REGULATORY COMPLIANCE TEST REPORT

FCC CFR 47 Part 15.407 & ISED RSS-247

Report No.: MIKO114-U10d Rev A

Company: Mikrotikls SIA

Model Name: RBD25G-5HPacQD2HPnD-US

REGULATORY COMPLIANCE TEST REPORT

Company Name: Mikrotikls SIA

Model Name: RBD25G-5HPacQD2HPnD-US

To: FCC CFR 47 Part 15.407 & ISED RSS-247

Test Report Serial No.: MIKO114-U10d Rev A

This report supersedes: NONE

Applicant: Mikrotikls SIA
Brivibas gatve 214i
Riga, LV-1039
Latvia

Issue Date: 25th May 2021

Test Report Sections	Document Number
Master:	☐ MIKO114-U10a Master
RF Report 5250 – 5350 MHz:	☐ MIKO114-U10b
DFS 5250 – 5350 MHz Addendum:	☐ MIKO114-U10c
RF Report 5470 - 5725 MHz:	☒ MIKO114-U10d
DFS 5470 - 5725 MHz Addendum :	☐ MIKO114-U10e

This Test Report is Issued Under the Authority of:

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ACCREDITED
TESTING CERT #2381.01

MiCOM Labs is an ISO 17025 Accredited Testing Laboratory

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1. ACCREDITATION, LISTINGS & RECOGNITION

1.1. TESTING ACCREDITATION

MiCOM Labs, Inc. is an accredited Electrical testing laboratory per the international standard ISO/IEC 17025:2017. The company is accredited by the American Association for Laboratory Accreditation (A2LA) www.a2la.org test laboratory number 2381.01. MiCOM Labs test schedule is available at the following URL; http://www.a2la.org/scopepdf/2381-01.pdf

Accredited Laboratory

A2LA has accredited

MICOM LABS

Pleasanton, CA

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated April 2017*).

Presented this 24th day of February 2020.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2381.01
Valid to November 30, 2021

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

1.2. RECOGNITION

MiCOM Labs, Inc is widely recognized for its wireless testing and certification capabilities. In addition to being recognized for Testing and Certification under Phase 2 Mutual Recognition Agreements (MRA) with Canada, Europe, United Kingdom and Japan, our international recognition includes Conformity Assessment Body (CAB) designation status under agreements with Asia Pacific (APEC) MRA Phase 1 countries giving acceptance of MiCOM Labs test reports. MiCOM Labs test reports are accepted globally.

Country	Recognition Body	Status	MRA Phase	Identification No.
USA	Federal Communications Commission (FCC)	TCB	-	US0159 Test Firm Designation#: US1084
Canada	Industry Canada (ISED)	FCB	APEC MRA 2	US0159 ISED#: 4143A
Japan	MIC (Ministry of Internal Affairs and Communication)	CAB	Japan MRA 2	RCB 210
	Japan Approvals Institute for Telecommunication Equipment (JATE)			
	VCCI	--	--	A-0012
Europe	European Commission	NB	EU MRA 2	NB 2280
United Kingdom	Department for Business, Energy & Industrial Strategy (BEIS)	AB	UK MRA 2	AB 2280
Mexico	Instituto Federal de Telecomunicaciones (IFT)	CAB	Mexico MRA 1	US0159
Australia	Australian Communications and Media Authority (ACMA)	CAB	APEC MRA 1	US0159
Hong Kong	Office of the Telecommunication Authority (OFTA)			
Korea	Ministry of Information and Communication Radio Research Laboratory (RRL)			
Singapore	Infocomm Development Authority (IDA)			
Taiwan	National Communications Commission (NCC) Bureau of Standards, Metrology and Inspection (BSMI)			
Vietnam	Ministry of Communication (MIC)			

TCB – Telecommunications Certification Bodies (TCB)
FCB – Foreign Certification Body
CAB – Conformity Assessment Body
NB – Notified Body
AB – Approved Body
MRA – Mutual Recognition Agreement
MRA Phase I - recognition for product testing
MRA Phase II – recognition for both product testing and certification

1.3. PRODUCT CERTIFICATION

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

Accredited Product Certification Body

A2LA has accredited

MiCOM LABS

Pleasanton, CA

This product certification body is accredited in accordance with the recognized International Standard ISO/IEC 17065:2012 *Requirements for bodies certifying products, processes and services*. This product certification body also meets the A2LA R322 – *Specific Requirements – Notified Body Accreditation Requirements* and A2LA R308 - *Specific Requirements - ISO-IEC 17065 - Telecommunication Certification Body Accreditation Program*. This accreditation demonstrates technical competence for a defined scope and the operation of a management system.

Presented this 24th day of February 2020

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2381.02
Valid to November 30, 2021

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

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

2. DOCUMENT HISTORY

Document History		
Revision	Date	Comments
Draft	21st May 2021	Draft report for client review.
Rev A	25th May 2021	Initial release.
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In the above table the latest report revision will replace all earlier versions.

3. TEST SUMMARY

List of Measurements

Test Header	Result	Data Link
Peak Transmit Power	Complies	View Data
26 dB & 99% Bandwidth	Complies	View Data
Power Spectral Density	Complies	View Data
Radiated	Complies	-
TX Spurious & Restricted Band Emissions	Complies	-
MikroTik 95XKAA15.GB9	Complies	View Data
Restricted Edge & Band-Edge Emissions	Complies	-
MikroTik 95XKAA15.GB9	Complies	View Data

4. TEST RESULTS

4.1. Peak Transmit Power

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

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

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

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

Limits Maximum Conducted Output Power

Operating Frequency Band 5150-5250 MHz

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

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

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

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

used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Operating Frequency Band 5250-5350 and 5470 – 5725 MHz

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

Operating Frequency Band 5725 – 5850 MHz

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

Equipment Configuration for Peak Transmit Power			
Variant:	802.11a	**Duty Cycle (%):**	99.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	4.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dB	
5500.0	15.03	12.67	14.76	14.30	20.30	19.670	23.94	-3.64	23.00
5580.0	15.50	12.77	15.06	14.38	20.56	19.730	23.95	-3.39	23.00
5720.0	15.35	13.03	15.34	14.78	20.74	19.870	23.98	-3.24	23.00

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

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

Equipment Configuration for Peak Transmit Power			
Variant:	802.11ac-160	**Duty Cycle (%):**	75.0
Data Rate:	58.60 MBit/s	**Antenna Gain (dBi):**	4.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dB	
5570.0	14.79	13.52	13.47	13.24	19.82	166.092	24.00	-4.18	23.00

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

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

Equipment Configuration for Peak Transmit Power			
Variant:	802.11ac-80	**Duty Cycle (%):**	82.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	4.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dB	
5530.0	15.42	14.50	15.02	14.60	20.92	83.687	24.00	-3.08	23.00
5610.0	15.01	14.00	14.62	14.44	20.55	59.319	24.00	-3.45	23.00
5690.0	15.21	14.02	15.17	14.90	20.87	84.008	24.00	-3.13	23.00

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

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

Equipment Configuration for Peak Transmit Power			
Variant:	802.11n HT-20	**Duty Cycle (%):**	97.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	4.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dB	
5500.0	14.74	13.83	14.32	14.25	20.32	20.681	24.00	-3.68	23.00
5580.0	15.06	14.14	14.69	14.37	20.60	20.842	24.00	-3.40	23.00
5720.0	15.06	14.00	15.04	14.95	20.80	20.601	24.00	-3.20	23.00

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

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

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

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm) Port(s)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dB	
5510.0	15.96	14.89	15.50	15.31	21.45	39.920	24.00	2.55	23.00
5550.0	16.28	15.32	15.81	15.26	21.71	40.080	24.00	2.29	23.00
5710.0	15.99	14.91	15.96	15.84	21.72	40.080	24.00	2.28	23.00

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

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

4.2. 26 dB & 99% Bandwidth

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

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

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

Equipment Configuration for 26 dB & 99% Occupied Bandwidth			
Variant:	802.11a	**Duty Cycle (%):**	99.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	4.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5500.0	20.130	20.070	19.670	19.930	20.130	19.670		
5580.0	20.200	19.800	19.730	19.800	20.200	19.730		
5720.0	20.330	20.270	19.870	20.000	20.330	19.870		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5500.0	16.535	16.546	16.484	16.501	16.546	16.484		
5580.0	16.525	16.506	16.501	16.468	16.525	16.468		
5720.0	16.544	16.504	16.493	16.504	16.544	16.493		

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

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

Equipment Configuration for 26 dB & 99% Occupied Bandwidth			
Variant:	802.11ac-160	**Duty Cycle (%):**	75.0
Data Rate:	58.60 MBit/s	**Antenna Gain (dBi):**	4.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	a	b	c	d	Highest	Lowest		
5570.0	166.092				166.092	166.092		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	a	b	c	d	Highest	Lowest		
5570.0	153.908				153.908	153.908		

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

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

Equipment Configuration for 26 dB & 99% Occupied Bandwidth			
Variant:	802.11ac-80	**Duty Cycle (%):**	82.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	4.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	a	b	c	d	Highest	Lowest		
5530.0	83.687	83.687	83.687	84.008	84.008	83.687		
5610.0	84.329	84.329	84.008	59.319	84.329	59.319		
5690.0	84.649	84.329	84.008	84.008	84.649	84.008		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	a	b	c	d	Highest	Lowest		
5530.0	75.671	75.992	75.992	75.671	75.992	75.671		
5610.0	75.992	75.992	75.992	75.992	75.992	75.992		
5690.0	75.992	76.313	75.992	75.992	76.313	75.992		

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

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

Equipment Configuration for 26 dB & 99% Occupied Bandwidth			
Variant:	802.11n HT-20	**Duty Cycle (%):**	97.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	4.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5500.0	21.082	21.162	20.922	20.681	21.162	20.681		
5580.0	21.242	21.162	21.002	20.842	21.242	20.842		
5720.0	21.082	20.842	21.002	20.601	21.082	20.601		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5500.0	17.876	17.876	17.796	17.796	17.876	17.796		
5580.0	17.876	17.796	17.796	17.796	17.876	17.796		
5720.0	17.796	17.715	17.876	17.715	17.876	17.715		

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

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

Equipment Configuration for 26 dB & 99% Occupied Bandwidth			
Variant:	802.11n HT-40	**Duty Cycle (%):**	97.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	4.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz) Port(s)				26 dB Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5510.0	39.920	40.401	40.080	40.240	40.401	39.920		
5550.0	40.561	40.401	40.240	40.080	40.561	40.080		
5710.0	40.401	40.401	40.401	40.080	40.401	40.080		

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)			
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**		
5510.0	36.232	36.072	36.072	35.912	36.232	35.912		
5550.0	36.232	36.072	36.072	36.072	36.232	36.072		
5710.0	36.232	36.072	36.072	36.072	36.232	36.072		

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).

4.3. Power Spectral Density

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

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

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

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

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

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

Limits Power Spectral Density

Operating Frequency Band 5150-5250 MHz

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

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

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any

corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

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

Operating Frequency Band 5250-5350 and 5470 – 5725 MHz

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

Operating Frequency Band 5725 – 5850 MHz

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

Equipment Configuration for Power Spectral Density			
Variant:	802.11a	**Duty Cycle (%):**	99.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	4.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Summation Peak Marker + DCCF (+0.04 dB)	Limit	Margin
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5500.0	3.063	0.457	2.936	3.810	8.705	11.0	-2.3
5580.0	3.097	0.589	2.983	3.164	8.607	11.0	-2.4
5720.0	3.484	0.880	3.225	4.982	9.290	11.0	-1.7

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

DCCF - Duty Cycle Correction Factor

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

Equipment Configuration for Power Spectral Density			
Variant:	802.11ac-160	**Duty Cycle (%):**	75.0
Data Rate:	58.60 MBit/s	**Antenna Gain (dBi):**	4.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Summation Peak Marker + DCCF (+1.25 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/MHz**	**dBm/MHz**	**dB**
5570.0	-7.126				-7.126	11.0	-18.1

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

DCCF - Duty Cycle Correction Factor

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

Equipment Configuration for Power Spectral Density			
Variant:	802.11ac-80	**Duty Cycle (%):**	82.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	4.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Summation Peak Marker + DCCF (+0.86 dB)	Limit	Margin
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5530.0	-8.185	-8.427	-7.167	-7.841	-1.830	11.0	-12.9
5610.0	-9.075	-8.621	-8.354	-8.396	-2.890	11.0	-13.9
5690.0	-5.853	-8.265	-7.948	-5.556	-1.310	11.0	-12.3

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

DCCF - Duty Cycle Correction Factor

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

Equipment Configuration for Power Spectral Density			
Variant:	802.11n HT-20	**Duty Cycle (%):**	97.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	4.50
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	SB
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Summation Peak Marker + DCCF (+0.13 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/MHz**	**dBm/MHz**	**dB**
5500.0	0.237	-0.823	-0.231	1.419	6.018	11.0	-5.0
5580.0	0.538	-0.623	-0.468	-1.189	5.153	11.0	-5.9
5720.0	0.536	-0.788	0.155	2.400	6.213	11.0	-4.8

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

DCCF - Duty Cycle Correction Factor

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

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

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Summation Peak Marker + DCCF (+0.13 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/MHz**	**dBm/MHz**	**dB**
5510.0	-1.918	-3.482	-2.708	-0.962	2.762	11.0	-8.3
5550.0	-1.574	-3.028	-1.941	-1.606	3.807	11.0	-7.2
5710.0	-2.430	-3.702	-2.011	0.039	3.585	11.0	-7.4

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).

4.4. Radiated

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

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

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

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

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

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

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

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

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

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

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

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

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

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

where:
FS = Field Strength
R = Measured Spectrum analyzer Input Amplitude

AF = Antenna Factor
CORR = Correction Factor = CL – AG + NFL
CL = Cable Loss
AG = Amplifier Gain
FO = Distance Falloff Factor
NFL = Notch Filter Loss

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

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

where P is the EIRP in Watts

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

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

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

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

Frequency Band			
MHz	**MHz**	**MHz**	**GHz**
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	Above 38.6
13.36-13.41			

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

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

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

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

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

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

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

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

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

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

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

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

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

4.4.1. TX Spurious & Restricted Band Emissions

4.4.1.1. MikroTik 95XKAA15.GB9

Equipment Configuration for TX Spurious & Restricted Band Emissions			
Antenna:	MikroTik 95XKAA15.GB9	**Variant:**	802.11a
Antenna Gain (dBi):	4.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5500.00	**Data Rate:**	6.00 MBit/s
Power Setting:	24	**Tested By:**	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5493.63	69.53	3.09	-11.65	60.97	Fundamental	Horizontal	100	0	--	--	
#2	10992.86	53.45	4.56	-4.76	53.25	Max Peak	Vertical	156	276	68.2	-15.0	Pass
#3	10992.86	39.48	4.56	-4.76	39.28	Max Avg	Vertical	156	276	54.0	-14.7	Pass
Test Notes: EUT powered by AC/DC ps. Connected to laptop outside chamber. 5G Notch in front of amp to prevent overload.												

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	MikroTik 95XKAA15.GB9	**Variant:**	802.11a
Antenna Gain (dBi):	4.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5580.00	**Data Rate:**	6.00 MBit/s
Power Setting:	24	**Tested By:**	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5581.94	75.79	3.13	-11.56	67.36	Fundamental	Horizontal	100	0	--	--	
Test Notes: EUT powered by AC/DC ps. Connected to laptop outside chamber. 5G Notch in front of amp to prevent overload.												

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	MikroTik 95XKAA15.GB9	**Variant:**	802.11a
Antenna Gain (dBi):	4.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5720.00	**Data Rate:**	6.00 MBit/s
Power Setting:	24	**Tested By:**	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5713.10	65.86	3.14	-11.32	57.68	Fundamental	Horizontal	100	0	--	--	
Test Notes: EUT powered by AC/DC ps. Connected to laptop outside chamber. 5G Notch in front of amp to prevent overload.												

4.4.2. Restricted Edge & Band-Edge Emissions

4.4.2.2. MikroTik 95XKAA15.GB9

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5470 - 5725 MHz

MikroTik 95XKAA15.GB9		Restricted-Edge Freq	Limit 74.0dBµV/m	Limit 54.0dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5500.00	5460.00	62.31	48.81	24
802.11ac-80	5530.00	5460.00	66.40	51.80	22
802.11n HT-20	5500.00	5460.00	62.31	48.81	24
802.11n HT-40	5510.00	5460.00	66.40	50.78	24
802.11n ac-160	5570.00	5460.00	63.18	50.38	23

MikroTik 95XKAA15.GB9		Band-Edge Freq	Limit 68.23dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	
802.11a	5500.00	5470.00	62.31	24
802.11ac-80	5530.00	5470.00	66.40	22
802.11n HT-20	5500.00	5470.00	62.31	24
802.11n HT-40	5510.00	5470.00	66.40	24
802.11n ac-160	5570.00	5470.00	63.18	23

Click on the links to view the data.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	MikroTik 95XKAA15.GB9	**Variant:**	802.11a
Antenna Gain (dBi):	4.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5500.00	**Data Rate:**	6.00 MBit/s
Power Setting:	24	**Tested By:**	JMH

Test Measurement Results

5350.00 - 5500.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5460.00	11.22	3.06	34.53	48.81	Max Avg	Horizontal	168	359	54.0	-5.2	Pass
#3	5465.11	24.70	3.07	34.54	62.31	Max Peak	Horizontal	168	359	68.2	-5.9	Pass
#2	5460.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
#4	5470.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by AC/DC ps. Connected to laptop outside chamber.												

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	MikroTik 95XKAA15.GB9	**Variant:**	802.11ac-80
Antenna Gain (dBi):	4.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	76
Channel Frequency (MHz):	5530.00	**Data Rate:**	29.30 MBit/s
Power Setting:	22	**Tested By:**	JMH

Test Measurement Results

5350.00 - 5500.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5460.00	13.02	3.06	34.53	51.80	Max Avg	Horizontal	168	359	54.0	-2.2	Pass
#3	5463.01	28.80	3.07	34.53	66.40	Max Peak	Horizontal	168	359	68.2	-1.8	Pass
#2	5460.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
#4	5470.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by AC/DC ps. Connected to laptop outside chamber. 1.19 DCCF added to average measurement.												

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	MikroTik 95XKAA15.GB9	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	4.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	99
Channel Frequency (MHz):	5500.00	**Data Rate:**	6.50 MBit/s
Power Setting:	24	**Tested By:**	JMH

Test Measurement Results

5350.00 - 5500.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5460.00	11.22	3.06	34.53	48.81	Max Avg	Horizontal	168	359	54.0	-5.2	Pass
#3	5463.01	24.71	3.07	34.53	62.31	Max Peak	Horizontal	168	359	68.2	-5.9	Pass
#2	5460.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
#4	5470.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by AC/DC ps. Connected to laptop outside chamber.												

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	MikroTik 95XKAA15.GB9	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	4.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	90
Channel Frequency (MHz):	5510.00	**Data Rate:**	13.50 MBit/s
Power Setting:	24	**Tested By:**	JMH

Test Measurement Results

5350.00 - 5500.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5460.00	13.19	3.06	34.53	50.78	Max Avg	Horizontal	168	359	54.0	-3.2	Pass
#3	5463.61	28.79	3.07	34.54	66.40	Max Peak	Horizontal	168	359	68.2	-1.8	Pass
#2	5460.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
#4	5470.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by AC/DC ps. Connected to laptop outside chamber. 0.45 DCCF added to average measurement.												

Equipment Configuration for 5460 MHz Radiated Band-Edge Emissions

Antenna:	MikroTik 95XKAA15.GB9	**Variant:**	802.11ac 160
Antenna Gain (dBi):	4.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	75
Channel Frequency (MHz):	5570.00	**Data Rate:**	
Power Setting:	23	**Tested By:**	JMH

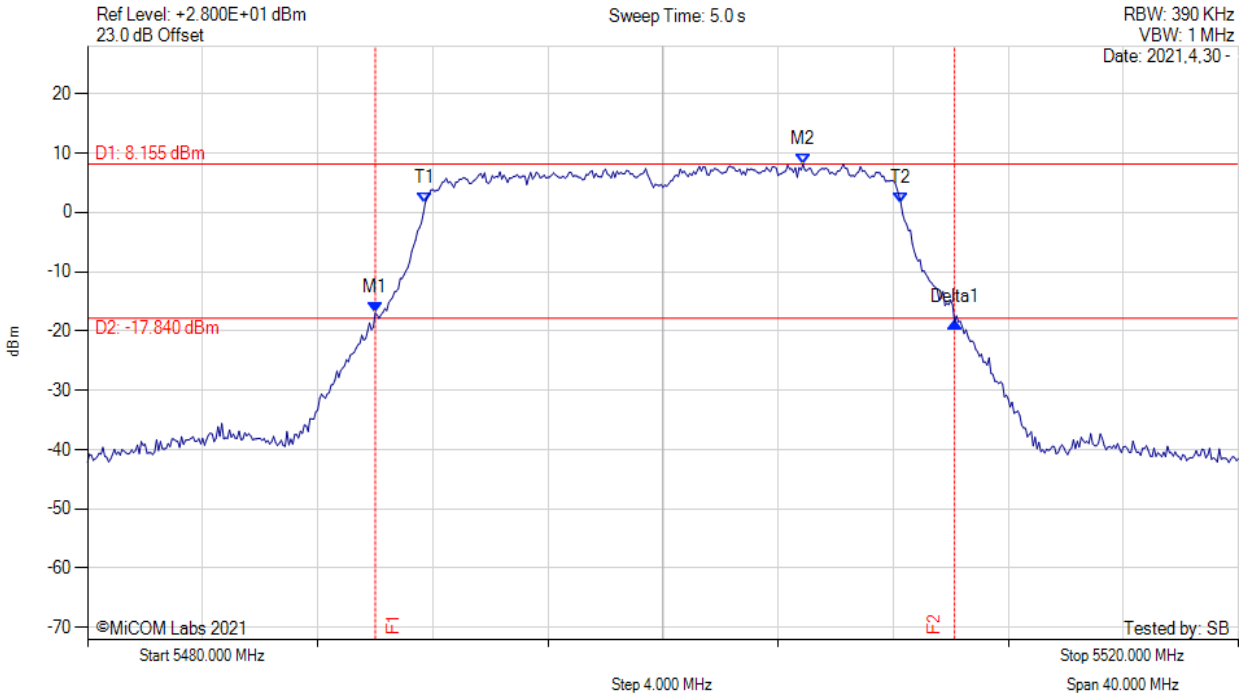
Test Measurement Results

5350.00 - 5500.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
#1	5460.00	11.54	3.06	34.53	50.38	Max Avg	Horizontal	168	90	54.0	-3.6	Pass
#3	5463.01	25.58	3.07	34.53	63.18	Max Peak	Horizontal	168	90	68.2	-5.02	Pass
#2	5460.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
#4	5470.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT powered by AC/DC ps. Connected to laptop outside chamber. 1.25 dB DCCF added to average measurement.												

A. APPENDIX - GRAPHICAL IMAGES

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5500.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

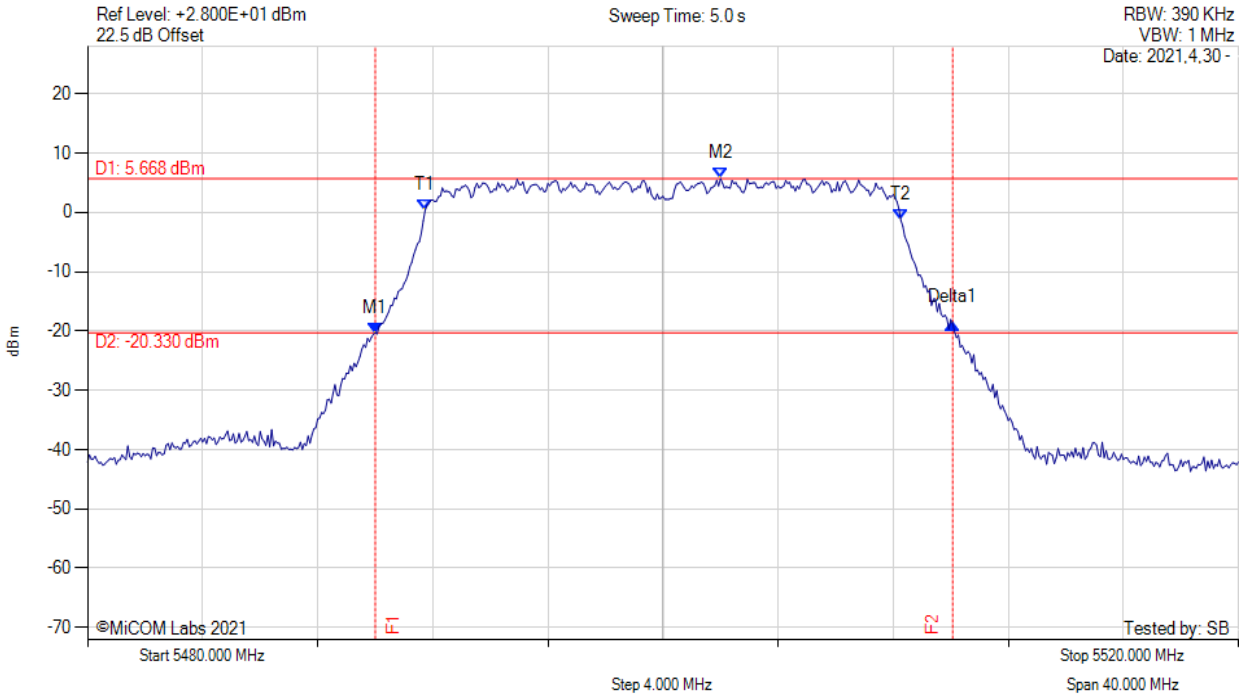


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5490.000 MHz : -16.942 dBm M2 : 5504.870 MHz : 8.155 dBm Delta1 : 20.130 MHz : -1.587 dB T1 : 5491.733 MHz : 1.516 dBm T2 : 5508.267 MHz : 1.614 dBm OBW : 16.535 MHz	Measured 26 dB Bandwidth: 20.130 MHz Measured 99% Bandwidth: 16.535 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5500.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

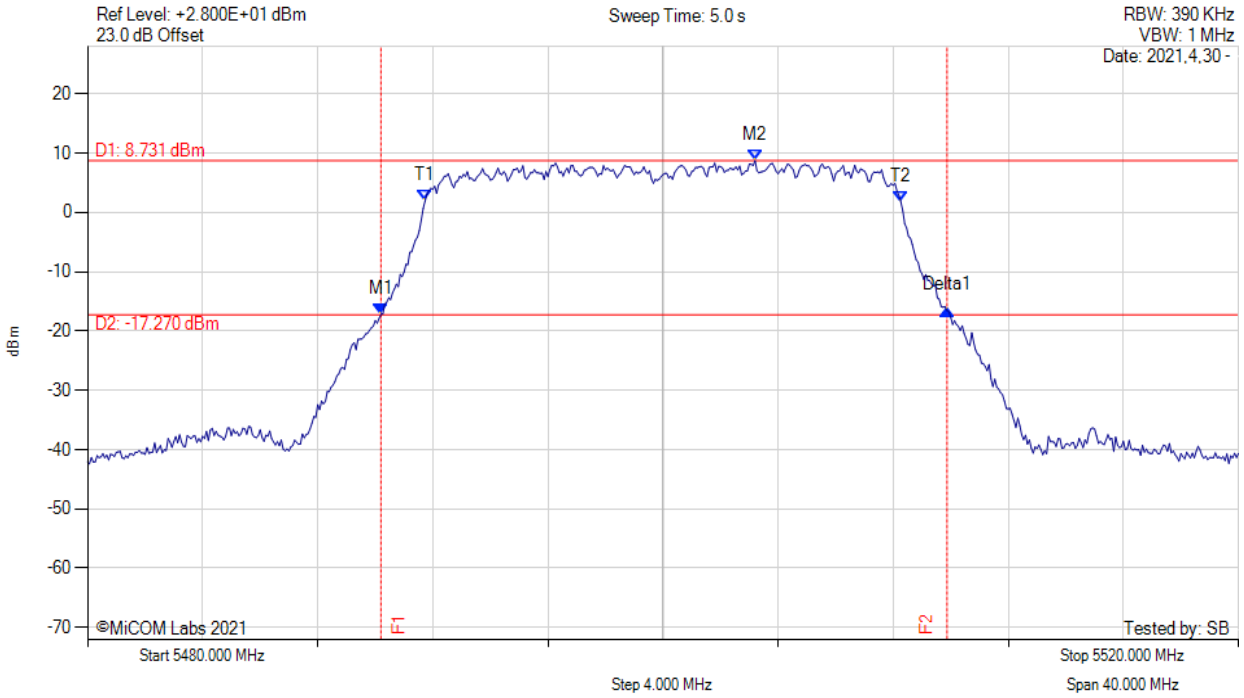


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5490.000 MHz : -20.307 dBm M2 : 5502.000 MHz : 5.668 dBm Delta1 : 20.070 MHz : 1.657 dB T1 : 5491.733 MHz : 0.338 dBm T2 : 5508.267 MHz : -1.324 dBm OBW : 16.546 MHz	Measured 26 dB Bandwidth: 20.070 MHz Measured 99% Bandwidth: 16.546 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5500.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

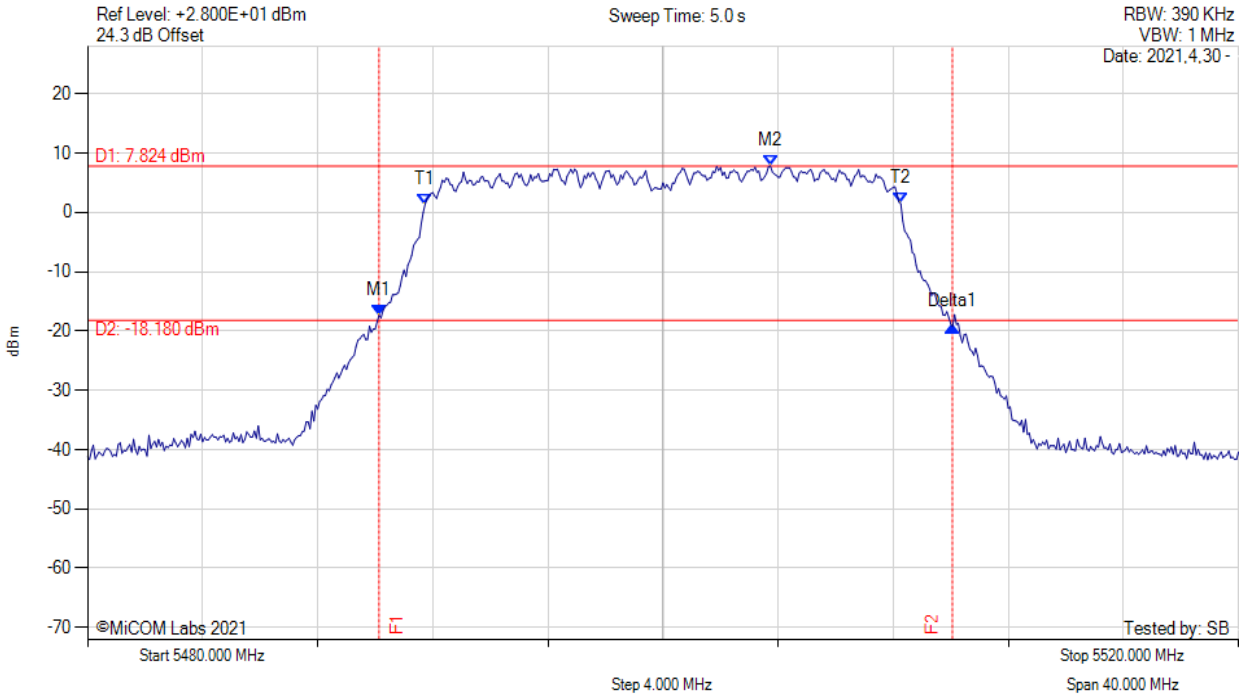


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5490.200 MHz : -17.180 dBm M2 : 5503.200 MHz : 8.731 dBm Delta1 : 19.670 MHz : 0.668 dB T1 : 5491.733 MHz : 1.954 dBm T2 : 5508.267 MHz : 1.780 dBm OBW : 16.484 MHz	Measured 26 dB Bandwidth: 19.670 MHz Measured 99% Bandwidth: 16.484 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5500.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

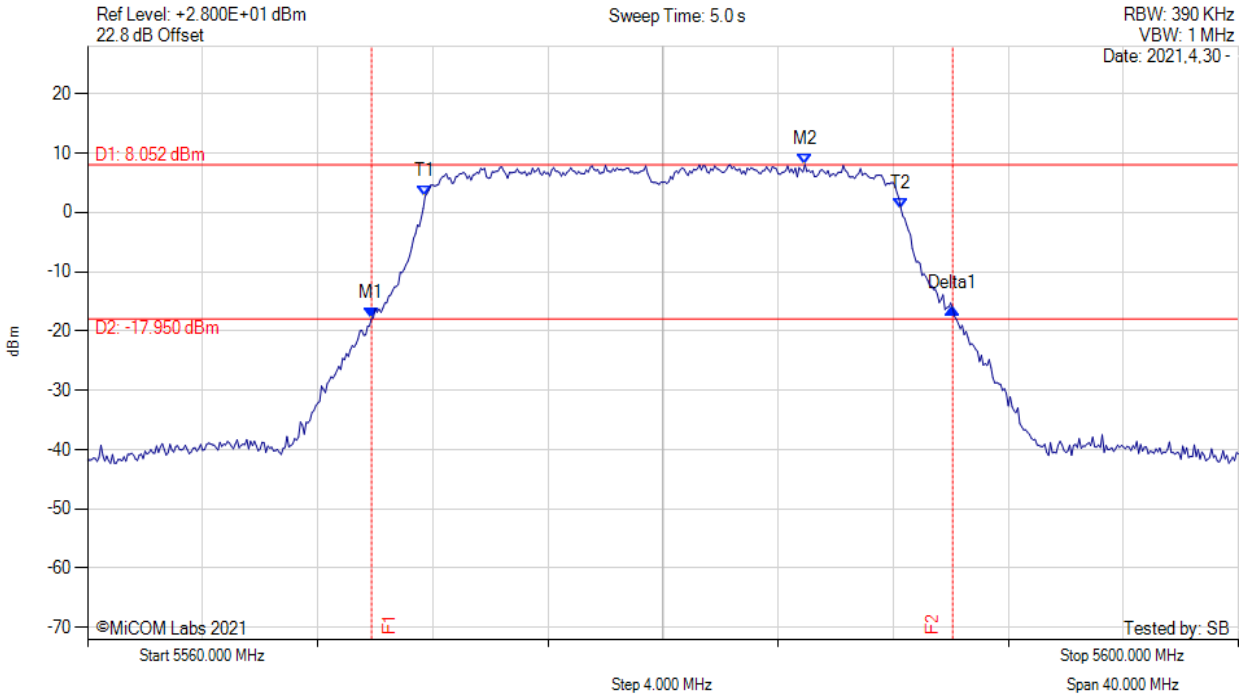


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5490.130 MHz : -17.365 dBm M2 : 5503.730 MHz : 7.824 dBm Delta1 : 19.930 MHz : -1.885 dB T1 : 5491.733 MHz : 1.369 dBm T2 : 5508.267 MHz : 1.472 dBm OBW : 16.501 MHz	Measured 26 dB Bandwidth: 19.930 MHz Measured 99% Bandwidth: 16.501 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5580.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

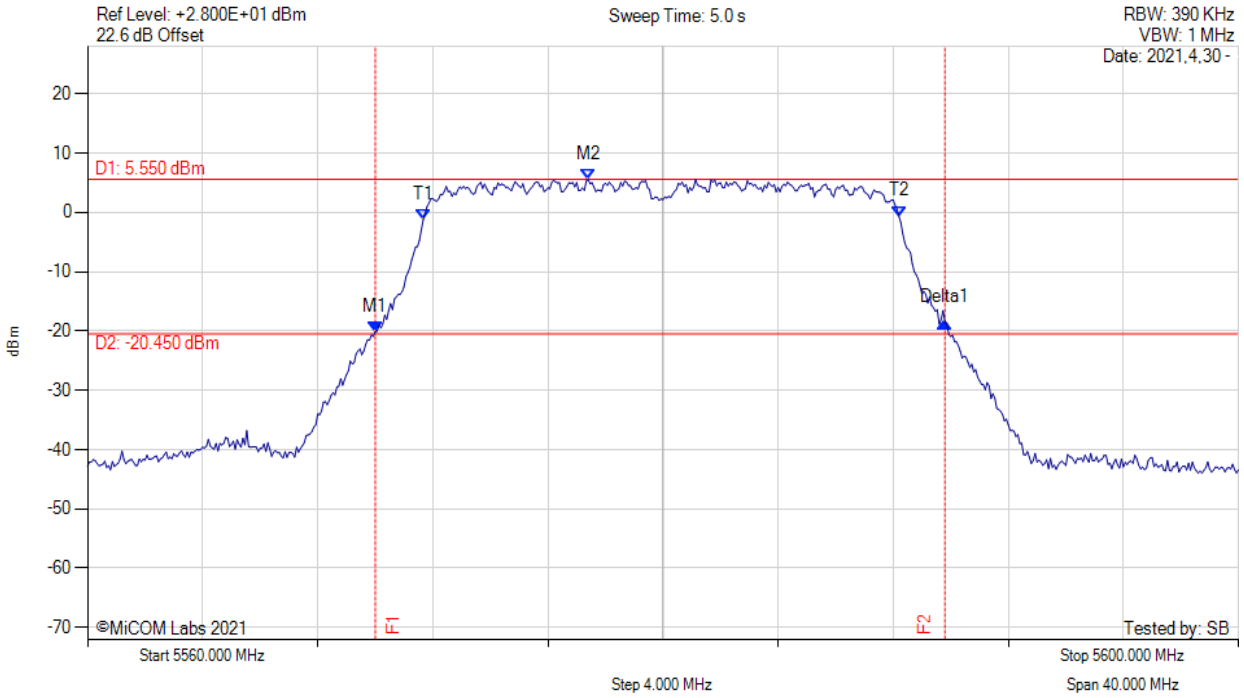


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5569.870 MHz : -17.915 dBm M2 : 5584.930 MHz : 8.052 dBm Delta1 : 20.200 MHz : 1.705 dB T1 : 5571.733 MHz : 2.714 dBm T2 : 5588.267 MHz : 0.721 dBm OBW : 16.525 MHz	Measured 26 dB Bandwidth: 20.200 MHz Measured 99% Bandwidth: 16.525 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5580.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

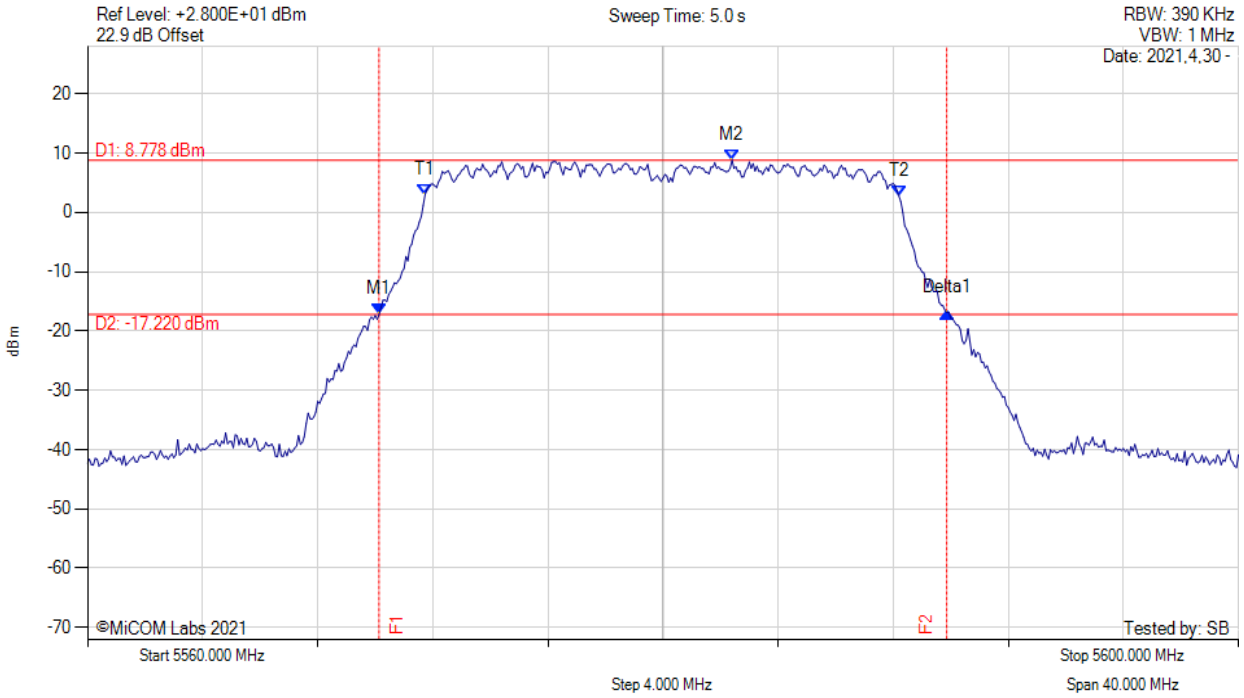


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5570.000 MHz : -20.081 dBm M2 : 5577.400 MHz : 5.550 dBm Delta1 : 19.800 MHz : 1.477 dB T1 : 5571.667 MHz : -1.236 dBm T2 : 5588.200 MHz : -0.663 dBm OBW : 16.506 MHz	Measured 26 dB Bandwidth: 19.800 MHz Measured 99% Bandwidth: 16.506 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5580.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

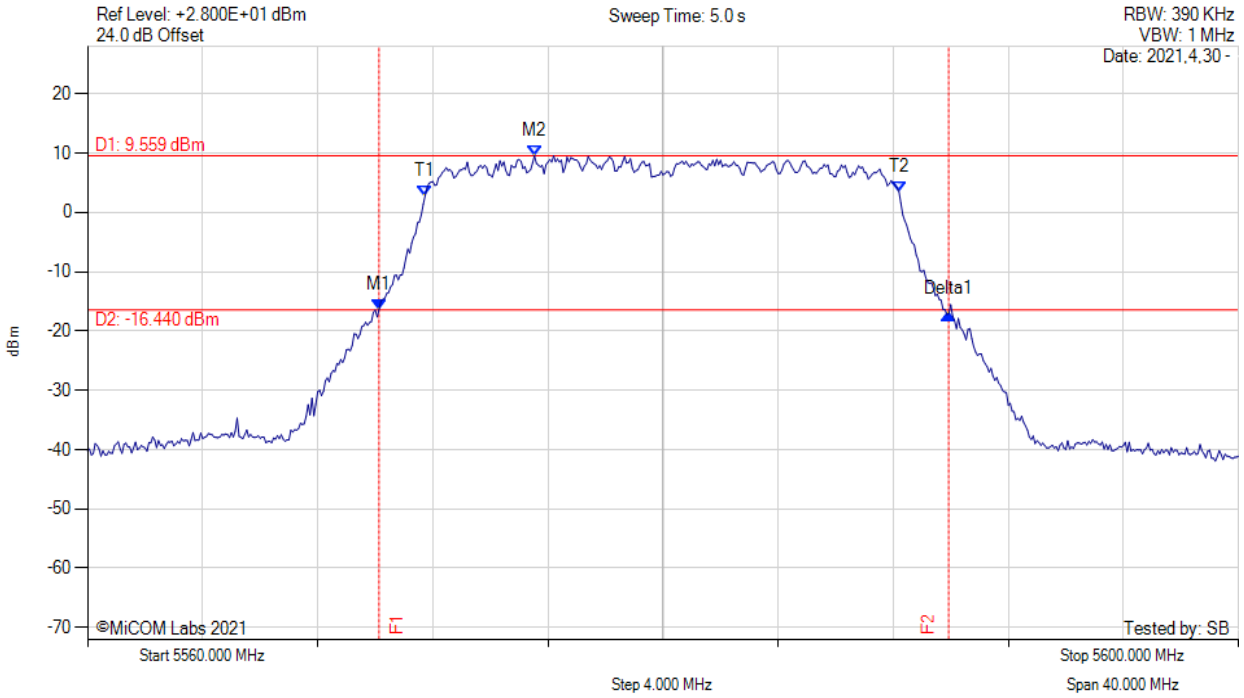


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5570.130 MHz : -17.220 dBm M2 : 5582.400 MHz : 8.778 dBm Delta1 : 19.730 MHz : 0.351 dB T1 : 5571.733 MHz : 3.016 dBm T2 : 5588.200 MHz : 2.732 dBm OBW : 16.501 MHz	Measured 26 dB Bandwidth: 19.730 MHz Measured 99% Bandwidth: 16.501 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5580.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

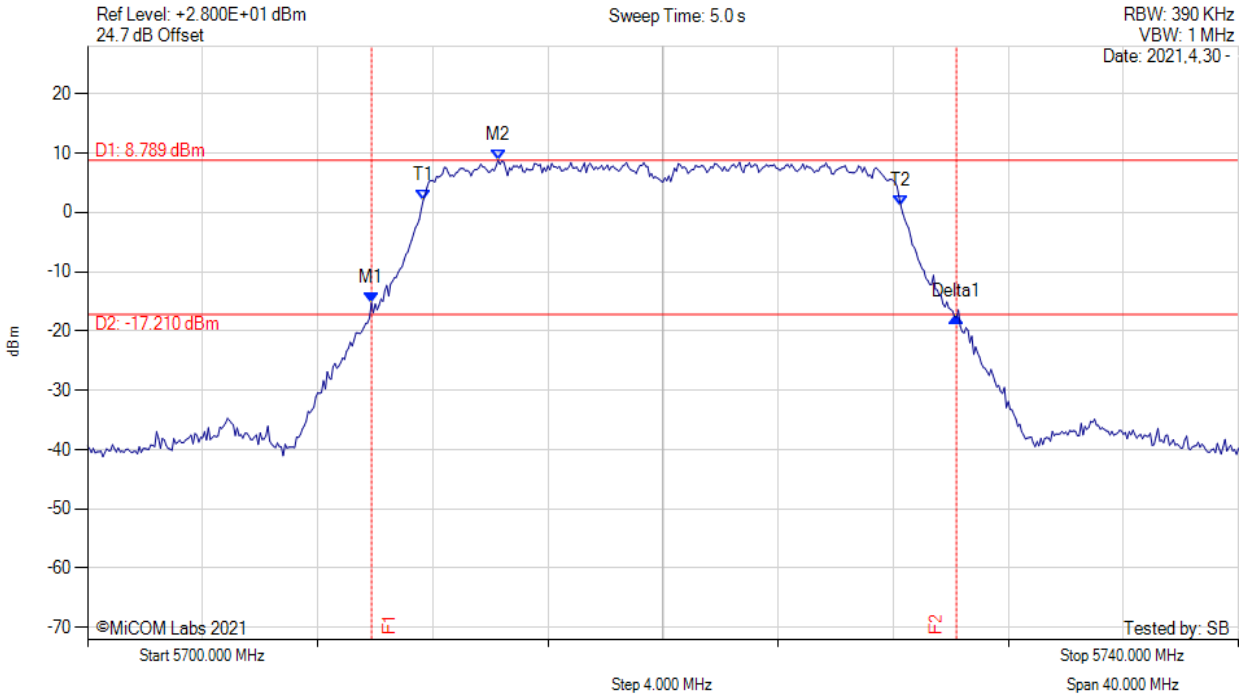


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5570.130 MHz : -16.354 dBm M2 : 5575.530 MHz : 9.559 dBm Delta1 : 19.800 MHz : -0.767 dB T1 : 5571.733 MHz : 2.804 dBm T2 : 5588.200 MHz : 3.514 dBm OBW : 16.468 MHz	Measured 26 dB Bandwidth: 19.800 MHz Measured 99% Bandwidth: 16.468 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5720.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

