CONDUCTED TEST REPORT

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1. TEST RESULTS

1.1. 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 (%):**	98.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	4.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	**a**	**b**	**c**	**d**	**Σ Port(s) dBm**	**MHz**	**dBm**	**dB**	
5260.0	15.12	15.62	14.67	15.18	21.18	19.470	23.89	-2.71	23.00
5300.0	15.37	15.62	14.93	15.07	21.28	19.530	23.91	-2.63	23.00
5320.0	15.15	15.60	14.83	15.24	21.23	19.470	23.89	-2.66	23.00

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 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 (%):**	98.0
Data Rate:	58.60 MBit/s	**Antenna Gain (dBi):**	4.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	**a**	**b**	**c**	**d**	**Σ Port(s) dBm**	**MHz**	**dBm**	**dB**	
5250.0	13.47	13.61	13.44	14.04	19.67	164.300	24.00	-4.33	23.00

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

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

Variant:	802.11ac-80	**Duty Cycle (%):**	73.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	4.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dB	
5290.0	15.04	15.33	14.59	15.00	21.02	82.400	24.00	-2.98	23.00

Traceability to Industry Recognized Test Methodologies

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

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 (%):**	96.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	4.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	**a**	**b**	**c**	**d**	**Σ Port(s) dBm**	**MHz**	**dBm**	**dB**	
5260.0	14.72	15.21	14.31	14.79	20.79	20.200	24.00	-3.21	23.00
5300.0	14.98	15.21	14.63	14.72	20.91	20.270	24.00	-3.09	23.00
5320.0	14.74	15.22	14.54	14.88	20.87	20.130	24.00	-3.13	23.00

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 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 (%):	90.0
Data Rate:	13.50 MBit/s	Antenna Gain (dBi):	4.00
Modulation:	OFDM	Beam Forming Gain (Y)(dB):	Not Applicable
TPC:	Not Applicable	Tested By:	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dB	
5270.0	15.79	16.19	15.34	15.80	21.81	39.330	24.00	-2.19	23.00
5310.0	15.92	16.18	15.56	15.69	21.86	39.200	24.00	-2.14	23.00

Traceability to Industry Recognized Test Methodologies

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

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

![MiCOMLabs]

Title: Mikrotikls SIA (MikroTik) RB4011iGS+5HacQ2HnD-IN-US
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: MIKO93-U2_Conducted Rev A

Equipment Configuration for Peak Transmit Power

Variant:	802.11a	**Duty Cycle (%):**	97.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	4.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	**a**	**b**	**c**	**d**	**Σ Port(s) dBm**	**MHz**	**dBm**	**dB**	
5500.0	14.63	15.04	14.35	15.14	20.82	19.270	23.85	-3.03	23.00
5580.0	14.73	15.18	14.61	15.55	21.05	19.400	23.88	-2.82	23.00
5720.0	15.28	15.50	15.21	15.36	21.36	19.730	23.95	-2.59	23.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 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 (%):**	82.0
Data Rate:	58.60 MBit/s	**Antenna Gain (dBi):**	4.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dB	
5570.0	13.84	14.18	13.45	14.40	20.00	164.300	24.00	-4.00	23.00

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 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 (%):**	90.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	4.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dB	
5530.0	14.58	14.84	14.27	15.17	20.75	82.130	24.00	-3.25	23.00
5610.0	14.49	14.47	14.85	14.85	20.69	82.400	24.00	-3.31	23.00
5690.0	14.85	14.72	14.56	15.49	20.94	82.670	24.00	-3.06	23.00

Traceability to Industry Recognized Test Methodologies	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 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):**	4.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	**a**	**b**	**c**	**d**	**Σ Port(s) dBm**	**MHz**	**dBm**	**dB**	
5500.0	14.13	14.26	14.34	14.13	20.24	20.270	24.00	-3.76	23.00
5580.0	14.28	14.46	14.79	14.51	20.53	20.130	24.00	-3.47	23.00
5720.0	14.78	14.48	14.43	15.08	20.72	20.070	24.00	-3.28	23.00

Traceability to Industry Recognized Test Methodologies

Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 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):**	4.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Conducted Output Power (dBm)				Calculated Total Power	Minimum 26 dB Bandwidth	Limit	Margin	EUT Power Setting
	Port(s)								
MHz	a	b	c	d	Σ Port(s) dBm	MHz	dBm	dB	
5510.0	15.13	15.20	15.33	15.23	21.24	39.470	24.00	-2.76	23.00
5550.0	15.10	15.19	15.47	15.19	21.26	39.330	24.00	-2.74	23.00
5710.0	15.61	15.34	15.34	16.01	21.60	39.200	24.00	-2.40	23.00

Traceability to Industry Recognized Test Methodologies

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

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

1.2. 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 (%):**	98.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	4.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz)				26 dB Bandwidth (MHz)	
	Port(s)					
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**
5260.0	19.670	19.470	19.670	19.730	19.730	19.470
5300.0	19.670	19.930	19.530	19.730	19.930	19.530
5320.0	19.730	19.530	19.670	19.470	19.730	19.470

Test Frequency	Measured 99% Bandwidth (MHz)				99% Bandwidth (MHz)	
	Port(s)					
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**
5260.0	16.385	16.387	16.404	16.407	16.407	16.385
5300.0	16.381	16.380	16.378	16.383	16.383	16.378
5320.0	16.366	16.391	16.407	16.396	16.407	16.366

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 (%):**	98.0
Data Rate:	58.60 MBit/s	**Antenna Gain (dBi):**	4.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:	Test was performed on two combined chains in order to observe the full 160 MHz bandwidth. Chains a and b transmit the lower half while chains c and d transmit the upper half of the bandwidth.		

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz)				26 dB Bandwidth (MHz)	
	Port(s)					
MHz	a/c	b/d	c	d	Highest	Lowest
5250.0	164.300	164.300	-	-	164.300	164.300

Test Frequency	Measured 99% Bandwidth (MHz)				99% Bandwidth (MHz)	
	Port(s)					
MHz	a/c	b/d	c	d	Highest	Lowest
5250.0	154.666	154.818	-	-	154.818	154.666

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 (%):**	73.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	4.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz)				26 dB Bandwidth (MHz)	
	Port(s)					
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**
5290.0	84.000	82.930	83.200	82.400	84.000	82.400

Test Frequency	Measured 99% Bandwidth (MHz)				99% Bandwidth (MHz)	
	Port(s)					
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**
5290.0	75.885	75.885	75.736	75.677	75.885	75.677

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).

MiCOMLabs

Title: Mikrotikls SIA (MikroTik) RB4011iGS+5HacQ2HnD-IN-US
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: MIKO93-U2_Conducted Rev A

Equipment Configuration for 26 dB & 99% Occupied Bandwidth	

Variant:	802.11n HT-20	**Duty Cycle (%):**	96.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	4.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz)				26 dB Bandwidth (MHz)	
	Port(s)					
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**
5260.0	20.330	20.330	20.200	20.400	20.400	20.200
5300.0	20.130	20.530	20.330	20.530	20.530	20.130
5320.0	20.130	20.330	20.270	20.330	20.330	20.130

Test Frequency	Measured 99% Bandwidth (MHz)				99% Bandwidth (MHz)	
	Port(s)					
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**
5260.0	17.559	17.554	17.570	17.572	17.572	17.554
5300.0	17.548	17.550	17.569	17.570	17.570	17.548
5320.0	17.555	17.564	17.569	17.574	17.574	17.555

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 (%):**	90.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	4.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz)				26 dB Bandwidth (MHz)	
	Port(s)					
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**
5270.0	40.000	40.270	39.330	39.470	40.270	39.330
5310.0	39.870	40.000	39.330	39.200	40.000	39.200

Test Frequency	Measured 99% Bandwidth (MHz)				99% Bandwidth (MHz)	
	Port(s)					
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**
5270.0	35.941	35.942	35.875	35.885	35.942	35.875
5310.0	35.971	35.947	35.827	35.851	35.971	35.827

Traceability to Industry Recognized Test Methodologies

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

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

Equipment Configuration for 26 dB & 99% Occupied Bandwidth

Variant:	802.11a	**Duty Cycle (%):**	97.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	4.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
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	19.930	19.930	19.270	19.530	19.930	19.270
5580.0	19.870	19.730	19.470	19.400	19.870	19.400
5720.0	20.000	19.730	19.870	19.730	20.000	19.730

Test Frequency	Measured 99% Bandwidth (MHz) Port(s)				99% Bandwidth (MHz)	
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**
5500.0	16.396	16.412	16.394	16.385	16.412	16.385
5580.0	16.374	16.394	16.376	16.365	16.394	16.365
5720.0	16.391	16.390	16.411	16.370	16.411	16.370

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 (%):**	82.0
Data Rate:	58.60 MBit/s	**Antenna Gain (dBi):**	4.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz)				26 dB Bandwidth (MHz)	
	Port(s)					
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**
5570.0	164.300	164.300	-	-	164.300	164.300

Test Frequency	Measured 99% Bandwidth (MHz)				99% Bandwidth (MHz)	
	Port(s)					
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**
5570.0	154.417	154.474	-	-	154.474	154.417

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 (%):**	90.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	4.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz)				26 dB Bandwidth (MHz)	
	Port(s)					
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**
5530.0	83.200	82.930	82.130	82.670	83.200	82.130
5610.0	83.730	82.930	82.670	82.400	83.730	82.400
5690.0	83.730	82.670	82.670	82.670	83.730	82.670

Test Frequency	Measured 99% Bandwidth (MHz)				99% Bandwidth (MHz)	
	Port(s)					
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**
5530.0	75.947	75.716	75.534	75.779	75.947	75.534
5610.0	75.975	75.765	75.794	75.600	75.975	75.600
5690.0	76.008	75.874	75.691	75.561	76.008	75.561

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).

![MiCOMLabs logo]

Title:	Mikrotikls SIA (MikroTik) RB4011iGS+5HacQ2HnD-IN-US
To:	FCC CFR 47 Part 15 Subpart E 15.407
Serial #:	MIKO93-U2_Conducted Rev A

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):**	4.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz)				26 dB Bandwidth (MHz)	
	Port(s)					
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**
5500.0	20.400	20.470	20.270	20.270	20.470	20.270
5580.0	20.130	20.470	20.330	20.400	20.470	20.130
5720.0	20.330	20.400	20.070	20.330	20.400	20.070

Test Frequency	Measured 99% Bandwidth (MHz)				99% Bandwidth (MHz)	
	Port(s)					
MHz	**a**	**b**	**c**	**d**	**Highest**	**Lowest**
5500.0	17.566	17.582	17.580	17.552	17.582	17.552
5580.0	17.560	17.574	17.542	17.552	17.574	17.542
5720.0	17.567	17.575	17.555	17.586	17.586	17.555

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):**	4.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured 26 dB Bandwidth (MHz)				26 dB Bandwidth (MHz)	
	Port(s)					
MHz	a	b	c	d	Highest	Lowest
5510.0	39.870	39.730	39.600	39.470	39.870	39.470
5550.0	39.870	39.470	39.600	39.330	39.870	39.330
5710.0	39.870	39.600	39.730	39.200	39.870	39.200

Test Frequency	Measured 99% Bandwidth (MHz)				99% Bandwidth (MHz)	
	Port(s)					
MHz	a	b	c	d	Highest	Lowest
5510.0	35.954	35.846	35.892	35.909	35.954	35.846
5550.0	35.942	35.885	35.893	35.873	35.942	35.873
5710.0	36.024	35.962	35.932	35.818	36.024	35.818

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).

1.3. 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 (à) and a link to this additional graphic is provided.

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

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

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

Supporting Information
Calculated Power = A + 10 log (1/x) dBm
A = Total Power Spectral Density [$10*Log10 (10^{a/10} + 10^{b/10} + 10^{c/10} + 10^{d/10})$]
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 (%):**	98.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	4.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:	Spot Check due to software version update from 6.46beta35 to 6.46beta46		

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Summation Peak Marker + DCCF (+0.09 dB)	Limit	Margin
MHz	**a**	**b**	**c**	**d**	**dBm/MHz**	**dBm/MHz**	**dB**
5260.0	3.731	4.117	3.901	3.662	9.819	11.0	-1.2
5300.0	3.828	4.002	3.778	3.367	9.749	11.0	-1.3
5320.0	3.568	4.057	3.843	3.724	9.800	11.0	-1.2

Traceability to Industry Recognized Test Methodologies

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

DCCF - Duty Cycle Correction Factor

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

Equipment Configuration for Power Spectral Density		

Variant:	802.11ac-160	**Duty Cycle (%):**	98.0
Data Rate:	58.60 MBit/s	**Antenna Gain (dBi):**	4.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density				Summation Peak Marker + DCCF (+0.09 dB)	Limit	Margin
	Port(s) (dBm/MHz)						
MHz	**a**	**b**	**c**	**d**	**dBm/MHz**	**dBm/MHz**	**dB**
5250.0	-3.607	-3.542	-4.235	-2.676	-0.570	11.0	-11.6

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

DCCF - Duty Cycle Correction Factor

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

Equipment Configuration for Power Spectral Density	

Variant:	802.11ac-80	**Duty Cycle (%):**	73.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	4.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density Port(s) (dBm/MHz)				Summation Peak Marker + DCCF (+1.37 dB)	Limit	Margin
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5290.0	-2.545	-2.615	-2.894	-2.655	4.452	11.0	-6.6

Traceability to Industry Recognized Test Methodologies

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

DCCF - Duty Cycle Correction Factor

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

Equipment Configuration for Power Spectral Density

Variant:	802.11n HT-20	**Duty Cycle (%):**	96.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	4.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density				Summation Peak Marker + DCCF (+0.18 dB)	Limit	Margin
	Port(s) (dBm/MHz)						
MHz	**a**	**b**	**c**	**d**	**dBm/MHz**	**dBm/MHz**	**dB**
5260.0	2.963	3.425	3.059	3.117	9.194	11.0	-1.8
5300.0	3.298	3.412	3.158	2.889	9.222	11.0	-1.8
5320.0	2.936	3.500	3.384	3.253	9.308	11.0	-1.7

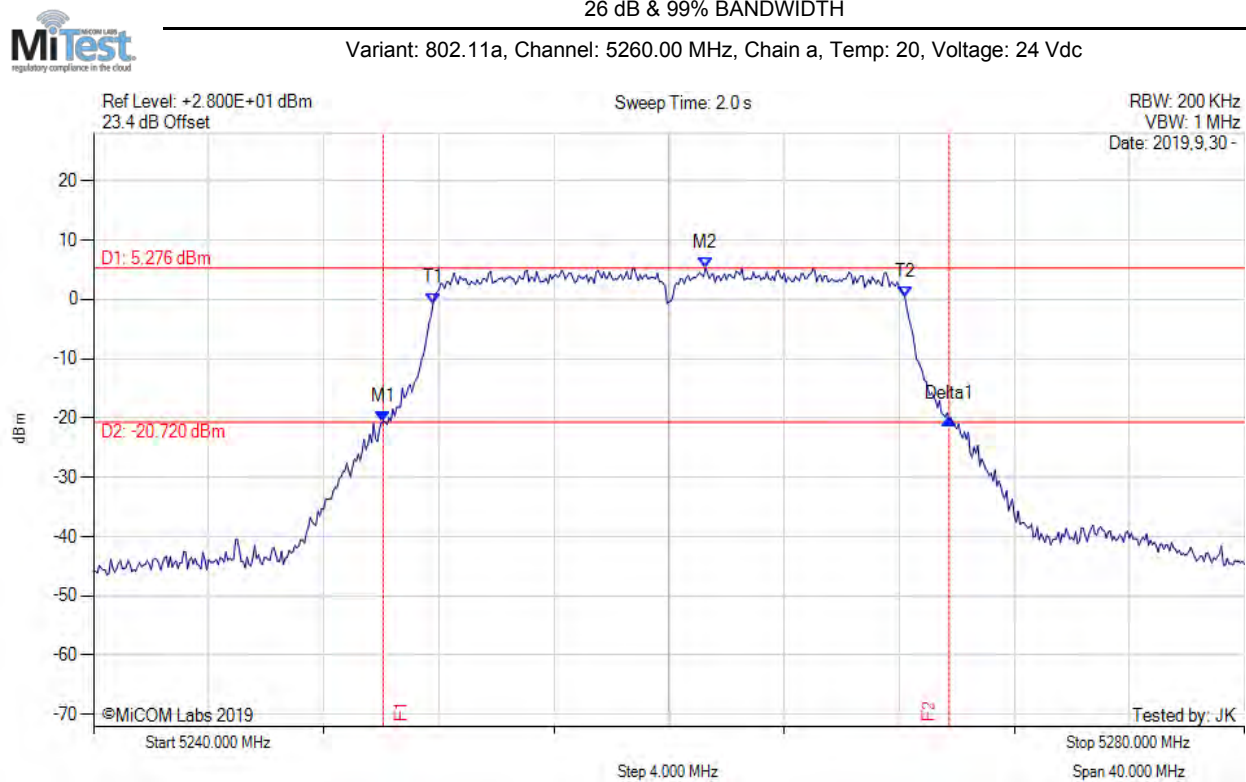| **Traceability to Industry Recognized Test Methodologies**	
Work Instruction:	WI-03 MEASURING RF SPECTRUM MASK
Measurement Uncertainty:	±2.81 dB

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:	802.11n HT-40	**Duty Cycle (%):**	90.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	4.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density				Summation Peak Marker + DCCF (+0.46 dB)	Limit	Margin
	Port(s) (dBm/MHz)						
MHz	**a**	**b**	**c**	**d**	**dBm/MHz**	**dBm/MHz**	**dB**
5270.0	1.608	1.706	1.546	1.416	7.852	11.0	-3.2
5310.0	1.421	1.637	1.678	1.371	7.867	11.0	-3.2

Traceability to Industry Recognized Test Methodologies

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

DCCF - Duty Cycle Correction Factor

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

Equipment Configuration for Power Spectral Density

Variant:	802.11a	**Duty Cycle (%):**	97.0
Data Rate:	6.00 MBit/s	**Antenna Gain (dBi):**	4.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density				Summation Peak Marker + DCCF (+0.13 dB)	Limit	Margin
	Port(s) (dBm/MHz)						
MHz	**a**	**b**	**c**	**d**	**dBm/MHz**	**dBm/MHz**	**dB**
5500.0	2.901	3.122	3.463	3.579	9.288	11.0	-1.7
5580.0	3.475	3.766	3.930	4.335	9.915	11.0	-1.1
5720.0	3.919	4.190	4.334	3.885	10.016	11.0	-1.0

Traceability to Industry Recognized Test Methodologies

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

DCCF - Duty Cycle Correction Factor

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

Equipment Configuration for Power Spectral Density			

Variant:	802.11ac-160	**Duty Cycle (%):**	82.0
Data Rate:	58.60 MBit/s	**Antenna Gain (dBi):**	4.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
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
5570.0	-4.180	-3.479	-2.940	-2.726	1.041	11.0	-10.0

Traceability to Industry Recognized Test Methodologies

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

DCCF - Duty Cycle Correction Factor

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

Equipment Configuration for Power Spectral Density			

Variant:	802.11ac-80	**Duty Cycle (%):**	90.0
Data Rate:	29.30 MBit/s	**Antenna Gain (dBi):**	4.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density				Summation Peak Marker + DCCF (+0.46 dB)	Limit	Margin
	Port(s) (dBm/MHz)						
MHz	**a**	**b**	**c**	**d**	**dBm/MHz**	**dBm/MHz**	**dB**
5530.0	<u>-2.876</u>	<u>-2.770</u>	<u>-1.926</u>	<u>-2.314</u>	<u>3.799</u>	11.0	-7.2
5610.0	<u>-2.730</u>	<u>-2.846</u>	<u>-1.659</u>	<u>-2.603</u>	<u>4.150</u>	11.0	-6.9
5690.0	<u>-2.158</u>	<u>-2.344</u>	<u>-2.069</u>	<u>-1.793</u>	<u>4.455</u>	11.0	-6.6

Traceability to Industry Recognized Test Methodologies

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

DCCF - Duty Cycle Correction Factor

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

Equipment Configuration for Power Spectral Density			

Variant:	802.11n HT-20	**Duty Cycle (%):**	97.0
Data Rate:	6.50 MBit/s	**Antenna Gain (dBi):**	4.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density				Summation Peak Marker + DCCF (+0.13 dB)	Limit	Margin
	Port(s) (dBm/MHz)						
MHz	a	b	c	d	dBm/MHz	dBm/MHz	dB
5500.0	2.618	2.505	3.387	2.574	8.839	11.0	-2.2
5580.0	2.973	2.933	4.147	3.280	9.354	11.0	-1.7
5720.0	3.615	3.183	3.358	3.570	9.374	11.0	-1.6

Traceability to Industry Recognized Test Methodologies

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

DCCF - Duty Cycle Correction Factor

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

Equipment Configuration for Power Spectral Density	

Variant:	802.11n HT-40	**Duty Cycle (%):**	97.0
Data Rate:	13.50 MBit/s	**Antenna Gain (dBi):**	4.00
Modulation:	OFDM	**Beam Forming Gain (Y)(dB):**	Not Applicable
TPC:	Not Applicable	**Tested By:**	JK
Engineering Test Notes:			

Test Measurement Results

Test Frequency	Measured Power Spectral Density				Summation Peak Marker + DCCF (+0.13 dB)	Limit	Margin
	Port(s) (dBm/MHz)						
MHz	**a**	**b**	**c**	**d**	**dBm/MHz**	**dBm/MHz**	**dB**
5510.0	0.967	0.935	1.561	0.898	7.071	11.0	-3.9
5550.0	1.021	1.296	2.094	1.031	7.419	11.0	-3.6
5710.0	1.873	1.173	1.717	1.818	7.548	11.0	-3.5

Traceability to Industry Recognized Test Methodologies

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

DCCF - Duty Cycle Correction Factor

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

A. APPENDIX - GRAPHICAL IMAGES

A.1. 26 dB & 99% Bandwidth

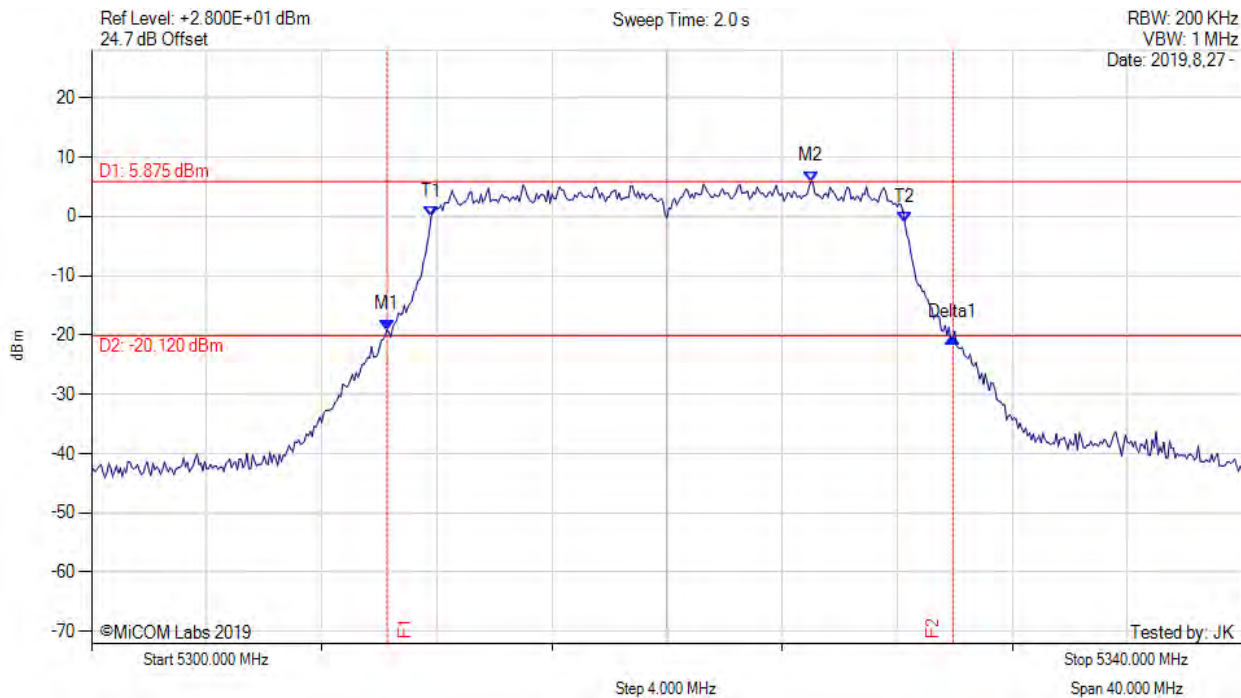### 26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5260.00 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 : 5250.070 MHz : -20.599 dBm M2 : 5261.270 MHz : 5.276 dBm Delta1 : 19.670 MHz : 0.389 dB T1 : 5251.800 MHz : -0.655 dBm T2 : 5268.200 MHz : 0.445 dBm OBW : 16.385 MHz	Measured 26 dB Bandwidth: 19.670 MHz Measured 99% Bandwidth: 16.385 MHz

back to matrix

26 dB & 99% BANDWIDTH

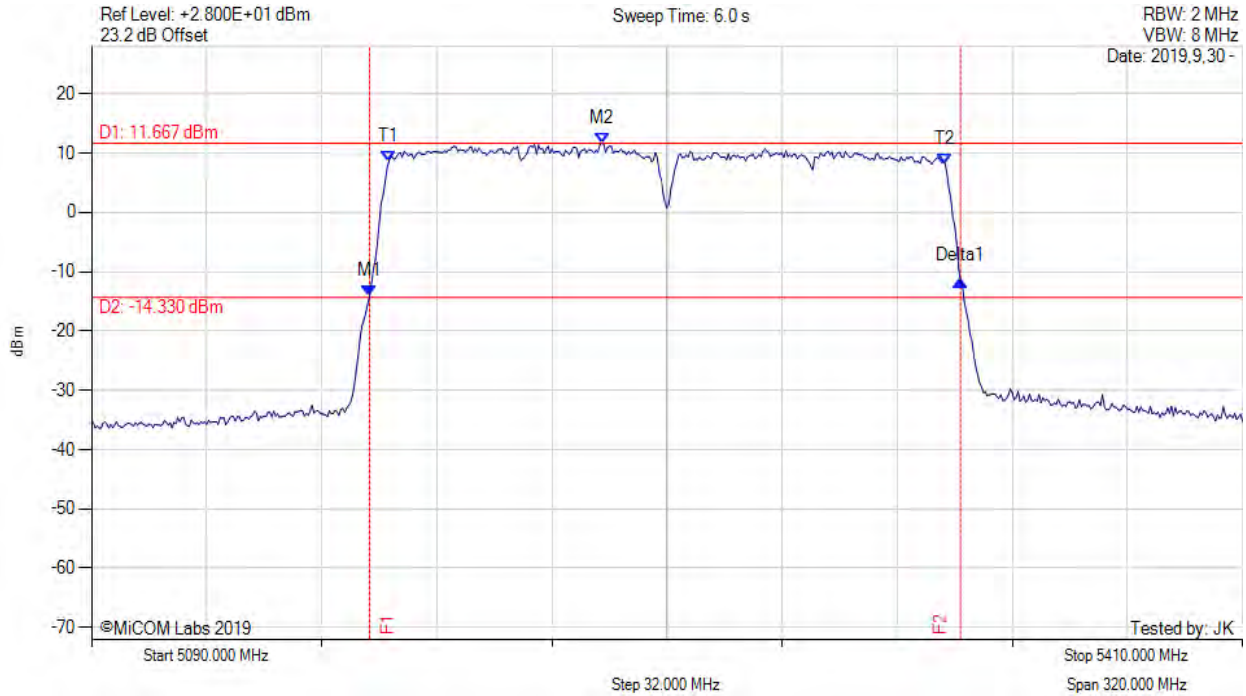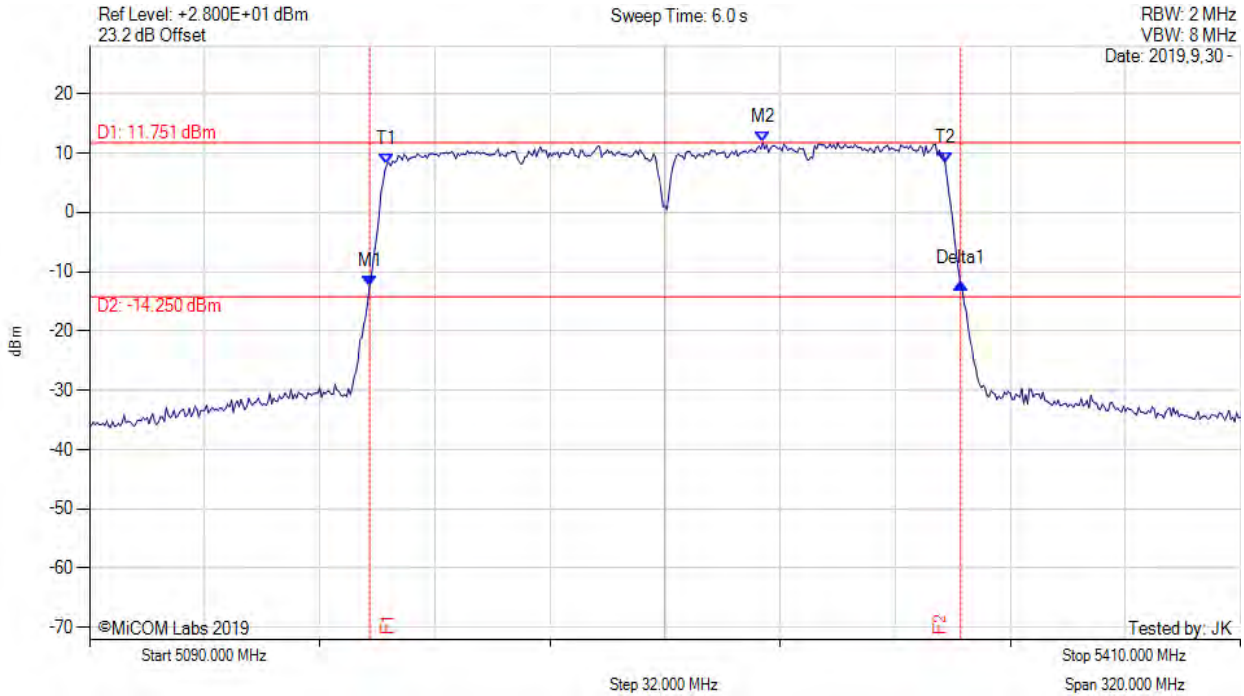Variant: 802.11a, Channel: 5260.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5250.200 MHz : -19.436 dBm M2 : 5258.730 MHz : 5.625 dBm Delta1 : 19.470 MHz : -0.234 dB T1 : 5251.800 MHz : -0.022 dBm T2 : 5268.200 MHz : 0.976 dBm OBW : 16.387 MHz	Measured 26 dB Bandwidth: 19.470 MHz Measured 99% Bandwidth: 16.387 MHz

back to matrix

26 dB & 99% BANDWIDTH

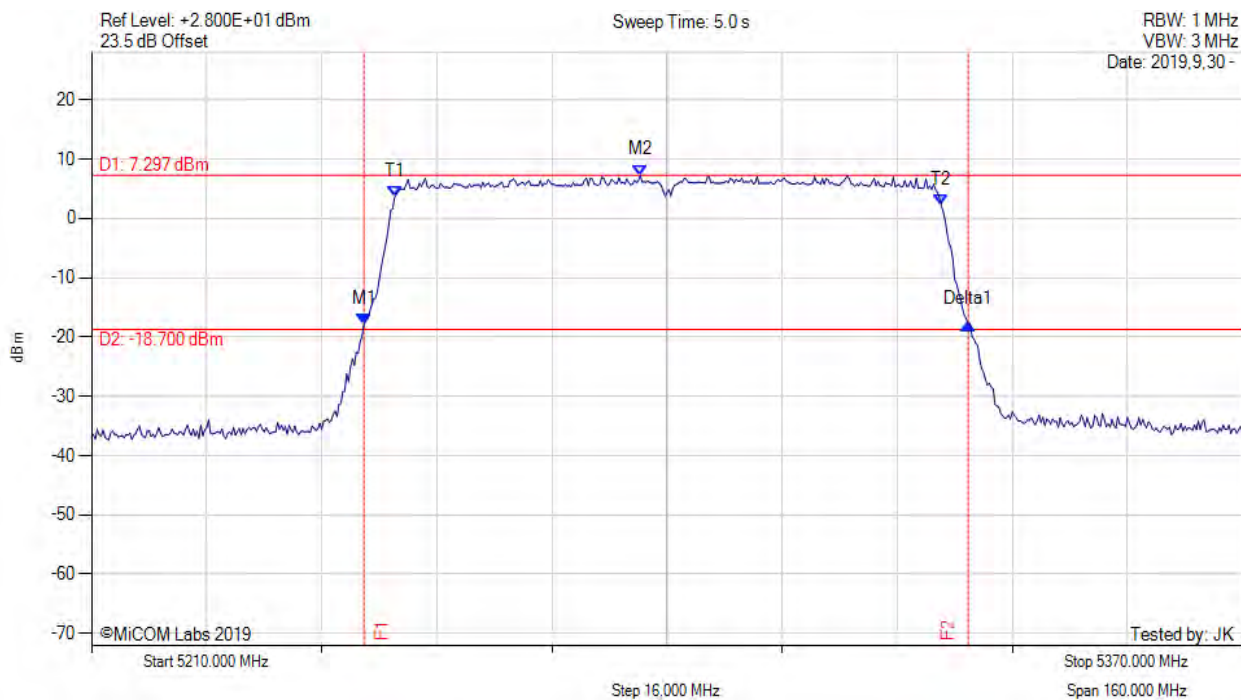Variant: 802.11a, Channel: 5260.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5250.000 MHz : -19.489 dBm M2 : 5255.000 MHz : 5.590 dBm Delta1 : 19.670 MHz : -0.800 dB T1 : 5251.800 MHz : -0.051 dBm T2 : 5268.200 MHz : 0.718 dBm OBW : 16.404 MHz	Measured 26 dB Bandwidth: 19.670 MHz Measured 99% Bandwidth: 16.404 MHz

back to matrix

26 dB & 99% BANDWIDTH

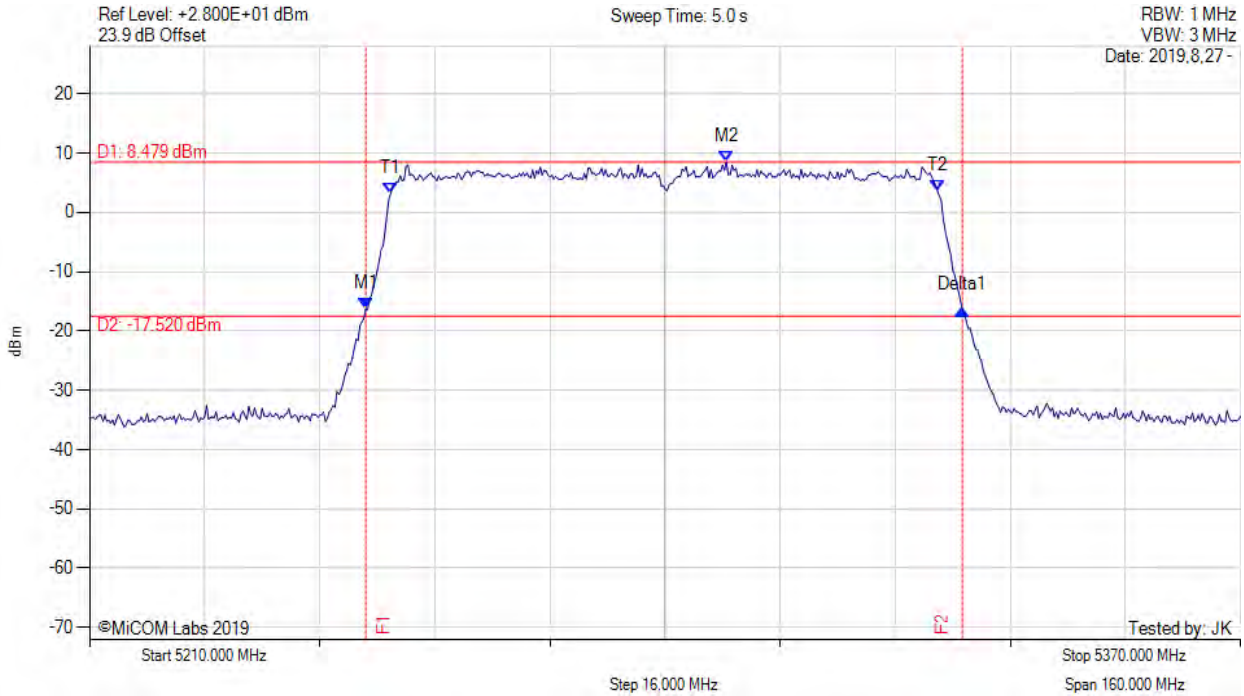Variant: 802.11a, Channel: 5260.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

