44
802.11n HT-40	5190.00	5150.00	64.67	52.34	42

5725 - 5850 MHz

Aruba Networks ANT-2x2-5314		Band-Edge Freq	Limit 68.2dBµV/m	Limit 78.2dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5745.00	0.00	68.23	65.67	63
802.11ac-80	5775.00	0.00	68.23	66.20	62
802.11n HT-20	5745.00	0.00	68.23	65.67	63
802.11n HT-40	5755.00	0.00	68.23	66.20	63

Aruba Networks ANT-2x2-5314		Band-Edge Freq	Limit 78.2dBµV/m	Limit 68.2dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5825.00	0.00	78.23	66.03	63
802.11ac-80	5775.00	0.00	78.23	66.05	62
802.11n HT-20	5825.00	0.00	78.23	65.55	63
802.11n HT-40	5795.00	0.00	78.23	66.04	63

Click on the links to view the data.

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-5314	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	48	**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	5062.02	15.88	3.65	34.19	53.72	Max Avg	Horizontal	153	361	54.0	-0.3	Pass
#2	5063.45	27.66	3.66	34.18	65.50	Max Peak	Horizontal	153	361	74.0	-8.5	Pass
#3	5150.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 6 dB Pad to protect RCVR from fund. +1 dB for external cables. FUND Clipping at pwr levels > 48!

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-5314	**Variant:**	802.11ac-80
Antenna Gain (dBi):	14.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5210.00	**Data Rate:**	29.30 MBit/s
Power Setting:	42	**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	14.11	3.67	34.11	51.89	Max Avg	Horizontal	153	362	54.0	-2.1	Pass
#2	5150.00	32.91	3.67	34.11	70.69	Max Peak	Horizontal	153	362	74.0	-3.3	Pass
#3	5150.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 6 dB Pad to protect RCVR from fund. +1 dB for external cables. FUND Clipping at pwr levels > 42!

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-5314	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.50 MBit/s
Power Setting:	44	**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	5062.02	14.05	3.65	34.19	51.89	Max Avg	Horizontal	153	362	54.0	-2.1	Pass
#2	5094.75	26.60	3.58	34.14	64.32	Max Peak	Horizontal	153	362	74.0	-9.7	Pass
#3	5150.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 6 dB Pad to protect RCVR from fund. +1 dB for external cables.FUND Clipping at pwr levels > 44!

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-5314	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5190.00	**Data Rate:**	13.50 MBit/s
Power Setting:	42	**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	5074.83	14.55	3.62	34.17	52.34	Max Avg	Horizontal	153	362	54.0	-1.7	Pass
#2	5076.25	26.88	3.62	34.17	64.67	Max Peak	Horizontal	153	362	74.0	-9.3	Pass
#3	5150.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 6 dB Pad to protect RCVR from fund. +1 dB for external cables. FUND Clipping at pwr levels > 44!

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-5314	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	63	**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	27.50	3.81	34.34	65.65	Max Avg	Horizontal	169	362	68.2	-2.6	Pass
#2	5725.00	27.53	3.79	34.35	65.67	Max Avg	Horizontal	169	362	78.2	-12.6	Pass
#3	5725.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 12 dB Pad to protect RCVR from fund. +1 dB for external cables. Max Cond Pwr - Ant Gain over 6 dBi

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-5314	**Variant:**	802.11ac-80
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5775.00	**Data Rate:**	29.30 MBit/s
Power Setting:	62	**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	5625.00	27.89	3.76	34.21	65.86	Max Avg	Horizontal	169	362	68.2	-2.4	Pass
#2	5725.00	28.06	3.79	34.35	66.20	Max Avg	Horizontal	169	362	78.2	-12.0	Pass
#3	5725.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 10 dB Pad to protect RCVR from fund. +1 dB for external cables. Max Cond Pwr - Ant Gain over 6 dBi

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-5314	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.50 MBit/s
Power Setting:	63	**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	5625.07	27.89	3.76	34.21	65.86	Max Avg	Horizontal	169	362	68.2	-2.4	Pass
#2	5725.00	27.53	3.79	34.35	65.67	Max Avg	Horizontal	169	362	78.2	-12.6	Pass
#3	5725.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 10 dB Pad to protect RCVR from fund. +1 dB for external cables. Max Cond Pwr - Ant Gain over 6 dBi

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-5314	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5755.00	**Data Rate:**	13.50 MBit/s
Power Setting:	63	**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	5625.00	27.90	3.76	34.20	65.86	Max Avg	Horizontal	169	362	68.2	-2.4	Pass
#2	5725.00	28.06	3.79	34.35	66.20	Max Avg	Horizontal	169	362	78.2	-12.0	Pass
#3	5725.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 10 dB Pad to protect RCVR from fund. +1 dB for external cables. Max Cond Pwr - Ant Gain over 6 dBi

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-5314	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	63	**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	26.99	3.81	34.63	65.43	Max Avg	Horizontal	167	361	78.2	-12.8	Pass
#3	5864.42	27.53	3.84	34.66	66.03	Max Avg	Horizontal	167	361	68.2	-2.2	Pass
#2	5850.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 10 dB Pad to protect RCVR from fund. +1 dB for external cables. Max Cond Pwr - Ant Gain over 6 dBi

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-5314	**Variant:**	802.11ac-80
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5775.00	**Data Rate:**	29.30 MBit/s
Power Setting:	62	**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	5853.37	27.56	3.82	34.63	66.01	Max Avg	Horizontal	167	361	78.2	-12.2	Pass
#3	5873.65	27.56	3.80	34.69	66.05	Max Avg	Horizontal	167	361	68.2	-2.2	Pass
#1	5850.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 10 dB Pad to protect RCVR from fund. +1 dB for external cables. Max Cond Pwr - Ant Gain over 6 dBi

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-5314	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.50 MBit/s
Power Setting:	63	**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	26.99	3.81	34.63	65.43	Max Avg	Horizontal	167	361	78.2	-12.8	Pass
#3	5904.58	26.95	3.82	34.78	65.55	Max Avg	Horizontal	167	361	68.2	-2.7	Pass
#2	5850.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 10 dB Pad to protect RCVR from fund. +1 dB for external cables. Max Cond Pwr - Ant Gain over 6 dBi

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-5314	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5795.00	**Data Rate:**	13.50 MBit/s
Power Setting:	63	**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	26.99	3.81	34.63	65.43	Max Avg	Horizontal	167	361	78.2	-12.8	Pass
#3	5870.31	27.55	3.81	34.68	66.04	Max Avg	Horizontal	167	361	68.2	-2.2	Pass
#2	5850.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 10 dB Pad to protect RCVR from fund. +1 dB for external cables. Max Cond Pwr - Ant Gain over 6 dBi

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9.4.2.8. Aruba Networks ANT-2x2-D607

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5150 - 5250 MHz

Aruba Networks ANT-2x2-D607		Band-Edge Freq	Limit 74.0dBµV/m	Limit 54.0dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5180.00	5150.00	71.87	53.08	94
802.11ac-80	5210.00	5150.00	71.17	53.73	83
802.11n HT-20	5180.00	5150.00	71.12	53.52	93
802.11n HT-40	5190.00	5150.00	72.07	53.73	84

5725 - 5850 MHz

Aruba Networks ANT-2x2-D607		Band-Edge Freq	Limit 68.2dBµV/m	Limit 78.2dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5745.00	0.00	68.23	66.41	95
802.11ac-80	5775.00	0.00	68.23	67.71	94
802.11n HT-20	5745.00	0.00	68.23	66.96	95
802.11n HT-40	5755.00	0.00	68.23	69.84	95

Aruba Networks ANT-2x2-D607		Band-Edge Freq	Limit 78.2dBµV/m	Limit 68.2dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5825.00	0.00	78.23	61.13	95
802.11ac-80	5775.00	0.00	78.23	64.57	94
802.11n HT-20	5825.00	0.00	78.23	60.63	95
802.11n HT-40	5795.00	0.00	78.23	60.57	95

Click on the links to view the data.

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-D607	**Variant:**	802.11a
Antenna Gain (dBi):	7.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	94	**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	5147.15	34.08	3.68	34.11	71.87	Max Peak	Vertical	189	-2	74.0	-2.1	Pass
#2	5148.58	15.30	3.67	34.11	53.08	Max Avg	Vertical	189	-2	54.0	-0.9	Pass
#3	5150.00	--	--	--	--	Band Egde	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 6 dB pad to protect RCVR from fund.

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-D607	**Variant:**	802.11ac-80
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5210.00	**Data Rate:**	29.30 MBit/s
Power Setting:	83	**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	5142.89	33.35	3.70	34.12	71.17	Max Peak	Vertical	189	-2	74.0	-2.8	Pass
#2	5150.00	15.95	3.67	34.11	53.73	Max Avg	Vertical	189	-2	54.0	-0.3	Pass
#3	5150.00	--	--	--	--	Band Egde	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 6 dB pad to protect RCVR from fund. Power reduced to meet band edge limit.

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-D607	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.50 MBit/s
Power Setting:	93	**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	15.74	3.67	34.11	53.52	Max Avg	Vertical	189	-2	54.0	-0.5	Pass
#2	5150.00	33.34	3.67	34.11	71.12	Max Peak	Vertical	189	-2	74.0	-2.9	Pass
#3	5150.00	--	--	--	--	Band Egde	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 6 dB pad to protect RCVR from fund. Power reduced to meet band edge limit.

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-D607	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5190.00	**Data Rate:**	13.50 MBit/s
Power Setting:	84	**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	15.95	3.67	34.11	53.73	Max Avg	Vertical	189	-2	54.0	-0.3	Pass
#2	5150.00	34.29	3.67	34.11	72.07	Max Peak	Vertical	189	-2	74.0	-1.9	Pass
#3	5150.00	--	--	--	--	Band Egde	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 6 dB pad to protect RCVR from fund. Power reduced to meet band edge limit.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-D607	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	95	**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	5713.79	23.51	3.82	34.34	61.67	Max Avg	Vertical	176	-1	68.2	-6.6	Pass
#2	5725.00	28.27	3.79	34.35	66.41	Max Avg	Vertical	176	-1	78.2	-11.8	Pass
#3	5725.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 6 dB pad to protect RCVR from fund.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-D607	**Variant:**	802.11ac-80
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5775.00	**Data Rate:**	29.30 MBit/s
Power Setting:	94	**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	5713.55	28.78	3.82	34.34	66.94	Max Avg	Vertical	176	-1	68.2	-1.3	Pass
#2	5724.03	29.57	3.79	34.35	67.71	Max Avg	Vertical	176	-1	78.2	-10.5	Pass
#3	5725.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 6 dB pad to protect RCVR from fund.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-D607	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.50 MBit/s
Power Setting:	95	**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	23.03	3.81	34.34	61.18	Max Avg	Vertical	176	-1	68.2	-7.1	Pass
#2	5725.00	28.82	3.79	34.35	66.96	Max Avg	Vertical	176	-1	78.2	-11.3	Pass
#3	5725.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 6 dB pad to protect RCVR from fund.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-D607	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5755.00	**Data Rate:**	13.50 MBit/s
Power Setting:	95	**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	28.52	3.81	34.34	66.67	Max Avg	Vertical	176	-1	68.2	-1.6	Pass
#2	5724.27	31.70	3.79	34.35	69.84	Max Avg	Vertical	176	-1	78.2	-8.4	Pass
#3	5725.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 6 dB pad to protect RCVR from fund.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-D607	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	95	**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	22.58	3.81	34.63	61.02	Max Avg	Vertical	181	-2	78.2	-17.2	Pass
#3	5903.56	22.54	3.82	34.77	61.13	Max Avg	Vertical	181	-2	78.2	-17.1	Pass
#2	5850.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 6 dB pad to protect RCVR from fund.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-D607	**Variant:**	802.11ac-80
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5775.00	**Data Rate:**	29.30 MBit/s
Power Setting:	94	**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	5851.26	27.30	3.81	34.63	65.74	Max Avg	Vertical	181	-2	78.2	-12.5	Pass
#3	5860.00	26.06	3.86	34.65	64.57	Max Avg	Vertical	181	-2	78.2	-13.7	Pass
#1	5850.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 6 dB pad to protect RCVR from fund.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-D607	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.50 MBit/s
Power Setting:	95	**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	23.49	3.81	34.63	61.93	Max Avg	Vertical	181	-2	78.2	-16.3	Pass
#3	5903.11	22.04	3.82	34.77	60.63	Max Avg	Vertical	181	-2	78.2	-17.6	Pass
#2	5850.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 6 dB pad to protect RCVR from fund.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-D607	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5795.00	**Data Rate:**	13.50 MBit/s
Power Setting:	95	**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	22.08	3.81	34.63	60.52	Max Avg	Vertical	181	-2	78.2	-17.7	Pass
#3	5871.36	22.08	3.81	34.68	60.57	Max Avg	Vertical	181	-2	78.2	-17.7	Pass
#2	5850.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 6 dB pad to protect RCVR from fund.

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9.4.2.9. Aruba Networks ANT-2x2-D805

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5150 - 5250 MHz

Aruba Networks ANT-2x2-D805		Band-Edge Freq	Limit 74.0dBµV/m	Limit 54.0dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5180.00	5150.00	71.77	53.94	90
802.11ac-80	5210.00	5150.00	71.72	53.89	78
802.11n HT-20	5180.00	5150.00	72.87	53.71	89
802.11n HT-40	5190.00	5150.00	71.76	53.52	80

5725 - 5850 MHz

Aruba Networks ANT-2x2-D805		Band-Edge Freq	Limit 68.2dBµV/m	Limit 78.2dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5745.00	0.00	68.23	63.55	95
802.11ac-80	5775.00	0.00	68.23	68.44	94
802.11n HT-20	5745.00	0.00	68.23	67.41	95
802.11n HT-40	5755.00	0.00	68.23	70.70	95

Aruba Networks ANT-2x2-D805		Band-Edge Freq	Limit 78.2dBµV/m	Limit 68.2dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5825.00	0.00	78.23	61.13	95
802.11ac-80	5775.00	0.00	78.23	65.19	94
802.11n HT-20	5825.00	0.00	78.23	60.11	95
802.11n HT-40	5795.00	0.00	78.23	60.55	95

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-D805	**Variant:**	802.11a
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	90	**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	5016.49	16.08	3.65	34.21	53.94	Max Avg	Horizontal	157	-2	54.0	-0.1	Pass
#2	5150.00	33.99	3.67	34.11	71.77	Max Peak	Horizontal	157	-2	74.0	-2.2	Pass
#3	5150.00	--	--	--	--	Band Egde	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 6 dB pad to protect RCVR from fund. Power reduced to meet band edge limit.

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-D805	**Variant:**	802.11ac-80
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5210.00	**Data Rate:**	29.30 MBit/s
Power Setting:	78	**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	5148.58	33.94	3.67	34.11	71.72	Max Peak	Horizontal	157	-2	74.0	-2.3	Pass
#2	5150.00	16.11	3.67	34.11	53.89	Max Avg	Horizontal	157	-2	54.0	-0.1	Pass
#3	5150.00	--	--	--	--	Band Egde	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 6 dB pad to protect RCVR from fund. Power reduced to meet band edge limit.

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-D805	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.50 MBit/s
Power Setting:	89	**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	15.93	3.67	34.11	53.71	Max Avg	Horizontal	157	-2	54.0	-0.3	Pass
#2	5150.00	35.09	3.67	34.11	72.87	Max Peak	Horizontal	157	-2	74.0	-1.1	Pass
#3	5150.00	--	--	--	--	Band Egde	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 6 dB pad to protect RCVR from fund. Power reduced to meet band edge limit.

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-D805	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5190.00	**Data Rate:**	13.50 MBit/s
Power Setting:	80	**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	5145.73	33.96	3.69	34.11	71.76	Max Peak	Horizontal	157	-2	74.0	-2.2	Pass
#2	5150.00	15.74	3.67	34.11	53.52	Max Avg	Horizontal	157	-2	54.0	-0.5	Pass
#3	5150.00	--	--	--	--	Band Egde	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 6 dB pad to protect RCVR from fund. Power reduced to meet band edge limit.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-D805	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	95	**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	5711.36	22.50	3.83	34.34	60.67	Max Avg	Vertical	180	3	68.2	-7.6	Pass
#2	5725.00	25.41	3.79	34.35	63.55	Max Avg	Vertical	180	3	78.2	-14.7	Pass
#3	5725.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 6 dB pad to protect RCVR from fund.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-D805	**Variant:**	802.11ac-80
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5775.00	**Data Rate:**	29.30 MBit/s
Power Setting:	94	**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	28.55	3.81	34.34	66.70	Max Avg	Vertical	180	3	68.2	-1.5	Pass
#2	5718.94	30.30	3.80	34.34	68.44	Max Avg	Vertical	180	3	78.2	-9.8	Pass
#3	5725.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 6 dB pad to protect RCVR from fund.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-D805	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.50 MBit/s
Power Setting:	95	**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	22.52	3.81	34.34	60.67	Max Avg	Vertical	180	3	68.2	-7.6	Pass
#2	5725.00	29.27	3.79	34.35	67.41	Max Avg	Vertical	180	3	78.2	-10.8	Pass
#3	5725.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 6 dB pad to protect RCVR from fund.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-D805	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5755.00	**Data Rate:**	13.50 MBit/s
Power Setting:	95	**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	28.78	3.81	34.34	66.93	Max Avg	Vertical	180	3	68.2	-1.3	Pass
#2	5725.00	32.56	3.79	34.35	70.70	Max Avg	Vertical	180	3	78.2	-7.5	Pass
#3	5725.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 6 dB pad to protect RCVR from fund.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-D805	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	95	**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	23.49	3.81	34.63	61.93	Max Avg	Vertical	157	5	78.2	-16.3	Pass
#3	5901.84	22.54	3.82	34.77	61.13	Max Avg	Vertical	157	5	78.2	-17.1	Pass
#2	5850.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 6 dB pad to protect RCVR from fund.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-D805	**Variant:**	802.11ac-80
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5775.00	**Data Rate:**	29.30 MBit/s
Power Setting:	94	**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	28.10	3.81	34.63	66.54	Max Avg	Vertical	157	5	78.2	-11.7	Pass
#3	5860.00	26.68	3.86	34.65	65.19	Max Avg	Vertical	157	5	78.2	-13.0	Pass
#2	5850.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 6 dB pad to protect RCVR from fund.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-D805	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.50 MBit/s
Power Setting:	95	**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	23.92	3.81	34.63	62.36	Max Avg	Vertical	157	5	78.2	-15.9	Pass
#3	5903.56	21.52	3.82	34.77	60.11	Max Avg	Vertical	157	5	78.2	-18.1	Pass
#2	5850.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 6 dB pad to protect RCVR from fund.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-2x2-D805	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5795.00	**Data Rate:**	13.50 MBit/s
Power Setting:	95	**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	5858.21	22.04	3.85	34.65	60.54	Max Avg	Vertical	157	5	78.2	-17.7	Pass
#3	5860.21	22.04	3.86	34.65	60.55	Max Avg	Vertical	157	5	78.2	-17.7	Pass
#1	5850.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 6 dB pad to protect RCVR from fund.

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9.4.2.10. Aruba Networks ANT-3x3-5010

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5150 - 5250 MHz

Aruba Networks ANT-3x3-5010		Band-Edge Freq	Limit 74.0dBµV/m	Limit 54.0dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5180.00	5150.00	65.18	53.79	59
802.11ac-80	5210.00	5150.00	71.40	53.54	52
802.11n HT-20	5180.00	5150.00	64.67	53.50	62
802.11n HT-40	5190.00	5150.00	73.47	53.35	56

5725 - 5850 MHz

Aruba Networks ANT-3x3-5010		Band-Edge Freq	Limit 68.2dBµV/m	Limit 78.2dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5745.00	0.00	68.23	71.41	95
802.11ac-80	5775.00	0.00	68.23	69.95	91
802.11n HT-20	5745.00	0.00	68.23	72.05	95
802.11n HT-40	5755.00	0.00	68.23	71.18	92

Aruba Networks ANT-3x3-5010		Band-Edge Freq	Limit 78.2dBµV/m	Limit 68.2dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5825.00	0.00	78.23	62.95	95
802.11ac-80	5775.00	0.00	78.23	67.54	91
802.11n HT-20	5825.00	0.00	78.23	61.61	95
802.11n HT-40	5795.00	0.00	78.23	61.52	95

Click on the links to view the data.

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks ANT-3x3-5010	**Variant:**	802.11a
Antenna Gain (dBi):	10.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	59	**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	5020.52	27.31	3.66	34.21	65.18	Max Peak	Vertical	196	187	74.0	-8.8	Pass
#2	5020.76	15.92	3.66	34.21	53.79	Max Avg	Vertical	196	187	54.0	-0.2	Pass
#3	5150.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on table powered by AC. Connected to laptop outside chamber via enet. Power Reduction to meet band edge limits.

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks ANT-3x3-5010	**Variant:**	802.11ac-80
Antenna Gain (dBi):	10.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5210.00	**Data Rate:**	29.30 MBit/s
Power Setting:	52	**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	5147.15	15.75	3.68	34.11	53.54	Max Avg	Vertical	196	187	54.0	-0.5	Pass
#2	5150.00	33.62	3.67	34.11	71.40	Max Peak	Vertical	196	187	74.0	-2.6	Pass
#3	5150.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on table powered by AC. Connected to laptop outside chamber via enet. Power Reduction to meet band edge limits.												

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks ANT-3x3-5010	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	10.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.50 MBit/s
Power Setting:	62	**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	5022.71	15.62	3.67	34.21	53.50	Max Avg	Vertical	196	187	54.0	-0.5	Pass
#2	5055.13	26.85	3.62	34.20	64.67	Max Peak	Vertical	196	187	74.0	-9.3	Pass
#3	5150.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on table powered by AC. Connected to laptop outside chamber via enet. Power Reduction to meet band edge limits.

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks ANT-3x3-5010	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	10.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5190.00	**Data Rate:**	13.50 MBit/s
Power Setting:	56	**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	15.57	3.67	34.11	53.35	Max Avg	Vertical	196	187	54.0	-0.7	Pass
#2	5150.00	35.69	3.67	34.11	73.47	Max Peak	Vertical	196	187	74.0	-0.5	Pass
#3	5150.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on table powered by AC. Connected to laptop outside chamber via enet. Power Reduction to meet band edge limits.												

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-3x3-5010	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	95	**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	5627.71	26.56	3.76	34.20	64.52	Max Avg	Vertical	192	190	68.2	-3.7	Pass
#2	5724.52	33.27	3.79	34.35	71.41	Max Avg	Vertical	192	190	78.2	-6.8	Pass
#3	5725.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on table powered by AC. Connected to laptop outside chamber via enet.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-3x3-5010	**Variant:**	802.11ac-80
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5775.00	**Data Rate:**	29.30 MBit/s
Power Setting:	91	**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	29.72	3.81	34.34	67.87	Max Avg	Vertical	192	190	68.2	-0.4	Pass
#2	5718.94	31.81	3.80	34.34	69.95	Max Avg	Vertical	192	190	78.2	-8.3	Pass
#3	5725.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on table powered by AC. Connected to laptop outside chamber via enet. Power Reduction to meet Band Edge LImits												

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-3x3-5010	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.50 MBit/s
Power Setting:	95	**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	24.94	3.81	34.34	63.09	Max Avg	Vertical	192	190	68.2	-5.1	Pass
#2	5725.00	33.91	3.79	34.35	72.05	Max Avg	Vertical	192	190	78.2	-6.2	Pass
#3	5725.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on table powered by AC. Connected to laptop outside chamber via enet.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-3x3-5010	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5755.00	**Data Rate:**	13.50 MBit/s
Power Setting:	92	**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	29.72	3.81	34.34	67.87	Max Avg	Vertical	192	190	68.2	-0.4	Pass
#2	5725.00	33.04	3.79	34.35	71.18	Max Avg	Vertical	192	190	78.2	-7.1	Pass
#3	5725.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on table powered by AC. Connected to laptop outside chamber via enet. Power Reduction to meet Band Edge LImits												

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-3x3-5010	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	95	**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	26.58	3.81	34.63	65.02	Max Avg	Vertical	194	195	78.2	-13.2	Pass
#3	5904.16	24.36	3.82	34.77	62.95	Max Avg	Vertical	194	195	68.2	-5.3	Pass
#2	5850.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on table powered by AC. Connected to laptop outside chamber via enet.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-3x3-5010	**Variant:**	802.11ac-80
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5775.00	**Data Rate:**	29.30 MBit/s
Power Setting:	91	**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	31.02	3.81	34.63	69.46	Max Avg	Vertical	194	195	78.2	-8.8	Pass
#3	5860.21	29.03	3.86	34.65	67.54	Max Avg	Vertical	194	195	68.2	-0.7	Pass
#2	5850.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on table powered by AC. Connected to laptop outside chamber via enet. Power Reduction to meet Band Edge LImits												

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-3x3-5010	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.50 MBit/s
Power Setting:	95	**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	27.49	3.81	34.63	65.93	Max Avg	Vertical	194	195	78.2	-12.3	Pass
#3	5902.90	23.02	3.82	34.77	61.61	Max Avg	Vertical	194	195	68.2	-6.6	Pass
#2	5850.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on table powered by AC. Connected to laptop outside chamber via enet.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-3x3-5010	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5795.00	**Data Rate:**	13.50 MBit/s
Power Setting:	95	**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	24.40	3.81	34.63	62.84	Max Avg	Vertical	194	195	78.2	-15.4	Pass
#3	5860.00	23.01	3.86	34.65	61.52	Mav Avg	Vertical	194	195	68.2	-6.7	Pass
#2	5850.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on table powered by AC. Connected to laptop outside chamber via enet.												

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9.4.2.11. Aruba Networks ANT-3x3-5712

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5150 - 5250 MHz

Aruba Networks ANT-3x3-5712		Band-Edge Freq	Limit 74.0dBµV/m	Limit 54.0dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5180.00	5150.00	65.35	53.79	51
802.11ac-80	5210.00	5150.00	73.77	52.63	55
802.11n HT-20	5180.00	5150.00	73.58	53.79	72
802.11n HT-40	5190.00	5150.00	69.36	53.73	62

5725 - 5850 MHz

Aruba Networks ANT-3x3-5712		Band-Edge Freq	Limit 68.2dBµV/m	Limit 78.2dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5745.00	0.00	68.23	68.84	95
802.11ac-80	5775.00	0.00	68.23	69.46	94
802.11n HT-20	5745.00	0.00	68.23	68.63	95
802.11n HT-40	5755.00	0.00	68.23	71.23	95

Aruba Networks ANT-3x3-5712		Band-Edge Freq	Limit 78.2dBµV/m	Limit 68.2dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5825.00	0.00	78.23	62.51	95
802.11ac-80	5775.00	0.00	78.23	66.77	72
802.11n HT-20	5825.00	0.00	78.23	65.61	95
802.11n HT-40	5795.00	0.00	78.23	62.51	95

Click on the links to view the data.