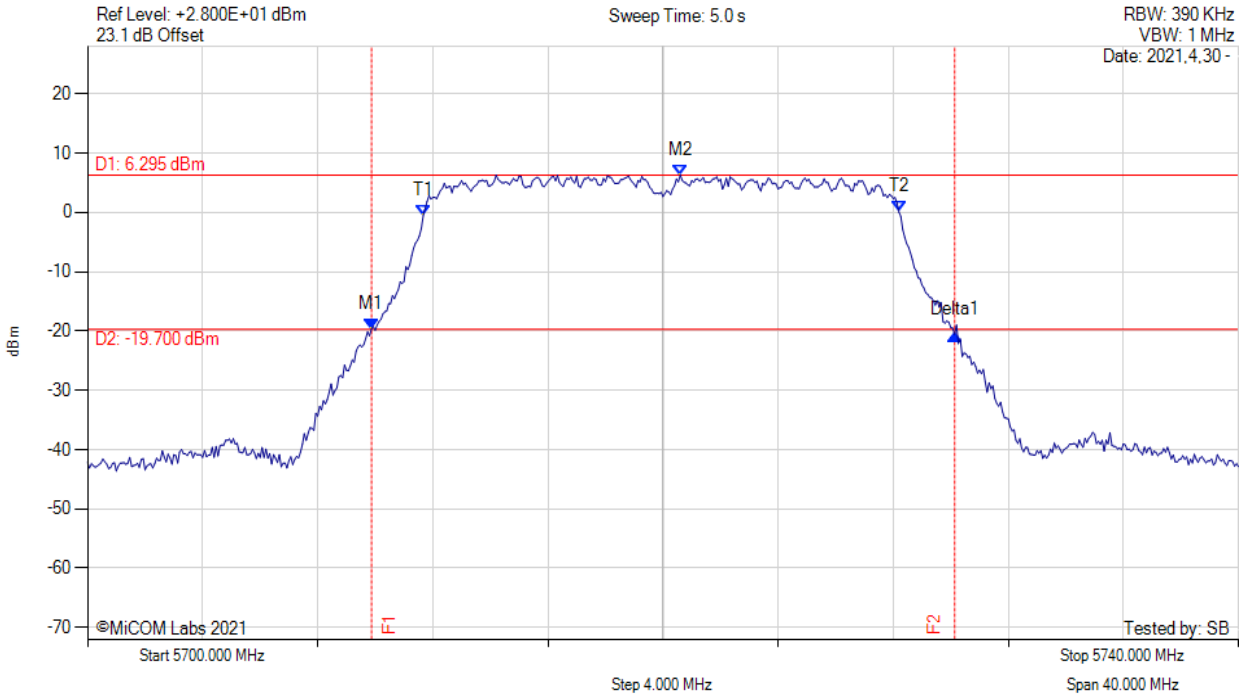


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5709.870 MHz : -15.237 dBm M2 : 5714.270 MHz : 8.789 dBm Delta1 : 20.330 MHz : -2.464 dB T1 : 5711.667 MHz : 2.017 dBm T2 : 5728.267 MHz : 1.124 dBm OBW : 16.544 MHz	Measured 26 dB Bandwidth: 20.330 MHz Measured 99% Bandwidth: 16.544 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5720.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

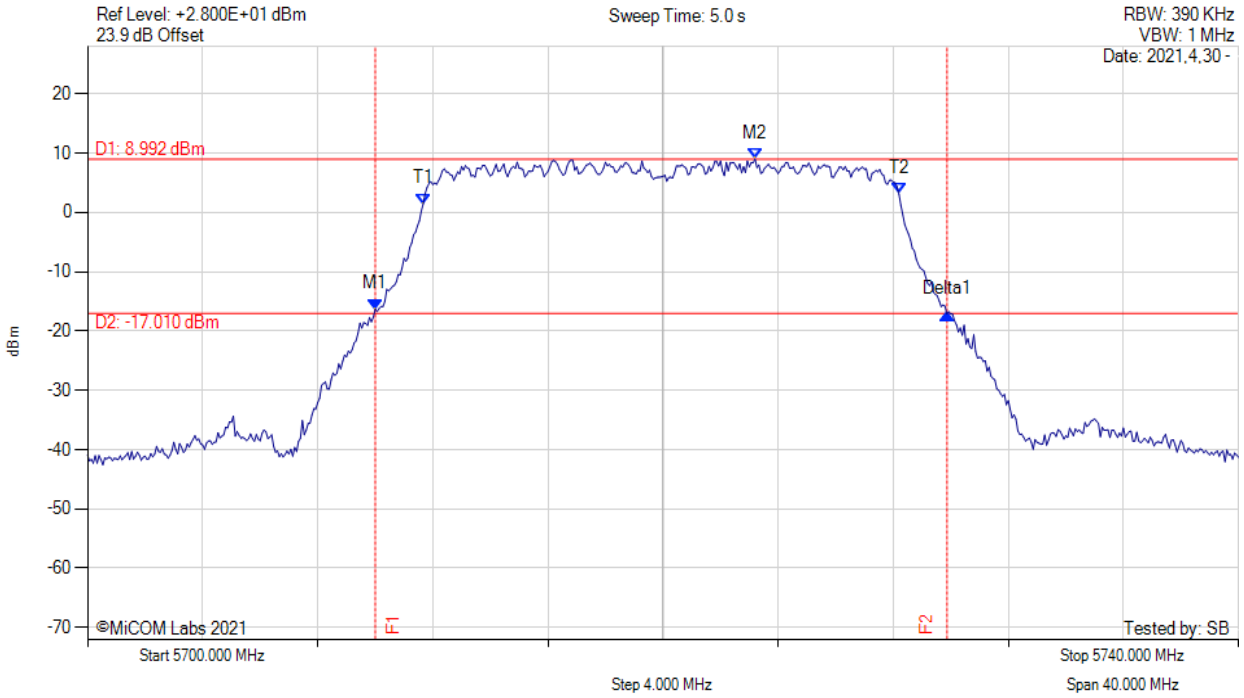


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5709.870 MHz : -19.648 dBm M2 : 5720.600 MHz : 6.295 dBm Delta1 : 20.270 MHz : -0.900 dB T1 : 5711.667 MHz : -0.569 dBm T2 : 5728.200 MHz : 0.060 dBm OBW : 16.504 MHz	Measured 26 dB Bandwidth: 20.270 MHz Measured 99% Bandwidth: 16.504 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5720.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

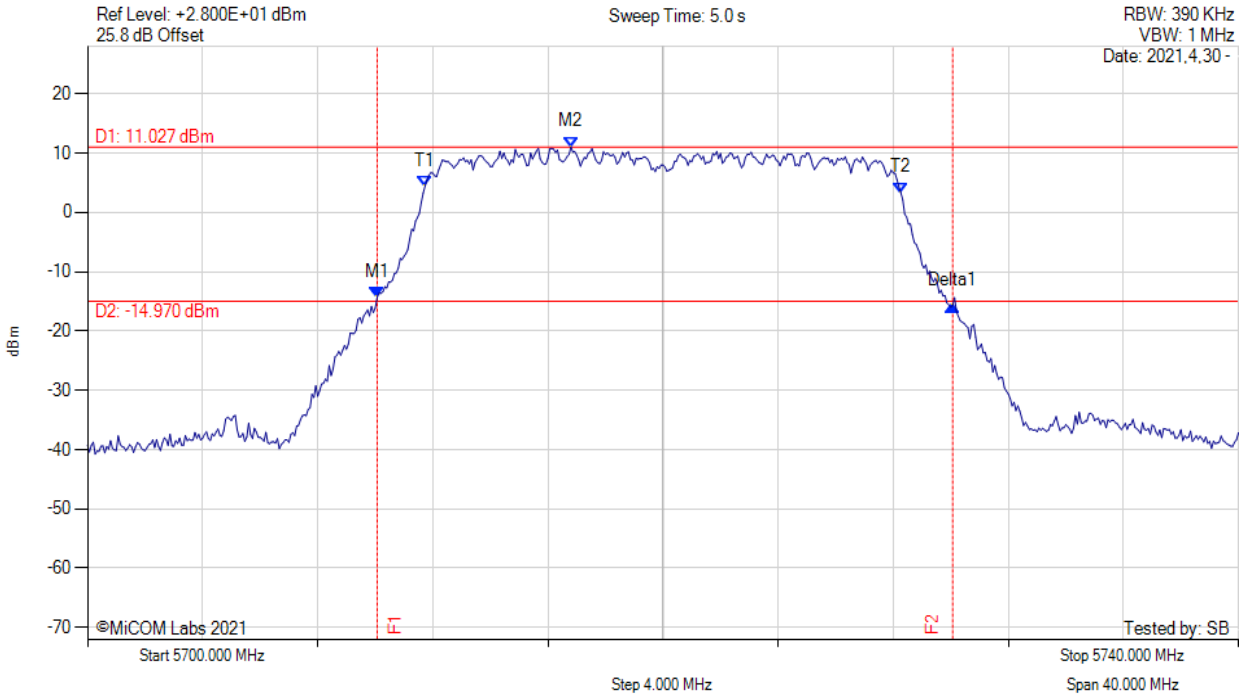


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5710.000 MHz : -16.310 dBm M2 : 5723.200 MHz : 8.992 dBm Delta1 : 19.870 MHz : -0.798 dB T1 : 5711.667 MHz : 1.451 dBm T2 : 5728.200 MHz : 3.101 dBm OBW : 16.493 MHz	Measured 26 dB Bandwidth: 19.870 MHz Measured 99% Bandwidth: 16.493 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5720.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

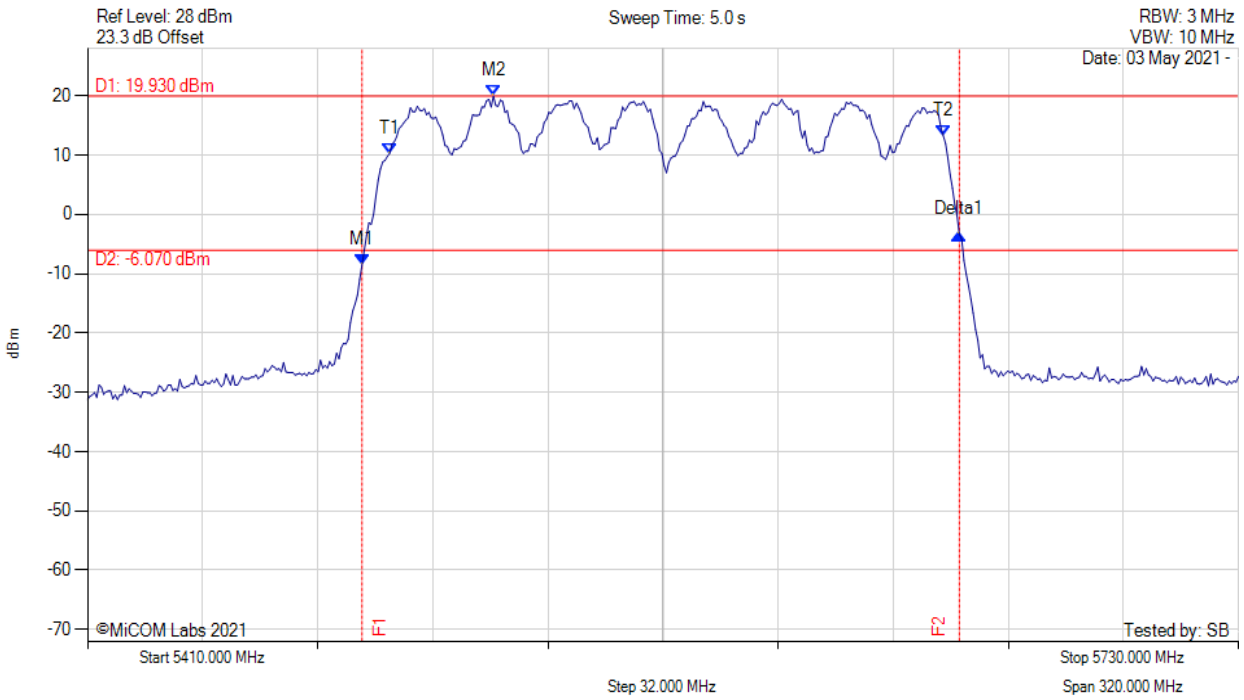


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5710.070 MHz : -14.301 dBm M2 : 5716.800 MHz : 11.027 dBm Delta1 : 20.000 MHz : -1.446 dB T1 : 5711.733 MHz : 4.461 dBm T2 : 5728.267 MHz : 3.310 dBm OBW : 16.504 MHz	Measured 26 dB Bandwidth: 20.000 MHz Measured 99% Bandwidth: 16.504 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11ac-160, Channel: 5570.00 MHz, Combined, Temp: 20, Voltage: 24 Vdc

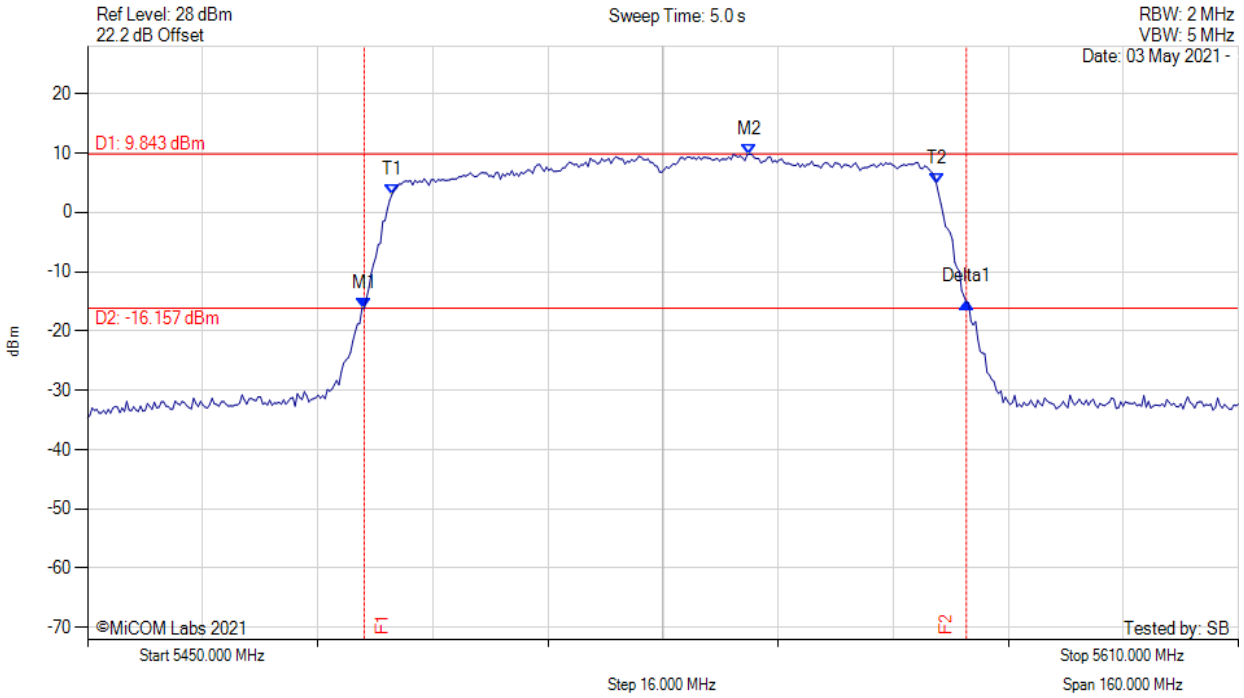


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5486.313 MHz : -8.575 dBm M2 : 5522.866 MHz : 19.930 dBm Delta1 : 166.092 MHz : 5.206 dB T1 : 5494.008 MHz : 10.298 dBm T2 : 5647.916 MHz : 13.292 dBm OBW : 153.908 MHz	Measured 26 dB Bandwidth: 166.092 MHz Measured 99% Bandwidth: 153.908 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5530.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

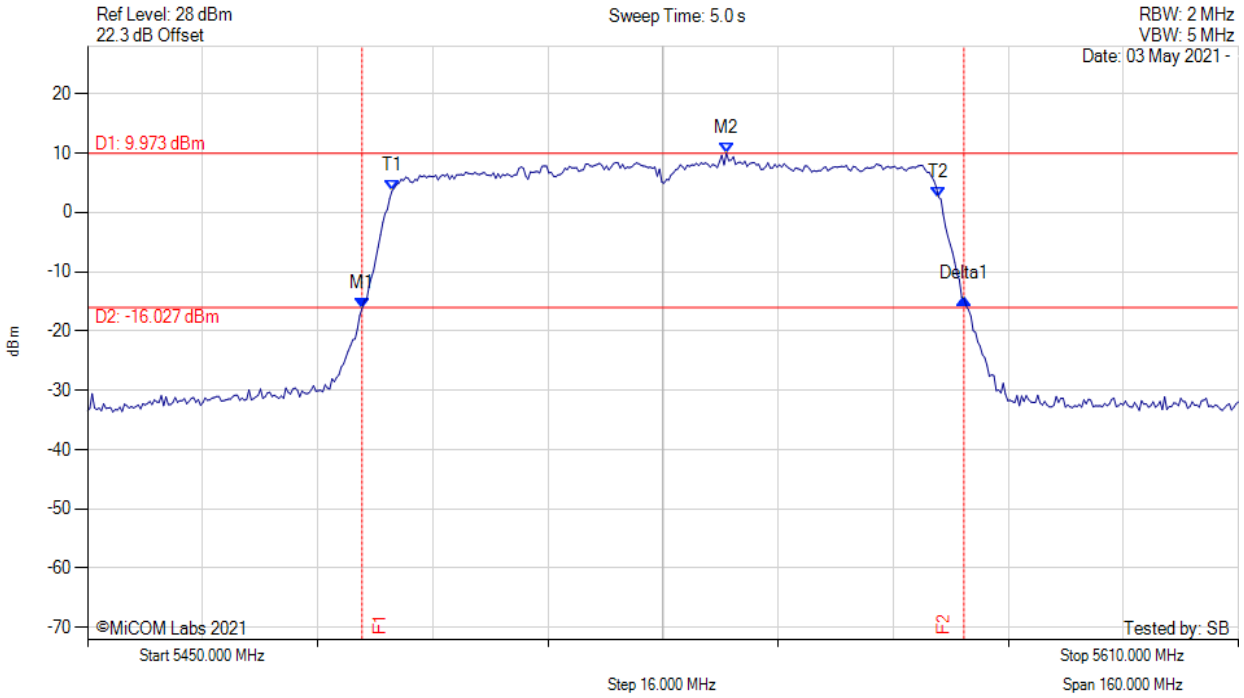


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5488.477 MHz : -16.189 dBm M2 : 5542.024 MHz : 9.843 dBm Delta1 : 83.687 MHz : 1.041 dB T1 : 5492.325 MHz : 3.009 dBm T2 : 5567.996 MHz : 4.897 dBm OBW : 75.671 MHz	Measured 26 dB Bandwidth: 83.687 MHz Measured 99% Bandwidth: 75.671 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5530.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

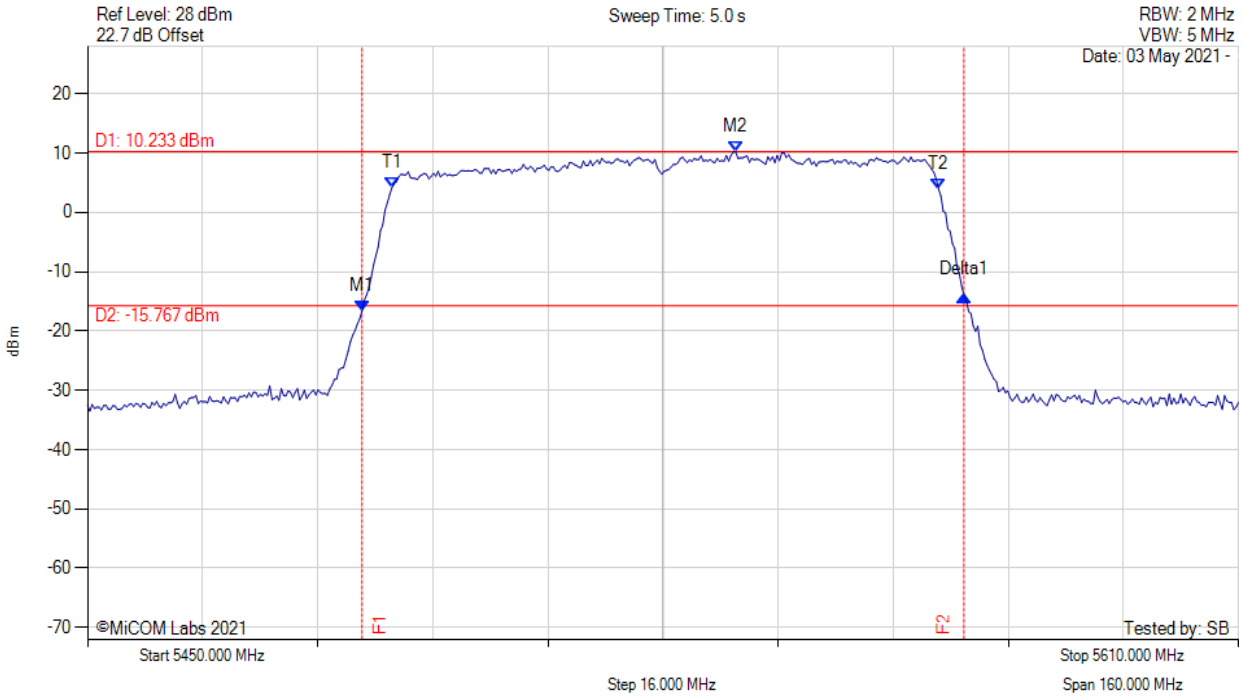


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5488.156 MHz : -16.254 dBm M2 : 5538.818 MHz : 9.973 dBm Delta1 : 83.687 MHz : 1.757 dB T1 : 5492.325 MHz : 3.595 dBm T2 : 5568.317 MHz : 2.554 dBm OBW : 75.992 MHz	Measured 26 dB Bandwidth: 83.687 MHz Measured 99% Bandwidth: 75.992 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5530.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

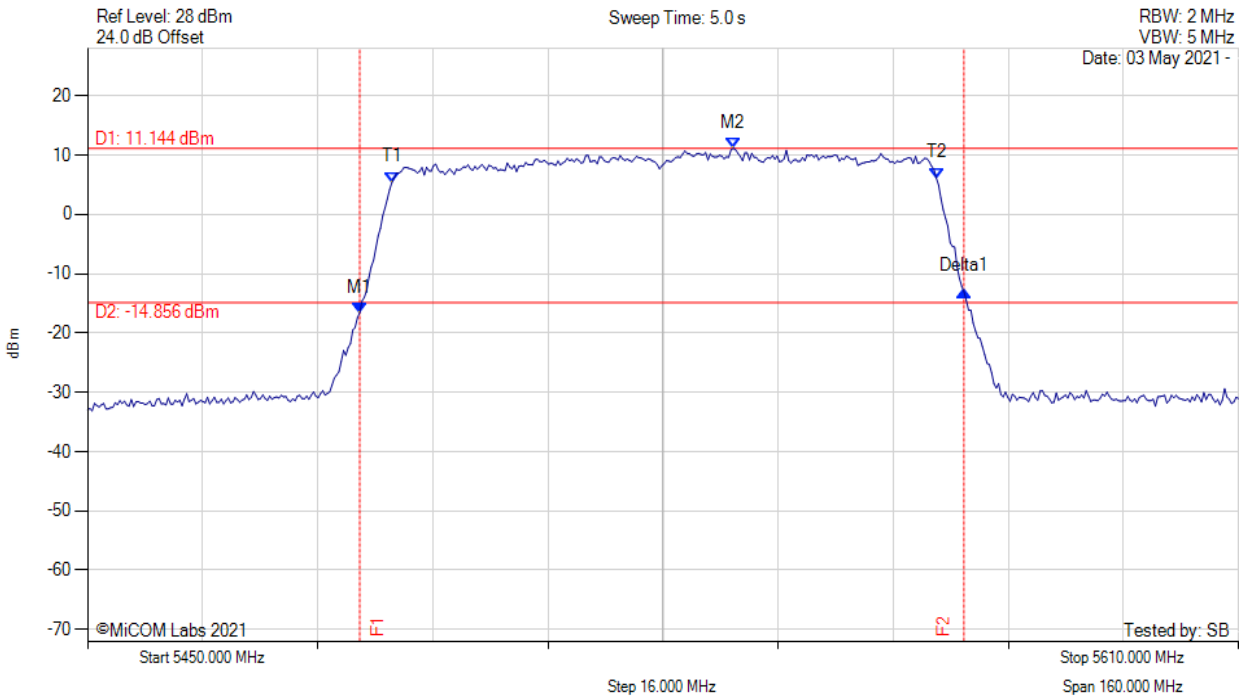


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5488.156 MHz : -16.580 dBm M2 : 5540.100 MHz : 10.233 dBm Delta1 : 83.687 MHz : 2.603 dB T1 : 5492.325 MHz : 4.181 dBm T2 : 5568.317 MHz : 3.920 dBm OBW : 75.992 MHz	Measured 26 dB Bandwidth: 83.687 MHz Measured 99% Bandwidth: 75.992 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5530.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

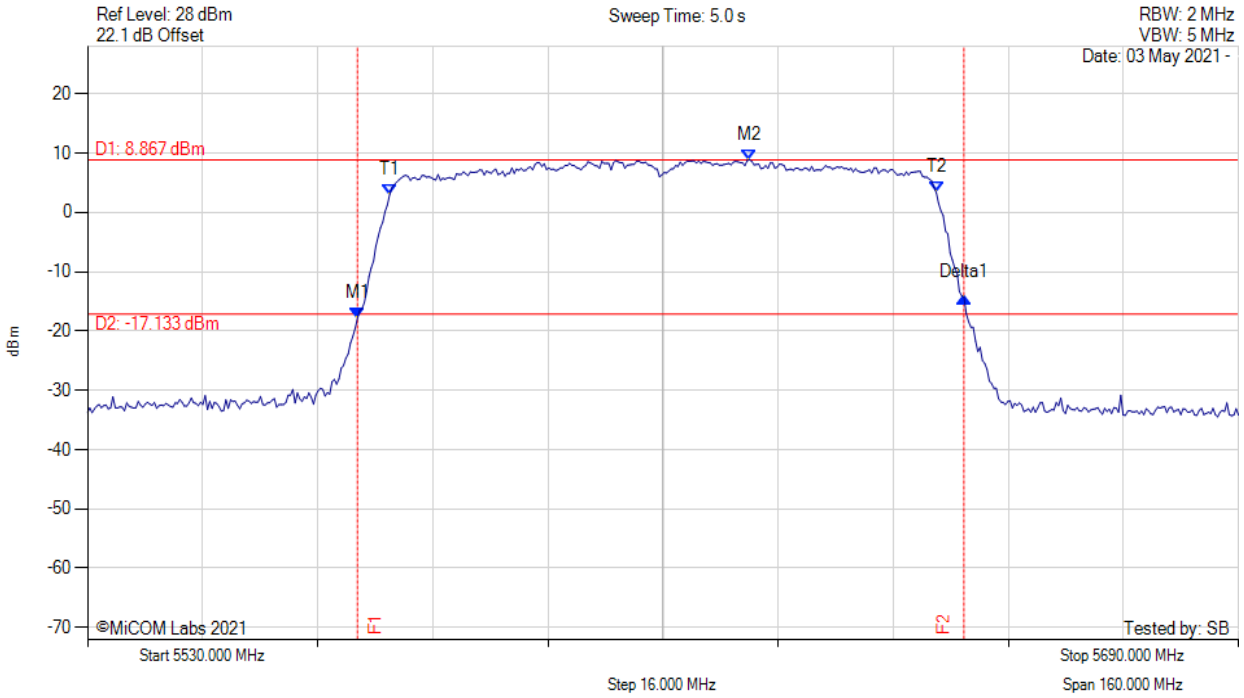


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5487.836 MHz : -16.580 dBm M2 : 5539.780 MHz : 11.144 dBm Delta1 : 84.008 MHz : 3.579 dB T1 : 5492.325 MHz : 5.417 dBm T2 : 5567.996 MHz : 6.133 dBm OBW : 75.671 MHz	Measured 26 dB Bandwidth: 84.008 MHz Measured 99% Bandwidth: 75.671 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5610.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

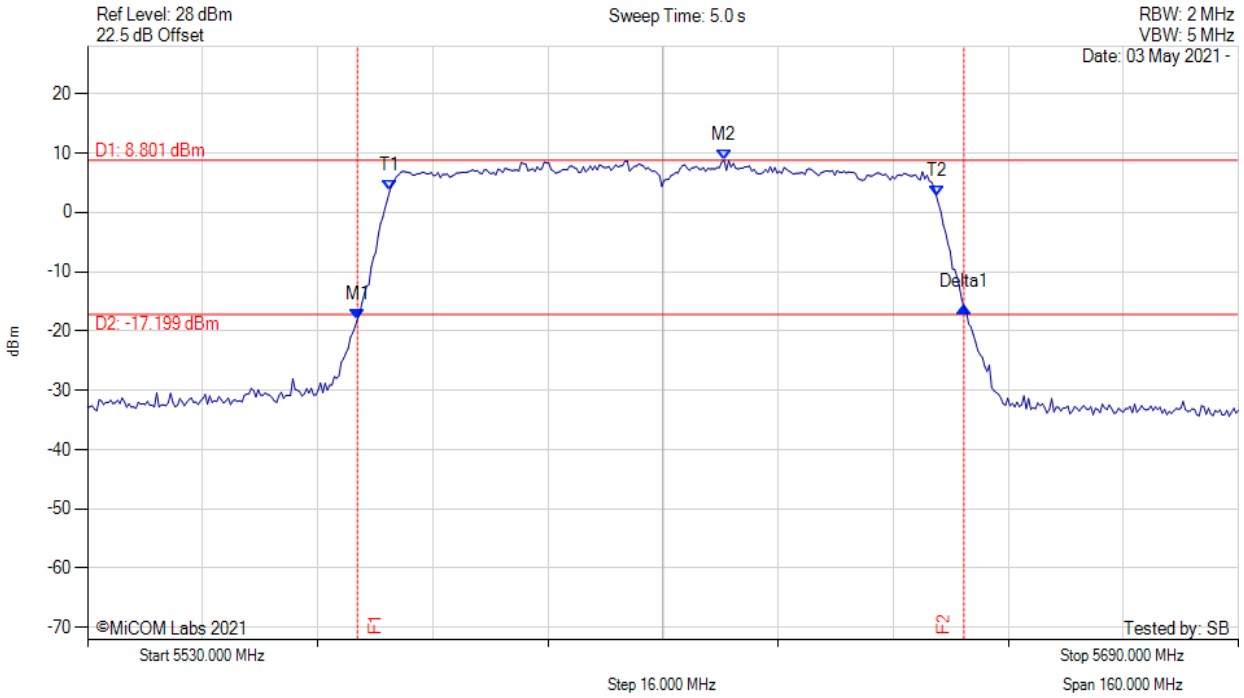


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5567.515 MHz : -17.881 dBm M2 : 5622.024 MHz : 8.867 dBm Delta1 : 84.329 MHz : 3.644 dB T1 : 5572.004 MHz : 3.009 dBm T2 : 5647.996 MHz : 3.335 dBm OBW : 75.992 MHz	Measured 26 dB Bandwidth: 84.329 MHz Measured 99% Bandwidth: 75.992 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5610.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

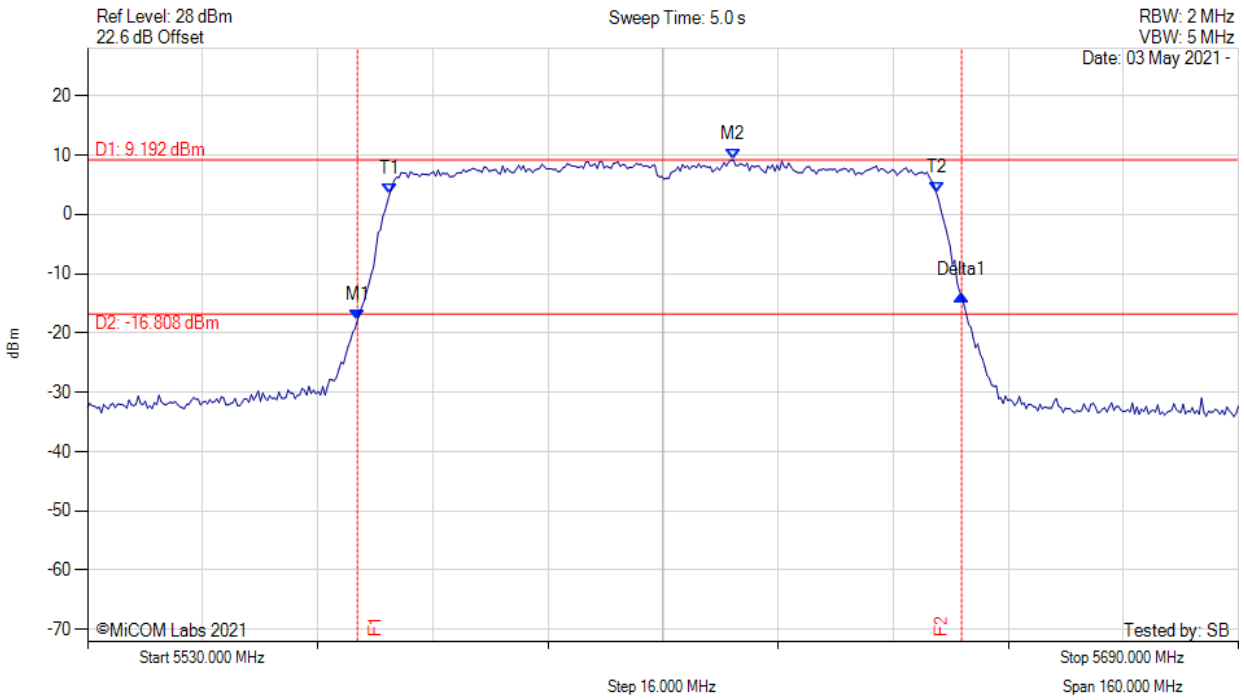


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5567.515 MHz : -18.011 dBm M2 : 5618.497 MHz : 8.801 dBm Delta1 : 84.329 MHz : 2.017 dB T1 : 5572.004 MHz : 3.595 dBm T2 : 5647.996 MHz : 2.814 dBm OBW : 75.992 MHz	Measured 26 dB Bandwidth: 84.329 MHz Measured 99% Bandwidth: 75.992 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5610.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

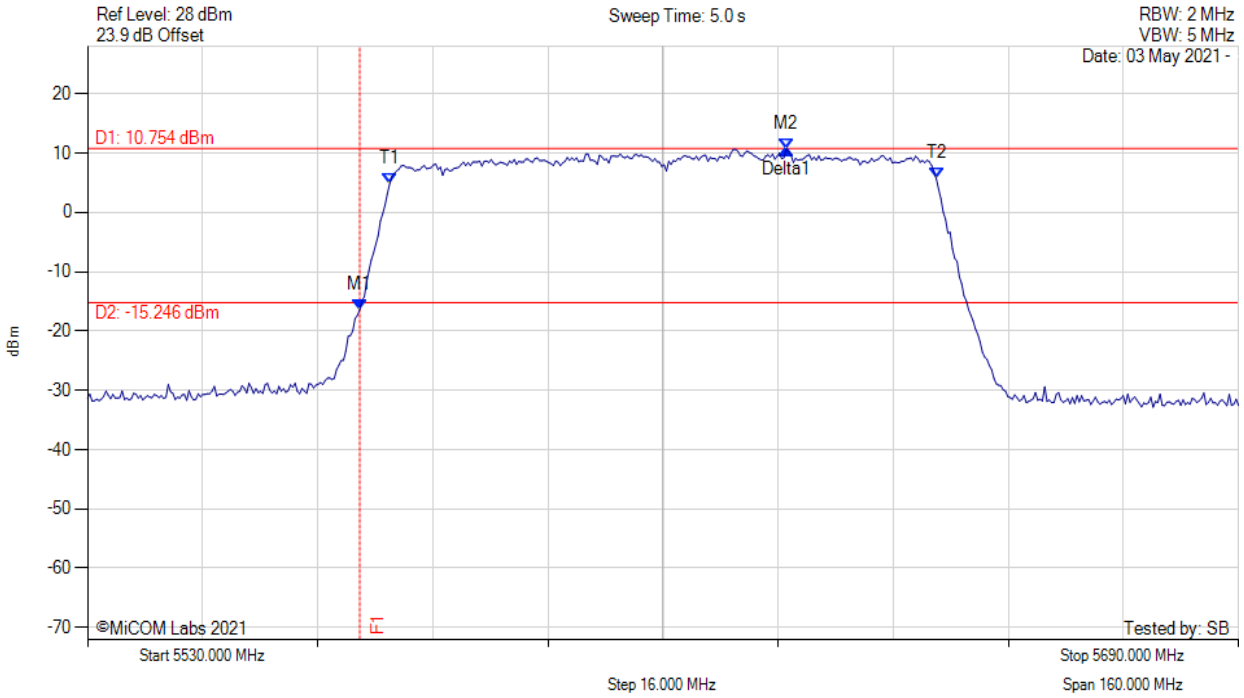


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5567.515 MHz : -17.881 dBm M2 : 5619.780 MHz : 9.192 dBm Delta1 : 84.008 MHz : 4.295 dB T1 : 5572.004 MHz : 3.465 dBm T2 : 5647.996 MHz : 3.660 dBm OBW : 75.992 MHz	Measured 26 dB Bandwidth: 84.008 MHz Measured 99% Bandwidth: 75.992 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5610.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

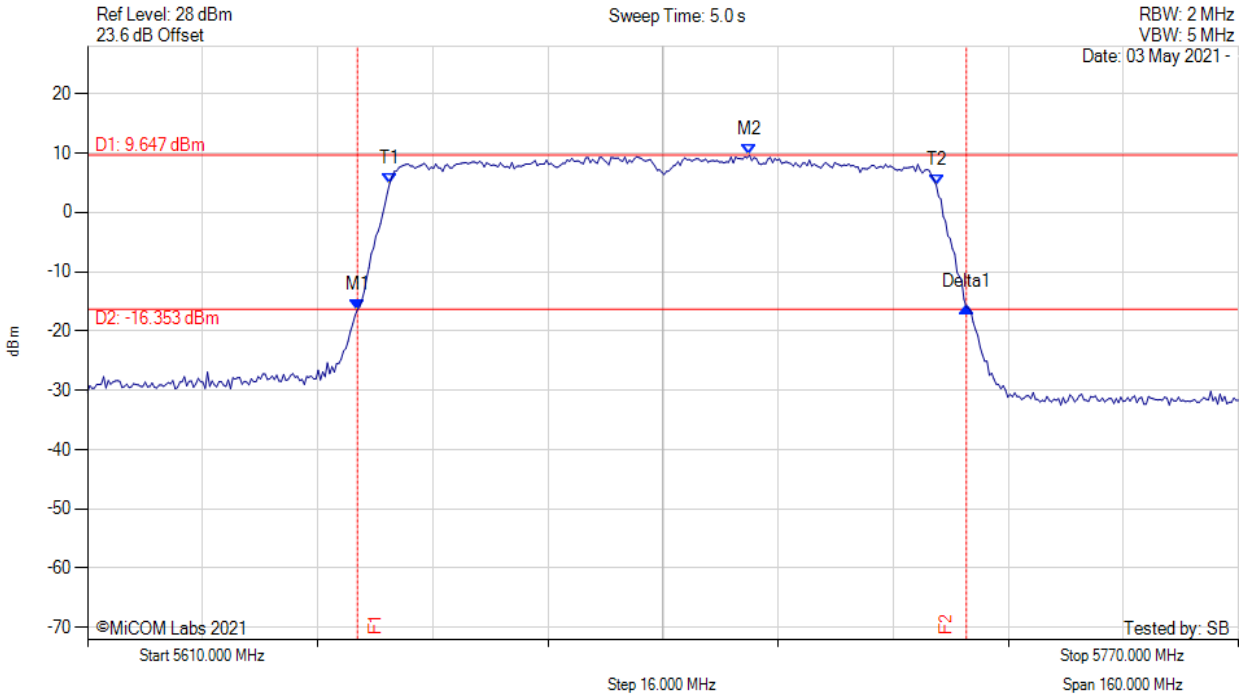


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5567.836 MHz : -16.384 dBm M2 : 5627.154 MHz : 10.754 dBm Delta1 : 59.319 MHz : 27.138 dB T1 : 5572.004 MHz : 4.832 dBm T2 : 5647.996 MHz : 5.678 dBm OBW : 75.992 MHz	Measured 26 dB Bandwidth: 59.319 MHz Measured 99% Bandwidth: 75.992 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5690.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

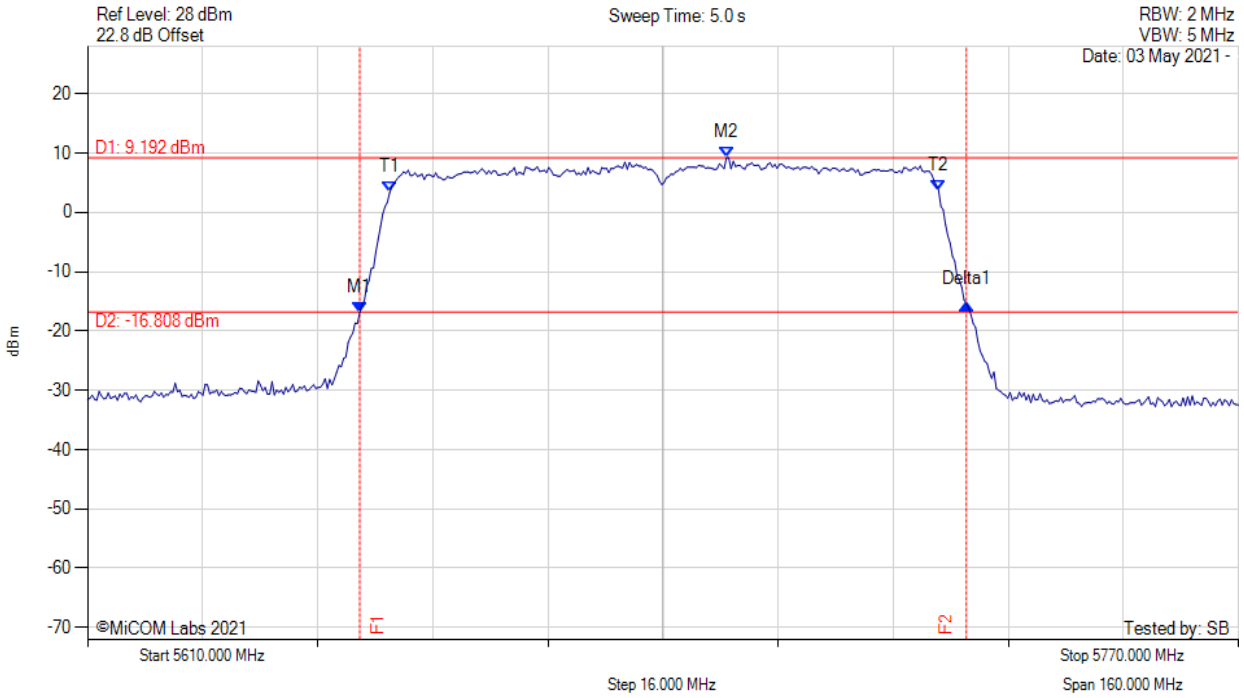


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5647.515 MHz : -16.384 dBm M2 : 5702.024 MHz : 9.647 dBm Delta1 : 84.649 MHz : 0.390 dB T1 : 5652.004 MHz : 4.897 dBm T2 : 5727.996 MHz : 4.571 dBm OBW : 75.992 MHz	Measured 26 dB Bandwidth: 84.649 MHz Measured 99% Bandwidth: 75.992 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5690.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

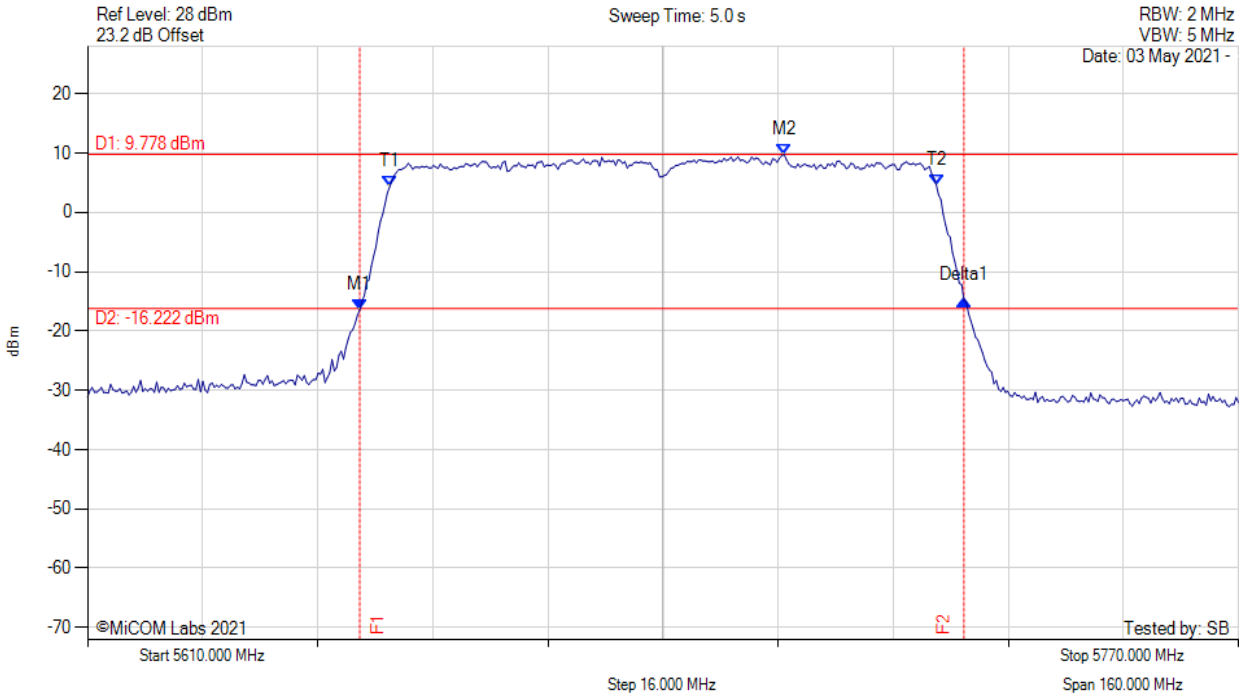


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5647.836 MHz : -16.905 dBm M2 : 5698.818 MHz : 9.192 dBm Delta1 : 84.329 MHz : 1.497 dB T1 : 5652.004 MHz : 3.335 dBm T2 : 5728.317 MHz : 3.725 dBm OBW : 76.313 MHz	Measured 26 dB Bandwidth: 84.329 MHz Measured 99% Bandwidth: 76.313 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5690.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

