

Company: Actiontec Electronics Inc.

Test of: WCB6240Q

To: FCC CFR 47 Part 15 Subpart E 15.407

Report No.: ATEC09-U8a Conducted (non-DFS) Rev A

CONDUCTED TEST REPORT



CONDUCTED TEST REPORT



Test of: Actiontec Electronics Inc. WCB6240Q
to

To: FCC CFR 47 Part 15 Subpart E 15.407

Test Report Serial No.: ATEC09-U8a Conducted (non-DFS) Rev A

This report supersedes: NONE

Note: this report is one of a set of three reports that together address the requirements for certification purposes

Report Number	Test Report Type
ATEC09-U5a, b	2.4 GHz Conducted & Radiated Test Reports
ATEC09-U8a, b	5 GHz (non-DFS) Conducted, Radiated Test Reports
ATEC09-U11a, b, c	5 GHz (DFS) Conducted, Radiated, DFS Test Reports
ATEC09-U2	FCC Part 15B / ICES-003 Test Report

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

Product Function: Wireless Access Point and
Ethernet Router

Issue Date: 22nd December 2015

This Test Report is Issued Under the Authority of:

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



MiCOM Labs is an ISO 17025 Accredited Testing Laboratory



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1. ACCREDITATION, LISTINGS & RECOGNITION

1.1. TESTING ACCREDITATION

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





1.2. RECOGNITION

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

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

EU MRA – European Union Mutual Recognition Agreement.

NB – Notified Body

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

Phase I - recognition for product testing

Phase II – recognition for both product testing and certification

1.3. PRODUCT CERTIFICATION

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



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	13 th October 2015	
Draft #2	19 th October 2015	
Rev A	27 th October 2015	Initial Release
Rev B	22 nd December 2015	Modified Section 9.1 Peak Transmit Power
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In the above table the latest report revision will replace all earlier versions.

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3. TEST RESULT CERTIFICATE

Manufacturer: Actiontec Electronics Inc 760 N Mary Avenue Sunnyvale California 94085 USA	Tested By: MiCOM Labs, Inc. 575 Boulder Court Pleasanton California 94566 USA
Model: WCB6240Q	Telephone: +1 925 462 0304 Fax: +1 925 462 0306
Type Of Equipment: 802.11a/b/g/n/ac Wireless Router	
S/N's: GWXA5360700016	
Test Date(s): 25 th September – 6 th October 2015	Website: www.micomlabs.com

STANDARD(S)	TEST RESULTS
FCC CFR 47 Part 15 Subpart E 15.407 (non-DFS Bands Only)	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.

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	KDB 662911	Oct 31 2013	Guidance for measurement of output emission of devices that employ single transmitter with multiple outputs or systems with multiple transmitters operating simultaneously in the same frequency band
II	KDB 905462 D07 v01	10th June 2015	Test guidance to demonstrate compliance for U-NII devices subject to DFS requirements.
III	KDB 926956 DO1 v01r02	17th October 2014	U-NII Device Transition Plan
IV	KDB 789033 D02 v01	6th June 2014	General UNII Test Procedures New Rules V01
V	A2LA	June 2015	R105 - Requirement's When Making Reference to A2LA Accreditation Status
VI	ANSI C63.10	2013	American National Standard for Testing Unlicensed Wireless Devices
VII	ANSI C63.4	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
VIII	CISPR 22	2008	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement
IX	ETSI TR 100 028	2001-12	Parts 1 and 2 Electromagnetic compatibility and Radio Spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics
X	FCC 06-96	Jun 3 2006	Memorandum Opinion and Order
XI	FCC 47 CFR Part 15.407	2014	Radio Frequency Devices; Subpart E –Unlicensed National Information Infrastructure Devices
XII	ICES-003	Issue 5 2012	Spectrum Management and Telecommunications; Interference-Causing Equipment Standard. Information Technology Equipment (ITE) – Limits and methods of measurement.
XIII	M 3003	Edition 3 Nov. 2012	Expression of Uncertainty and Confidence in Measurements
XIV	RSS-247 Issue 1	May 2015	Digital Transmission Systems (DTSs), Frequency Hopping System (FHSs) and Licence-Exempt Local Area Network (LE-LEN) Devices
XV	RSS-Gen Issue 4	November 2014	General Requirements and Information for the Certification of Radiocommunication Equipment
XVI	KDB 644545 D03 v01	August 14th 2014	Guidance for IEEE 802.11ac New Rules
XVII	FCC 47 CFR Part 2.1033	2014	FCC requirements and rules regarding photographs and test setup diagrams.

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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 Actiontec Electronics Inc WCB6240Q to FCC CFR 47 Part 15 Subpart E 15.407
Applicant:	Actiontec Electronics Inc 760 N Mary Avenue Sunnyvale California 94085 USA
Manufacturer:	As Applicant
Laboratory performing the tests:	MiCOM Labs, Inc. 575 Boulder Court Pleasanton California 94566 USA
Test report reference number:	ATEC09-U8a Conducted
Date EUT received:	15 th September 2015
Standard(s) applied:	FCC CFR 47 Part 15 Subpart E 15.407
Dates of test (from - to):	25 th September – 6 th October 2015
No of Units Tested:	2
Type of Equipment:	802.11a/b/g/n/ac Wireless Router
Product Family Name:	802.11ac Wireless 4-Port Ethernet Bridge with Optional MoCA
Model(s):	Tested Device: WCB6240Q + WEB6040Q
Location for use:	Indoor
Declared Frequency Range(s):	5150 - 5250; 5725 - 5850 MHz;
Primary function of equipment:	Wireless Access Point and Ethernet Router
Secondary function of equipment:	Optional Cable MoCA Bridge
Type of Modulation:	OFDM
EUT Modes of Operation:	802.11a; 802.11n HT-20/40; 802.11ac-24/40/80
Declared Nominal Output Power (Ave):	5150 - 5250 MHz & 5725 - 5850 MHz: +30 dBm
Transmit/Receive Operation:	Transceiver - Half Duplex
Rated Input Voltage and Current:	AC/ DC adaptor (adaptor sold with unit) 12Vdc, 2A
Operating Temperature Range:	Declared Range 0°C to 40°C
ITU Emission Designator:	802.11a: 16M4D1D 802.11ac-80: 75M9D1D 802.11n HT-20: 17M7D1D 802.11n HT-40: 36M2D1D
Equipment Dimensions:	9 x 1.5 x 5.75 inches
Weight:	1.1 lbs
Hardware Rev:	AM3
Software Rev:	1.1.01.19yfa

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5.2. Scope Of Test Program

Actiontec Electronics Inc. WCB6240Q

The scope of the test program was to test the Actiontec Electronics Inc. WCB6240Q configurations in the 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

Manufacturers Declaration of Similarity

FCC ID: LNQWXB6X40Q

Actiontec Models: WxB6x40Q

Product Similarities;

Actiontec Models: WCB6240Q and WEB6040Q To whom it may concern: We, Actiontec Electronics, Inc., hereby to declare the mentioned two models have electrically identical Wireless circuitry with the same electromagnetic emissions and electromagnetic compatibility characteristics. Descriptions of the differences between these two models are as follows;

WCB6240Q – 802.11ac Wireless 4-Port Ethernet Bridge with Bonded MoCA

WEB6040Q – 802.11ac Wireless 4-Port Ethernet Bridge without MoCA.

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Actiontec Electronics Inc WCB6240Q



Actiontec Electronics Inc WCB6240Q





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

Type (EUT/Support)	Equipment Description (Including Brand Name)	Mfr	Model No.	Serial No.
EUT	Wireless Router	Actiontec	WCB6240Q	GWXA5360700016
EUT	Power Adapter 100 - 240Vac 50/60Hz 0.7A 12 Vdc 2.0 A	Actiontec	WA-24Q12FU	DJ87714D14043198400
Support	Laptop PC	IBM	Thinkpad	None

5.4. Antenna Details

Type	Manufacturer	Model	Family	Gain (dBi)	BF Gain	Dir BW	X-Pol	Frequency Band (MHz)
integral	Galtronics	Custom PCB SMT	Dipole	4.5	2.5	360	Y	5150 – 5250
integral	Galtronics	Custom Internal Cabled	Dipole	4.5	1.8	360	Y	5725 - 5850

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

5.5. Cabling and I/O Ports

Port Type	Max Cable Length	# Of Ports	Screened	Conn Type	Data Type
Ethernet GbE LAN	100m	4	N	RJ45	Packet Data
MoCA	unknown	1	Y	F-Type	RF

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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	5,180.00	5,200.00	5,240.00
802.11ac-80	29.3	5,210.00	--	--
802.11n HT-20	6.5	5,180.00	5,200.00	5,240.00
802.11n HT-40	13.5	5,190.00	--	5,230.00
5725 - 5850 MHz				
802.11a	6	5,745.00	5,785.00	5,825.00
802.11ac-80	29.3	5,775.00	--	--
802.11n HT-20	6.5	5,745.00	5,785.00	5,825.00
802.11n HT-40	13.5	5,755.00	--	5,795.00

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

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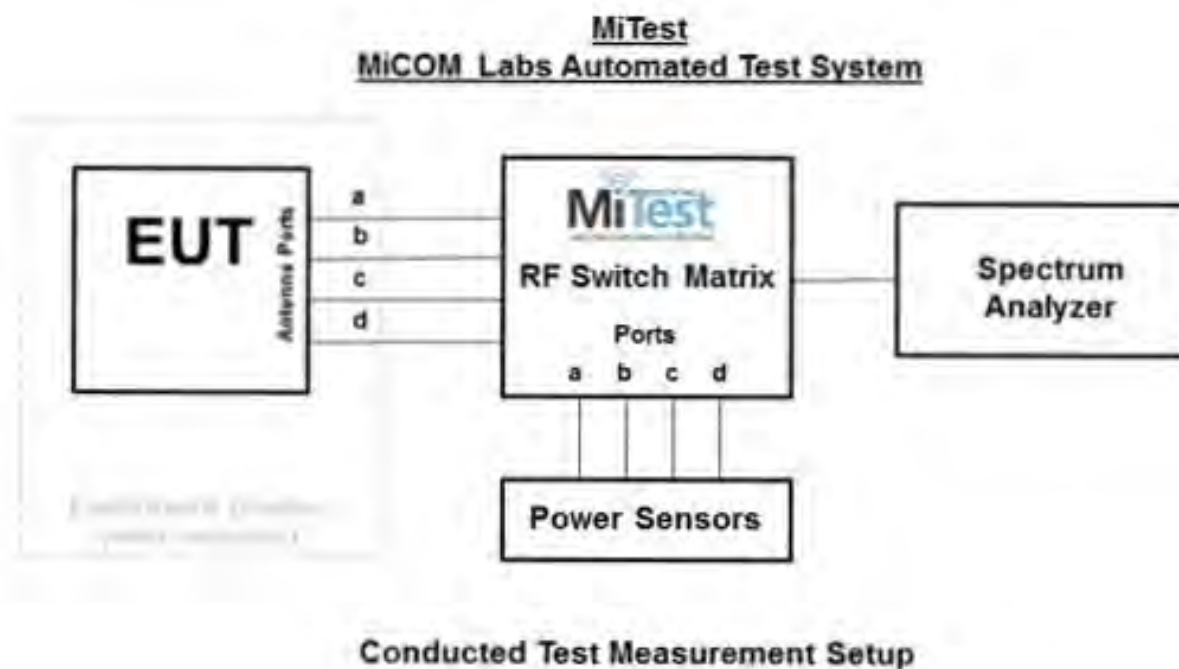
7. TEST EQUIPMENT CONFIGURATION(S)

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 and 99% Bandwidth
3. Power Spectral Density



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 2015
287	Rohde & Schwarz 40 GHz Receiver	Rhode & Schwarz	ESIB40	100201	27 Aug 2016
361	Desktop for RF#1, Labview Software installed	Dell	Vostro 220	WS RF#1	Not Required
380	4x4 RF Switch Box	MiCOM Labs	MiTest RF Switch Box	MIC001	20 Dec 2015
390	USB Power Head 50MHz - 24GHz -60 to +20dBm	Agilent	U2002A	MY50000103	17 Oct 2015
398	Test Software	MiCOM	MiTest ATS	Version 3.0.0.16	Not Required
408	USB to GPIB interface	National Instruments	GPIB-USB HS	14C0DE9	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
RF#1 GPIB#1	GPIB cable to Power Supply	HP	GPIB	None	Not Required
RF#1 SMA#1	EUT to Mitest box port 1	Flexco	SMA Cable port1	None	20 Dec 2015
RF#1 SMA#2	EUT to Mitest box port 2	Flexco	SMA Cable port2	None	20 Dec 2015
RF#1 SMA#3	EUT to Mitest box port 3	Flexco	SMA Cable port3	None	20 Dec 2015
RF#1 SMA#4	EUT to Mitest box port 4	Flexco	SMA Cable port4	None	20 Dec 2015
RF#1 USB#1	USB Cable to Mitest Box	Dynex	USB Cable	None	Not Required

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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)

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9. TEST RESULTS

9.1. Peak Transmit Power

Conducted Test Conditions for Maximum Conducted Output Power			
Standard:	FCC CFR 47:15.407	Ambient Temp. (°C):	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 [$10 \cdot \log_{10} (10^{a/10} + 10^{b/10} + 10^{c/10} + 10^{d/10})$]

G = Antenna Gain

Y = Beamforming Gain

x = Duty Cycle (average power measurements only)

Limits 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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Maximum Conducted Power Limit(s)

Operating Frequency Band 5150 – 5250 MHz
15.407 (a)(1)

Maximum Conducted Power
EUT: Indoor wireless router

Antenna gain: 4.50 dBi
Beamforming Gain: 2.50 dB

Total Gain: Antenna Gain + Beamforming Gain = 4.50 + 2.50 = 7.00 dBi

Maximum Conducted Power Limit = 36.0 – 7.0 = 29.0 dBm

Operating Frequency Band 5725 - 5850 MHz
15.407 (a)(3)

Maximum Conducted Power
EUT: Indoor wireless router

Antenna gain: 4.50 dBi
Beamforming Gain: 1.80 dB

Total Gain: Antenna Gain + Beamforming Gain = 4.50 + 1.80 = 6.30 dBi

Maximum Conducted Power Limit = 36.0 – 6.30 = 29.7 dBm

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Equipment Configuration for Peak Transmit Power

Variant:	802.11a	Duty Cycle (%):	98.0
Data Rate:	6.00 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	2.50
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power + DCCF (+0.09 dB)	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dB	
5180.0	20.63	20.29	19.59	20.21	26.30	--	29.00	-2.70	
5200.0	20.31	20.33	19.31	20.37	26.21	--	29.00	-2.79	
5240.0	21.02	20.46	19.74	20.79	26.64	--	29.00	-2.36	

Traceability to Industry Recognized Test Methodologies

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

DCCF - Duty Cycle Correction Factor

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Equipment Configuration for Peak Transmit Power

Variant:	802.11ac-80	Duty Cycle (%):	96.0
Data Rate:	29.5 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	2.50
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power + DCCF (+0.18 dB)	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dB	
5210.0	12.37	12.49	11.09	12.12	18.25	--	29.00	-10.75	

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 (%):	98.0
Data Rate:	6.50 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	2.50
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power + DCCF (+0.09 dB)	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dB	
5180.0	20.74	19.57	19.38	20.12	26.09	--	29.00	-2.91	
5200.0	20.06	19.51	19.02	19.96	25.77	--	29.00	-3.23	
5240.0	20.95	19.89	19.58	20.45	26.36	--	29.00	-2.64	

Traceability to Industry Recognized Test Methodologies

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

DCCF - Duty Cycle Correction Factor

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Equipment Configuration for Peak Transmit Power

Variant:	802.11n HT-40	Duty Cycle (%):	97.0
Data Rate:	13.50 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	2.50
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power + DCCF (+0.13 dB)	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dB	
5190.0	18.11	17.6	16.63	17.66	23.63	--	29.00	-5.37	
5230.0	21.07	20.72	19.75	20.92	26.80	--	29.00	-2.20	

Traceability to Industry Recognized Test Methodologies

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

DCCF - Duty Cycle Correction Factor

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Equipment Configuration for Peak Transmit Power

Variant:	802.11a	Duty Cycle (%):	98.0
Data Rate:	6.00 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	1.80
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Measurement Results									
Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power + DCCF (+0.09 dB)	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dB	
5745.0	20.71	20.13	20.28	21.03	26.66	--	29.70	-3.04	
5785.0	21.18	20.09	20.33	20.88	26.75	--	29.70	-2.95	
5825.0	20.88	20.00	19.99	20.50	26.47	--	29.70	-3.23	

Traceability to Industry Recognized Test Methodologies

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

DCCF - Duty Cycle Correction Factor

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Equipment Configuration for Peak Transmit Power

Variant:	802.11ac-80	Duty Cycle (%):	96.0
Data Rate:	29.30 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	1.80
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power + DCCF (+0.18 dB)	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dB	
5775.0	13.69	13.25	13.29	14.12	19.81	--	29.70	-9.89	

Traceability to Industry Recognized Test Methodologies

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

DCCF - Duty Cycle Correction Factor

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Equipment Configuration for Peak Transmit Power

Variant:	802.11n HT-20	Duty Cycle (%):	98.0
Data Rate:	6.50 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	1.80
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power + DCCF (+0.09 dB)	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dB	
5745.0	20.16	20.09	20.07	21.12	26.49	--	29.70	-3.21	
5785.0	20.89	20.40	20.38	21.21	26.84	--	29.70	-2.86	
5825.0	20.79	19.87	19.94	20.85	26.50	--	29.70	-3.20	

Traceability to Industry Recognized Test Methodologies

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

DCCF - Duty Cycle Correction Factor

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Equipment Configuration for Peak Transmit Power

Variant:	802.11n HT-40	Duty Cycle (%):	97.0
Data Rate:	13.50 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	1.80
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power + DCCF (+0.13 dB)	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dB	
5755.0	21.13	20.48	20.55	21.52	27.09	--	29.70	-2.61	
5795.0	21.48	20.62	20.90	21.27	27.23	--	29.70	-2.47	

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 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. (°C):	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 (%):	98.0
Data Rate:	6.00 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	2.50
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz)				26 dB Bandwidth (MHz)			
	Port(s)							
MHz	a	b	c	d	Highest	Lowest		
5180.0	22.846	21.643	21.844	23.146	23.146	21.643		
5200.0	22.645	21.643	21.643	23.146	23.146	21.643		
5240.0	22.144	21.443	21.743	22.745	22.745	21.443		
Test Frequency	Measured 99% Bandwidth (MHz)				99% Bandwidth (MHz)			
	Port(s)							
MHz	a	b	c	d	Highest	Lowest		
5180.0	16.834	16.633	16.733	16.934	16.934	16.633		
5200.0	16.733	16.633	16.733	16.834	16.834	16.633		
5240.0	16.733	16.633	16.834	16.834	16.834	16.633		

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 (%):	96.0
Data Rate:	29.30 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	2.50
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results								
Test Frequency	Measured 26 dB Bandwidth (MHz)				26 dB Bandwidth (MHz)			
	Port(s)							
MHz	a	b	c	d	Highest	Lowest		
5210.0	98.998	95.391	111.022	111.423	111.423	95.391		
Test Frequency	Measured 99% Bandwidth (MHz)				99% Bandwidth (MHz)			
	Port(s)							
MHz	a	b	c	d	Highest	Lowest		
5210.0	76.152	76.152	76.553	76.553	76.553	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 (%):	98.0
Data Rate:	6.50 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	2.50
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz)				26 dB Bandwidth (MHz)			
	Port(s)							
MHz	a	b	c	d	Highest	Lowest		
5180.0	22.846	23.146	23.547	23.447	23.547	22.846		
5200.0	23.246	23.046	23.447	23.246	23.447	23.046		
5240.0	23.246	22.545	23.246	23.246	23.246	22.545		
Test Frequency	Measured 99% Bandwidth (MHz)				99% Bandwidth (MHz)			
	Port(s)							
MHz	a	b	c	d	Highest	Lowest		
5180.0	18.036	18.036	18.036	18.136	18.136	18.036		
5200.0	18.036	18.136	18.136	18.136	18.136	18.036		
5240.0	18.036	18.036	18.136	18.036	18.136	18.036		

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 (%):	97.0
Data Rate:	13.50 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	2.50
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz)				26 dB Bandwidth (MHz)			
	Port(s)							
MHz	a	b	c	d	Highest	Lowest		
5190.0	44.890	42.886	48.697	43.888	48.697	42.886		
5230.0	44.890	42.685	45.892	42.886	45.892	42.685		
Test Frequency	Measured 99% Bandwidth (MHz)				99% Bandwidth (MHz)			
	Port(s)							
MHz	a	b	c	d	Highest	Lowest		
5190.0	37.074	36.673	37.074	36.874	37.074	36.673		
5230.0	36.874	36.874	36.874	36.673	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 (%):	98.0
Data Rate:	6.00 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	1.80
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz)				26 dB Bandwidth (MHz)			
	Port(s)							
MHz	a	b	c	d	Highest	Lowest		
5745.0	22.044	22.044	22.244	22.745	22.745	22.044		
5785.0	22.846	22.445	22.144	22.946	22.946	22.144		
5825.0	23.347	22.345	22.345	22.846	23.347	22.345		
Test Frequency	Measured 99% Bandwidth (MHz)				99% Bandwidth (MHz)			
	Port(s)							
MHz	a	b	c	d	Highest	Lowest		
5745.0	16.733	16.834	16.733	16.834	16.834	16.733		
5785.0	16.834	16.834	16.733	16.934	16.934	16.733		
5825.0	16.834	16.934	16.733	16.934	16.934	16.733		

Traceability to Industry Recognized Test Methodologies

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

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Equipment Configuration for 26 dB & 99% Occupied Bandwidth

Variant:	802.11ac-80	Duty Cycle (%):	96.0
Data Rate:	29.30 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	1.80
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz)				26 dB Bandwidth (MHz)			
	Port(s)							
MHz	a	b	c	d	Highest	Lowest		
5775.0	96.192	96.994	86.172	85.772	96.994	85.772		
Test Frequency	Measured 99% Bandwidth (MHz)				99% Bandwidth (MHz)			
	Port(s)							
MHz	a	b	c	d	Highest	Lowest		
5775.0	76.152	76.152	75.752	75.752	76.152	75.752		

Traceability to Industry Recognized Test Methodologies

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

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Equipment Configuration for 26 dB & 99% Occupied Bandwidth

Variant:	802.11n HT-20	Duty Cycle (%):	98.0
Data Rate:	6.50 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	1.80
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz)				26 dB Bandwidth (MHz)			
	Port(s)							
MHz	a	b	c	d	Highest	Lowest		
5745.0	22.745	23.146	23.547	23.447	23.547	22.745		
5785.0	23.246	23.246	23.647	23.647	23.647	23.246		
5825.0	23.747	23.547	23.747	23.547	23.747	23.547		
Test Frequency	Measured 99% Bandwidth (MHz)				99% Bandwidth (MHz)			
	Port(s)							
MHz	a	b	c	d	Highest	Lowest		
5745.0	18.036	18.036	18.036	18.136	18.136	18.036		
5785.0	18.036	18.136	18.036	18.136	18.136	18.036		
5825.0	18.136	18.036	18.036	18.136	18.136	18.036		

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 (%):	97.0
Data Rate:	13.50 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	1.80
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz)				26 dB Bandwidth (MHz)			
	Port(s)							
MHz	a	b	c	d	Highest	Lowest		
5755.0	43.086	46.092	42.685	42.886	46.092	42.685		
5795.0	42.886	45.691	43.086	42.886	45.691	42.886		
Test Frequency	Measured 99% Bandwidth (MHz)				99% Bandwidth (MHz)			
	Port(s)							
MHz	a	b	c	d	Highest	Lowest		
5755.0	37.074	36.874	36.673	36.673	37.074	36.673		
5795.0	36.874	36.673	36.673	36.673	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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9.3. Power Spectral Density

Conducted Test Conditions for Power Spectral Density			
Standard:	FCC CFR 47:15.407	Ambient Temp. (°C):	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 (à) 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 [$10^a \cdot \log_{10} (10^{a/10} + 10^{b/10} + 10^{c/10} + 10^{d/10})$]

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

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the directional gain of the antenna exceeds 6 dBi.

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

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

Operating Frequency Band 5250-5350 and 5470 – 5725 MHz

15. 407 (a)(2)

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

Operating Frequency Band 5725 – 5850 MHz

15. 407 (a)(3)

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

Horizontal and Vertical Antenna Polarization

The WCB6200Q antennas are dual polarized i.e. 3 antennas operate horizontal the other 1 vertical polarization. For this reason the Power Spectral Density test does not compare all 4 antenna's to the limit but it measures the 3 horizontal and 1 vertical antennas separately.

As a result two separate sets of tests were performed;

- 1).. Horizontal 3 antenna chains
- 2).. Vertical single antenna chain

NOTE: Antenna chain power cannot be set on an individual basis



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Equipment Configuration for Power Spectral Density

Variant:	802.11a	Duty Cycle (%):	99.0
Data Rate:	6 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	2.50
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density				Amplitude Summation + DCCF (+0.04 dB)	Limit	Margin
	Port(s) (dBm/MHz)						
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5180.0	11.028	9.906	10.064	--	15.098	16.0	-0.9
5200.0	10.177	9.848	9.593	--	14.318	16.0	-1.7
5240.0	10.300	10.212	10.340	--	14.782	16.0	-1.2

Traceability to Industry Recognized Test Methodologies

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

Equipment Configuration for Power Spectral Density

Variant:	802.11a	Duty Cycle (%):	98.0
Data Rate:	6 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	2.50
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density				Amplitude Summation + DCCF (+0.09 dB)	Limit	Margin
	Port(s) (dBm/MHz)						
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5180.0	--	--	--	10.309	10.397	16.0	-5.6
5200.0	--	--	--	10.244	10.332	16.0	-5.7
5240.0	--	--	--	10.757	10.845	16.0	-5.2

Traceability to Industry Recognized Test Methodologies

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

DCCF - Duty Cycle Correction Factor

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

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Equipment Configuration for Power Spectral Density			
Variant:	802.11ac-80	Duty Cycle (%):	96.0
Data Rate:	29.5 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	2.50
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results							
Test Frequency	Measured Power Spectral Density				Amplitude Summation + DCCF (+0.18 dB)	Limit	Margin
	Port(s) (dBm/MHz)						
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5210.0	3.666	2.200	2.331	--	7.185	16.0	-8.8

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

Equipment Configuration for Power Spectral Density			
Variant:	802.11ac-80	Duty Cycle (%):	96.0
Data Rate:	29.5 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	2.50
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results							
Test Frequency	Measured Power Spectral Density				Amplitude Summation + DCCF (+0.18 dB)	Limit	Margin
	Port(s) (dBm/MHz)						
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5210.0	--	--	--	3.456	3.633	16.0	-12.4

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

DCCF - Duty Cycle Correction Factor

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Equipment Configuration for Power Spectral Density

Variant:	802.11n HT-20	Duty Cycle (%):	96.0
Data Rate:	6.5 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	2.50
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density				Amplitude Summation + DCCF (+0.18 dB)	Limit	Margin
	Port(s) (dBm/MHz)						
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5180.0	9.099	8.399	8.399	---	13.441	16.0	-2.5
5200.0	8.674	8.247	8.825	---	13.497	16.0	-2.5
5240.0	9.779	8.636	9.322	---	14.126	16.0	-1.8

Traceability to Industry Recognized Test Methodologies

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

Equipment Configuration for Power Spectral Density

Variant:	802.11n HT-20	Duty Cycle (%):	98.0
Data Rate:	6.5 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	2.50
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density				Amplitude Summation + DCCF (+0.09 dB)	Limit	Margin
	Port(s) (dBm/MHz)						
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5180.0	---	---	---	10.190	10.278	16.0	-5.7
5200.0	---	---	---	9.505	9.593	16.0	-6.4
5240.0	---	---	---	9.763	9.851	16.0	-6.1

Traceability to Industry Recognized Test Methodologies

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

DCCF - Duty Cycle Correction Factor

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Equipment Configuration for Power Spectral Density

Variant:	802.11n HT-40	Duty Cycle (%):	97.0
Data Rate:	13.5 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	2.50
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density				Amplitude Summation + DCCF (+0.13 dB)	Limit	Margin
	Port(s) (dBm/MHz)						
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5190.0	6.596	5.730	5.709	--	10.689	16.0	-5.3
5230.0	6.947	6.549	6.493	--	11.334	16.0	-4.6

Traceability to Industry Recognized Test Methodologies

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

Equipment Configuration for Power Spectral Density

Variant:	802.11n HT-40	Duty Cycle (%):	97.0
Data Rate:	13.5 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	2.50
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density				Amplitude Summation + DCCF (+0.13 dB)	Limit	Margin
	Port(s) (dBm/MHz)						
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5190.0	--	--	--	7.302	7.434	16.0	-8.6
5230.0	--	--	--	6.894	7.026	16.0	-9.0

Traceability to Industry Recognized Test Methodologies

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

DCCF - Duty Cycle Correction Factor

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Equipment Configuration for Power Spectral Density

Variant:	802.11a	Duty Cycle (%):	98.0
Data Rate:	6 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	1.80
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density				Amplitude Summation + DCCF (+0.09 dB)	Limit	Margin
	Port(s) (dBm/500 KHz)						
MHz	a	b	c	d	dBm/500 KHz	dBm/500 KHz	dB
5745.0	6.503	5.954	8.793	---	11.889	29.7	-17.8
5785.0	6.836	6.329	7.943	---	11.643	29.7	-18.0
5825.0	6.778	5.607	7.551	---	11.266	29.7	-18.4

Traceability to Industry Recognized Test Methodologies

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

Equipment Configuration for Power Spectral Density

Variant:	802.11a	Duty Cycle (%):	98.0
Data Rate:	6 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	1.80
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density				Amplitude Summation + DCCF (+0.09 dB)	Limit	Margin
	Port(s) (dBm/500 KHz)						
MHz	a	b	c	d	dBm/500 KHz	dBm/500 KHz	dB
5745.0	--	--	--	7.243	7.331	29.7	-22.4
5785.0	--	--	--	7.298	7.386	29.7	-22.3
5825.0	--	--	--	7.637	7.725	29.7	-22.0

Traceability to Industry Recognized Test Methodologies

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

DCCF - Duty Cycle Correction Factor

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Equipment Configuration for Power Spectral Density			
Variant:	802.11ac-80	Duty Cycle (%):	96.0
Data Rate:	29.30 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	1.80
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results							
Test Frequency	Measured Power Spectral Density				Amplitude Summation + DCCF (+0.18 dB)	Limit	Margin
	Port(s) (dBm/500 KHz)						
MHz	a	b	c	d	dBm/500 KHz	dBm/500 KHz	dB
5775.0	0.456	-0.277	2.041	--	5.404	29.7	-24.3

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

Equipment Configuration for Power Spectral Density			
Variant:	802.11ac-80	Duty Cycle (%):	96.0
Data Rate:	29.30 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	1.80
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results							
Test Frequency	Measured Power Spectral Density				Amplitude Summation + DCCF (+0.18 dB)	Limit	Margin
	Port(s) (dBm/500 KHz)						
MHz	a	b	c	d	dBm/500 KHz	dBm/500 KHz	dB
5775.0	--	--	--	2.095	2.272	29.7	-27.4

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

DCCF - Duty Cycle Correction Factor

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Equipment Configuration for Power Spectral Density

Variant:	802.11n HT-20	Duty Cycle (%):	98.0
Data Rate:	6.5 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	1.80
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density				Amplitude Summation + DCCF (+0.09 dB)	Limit	Margin
	Port(s) (dBm/500 KHz)						
MHz	a	b	c	d	dBm/500 KHz	dBm/500 KHz	dB
5745.0	5.895	5.475	8.246	--	11.518	29.7	-18.2
5785.0	5.824	5.405	8.117	--	11.274	29.7	-18.4
5825.0	6.011	5.191	7.405	--	10.949	29.7	-18.7

Traceability to Industry Recognized Test Methodologies

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

Equipment Configuration for Power Spectral Density

Variant:	802.11n HT-20	Duty Cycle (%):	98.0
Data Rate:	6.5 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	1.80
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density				Amplitude Summation + DCCF (+0.09 dB)	Limit	Margin
	Port(s) (dBm/500 KHz)						
MHz	a	b	c	d	dBm/500 KHz	dBm/500 KHz	dB
5745.0	--	--	--	7.271	7.359	29.7	-22.3
5785.0	--	--	--	7.666	7.754	29.7	-21.9
5825.0	--	--	--	7.210	7.298	29.7	-22.4

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:	802.11n HT-40	Duty Cycle (%):	97.0
Data Rate:	13.5 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	1.80
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density				Amplitude Summation + DCCF (+0.13 dB)	Limit	Margin
	Port(s) (dBm/500 KHz)						
MHz	a	b	c	d	dBm/500 KHz	dBm/500 KHz	dB
5755.0	4.738	3.520	6.486	--	9.615	29.7	-20.1
5795.0	5.190	3.628	5.974	--	9.607	29.7	-20.1

Traceability to Industry Recognized Test Methodologies

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

Equipment Configuration for Power Spectral Density

Variant:	802.11n HT-40	Duty Cycle (%):	97.0
Data Rate:	13.5 MBit/s	Antenna Gain (dBi):	4.50
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	1.80
TPC:	Not Applicable	Tested By:	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density				Amplitude Summation + DCCF (+0.13 dB)	Limit	Margin
	Port(s) (dBm/500 KHz)						
MHz	a	b	c	d	dBm/500 KHz	dBm/500 KHz	dB
5755.0	--	--	--	4.930	5.062	29.7	-24.6
5795.0	--	--	--	4.642	4.774	29.7	-24.9

Traceability to Industry Recognized Test Methodologies

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

DCCF - Duty Cycle Correction Factor

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

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A. APPENDIX - GRAPHICAL IMAGES

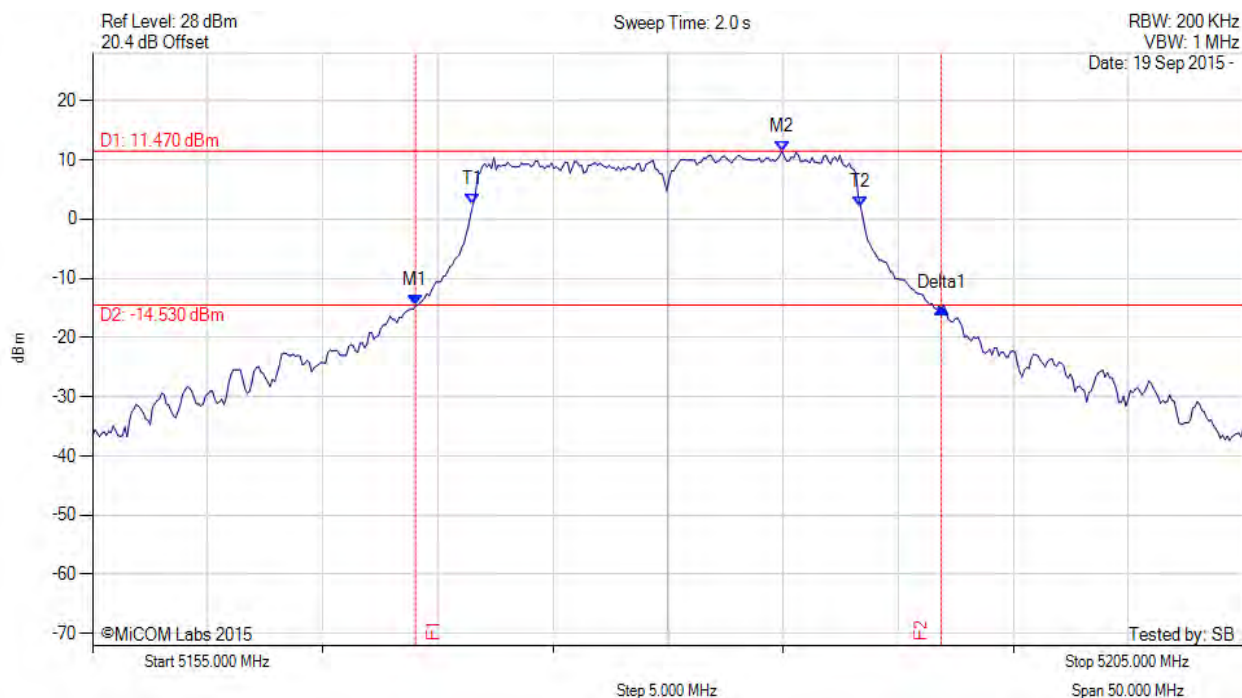
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A.1. 26 dB & 99% Bandwidth



26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5180.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5169.028 MHz : -14.660 dBm M2 : 5184.960 MHz : 11.470 dBm Delta1 : 22.846 MHz : -0.352 dB T1 : 5171.533 MHz : 2.525 dBm T2 : 5188.367 MHz : 2.106 dBm OBW : 16.834 MHz	Measured 26 dB Bandwidth: 22.846 MHz Measured 99% Bandwidth: 16.834 MHz

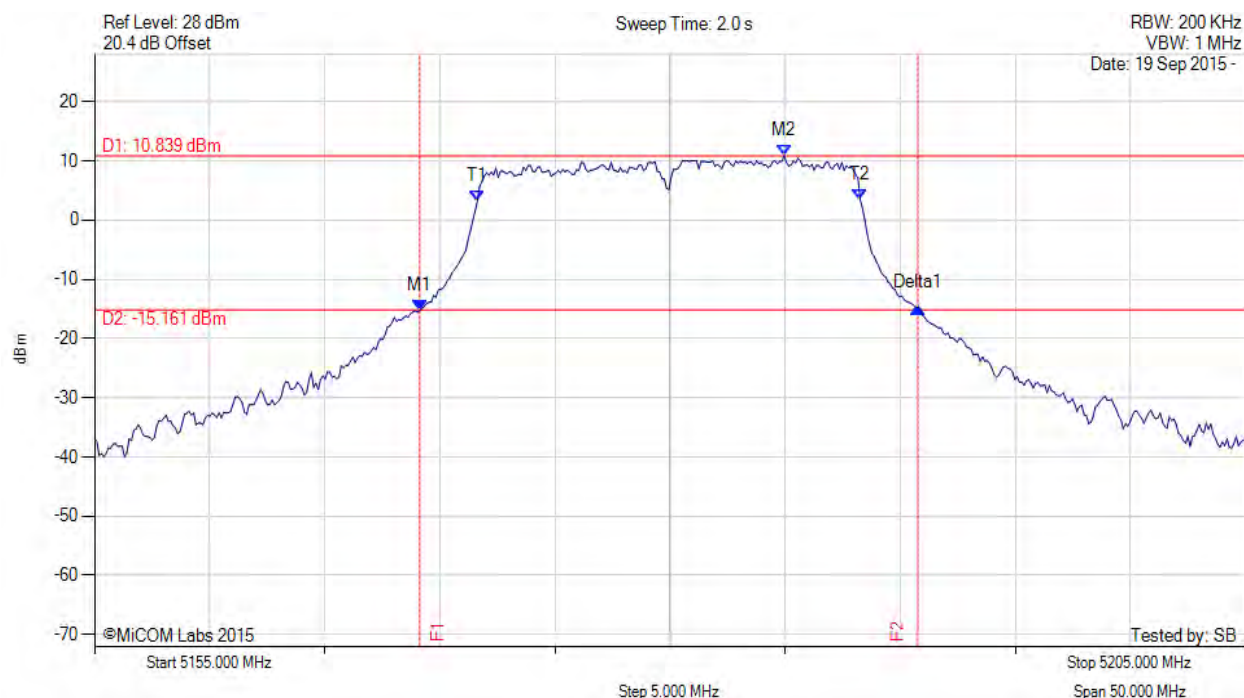
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5180.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5169.128 MHz : -15.298 dBm M2 : 5184.960 MHz : 10.839 dBm Delta1 : 21.643 MHz : 0.578 dB T1 : 5171.633 MHz : 3.231 dBm T2 : 5188.267 MHz : 3.426 dBm OBW : 16.633 MHz	Measured 26 dB Bandwidth: 21.643 MHz Measured 99% Bandwidth: 16.633 MHz

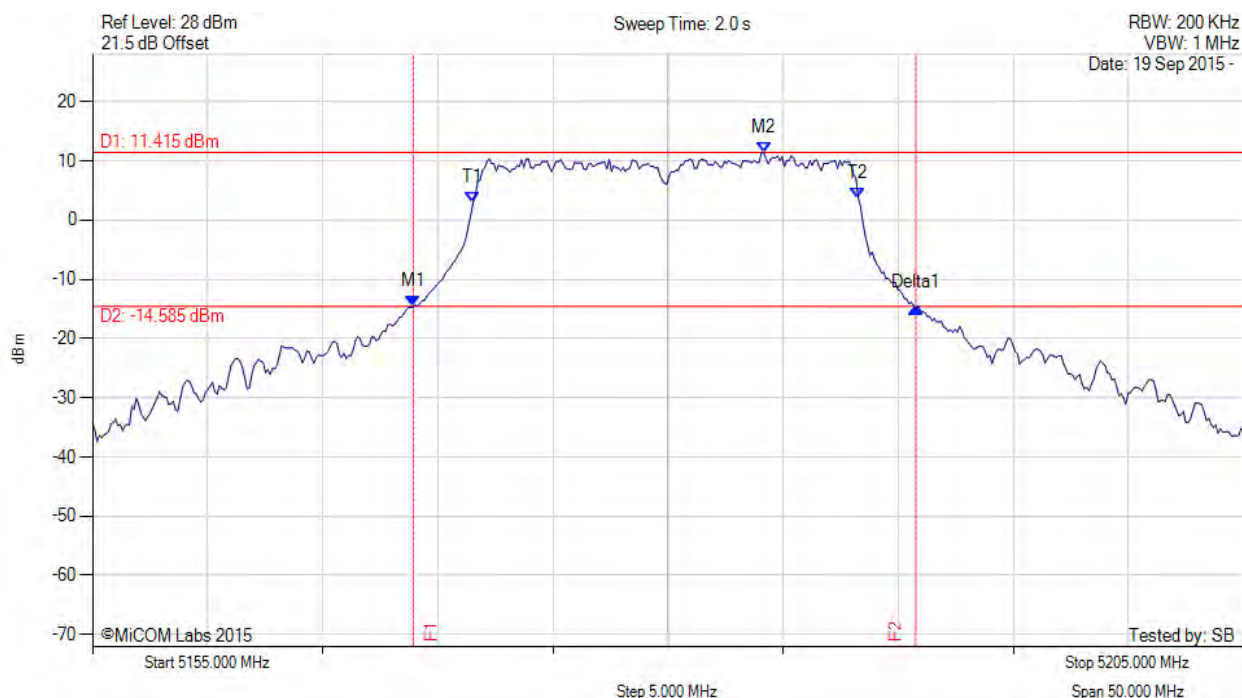
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5180.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5168.928 MHz : -14.666 dBm M2 : 5184.158 MHz : 11.415 dBm Delta1 : 21.844 MHz : -0.232 dB T1 : 5171.533 MHz : 2.918 dBm T2 : 5188.267 MHz : 3.693 dBm OBW : 16.733 MHz	Measured 26 dB Bandwidth: 21.844 MHz Measured 99% Bandwidth: 16.733 MHz

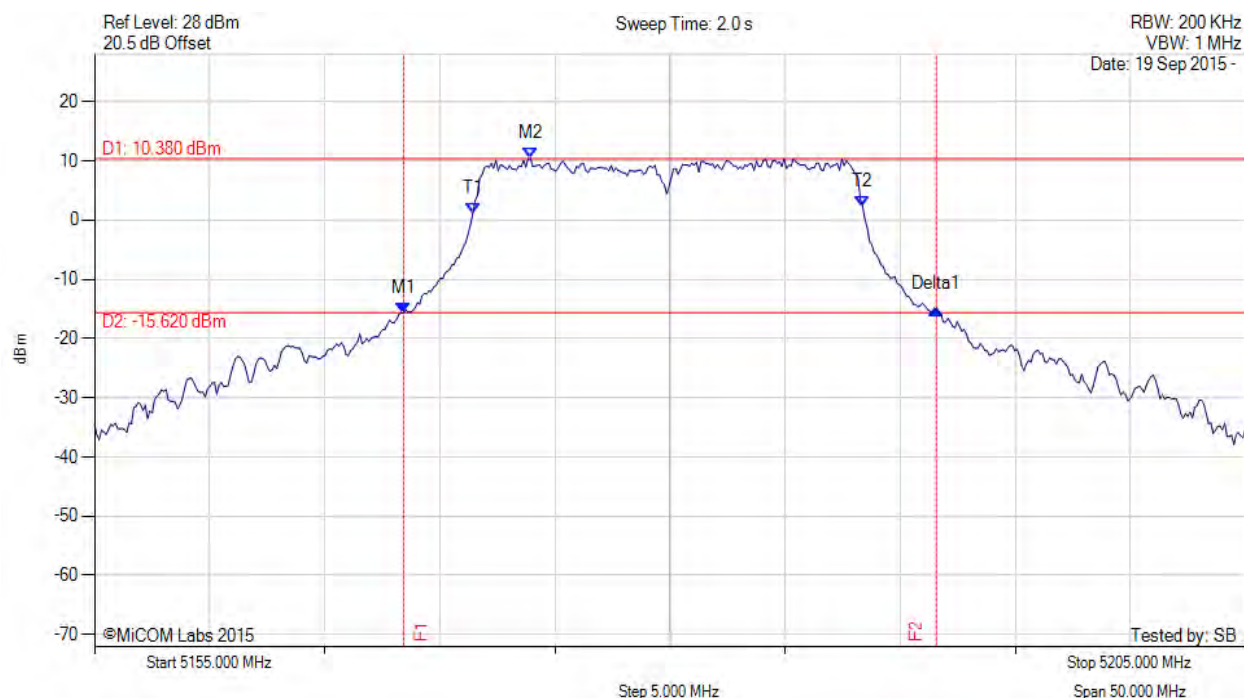
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5180.00 MHz, Chain d, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5168.427 MHz : -15.697 dBm M2 : 5173.938 MHz : 10.380 dBm Delta1 : 23.146 MHz : 0.696 dB T1 : 5171.433 MHz : 1.102 dBm T2 : 5188.367 MHz : 2.342 dBm OBW : 16.934 MHz	Measured 26 dB Bandwidth: 23.146 MHz Measured 99% Bandwidth: 16.934 MHz

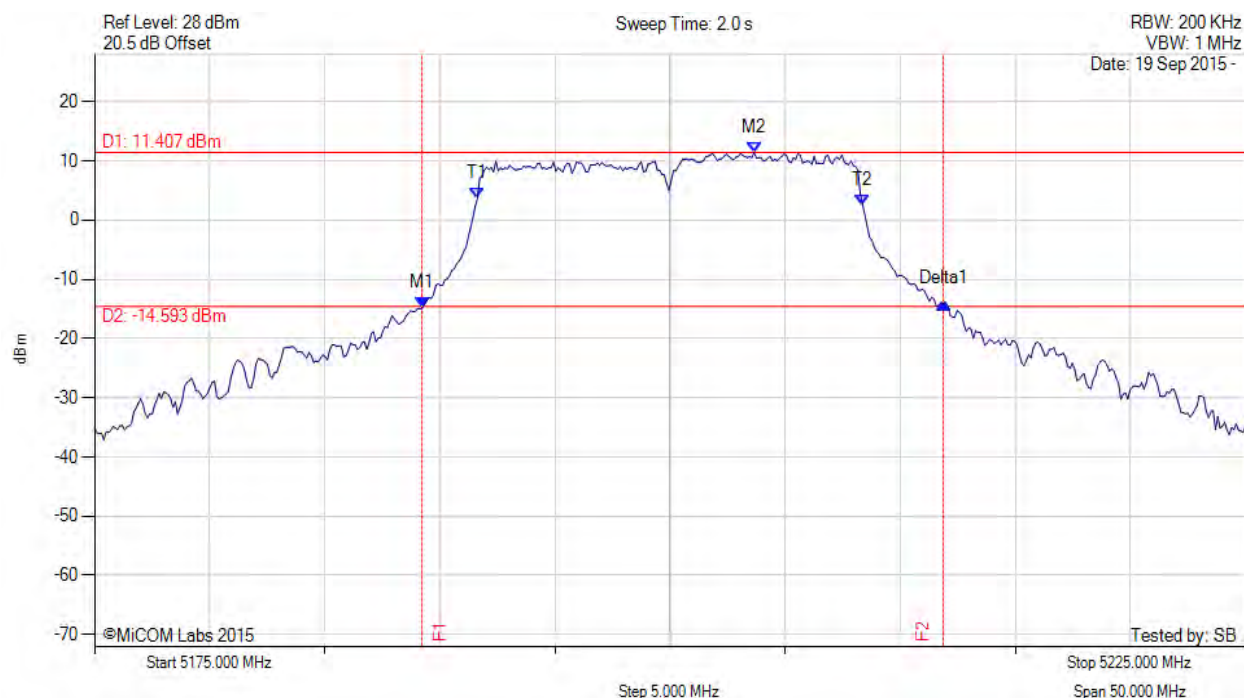
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5200.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5189.228 MHz : -14.900 dBm M2 : 5203.657 MHz : 11.407 dBm Delta1 : 22.645 MHz : 0.797 dB T1 : 5191.633 MHz : 3.585 dBm T2 : 5208.367 MHz : 2.594 dBm OBW : 16.733 MHz	Measured 26 dB Bandwidth: 22.645 MHz Measured 99% Bandwidth: 16.733 MHz

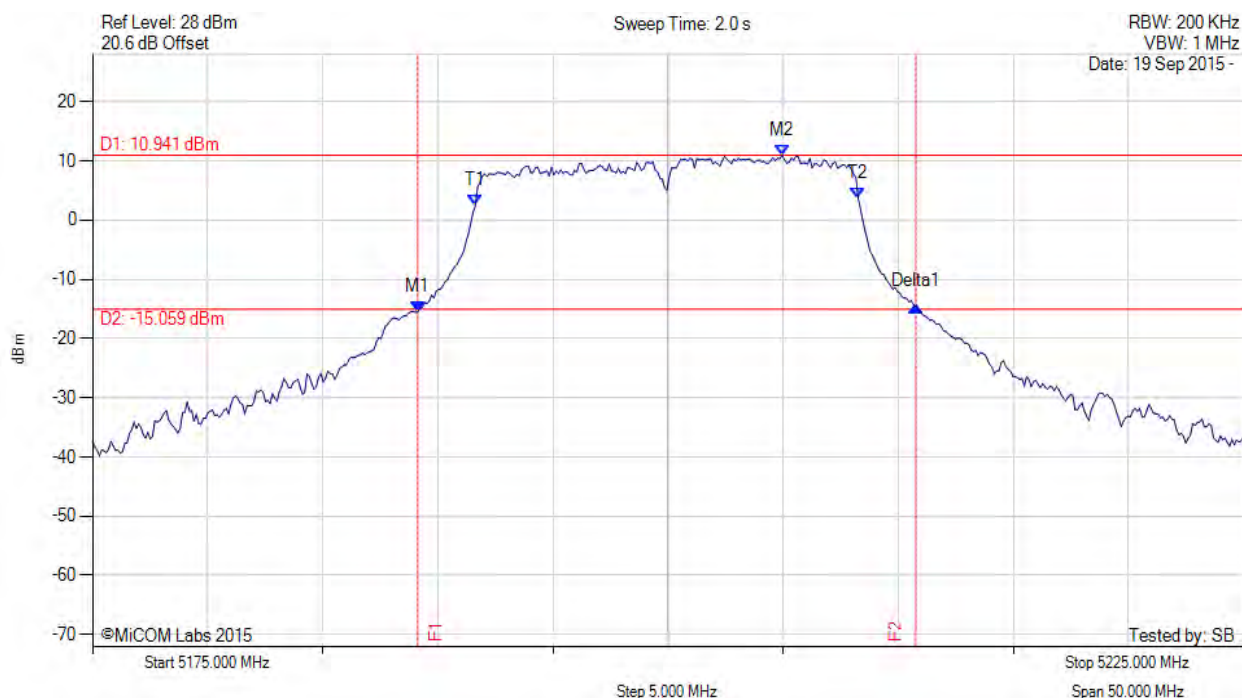
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5200.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5189.128 MHz : -15.510 dBm M2 : 5204.960 MHz : 10.941 dBm Delta1 : 21.643 MHz : 0.954 dB T1 : 5191.633 MHz : 2.521 dBm T2 : 5208.267 MHz : 3.615 dBm OBW : 16.633 MHz	Measured 26 dB Bandwidth: 21.643 MHz Measured 99% Bandwidth: 16.633 MHz

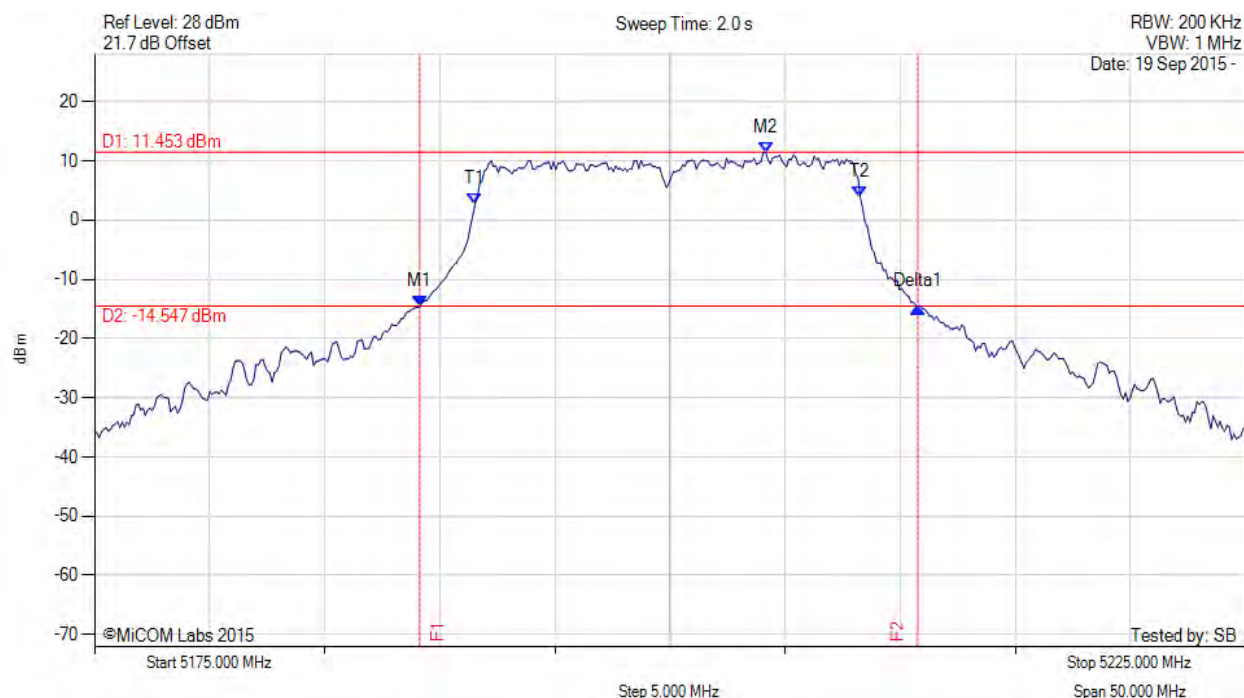
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5200.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5189.128 MHz : -14.629 dBm M2 : 5204.158 MHz : 11.453 dBm Delta1 : 21.643 MHz : -0.049 dB T1 : 5191.533 MHz : 2.708 dBm T2 : 5208.267 MHz : 3.880 dBm OBW : 16.733 MHz	Measured 26 dB Bandwidth: 21.643 MHz Measured 99% Bandwidth: 16.733 MHz

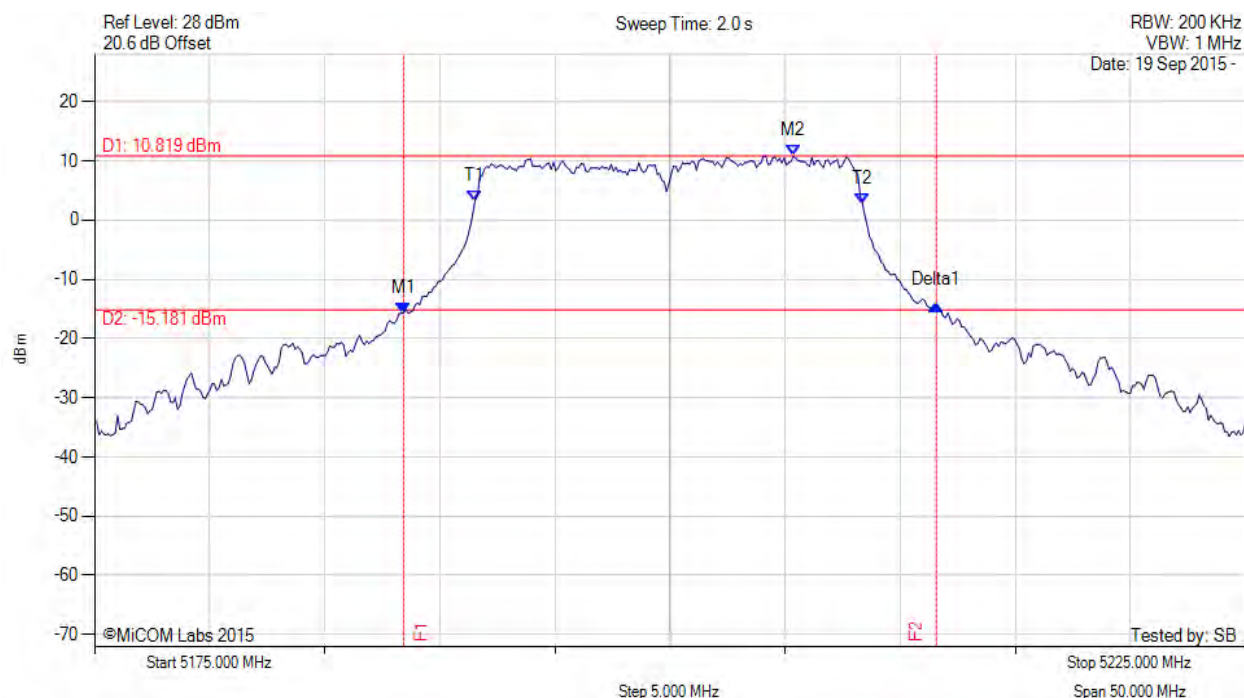
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5200.00 MHz, Chain d, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5188.427 MHz : -15.679 dBm M2 : 5205.361 MHz : 10.819 dBm Delta1 : 23.146 MHz : 1.432 dB T1 : 5191.533 MHz : 3.294 dBm T2 : 5208.367 MHz : 2.684 dBm OBW : 16.834 MHz	Measured 26 dB Bandwidth: 23.146 MHz Measured 99% Bandwidth: 16.834 MHz

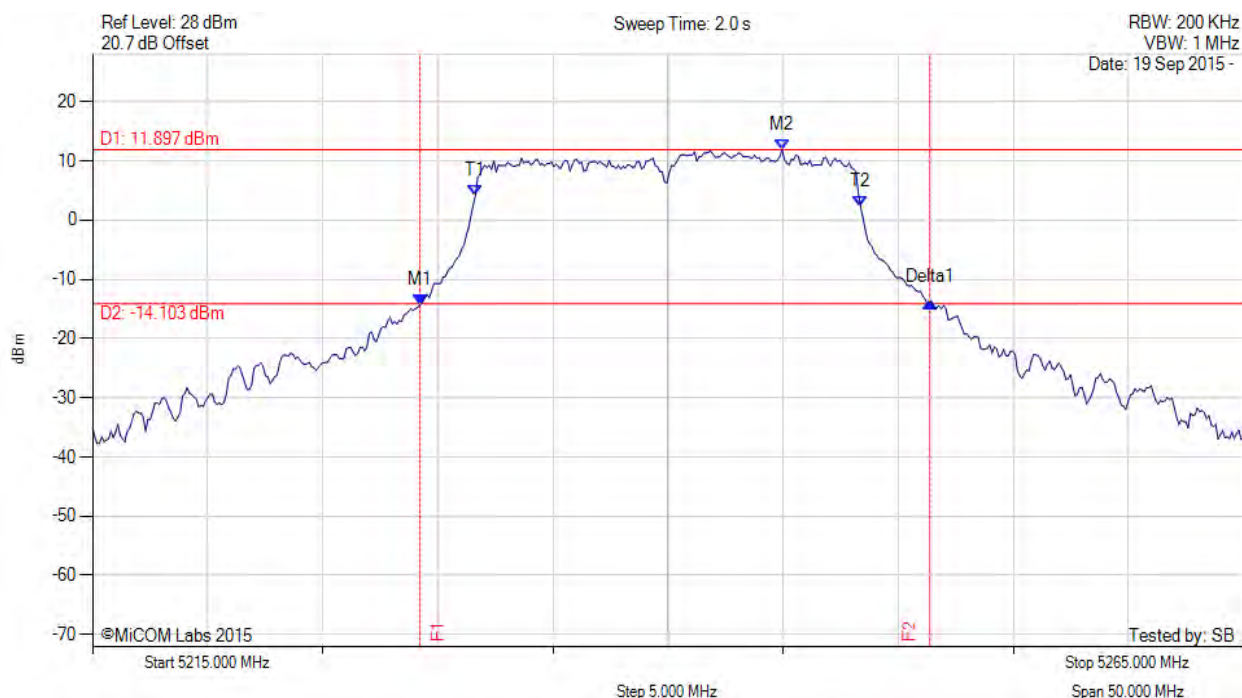
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5240.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5229.228 MHz : -14.286 dBm M2 : 5244.960 MHz : 11.897 dBm Delta1 : 22.144 MHz : 0.415 dB T1 : 5231.633 MHz : 4.187 dBm T2 : 5248.367 MHz : 2.237 dBm OBW : 16.733 MHz	Measured 26 dB Bandwidth: 22.144 MHz Measured 99% Bandwidth: 16.733 MHz

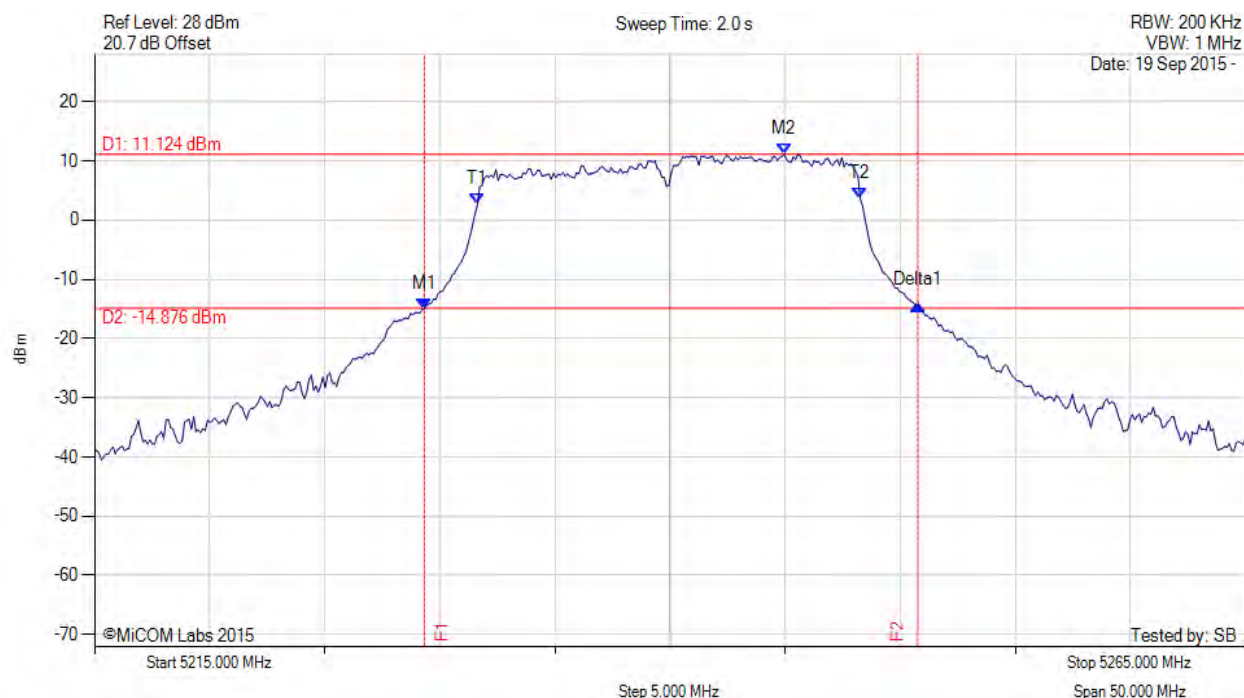
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5240.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5229.329 MHz : -14.981 dBm M2 : 5244.960 MHz : 11.124 dBm Delta1 : 21.443 MHz : 0.685 dB T1 : 5231.633 MHz : 2.655 dBm T2 : 5248.267 MHz : 3.624 dBm OBW : 16.633 MHz	Measured 26 dB Bandwidth: 21.443 MHz Measured 99% Bandwidth: 16.633 MHz

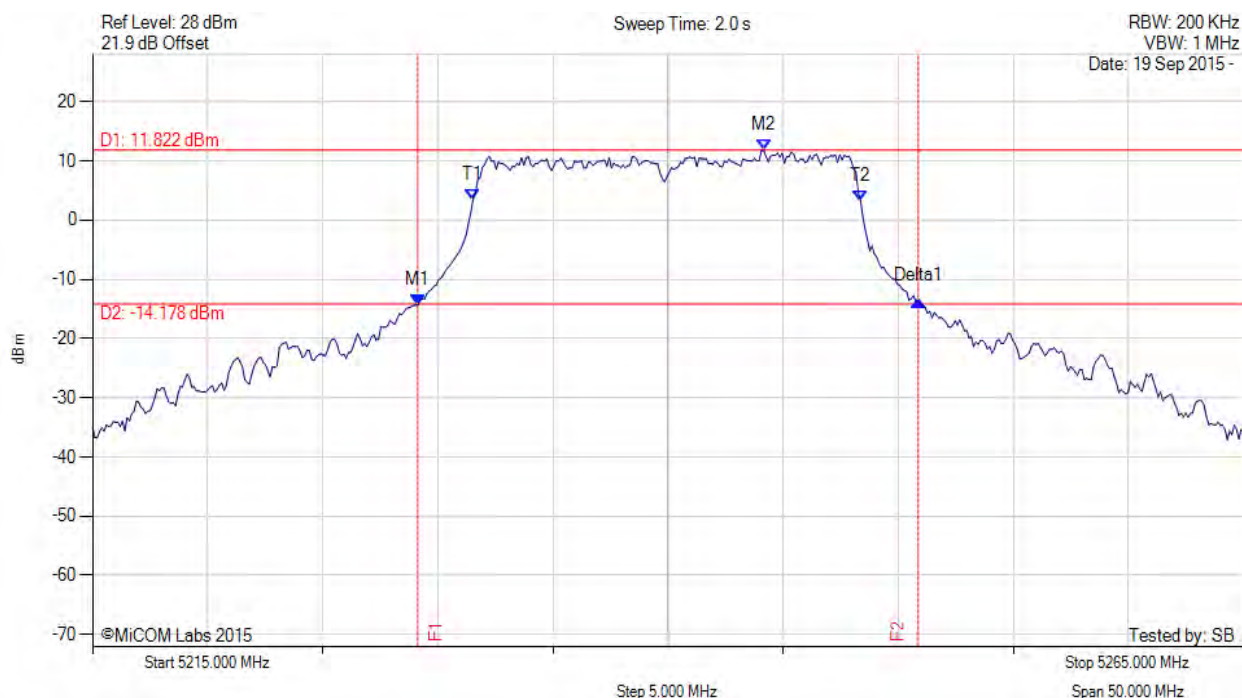
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5240.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5229.128 MHz : -14.292 dBm M2 : 5244.158 MHz : 11.822 dBm Delta1 : 21.743 MHz : 0.590 dB T1 : 5231.533 MHz : 3.481 dBm T2 : 5248.367 MHz : 3.276 dBm OBW : 16.834 MHz	Measured 26 dB Bandwidth: 21.743 MHz Measured 99% Bandwidth: 16.834 MHz

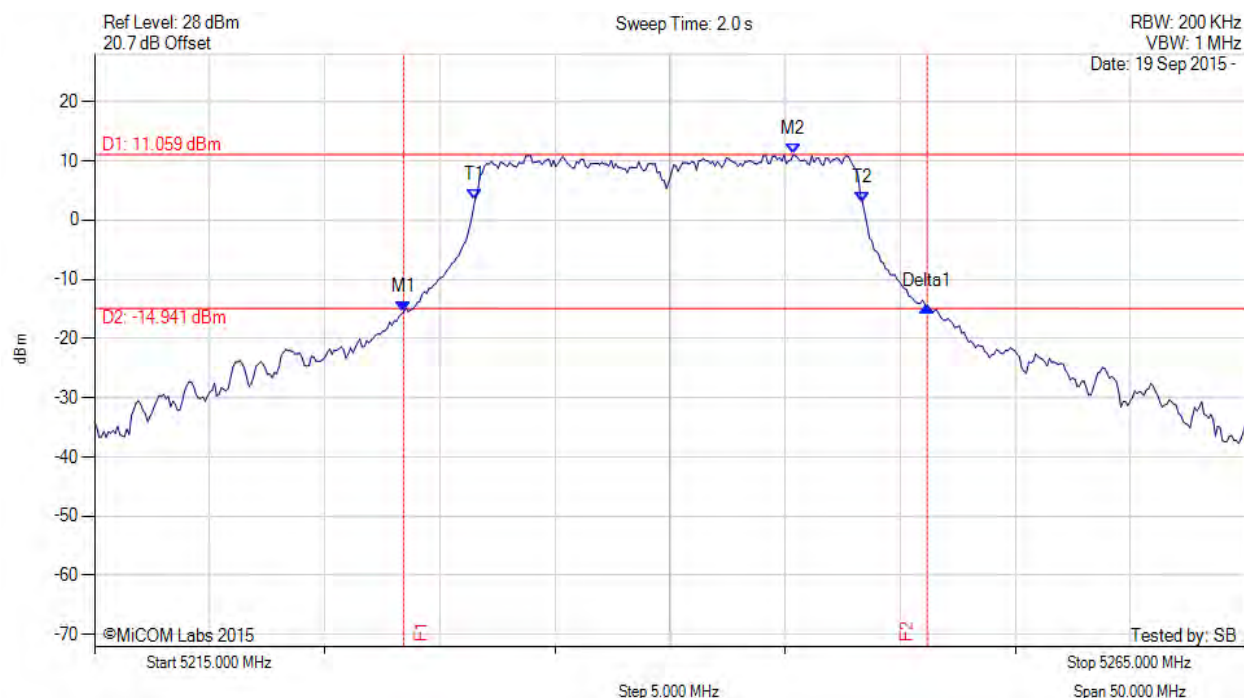
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5240.00 MHz, Chain d, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5228.427 MHz : -15.589 dBm M2 : 5245.361 MHz : 11.059 dBm Delta1 : 22.745 MHz : 0.954 dB T1 : 5231.533 MHz : 3.451 dBm T2 : 5248.367 MHz : 2.950 dBm OBW : 16.834 MHz	Measured 26 dB Bandwidth: 22.745 MHz Measured 99% Bandwidth: 16.834 MHz

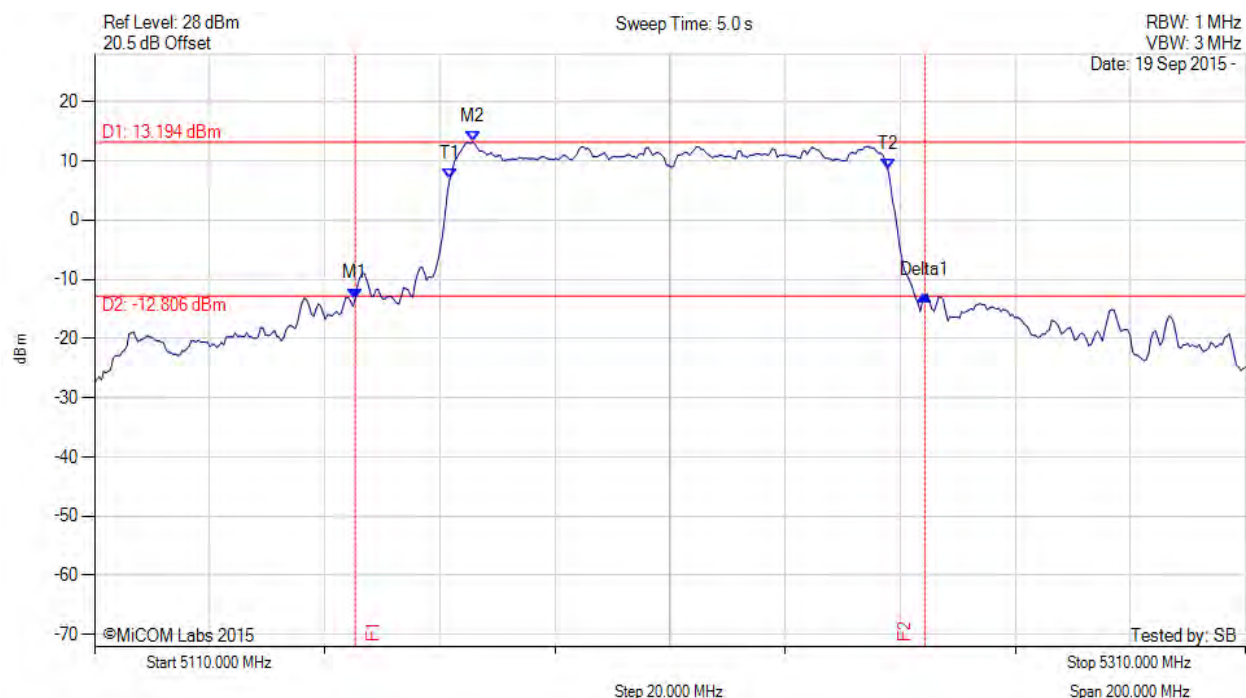
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26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5210.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5155.291 MHz : -13.279 dBm M2 : 5175.731 MHz : 13.194 dBm Delta1 : 98.998 MHz : 0.537 dB T1 : 5171.723 MHz : 6.896 dBm T2 : 5247.876 MHz : 8.612 dBm OBW : 76.152 MHz	Measured 26 dB Bandwidth: 98.998 MHz Measured 99% Bandwidth: 76.152 MHz