Ref Level: +2.800E+01 dBm
24.4 dB Offset

Sweep Time: 2.0 s

RBW: 200 KHz
VBW: 1 MHz
Date: 2019,8,27 -

D1: 5.505 dBm

D2: -20.500 dBm

Start 5240.000 MHz

Step 4.000 MHz

Stop 5280.000 MHz

Span 40.000 MHz

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Tested by: JK

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5250.200 MHz : -19.911 dBm M2 : 5265.000 MHz : 5.505 dBm Delta1 : 19.730 MHz : -1.466 dB T1 : 5251.800 MHz : -0.330 dBm T2 : 5268.267 MHz : -0.622 dBm OBW : 16.407 MHz	Measured 26 dB Bandwidth: 19.730 MHz Measured 99% Bandwidth: 16.407 MHz

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5300.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

Ref Level: +2.800E+01 dBm
23.6 dB Offset

Sweep Time: 2.0 s

RBW: 200 KHz
VBW: 1 MHz
Date: 2019,8,27 -

D1: 5.269 dBm
D2: -20.730 dBm

Start 5280.000 MHz
Stop 5320.000 MHz
Step 4.000 MHz
Span 40.000 MHz

©MiCOM Labs 2019
Tested by: JK

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5290.130 MHz : -20.104 dBm M2 : 5298.800 MHz : 5.269 dBm Delta1 : 19.670 MHz : -0.038 dB T1 : 5291.800 MHz : -0.547 dBm T2 : 5308.200 MHz : 1.117 dBm OBW : 16.381 MHz	Measured 26 dB Bandwidth: 19.670 MHz Measured 99% Bandwidth: 16.381 MHz

back to matrix

26 dB & 99% BANDWIDTH

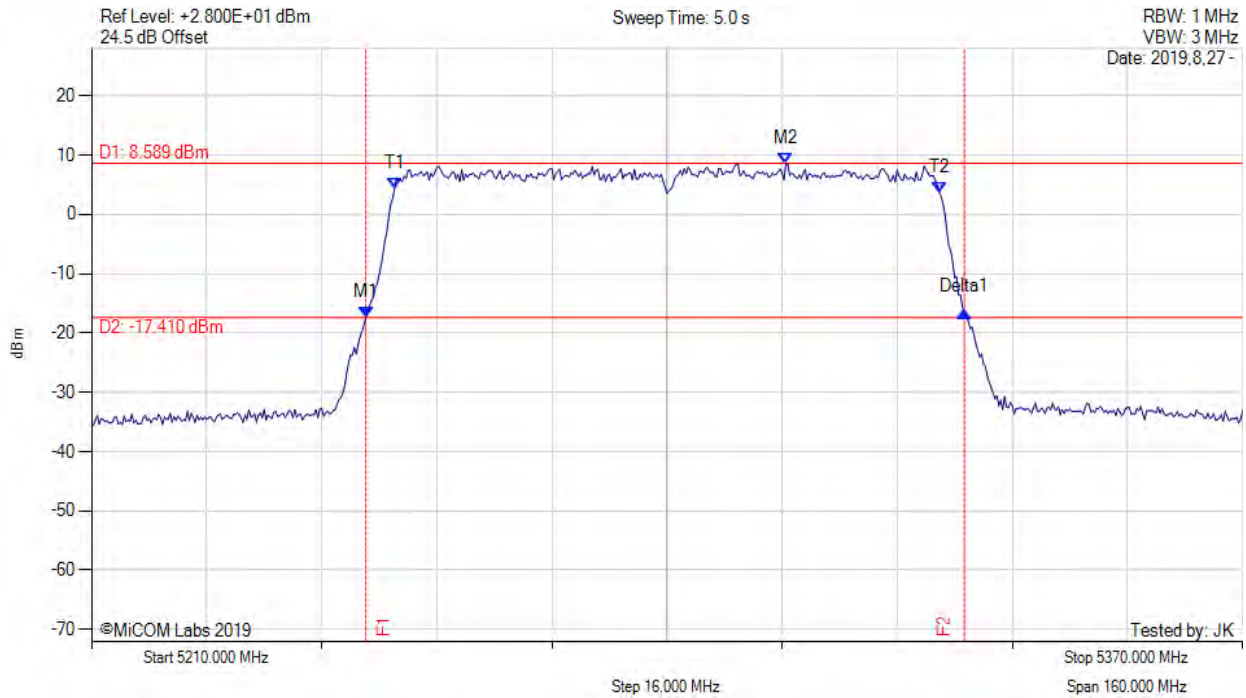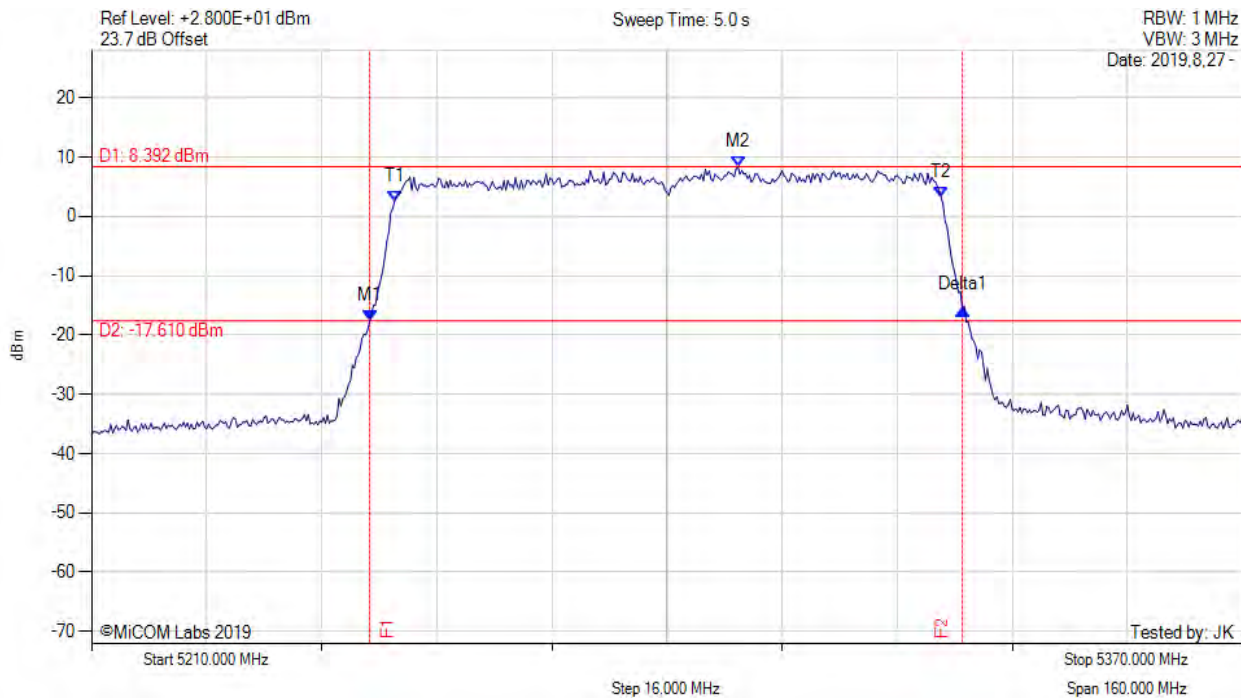Variant: 802.11a, Channel: 5300.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5290.270 MHz : -20.061 dBm M2 : 5301.270 MHz : 5.596 dBm Delta1 : 19.930 MHz : -1.698 dB T1 : 5291.800 MHz : -0.400 dBm T2 : 5308.200 MHz : 0.668 dBm OBW : 16.380 MHz	Measured 26 dB Bandwidth: 19.930 MHz Measured 99% Bandwidth: 16.380 MHz

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MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com
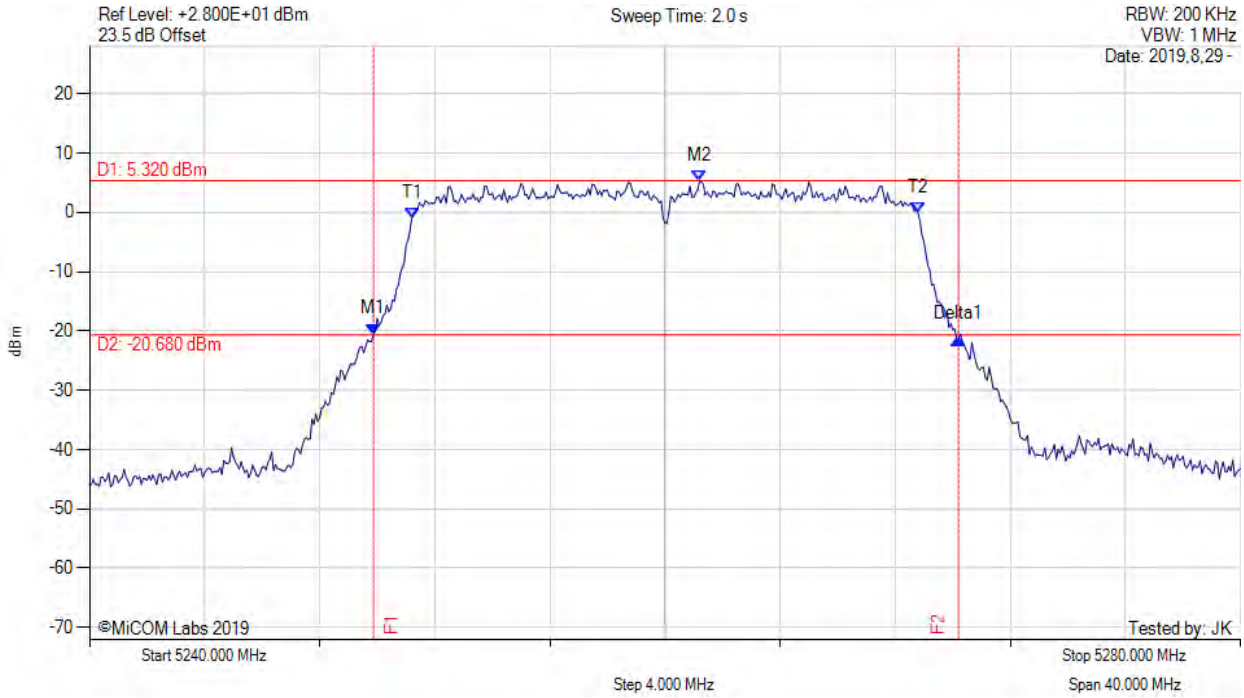
26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5300.00 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 : 5290.330 MHz : -19.670 dBm M2 : 5305.000 MHz : 5.856 dBm Delta1 : 19.530 MHz : 0.372 dB T1 : 5291.800 MHz : -0.327 dBm T2 : 5308.200 MHz : 0.953 dBm OBW : 16.378 MHz	Measured 26 dB Bandwidth: 19.530 MHz Measured 99% Bandwidth: 16.378 MHz

back to matrix

---

26 dB & 99% BANDWIDTH

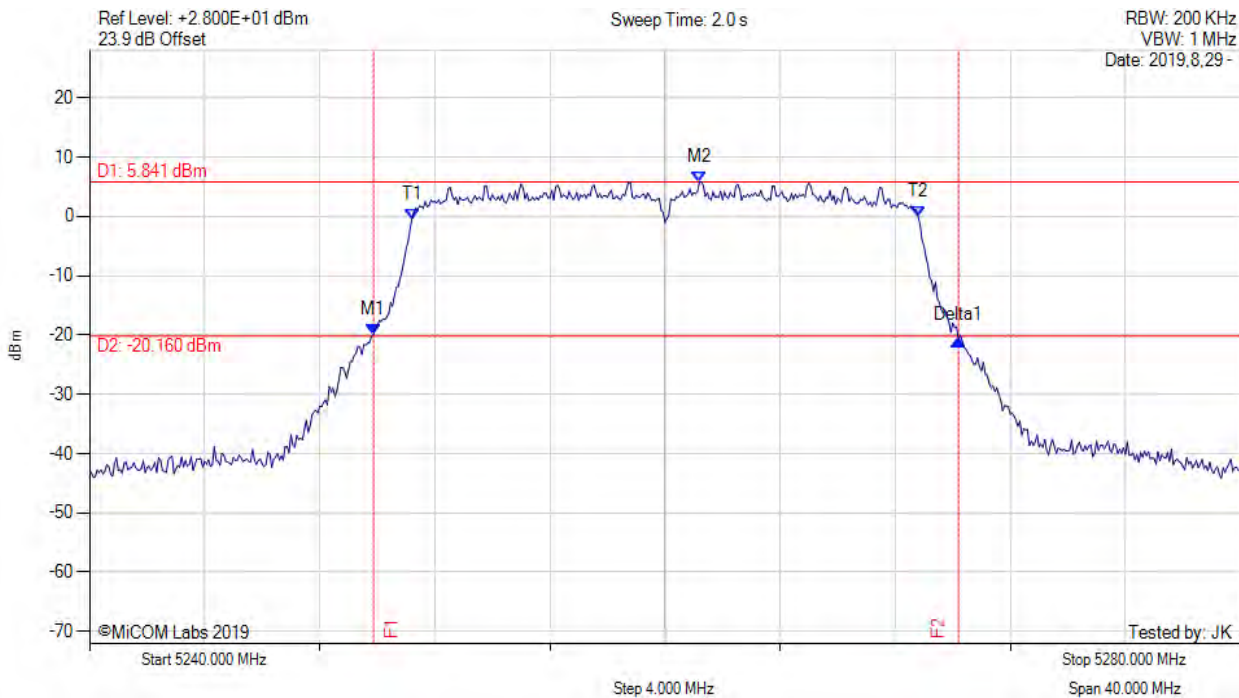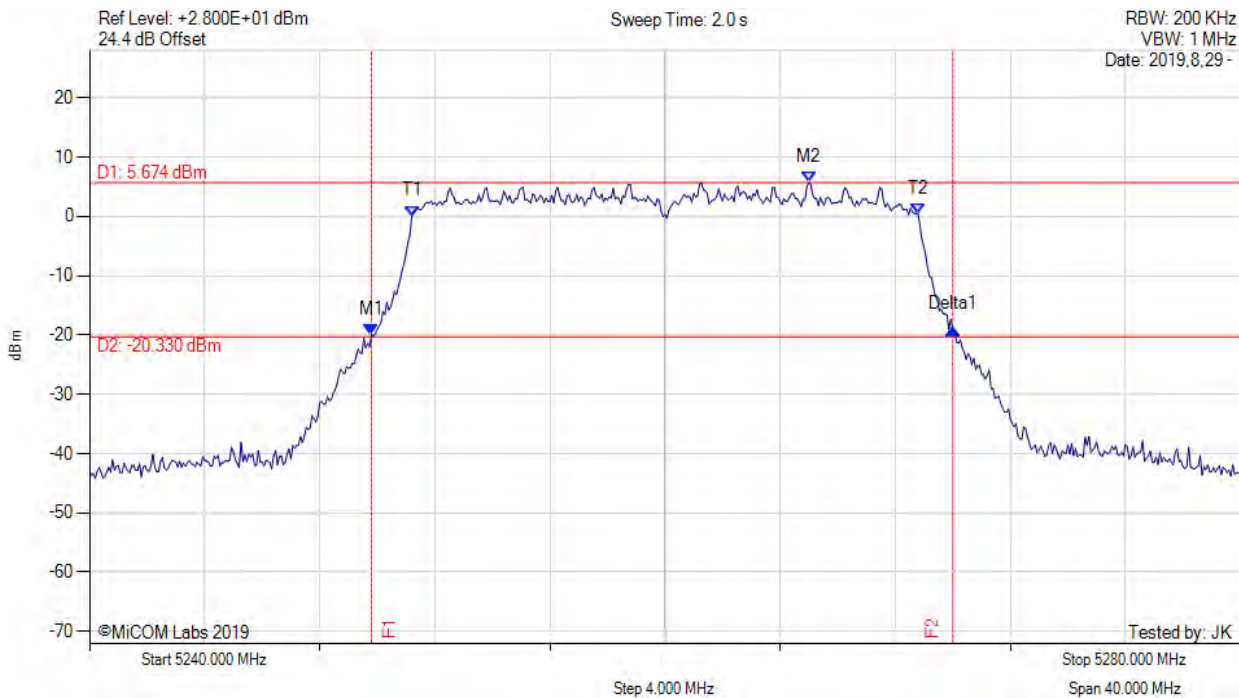Variant: 802.11a, Channel: 5300.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5290.000 MHz : -20.735 dBm M2 : 5305.000 MHz : 5.221 dBm Delta1 : 19.730 MHz : 0.105 dB T1 : 5291.800 MHz : -0.926 dBm T2 : 5308.200 MHz : 0.597 dBm OBW : 16.383 MHz	Measured 26 dB Bandwidth: 19.730 MHz Measured 99% Bandwidth: 16.383 MHz

26 dB & 99% BANDWIDTH

Variant: 802.11a, Channel: 5320.00 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 : 5310.200 MHz : -19.241 dBm M2 : 5325.000 MHz : 5.060 dBm Delta1 : 19.730 MHz : -2.441 dB T1 : 5311.800 MHz : -1.294 dBm T2 : 5328.200 MHz : 0.793 dBm OBW : 16.366 MHz	Measured 26 dB Bandwidth: 19.730 MHz Measured 99% Bandwidth: 16.366 MHz

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26 dB & 99% BANDWIDTH

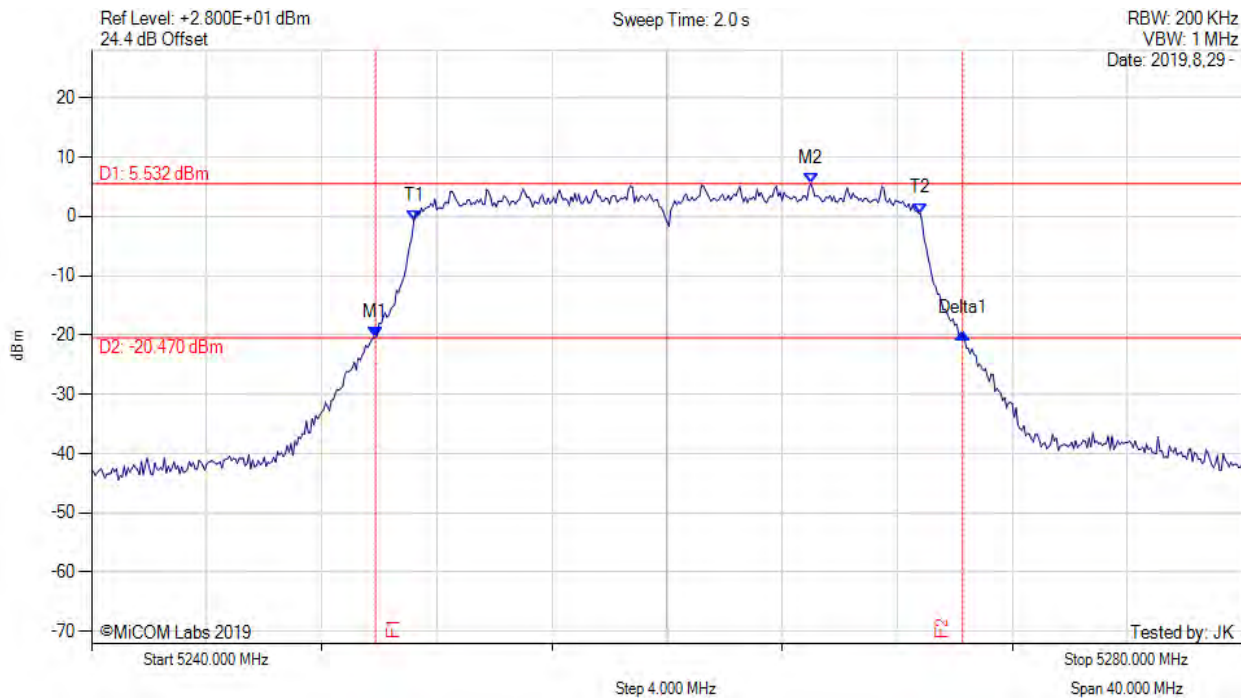Variant: 802.11a, Channel: 5320.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5310.330 MHz : -19.534 dBm M2 : 5318.730 MHz : 5.592 dBm Delta1 : 19.530 MHz : 0.244 dB T1 : 5311.800 MHz : -0.245 dBm T2 : 5328.200 MHz : 0.900 dBm OBW : 16.391 MHz	Measured 26 dB Bandwidth: 19.530 MHz Measured 99% Bandwidth: 16.391 MHz

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26 dB & 99% BANDWIDTH

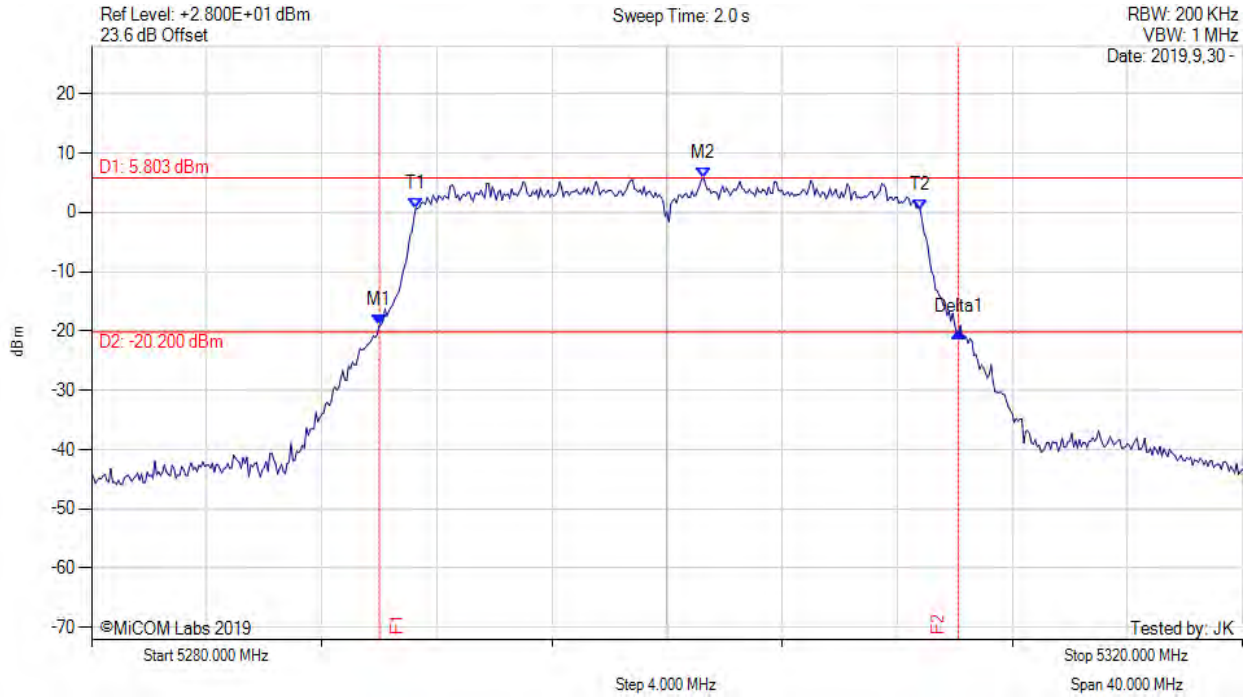Variant: 802.11a, Channel: 5320.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5310.270 MHz : -19.126 dBm M2 : 5325.000 MHz : 5.875 dBm Delta1 : 19.670 MHz : -1.310 dB T1 : 5311.800 MHz : -0.146 dBm T2 : 5328.267 MHz : -1.033 dBm OBW : 16.407 MHz	Measured 26 dB Bandwidth: 19.670 MHz Measured 99% Bandwidth: 16.407 MHz

back to matrix

26 dB & 99% BANDWIDTH

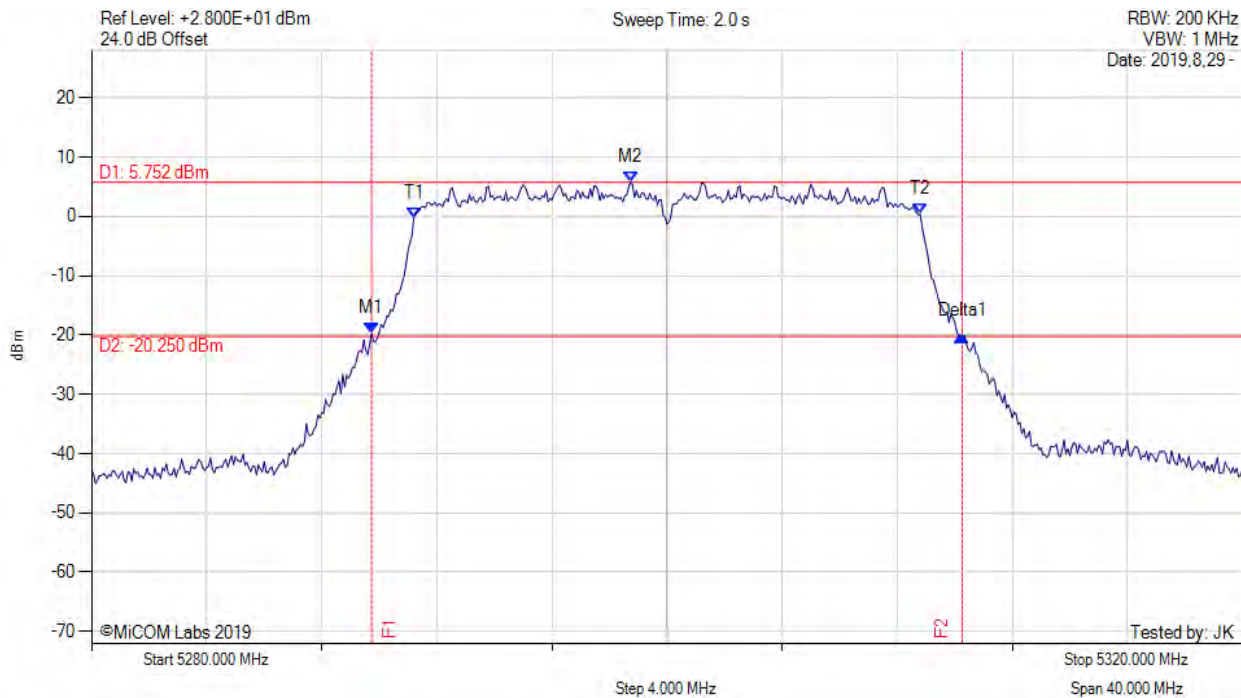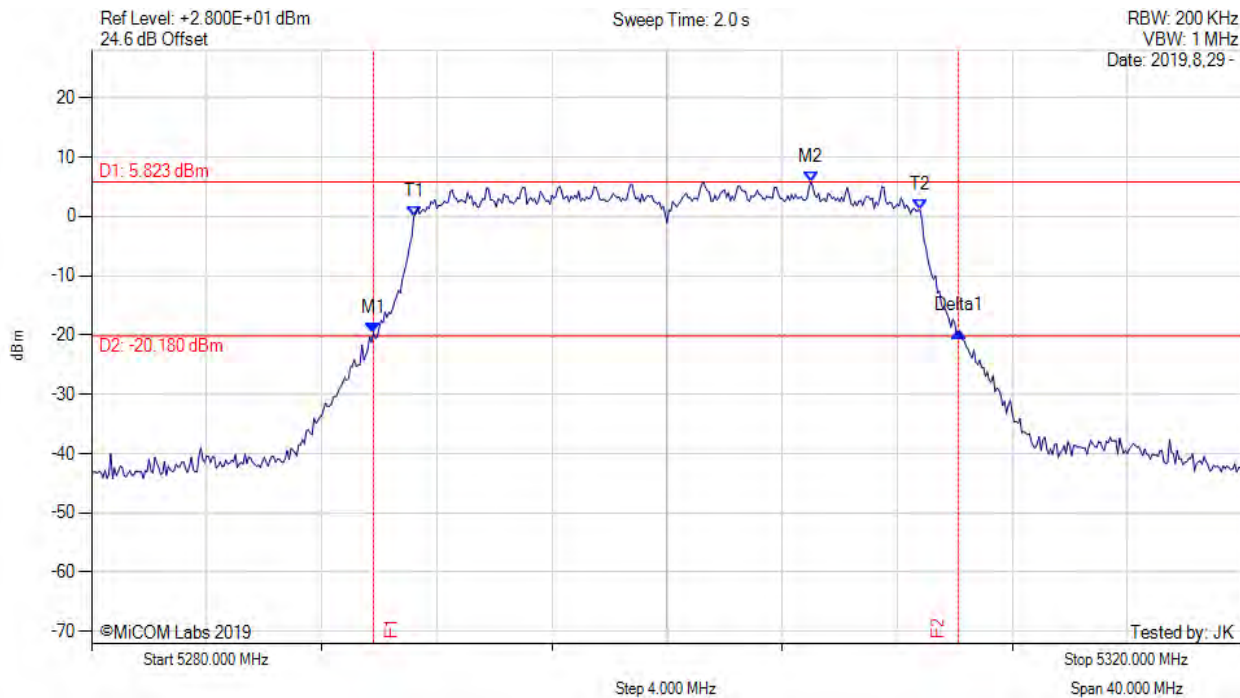Variant: 802.11a, Channel: 5320.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5310.270 MHz : -19.427 dBm M2 : 5325.000 MHz : 5.634 dBm Delta1 : 19.470 MHz : 0.568 dB T1 : 5311.800 MHz : -1.185 dBm T2 : 5328.267 MHz : -0.982 dBm OBW : 16.396 MHz	Measured 26 dB Bandwidth: 19.470 MHz Measured 99% Bandwidth: 16.396 MHz

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26 dB & 99% BANDWIDTH

Variant: 802.11ac-160, Channel: 5250.00 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 : 5167.300 MHz : -14.147 dBm M2 : 5231.900 MHz : 11.667 dBm Delta1 : 164.300 MHz : 2.654 dB T1 : 5172.667 MHz : 8.570 dBm T2 : 5327.333 MHz : 8.179 dBm OBW : 154.666 MHz	Measured 26 dB Bandwidth: 164.300 MHz Measured 99% Bandwidth: 154.666 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11ac-160, Channel: 5250.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc
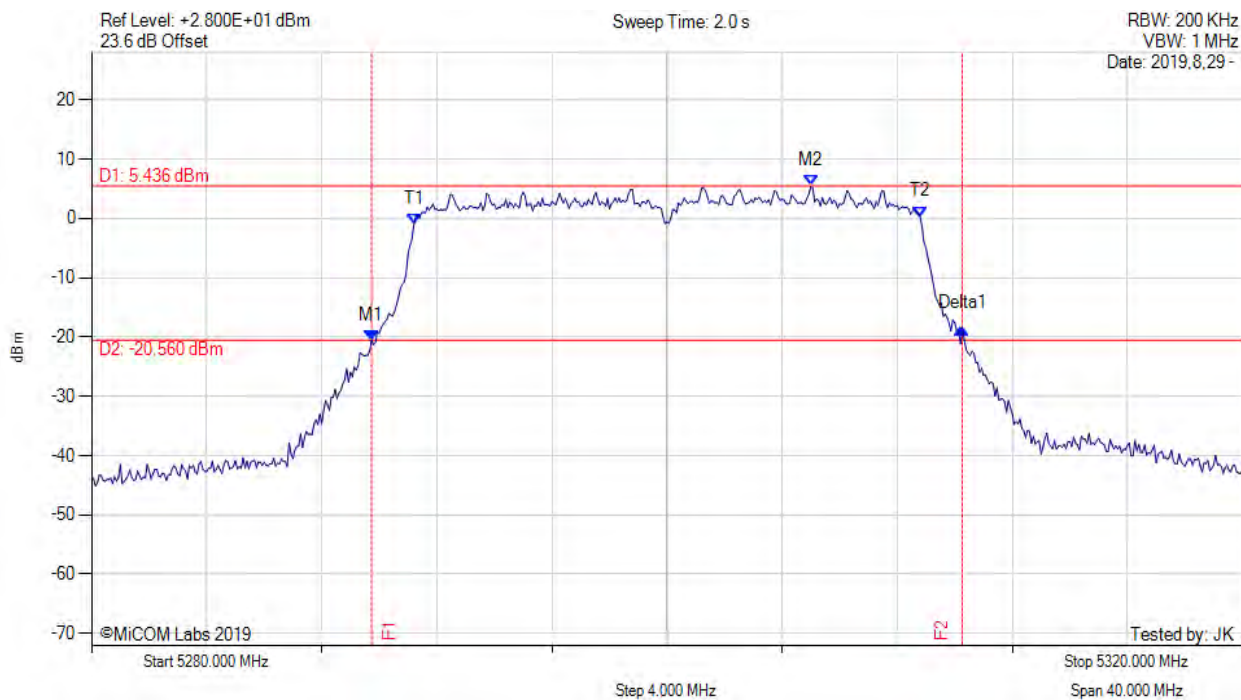

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5167.900 MHz : -12.436 dBm M2 : 5277.200 MHz : 11.751 dBm Delta1 : 164.300 MHz : 0.423 dB T1 : 5172.667 MHz : 8.099 dBm T2 : 5327.867 MHz : 8.438 dBm OBW : 154.818 MHz	Measured 26 dB Bandwidth: 164.300 MHz Measured 99% Bandwidth: 154.818 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5290.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