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks ANT-3x3-5712	**Variant:**	802.11a
Antenna Gain (dBi):	11.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	51	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5022.18	15.91	3.67	34.21	53.79	Max Avg	Vertical	178	358	54.0	-0.2	Pass
#2	5022.18	27.47	3.67	34.21	65.35	Max Peak	Vertical	178	358	74.0	-8.7	Pass
#3	5150.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 6 db pad to protect RCVR from fund +1 dB for external cables. Power reduced to meet Band Edge limits.

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks ANT-3x3-5712	**Variant:**	802.11ac-80
Antenna Gain (dBi):	11.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5210.00	**Data Rate:**	29.30 MBit/s
Power Setting:	55	**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	14.85	3.67	34.11	52.63	Max Avg	Vertical	178	358	54.0	-1.4	Pass
#2	5150.00	35.99	3.67	34.11	73.77	Max Peak	Vertical	178	358	74.0	-0.2	Pass
#3	5150.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 6 db pad to protect RCVR from fund +1 dB for external cables. Power reduced to meet Band Edge Limits.

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks ANT-3x3-5712	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	11.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.50 MBit/s
Power Setting:	72	**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	5022.18	15.91	3.67	34.21	53.79	Max Avg	Vertical	178	358	54.0	-0.2	Pass
#2	5150.00	35.80	3.67	34.11	73.58	Max Peak	Vertical	178	358	74.0	-0.4	Pass
#3	5150.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. Using 6 db pad to protect RCVR from fund +1 dB for external cables. Power reduced to meet Band Edge Limits.

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks ANT-3x3-5712	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	11.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5190.00	**Data Rate:**	13.50 MBit/s
Power Setting:	62	**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	5150.24	15.95	3.67	34.11	53.73	Max Avg	Vertical	178	358	54.0	-0.3	Pass
#3	5150.24	31.58	3.67	34.11	69.36	Max Peak	Vertical	178	358	74.0	-4.6	Pass
#1	5150.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber.using 6 db pad to protect RCVR from fund +1 dB for external cables. Power reduced to meet band edge limits.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-3x3-5712	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	95	**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	5713.55	24.85	3.82	34.34	63.01	Max Avg	Horizontal	165	359	68.2	-5.2	Pass
#2	5724.27	30.70	3.79	34.35	68.84	Max Avg	Horizontal	165	359	78.2	-9.4	Pass
#3	5725.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 6 db pad to protect RCVR from fund +1 dB for external cables.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-3x3-5712	**Variant:**	802.11ac-80
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5775.00	**Data Rate:**	29.30 MBit/s
Power Setting:	94	**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	29.55	3.81	34.34	67.70	Max Avg	Horizontal	165	359	68.2	-0.5	Pass
#2	5725.00	31.32	3.79	34.35	69.46	Max Avg	Horizontal	165	359	78.2	-8.8	Pass
#3	5725.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 6 db pad to protect RCVR from fund +1 dB for external cables.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-3x3-5712	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.50 MBit/s
Power Setting:	95	**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	24.44	3.81	34.34	62.59	Max Avg	Horizontal	165	359	68.2	-5.6	Pass
#2	5725.00	30.49	3.79	34.35	68.63	Max Avg	Horizontal	165	359	78.2	-9.6	Pass
#3	5725.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 6 db pad to protect RCVR from fund +1 dB for external cables.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-3x3-5712	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5755.00	**Data Rate:**	13.50 MBit/s
Power Setting:	95	**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	29.30	3.81	34.34	67.45	Max Avg	Horizontal	165	359	68.2	-0.8	Pass
#2	5725.00	33.09	3.79	34.35	71.23	Max Avg	Horizontal	165	359	78.2	-7.0	Pass
#3	5725.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 6 db pad to protect RCVR from fund +1 dB for external cables.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-3x3-5712	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	95	**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	26.08	3.81	34.63	64.52	Max Avg	Horizontal	160	365	78.2	-13.7	Pass
#3	5860.00	24.00	3.86	34.65	62.51	Max Avg	Horizontal	160	365	78.2	-15.7	Pass
#2	5850.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 6 db pad to protect RCVR from fund +1 dB for external cables.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-3x3-5712	**Variant:**	802.11ac-80
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5775.00	**Data Rate:**	29.30 MBit/s
Power Setting:	72	**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	29.84	3.81	34.63	68.28	Max Avg	Horizontal	160	365	78.2	-10.0	Pass
#3	5860.00	28.26	3.86	34.65	66.77	Max Avg	Horizontal	160	365	78.2	-11.5	Pass
#2	5850.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 6 db pad to protect RCVR from fund +1 dB for external cables.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-3x3-5712	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.50 MBit/s
Power Setting:	95	**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	5856.31	26.75	3.84	34.64	65.23	Max Avg	Horizontal	160	365	78.2	-13.0	Pass
#3	5888.83	27.06	3.82	34.73	65.61	Max Avg	Horizontal	160	365	78.2	-12.6	Pass
#1	5850.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 6 db pad to protect RCVR from fund +1 dB for external cables.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks ANT-3x3-5712	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94
Channel Frequency (MHz):	5795.00	**Data Rate:**	13.50 MBit/s
Power Setting:	95	**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	24.49	3.81	34.63	62.93	Max Avg	Horizontal	160	365	78.2	-15.3	Pass
#3	5860.00	24.00	3.86	34.65	62.51	Max Avg	Horizontal	160	365	78.2	-15.7	Pass
#2	5850.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by AC. ENET connected to laptop outside chamber. using 6 db pad to protect RCVR from fund +1 dB for external cables.

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9.4.2.12. Aruba Networks Integral

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5150 - 5250 MHz

Aruba Networks Integral		Band-Edge Freq	Limit 74.0dBµV/m	Limit 54.0dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5180.00	5150.00	73.47	53.54	92
802.11ac-80	5210.00	5150.00	71.89	53.82	75
802.11n HT-20	5180.00	5150.00	70.76	53.54	93
802.11n HT-40	5190.00	5150.00	68.21	53.15	78

5725 - 5850 MHz

Aruba Networks Integral		Band-Edge Freq	Limit 68.2dBµV/m	Limit 78.2dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5745.00	0.00	68.23	64.69	95
802.11ac-80	5775.00	0.00	68.23	64.69	94
802.11n HT-20	5745.00	0.00	68.23	63.67	95
802.11n HT-40	5755.00	0.00	68.23	67.19	95

Aruba Networks Integral		Band-Edge Freq	Limit 78.2dBµV/m	Limit 68.2dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5825.00	0.00	78.23	55.59	95
802.11ac-80	5775.00	0.00	78.23	59.95	94
802.11n HT-20	5825.00	0.00	78.23	55.59	95
802.11n HT-40	5795.00	0.00	78.23	55.59	95

Click on the links to view the data.

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks Integral	**Variant:**	802.11a
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.00 MBit/s
Power Setting:	92	**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	15.76	3.67	34.11	53.54	Max Avg	Vertical	126	267	54.0	-0.5	Pass
#2	5150.00	35.69	3.67	34.11	73.47	Max Peak	Vertical	126	267	74.0	-0.5	Pass
#3	5150.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: AP-275 powered by 7010 controller poe port, connected to laptop via mini-USB in chamber. PWR Reduction to meet limit												

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks Integral	**Variant:**	802.11ac-80
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5210.00	**Data Rate:**	29.30 MBit/s
Power Setting:	75	**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	5144.31	34.07	3.70	34.12	71.89	Max Peak	Vertical	126	267	74.0	-2.1	Pass
#2	5150.00	16.04	3.67	34.11	53.82	Max Avg	Vertical	126	267	54.0	-0.2	Pass
#3	5150.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: AP-275 powered by 7010 controller poe port, connected to laptop via mini-USB in chamber. PWR Reduction to 75 to meet limit

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks Integral	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5180.00	**Data Rate:**	6.50 MBit/s
Power Setting:	93	**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	15.76	3.67	34.11	53.54	Max Avg	Vertical	126	267	54.0	-0.5	Pass
#2	5150.00	32.98	3.67	34.11	70.76	Max Peak	Vertical	126	267	74.0	-3.2	Pass
#3	5150.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: AP-275 powered by 7010 controller poe port, connected to laptop via mini-USB in chamber. PWR Reduction to meet limit												

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks Integral	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5190.00	**Data Rate:**	13.50 MBit/s
Power Setting:	78	**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	15.37	3.67	34.11	53.15	Max Avg	Vertical	126	267	54.0	-0.9	Pass
#2	5150.00	30.43	3.67	34.11	68.21	Max Peak	Vertical	126	267	74.0	-5.8	Pass
#3	5150.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: AP-275 powered by 7010 controller poe port, connected to laptop via mini-USB in chamber. PWR Reduction to 78 to meet limit

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks Integral	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.00 MBit/s
Power Setting:	95	**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	18.32	3.81	34.34	56.47	Max Avg	Vertical	126	259	68.2	-11.8	Pass
#2	5724.76	26.55	3.79	34.35	64.69	Max Avg	Vertical	126	259	78.2	-13.5	Pass
#3	5725.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: AP-275 powered by 7010 controller poe port, connected to laptop via mini-USB in chamber												

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks Integral	**Variant:**	802.11ac-80
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5775.00	**Data Rate:**	29.30 MBit/s
Power Setting:	94	**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	24.94	3.81	34.34	63.09	Max Avg	Vertical	126	259	68.2	-5.1	Pass
#2	5725.00	26.55	3.79	34.35	64.69	Max Avg	Vertical	126	259	78.2	-13.5	Pass
#3	5725.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: AP-275 powered by 7010 controller poe port, connected to laptop via mini-USB in chamber

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks Integral	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5745.00	**Data Rate:**	6.50 MBit/s
Power Setting:	95	**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	5714.27	18.31	3.82	34.34	56.47	Max Avg	Vertical	126	259	68.2	-11.8	Pass
#2	5725.00	25.53	3.79	34.35	63.67	Max Avg	Vertical	126	259	78.2	-14.6	Pass
#3	5725.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: AP-275 powered by 7010 controller poe port, connected to laptop via mini-USB in chamber												

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks Integral	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5755.00	**Data Rate:**	13.50 MBit/s
Power Setting:	95	**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	24.94	3.81	34.34	63.09	Max Avg	Vertical	126	259	68.2	-5.1	Pass
#2	5725.00	29.05	3.79	34.35	67.19	Max Avg	Vertical	126	259	78.2	-11.0	Pass
#3	5725.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: AP-275 powered by 7010 controller poe port, connected to laptop via mini-USB in chamber												

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks Integral	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.00 MBit/s
Power Setting:	95	**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	19.53	3.82	34.63	57.98	Max Avg	Vertical	126	43	78.2	-20.3	Pass
#3	5902.26	17.00	3.82	34.77	55.59	Max Avg	Vertical	126	43	68.2	-12.6	Pass
#1	5850.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: AP-275 powered by 7010 controller poe port, connected to laptop via mini-USB in chamber												

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks Integral	**Variant:**	802.11ac-80
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5775.00	**Data Rate:**	29.30 MBit/s
Power Setting:	94	**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	5851.26	23.76	3.81	34.63	62.20	Max Avg	Vertical	126	43	78.2	-16.0	Pass
#3	5863.16	21.44	3.85	34.66	59.95	Max Avg	Vertical	126	43	68.2	-8.3	Pass
#1	5850.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: AP-275 powered by 7010 controller poe port, connected to laptop via mini-USB in chamber

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks Integral	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5825.00	**Data Rate:**	6.50 MBit/s
Power Setting:	95	**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	19.53	3.81	34.63	57.97	Max Avg	Vertical	126	43	78.2	-20.3	Pass
#3	5903.74	17.00	3.82	34.77	55.59	Max Avg	Vertical	126	43	68.2	-12.6	Pass
#2	5850.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: AP-275 powered by 7010 controller poe port, connected to laptop via mini-USB in chamber												

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Networks Integral	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	94.0
Channel Frequency (MHz):	5795.00	**Data Rate:**	13.50 MBit/s
Power Setting:	95	**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	5850.21	18.38	3.81	34.63	56.82	Max Avg	Vertical	126	43	78.2	-21.4	Pass
#3	5903.77	17.00	3.82	34.77	55.59	Max Avg	Vertical	126	43	68.2	-12.6	Pass
#1	5850.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: AP-275 powered by 7010 controller poe port, connected to laptop via mini-USB in chamber												

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APPENDIX A - GRAPHICAL IMAGES

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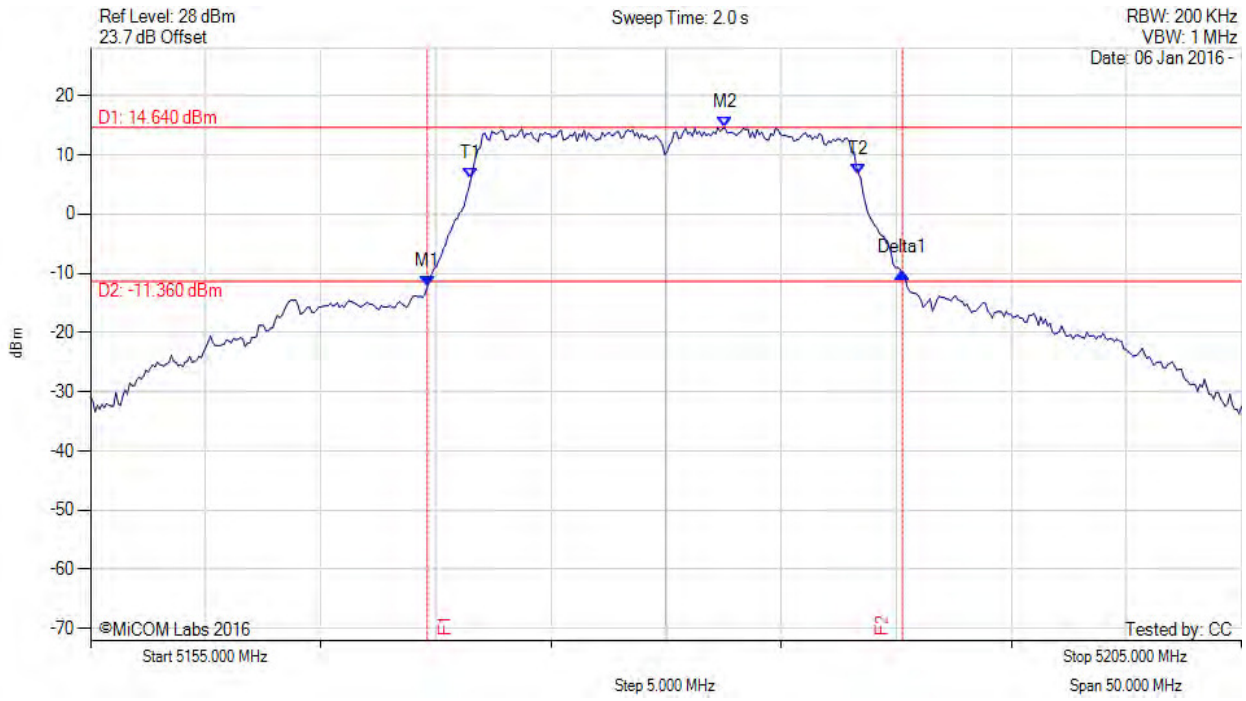
A.1. 26 dB & 99% Bandwidth

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5180.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5169.629 MHz : -12.217 dBm M2 : 5182.555 MHz : 14.640 dBm Delta1 : 20.641 MHz : 2.292 dB T1 : 5171.533 MHz : 6.056 dBm T2 : 5188.367 MHz : 6.802 dBm OBW : 16.834 MHz	Measured 26 dB Bandwidth: 20.641 MHz Measured 99% Bandwidth: 16.834 MHz

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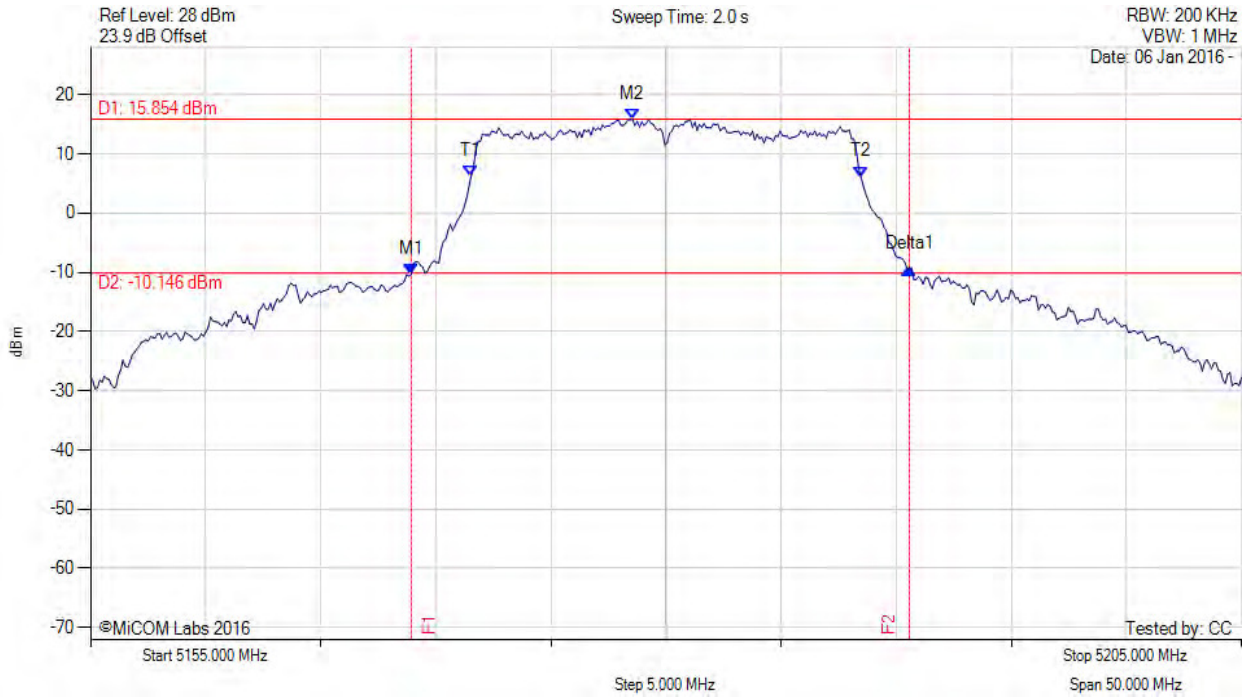
26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5180.00 MHz, Chain b, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5168.928 MHz : -10.371 dBm M2 : 5178.547 MHz : 15.854 dBm Delta1 : 21.643 MHz : 0.976 dB T1 : 5171.533 MHz : 6.231 dBm T2 : 5188.467 MHz : 6.131 dBm OBW : 16.934 MHz	Measured 26 dB Bandwidth: 21.643 MHz Measured 99% Bandwidth: 16.934 MHz

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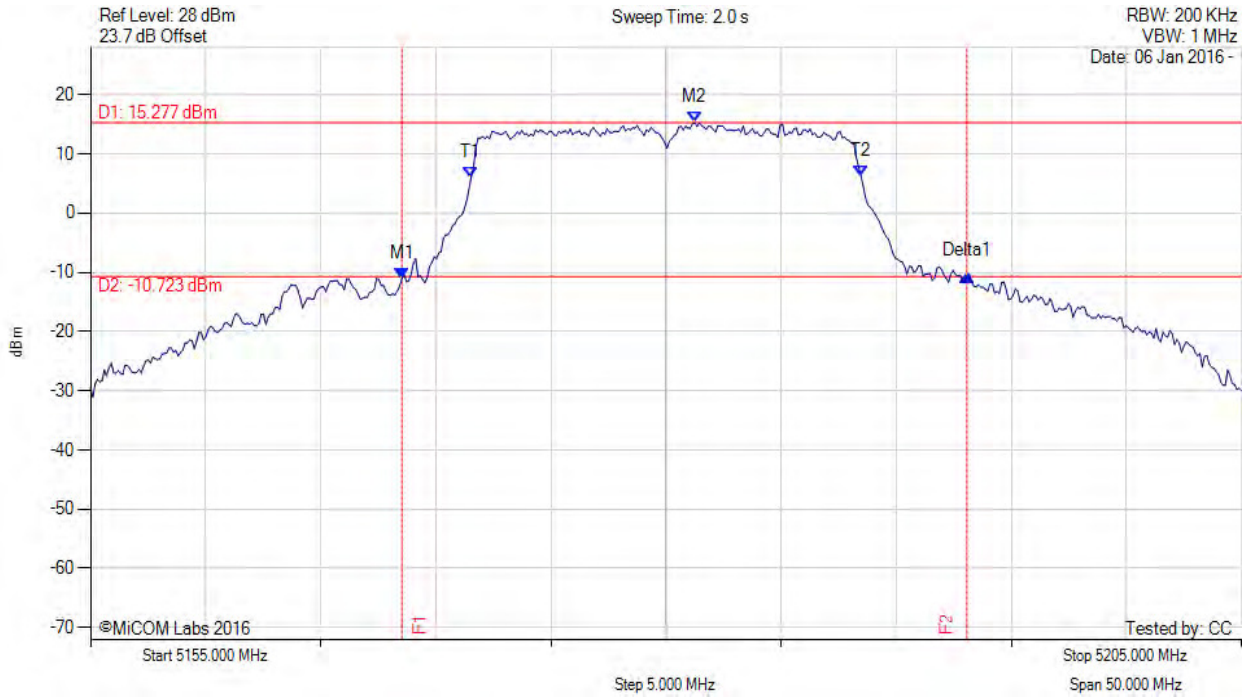
26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5180.00 MHz, Chain c, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5168.527 MHz : -11.070 dBm M2 : 5181.253 MHz : 15.277 dBm Delta1 : 24.549 MHz : 0.549 dB T1 : 5171.533 MHz : 6.044 dBm T2 : 5188.467 MHz : 6.294 dBm OBW : 16.934 MHz	Measured 26 dB Bandwidth: 24.549 MHz Measured 99% Bandwidth: 16.934 MHz

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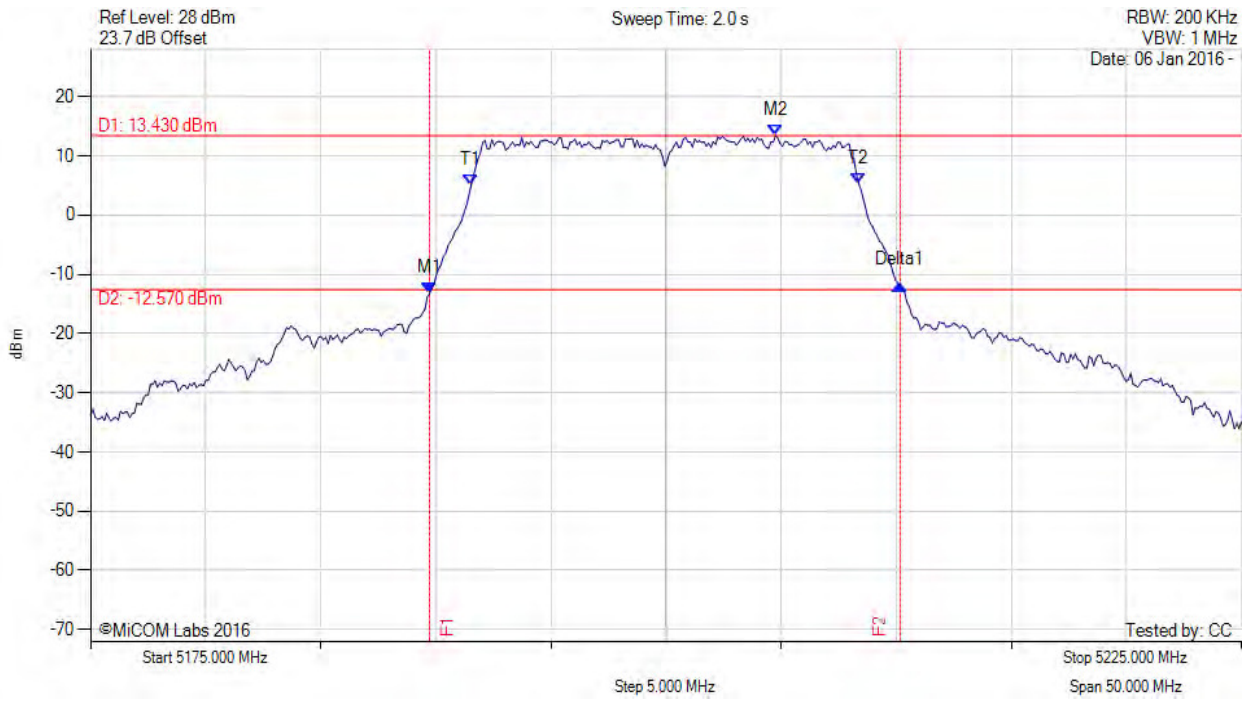
26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5200.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5189.729 MHz : -13.250 dBm M2 : 5204.760 MHz : 13.430 dBm Delta1 : 20.441 MHz : 1.442 dB T1 : 5191.533 MHz : 4.990 dBm T2 : 5208.367 MHz : 5.387 dBm OBW : 16.834 MHz	Measured 26 dB Bandwidth: 20.441 MHz Measured 99% Bandwidth: 16.834 MHz