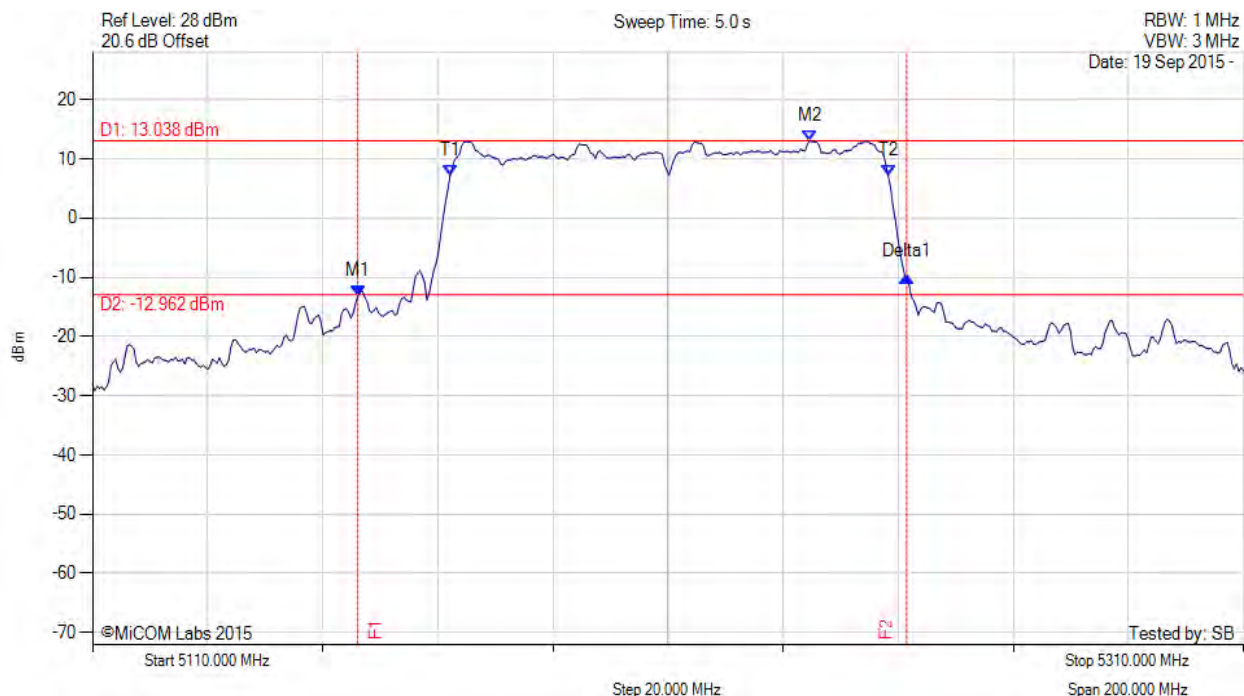
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26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5210.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5156.092 MHz : -13.061 dBm M2 : 5234.649 MHz : 13.038 dBm Delta1 : 95.391 MHz : 3.106 dB T1 : 5172.124 MHz : 7.140 dBm T2 : 5248.277 MHz : 7.113 dBm OBW : 76.152 MHz	Measured 26 dB Bandwidth: 95.391 MHz Measured 99% Bandwidth: 76.152 MHz

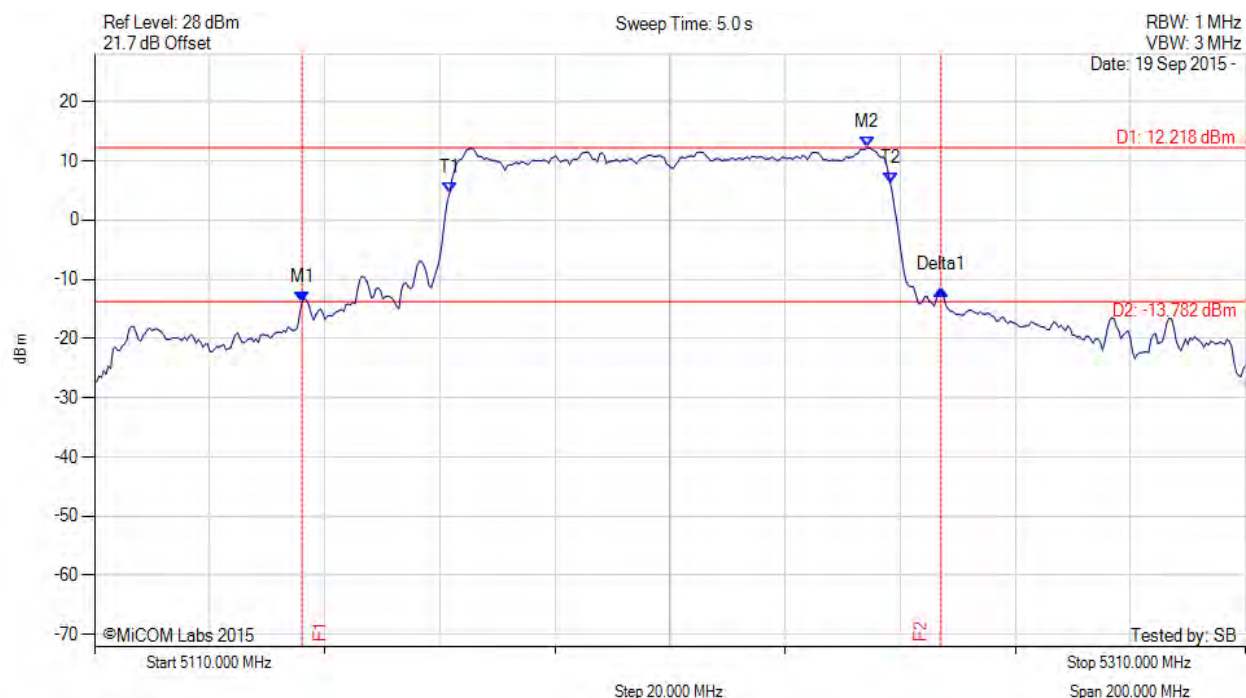
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26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5210.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5146.072 MHz : -13.832 dBm M2 : 5244.269 MHz : 12.218 dBm Delta1 : 111.022 MHz : 2.125 dB T1 : 5171.723 MHz : 4.636 dBm T2 : 5248.277 MHz : 6.337 dBm OBW : 76.553 MHz	Measured 26 dB Bandwidth: 111.022 MHz Measured 99% Bandwidth: 76.553 MHz

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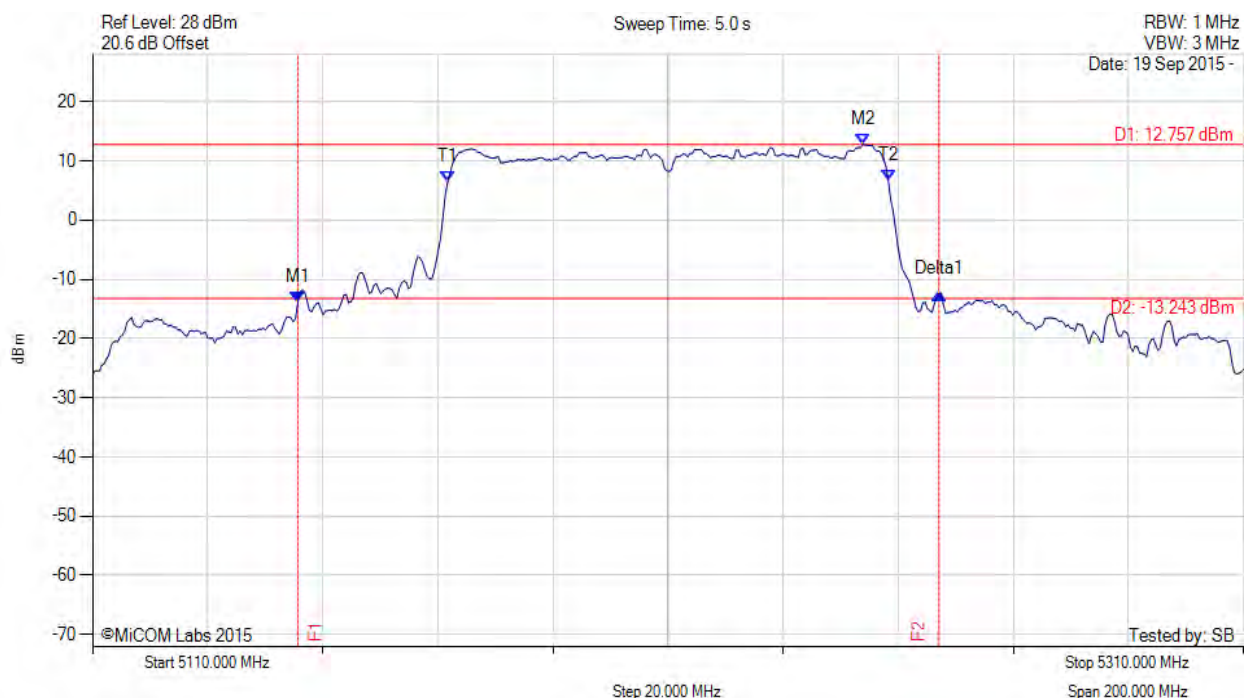


Title: Actiontec Electronics Inc WCB6240Q
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: ATEC09-U8a Conducted (non-DFS) Rev B
Issue Date: 22nd December 2015
Page: 67 of 242



26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5210.00 MHz, Chain d, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5145.671 MHz : -13.948 dBm M2 : 5243.868 MHz : 12.757 dBm Delta1 : 111.423 MHz : 1.519 dB T1 : 5171.723 MHz : 6.434 dBm T2 : 5248.277 MHz : 6.798 dBm OBW : 76.553 MHz	Measured 26 dB Bandwidth: 111.423 MHz Measured 99% Bandwidth: 76.553 MHz

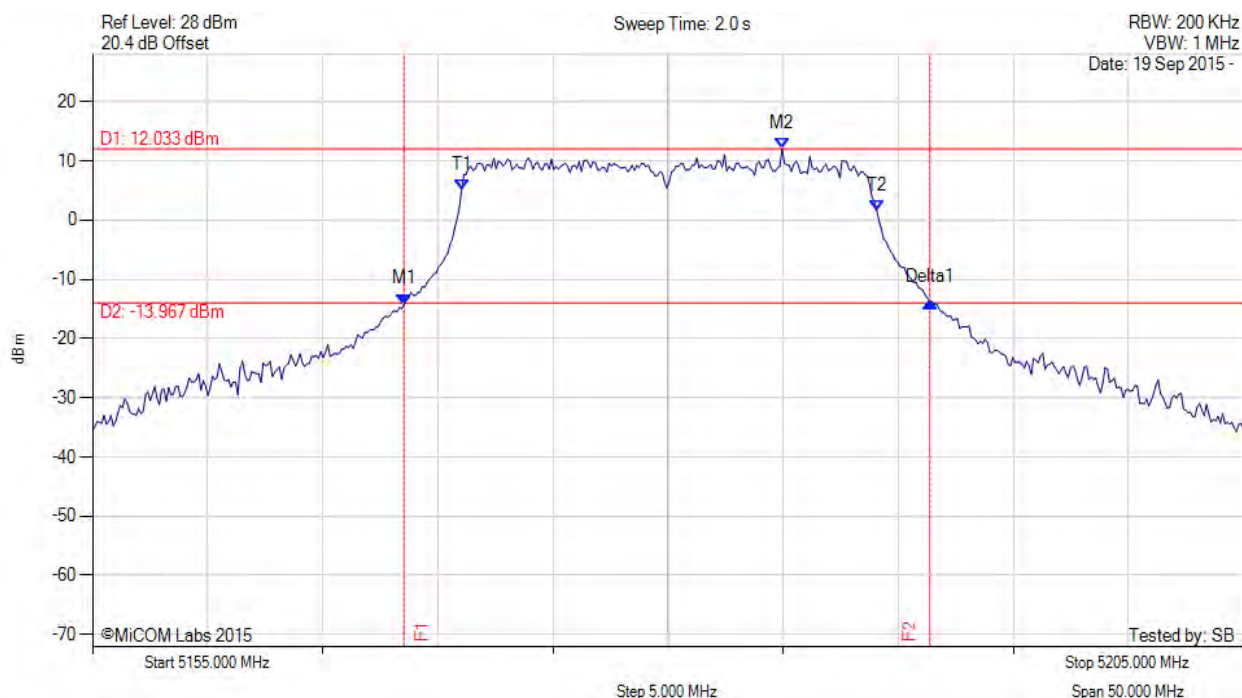
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5180.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5168.527 MHz : -14.227 dBm M2 : 5184.960 MHz : 12.033 dBm Delta1 : 22.846 MHz : 0.451 dB T1 : 5171.032 MHz : 4.984 dBm T2 : 5189.068 MHz : 1.618 dBm OBW : 18.036 MHz	Measured 26 dB Bandwidth: 22.846 MHz Measured 99% Bandwidth: 18.036 MHz

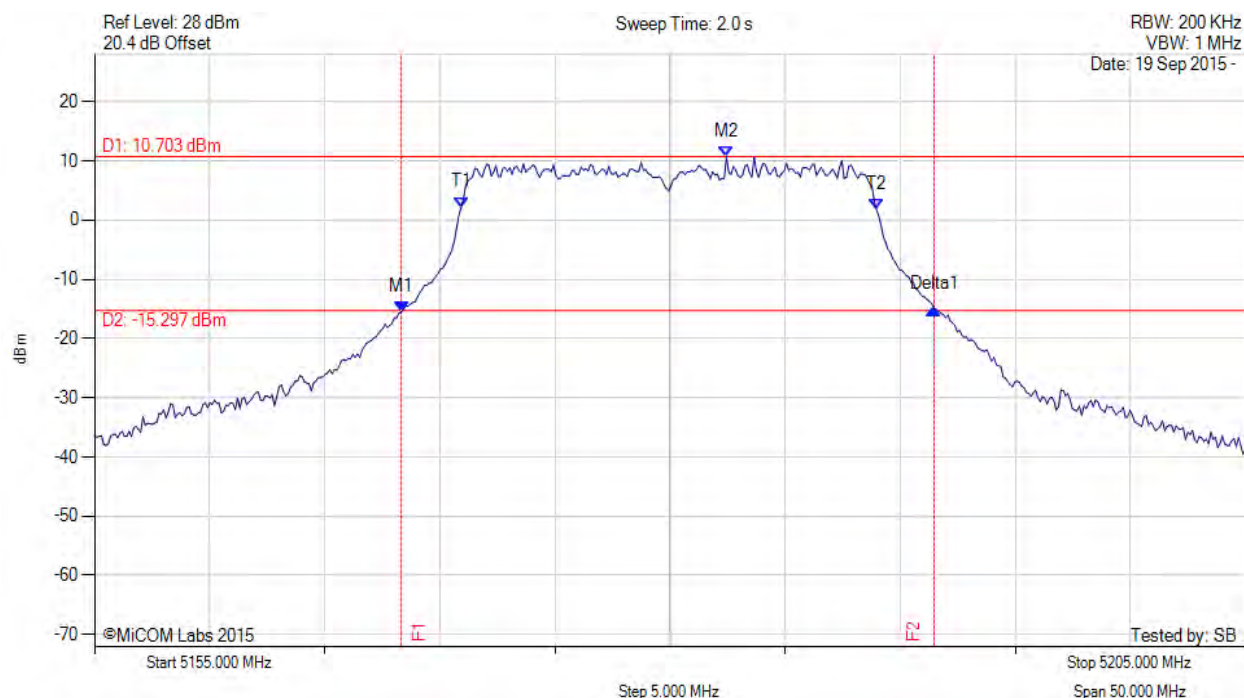
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5180.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5168.327 MHz : -15.579 dBm M2 : 5182.455 MHz : 10.703 dBm Delta1 : 23.146 MHz : 0.569 dB T1 : 5170.932 MHz : 2.135 dBm T2 : 5188.968 MHz : 1.765 dBm OBW : 18.036 MHz	Measured 26 dB Bandwidth: 23.146 MHz Measured 99% Bandwidth: 18.036 MHz

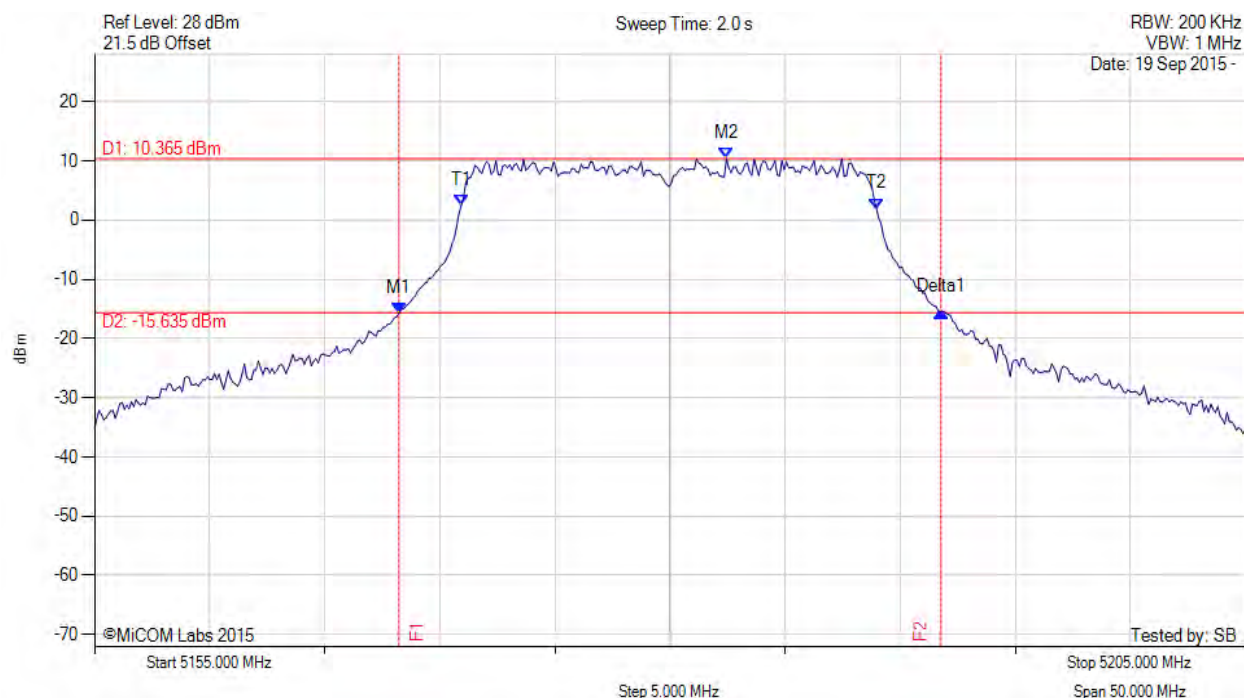
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5180.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5168.226 MHz : -15.736 dBm M2 : 5182.455 MHz : 10.365 dBm Delta1 : 23.547 MHz : 0.250 dB T1 : 5170.932 MHz : 2.493 dBm T2 : 5188.968 MHz : 1.899 dBm OBW : 18.036 MHz	Measured 26 dB Bandwidth: 23.547 MHz Measured 99% Bandwidth: 18.036 MHz

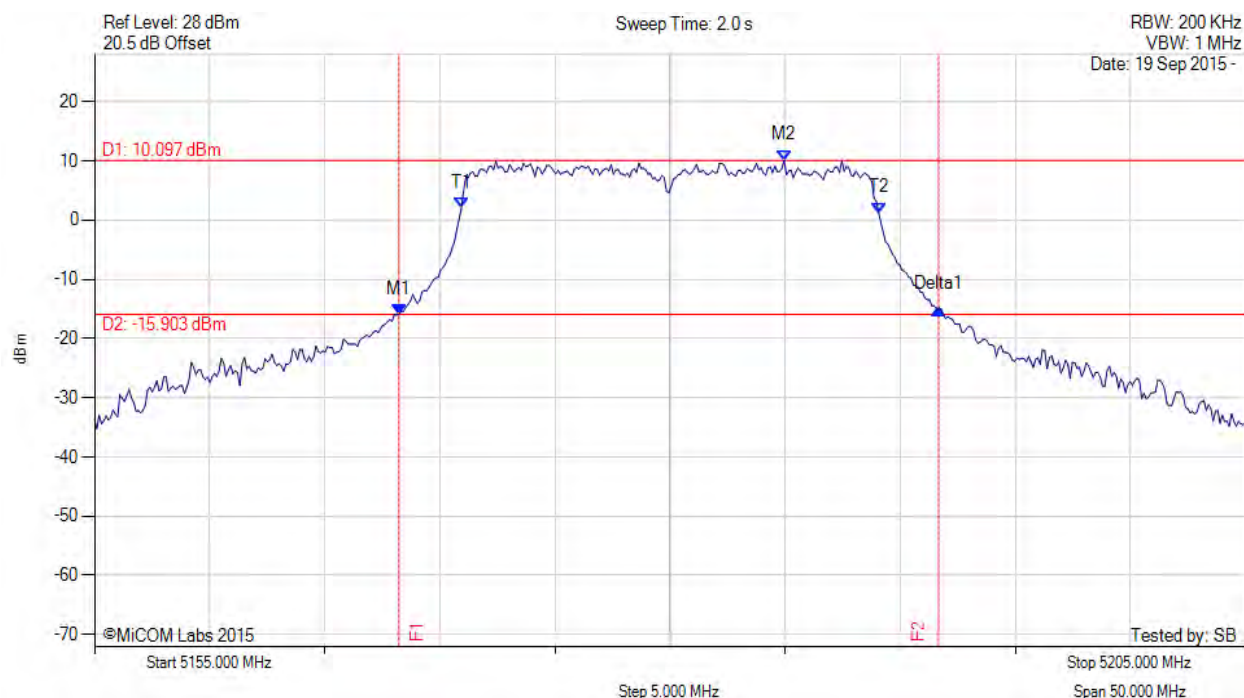
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26 dB & 99% BANDWIDTH



Variant: 802.11n HT-20, Channel: 5180.00 MHz, Chain d, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5168.226 MHz : -15.939 dBm M2 : 5184.960 MHz : 10.097 dBm Delta1 : 23.447 MHz : 1.003 dB T1 : 5170.932 MHz : 1.940 dBm T2 : 5189.068 MHz : 1.203 dBm OBW : 18.136 MHz	Measured 26 dB Bandwidth: 23.447 MHz Measured 99% Bandwidth: 18.136 MHz

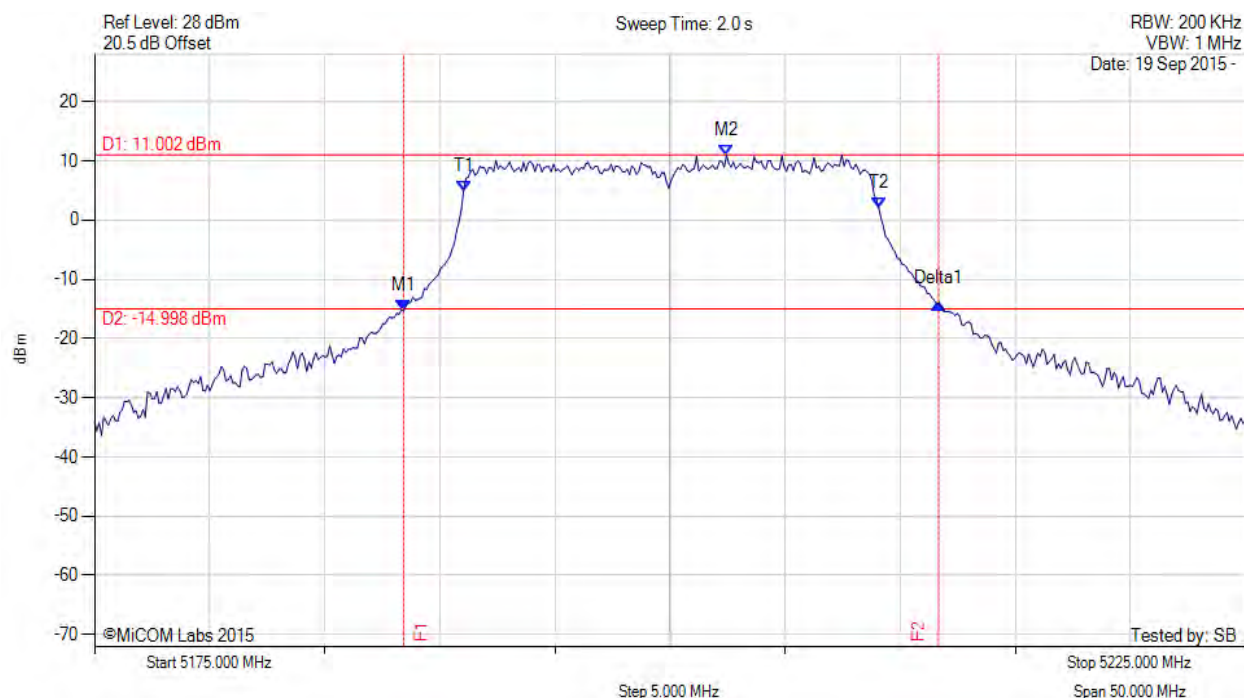
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5200.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5188.427 MHz : -15.298 dBm M2 : 5202.455 MHz : 11.002 dBm Delta1 : 23.246 MHz : 1.216 dB T1 : 5191.032 MHz : 4.923 dBm T2 : 5209.068 MHz : 2.119 dBm OBW : 18.036 MHz	Measured 26 dB Bandwidth: 23.246 MHz Measured 99% Bandwidth: 18.036 MHz

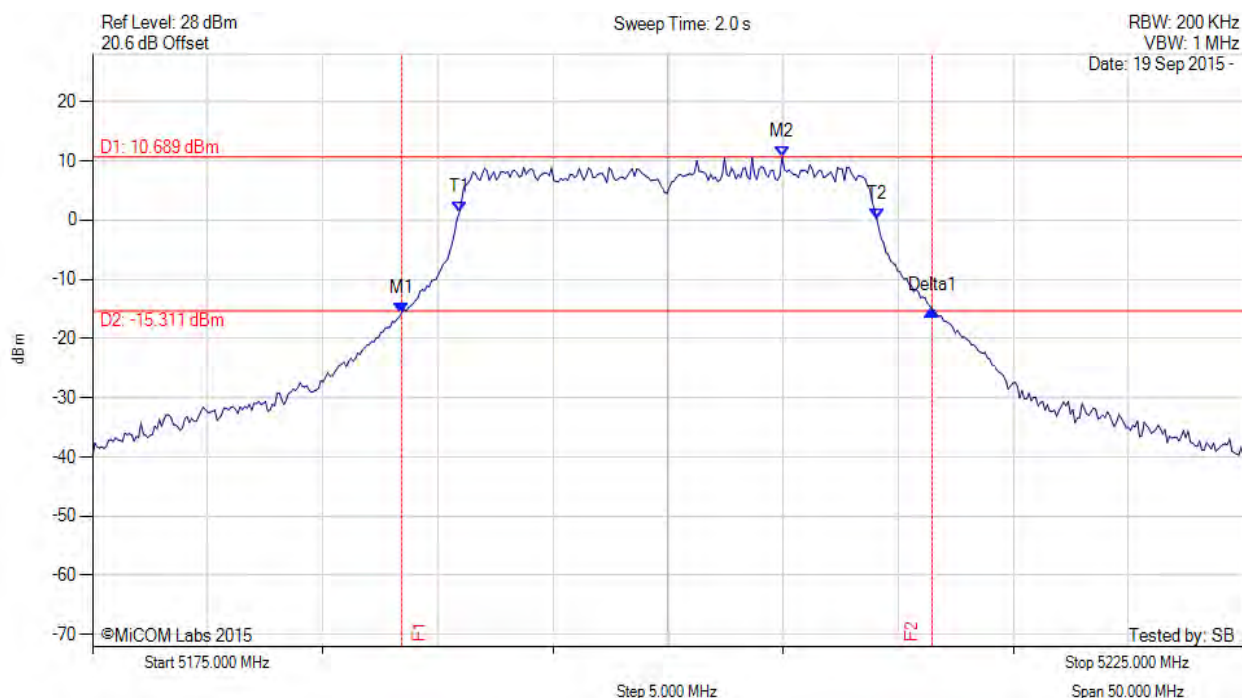
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5200.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5188.427 MHz : -15.669 dBm M2 : 5204.960 MHz : 10.689 dBm Delta1 : 23.046 MHz : 0.474 dB T1 : 5190.932 MHz : 1.258 dBm T2 : 5209.068 MHz : 0.262 dBm OBW : 18.136 MHz	Measured 26 dB Bandwidth: 23.046 MHz Measured 99% Bandwidth: 18.136 MHz

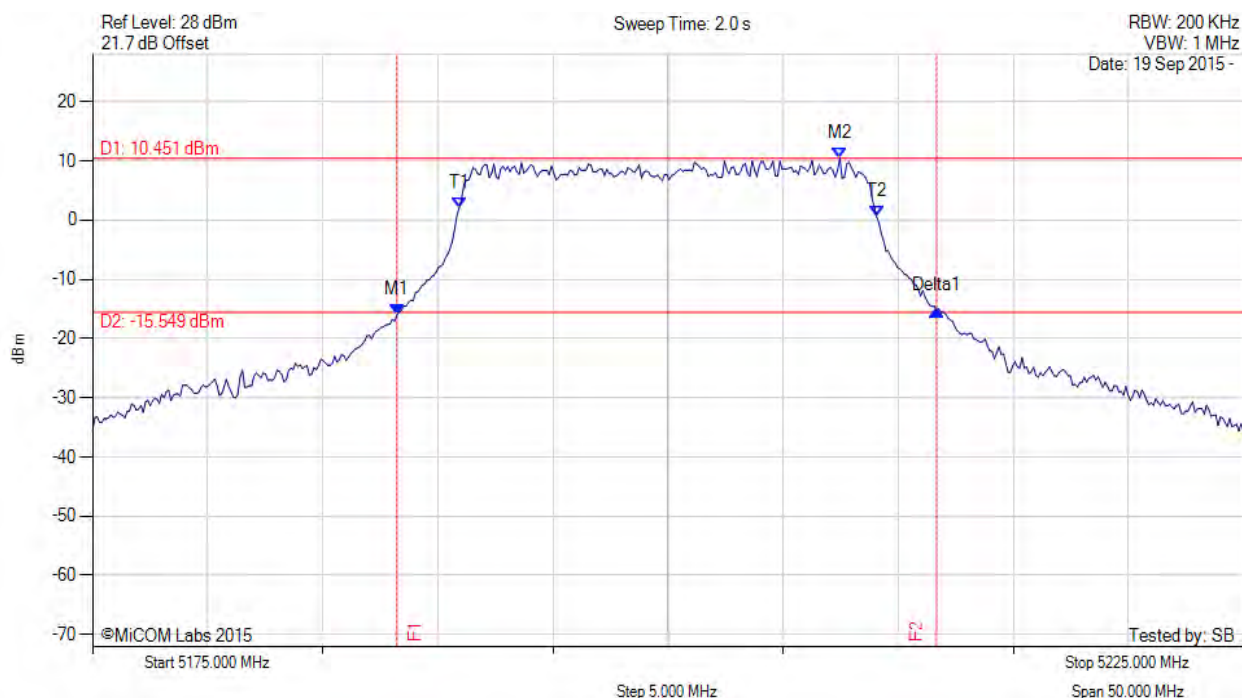
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5200.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5188.226 MHz : -16.006 dBm M2 : 5207.465 MHz : 10.451 dBm Delta1 : 23.447 MHz : 0.689 dB T1 : 5190.932 MHz : 2.090 dBm T2 : 5209.068 MHz : 0.528 dBm OBW : 18.136 MHz	Measured 26 dB Bandwidth: 23.447 MHz Measured 99% Bandwidth: 18.136 MHz

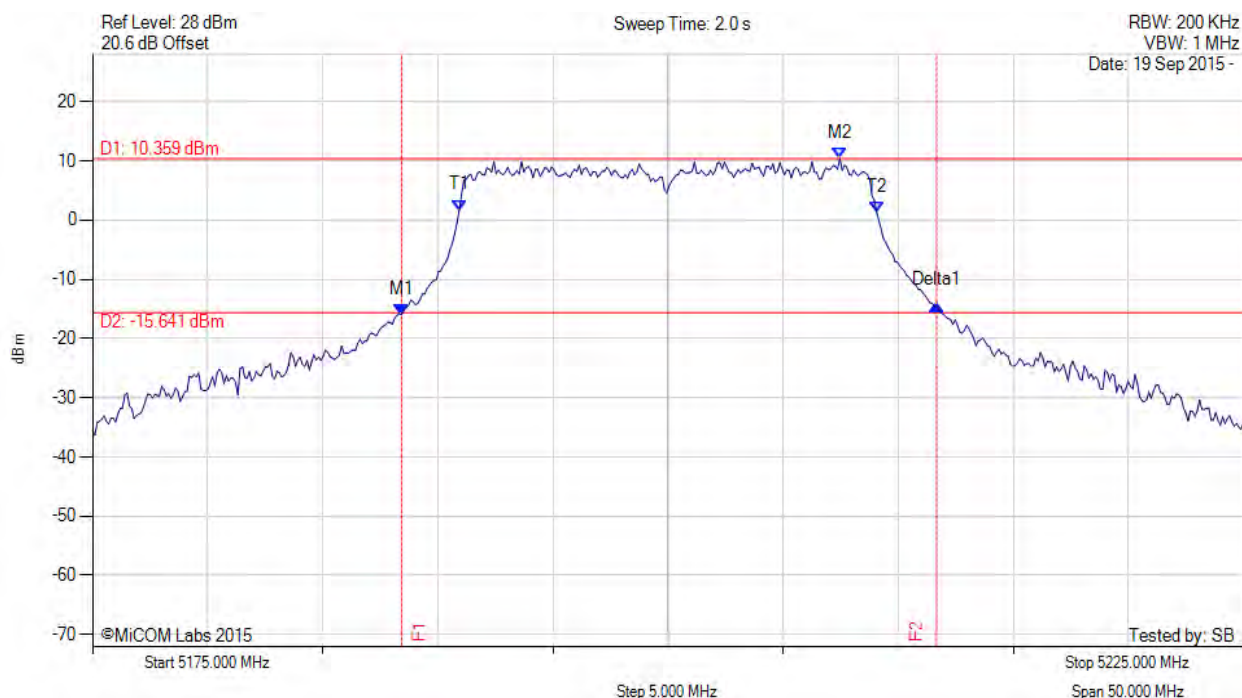
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5200.00 MHz, Chain d, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5188.427 MHz : -15.941 dBm M2 : 5207.465 MHz : 10.359 dBm Delta1 : 23.246 MHz : 1.572 dB T1 : 5190.932 MHz : 1.673 dBm T2 : 5209.068 MHz : 1.323 dBm OBW : 18.136 MHz	Measured 26 dB Bandwidth: 23.246 MHz Measured 99% Bandwidth: 18.136 MHz

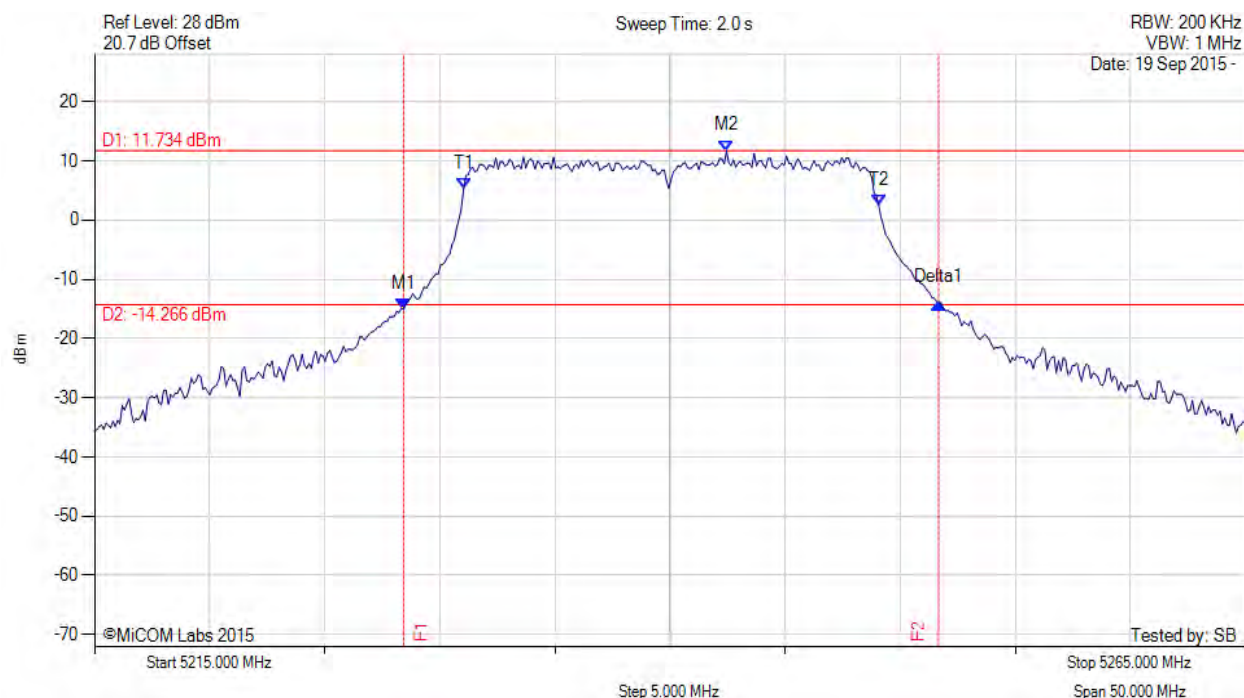
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5240.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5228.427 MHz : -15.087 dBm M2 : 5242.455 MHz : 11.734 dBm Delta1 : 23.246 MHz : 1.102 dB T1 : 5231.032 MHz : 5.248 dBm T2 : 5249.068 MHz : 2.513 dBm OBW : 18.036 MHz	Measured 26 dB Bandwidth: 23.246 MHz Measured 99% Bandwidth: 18.036 MHz

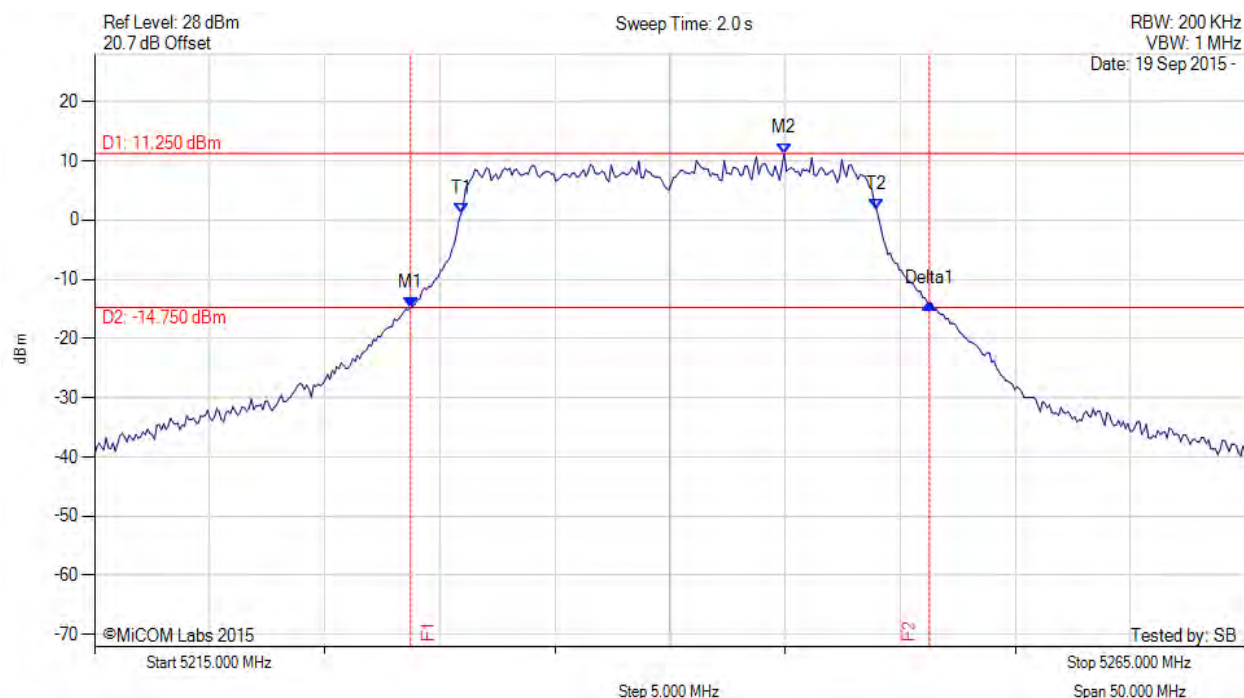
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5240.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5228.727 MHz : -14.829 dBm M2 : 5244.960 MHz : 11.250 dBm Delta1 : 22.545 MHz : 0.708 dB T1 : 5230.932 MHz : 1.197 dBm T2 : 5248.968 MHz : 1.803 dBm OBW : 18.036 MHz	Measured 26 dB Bandwidth: 22.545 MHz Measured 99% Bandwidth: 18.036 MHz

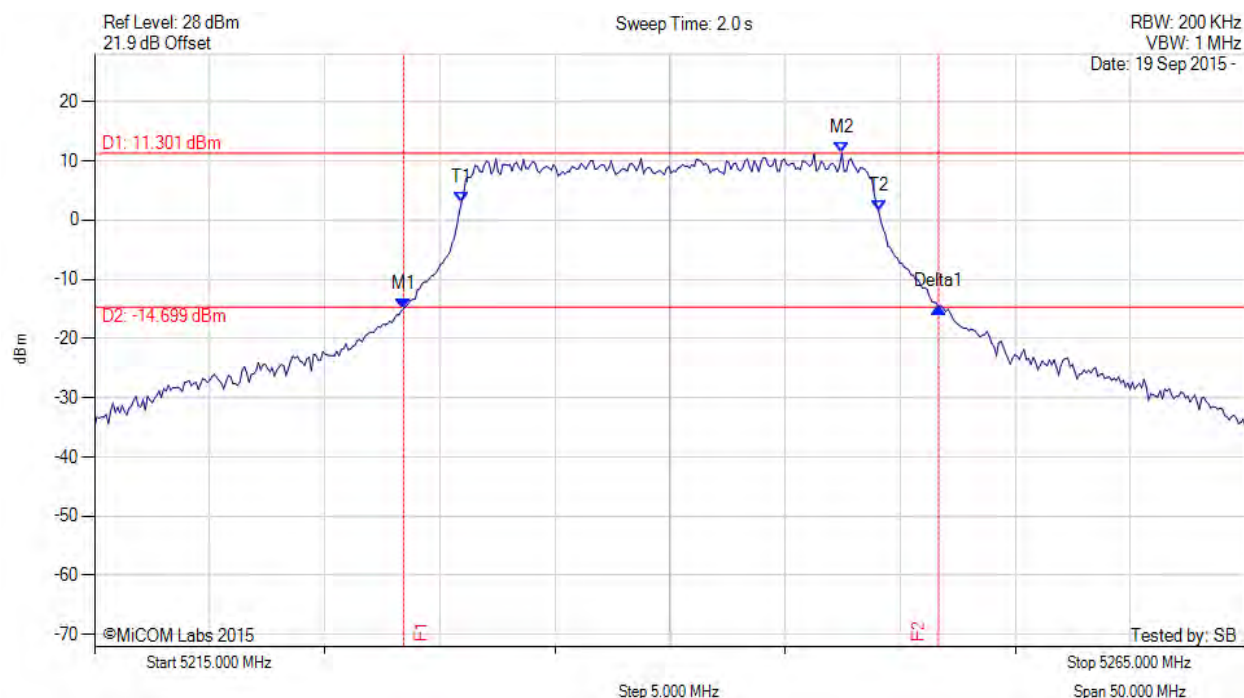
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26 dB & 99% BANDWIDTH



Variant: 802.11n HT-20, Channel: 5240.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5228.427 MHz : -14.965 dBm M2 : 5247.465 MHz : 11.301 dBm Delta1 : 23.246 MHz : 0.277 dB T1 : 5230.932 MHz : 2.940 dBm T2 : 5249.068 MHz : 1.492 dBm OBW : 18.136 MHz	Measured 26 dB Bandwidth: 23.246 MHz Measured 99% Bandwidth: 18.136 MHz

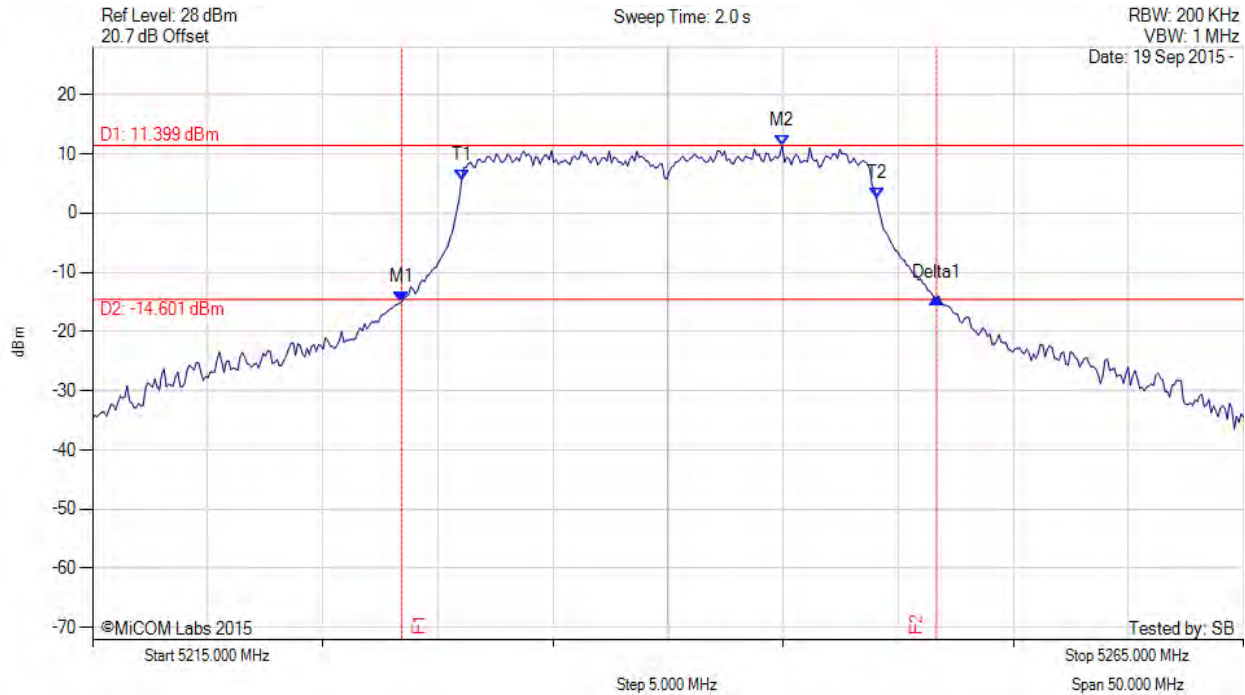
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26 dB & 99% BANDWIDTH



Variant: 802.11n HT-20, Channel: 5240.00 MHz, Chain d, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5228.427 MHz : -15.036 dBm M2 : 5244.960 MHz : 11.399 dBm Delta1 : 23.246 MHz : 0.718 dB T1 : 5231.032 MHz : 5.537 dBm T2 : 5249.068 MHz : 2.426 dBm OBW : 18.036 MHz	Measured 26 dB Bandwidth: 23.246 MHz Measured 99% Bandwidth: 18.036 MHz

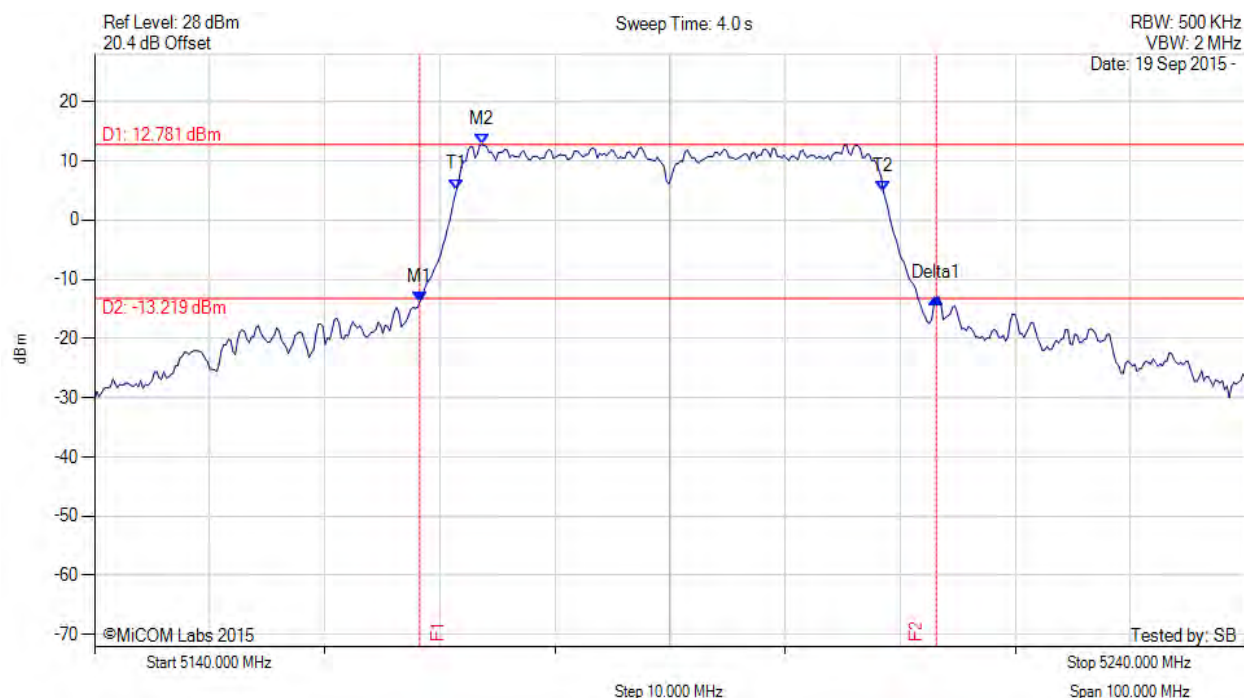
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26 dB & 99% BANDWIDTH



Variant: 802.11n HT-40, Channel: 5190.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5168.257 MHz : -13.852 dBm M2 : 5173.667 MHz : 12.781 dBm Delta1 : 44.890 MHz : 0.789 dB T1 : 5171.463 MHz : 5.175 dBm T2 : 5208.537 MHz : 4.807 dBm OBW : 37.074 MHz	Measured 26 dB Bandwidth: 44.890 MHz Measured 99% Bandwidth: 37.074 MHz

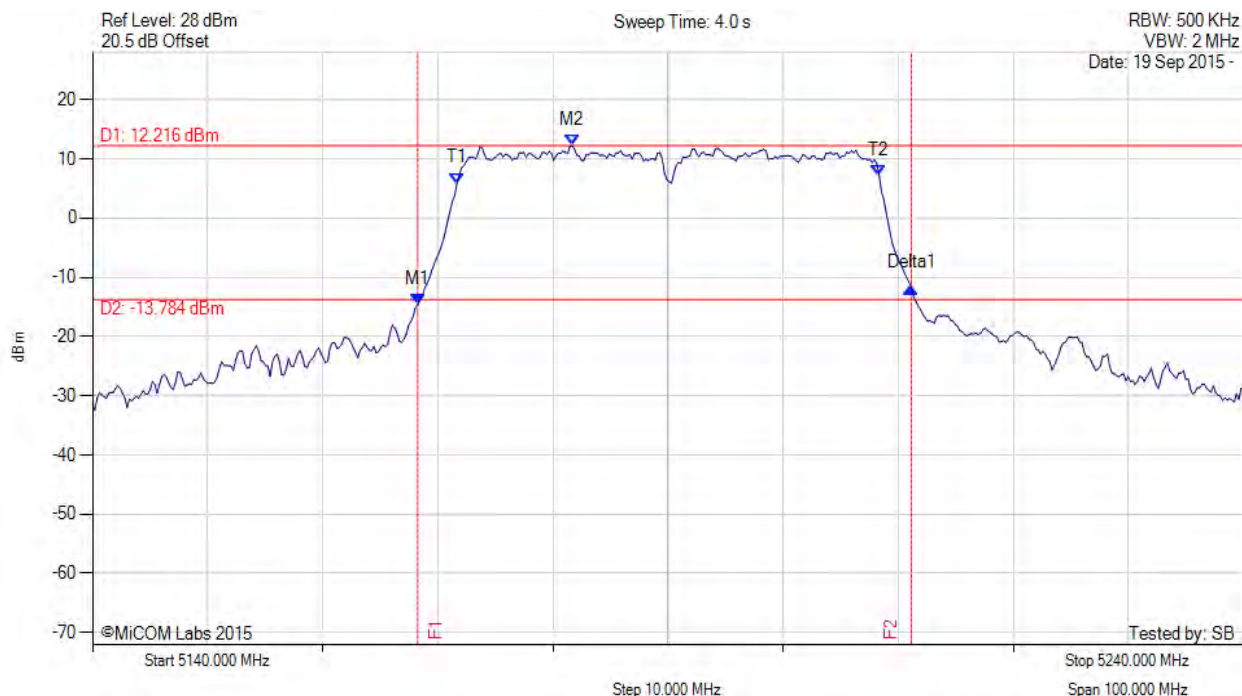
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5190.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5168.257 MHz : -14.637 dBm M2 : 5181.683 MHz : 12.216 dBm Delta1 : 42.886 MHz : 2.969 dB T1 : 5171.663 MHz : 5.883 dBm T2 : 5208.337 MHz : 7.268 dBm OBW : 36.673 MHz	Measured 26 dB Bandwidth: 42.886 MHz Measured 99% Bandwidth: 36.673 MHz

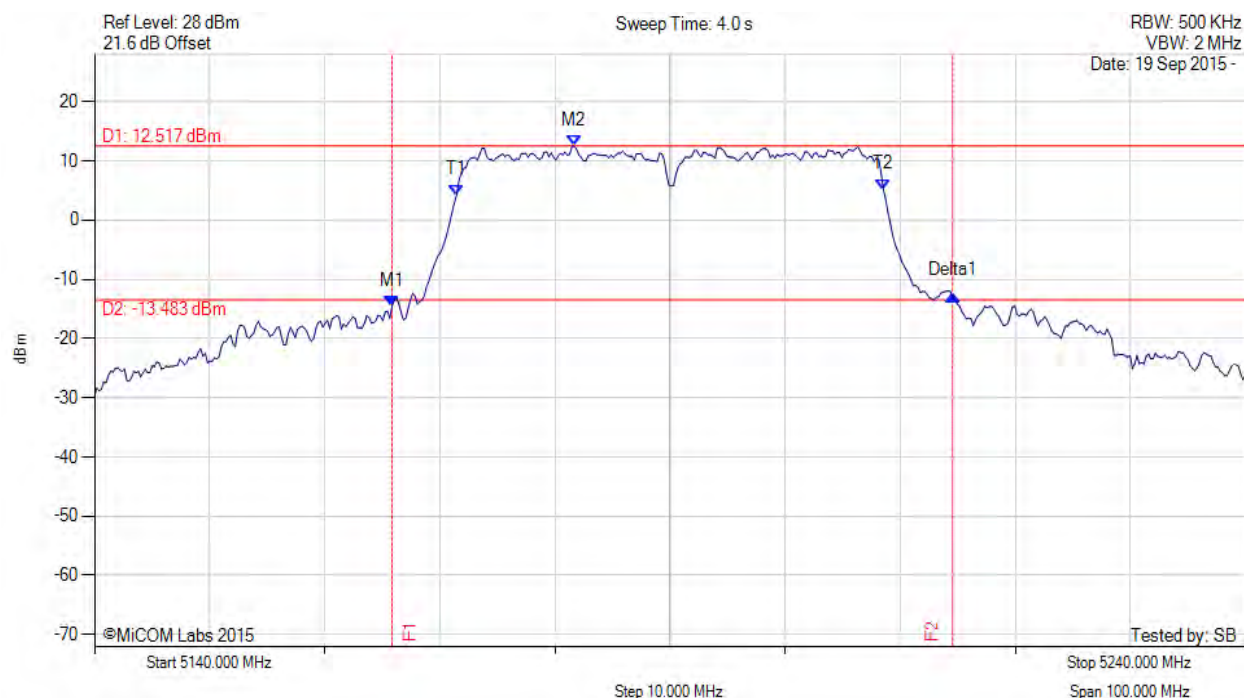
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5190.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5165.852 MHz : -14.564 dBm M2 : 5181.683 MHz : 12.517 dBm Delta1 : 48.697 MHz : 1.794 dB T1 : 5171.463 MHz : 4.262 dBm T2 : 5208.537 MHz : 5.192 dBm OBW : 37.074 MHz	Measured 26 dB Bandwidth: 48.697 MHz Measured 99% Bandwidth: 37.074 MHz

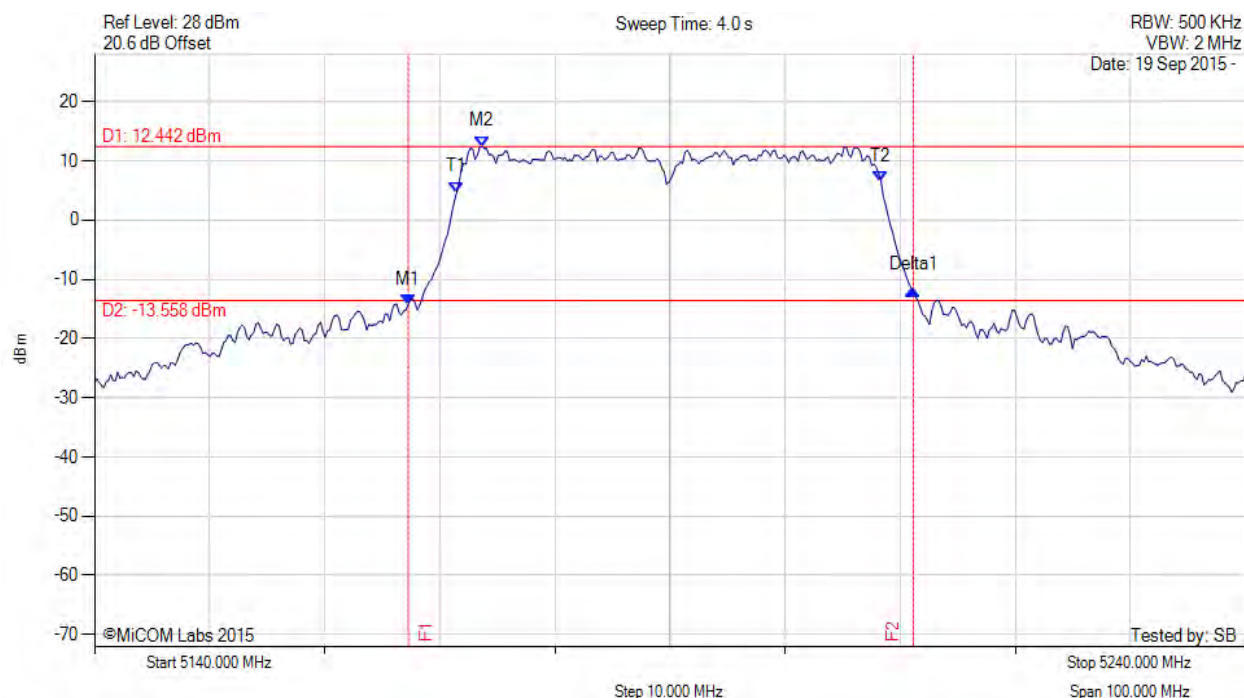
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5190.00 MHz, Chain d, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5167.255 MHz : -14.239 dBm M2 : 5173.667 MHz : 12.442 dBm Delta1 : 43.888 MHz : 2.477 dB T1 : 5171.463 MHz : 4.714 dBm T2 : 5208.337 MHz : 6.556 dBm OBW : 36.874 MHz	Measured 26 dB Bandwidth: 43.888 MHz Measured 99% Bandwidth: 36.874 MHz

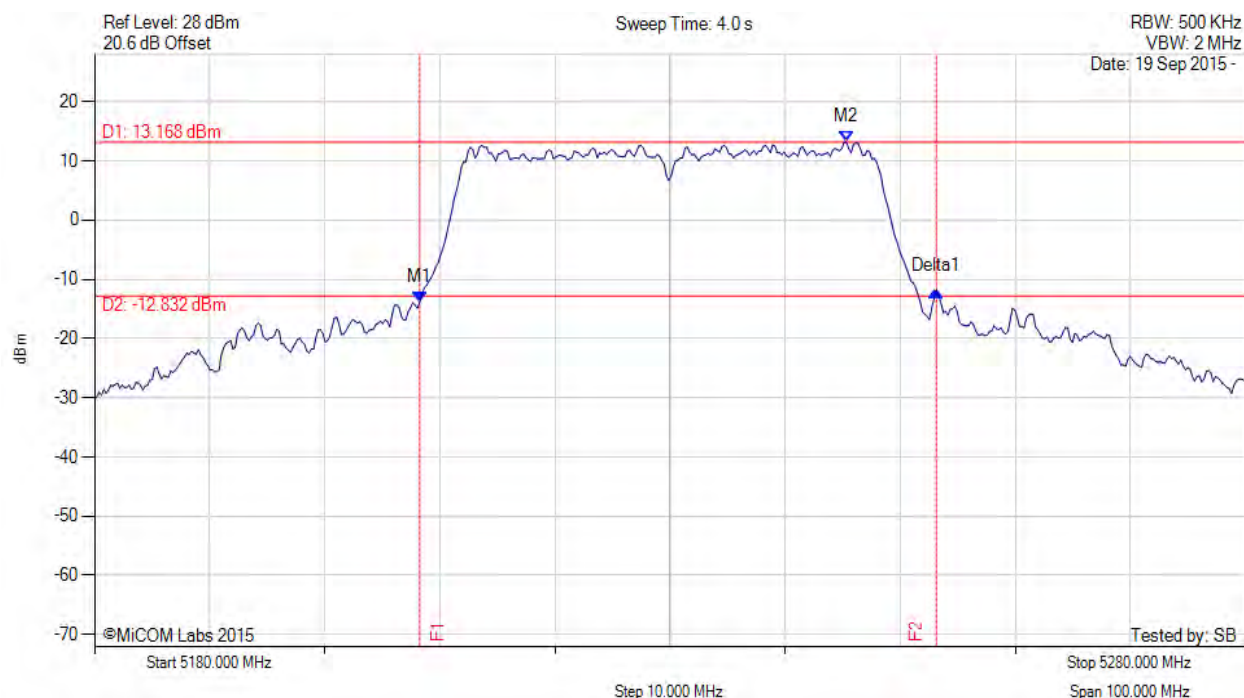
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5230.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5208.257 MHz : -13.765 dBm M2 : 5245.331 MHz : 13.168 dBm Delta1 : 44.890 MHz : 1.824 dB T1 : 0 Hz : 500.000 dBm T2 : 0 Hz : 500.000 dBm OBW : 36.874 MHz	Measured 26 dB Bandwidth: 44.890 MHz Measured 99% Bandwidth: 36.874 MHz

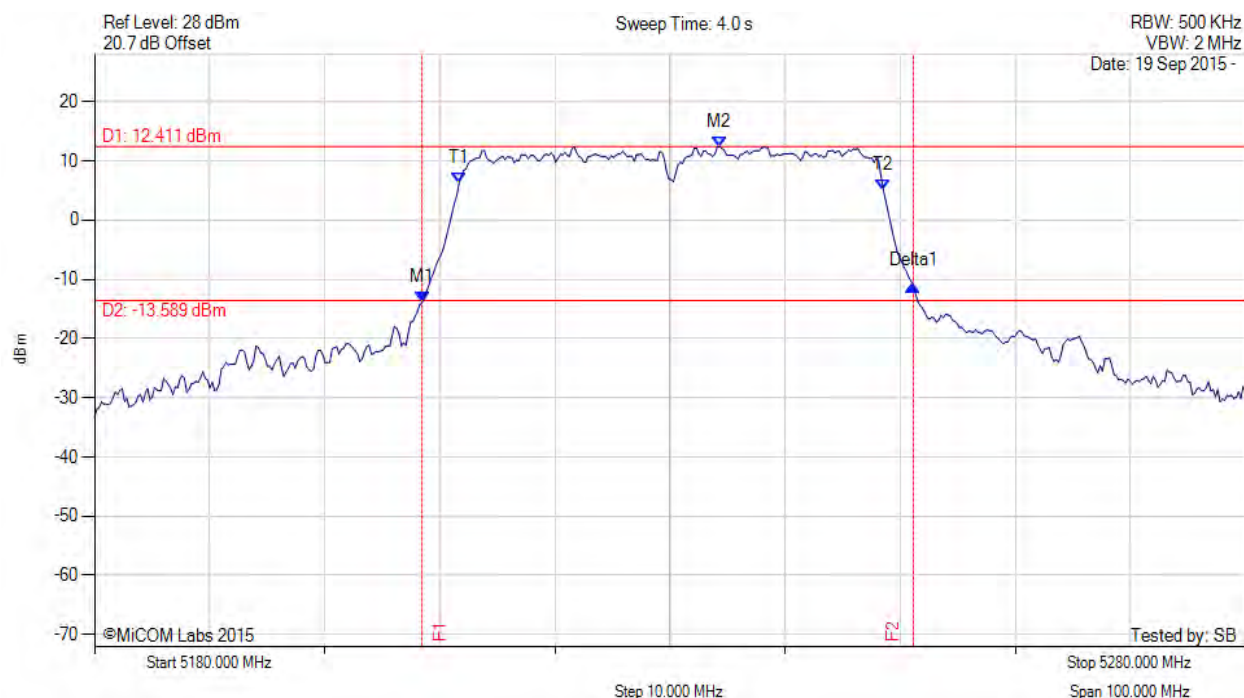
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5230.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5208.457 MHz : -13.875 dBm M2 : 5234.309 MHz : 12.411 dBm Delta1 : 42.685 MHz : 2.870 dB T1 : 5211.663 MHz : 6.158 dBm T2 : 5248.537 MHz : 5.096 dBm OBW : 36.874 MHz	Measured 26 dB Bandwidth: 42.685 MHz Measured 99% Bandwidth: 36.874 MHz

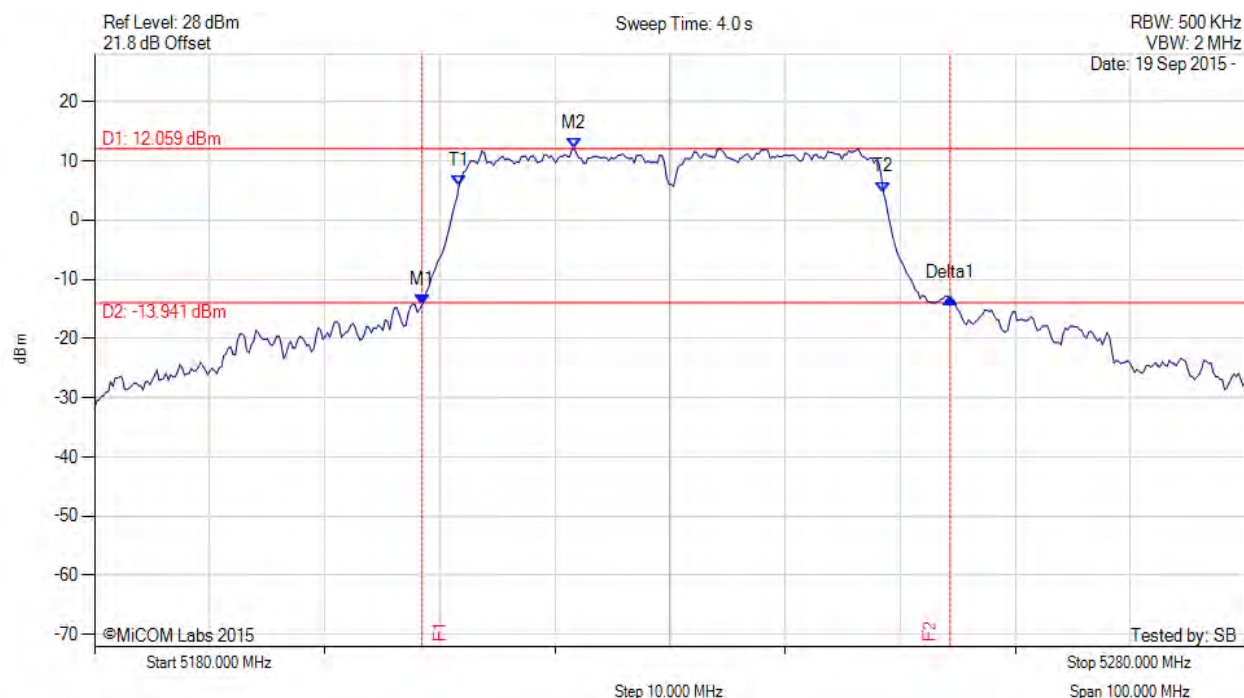
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5230.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5208.457 MHz : -14.263 dBm M2 : 5221.683 MHz : 12.059 dBm Delta1 : 45.892 MHz : 1.190 dB T1 : 5211.663 MHz : 5.757 dBm T2 : 5248.537 MHz : 4.708 dBm OBW : 36.874 MHz	Measured 26 dB Bandwidth: 45.892 MHz Measured 99% Bandwidth: 36.874 MHz

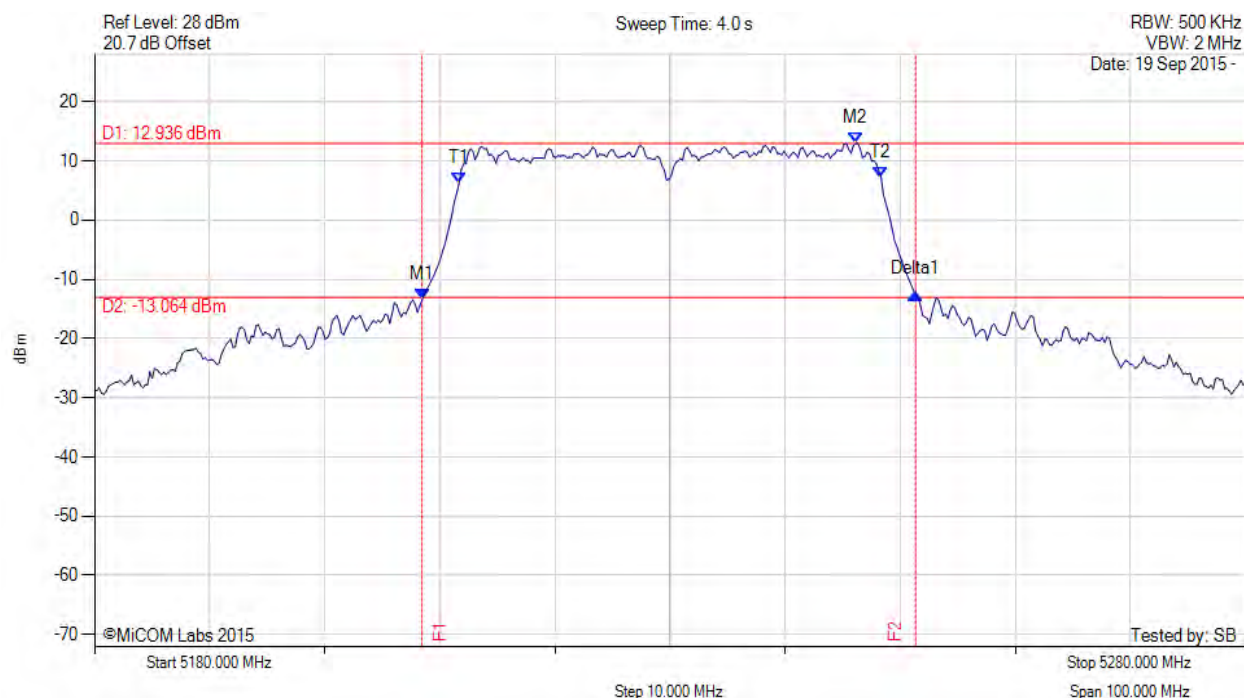
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5230.00 MHz, Chain d, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5208.457 MHz : -13.492 dBm M2 : 5246.132 MHz : 12.936 dBm Delta1 : 42.886 MHz : 1.129 dB T1 : 5211.663 MHz : 6.154 dBm T2 : 5248.337 MHz : 7.244 dBm OBW : 36.673 MHz	Measured 26 dB Bandwidth: 42.886 MHz Measured 99% Bandwidth: 36.673 MHz

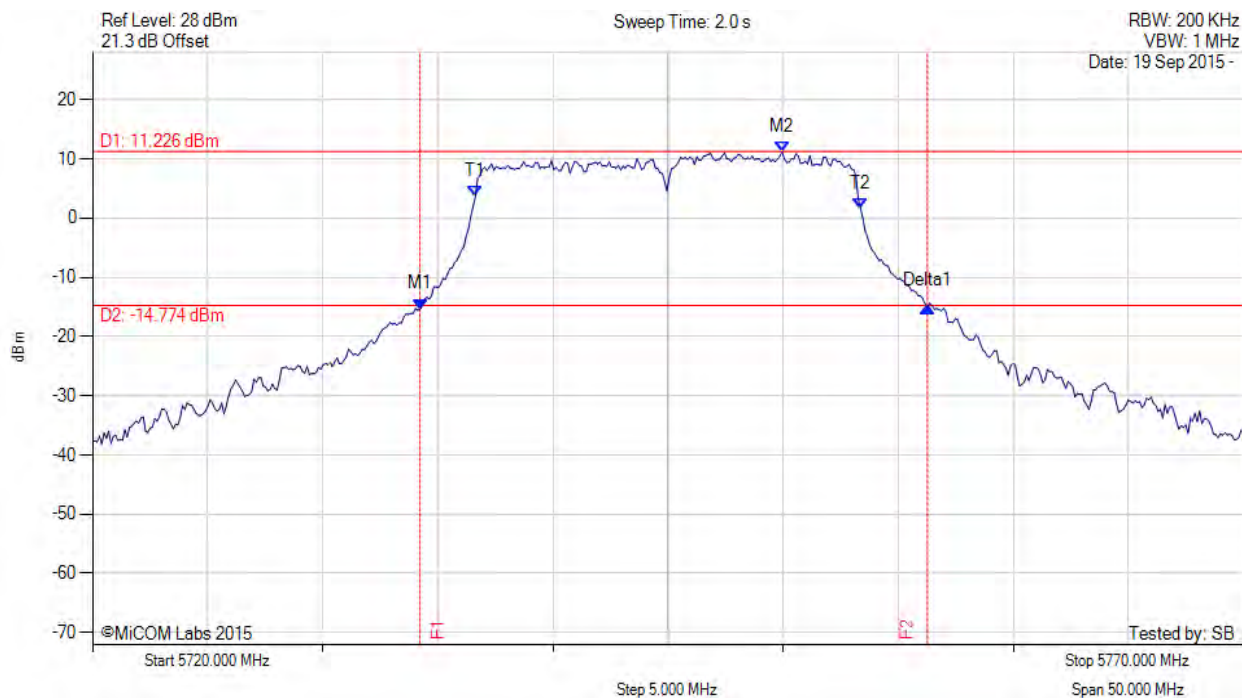
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5734.228 MHz : -15.394 dBm M2 : 5749.960 MHz : 11.226 dBm Delta1 : 22.044 MHz : 0.480 dB T1 : 5736.633 MHz : 3.648 dBm T2 : 5753.367 MHz : 1.604 dBm OBW : 16.733 MHz	Measured 26 dB Bandwidth: 22.044 MHz Measured 99% Bandwidth: 16.733 MHz