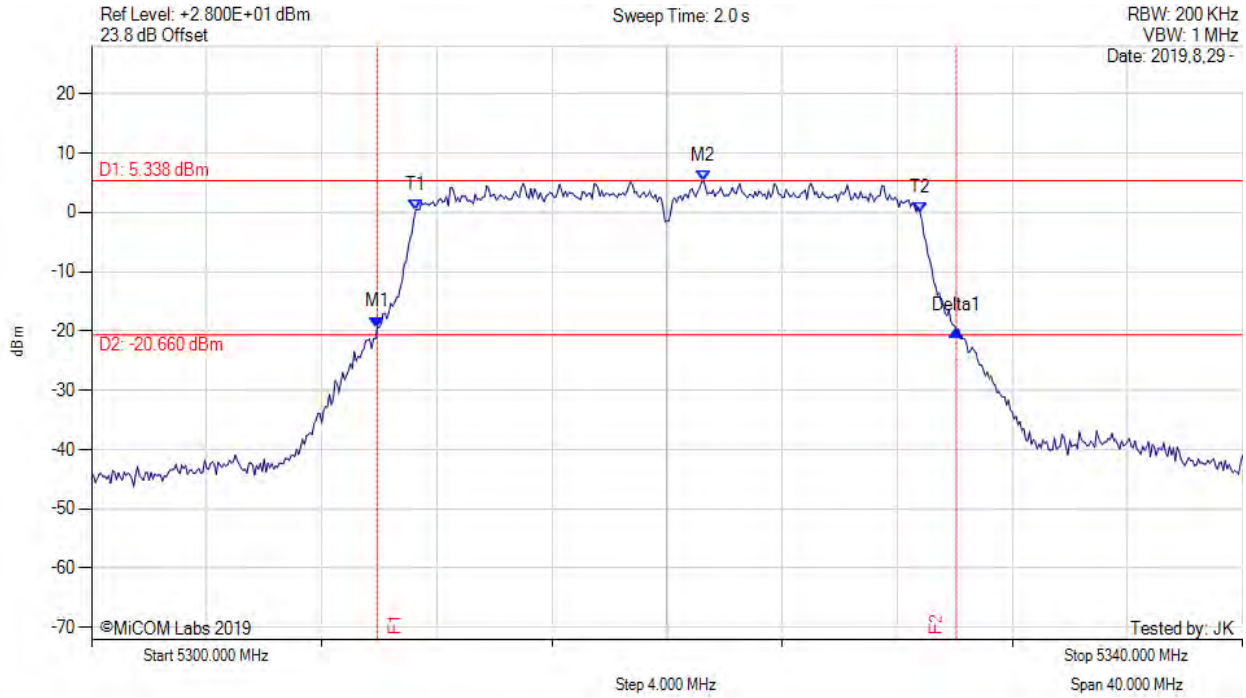| Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5247.870 MHz : -17.846 dBm M2 : 5286.270 MHz : 7.297 dBm Delta1 : 84.000 MHz : 0.021 dB T1 : 5252.133 MHz : 3.574 dBm T2 : 5328.133 MHz : 2.188 dBm OBW : 75.885 MHz	Measured 26 dB Bandwidth: 84.000 MHz Measured 99% Bandwidth: 75.885 MHz

back to matrix

26 dB & 99% BANDWIDTH

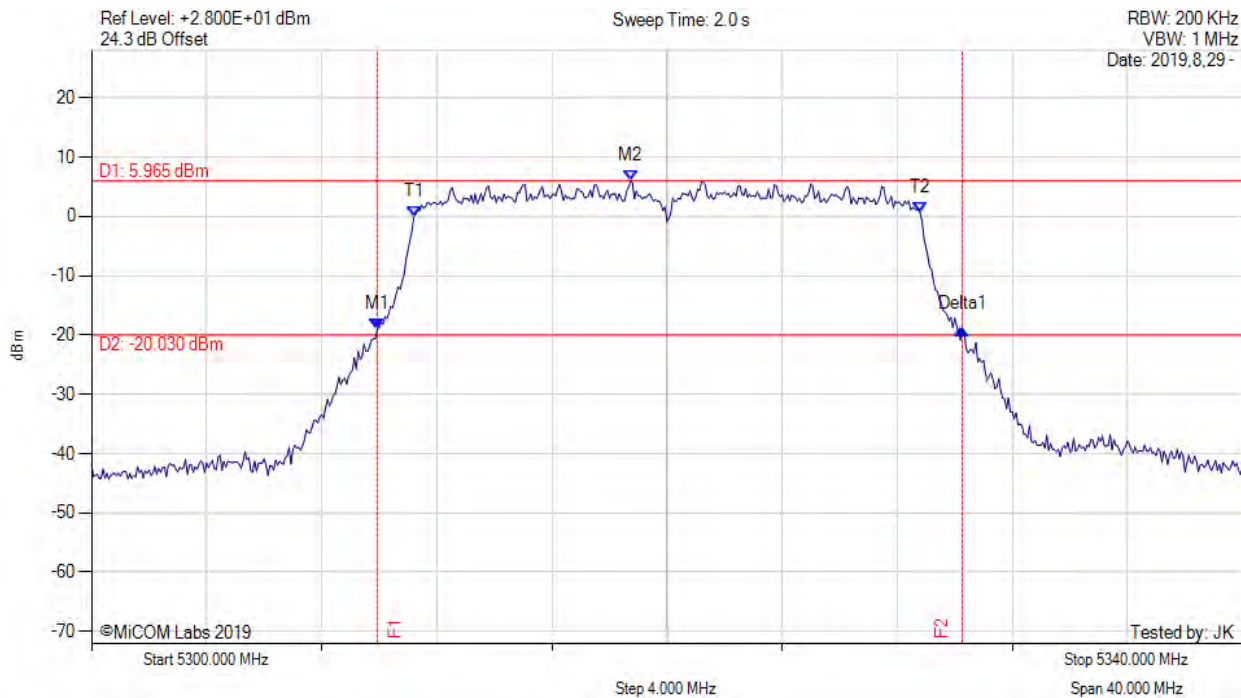Variant: 802.11ac-80, Channel: 5290.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5248.400 MHz : -16.276 dBm M2 : 5298.530 MHz : 8.479 dBm Delta1 : 82.930 MHz : -0.161 dB T1 : 5251.867 MHz : 3.256 dBm T2 : 5327.867 MHz : 3.696 dBm OBW : 75.885 MHz	Measured 26 dB Bandwidth: 82.930 MHz Measured 99% Bandwidth: 75.885 MHz

26 dB & 99% BANDWIDTH

Variant: 802.11ac-80, Channel: 5290.00 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 : 5248.130 MHz : -17.336 dBm M2 : 5306.530 MHz : 8.589 dBm Delta1 : 83.200 MHz : 0.945 dB T1 : 5252.133 MHz : 4.426 dBm T2 : 5327.867 MHz : 3.728 dBm OBW : 75.736 MHz	Measured 26 dB Bandwidth: 83.200 MHz Measured 99% Bandwidth: 75.736 MHz

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26 dB & 99% BANDWIDTH

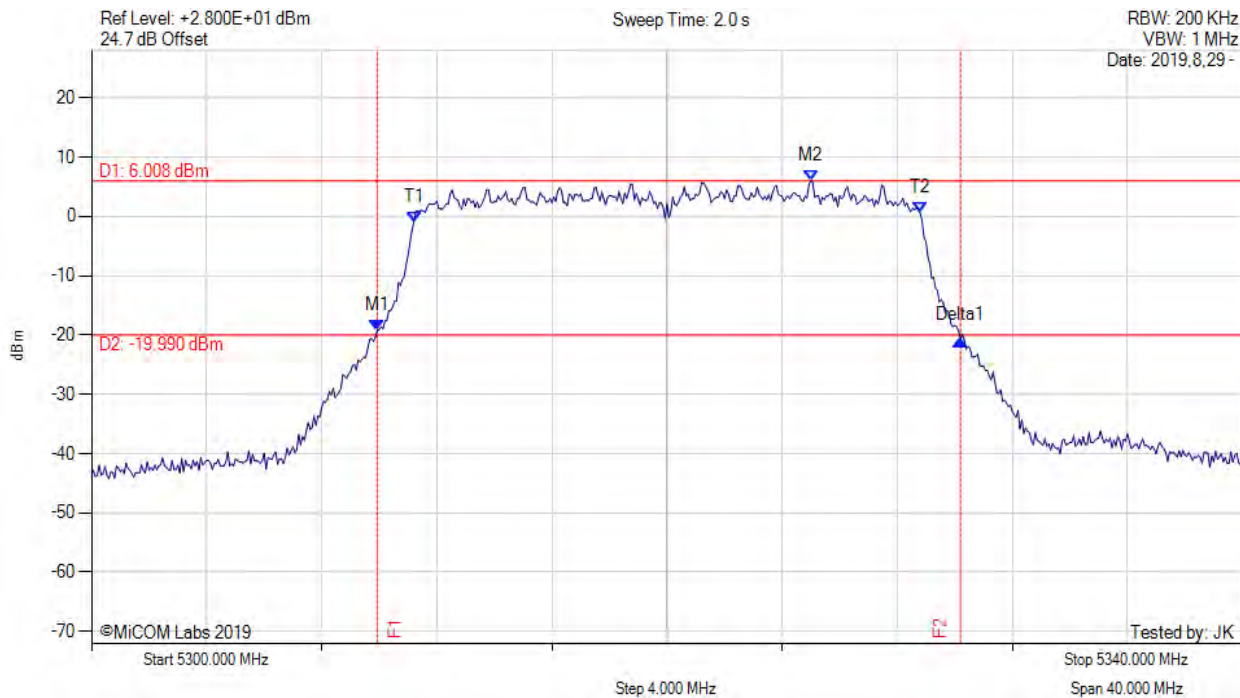Variant: 802.11ac-80, Channel: 5290.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5248.670 MHz : -17.563 dBm M2 : 5299.870 MHz : 8.392 dBm Delta1 : 82.400 MHz : 1.797 dB T1 : 5252.133 MHz : 2.495 dBm T2 : 5328.133 MHz : 3.138 dBm OBW : 75.677 MHz	Measured 26 dB Bandwidth: 82.400 MHz Measured 99% Bandwidth: 75.677 MHz

back to matrix

26 dB & 99% BANDWIDTH

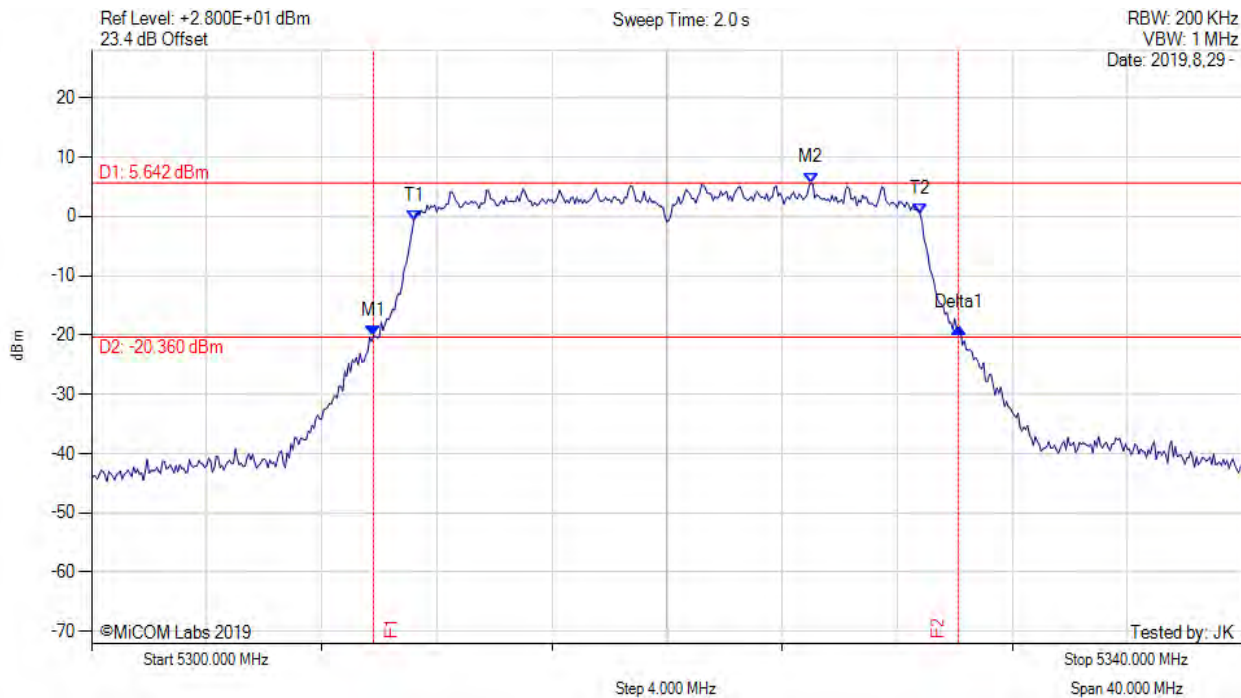Variant: 802.11n HT-20, Channel: 5260.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5249.870 MHz : -20.513 dBm M2 : 5261.200 MHz : 5.320 dBm Delta1 : 20.330 MHz : -0.884 dB T1 : 5251.200 MHz : -0.923 dBm T2 : 5268.800 MHz : -0.176 dBm OBW : 17.559 MHz	Measured 26 dB Bandwidth: 20.330 MHz Measured 99% Bandwidth: 17.559 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5260.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc
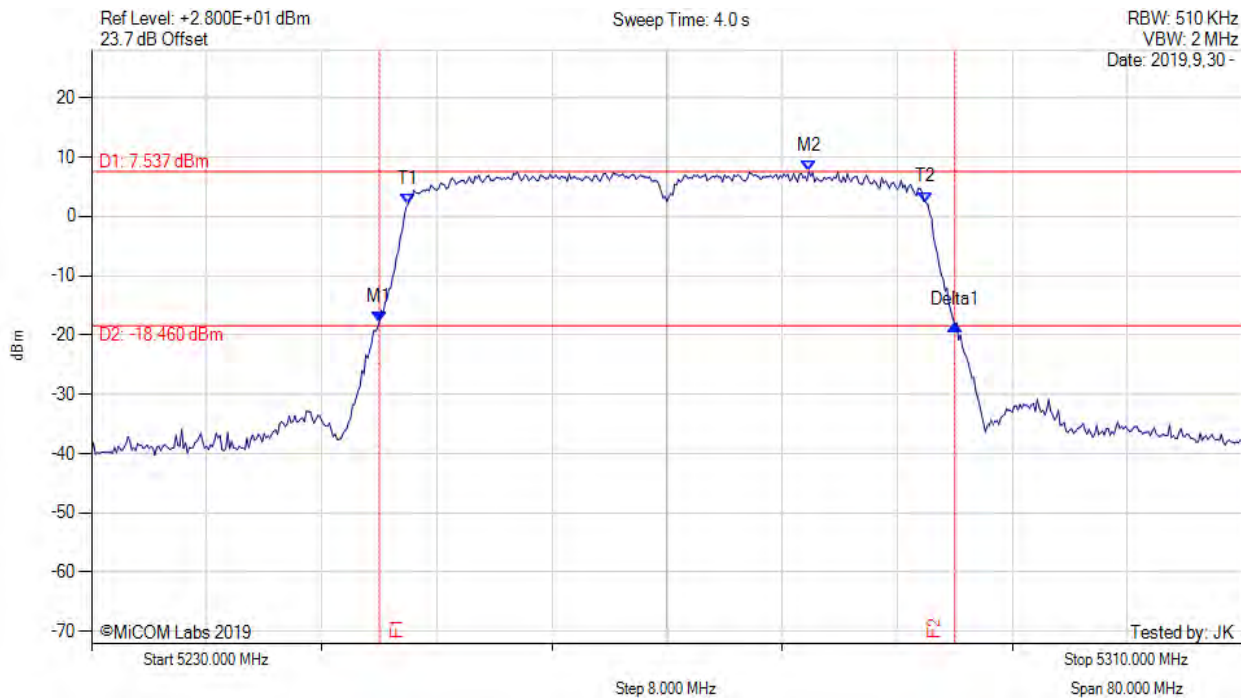

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5249.870 MHz : -19.901 dBm M2 : 5261.200 MHz : 5.841 dBm Delta1 : 20.330 MHz : -0.967 dB T1 : 5251.200 MHz : -0.497 dBm T2 : 5268.800 MHz : -0.124 dBm OBW : 17.554 MHz	Measured 26 dB Bandwidth: 20.330 MHz Measured 99% Bandwidth: 17.554 MHz

back to matrix

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26 dB & 99% BANDWIDTH

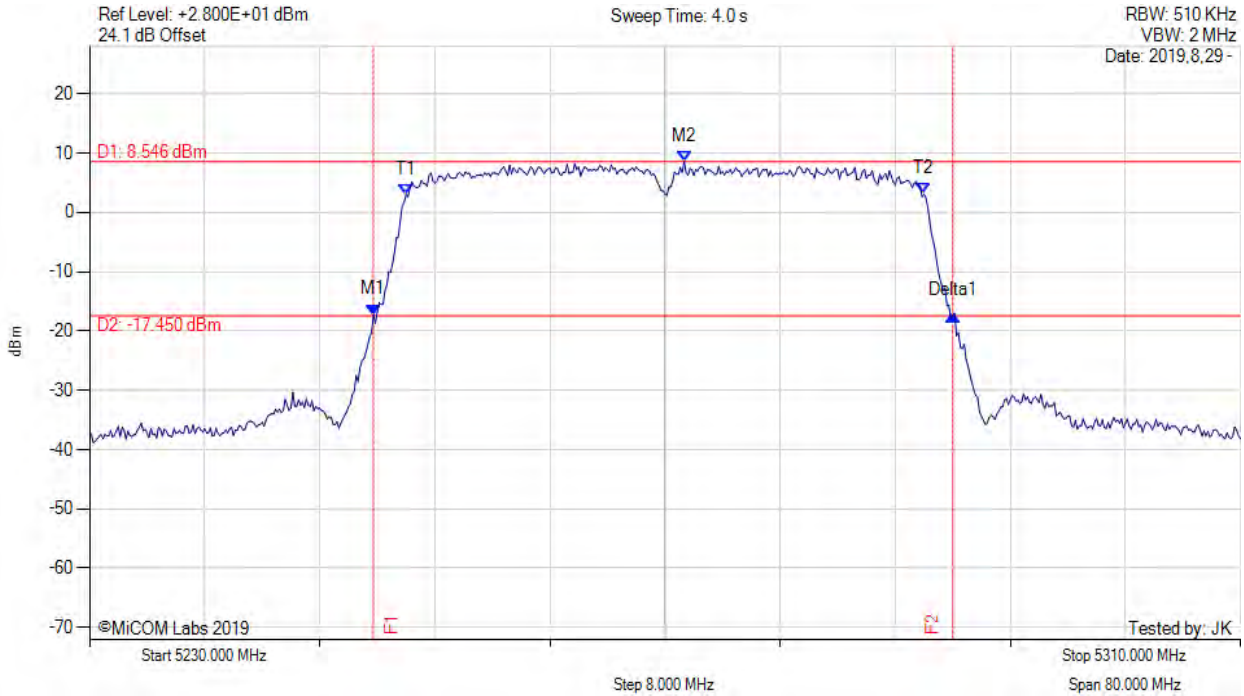Variant: 802.11n HT-20, Channel: 5260.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5249.800 MHz : -19.886 dBm M2 : 5265.000 MHz : 5.674 dBm Delta1 : 20.200 MHz : 0.924 dB T1 : 5251.200 MHz : 0.042 dBm T2 : 5268.800 MHz : 0.356 dBm OBW : 17.570 MHz	Measured 26 dB Bandwidth: 20.200 MHz Measured 99% Bandwidth: 17.570 MHz

back to matrix

26 dB & 99% BANDWIDTH

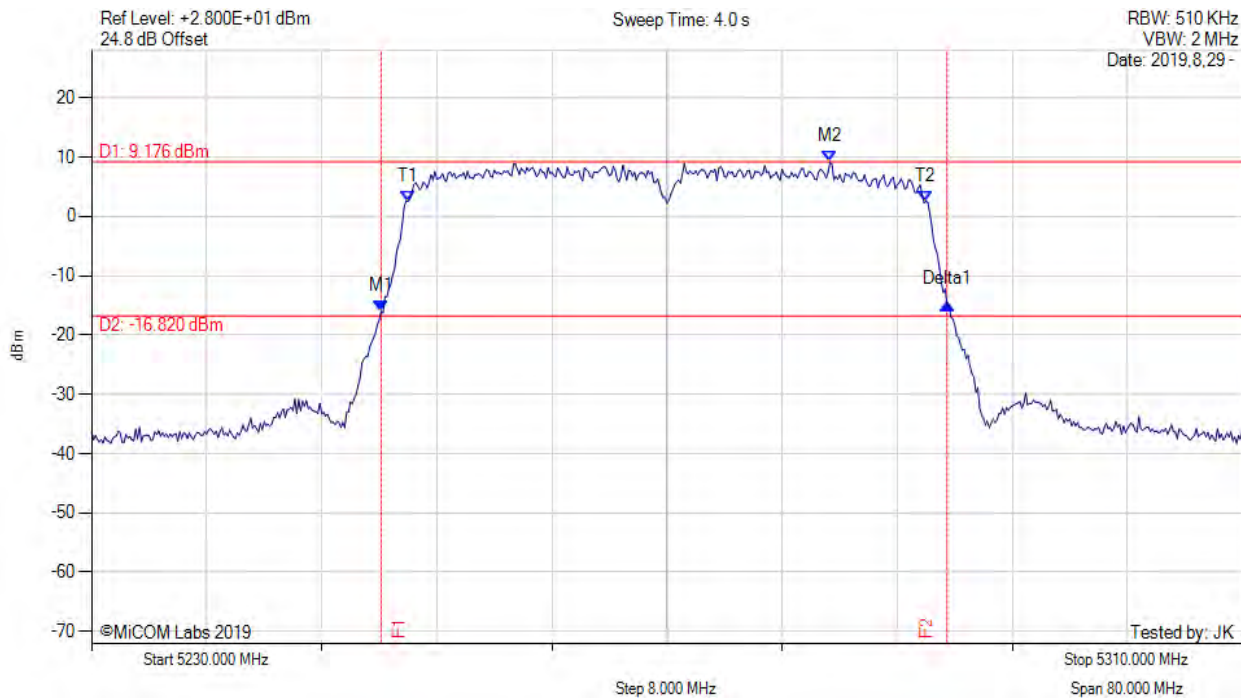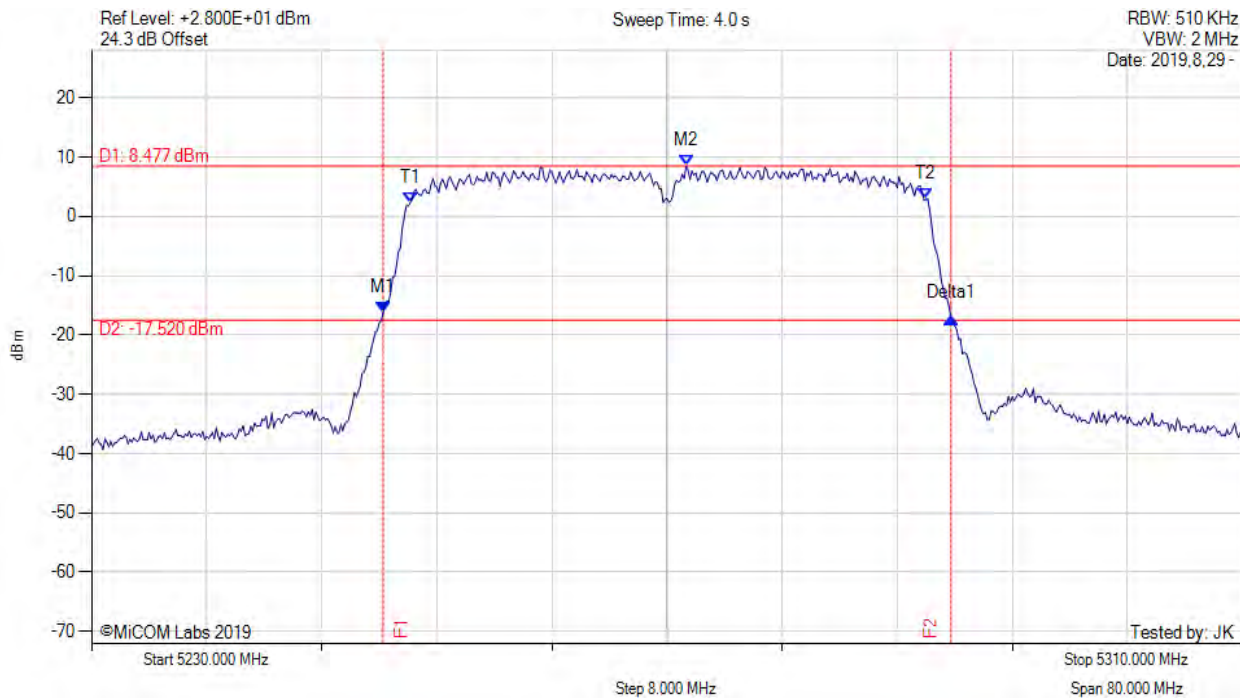Variant: 802.11n HT-20, Channel: 5260.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5249.870 MHz : -20.404 dBm M2 : 5265.000 MHz : 5.532 dBm Delta1 : 20.400 MHz : 0.635 dB T1 : 5251.200 MHz : -0.726 dBm T2 : 5268.800 MHz : 0.500 dBm OBW : 17.572 MHz	Measured 26 dB Bandwidth: 20.400 MHz Measured 99% Bandwidth: 17.572 MHz

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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5300.00 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 : 5290.000 MHz : -19.092 dBm M2 : 5301.270 MHz : 5.803 dBm Delta1 : 20.130 MHz : -0.991 dB T1 : 5291.267 MHz : 0.637 dBm T2 : 5308.800 MHz : 0.471 dBm OBW : 17.548 MHz	Measured 26 dB Bandwidth: 20.130 MHz Measured 99% Bandwidth: 17.548 MHz

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Title: Mikrotikls SIA (MikroTik) RB4011iGS+5HacQ2HnD-IN-US
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: MIKO93-U2_Conducted Rev A

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5300.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

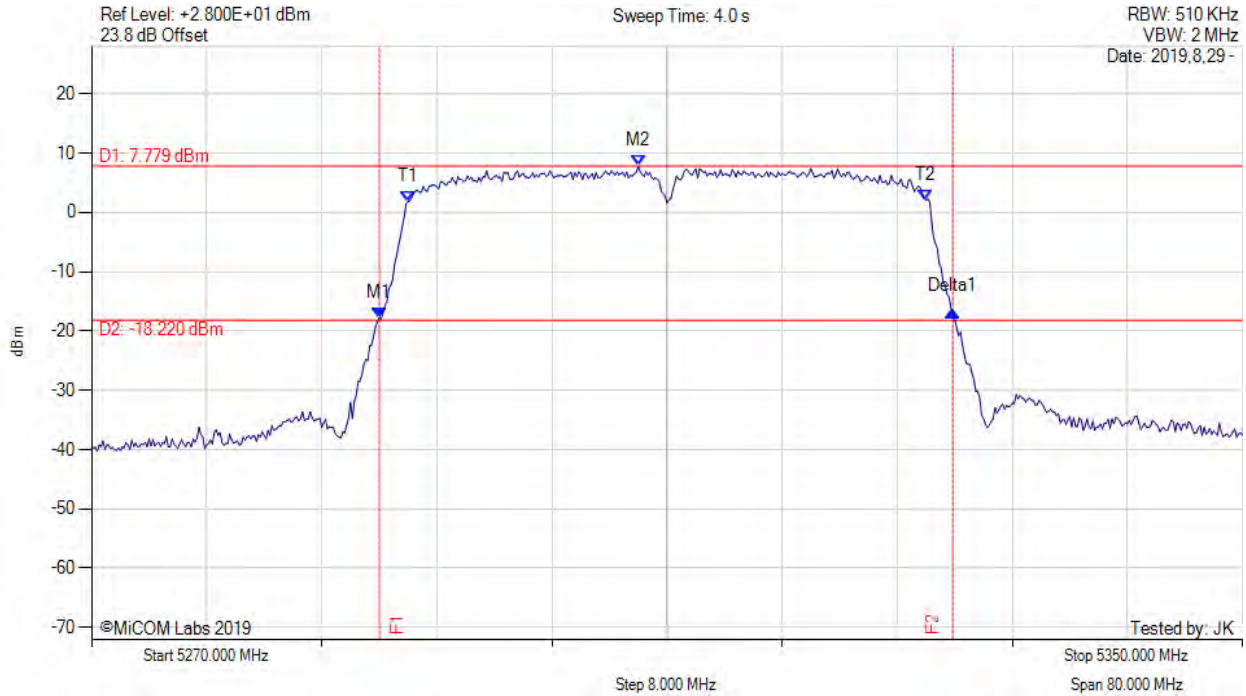| Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5289.730 MHz : -19.761 dBm M2 : 5298.730 MHz : 5.752 dBm Delta1 : 20.530 MHz : -0.478 dB T1 : 5291.200 MHz : -0.265 dBm T2 : 5308.800 MHz : 0.354 dBm OBW : 17.550 MHz	Measured 26 dB Bandwidth: 20.530 MHz Measured 99% Bandwidth: 17.550 MHz

back to matrix

26 dB & 99% BANDWIDTH

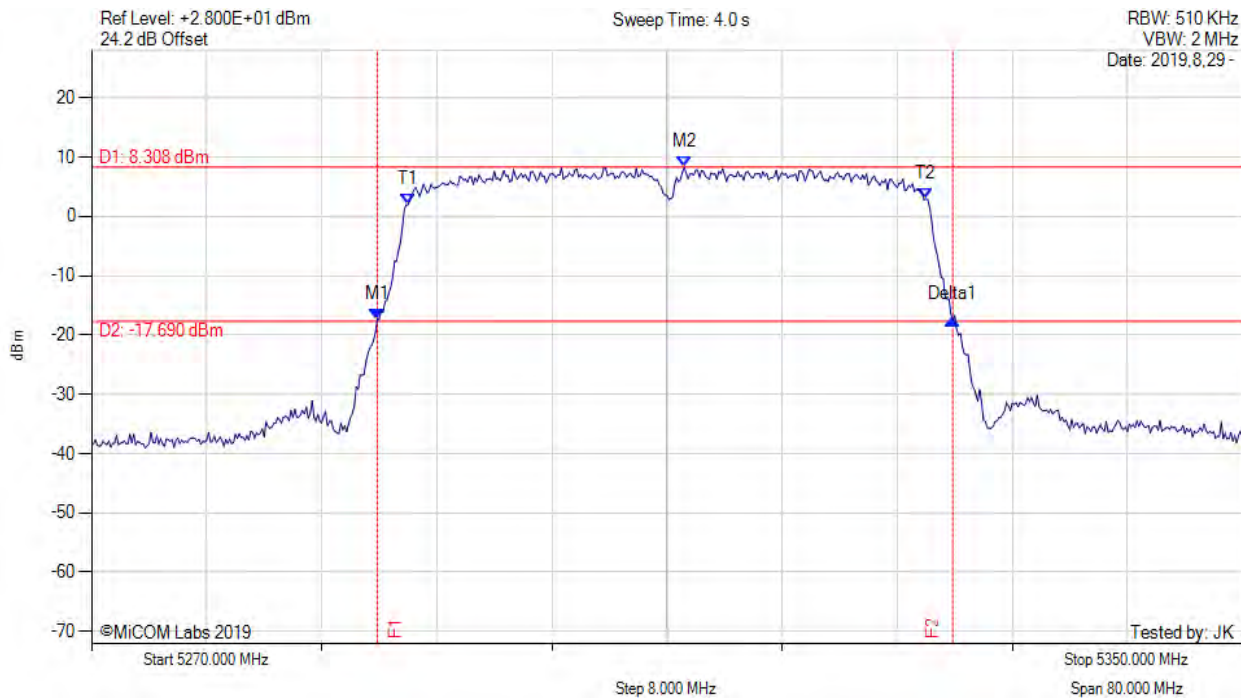Variant: 802.11n HT-20, Channel: 5300.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5289.800 MHz : -19.675 dBm M2 : 5305.000 MHz : 5.823 dBm Delta1 : 20.330 MHz : 0.327 dB T1 : 5291.200 MHz : -0.018 dBm T2 : 5308.800 MHz : 1.013 dBm OBW : 17.569 MHz	Measured 26 dB Bandwidth: 20.330 MHz Measured 99% Bandwidth: 17.569 MHz

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26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5300.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc
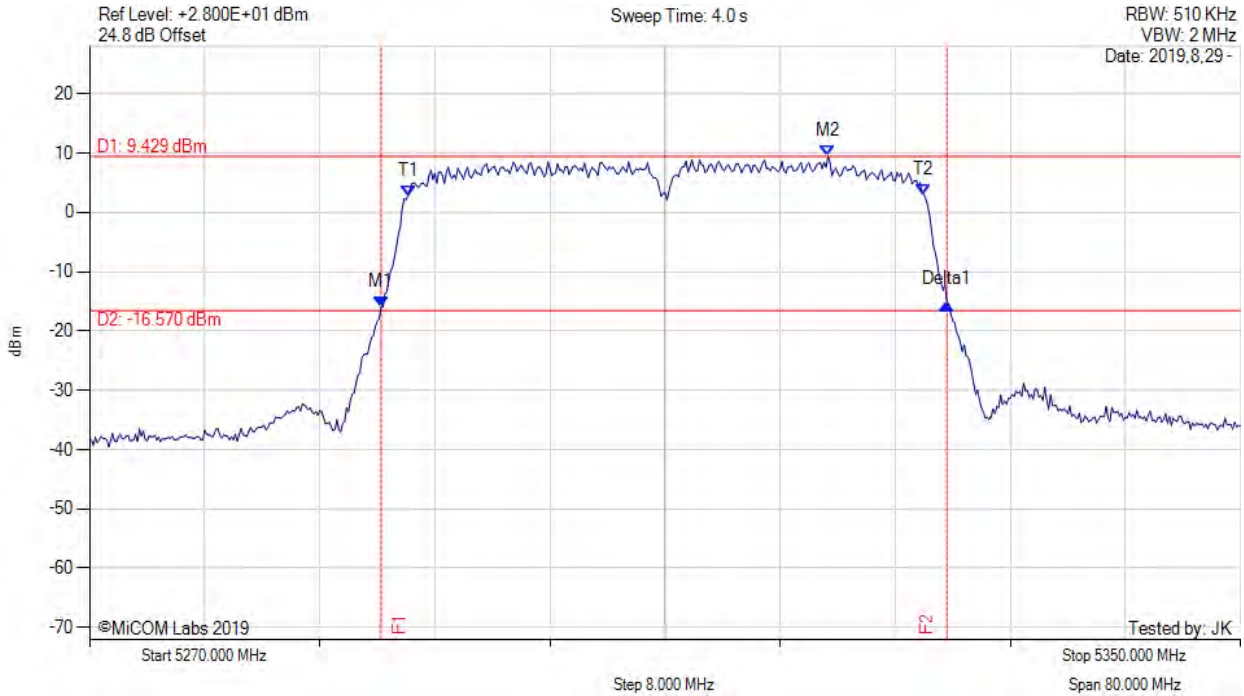