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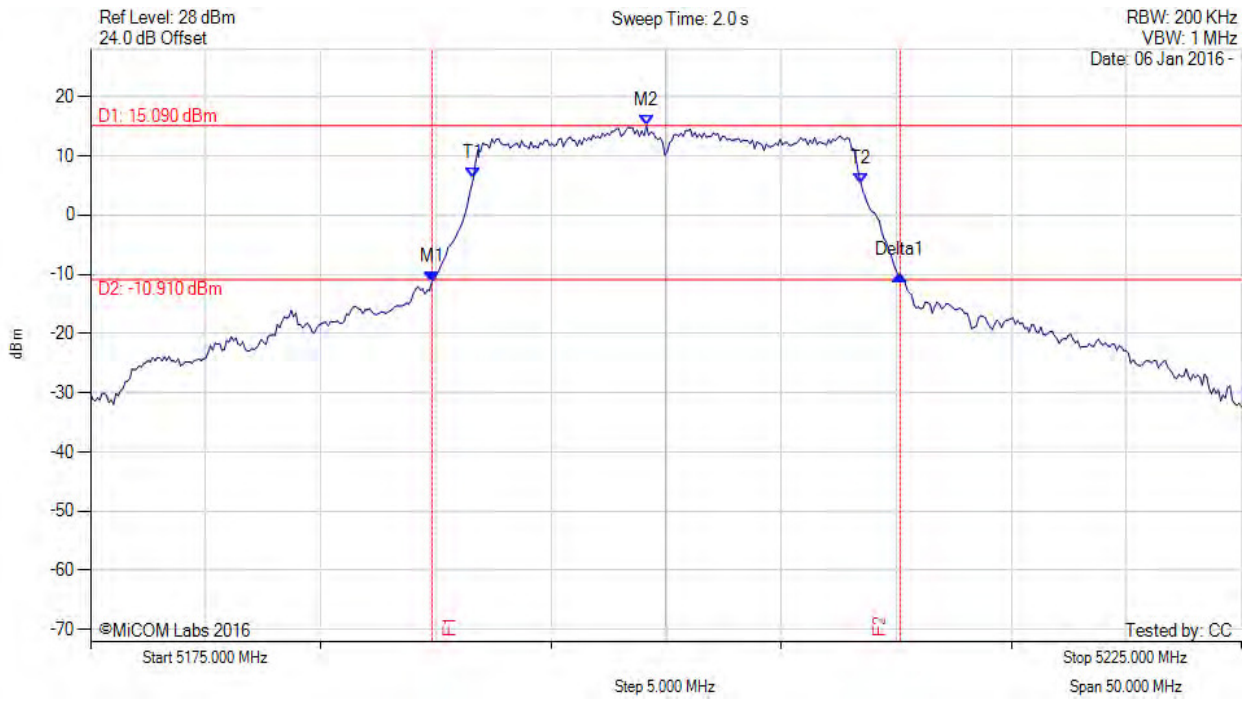
26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5200.00 MHz, Chain b, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5189.830 MHz : -11.253 dBm M2 : 5199.148 MHz : 15.090 dBm Delta1 : 20.341 MHz : 1.068 dB T1 : 5191.633 MHz : 6.245 dBm T2 : 5208.467 MHz : 5.356 dBm OBW : 16.834 MHz	Measured 26 dB Bandwidth: 20.341 MHz Measured 99% Bandwidth: 16.834 MHz

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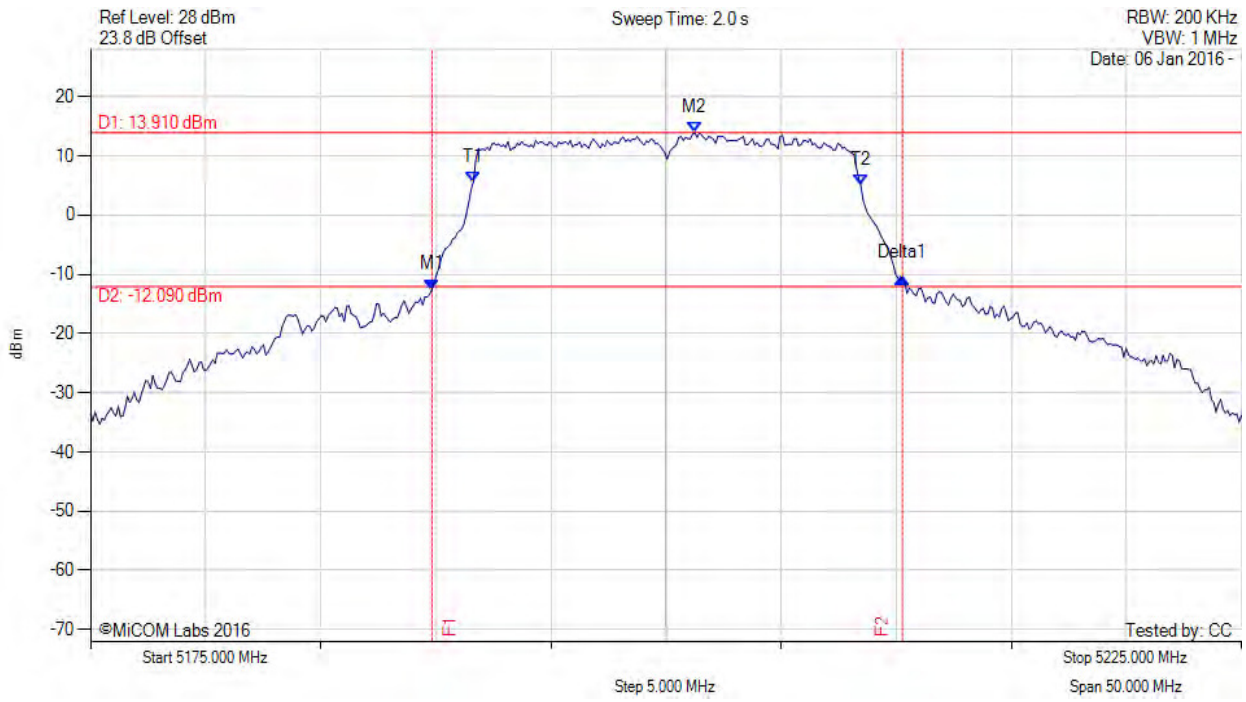
26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5200.00 MHz, Chain c, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5189.830 MHz : -12.581 dBm M2 : 5201.253 MHz : 13.910 dBm Delta1 : 20.441 MHz : 1.952 dB T1 : 5191.633 MHz : 5.625 dBm T2 : 5208.467 MHz : 4.968 dBm OBW : 16.834 MHz	Measured 26 dB Bandwidth: 20.441 MHz Measured 99% Bandwidth: 16.834 MHz

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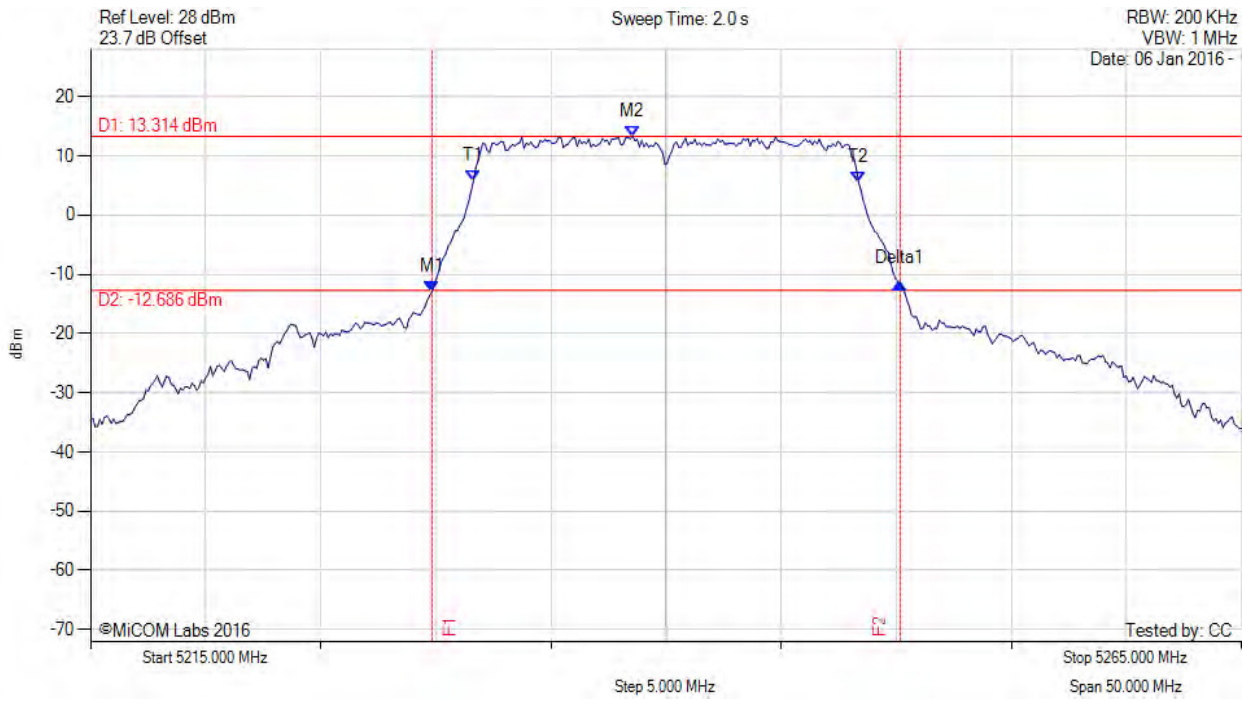
26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5240.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5229.830 MHz : -12.958 dBm M2 : 5238.547 MHz : 13.314 dBm Delta1 : 20.341 MHz : 1.385 dB T1 : 5231.633 MHz : 5.672 dBm T2 : 5248.367 MHz : 5.552 dBm OBW : 16.733 MHz	Measured 26 dB Bandwidth: 20.341 MHz Measured 99% Bandwidth: 16.733 MHz

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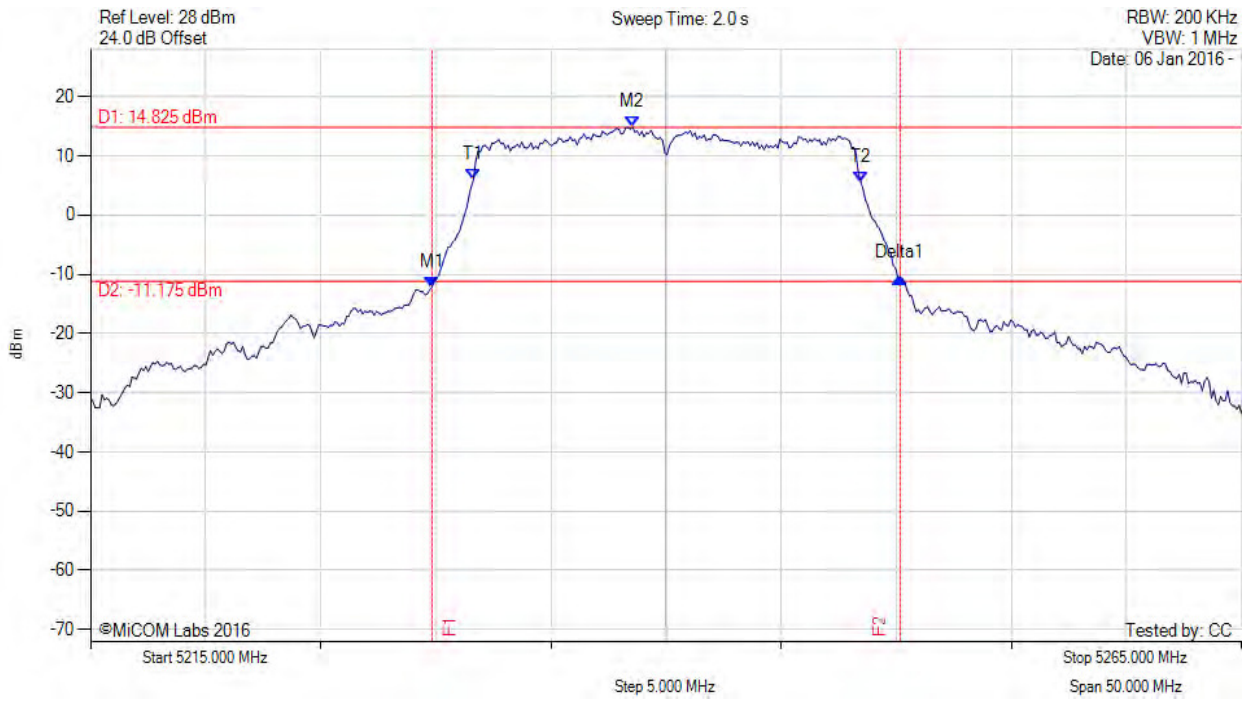
26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5240.00 MHz, Chain b, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5229.830 MHz : -12.142 dBm M2 : 5238.547 MHz : 14.825 dBm Delta1 : 20.341 MHz : 1.605 dB T1 : 5231.633 MHz : 5.901 dBm T2 : 5248.467 MHz : 5.523 dBm OBW : 16.834 MHz	Measured 26 dB Bandwidth: 20.341 MHz Measured 99% Bandwidth: 16.834 MHz

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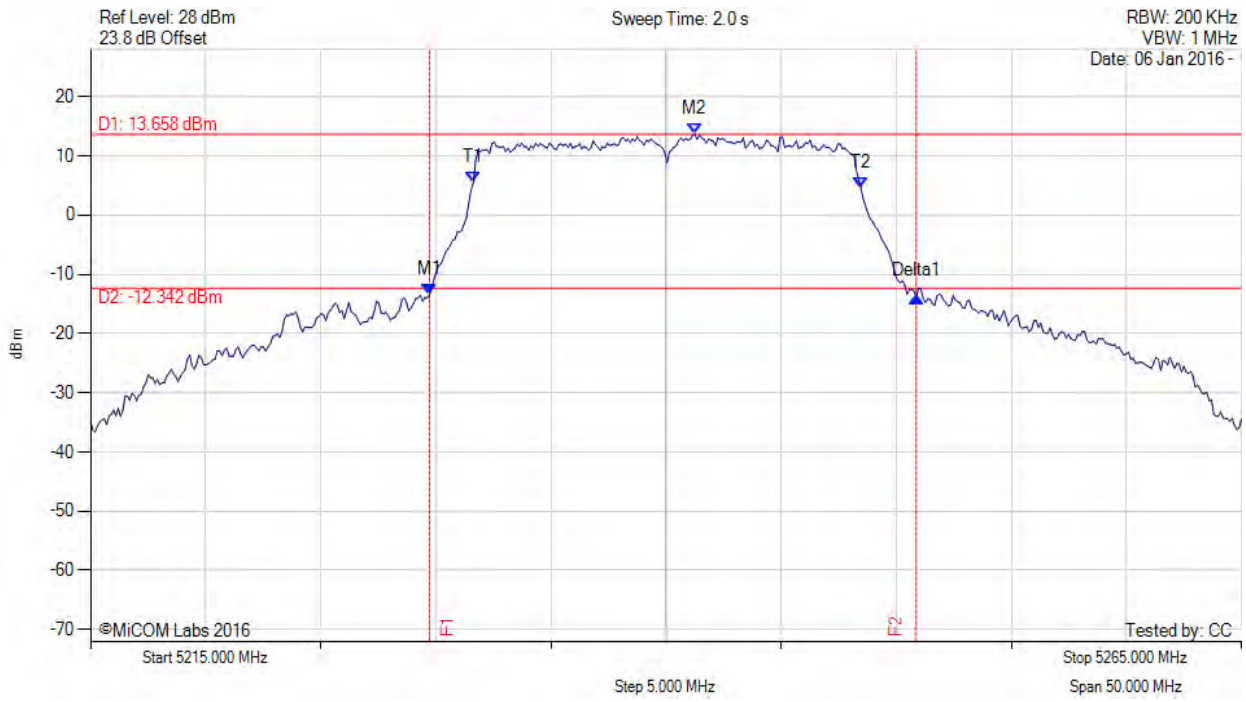
26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5240.00 MHz, Chain c, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5229.729 MHz : -13.383 dBm M2 : 5241.253 MHz : 13.658 dBm Delta1 : 21.142 MHz : -0.362 dB T1 : 5231.633 MHz : 5.472 dBm T2 : 5248.467 MHz : 4.606 dBm OBW : 16.834 MHz	Measured 26 dB Bandwidth: 21.142 MHz Measured 99% Bandwidth: 16.834 MHz

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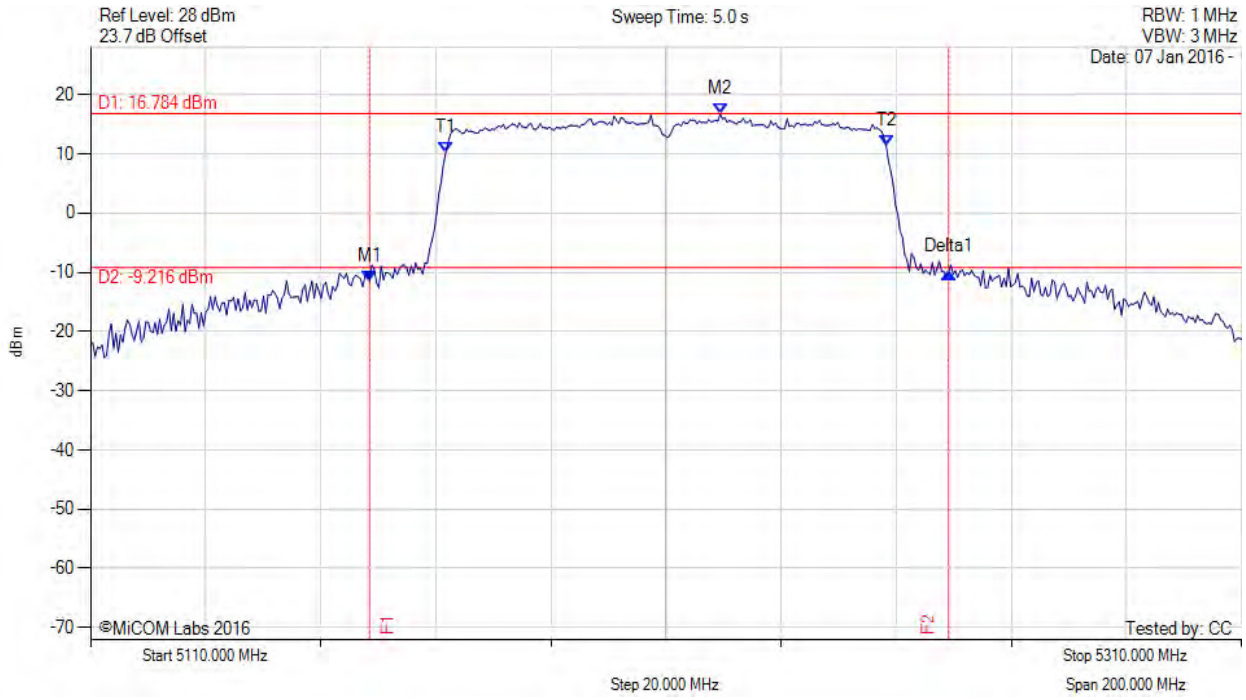
26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5210.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5158.497 MHz : -11.522 dBm M2 : 5219.419 MHz : 16.784 dBm Delta1 : 100.601 MHz : 1.515 dB T1 : 5171.723 MHz : 10.195 dBm T2 : 5248.277 MHz : 11.356 dBm OBW : 76.553 MHz	Measured 26 dB Bandwidth: 100.601 MHz Measured 99% Bandwidth: 76.553 MHz

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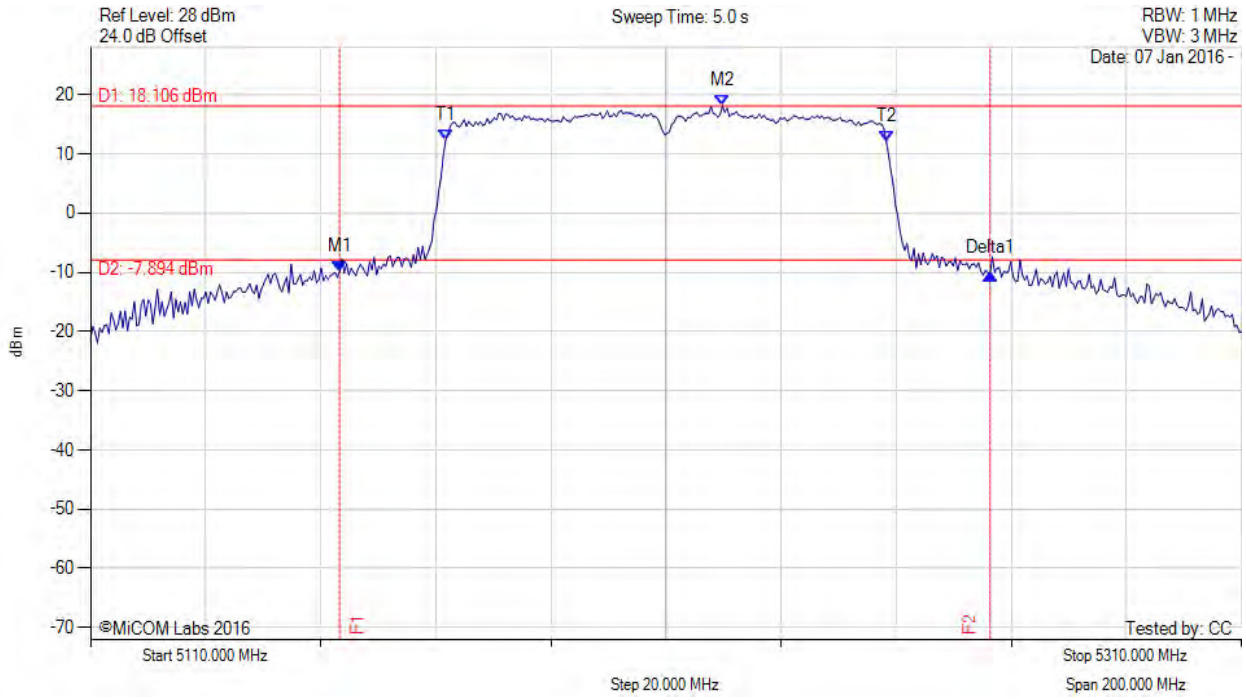
26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5210.00 MHz, Chain b, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5153.287 MHz : -9.789 dBm M2 : 5219.820 MHz : 18.106 dBm Delta1 : 113.026 MHz : -0.449 dB T1 : 5171.723 MHz : 12.326 dBm T2 : 5248.277 MHz : 12.137 dBm OBW : 76.553 MHz	Measured 26 dB Bandwidth: 113.026 MHz Measured 99% Bandwidth: 76.553 MHz

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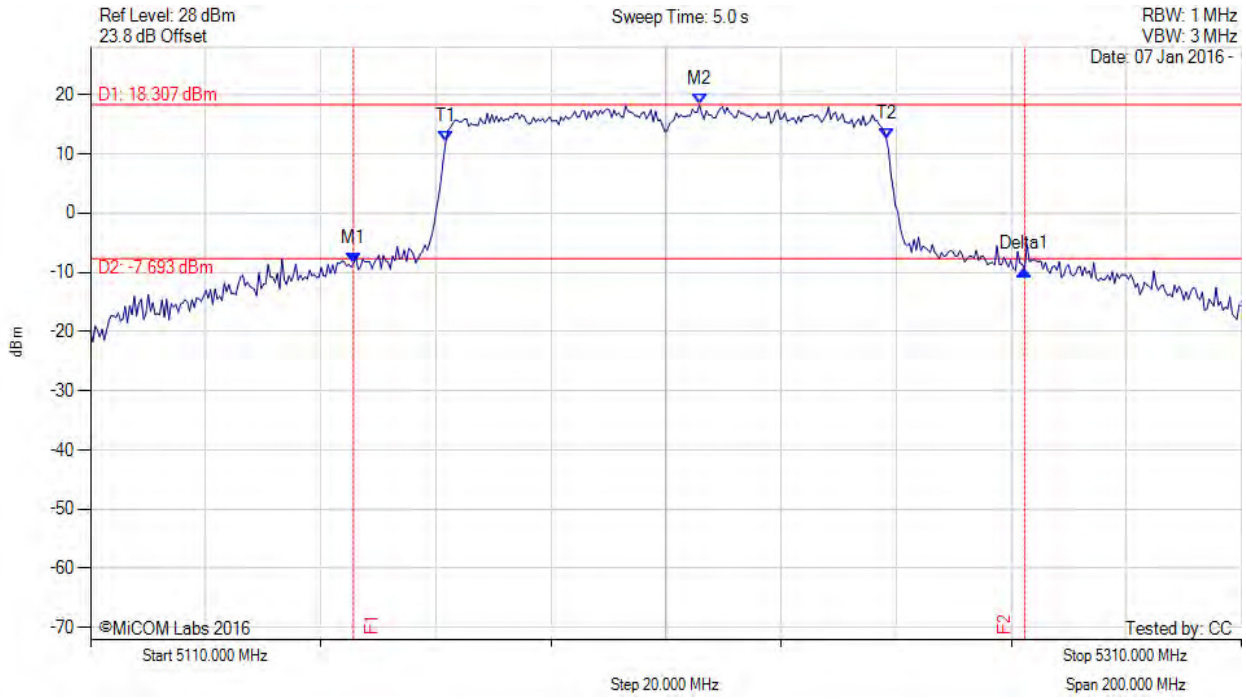
26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5210.00 MHz, Chain c, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5155.691 MHz : -8.473 dBm M2 : 5215.812 MHz : 18.307 dBm Delta1 : 116.633 MHz : -1.068 dB T1 : 5171.723 MHz : 12.009 dBm T2 : 5248.277 MHz : 12.556 dBm OBW : 76.553 MHz	Measured 26 dB Bandwidth: 116.633 MHz Measured 99% Bandwidth: 76.553 MHz

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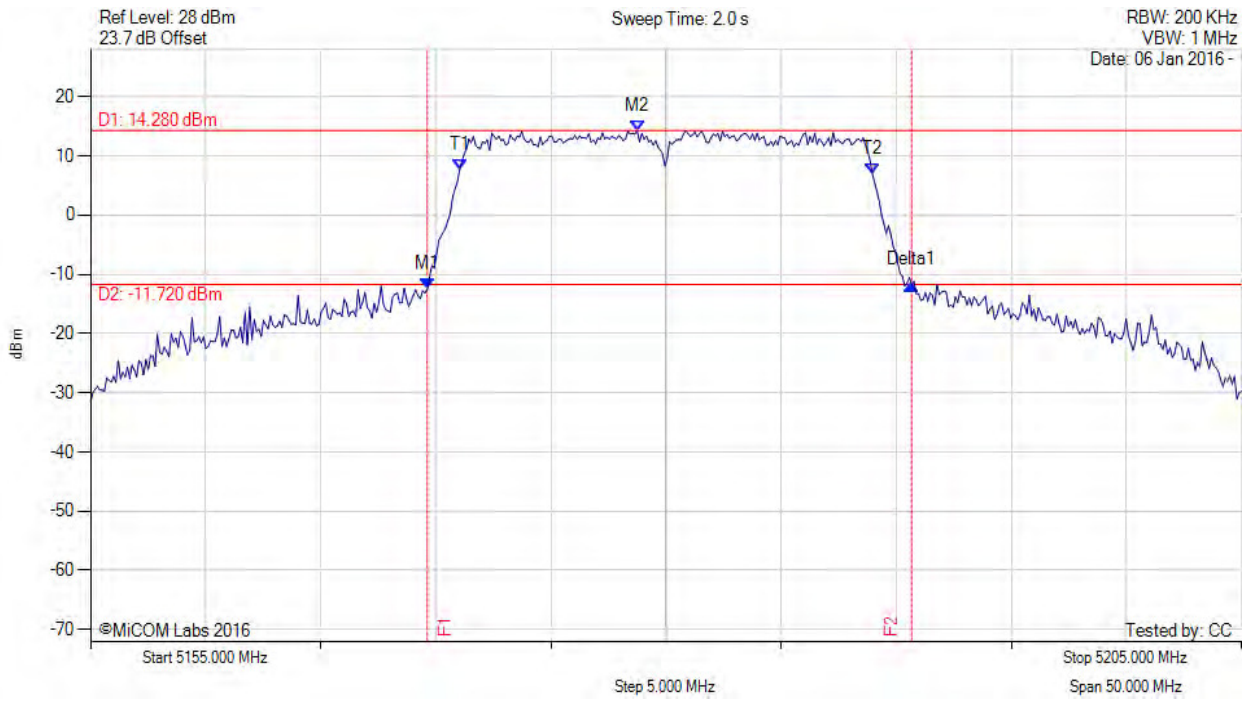
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5180.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5169.629 MHz : -12.488 dBm M2 : 5178.747 MHz : 14.280 dBm Delta1 : 21.042 MHz : 0.781 dB T1 : 5171.032 MHz : 7.652 dBm T2 : 5188.968 MHz : 6.851 dBm OBW : 17.936 MHz	Measured 26 dB Bandwidth: 21.042 MHz Measured 99% Bandwidth: 17.936 MHz