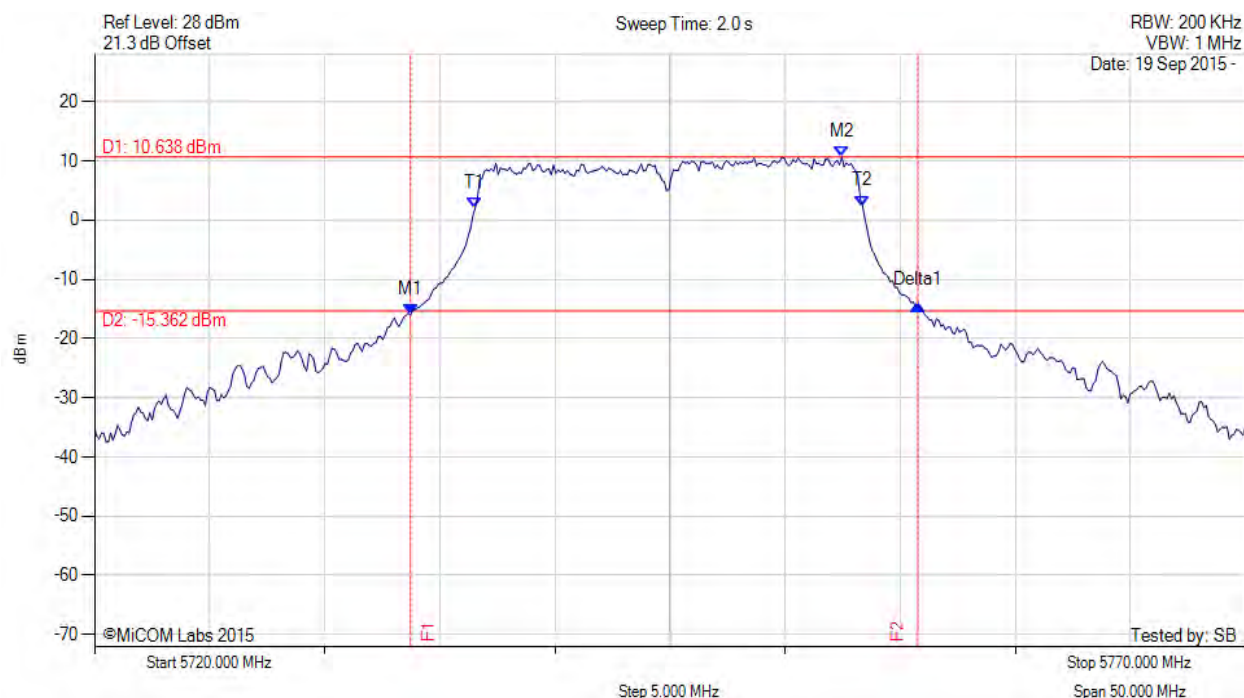
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5745.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5733.727 MHz : -16.053 dBm M2 : 5752.465 MHz : 10.638 dBm Delta1 : 22.044 MHz : 1.775 dB T1 : 5736.533 MHz : 1.984 dBm T2 : 5753.367 MHz : 2.373 dBm OBW : 16.834 MHz	Measured 26 dB Bandwidth: 22.044 MHz Measured 99% Bandwidth: 16.834 MHz

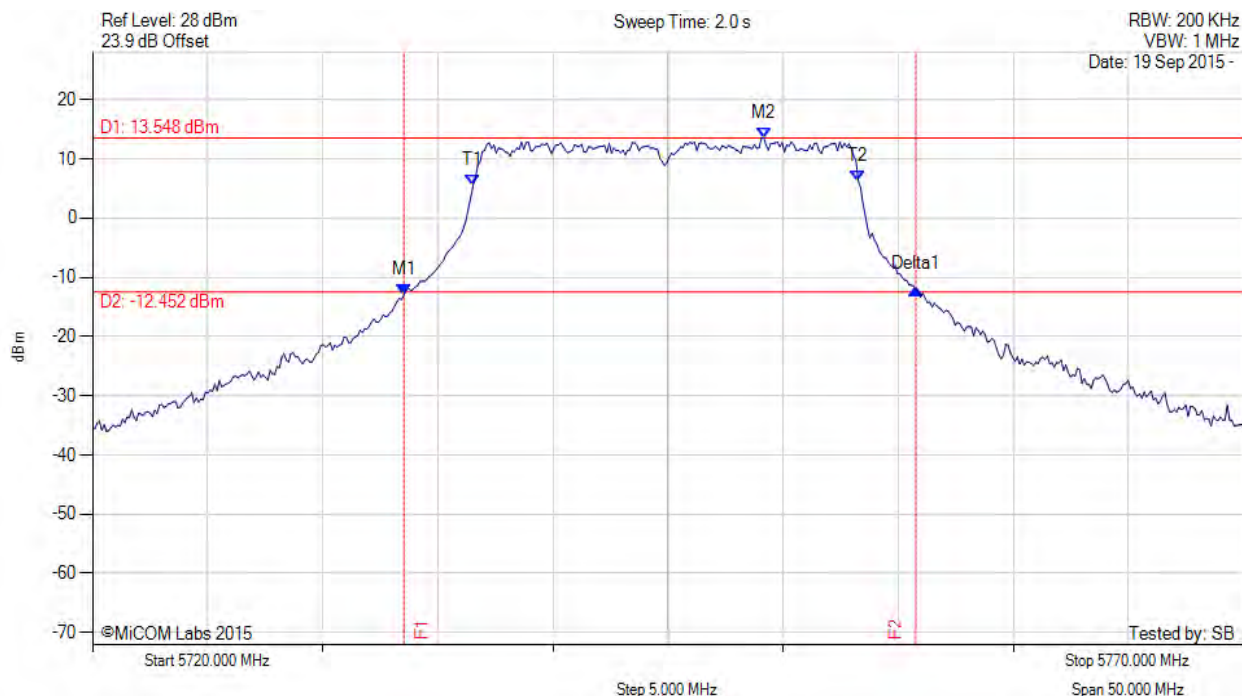
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26 dB & 99% BANDWIDTH



Variant: 802.11a, Channel: 5745.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5733.527 MHz : -12.998 dBm M2 : 5749.158 MHz : 13.548 dBm Delta1 : 22.244 MHz : 1.088 dB T1 : 5736.533 MHz : 5.549 dBm T2 : 5753.267 MHz : 6.261 dBm OBW : 16.733 MHz	Measured 26 dB Bandwidth: 22.244 MHz Measured 99% Bandwidth: 16.733 MHz

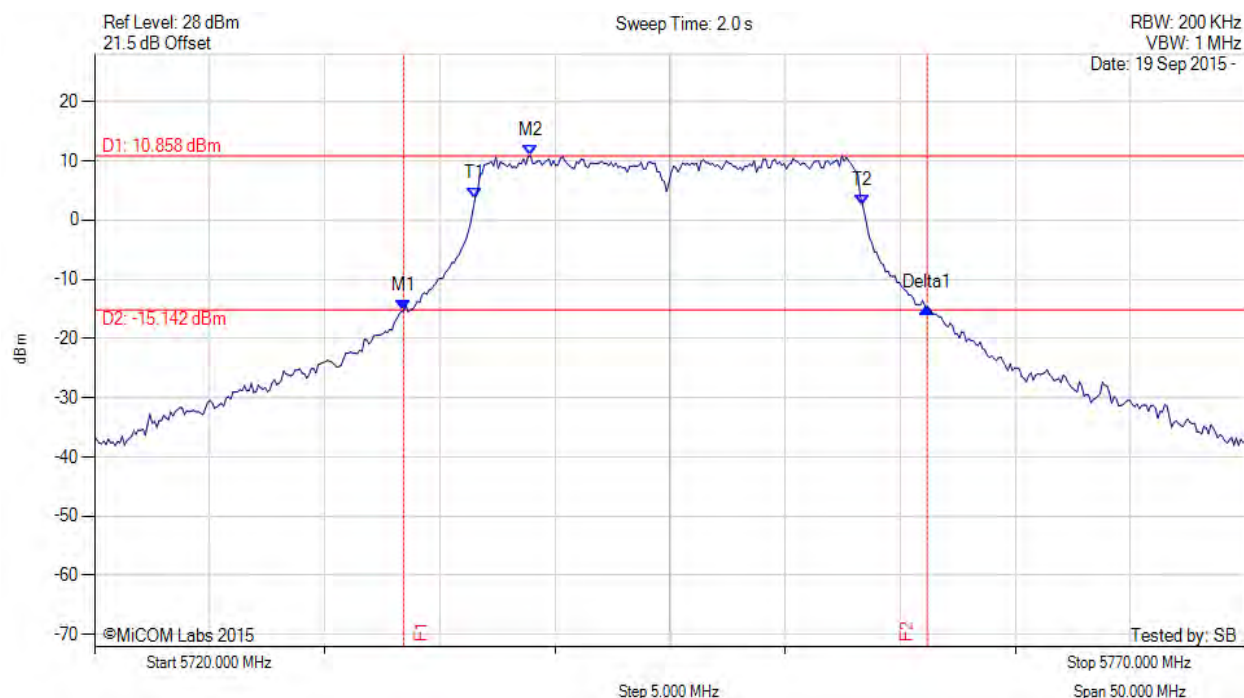
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5745.00 MHz, Chain d, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5733.427 MHz : -15.296 dBm M2 : 5738.938 MHz : 10.858 dBm Delta1 : 22.745 MHz : 0.523 dB T1 : 5736.533 MHz : 3.731 dBm T2 : 5753.367 MHz : 2.556 dBm OBW : 16.834 MHz	Measured 26 dB Bandwidth: 22.745 MHz Measured 99% Bandwidth: 16.834 MHz

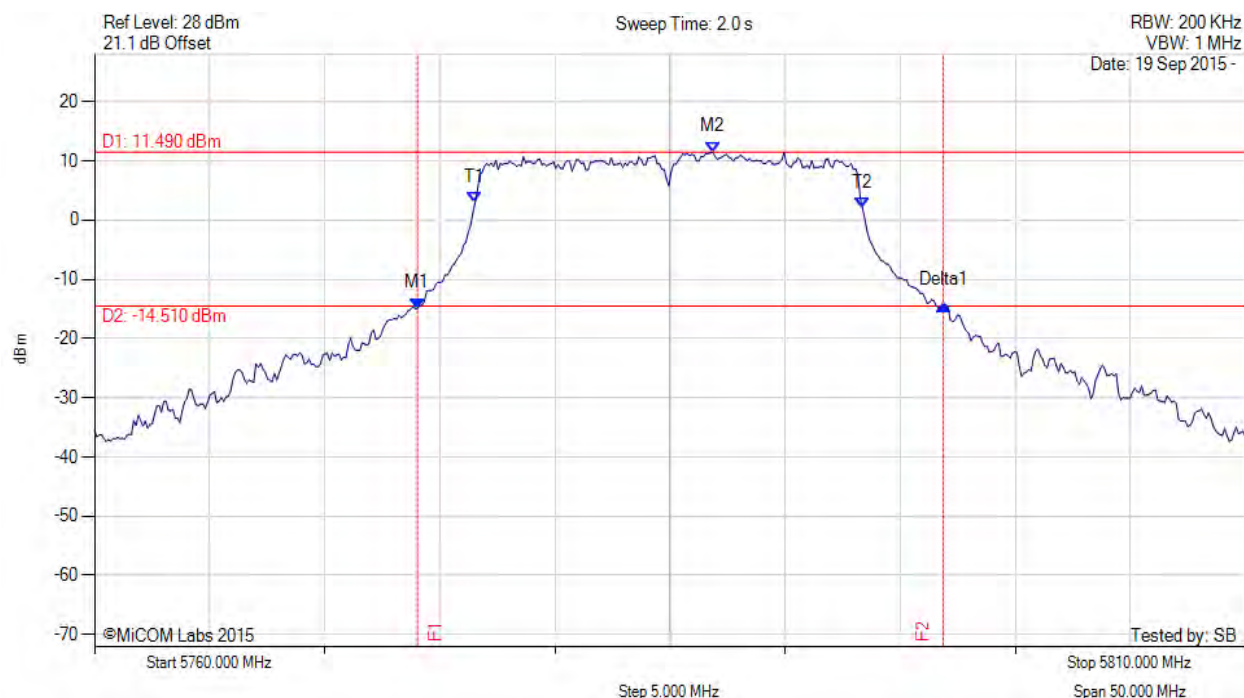
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5785.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5774.028 MHz : -14.924 dBm M2 : 5786.854 MHz : 11.490 dBm Delta1 : 22.846 MHz : 0.561 dB T1 : 5776.533 MHz : 2.902 dBm T2 : 5793.367 MHz : 2.056 dBm OBW : 16.834 MHz	Measured 26 dB Bandwidth: 22.846 MHz Measured 99% Bandwidth: 16.834 MHz

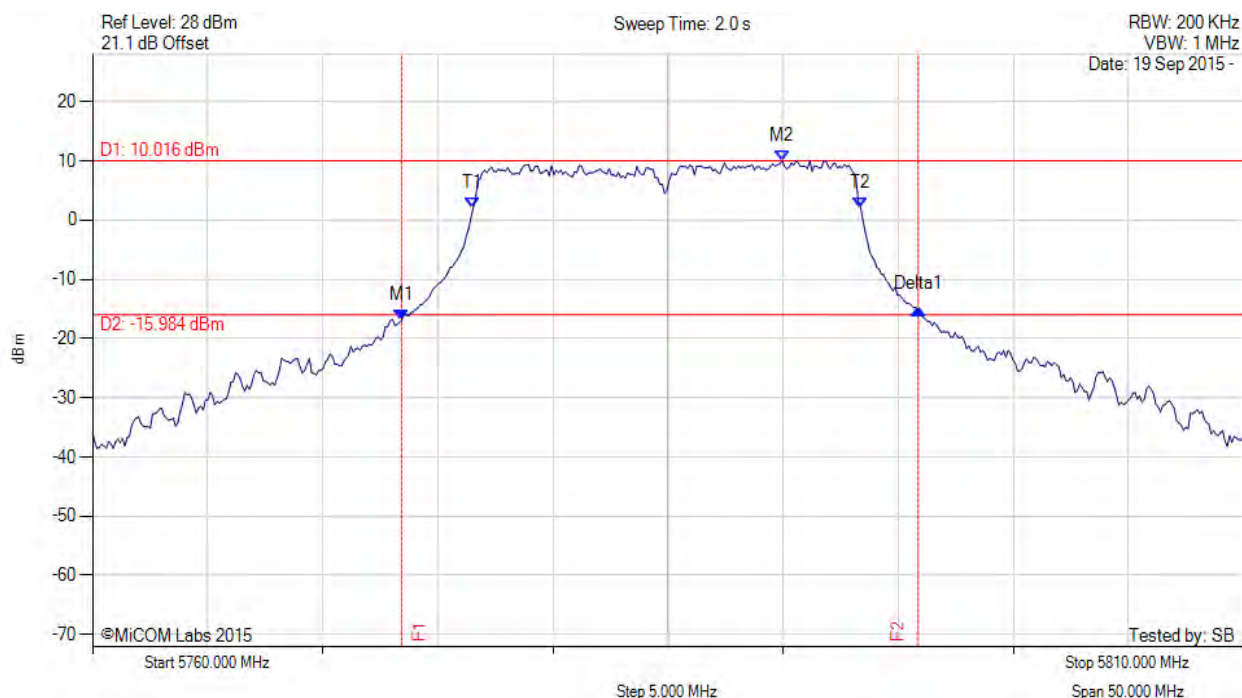
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5785.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5773.427 MHz : -16.999 dBm M2 : 5789.960 MHz : 10.016 dBm Delta1 : 22.445 MHz : 1.912 dB T1 : 5776.533 MHz : 1.956 dBm T2 : 5793.367 MHz : 2.094 dBm OBW : 16.834 MHz	Measured 26 dB Bandwidth: 22.445 MHz Measured 99% Bandwidth: 16.834 MHz

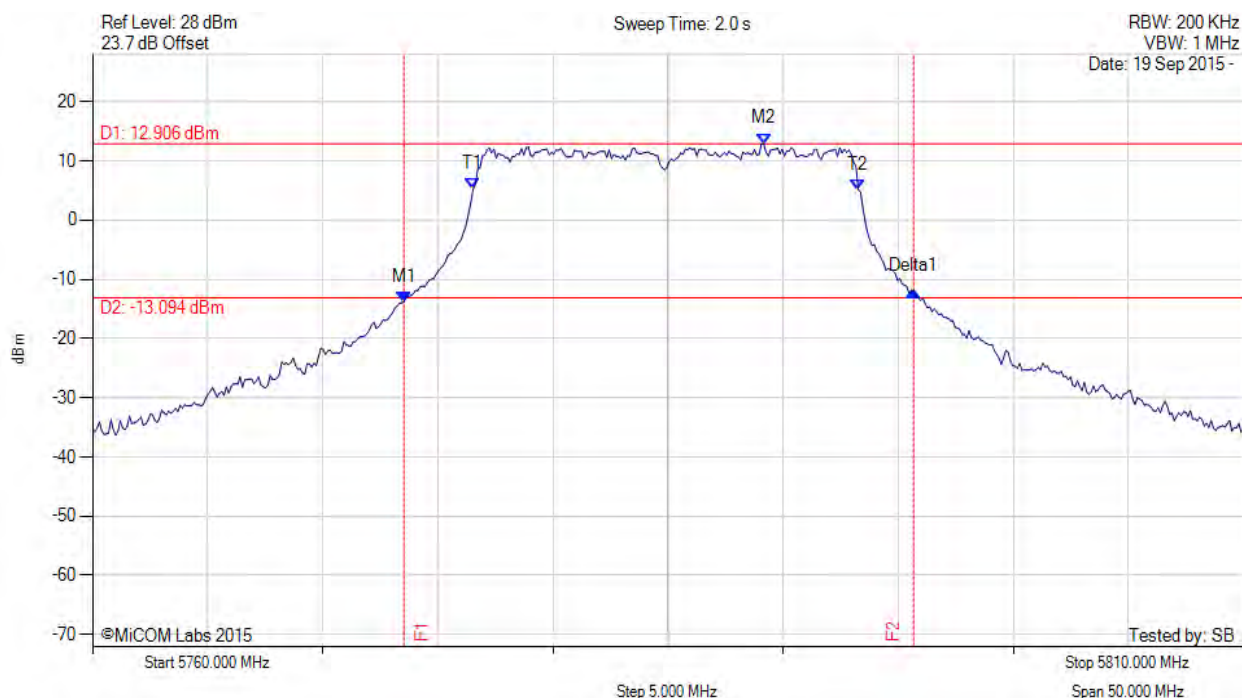
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26 dB & 99% BANDWIDTH



Variant: 802.11a, Channel: 5785.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5773.527 MHz : -13.828 dBm M2 : 5789.158 MHz : 12.906 dBm Delta1 : 22.144 MHz : 1.873 dB T1 : 5776.533 MHz : 5.216 dBm T2 : 5793.267 MHz : 5.135 dBm OBW : 16.733 MHz	Measured 26 dB Bandwidth: 22.144 MHz Measured 99% Bandwidth: 16.733 MHz

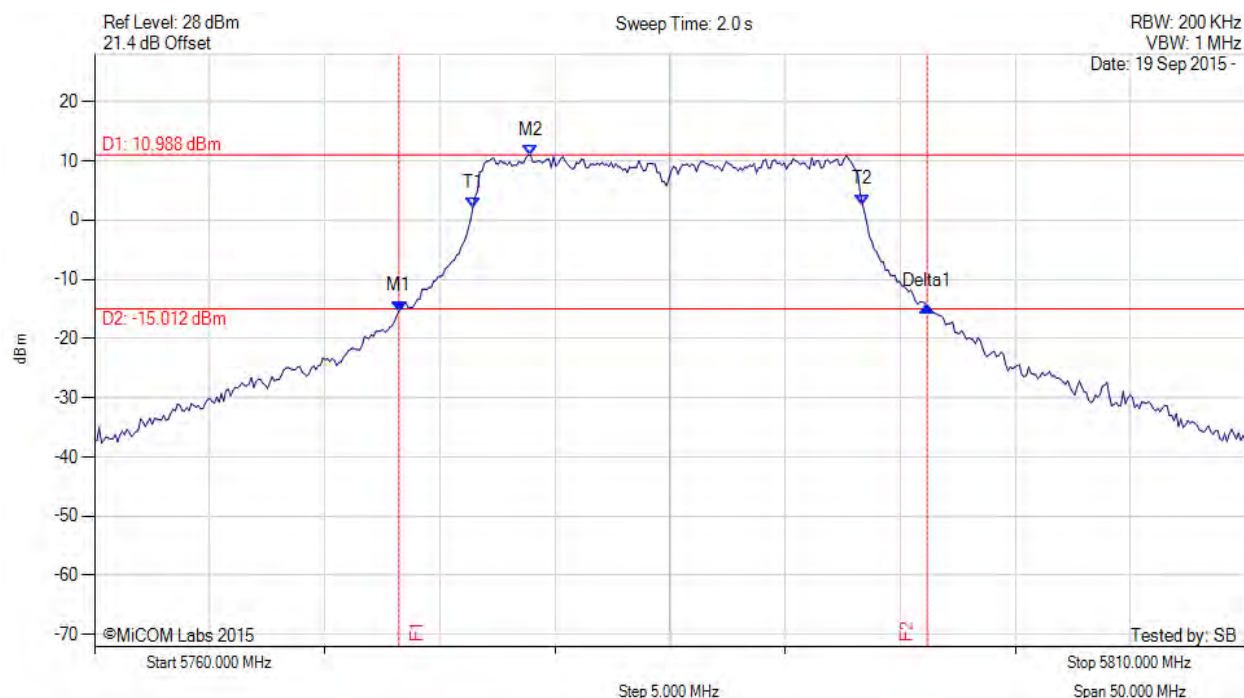
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5785.00 MHz, Chain d, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5773.226 MHz : -15.372 dBm M2 : 5778.938 MHz : 10.988 dBm Delta1 : 22.946 MHz : 0.820 dB T1 : 5776.433 MHz : 2.062 dBm T2 : 5793.367 MHz : 2.625 dBm OBW : 16.934 MHz	Measured 26 dB Bandwidth: 22.946 MHz Measured 99% Bandwidth: 16.934 MHz

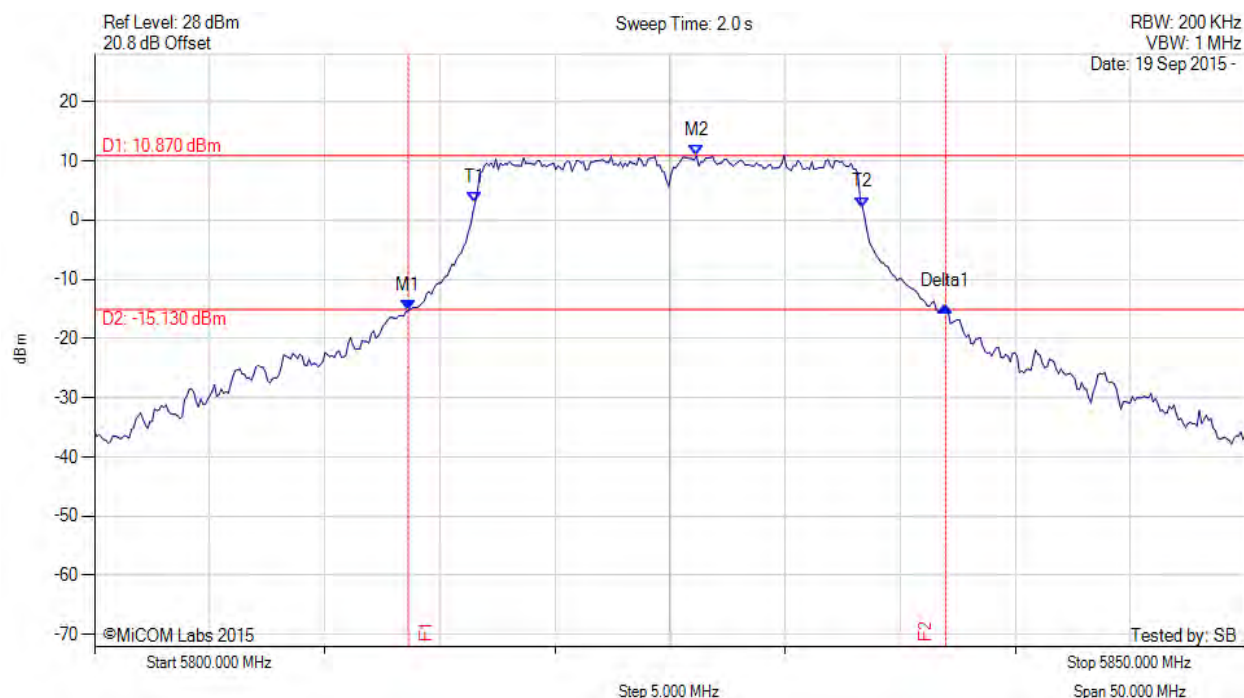
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5813.627 MHz : -15.254 dBm M2 : 5826.152 MHz : 10.870 dBm Delta1 : 23.347 MHz : 0.673 dB T1 : 5816.533 MHz : 2.918 dBm T2 : 5833.367 MHz : 2.149 dBm OBW : 16.834 MHz	Measured 26 dB Bandwidth: 23.347 MHz Measured 99% Bandwidth: 16.834 MHz

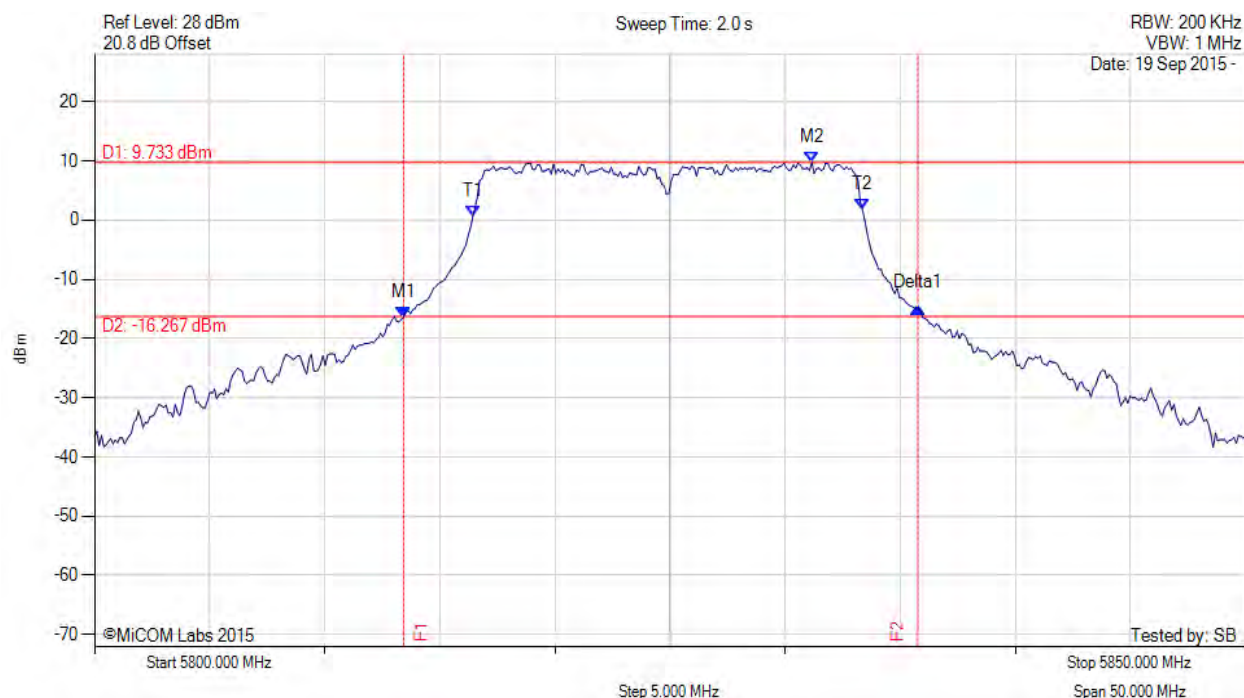
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5825.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5813.427 MHz : -16.360 dBm M2 : 5831.162 MHz : 9.733 dBm Delta1 : 22.345 MHz : 1.529 dB T1 : 5816.433 MHz : 0.593 dBm T2 : 5833.367 MHz : 1.698 dBm OBW : 16.934 MHz	Measured 26 dB Bandwidth: 22.345 MHz Measured 99% Bandwidth: 16.934 MHz

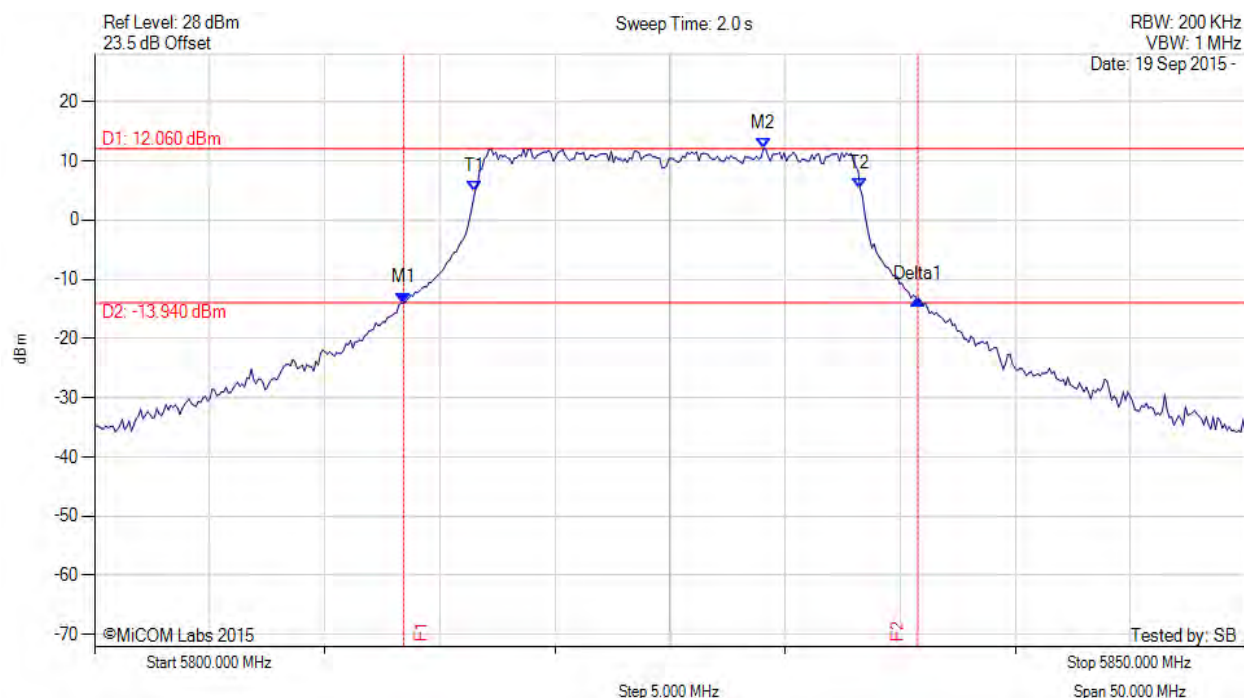
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26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5825.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5813.427 MHz : -13.979 dBm M2 : 5829.058 MHz : 12.060 dBm Delta1 : 22.345 MHz : 0.537 dB T1 : 5816.533 MHz : 4.913 dBm T2 : 5833.267 MHz : 5.255 dBm OBW : 16.733 MHz	Measured 26 dB Bandwidth: 22.345 MHz Measured 99% Bandwidth: 16.733 MHz

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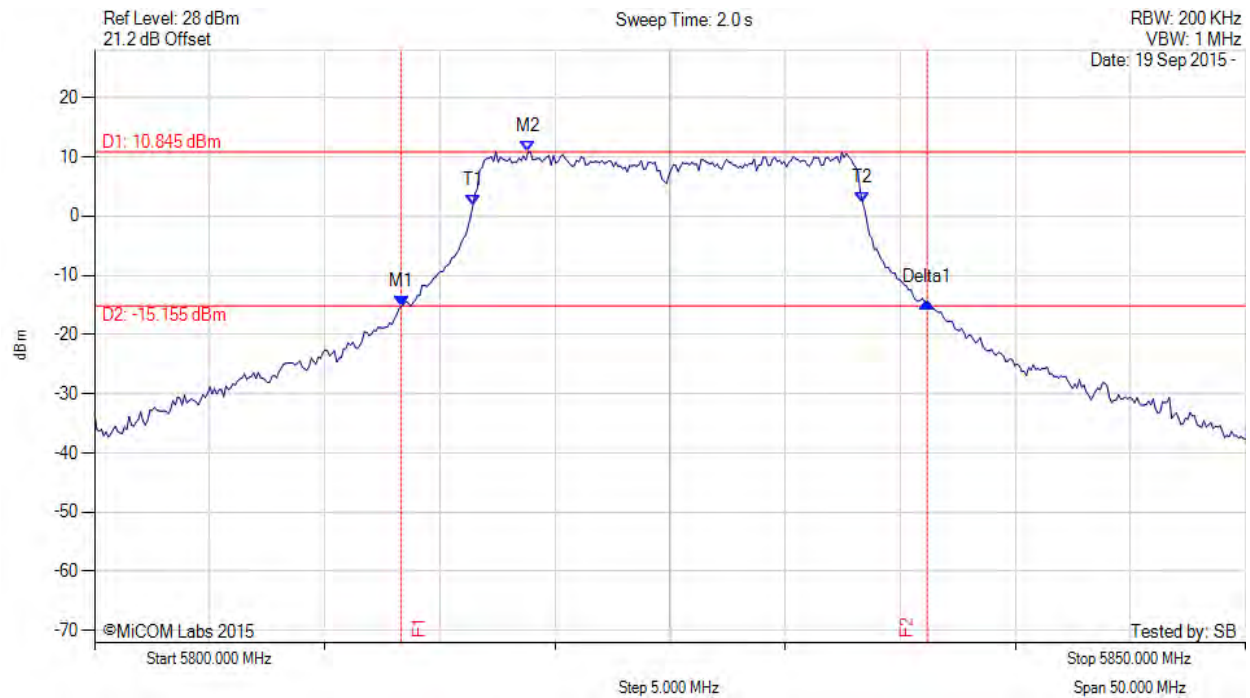


Title: Actiontec Electronics Inc WCB6240Q
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: ATEC09-U8a Conducted (non-DFS) Rev B
Issue Date: 22nd December 2015
Page: 99 of 242



26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5825.00 MHz, Chain d, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5813.327 MHz : -15.221 dBm M2 : 5818.838 MHz : 10.845 dBm Delta1 : 22.846 MHz : 0.683 dB T1 : 5816.433 MHz : 1.781 dBm T2 : 5833.367 MHz : 2.332 dBm OBW : 16.934 MHz	Measured 26 dB Bandwidth: 22.846 MHz Measured 99% Bandwidth: 16.934 MHz

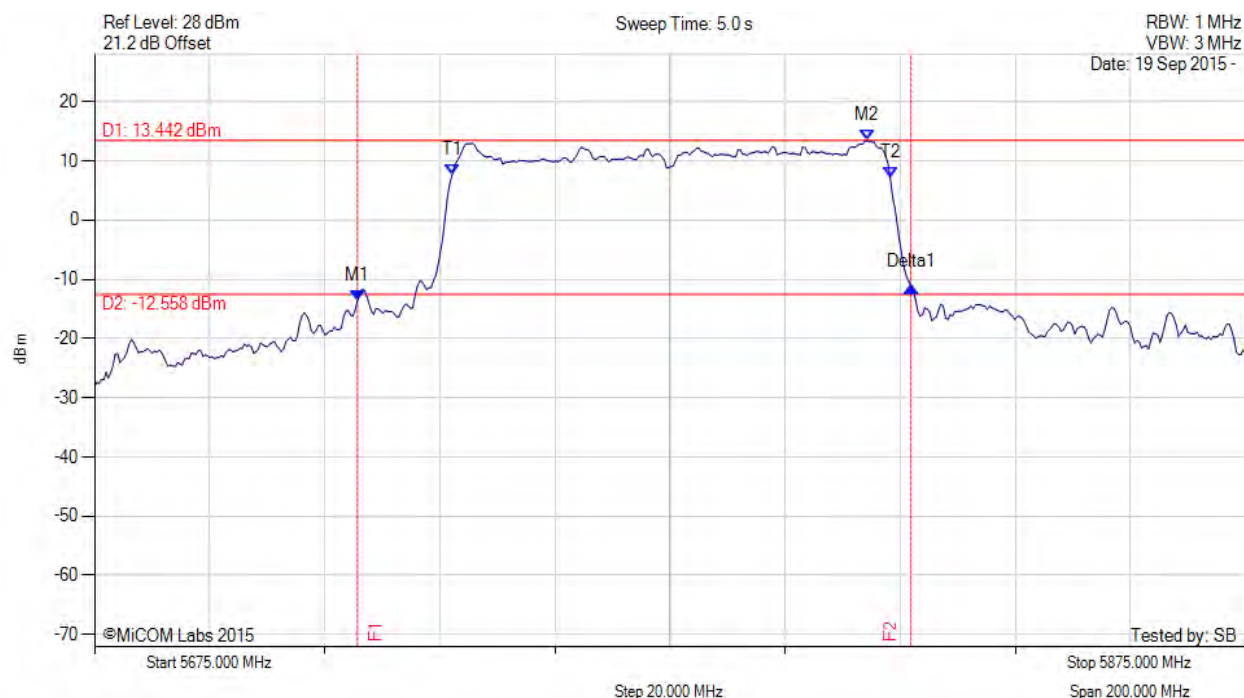
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26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5720.691 MHz : -13.578 dBm M2 : 5809.269 MHz : 13.442 dBm Delta1 : 96.192 MHz : 2.363 dB T1 : 5737.124 MHz : 7.557 dBm T2 : 5813.277 MHz : 7.158 dBm OBW : 76.152 MHz	Measured 26 dB Bandwidth: 96.192 MHz Measured 99% Bandwidth: 76.152 MHz

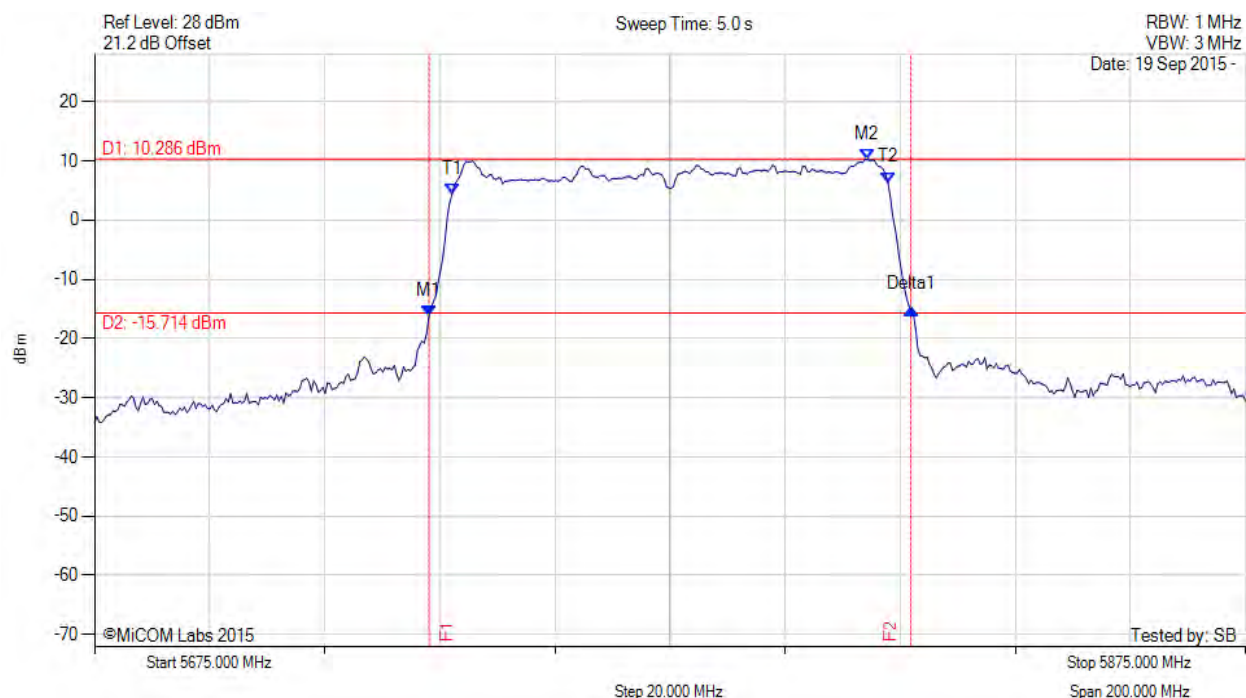
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26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5733.116 MHz : -16.210 dBm M2 : 5809.269 MHz : 10.286 dBm Delta1 : 83.768 MHz : 1.216 dB T1 : 5737.124 MHz : 4.341 dBm T2 : 5812.876 MHz : 6.363 dBm OBW : 75.752 MHz	Measured 26 dB Bandwidth: 83.768 MHz Measured 99% Bandwidth: 75.752 MHz

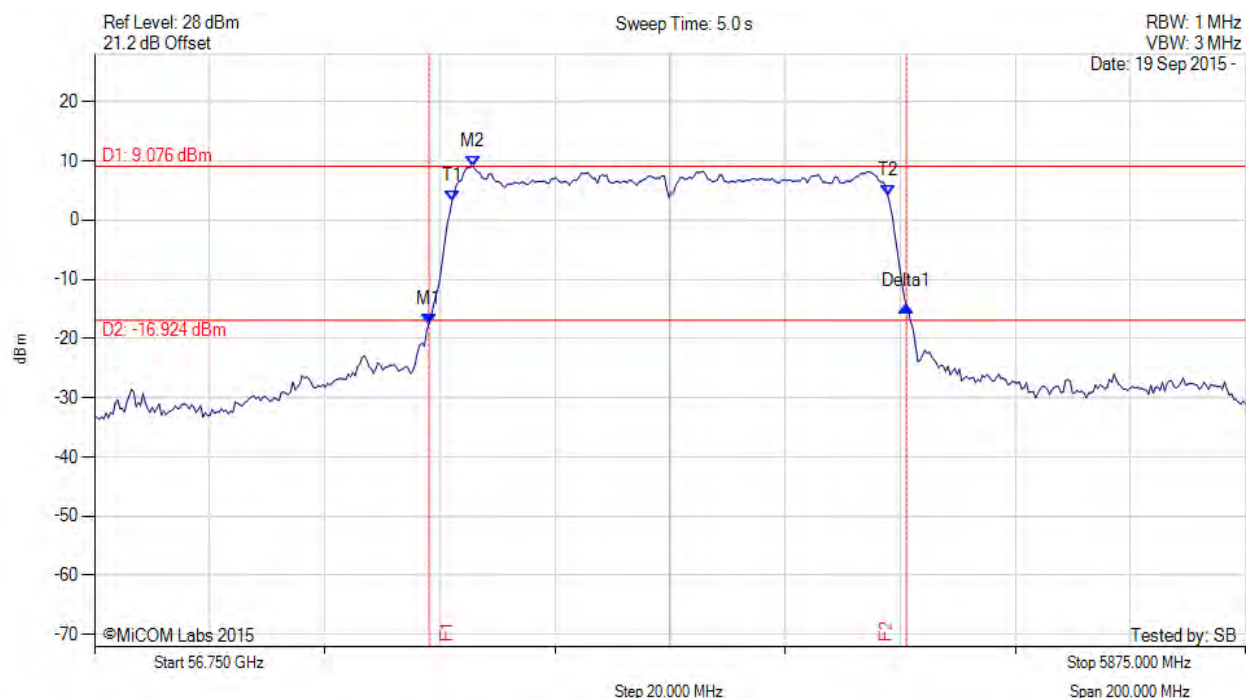
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26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5733.116 MHz : -17.513 dBm M2 : 5740.731 MHz : 9.076 dBm Delta1 : 82.966 MHz : 3.018 dB T1 : 5737.124 MHz : 3.288 dBm T2 : 5812.876 MHz : 4.099 dBm OBW : 75.752 MHz	Channel Frequency: 5775.00 MHz

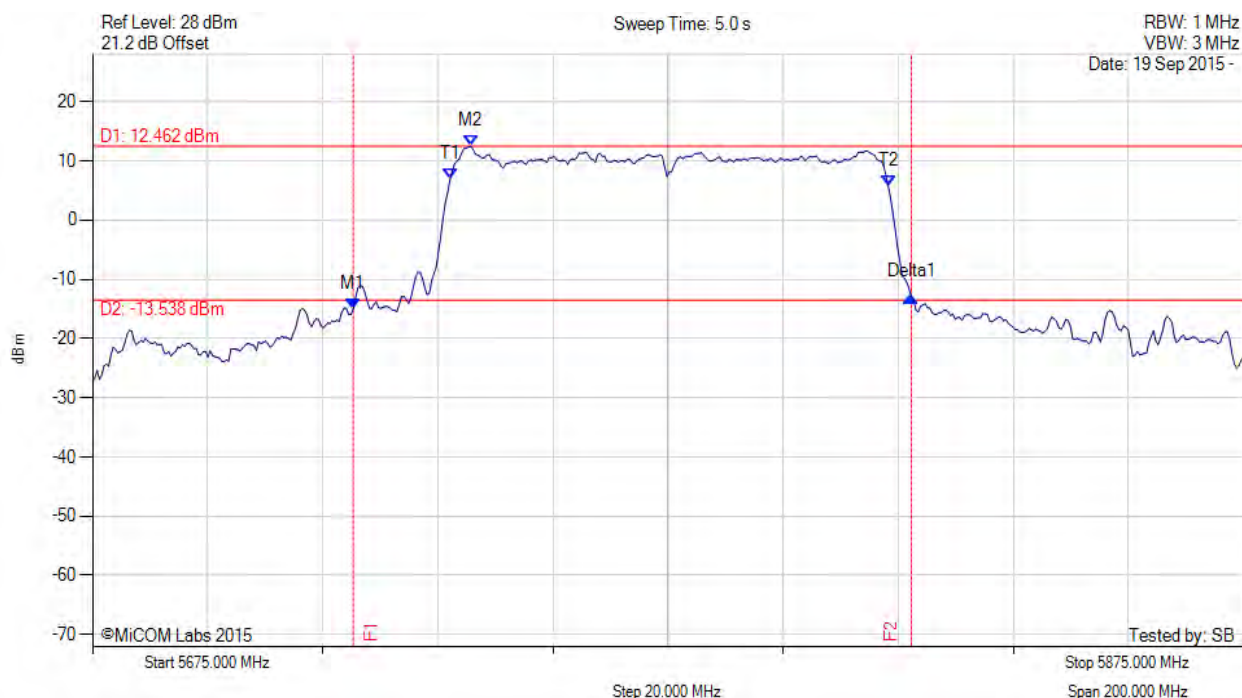
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26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5720.291 MHz : -15.030 dBm M2 : 5740.731 MHz : 12.462 dBm Delta1 : 96.994 MHz : 2.068 dB T1 : 5737.124 MHz : 6.859 dBm T2 : 5813.277 MHz : 5.755 dBm OBW : 76.152 MHz	Measured 26 dB Bandwidth: 96.994 MHz Measured 99% Bandwidth: 76.152 MHz

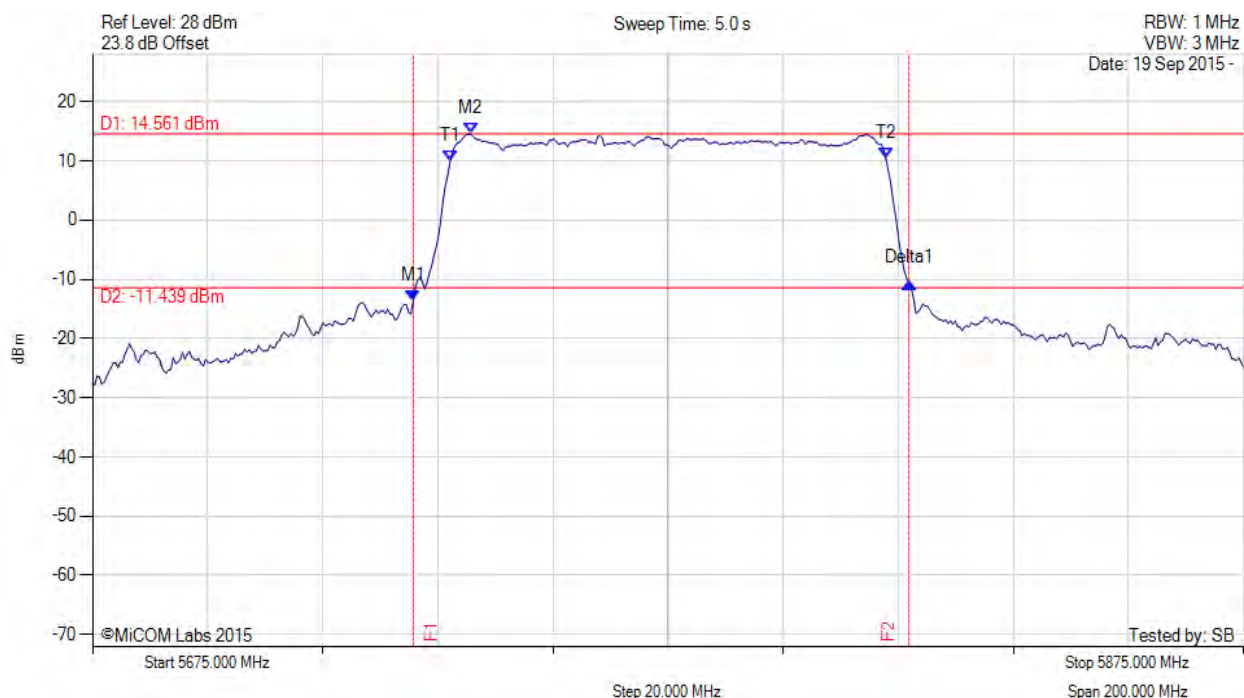
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26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5730.711 MHz : -13.724 dBm M2 : 5740.731 MHz : 14.561 dBm Delta1 : 86.172 MHz : 3.177 dB T1 : 5737.124 MHz : 9.918 dBm T2 : 5812.876 MHz : 10.380 dBm OBW : 75.752 MHz	Measured 26 dB Bandwidth: 86.172 MHz Measured 99% Bandwidth: 75.752 MHz

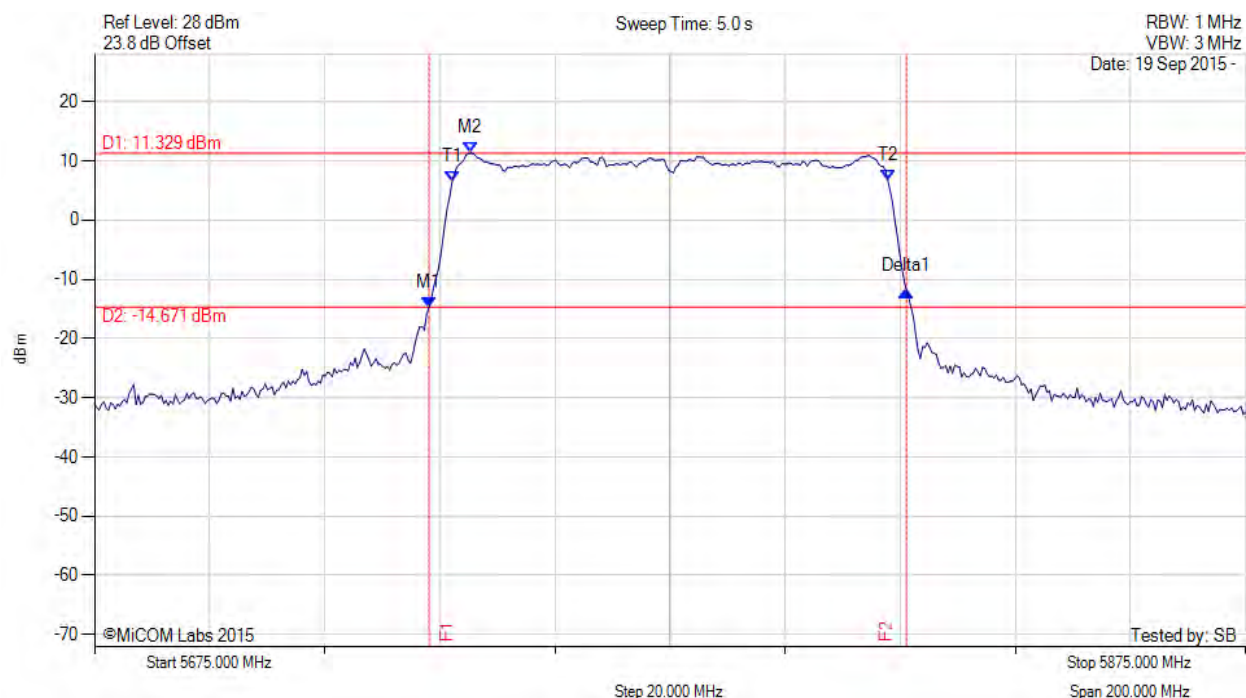
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26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5733.116 MHz : -14.788 dBm M2 : 5740.331 MHz : 11.329 dBm Delta1 : 82.966 MHz : 2.866 dB T1 : 5737.124 MHz : 6.404 dBm T2 : 5812.876 MHz : 6.666 dBm OBW : 75.752 MHz	Channel Frequency: 5775.00 MHz

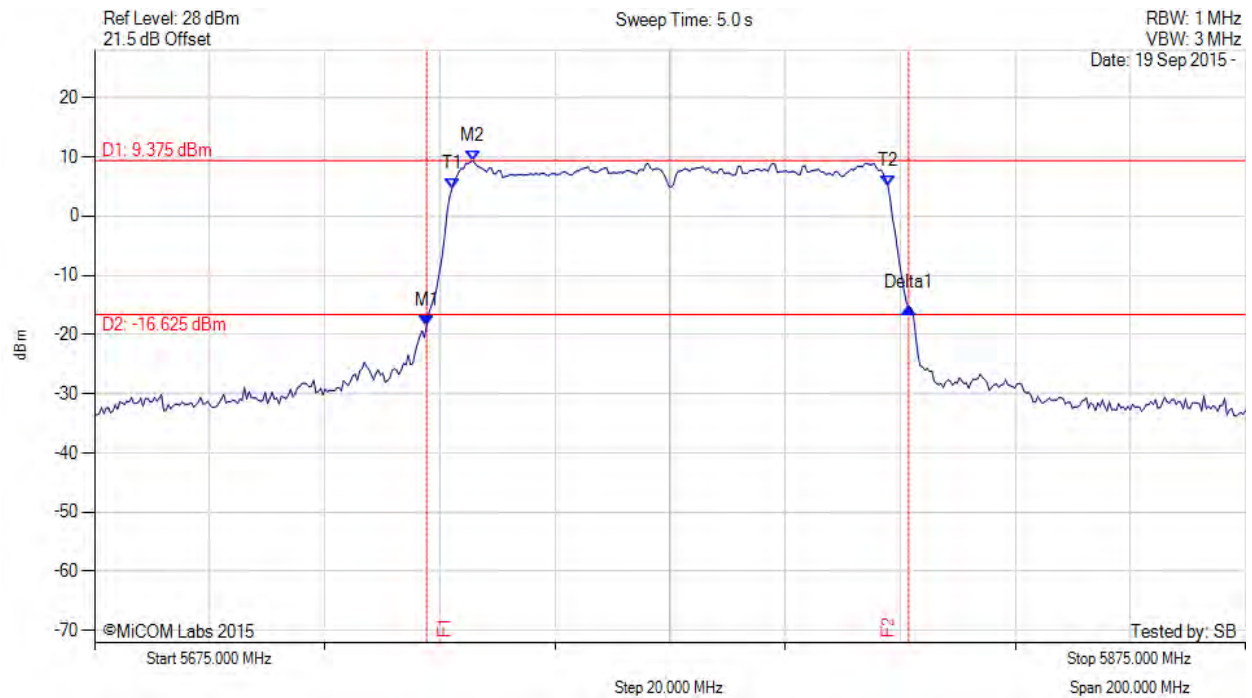
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26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain d, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5732.715 MHz : -18.550 dBm M2 : 5740.731 MHz : 9.375 dBm Delta1 : 83.768 MHz : 3.032 dB T1 : 5737.124 MHz : 4.669 dBm T2 : 5812.876 MHz : 5.161 dBm OBW : 75.752 MHz	Measured 26 dB Bandwidth: 83.768 MHz Measured 99% Bandwidth: 75.752 MHz

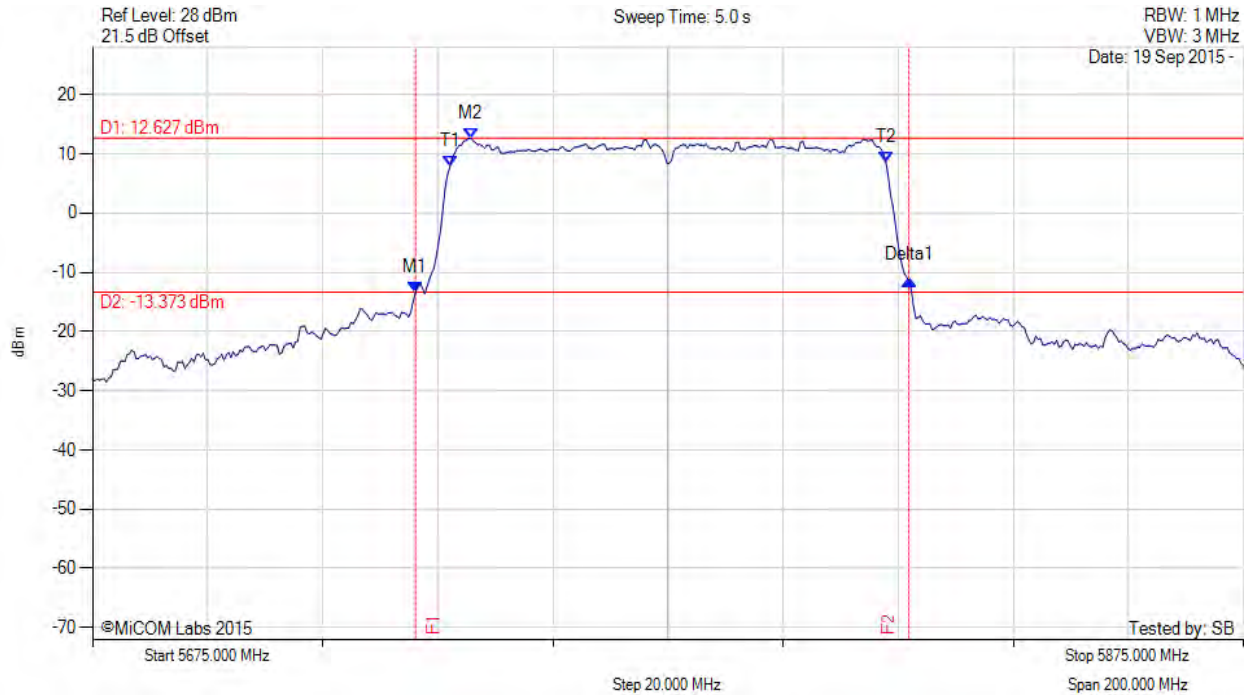
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26 dB & 99% BANDWIDTH



Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain d, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5731.112 MHz : -13.444 dBm M2 : 5740.731 MHz : 12.627 dBm Delta1 : 85.772 MHz : 2.087 dB T1 : 5737.124 MHz : 7.909 dBm T2 : 5812.876 MHz : 8.590 dBm OBW : 75.752 MHz	Measured 26 dB Bandwidth: 85.772 MHz Measured 99% Bandwidth: 75.752 MHz

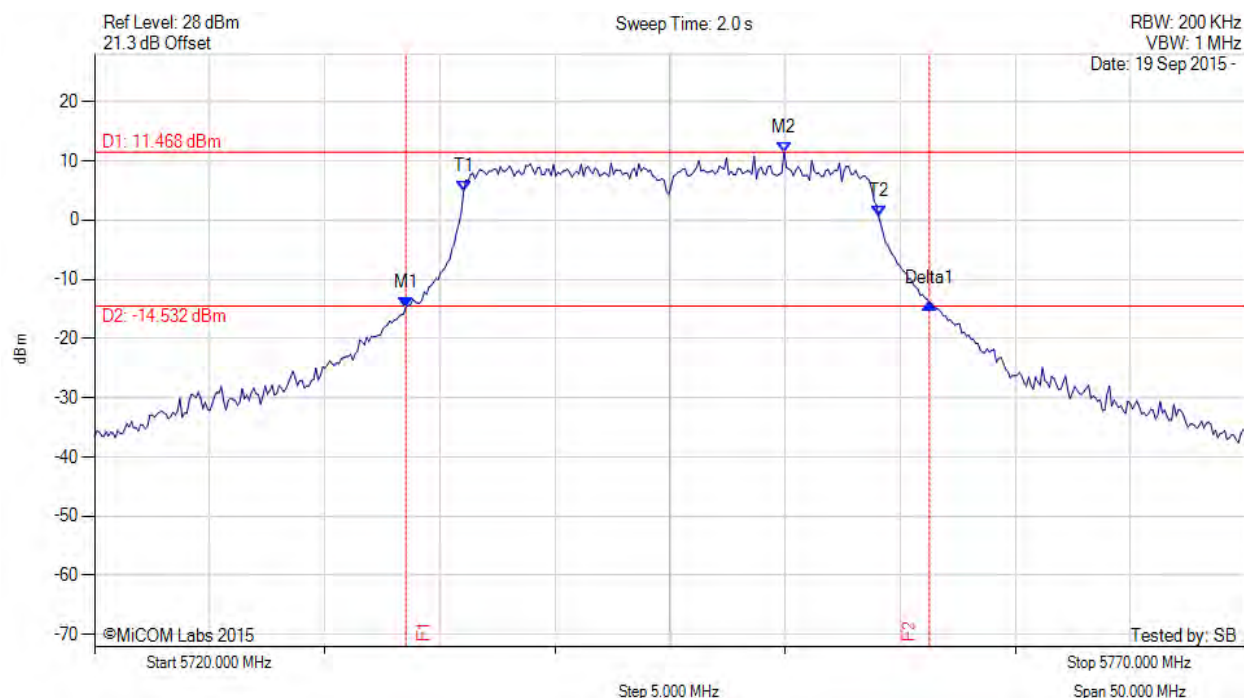
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5733.527 MHz : -14.698 dBm M2 : 5749.960 MHz : 11.468 dBm Delta1 : 22.745 MHz : 0.702 dB T1 : 5736.032 MHz : 4.811 dBm T2 : 5754.068 MHz : 0.569 dBm OBW : 18.036 MHz	Measured 26 dB Bandwidth: 22.745 MHz Measured 99% Bandwidth: 18.036 MHz

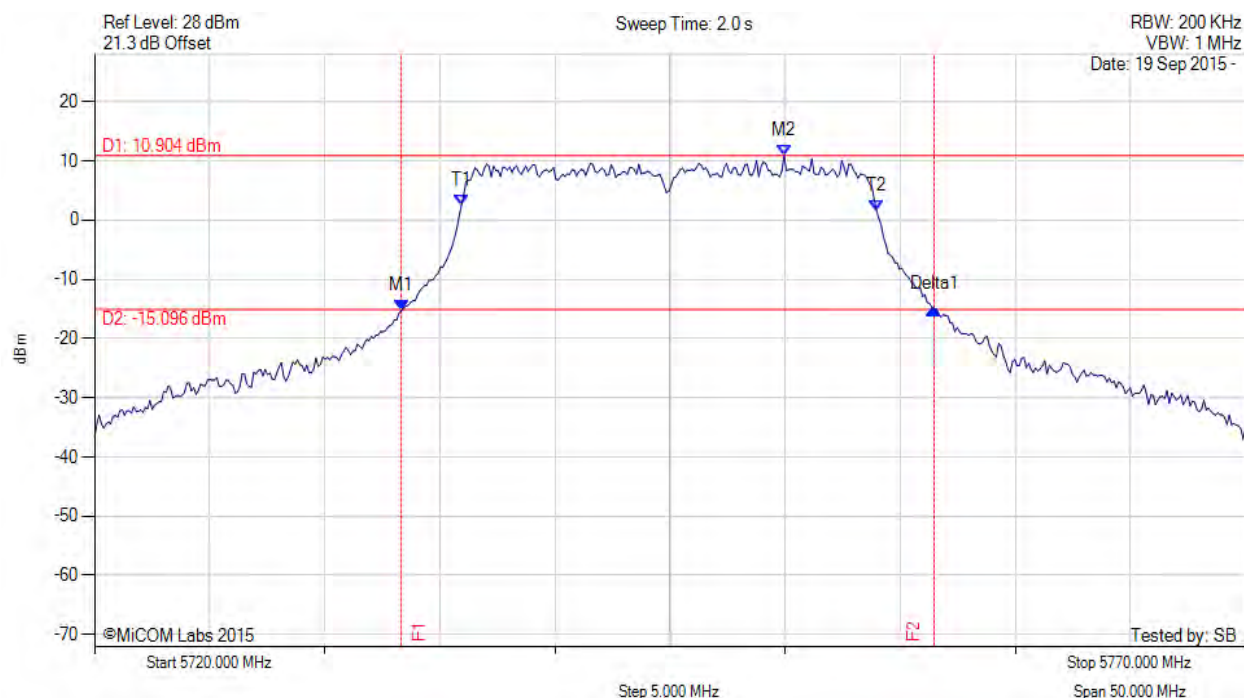
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5733.327 MHz : -15.317 dBm M2 : 5749.960 MHz : 10.904 dBm Delta1 : 23.146 MHz : 0.277 dB T1 : 5735.932 MHz : 2.426 dBm T2 : 5753.968 MHz : 1.612 dBm OBW : 18.036 MHz	Measured 26 dB Bandwidth: 23.146 MHz Measured 99% Bandwidth: 18.036 MHz

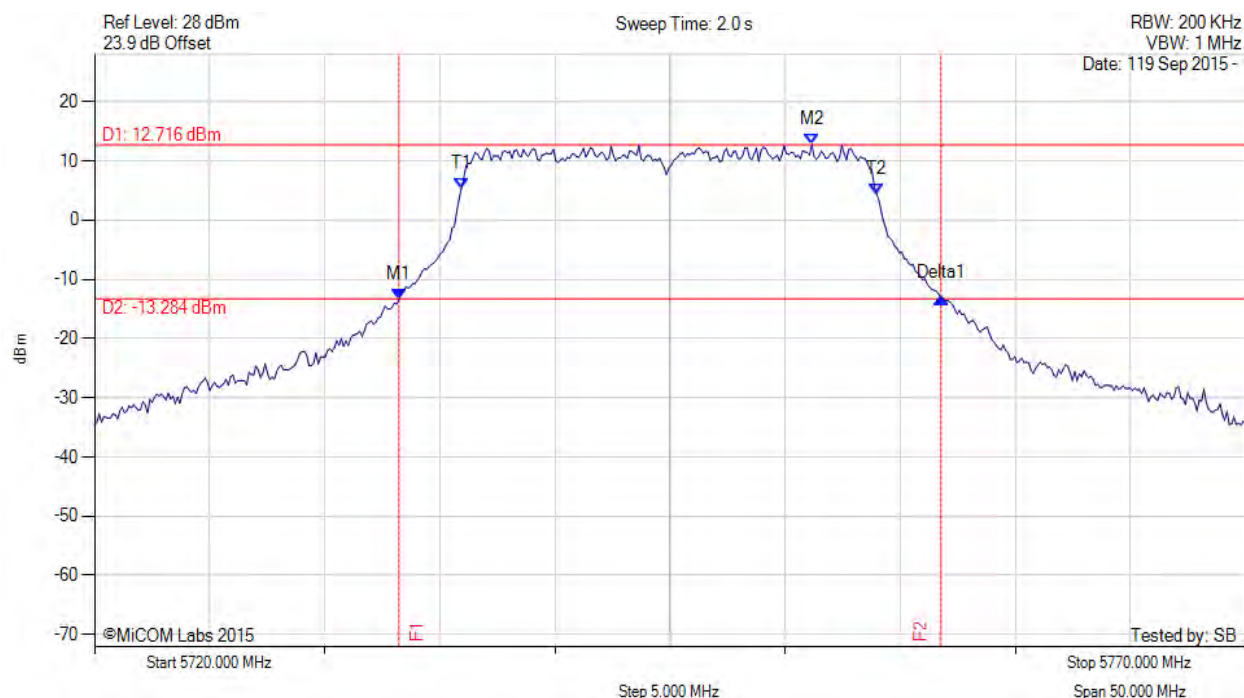
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5733.226 MHz : -13.411 dBm M2 : 5751.162 MHz : 12.716 dBm Delta1 : 23.547 MHz : 0.262 dB T1 : 5735.932 MHz : 5.332 dBm T2 : 5753.968 MHz : 4.413 dBm OBW : 18.036 MHz	Measured 26 dB Bandwidth: 23.547 MHz Measured 99% Bandwidth: 18.036 MHz

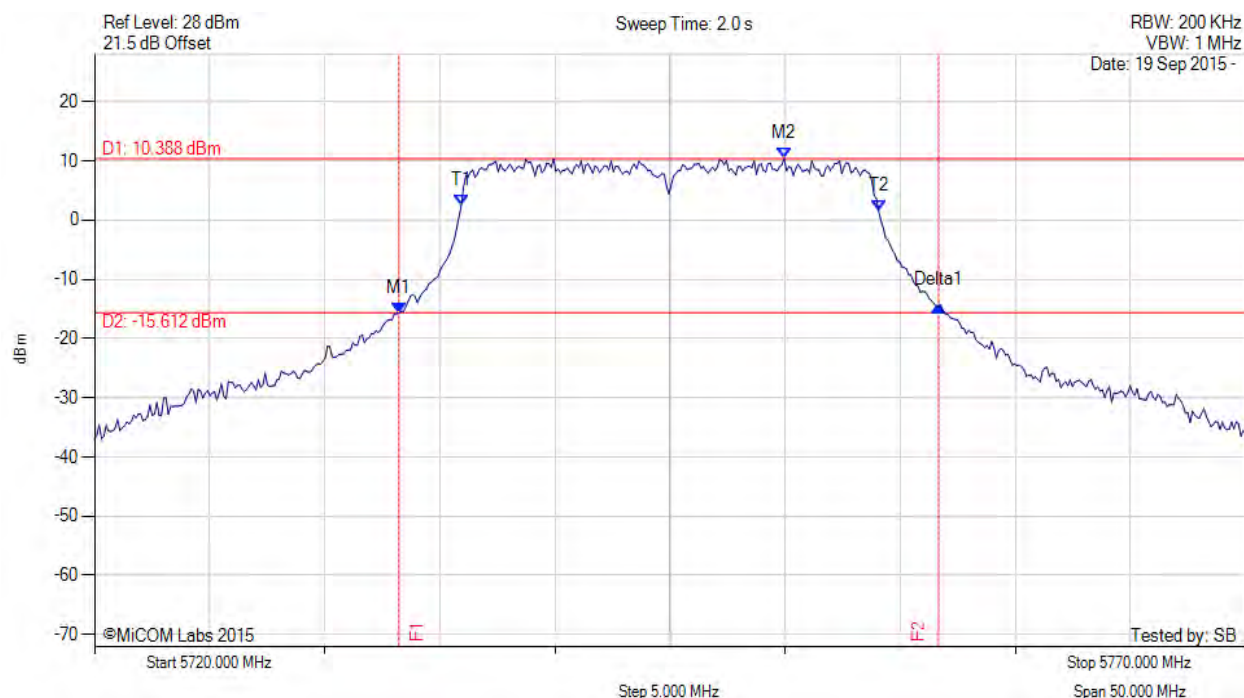
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain d, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5733.226 MHz : -15.711 dBm M2 : 5749.960 MHz : 10.388 dBm Delta1 : 23.447 MHz : 1.259 dB T1 : 5735.932 MHz : 2.501 dBm T2 : 5754.068 MHz : 1.521 dBm OBW : 18.136 MHz	Measured 26 dB Bandwidth: 23.447 MHz Measured 99% Bandwidth: 18.136 MHz

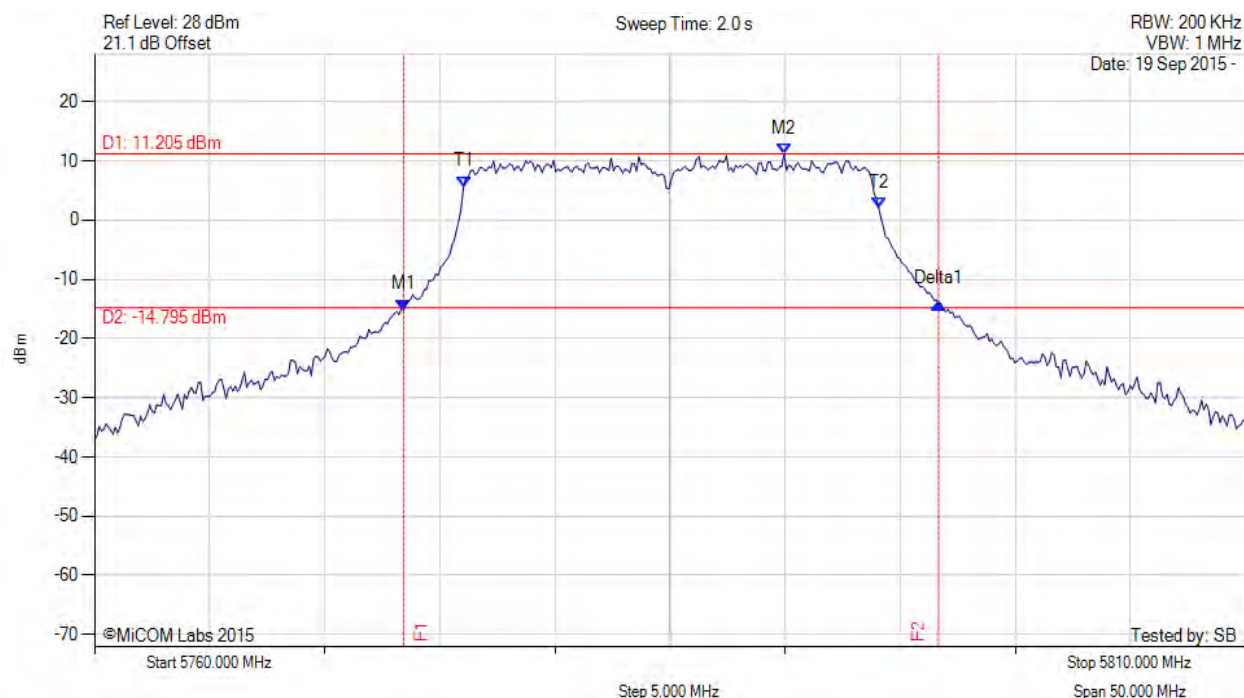
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26 dB & 99% BANDWIDTH



Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5773.427 MHz : -15.150 dBm M2 : 5789.960 MHz : 11.205 dBm Delta1 : 23.246 MHz : 1.060 dB T1 : 5776.032 MHz : 5.641 dBm T2 : 5794.068 MHz : 2.108 dBm OBW : 18.036 MHz	Measured 26 dB Bandwidth: 23.246 MHz Measured 99% Bandwidth: 18.036 MHz

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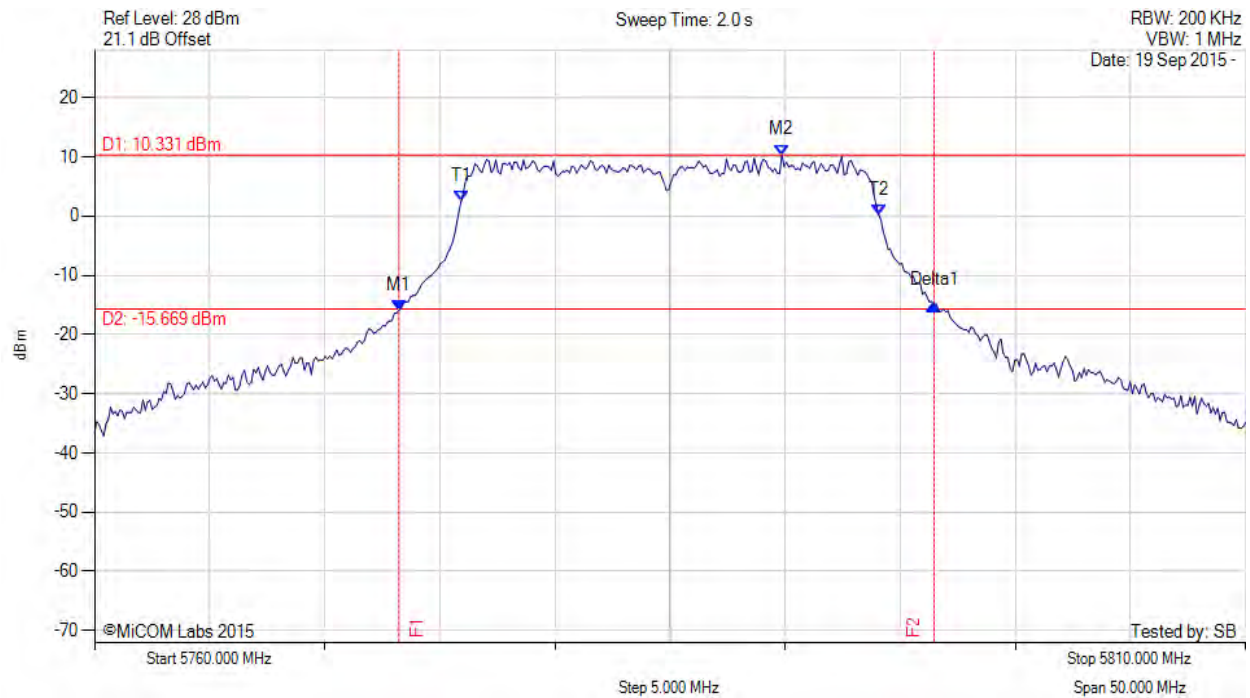


Title: Actiontec Electronics Inc WCB6240Q
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: ATEC09-U8a Conducted (non-DFS) Rev B
Issue Date: 22nd December 2015
Page: 113 of 242



26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5773.226 MHz : -15.951 dBm M2 : 5789.860 MHz : 10.331 dBm Delta1 : 23.246 MHz : 0.952 dB T1 : 5775.932 MHz : 2.523 dBm T2 : 5794.068 MHz : 0.239 dBm OBW : 18.136 MHz	Measured 26 dB Bandwidth: 23.246 MHz Measured 99% Bandwidth: 18.136 MHz

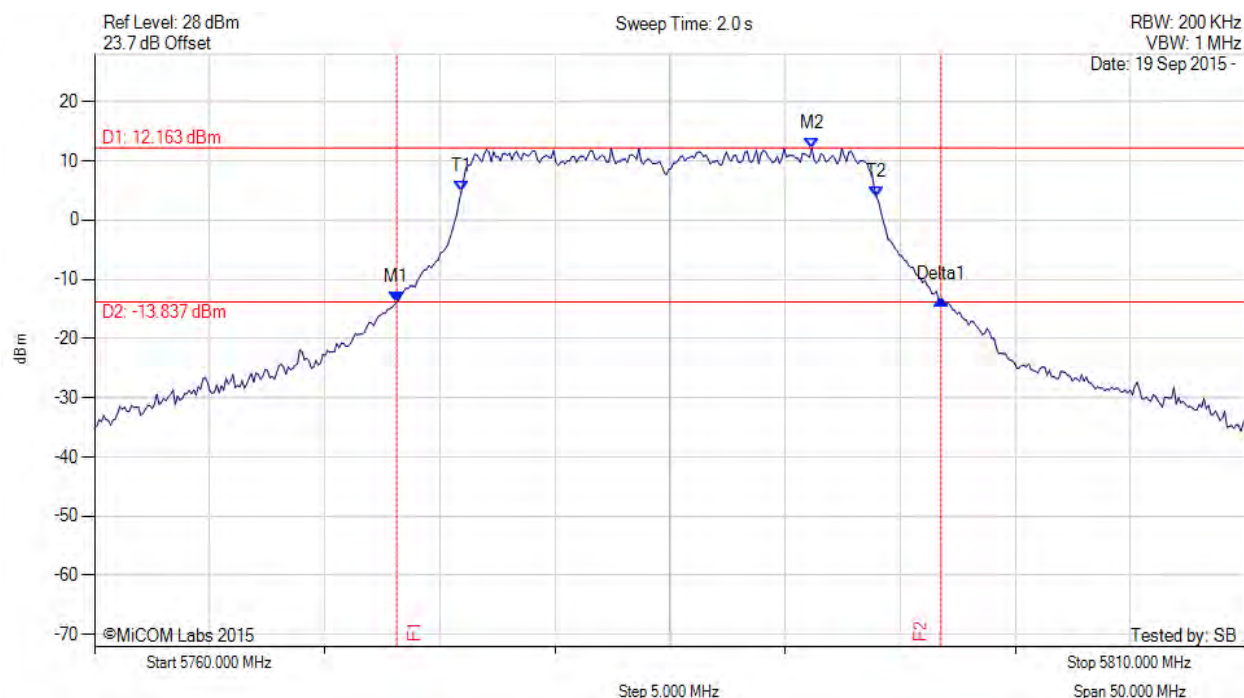
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5773.126 MHz : -13.869 dBm M2 : 5791.162 MHz : 12.163 dBm Delta1 : 23.647 MHz : 0.458 dB T1 : 5775.932 MHz : 4.742 dBm T2 : 5793.968 MHz : 3.961 dBm OBW : 18.036 MHz	Measured 26 dB Bandwidth: 23.647 MHz Measured 99% Bandwidth: 18.036 MHz

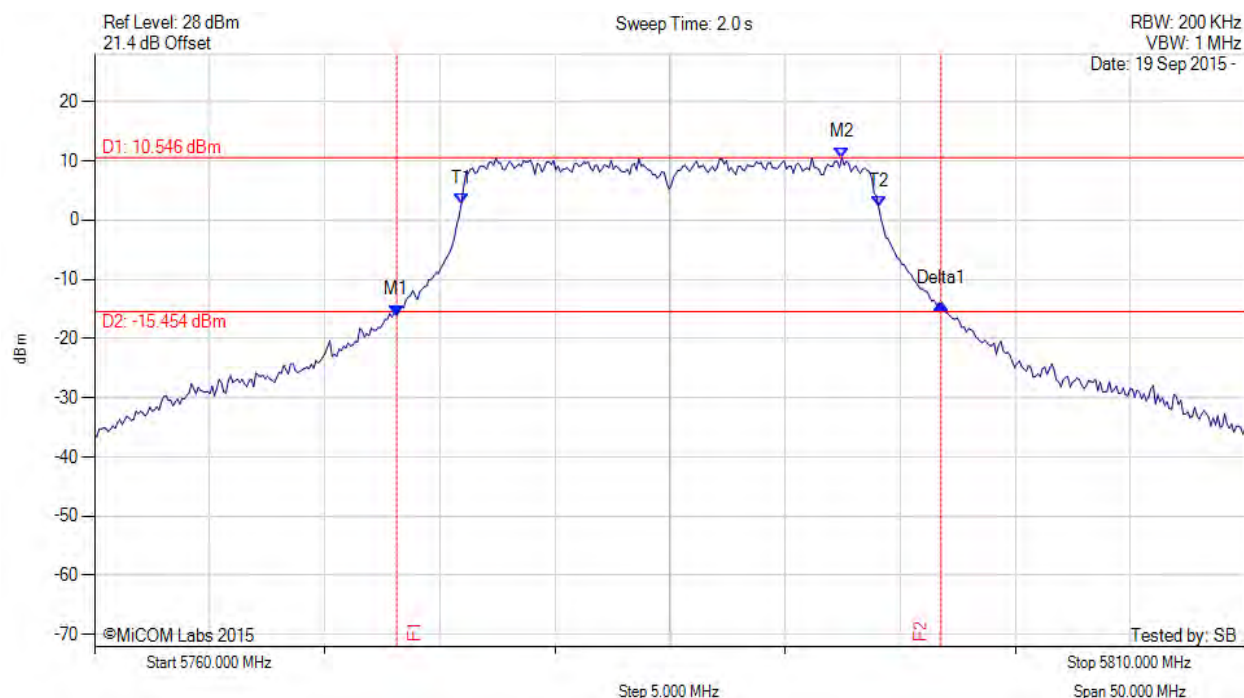
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain d, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5773.126 MHz : -16.090 dBm M2 : 5792.465 MHz : 10.546 dBm Delta1 : 23.647 MHz : 2.034 dB T1 : 5775.932 MHz : 2.708 dBm T2 : 5794.068 MHz : 2.163 dBm OBW : 18.136 MHz	Measured 26 dB Bandwidth: 23.647 MHz Measured 99% Bandwidth: 18.136 MHz

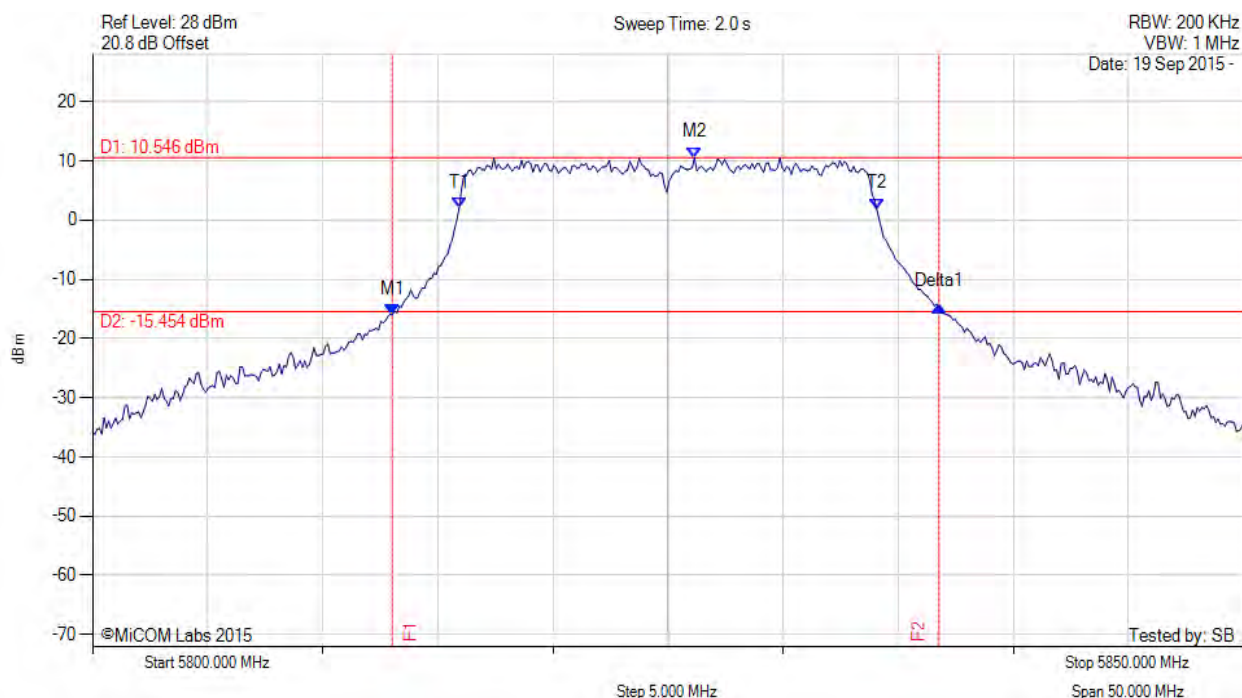
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5813.026 MHz : -16.002 dBm M2 : 5826.152 MHz : 10.546 dBm Delta1 : 23.747 MHz : 1.497 dB T1 : 5815.932 MHz : 2.125 dBm T2 : 5834.068 MHz : 1.907 dBm OBW : 18.136 MHz	Measured 26 dB Bandwidth: 23.747 MHz Measured 99% Bandwidth: 18.136 MHz

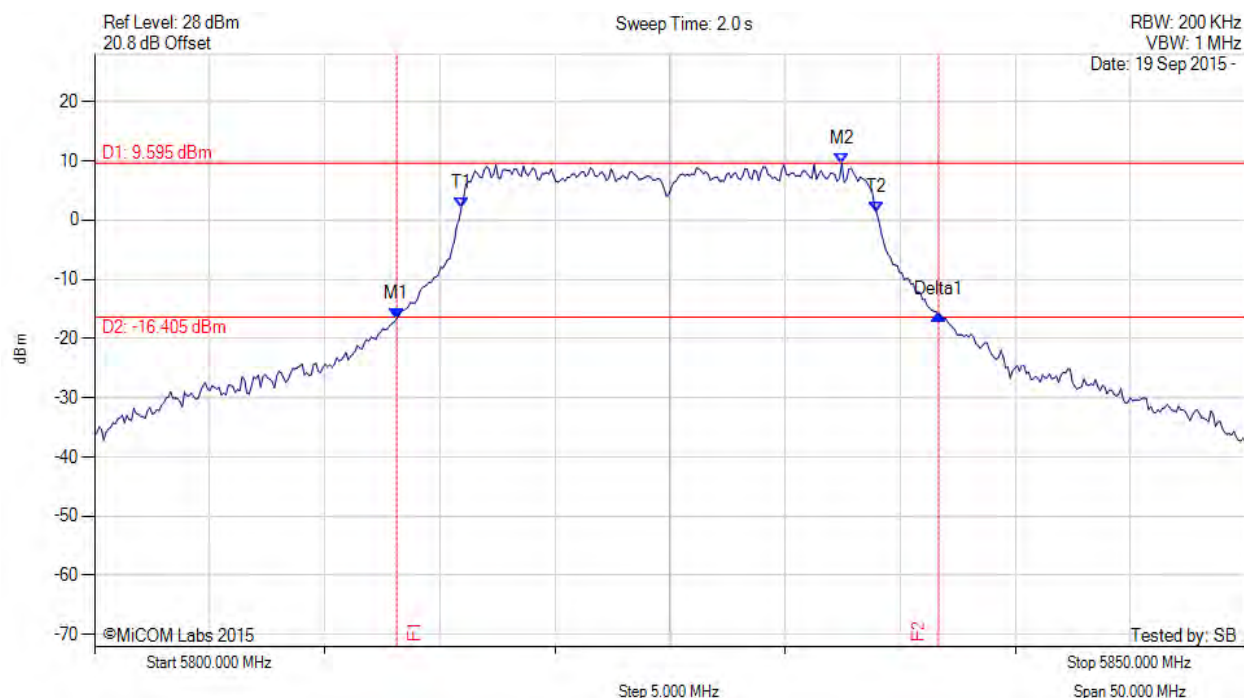
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5813.126 MHz : -16.610 dBm M2 : 5832.465 MHz : 9.595 dBm Delta1 : 23.547 MHz : 0.661 dB T1 : 5815.932 MHz : 2.058 dBm T2 : 5833.968 MHz : 1.299 dBm OBW : 18.036 MHz	Measured 26 dB Bandwidth: 23.547 MHz Measured 99% Bandwidth: 18.036 MHz

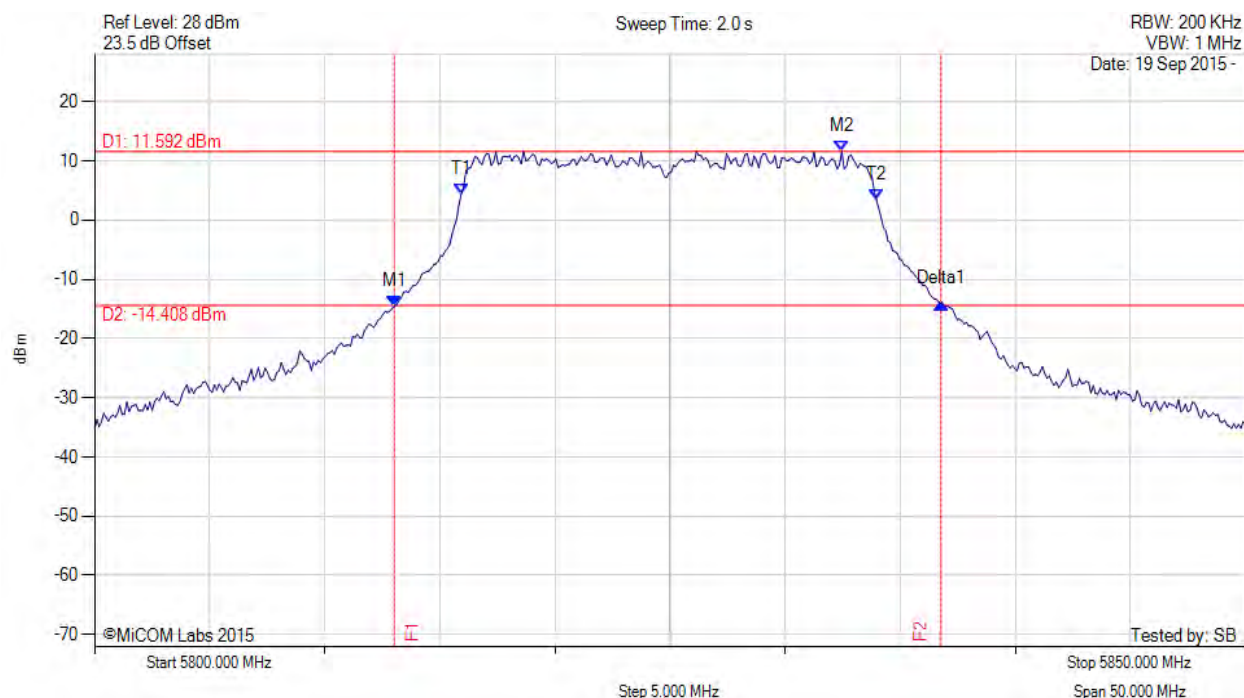
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5813.026 MHz : -14.568 dBm M2 : 5832.465 MHz : 11.592 dBm Delta1 : 23.747 MHz : 0.513 dB T1 : 5815.932 MHz : 4.429 dBm T2 : 5833.968 MHz : 3.414 dBm OBW : 18.036 MHz	Measured 26 dB Bandwidth: 23.747 MHz Measured 99% Bandwidth: 18.036 MHz

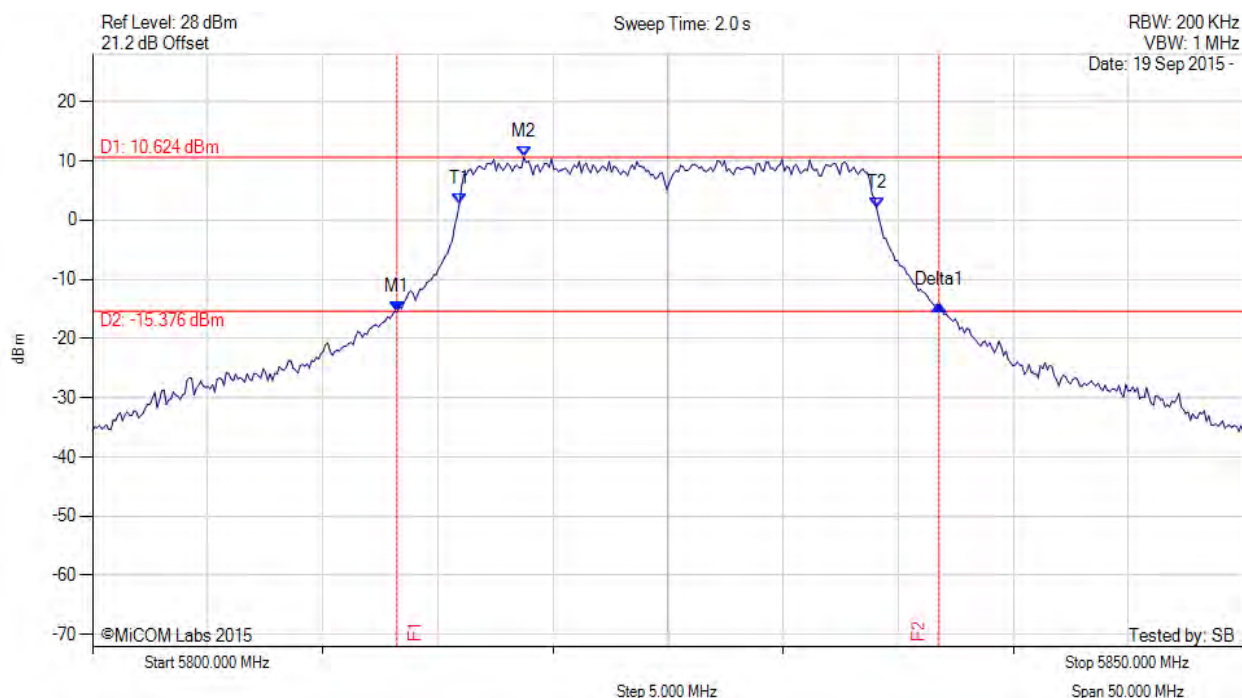
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain d, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5813.226 MHz : -15.498 dBm M2 : 5818.737 MHz : 10.624 dBm Delta1 : 23.547 MHz : 1.169 dB T1 : 5815.932 MHz : 2.629 dBm T2 : 5834.068 MHz : 1.988 dBm OBW : 18.136 MHz	Measured 26 dB Bandwidth: 23.547 MHz Measured 99% Bandwidth: 18.136 MHz

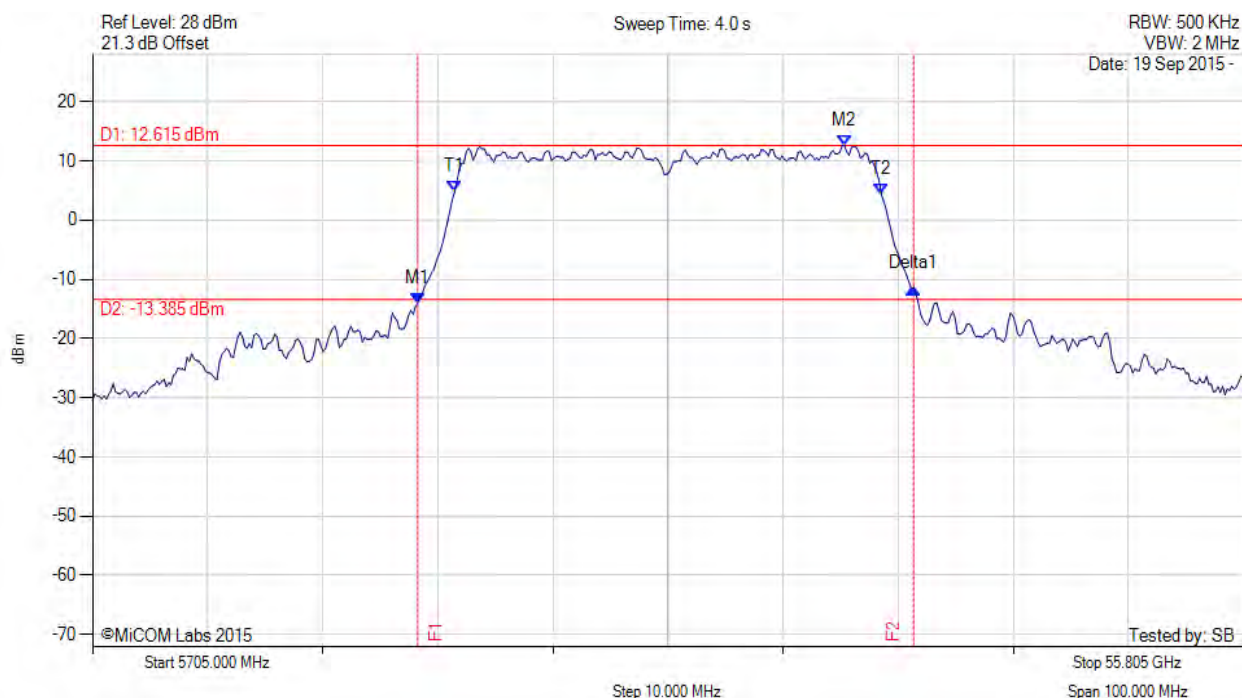
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26 dB & 99% BANDWIDTH



Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5733.257 MHz : -14.025 dBm M2 : 5770.331 MHz : 12.615 dBm Delta1 : 43.086 MHz : 2.595 dB T1 : 5736.463 MHz : 4.821 dBm T2 : 5773.537 MHz : 4.366 dBm OBW : 37.074 MHz	Measured 26 dB Bandwidth: 43.086 MHz Measured 99% Bandwidth: 37.074 MHz

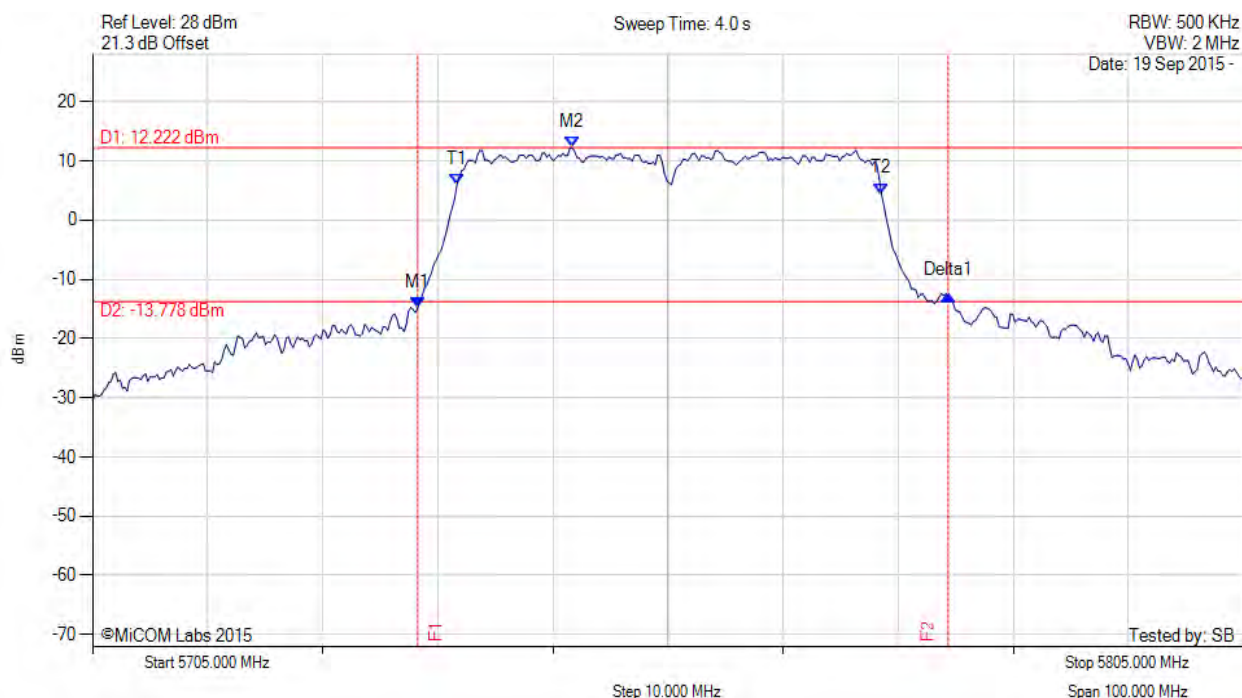
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26 dB & 99% BANDWIDTH



Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5733.257 MHz : -14.871 dBm M2 : 5746.683 MHz : 12.222 dBm Delta1 : 46.092 MHz : 2.251 dB T1 : 5736.663 MHz : 5.995 dBm T2 : 5773.537 MHz : 4.472 dBm OBW : 36.874 MHz	Measured 26 dB Bandwidth: 46.092 MHz Measured 99% Bandwidth: 36.874 MHz

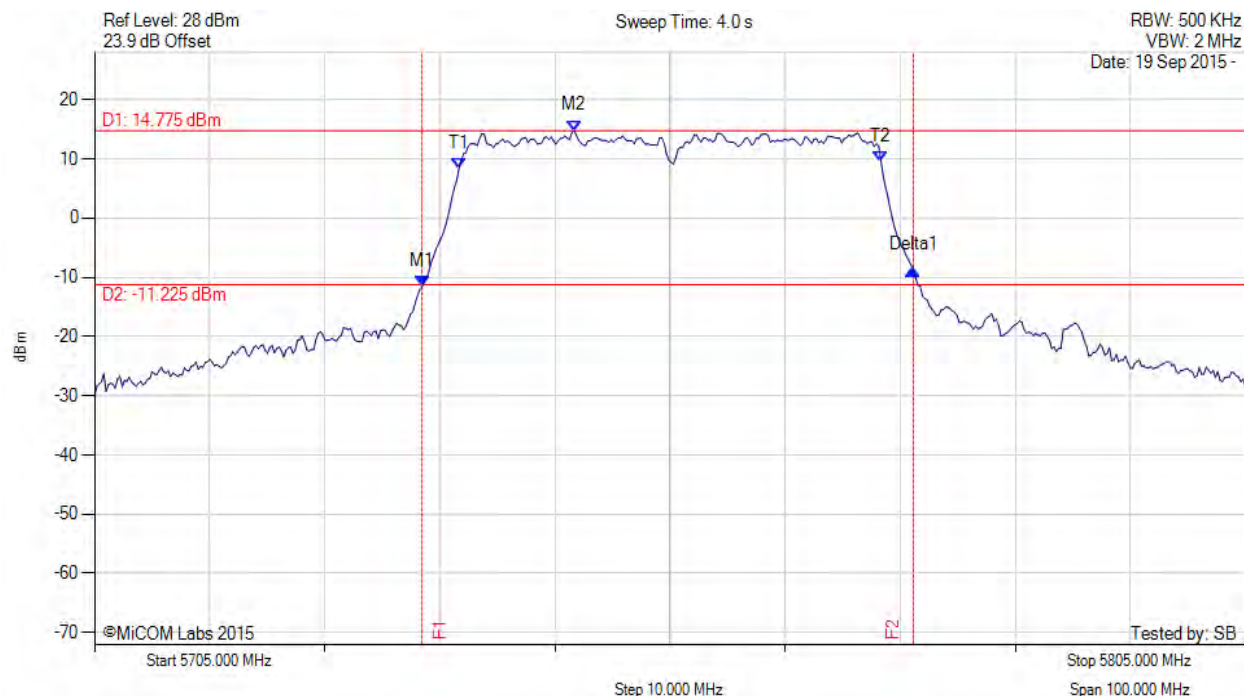
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5733.457 MHz : -11.587 dBm M2 : 5746.683 MHz : 14.775 dBm Delta1 : 42.685 MHz : 2.880 dB T1 : 5736.663 MHz : 8.403 dBm T2 : 5773.337 MHz : 9.517 dBm OBW : 36.673 MHz	Measured 26 dB Bandwidth: 42.685 MHz Measured 99% Bandwidth: 36.673 MHz

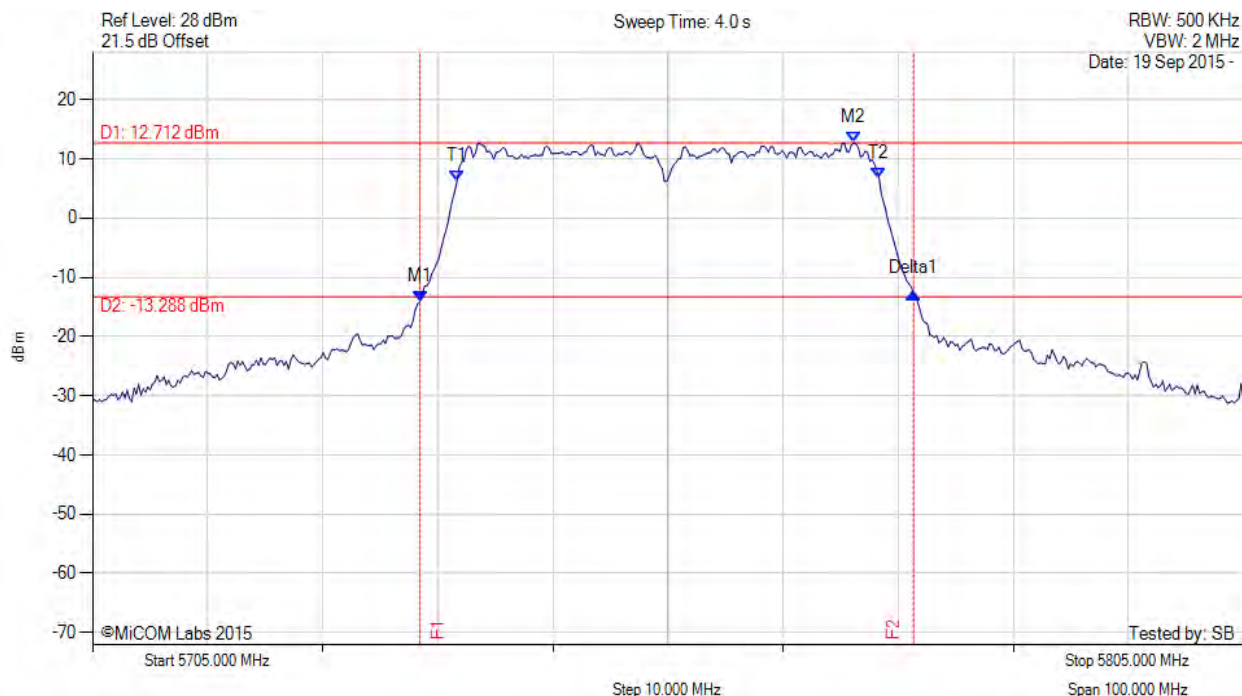
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain d, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5733.457 MHz : -14.031 dBm M2 : 5771.132 MHz : 12.712 dBm Delta1 : 42.886 MHz : 1.243 dB T1 : 5736.663 MHz : 6.229 dBm T2 : 5773.337 MHz : 6.747 dBm OBW : 36.673 MHz	Measured 26 dB Bandwidth: 42.886 MHz Measured 99% Bandwidth: 36.673 MHz

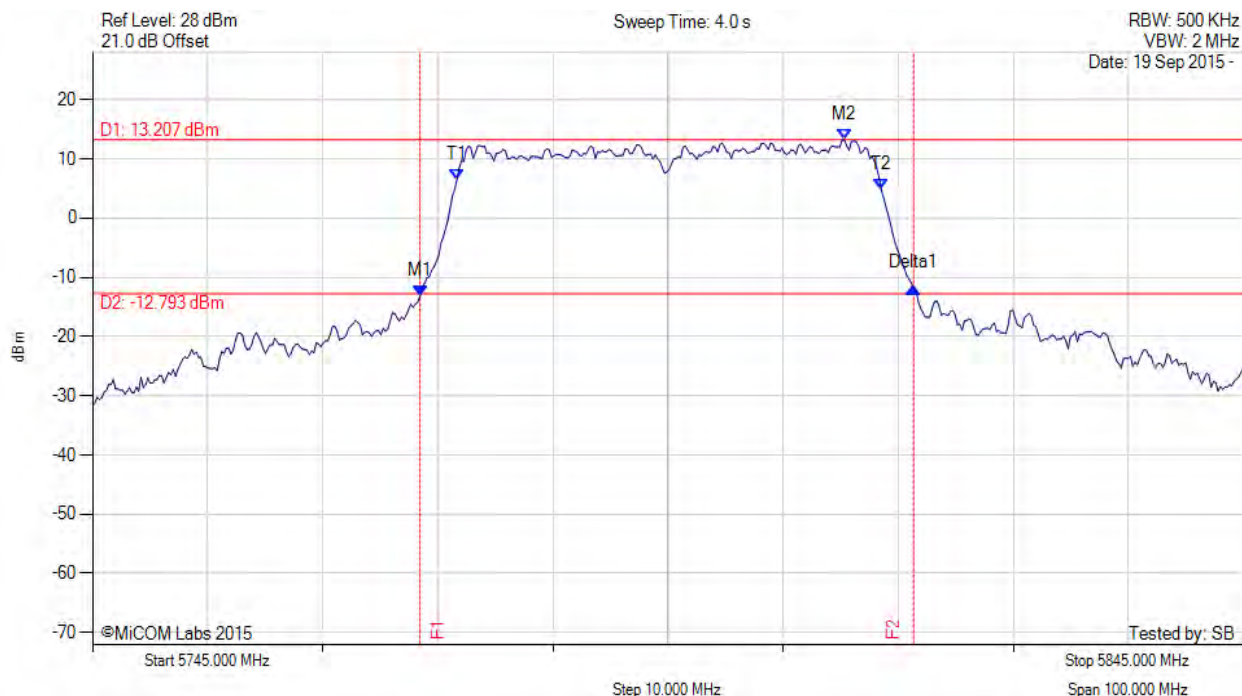
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26 dB & 99% BANDWIDTH



Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5773.457 MHz : -13.161 dBm M2 : 5810.331 MHz : 13.207 dBm Delta1 : 42.886 MHz : 1.497 dB T1 : 5776.663 MHz : 6.479 dBm T2 : 5813.537 MHz : 4.732 dBm OBW : 36.874 MHz	Measured 26 dB Bandwidth: 42.886 MHz Measured 99% Bandwidth: 36.874 MHz

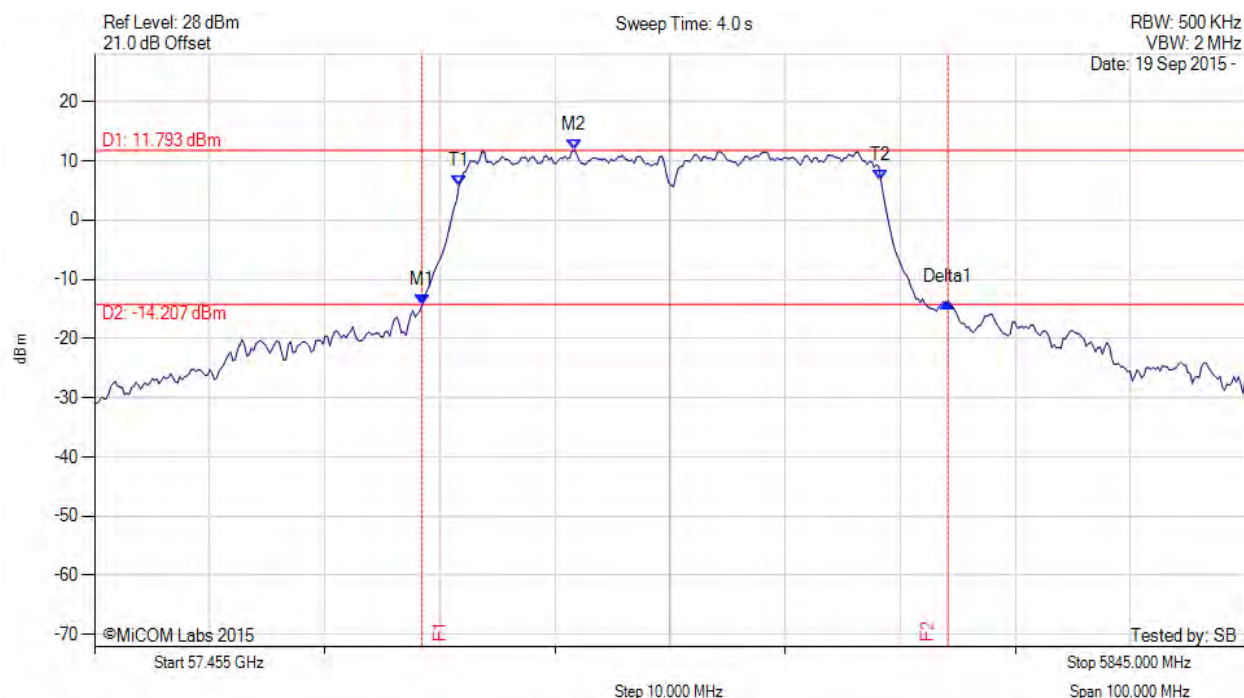
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5773.457 MHz : -14.282 dBm M2 : 5786.683 MHz : 11.793 dBm Delta1 : 45.691 MHz : 0.319 dB T1 : 5776.663 MHz : 5.769 dBm T2 : 5813.337 MHz : 6.688 dBm OBW : 36.673 MHz	Measured 26 dB Bandwidth: 45.691 MHz Measured 99% Bandwidth: 36.673 MHz

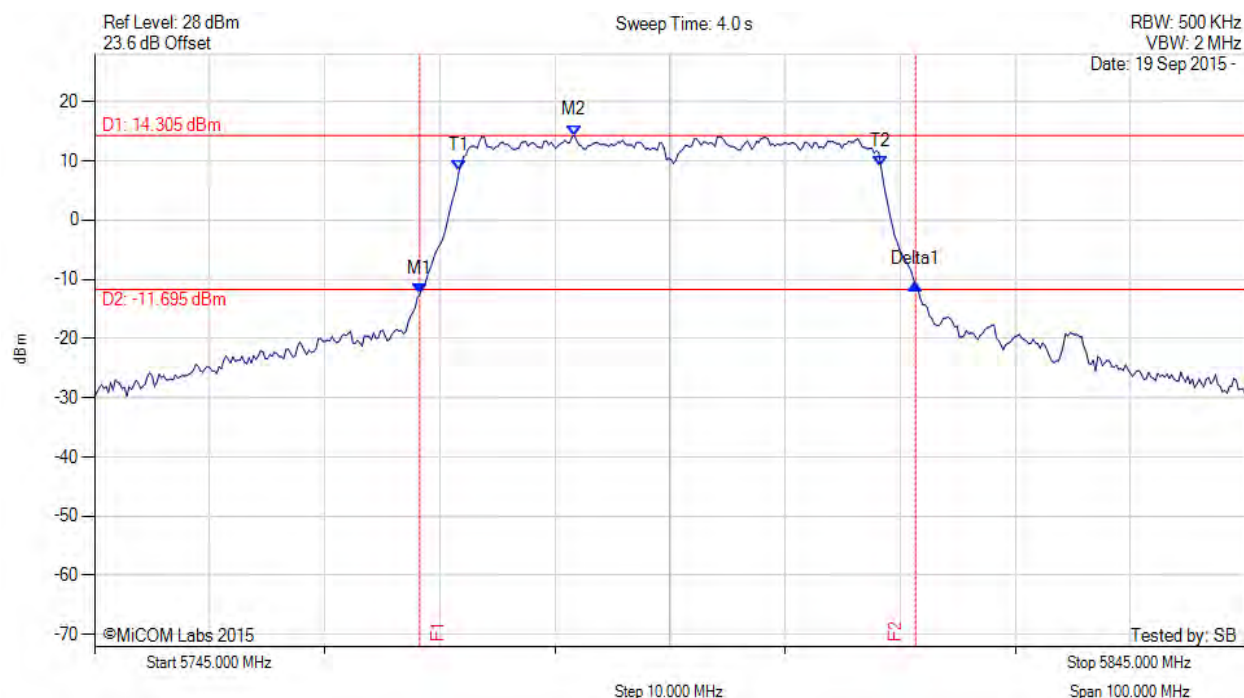
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5773.257 MHz : -12.539 dBm M2 : 5786.683 MHz : 14.305 dBm Delta1 : 43.086 MHz : 1.688 dB T1 : 5776.663 MHz : 8.258 dBm T2 : 5813.337 MHz : 8.954 dBm OBW : 36.673 MHz	Measured 26 dB Bandwidth: 43.086 MHz Measured 99% Bandwidth: 36.673 MHz

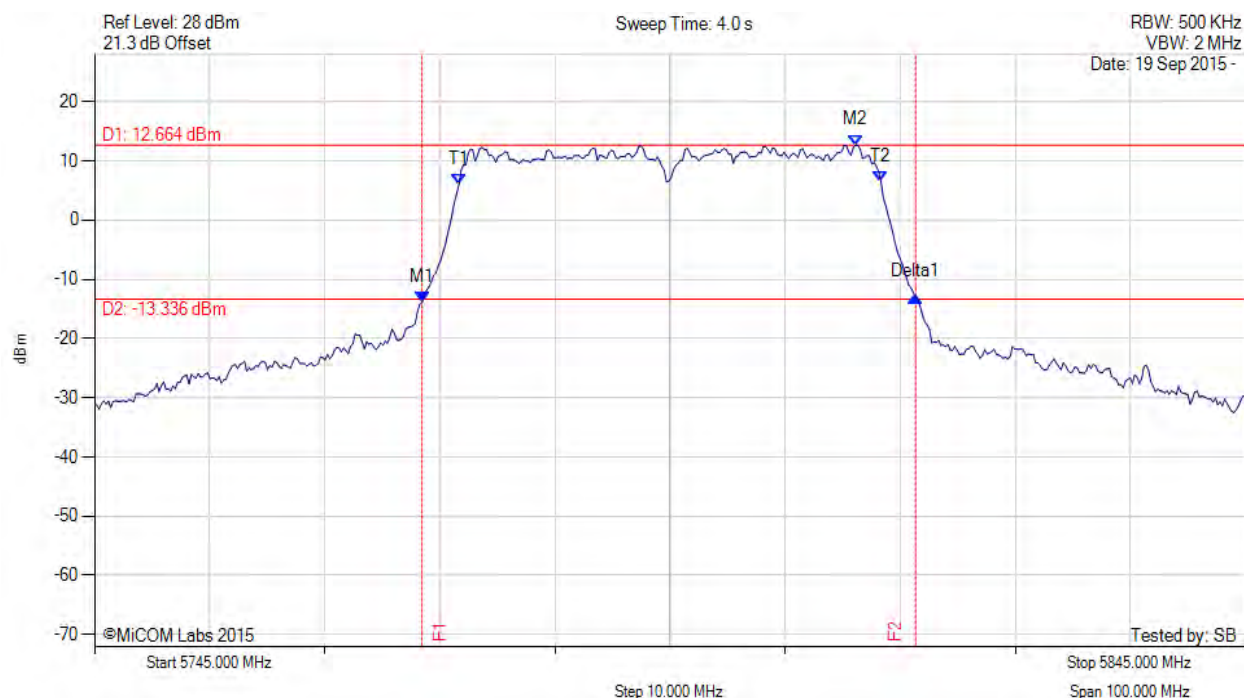
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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain d, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5773.457 MHz : -13.836 dBm M2 : 5811.132 MHz : 12.664 dBm Delta1 : 42.886 MHz : 0.986 dB T1 : 5776.663 MHz : 6.027 dBm T2 : 5813.337 MHz : 6.444 dBm OBW : 36.673 MHz	Measured 26 dB Bandwidth: 42.886 MHz Measured 99% Bandwidth: 36.673 MHz

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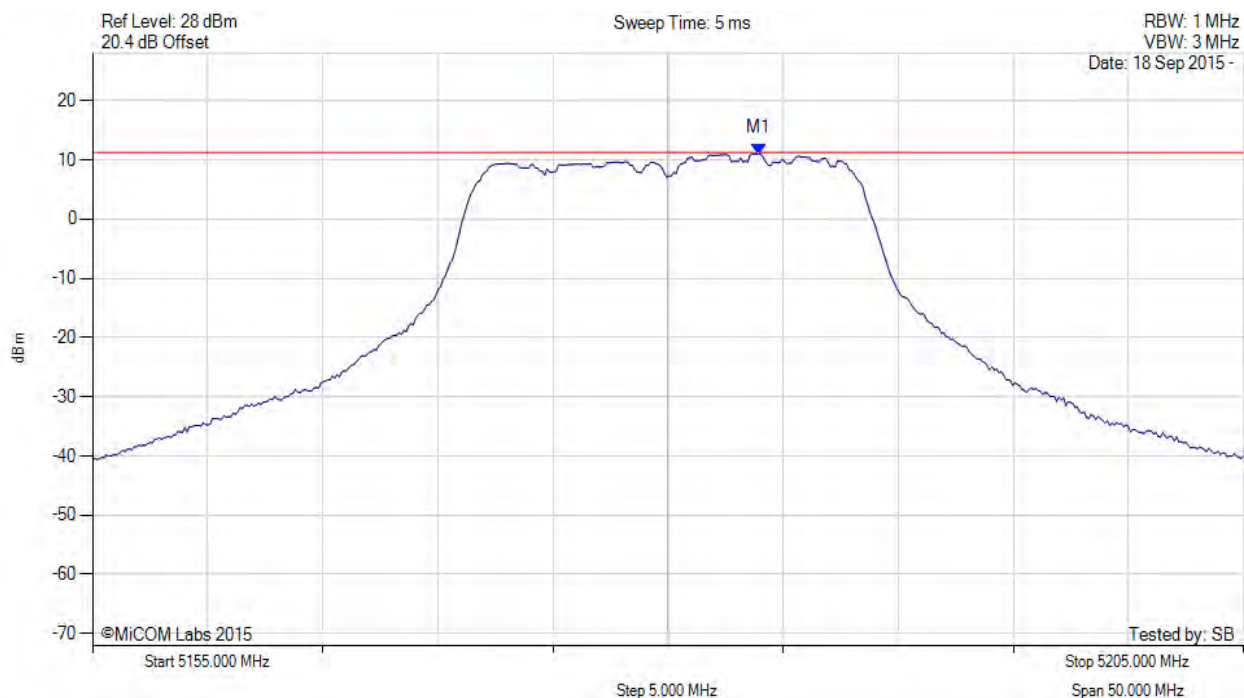
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A.2. Power Spectral Density



POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5180.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5183.958 MHz : 11.028 dBm	Limit: ≤ 11.230 dBm

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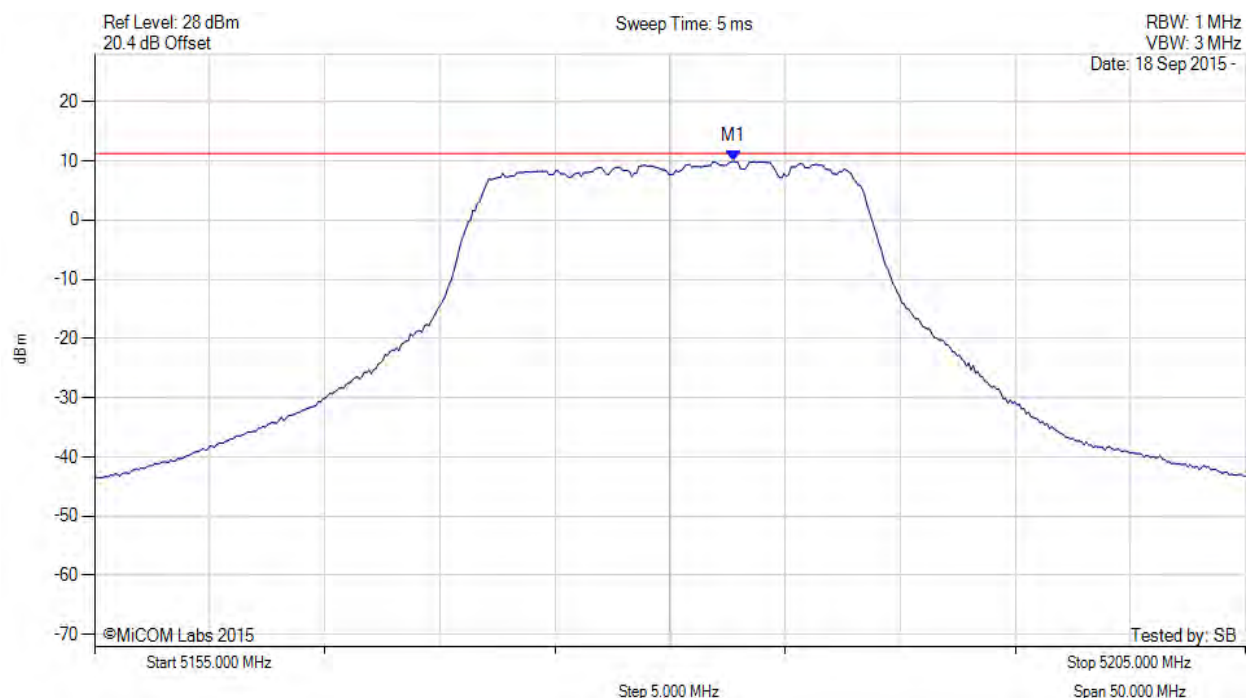


Title: Actiontec Electronics Inc WCB6240Q
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: ATEC09-U8a Conducted (non-DFS) Rev B
Issue Date: 22nd December 2015
Page: 129 of 242



POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5180.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5182.756 MHz : 9.906 dBm	Limit: ≤ 11.230 dBm

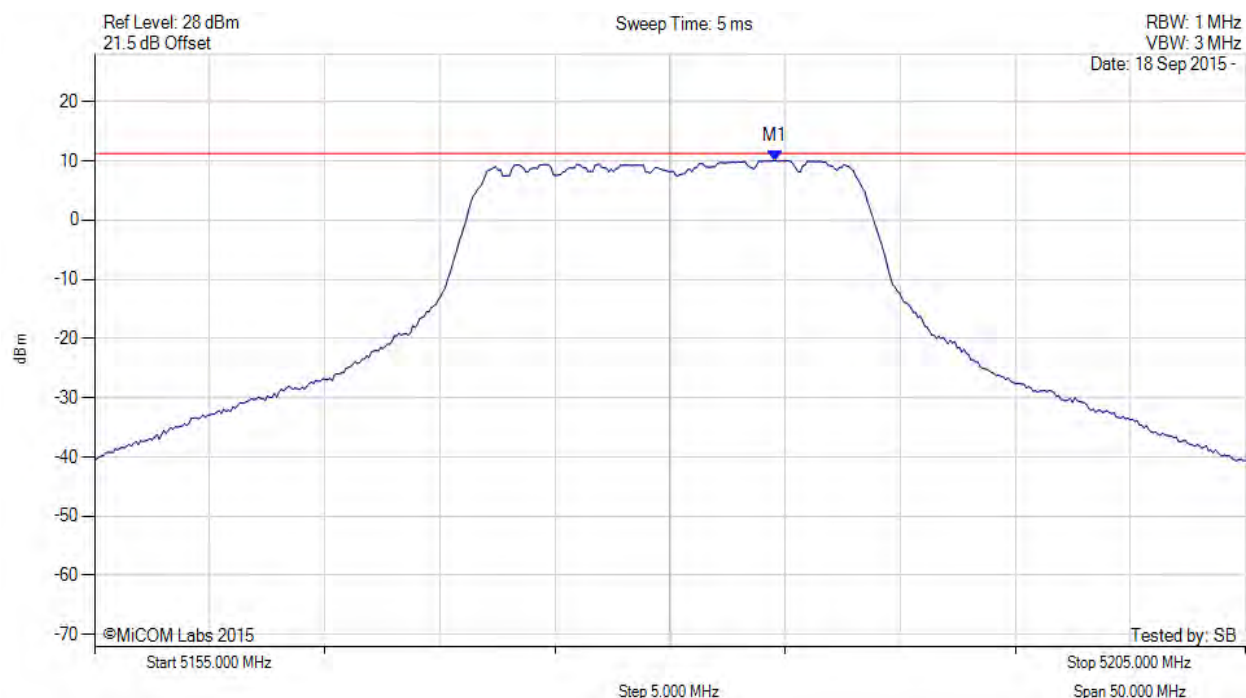
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5180.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5184.559 MHz : 10.064 dBm	Limit: ≤ 11.230 dBm

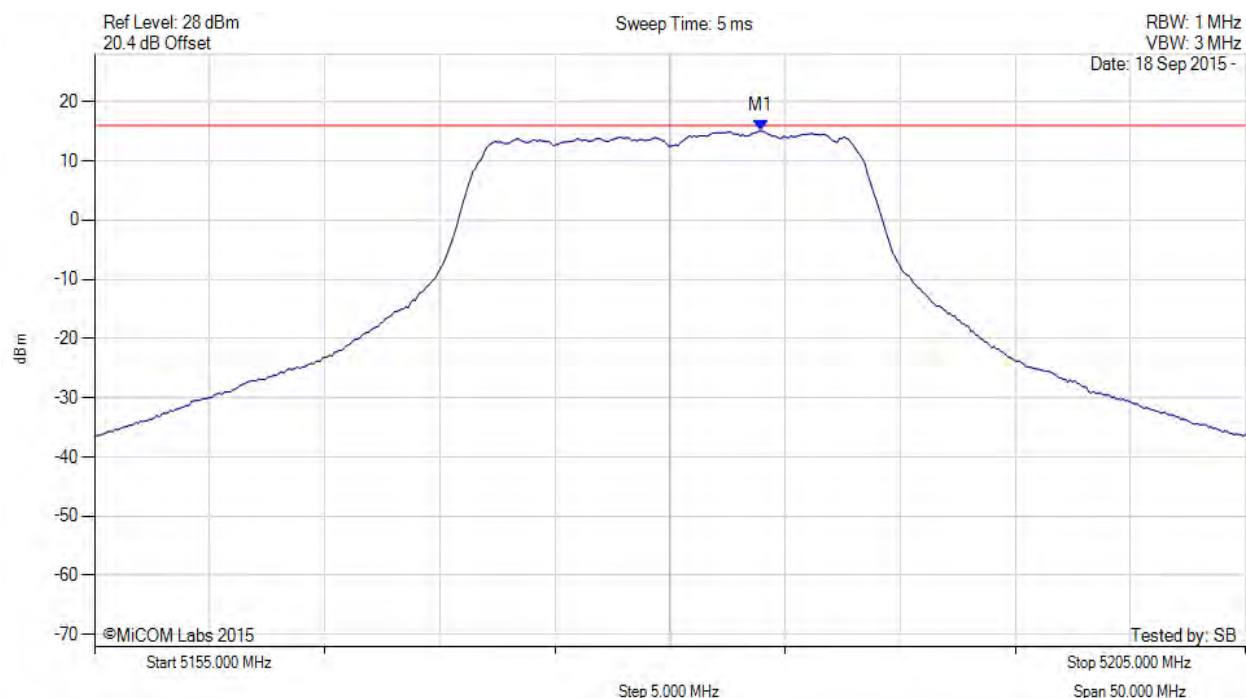
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5180.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5184.000 MHz : 15.054 dBm M1 + DCCF : 5184.000 MHz : 15.098 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 16.0 dBm Margin: -0.9 dB

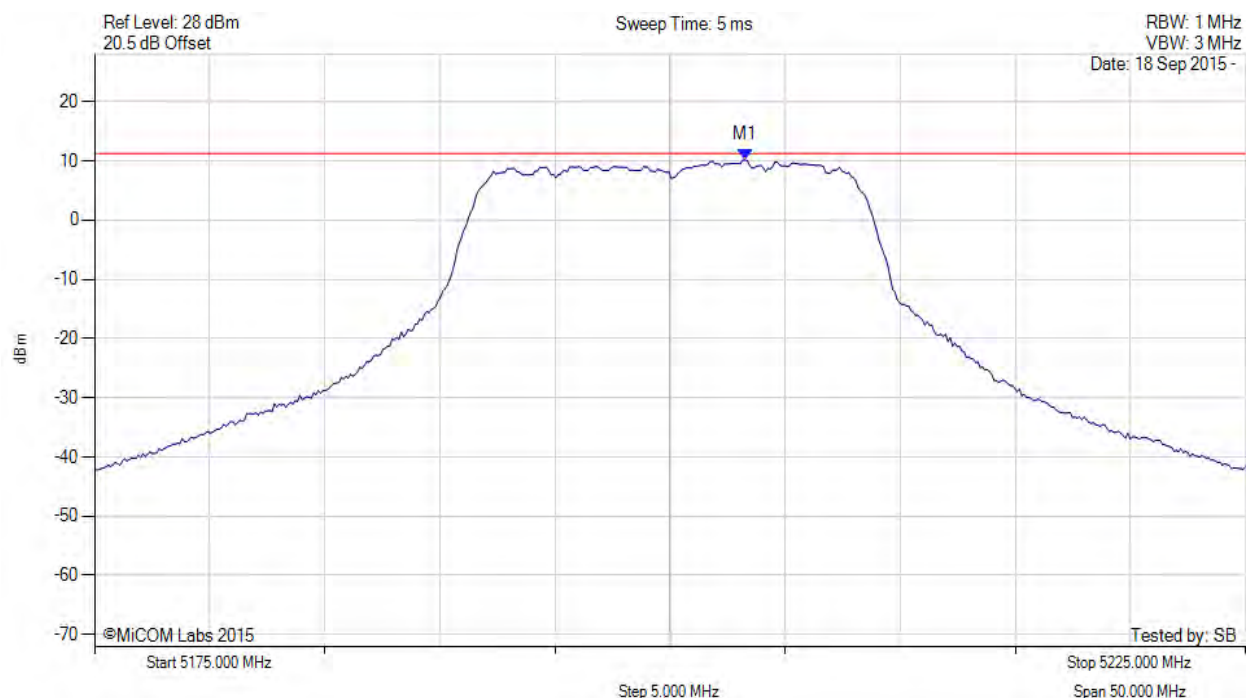
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5200.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5203.257 MHz : 10.177 dBm	Limit: ≤ 11.230 dBm

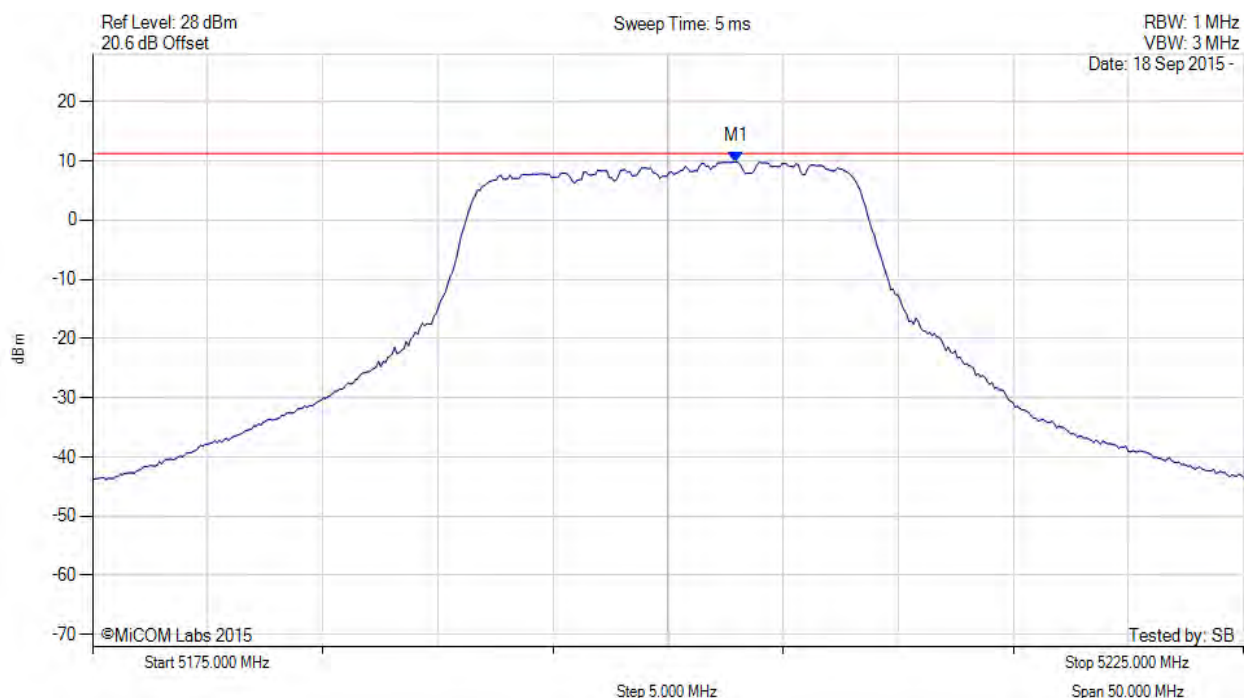
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5200.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5202.956 MHz : 9.848 dBm	Channel Frequency: 5200.00 MHz

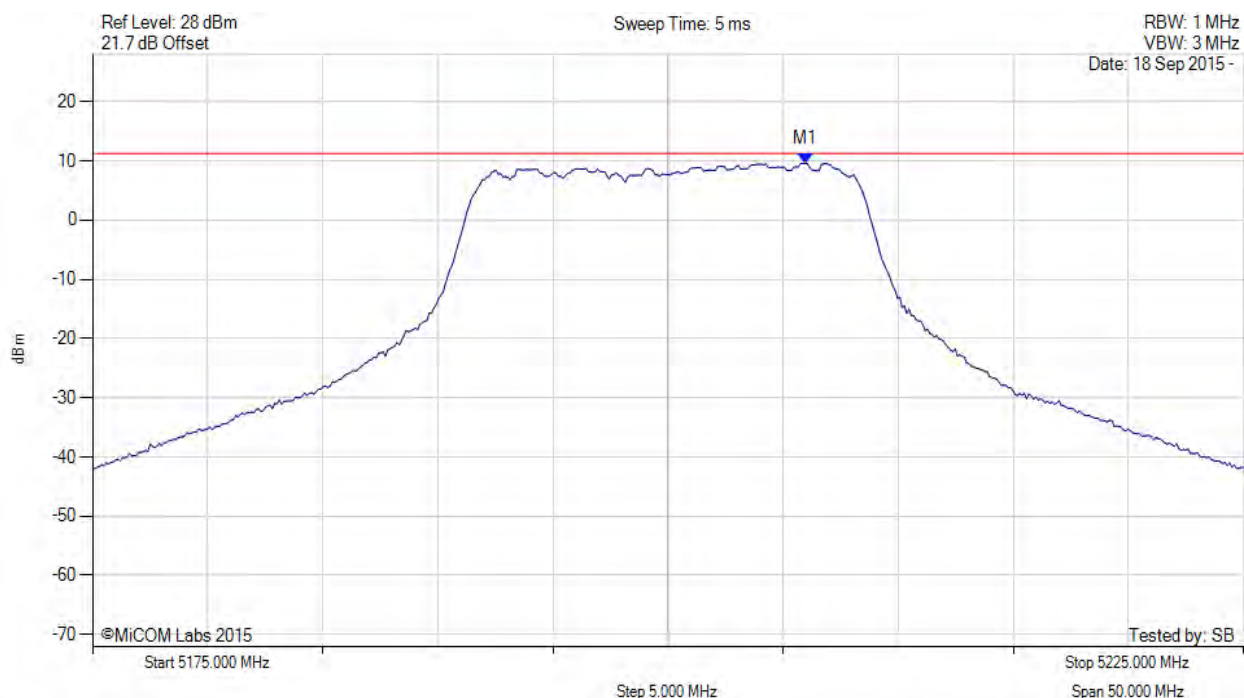
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5200.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5205.962 MHz : 9.593 dBm	Limit: ≤ 11.230 dBm

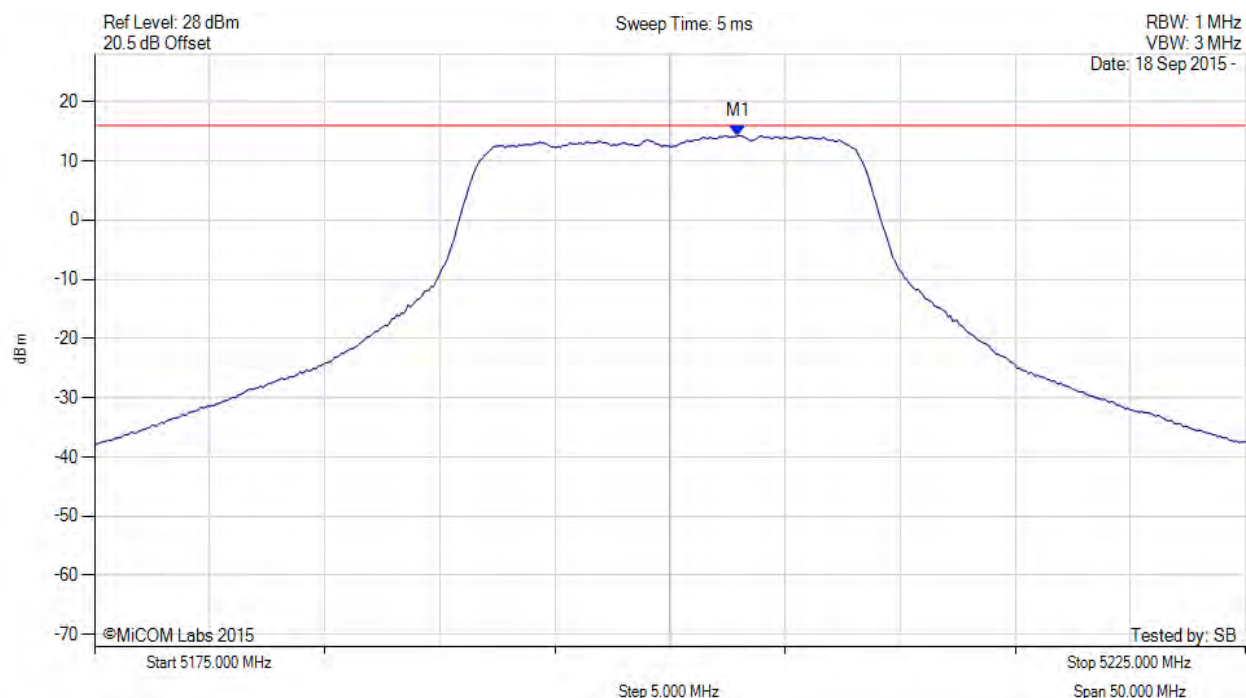
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5200.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5203.000 MHz : 14.274 dBm M1 + DCCF : 5203.000 MHz : 14.318 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 16.0 dBm Margin: -1.7 dB

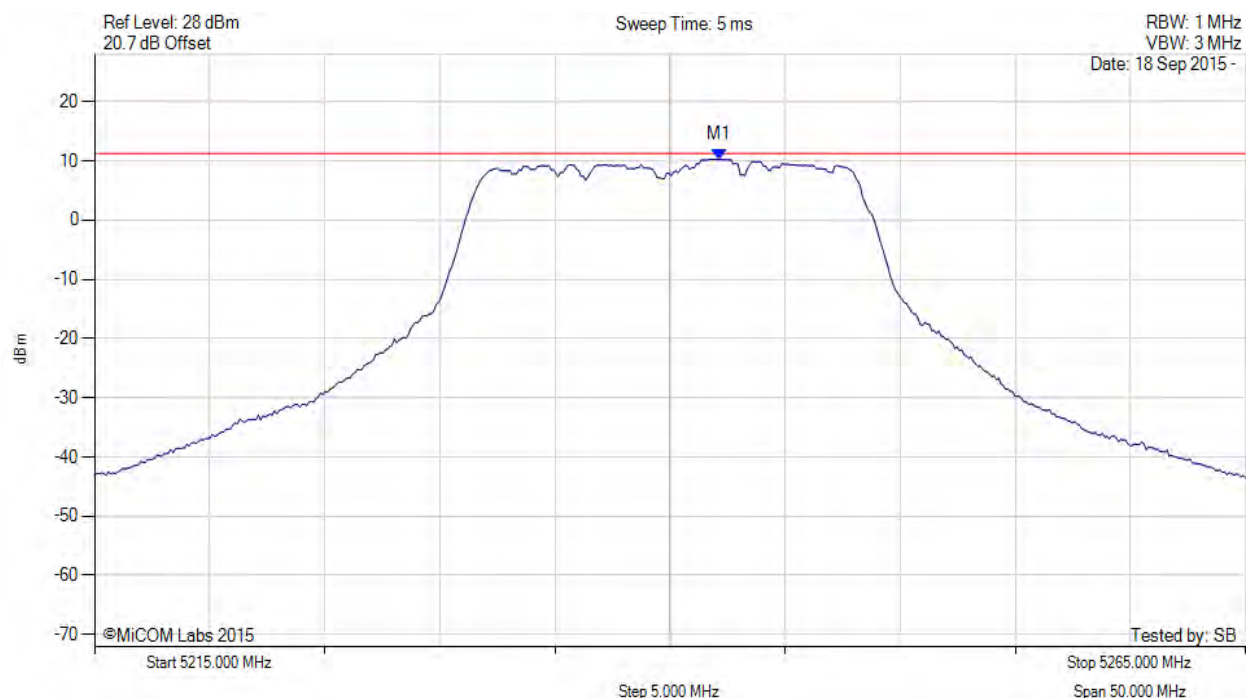
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5240.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5242.154 MHz : 10.300 dBm	Limit: ≤ 11.230 dBm