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5289.730 MHz : -20.559 dBm M2 : 5305.000 MHz : 5.436 dBm Delta1 : 20.530 MHz : 2.025 dB T1 : 5291.200 MHz : -1.078 dBm T2 : 5308.800 MHz : 0.287 dBm OBW : 17.570 MHz	Measured 26 dB Bandwidth: 20.530 MHz Measured 99% Bandwidth: 17.570 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5320.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc
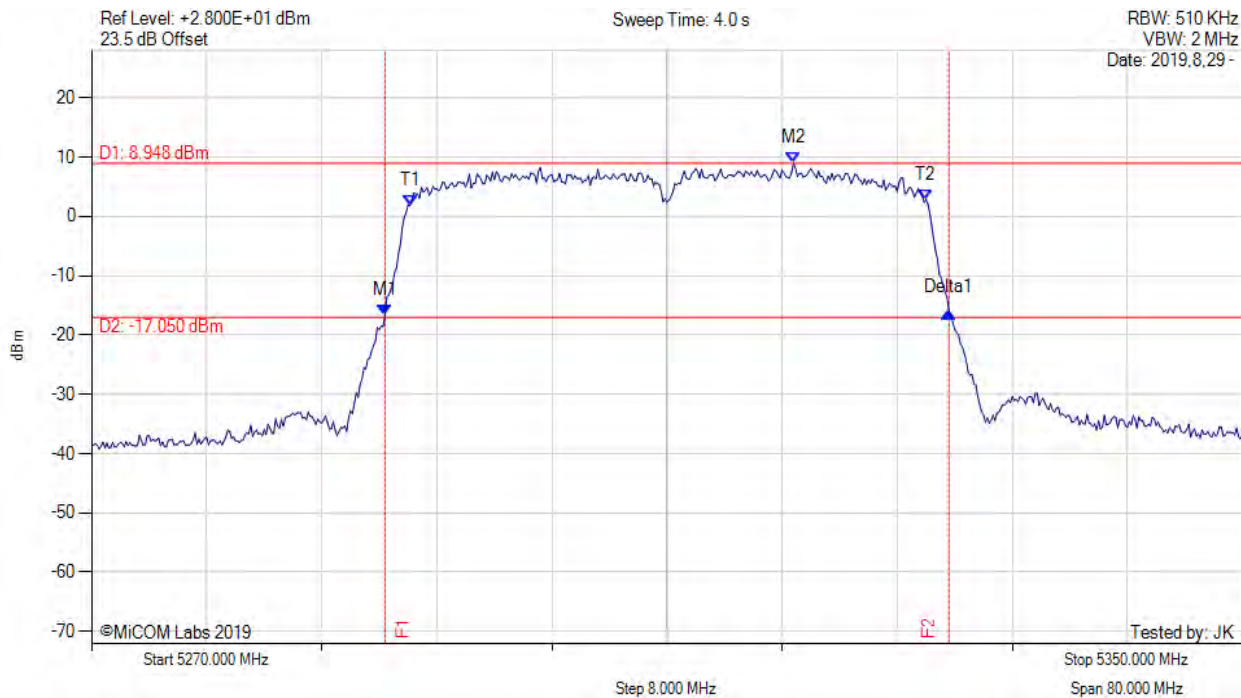

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5309.930 MHz : -19.354 dBm M2 : 5321.270 MHz : 5.338 dBm Delta1 : 20.130 MHz : -0.659 dB T1 : 5311.267 MHz : 0.462 dBm T2 : 5328.800 MHz : -0.142 dBm OBW : 17.555 MHz	Measured 26 dB Bandwidth: 20.130 MHz Measured 99% Bandwidth: 17.555 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-20, Channel: 5320.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc
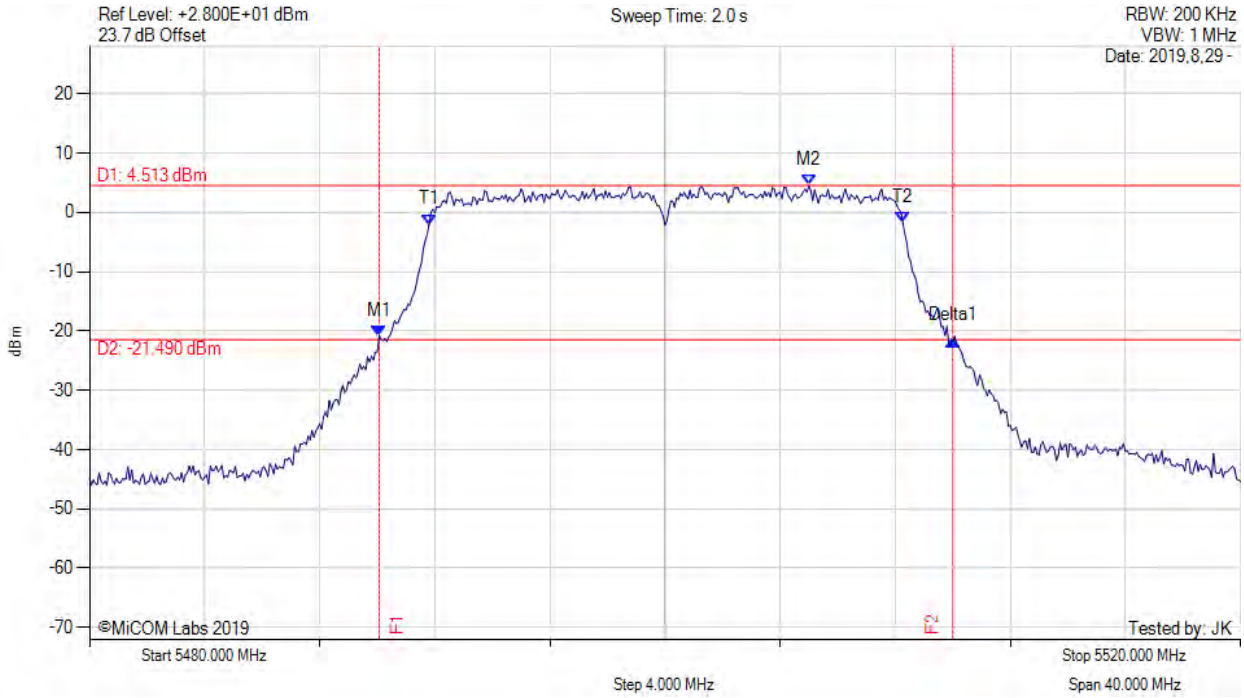

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5309.930 MHz : -19.036 dBm M2 : 5318.730 MHz : 5.965 dBm Delta1 : 20.330 MHz : 0.083 dB T1 : 5311.200 MHz : -0.152 dBm T2 : 5328.800 MHz : 0.556 dBm OBW : 17.564 MHz	Measured 26 dB Bandwidth: 20.330 MHz Measured 99% Bandwidth: 17.564 MHz

26 dB & 99% BANDWIDTH

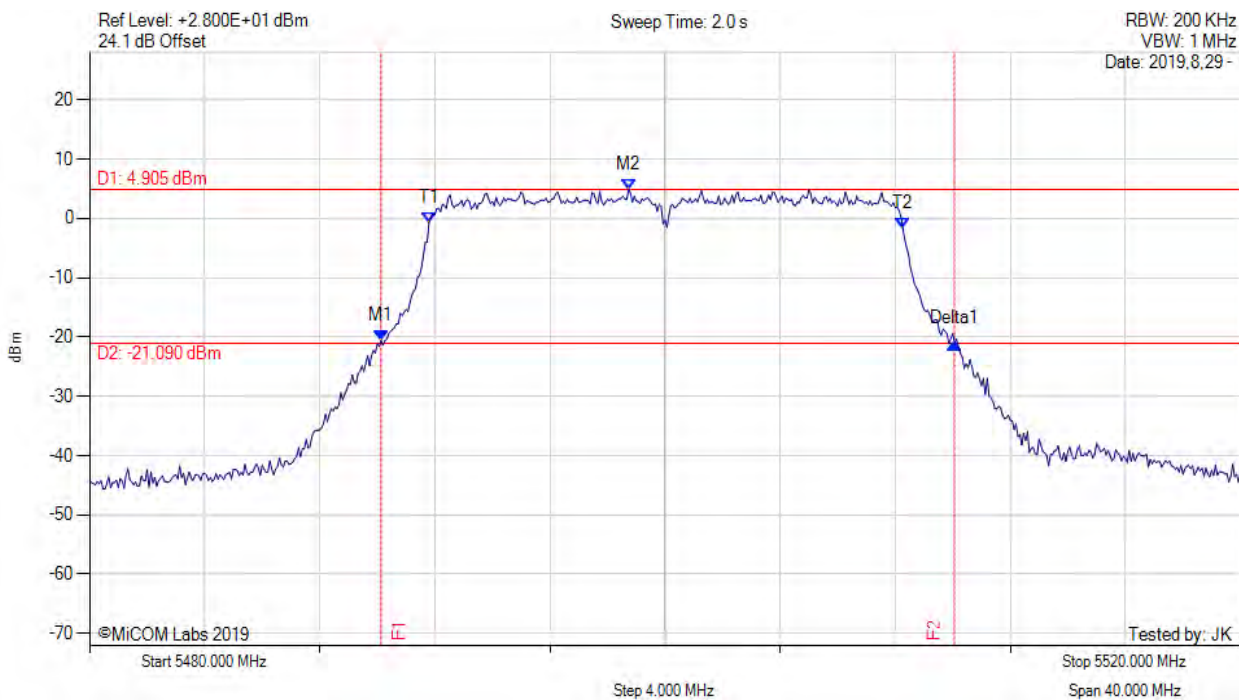Variant: 802.11n HT-20, Channel: 5320.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5309.930 MHz : -19.280 dBm M2 : 5325.000 MHz : 6.008 dBm Delta1 : 20.270 MHz : -1.511 dB T1 : 5311.200 MHz : -0.929 dBm T2 : 5328.800 MHz : 0.547 dBm OBW : 17.569 MHz	Measured 26 dB Bandwidth: 20.270 MHz Measured 99% Bandwidth: 17.569 MHz

back to matrix

26 dB & 99% BANDWIDTH

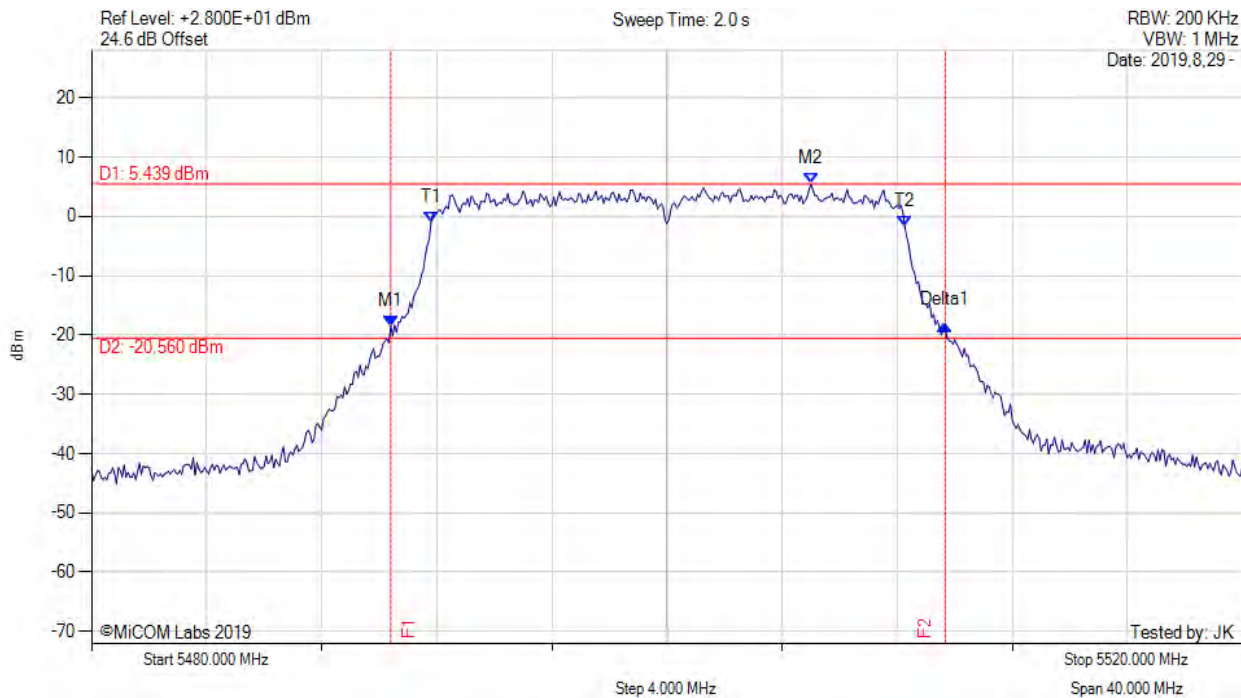Variant: 802.11n HT-20, Channel: 5320.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5309.800 MHz : -20.219 dBm M2 : 5325.000 MHz : 5.642 dBm Delta1 : 20.330 MHz : 1.400 dB T1 : 5311.200 MHz : -0.709 dBm T2 : 5328.800 MHz : 0.335 dBm OBW : 17.574 MHz	Measured 26 dB Bandwidth: 20.330 MHz Measured 99% Bandwidth: 17.574 MHz

back to matrix

26 dB & 99% BANDWIDTH

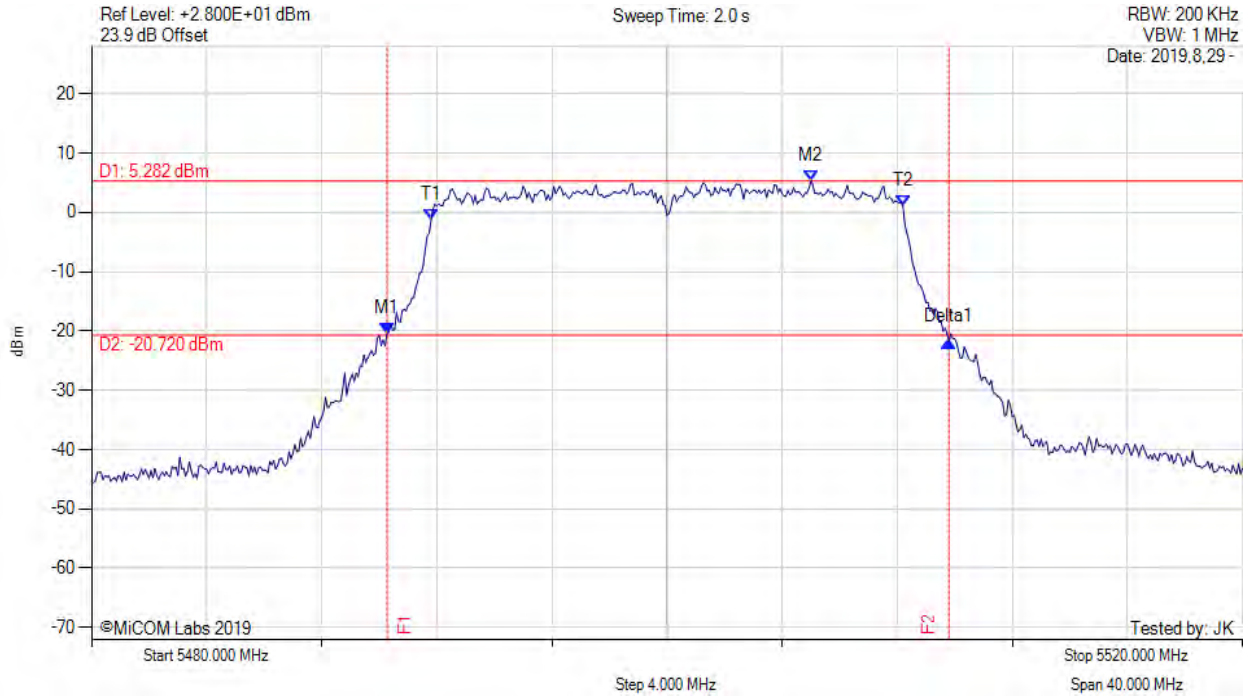Variant: 802.11n HT-40, Channel: 5270.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5250.000 MHz : -17.874 dBm M2 : 5279.870 MHz : 7.537 dBm Delta1 : 40.000 MHz : -0.336 dB T1 : 5252.000 MHz : 2.044 dBm T2 : 5288.000 MHz : 2.374 dBm OBW : 35.941 MHz	Measured 26 dB Bandwidth: 40.000 MHz Measured 99% Bandwidth: 35.941 MHz

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5270.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

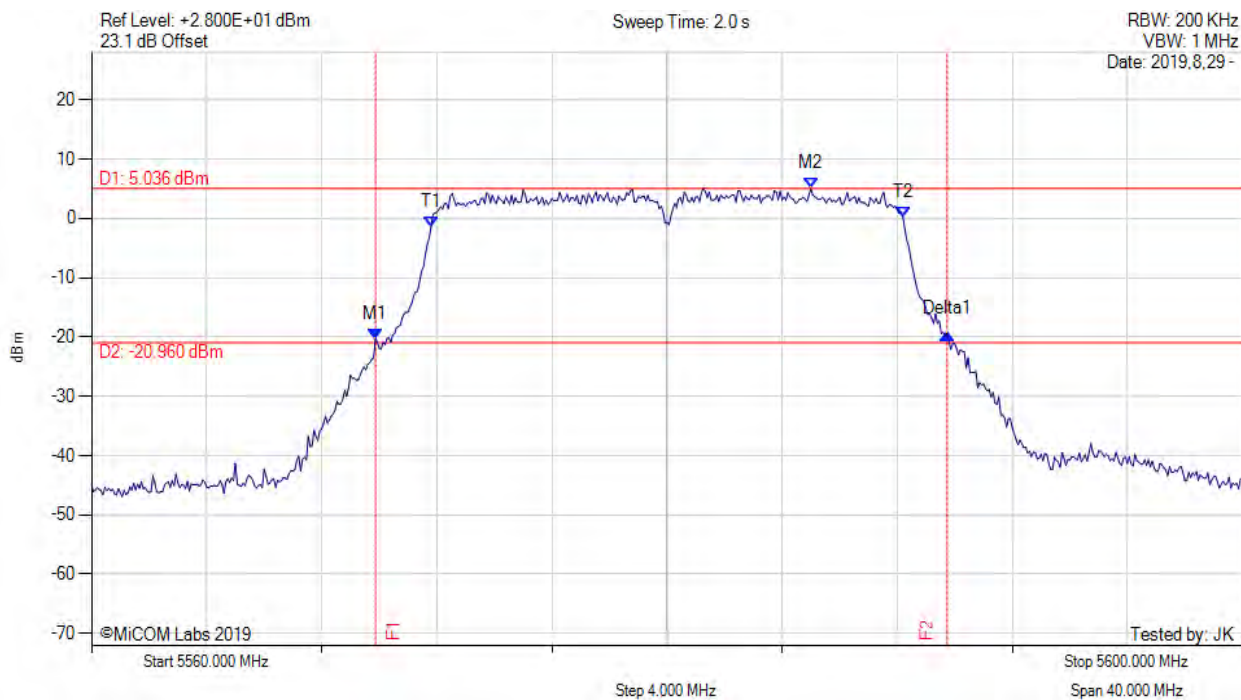| Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5249.730 MHz : -17.251 dBm M2 : 5271.330 MHz : 8.546 dBm Delta1 : 40.270 MHz : -0.029 dB T1 : 5252.000 MHz : 2.989 dBm T2 : 5288.000 MHz : 3.106 dBm OBW : 35.942 MHz	Measured 26 dB Bandwidth: 40.270 MHz Measured 99% Bandwidth: 35.942 MHz

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5270.00 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 : 5250.130 MHz : -16.003 dBm M2 : 5281.330 MHz : 9.176 dBm Delta1 : 39.330 MHz : 1.143 dB T1 : 5252.000 MHz : 2.517 dBm T2 : 5288.000 MHz : 2.537 dBm OBW : 35.875 MHz	Measured 26 dB Bandwidth: 39.330 MHz Measured 99% Bandwidth: 35.875 MHz

back to matrix

26 dB & 99% BANDWIDTH

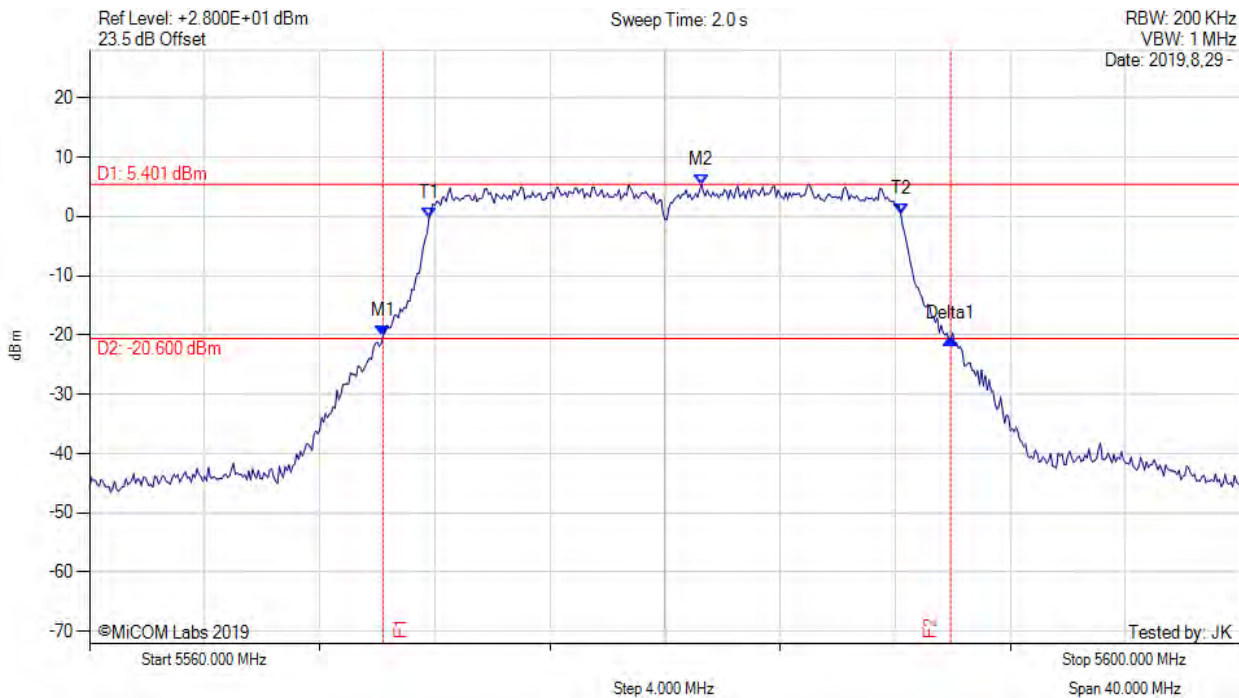Variant: 802.11n HT-40, Channel: 5270.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5250.270 MHz : -16.274 dBm M2 : 5271.330 MHz : 8.477 dBm Delta1 : 39.470 MHz : -0.798 dB T1 : 5252.133 MHz : 2.209 dBm T2 : 5288.000 MHz : 2.877 dBm OBW : 35.885 MHz	Measured 26 dB Bandwidth: 39.470 MHz Measured 99% Bandwidth: 35.885 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5310.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc
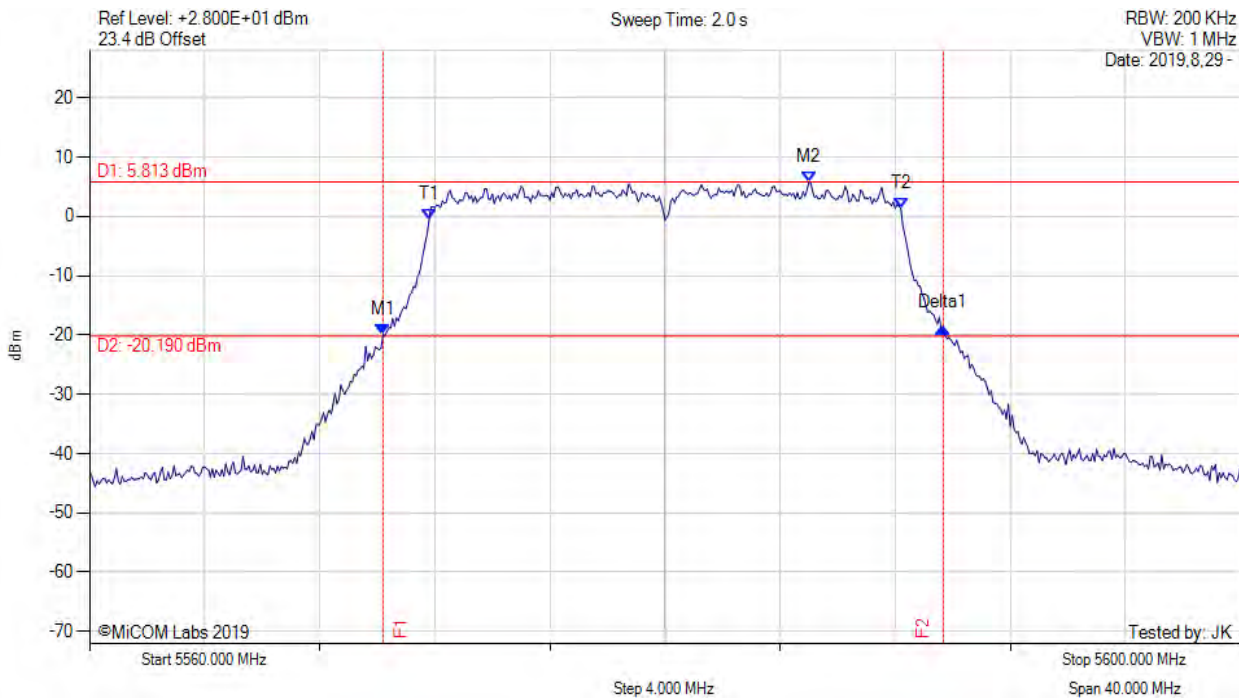

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5290.000 MHz : -17.785 dBm M2 : 5308.000 MHz : 7.779 dBm Delta1 : 39.870 MHz : 1.205 dB T1 : 5292.000 MHz : 1.845 dBm T2 : 5328.000 MHz : 2.110 dBm OBW : 35.971 MHz	Measured 26 dB Bandwidth: 39.870 MHz Measured 99% Bandwidth: 35.971 MHz

back to matrix

26 dB & 99% BANDWIDTH

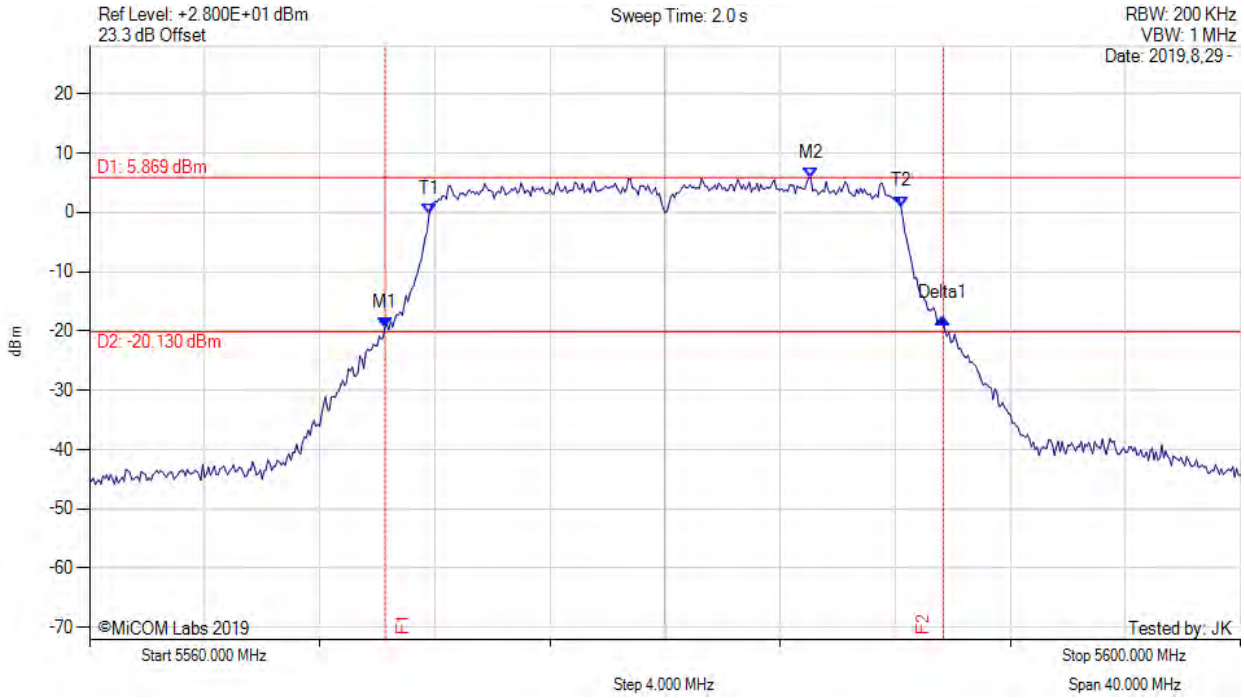Variant: 802.11n HT-40, Channel: 5310.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5289.870 MHz : -17.285 dBm M2 : 5311.200 MHz : 8.308 dBm Delta1 : 40.000 MHz : -0.047 dB T1 : 5292.000 MHz : 1.968 dBm T2 : 5328.000 MHz : 3.008 dBm OBW : 35.947 MHz	Measured 26 dB Bandwidth: 40.000 MHz Measured 99% Bandwidth: 35.947 MHz

back to matrix

26 dB & 99% BANDWIDTH

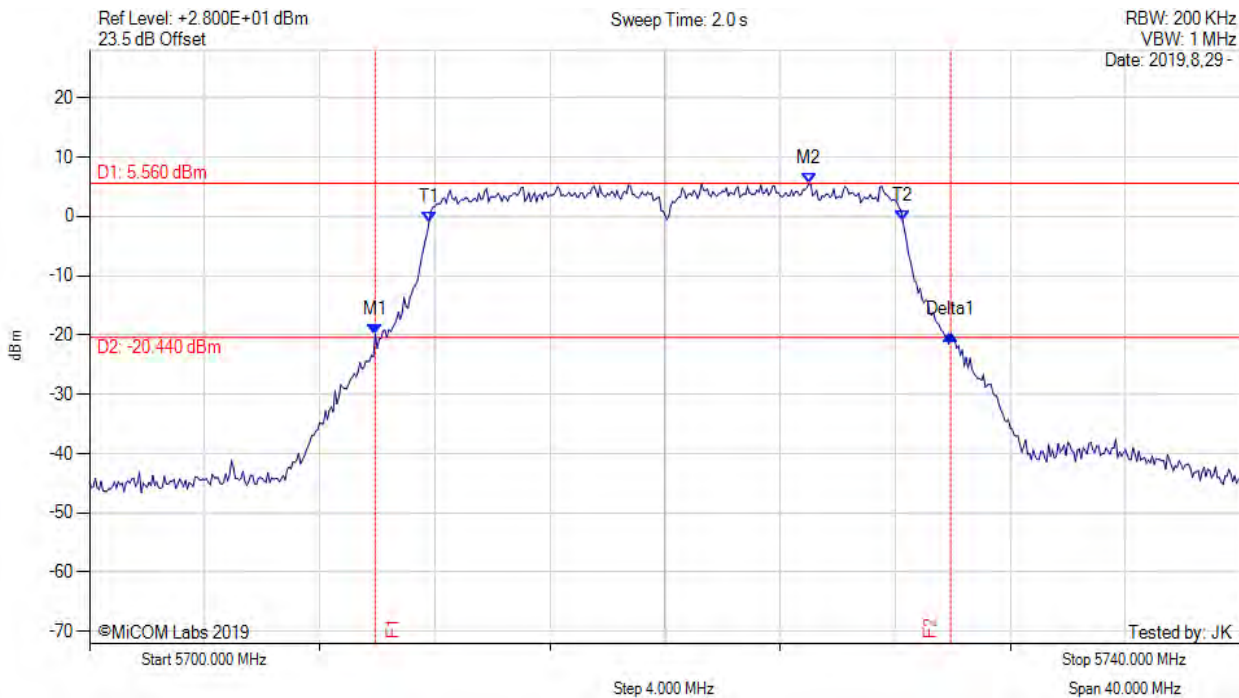Variant: 802.11n HT-40, Channel: 5310.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5290.270 MHz : -15.954 dBm M2 : 5321.330 MHz : 9.429 dBm Delta1 : 39.330 MHz : 0.456 dB T1 : 5292.133 MHz : 2.754 dBm T2 : 5328.000 MHz : 3.056 dBm OBW : 35.827 MHz	Measured 26 dB Bandwidth: 39.330 MHz Measured 99% Bandwidth: 35.827 MHz

back to matrix

26 dB & 99% BANDWIDTH

Variant: 802.11n HT-40, Channel: 5310.00 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 : 5290.400 MHz : -16.608 dBm M2 : 5318.800 MHz : 8.948 dBm Delta1 : 39.200 MHz : 0.352 dB T1 : 5292.133 MHz : 1.844 dBm T2 : 5328.000 MHz : 2.833 dBm OBW : 35.851 MHz	Measured 26 dB Bandwidth: 39.200 MHz Measured 99% Bandwidth: 35.851 MHz

back to matrix

26 dB & 99% BANDWIDTH

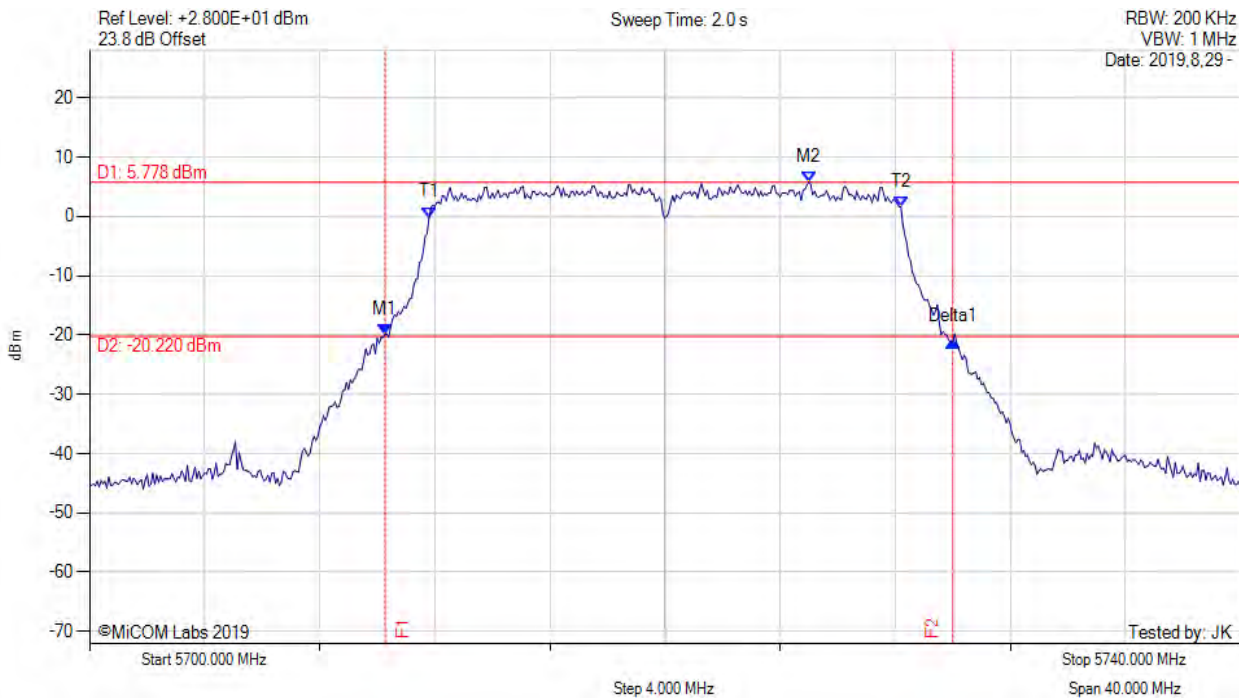Variant: 802.11a, Channel: 5500.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5490.070 MHz : -20.778 dBm M2 : 5505.000 MHz : 4.513 dBm Delta1 : 19.930 MHz : -0.811 dB T1 : 5491.800 MHz : -2.055 dBm T2 : 5508.267 MHz : -1.793 dBm OBW : 16.396 MHz	Measured 26 dB Bandwidth: 19.930 MHz Measured 99% Bandwidth: 16.396 MHz