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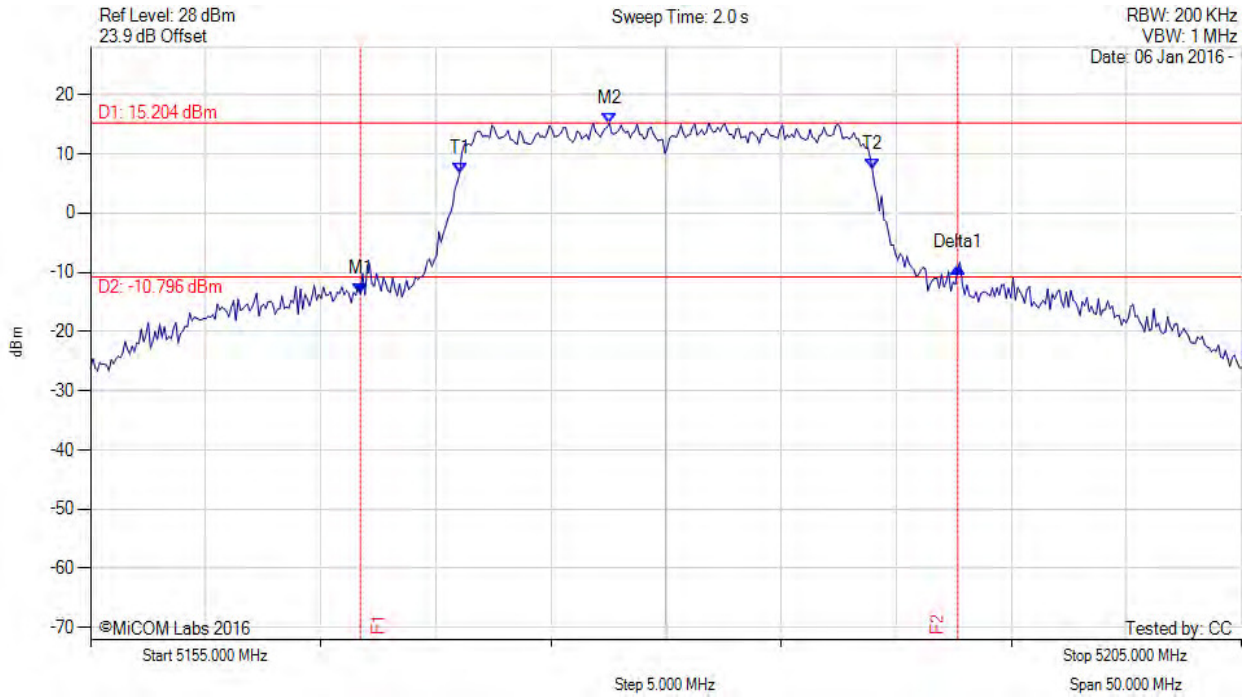
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5180.00 MHz, Chain b, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5166.723 MHz : -13.706 dBm M2 : 5177.545 MHz : 15.204 dBm Delta1 : 25.952 MHz : 4.549 dB T1 : 5171.032 MHz : 6.705 dBm T2 : 5188.968 MHz : 7.337 dBm OBW : 17.936 MHz	Measured 26 dB Bandwidth: 25.952 MHz Measured 99% Bandwidth: 17.936 MHz

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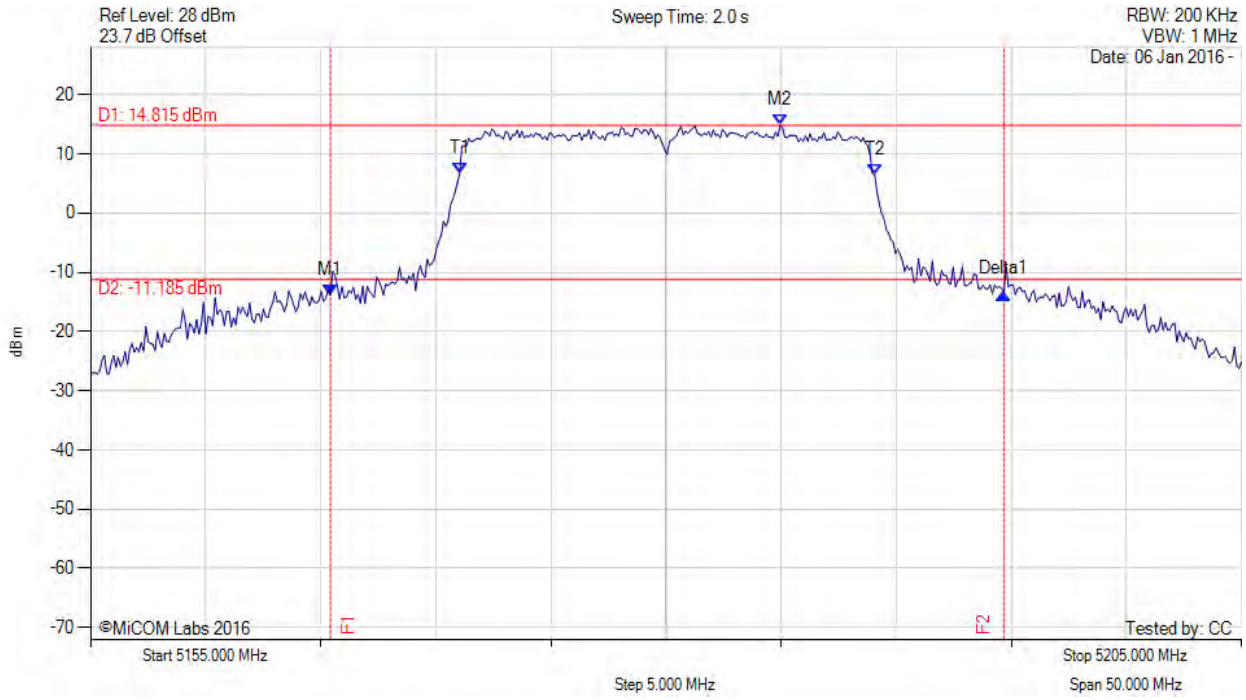
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5180.00 MHz, Chain c, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5165.421 MHz : -13.861 dBm M2 : 5184.960 MHz : 14.815 dBm Delta1 : 29.259 MHz : 0.331 dB T1 : 5171.032 MHz : 6.605 dBm T2 : 5189.068 MHz : 6.550 dBm OBW : 18.036 MHz	Measured 26 dB Bandwidth: 29.259 MHz Measured 99% Bandwidth: 18.036 MHz

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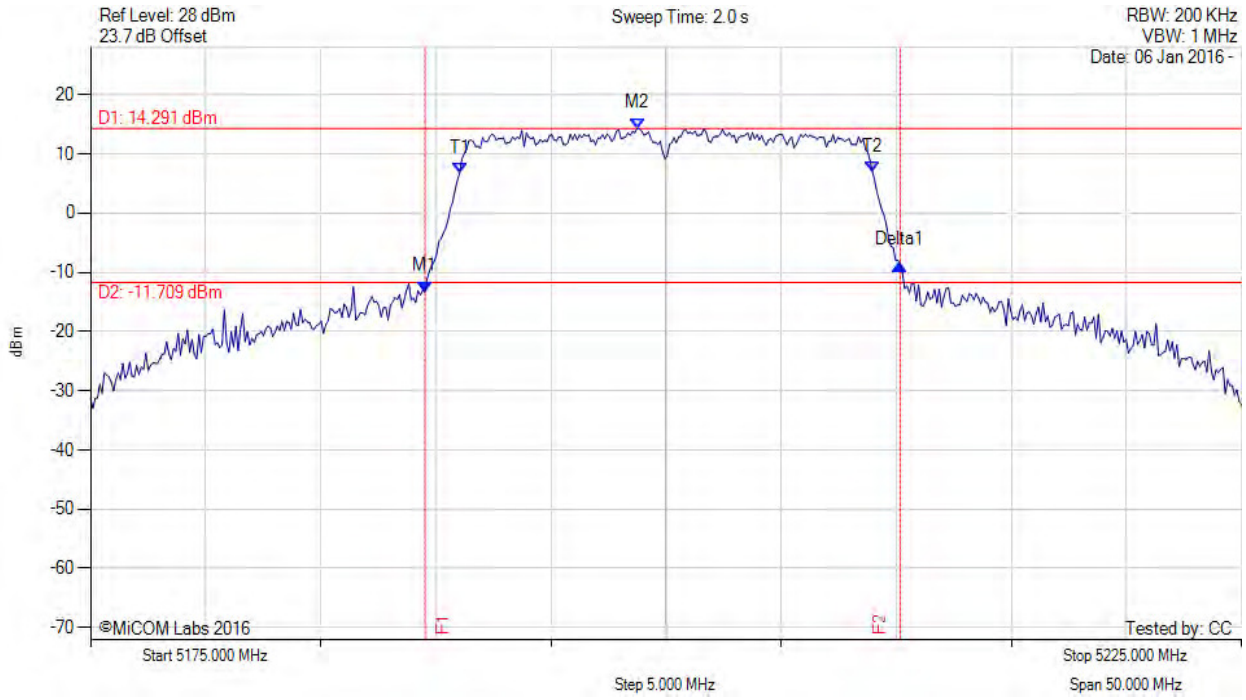
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5200.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5189.529 MHz : -13.279 dBm M2 : 5198.747 MHz : 14.291 dBm Delta1 : 20.641 MHz : 4.633 dB T1 : 5191.032 MHz : 6.719 dBm T2 : 5208.968 MHz : 6.973 dBm OBW : 17.936 MHz	Measured 26 dB Bandwidth: 20.641 MHz Measured 99% Bandwidth: 17.936 MHz

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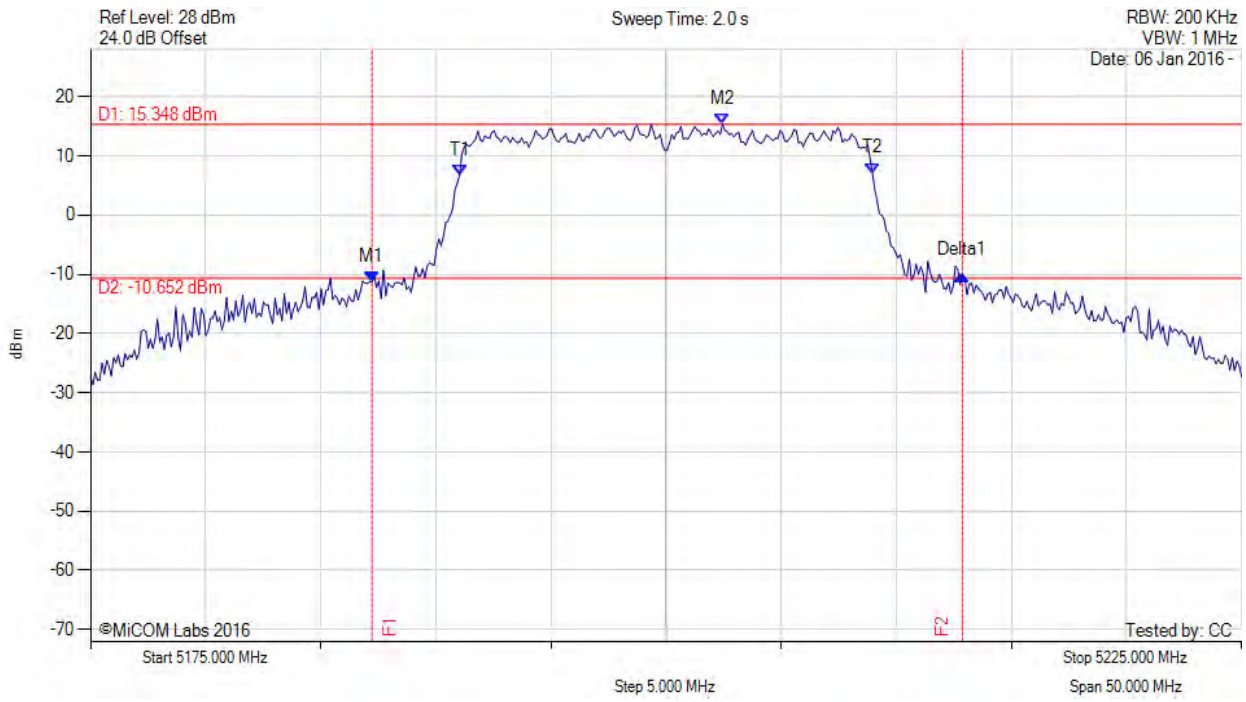
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5200.00 MHz, Chain b, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5187.224 MHz : -11.320 dBm M2 : 5202.455 MHz : 15.348 dBm Delta1 : 25.651 MHz : 1.176 dB T1 : 5191.032 MHz : 6.770 dBm T2 : 5208.968 MHz : 7.065 dBm OBW : 17.936 MHz	Measured 26 dB Bandwidth: 25.651 MHz Measured 99% Bandwidth: 17.936 MHz

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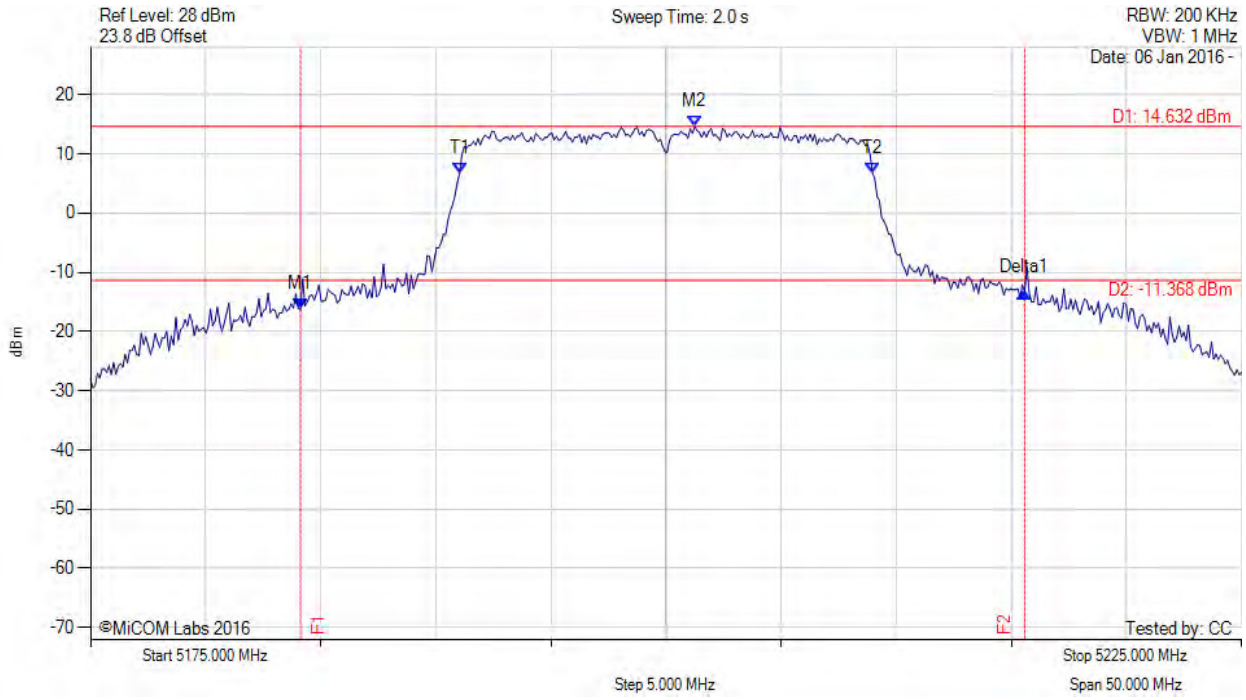
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5200.00 MHz, Chain c, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5184.118 MHz : -16.301 dBm M2 : 5201.253 MHz : 14.632 dBm Delta1 : 31.463 MHz : 3.000 dB T1 : 5191.032 MHz : 6.676 dBm T2 : 5208.968 MHz : 6.753 dBm OBW : 17.936 MHz	Measured 26 dB Bandwidth: 31.463 MHz Measured 99% Bandwidth: 17.936 MHz

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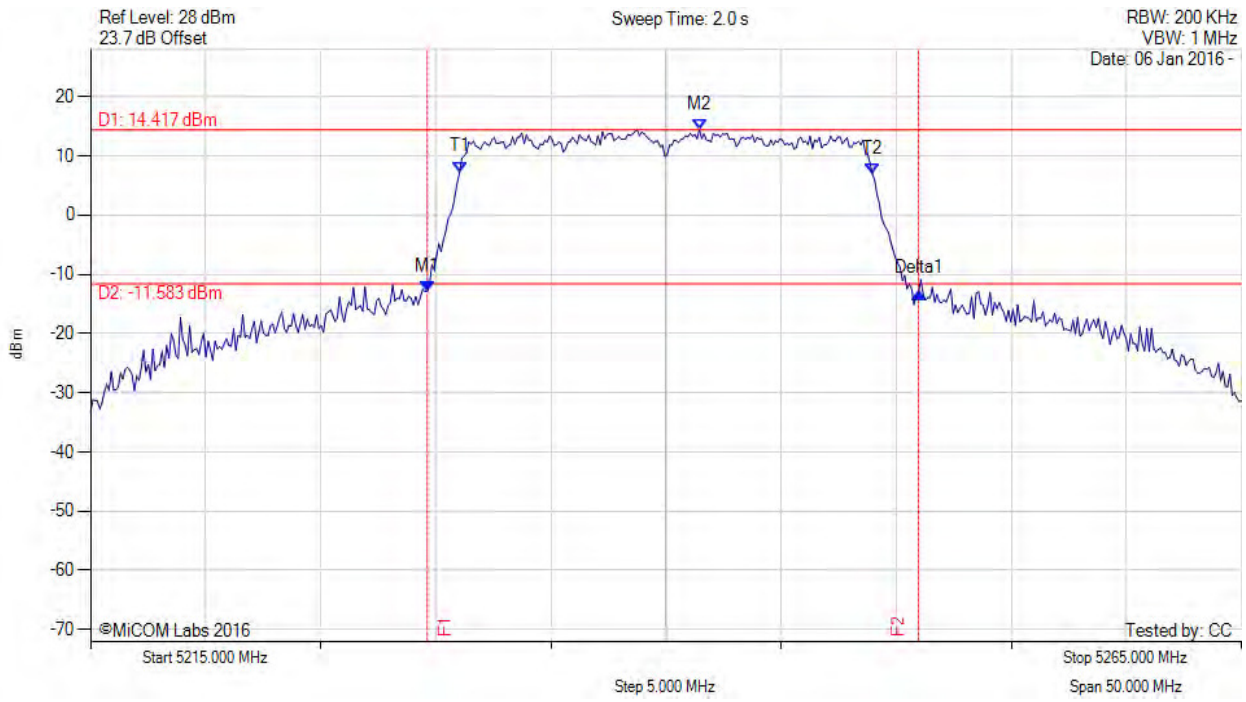
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5240.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5229.629 MHz : -12.825 dBm M2 : 5241.453 MHz : 14.417 dBm Delta1 : 21.343 MHz : -0.238 dB T1 : 5231.032 MHz : 7.286 dBm T2 : 5248.968 MHz : 6.934 dBm OBW : 17.936 MHz	Measured 26 dB Bandwidth: 21.343 MHz Measured 99% Bandwidth: 17.936 MHz

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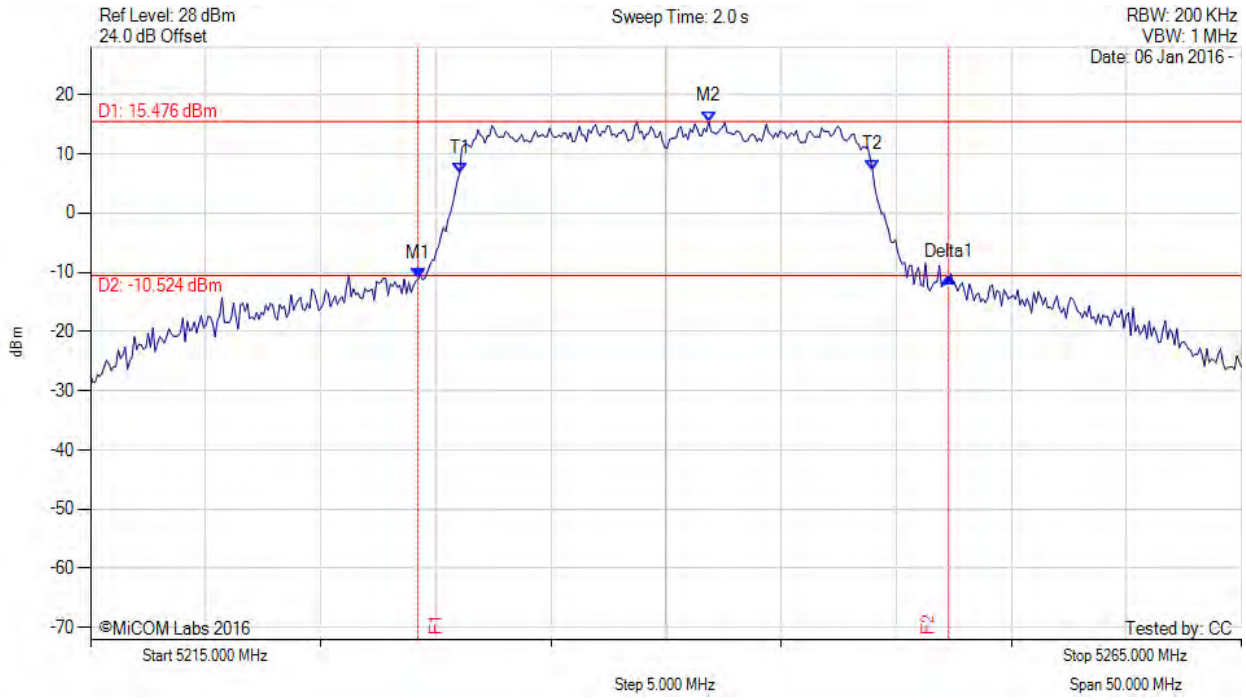
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5240.00 MHz, Chain b, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5229.228 MHz : -11.160 dBm M2 : 5241.854 MHz : 15.476 dBm Delta1 : 23.046 MHz : 0.415 dB T1 : 5231.032 MHz : 6.699 dBm T2 : 5248.968 MHz : 7.292 dBm OBW : 17.936 MHz	Measured 26 dB Bandwidth: 23.046 MHz Measured 99% Bandwidth: 17.936 MHz

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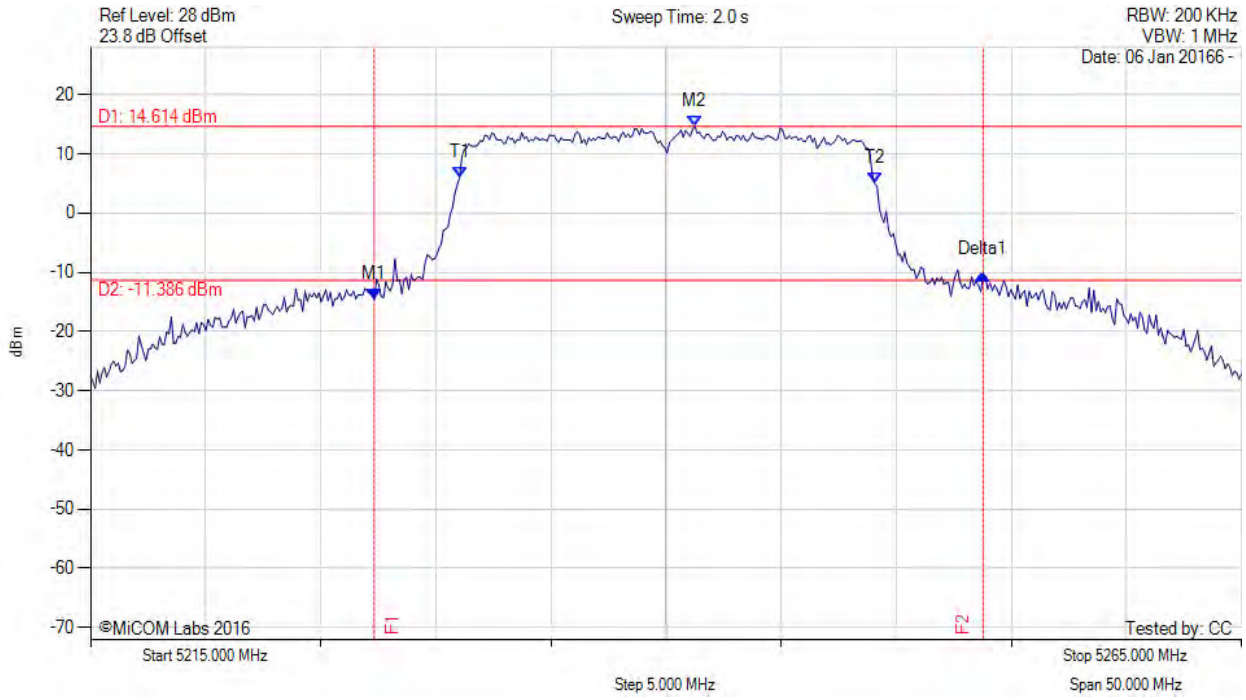
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5240.00 MHz, Chain c, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5227.325 MHz : -14.631 dBm M2 : 5241.253 MHz : 14.614 dBm Delta1 : 26.453 MHz : 4.273 dB T1 : 5231.032 MHz : 6.005 dBm T2 : 5249.068 MHz : 4.986 dBm OBW : 18.036 MHz	Measured 26 dB Bandwidth: 26.453 MHz Measured 99% Bandwidth: 18.036 MHz