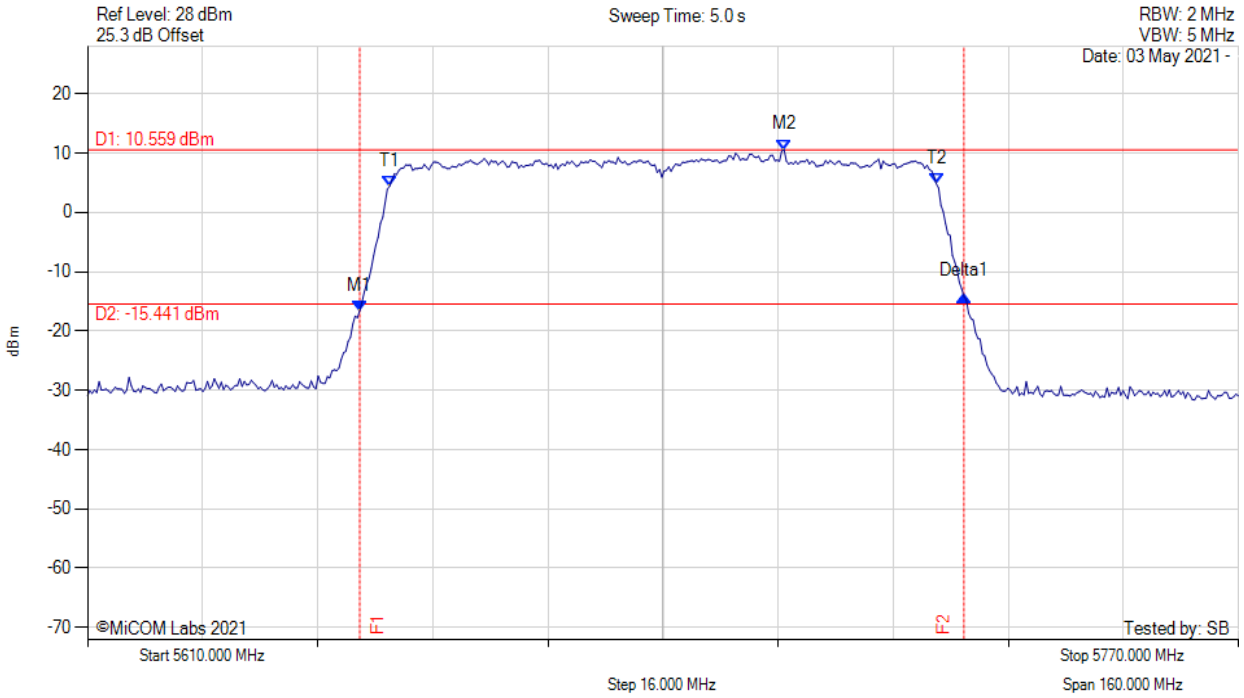


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5647.836 MHz : -16.450 dBm M2 : 5706.834 MHz : 9.778 dBm Delta1 : 84.008 MHz : 1.562 dB T1 : 5652.004 MHz : 4.311 dBm T2 : 5727.996 MHz : 4.636 dBm OBW : 75.992 MHz	Measured 26 dB Bandwidth: 84.008 MHz Measured 99% Bandwidth: 75.992 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5690.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

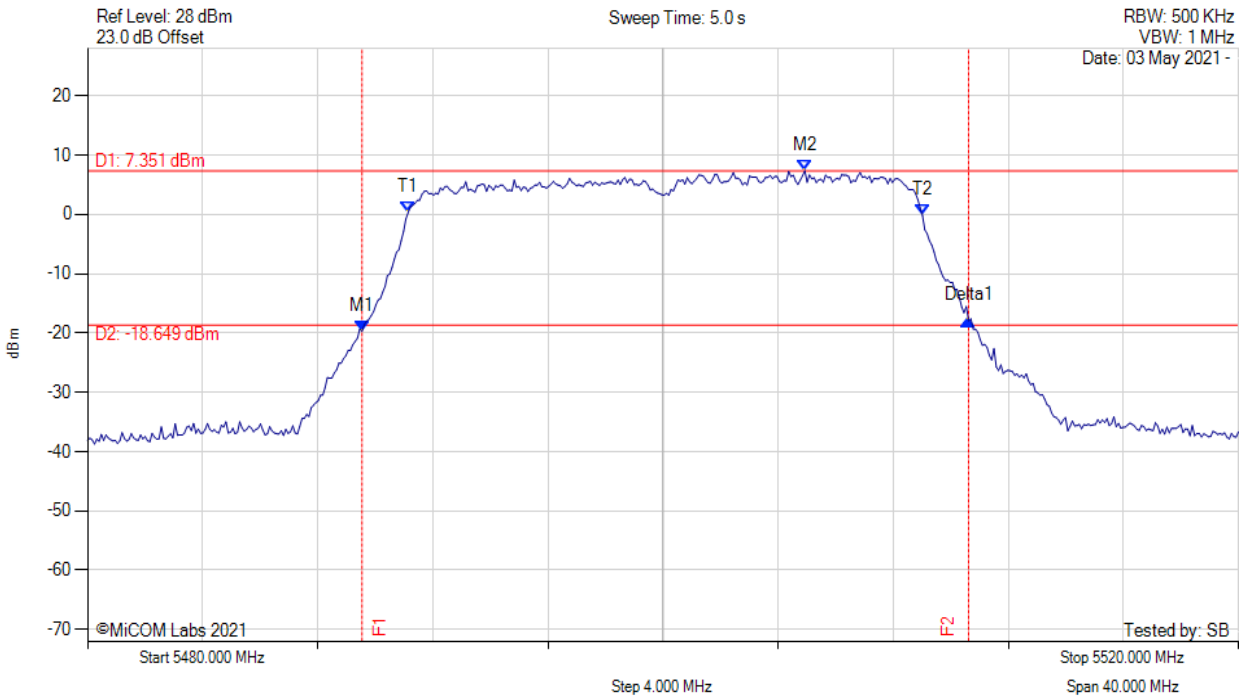


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5647.836 MHz : -16.580 dBm M2 : 5706.834 MHz : 10.559 dBm Delta1 : 84.008 MHz : 2.408 dB T1 : 5652.004 MHz : 4.441 dBm T2 : 5727.996 MHz : 4.832 dBm OBW : 75.992 MHz	Measured 26 dB Bandwidth: 84.008 MHz Measured 99% Bandwidth: 75.992 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5500.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

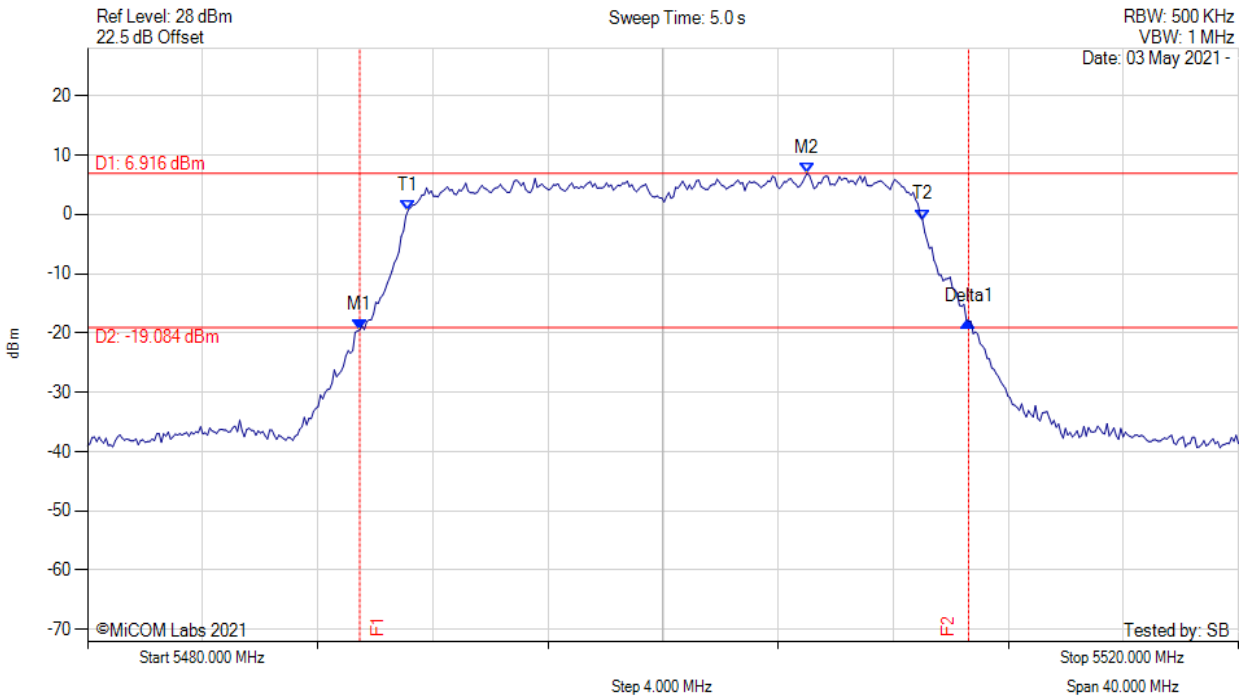


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5489.539 MHz : -19.710 dBm M2 : 5504.930 MHz : 7.351 dBm Delta1 : 21.082 MHz : 1.788 dB T1 : 5491.142 MHz : 0.329 dBm T2 : 5509.018 MHz : -0.153 dBm OBW : 17.876 MHz	Measured 26 dB Bandwidth: 21.082 MHz Measured 99% Bandwidth: 17.876 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5500.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

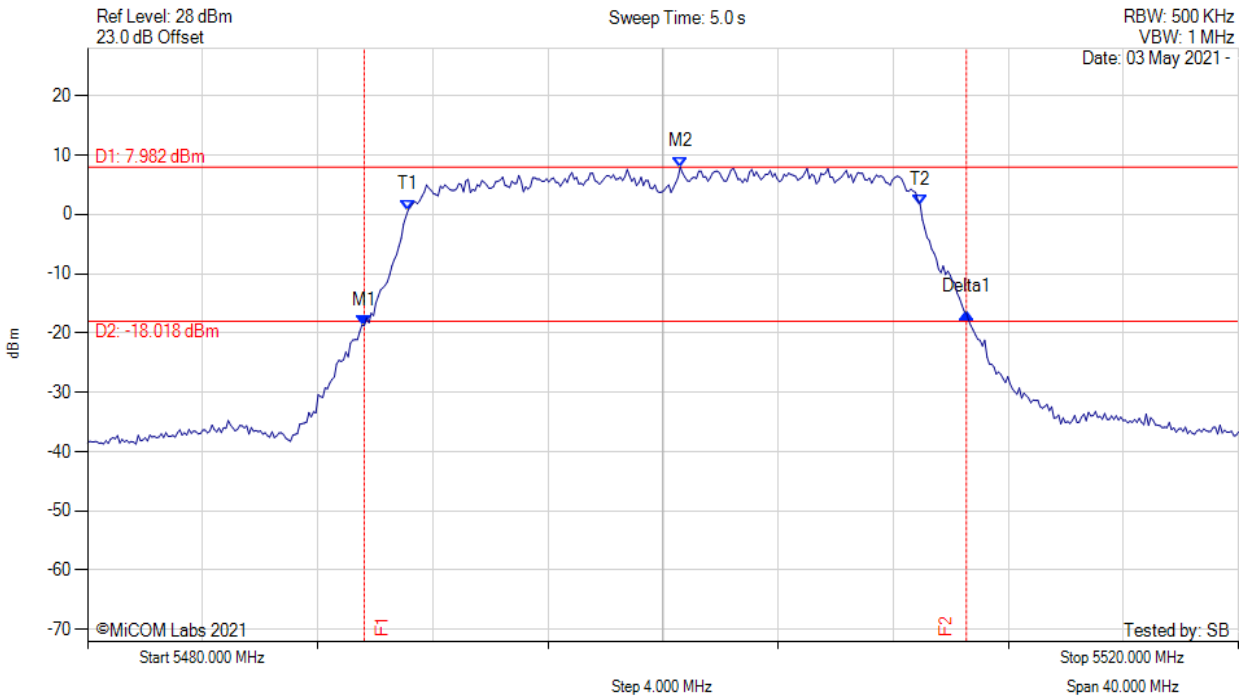


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5489.459 MHz : -19.506 dBm M2 : 5505.010 MHz : 6.916 dBm Delta1 : 21.162 MHz : 1.515 dB T1 : 5491.142 MHz : 0.723 dBm T2 : 5509.018 MHz : -0.879 dBm OBW : 17.876 MHz	Measured 26 dB Bandwidth: 21.162 MHz Measured 99% Bandwidth: 17.876 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5500.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

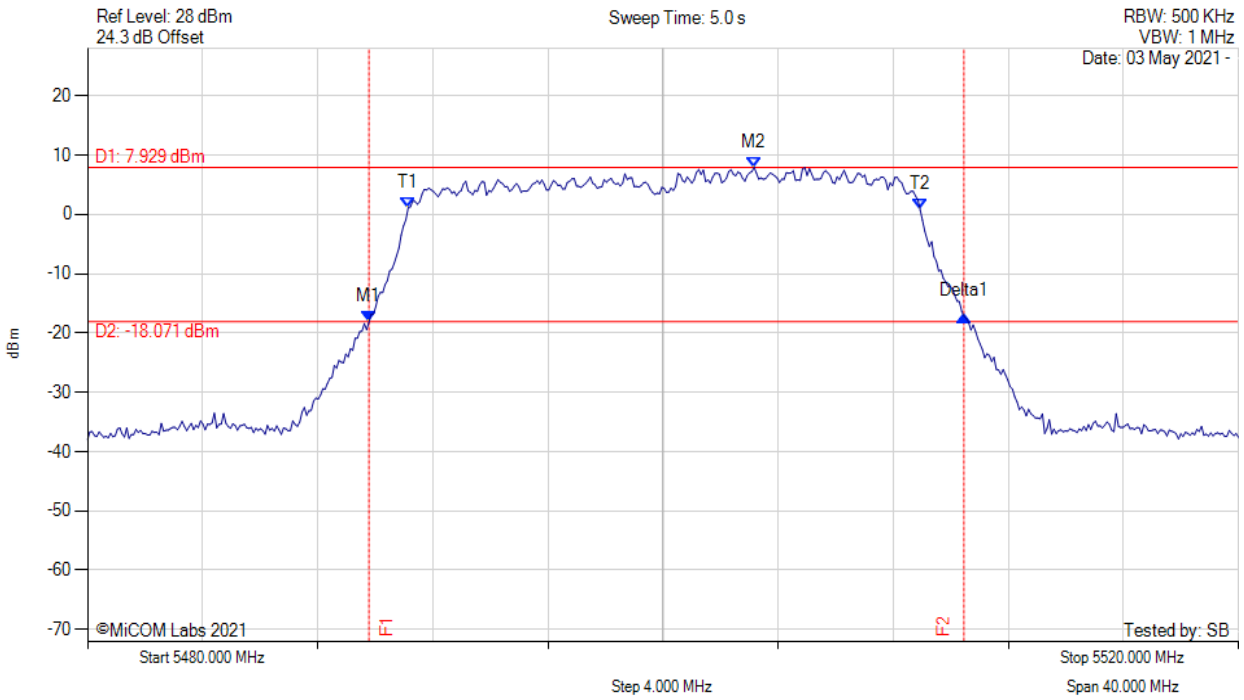


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5489.619 MHz : -18.754 dBm M2 : 5500.601 MHz : 7.982 dBm Delta1 : 20.922 MHz : 2.192 dB T1 : 5491.142 MHz : 0.754 dBm T2 : 5508.938 MHz : 1.608 dBm OBW : 17.796 MHz	Measured 26 dB Bandwidth: 20.922 MHz Measured 99% Bandwidth: 17.796 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5500.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

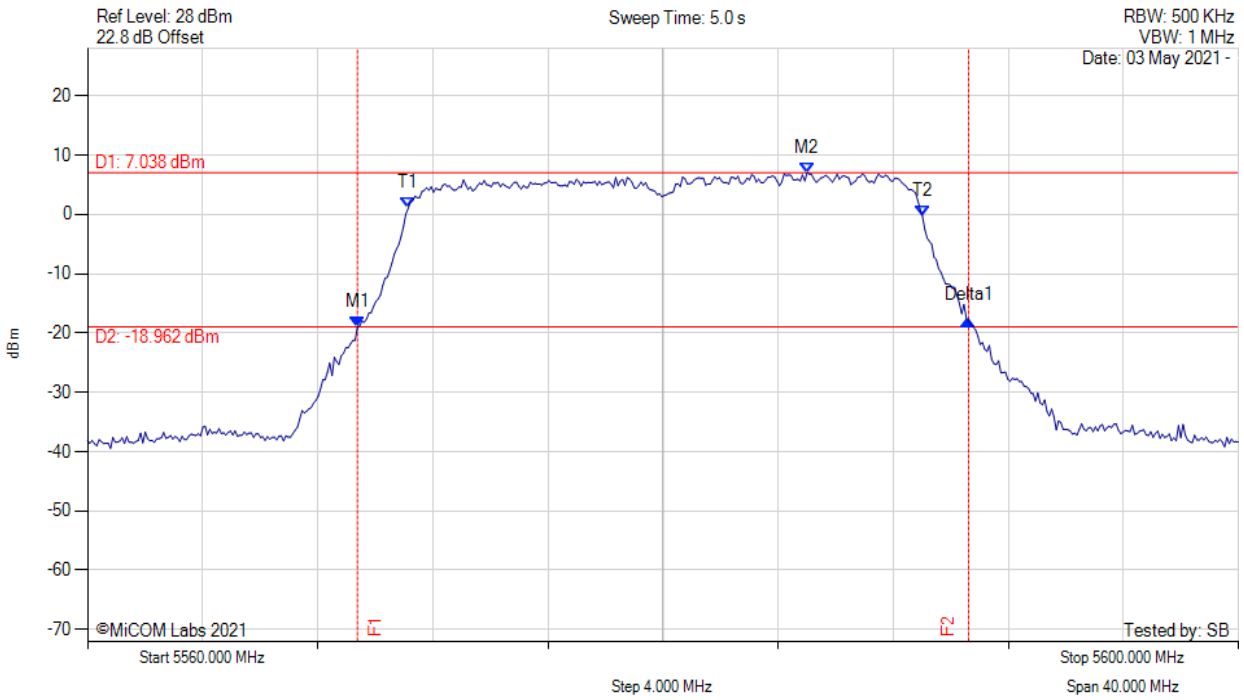


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5489.780 MHz : -18.170 dBm M2 : 5503.166 MHz : 7.929 dBm Delta1 : 20.681 MHz : 1.041 dB T1 : 5491.142 MHz : 1.106 dBm T2 : 5508.938 MHz : 0.764 dBm OBW : 17.796 MHz	Measured 26 dB Bandwidth: 20.681 MHz Measured 99% Bandwidth: 17.796 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5580.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

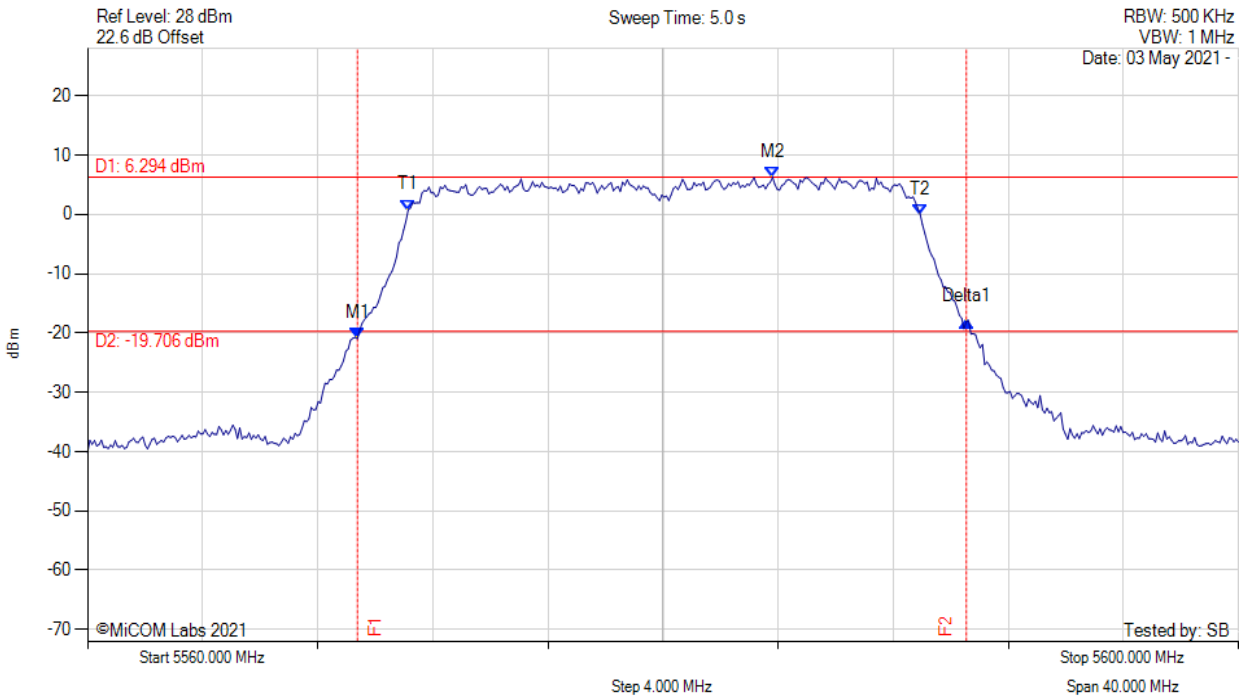


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5569.379 MHz : -19.028 dBm M2 : 5585.010 MHz : 7.038 dBm Delta1 : 21.242 MHz : 1.137 dB T1 : 5571.142 MHz : 1.030 dBm T2 : 5589.018 MHz : -0.300 dBm OBW : 17.876 MHz	Measured 26 dB Bandwidth: 21.242 MHz Measured 99% Bandwidth: 17.876 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5580.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

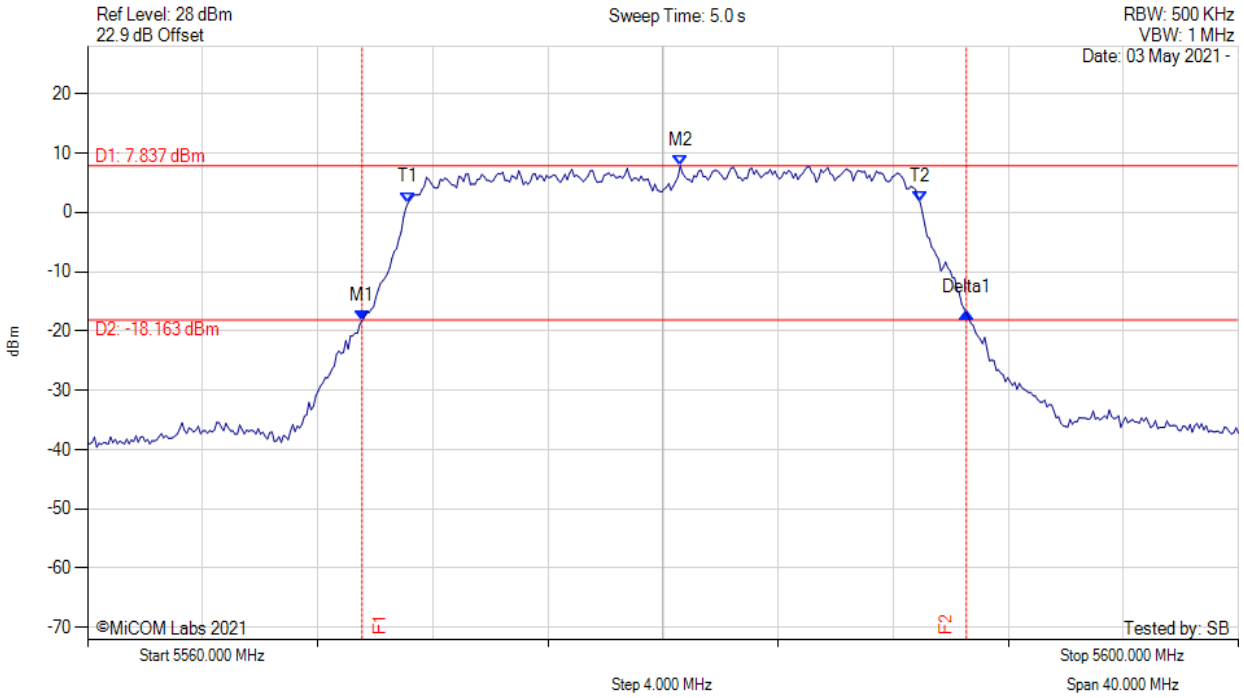


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5569.379 MHz : -20.948 dBm M2 : 5583.808 MHz : 6.294 dBm Delta1 : 21.162 MHz : 2.829 dB T1 : 5571.142 MHz : 0.758 dBm T2 : 5588.938 MHz : 0.003 dBm OBW : 17.796 MHz	Measured 26 dB Bandwidth: 21.162 MHz Measured 99% Bandwidth: 17.796 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5580.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

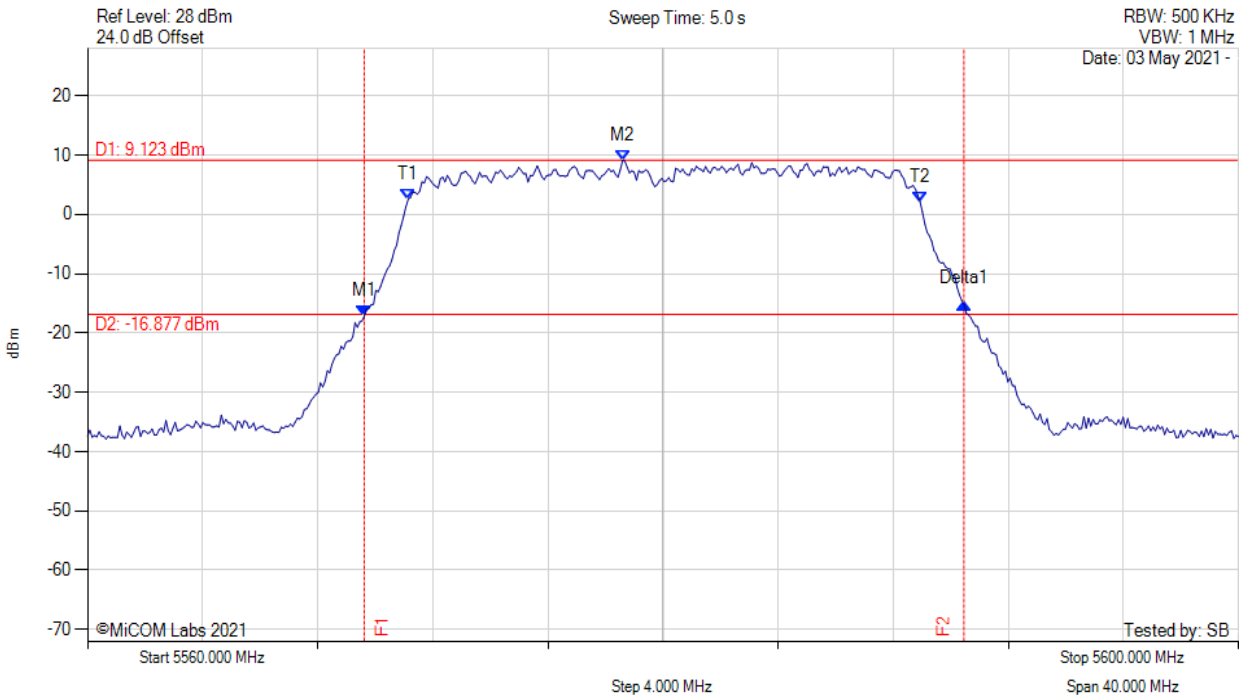


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5569.539 MHz : -18.223 dBm M2 : 5580.601 MHz : 7.837 dBm Delta1 : 21.002 MHz : 1.354 dB T1 : 5571.142 MHz : 1.679 dBm T2 : 5588.938 MHz : 1.704 dBm OBW : 17.796 MHz	Measured 26 dB Bandwidth: 21.002 MHz Measured 99% Bandwidth: 17.796 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5580.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5569.619 MHz : -17.178 dBm M2 : 5578.597 MHz : 9.123 dBm Delta1 : 20.842 MHz : 2.048 dB T1 : 5571.142 MHz : 2.548 dBm T2 : 5588.938 MHz : 2.001 dBm OBW : 17.796 MHz	Measured 26 dB Bandwidth: 20.842 MHz Measured 99% Bandwidth: 17.796 MHz

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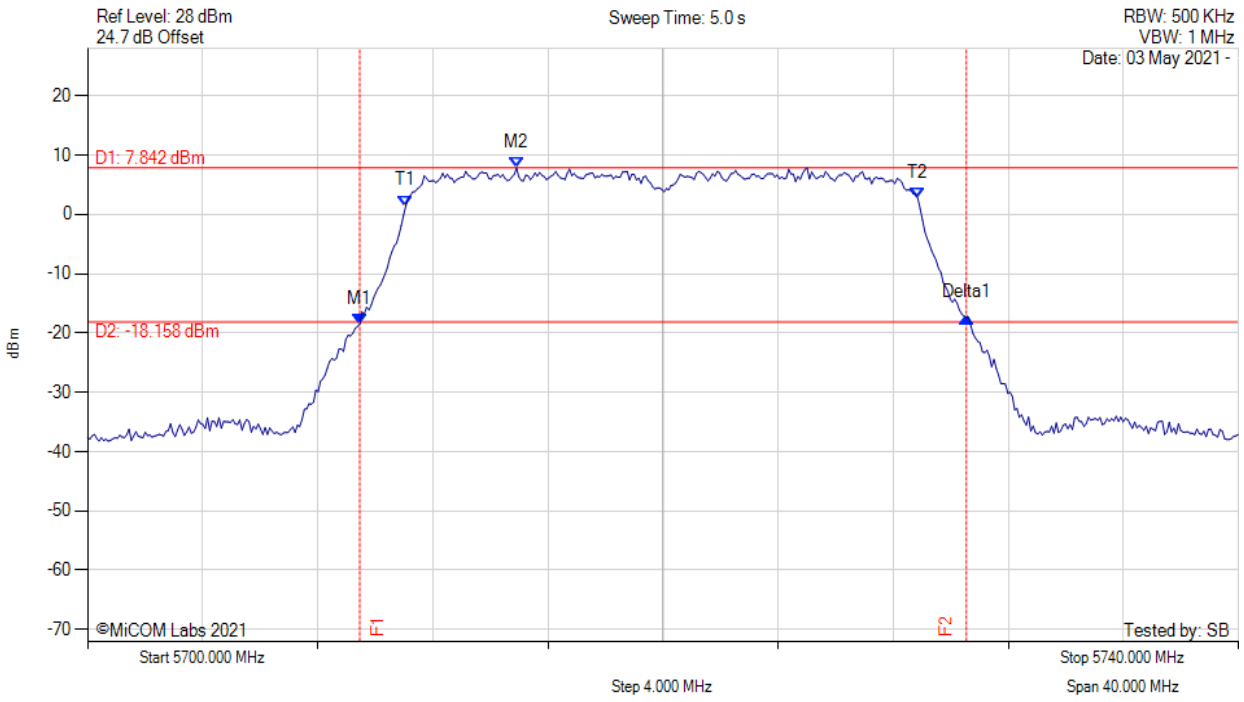
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5720.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

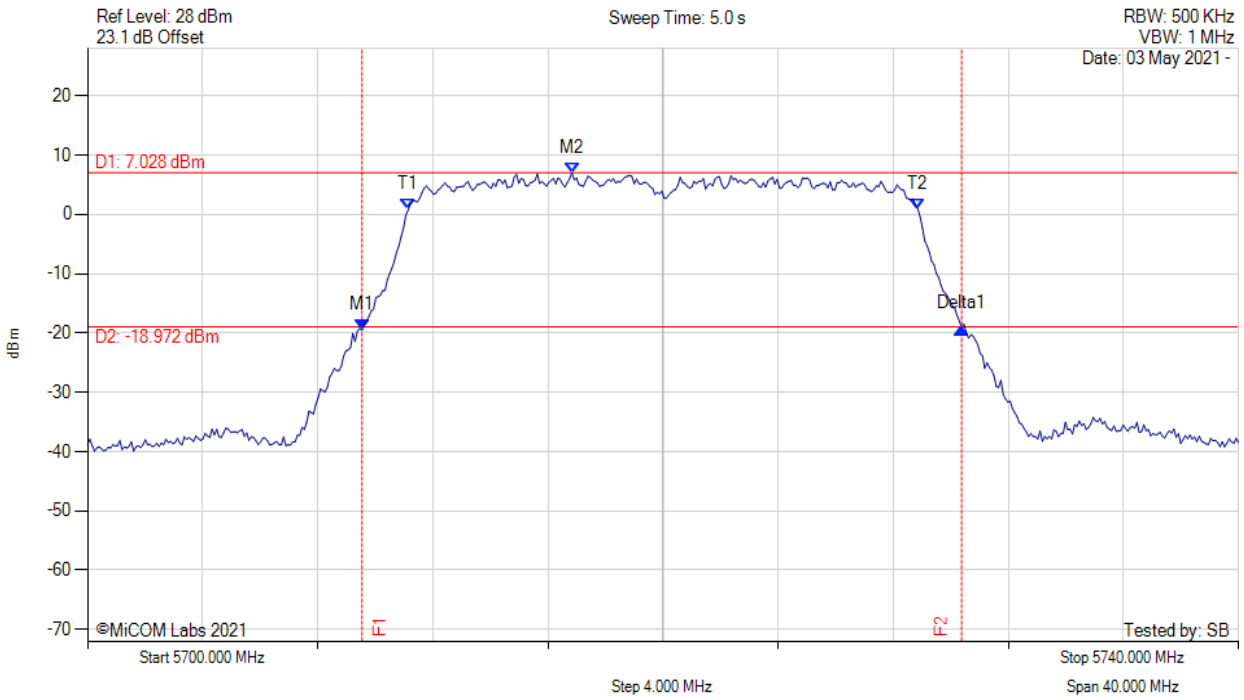


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5709.459 MHz : -18.510 dBm M2 : 5714.910 MHz : 7.842 dBm Delta1 : 21.082 MHz : 1.084 dB T1 : 5711.062 MHz : 1.458 dBm T2 : 5728.858 MHz : 2.660 dBm OBW : 17.796 MHz	Measured 26 dB Bandwidth: 21.082 MHz Measured 99% Bandwidth: 17.796 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5720.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

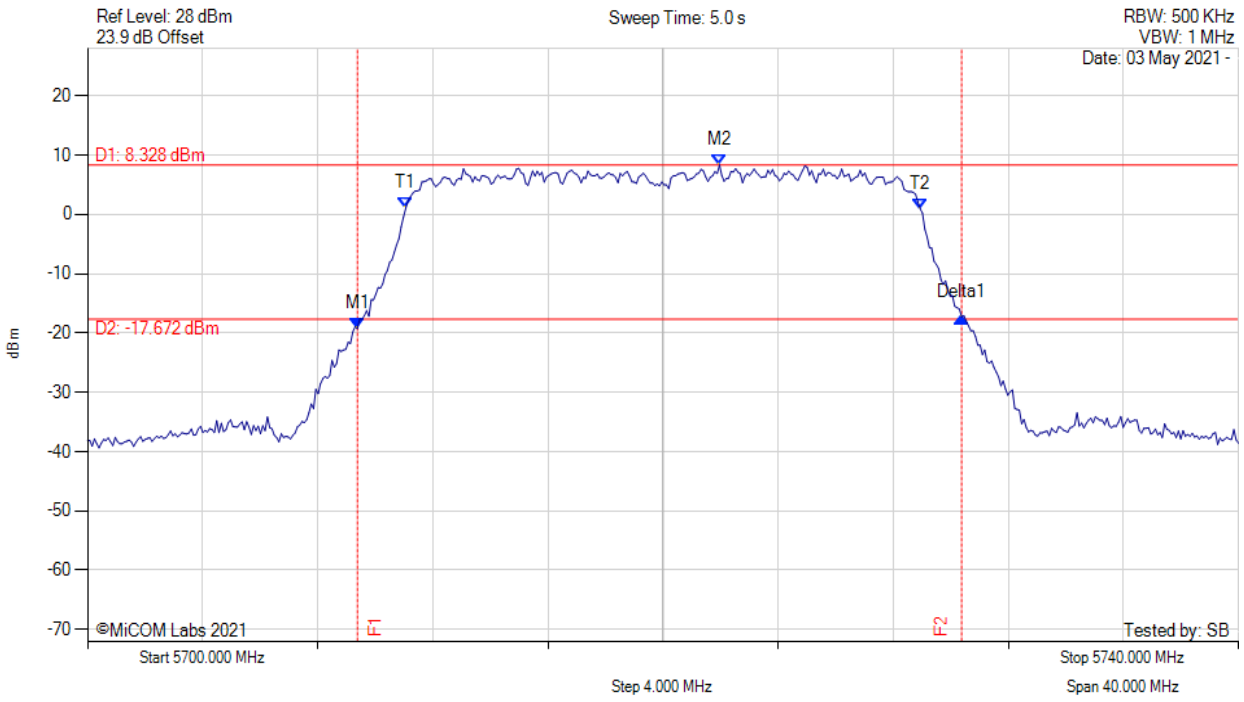


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5709.539 MHz : -19.482 dBm M2 : 5716.834 MHz : 7.028 dBm Delta1 : 20.842 MHz : 0.303 dB T1 : 5711.142 MHz : 0.760 dBm T2 : 5728.858 MHz : 0.927 dBm OBW : 17.715 MHz	Measured 26 dB Bandwidth: 20.842 MHz Measured 99% Bandwidth: 17.715 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5720.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

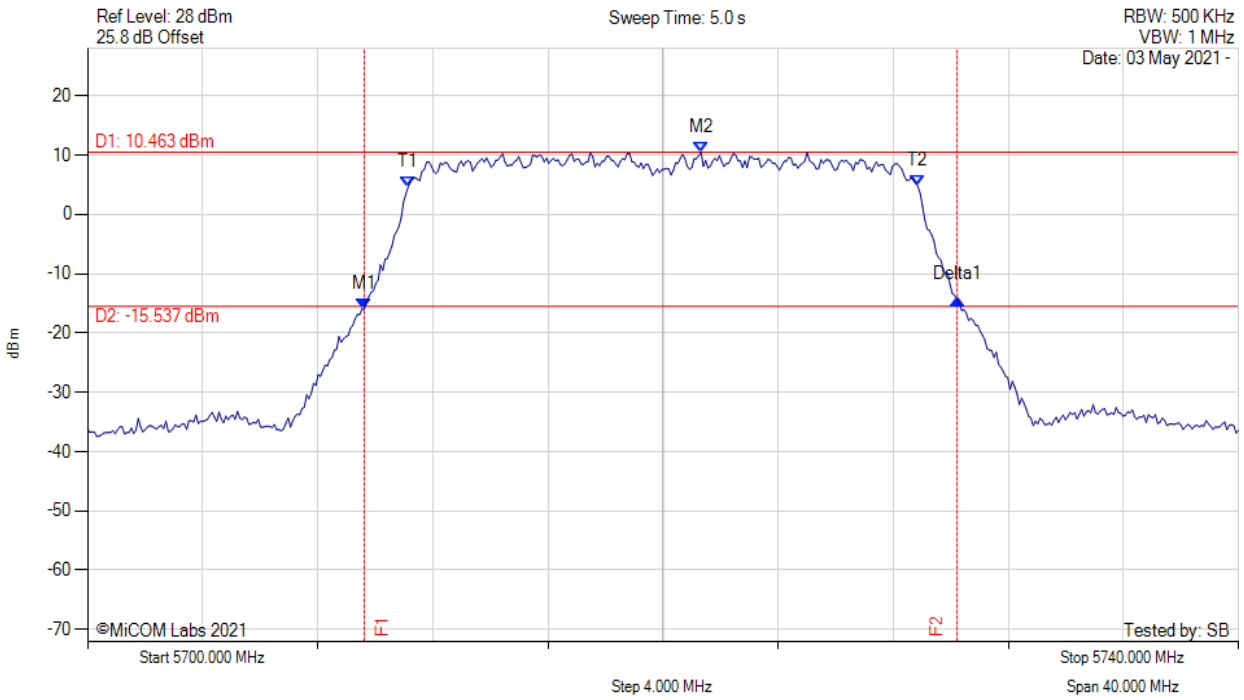


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5709.379 MHz : -19.278 dBm M2 : 5721.964 MHz : 8.328 dBm Delta1 : 21.002 MHz : 1.999 dB T1 : 5711.062 MHz : 1.077 dBm T2 : 5728.938 MHz : 0.949 dBm OBW : 17.876 MHz	Measured 26 dB Bandwidth: 21.002 MHz Measured 99% Bandwidth: 17.876 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5720.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

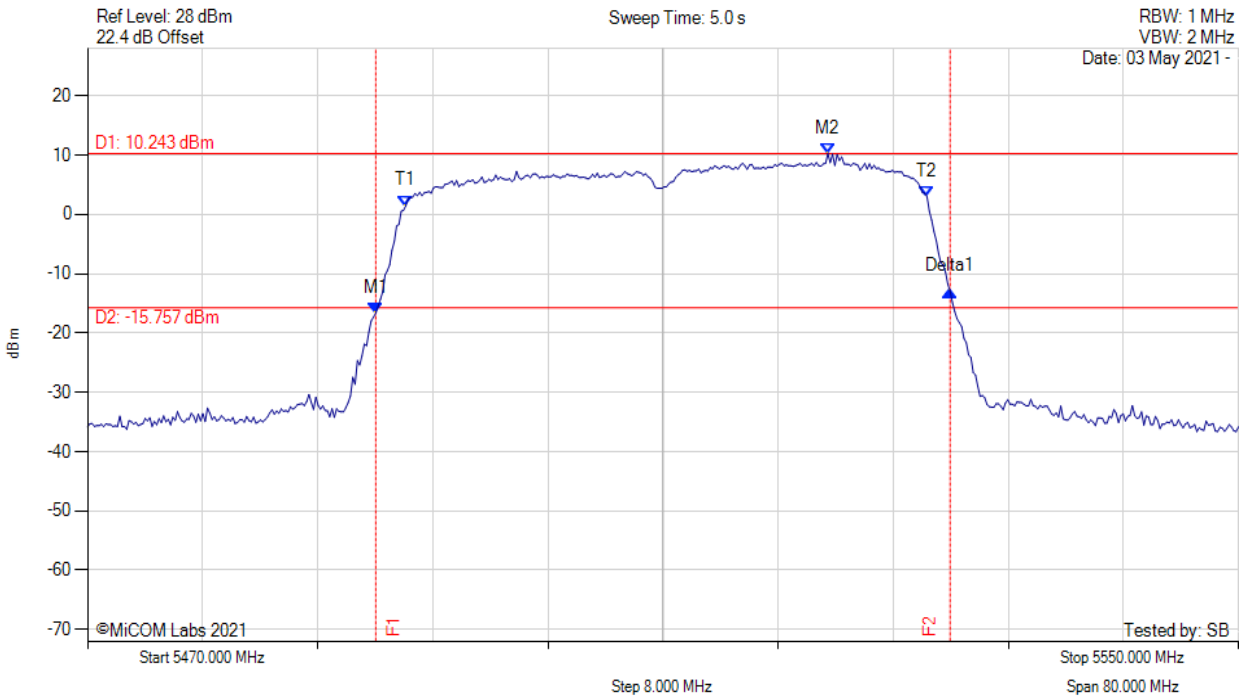


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5709.619 MHz : -15.966 dBm M2 : 5721.323 MHz : 10.463 dBm Delta1 : 20.601 MHz : 1.719 dB T1 : 5711.142 MHz : 4.661 dBm T2 : 5728.858 MHz : 4.740 dBm OBW : 17.715 MHz	Measured 26 dB Bandwidth: 20.601 MHz Measured 99% Bandwidth: 17.715 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5510.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