back to matrix

26 dB & 99% BANDWIDTH

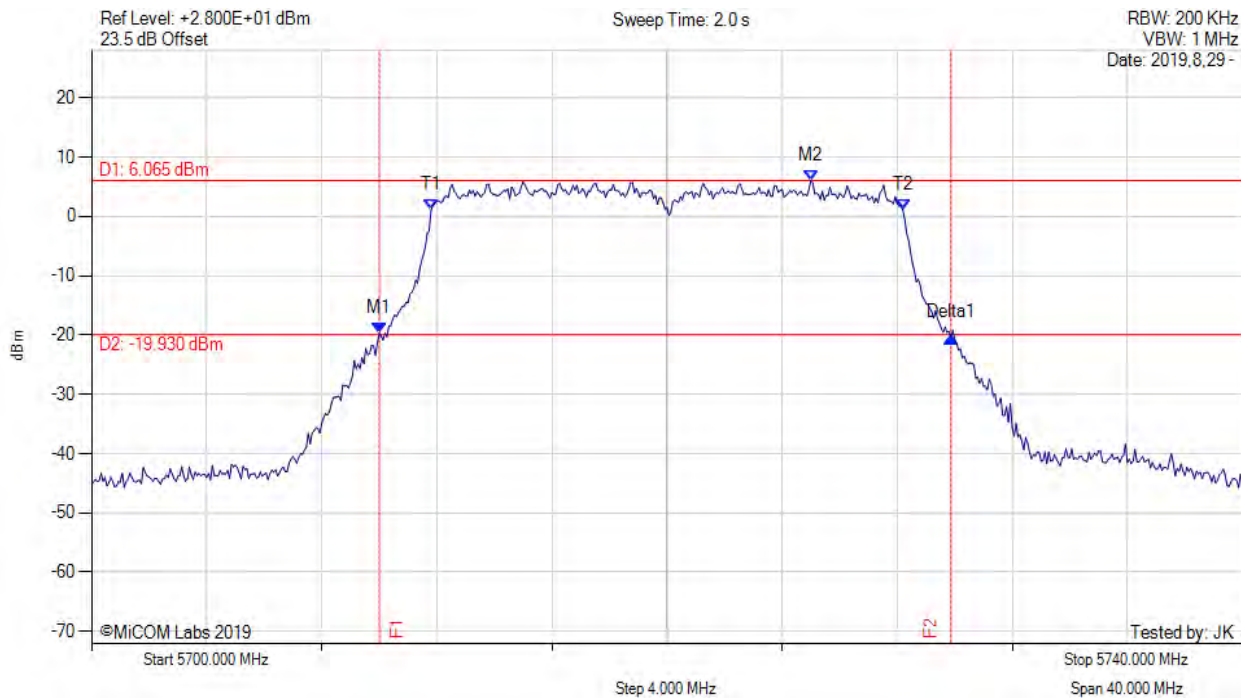Variant: 802.11a, Channel: 5500.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5490.130 MHz : -20.604 dBm M2 : 5498.730 MHz : 4.905 dBm Delta1 : 19.930 MHz : -0.427 dB T1 : 5491.800 MHz : -0.699 dBm T2 : 5508.267 MHz : -1.662 dBm OBW : 16.412 MHz	Measured 26 dB Bandwidth: 19.930 MHz Measured 99% Bandwidth: 16.412 MHz

back to matrix

26 dB & 99% BANDWIDTH

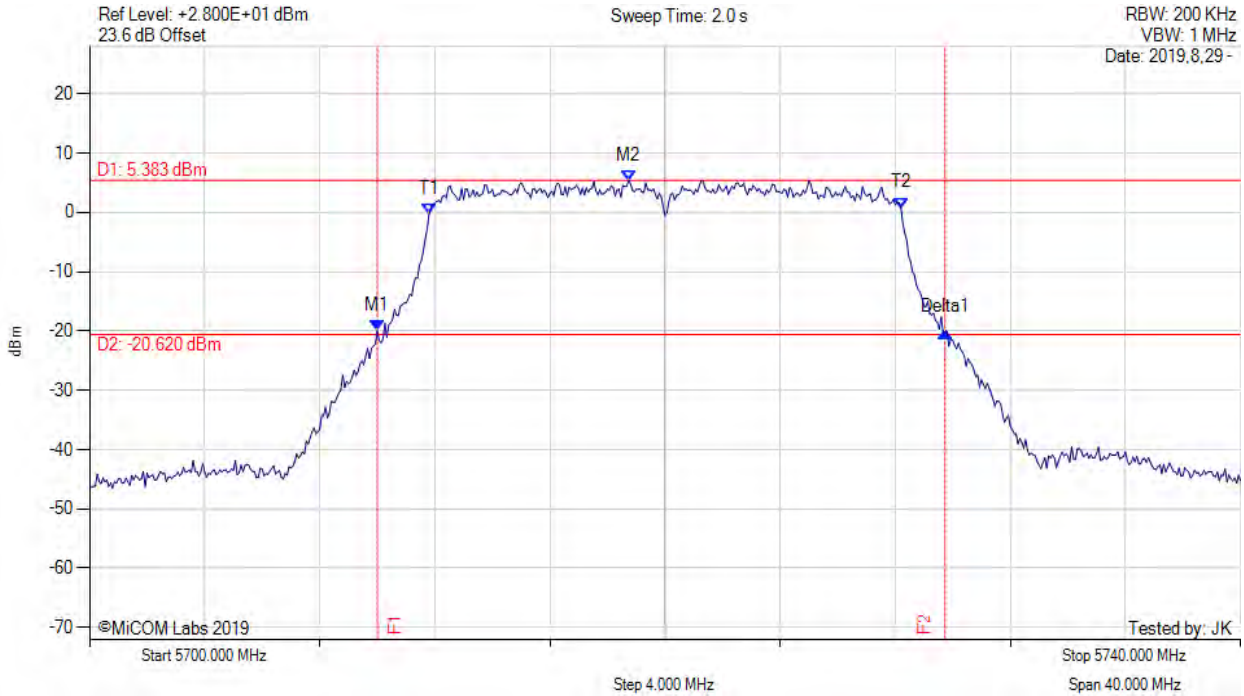Variant: 802.11a, Channel: 5500.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

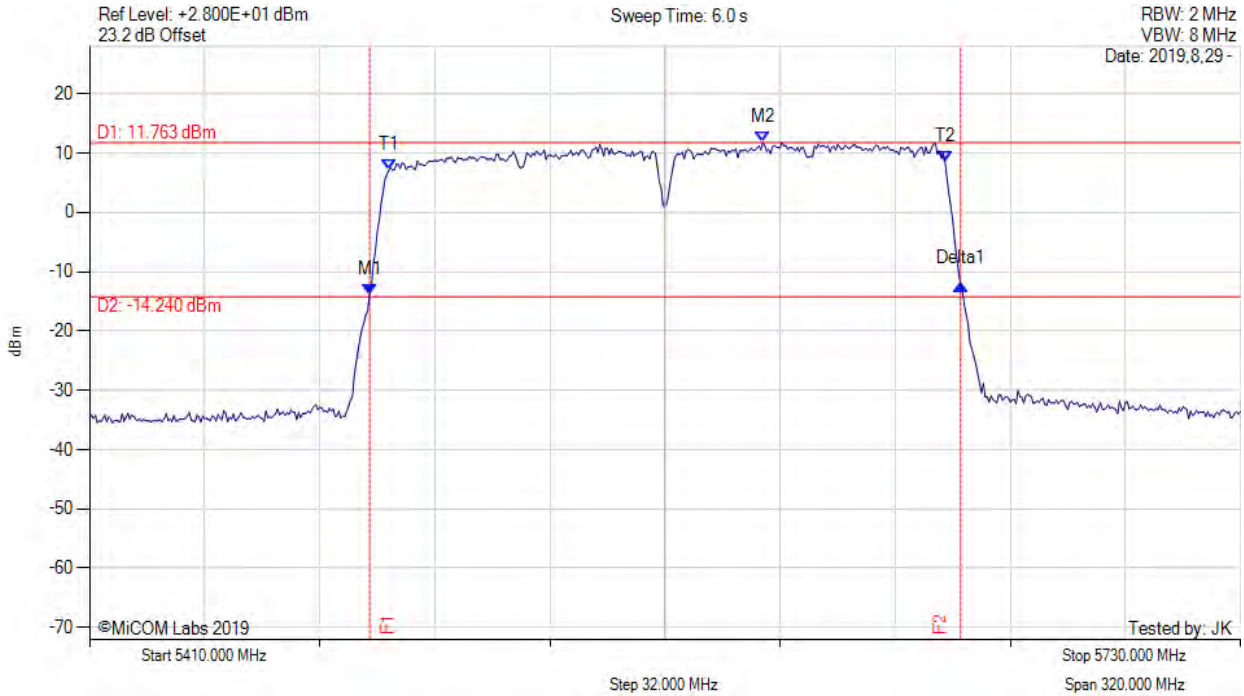| Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5490.400 MHz : -18.468 dBm M2 : 5505.000 MHz : 5.439 dBm Delta1 : 19.270 MHz : 0.114 dB T1 : 5491.800 MHz : -0.950 dBm T2 : 5508.267 MHz : -1.779 dBm OBW : 16.394 MHz	Measured 26 dB Bandwidth: 19.270 MHz Measured 99% Bandwidth: 16.394 MHz

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26 dB & 99% BANDWIDTH

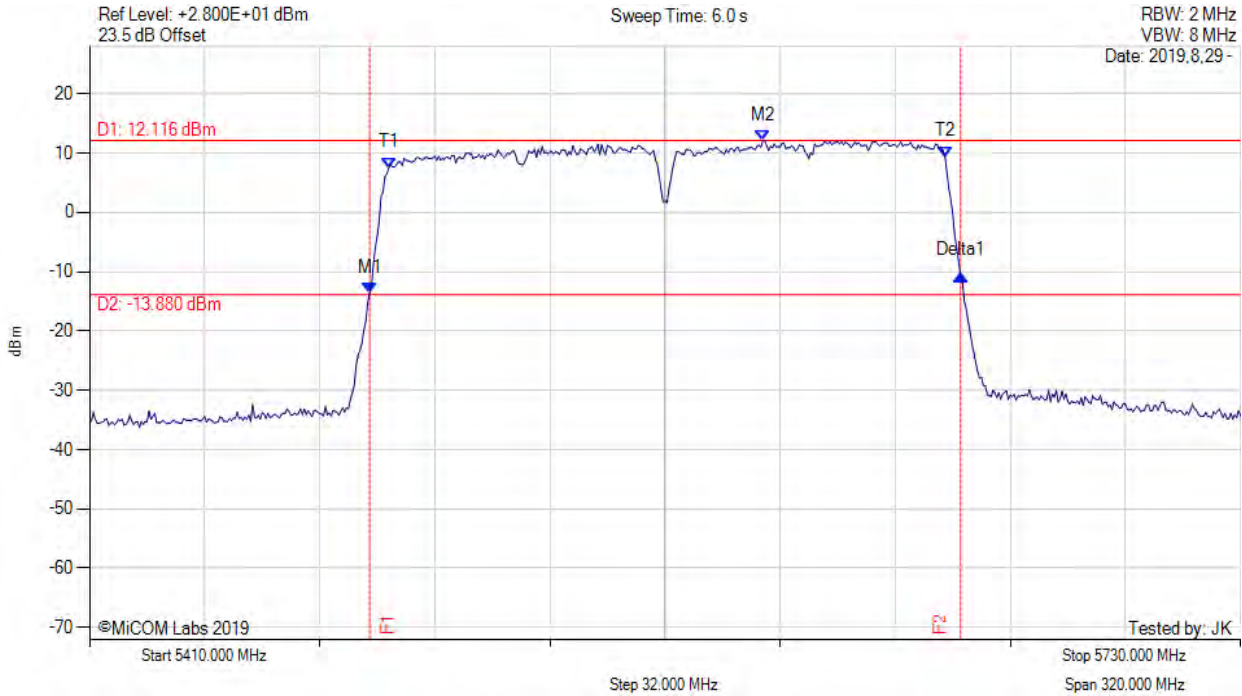Variant: 802.11a, Channel: 5500.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5490.270 MHz : -20.506 dBm M2 : 5505.000 MHz : 5.282 dBm Delta1 : 19.530 MHz : -1.298 dB T1 : 5491.800 MHz : -1.321 dBm T2 : 5508.200 MHz : 1.087 dBm OBW : 16.385 MHz	Measured 26 dB Bandwidth: 19.530 MHz Measured 99% Bandwidth: 16.385 MHz

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

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 : -20.326 dBm M2 : 5585.000 MHz : 5.036 dBm Delta1 : 19.870 MHz : 0.945 dB T1 : 5571.800 MHz : -1.480 dBm T2 : 5588.200 MHz : 0.192 dBm OBW : 16.374 MHz	Measured 26 dB Bandwidth: 19.870 MHz Measured 99% Bandwidth: 16.374 MHz

back to matrix

26 dB & 99% BANDWIDTH

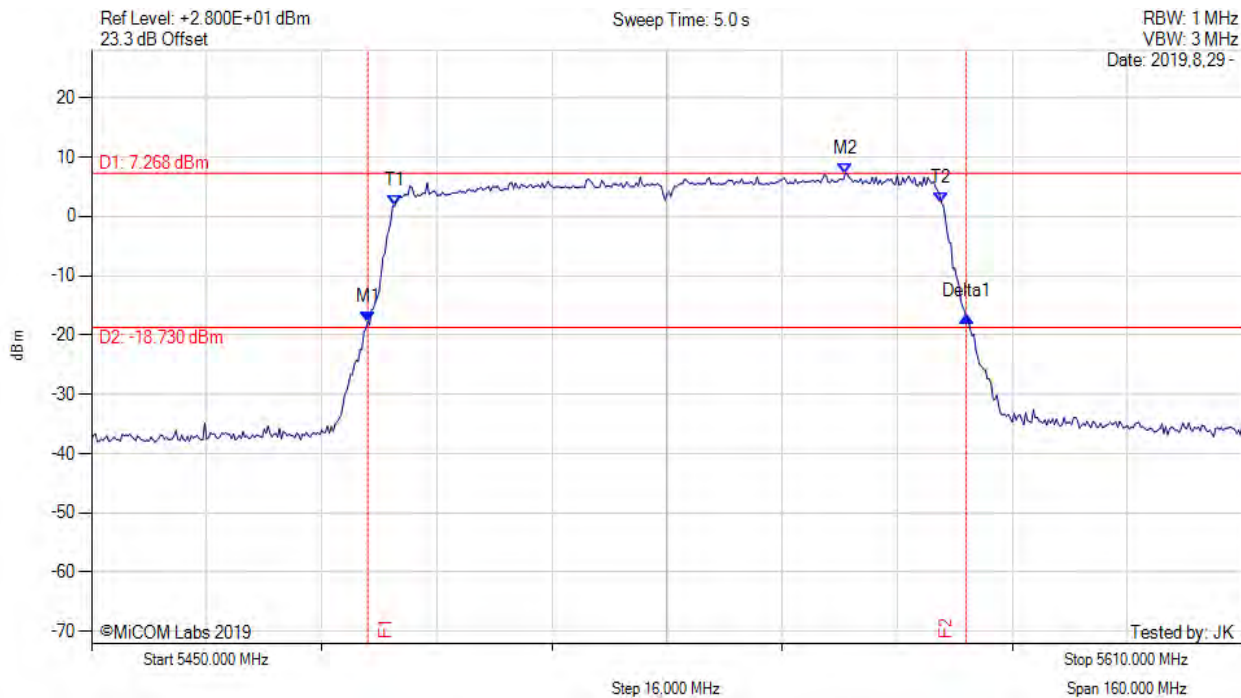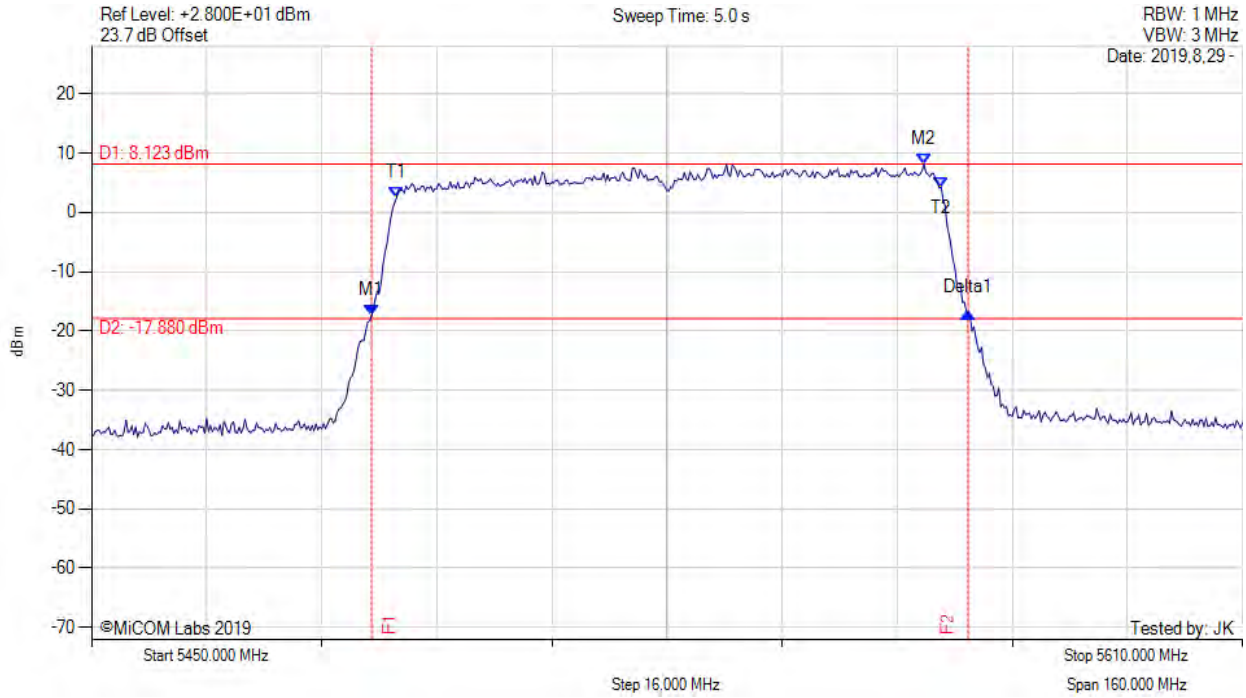Variant: 802.11a, Channel: 5580.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5570.200 MHz : -20.191 dBm M2 : 5581.270 MHz : 5.401 dBm Delta1 : 19.730 MHz : -0.550 dB T1 : 5571.800 MHz : -0.369 dBm T2 : 5588.200 MHz : 0.296 dBm OBW : 16.394 MHz	Measured 26 dB Bandwidth: 19.730 MHz Measured 99% Bandwidth: 16.394 MHz

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 : 5570.200 MHz : -19.990 dBm M2 : 5585.000 MHz : 5.813 dBm Delta1 : 19.470 MHz : 1.210 dB T1 : 5571.800 MHz : -0.586 dBm T2 : 5588.200 MHz : 1.278 dBm OBW : 16.376 MHz	Measured 26 dB Bandwidth: 19.470 MHz Measured 99% Bandwidth: 16.376 MHz

back to matrix

26 dB & 99% BANDWIDTH

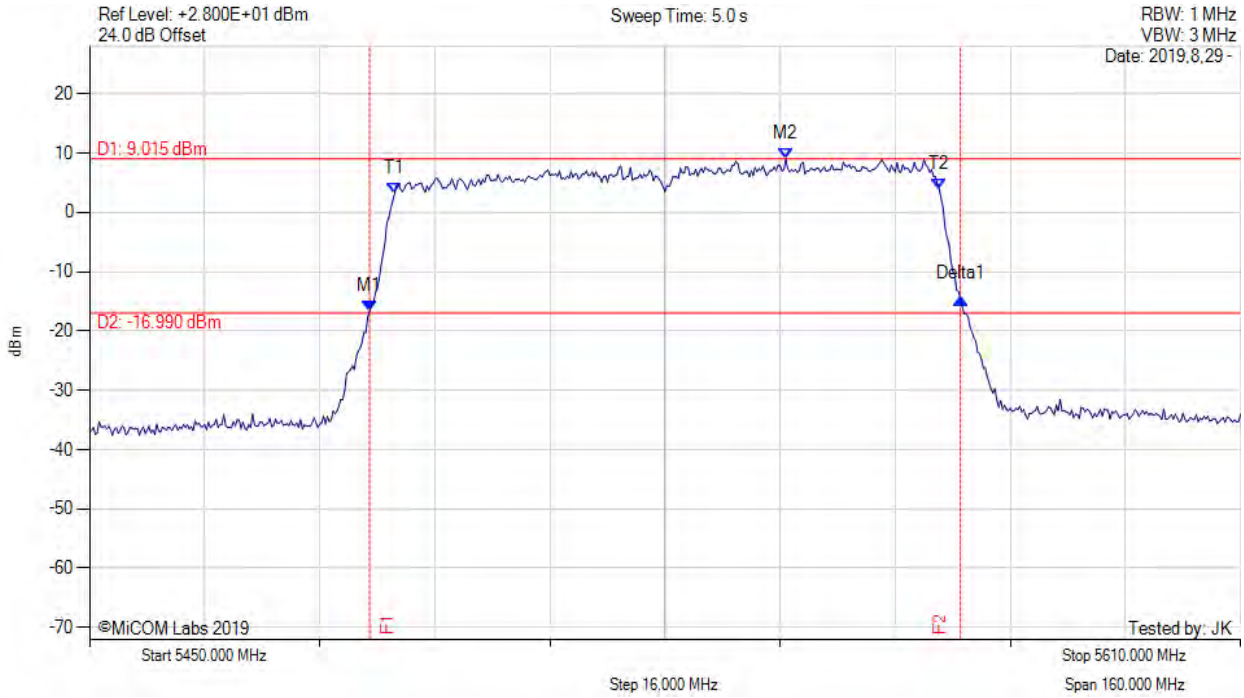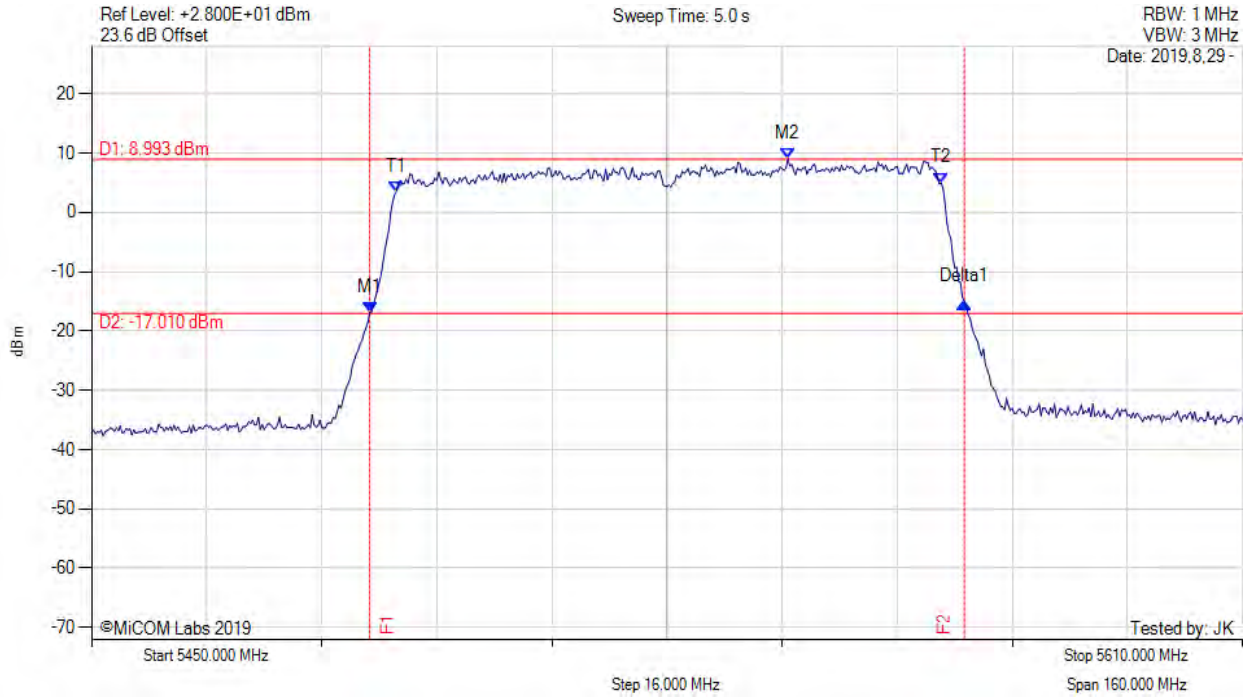Variant: 802.11a, Channel: 5580.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5570.270 MHz : -19.418 dBm M2 : 5585.070 MHz : 5.869 dBm Delta1 : 19.400 MHz : 1.486 dB T1 : 5571.800 MHz : -0.380 dBm T2 : 5588.200 MHz : 0.988 dBm OBW : 16.365 MHz	Measured 26 dB Bandwidth: 19.400 MHz Measured 99% Bandwidth: 16.365 MHz

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

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 : 5709.930 MHz : -19.861 dBm M2 : 5725.000 MHz : 5.560 dBm Delta1 : 20.000 MHz : -0.035 dB T1 : 5711.800 MHz : -0.919 dBm T2 : 5728.267 MHz : -0.865 dBm OBW : 16.391 MHz	Measured 26 dB Bandwidth: 20.000 MHz Measured 99% Bandwidth: 16.391 MHz

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26 dB & 99% BANDWIDTH

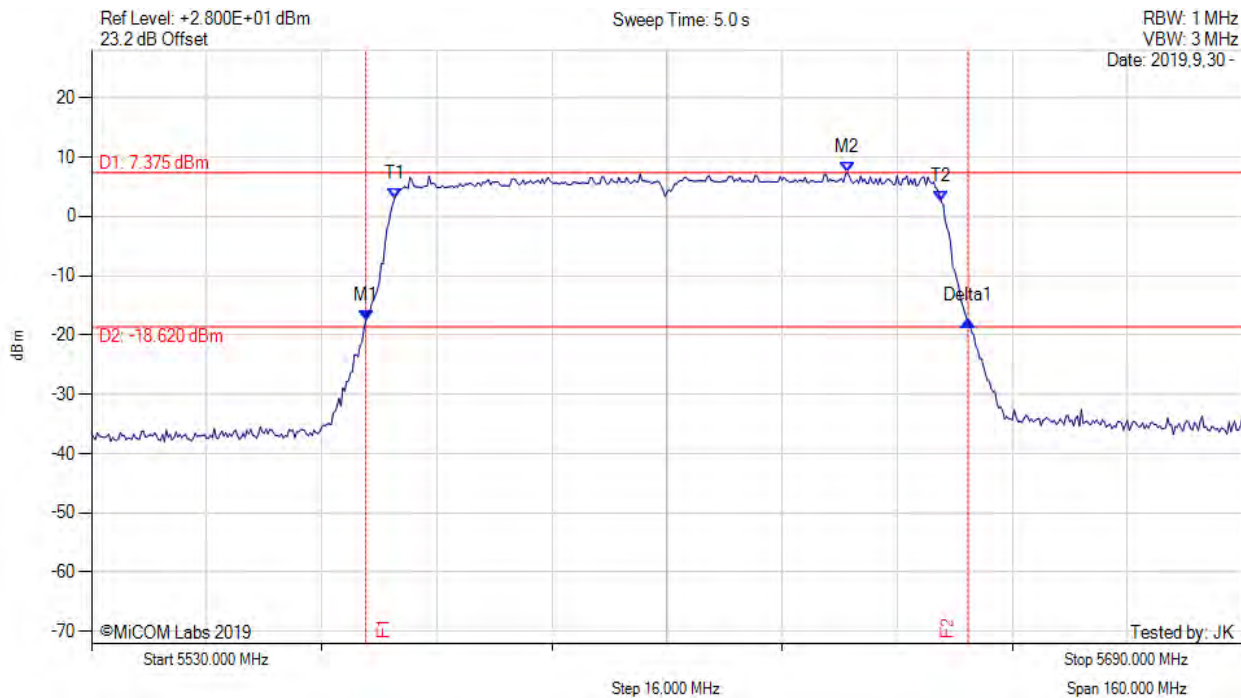Variant: 802.11a, Channel: 5720.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5710.270 MHz : -19.862 dBm M2 : 5725.000 MHz : 5.778 dBm Delta1 : 19.730 MHz : -1.347 dB T1 : 5711.800 MHz : -0.182 dBm T2 : 5728.200 MHz : 1.600 dBm OBW : 16.390 MHz	Measured 26 dB Bandwidth: 19.730 MHz Measured 99% Bandwidth: 16.390 MHz

back to matrix

26 dB & 99% BANDWIDTH

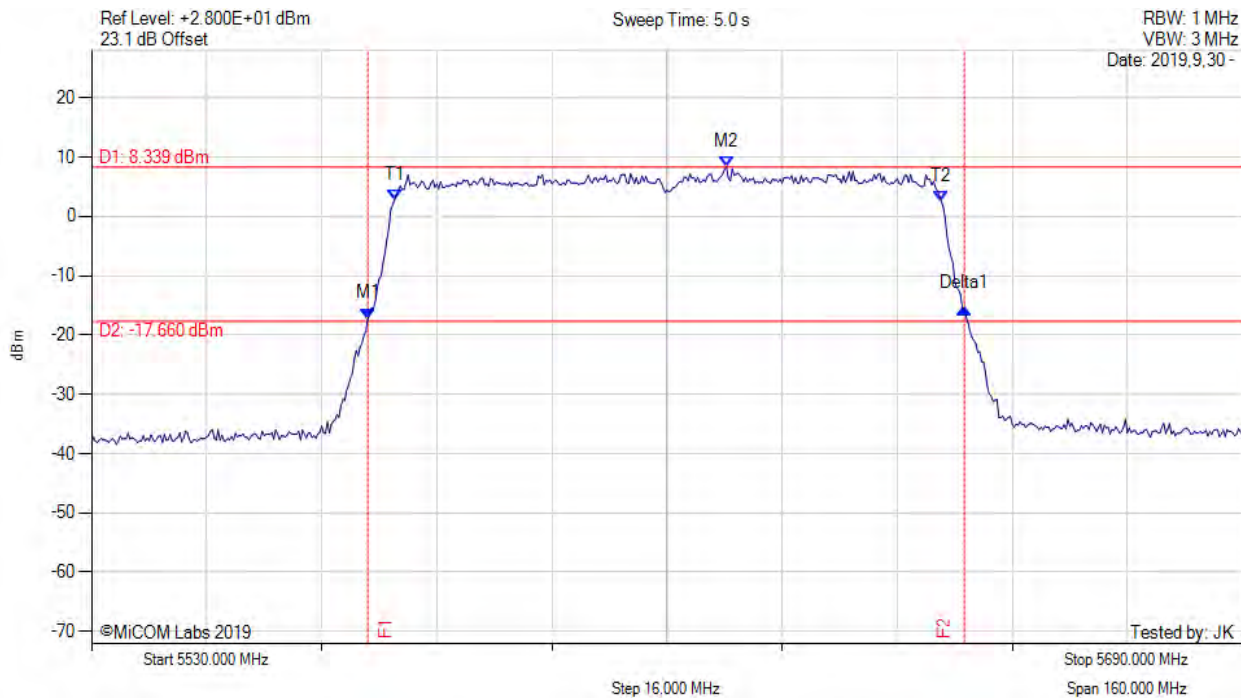Variant: 802.11a, Channel: 5720.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