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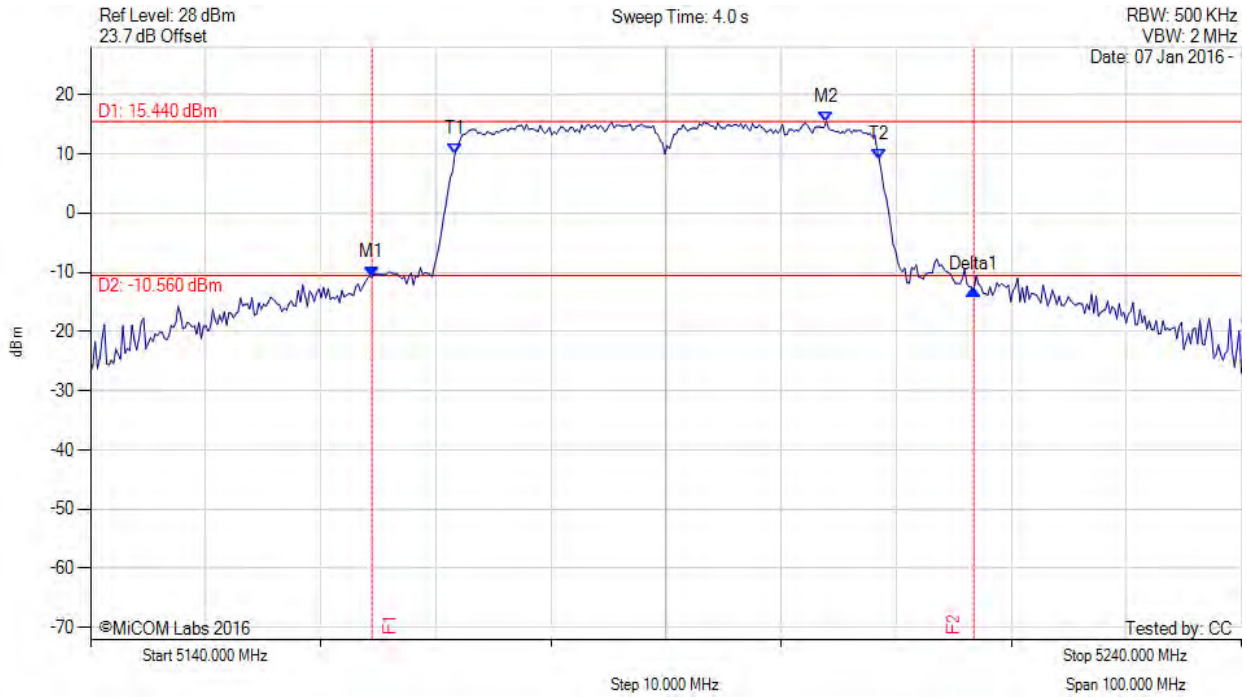
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5190.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5164.449 MHz : -10.735 dBm M2 : 5203.928 MHz : 15.440 dBm Delta1 : 52.305 MHz : -2.286 dB T1 : 5171.663 MHz : 10.070 dBm T2 : 5208.537 MHz : 8.991 dBm OBW : 36.874 MHz	Measured 26 dB Bandwidth: 52.305 MHz Measured 99% Bandwidth: 36.874 MHz

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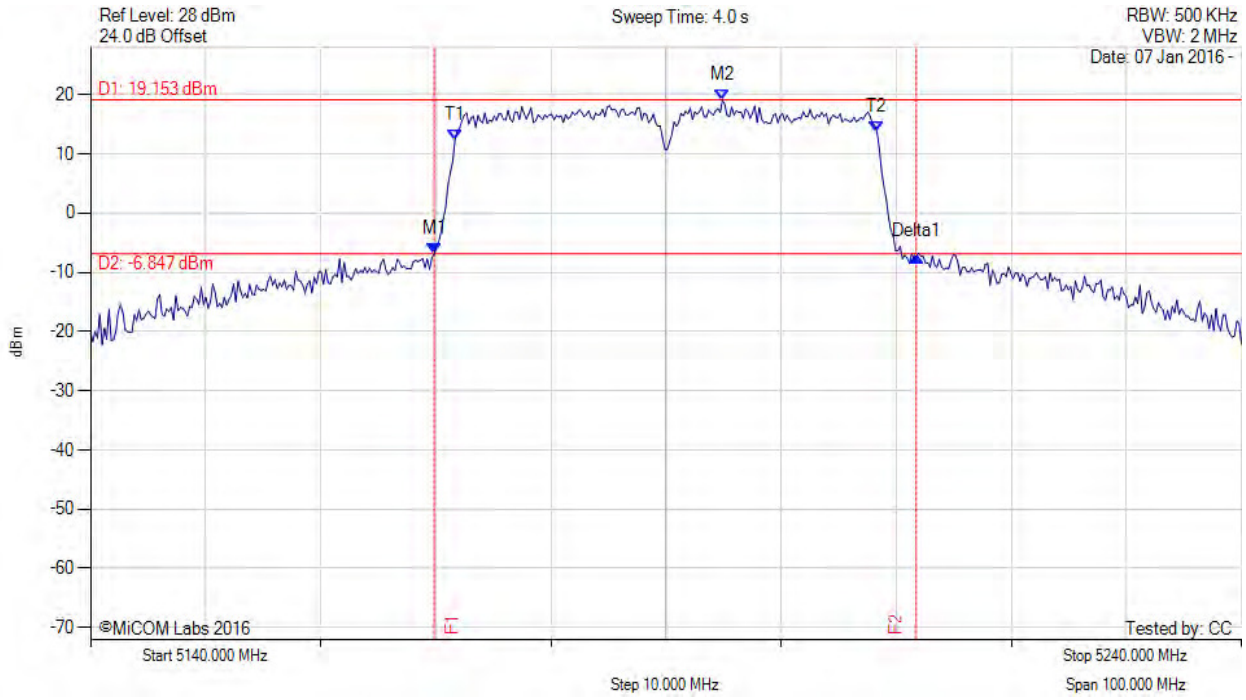
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5190.00 MHz, Chain b, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5169.860 MHz : -6.950 dBm M2 : 5194.910 MHz : 19.153 dBm Delta1 : 41.884 MHz : -0.368 dB T1 : 5171.663 MHz : 12.336 dBm T2 : 5208.337 MHz : 13.652 dBm OBW : 36.673 MHz	Measured 26 dB Bandwidth: 41.884 MHz Measured 99% Bandwidth: 36.673 MHz

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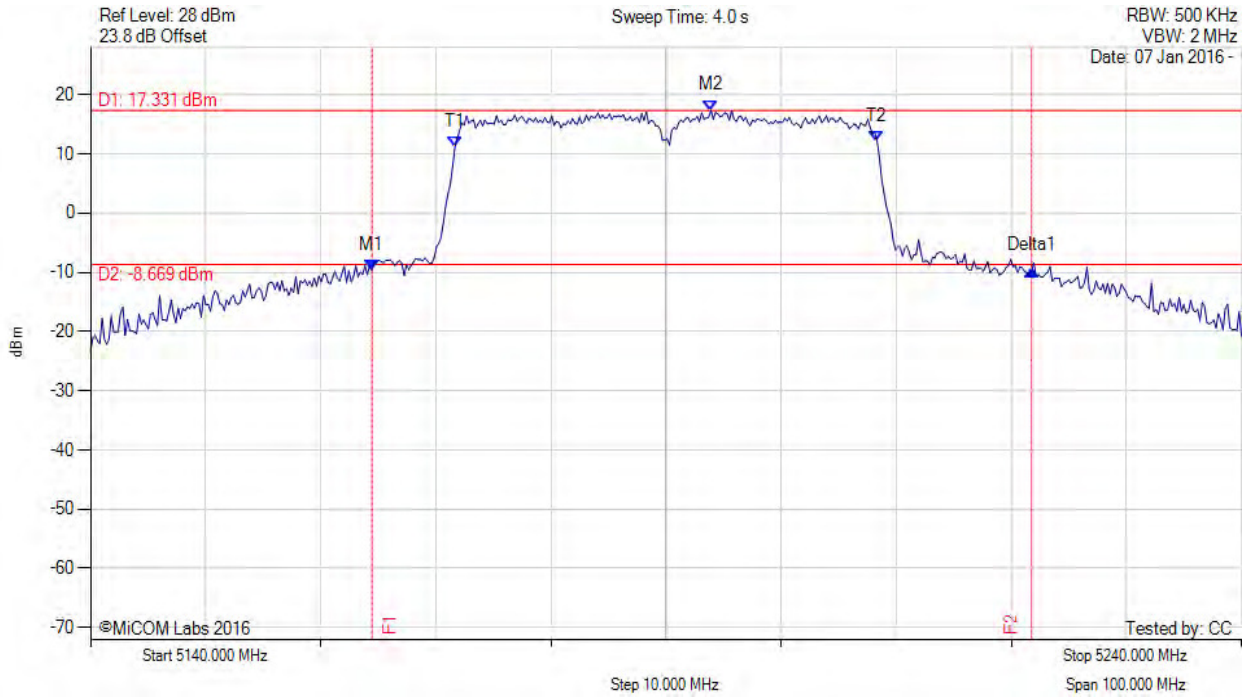
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5190.00 MHz, Chain c, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5164.449 MHz : -9.673 dBm M2 : 5193.908 MHz : 17.331 dBm Delta1 : 57.315 MHz : -0.075 dB T1 : 5171.663 MHz : 11.098 dBm T2 : 5208.337 MHz : 12.179 dBm OBW : 36.673 MHz	Measured 26 dB Bandwidth: 57.315 MHz Measured 99% Bandwidth: 36.673 MHz

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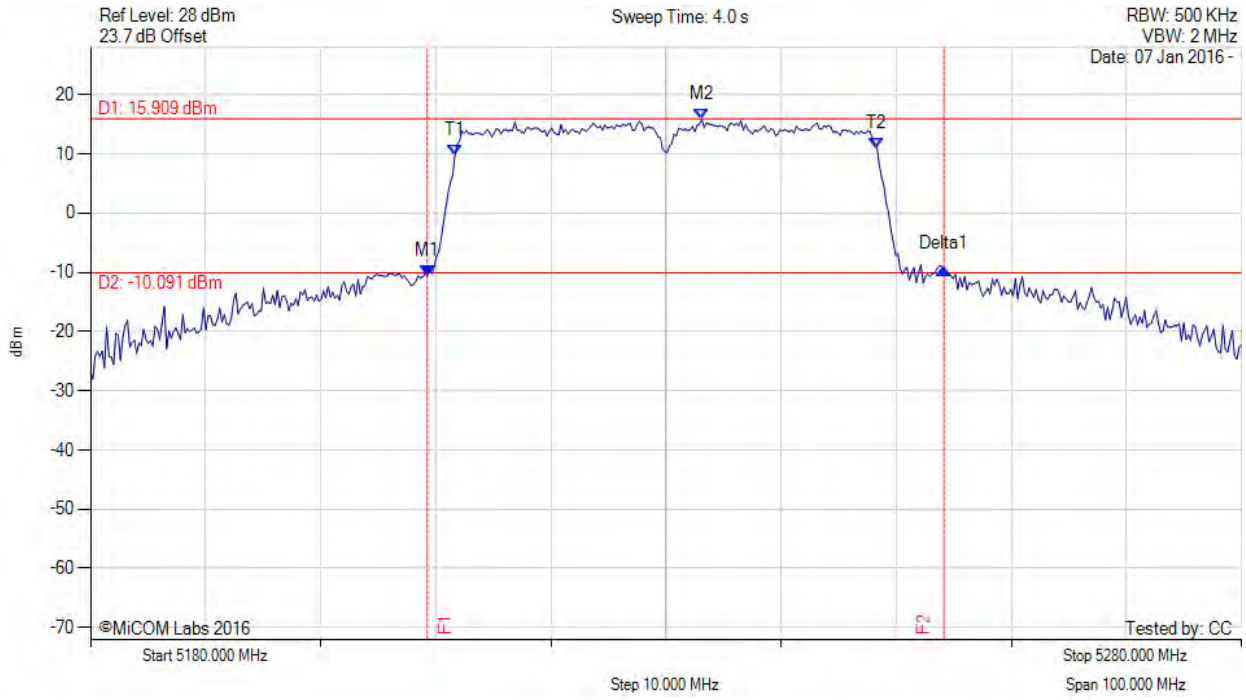
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5230.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5209.259 MHz : -10.592 dBm M2 : 5233.106 MHz : 15.909 dBm Delta1 : 44.890 MHz : 1.153 dB T1 : 5211.663 MHz : 9.782 dBm T2 : 5248.337 MHz : 10.856 dBm OBW : 36.673 MHz	Measured 26 dB Bandwidth: 44.890 MHz Measured 99% Bandwidth: 36.673 MHz

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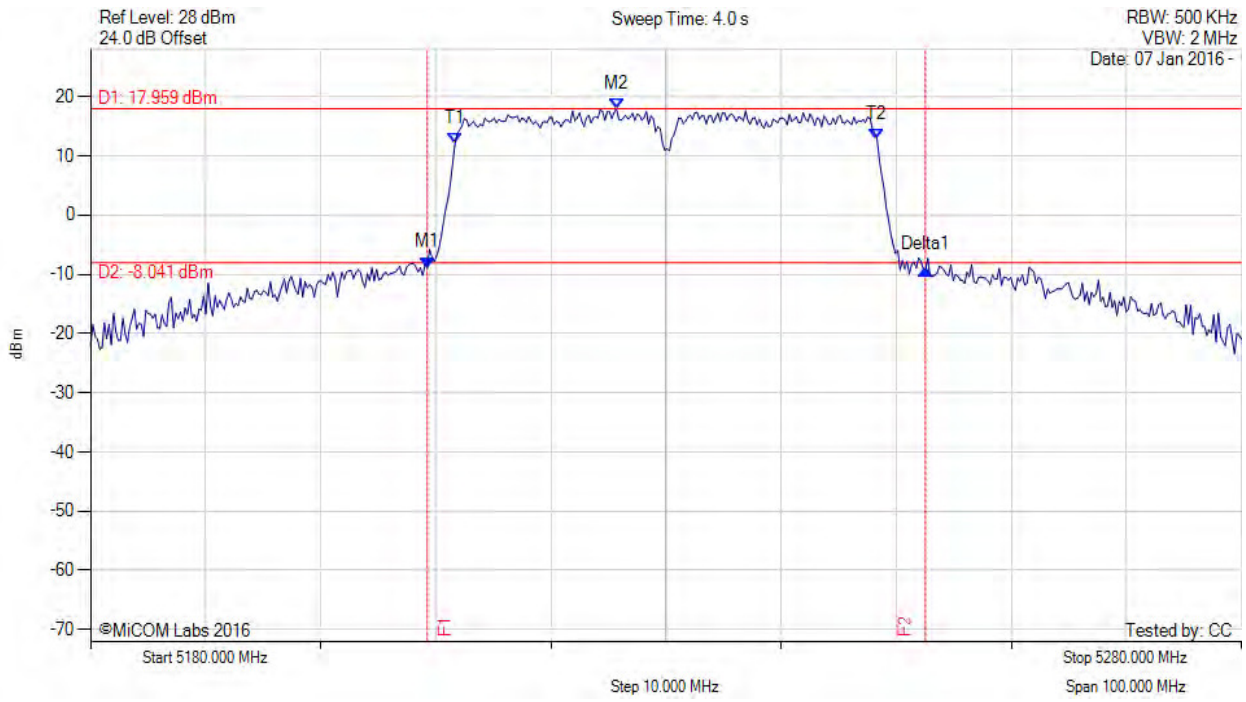
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5230.00 MHz, Chain b, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5209.259 MHz : -8.833 dBm M2 : 5225.691 MHz : 17.959 dBm Delta1 : 43.287 MHz : -0.303 dB T1 : 5211.663 MHz : 12.011 dBm T2 : 5248.337 MHz : 12.820 dBm OBW : 36.673 MHz	Measured 26 dB Bandwidth: 43.287 MHz Measured 99% Bandwidth: 36.673 MHz

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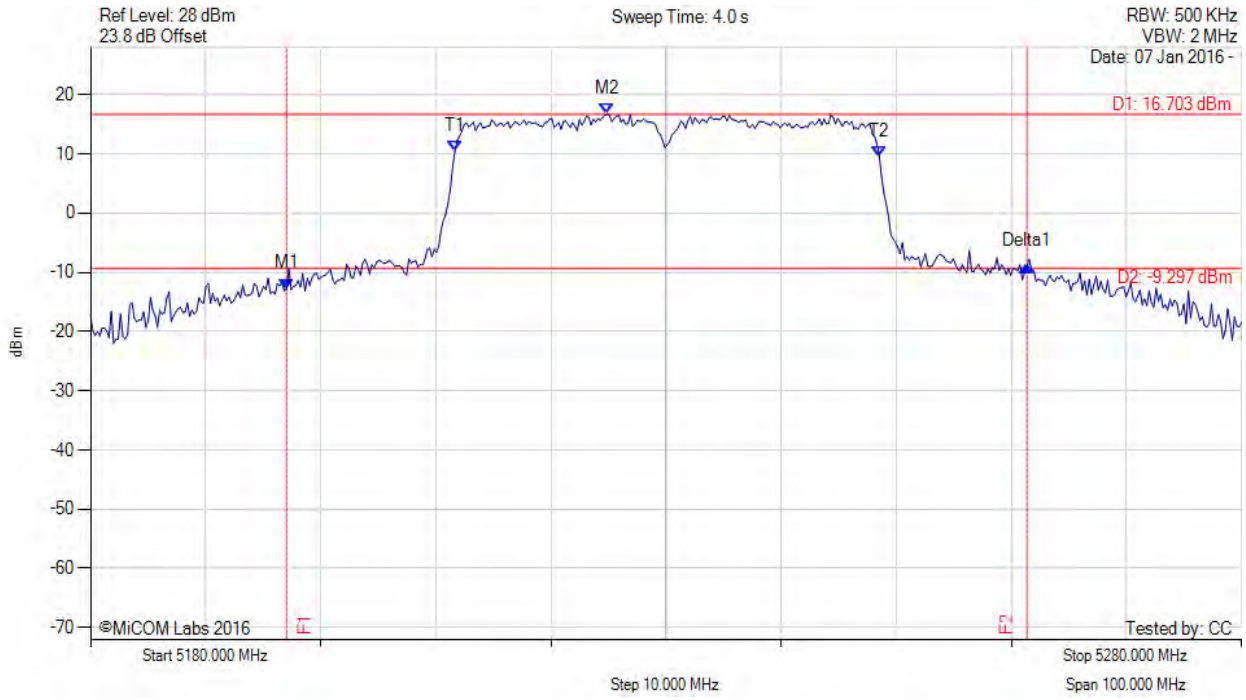
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5230.00 MHz, Chain c, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5197.034 MHz : -12.797 dBm M2 : 5224.890 MHz : 16.703 dBm Delta1 : 64.329 MHz : 3.866 dB T1 : 5211.663 MHz : 10.426 dBm T2 : 5248.537 MHz : 9.509 dBm OBW : 36.874 MHz	Measured 26 dB Bandwidth: 64.329 MHz Measured 99% Bandwidth: 36.874 MHz

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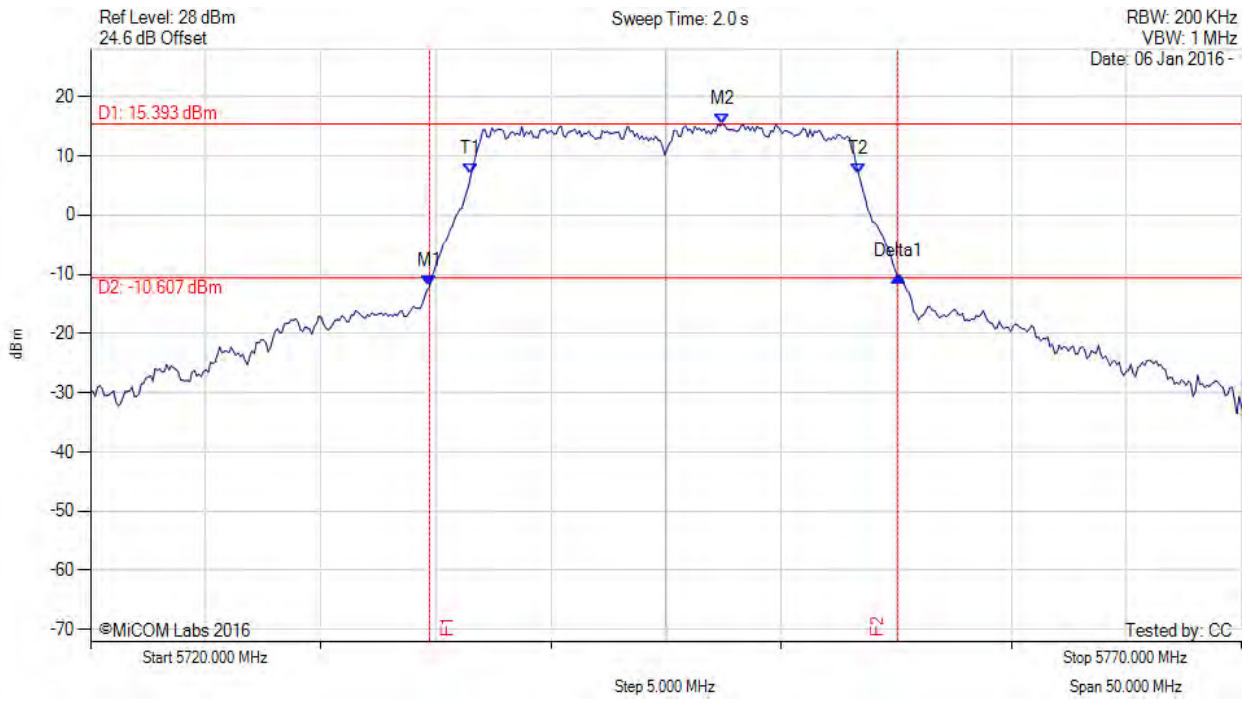
26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5734.729 MHz : -12.077 dBm M2 : 5747.455 MHz : 15.393 dBm Delta1 : 20.341 MHz : 1.780 dB T1 : 5736.533 MHz : 6.930 dBm T2 : 5753.367 MHz : 6.896 dBm OBW : 16.834 MHz	Measured 26 dB Bandwidth: 20.341 MHz Measured 99% Bandwidth: 16.834 MHz

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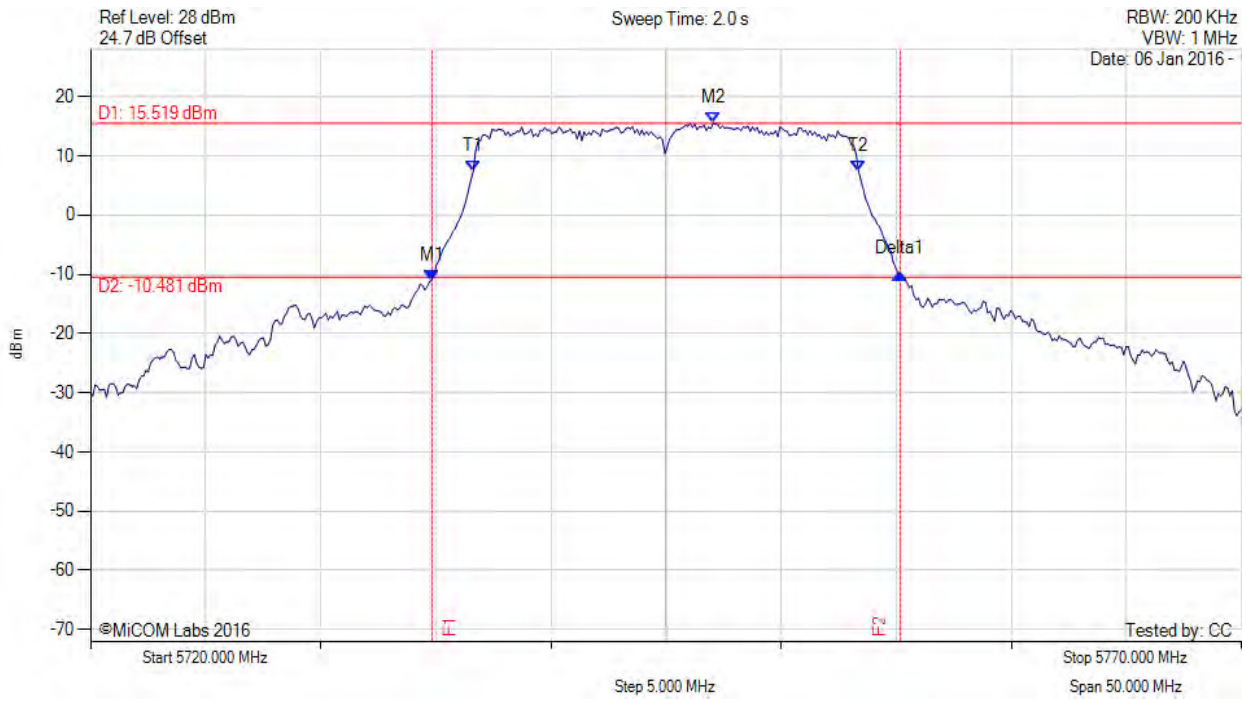
26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5745.00 MHz, Chain b, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5734.830 MHz : -10.977 dBm M2 : 5747.054 MHz : 15.519 dBm Delta1 : 20.341 MHz : 0.999 dB T1 : 5736.633 MHz : 7.500 dBm T2 : 5753.367 MHz : 7.341 dBm OBW : 16.733 MHz	Measured 26 dB Bandwidth: 20.341 MHz Measured 99% Bandwidth: 16.733 MHz