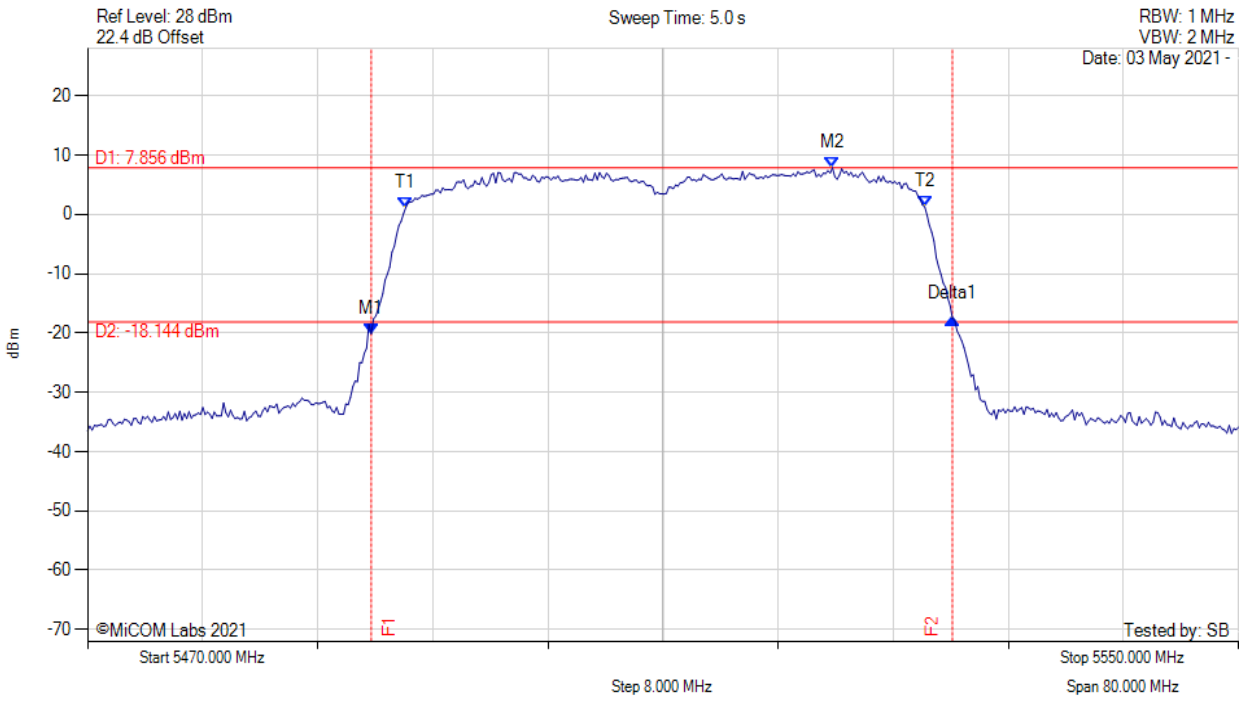


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5490.040 MHz : -16.629 dBm M2 : 5521.463 MHz : 10.243 dBm Delta1 : 39.920 MHz : 3.659 dB T1 : 5492.124 MHz : 1.458 dBm T2 : 5528.357 MHz : 2.942 dBm OBW : 36.232 MHz	Measured 26 dB Bandwidth: 39.920 MHz Measured 99% Bandwidth: 36.232 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5510.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

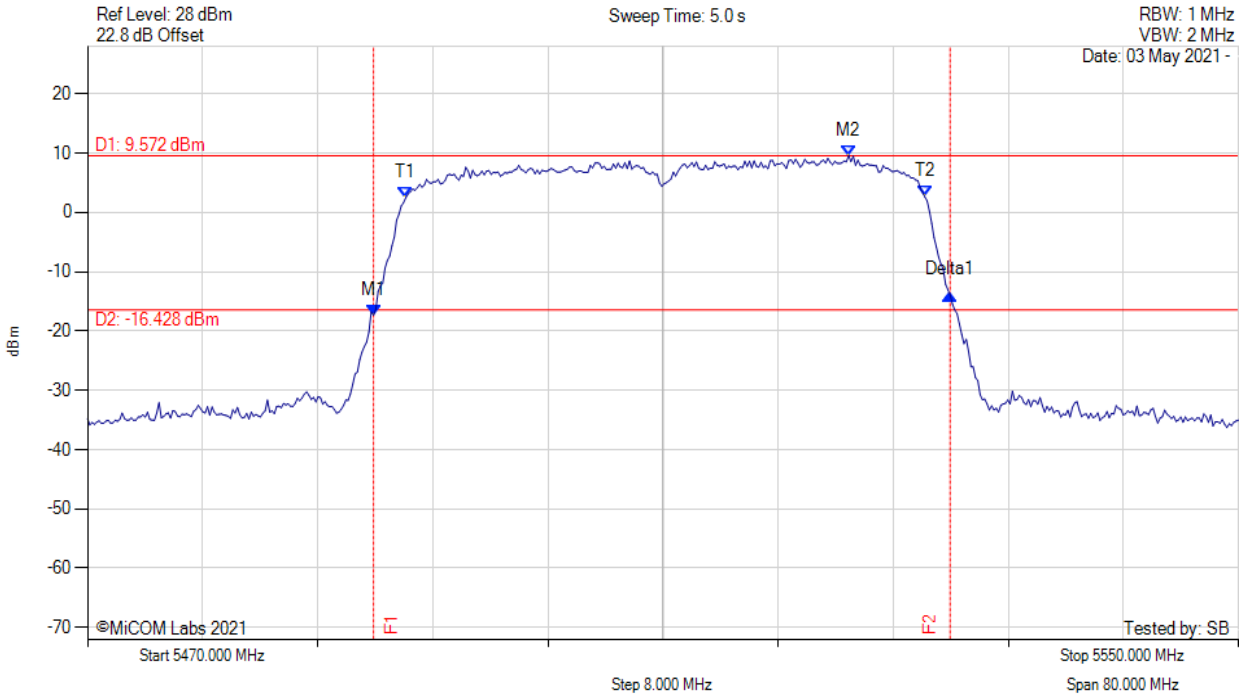


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5489.719 MHz : -20.151 dBm M2 : 5521.784 MHz : 7.856 dBm Delta1 : 40.401 MHz : 2.601 dB T1 : 5492.124 MHz : 1.179 dBm T2 : 5528.196 MHz : 1.262 dBm OBW : 36.072 MHz	Measured 26 dB Bandwidth: 40.401 MHz Measured 99% Bandwidth: 36.072 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5510.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

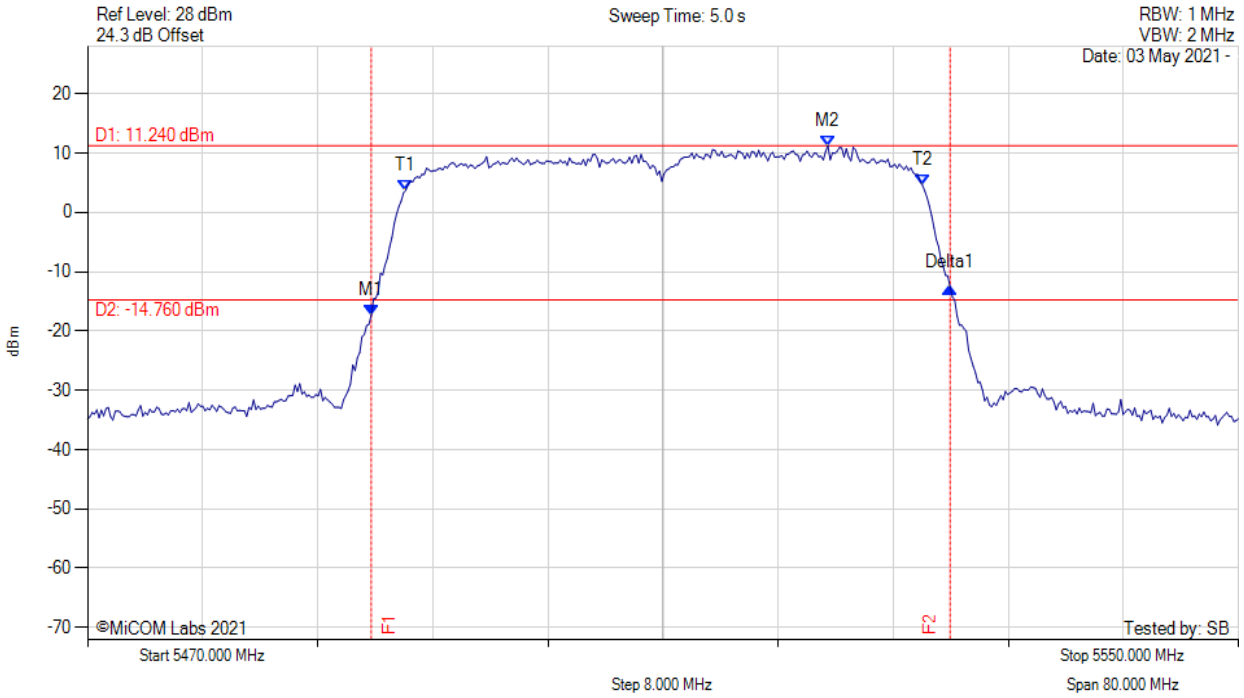


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5489.880 MHz : -17.336 dBm M2 : 5522.906 MHz : 9.572 dBm Delta1 : 40.080 MHz : 3.378 dB T1 : 5492.124 MHz : 2.462 dBm T2 : 5528.196 MHz : 2.637 dBm OBW : 36.072 MHz	Measured 26 dB Bandwidth: 40.080 MHz Measured 99% Bandwidth: 36.072 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5510.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5489.719 MHz : -17.387 dBm M2 : 5521.463 MHz : 11.240 dBm Delta1 : 40.240 MHz : 4.710 dB T1 : 5492.124 MHz : 3.739 dBm T2 : 5528.036 MHz : 4.598 dBm OBW : 35.912 MHz	Measured 26 dB Bandwidth: 40.240 MHz Measured 99% Bandwidth: 35.912 MHz

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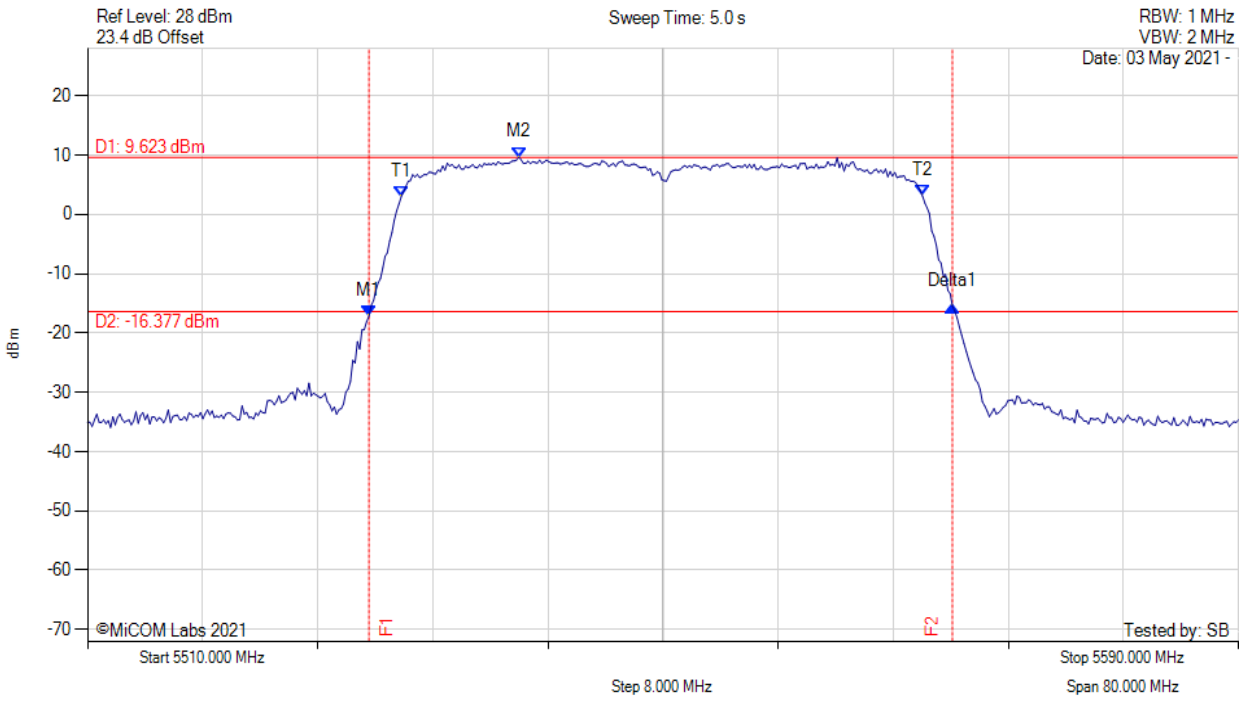
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5550.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5529.559 MHz : -17.172 dBm M2 : 5539.980 MHz : 9.623 dBm Delta1 : 40.561 MHz : 1.684 dB T1 : 5531.804 MHz : 2.963 dBm T2 : 5568.036 MHz : 3.139 dBm OBW : 36.232 MHz	Measured 26 dB Bandwidth: 40.561 MHz Measured 99% Bandwidth: 36.232 MHz

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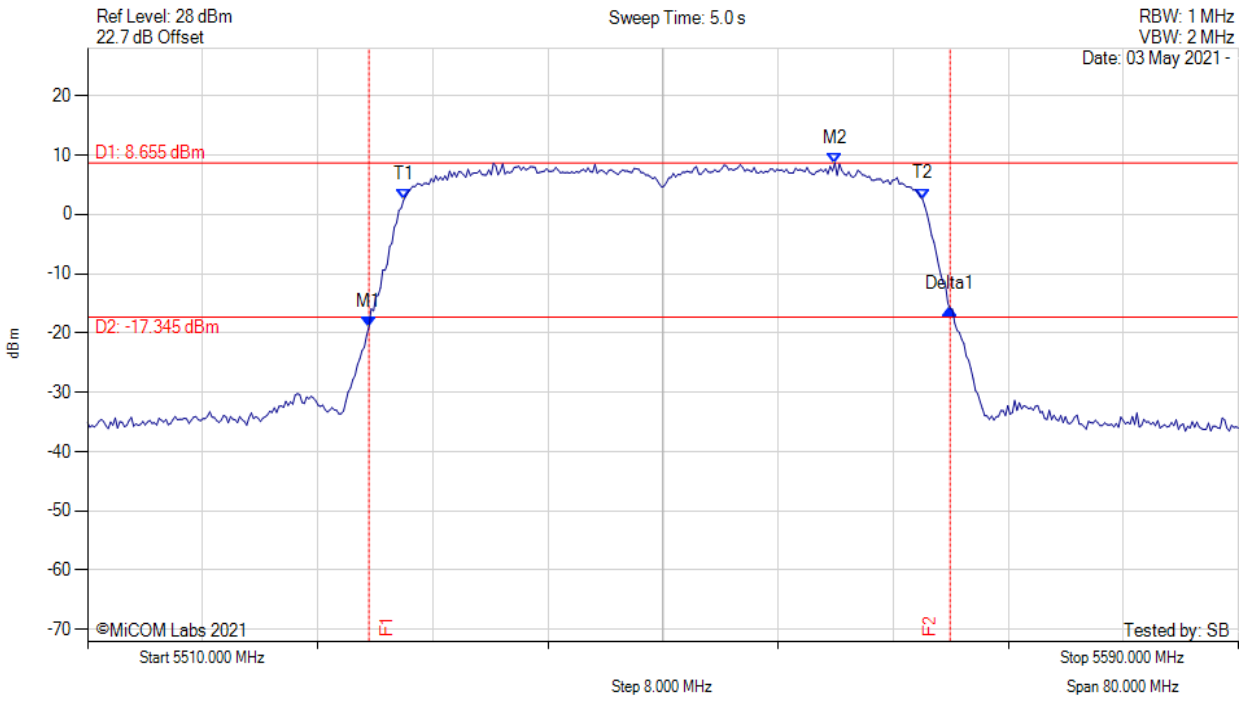
26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5550.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

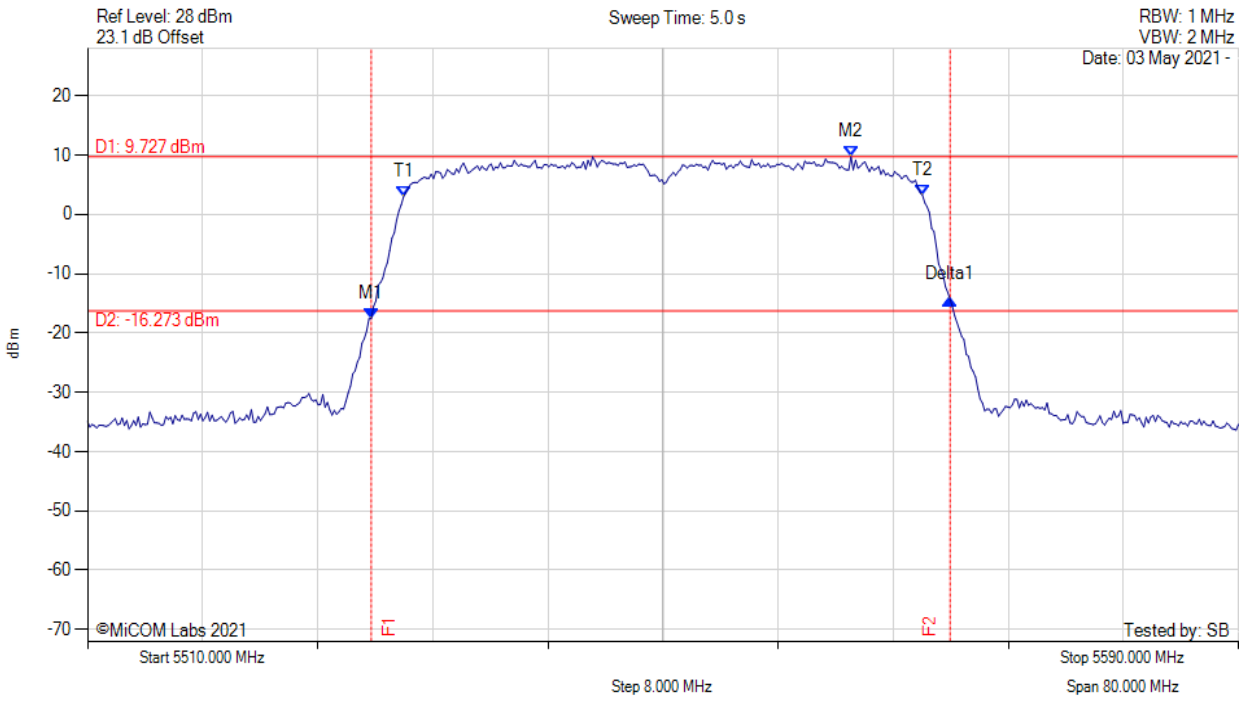


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5529.559 MHz : -18.935 dBm M2 : 5561.944 MHz : 8.655 dBm Delta1 : 40.401 MHz : 3.026 dB T1 : 5531.964 MHz : 2.399 dBm T2 : 5568.036 MHz : 2.613 dBm OBW : 36.072 MHz	Measured 26 dB Bandwidth: 40.401 MHz Measured 99% Bandwidth: 36.072 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5550.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

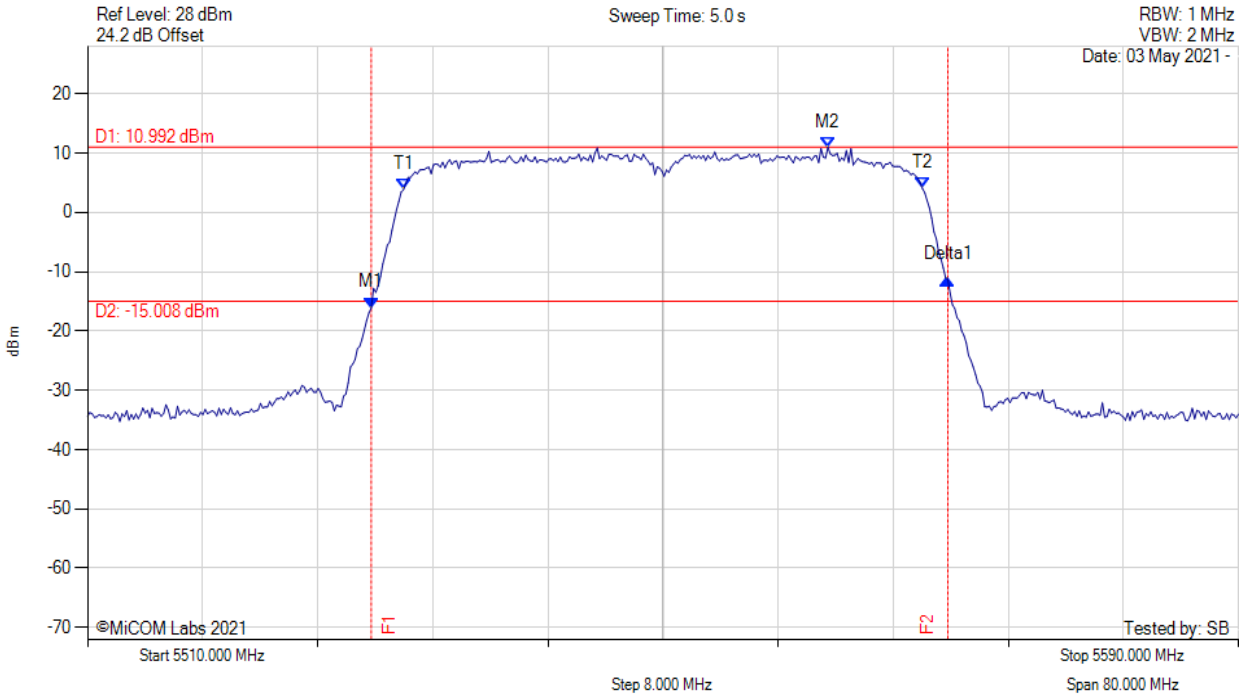


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5529.719 MHz : -17.570 dBm M2 : 5563.066 MHz : 9.727 dBm Delta1 : 40.240 MHz : 3.195 dB T1 : 5531.964 MHz : 2.973 dBm T2 : 5568.036 MHz : 3.229 dBm OBW : 36.072 MHz	Measured 26 dB Bandwidth: 40.240 MHz Measured 99% Bandwidth: 36.072 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5550.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

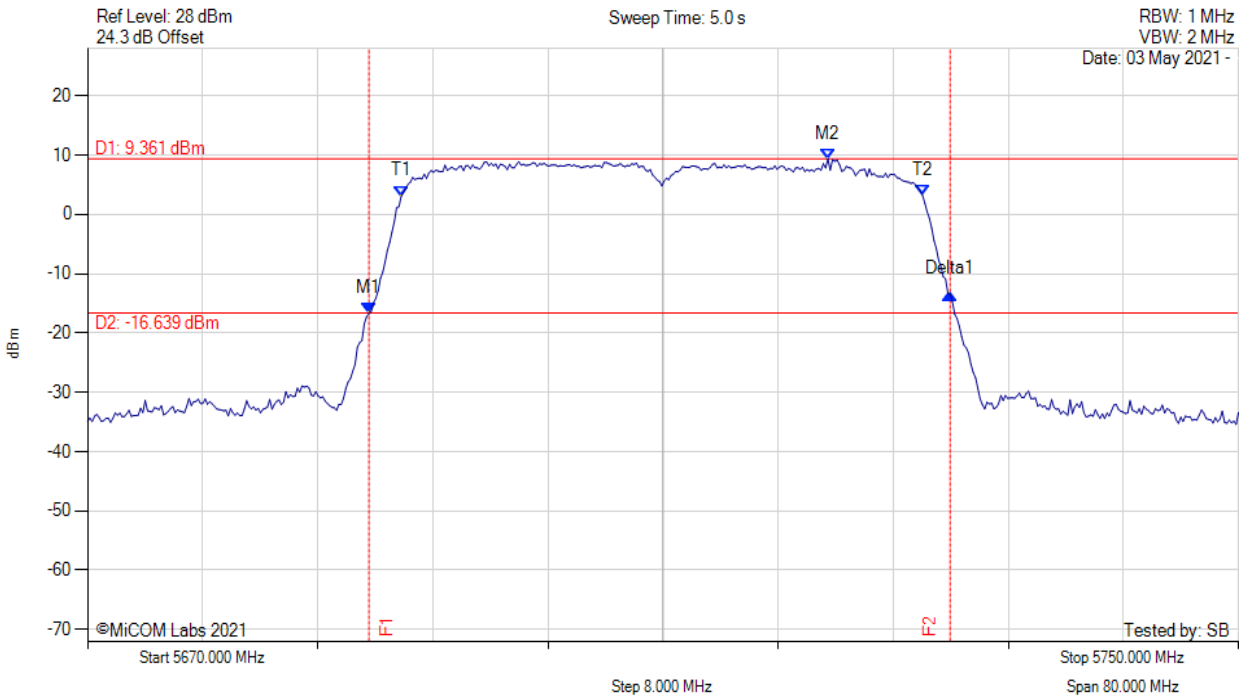


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5529.719 MHz : -16.092 dBm M2 : 5561.463 MHz : 10.992 dBm Delta1 : 40.080 MHz : 4.804 dB T1 : 5531.964 MHz : 3.841 dBm T2 : 5568.036 MHz : 4.045 dBm OBW : 36.072 MHz	Measured 26 dB Bandwidth: 40.080 MHz Measured 99% Bandwidth: 36.072 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5710.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

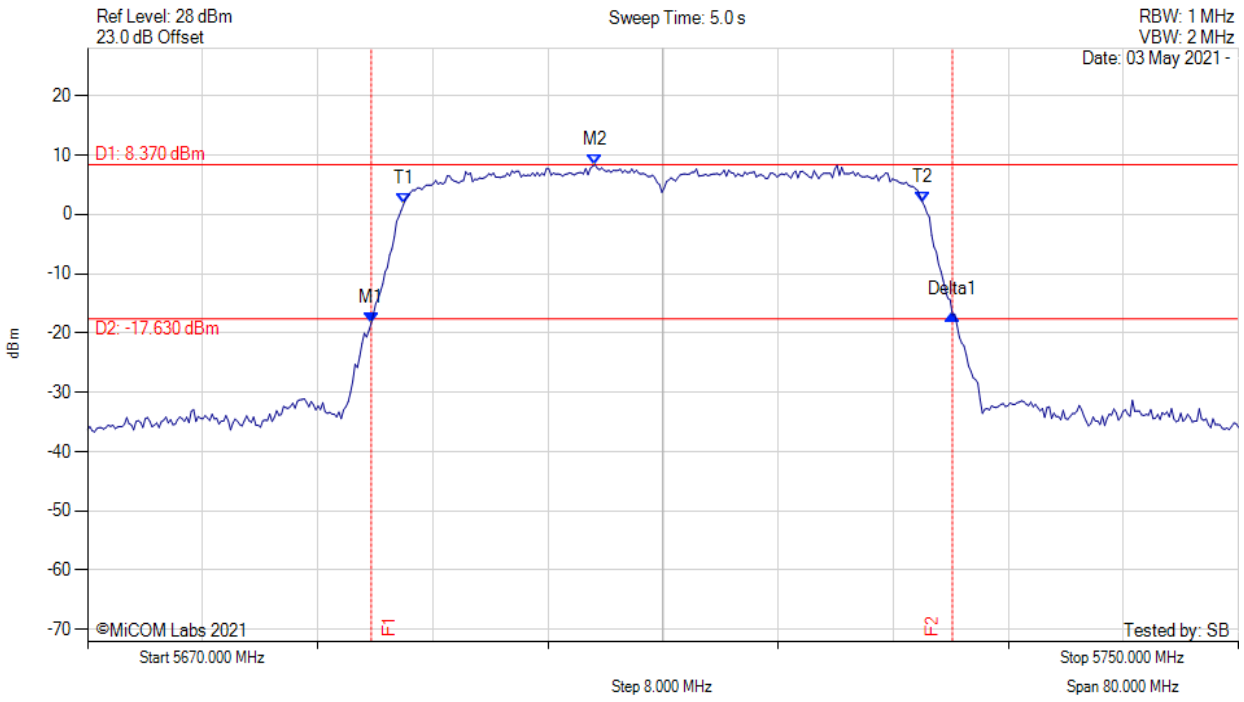


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5689.559 MHz : -16.720 dBm M2 : 5721.463 MHz : 9.361 dBm Delta1 : 40.401 MHz : 3.305 dB T1 : 5691.804 MHz : 3.068 dBm T2 : 5728.036 MHz : 3.243 dBm OBW : 36.232 MHz	Measured 26 dB Bandwidth: 40.401 MHz Measured 99% Bandwidth: 36.232 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5710.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

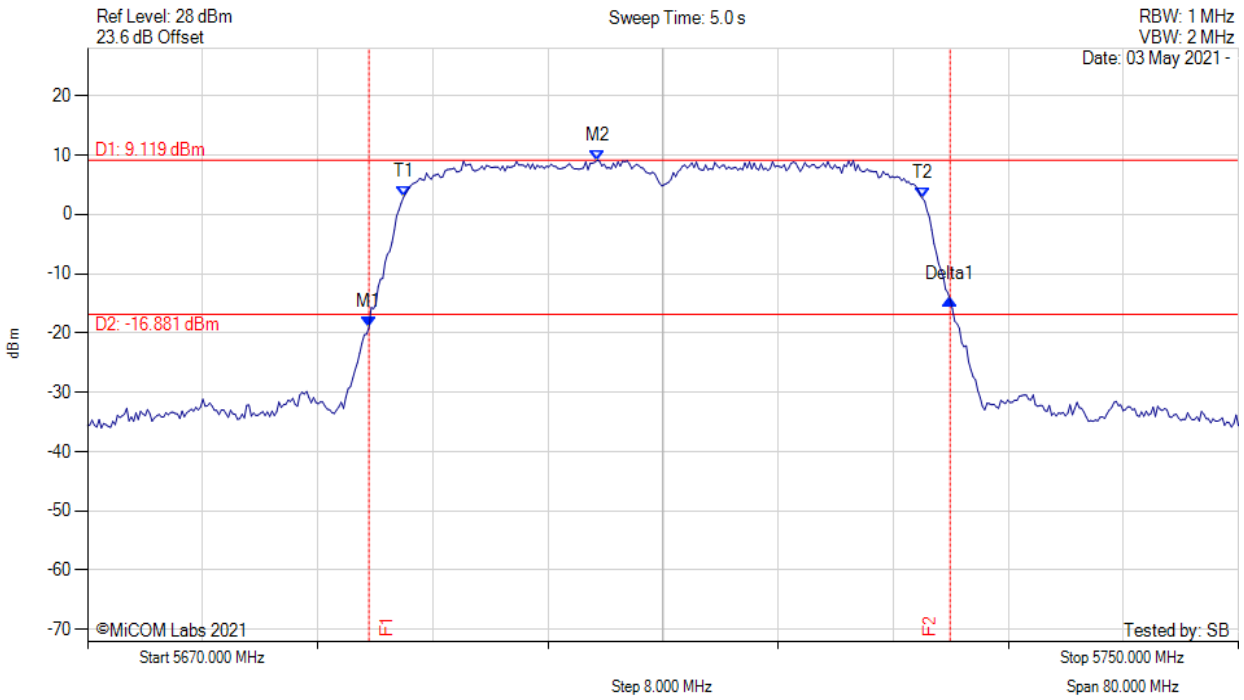


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5689.719 MHz : -18.319 dBm M2 : 5705.271 MHz : 8.370 dBm Delta1 : 40.401 MHz : 1.334 dB T1 : 5691.964 MHz : 1.706 dBm T2 : 5728.036 MHz : 2.068 dBm OBW : 36.072 MHz	Measured 26 dB Bandwidth: 40.401 MHz Measured 99% Bandwidth: 36.072 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5710.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

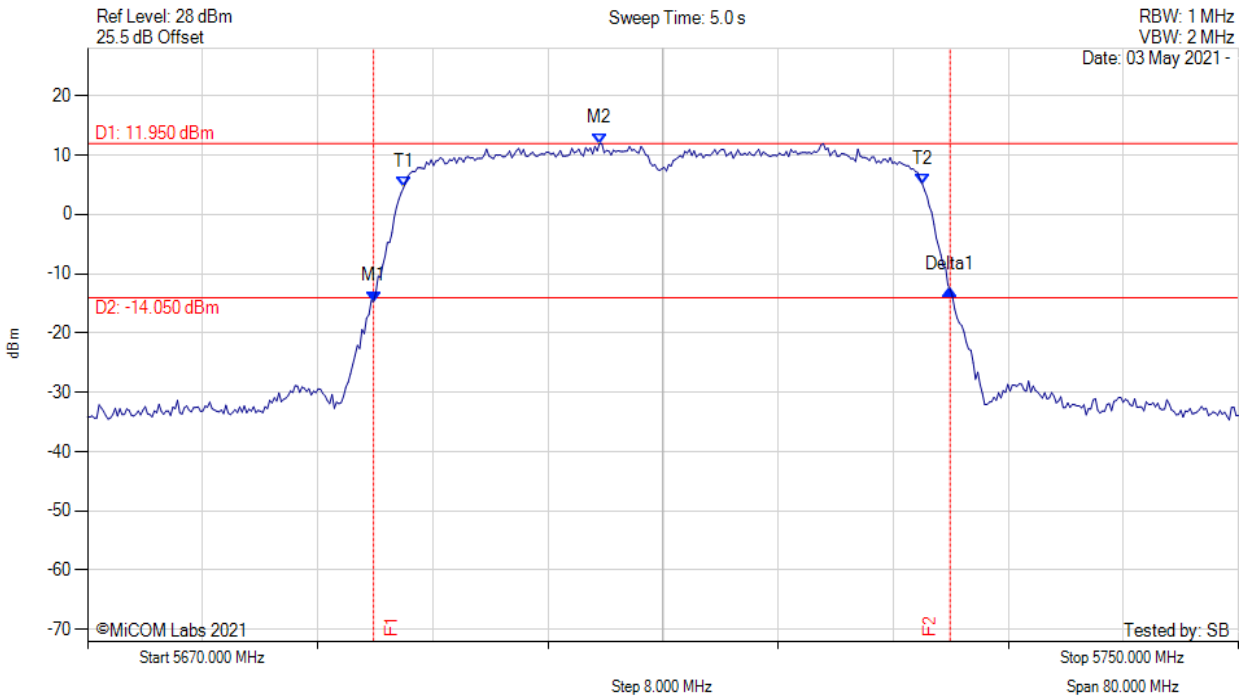


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5689.559 MHz : -19.079 dBm M2 : 5705.431 MHz : 9.119 dBm Delta1 : 40.401 MHz : 4.667 dB T1 : 5691.964 MHz : 2.897 dBm T2 : 5728.036 MHz : 2.714 dBm OBW : 36.072 MHz	Measured 26 dB Bandwidth: 40.401 MHz Measured 99% Bandwidth: 36.072 MHz

back to matrix

26 dB & 99% BANDWIDTH

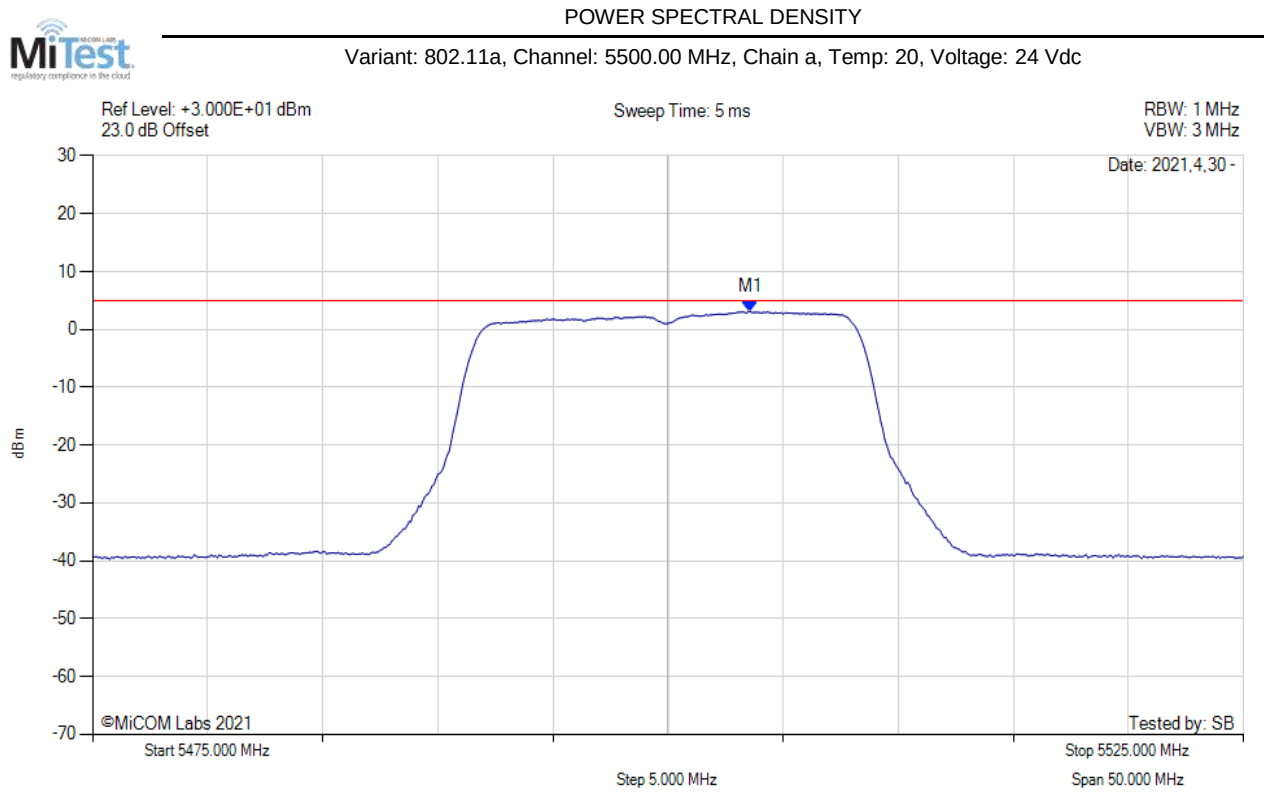
Variant: 802.11n HT-40, Channel: 5710.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = MAX PEAK Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAX HOLD	M1 : 5689.880 MHz : -14.678 dBm M2 : 5705.591 MHz : 11.950 dBm Delta1 : 40.080 MHz : 2.038 dB T1 : 5691.964 MHz : 4.510 dBm T2 : 5728.036 MHz : 5.070 dBm OBW : 36.072 MHz	Measured 26 dB Bandwidth: 40.080 MHz Measured 99% Bandwidth: 36.072 MHz

back to matrix

A.1. Power Spectral Density

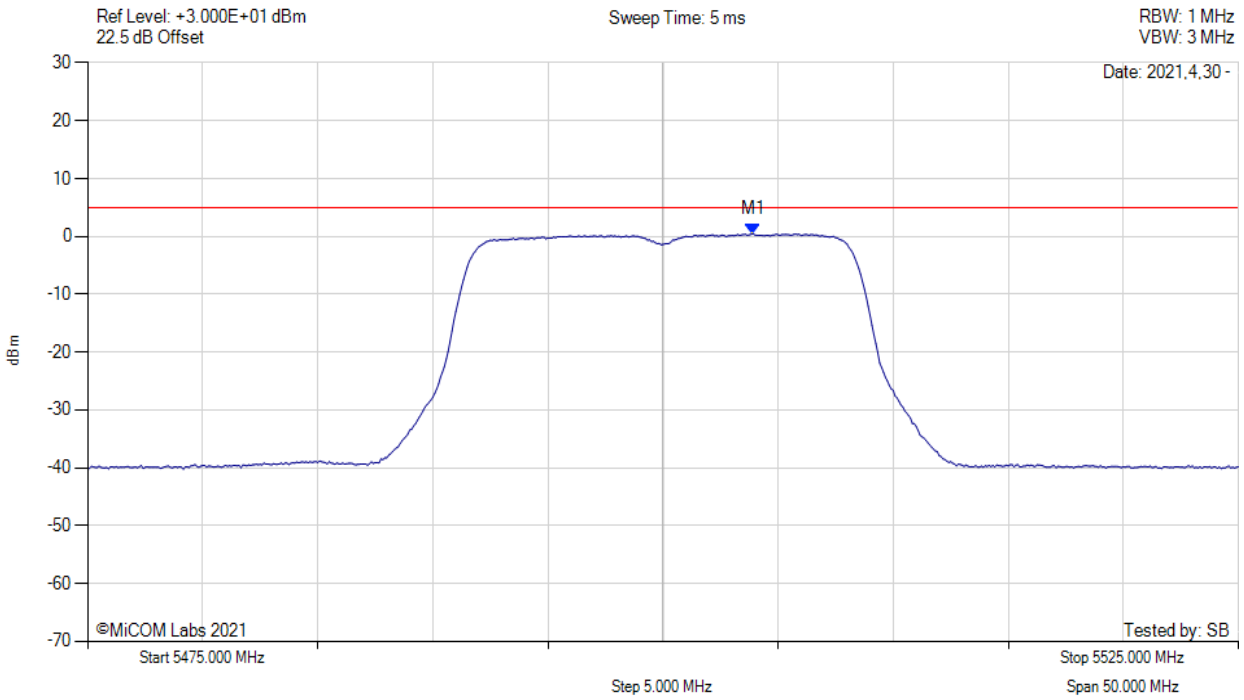


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5503.580 MHz : 3.063 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5500.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

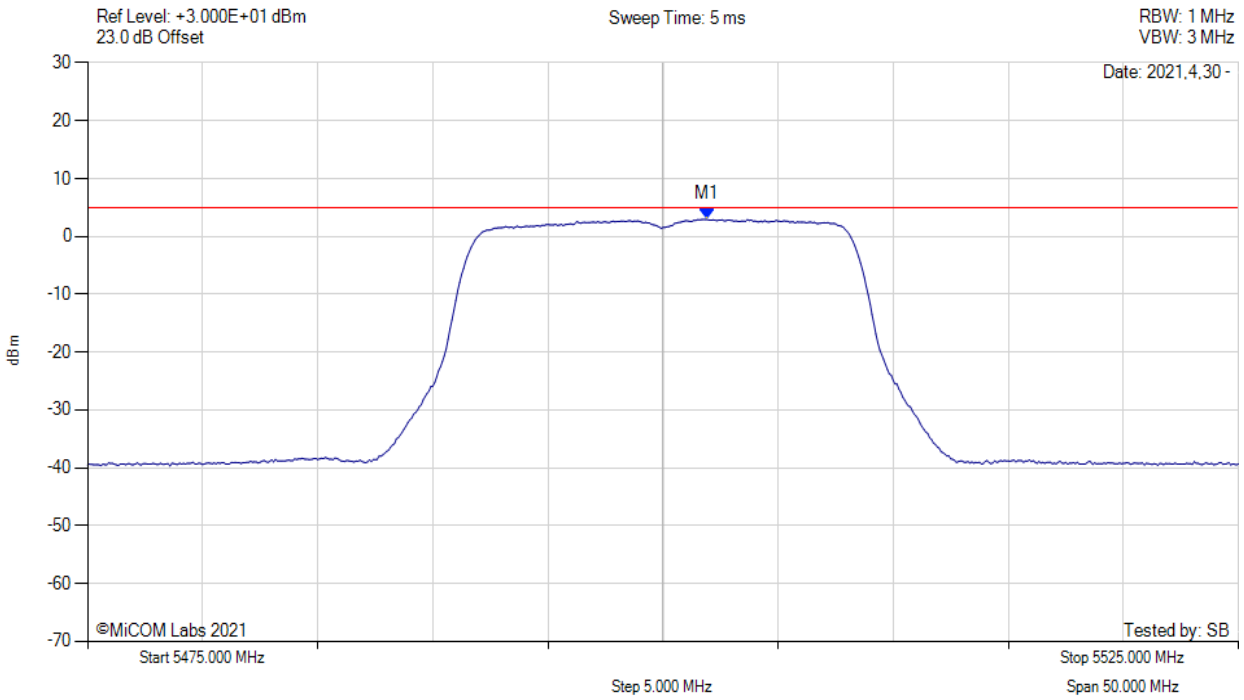


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5503.920 MHz : 0.457 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5500.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

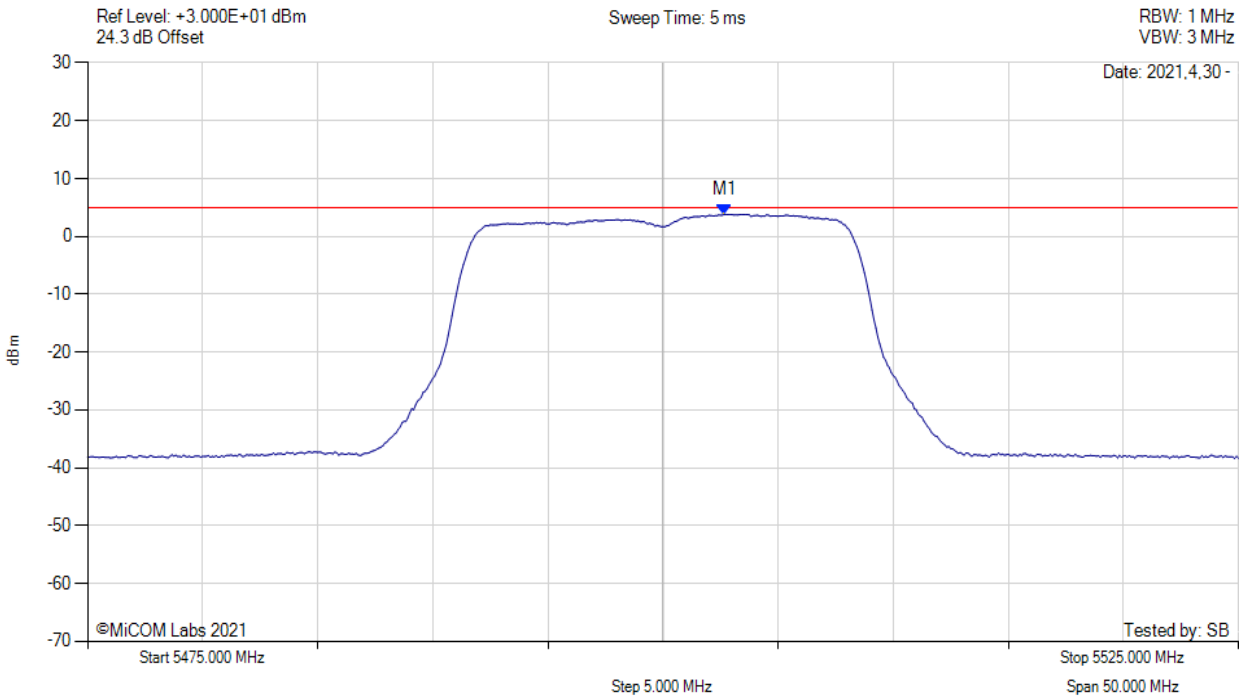


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5501.920 MHz : 2.936 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5500.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