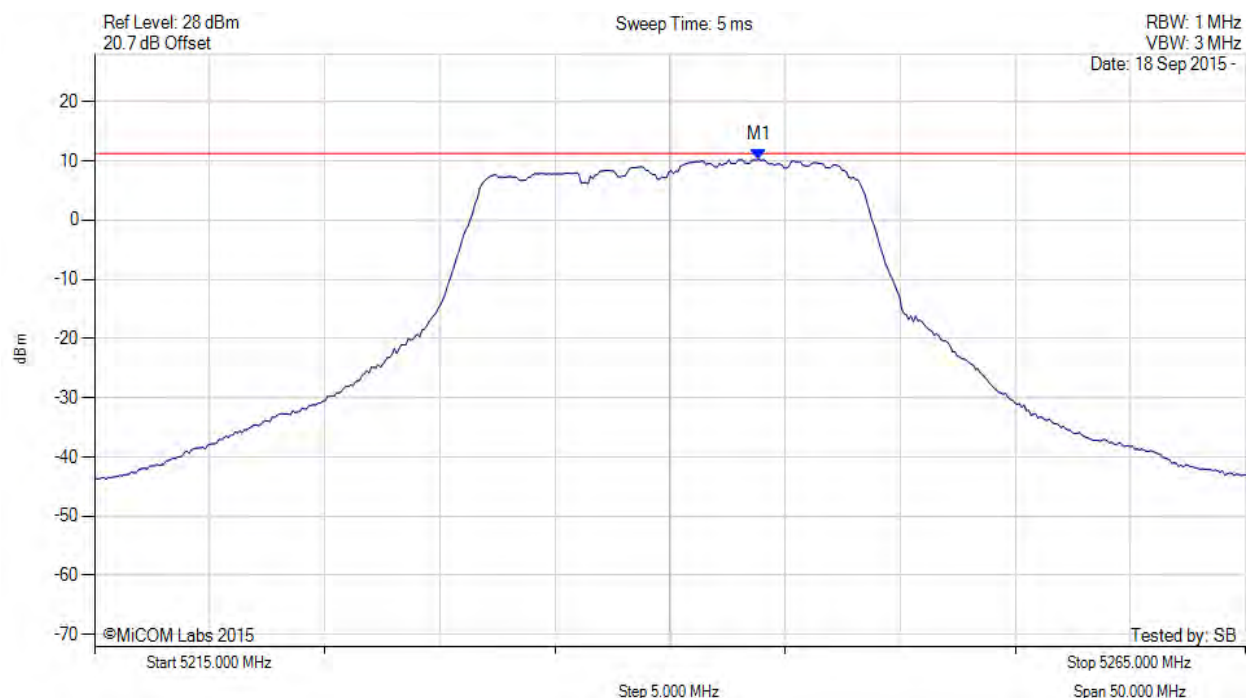
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5240.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5243.858 MHz : 10.212 dBm	Limit: ≤ 11.230 dBm

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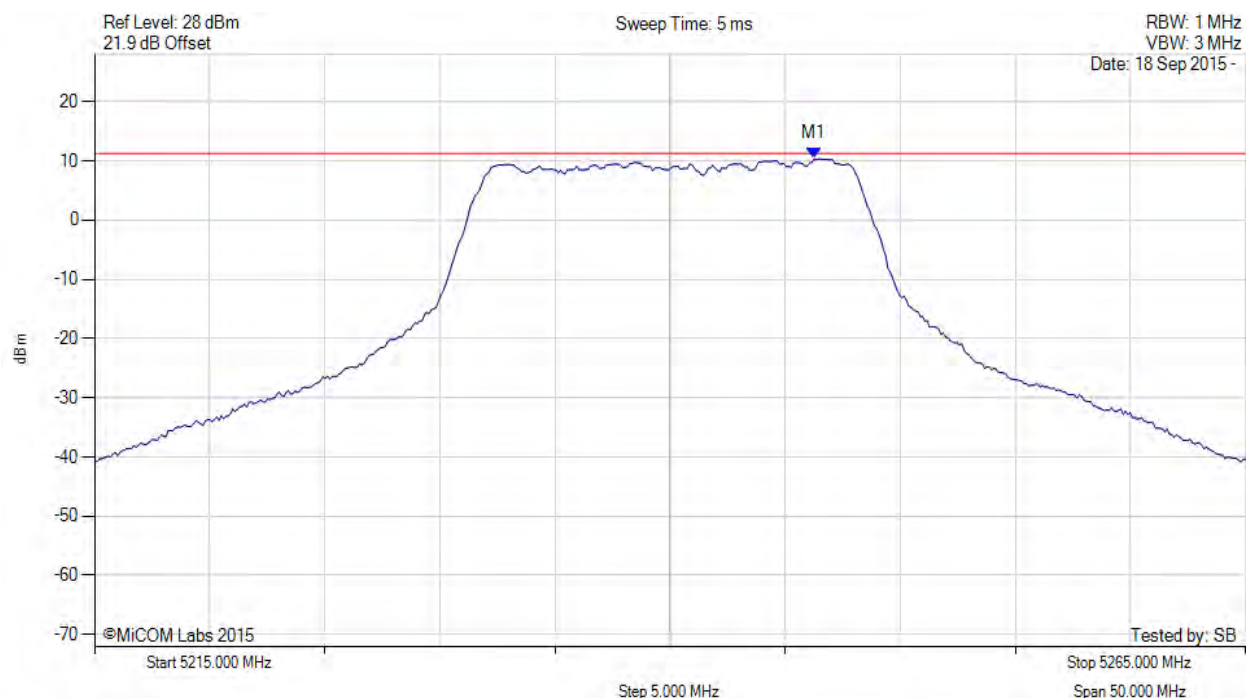


Title: Actiontec Electronics Inc WCB6240Q
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: ATEC09-U8a Conducted (non-DFS) Rev B
Issue Date: 22nd December 2015
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5240.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5246.263 MHz : 10.340 dBm	Limit: ≤ 11.230 dBm

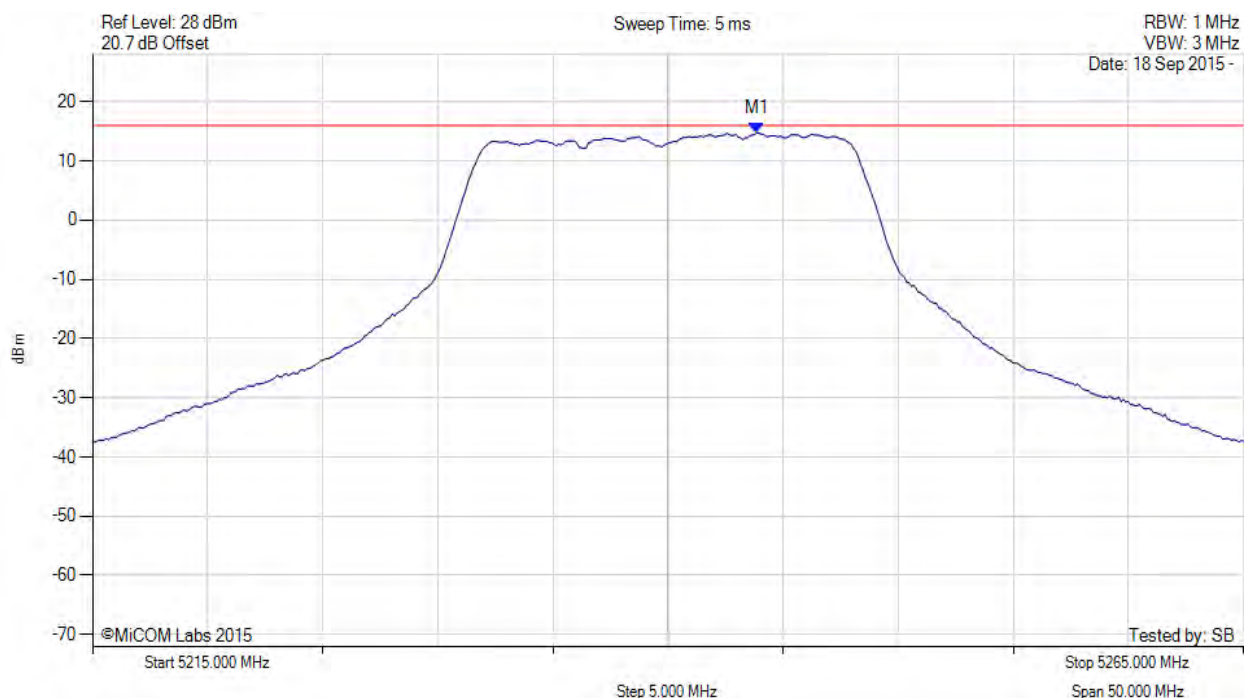
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5240.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5243.900 MHz : 14.738 dBm M1 + DCCF : 5243.900 MHz : 14.782 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 16.0 dBm Margin: -1.2 dB

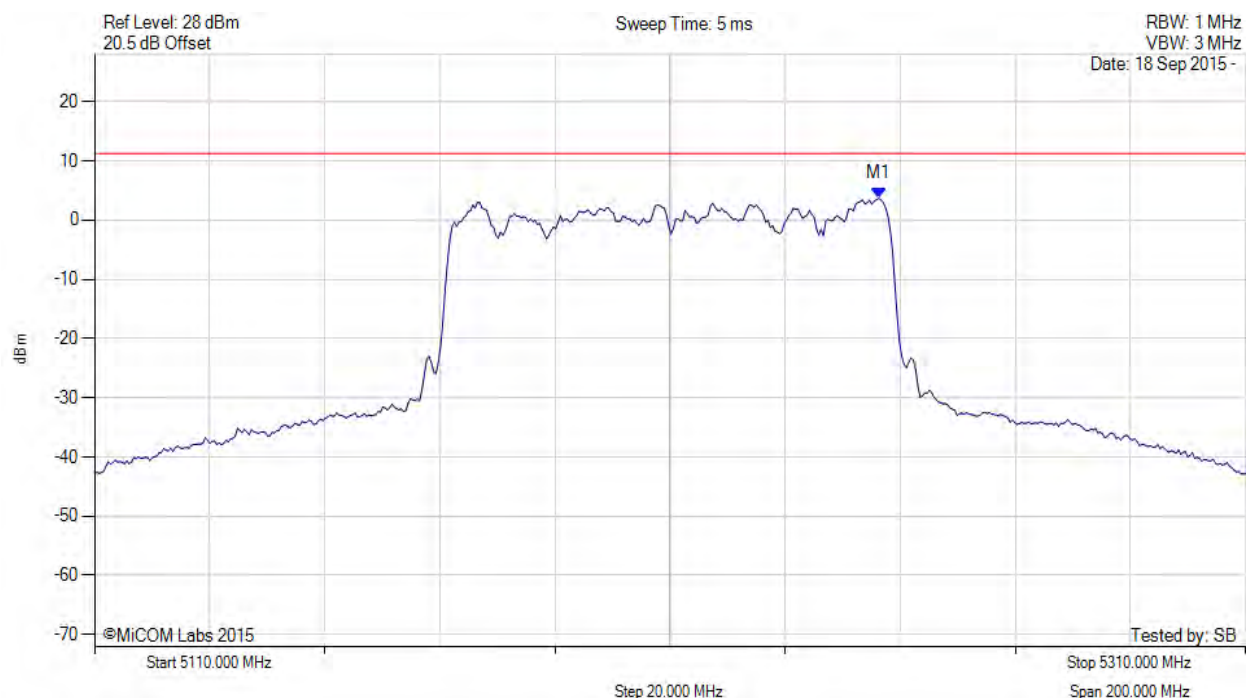
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POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5210.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5246.273 MHz : 3.666 dBm	Limit: ≤ 11.230 dBm

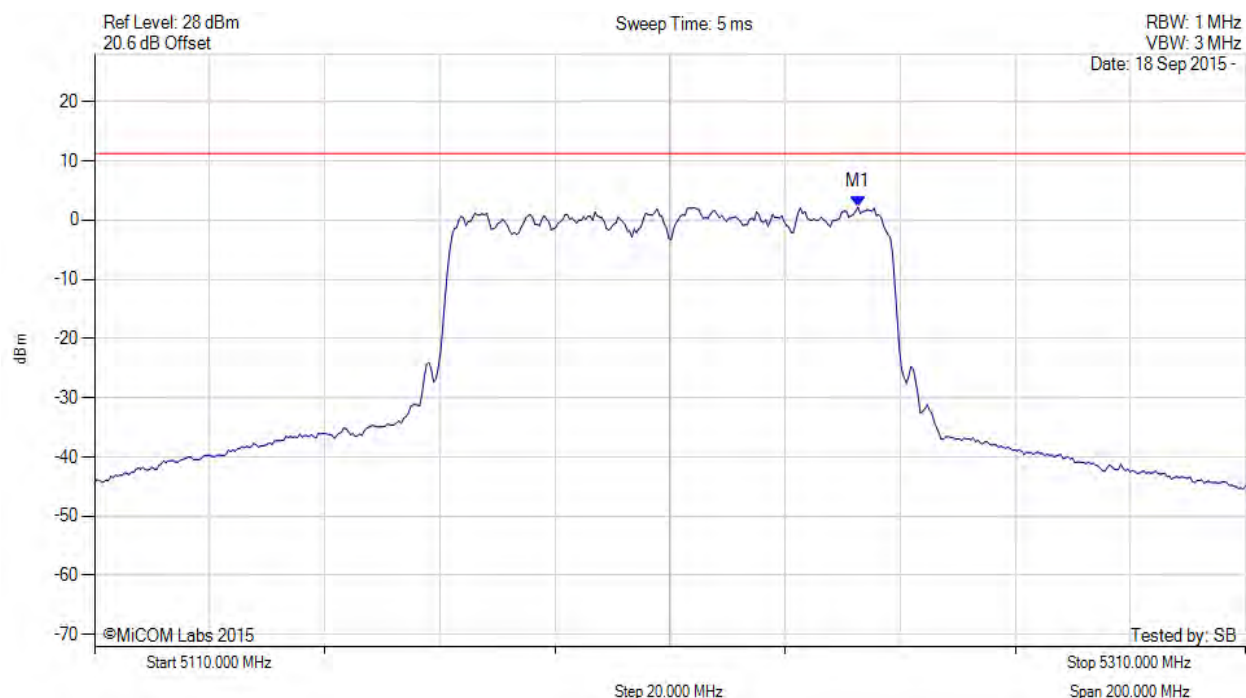
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POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5210.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5242.665 MHz : 2.200 dBm	Limit: ≤ 11.230 dBm

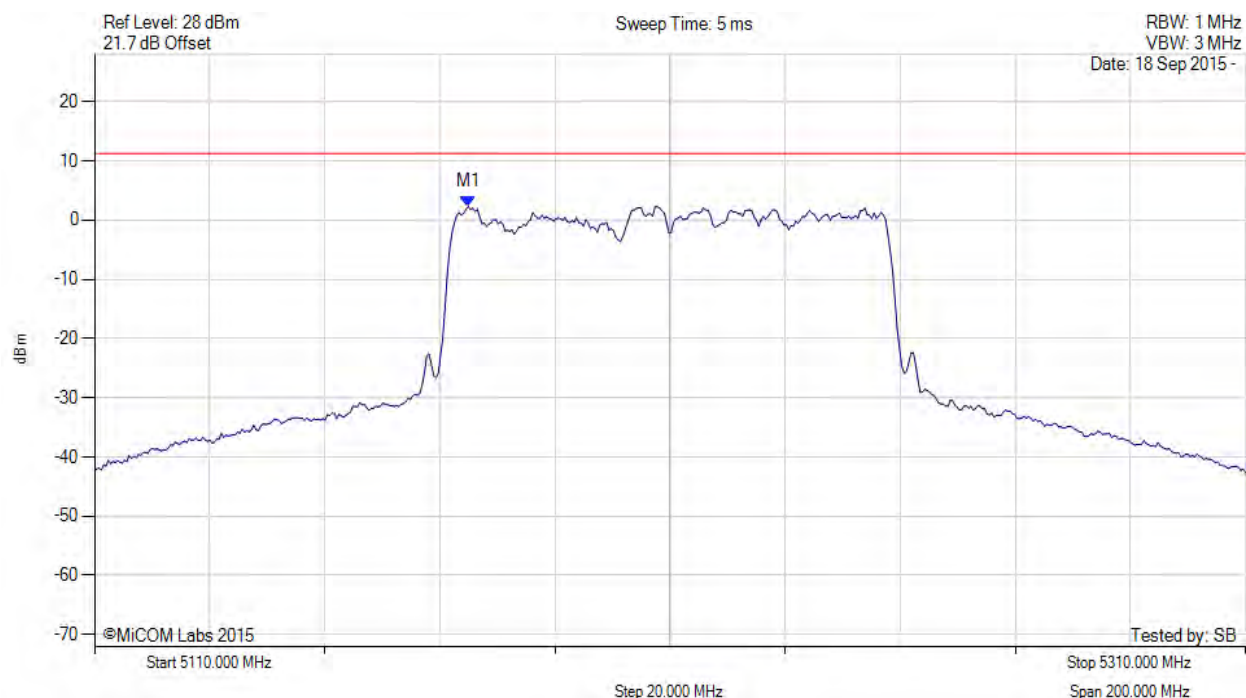
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POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5210.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5174.930 MHz : 2.331 dBm	Limit: ≤ 11.230 dBm

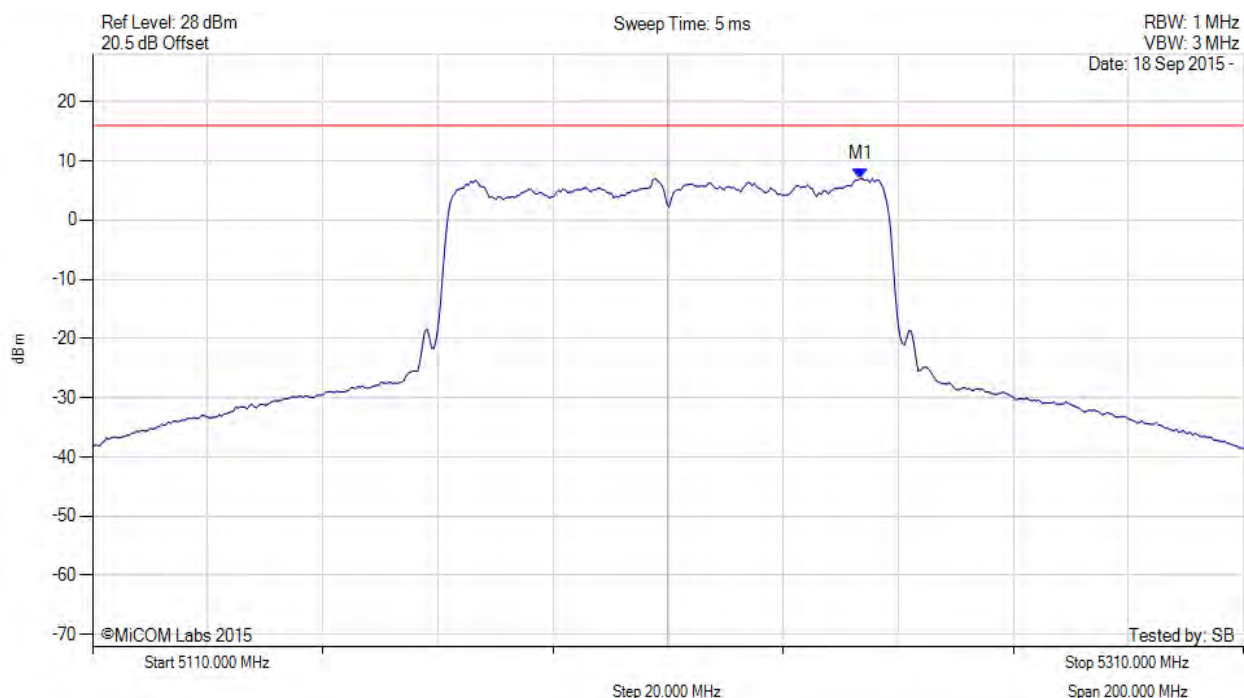
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POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5210.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5243.500 MHz : 7.008 dBm M1 + DCCF : 5243.500 MHz : 7.185 dBm Duty Cycle Correction Factor : +0.18 dB	Limit: ≤ 16.0 dBm Margin: -8.8 dB

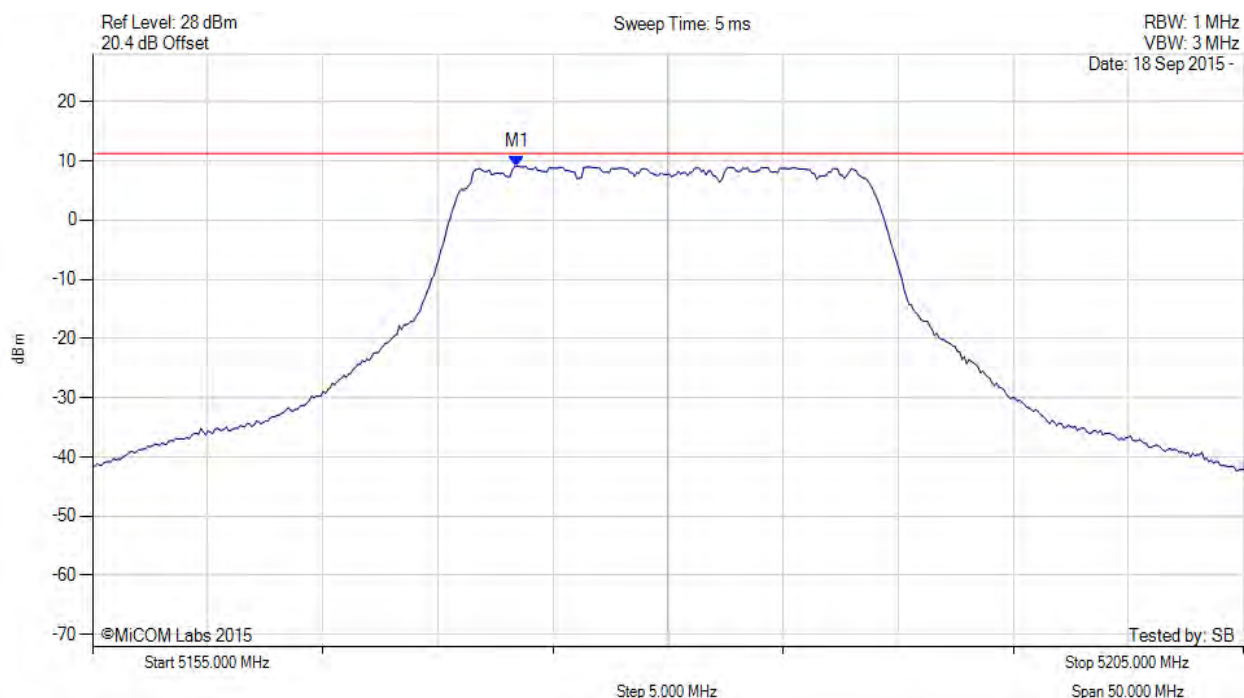
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5180.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5173.437 MHz : 9.099 dBm	Limit: ≤ 11.230 dBm

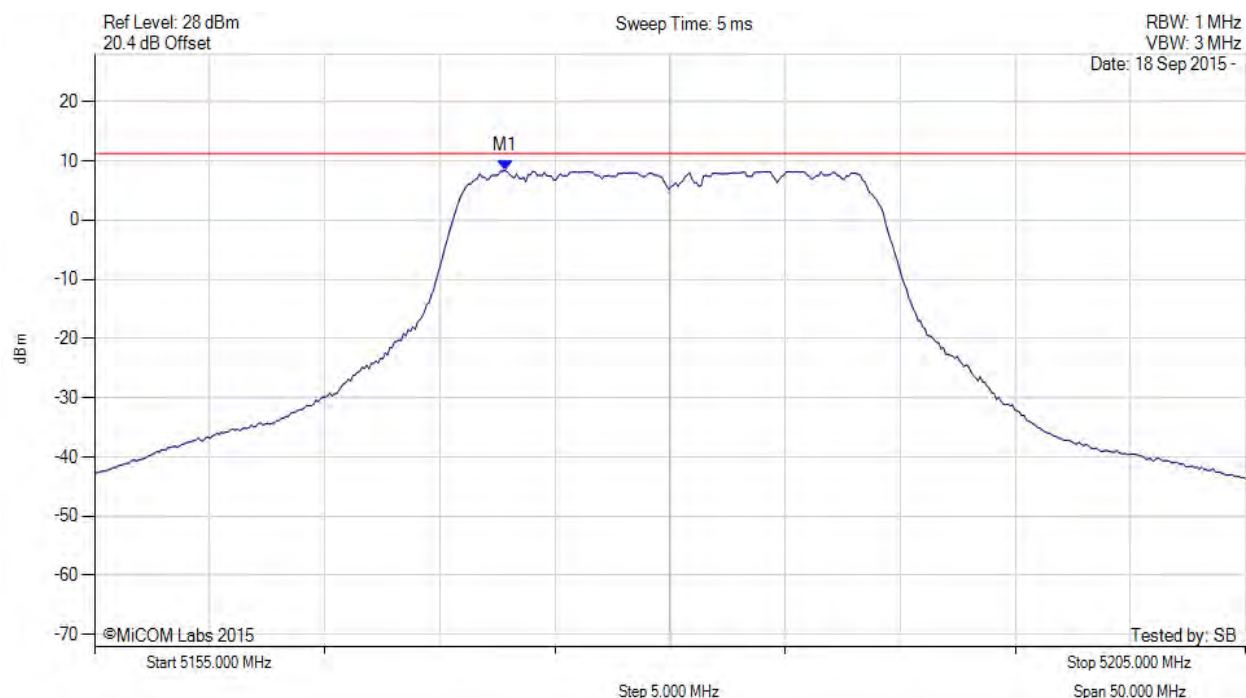
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5180.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5172.836 MHz : 8.399 dBm	Limit: ≤ 11.230 dBm

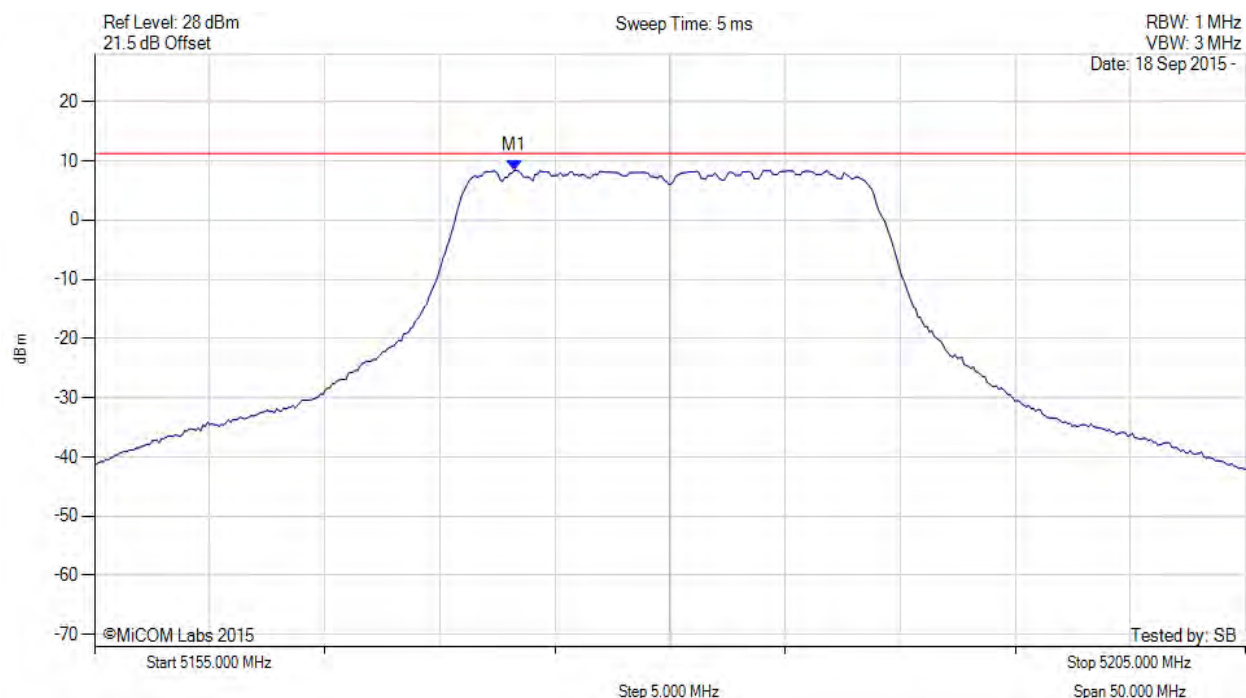
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5180.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5173.236 MHz : 8.399 dBm	Limit: ≤ 11.230 dBm

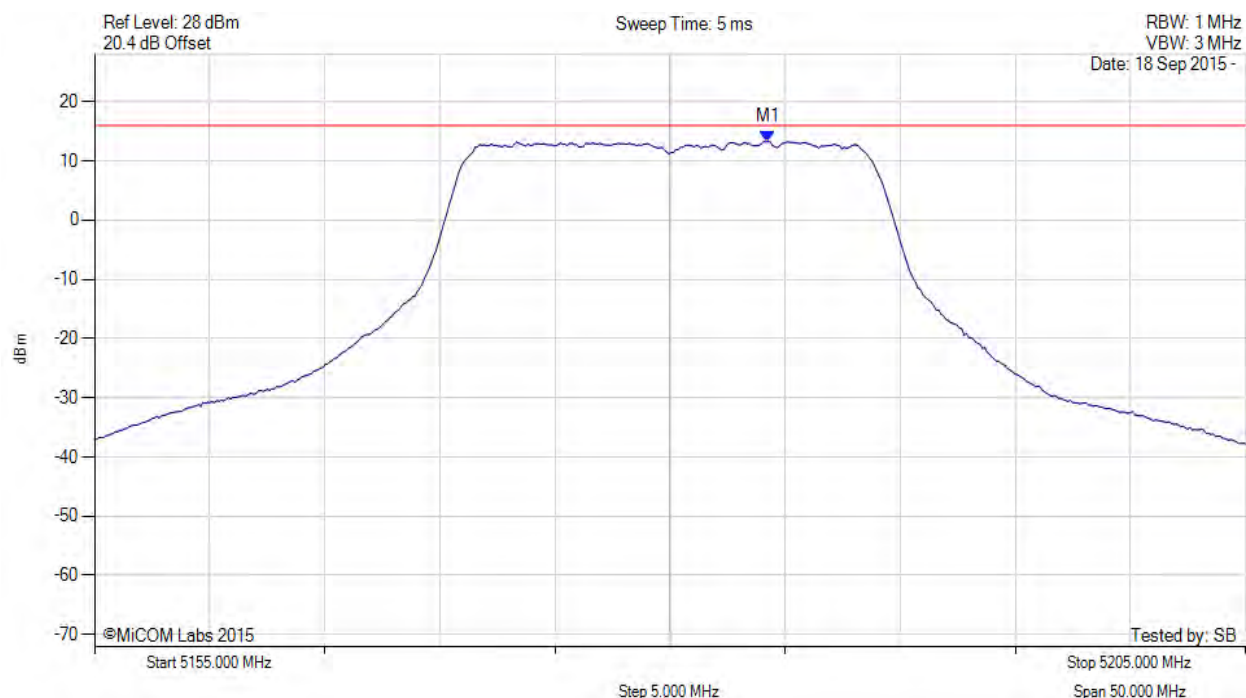
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5180.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5184.300 MHz : 13.264 dBm M1 + DCCF : 5184.300 MHz : 13.441 dBm Duty Cycle Correction Factor : +0.18 dB	Limit: ≤ 16.0 dBm Margin: -2.5 dB

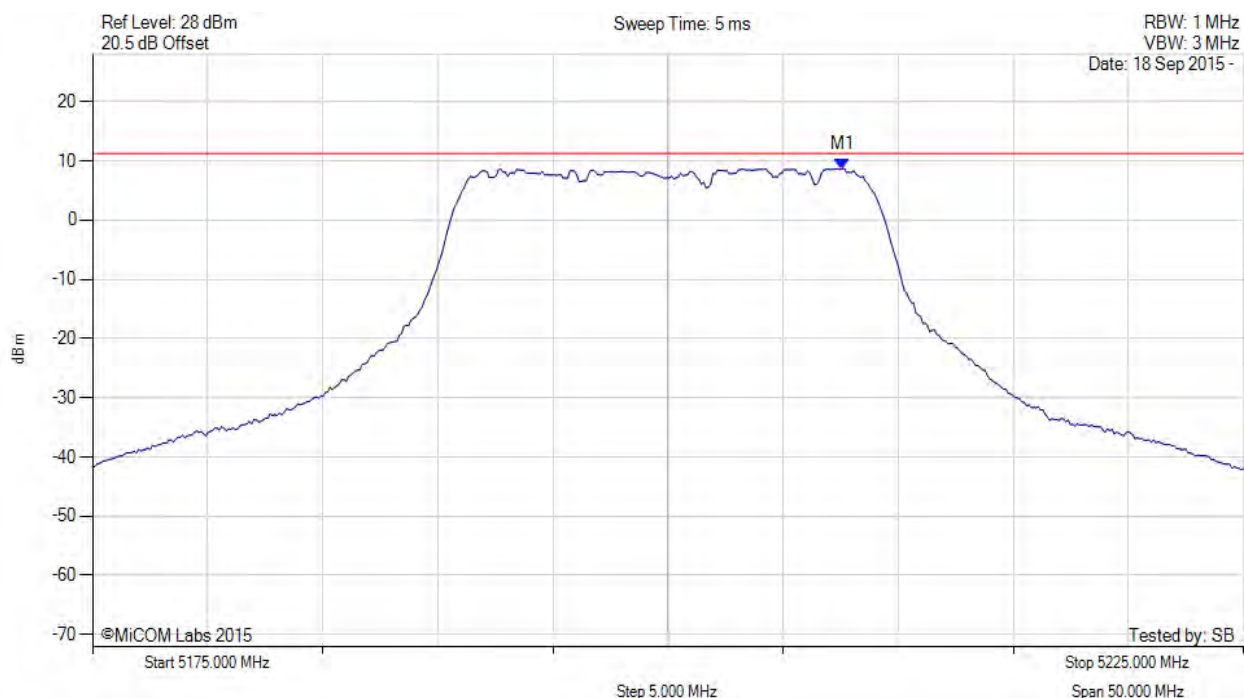
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5200.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5207.565 MHz : 8.674 dBm	Limit: ≤ 11.230 dBm

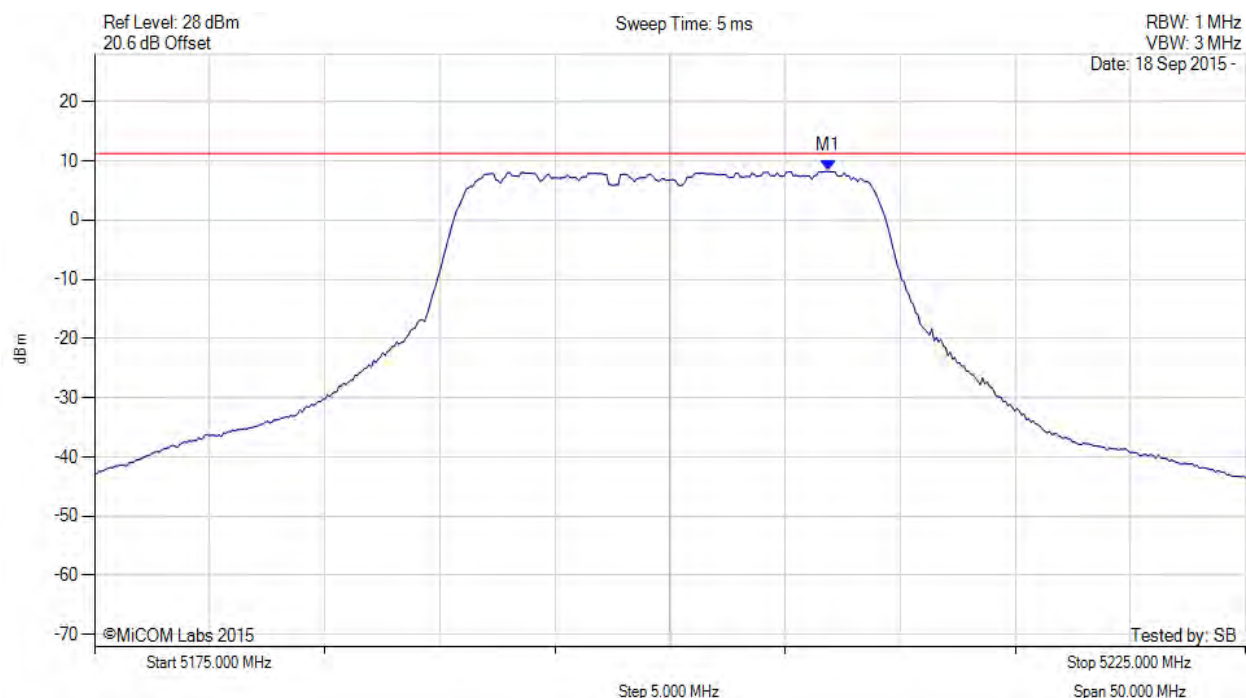
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5200.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5206.864 MHz : 8.247 dBm	Channel Frequency: 5200.00 MHz

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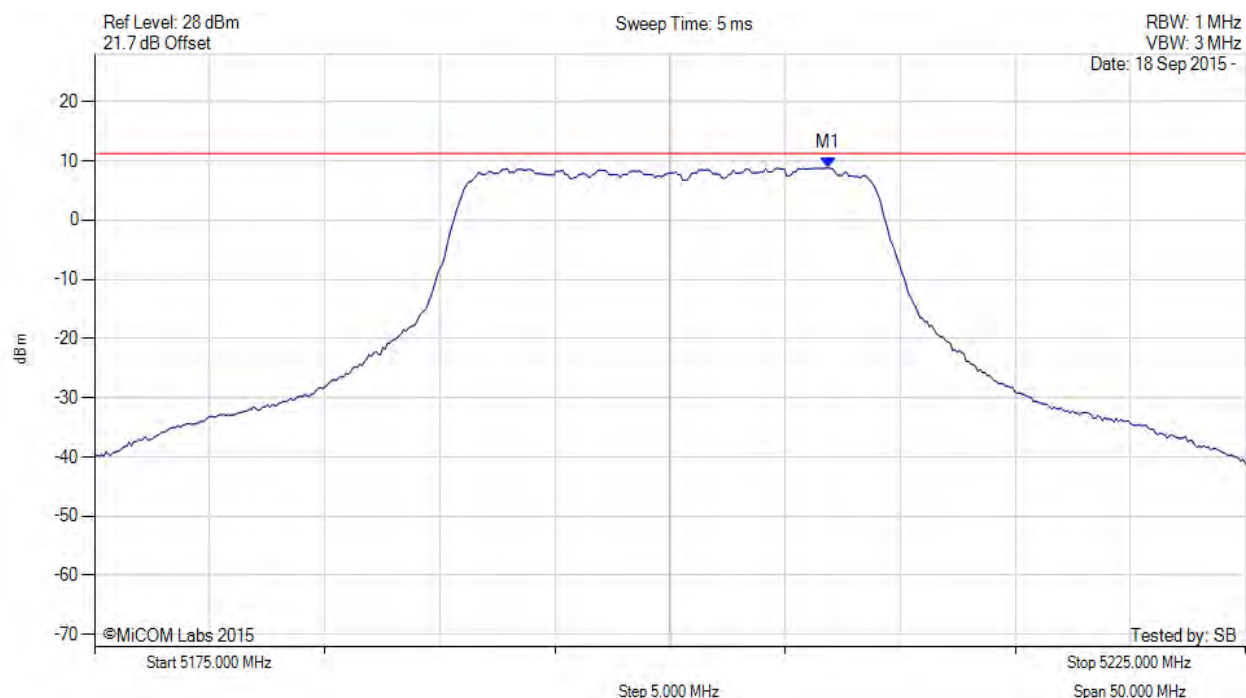


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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5200.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5206.864 MHz : 8.825 dBm	Limit: ≤ 11.230 dBm

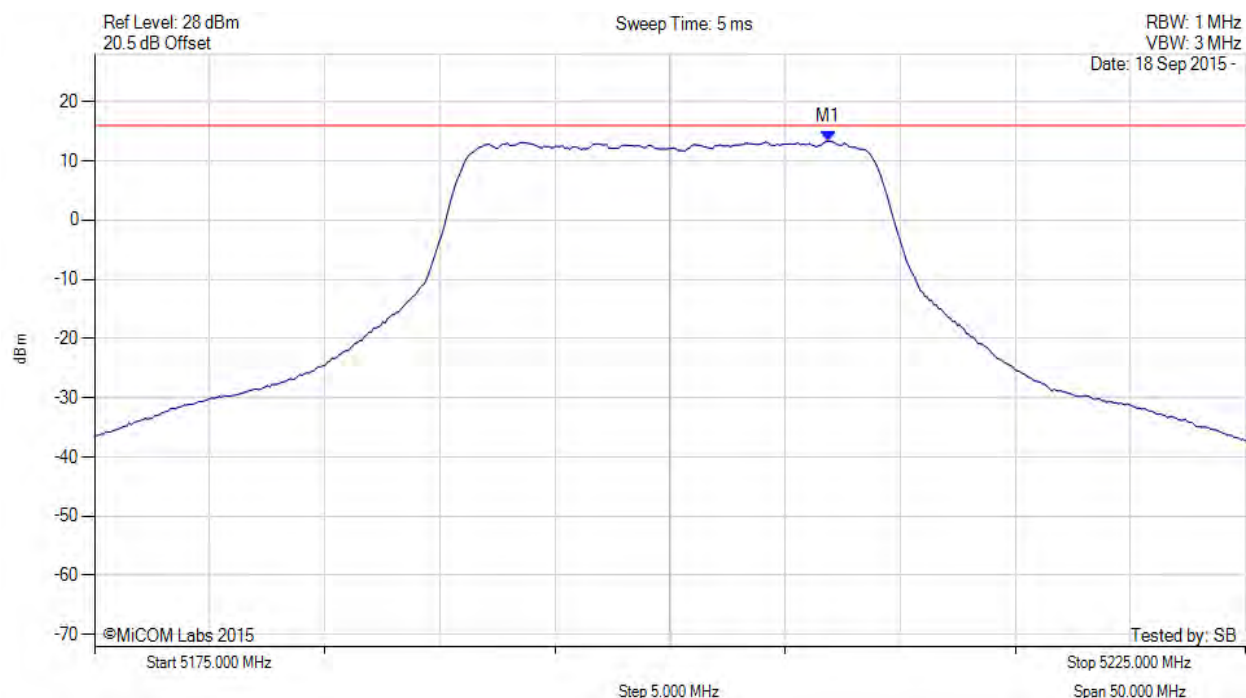
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5200.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5206.900 MHz : 13.320 dBm M1 + DCCF : 5206.900 MHz : 13.497 dBm Duty Cycle Correction Factor : +0.18 dB	Limit: ≤ 16.0 dBm Margin: -2.5 dB

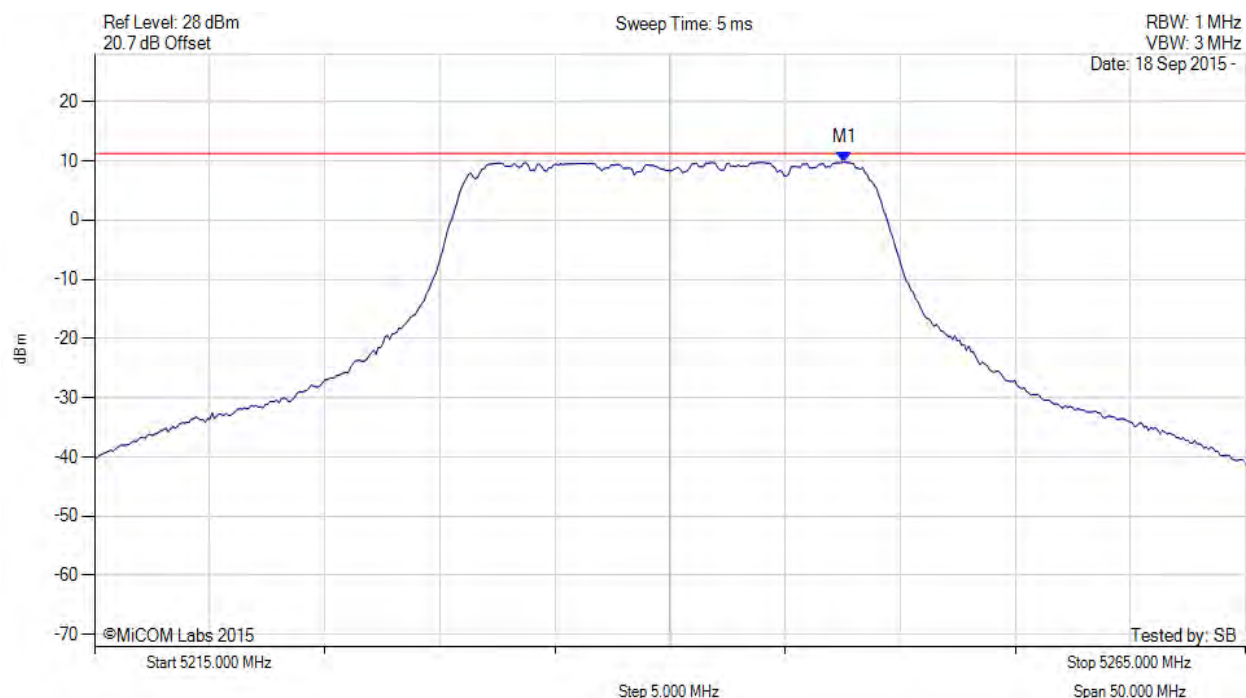
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5240.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5247.565 MHz : 9.779 dBm	Limit: ≤ 11.230 dBm

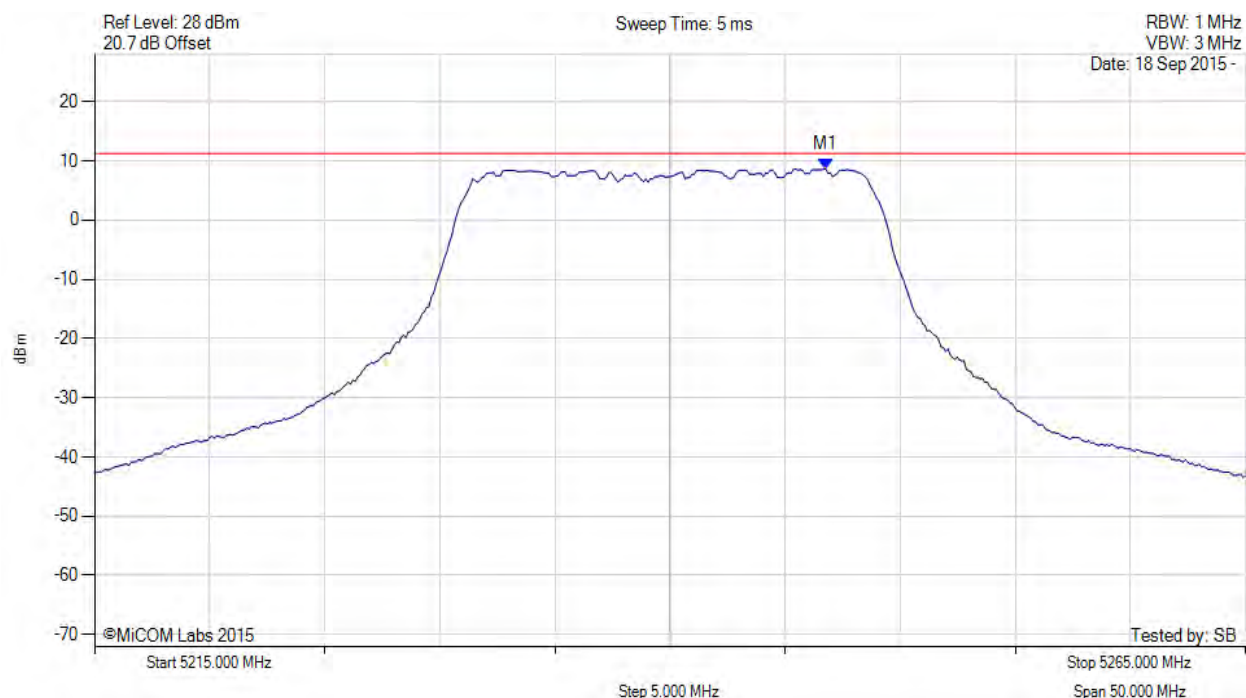
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5240.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5246.764 MHz : 8.636 dBm	Limit: ≤ 11.230 dBm

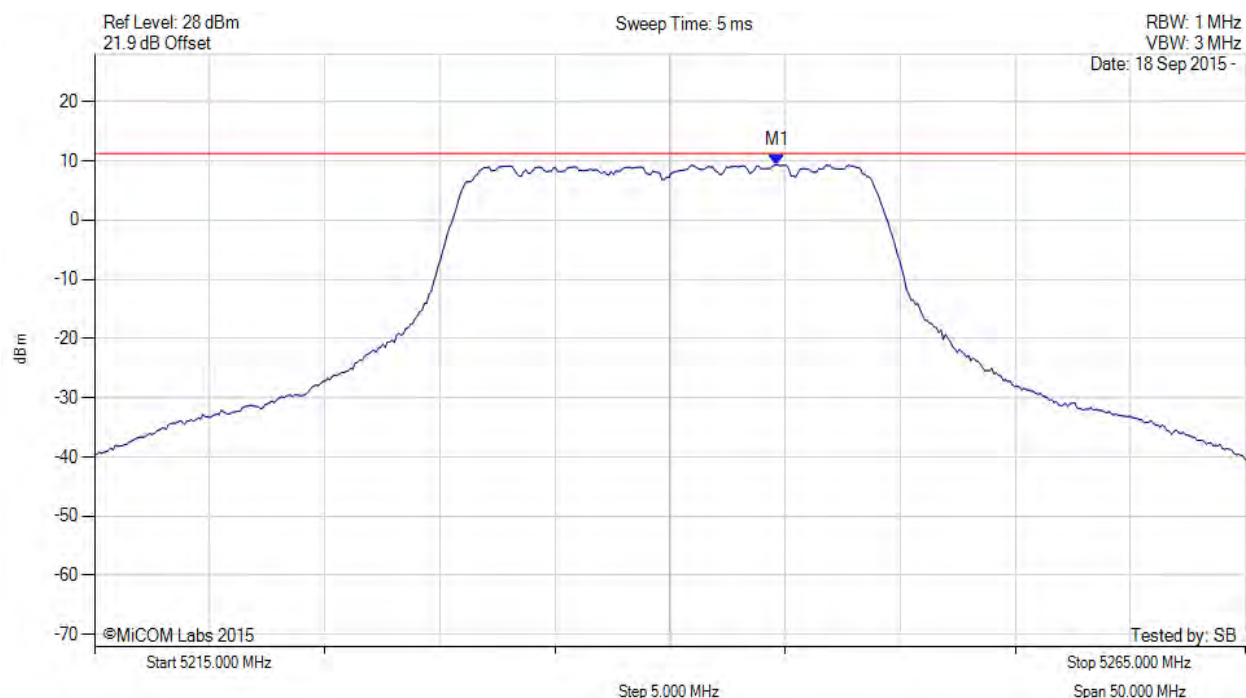
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5240.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



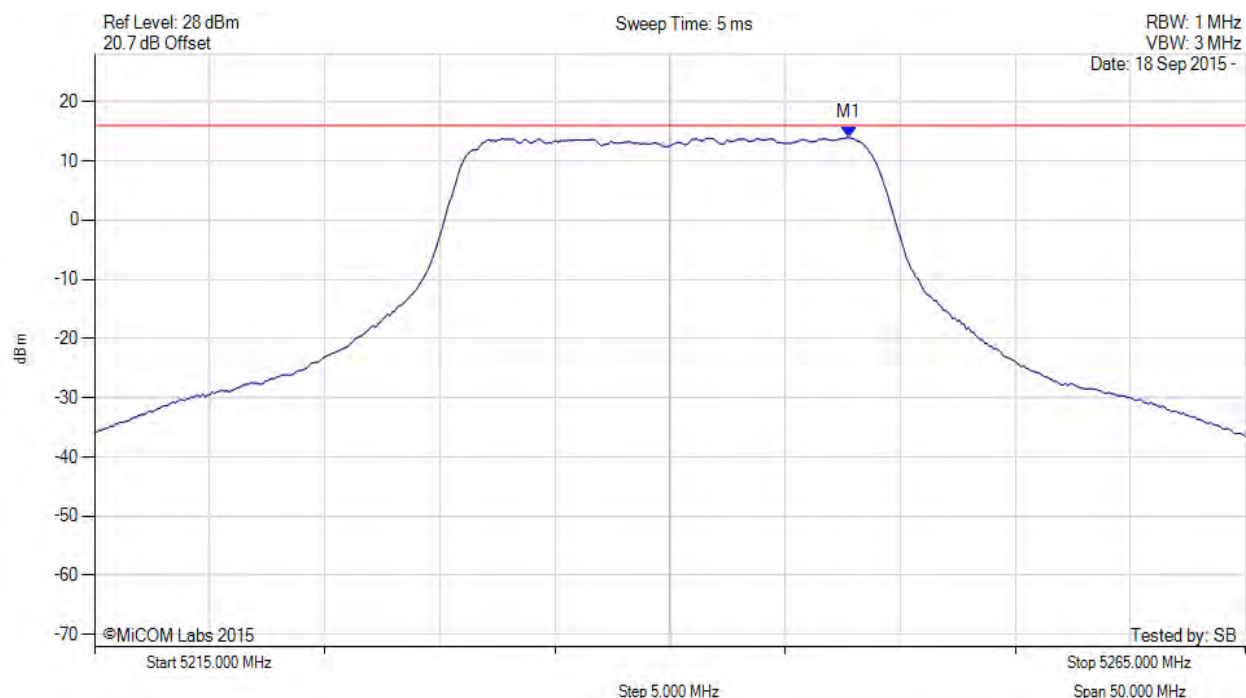
Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5244.659 MHz : 9.322 dBm	Limit: ≤ 11.230 dBm

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POWER SPECTRAL DENSITY



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5247.800 MHz : 13.949 dBm M1 + DCCF : 5247.800 MHz : 14.126 dBm Duty Cycle Correction Factor : +0.18 dB	Limit: ≤ 16.0 dBm Margin: -1.8 dB

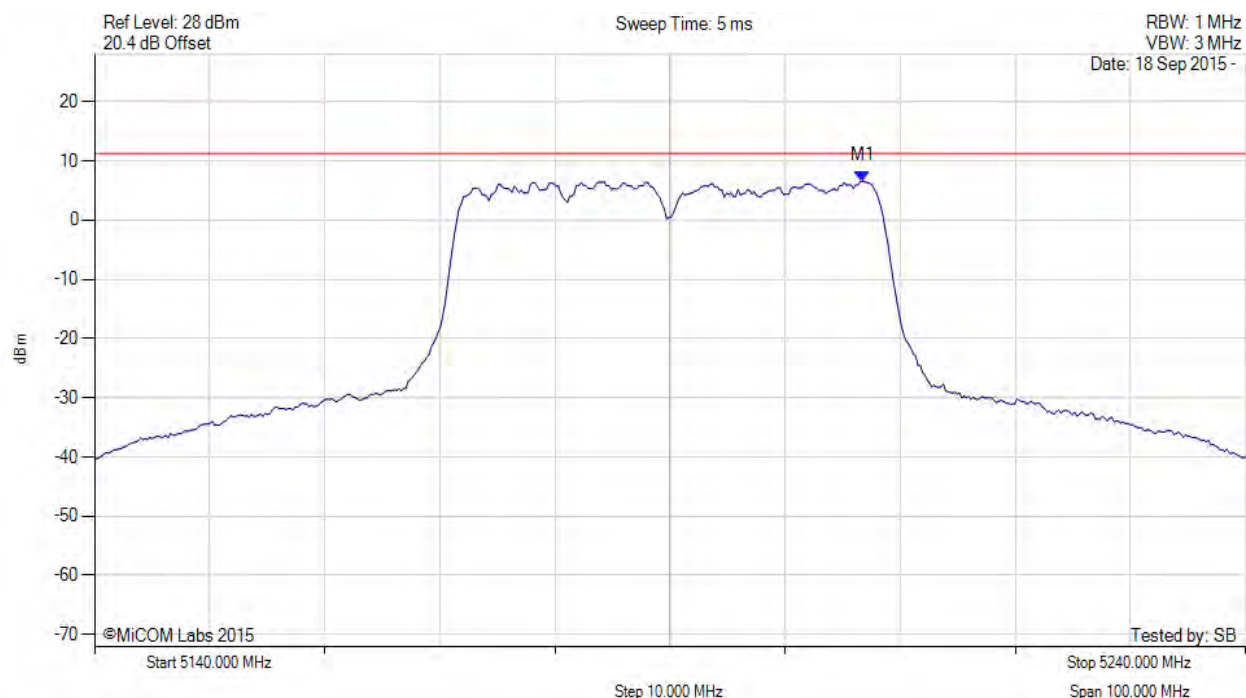
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5190.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5206.733 MHz : 6.596 dBm	Limit: ≤ 11.230 dBm

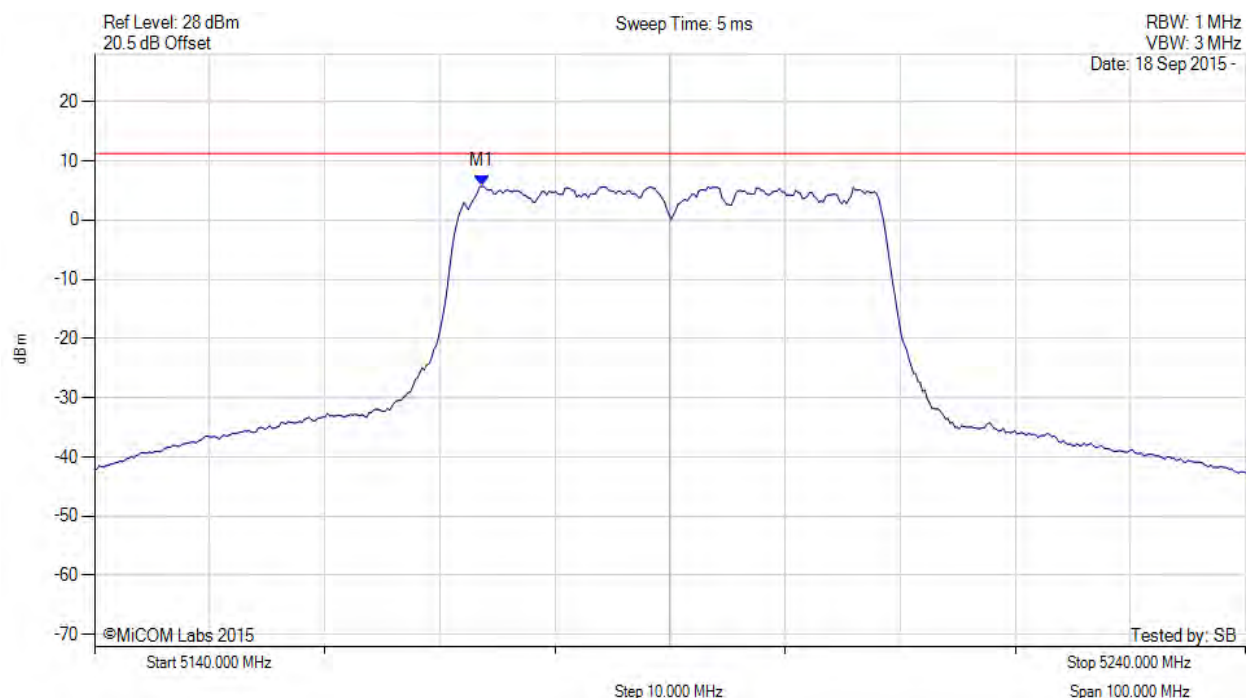
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5190.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5173.667 MHz : 5.730 dBm	Limit: ≤ 11.230 dBm

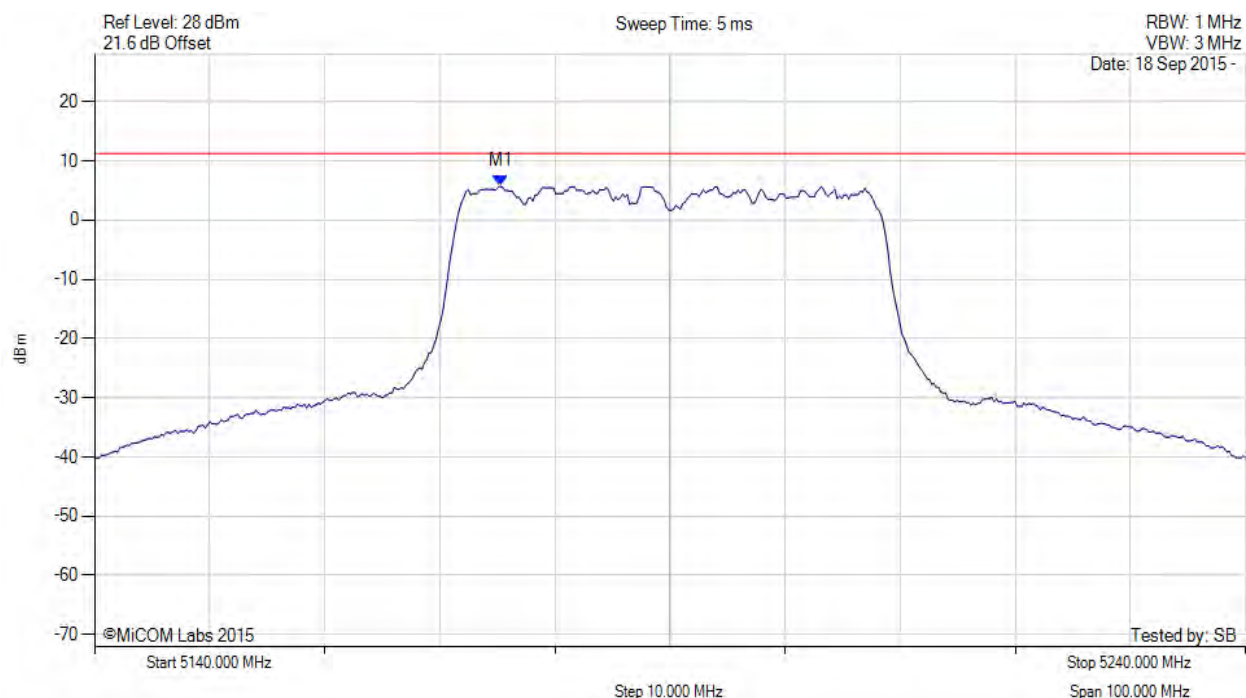
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5190.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



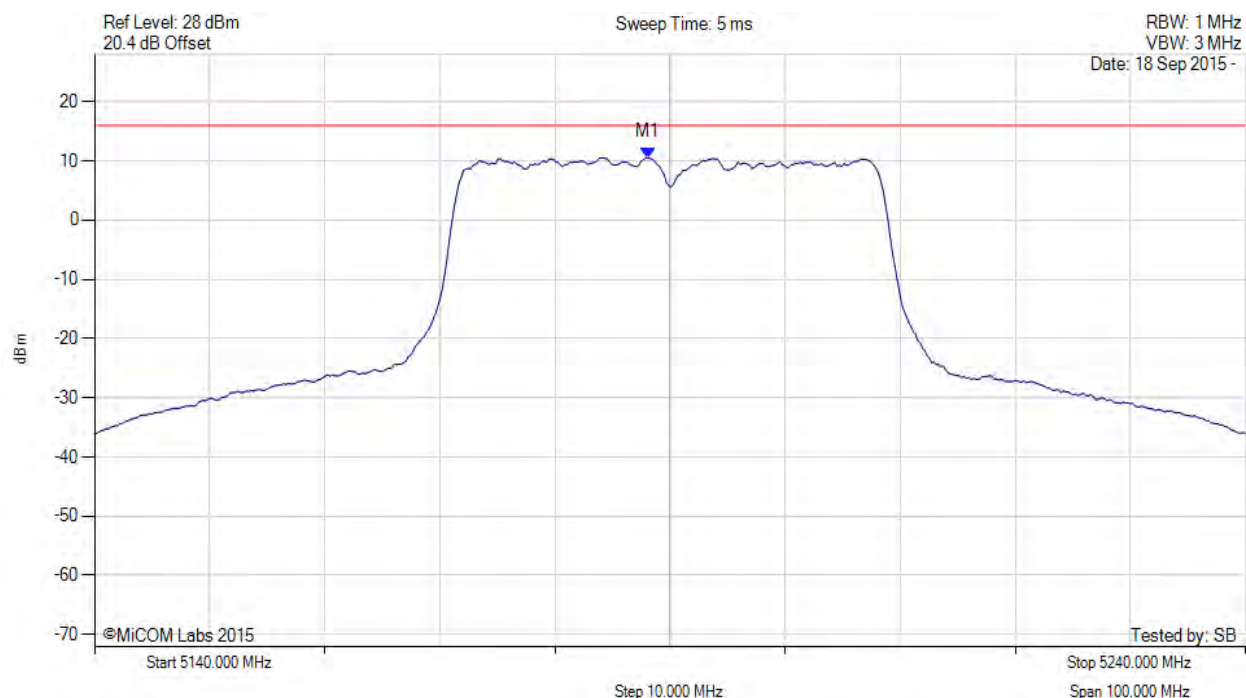
Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5175.271 MHz : 5.709 dBm	Limit: ≤ 11.230 dBm

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POWER SPECTRAL DENSITY



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5188.100 MHz : 10.557 dBm M1 + DCCF : 5188.100 MHz : 10.689 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 16.0 dBm Margin: -5.3 dB

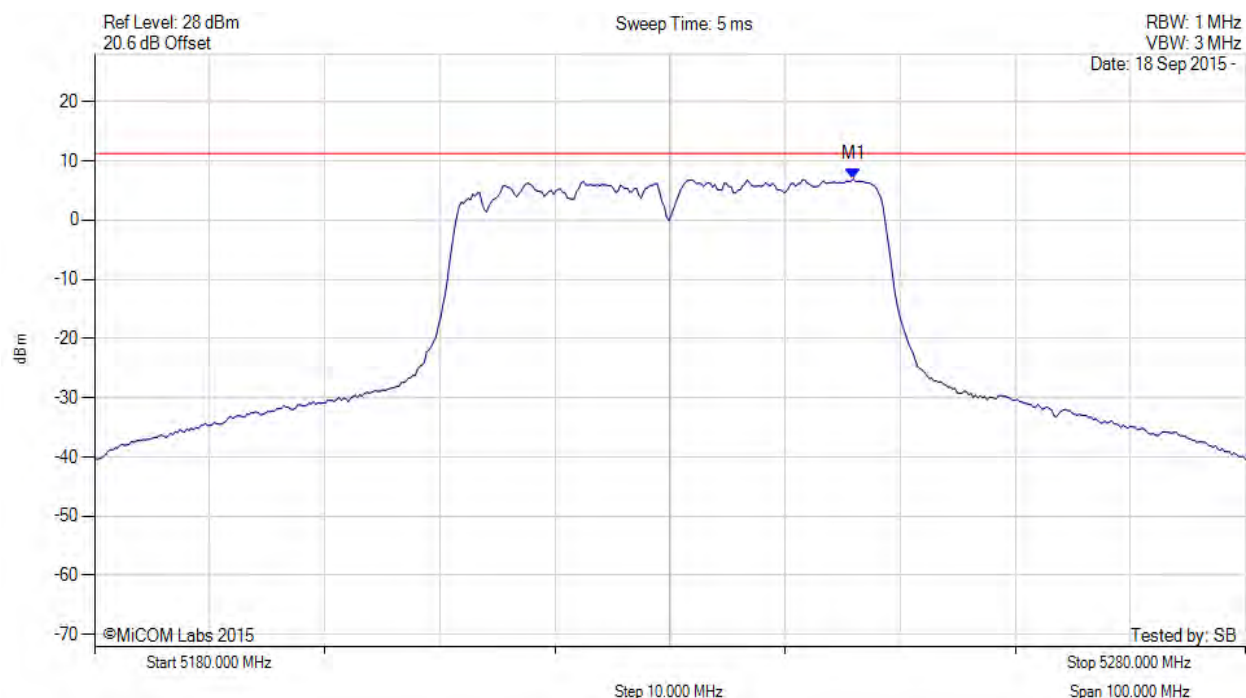
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5230.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5245.932 MHz : 6.947 dBm	Limit: ≤ 11.230 dBm

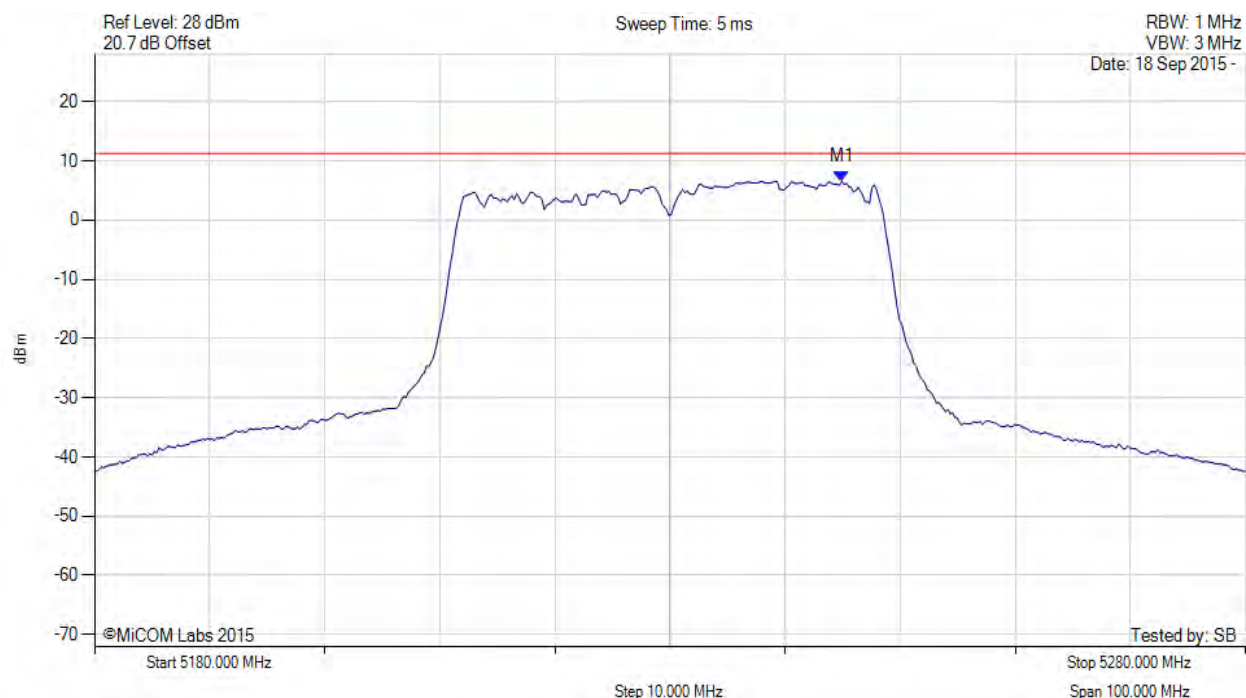
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5230.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5244.930 MHz : 6.549 dBm	Limit: ≤ 11.230 dBm

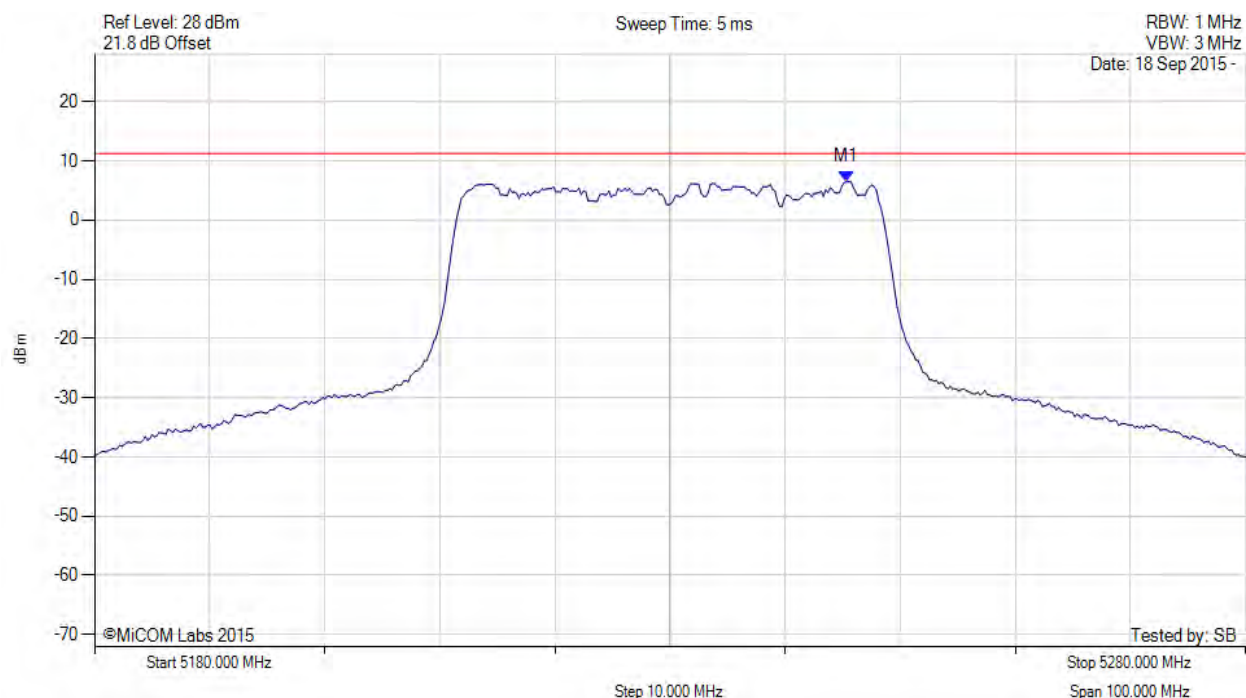
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5230.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



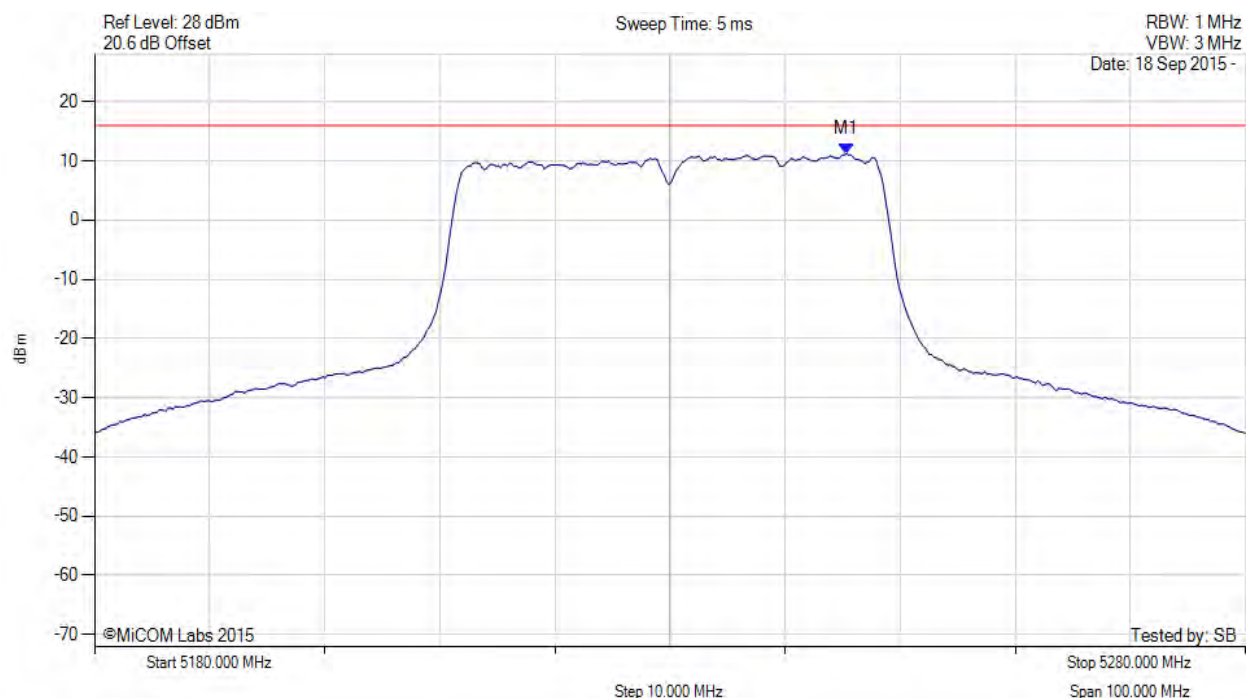
Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5245.331 MHz : 6.493 dBm	Limit: ≤ 11.230 dBm