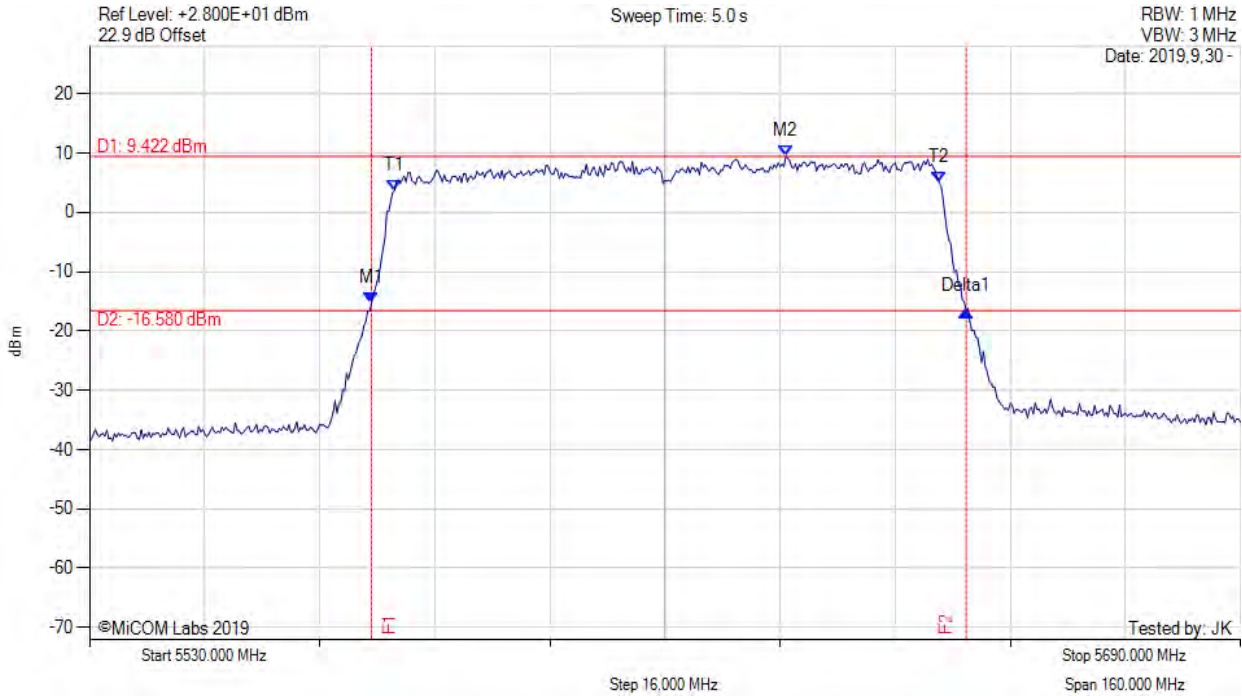| Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5710.000 MHz : -19.664 dBm M2 : 5725.000 MHz : 6.065 dBm Delta1 : 19.870 MHz : -0.736 dB T1 : 5711.800 MHz : 1.040 dBm T2 : 5728.200 MHz : 1.003 dBm OBW : 16.411 MHz	Measured 26 dB Bandwidth: 19.870 MHz Measured 99% Bandwidth: 16.411 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 : 5710.000 MHz : -19.995 dBm M2 : 5718.730 MHz : 5.383 dBm Delta1 : 19.730 MHz : -0.217 dB T1 : 5711.800 MHz : -0.369 dBm T2 : 5728.200 MHz : 0.745 dBm OBW : 16.370 MHz	Measured 26 dB Bandwidth: 19.730 MHz Measured 99% Bandwidth: 16.370 MHz

back to matrix

26 dB & 99% BANDWIDTH

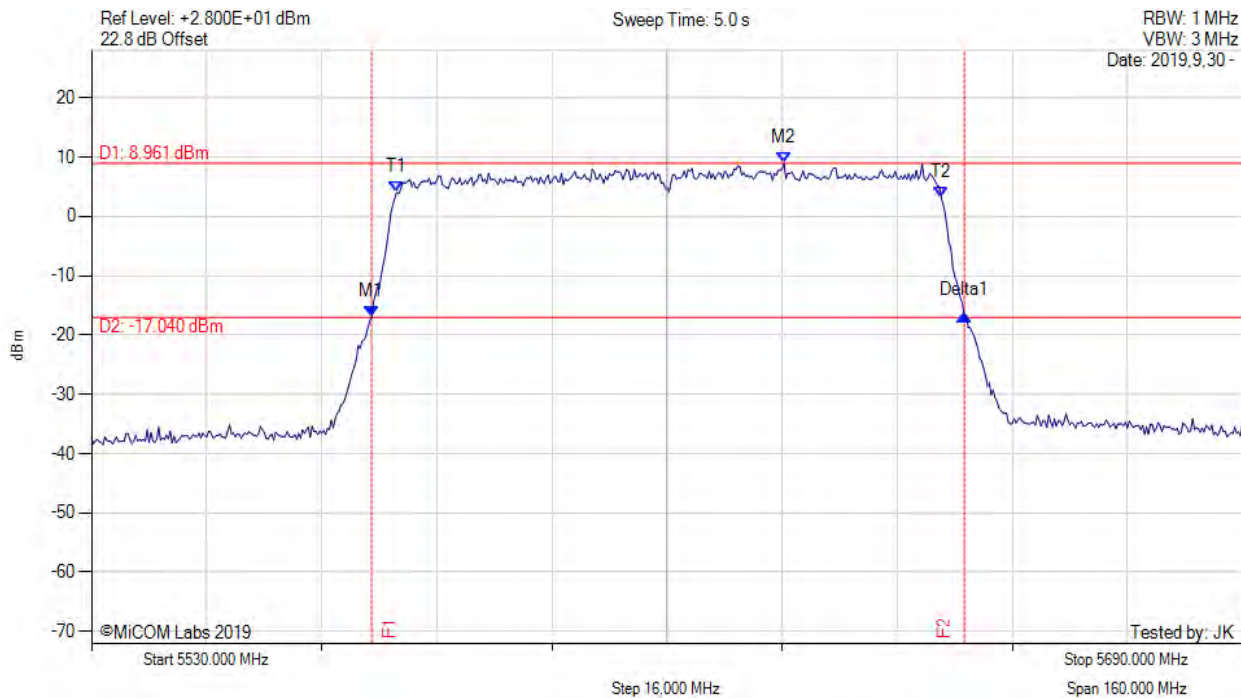Variant: 802.11ac-160, Channel: 5570.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5487.900 MHz : -13.807 dBm M2 : 5597.200 MHz : 11.763 dBm Delta1 : 164.300 MHz : 1.684 dB T1 : 5493.200 MHz : 7.081 dBm T2 : 5647.867 MHz : 8.549 dBm OBW : 154.417 MHz	Measured 26 dB Bandwidth: 164.300 MHz Measured 99% Bandwidth: 154.417 MHz

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26 dB & 99% BANDWIDTH

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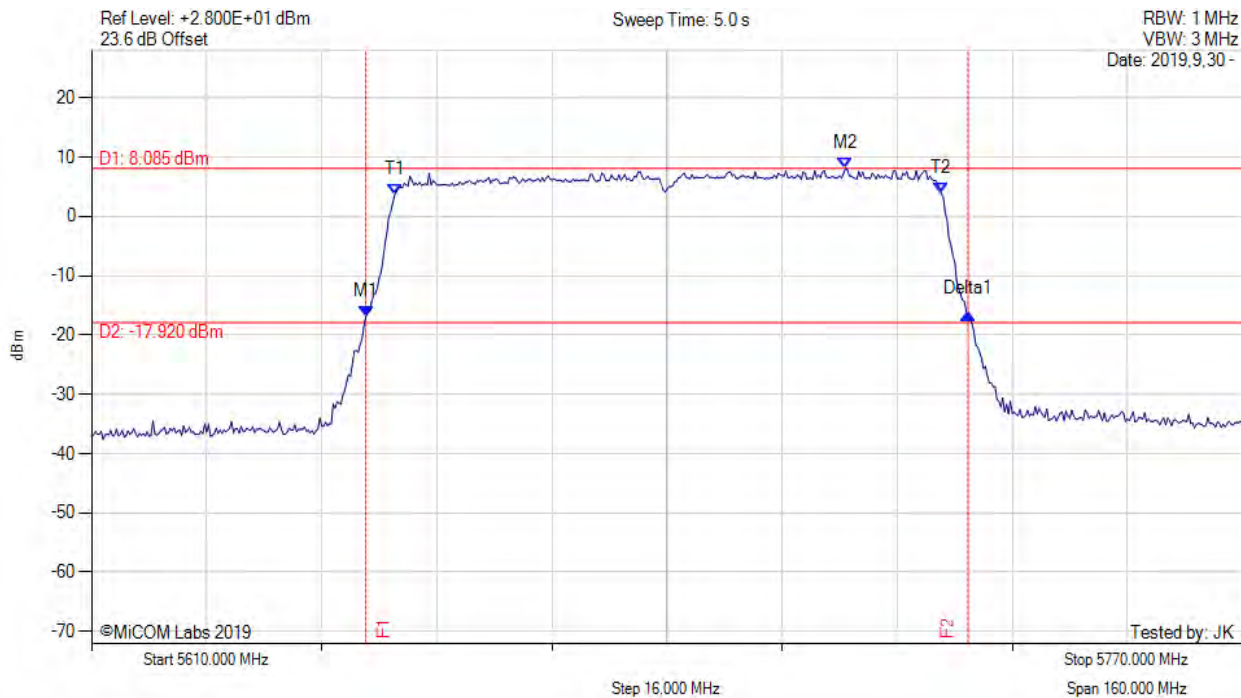

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5487.900 MHz : -13.659 dBm M2 : 5597.200 MHz : 12.116 dBm Delta1 : 164.300 MHz : 3.154 dB T1 : 5493.200 MHz : 7.523 dBm T2 : 5647.867 MHz : 9.385 dBm OBW : 154.474 MHz	Measured 26 dB Bandwidth: 164.300 MHz Measured 99% Bandwidth: 154.474 MHz

back to matrix

![MiCOM Labs]

Title: Mikrotikls SIA (MikroTik) RB4011iGS+5HacQ2HnD-IN-US
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: MIKO93-U2_Conducted Rev A

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 = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5488.400 MHz : -17.758 dBm M2 : 5554.800 MHz : 7.268 dBm Delta1 : 83.200 MHz : 0.888 dB T1 : 5492.133 MHz : 1.707 dBm T2 : 5568.133 MHz : 2.330 dBm OBW : 75.947 MHz	Measured 26 dB Bandwidth: 83.200 MHz Measured 99% Bandwidth: 75.947 MHz

back to matrix

26 dB & 99% BANDWIDTH

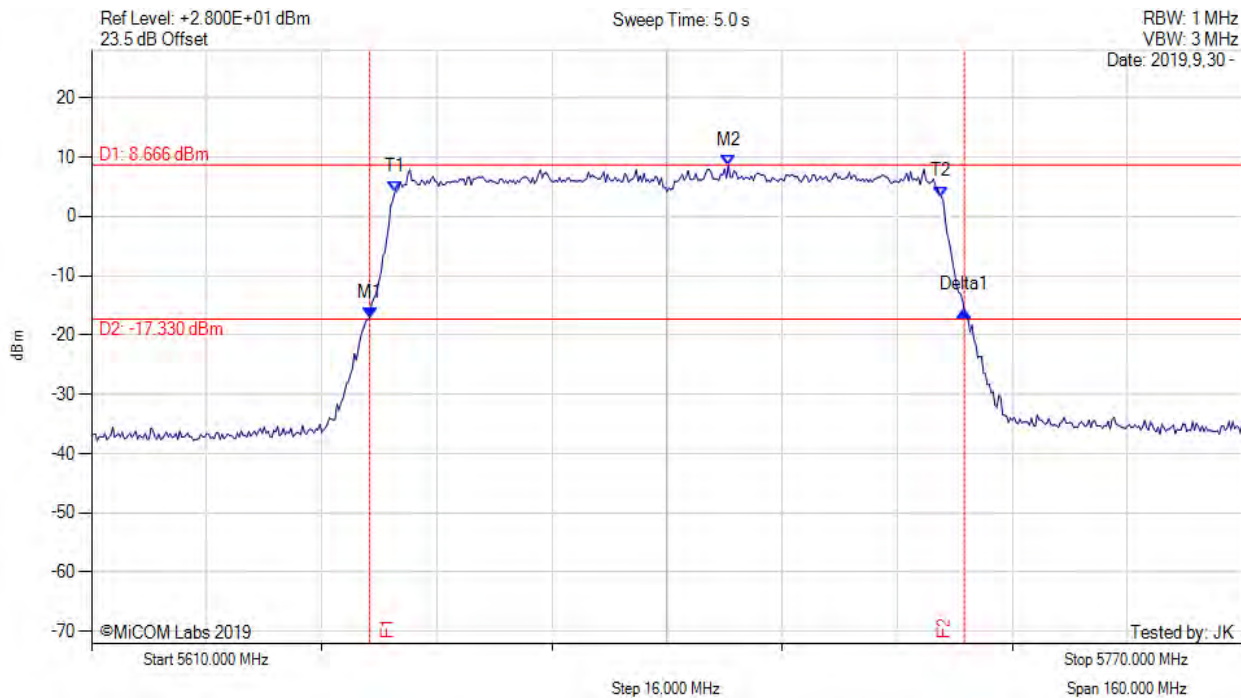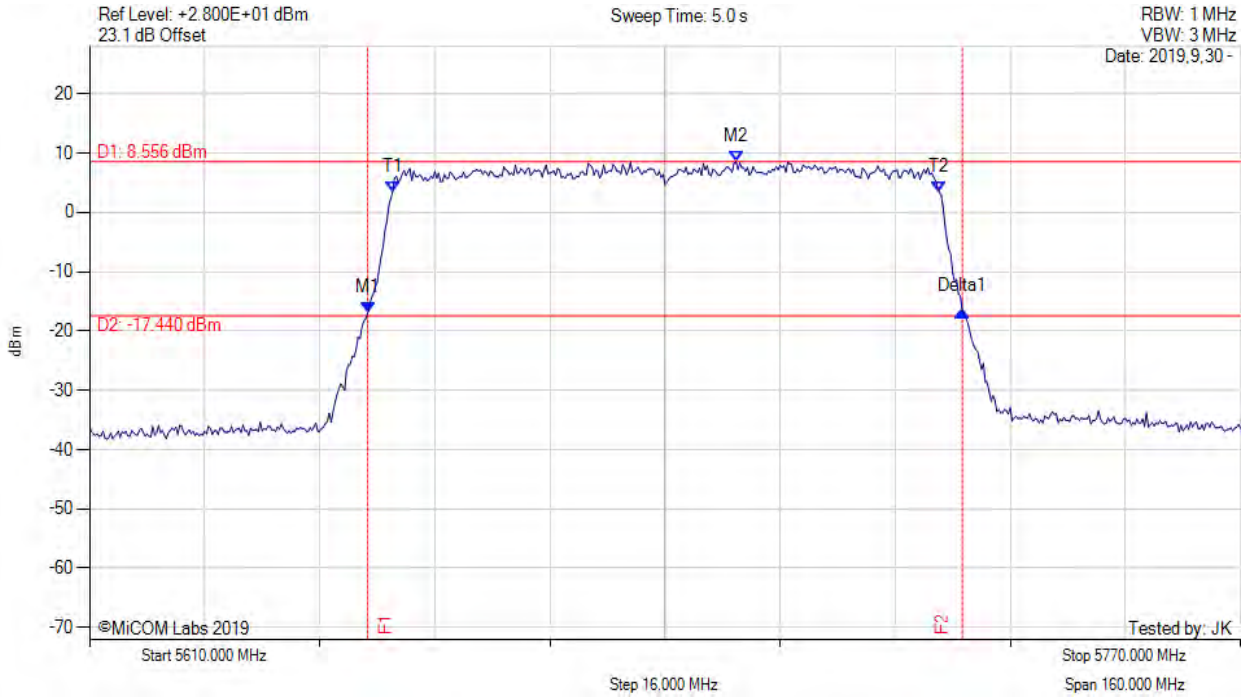Variant: 802.11ac-80, Channel: 5530.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5488.930 MHz : -17.451 dBm M2 : 5565.730 MHz : 8.123 dBm Delta1 : 82.930 MHz : 0.632 dB T1 : 5492.400 MHz : 2.444 dBm T2 : 5568.133 MHz : 4.238 dBm OBW : 75.716 MHz	Measured 26 dB Bandwidth: 82.930 MHz Measured 99% Bandwidth: 75.716 MHz

back to matrix

26 dB & 99% BANDWIDTH

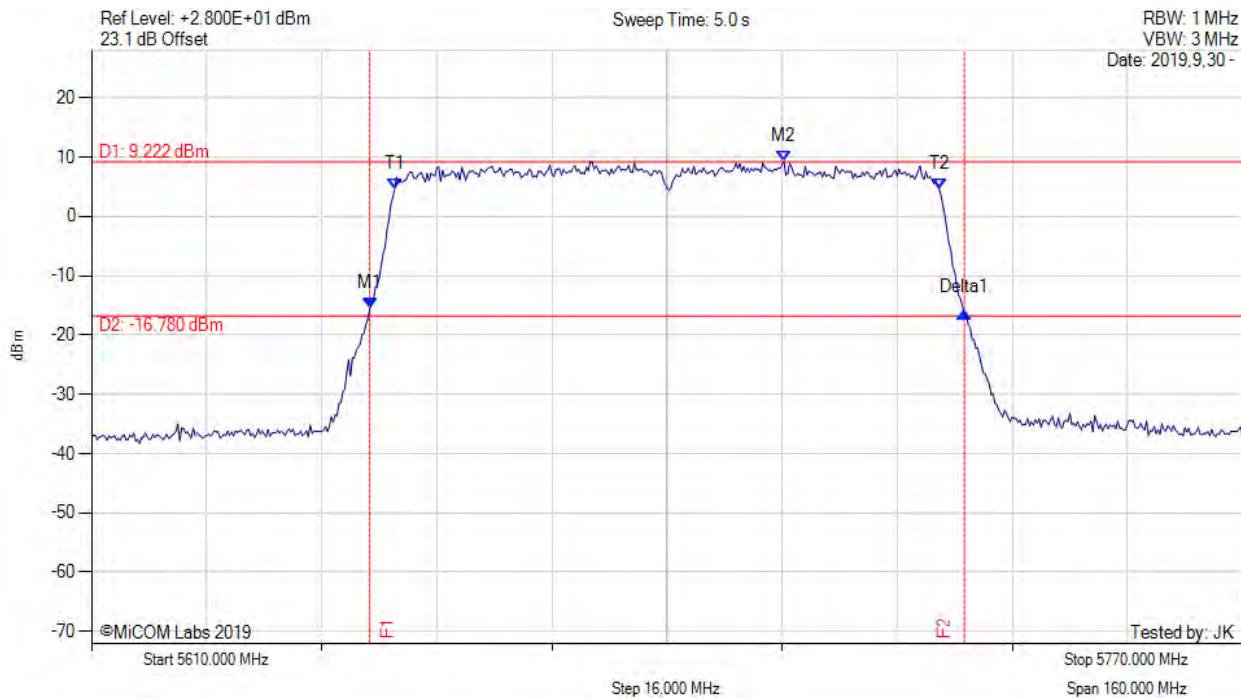Variant: 802.11ac-80, Channel: 5530.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5488.930 MHz : -16.664 dBm M2 : 5546.800 MHz : 9.015 dBm Delta1 : 82.130 MHz : 2.045 dB T1 : 5492.400 MHz : 3.136 dBm T2 : 5568.133 MHz : 3.860 dBm OBW : 75.534 MHz	Measured 26 dB Bandwidth: 82.130 MHz Measured 99% Bandwidth: 75.534 MHz

back to matrix

26 dB & 99% BANDWIDTH

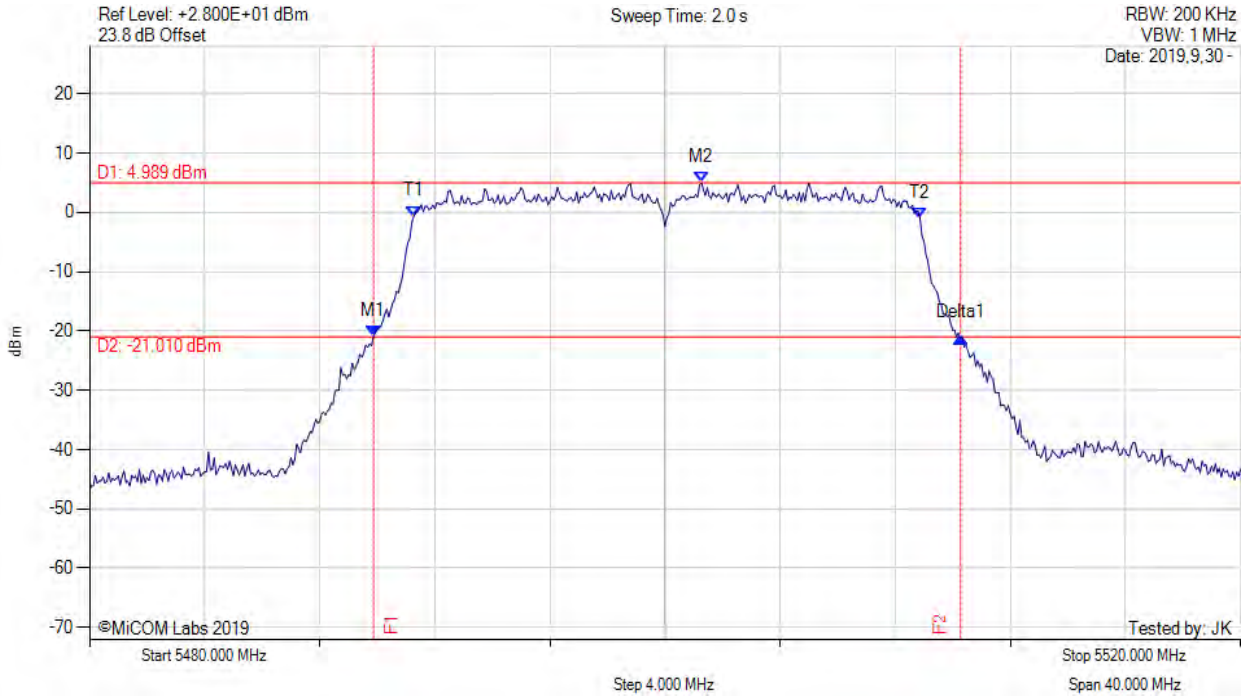Variant: 802.11ac-80, Channel: 5530.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5488.670 MHz : -16.823 dBm M2 : 5546.800 MHz : 8.993 dBm Delta1 : 82.670 MHz : 1.680 dB T1 : 5492.400 MHz : 3.515 dBm T2 : 5568.133 MHz : 4.962 dBm OBW : 75.779 MHz	Measured 26 dB Bandwidth: 82.670 MHz Measured 99% Bandwidth: 75.779 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 = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5568.130 MHz : -17.522 dBm M2 : 5635.070 MHz : 7.375 dBm Delta1 : 83.730 MHz : -0.103 dB T1 : 5572.133 MHz : 3.064 dBm T2 : 5648.133 MHz : 2.410 dBm OBW : 75.975 MHz	Measured 26 dB Bandwidth: 83.730 MHz Measured 99% Bandwidth: 75.975 MHz

back to matrix

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26 dB & 99% BANDWIDTH

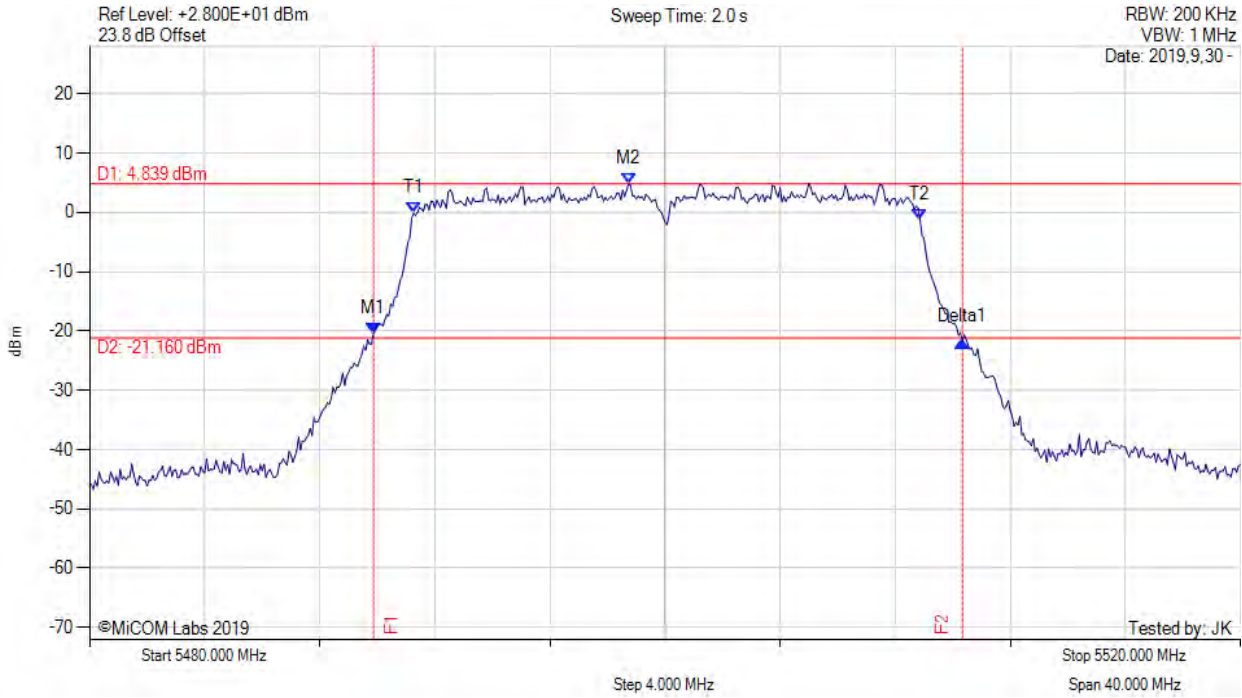Variant: 802.11ac-80, Channel: 5610.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5568.400 MHz : -17.261 dBm M2 : 5618.270 MHz : 8.339 dBm Delta1 : 82.930 MHz : 1.764 dB T1 : 5572.133 MHz : 2.775 dBm T2 : 5648.133 MHz : 2.543 dBm OBW : 75.765 MHz	Measured 26 dB Bandwidth: 82.930 MHz Measured 99% Bandwidth: 75.765 MHz

26 dB & 99% BANDWIDTH

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

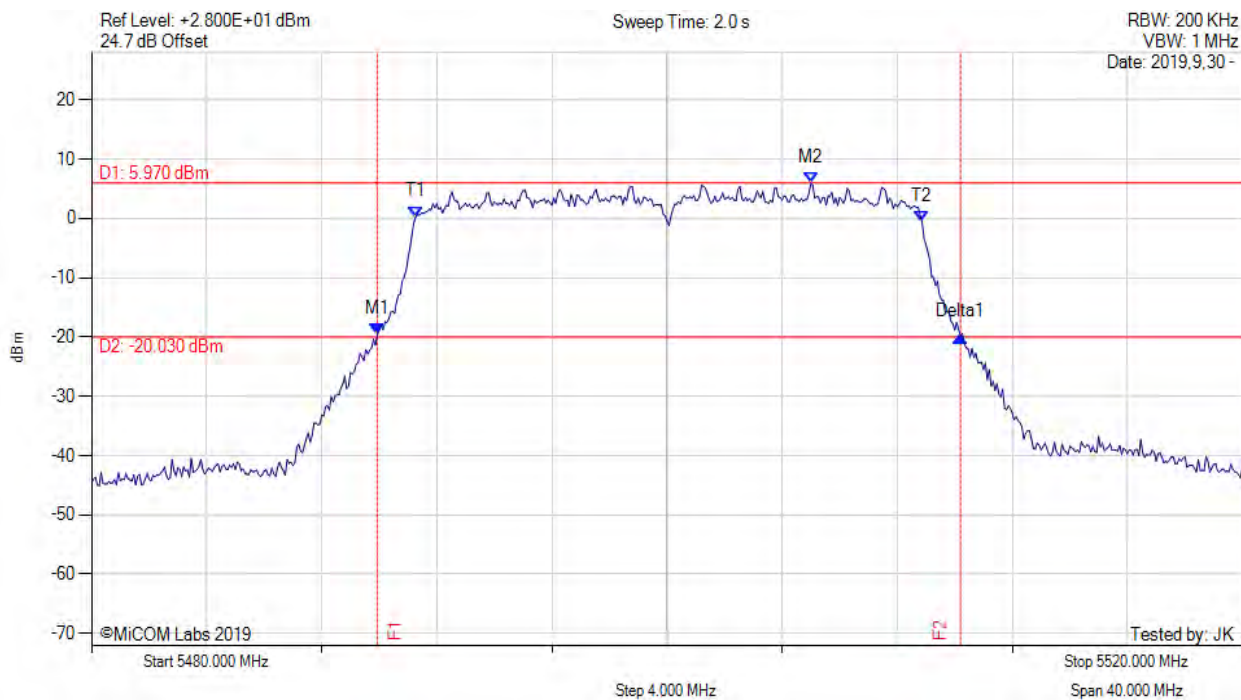| Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5569.200 MHz : -15.260 dBm M2 : 5626.800 MHz : 9.422 dBm Delta1 : 82.670 MHz : -1.351 dB T1 : 5572.400 MHz : 3.707 dBm T2 : 5648.133 MHz : 4.990 dBm OBW : 75.794 MHz	Measured 26 dB Bandwidth: 82.670 MHz Measured 99% Bandwidth: 75.794 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 = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5568.930 MHz : -16.923 dBm M2 : 5626.270 MHz : 8.961 dBm Delta1 : 82.400 MHz : 0.172 dB T1 : 5572.400 MHz : 4.055 dBm T2 : 5648.133 MHz : 3.160 dBm OBW : 75.600 MHz	Measured 26 dB Bandwidth: 82.400 MHz Measured 99% Bandwidth: 75.600 MHz

back to matrix

26 dB & 99% BANDWIDTH

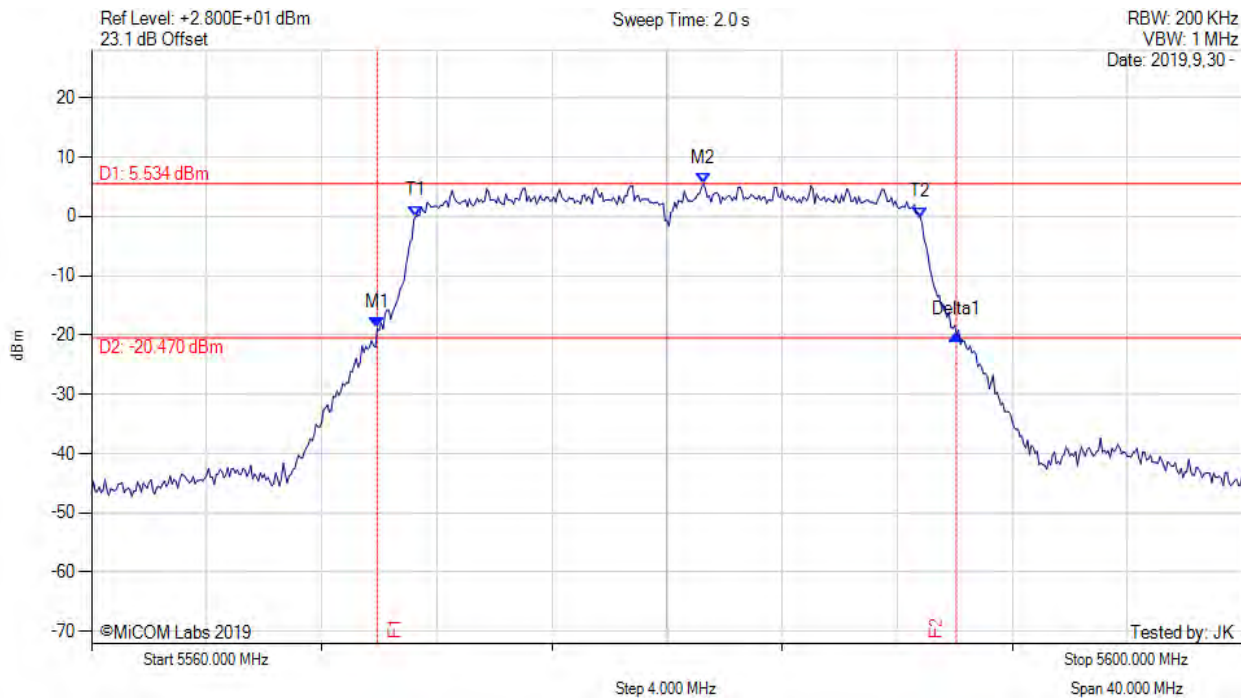Variant: 802.11ac-80, Channel: 5690.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5648.130 MHz : -16.904 dBm M2 : 5714.800 MHz : 8.085 dBm Delta1 : 83.730 MHz : 0.447 dB T1 : 5652.133 MHz : 3.611 dBm T2 : 5728.133 MHz : 3.814 dBm OBW : 76.008 MHz	Measured 26 dB Bandwidth: 83.730 MHz Measured 99% Bandwidth: 76.008 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 = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5648.670 MHz : -17.116 dBm M2 : 5698.530 MHz : 8.666 dBm Delta1 : 82.670 MHz : 1.271 dB T1 : 5652.133 MHz : 4.044 dBm T2 : 5728.133 MHz : 3.314 dBm OBW : 75.874 MHz	Measured 26 dB Bandwidth: 82.670 MHz Measured 99% Bandwidth: 75.874 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 = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5648.670 MHz : -16.950 dBm M2 : 5699.870 MHz : 8.556 dBm Delta1 : 82.670 MHz : 0.280 dB T1 : 5652.133 MHz : 3.471 dBm T2 : 5728.133 MHz : 3.352 dBm OBW : 75.691 MHz	Measured 26 dB Bandwidth: 82.670 MHz Measured 99% Bandwidth: 75.691 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 = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5648.670 MHz : -15.520 dBm M2 : 5706.270 MHz : 9.222 dBm Delta1 : 82.670 MHz : -0.736 dB T1 : 5652.133 MHz : 4.501 dBm T2 : 5727.867 MHz : 4.512 dBm OBW : 75.561 MHz	Measured 26 dB Bandwidth: 82.670 MHz Measured 99% Bandwidth: 75.561 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 = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5489.870 MHz : -20.836 dBm M2 : 5501.270 MHz : 4.989 dBm Delta1 : 20.400 MHz : -0.351 dB T1 : 5491.267 MHz : -0.645 dBm T2 : 5508.867 MHz : -1.070 dBm OBW : 17.566 MHz	Channel Frequency: 5500.00 MHz

back to matrix

26 dB & 99% BANDWIDTH

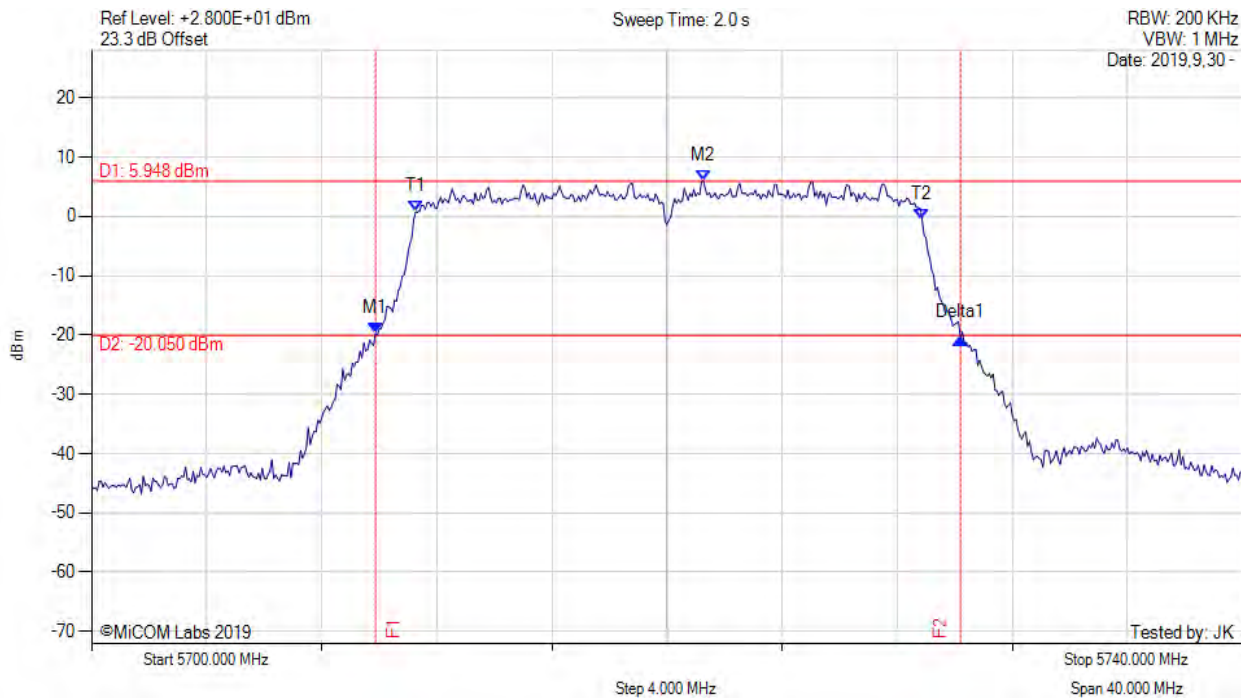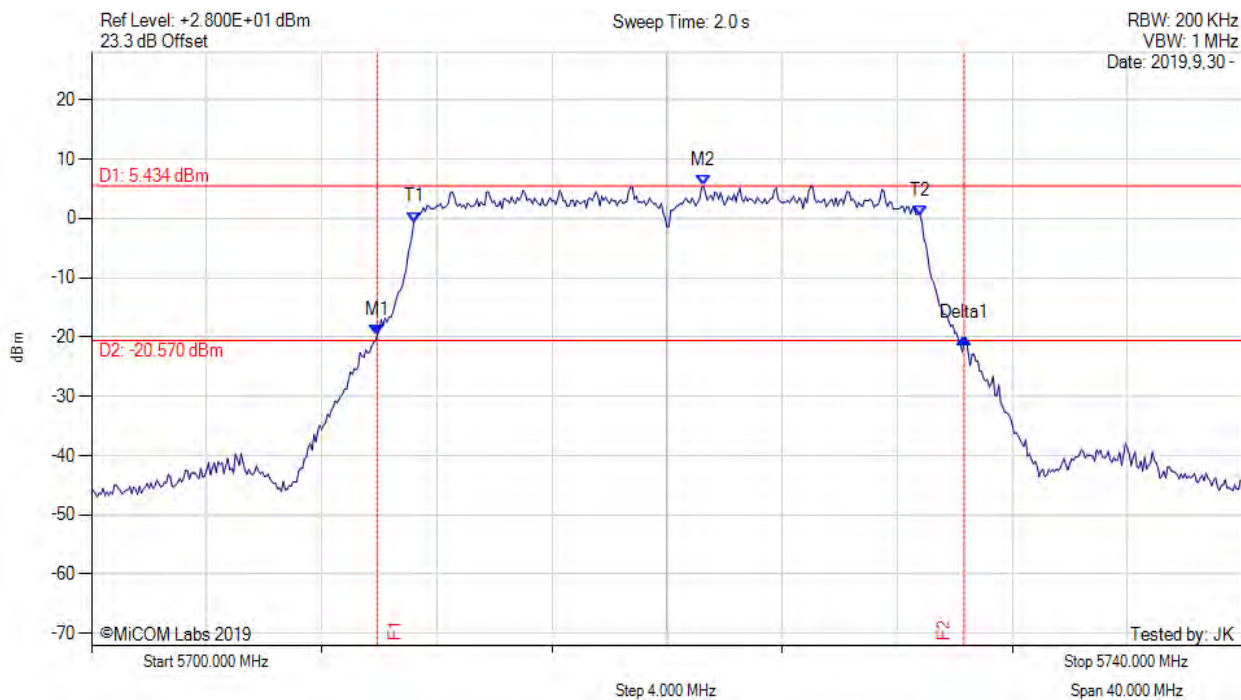Variant: 802.11n HT-20, Channel: 5500.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5489.870 MHz : -20.325 dBm M2 : 5498.730 MHz : 4.839 dBm Delta1 : 20.470 MHz : -1.386 dB T1 : 5491.267 MHz : -0.160 dBm T2 : 5508.867 MHz : -1.249 dBm OBW : 17.582 MHz	Channel Frequency: 5500.00 MHz