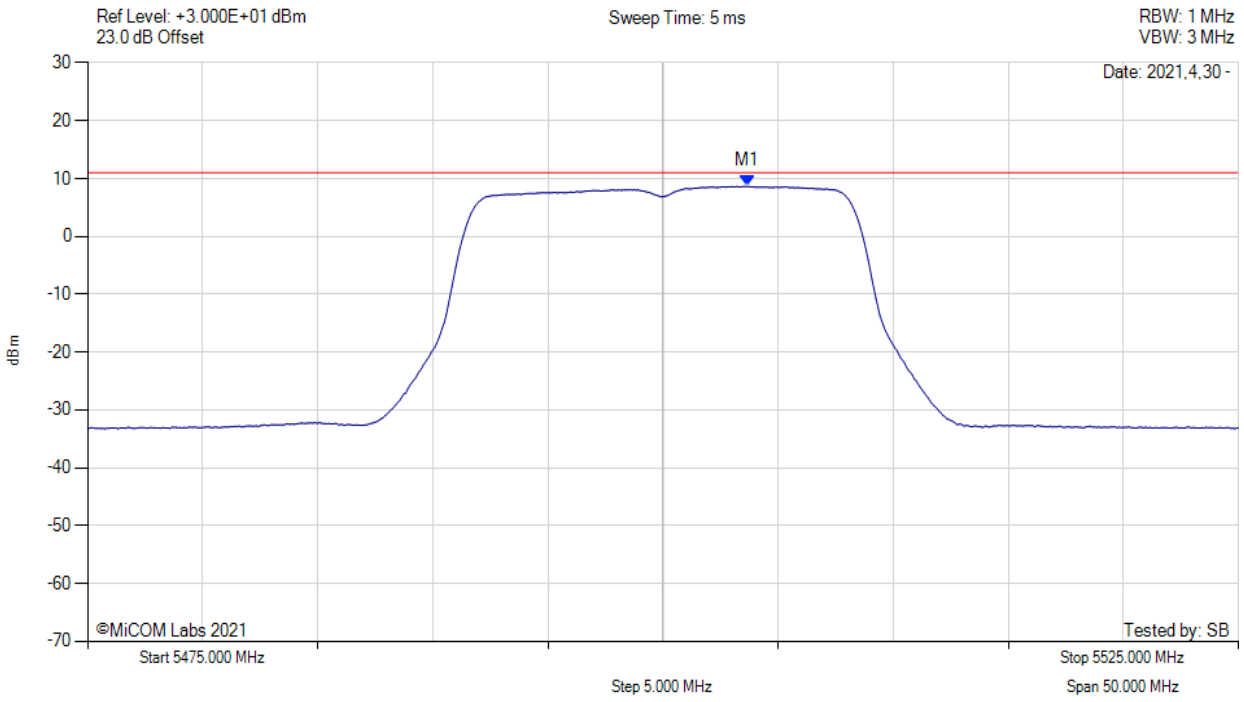


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5502.670 MHz : 3.810 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5500.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

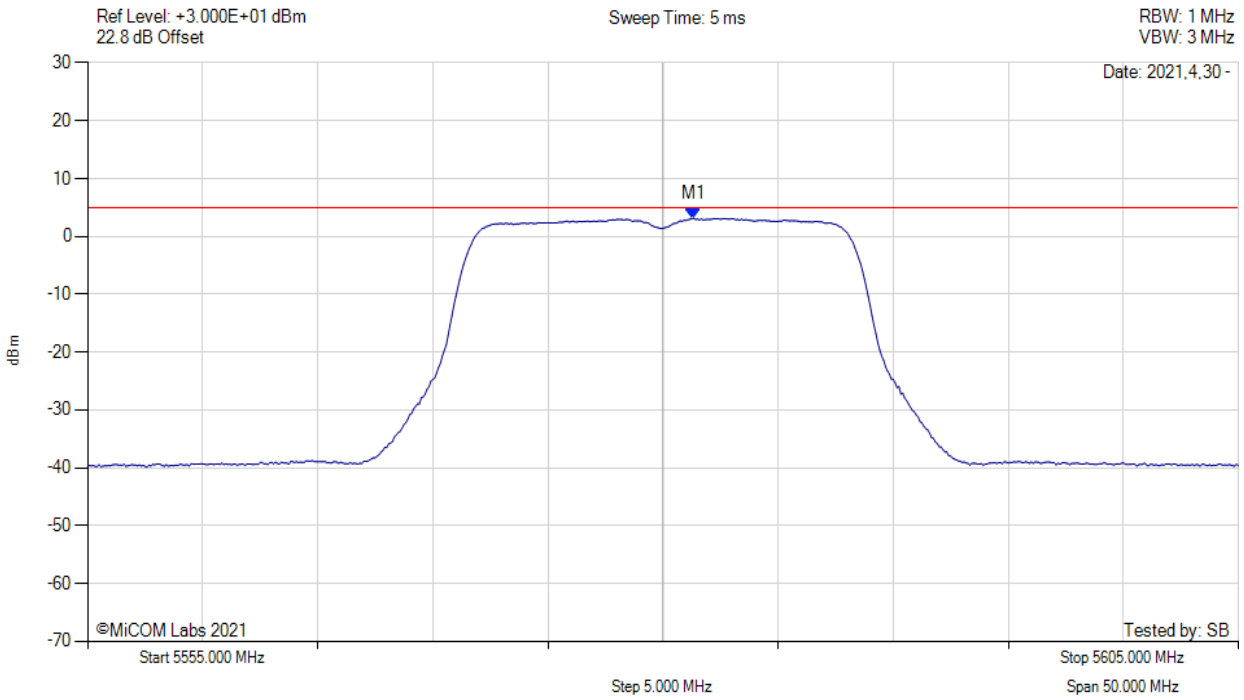


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5503.700 MHz : 8.661 dBm M1 + DCCF : 5503.700 MHz : 8.705 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 11.0 dBm Margin: -2.3 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5580.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

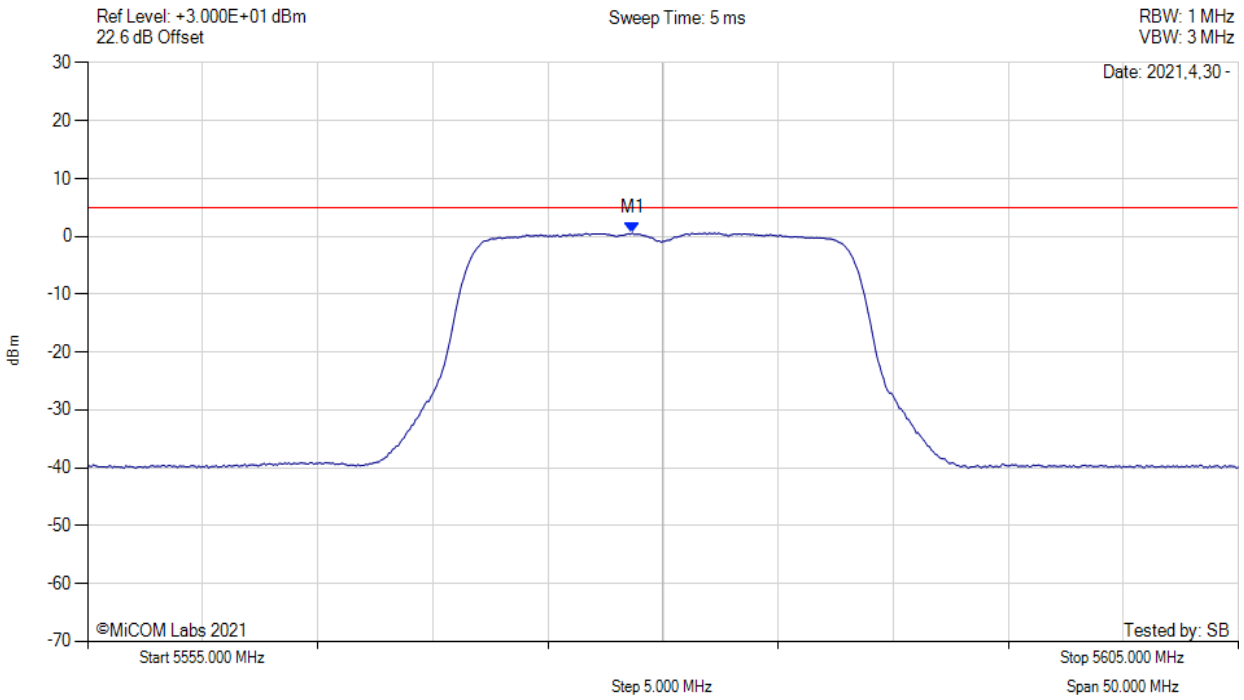


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5581.330 MHz : 3.097 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5580.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

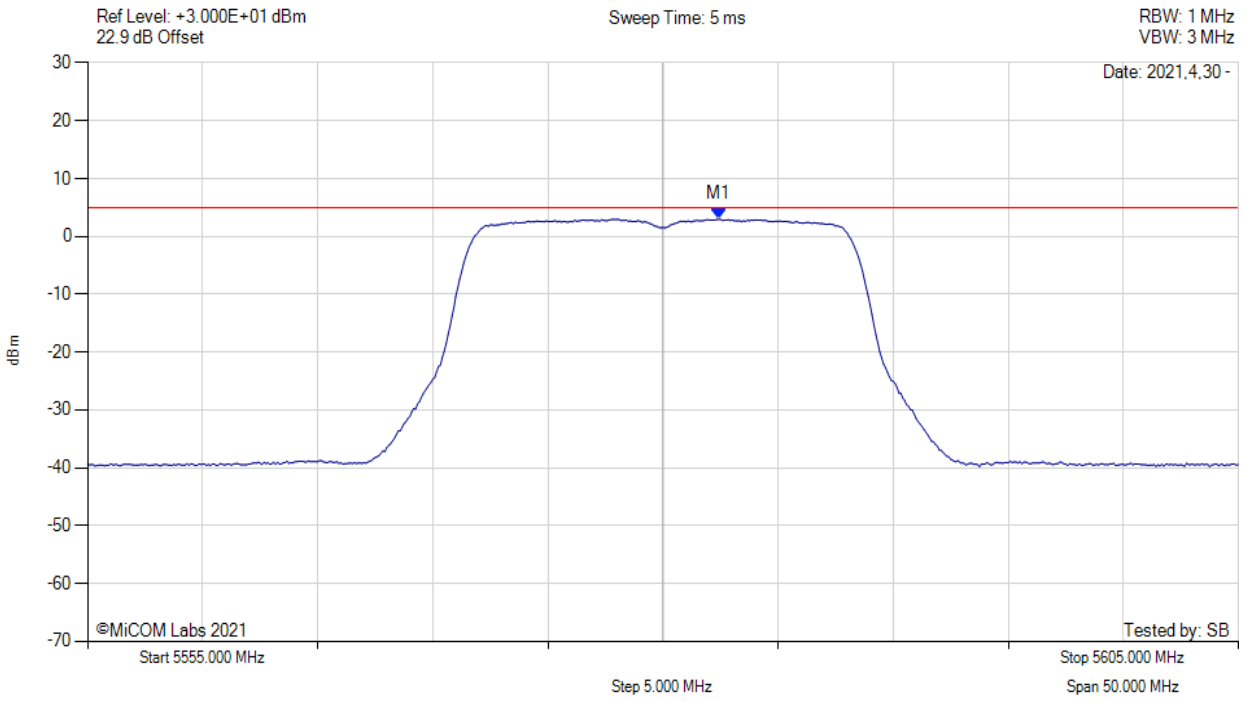


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5578.670 MHz : 0.589 dBm	Channel Frequency: 5580.00 MHz

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5580.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

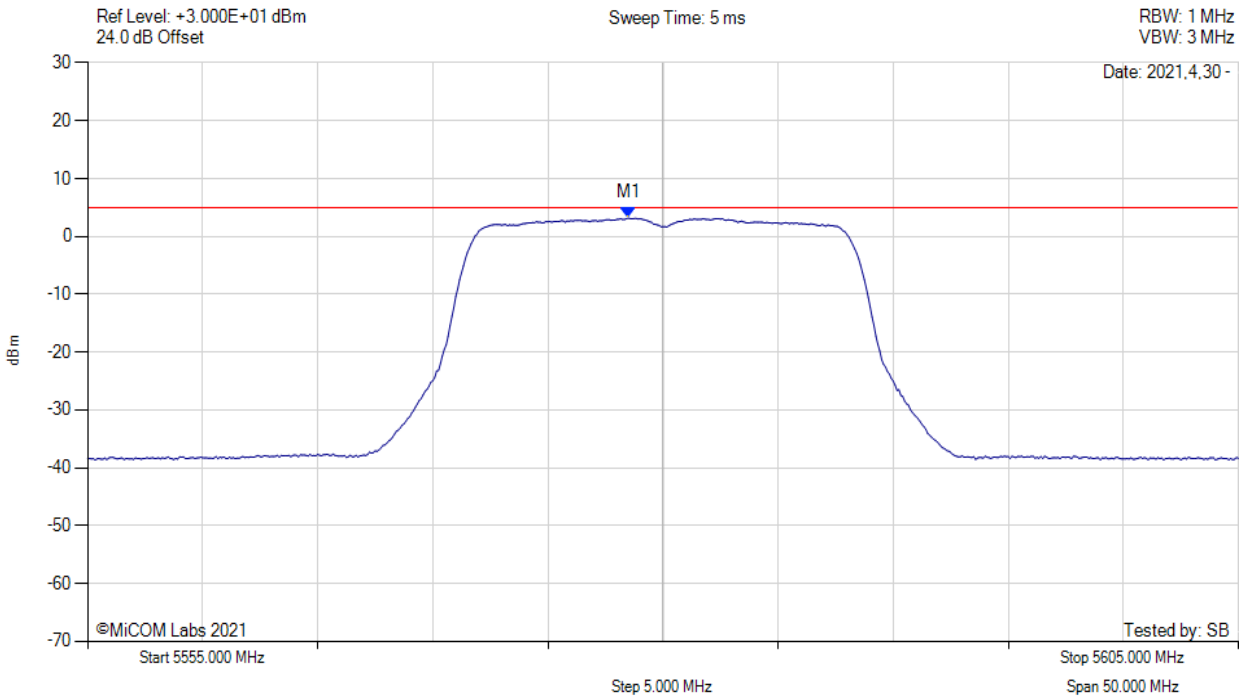


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5582.420 MHz : 2.983 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5580.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

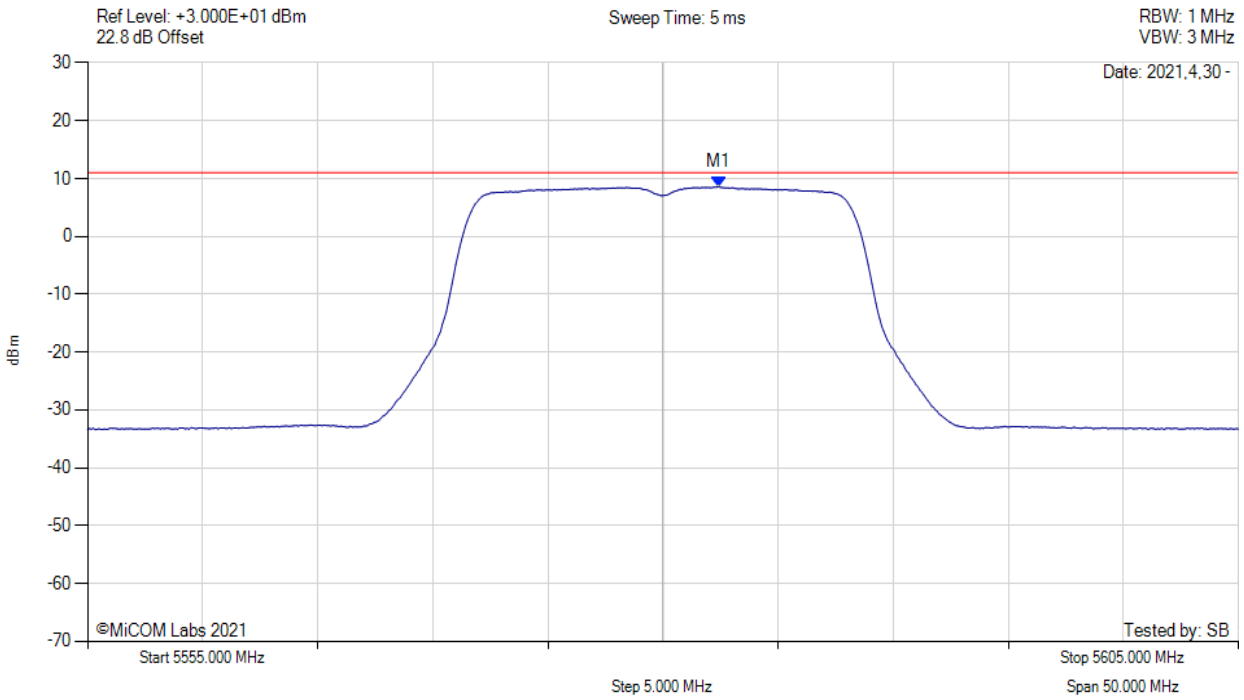


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5578.500 MHz : 3.164 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5580.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

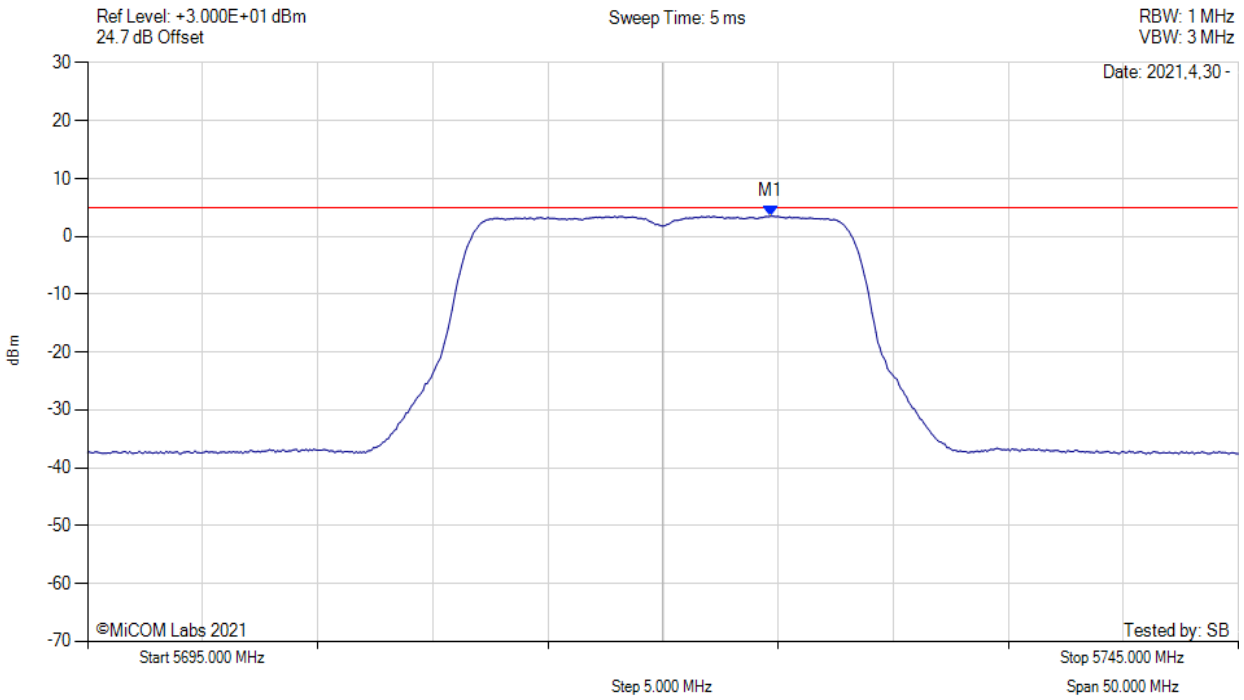


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5582.400 MHz : 8.563 dBm M1 + DCCF : 5582.400 MHz : 8.607 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 11.0 dBm Margin: -2.4 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5720.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

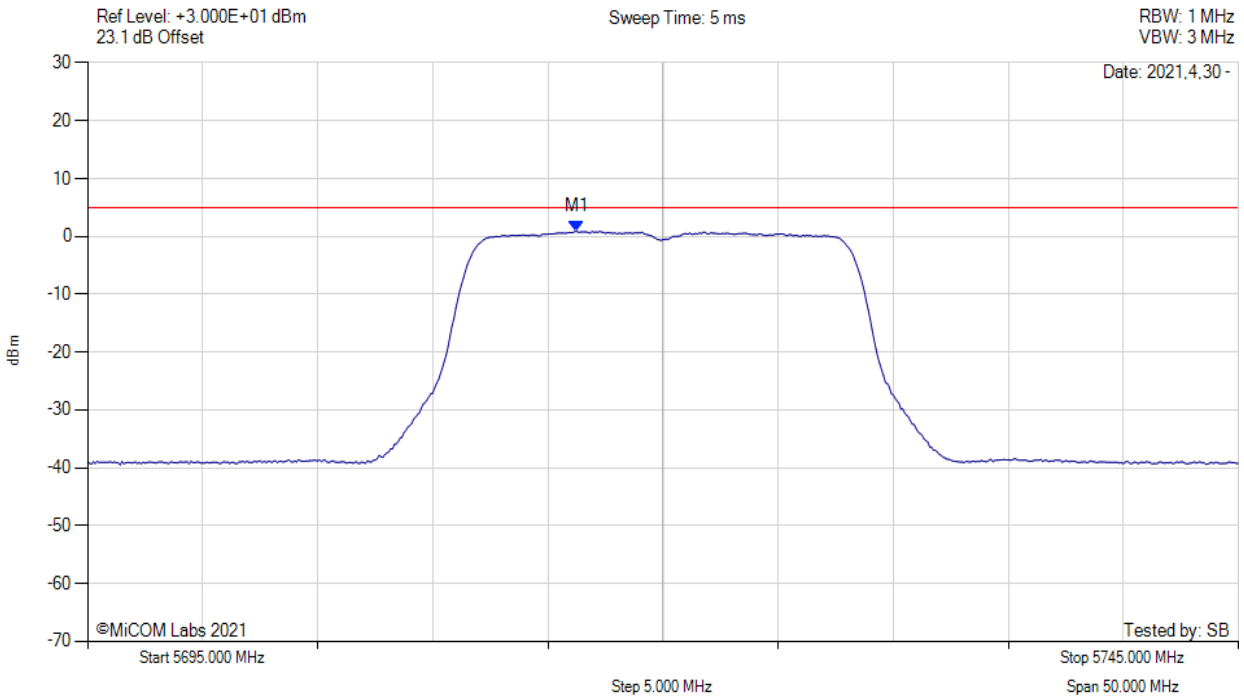


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5724.670 MHz : 3.484 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5720.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

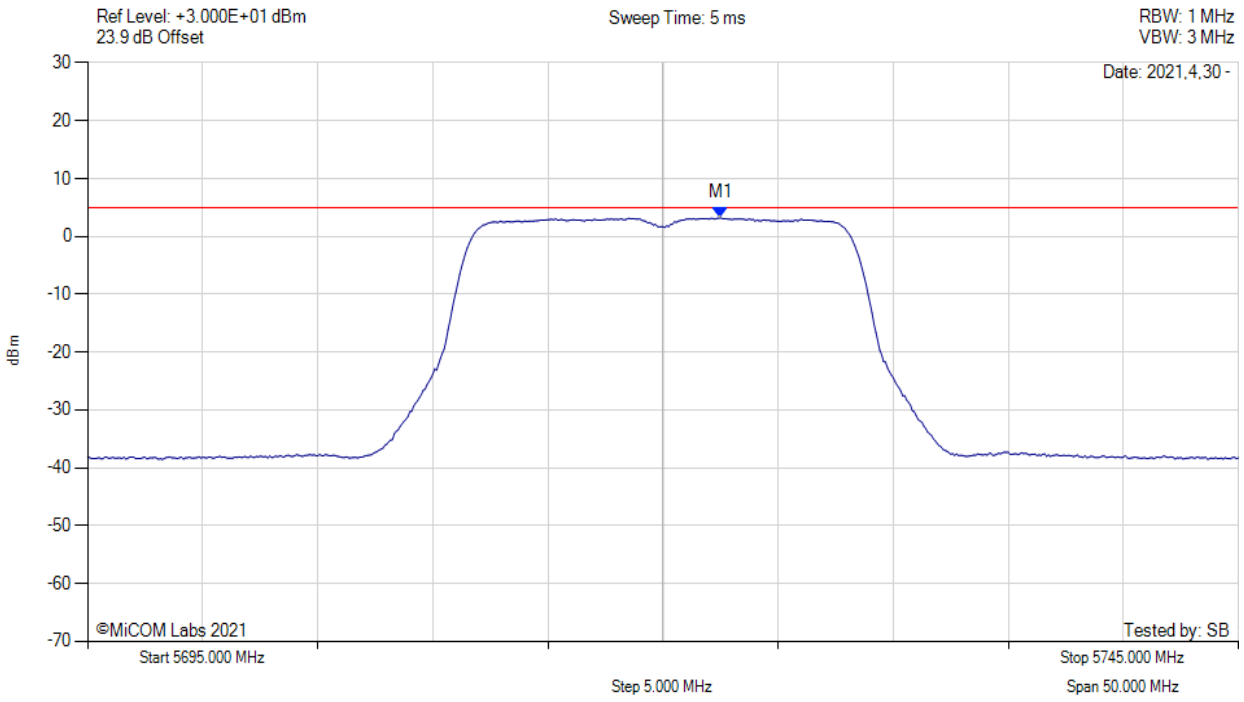


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5716.250 MHz : 0.880 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5720.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

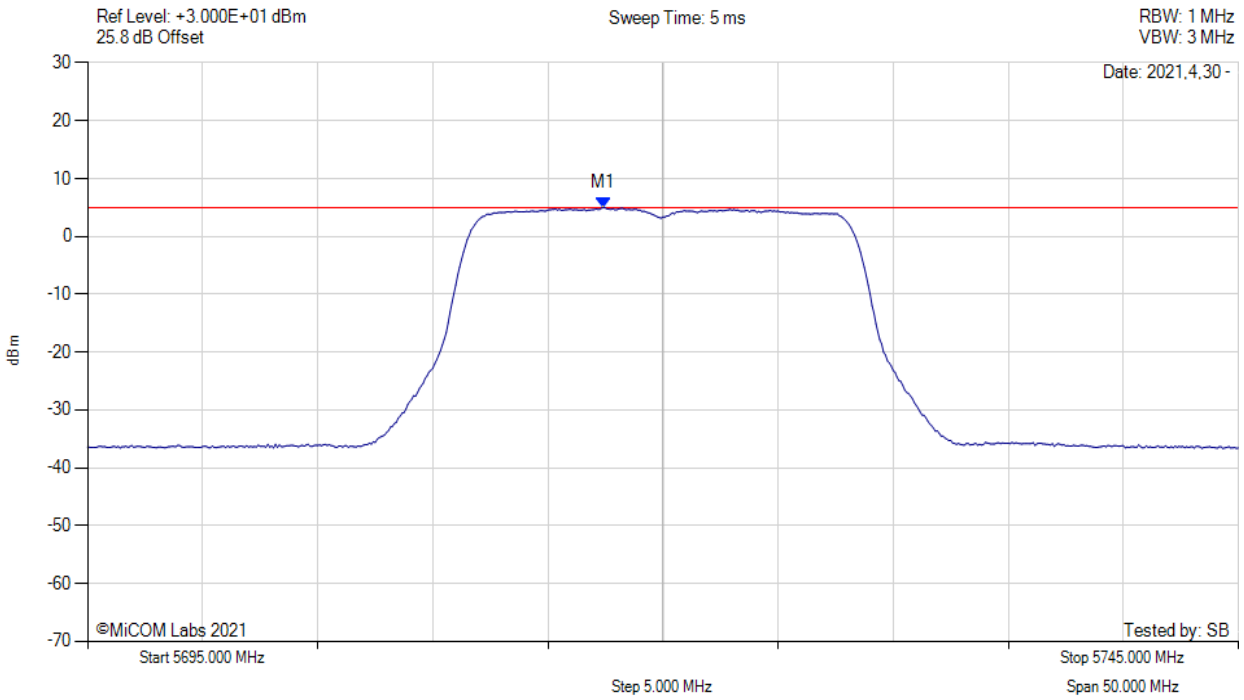


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5722.500 MHz : 3.225 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5720.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

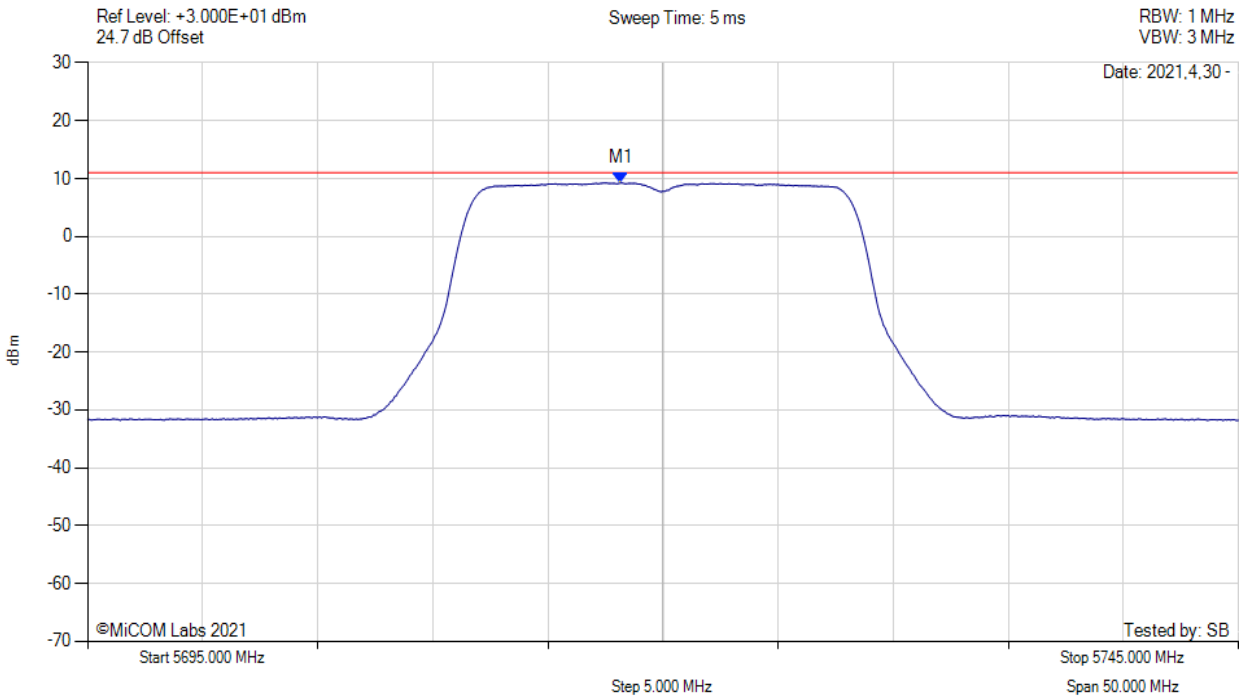


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5717.420 MHz : 4.982 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5720.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

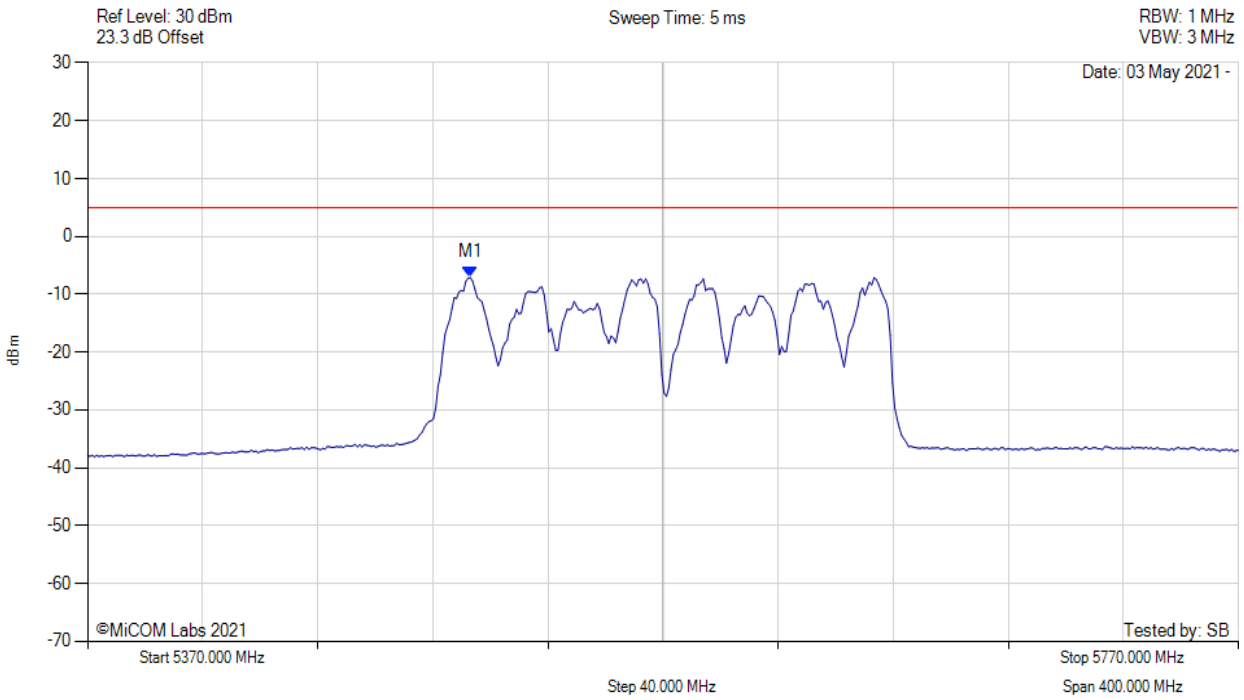


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5718.200 MHz : 9.246 dBm M1 + DCCF : 5718.200 MHz : 9.290 dBm Duty Cycle Correction Factor : +0.04 dB	Limit: ≤ 11.0 dBm Margin: -1.7 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-160, Channel: 5570.00 MHz, Combined, Temp: 20, Voltage: 24 Vdc

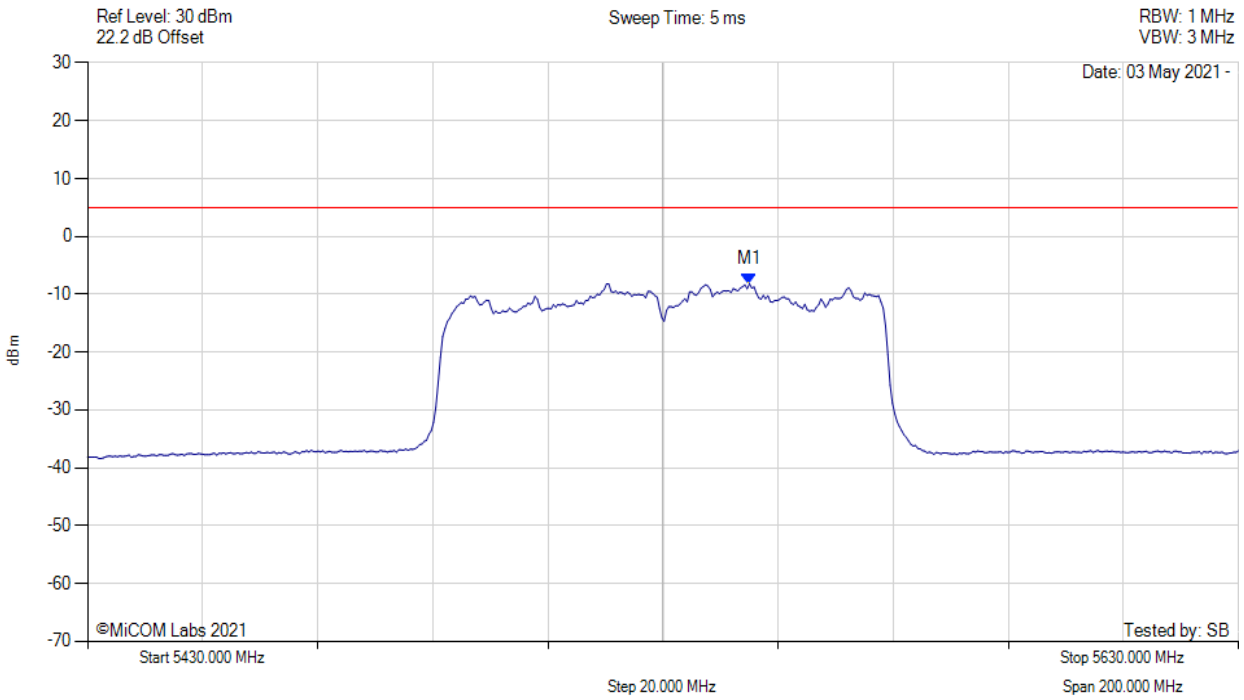


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5503.066 MHz : -7.126 dBm	Channel Frequency: 5570.00 MHz

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5530.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

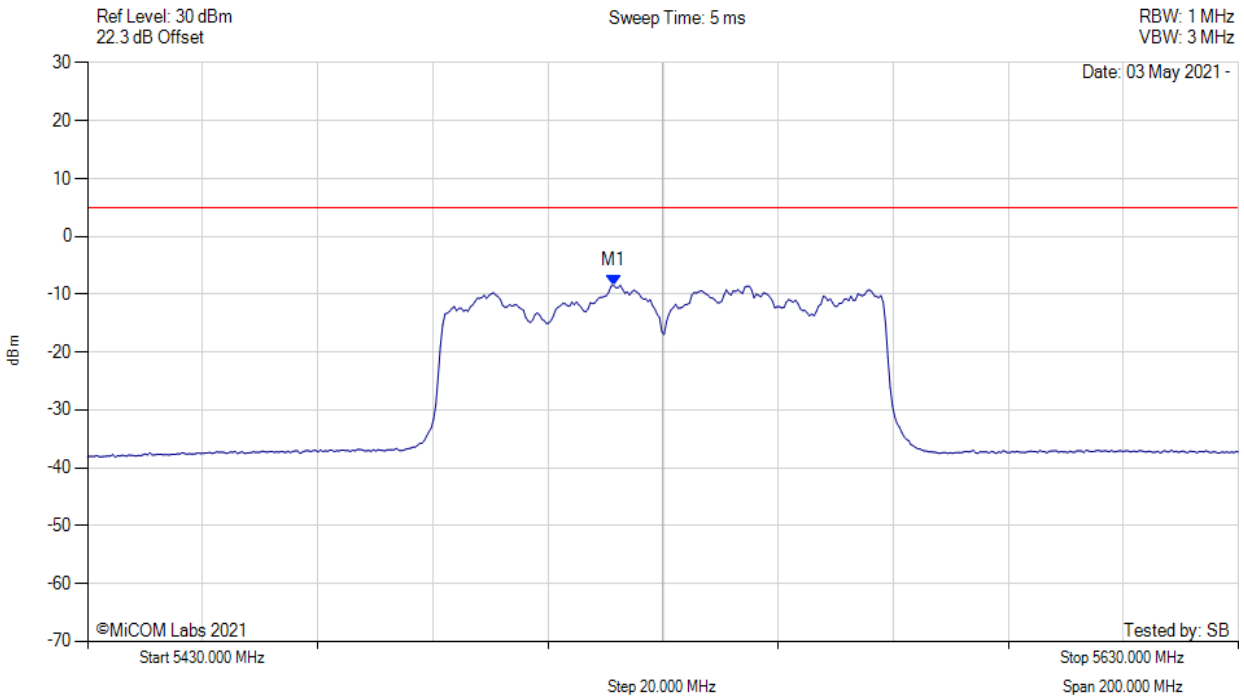


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5545.030 MHz : -8.185 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5530.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

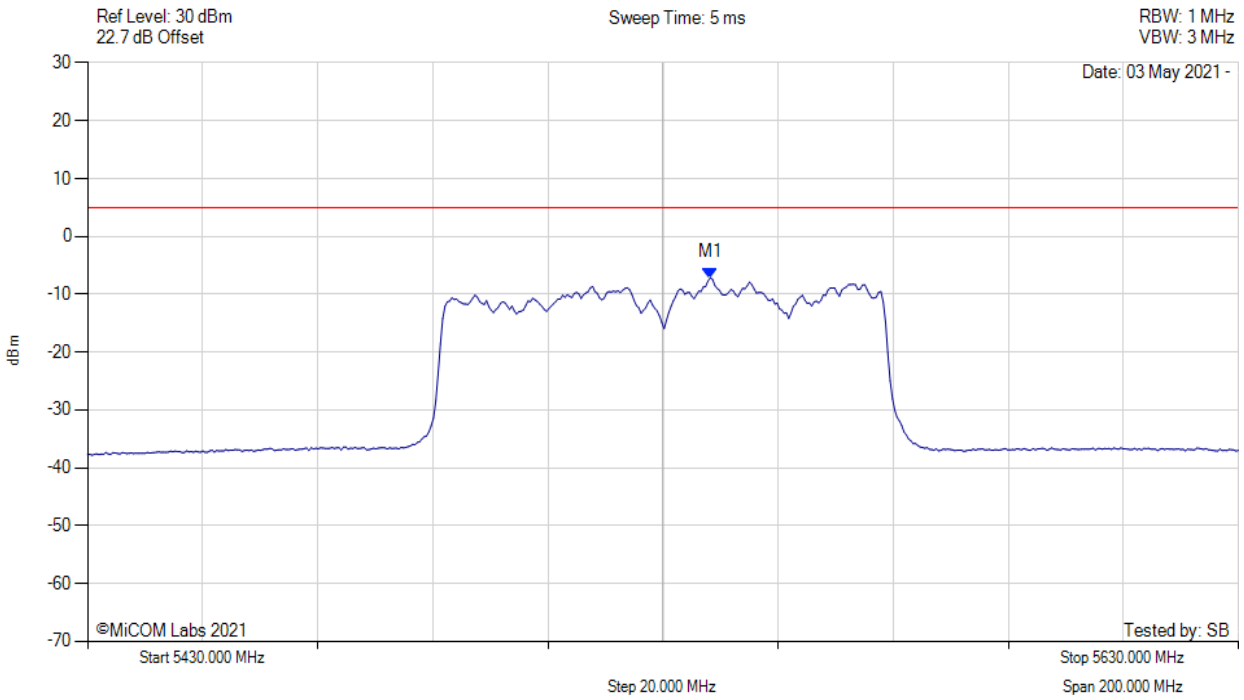


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5521.383 MHz : -8.427 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5530.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

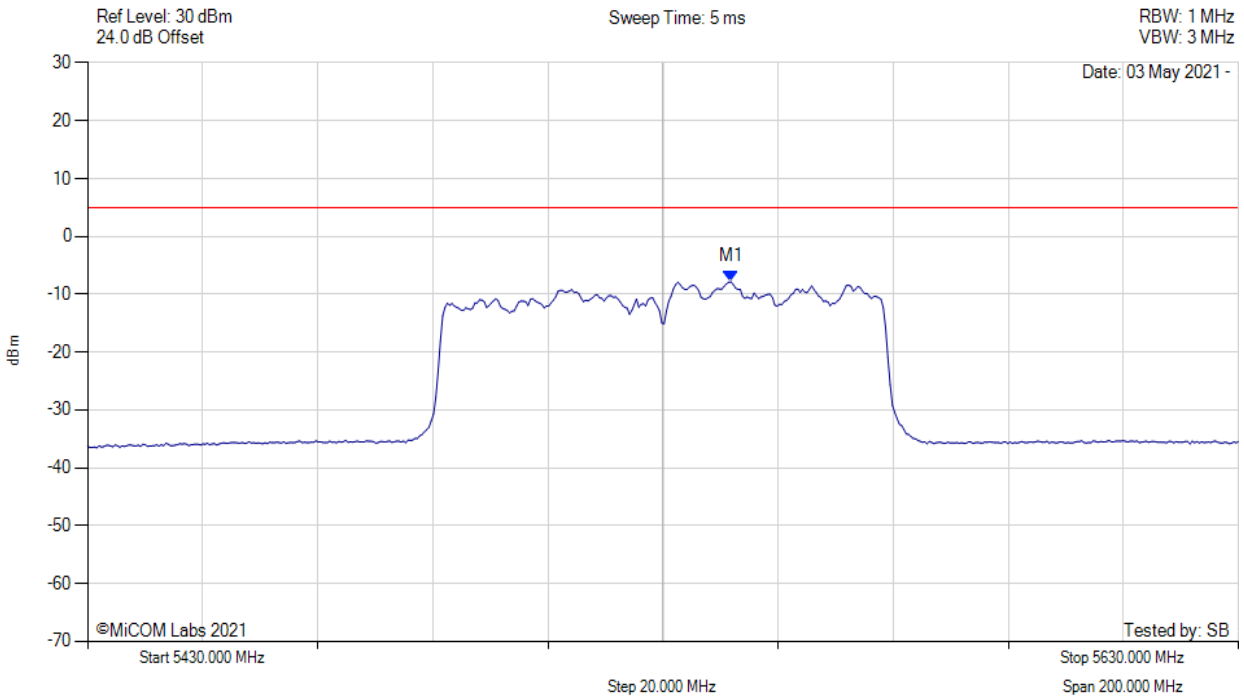


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5538.216 MHz : -7.167 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5530.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

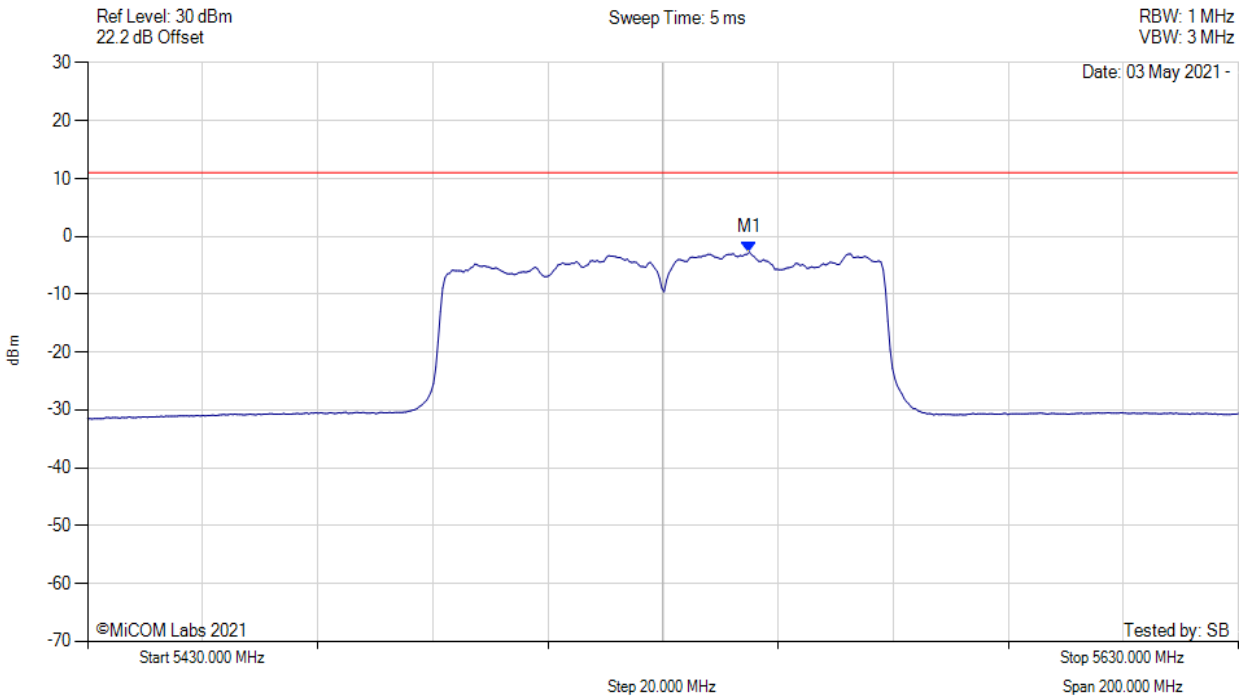


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5541.824 MHz : -7.841 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5530.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