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POWER SPECTRAL DENSITY



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5245.300 MHz : 11.202 dBm M1 + DCCF : 5245.300 MHz : 11.334 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 16.0 dBm Margin: -4.6 dB

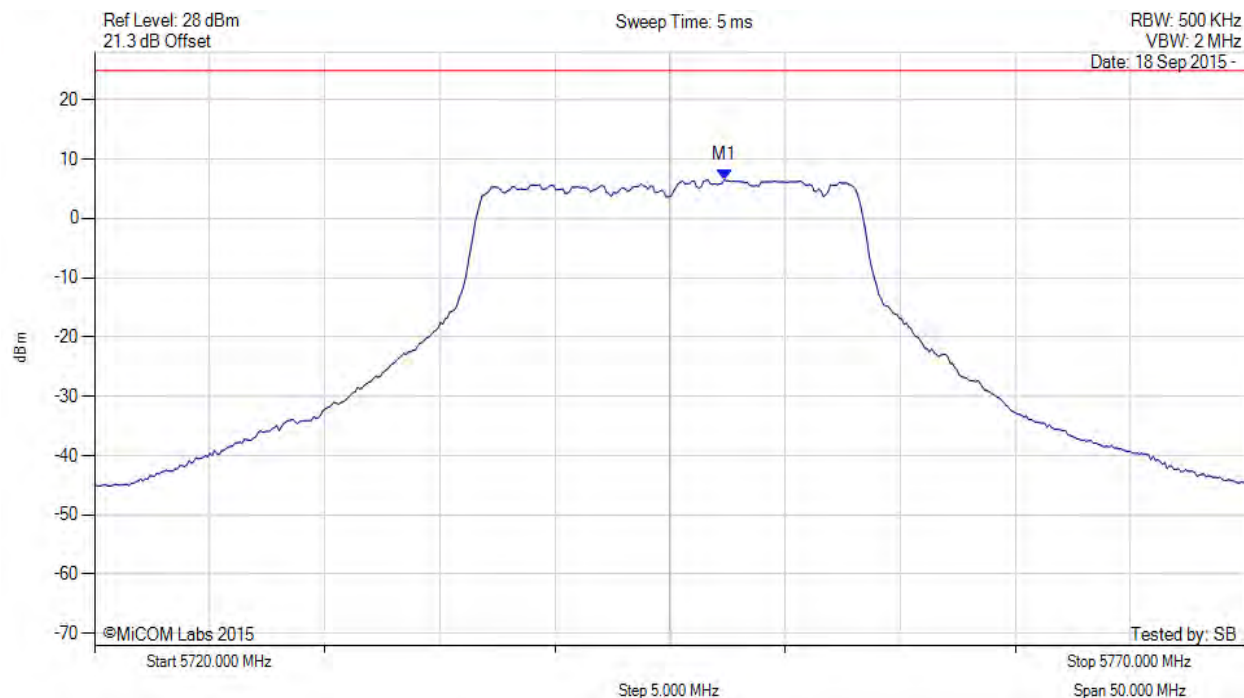
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5747.355 MHz : 6.503 dBm	Limit: ≤ 24.930 dBm

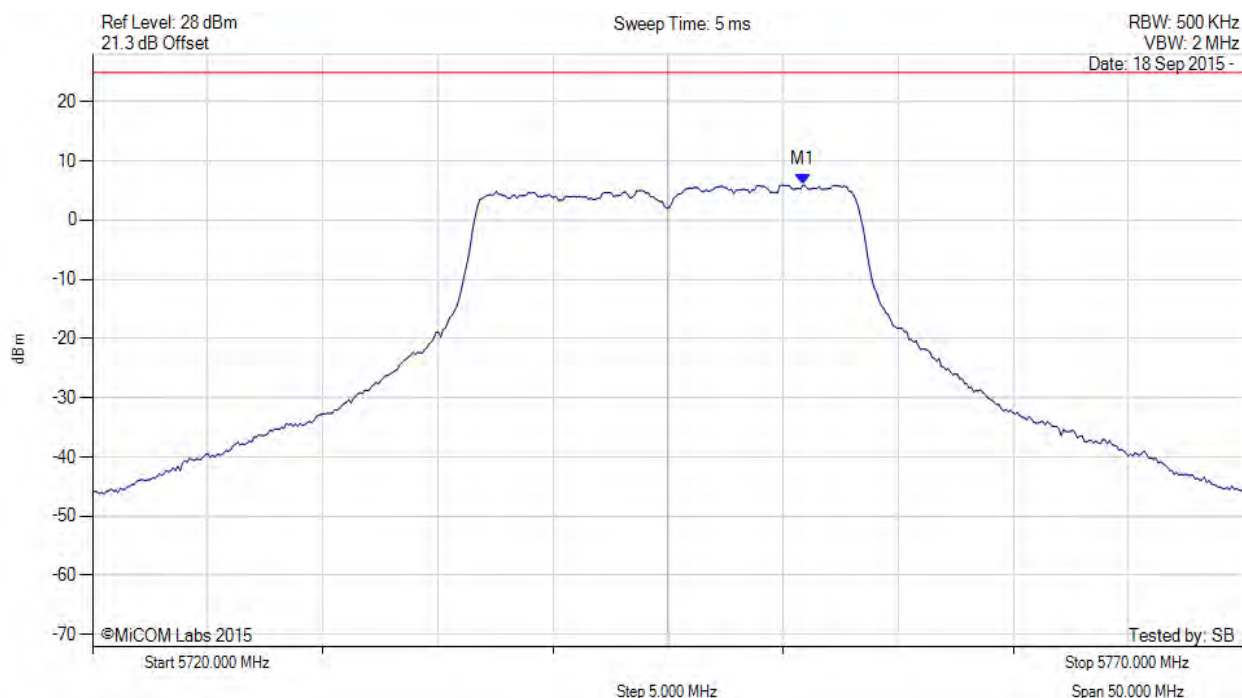
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5745.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5750.862 MHz : 5.954 dBm	Limit: ≤ 24.930 dBm

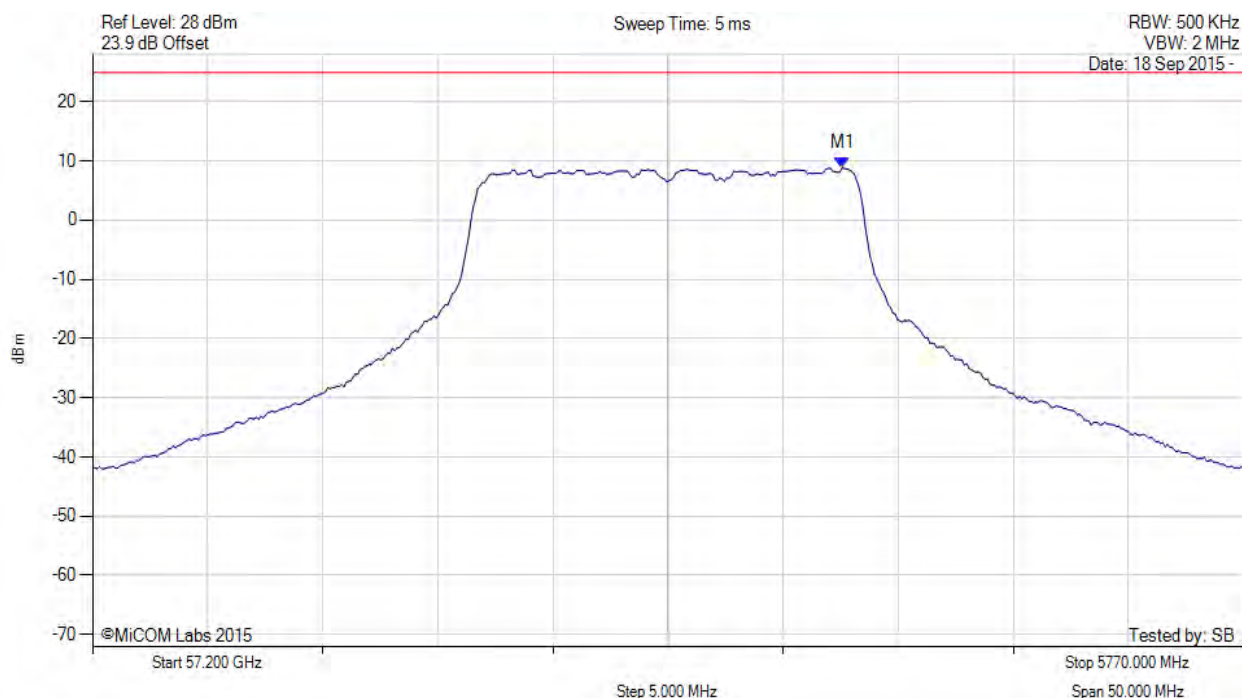
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5745.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5752.565 MHz : 8.793 dBm	Limit: ≤ 24.930 dBm

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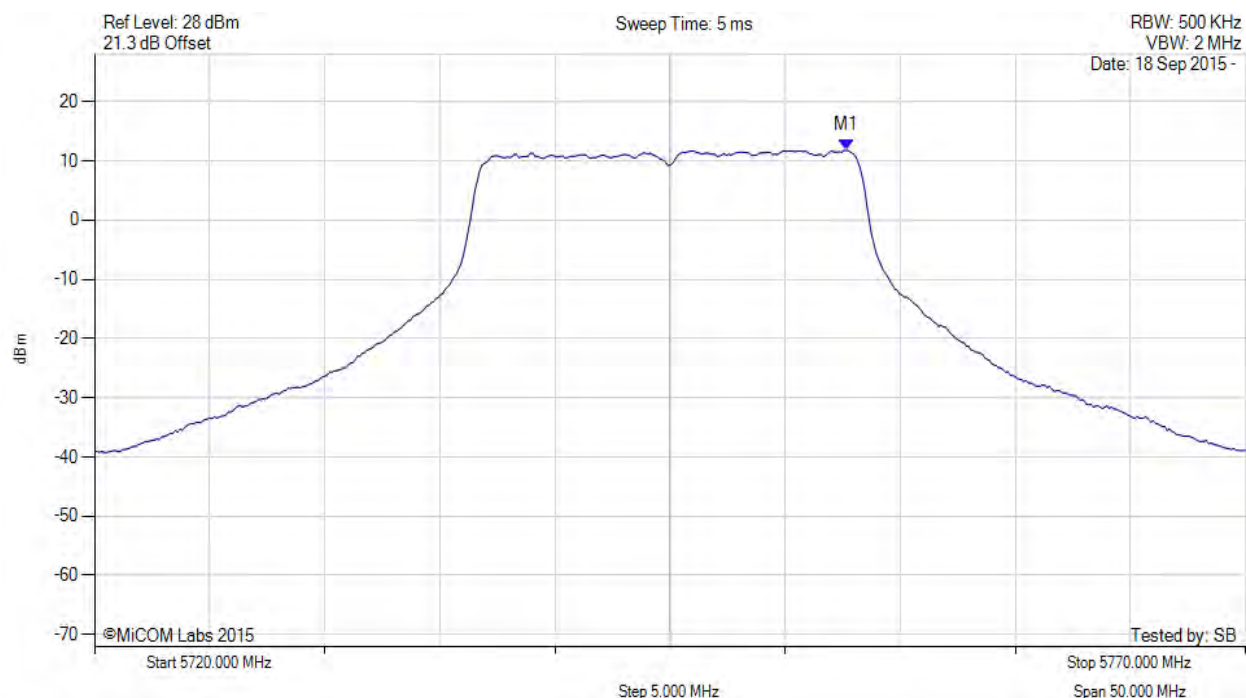


Title: Actiontec Electronics Inc WCB6240Q
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: ATEC09-U8a Conducted (non-DFS) Rev B
Issue Date: 22nd December 2015
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5745.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5752.700 MHz : 11.801 dBm M1 + DCCF : 5752.700 MHz : 11.889 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 29.7 dBm Margin: -17.8 dB

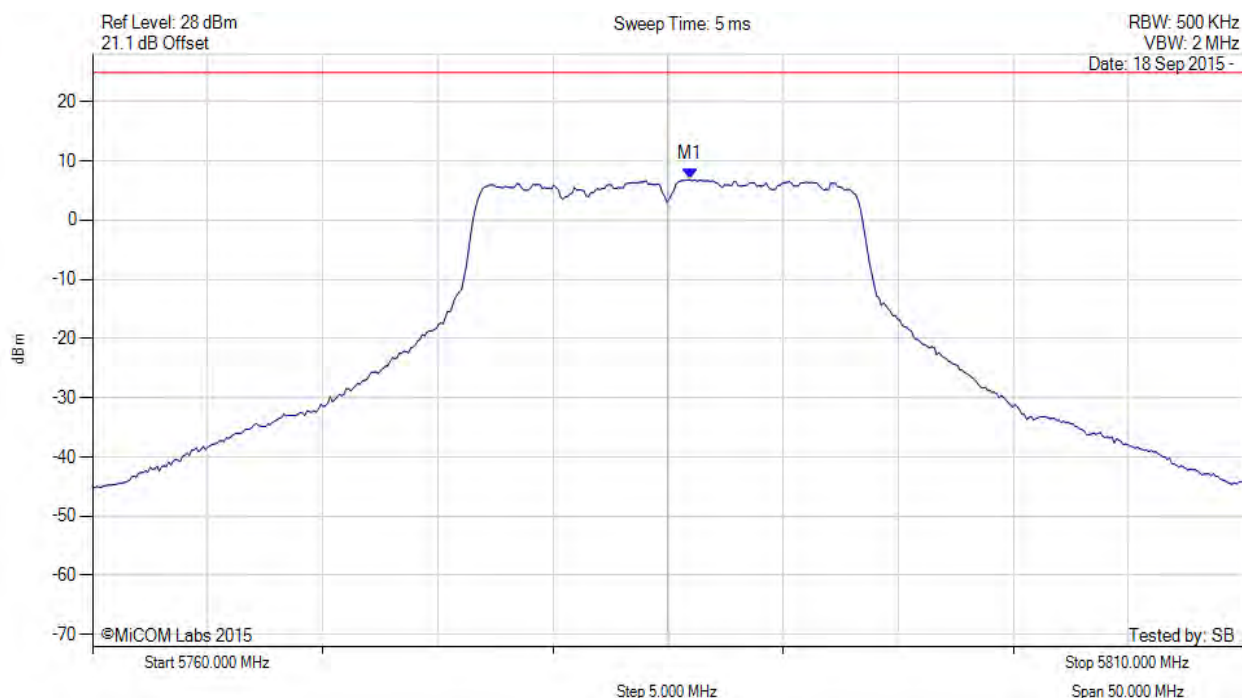
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5785.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5785.952 MHz : 6.836 dBm	Limit: ≤ 24.930 dBm

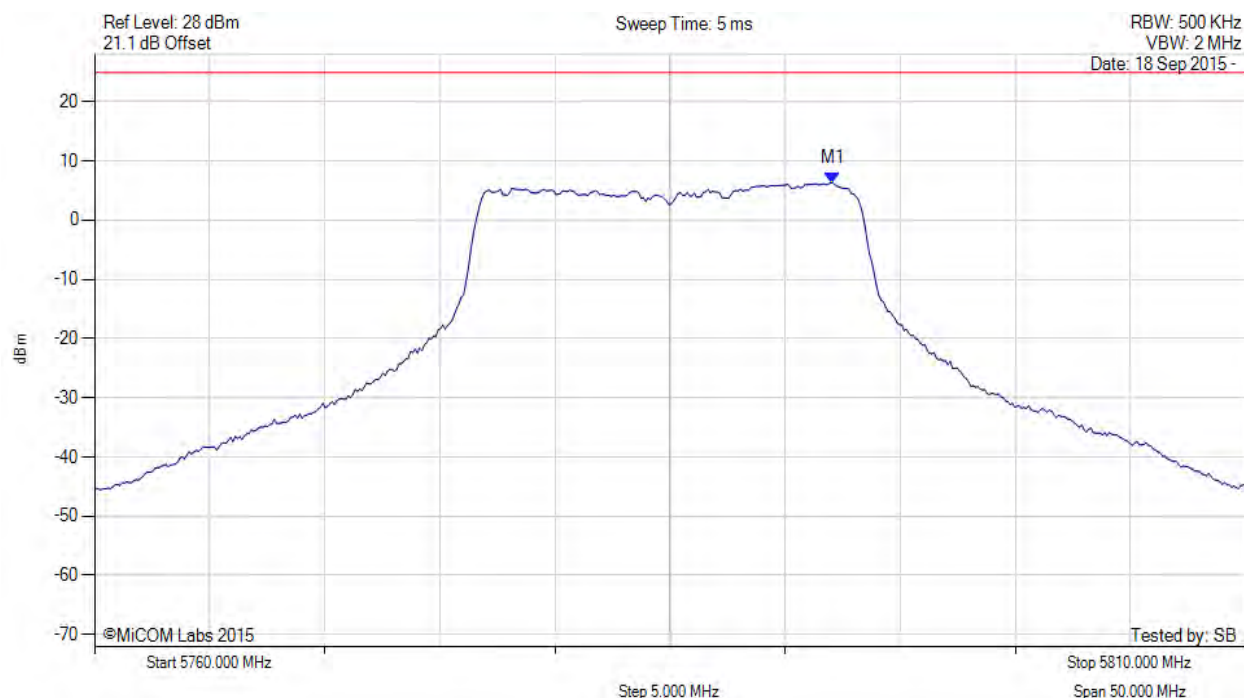
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5785.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5792.064 MHz : 6.329 dBm	Channel Frequency: 5785.00 MHz

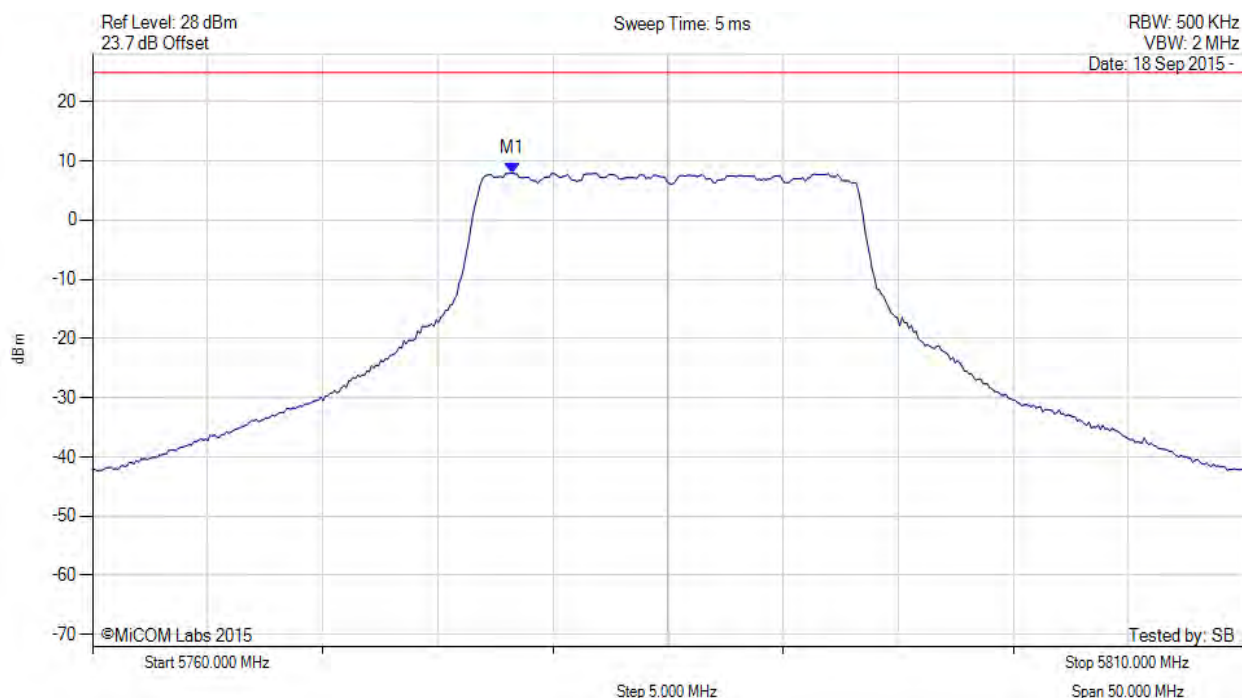
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5785.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5778.236 MHz : 7.943 dBm	Limit: ≤ 24.930 dBm

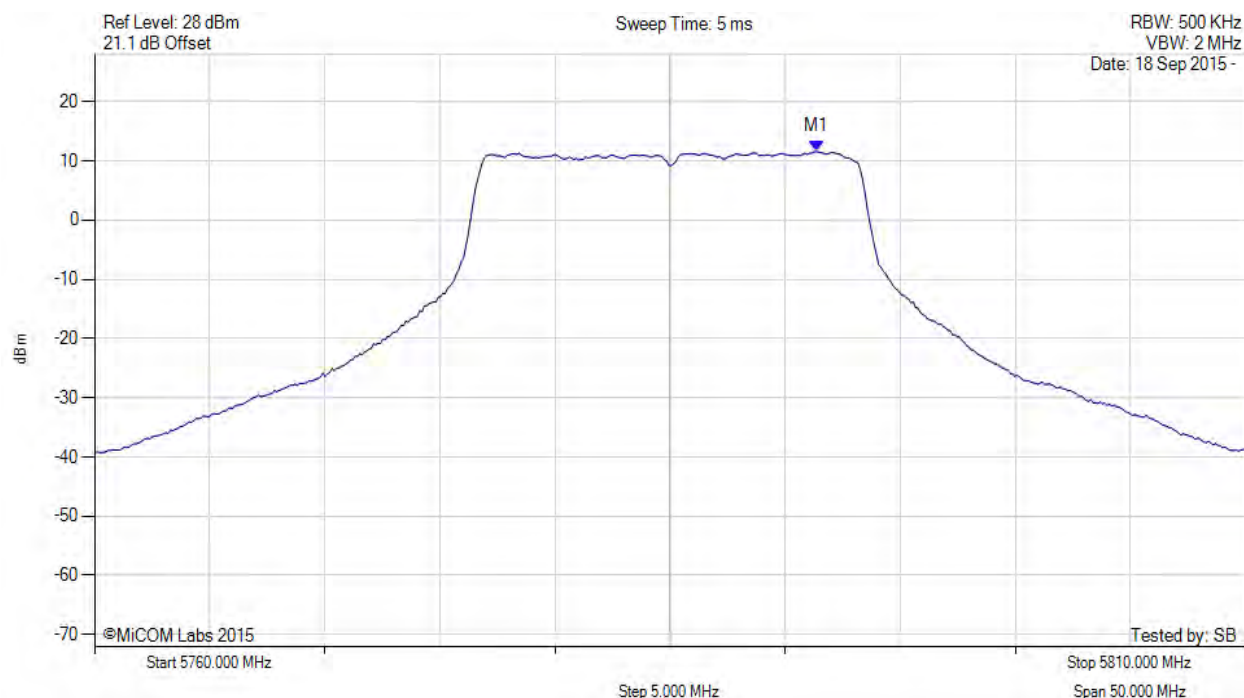
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5785.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5791.400 MHz : 11.555 dBm M1 + DCCF : 5791.400 MHz : 11.643 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 29.7 dBm Margin: -18.0 dB

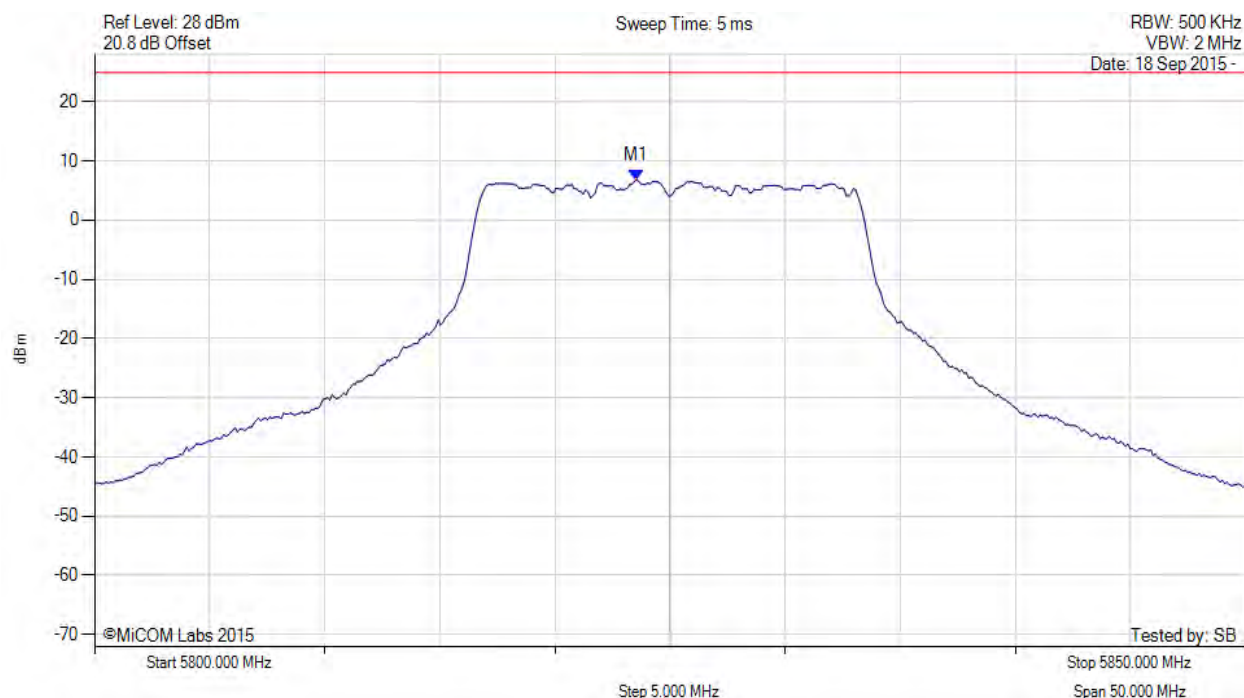
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5823.547 MHz : 6.778 dBm	Limit: ≤ 24.930 dBm

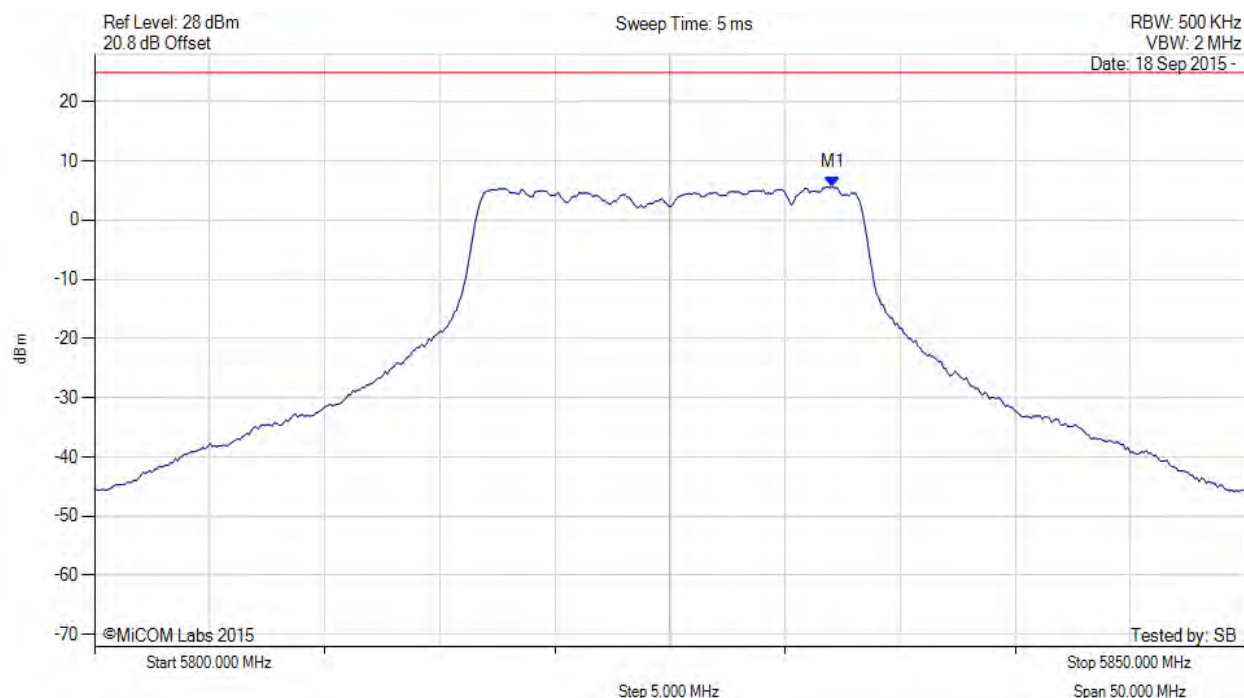
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5825.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5832.064 MHz : 5.607 dBm	Limit: ≤ 24.930 dBm

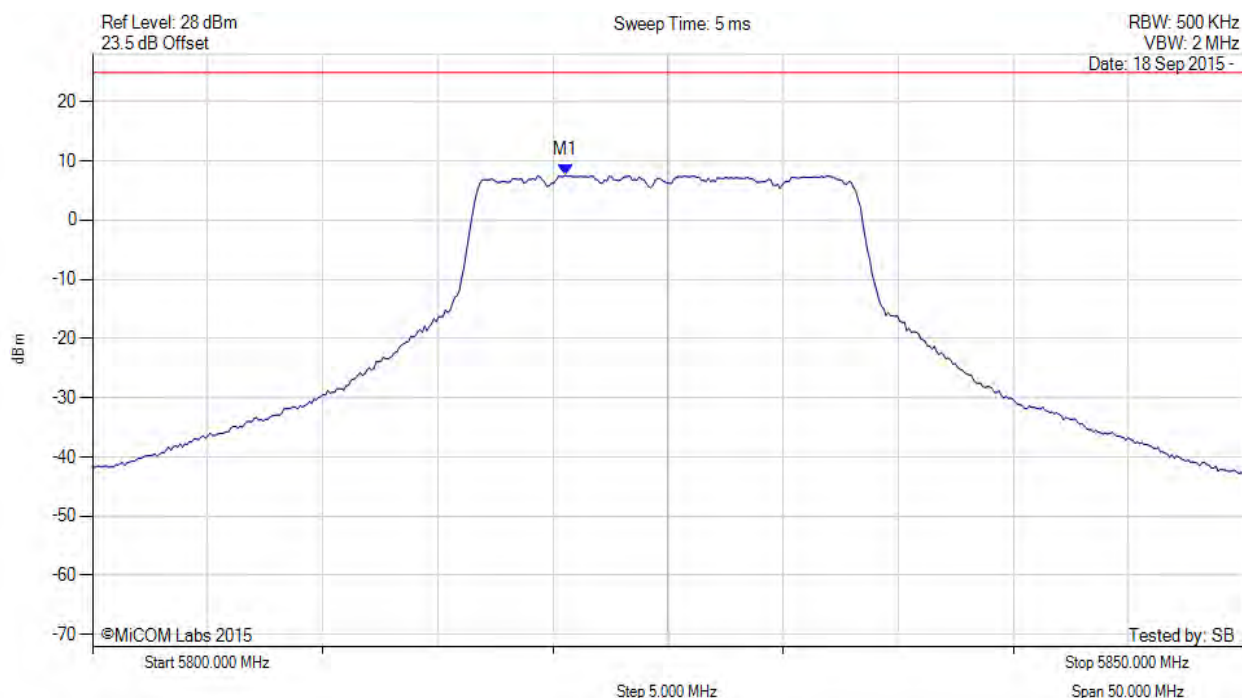
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5825.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5820.541 MHz : 7.551 dBm	Limit: ≤ 24.930 dBm

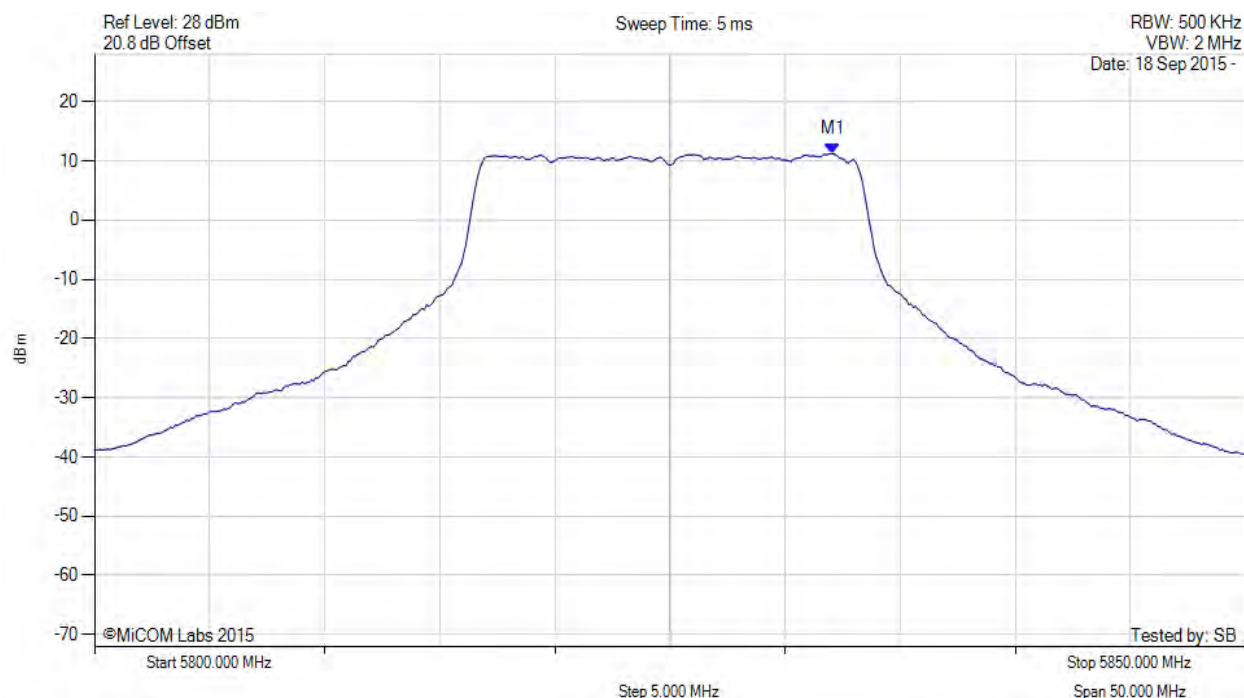
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5825.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5832.100 MHz : 11.178 dBm M1 + DCCF : 5832.100 MHz : 11.266 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 29.7 dBm Margin: -18.4 dB

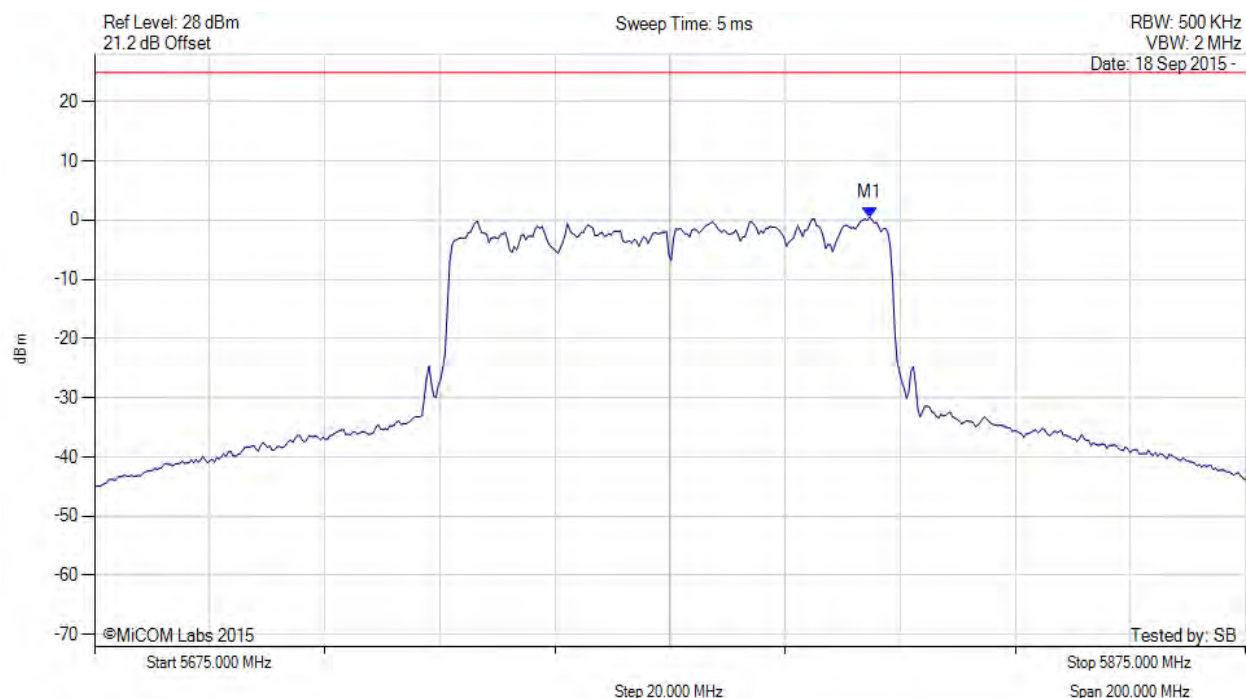
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POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5809.669 MHz : 0.456 dBm	Limit: ≤ 24.930 dBm

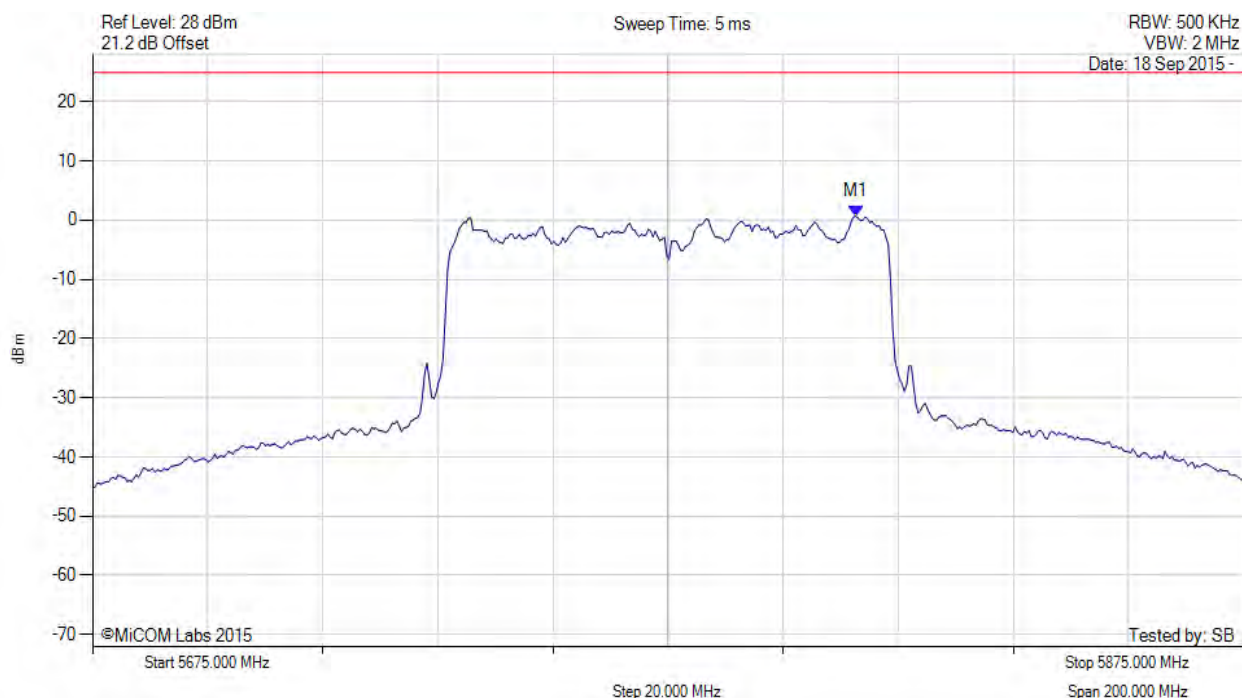
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POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5807.665 MHz : 0.614 dBm	Limit: ≤ 24.930 dBm

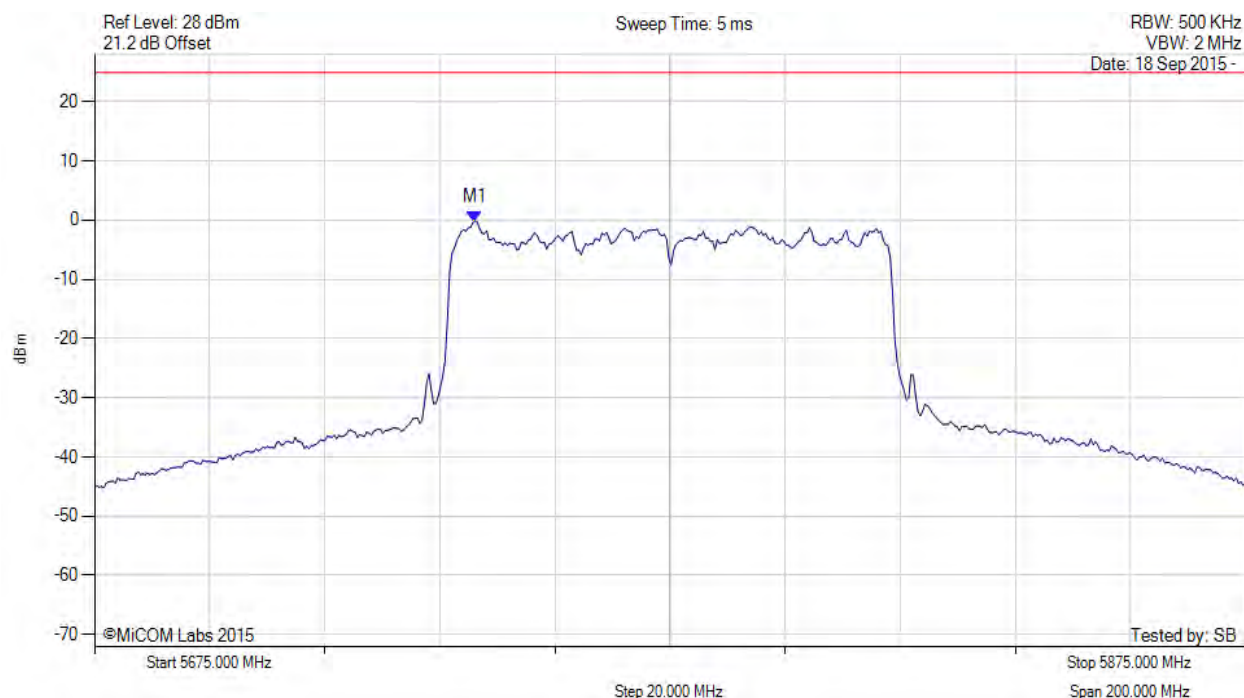
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POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5741.132 MHz : -0.255 dBm	Limit: ≤ 24.930 dBm

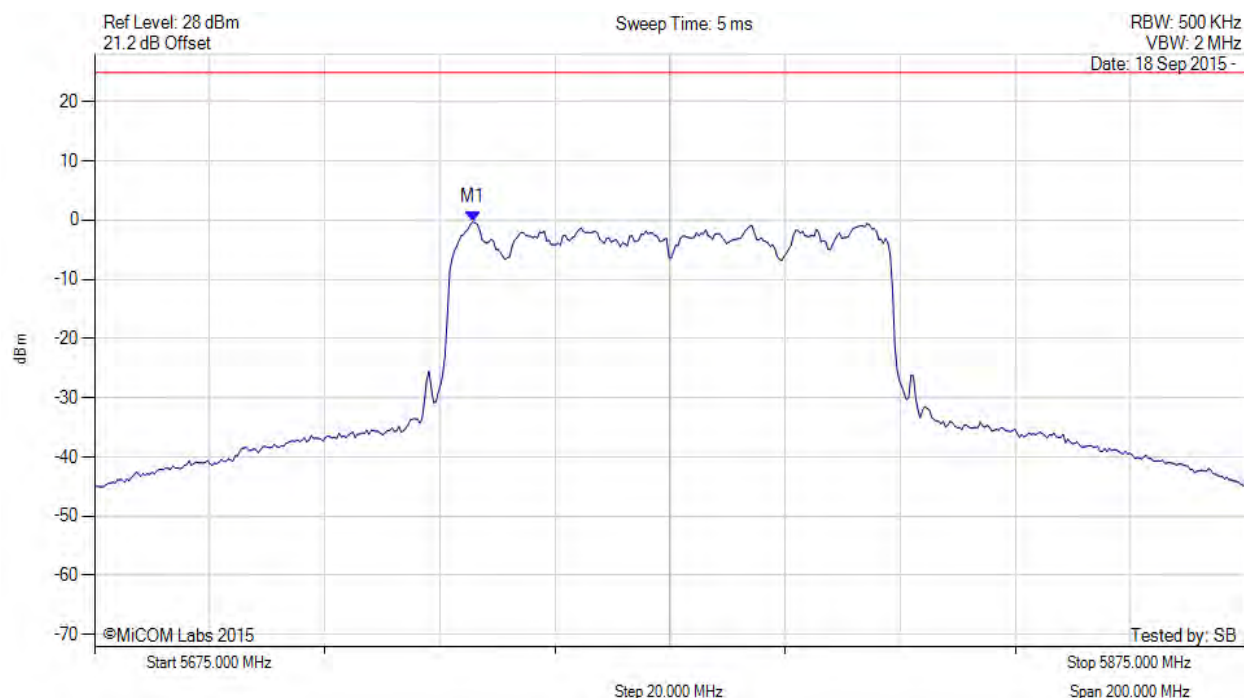
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POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5740.731 MHz : -0.277 dBm	Limit: ≤ 24.930 dBm

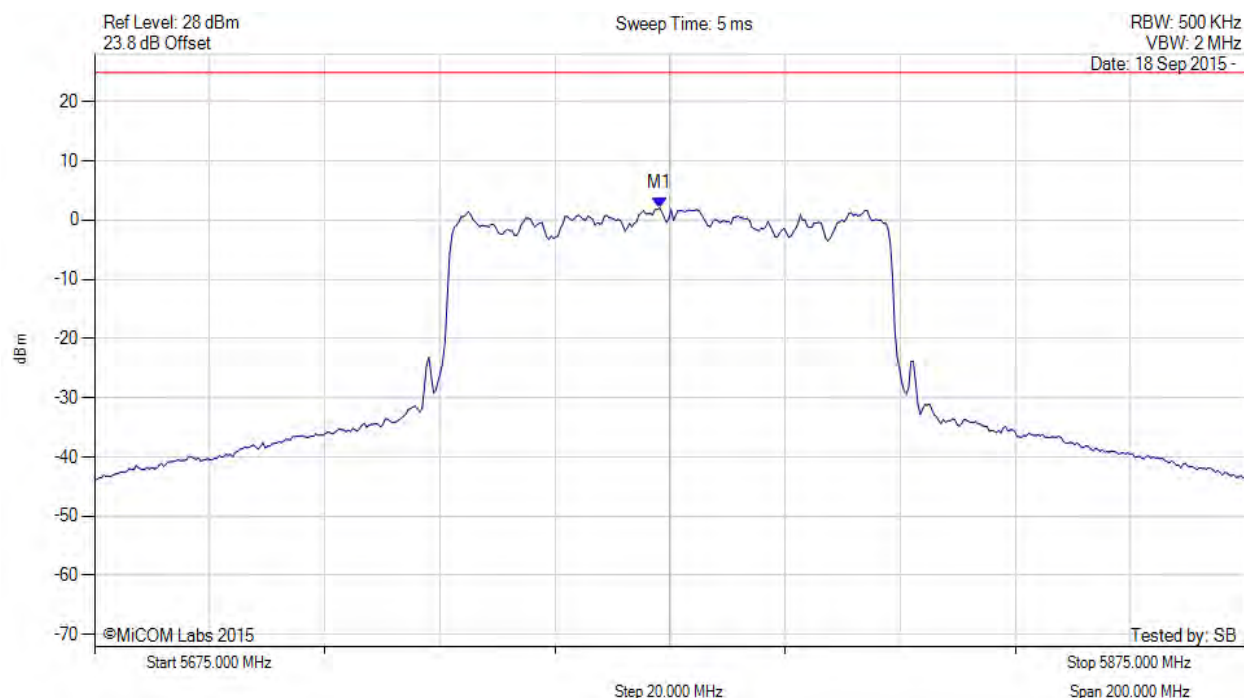
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POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5773.196 MHz : 2.041 dBm	Limit: ≤ 24.930 dBm

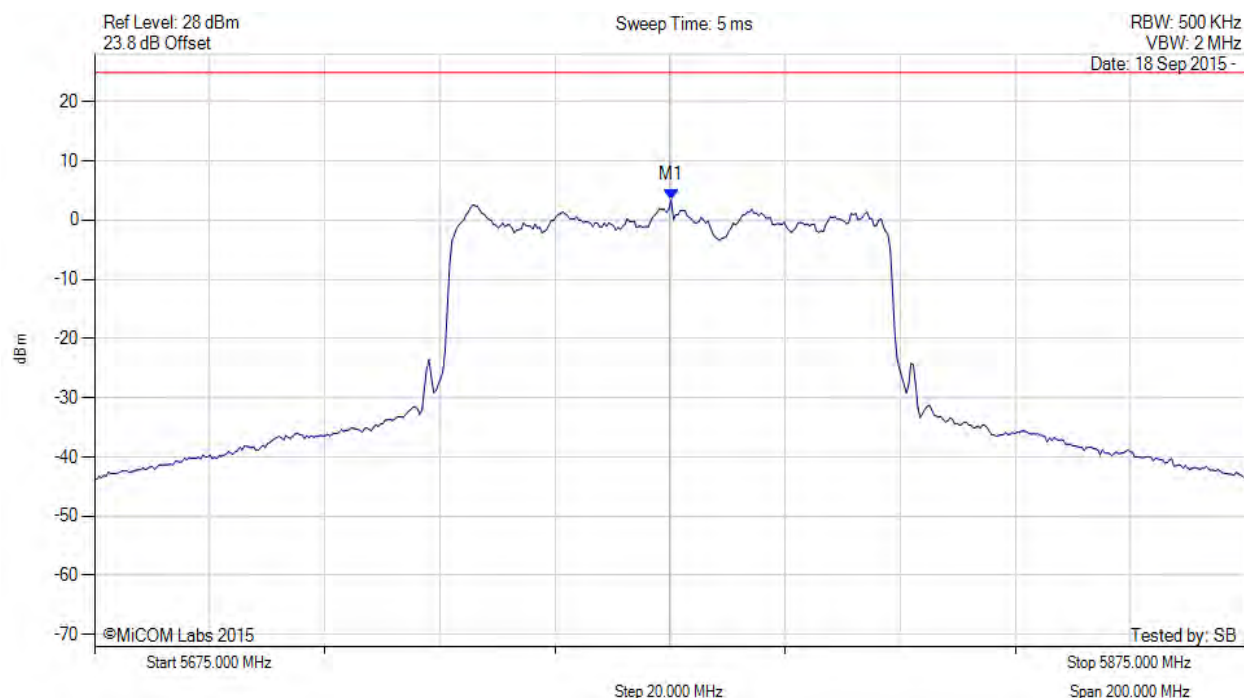
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POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5775.200 MHz : 3.407 dBm	Limit: ≤ 24.930 dBm

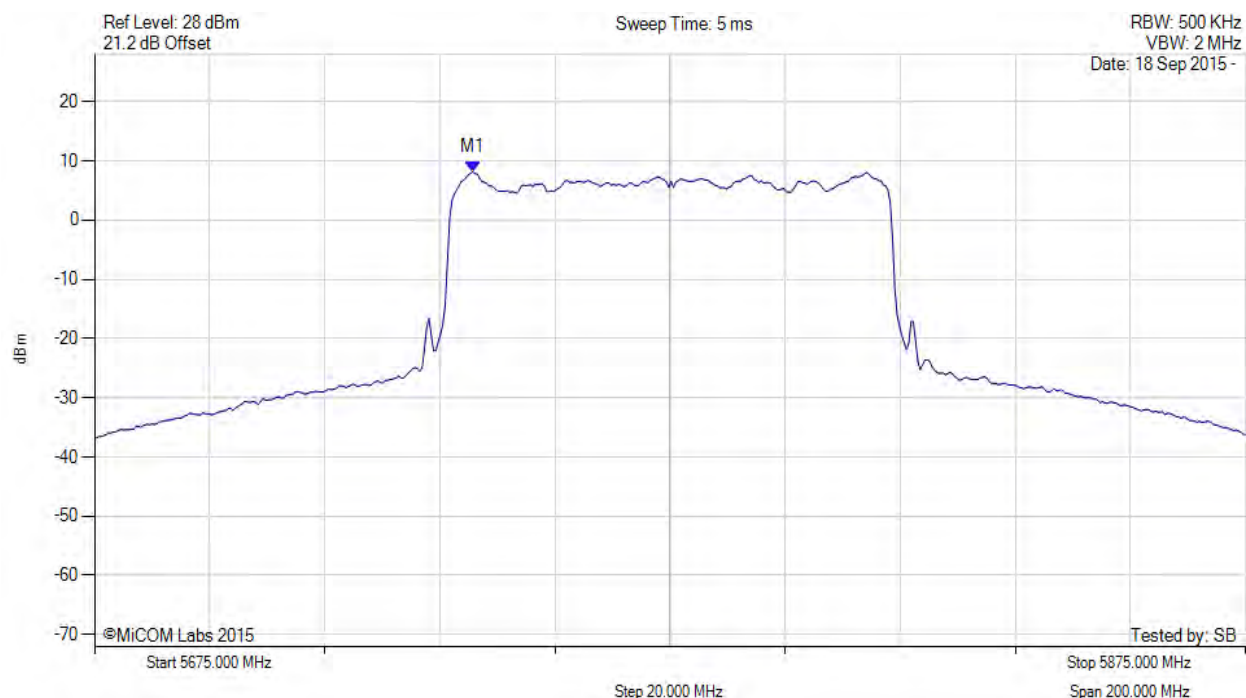
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POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5775.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5740.700 MHz : 8.157 dBm M1 + DCCF : 5740.700 MHz : 8.334 dBm Duty Cycle Correction Factor : +0.18 dB	Limit: ≤ 29.7 dBm Margin: -21.3 dB

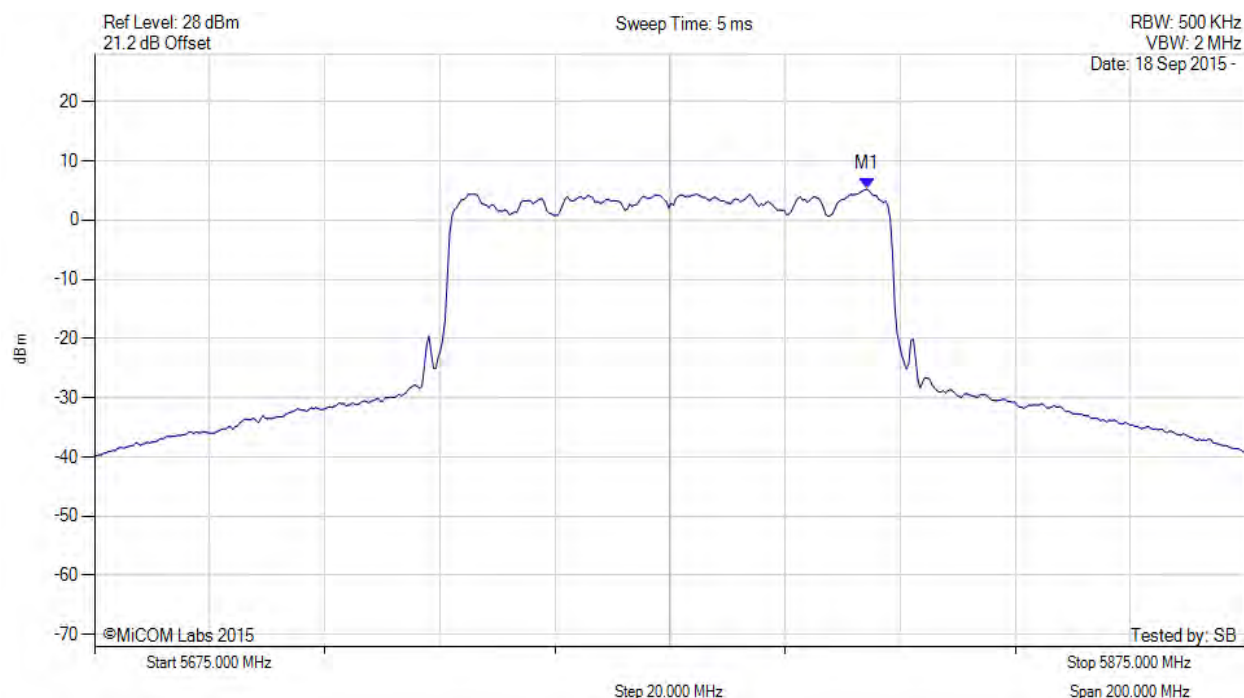
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POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5775.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5809.300 MHz : 5.227 dBm M1 + DCCF : 5809.300 MHz : 5.404 dBm Duty Cycle Correction Factor : +0.18 dB	Limit: ≤ 29.7 dBm Margin: -24.3 dB

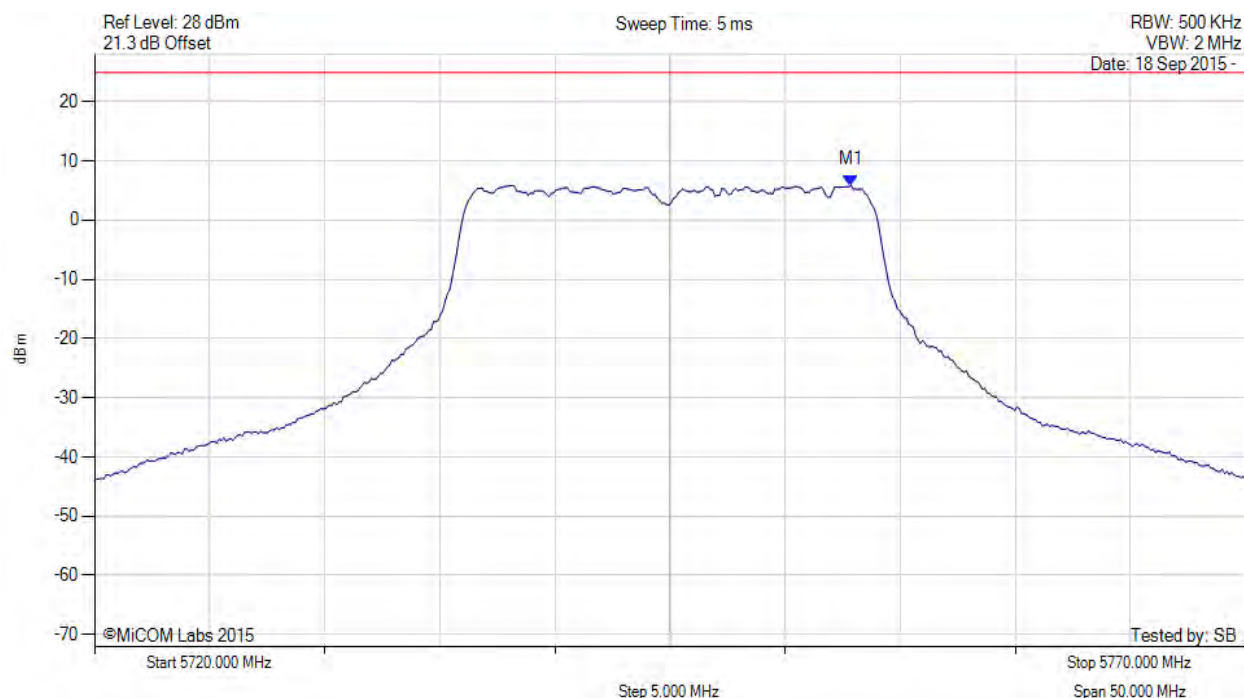
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5752.866 MHz : 5.895 dBm	Limit: ≤ 24.930 dBm

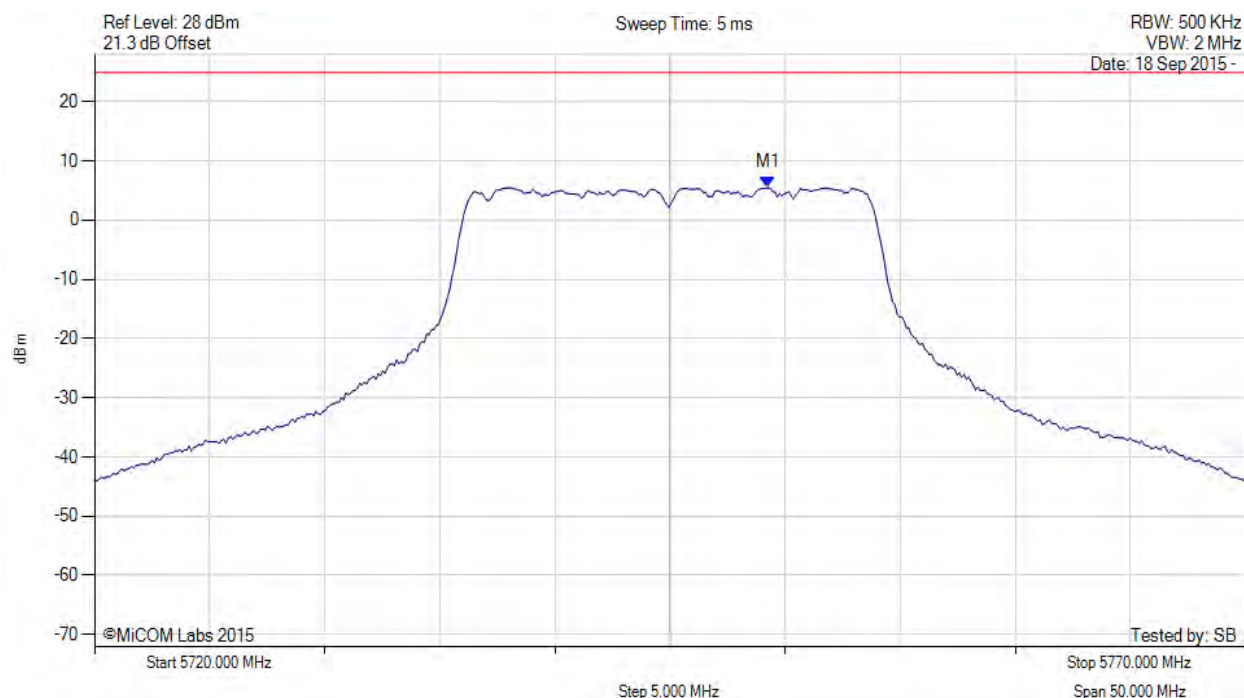
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5749.259 MHz : 5.475 dBm	Limit: ≤ 24.930 dBm

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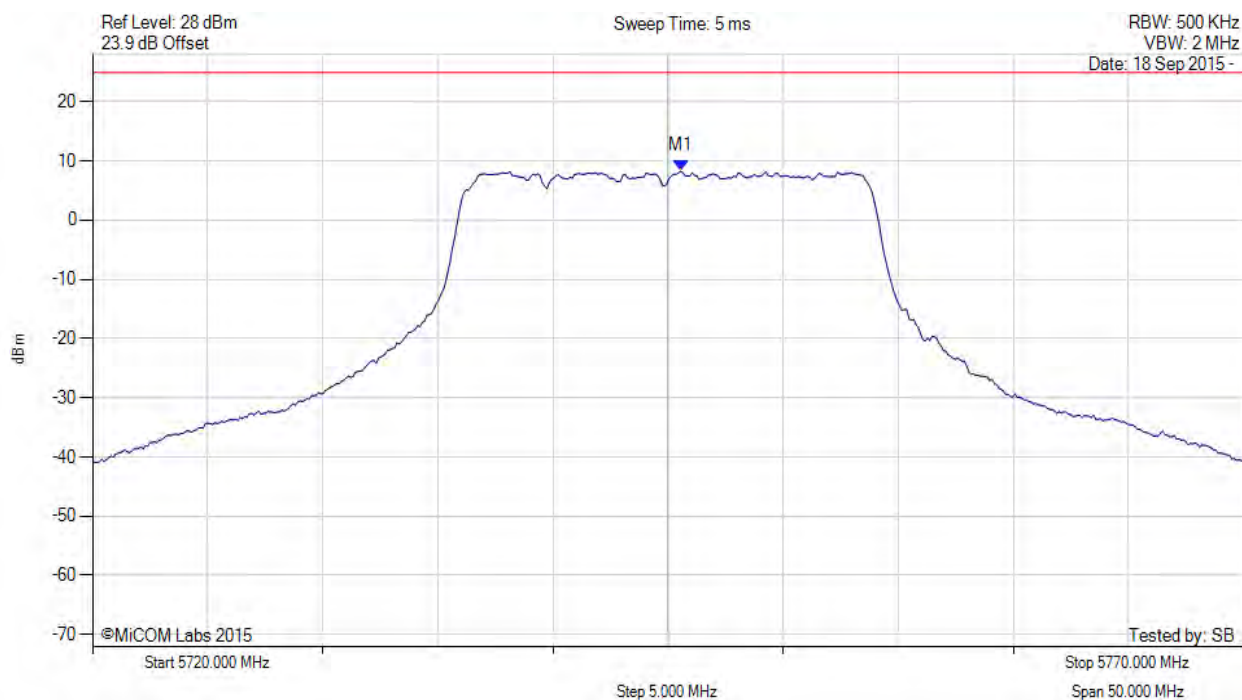


Title: Actiontec Electronics Inc WCB6240Q
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: ATEC09-U8a Conducted (non-DFS) Rev B
Issue Date: 22nd December 2015
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5745.551 MHz : 8.246 dBm	Limit: ≤ 24.930 dBm

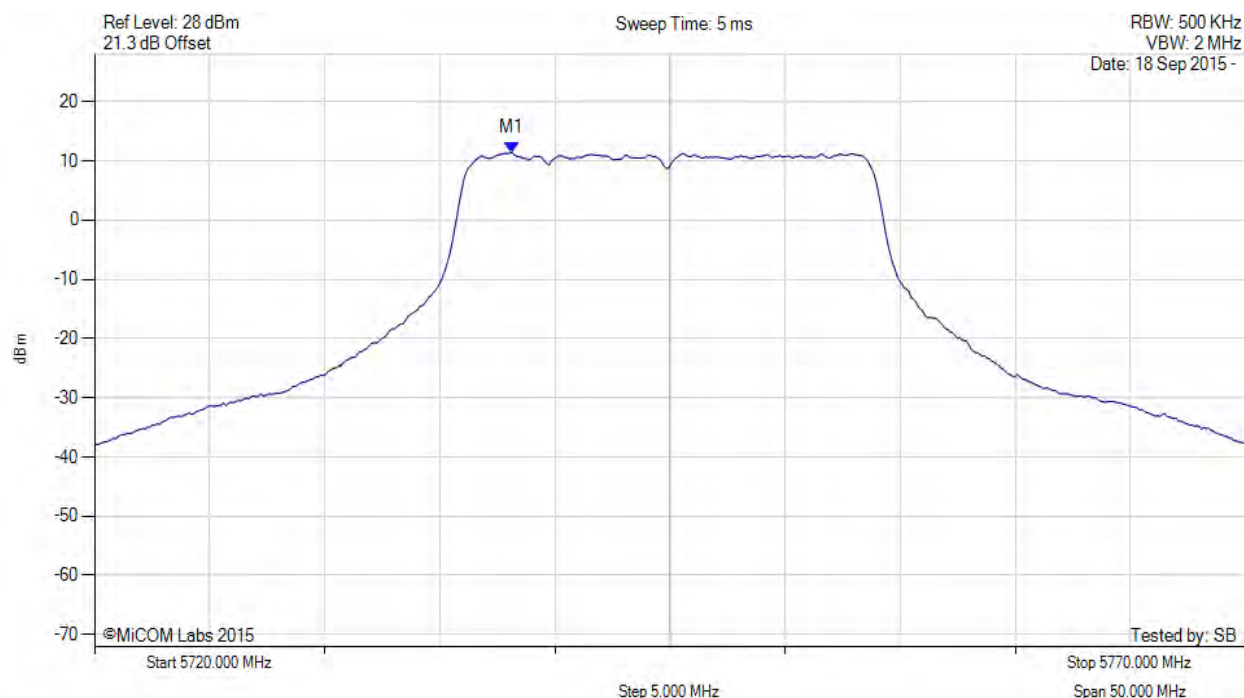
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5745.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5738.100 MHz : 11.430 dBm M1 + DCCF : 5738.100 MHz : 11.518 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 29.7 dBm Margin: -18.2 dB

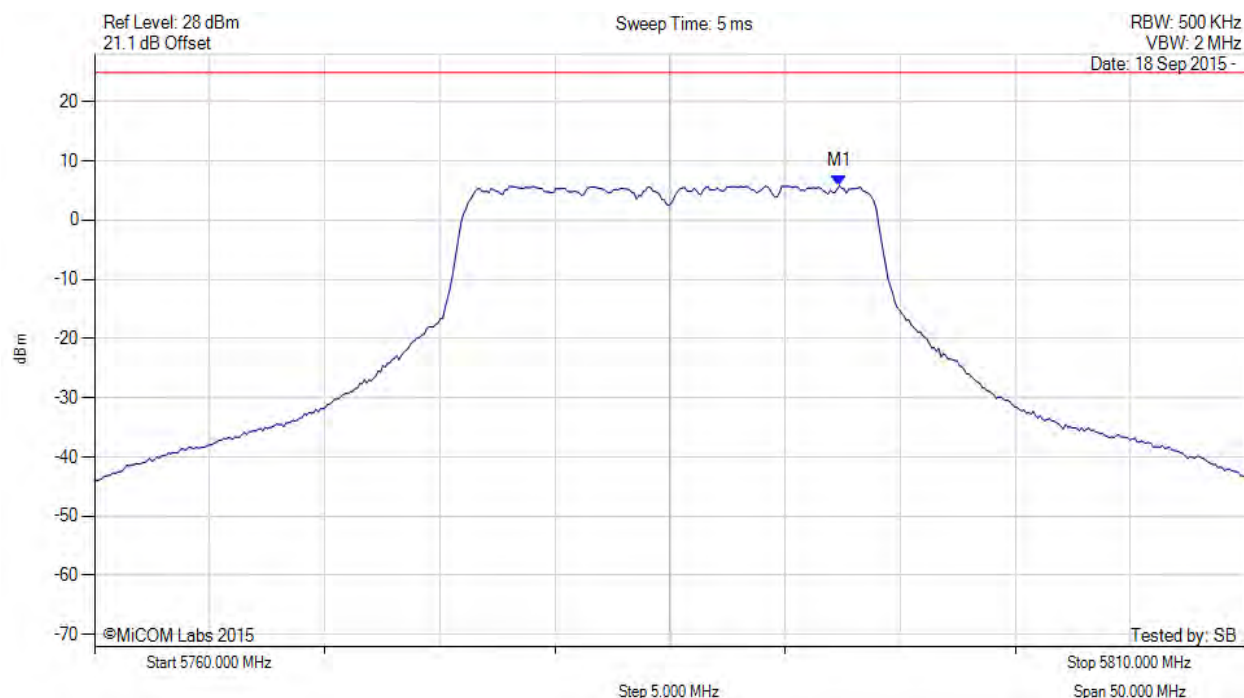
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5792.365 MHz : 5.824 dBm	Limit: ≤ 24.930 dBm

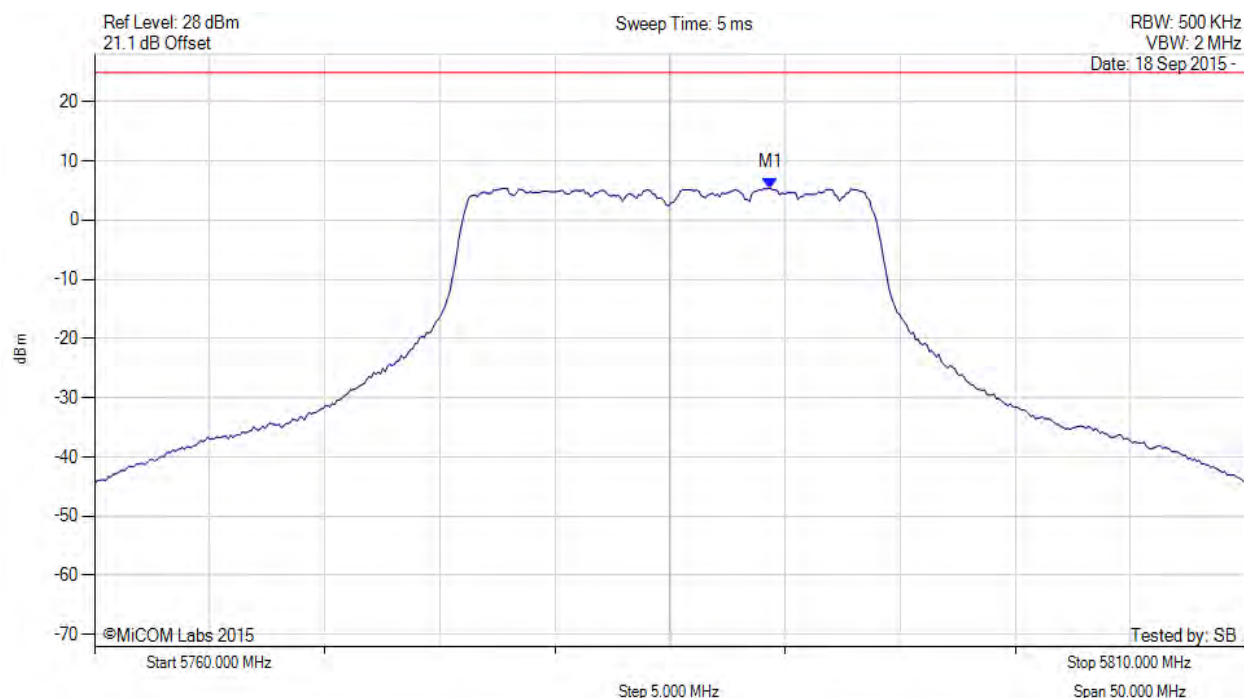
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5789.359 MHz : 5.405 dBm	Channel Frequency: 5785.00 MHz