back to matrix

26 dB & 99% BANDWIDTH

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

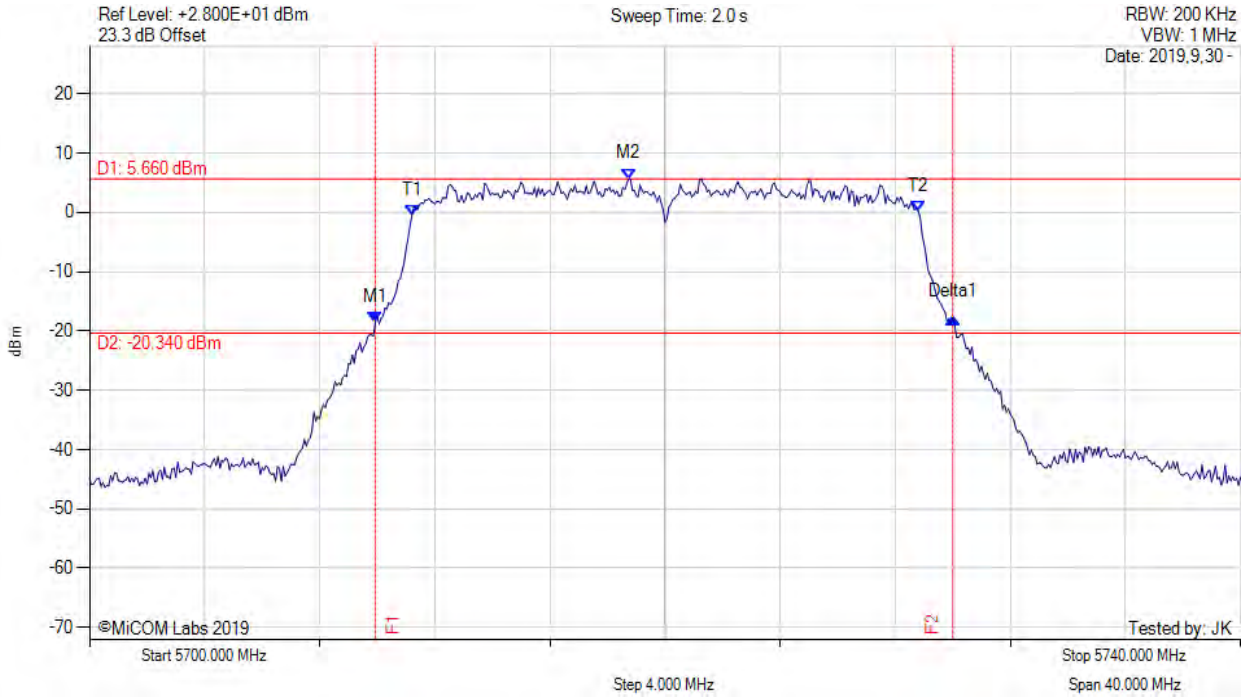| Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5489.930 MHz : -19.563 dBm M2 : 5505.000 MHz : 5.970 dBm Delta1 : 20.270 MHz : -0.357 dB T1 : 5491.267 MHz : 0.269 dBm T2 : 5508.867 MHz : -0.621 dBm OBW : 17.580 MHz	Channel Frequency: 5500.00 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 = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5490.000 MHz : -20.315 dBm M2 : 5505.000 MHz : 5.213 dBm Delta1 : 20.270 MHz : -0.307 dB T1 : 5491.267 MHz : -0.367 dBm T2 : 5508.800 MHz : 0.176 dBm OBW : 17.552 MHz	Channel Frequency: 5500.00 MHz

back to matrix

26 dB & 99% BANDWIDTH

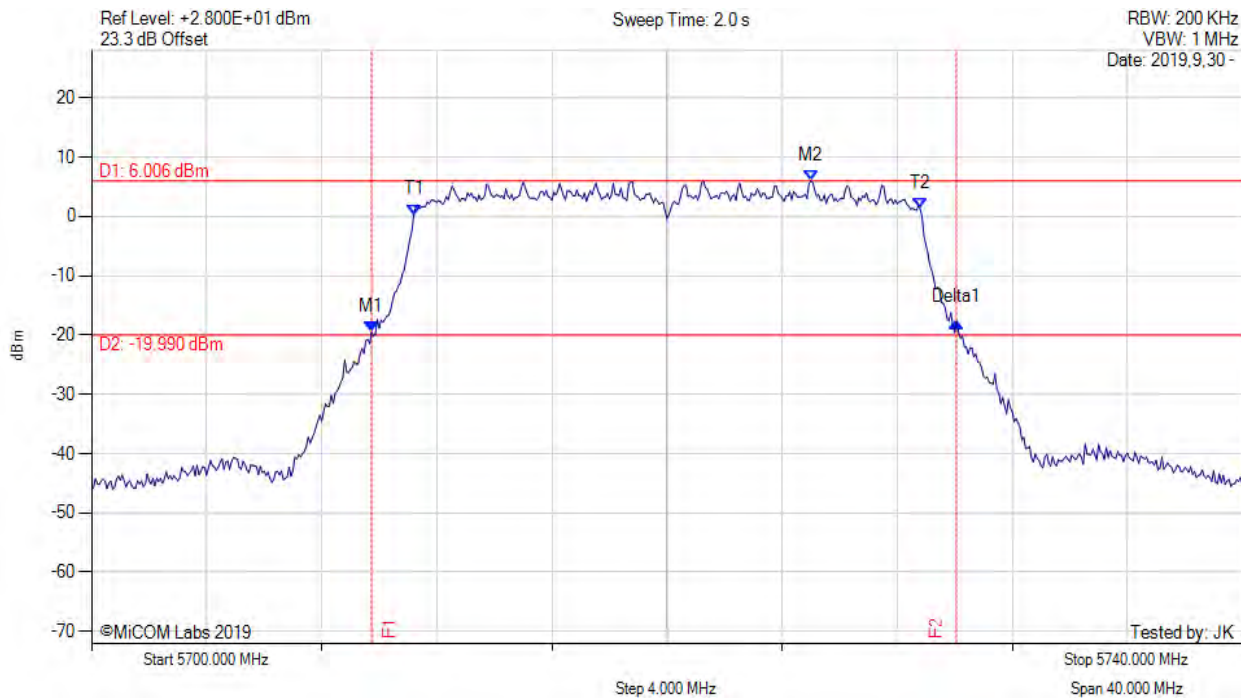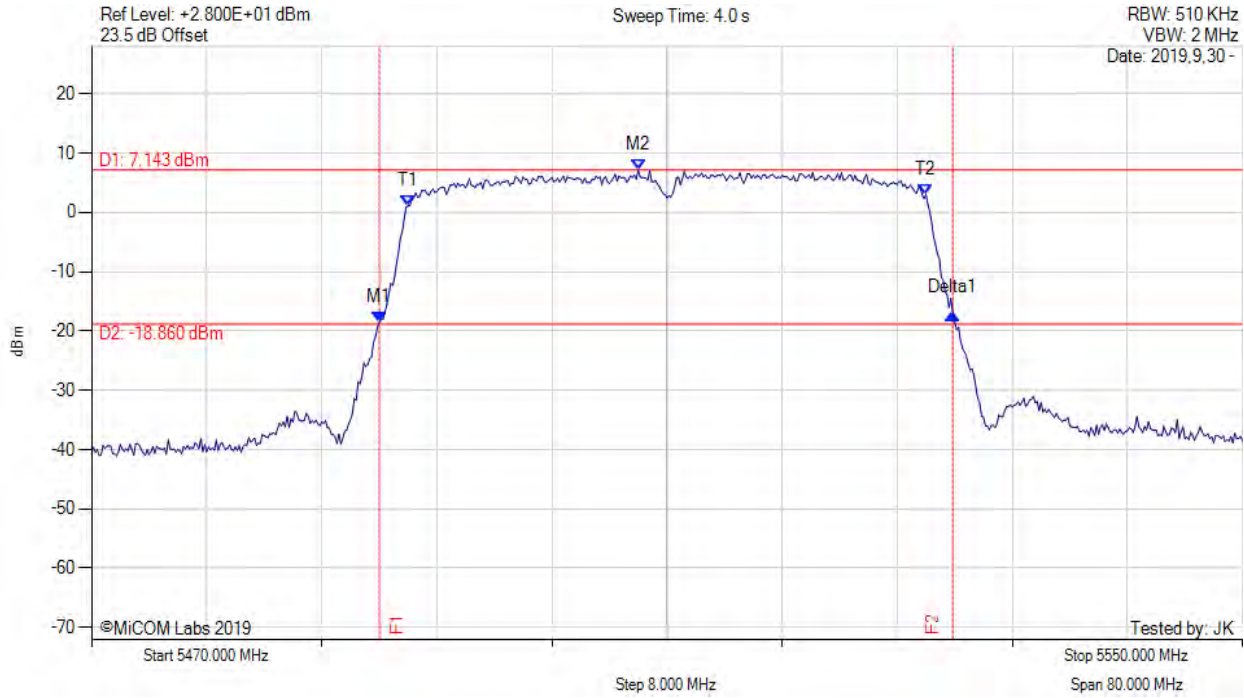Variant: 802.11n HT-20, Channel: 5580.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5569.930 MHz : -18.854 dBm M2 : 5581.270 MHz : 5.534 dBm Delta1 : 20.130 MHz : -1.047 dB T1 : 5571.267 MHz : 0.056 dBm T2 : 5588.800 MHz : -0.180 dBm OBW : 17.560 MHz	Channel Frequency: 5580.00 MHz

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 = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5569.800 MHz : -20.430 dBm M2 : 5581.270 MHz : 5.457 dBm Delta1 : 20.470 MHz : -0.084 dB T1 : 5571.200 MHz : -0.770 dBm T2 : 5588.800 MHz : 0.693 dBm OBW : 17.574 MHz	Channel Frequency: 5580.00 MHz

back to matrix

26 dB & 99% BANDWIDTH

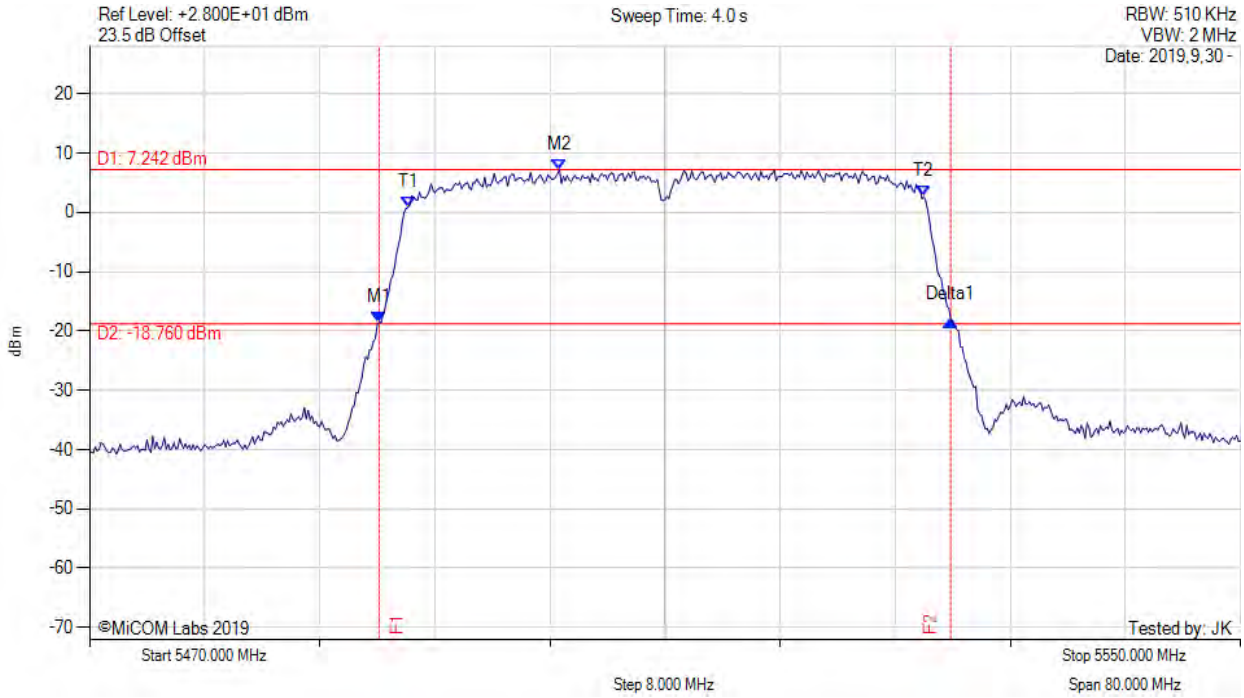Variant: 802.11n HT-20, Channel: 5580.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5569.870 MHz : -18.746 dBm M2 : 5581.200 MHz : 6.568 dBm Delta1 : 20.330 MHz : 1.063 dB T1 : 5571.267 MHz : 1.315 dBm T2 : 5588.800 MHz : 1.697 dBm OBW : 17.542 MHz	Channel Frequency: 5580.00 MHz

back to matrix

26 dB & 99% BANDWIDTH

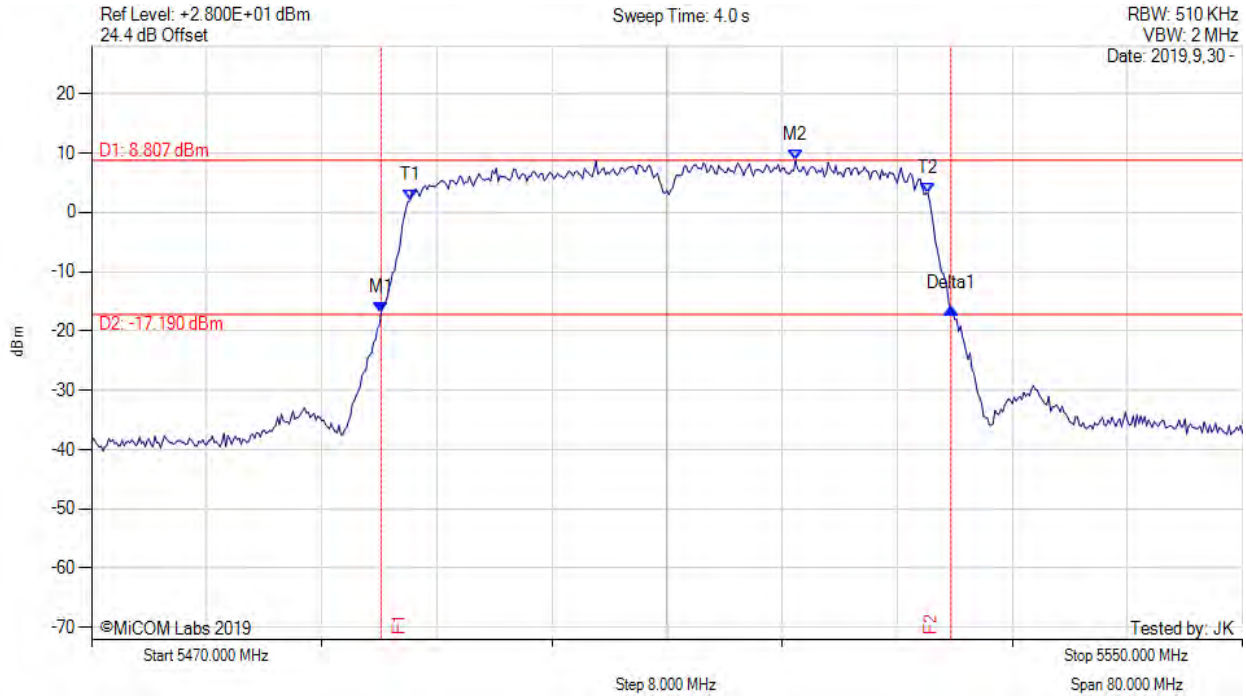Variant: 802.11n HT-20, Channel: 5580.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5569.870 MHz : -20.239 dBm M2 : 5581.270 MHz : 5.737 dBm Delta1 : 20.400 MHz : 0.012 dB T1 : 5571.200 MHz : -0.886 dBm T2 : 5588.800 MHz : 0.508 dBm OBW : 17.552 MHz	Channel Frequency: 5580.00 MHz

back to matrix

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 = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5709.870 MHz : -19.757 dBm M2 : 5721.270 MHz : 5.948 dBm Delta1 : 20.330 MHz : -0.756 dB T1 : 5711.267 MHz : 0.760 dBm T2 : 5728.867 MHz : -0.512 dBm OBW : 17.567 MHz	Channel Frequency: 5720.00 MHz

back to matrix

26 dB & 99% BANDWIDTH

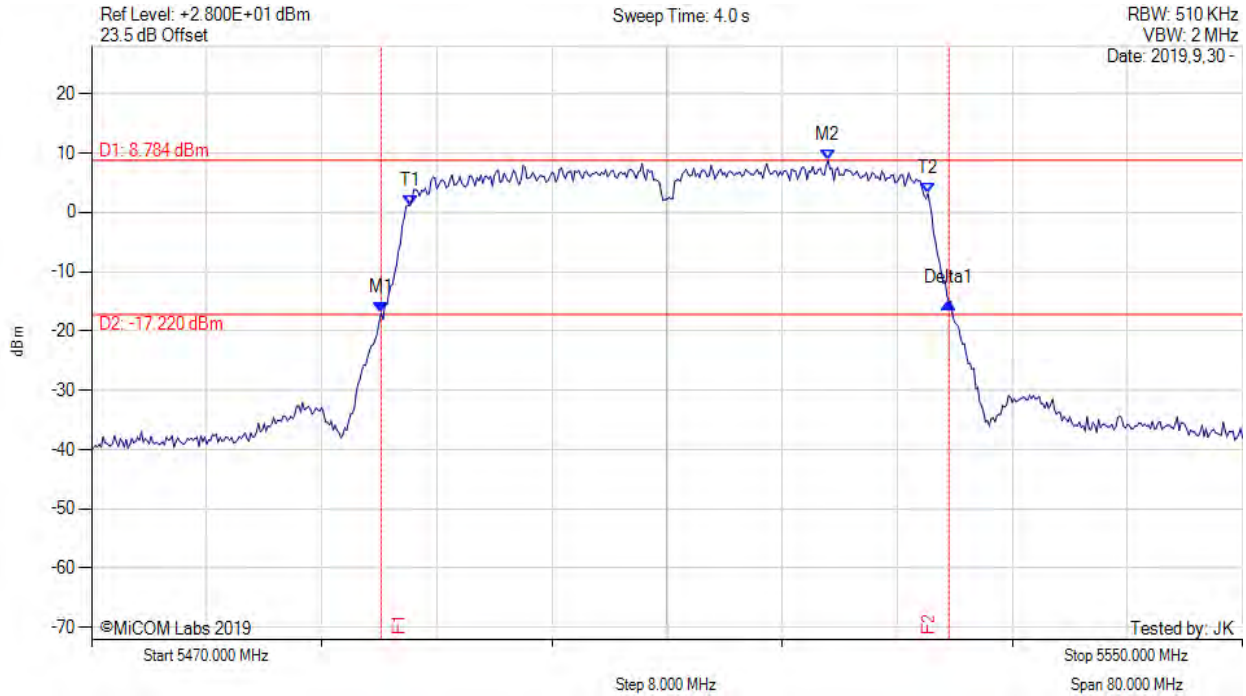Variant: 802.11n HT-20, Channel: 5720.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5709.930 MHz : -19.624 dBm M2 : 5721.270 MHz : 5.434 dBm Delta1 : 20.400 MHz : -0.558 dB T1 : 5711.200 MHz : -0.660 dBm T2 : 5728.800 MHz : 0.420 dBm OBW : 17.575 MHz	Channel Frequency: 5720.00 MHz

back to matrix

26 dB & 99% BANDWIDTH

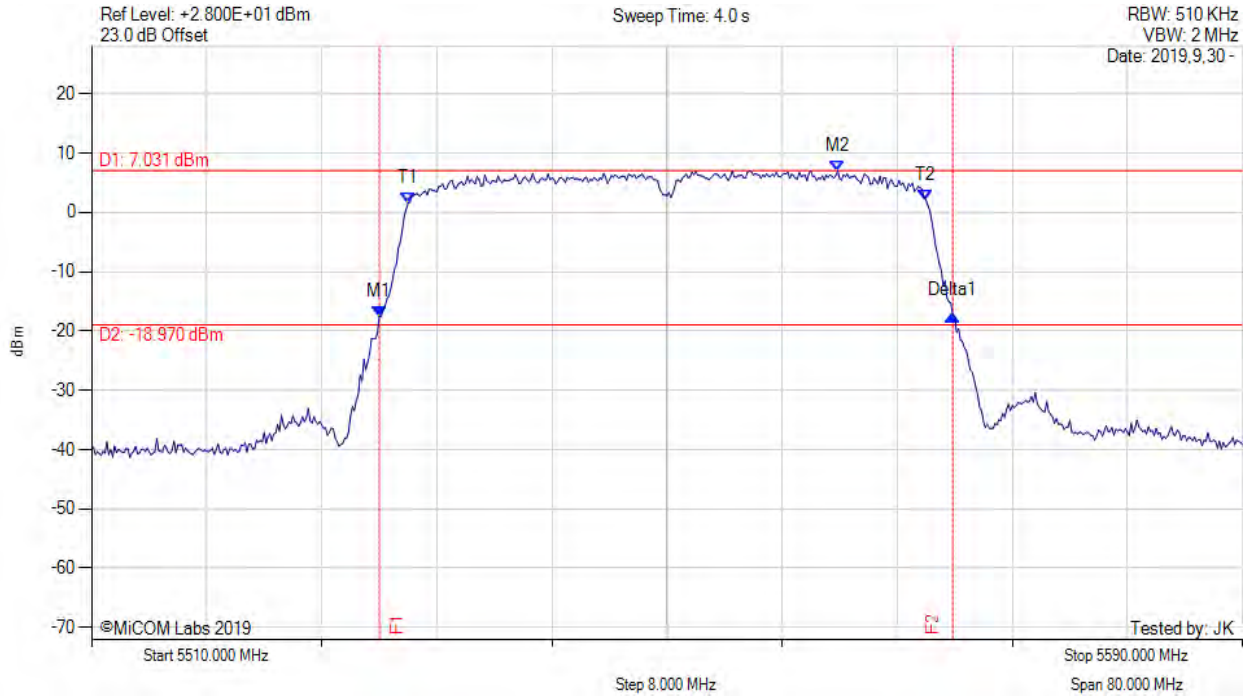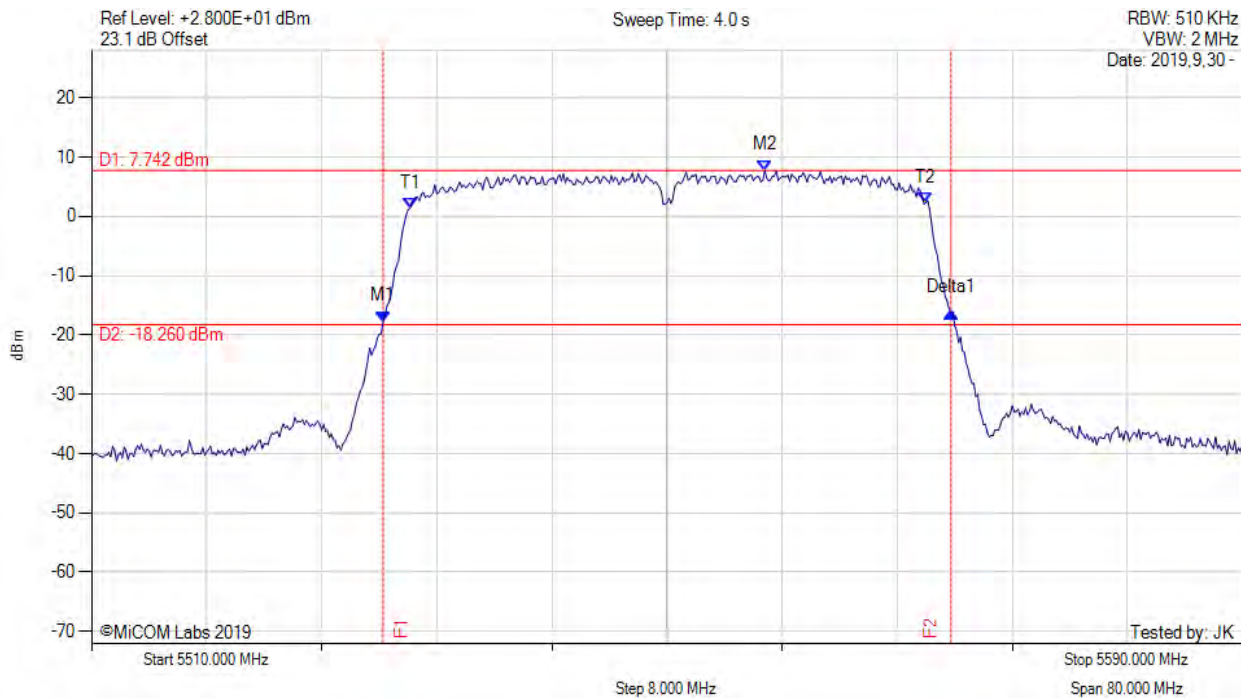Variant: 802.11n HT-20, Channel: 5720.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5709.930 MHz : -18.604 dBm M2 : 5718.730 MHz : 5.660 dBm Delta1 : 20.070 MHz : 0.875 dB T1 : 5711.200 MHz : -0.598 dBm T2 : 5728.800 MHz : 0.126 dBm OBW : 17.555 MHz	Channel Frequency: 5720.00 MHz

26 dB & 99% BANDWIDTH

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

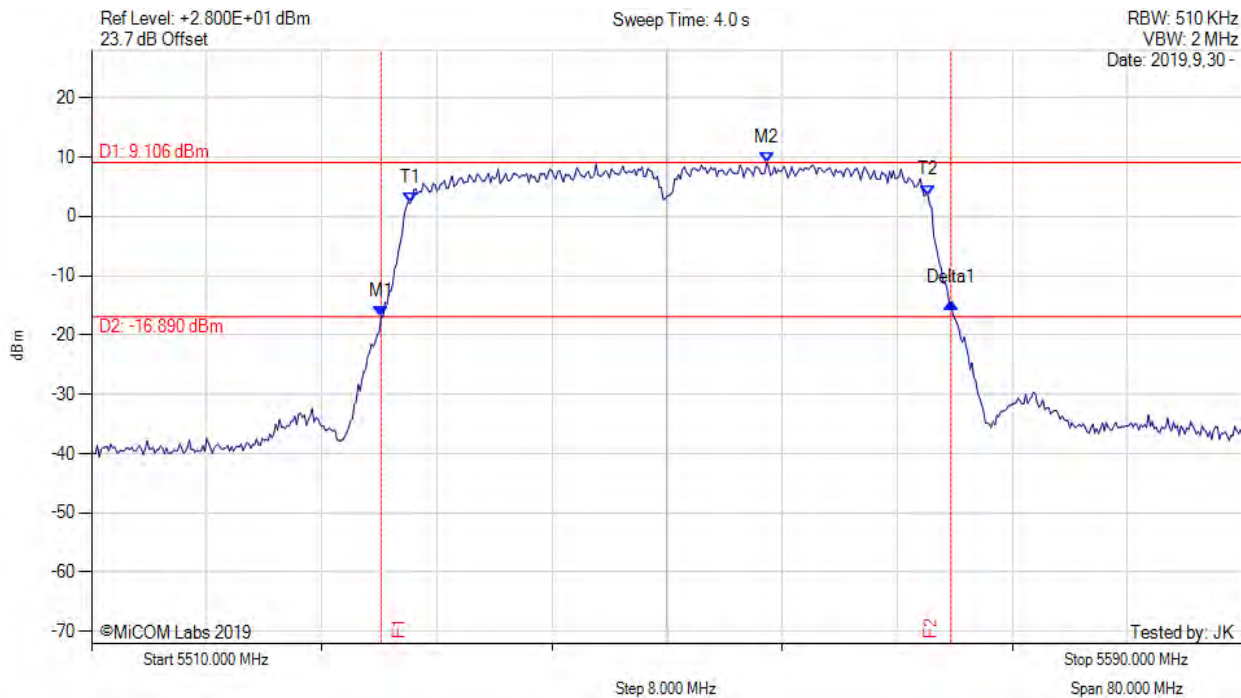| Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5709.730 MHz : -19.558 dBm M2 : 5725.000 MHz : 6.006 dBm Delta1 : 20.330 MHz : 1.709 dB T1 : 5711.200 MHz : 0.279 dBm T2 : 5728.800 MHz : 1.278 dBm OBW : 17.586 MHz	Channel Frequency: 5720.00 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 = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5490.000 MHz : -18.513 dBm M2 : 5508.000 MHz : 7.143 dBm Delta1 : 39.870 MHz : 1.489 dB T1 : 5492.000 MHz : 1.091 dBm T2 : 5528.000 MHz : 3.031 dBm OBW : 35.954 MHz	Measured 26 dB Bandwidth: 39.870 MHz Measured 99% Bandwidth: 35.954 MHz

26 dB & 99% BANDWIDTH

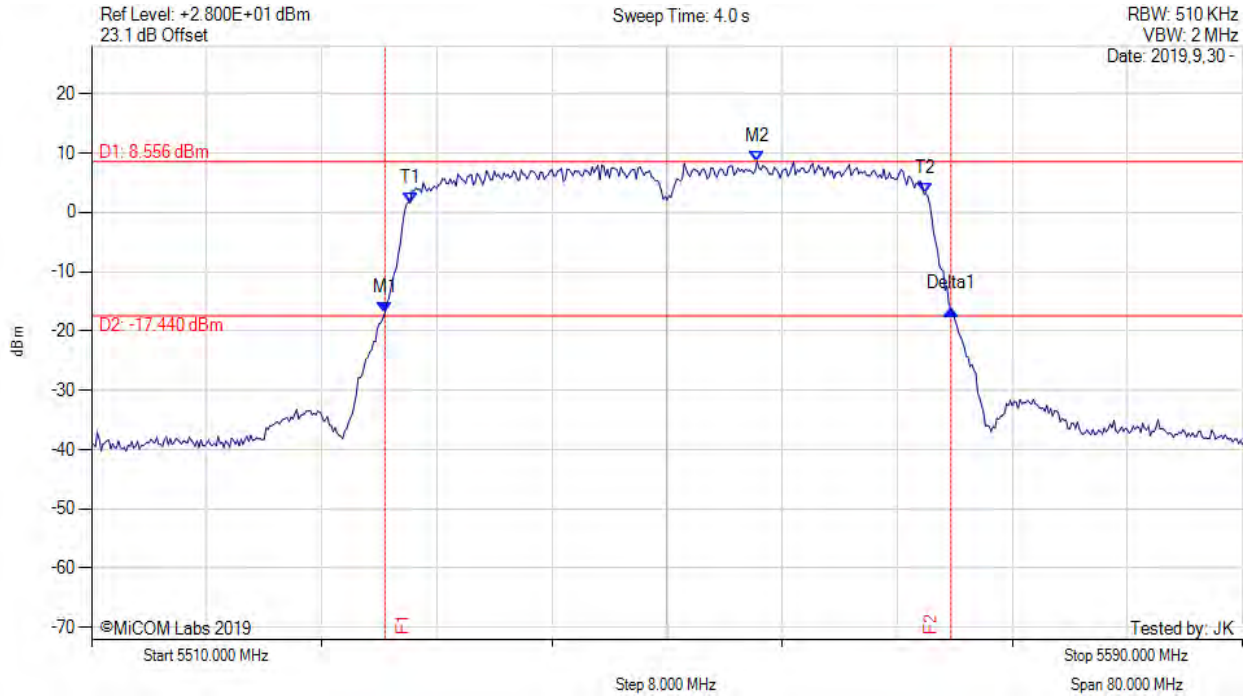Variant: 802.11n HT-40, Channel: 5510.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5490.130 MHz : -18.477 dBm M2 : 5502.670 MHz : 7.242 dBm Delta1 : 39.730 MHz : 0.290 dB T1 : 5492.133 MHz : 0.840 dBm T2 : 5528.000 MHz : 2.653 dBm OBW : 35.846 MHz	Measured 26 dB Bandwidth: 39.730 MHz Measured 99% Bandwidth: 35.846 MHz

Title: Mikrotikls SIA (MikroTik) RB4011iGS+5HacQ2HnD-IN-US
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: MIKO93-U2_Conducted Rev A