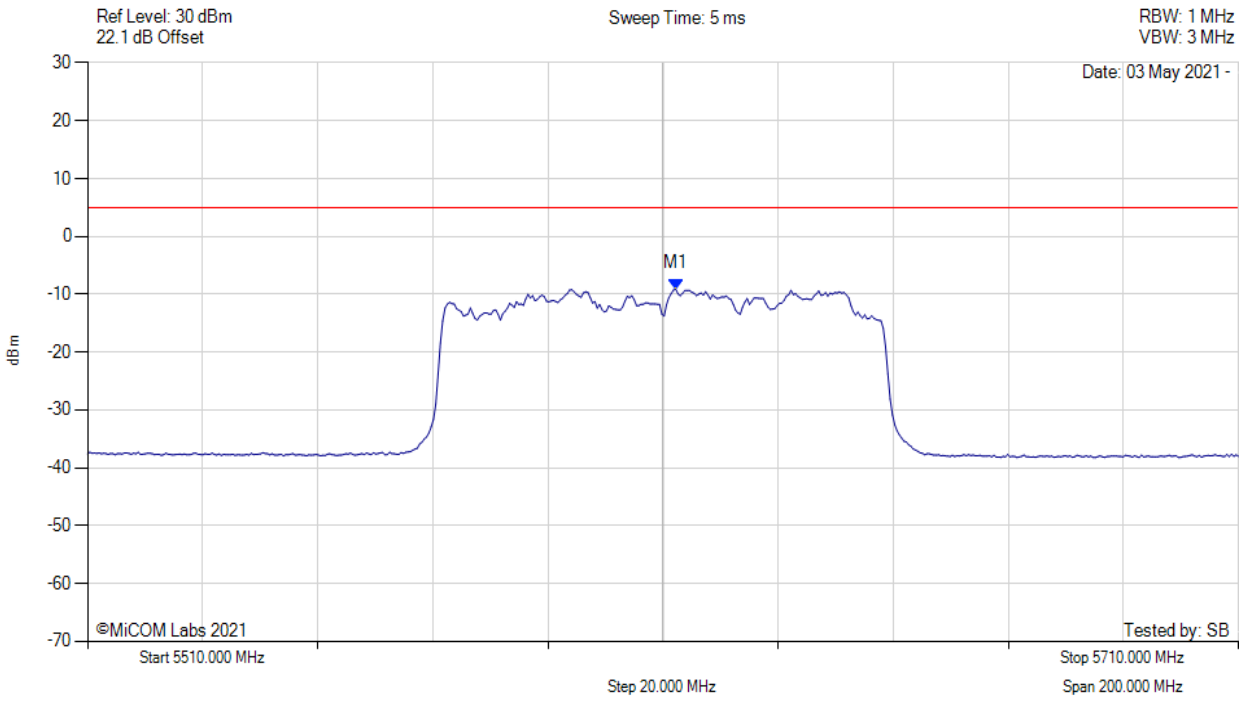


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5545.000 MHz : -2.692 dBm M1 + DCCF : 5545.000 MHz : -1.830 dBm Duty Cycle Correction Factor : +0.86 dB	Limit: ≤ 11.0 dBm Margin: -12.9 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5610.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

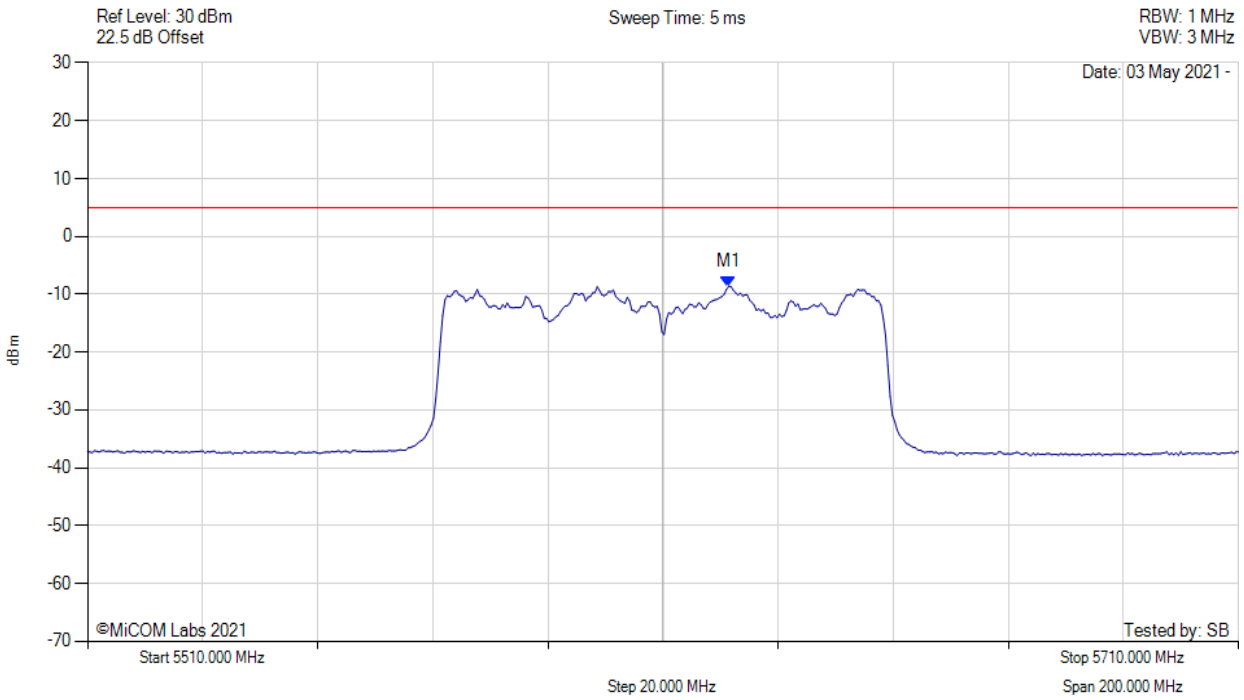


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5612.204 MHz : -9.075 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5610.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

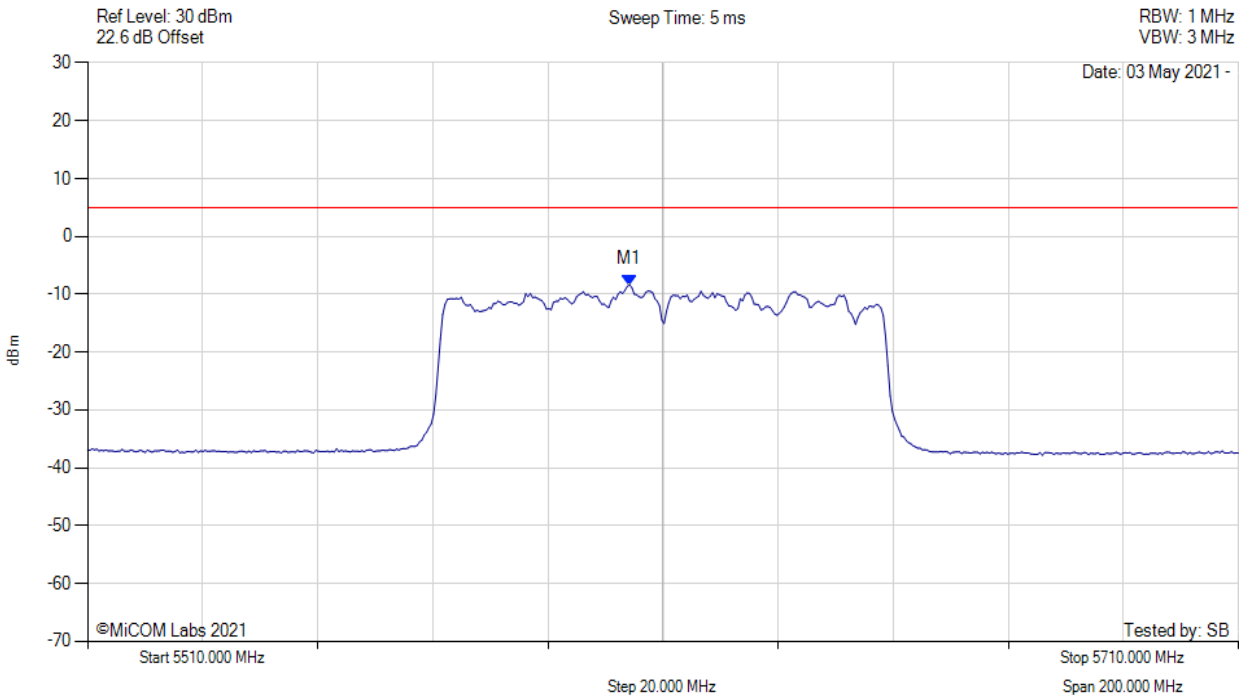


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5621.423 MHz : -8.621 dBm	Channel Frequency: 5610.00 MHz

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5610.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

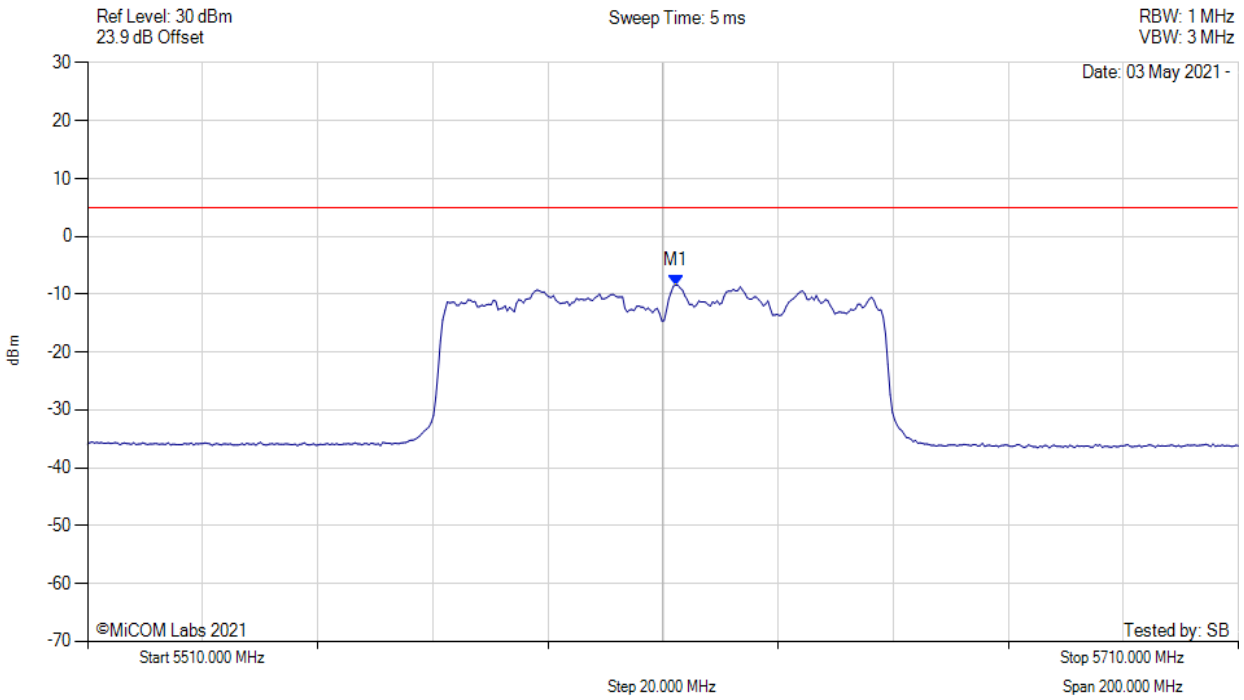


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5604.188 MHz : -8.354 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5610.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

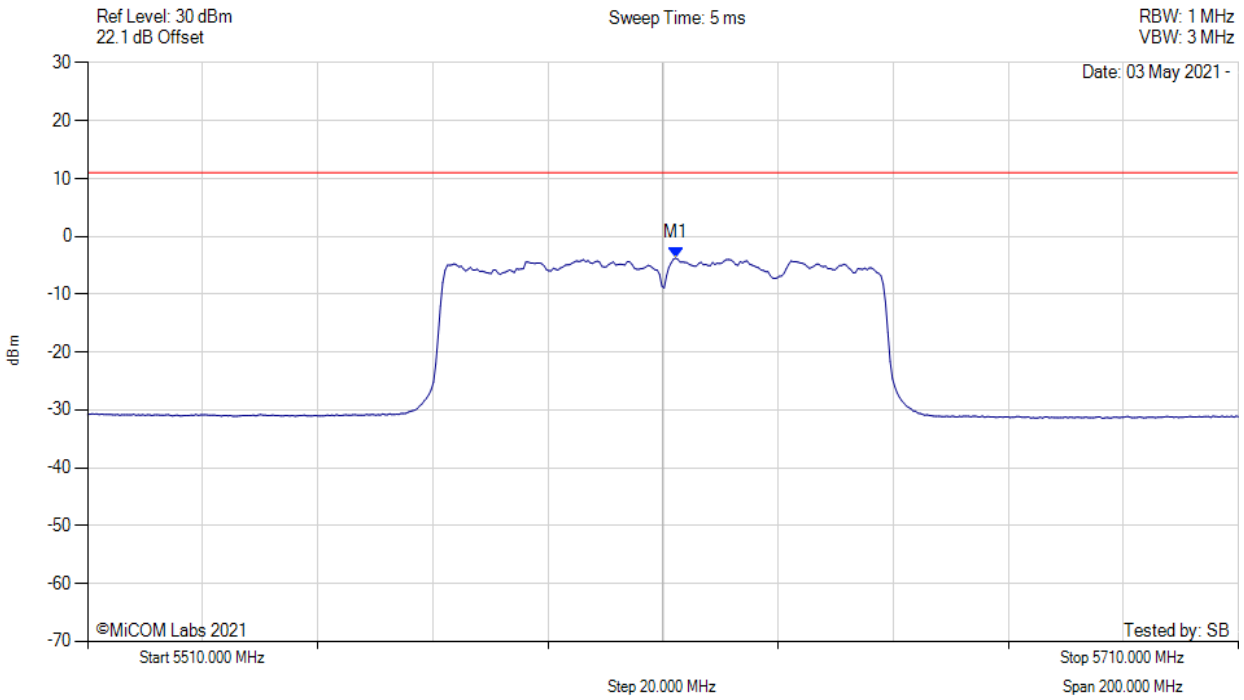


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5612.204 MHz : -8.396 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5610.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

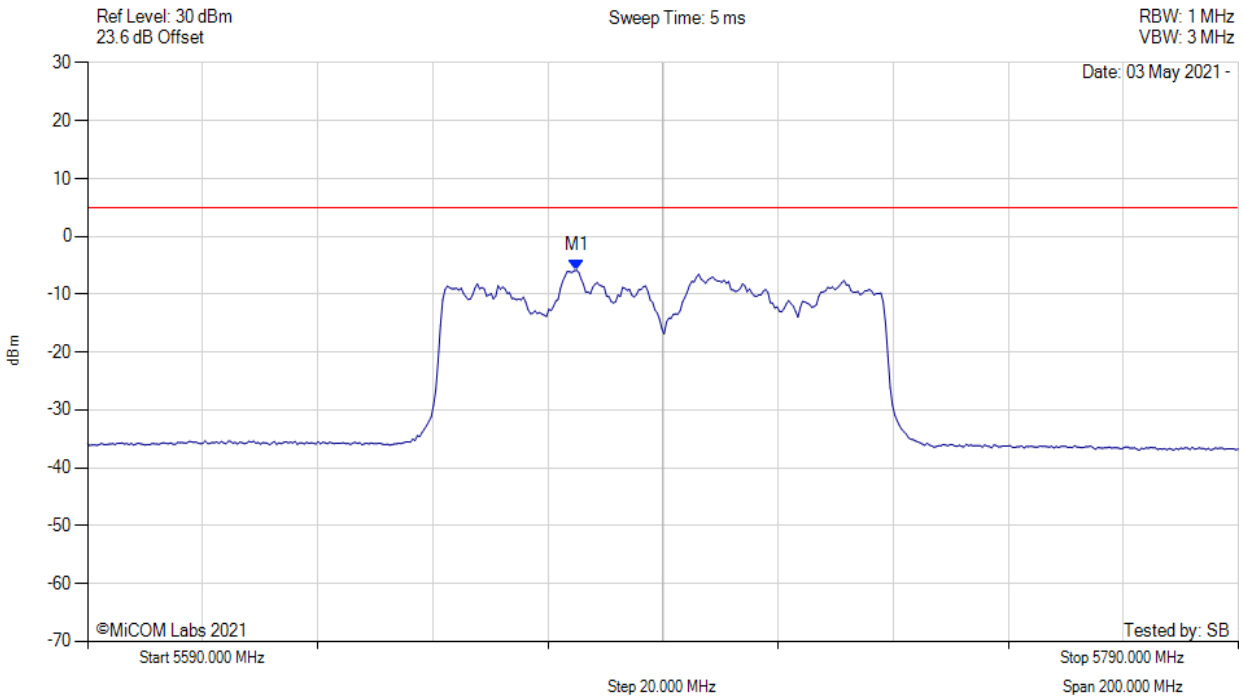


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5612.200 MHz : -3.752 dBm M1 + DCCF : 5612.200 MHz : -2.890 dBm Duty Cycle Correction Factor : +0.86 dB	Limit: ≤ 11.0 dBm Margin: -13.9 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5690.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

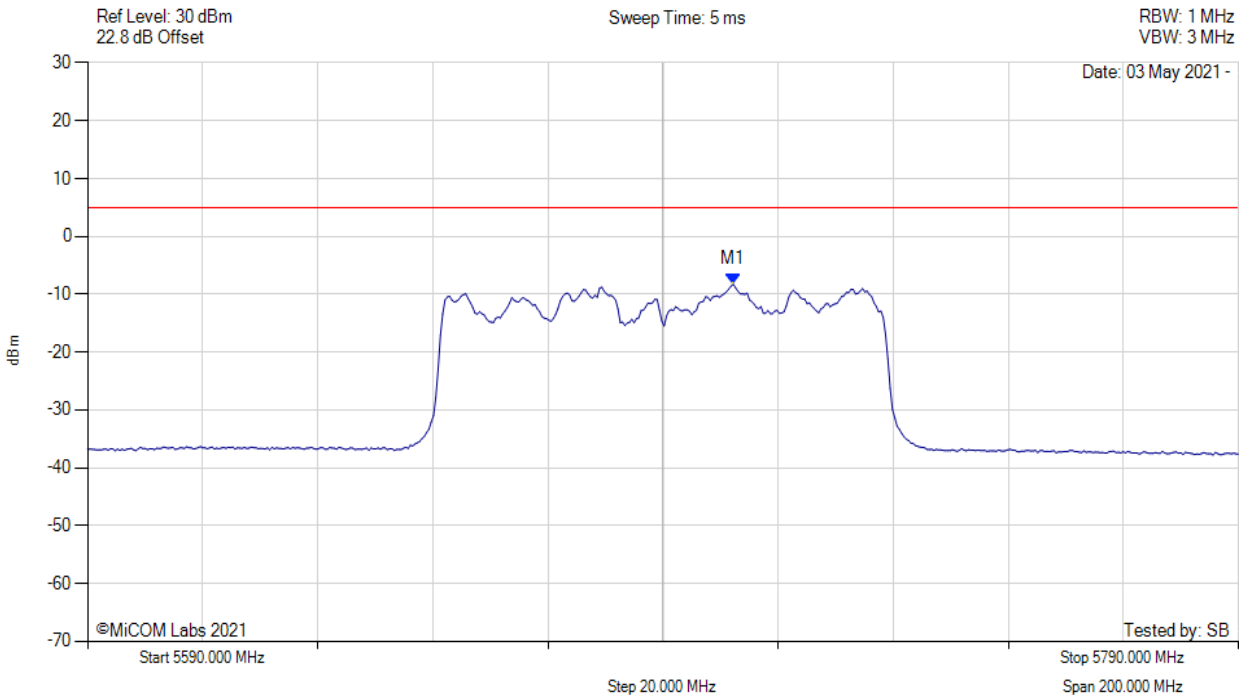


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5674.970 MHz : -5.853 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5690.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

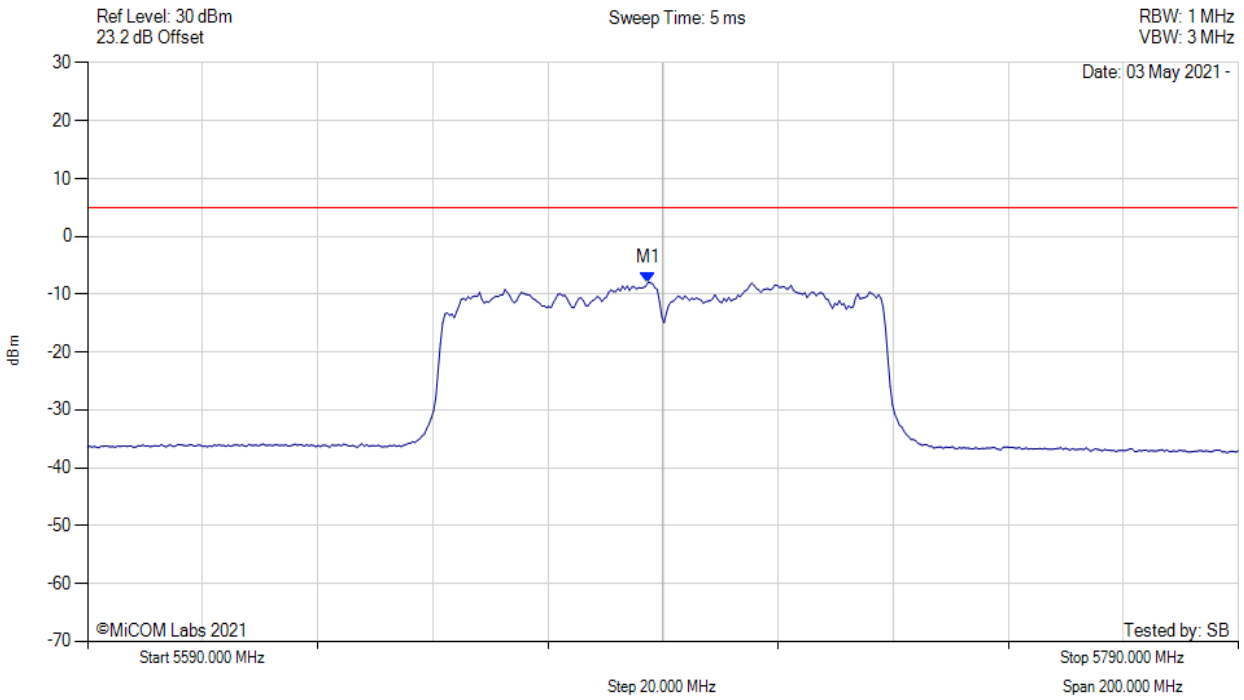


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5702.224 MHz : -8.265 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5690.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

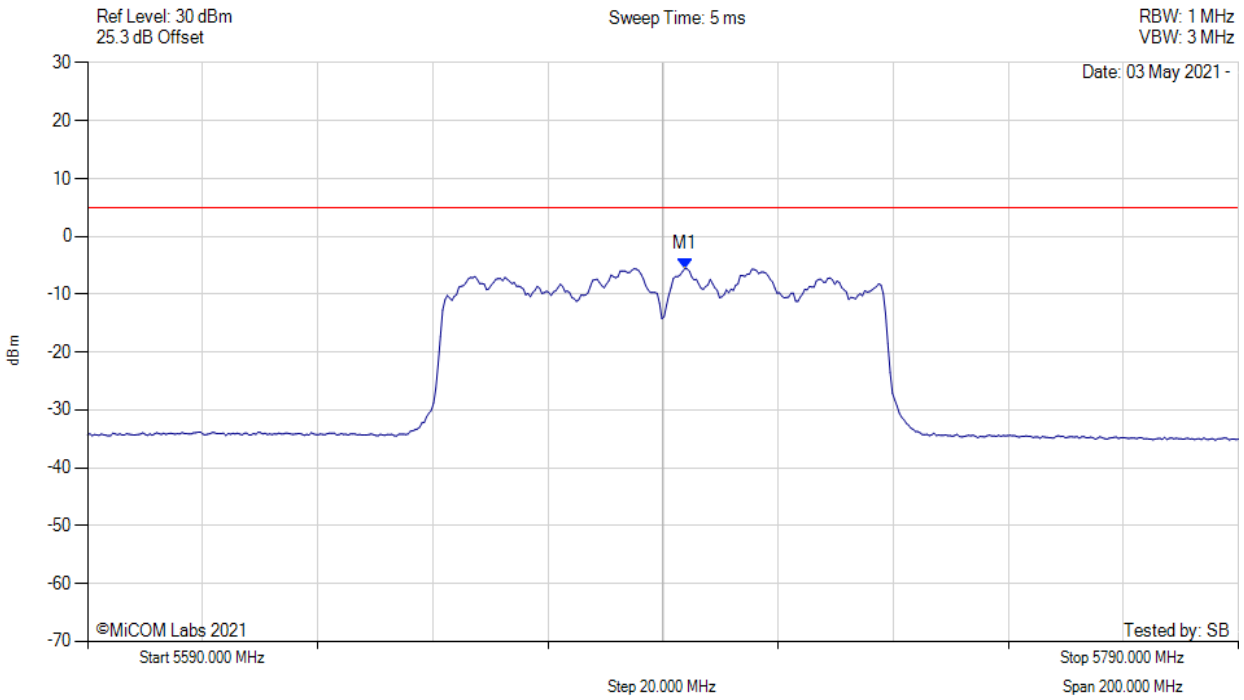


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5687.395 MHz : -7.948 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5690.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

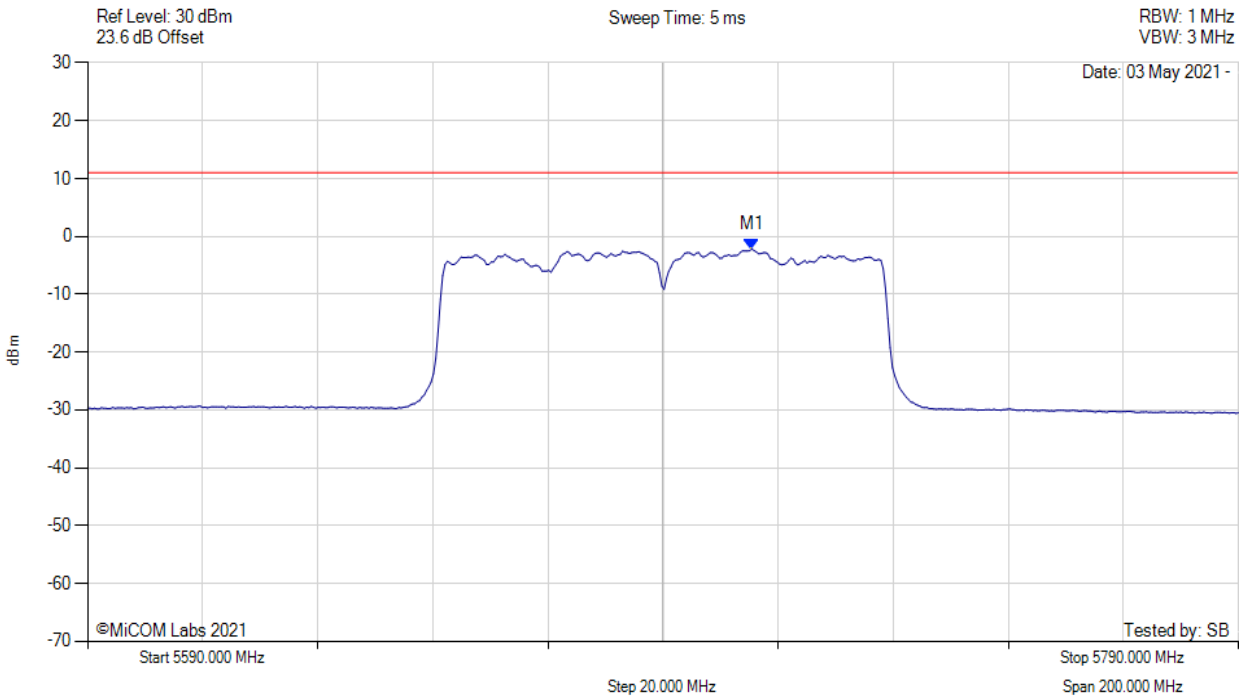


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5693.808 MHz : -5.556 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5690.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

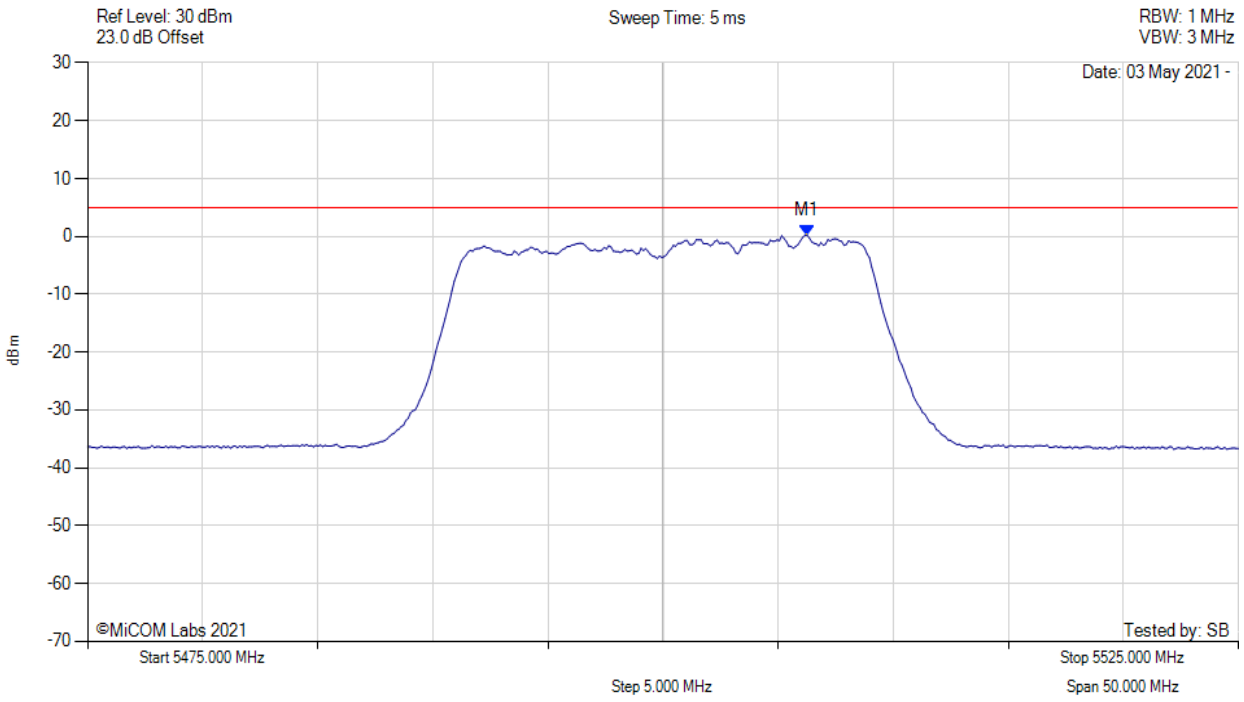


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5705.400 MHz : -2.172 dBm M1 + DCCF : 5705.400 MHz : -1.310 dBm Duty Cycle Correction Factor : +0.86 dB	Limit: ≤ 11.0 dBm Margin: -12.3 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5500.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

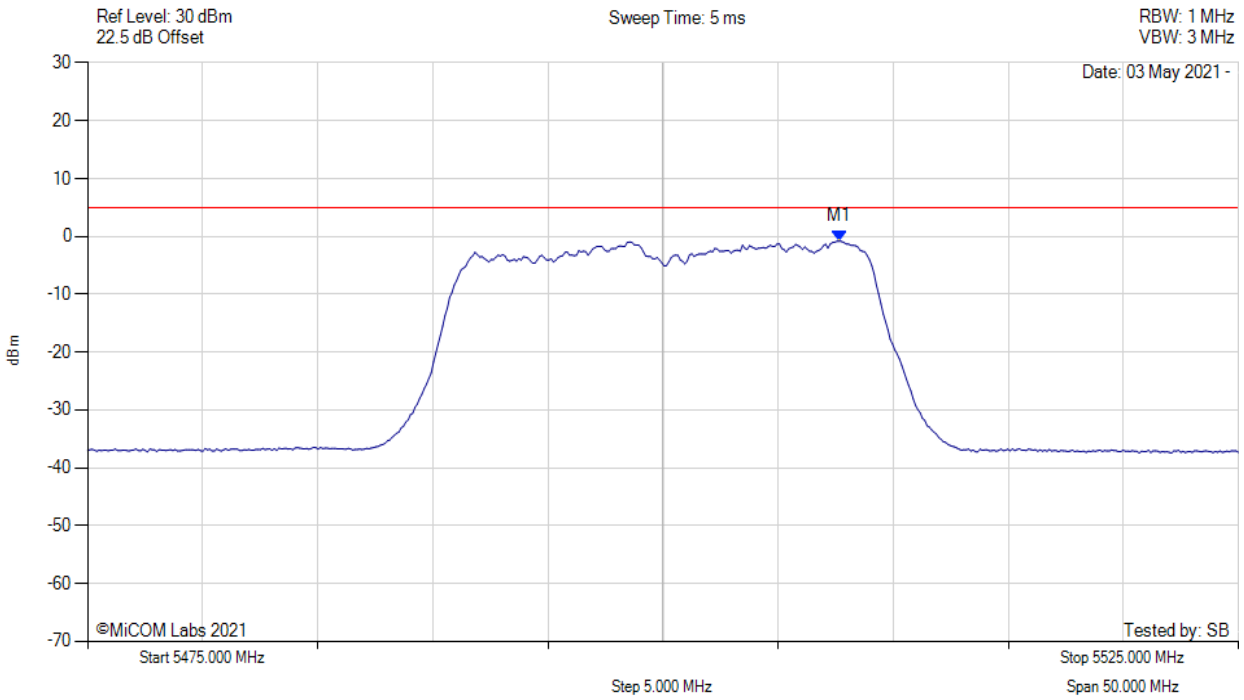


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5506.263 MHz : 0.237 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5500.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

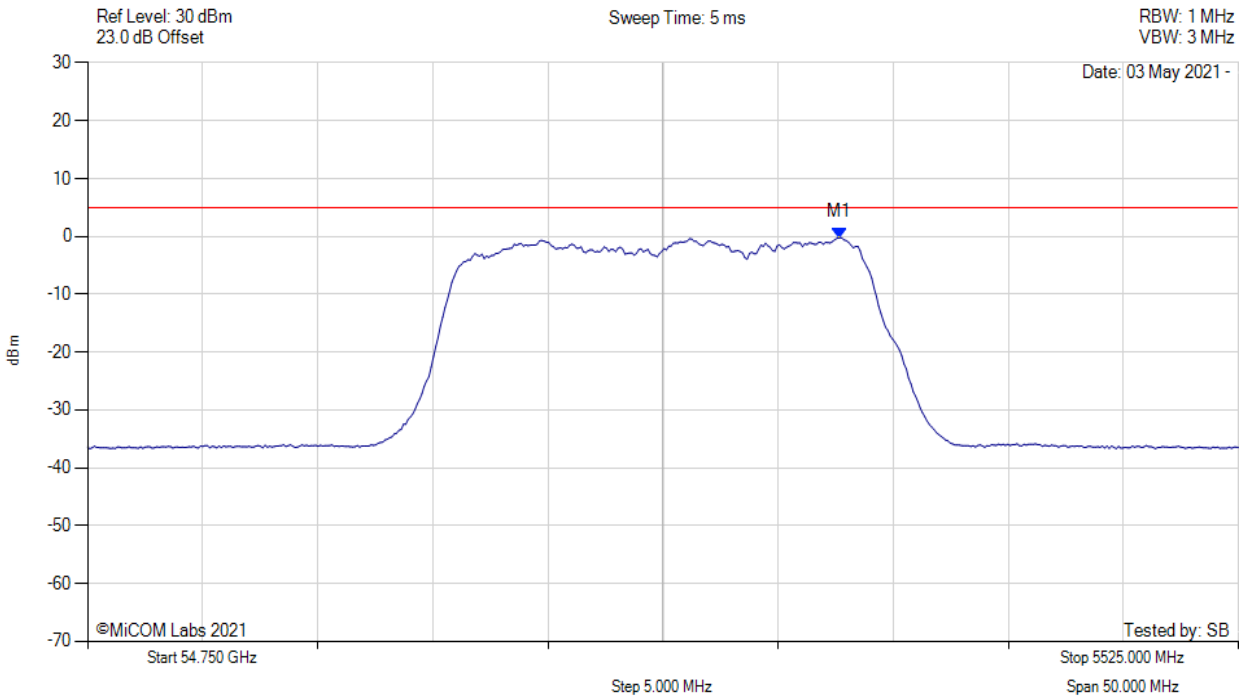


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5507.665 MHz : -0.823 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5500.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

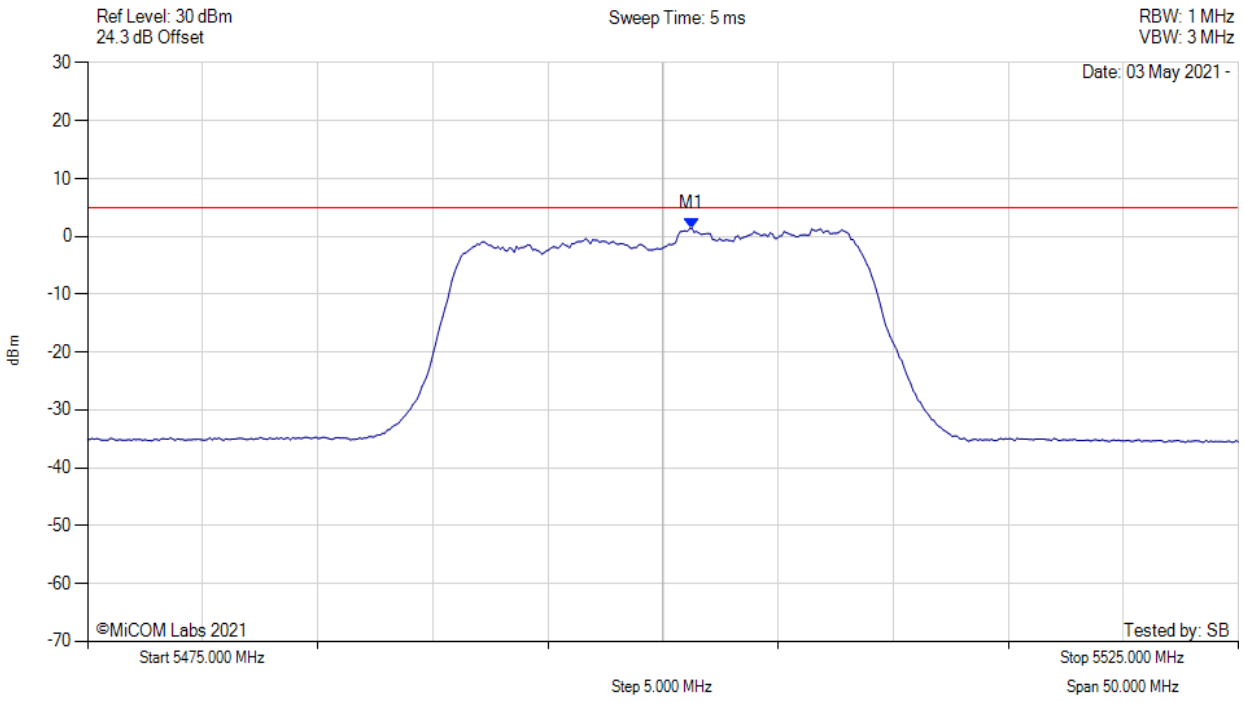


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5507.665 MHz : -0.231 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5500.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

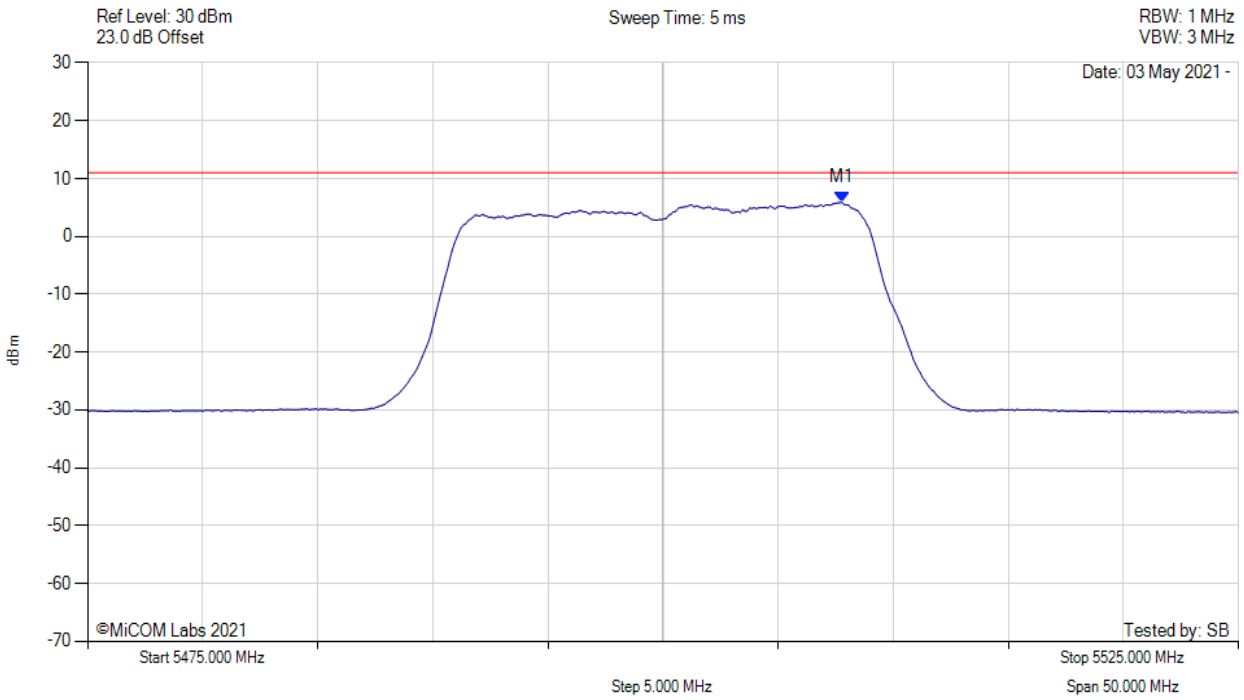


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5501.253 MHz : 1.419 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5500.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

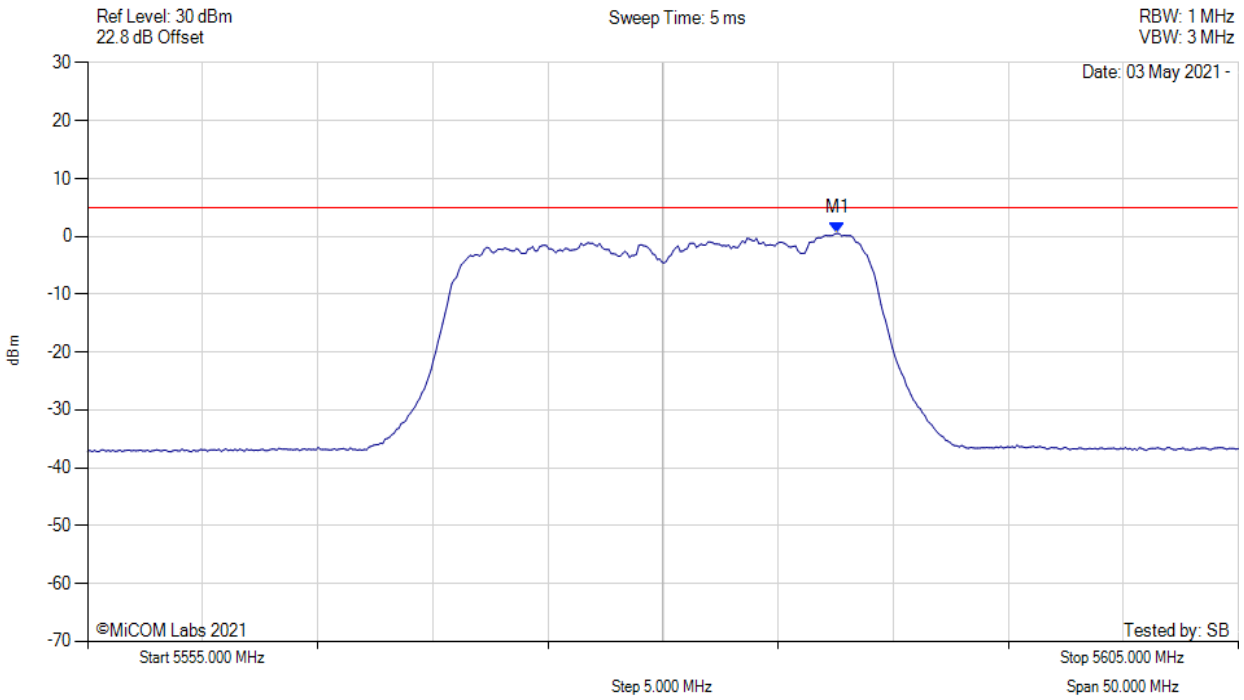


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5507.800 MHz : 5.886 dBm M1 + DCCF : 5507.800 MHz : 6.018 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 11.0 dBm Margin: -5.0 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5580.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