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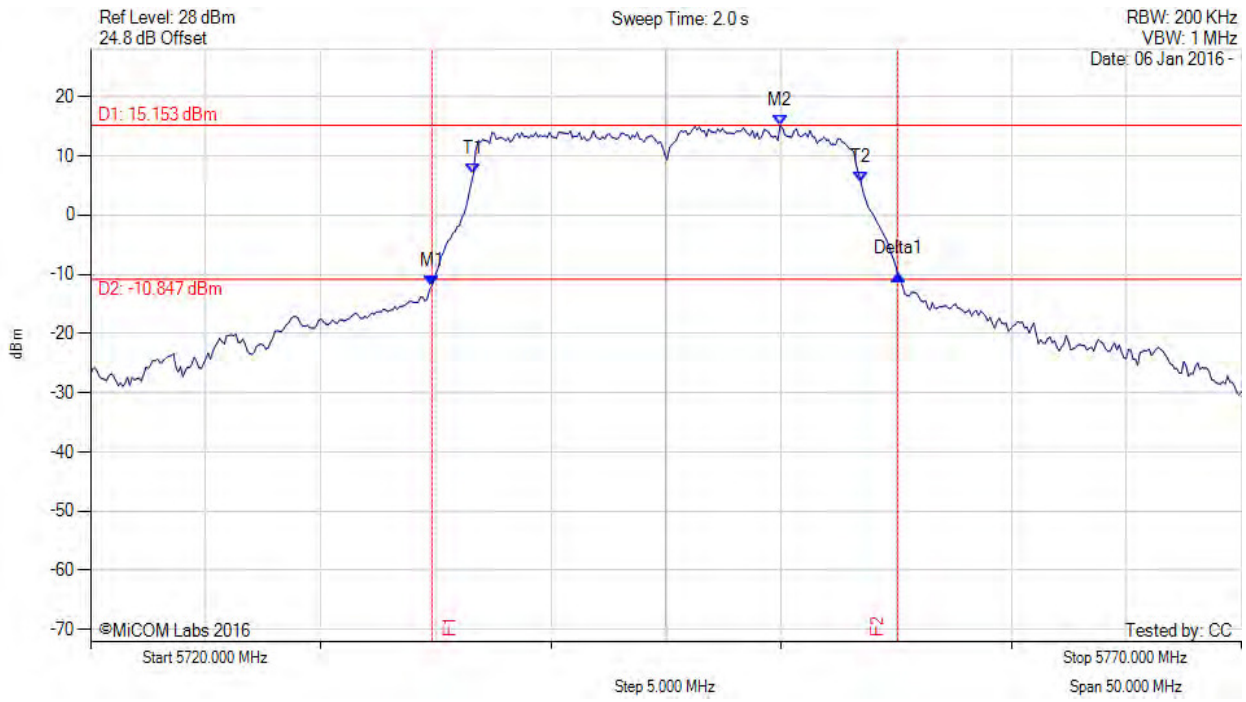
26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5745.00 MHz, Chain c, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5734.830 MHz : -11.973 dBm M2 : 5749.960 MHz : 15.153 dBm Delta1 : 20.240 MHz : 1.967 dB T1 : 5736.633 MHz : 6.936 dBm T2 : 5753.467 MHz : 5.606 dBm OBW : 16.834 MHz	Measured 26 dB Bandwidth: 20.240 MHz Measured 99% Bandwidth: 16.834 MHz

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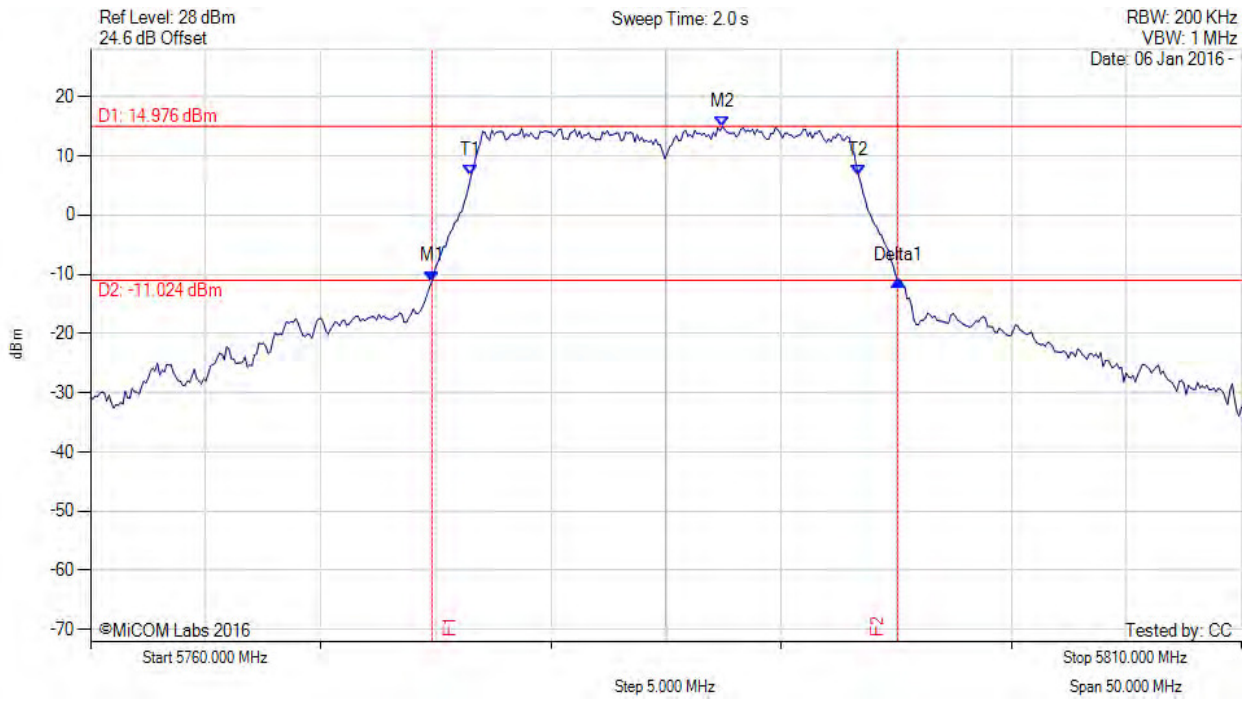
26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5785.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5774.830 MHz : -11.168 dBm M2 : 5787.455 MHz : 14.976 dBm Delta1 : 20.240 MHz : 0.114 dB T1 : 5776.533 MHz : 6.605 dBm T2 : 5793.367 MHz : 6.609 dBm OBW : 16.834 MHz	Measured 26 dB Bandwidth: 20.240 MHz Measured 99% Bandwidth: 16.834 MHz

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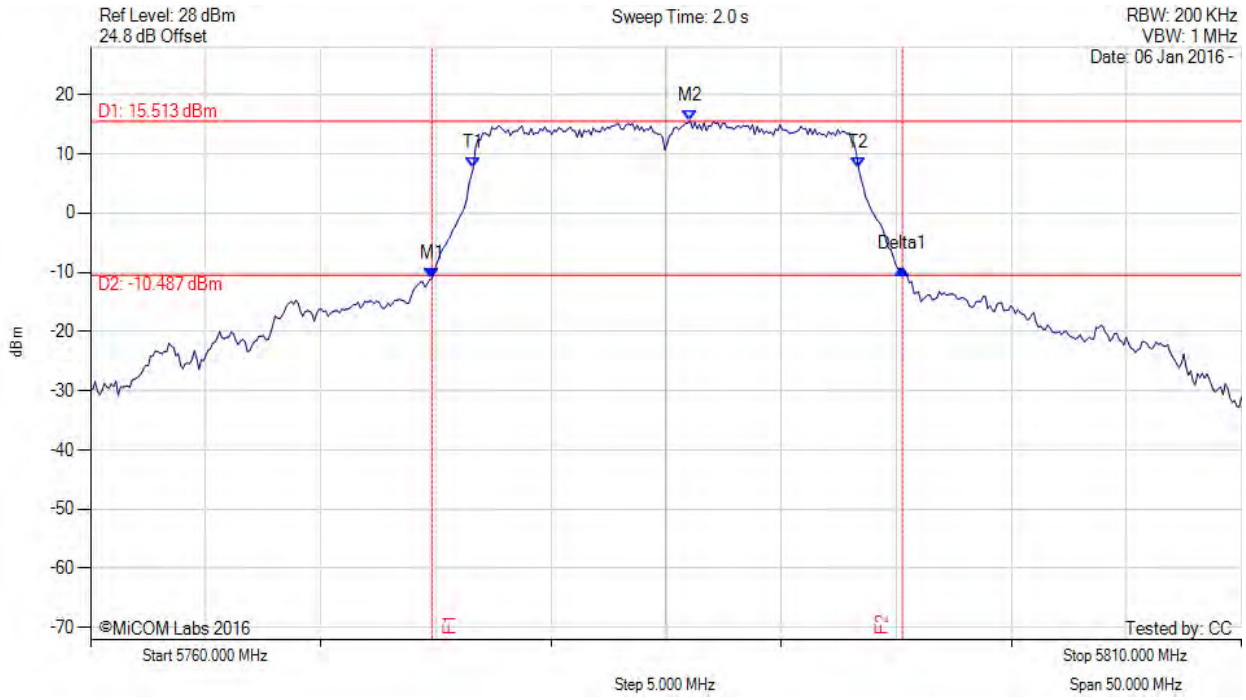
26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5785.00 MHz, Chain b, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5774.830 MHz : -11.089 dBm M2 : 5786.052 MHz : 15.513 dBm Delta1 : 20.441 MHz : 1.639 dB T1 : 5776.633 MHz : 7.677 dBm T2 : 5793.367 MHz : 7.599 dBm OBW : 16.733 MHz	Measured 26 dB Bandwidth: 20.441 MHz Measured 99% Bandwidth: 16.733 MHz

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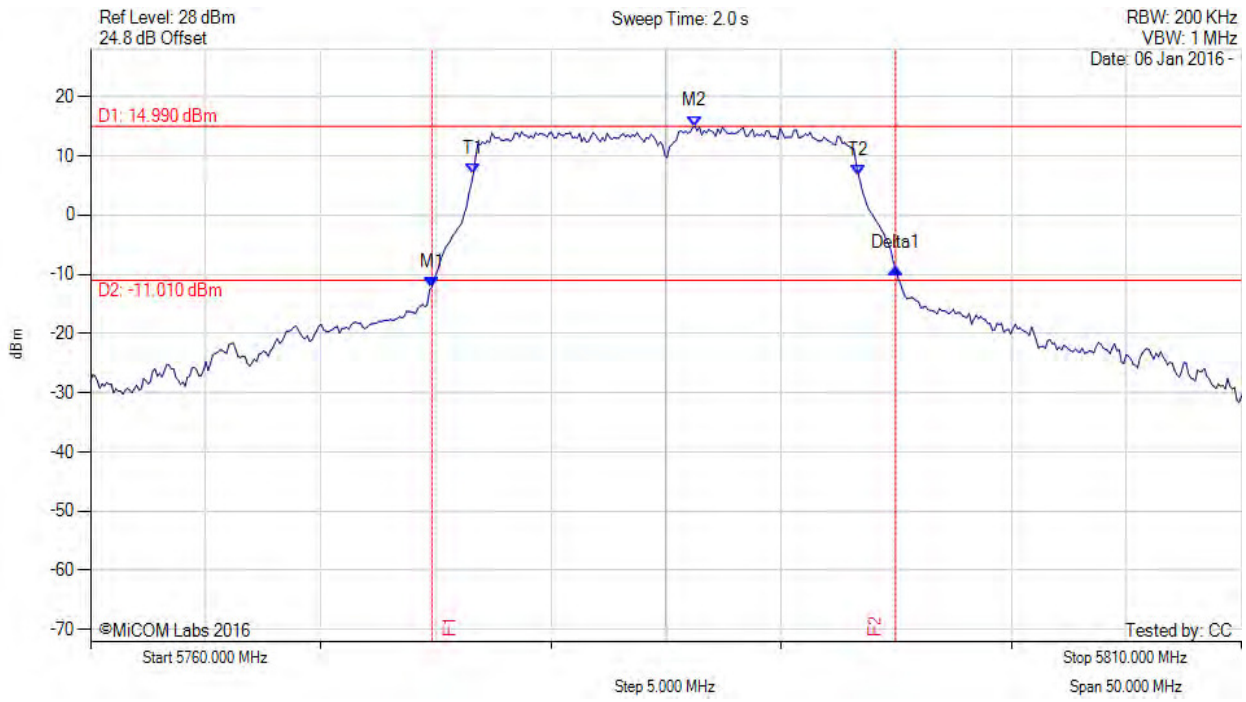
26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5785.00 MHz, Chain c, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5774.830 MHz : -12.150 dBm M2 : 5786.253 MHz : 14.990 dBm Delta1 : 20.140 MHz : 3.152 dB T1 : 5776.633 MHz : 6.998 dBm T2 : 5793.367 MHz : 6.743 dBm OBW : 16.733 MHz	Measured 26 dB Bandwidth: 20.140 MHz Measured 99% Bandwidth: 16.733 MHz

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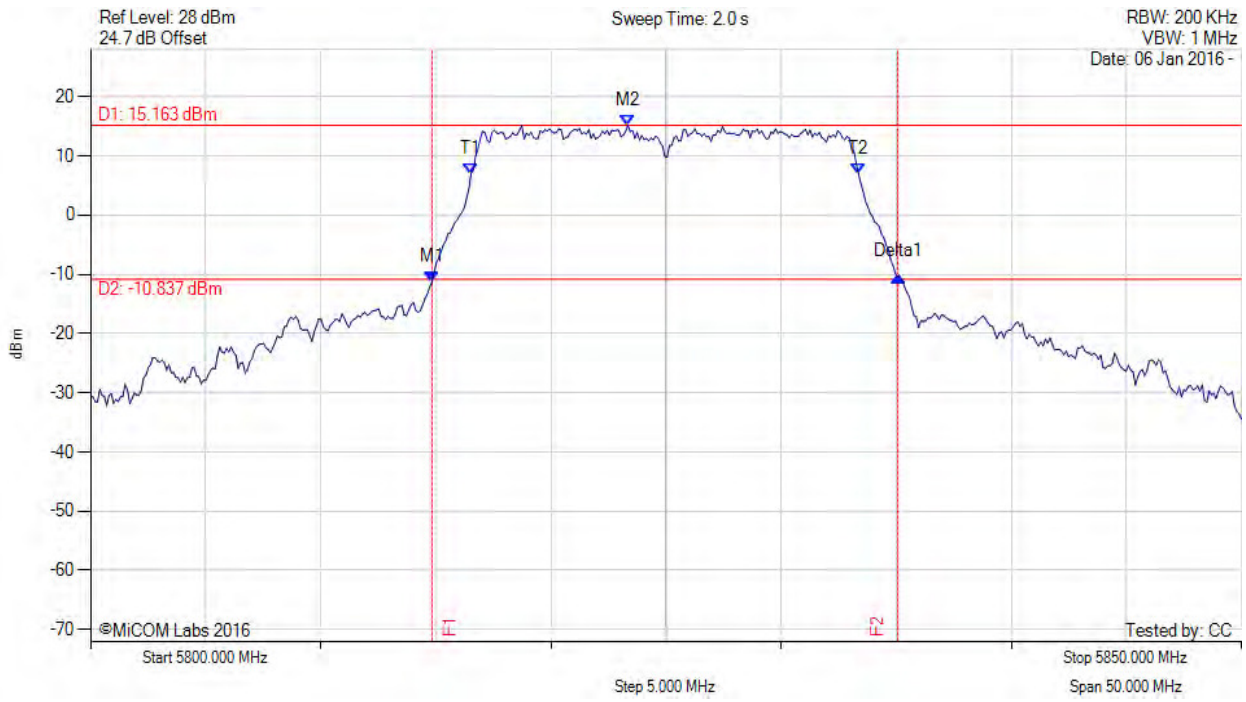
26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5814.830 MHz : -11.272 dBm M2 : 5823.347 MHz : 15.163 dBm Delta1 : 20.240 MHz : 0.966 dB T1 : 5816.533 MHz : 6.983 dBm T2 : 5833.367 MHz : 6.983 dBm OBW : 16.834 MHz	Measured 26 dB Bandwidth: 20.240 MHz Measured 99% Bandwidth: 16.834 MHz

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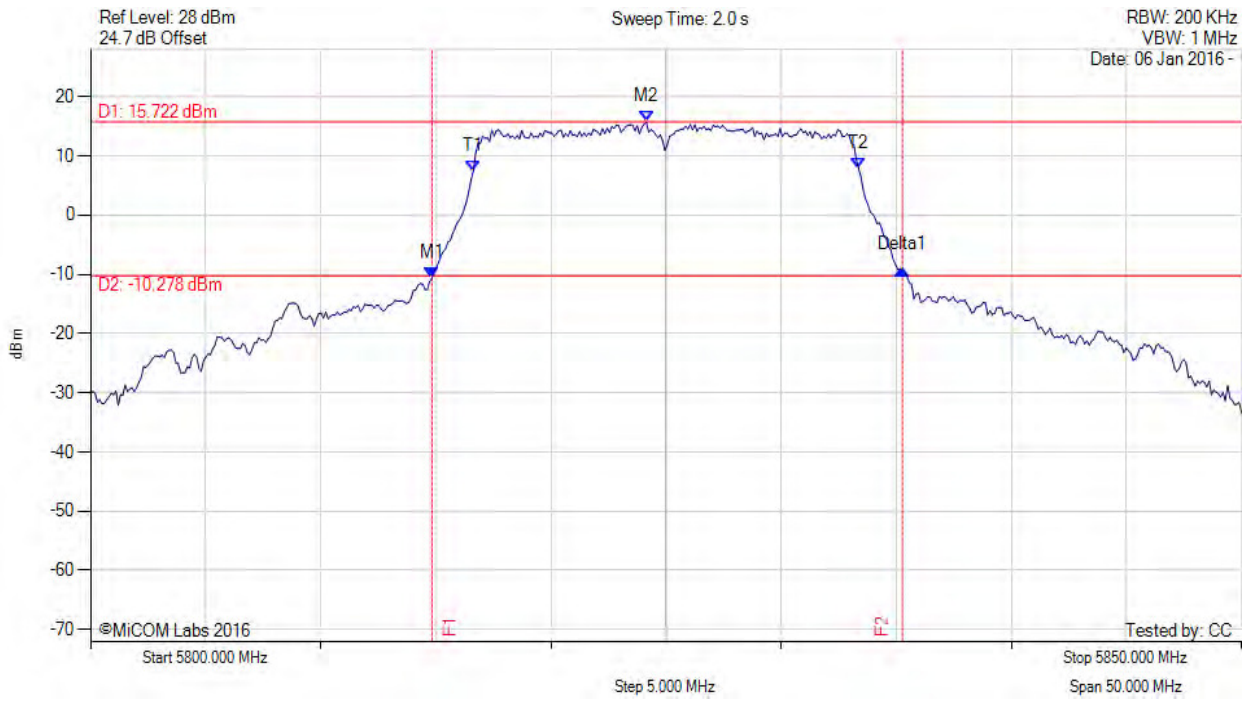
26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5825.00 MHz, Chain b, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5814.830 MHz : -10.670 dBm M2 : 5824.148 MHz : 15.722 dBm Delta1 : 20.441 MHz : 1.403 dB T1 : 5816.633 MHz : 7.500 dBm T2 : 5833.367 MHz : 7.872 dBm OBW : 16.733 MHz	Measured 26 dB Bandwidth: 20.441 MHz Measured 99% Bandwidth: 16.733 MHz

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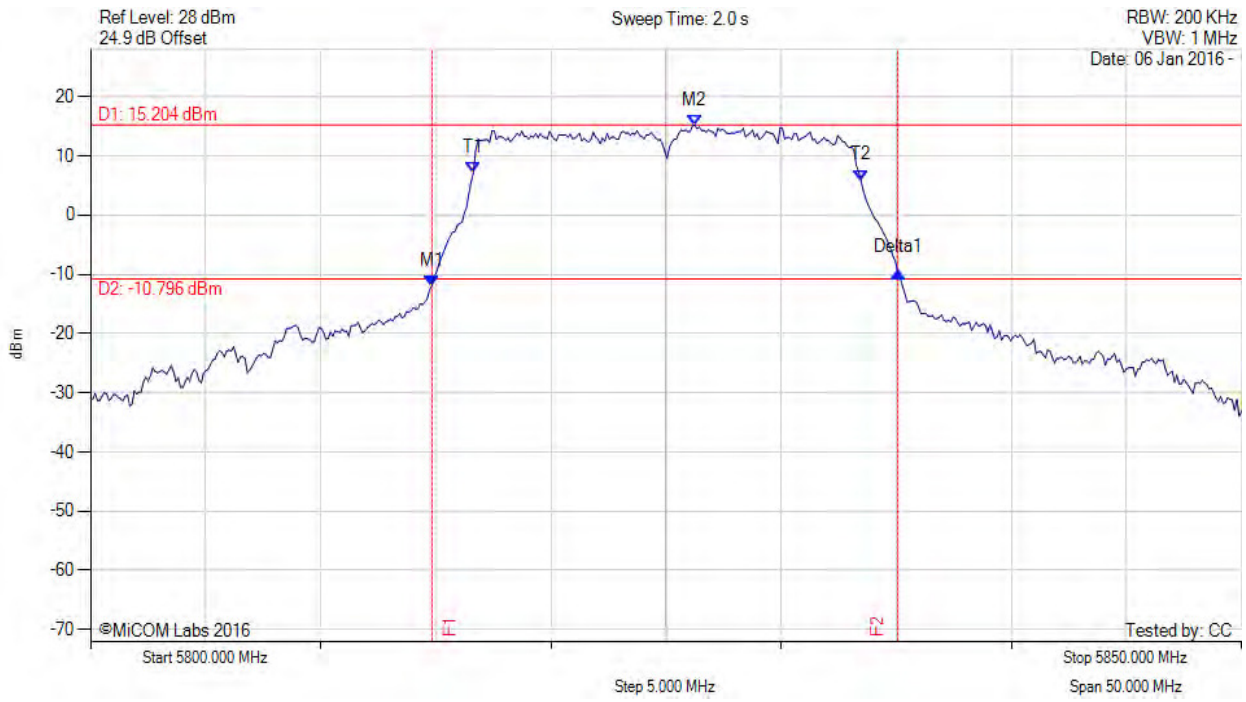
26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5825.00 MHz, Chain c, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5814.830 MHz : -11.975 dBm M2 : 5826.253 MHz : 15.204 dBm Delta1 : 20.240 MHz : 2.298 dB T1 : 5816.633 MHz : 7.101 dBm T2 : 5833.467 MHz : 5.891 dBm OBW : 16.834 MHz	Measured 26 dB Bandwidth: 20.240 MHz Measured 99% Bandwidth: 16.834 MHz

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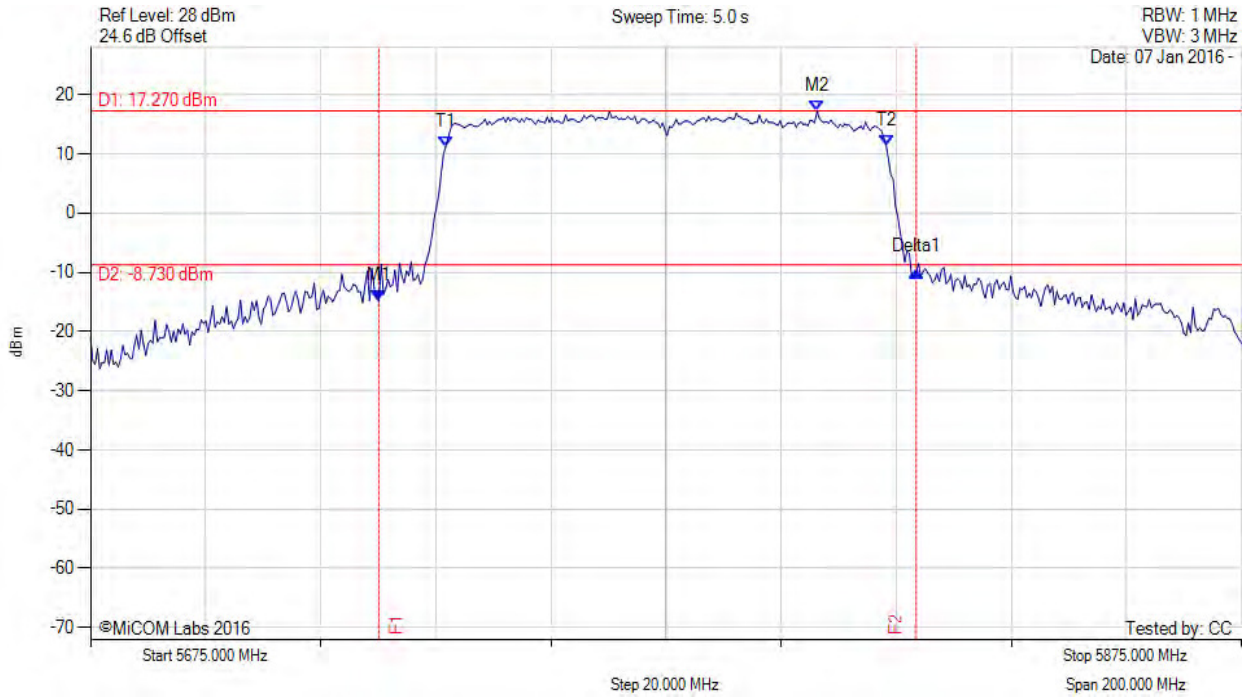
26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5725.100 MHz : -14.877 dBm M2 : 5801.253 MHz : 17.270 dBm Delta1 : 93.387 MHz : 4.979 dB T1 : 5736.723 MHz : 11.218 dBm T2 : 5813.277 MHz : 11.425 dBm OBW : 76.553 MHz	Measured 26 dB Bandwidth: 93.387 MHz Measured 99% Bandwidth: 76.553 MHz