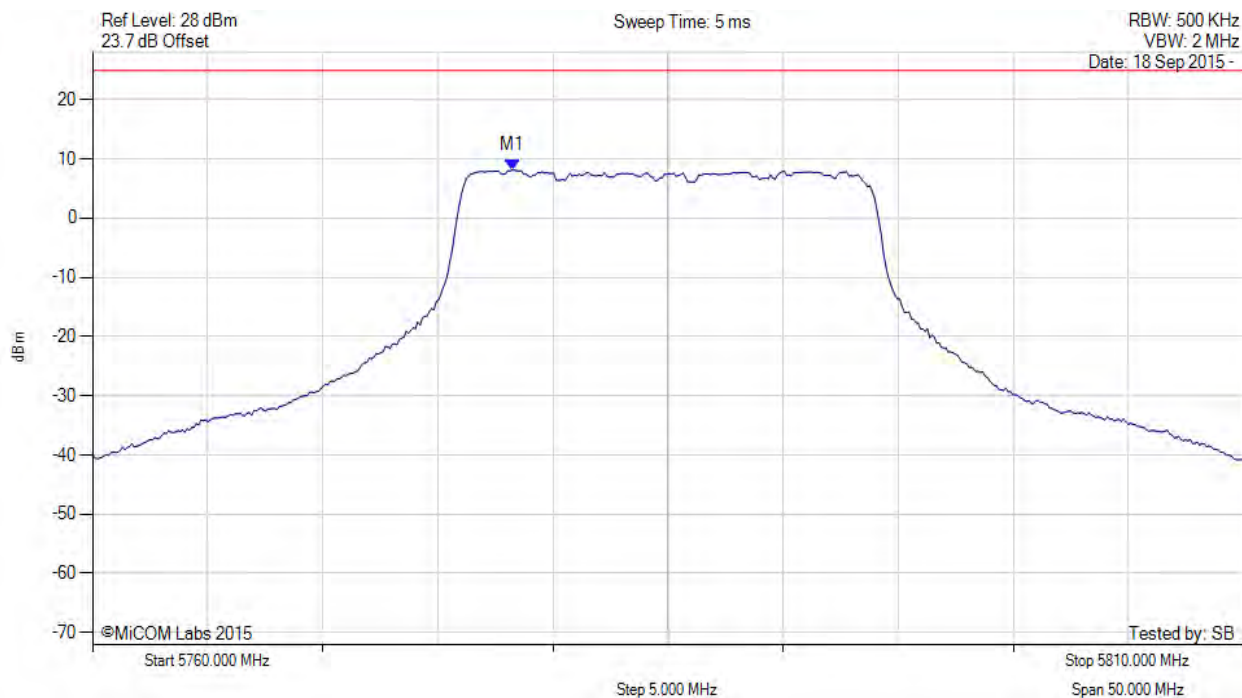
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5778.236 MHz : 8.117 dBm	Limit: ≤ 24.930 dBm

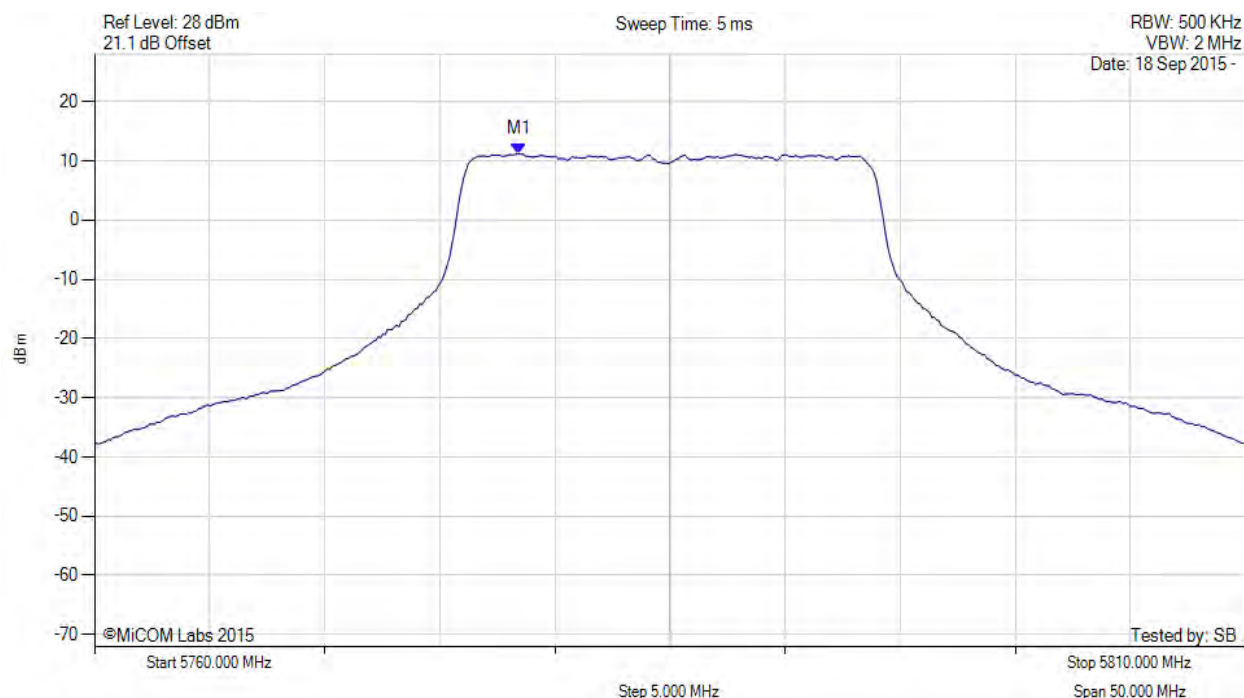
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5785.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5778.400 MHz : 11.186 dBm M1 + DCCF : 5778.400 MHz : 11.274 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 29.7 dBm Margin: -18.4 dB

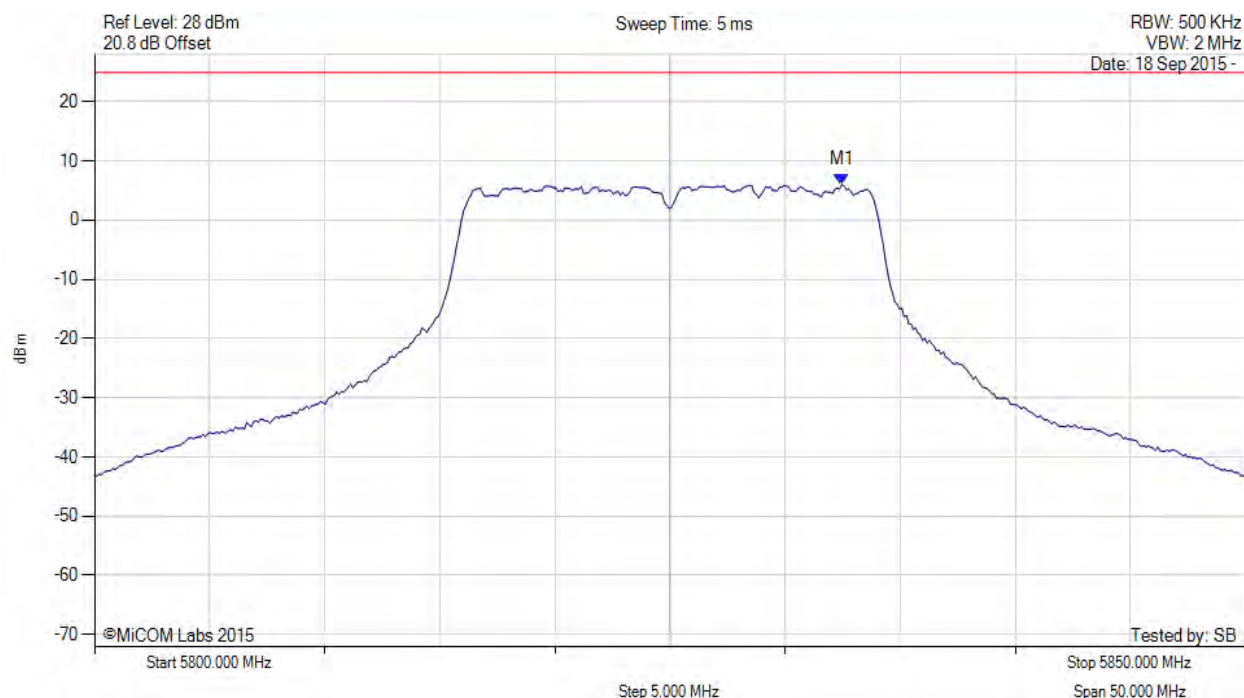
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5832.465 MHz : 6.011 dBm	Limit: ≤ 24.930 dBm

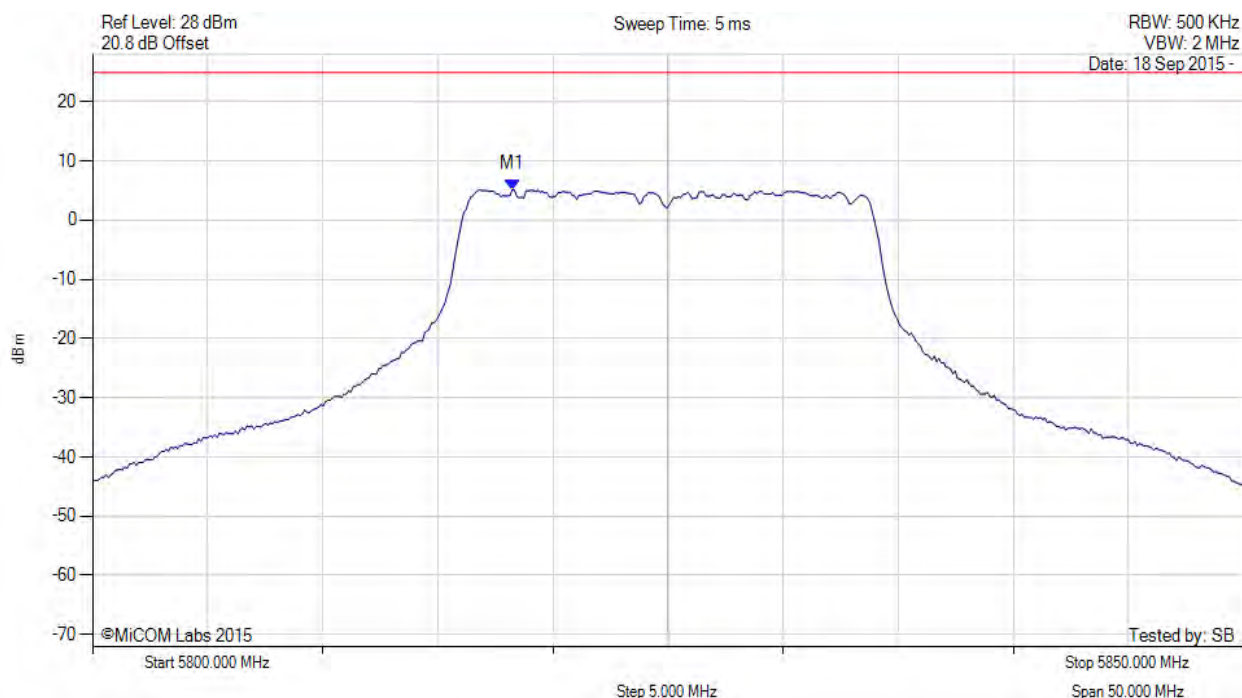
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5818.236 MHz : 5.191 dBm	Limit: ≤ 24.930 dBm

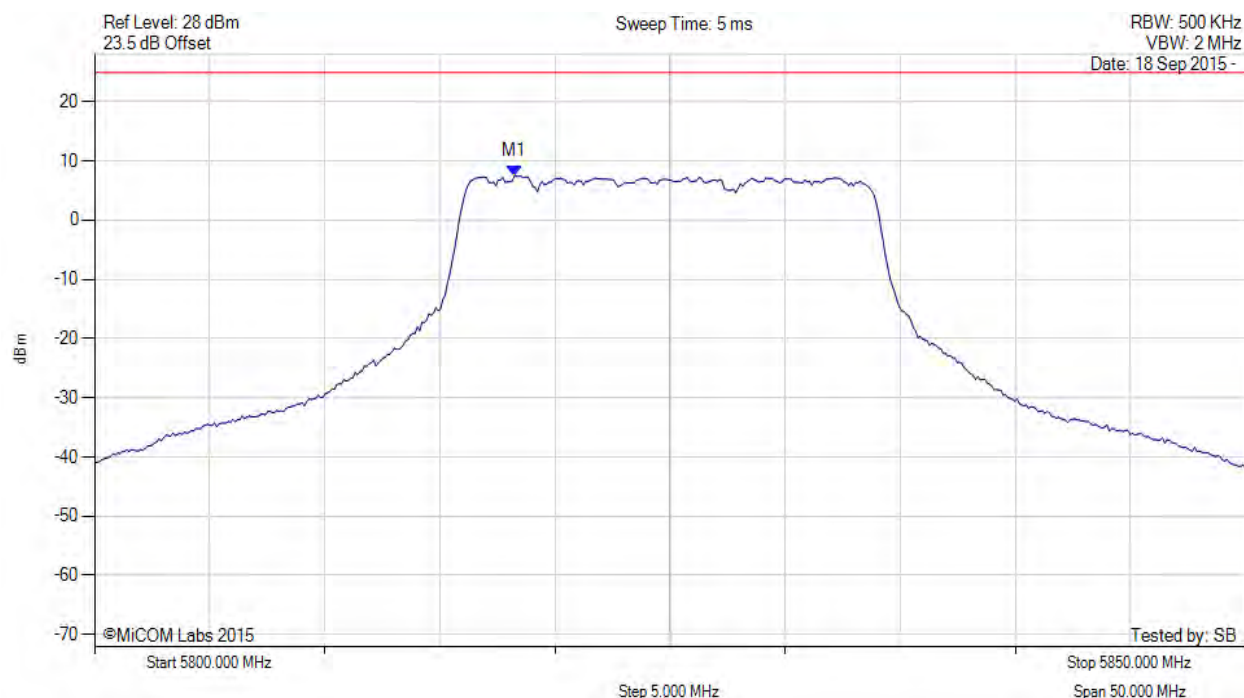
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5818.236 MHz : 7.405 dBm	Limit: ≤ 24.930 dBm

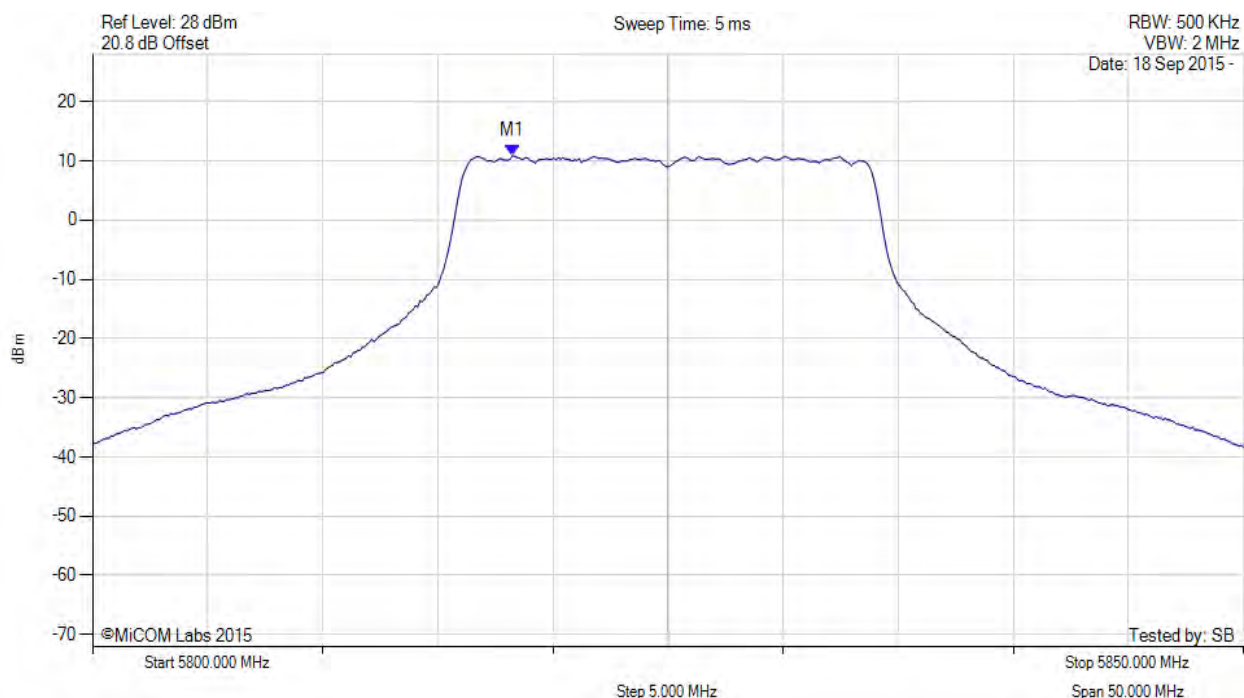
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5825.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5818.200 MHz : 10.861 dBm M1 + DCCF : 5818.200 MHz : 10.949 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 29.7 dBm Margin: -18.7 dB

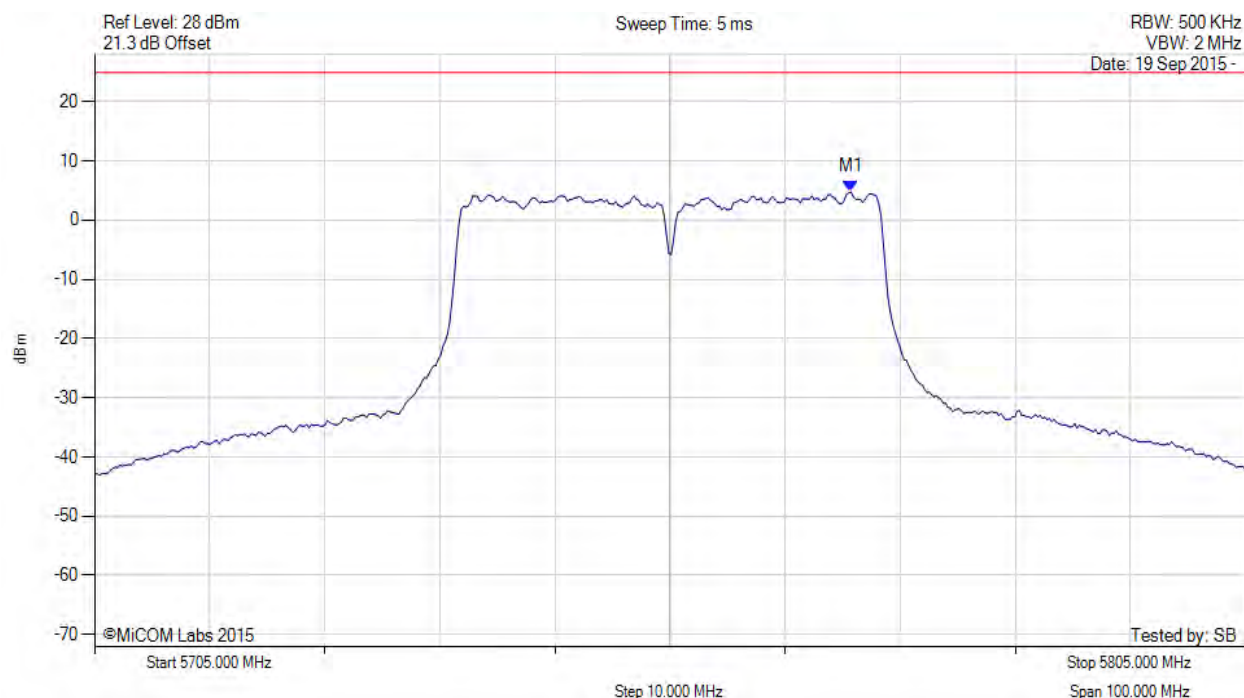
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5770.731 MHz : 4.738 dBm	Limit: ≤ 24.930 dBm

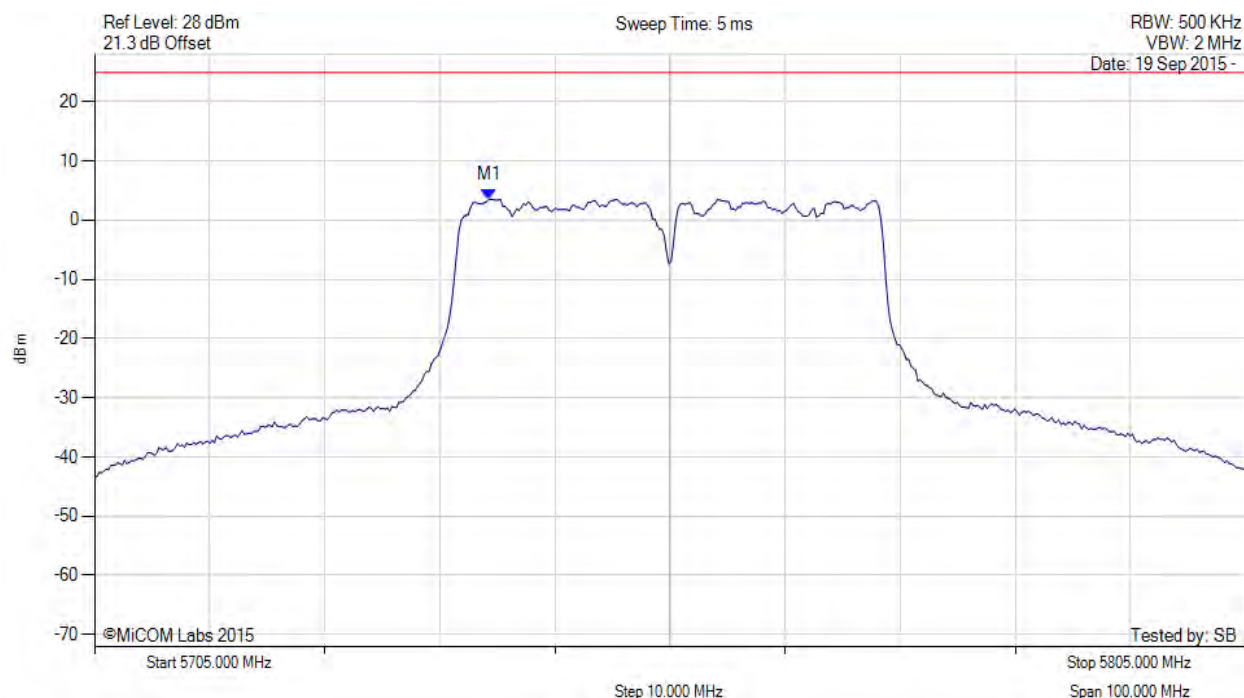
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5739.269 MHz : 3.520 dBm	Limit: ≤ 24.930 dBm

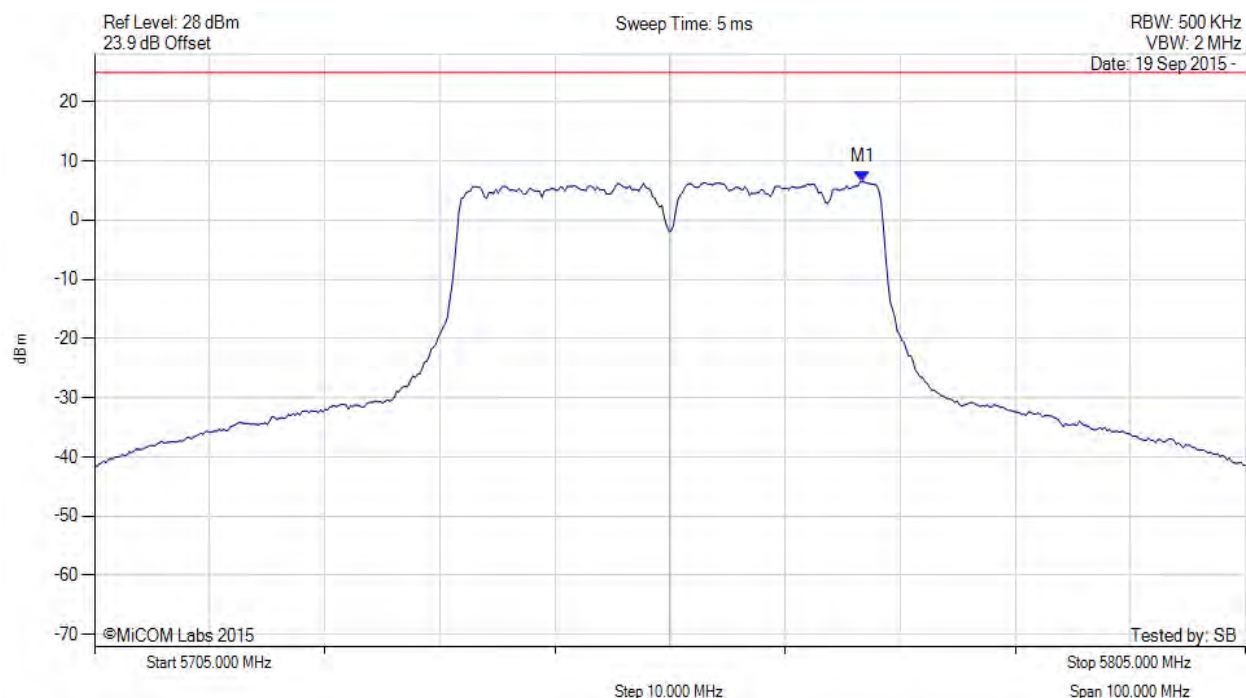
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5771.733 MHz : 6.486 dBm	Limit: ≤ 24.930 dBm

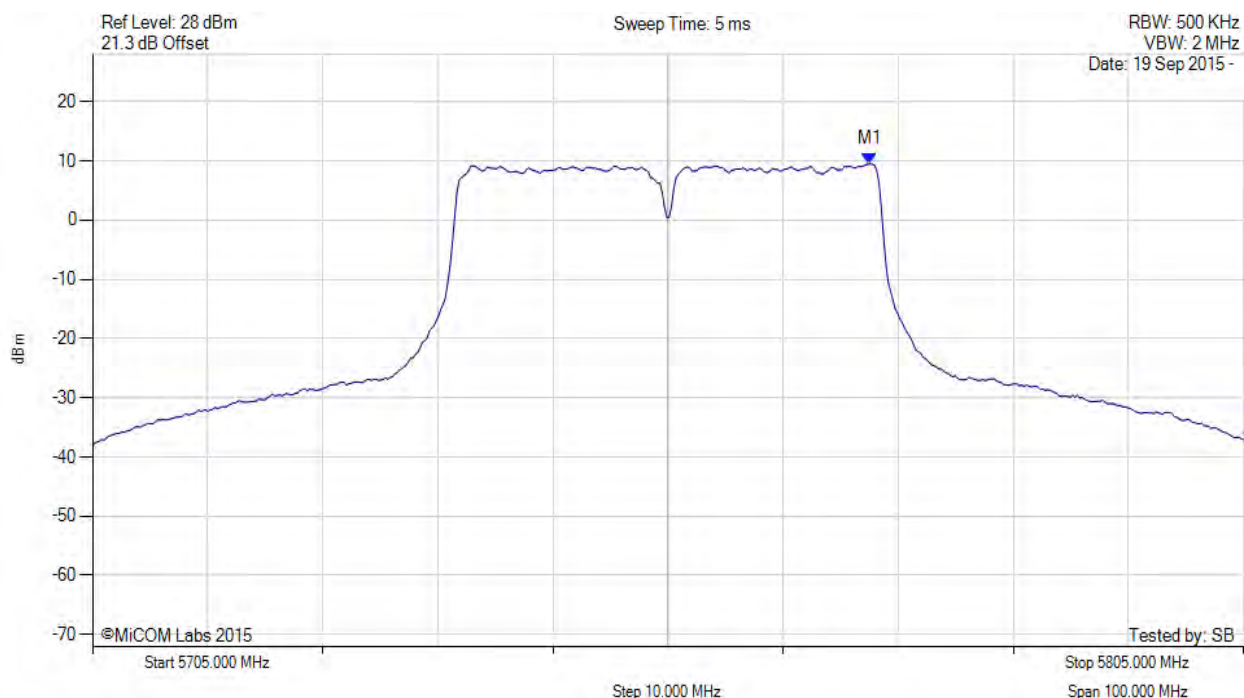
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5755.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5772.500 MHz : 9.483 dBm M1 + DCCF : 5772.500 MHz : 9.615 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 29.7 dBm Margin: -20.1 dB

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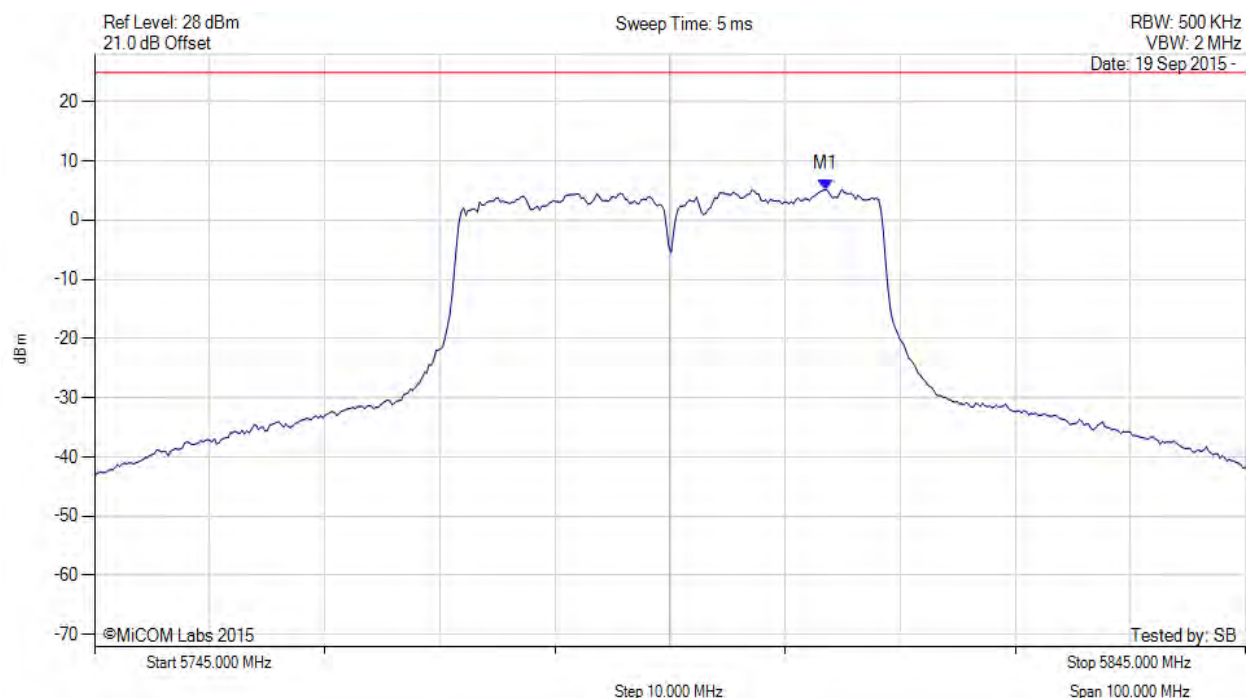


Title: Actiontec Electronics Inc WCB6240Q
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: ATEC09-U8a Conducted (non-DFS) Rev B
Issue Date: 22nd December 2015
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5808.527 MHz : 5.190 dBm	Limit: ≤ 24.930 dBm

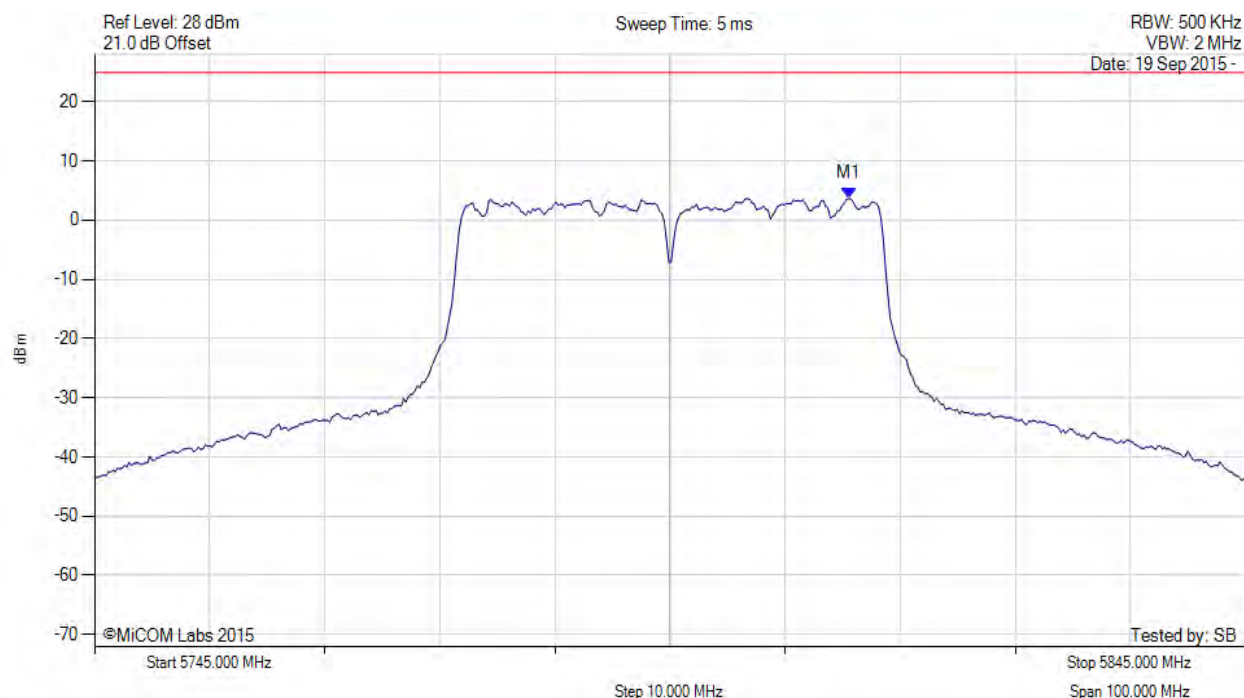
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain b, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5810.531 MHz : 3.628 dBm	Limit: ≤ 24.930 dBm

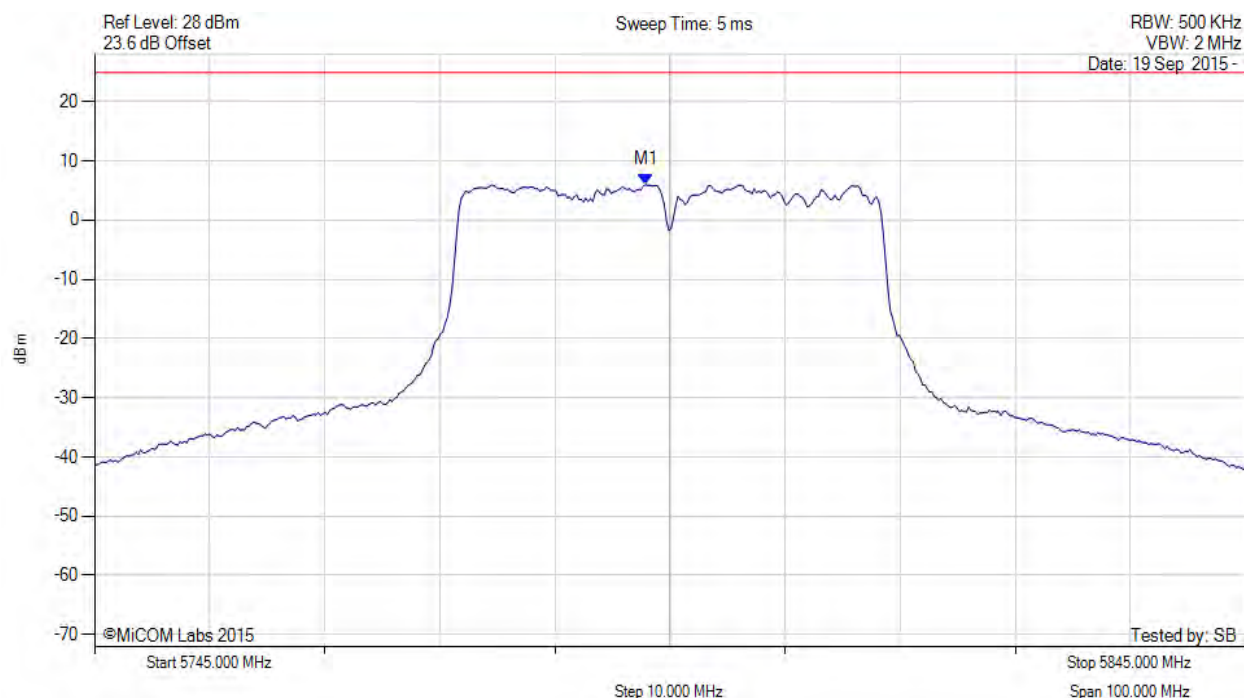
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain c, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5792.896 MHz : 5.974 dBm	Limit: ≤ 24.930 dBm

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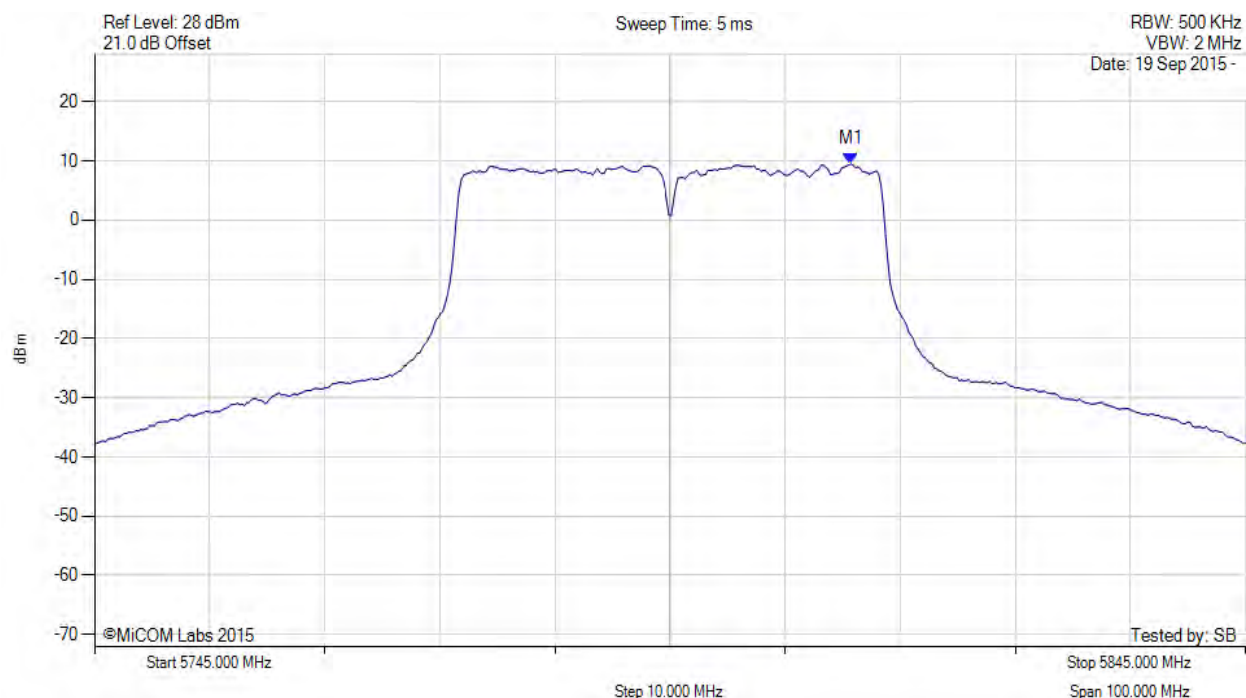


Title: Actiontec Electronics Inc WCB6240Q
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: ATEC09-U8a Conducted (non-DFS) Rev B
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5795.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5810.700 MHz : 9.475 dBm M1 + DCCF : 5810.700 MHz : 9.607 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 29.7 dBm Margin: -20.1 dB

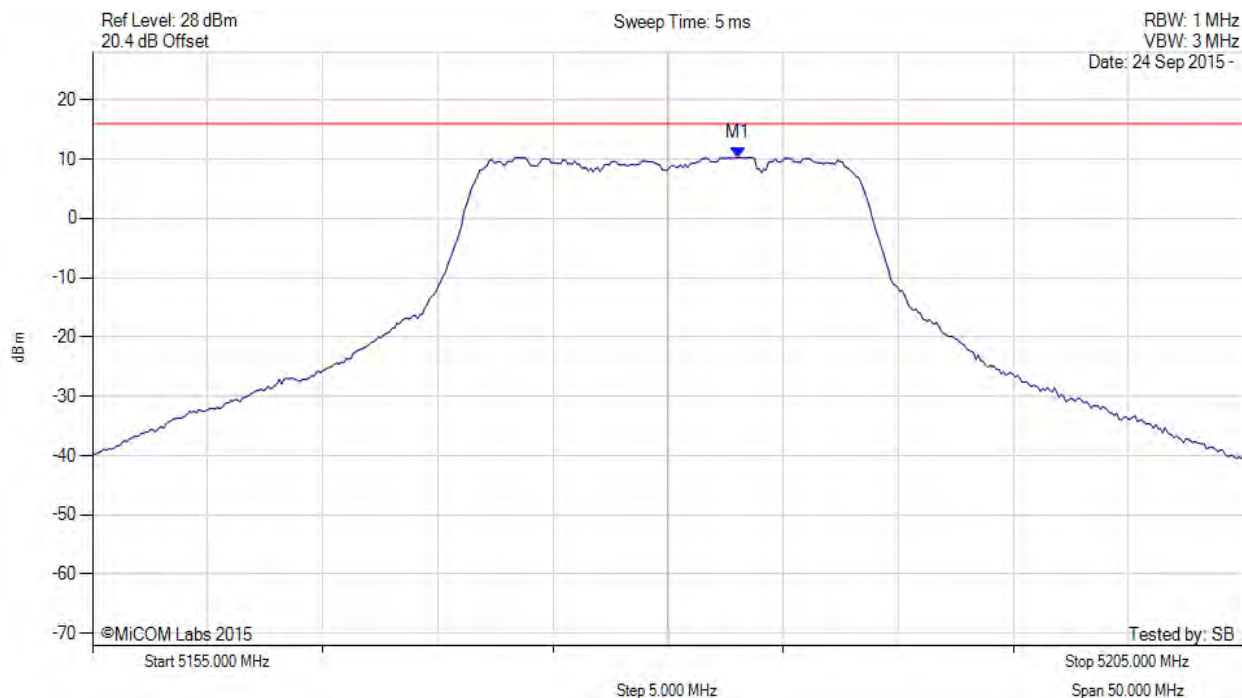
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5180.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5183.056 MHz : 10.309 dBm	Limit: ≤ 16.000 dBm

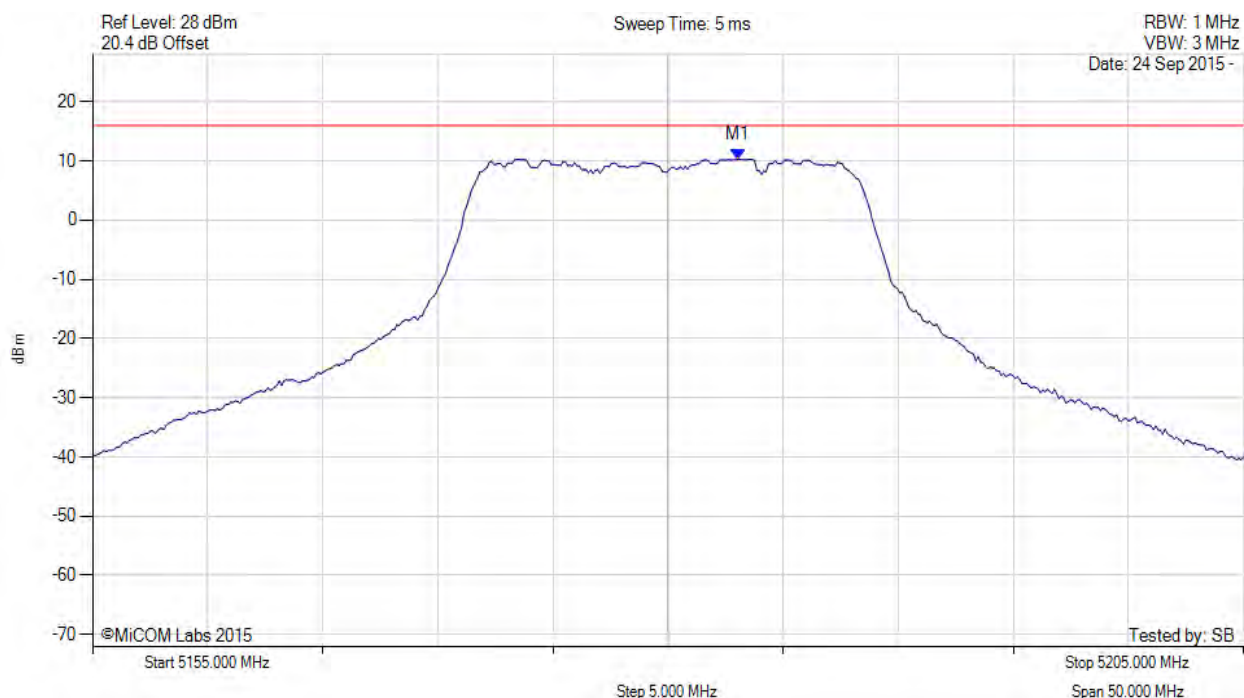
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5180.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5183.100 MHz : 10.309 dBm M1 + DCCF : 5183.100 MHz : 10.397 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 16.0 dBm Margin: -5.6 dB

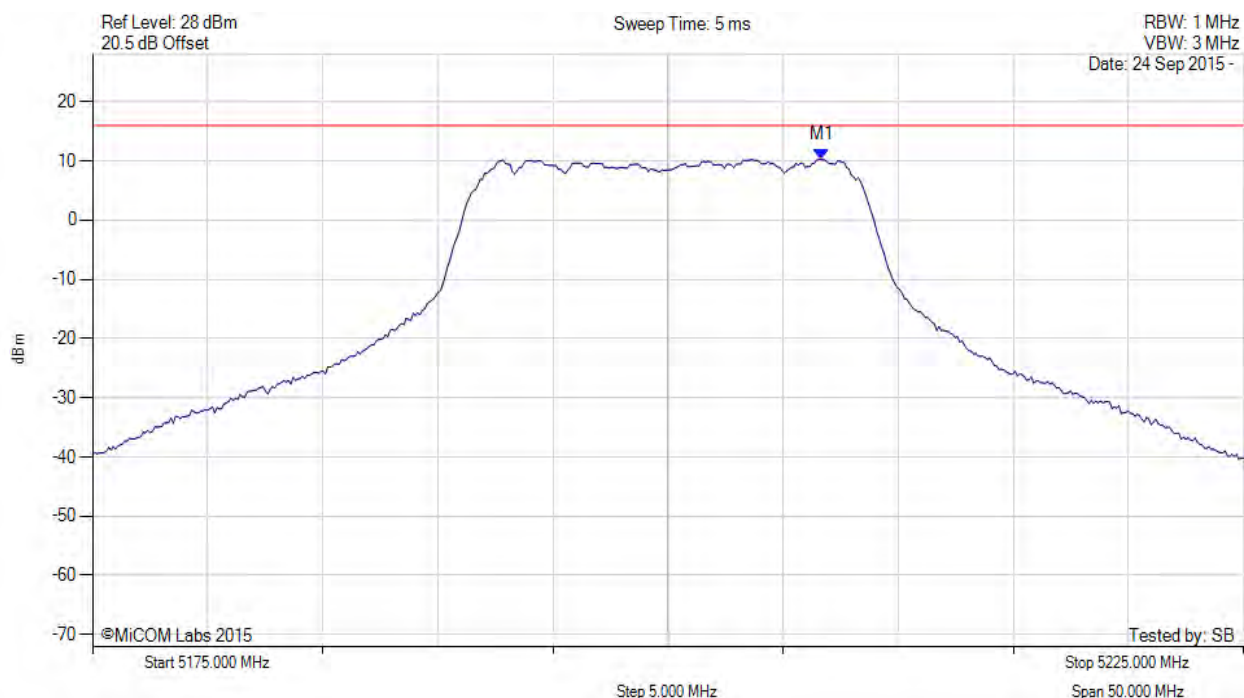
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5200.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5206.663 MHz : 10.244 dBm	Limit: ≤ 16.000 dBm

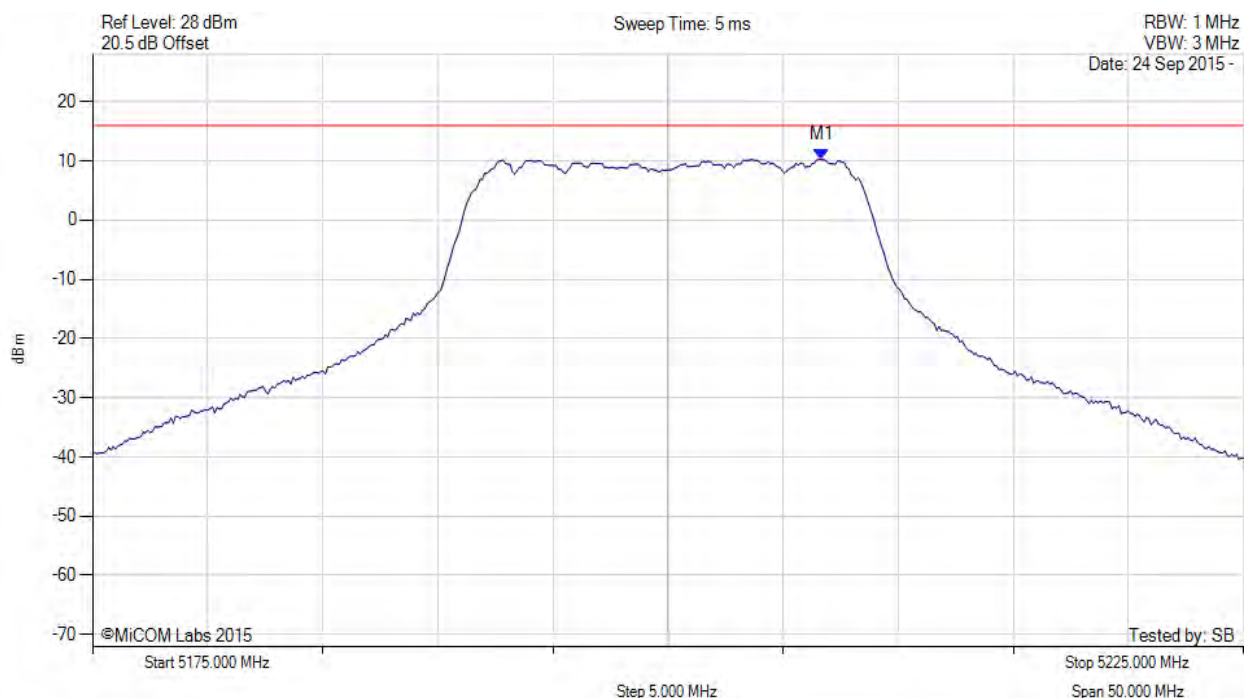
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5200.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5206.700 MHz : 10.244 dBm M1 + DCCF : 5206.700 MHz : 10.332 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 16.0 dBm Margin: -5.7 dB

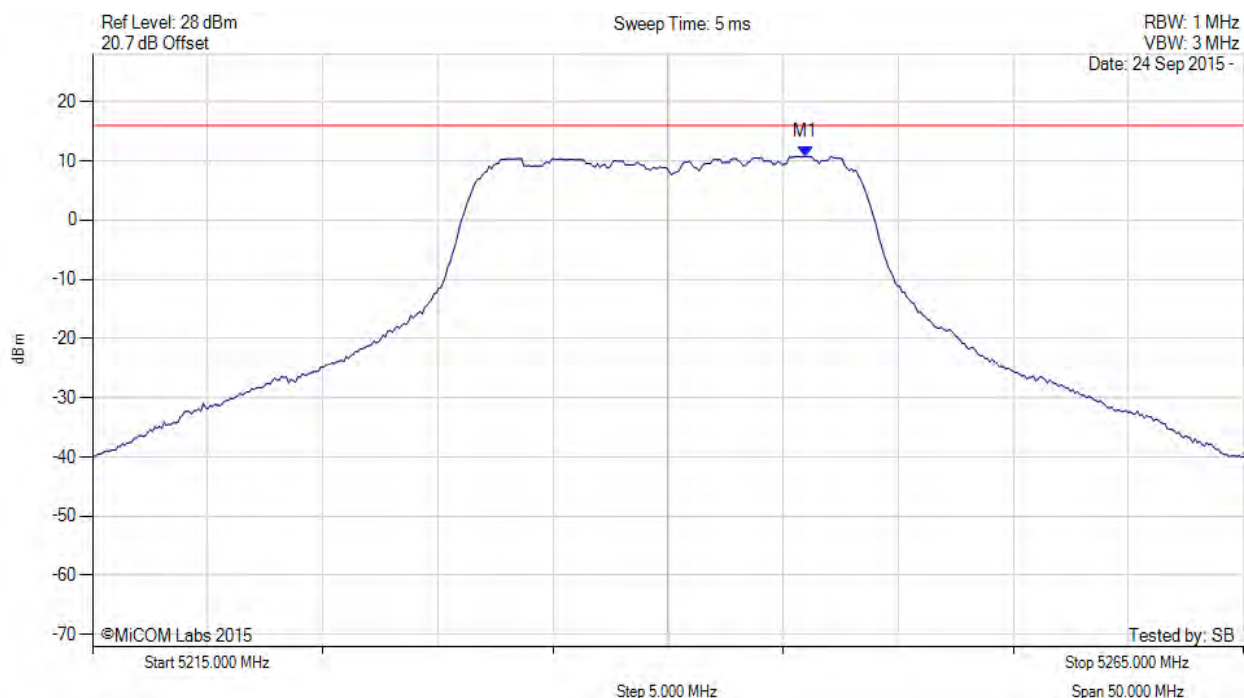
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5240.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5245.962 MHz : 10.757 dBm	Limit: ≤ 16.000 dBm

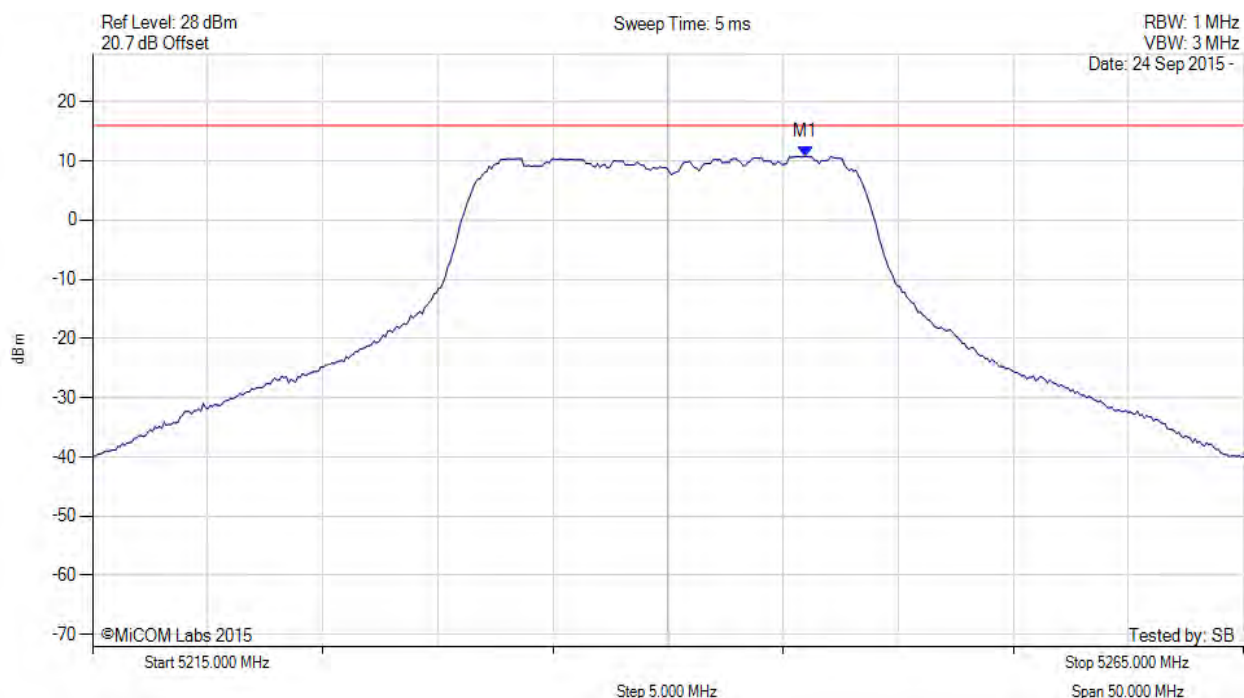
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5240.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5246.000 MHz : 10.757 dBm M1 + DCCF : 5246.000 MHz : 10.845 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 16.0 dBm Margin: -5.2 dB

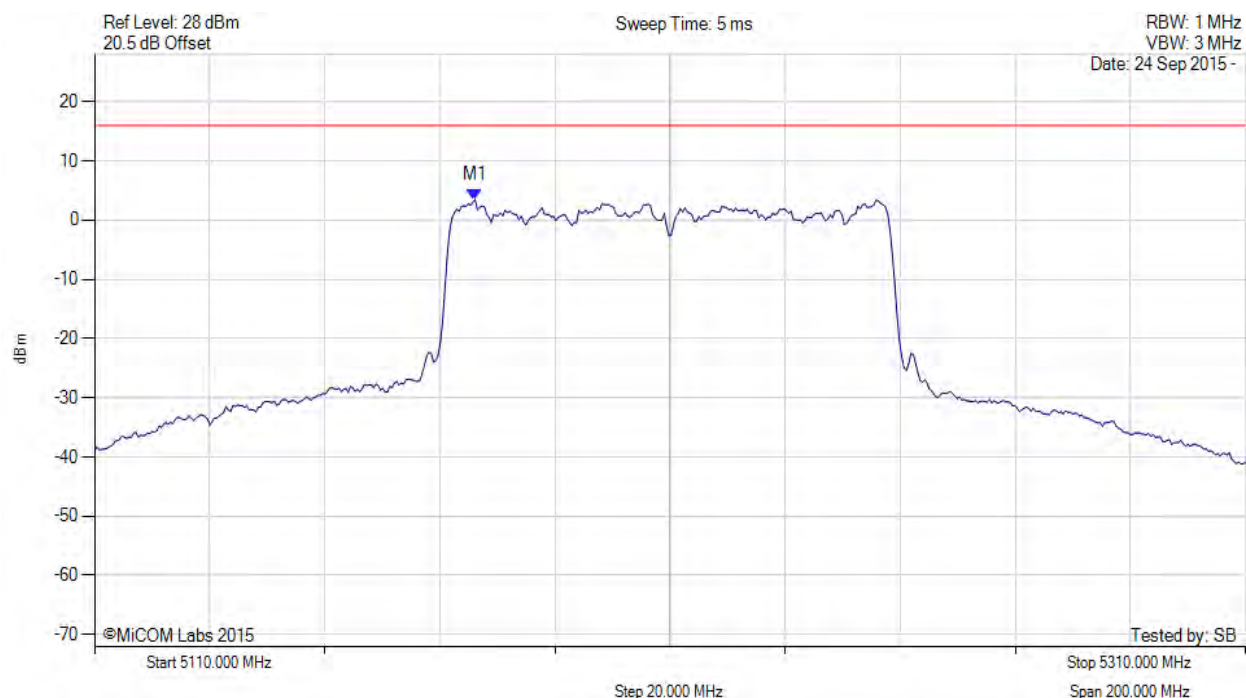
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POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5210.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5176.132 MHz : 3.456 dBm	Limit: ≤ 16.000 dBm

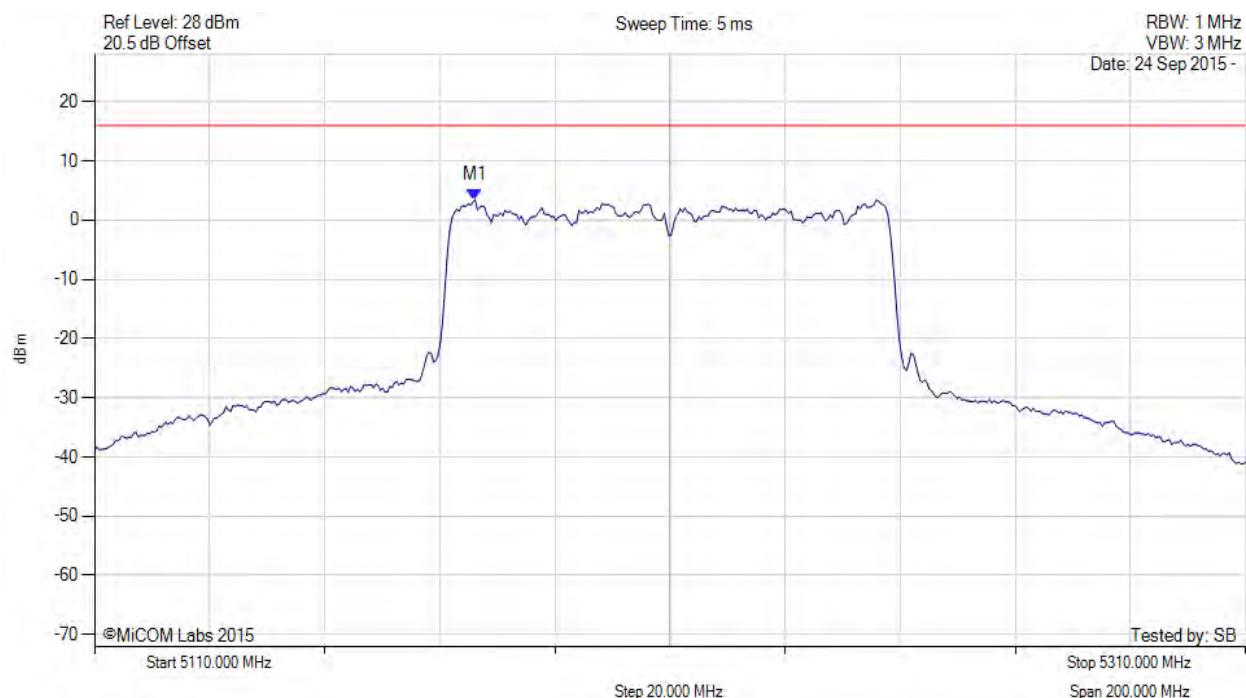
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POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5210.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5176.100 MHz : 3.456 dBm M1 + DCCF : 5176.100 MHz : 3.633 dBm Duty Cycle Correction Factor : +0.18 dB	Limit: ≤ 16.0 dBm Margin: -12.4 dB

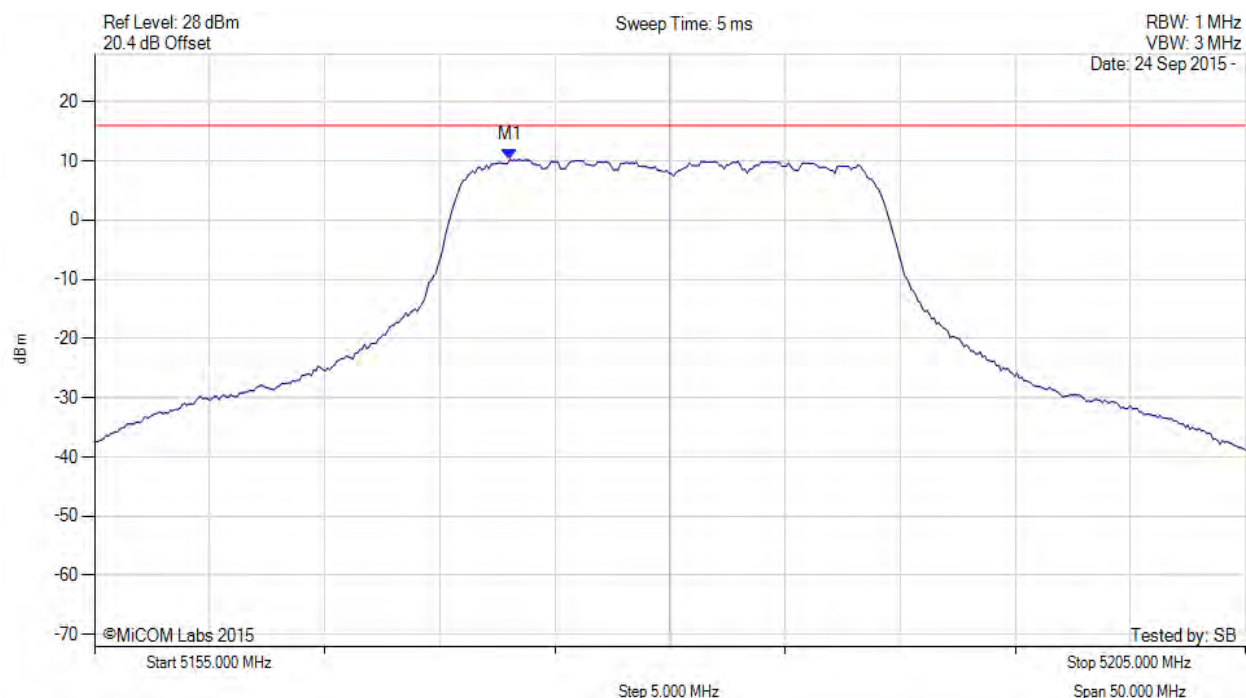
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5180.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5173.036 MHz : 10.190 dBm	Limit: ≤ 16.000 dBm

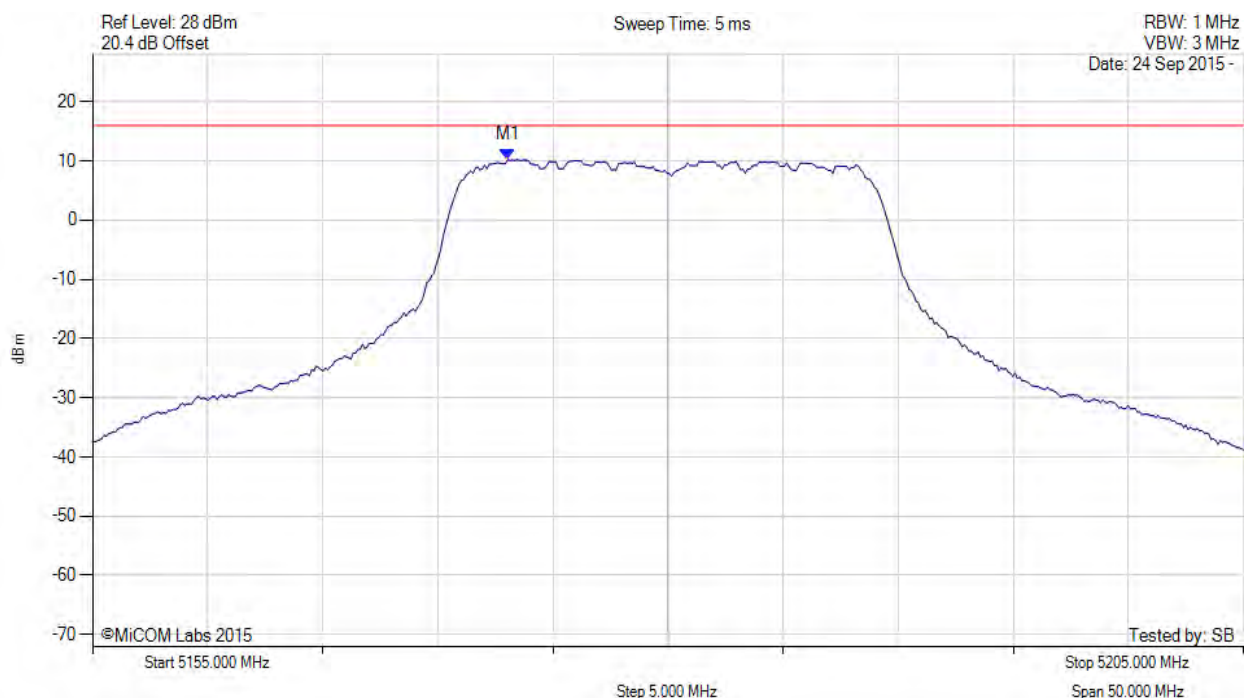
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5180.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5173.000 MHz : 10.190 dBm M1 + DCCF : 5173.000 MHz : 10.278 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 16.0 dBm Margin: -5.7 dB

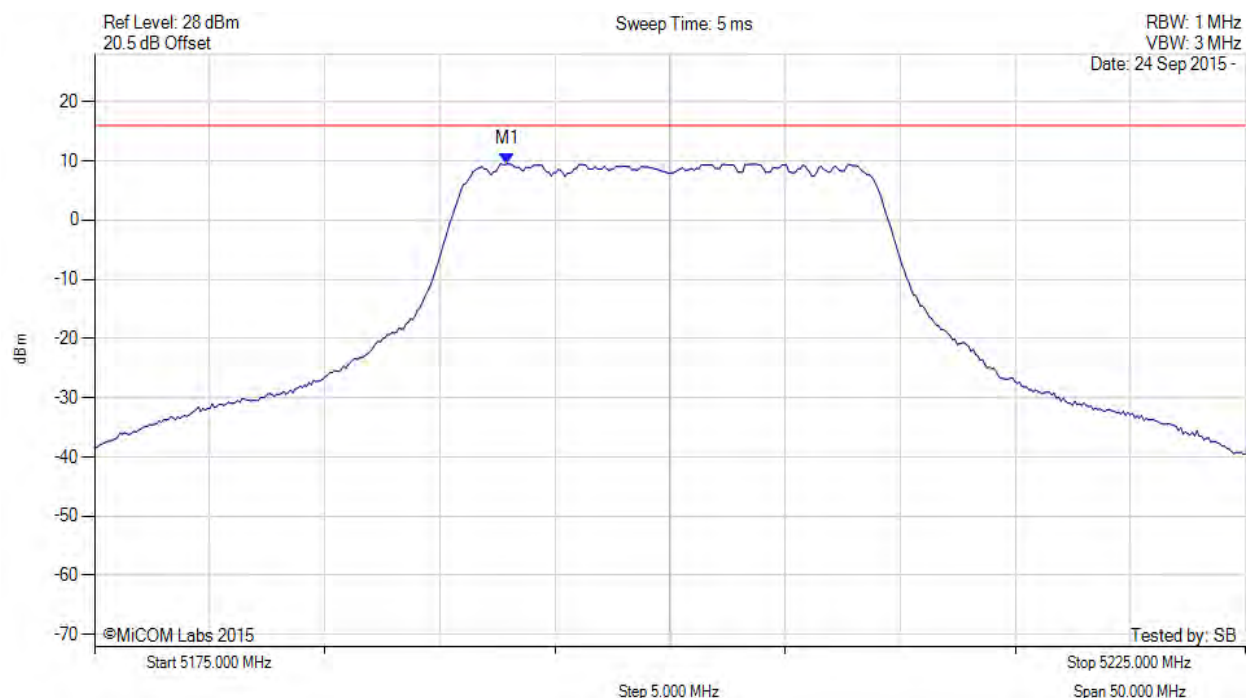
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5200.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5192.936 MHz : 9.505 dBm	Limit: ≤ 16.000 dBm

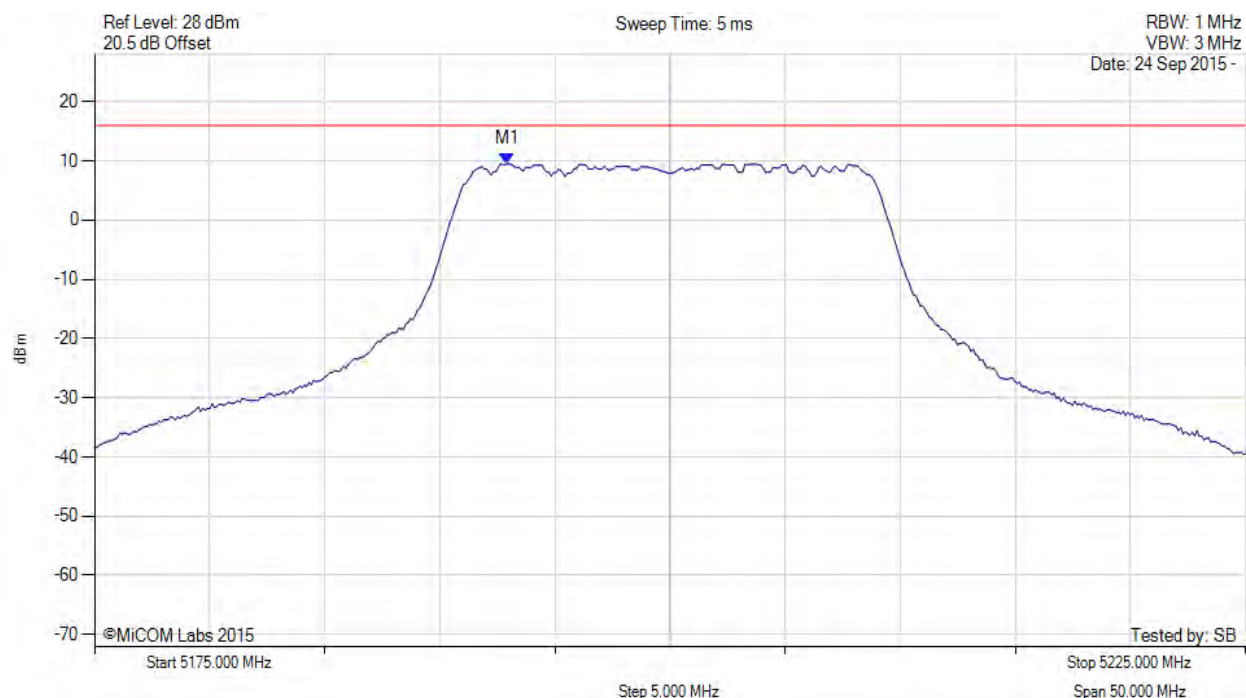
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5200.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5192.900 MHz : 9.505 dBm M1 + DCCF : 5192.900 MHz : 9.593 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 16.0 dBm Margin: -6.4 dB