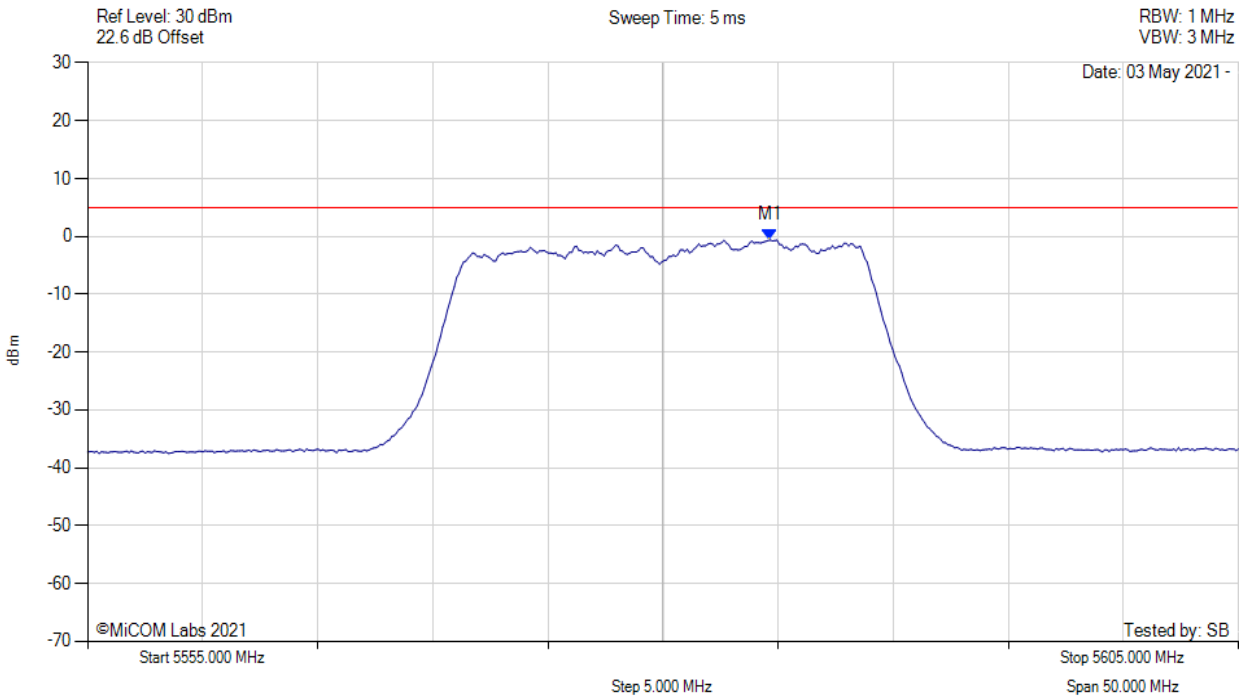


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5587.565 MHz : 0.538 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5580.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

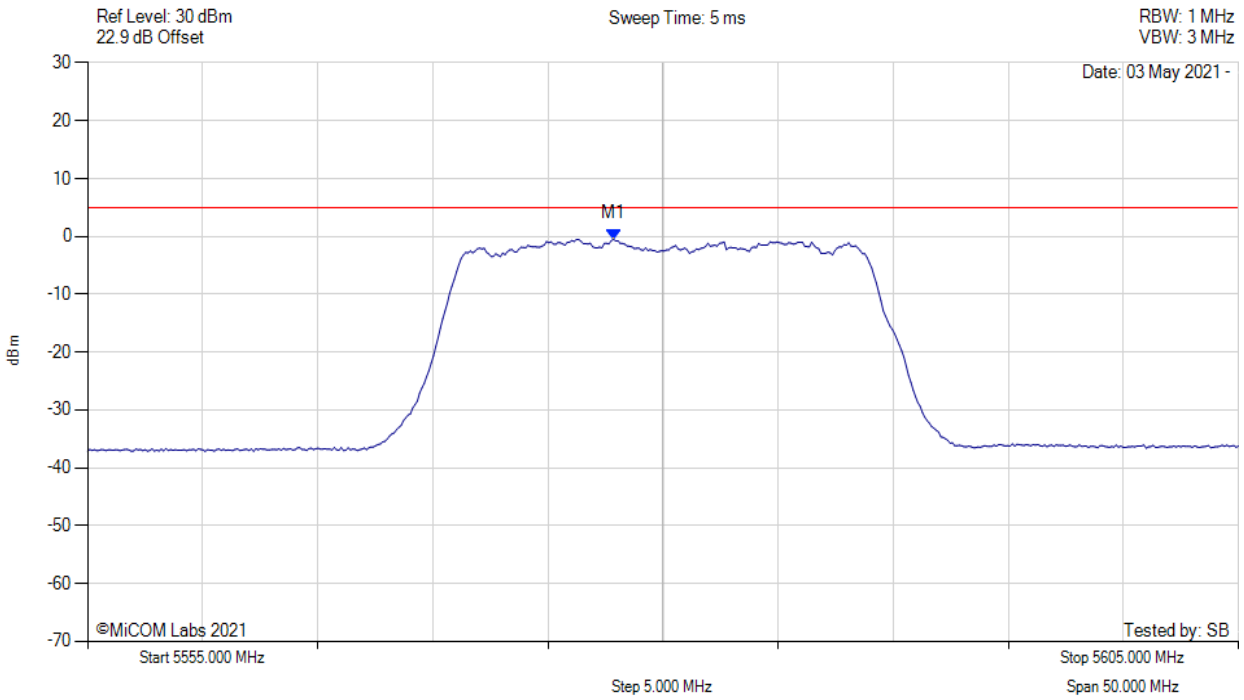


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5584.659 MHz : -0.623 dBm	Channel Frequency: 5580.00 MHz

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5580.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

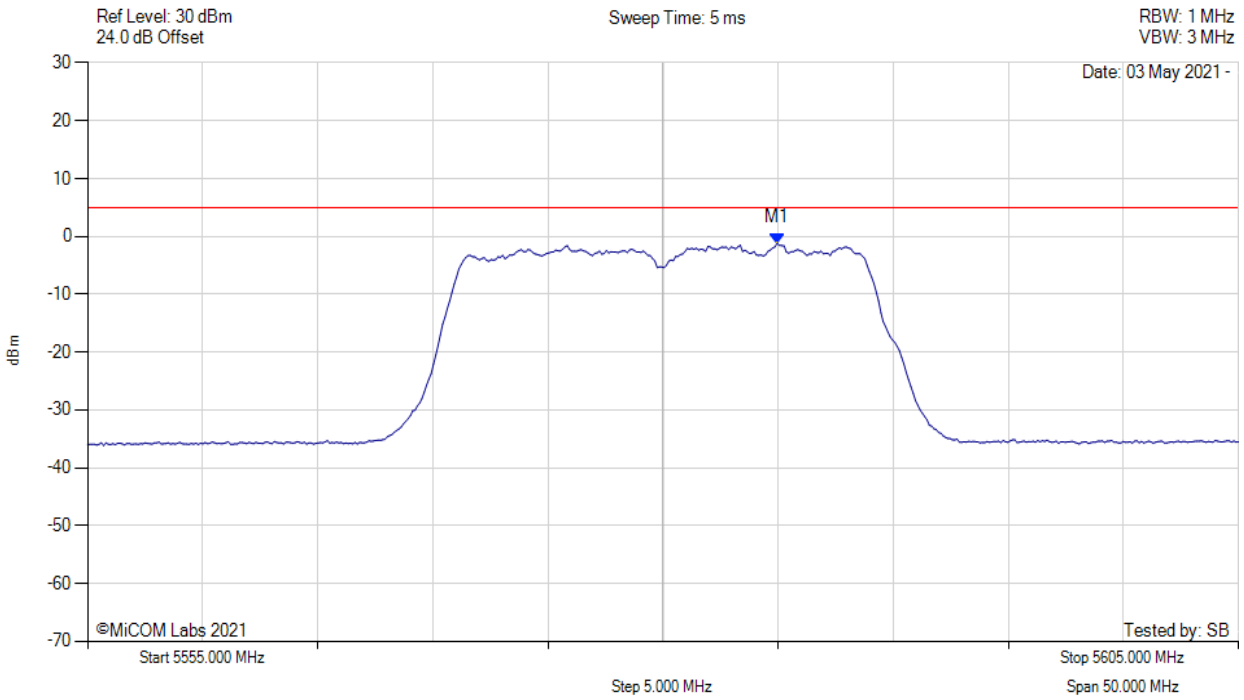


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5577.846 MHz : -0.468 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5580.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

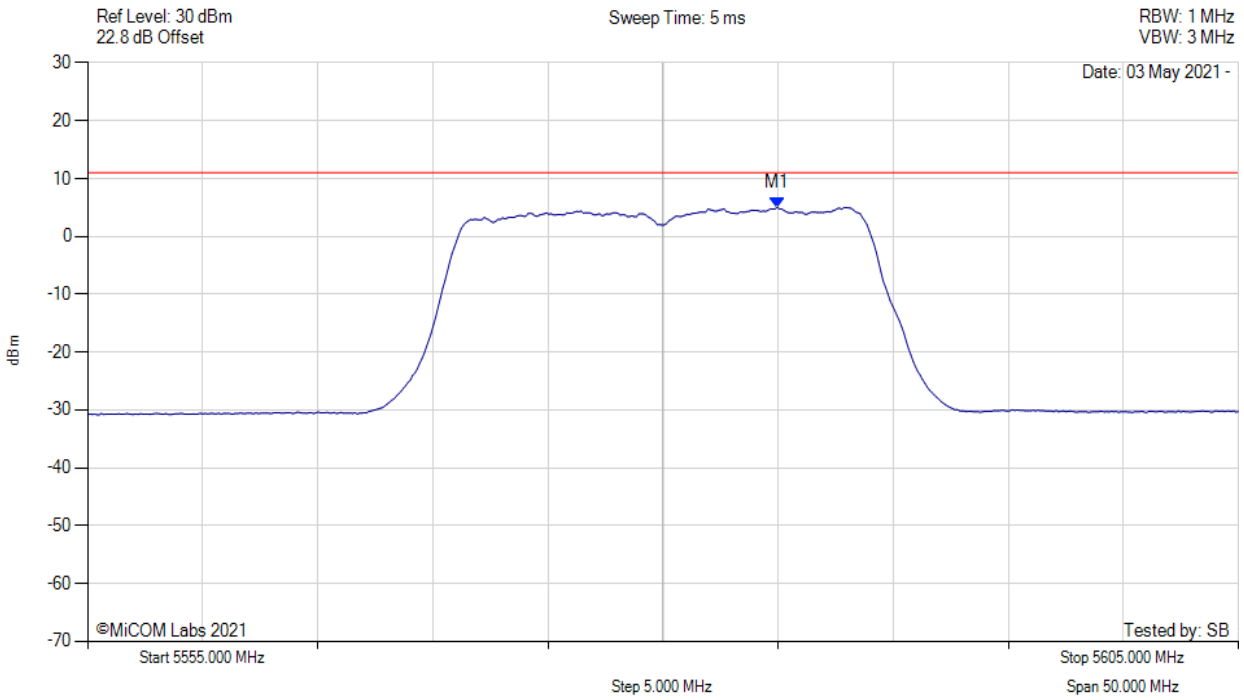


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5584.960 MHz : -1.189 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5580.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

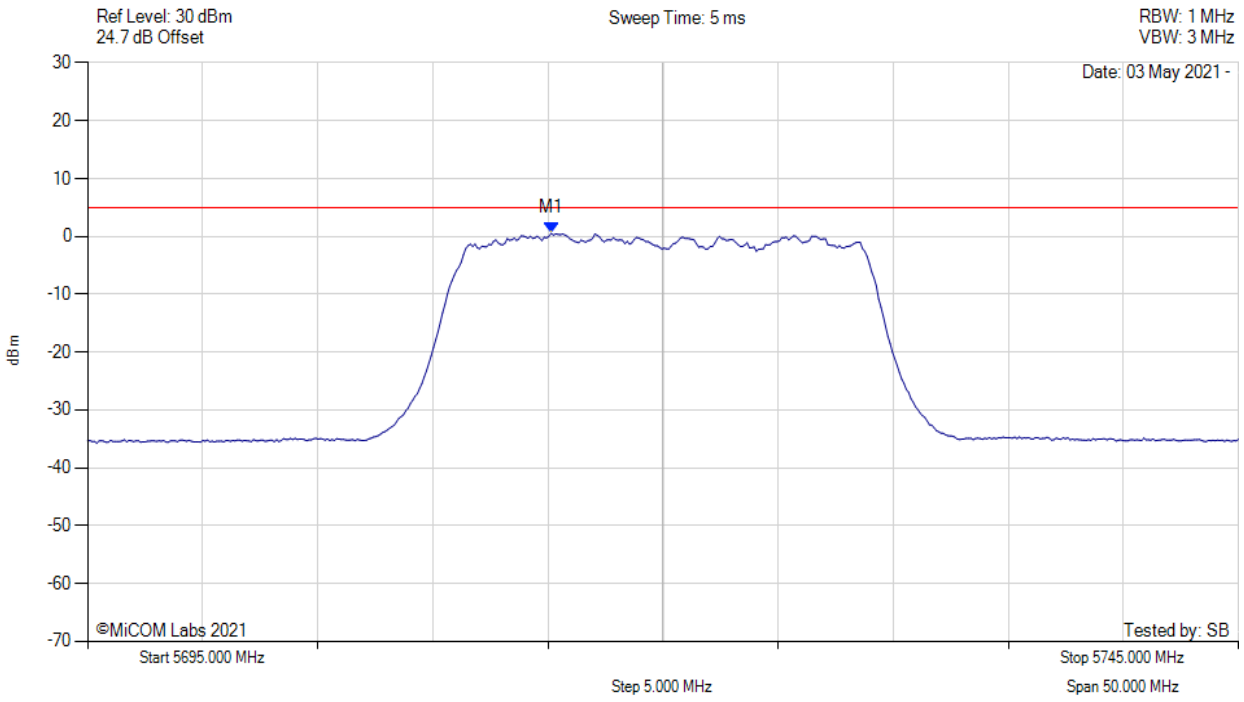


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5585.000 MHz : 5.021 dBm M1 + DCCF : 5585.000 MHz : 5.153 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 11.0 dBm Margin: -5.9 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5720.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

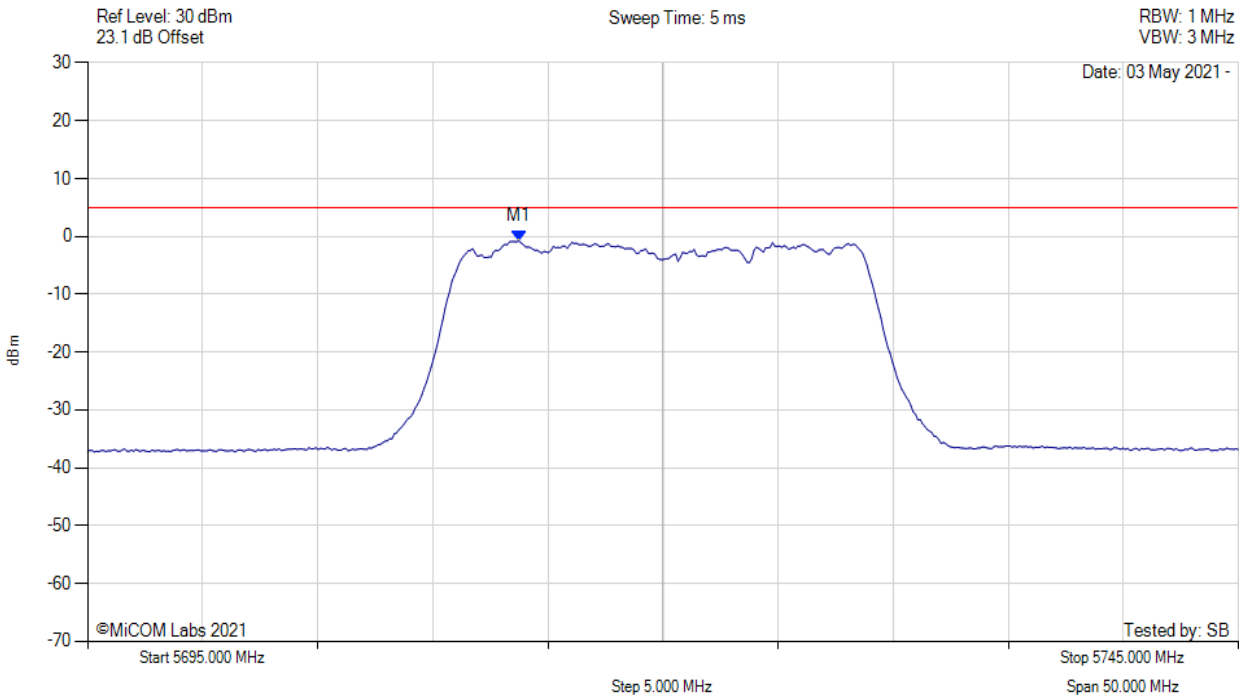


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5715.140 MHz : 0.536 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5720.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

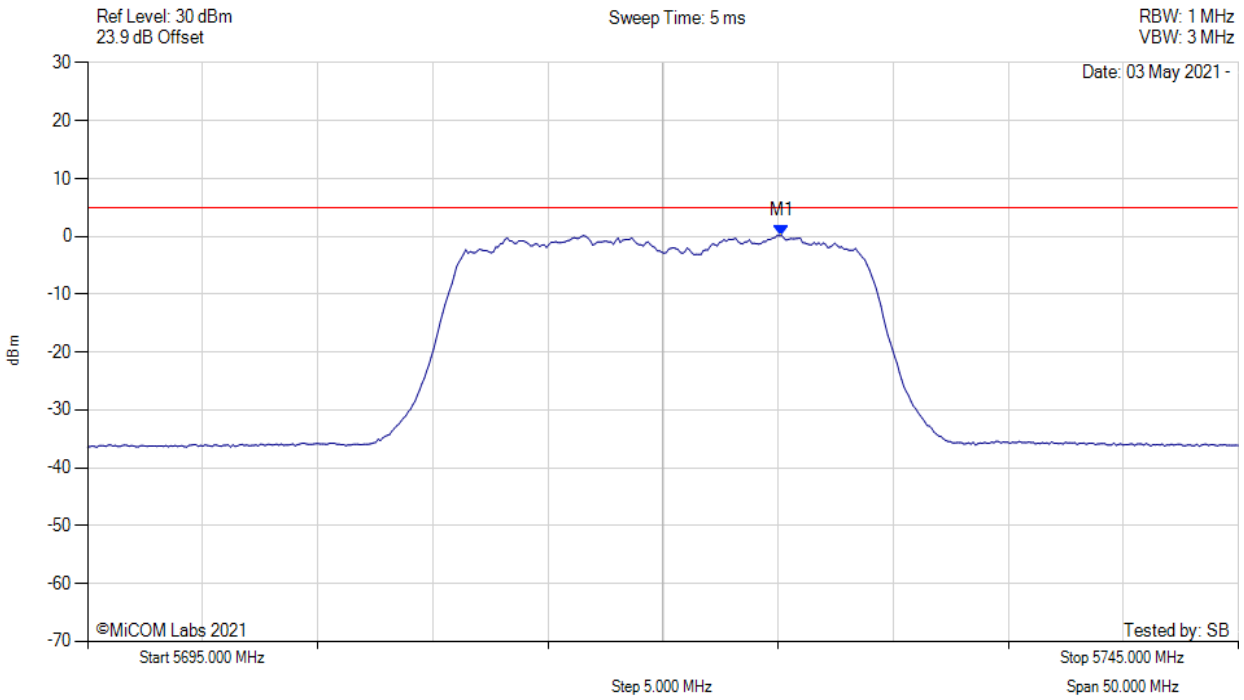


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5713.737 MHz : -0.788 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5720.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

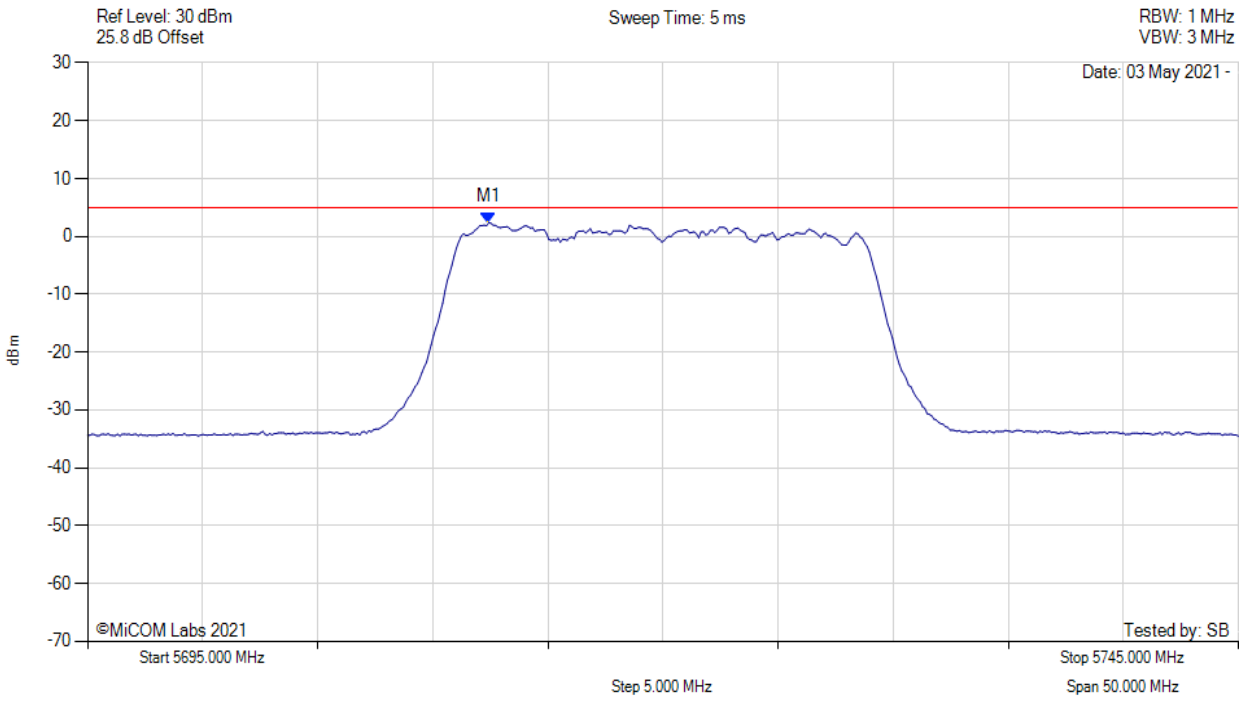


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5725.160 MHz : 0.155 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5720.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

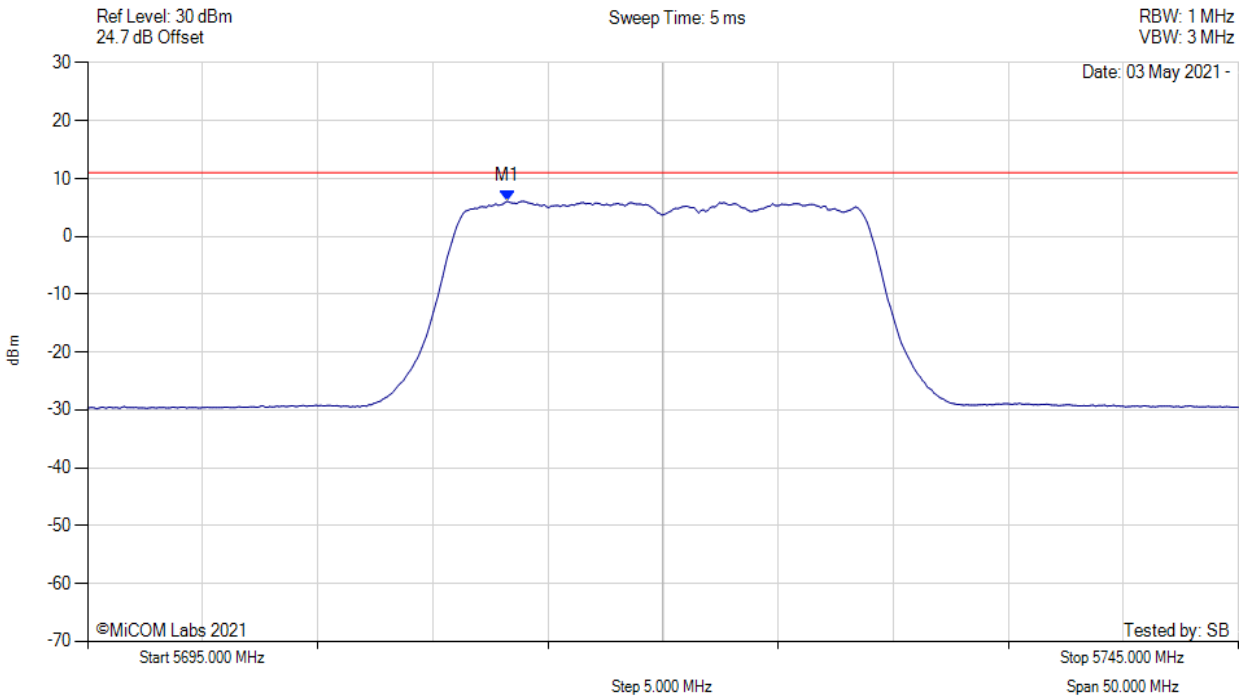


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5712.435 MHz : 2.400 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5720.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

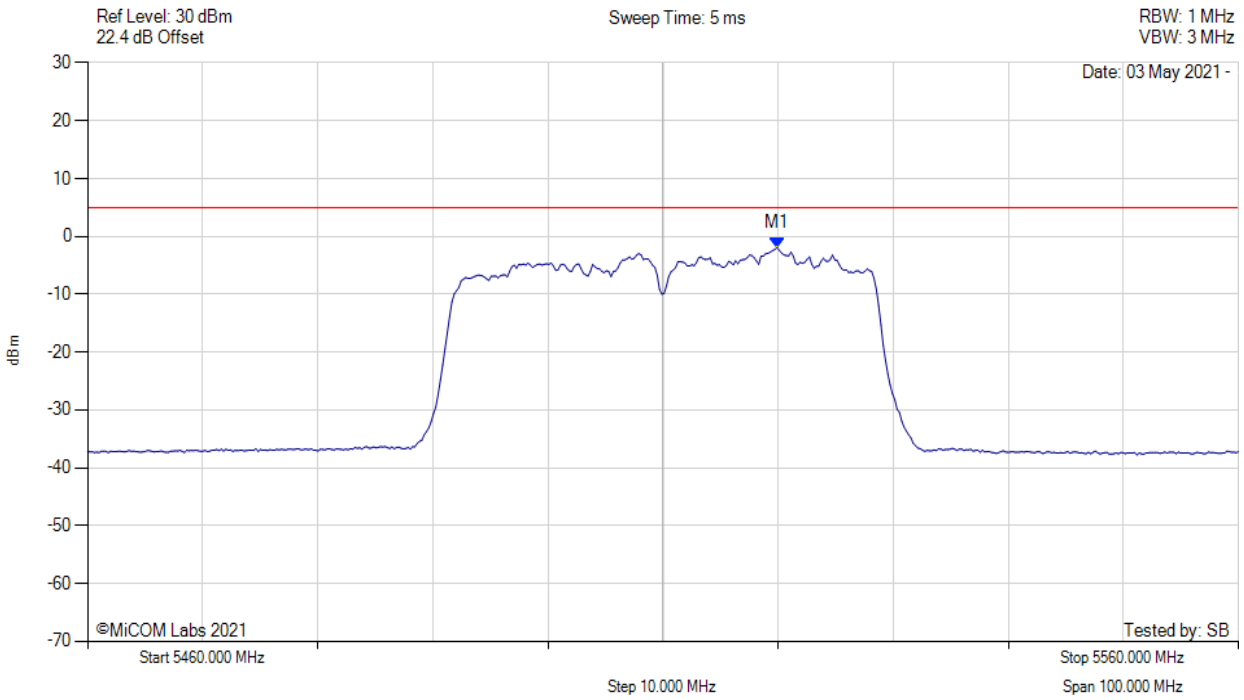


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5713.200 MHz : 6.081 dBm M1 + DCCF : 5713.200 MHz : 6.213 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 11.0 dBm Margin: -4.8 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5510.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

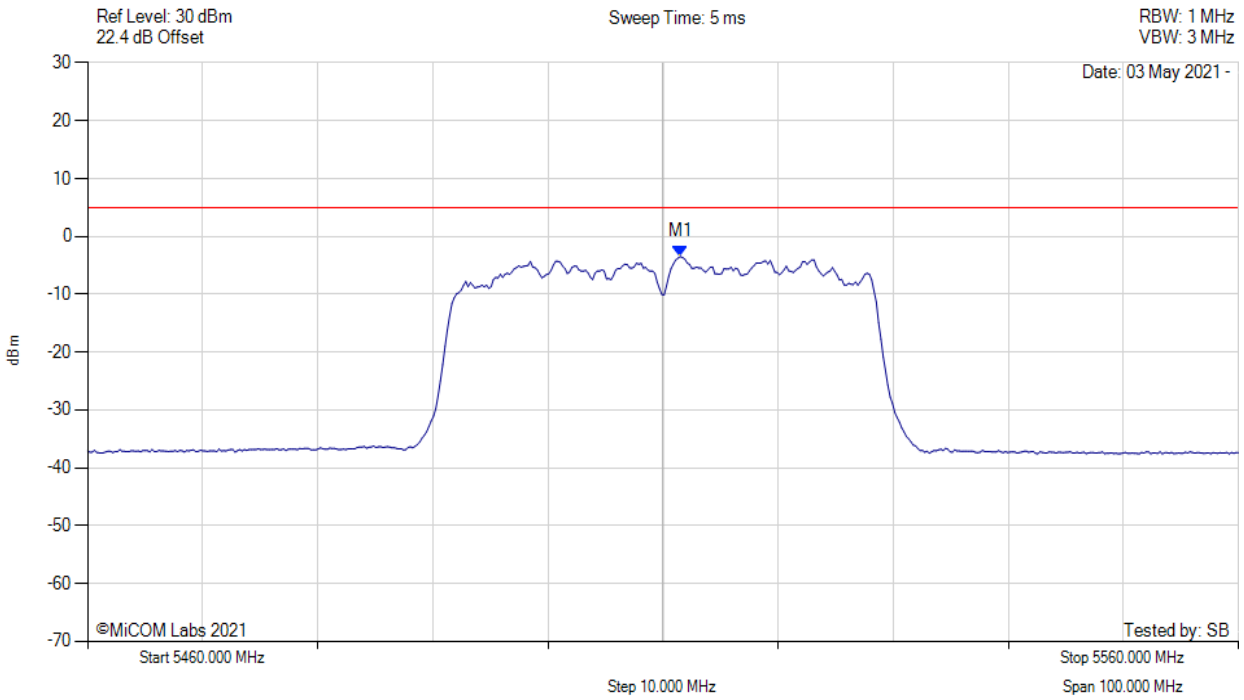


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5519.920 MHz : -1.918 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5510.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

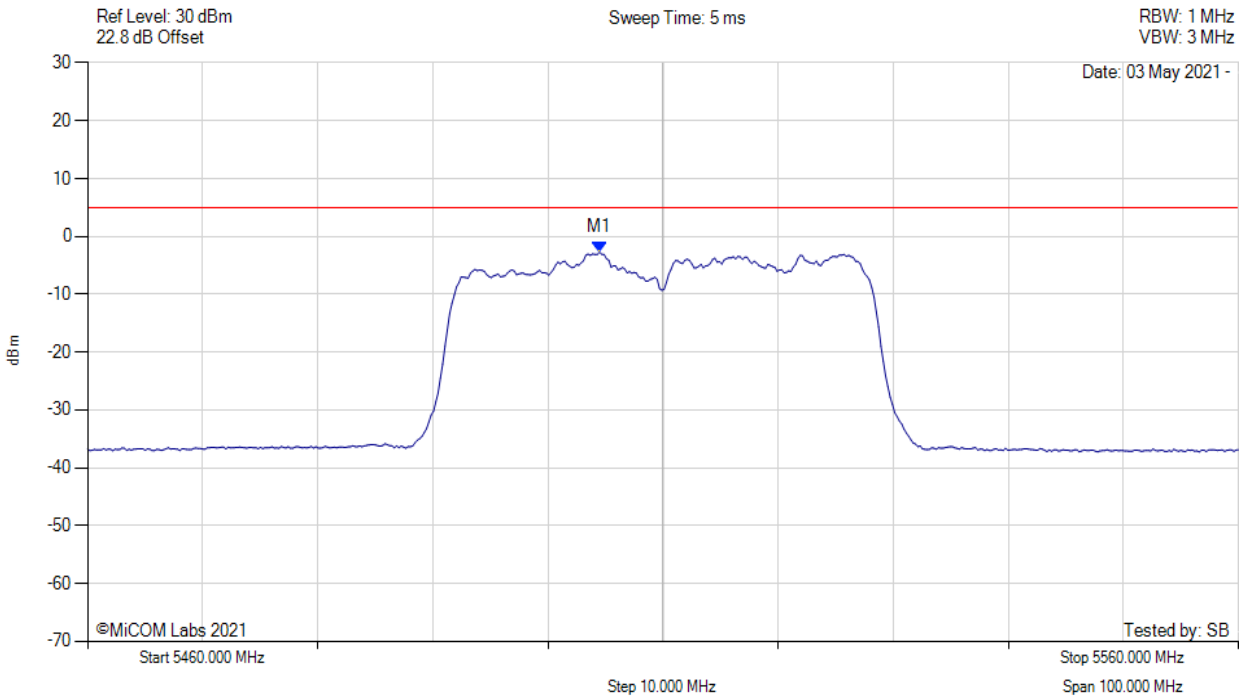


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5511.503 MHz : -3.482 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5510.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

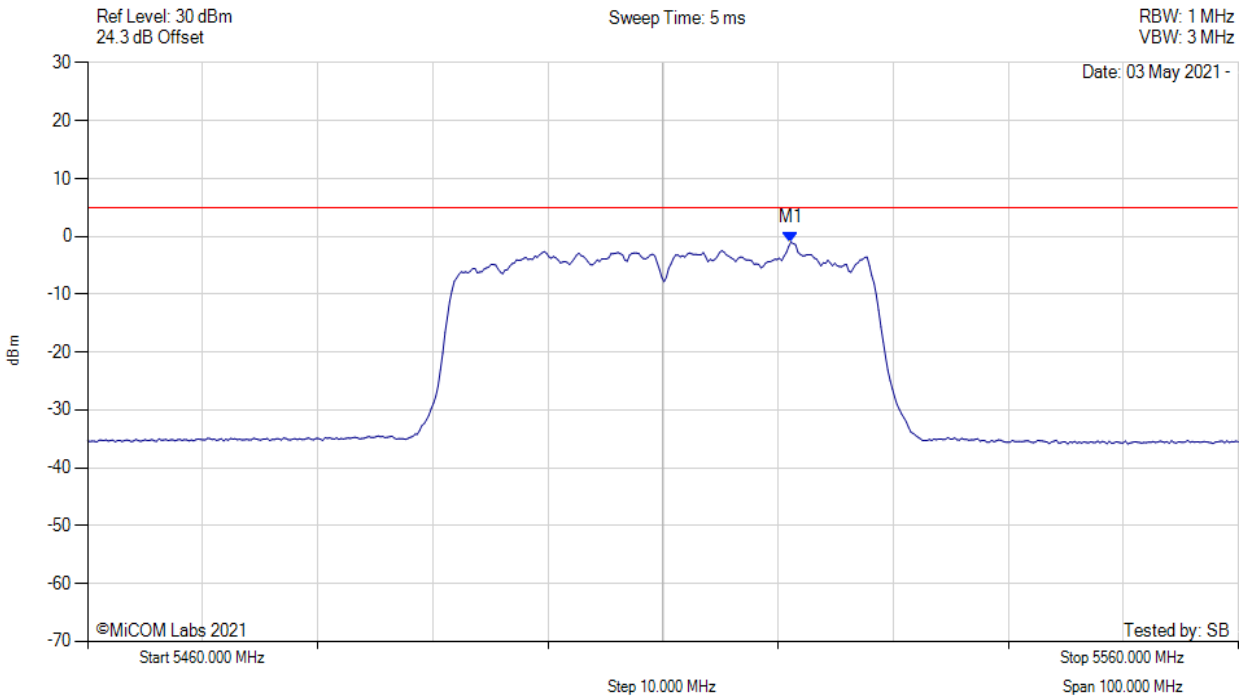


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5504.489 MHz : -2.708 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5510.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

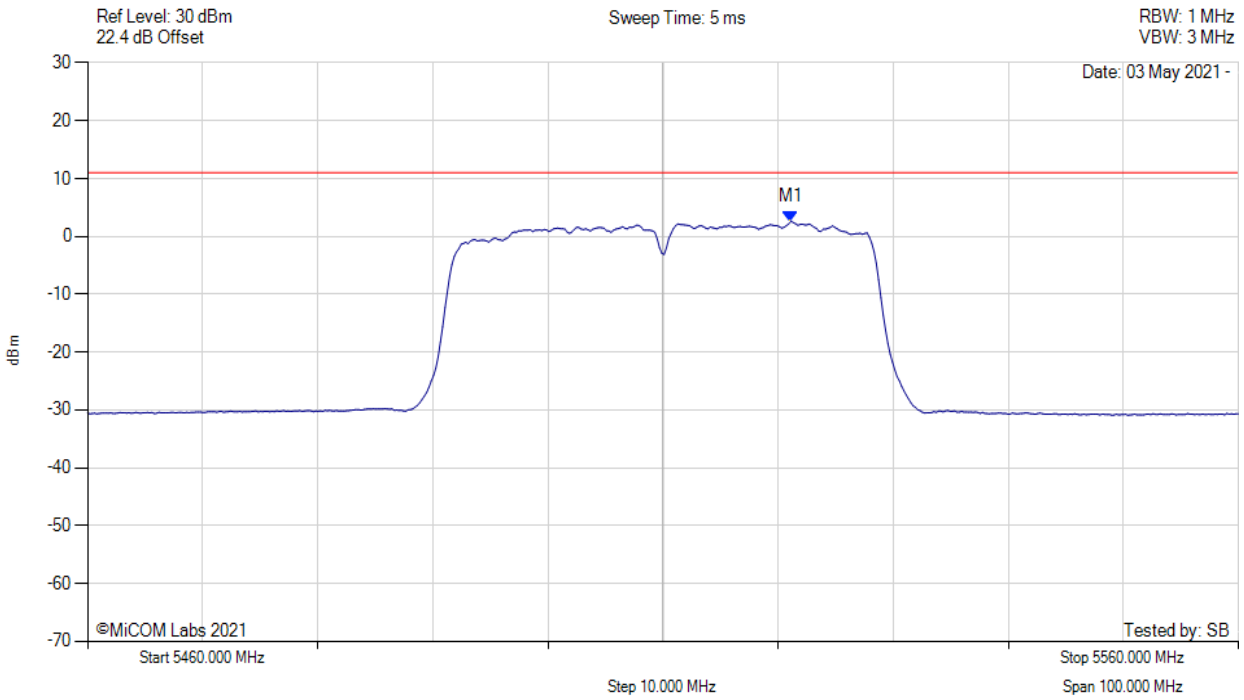


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5521.122 MHz : -0.962 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5510.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

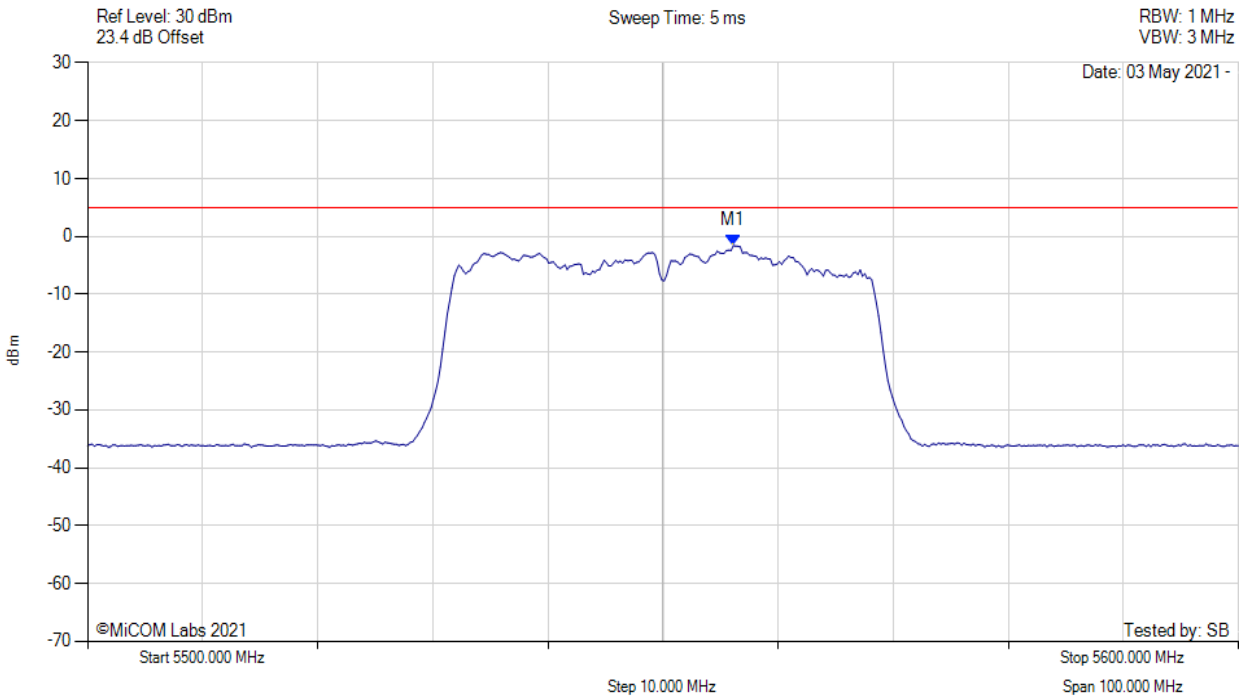


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5521.100 MHz : 2.630 dBm M1 + DCCF : 5521.100 MHz : 2.762 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 11.0 dBm Margin: -8.3 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5550.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

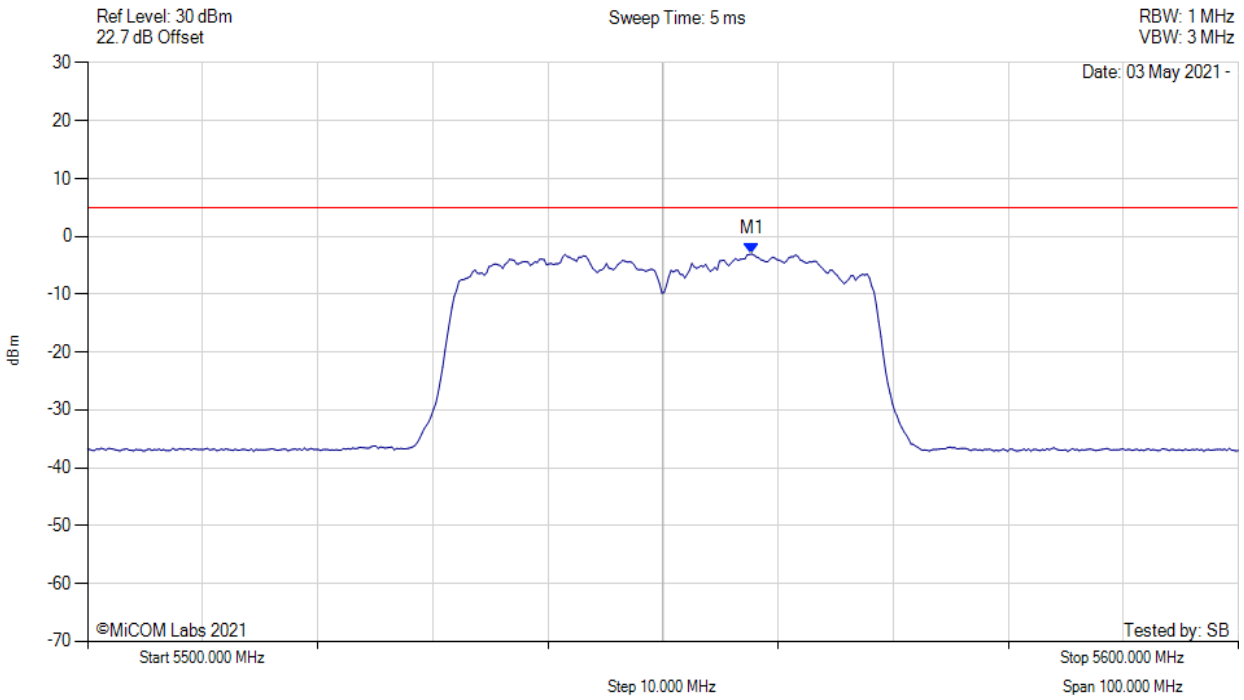


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5556.112 MHz : -1.574 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5550.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

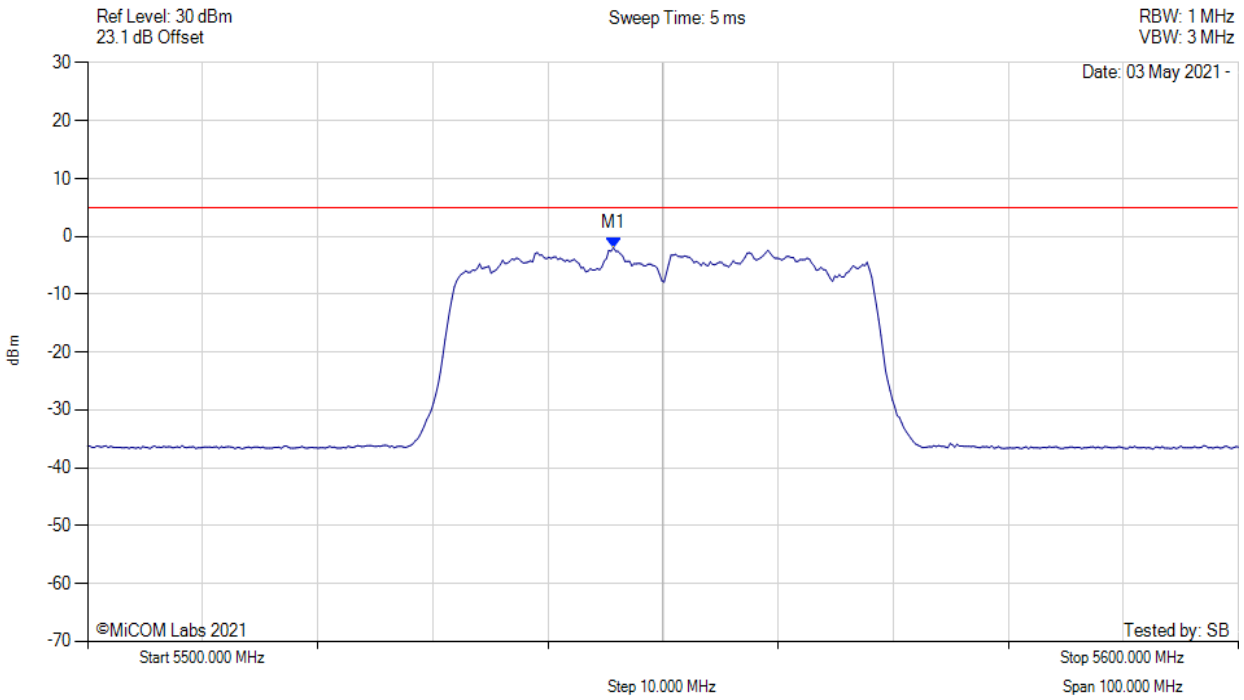


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5557.715 MHz : -3.028 dBm	Channel Frequency: 5550.00 MHz