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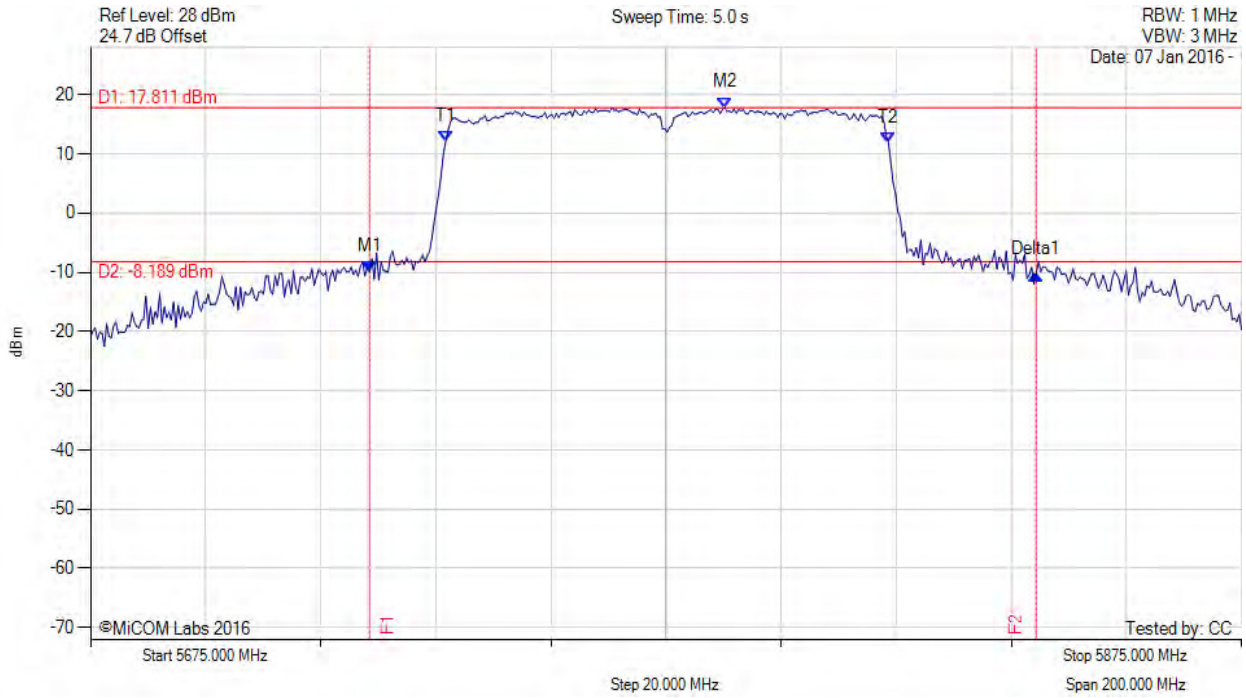
26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain b, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5723.497 MHz : -9.921 dBm M2 : 5785.220 MHz : 17.811 dBm Delta1 : 115.832 MHz : -0.350 dB T1 : 5736.723 MHz : 12.051 dBm T2 : 5813.677 MHz : 11.797 dBm OBW : 76.954 MHz	Measured 26 dB Bandwidth: 115.832 MHz Measured 99% Bandwidth: 76.954 MHz

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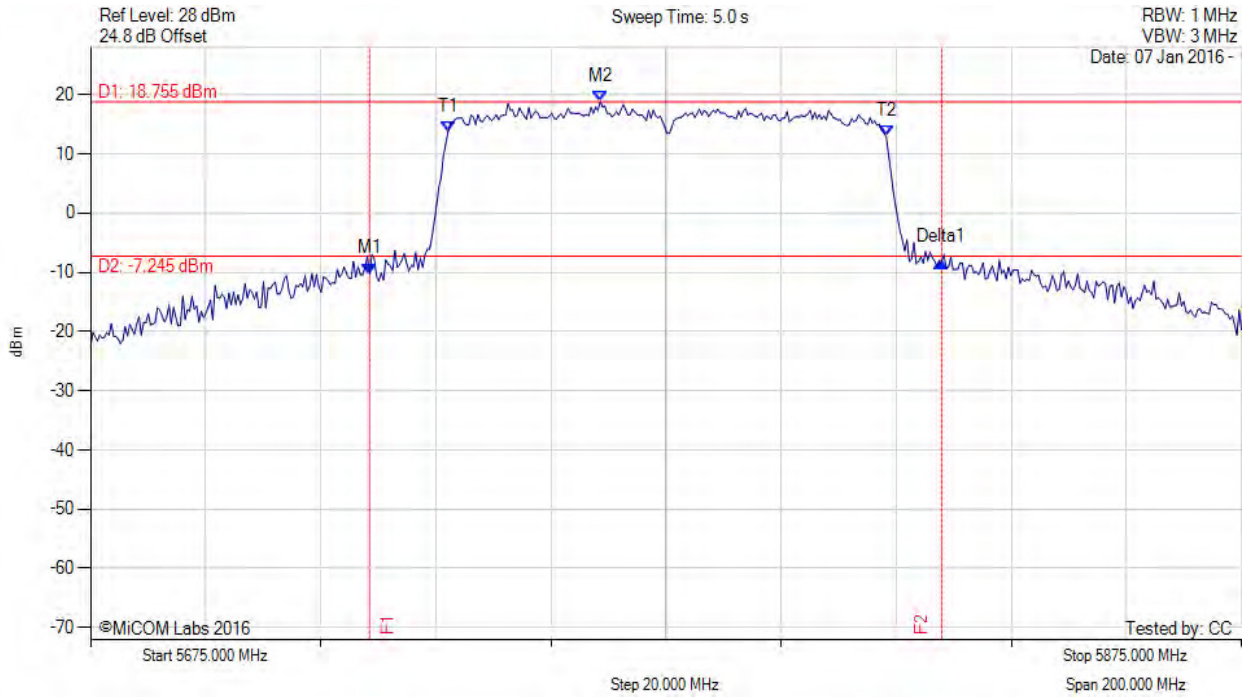
26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain c, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5723.497 MHz : -10.234 dBm M2 : 5763.577 MHz : 18.755 dBm Delta1 : 99.399 MHz : 1.999 dB T1 : 5737.124 MHz : 13.756 dBm T2 : 5813.277 MHz : 12.916 dBm OBW : 76.152 MHz	Measured 26 dB Bandwidth: 99.399 MHz Measured 99% Bandwidth: 76.152 MHz

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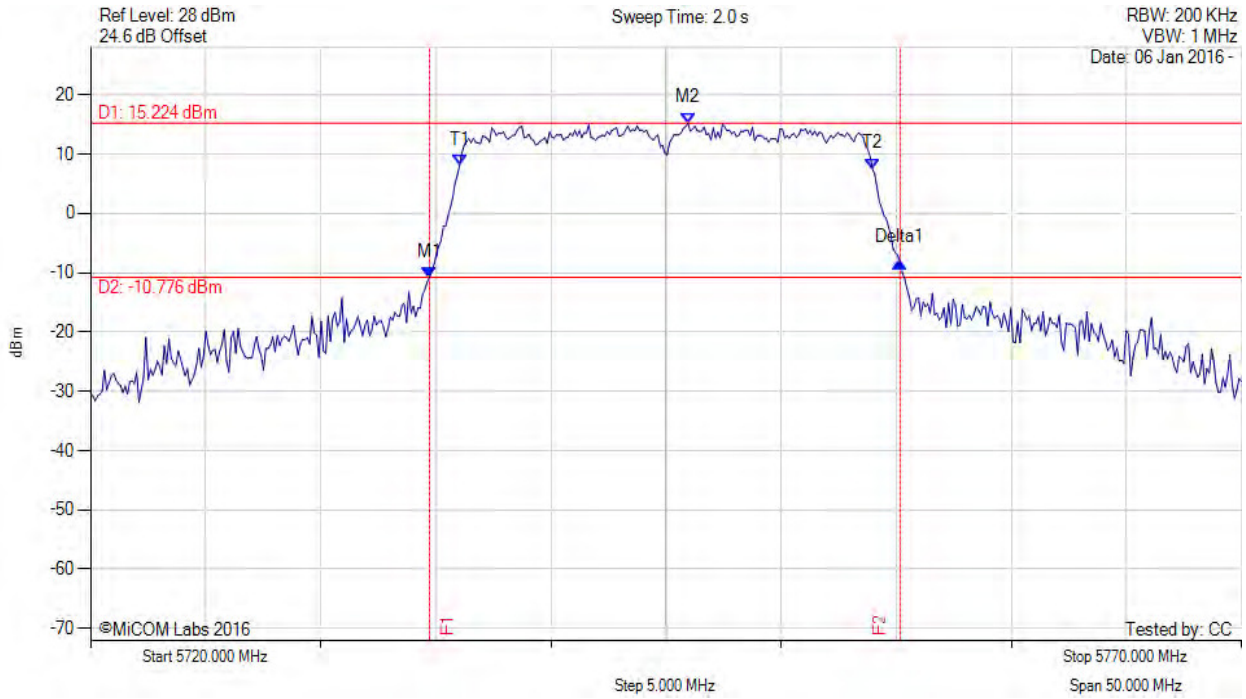
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5734.729 MHz : -10.798 dBm M2 : 5745.952 MHz : 15.224 dBm Delta1 : 20.441 MHz : 2.642 dB T1 : 5736.032 MHz : 8.134 dBm T2 : 5753.968 MHz : 7.508 dBm OBW : 17.936 MHz	Measured 26 dB Bandwidth: 20.441 MHz Measured 99% Bandwidth: 17.936 MHz

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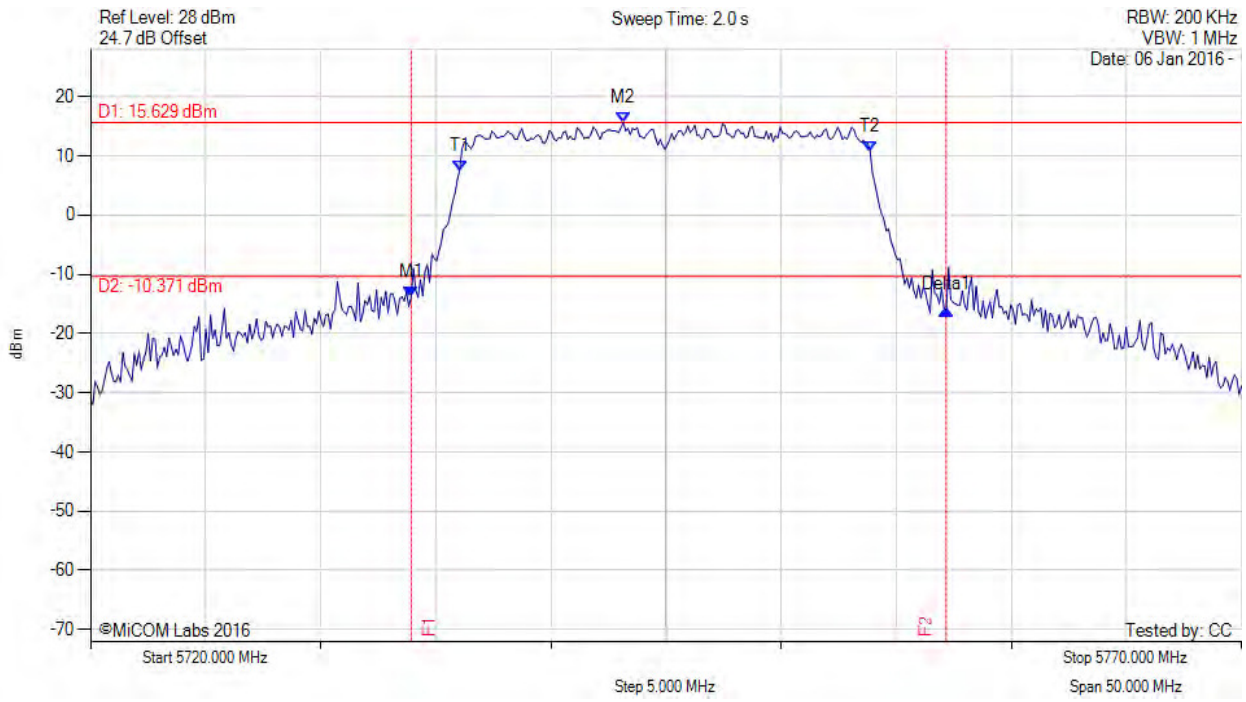
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain b, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5733.928 MHz : -13.763 dBm M2 : 5743.146 MHz : 15.629 dBm Delta1 : 23.246 MHz : -2.286 dB T1 : 5736.032 MHz : 7.496 dBm T2 : 5753.868 MHz : 10.744 dBm OBW : 17.836 MHz	Measured 26 dB Bandwidth: 23.246 MHz Measured 99% Bandwidth: 17.836 MHz

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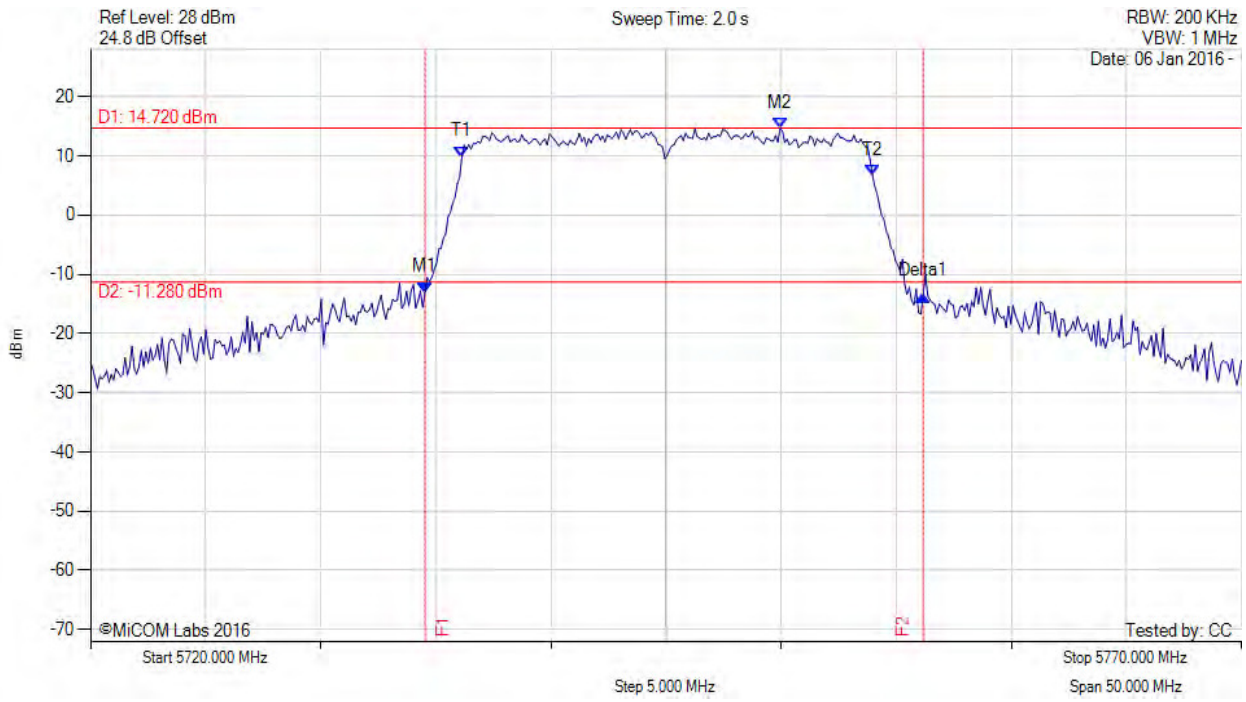
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain c, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5734.529 MHz : -13.035 dBm M2 : 5749.960 MHz : 14.720 dBm Delta1 : 21.643 MHz : -0.517 dB T1 : 5736.132 MHz : 9.857 dBm T2 : 5753.968 MHz : 6.705 dBm OBW : 17.836 MHz	Measured 26 dB Bandwidth: 21.643 MHz Measured 99% Bandwidth: 17.836 MHz

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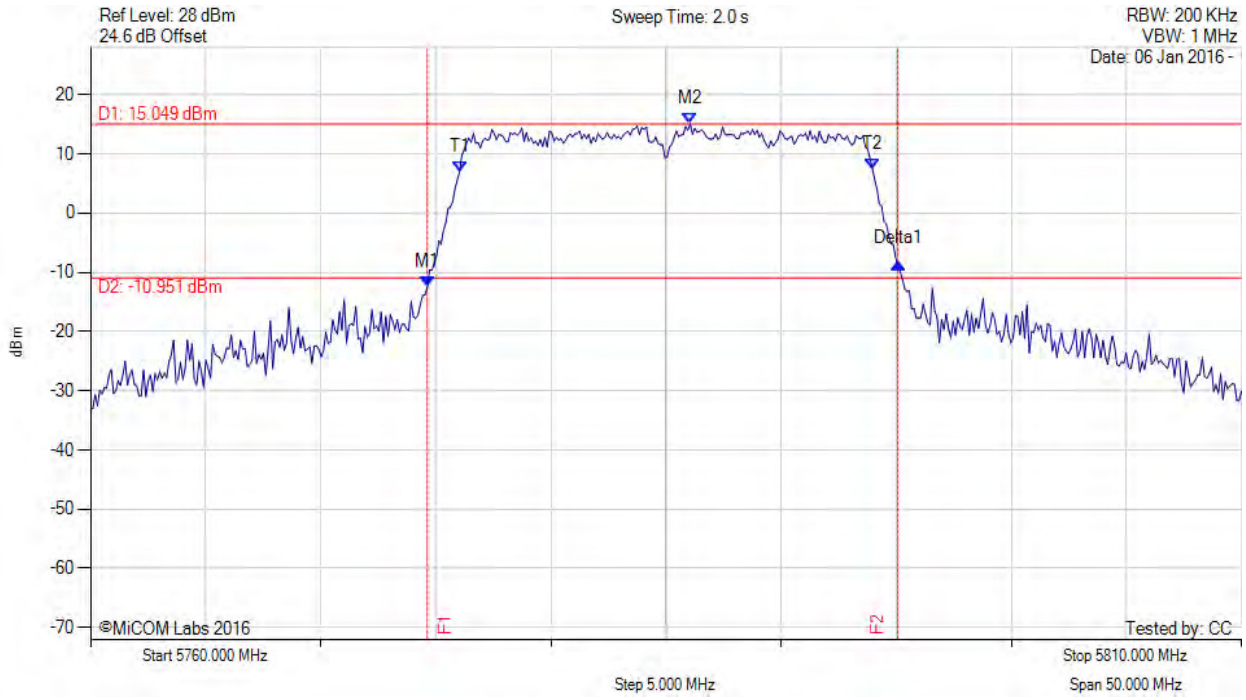
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5774.629 MHz : -12.516 dBm M2 : 5786.052 MHz : 15.049 dBm Delta1 : 20.441 MHz : 3.978 dB T1 : 5776.032 MHz : 7.012 dBm T2 : 5793.968 MHz : 7.439 dBm OBW : 17.936 MHz	Measured 26 dB Bandwidth: 20.441 MHz Measured 99% Bandwidth: 17.936 MHz

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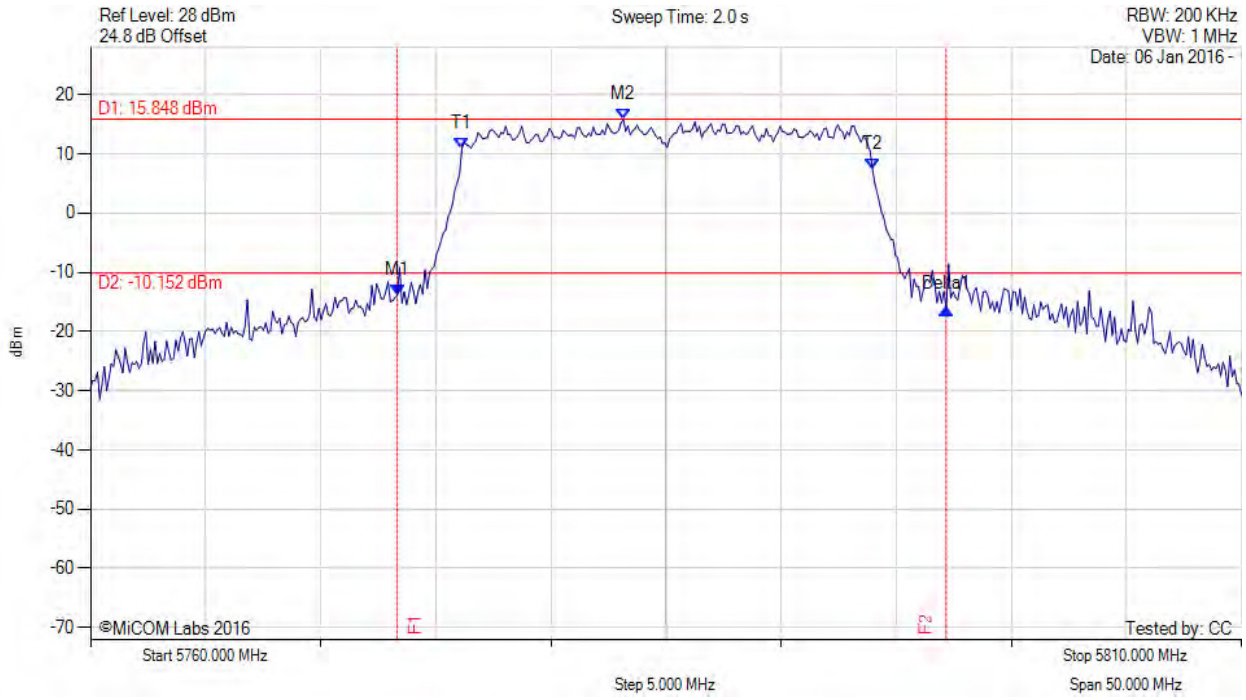
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain b, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5773.327 MHz : -13.852 dBm M2 : 5783.146 MHz : 15.848 dBm Delta1 : 23.848 MHz : -2.365 dB T1 : 5776.132 MHz : 10.902 dBm T2 : 5793.968 MHz : 7.418 dBm OBW : 17.836 MHz	Measured 26 dB Bandwidth: 23.848 MHz Measured 99% Bandwidth: 17.836 MHz

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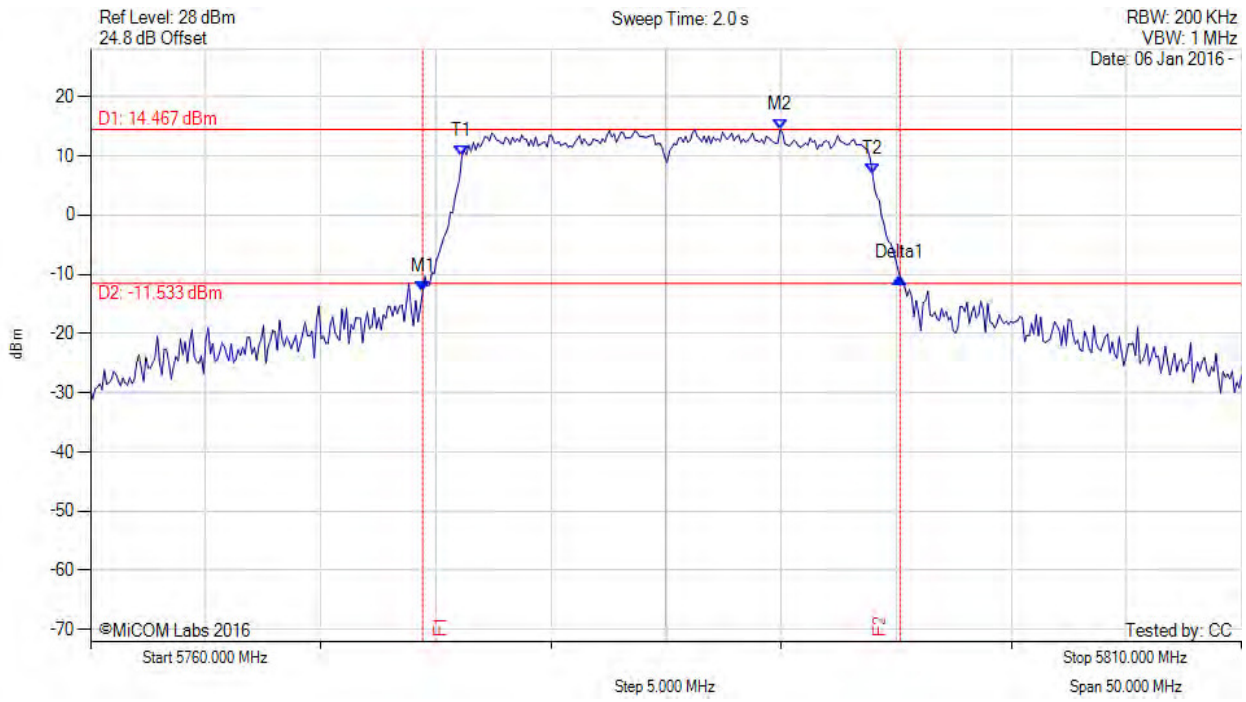
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain c, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5774.429 MHz : -12.941 dBm M2 : 5789.960 MHz : 14.467 dBm Delta1 : 20.741 MHz : 2.396 dB T1 : 5776.132 MHz : 9.981 dBm T2 : 5793.968 MHz : 6.998 dBm OBW : 17.836 MHz	Measured 26 dB Bandwidth: 20.741 MHz Measured 99% Bandwidth: 17.836 MHz

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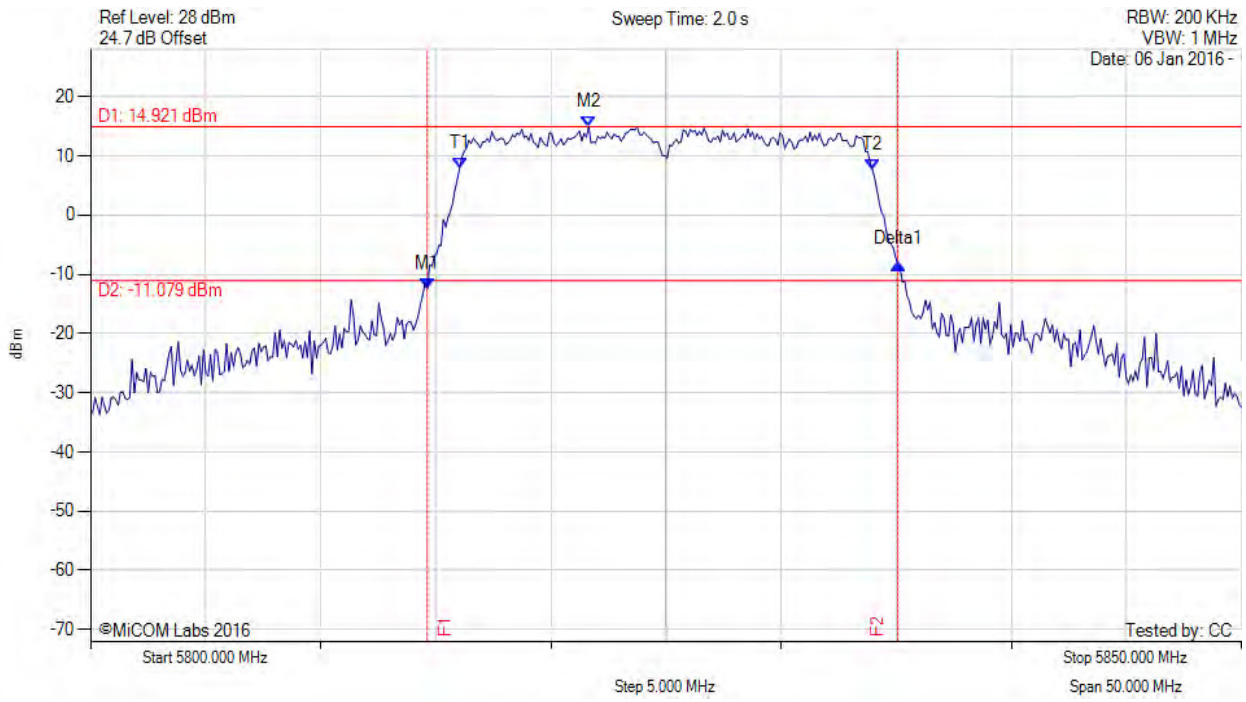
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5814.629 MHz : -12.415 dBm M2 : 5821.643 MHz : 14.921 dBm Delta1 : 20.441 MHz : 4.196 dB T1 : 5816.032 MHz : 7.937 dBm T2 : 5833.968 MHz : 7.654 dBm OBW : 17.936 MHz	Measured 26 dB Bandwidth: 20.441 MHz Measured 99% Bandwidth: 17.936 MHz