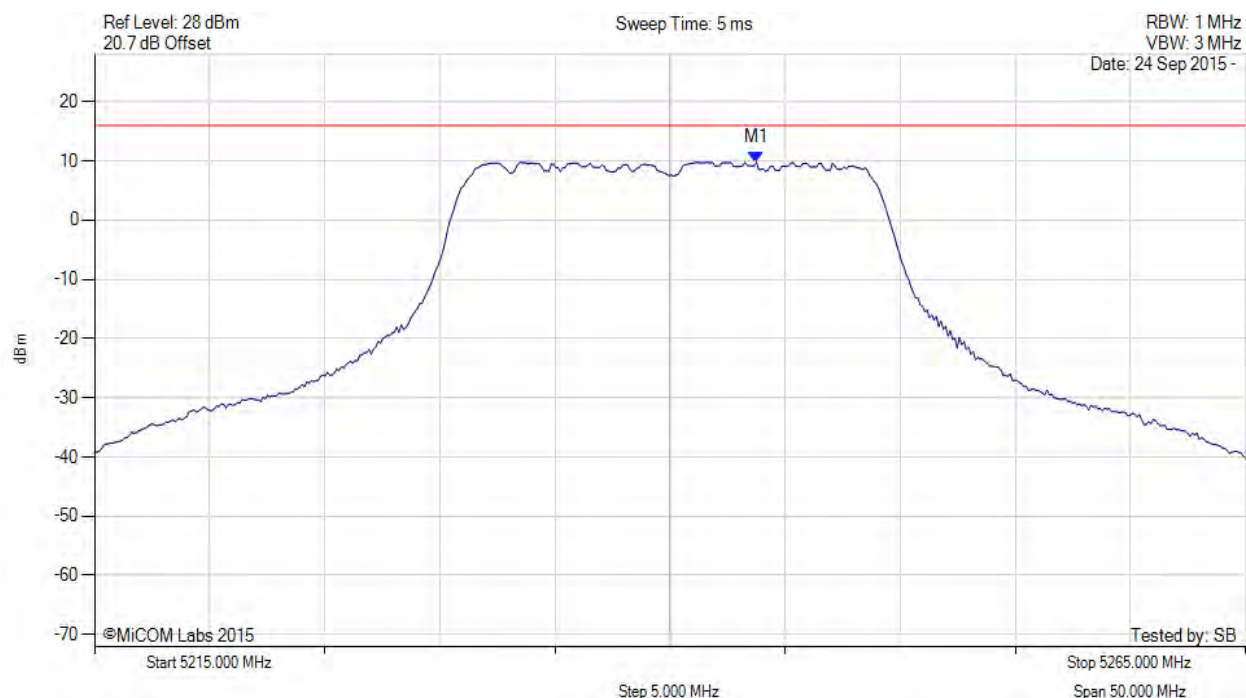
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5240.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



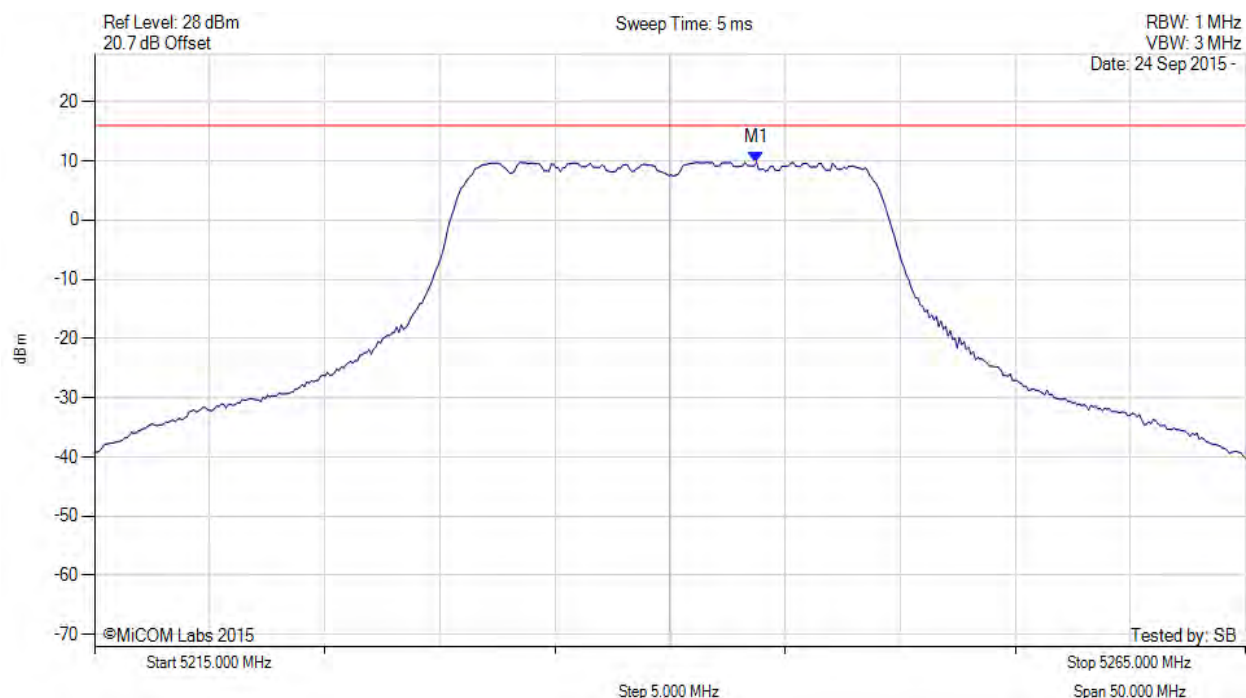
Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5243.758 MHz : 9.763 dBm	Limit: ≤ 16.000 dBm

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POWER SPECTRAL DENSITY



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5243.800 MHz : 9.763 dBm M1 + DCCF : 5243.800 MHz : 9.851 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 16.0 dBm Margin: -6.1 dB

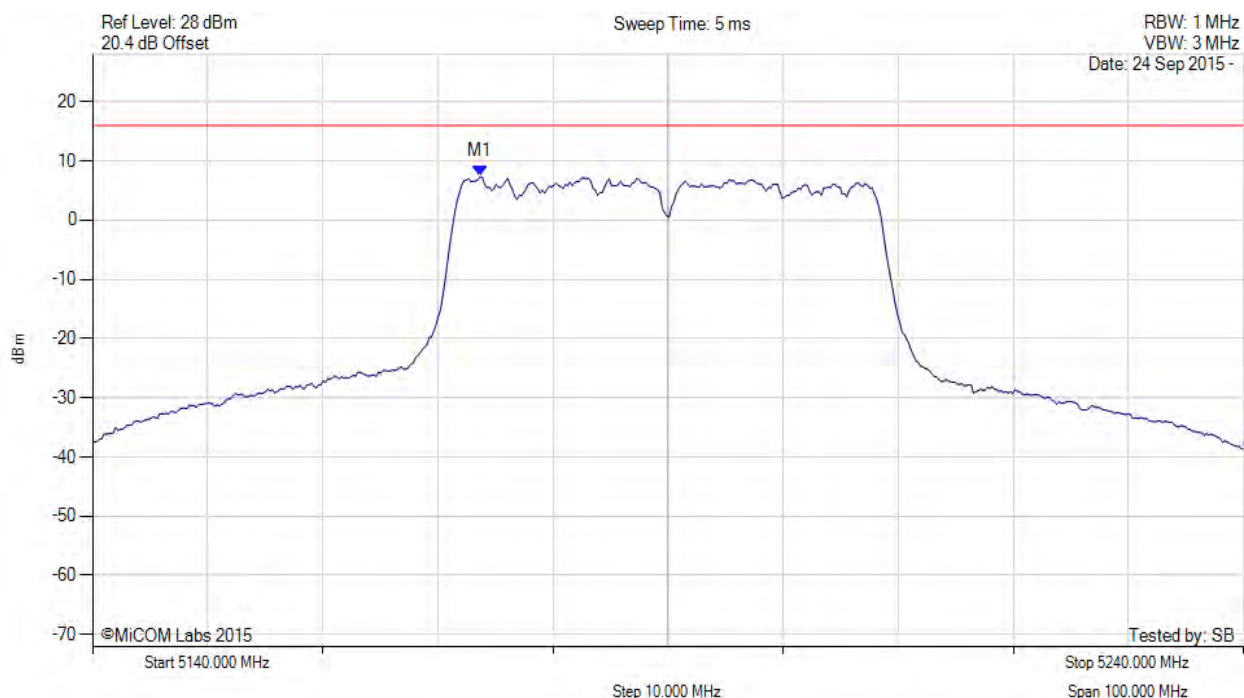
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5190.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5173.667 MHz : 7.302 dBm	Limit: ≤ 16.000 dBm

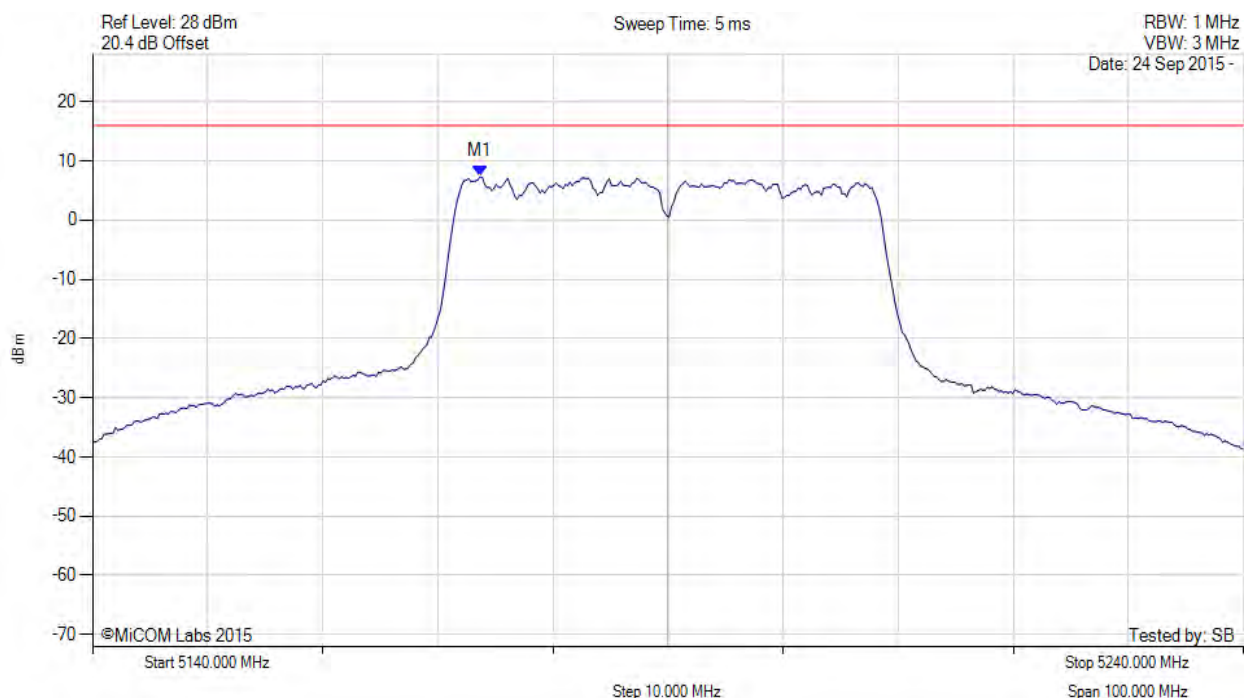
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5190.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5173.700 MHz : 7.302 dBm M1 + DCCF : 5173.700 MHz : 7.434 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 16.0 dBm Margin: -8.6 dB

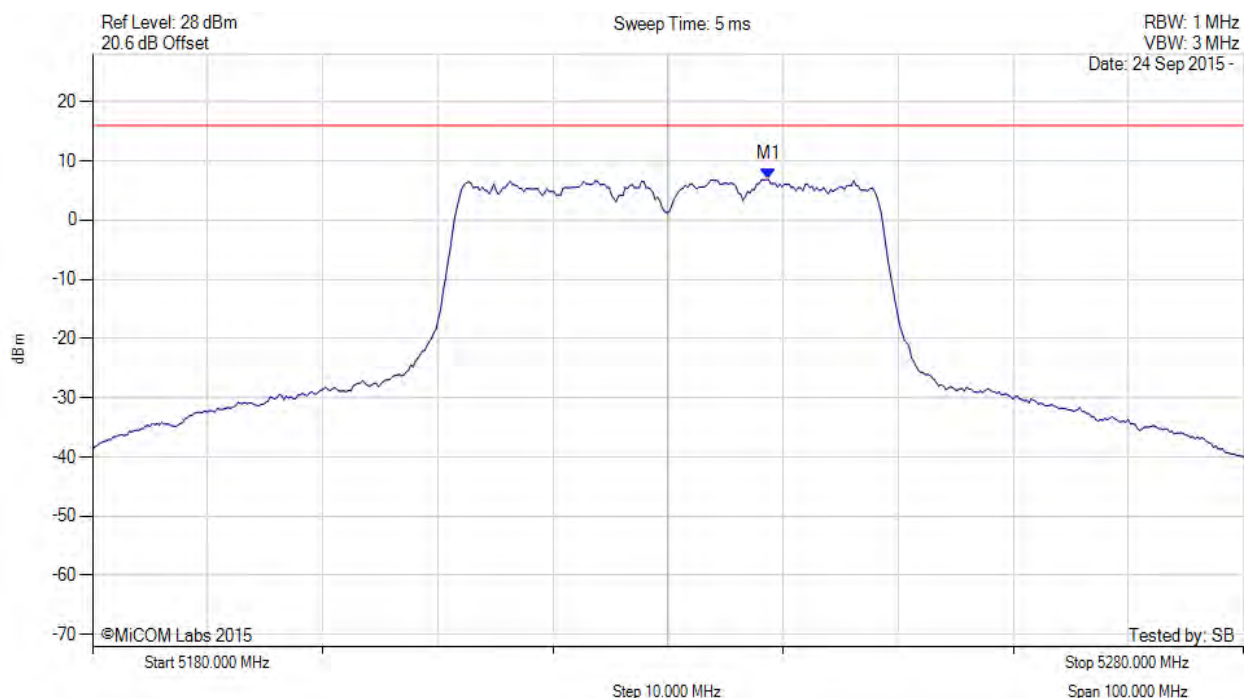
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5230.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5238.717 MHz : 6.894 dBm	Limit: ≤ 16.000 dBm

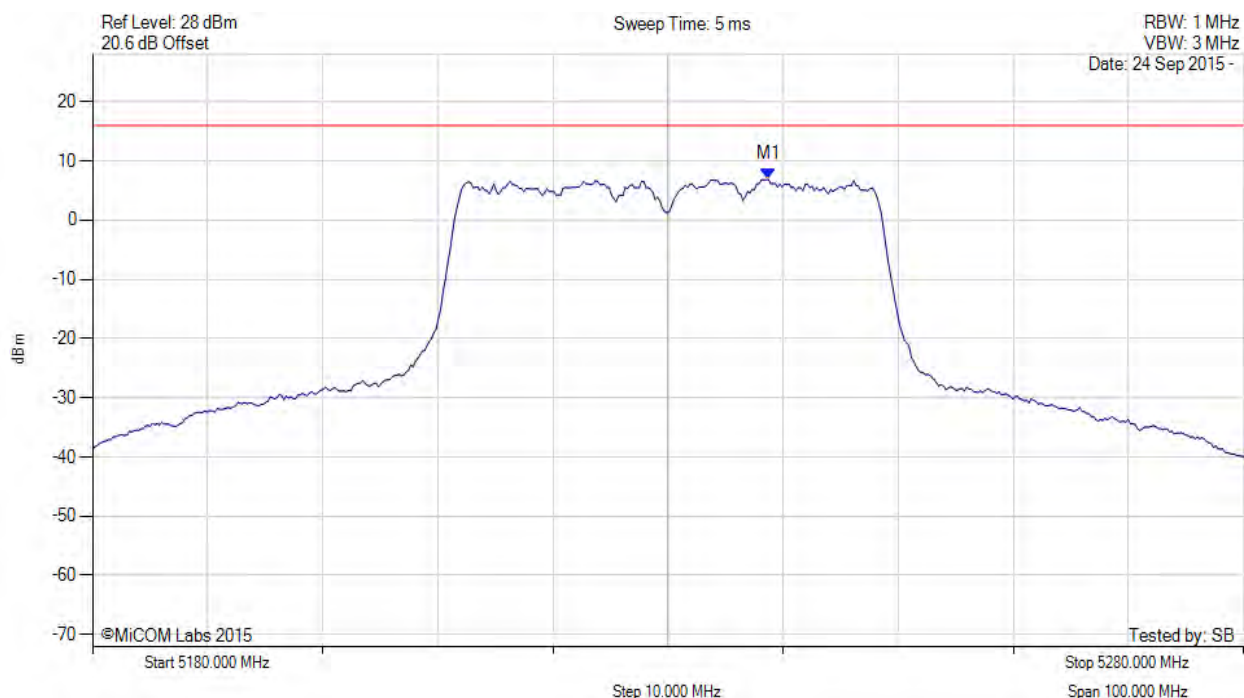
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5230.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5238.700 MHz : 6.894 dBm M1 + DCCF : 5238.700 MHz : 7.026 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 16.0 dBm Margin: -9.0 dB

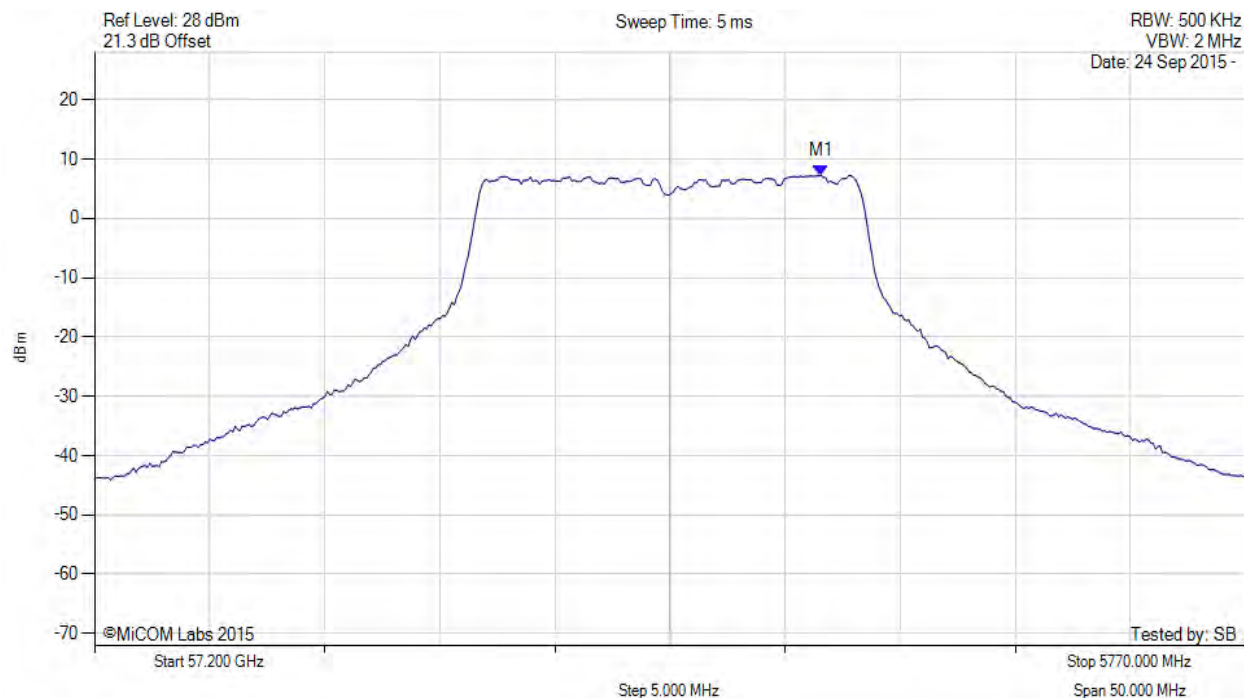
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5751.563 MHz : 7.243 dBm	Limit: ≤ 29.700 dBm

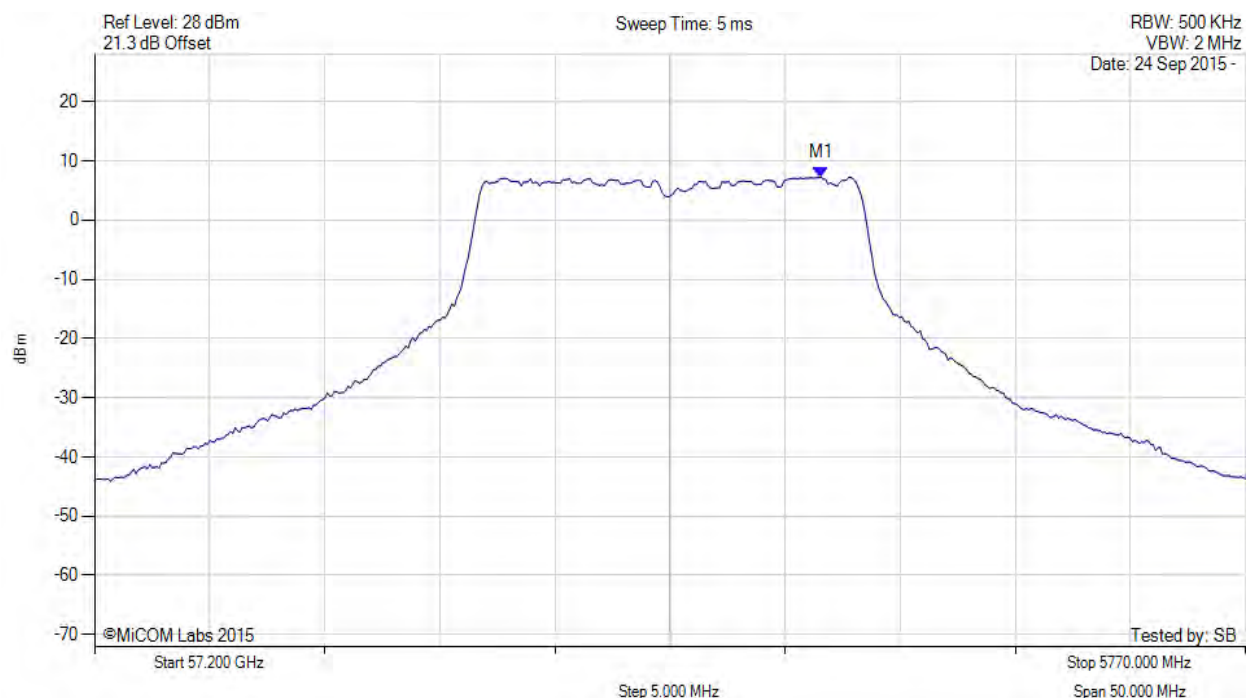
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5745.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5751.600 MHz : 7.243 dBm M1 + DCCF : 5751.600 MHz : 7.331 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 29.7 dBm Margin: -22.4 dB

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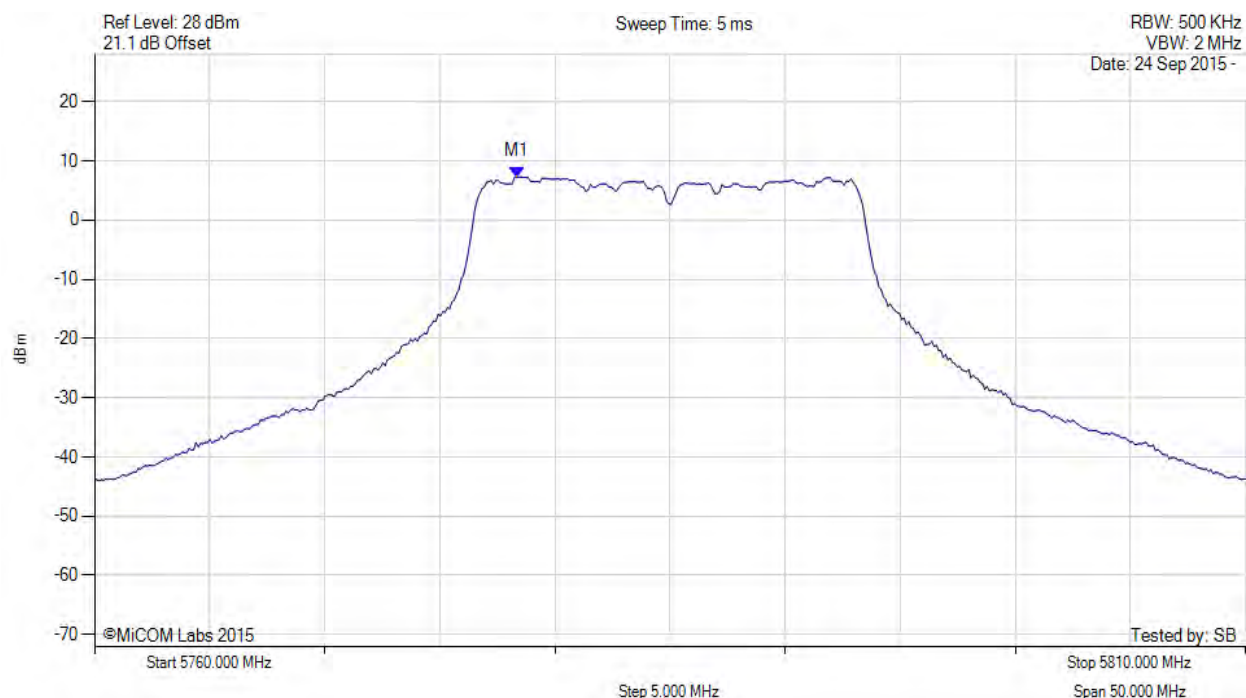


Title: Actiontec Electronics Inc WCB6240Q
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: ATEC09-U8a Conducted (non-DFS) Rev B
Issue Date: 22nd December 2015
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5785.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5778.337 MHz : 7.298 dBm	Limit: ≤ 29.700 dBm

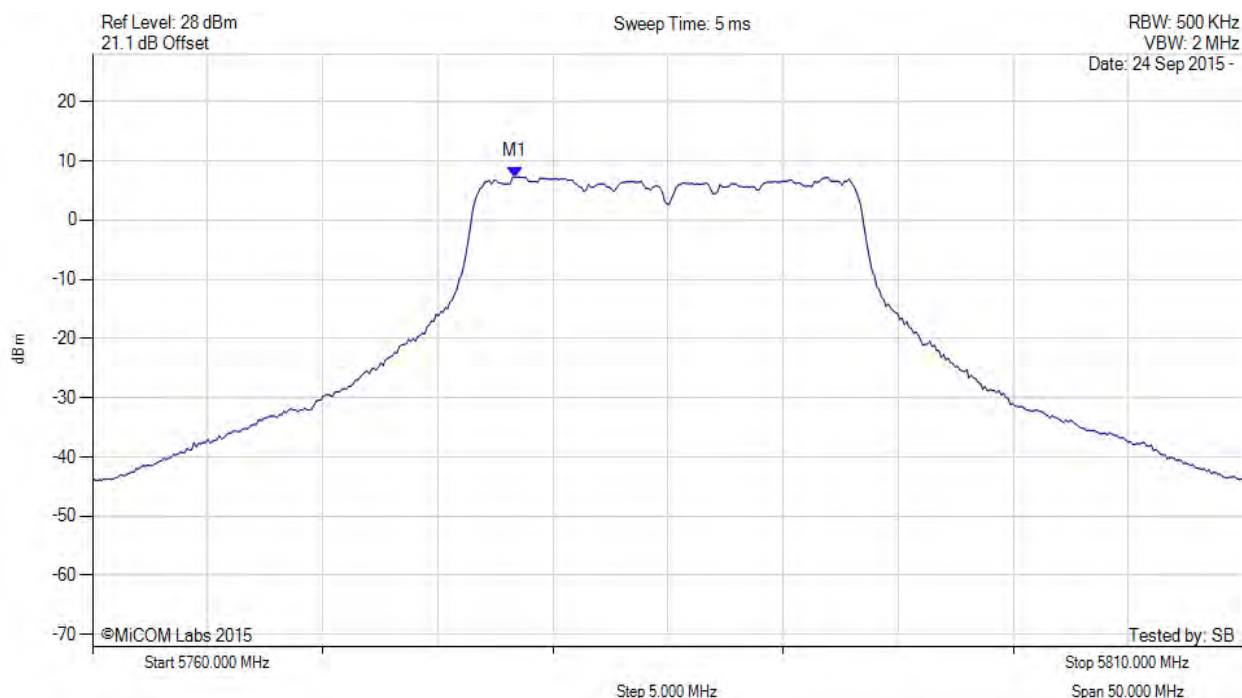
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5785.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5778.300 MHz : 7.298 dBm M1 + DCCF : 5778.300 MHz : 7.386 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 29.7 dBm Margin: -22.3 dB

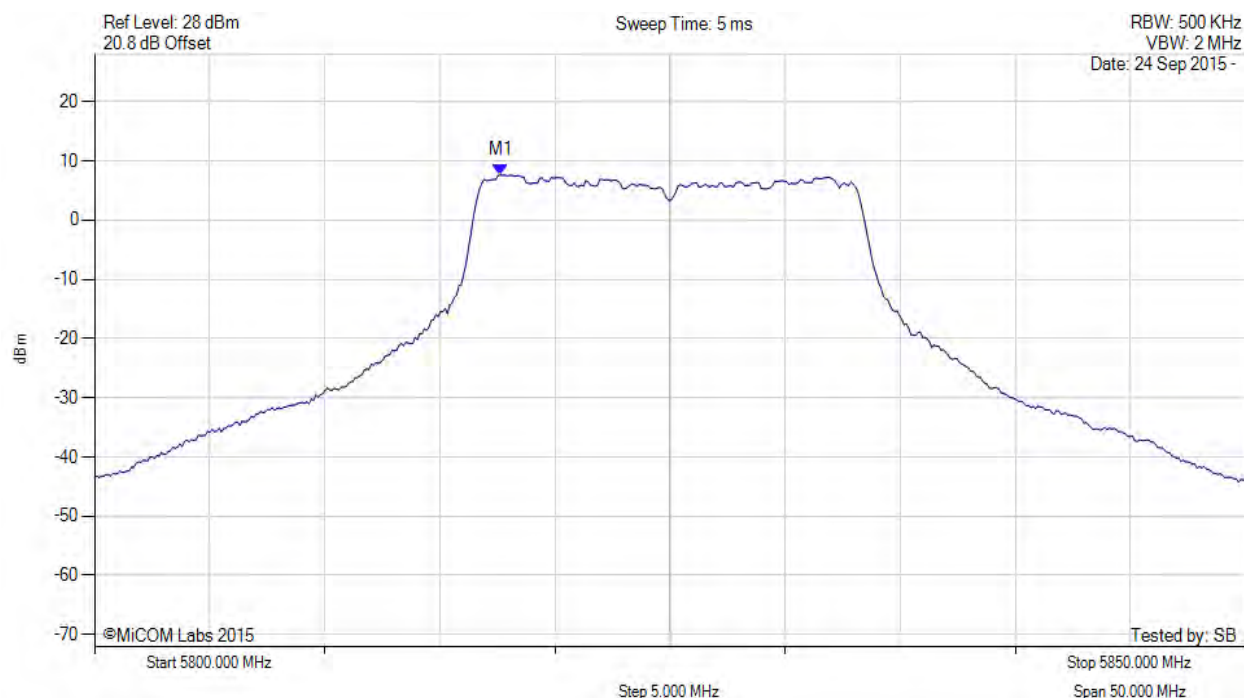
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5817.635 MHz : 7.637 dBm	Limit: ≤ 29.700 dBm

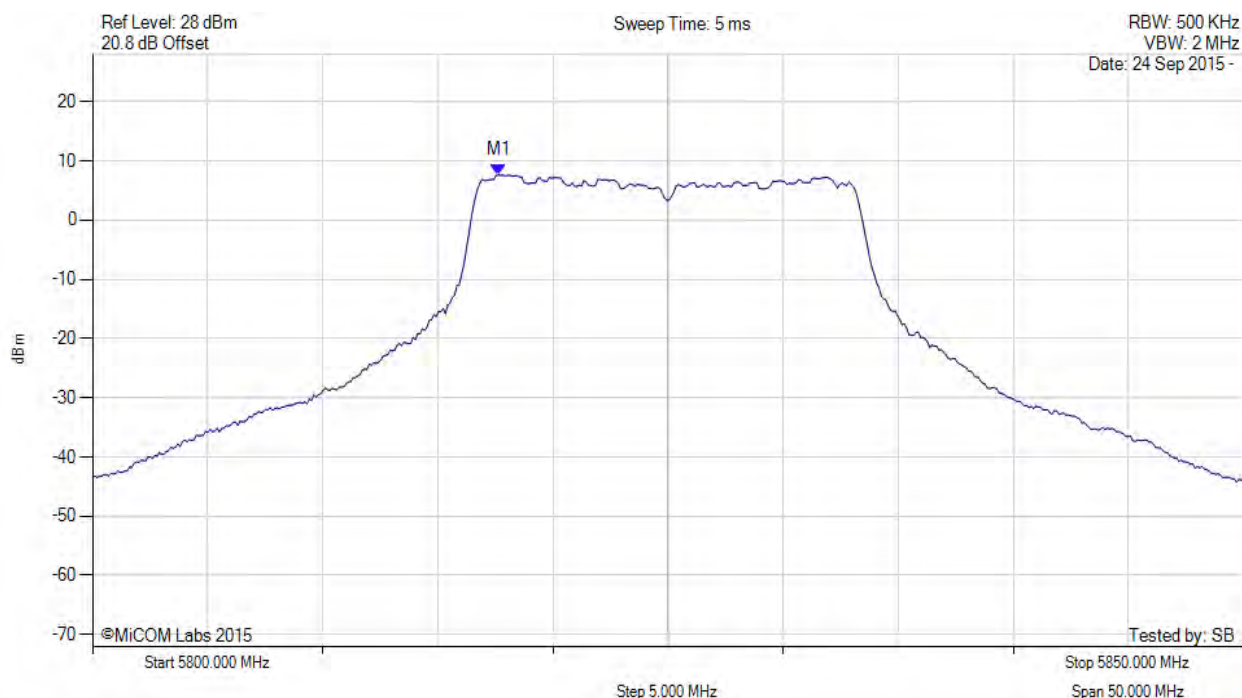
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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5825.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5817.600 MHz : 7.637 dBm M1 + DCCF : 5817.600 MHz : 7.725 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 29.7 dBm Margin: -22.0 dB

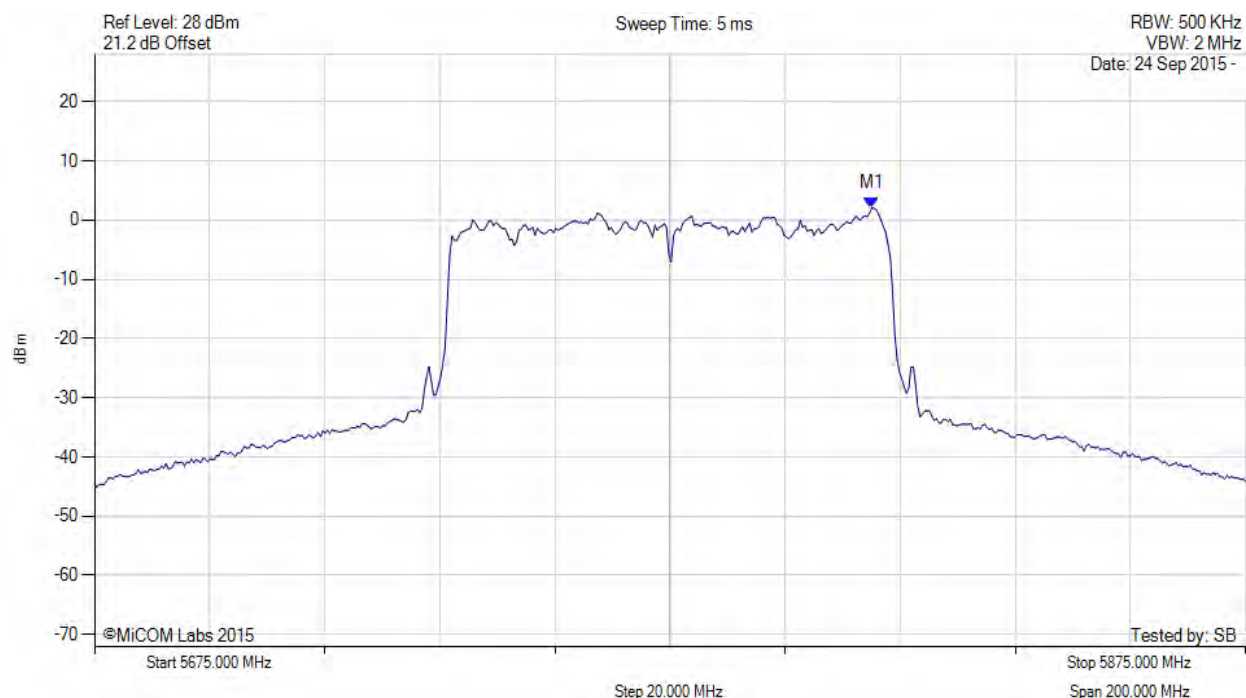
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POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5810.070 MHz : 2.095 dBm	Limit: ≤ 29.700 dBm

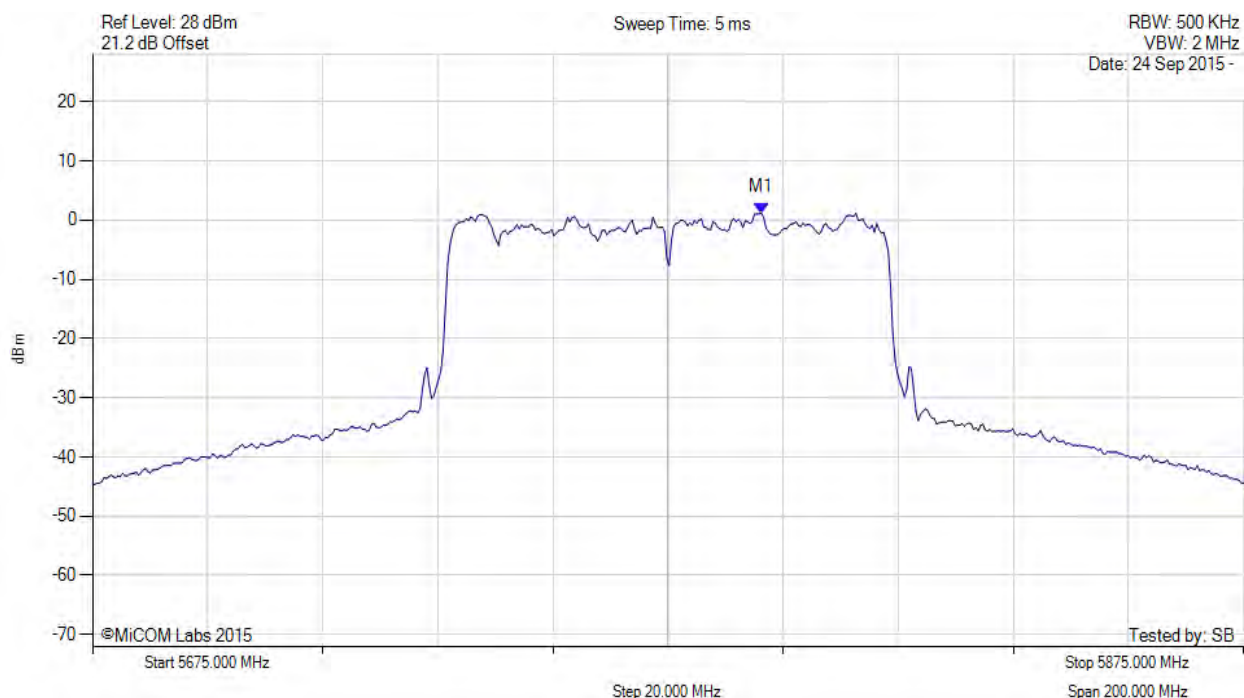
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POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5775.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5791.232 MHz : 1.201 dBm	Limit: ≤ 29.700 dBm

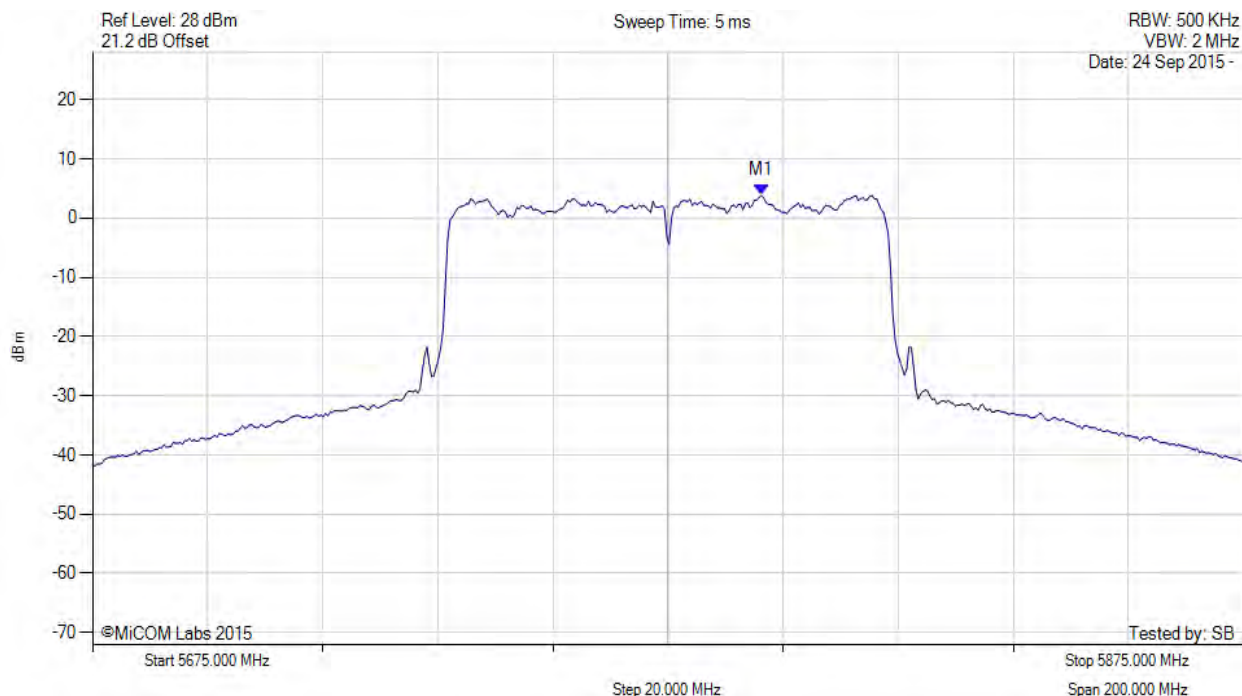
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POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5775.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5791.200 MHz : 3.815 dBm M1 + DCCF : 5791.200 MHz : 3.992 dBm Duty Cycle Correction Factor : +0.18 dB	Limit: ≤ 29.7 dBm Margin: -25.7 dB

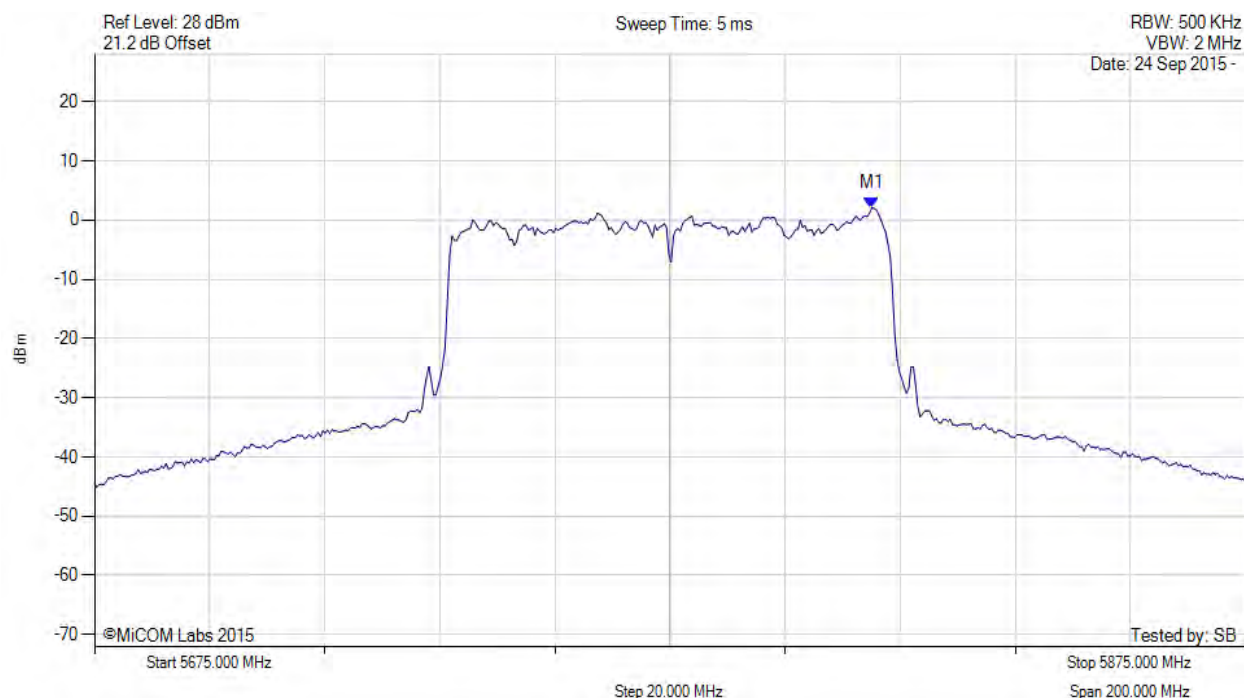
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POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5775.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5810.100 MHz : 2.095 dBm M1 + DCCF : 5810.100 MHz : 2.272 dBm Duty Cycle Correction Factor : +0.18 dB	Limit: ≤ 29.7 dBm Margin: -27.4 dB

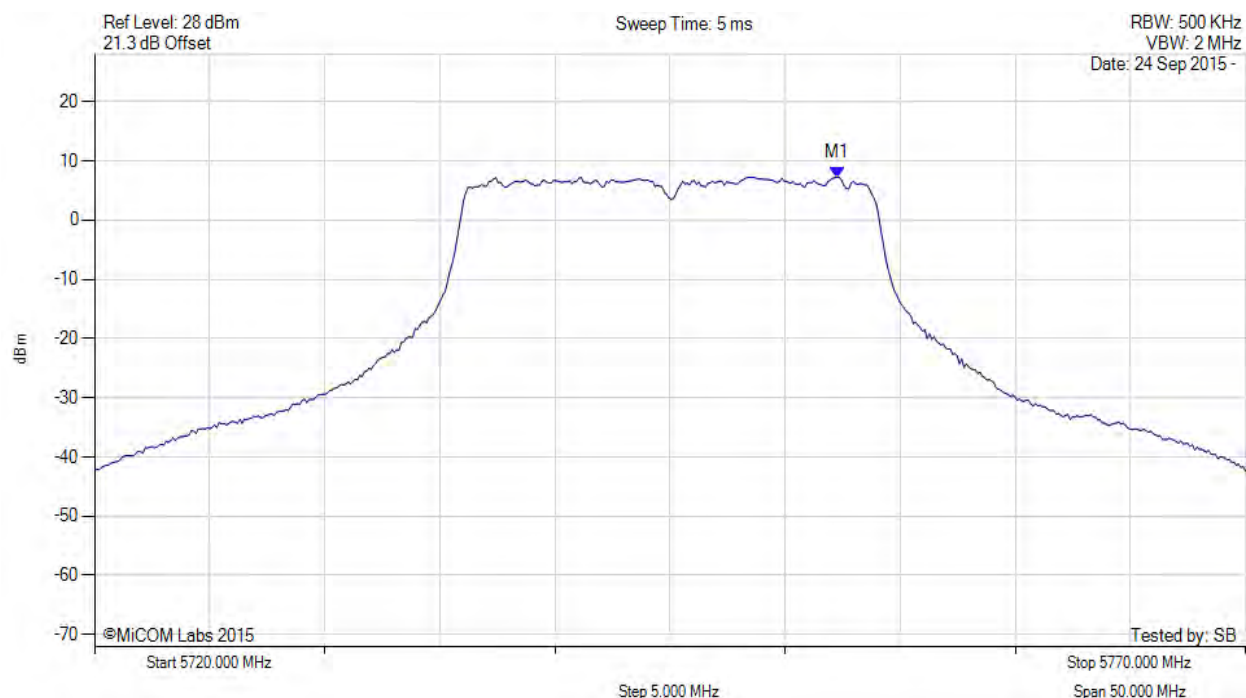
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5745.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5752.265 MHz : 7.271 dBm	Limit: ≤ 29.700 dBm

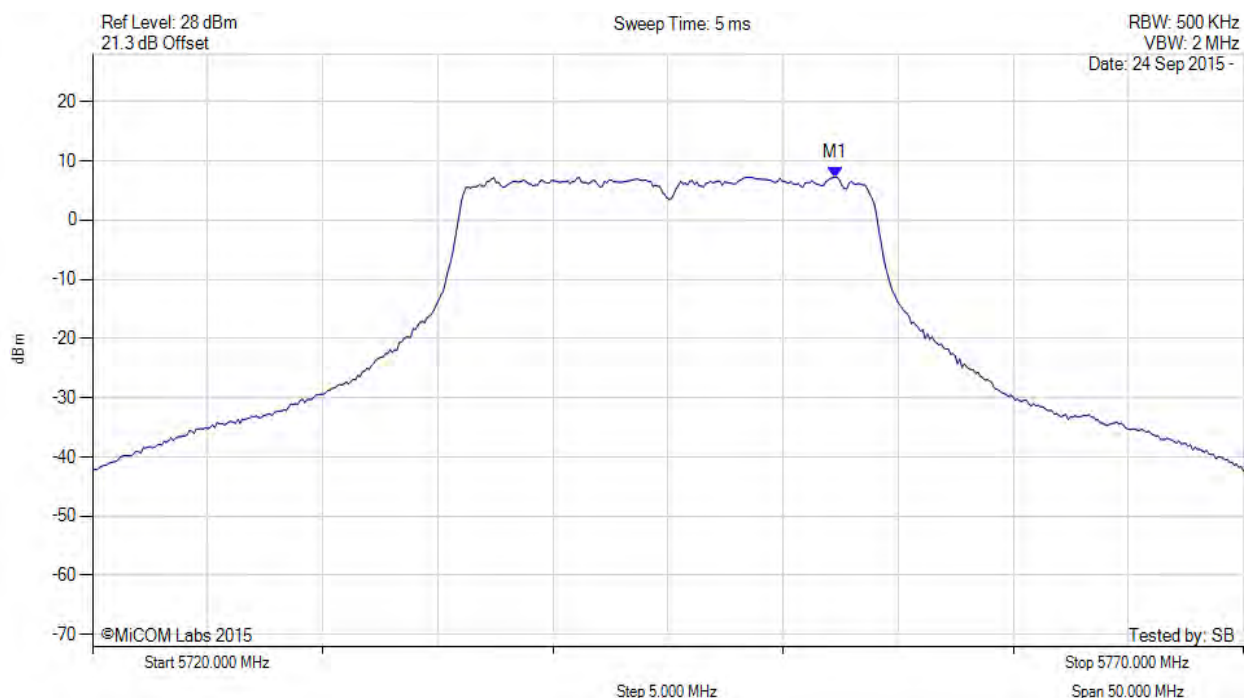
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5745.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5752.300 MHz : 7.271 dBm M1 + DCCF : 5752.300 MHz : 7.359 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 29.7 dBm Margin: -22.3 dB

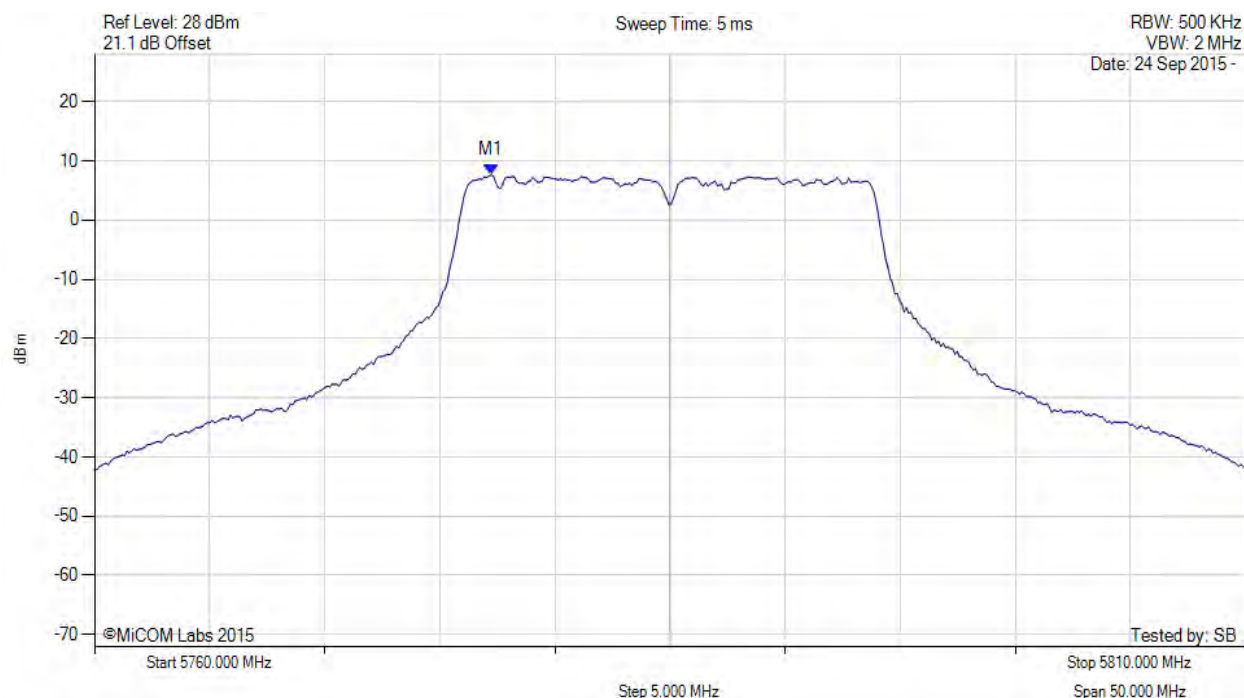
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5785.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5777.234 MHz : 7.666 dBm	Limit: ≤ 29.700 dBm

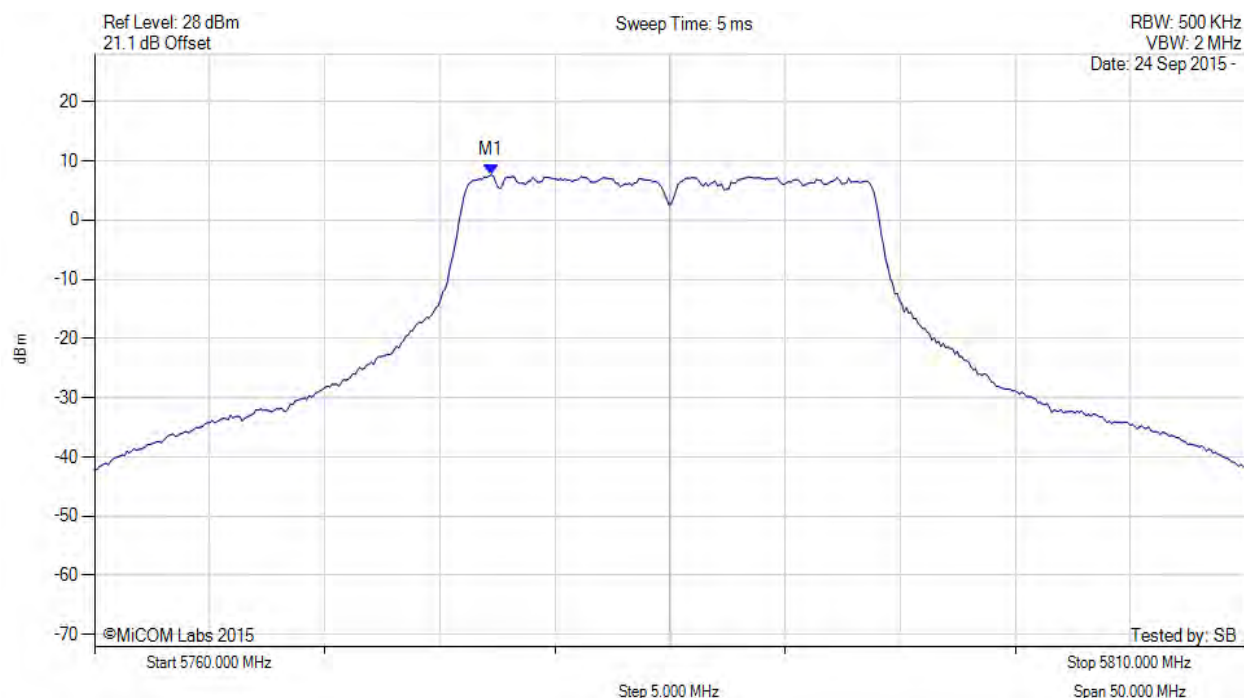
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5785.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5777.200 MHz : 7.666 dBm M1 + DCCF : 5777.200 MHz : 7.754 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 29.7 dBm Margin: -21.9 dB

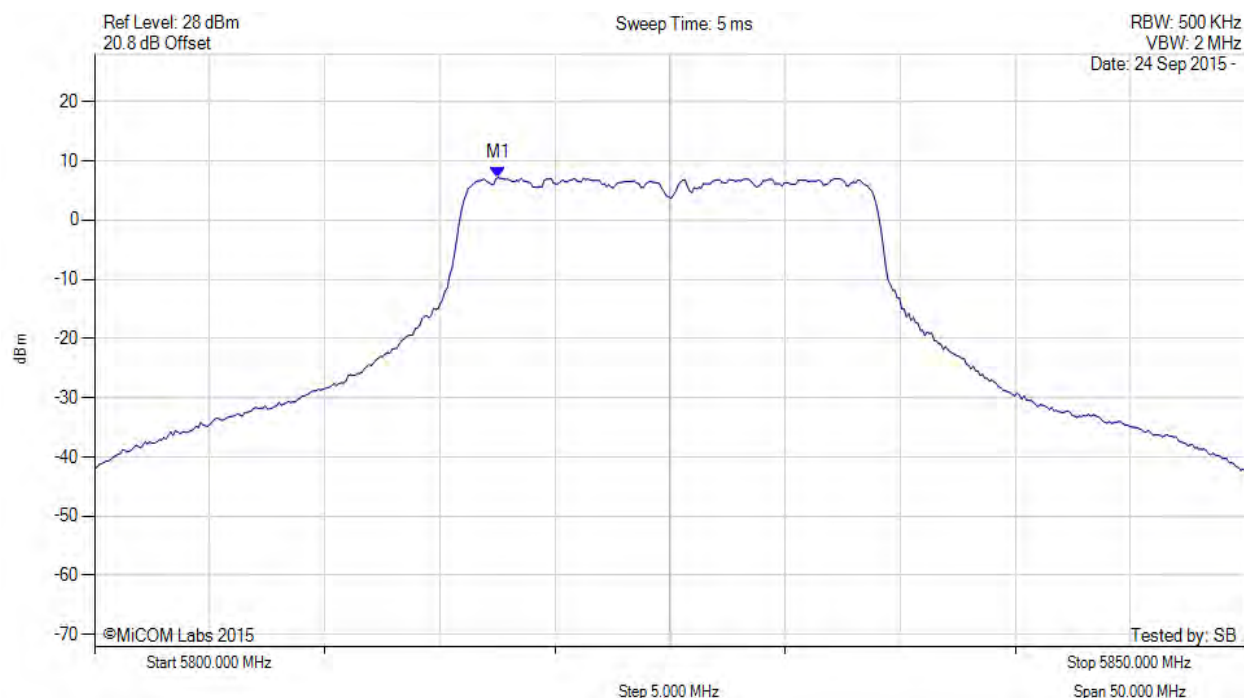
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5825.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5817.535 MHz : 7.210 dBm	Limit: ≤ 29.700 dBm

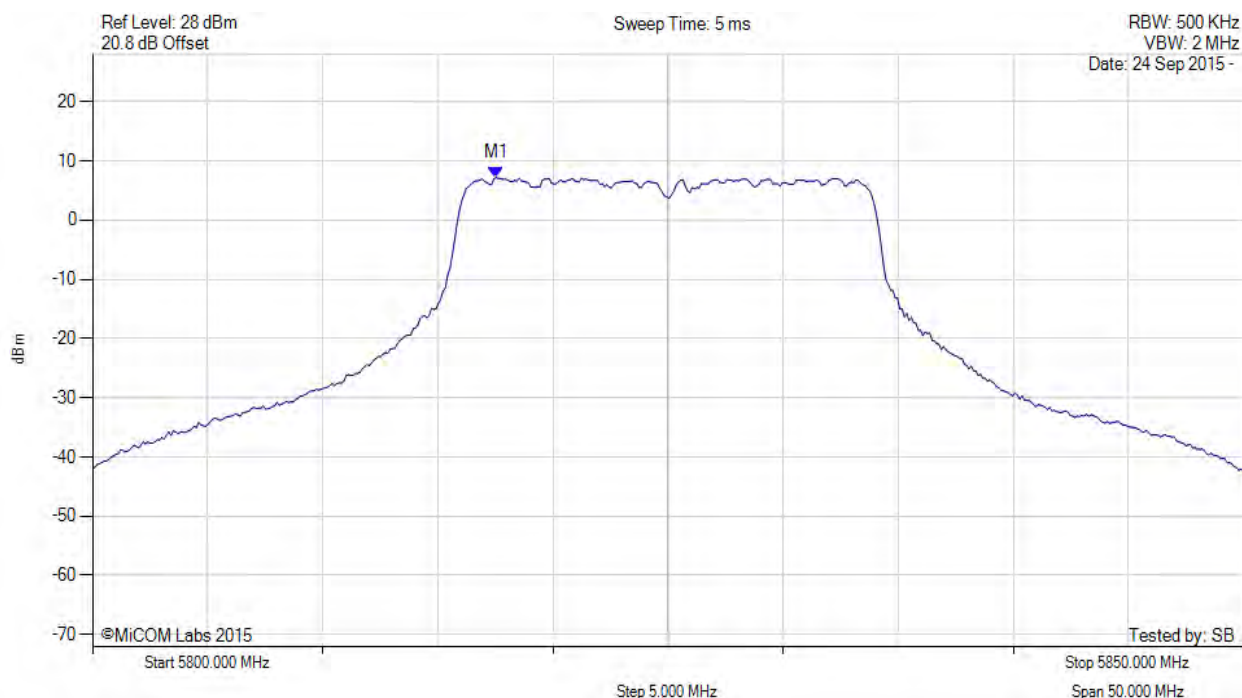
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5825.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5817.500 MHz : 7.210 dBm M1 + DCCF : 5817.500 MHz : 7.298 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 29.7 dBm Margin: -22.4 dB

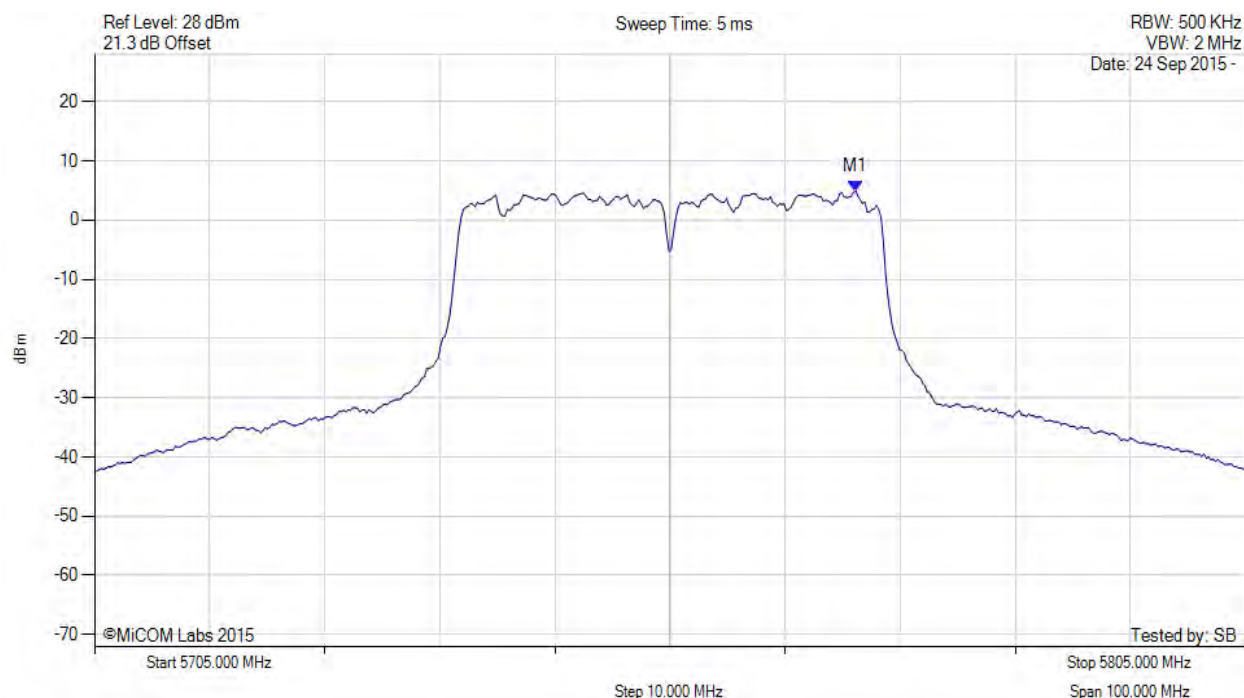
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5755.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5771.132 MHz : 4.930 dBm	Limit: ≤ 29.700 dBm

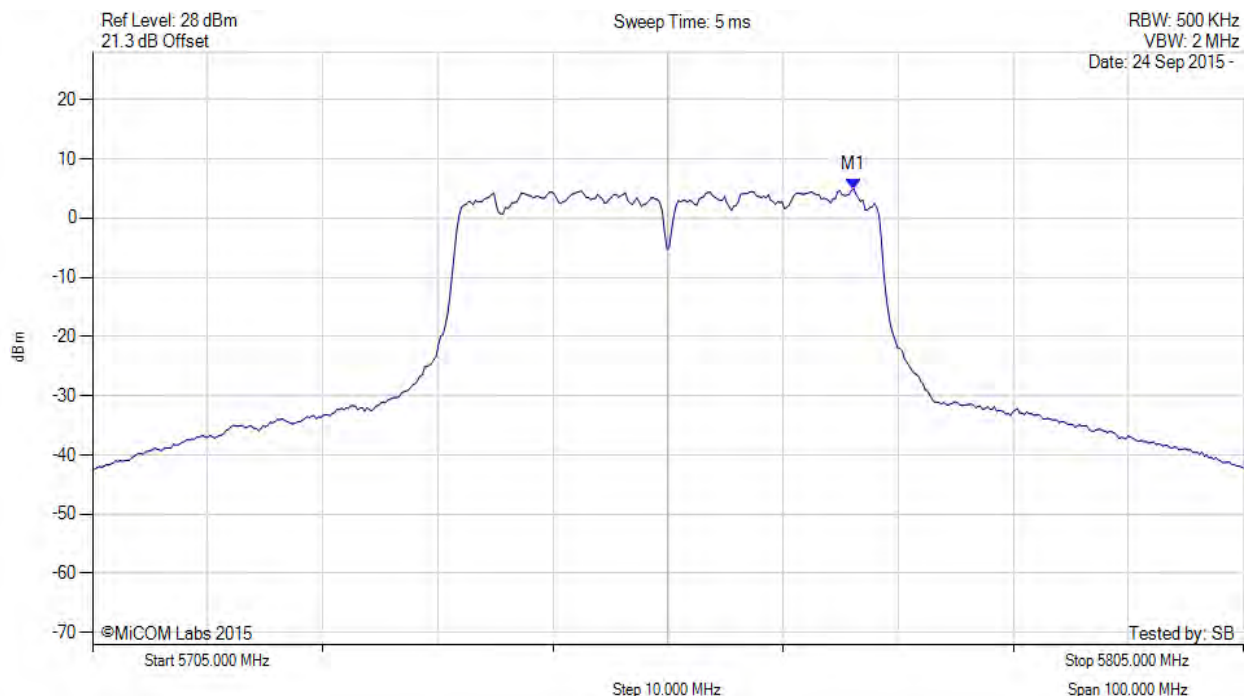
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5755.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5771.100 MHz : 4.930 dBm M1 + DCCF : 5771.100 MHz : 5.062 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 29.7 dBm Margin: -24.6 dB

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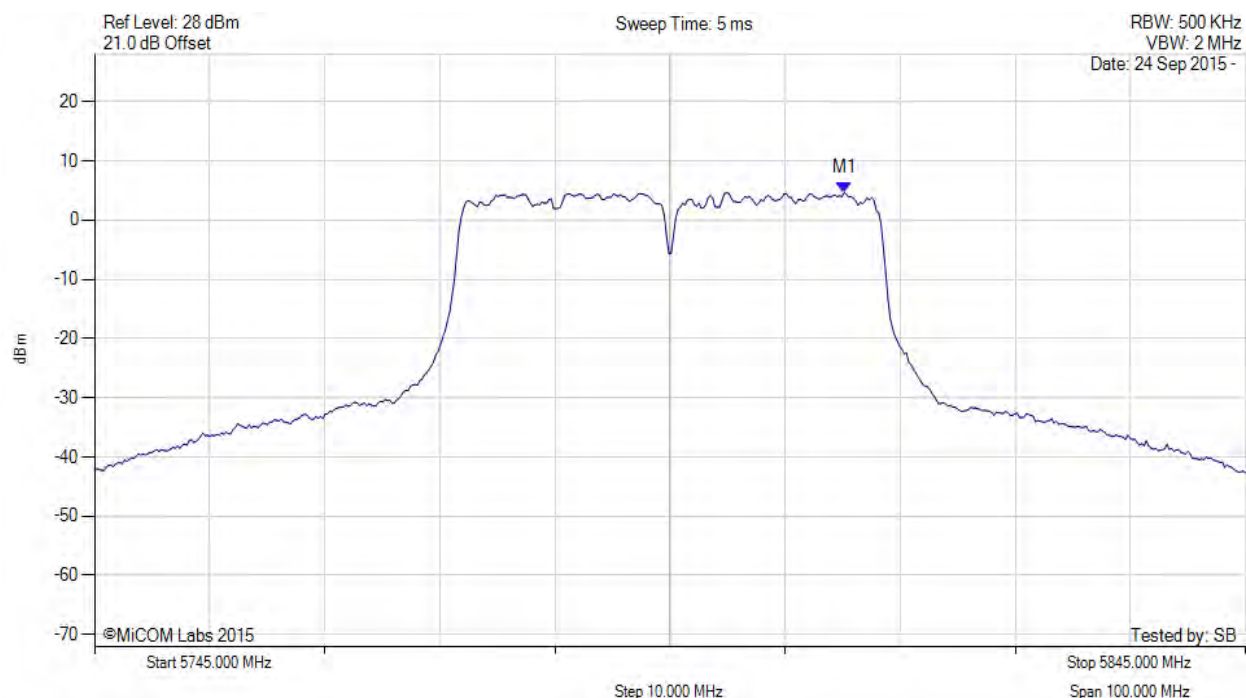


Title: Actiontec Electronics Inc WCB6240Q
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: ATEC09-U8a Conducted (non-DFS) Rev B
Issue Date: 22nd December 2015
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5795.00 MHz, Chain a, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5810.130 MHz : 4.642 dBm	Limit: ≤ 29.700 dBm

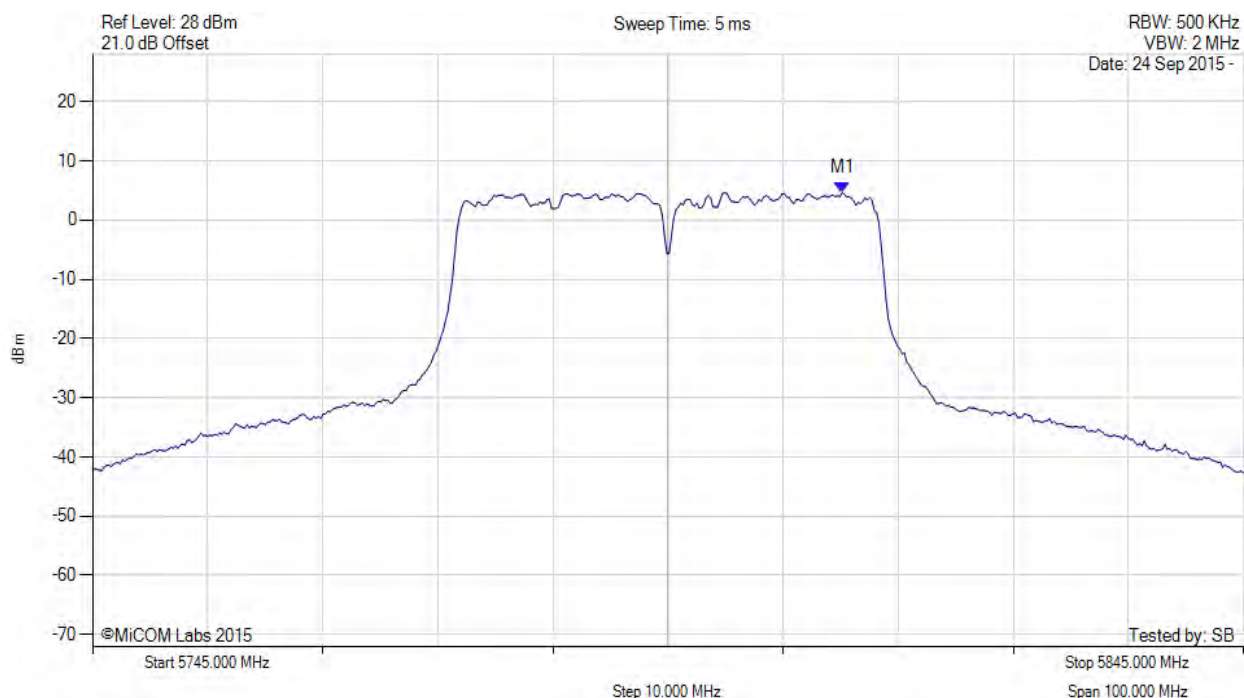
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POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5795.00 MHz, SUM, Temp: Ambient, Voltage: 12 Vdc



Analyser Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5810.100 MHz : 4.642 dBm M1 + DCCF : 5810.100 MHz : 4.774 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 29.7 dBm Margin: -24.9 dB

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