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5550.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

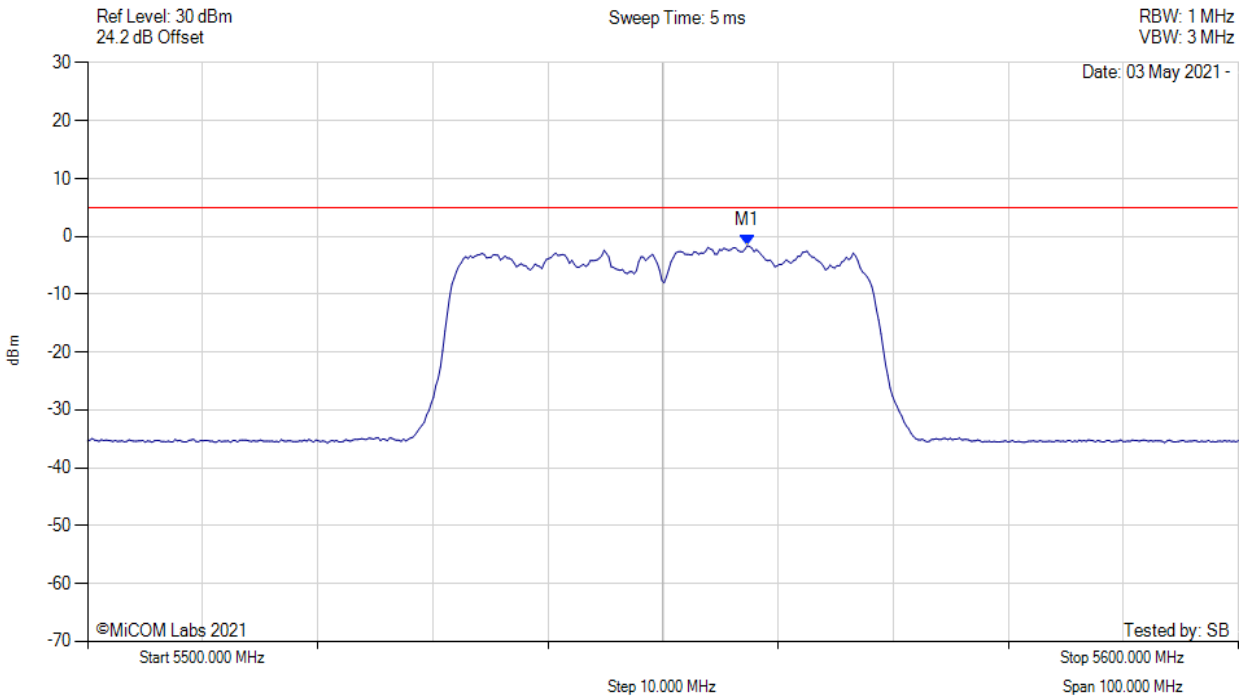


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5545.691 MHz : -1.941 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5550.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

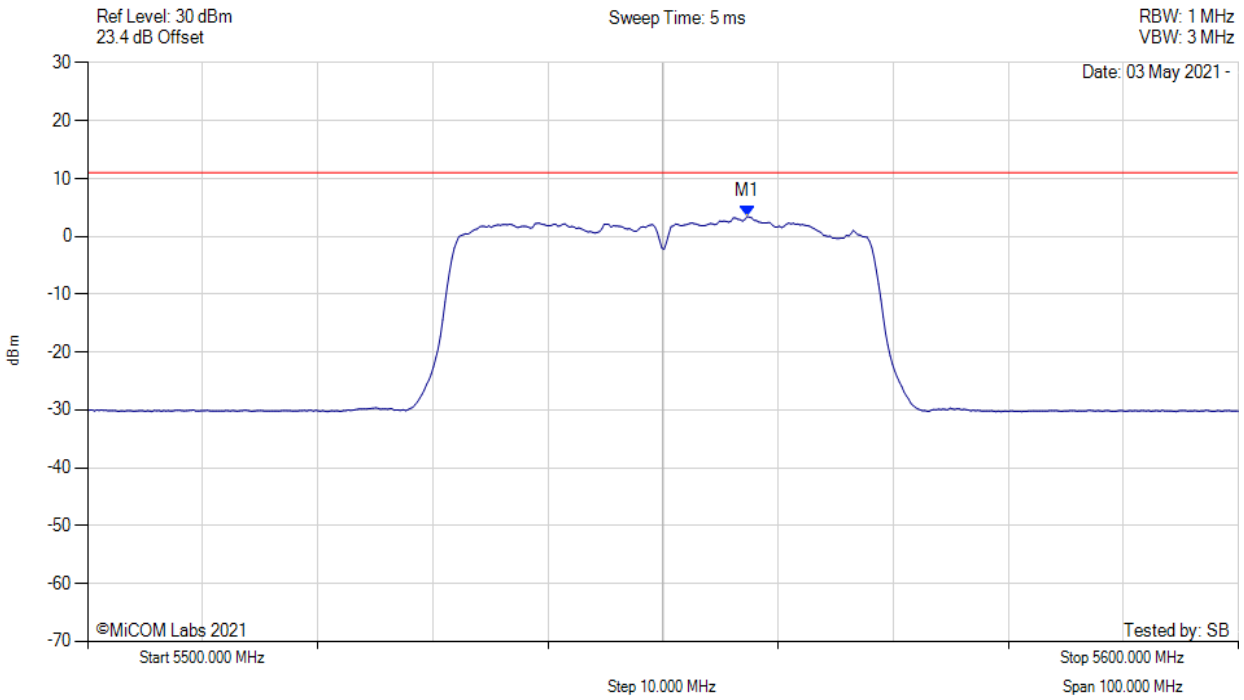


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5557.315 MHz : -1.606 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5550.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

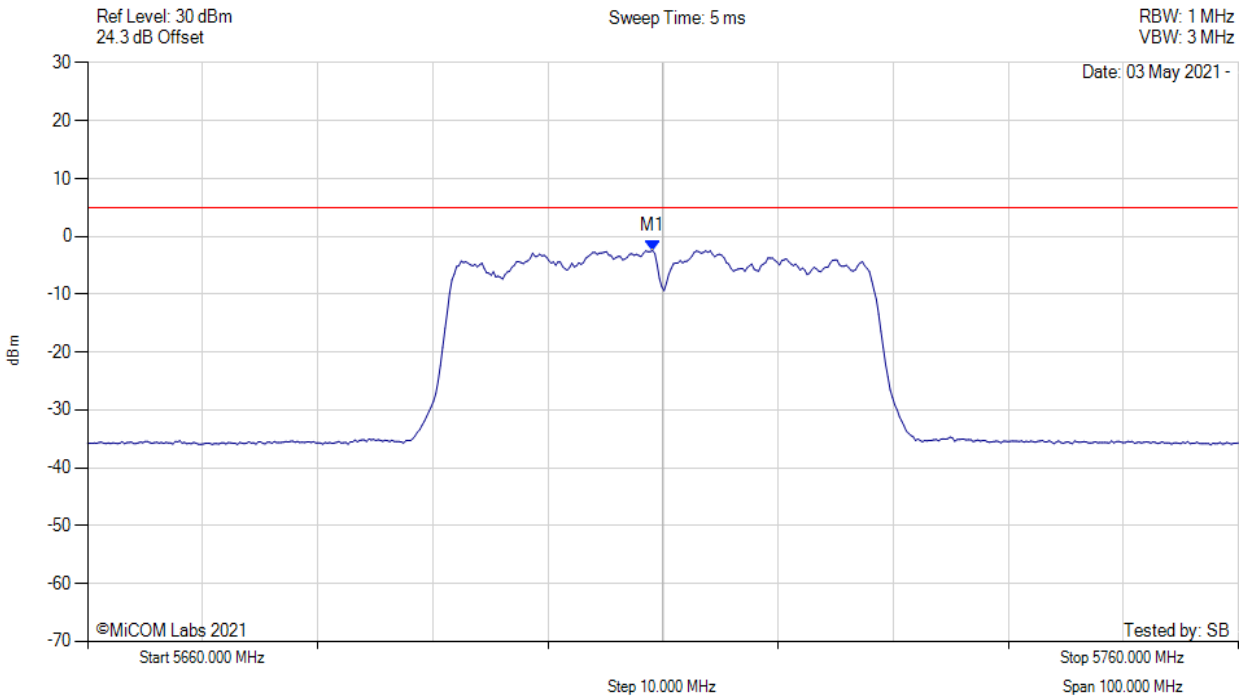


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5557.300 MHz : 3.445 dBm M1 + DCCF : 5557.300 MHz : 3.807 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 11.0 dBm Margin: -7.2 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5710.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

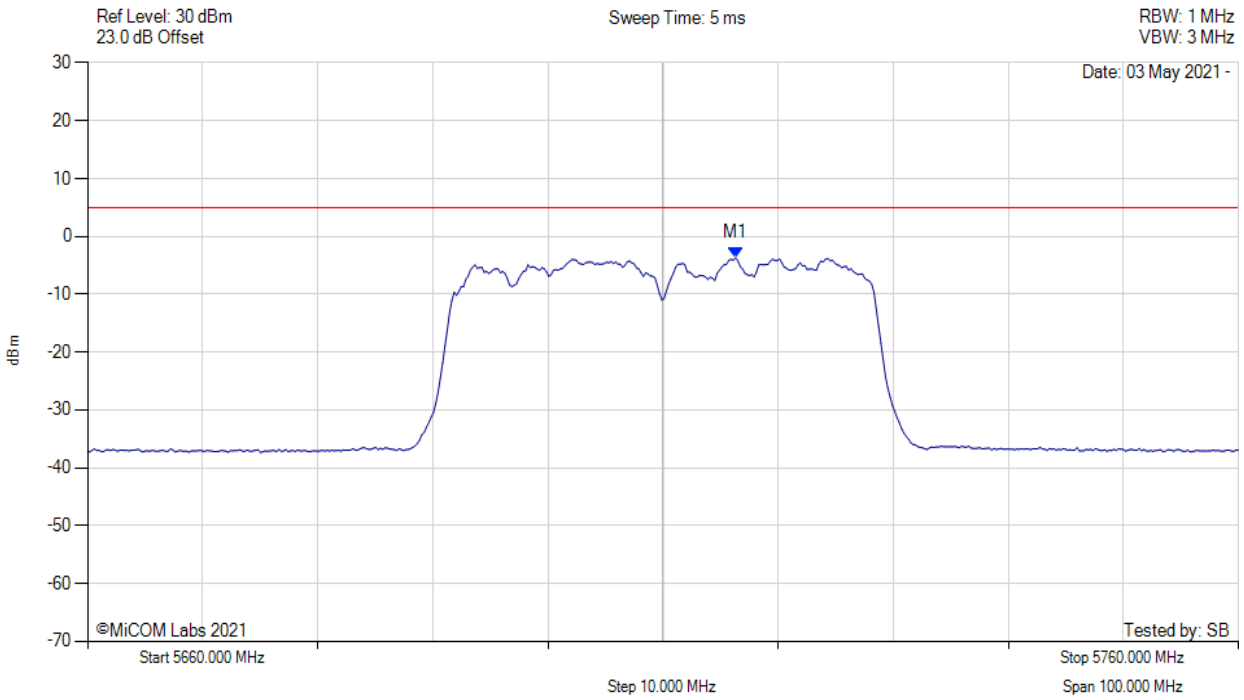


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5709.098 MHz : -2.430 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5710.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

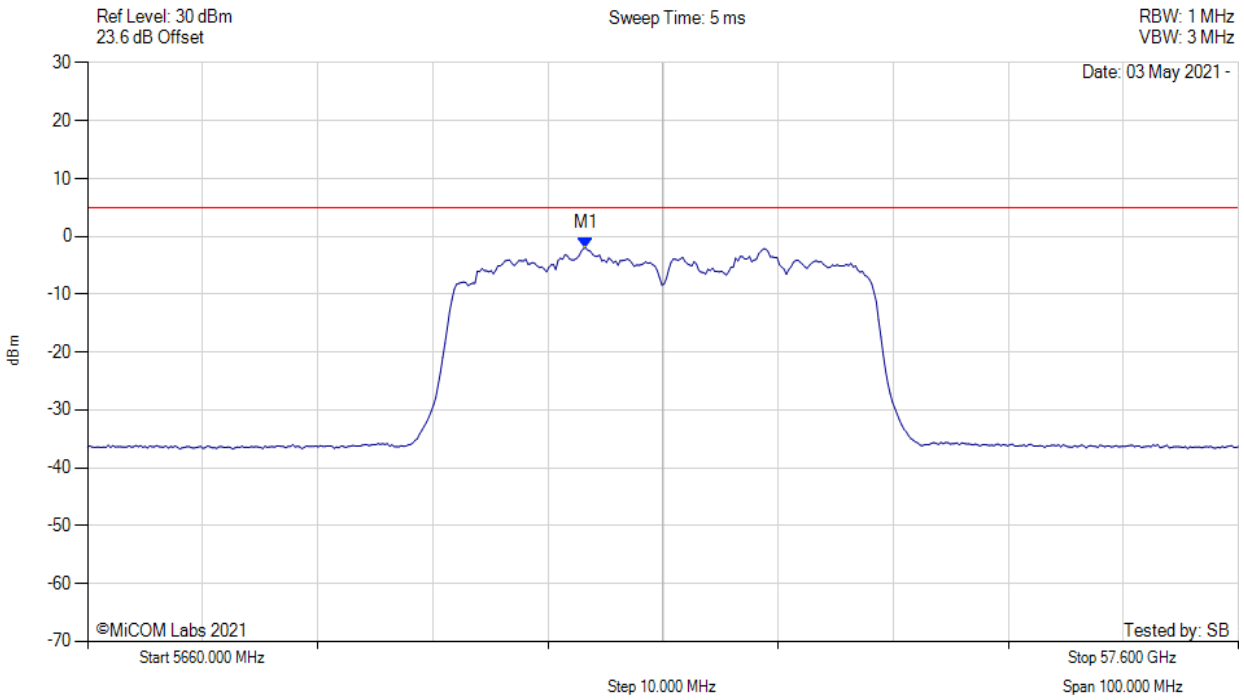


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5716.313 MHz : -3.702 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5710.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

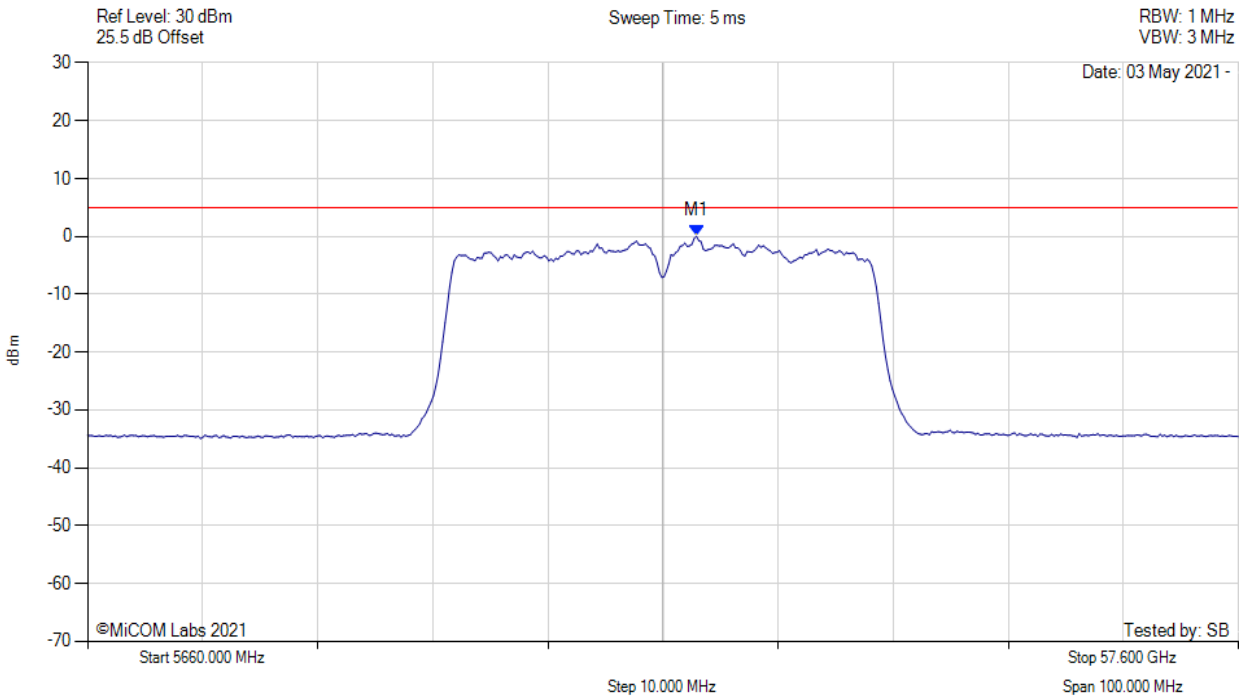


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5703.287 MHz : -2.011 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5710.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

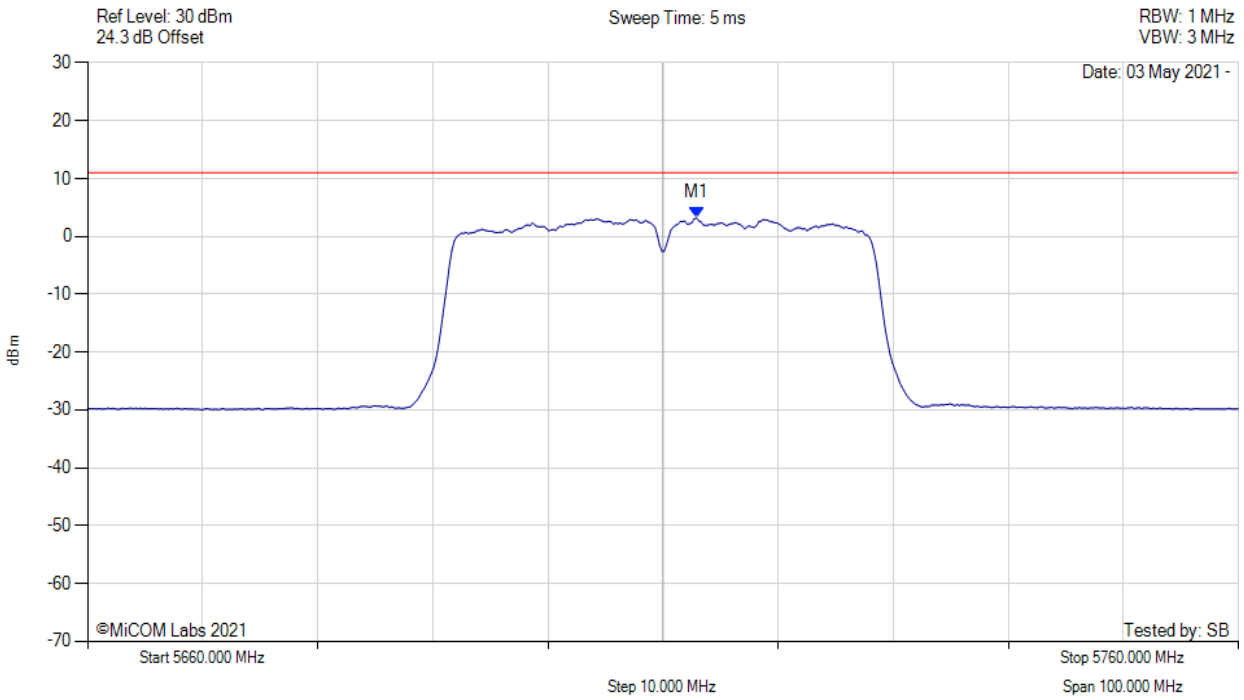


Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5712.906 MHz : 0.039 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5710.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = RMS Sweep Count = 100 RF Atten (dB) = 30 Trace Mode = VIEW	M1 : 5712.900 MHz : 3.223 dBm M1 + DCCF : 5712.900 MHz : 3.585 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 11.0 dBm Margin: -7.4 dB

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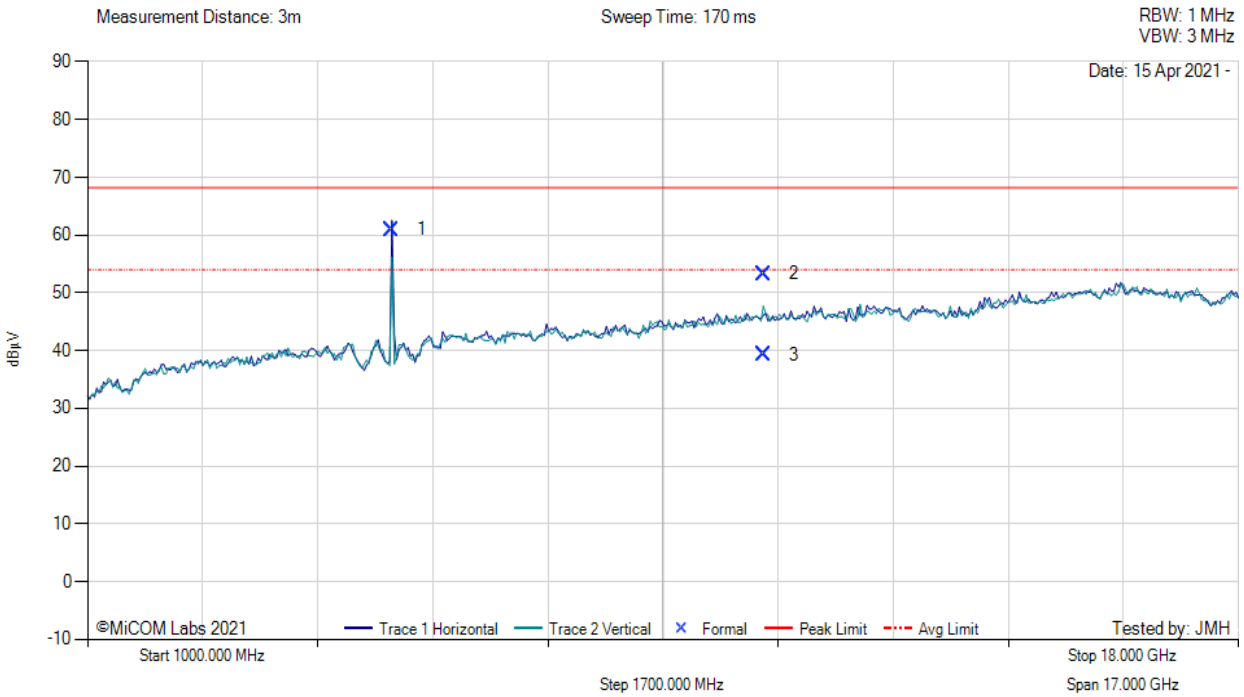
A.2. Radiated

A.2.1. TX Spurious & Restricted Band Emissions

A.2.1.1. MikroTik 95XKAA15.GB9

TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5500.00 MHz, Antenna: MikroTik 95XKAA15.GB9, Power Setting: 24, Duty Cycle (%): 99



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5493.63	69.53	3.09	-11.65	60.97	Fundamental	Horizontal	100	0	--	--	
2	10992.86	53.45	4.56	-4.76	53.25	Max Peak	Vertical	156	276	68.2	-15.0	Pass
3	10992.86	39.48	4.56	-4.76	39.28	Max Avg	Vertical	156	276	54.0	-14.7	Pass

Test Notes: EUT powered by AC/DC ps. Connected to laptop outside chamber. 5G Notch in front of amp to prevent overload.

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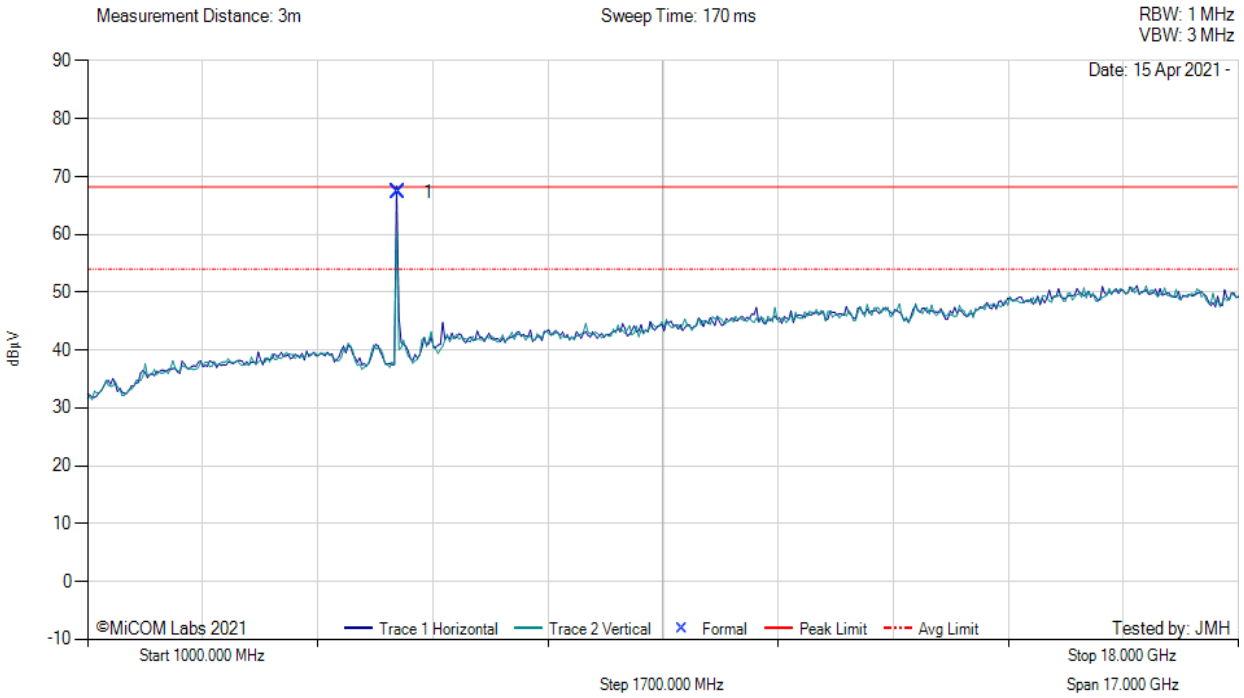
TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5580.00 MHz, Antenna: MikroTik 95XKAA15.GB9, Power Setting: 24, Duty Cycle (%): 99



1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5581.94	75.79	3.13	-11.56	67.36	Fundamental	Horizontal	100	0	--	--	

Test Notes: EUT powered by AC/DC ps. Connected to laptop outside chamber. 5G Notch in front of amp to prevent overload.

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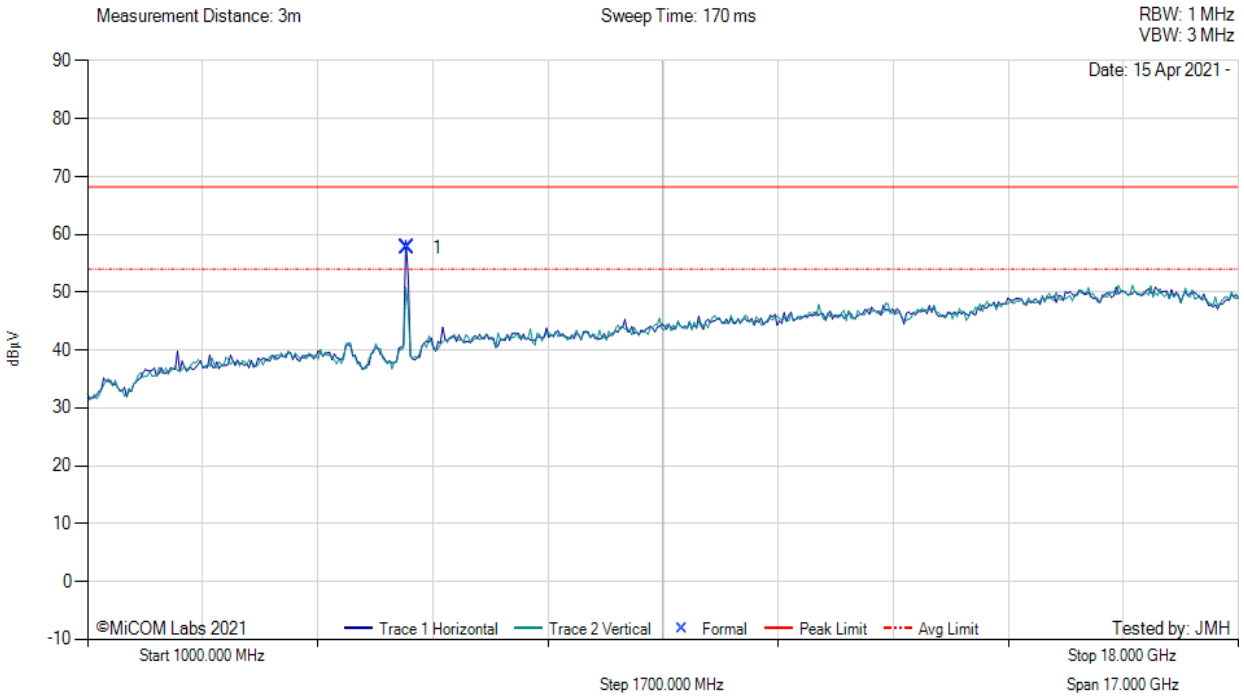
TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5720.00 MHz, Antenna: MikroTik 95XKAA15.GB9, Power Setting: 24, Duty Cycle (%): 99



1000.00 - 18000.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5713.10	65.86	3.14	-11.32	57.68	Fundamental	Horizontal	100	0	--	--	

Test Notes: EUT powered by AC/DC ps. Connected to laptop outside chamber. 5G Notch in front of amp to prevent overload.

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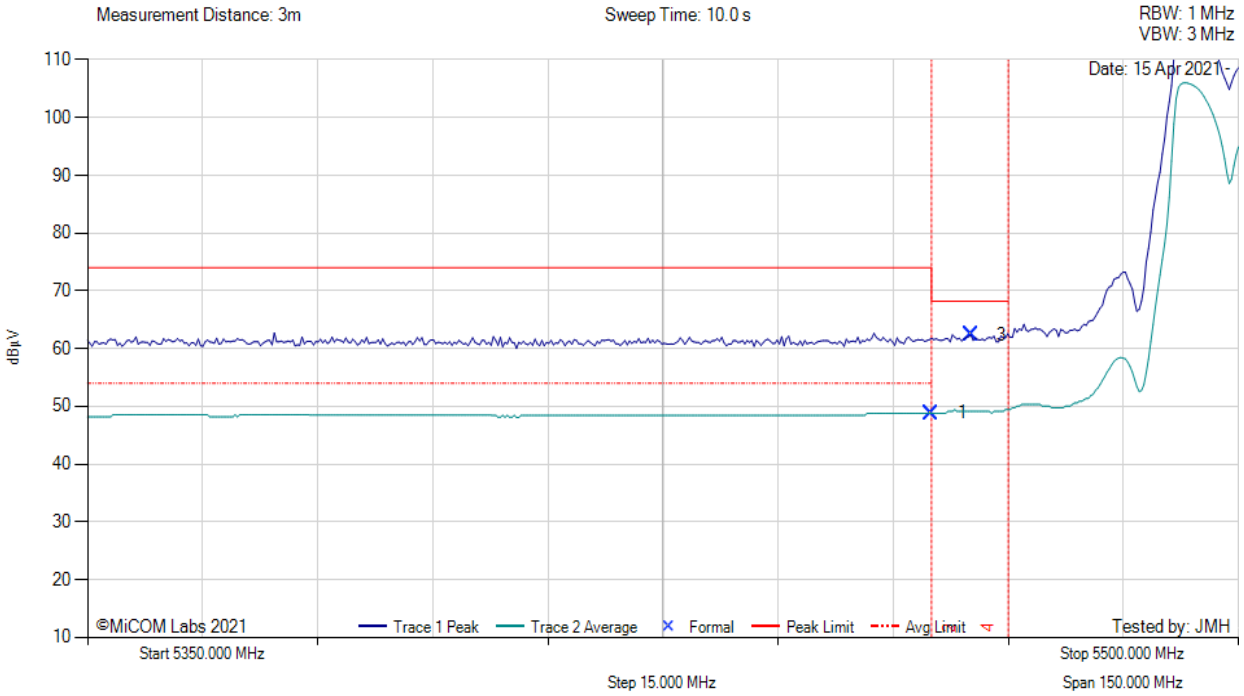
A.2.2. Restricted Edge & Band-Edge Emissions

A.2.2.2. MikroTik 95XKAA15.GB9

RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11a, Test Freq: 5500.00 MHz, Antenna: MikroTik 95XKAA15.GB9, Power Setting: 24, Duty Cycle (%): 99



5350.00 - 5500.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5460.00	11.22	3.06	34.53	48.81	Max Avg	Horizontal	168	359	54.0	-5.2	Pass
3	5465.11	24.70	3.07	34.54	62.31	Max Peak	Horizontal	168	359	68.2	-5.9	Pass
2	5460.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
4	5470.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by AC/DC ps. Connected to laptop outside chamber.

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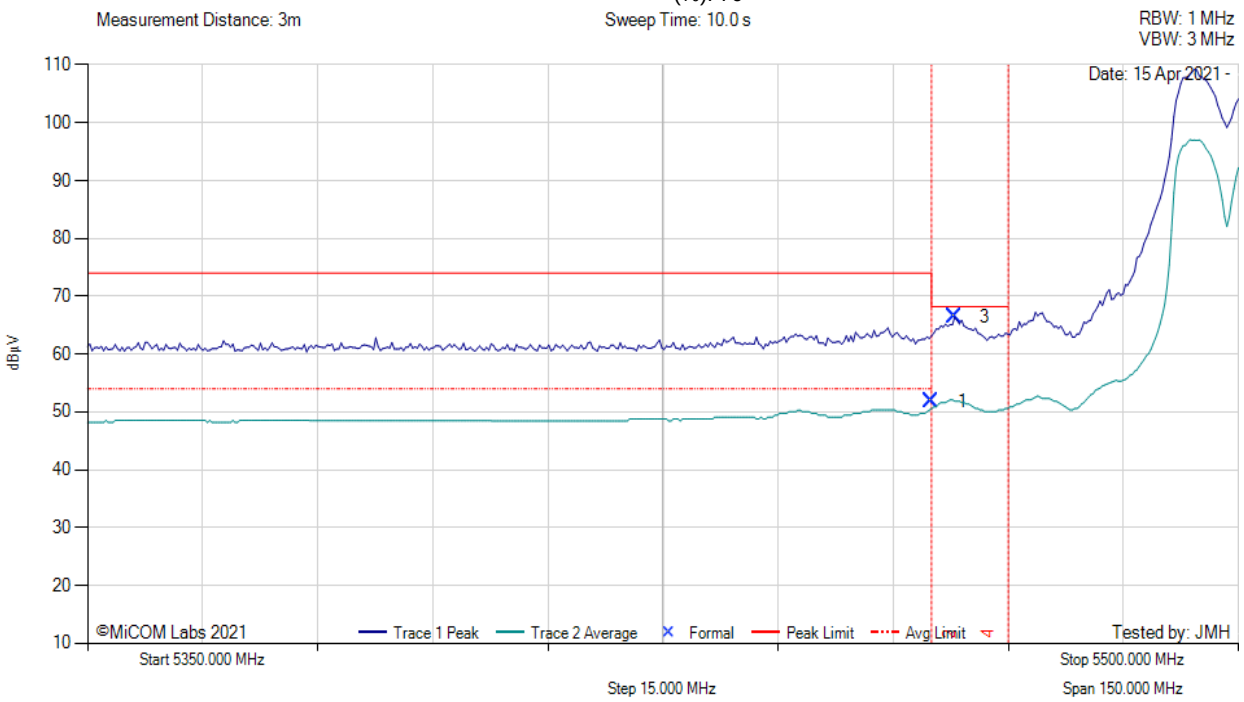
RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11ac-80, Test Freq: 5530.00 MHz, Antenna: MikroTik 95XKAA15.GB9, Power Setting: 22, Duty Cycle (%): 76



5350.00 - 5500.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5460.00	13.02	3.06	34.53	51.80	Max Avg	Horizontal	168	359	54.0	-2.2	Pass
3	5463.01	28.80	3.07	34.53	66.40	Max Peak	Horizontal	168	359	68.2	-1.8	Pass
2	5460.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
4	5470.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by AC/DC ps. Connected to laptop outside chamber. 1.19 DCCF added to average measurement.

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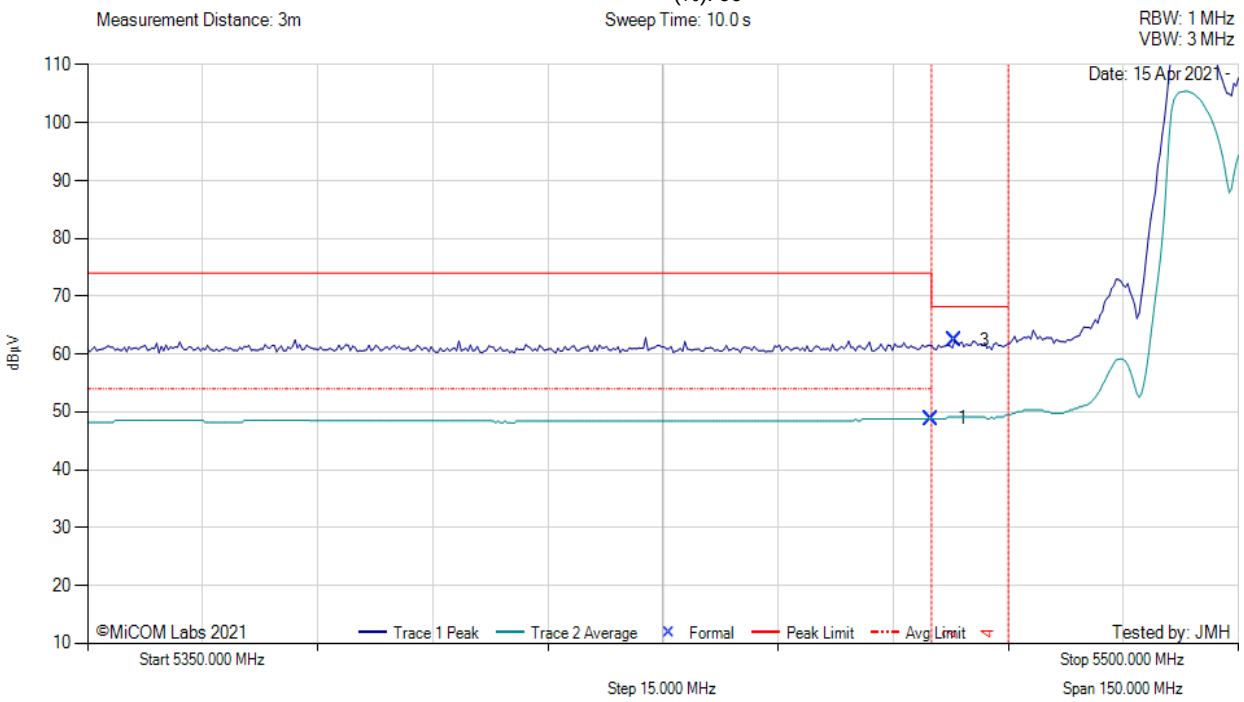
RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 5500.00 MHz, Antenna: MikroTik 95XKAA15.GB9, Power Setting: 24, Duty Cycle (%): 99



5350.00 - 5500.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5460.00	11.22	3.06	34.53	48.81	Max Avg	Horizontal	168	359	54.0	-5.2	Pass
3	5463.01	24.71	3.07	34.53	62.31	Max Peak	Horizontal	168	359	68.2	-5.9	Pass
2	5460.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
4	5470.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by AC/DC ps. Connected to laptop outside chamber.

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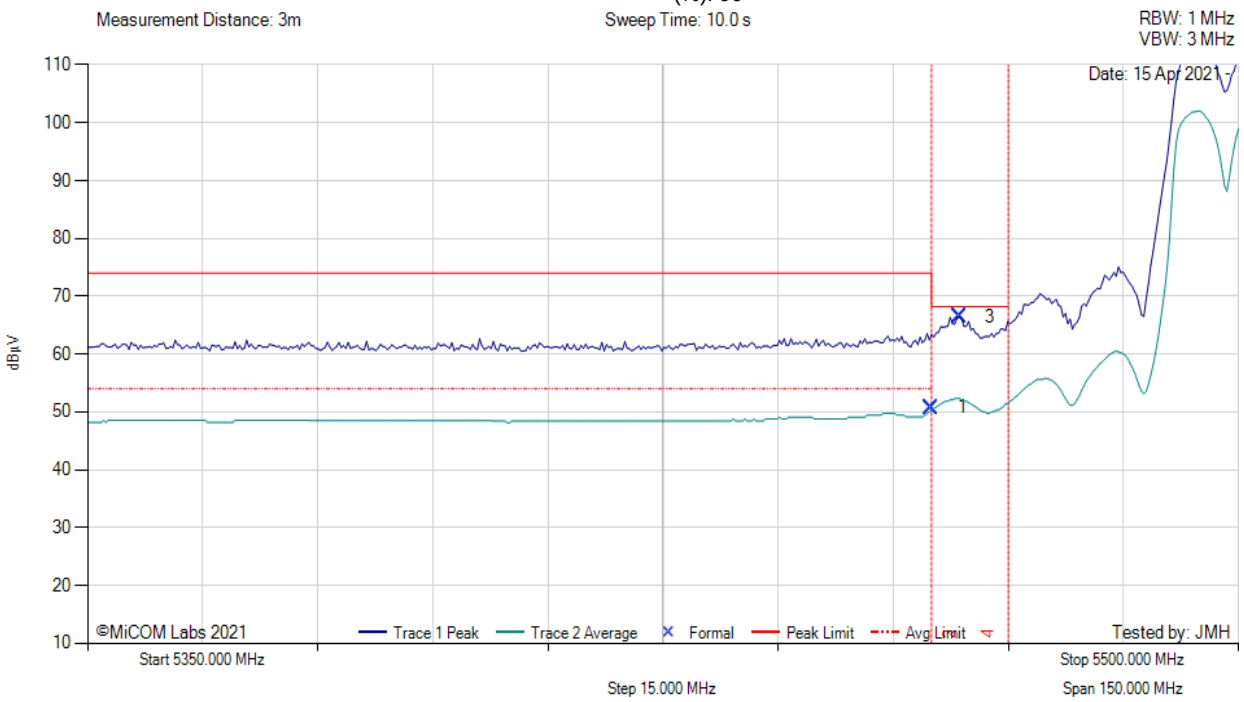
RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 5510.00 MHz, Antenna: MikroTik 95XKAA15.GB9, Power Setting: 24, Duty Cycle (%): 90



5350.00 - 5500.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5460.00	13.19	3.06	34.53	50.78	Max Avg	Horizontal	168	359	54.0	-3.2	Pass
3	5463.61	28.79	3.07	34.54	66.40	Max Peak	Horizontal	168	359	68.2	-1.8	Pass
2	5460.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
4	5470.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by AC/DC ps. Connected to laptop outside chamber. 0.45 DCCF added to average measurement.

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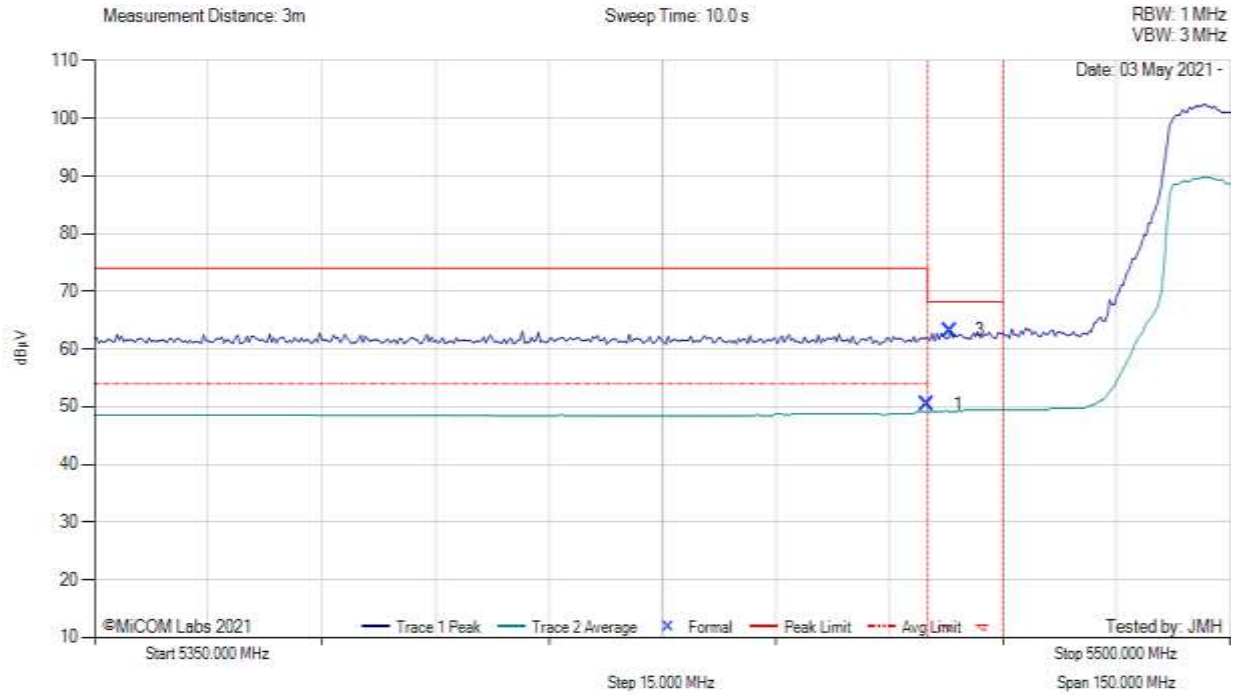
RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11ac 160, Test Freq: 5500.00 MHz, Power Setting: 23, Duty Cycle (%): 75



5350.00 - 5500.00 MHz												
Num	**Frequency MHz**	**Raw dBµV**	**Cable Loss dB**	**AF dB/m**	**Level dBµV/m**	**Measurement Type**	**Pol**	**Hgt cm**	**Azt Deg**	**Limit dBµV/m**	**Margin dB**	**Pass /Fail**
1	5460.00	11.54	3.06	34.53	50.38	Max Avg	Horizontal	168	90	54.0	-3.6	Pass
3	5463.01	25.58	3.07	34.53	63.18	Max Peak	Horizontal	168	90	68.2	-5.02	Pass
2	5460.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
4	5470.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by AC/DC ps. Connected to laptop outside chamber. 1.25 dB DCCF added to average measurement.

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