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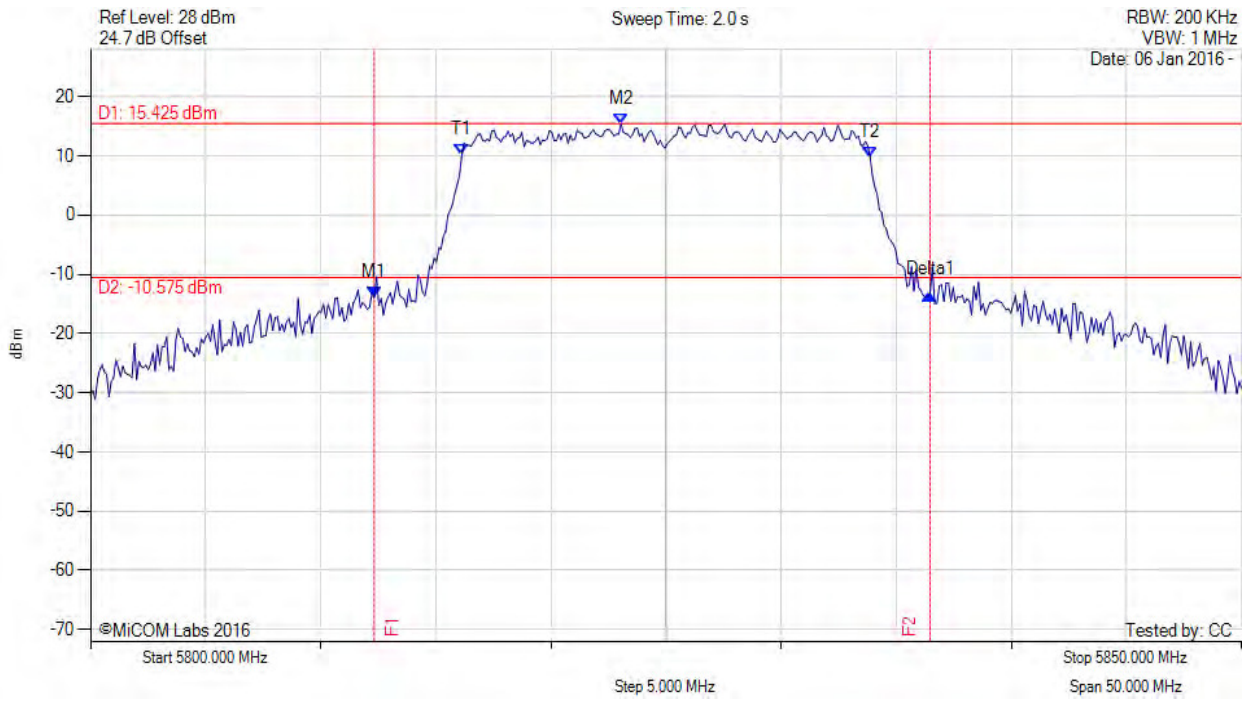
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain b, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5812.325 MHz : -13.942 dBm M2 : 5823.046 MHz : 15.425 dBm Delta1 : 24.148 MHz : 0.610 dB T1 : 5816.132 MHz : 10.288 dBm T2 : 5833.868 MHz : 9.774 dBm OBW : 17.735 MHz	Measured 26 dB Bandwidth: 24.148 MHz Measured 99% Bandwidth: 17.735 MHz

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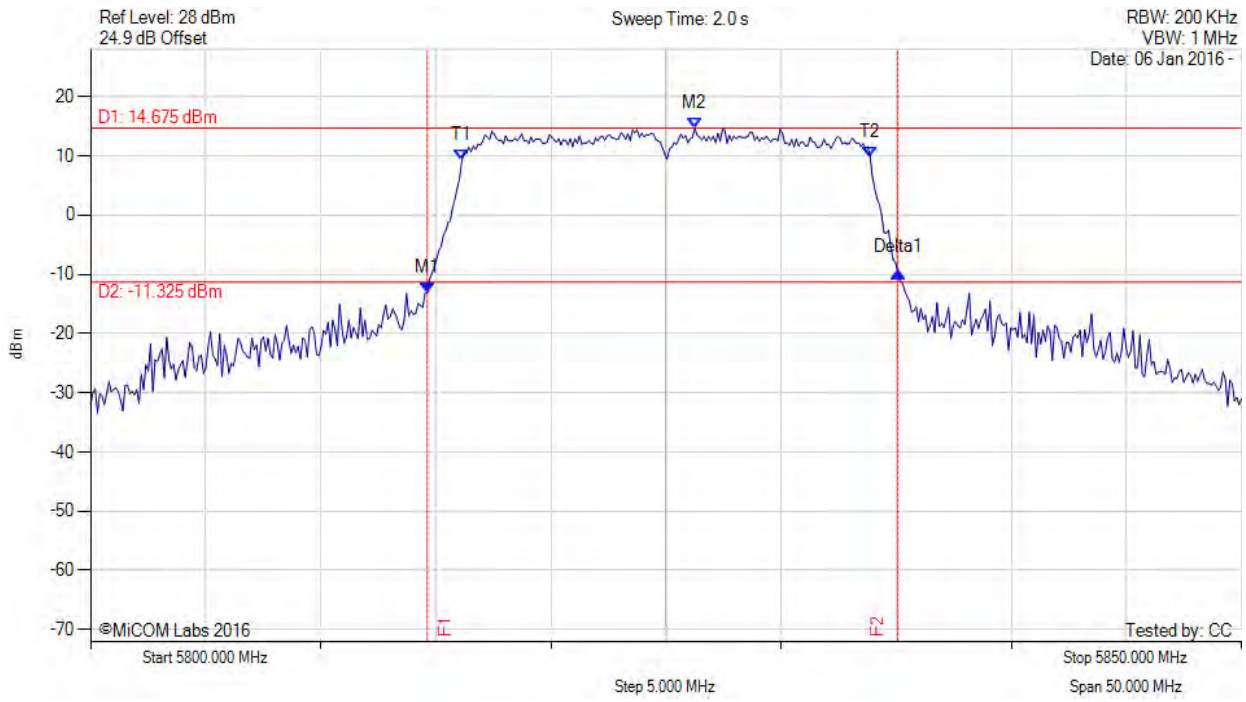
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain c, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5814.629 MHz : -13.067 dBm M2 : 5826.253 MHz : 14.675 dBm Delta1 : 20.441 MHz : 3.482 dB T1 : 5816.132 MHz : 9.296 dBm T2 : 5833.868 MHz : 9.788 dBm OBW : 17.735 MHz	Measured 26 dB Bandwidth: 20.441 MHz Measured 99% Bandwidth: 17.735 MHz

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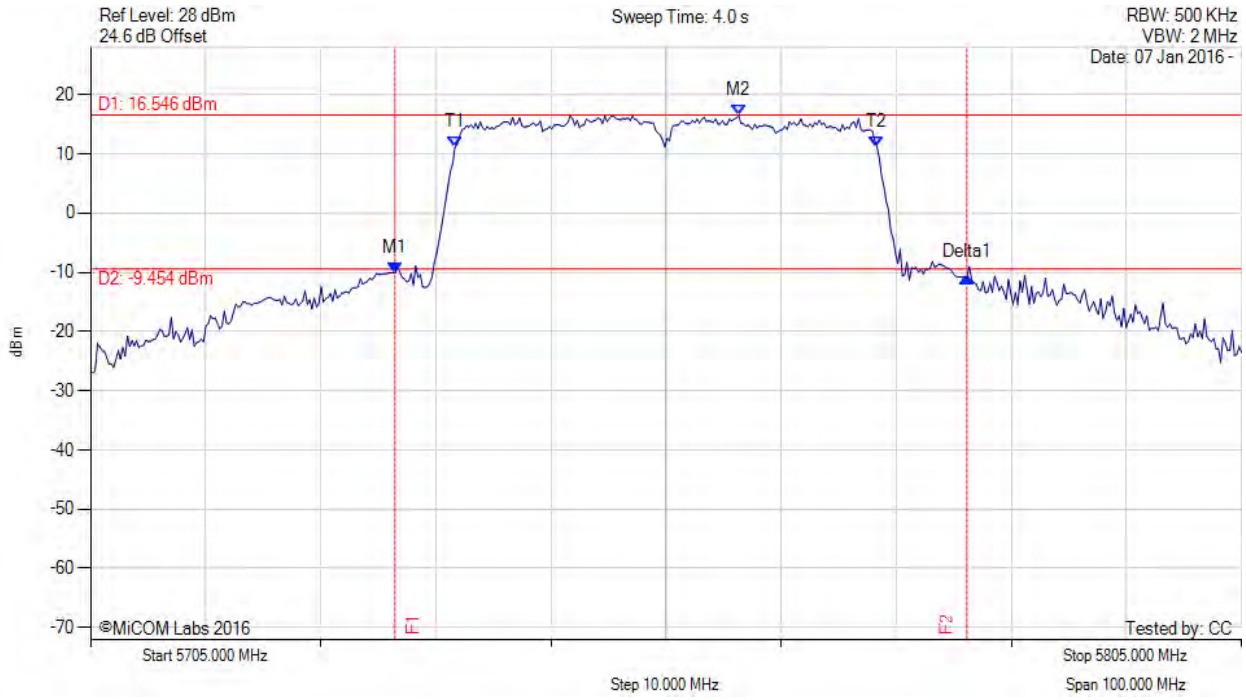
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5731.453 MHz : -10.037 dBm M2 : 5761.313 MHz : 16.546 dBm Delta1 : 49.699 MHz : -0.726 dB T1 : 5736.663 MHz : 11.069 dBm T2 : 5773.337 MHz : 11.173 dBm OBW : 36.673 MHz	Measured 26 dB Bandwidth: 49.699 MHz Measured 99% Bandwidth: 36.673 MHz

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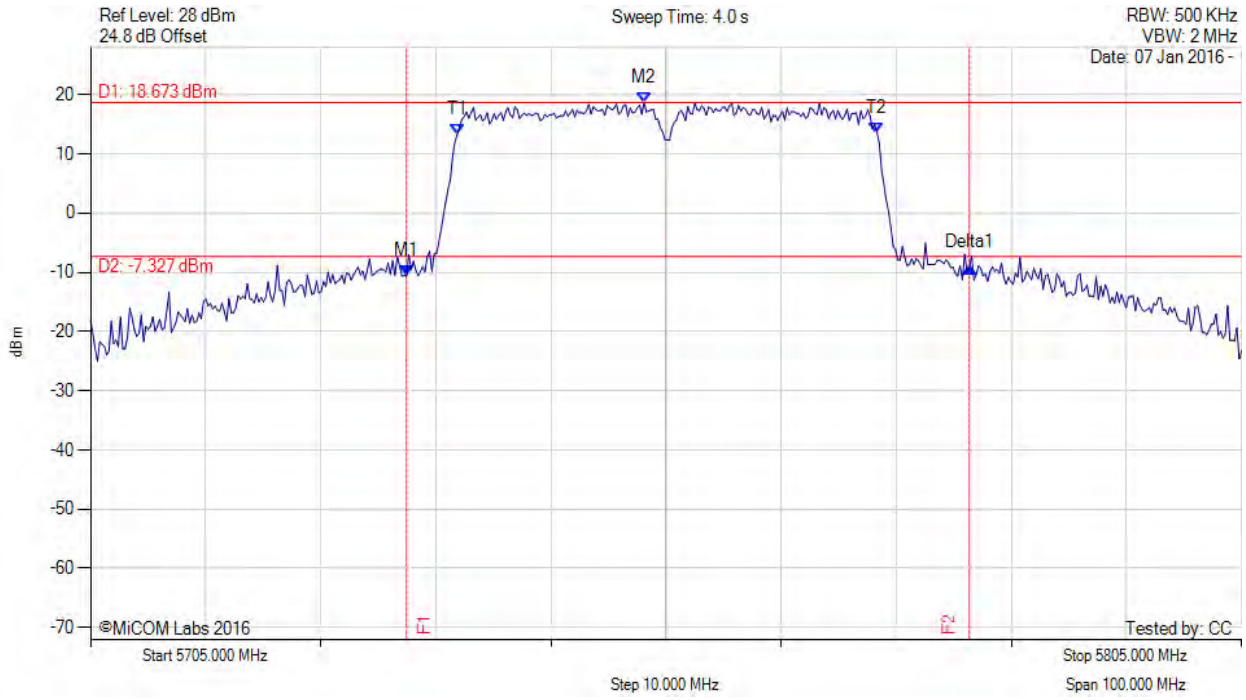
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain b, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5732.455 MHz : -10.576 dBm M2 : 5753.096 MHz : 18.673 dBm Delta1 : 48.898 MHz : 1.340 dB T1 : 5736.864 MHz : 13.235 dBm T2 : 5773.337 MHz : 13.571 dBm OBW : 36.473 MHz	Measured 26 dB Bandwidth: 48.898 MHz Measured 99% Bandwidth: 36.473 MHz

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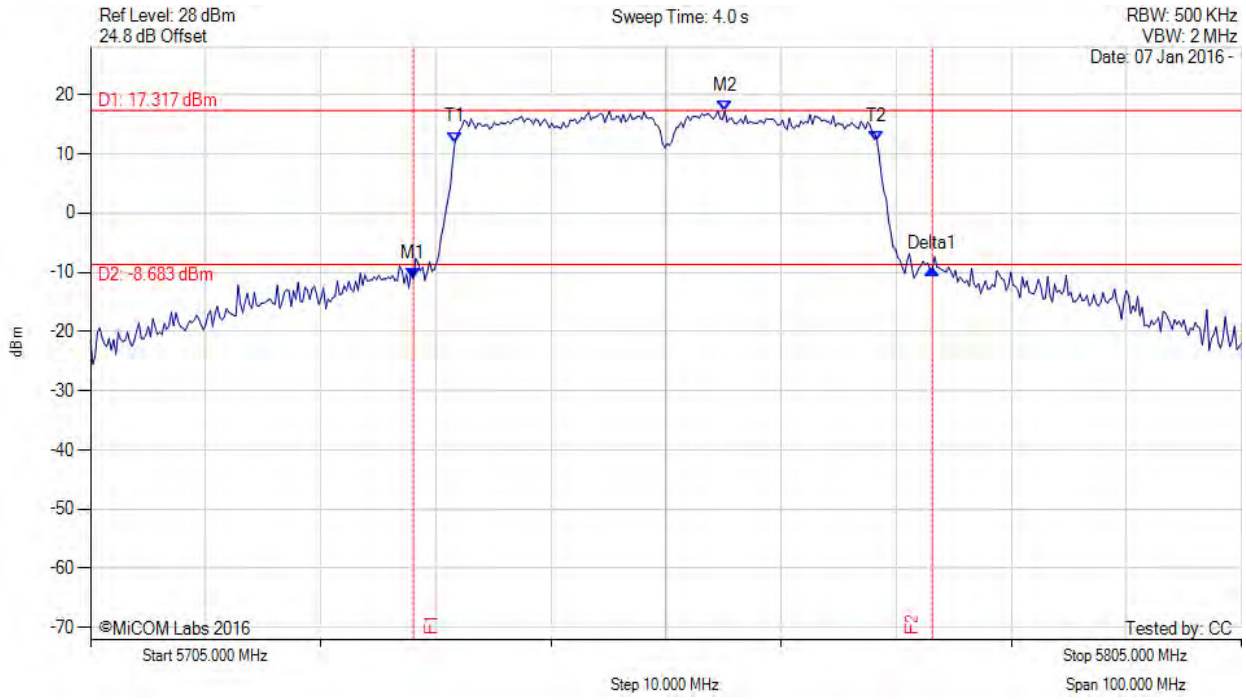
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain c, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5733.056 MHz : -11.144 dBm M2 : 5760.110 MHz : 17.317 dBm Delta1 : 45.090 MHz : 1.653 dB T1 : 5736.663 MHz : 11.964 dBm T2 : 5773.337 MHz : 12.153 dBm OBW : 36.673 MHz	Measured 26 dB Bandwidth: 45.090 MHz Measured 99% Bandwidth: 36.673 MHz

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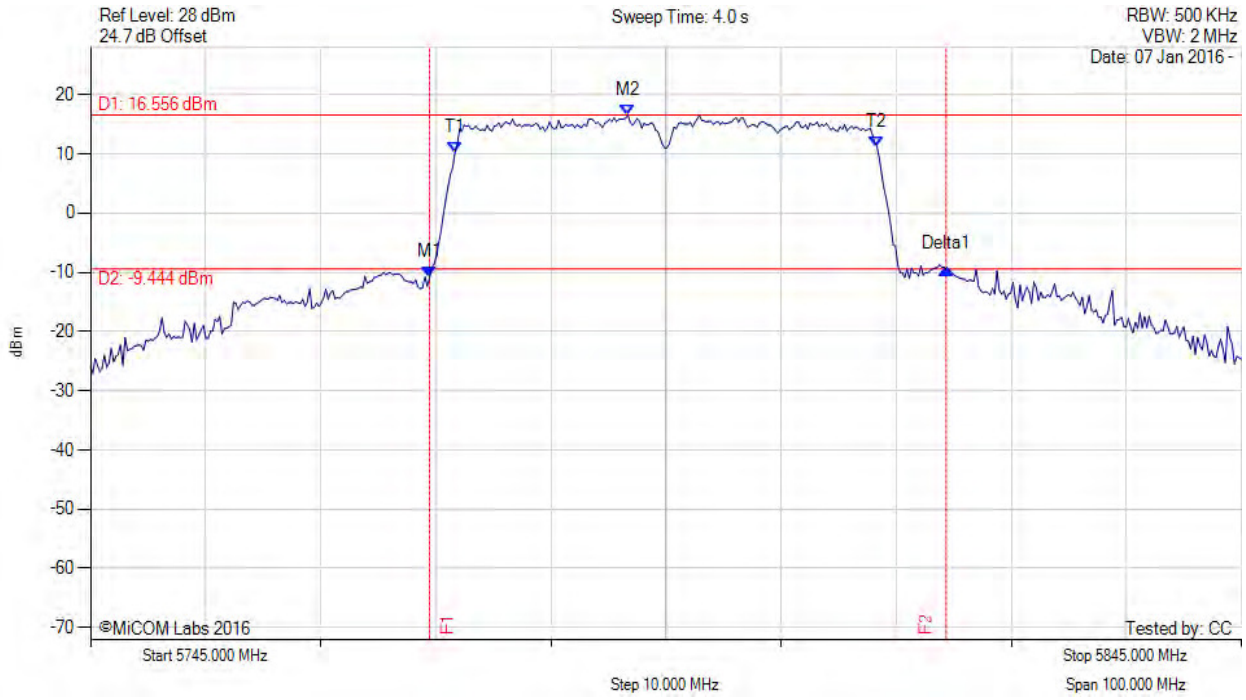
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain a, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5774.459 MHz : -10.818 dBm M2 : 5791.693 MHz : 16.556 dBm Delta1 : 44.890 MHz : 1.407 dB T1 : 5776.663 MHz : 10.235 dBm T2 : 5813.337 MHz : 11.218 dBm OBW : 36.673 MHz	Measured 26 dB Bandwidth: 44.890 MHz Measured 99% Bandwidth: 36.673 MHz

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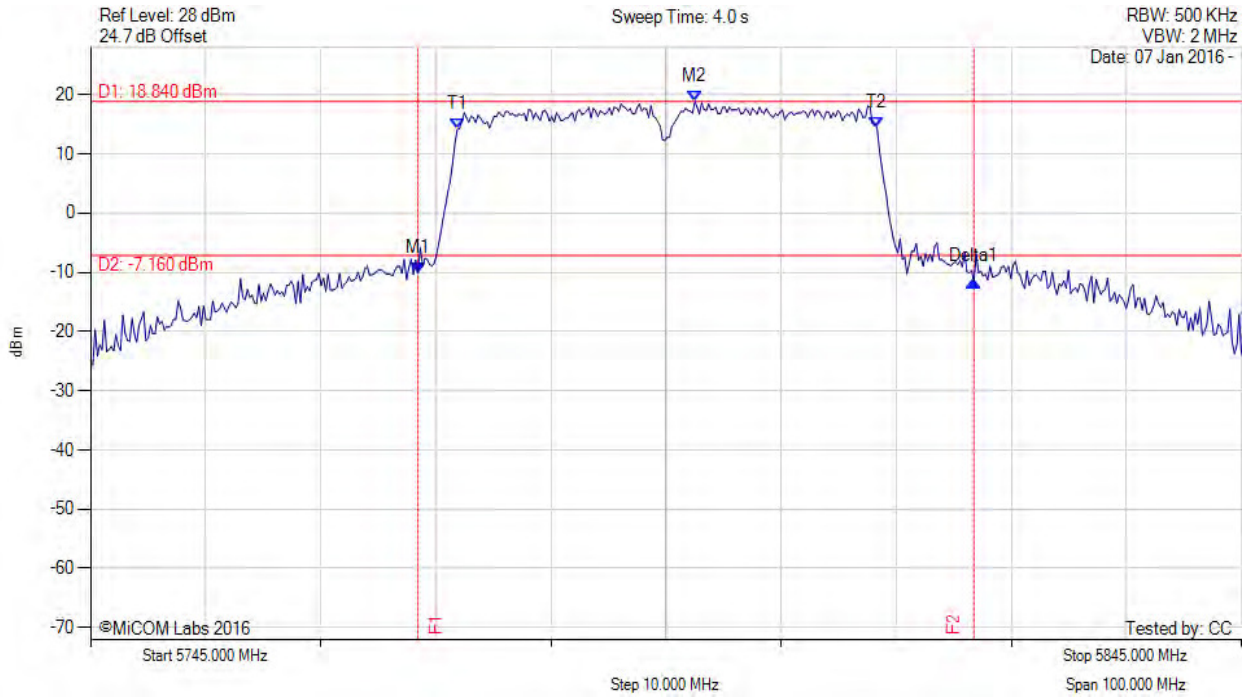
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain b, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5773.457 MHz : -10.031 dBm M2 : 5797.505 MHz : 18.840 dBm Delta1 : 48.297 MHz : -1.578 dB T1 : 5776.864 MHz : 14.101 dBm T2 : 5813.337 MHz : 14.331 dBm OBW : 36.473 MHz	Measured 26 dB Bandwidth: 48.297 MHz Measured 99% Bandwidth: 36.473 MHz

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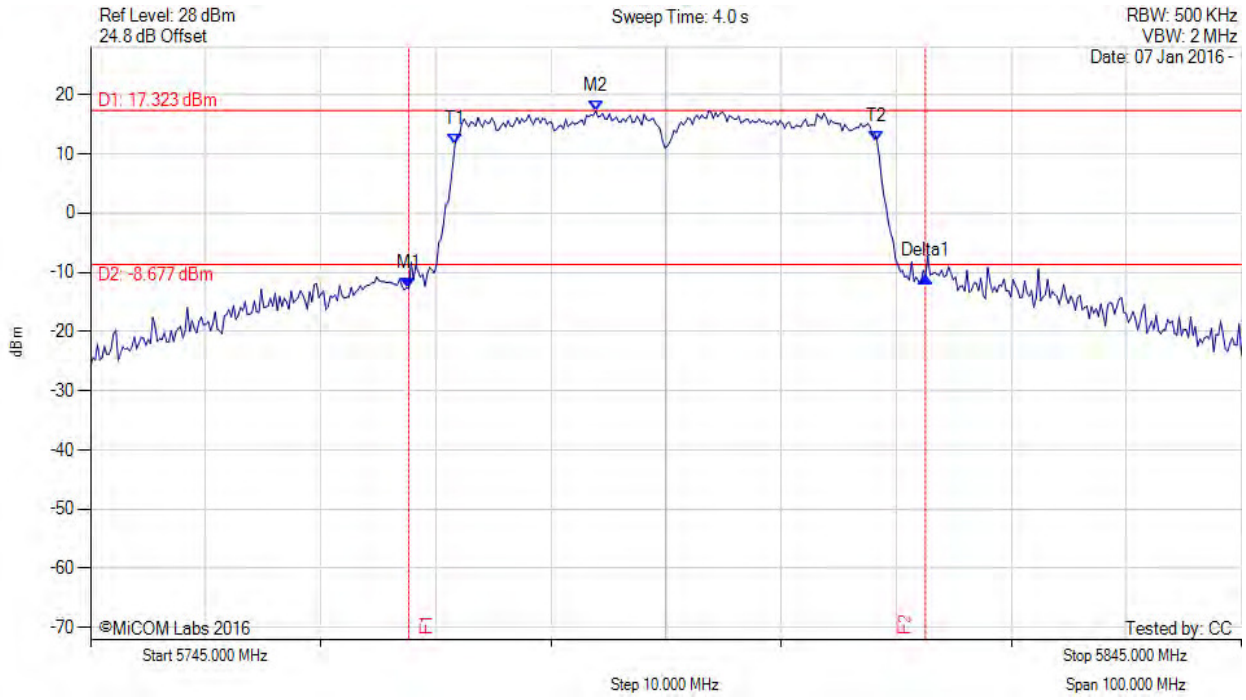
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain c, Temp: Ambient, Voltage: 48 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5772.655 MHz : -12.709 dBm M2 : 5788.888 MHz : 17.323 dBm Delta1 : 44.890 MHz : 2.001 dB T1 : 5776.663 MHz : 11.541 dBm T2 : 5813.337 MHz : 12.147 dBm OBW : 36.673 MHz	Measured 26 dB Bandwidth: 44.890 MHz Measured 99% Bandwidth: 36.673 MHz

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