26 dB & 99% BANDWIDTH

MiTest

Variant: 802.11n HT-40, Channel: 5510.00 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 : 5490.130 MHz : -16.817 dBm M2 : 5518.930 MHz : 8.807 dBm Delta1 : 39.600 MHz : 0.693 dB T1 : 5492.133 MHz : 2.007 dBm T2 : 5528.133 MHz : 3.243 dBm OBW : 35.892 MHz	Measured 26 dB Bandwidth: 39.600 MHz Measured 99% Bandwidth: 35.892 MHz

back to matrix

26 dB & 99% BANDWIDTH

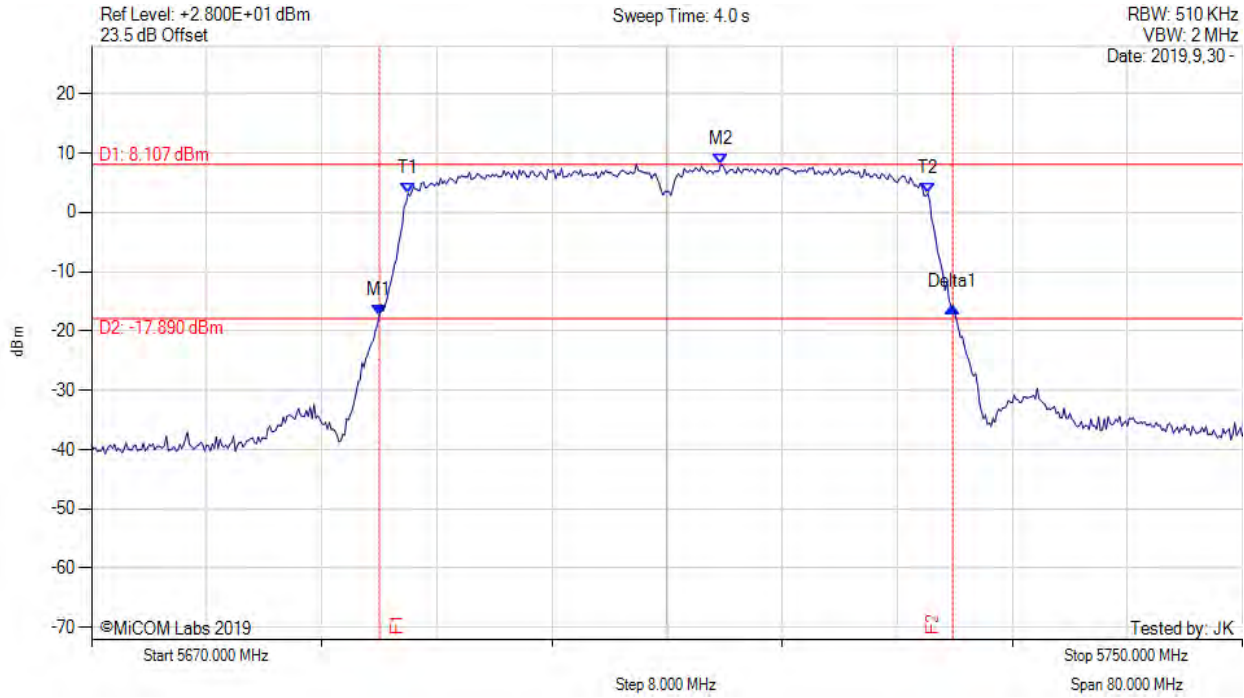Variant: 802.11n HT-40, Channel: 5510.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5490.130 MHz : -16.960 dBm M2 : 5521.200 MHz : 8.784 dBm Delta1 : 39.470 MHz : 1.764 dB T1 : 5492.133 MHz : 1.110 dBm T2 : 5528.133 MHz : 3.184 dBm OBW : 35.909 MHz	Measured 26 dB Bandwidth: 39.470 MHz Measured 99% Bandwidth: 35.909 MHz

back to matrix

26 dB & 99% BANDWIDTH

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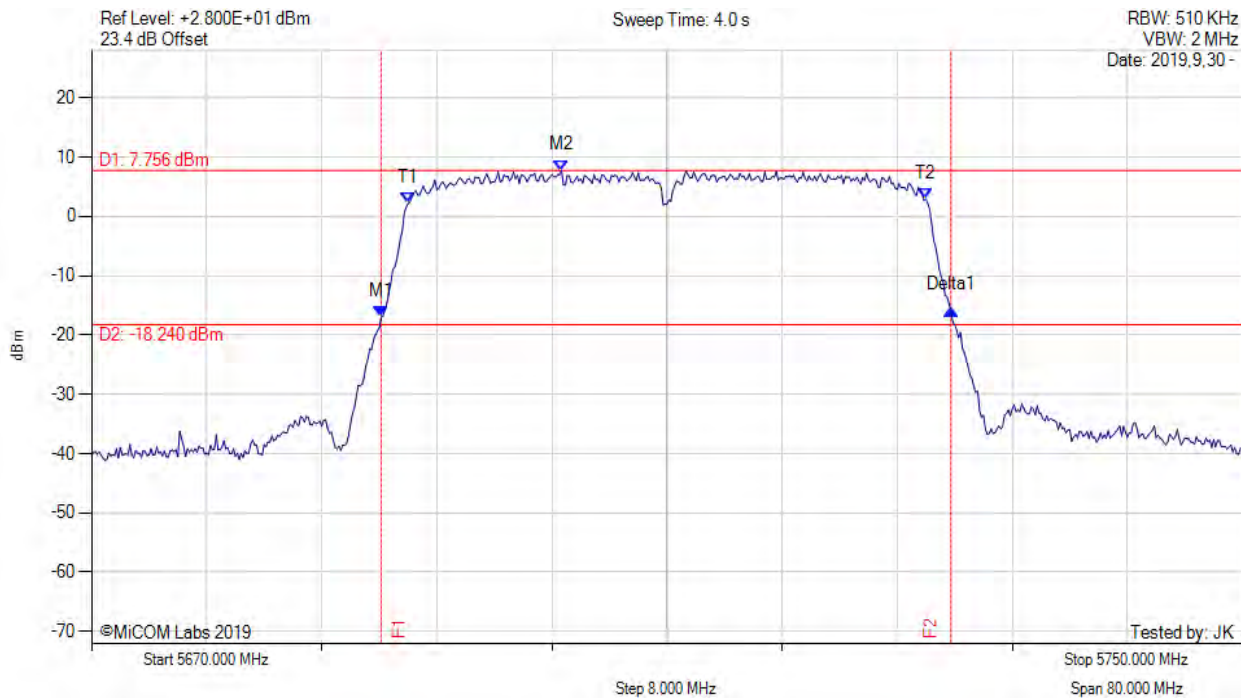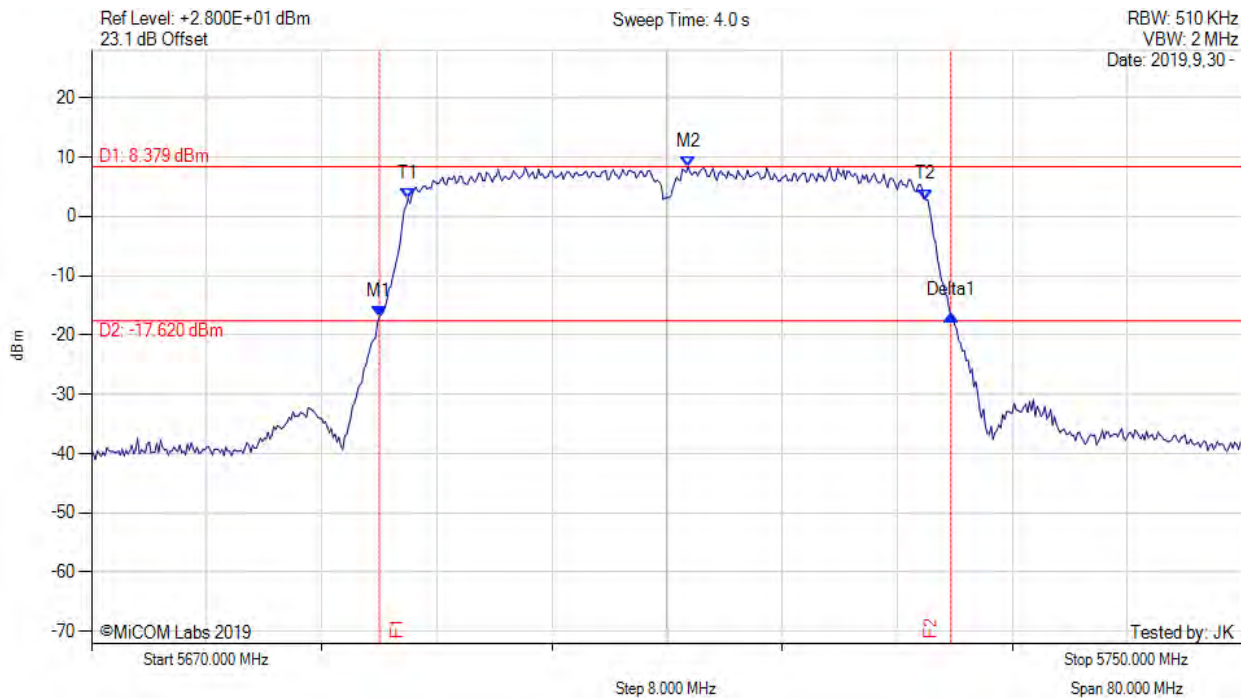

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5530.000 MHz : -17.529 dBm M2 : 5561.870 MHz : 7.031 dBm Delta1 : 39.870 MHz : 0.138 dB T1 : 5532.000 MHz : 1.559 dBm T2 : 5568.000 MHz : 2.072 dBm OBW : 35.942 MHz	Measured 26 dB Bandwidth: 39.870 MHz Measured 99% Bandwidth: 35.942 MHz

back to matrix

MiCOMLabs

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 = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5530.270 MHz : -17.706 dBm M2 : 5556.800 MHz : 7.742 dBm Delta1 : 39.470 MHz : 1.428 dB T1 : 5532.133 MHz : 1.331 dBm T2 : 5568.000 MHz : 2.365 dBm OBW : 35.885 MHz	Measured 26 dB Bandwidth: 39.470 MHz Measured 99% Bandwidth: 35.885 MHz

back to matrix

26 dB & 99% BANDWIDTH

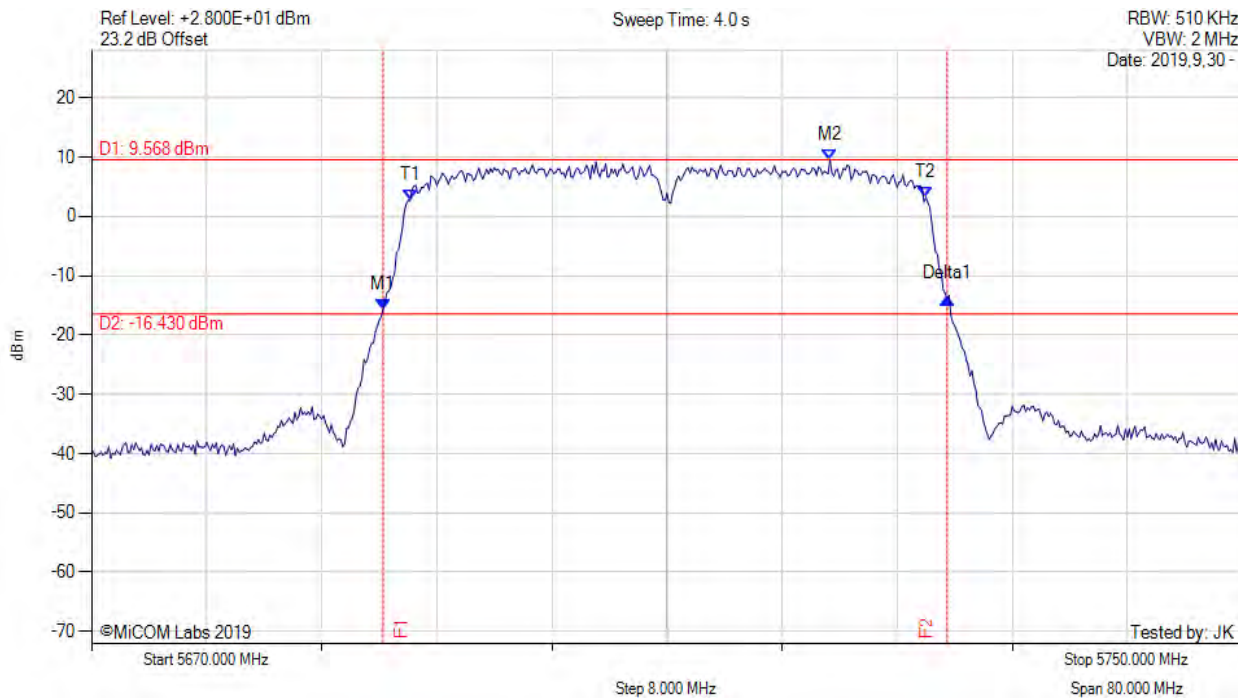Variant: 802.11n HT-40, Channel: 5550.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

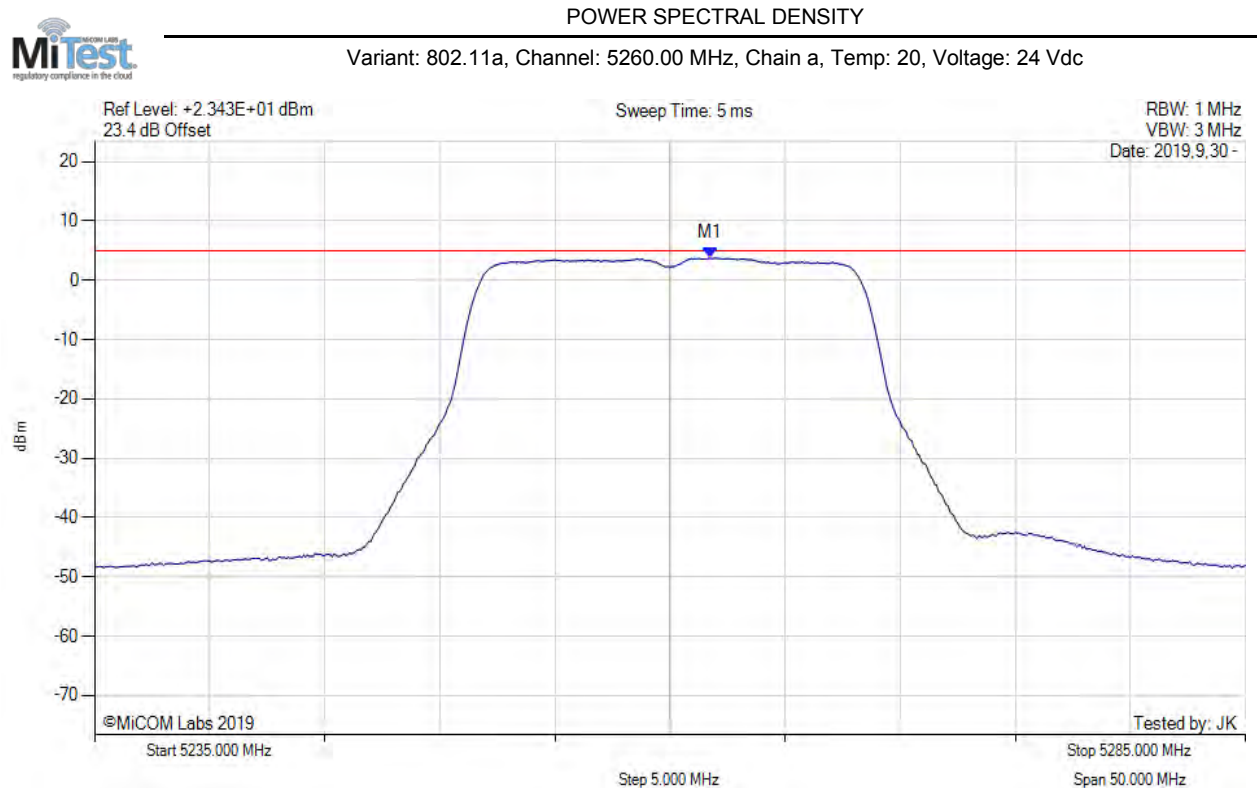| Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5530.130 MHz : -16.834 dBm M2 : 5556.930 MHz : 9.106 dBm Delta1 : 39.600 MHz : 2.169 dB T1 : 5532.133 MHz : 2.196 dBm T2 : 5568.133 MHz : 3.545 dBm OBW : 35.893 MHz	Measured 26 dB Bandwidth: 39.600 MHz Measured 99% Bandwidth: 35.893 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 = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5530.400 MHz : -16.896 dBm M2 : 5556.270 MHz : 8.556 dBm Delta1 : 39.330 MHz : 0.590 dB T1 : 5532.133 MHz : 1.556 dBm T2 : 5568.000 MHz : 3.161 dBm OBW : 35.873 MHz	Measured 26 dB Bandwidth: 39.330 MHz Measured 99% Bandwidth: 35.873 MHz

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 = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5690.000 MHz : -17.447 dBm M2 : 5713.730 MHz : 8.107 dBm Delta1 : 39.870 MHz : 1.442 dB T1 : 5692.000 MHz : 3.196 dBm T2 : 5728.133 MHz : 3.222 dBm OBW : 36.024 MHz	Measured 26 dB Bandwidth: 39.870 MHz Measured 99% Bandwidth: 36.024 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 = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5690.130 MHz : -16.974 dBm M2 : 5702.670 MHz : 7.756 dBm Delta1 : 39.600 MHz : 1.180 dB T1 : 5692.000 MHz : 2.163 dBm T2 : 5728.000 MHz : 2.917 dBm OBW : 35.962 MHz	Measured 26 dB Bandwidth: 39.600 MHz Measured 99% Bandwidth: 35.962 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 = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5690.000 MHz : -16.983 dBm M2 : 5711.470 MHz : 8.379 dBm Delta1 : 39.730 MHz : 0.266 dB T1 : 5692.000 MHz : 2.958 dBm T2 : 5728.000 MHz : 2.849 dBm OBW : 35.932 MHz	Measured 26 dB Bandwidth: 39.730 MHz Measured 99% Bandwidth: 35.932 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 = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5690.270 MHz : -15.758 dBm M2 : 5721.330 MHz : 9.568 dBm Delta1 : 39.200 MHz : 1.953 dB T1 : 5692.133 MHz : 2.638 dBm T2 : 5728.000 MHz : 3.211 dBm OBW : 35.818 MHz	Measured 26 dB Bandwidth: 39.200 MHz Measured 99% Bandwidth: 35.818 MHz

back to matrix

A.2. **Power Spectral Density**

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5260.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5261.750 MHz : 3.731 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

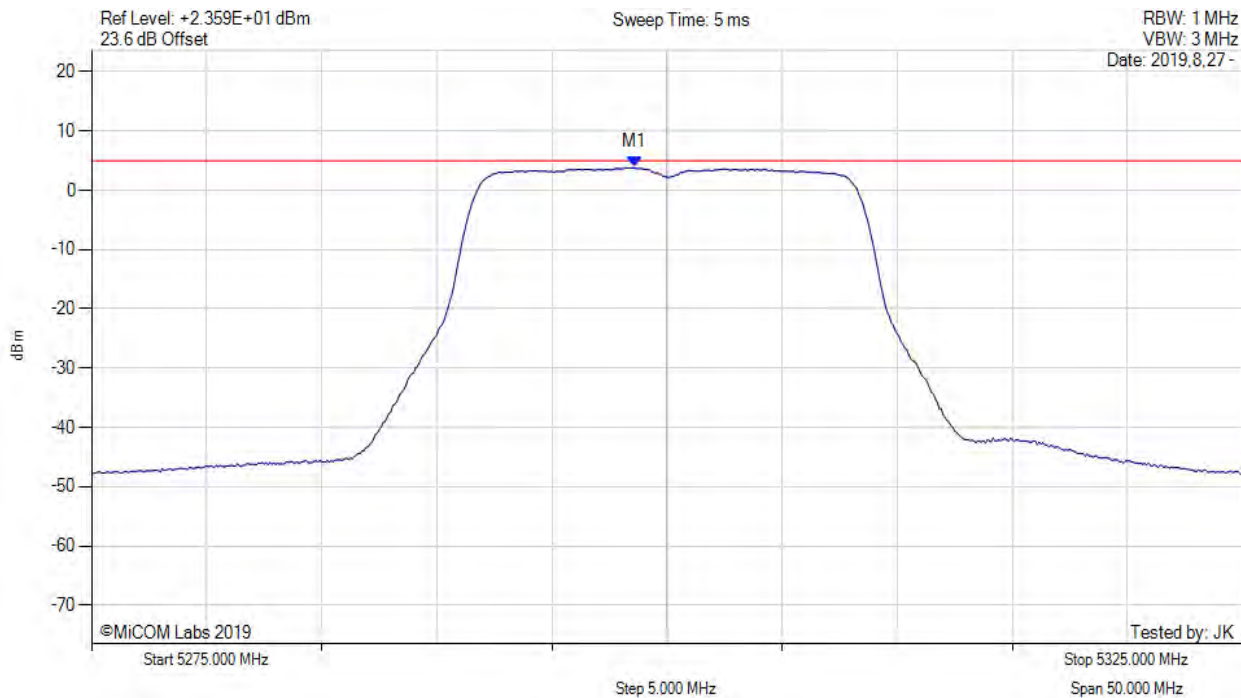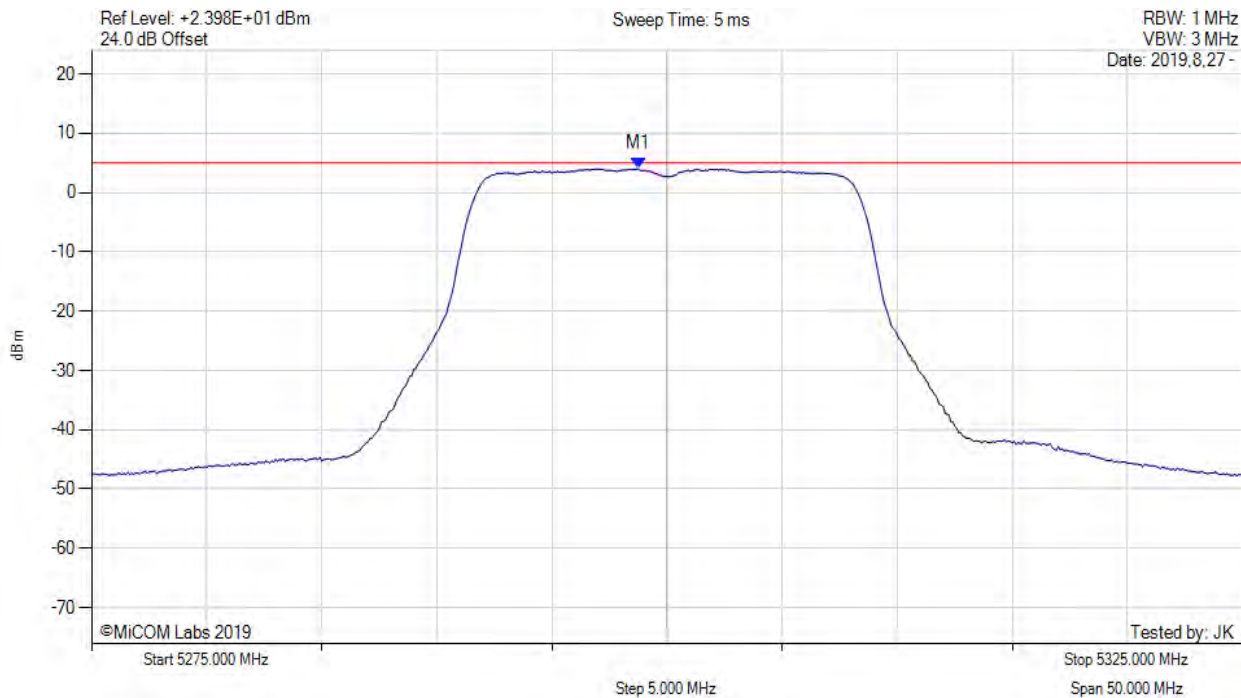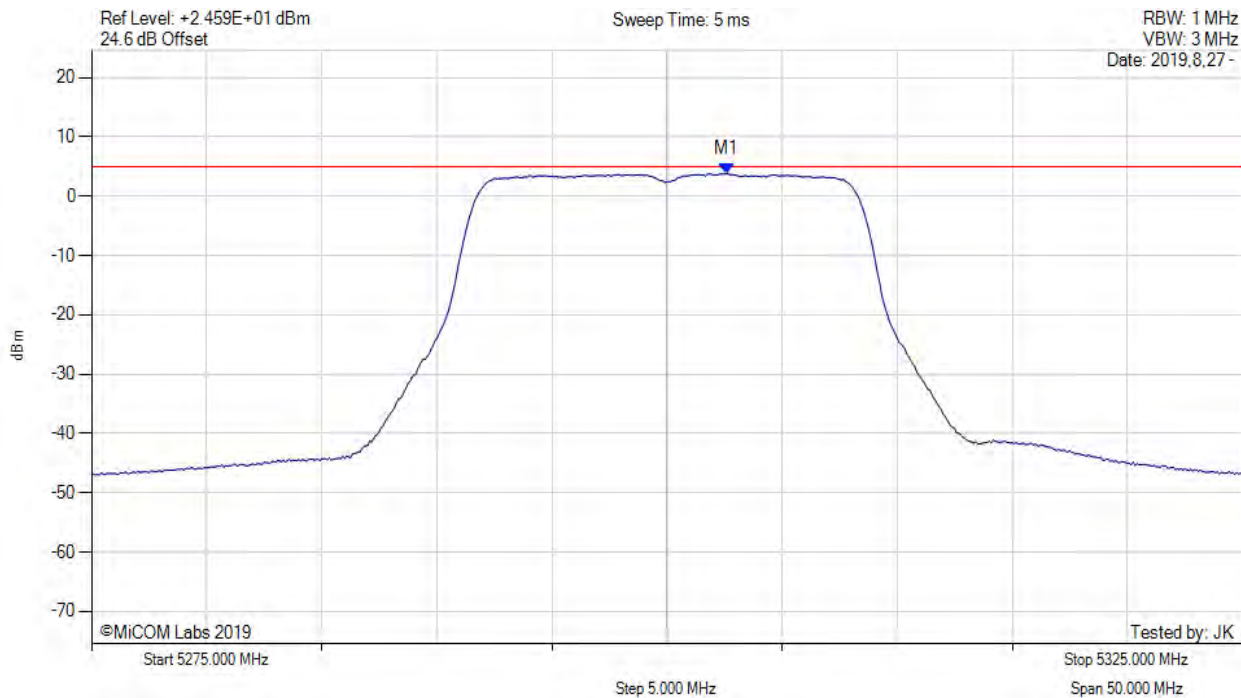Variant: 802.11a, Channel: 5260.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Ref Level: +2.388E+01 dBm
23.9 dB Offset

Sweep Time: 5 ms

RBW: 1 MHz
VBW: 3 MHz
Date: 2019,8,27 -

M1

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Tested by: JK

Start 5235.000 MHz
Stop 5285.000 MHz
Step 5.000 MHz
Span 50.000 MHz
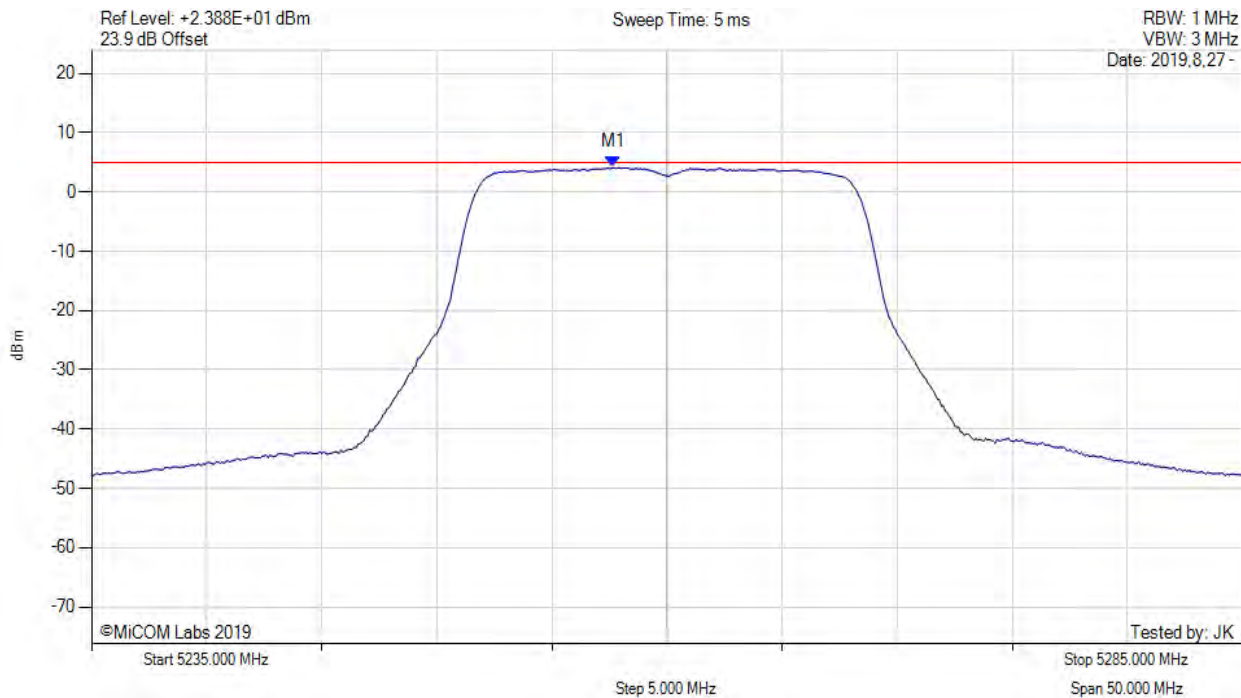
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5257.670 MHz : 4.117 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5260.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc
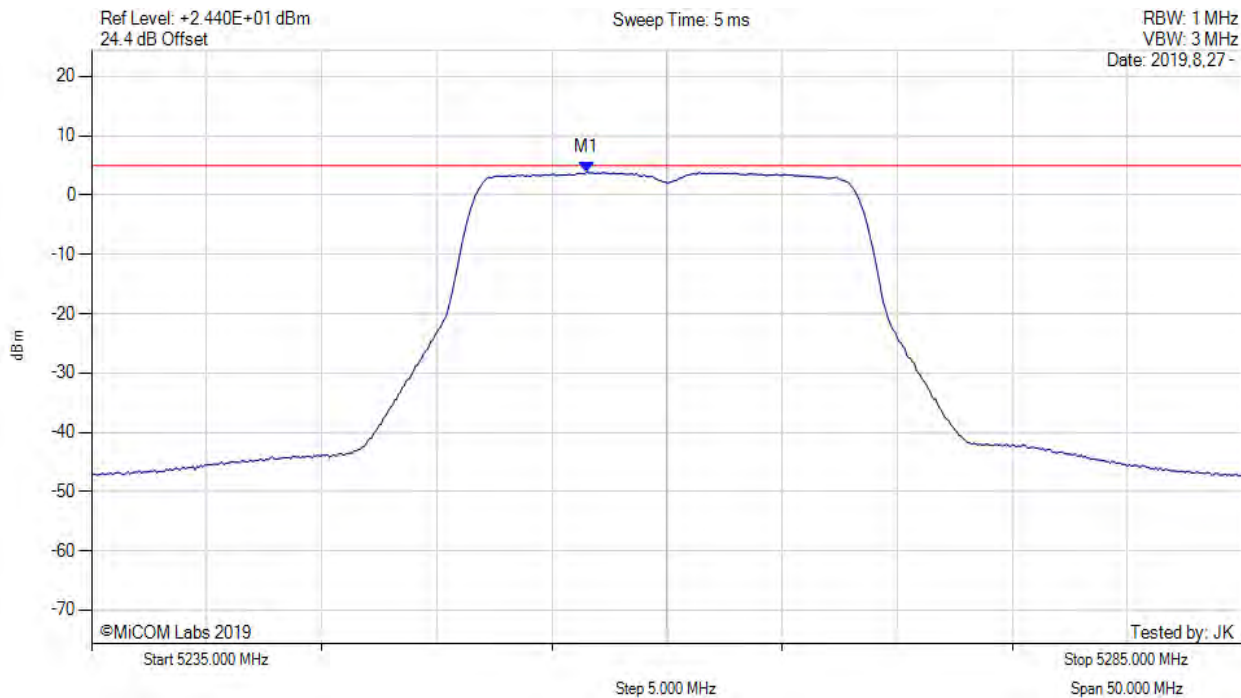
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5256.500 MHz : 3.901 dBm	Limit: ≤ 4.980 dBm

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5260.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

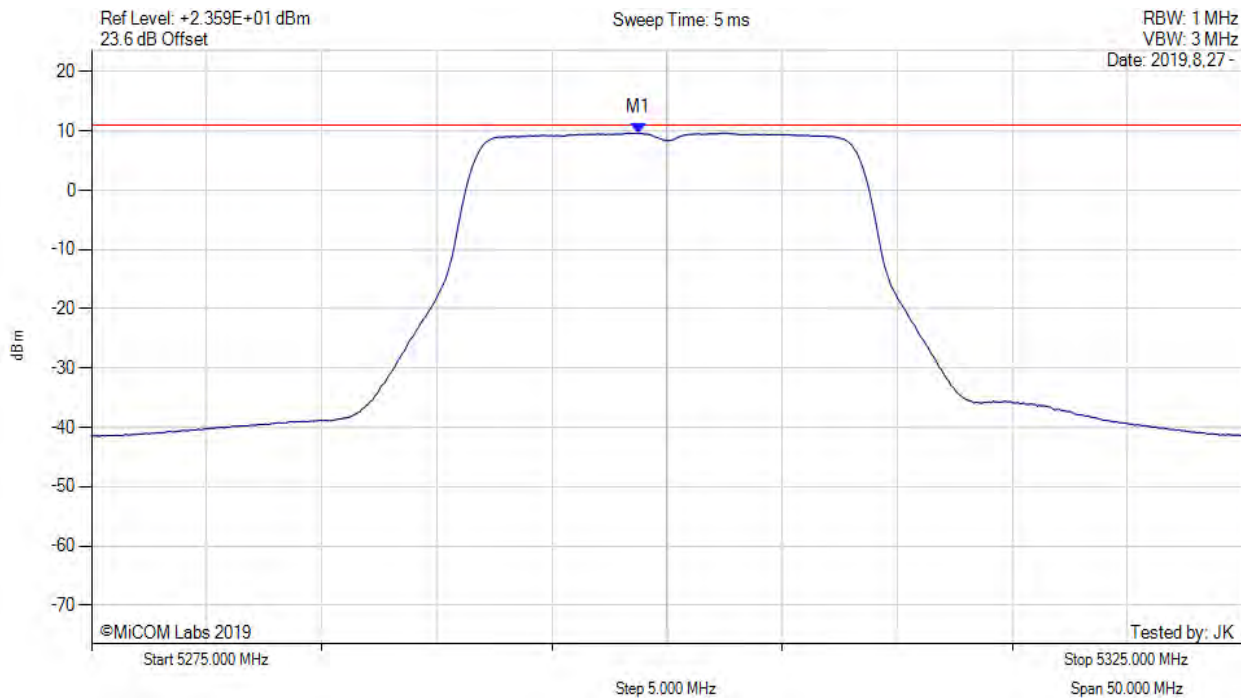Ref Level: +2.436E+01 dBm
24.4 dB Offset
Sweep Time: 5 ms
RBW: 1 MHz
VBW: 3 MHz
Date: 2019,8,27 -

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Tested by: JK

Start 5235.000 MHz
Stop 5285.000 MHz
Step 5.000 MHz
Span 50.000 MHz
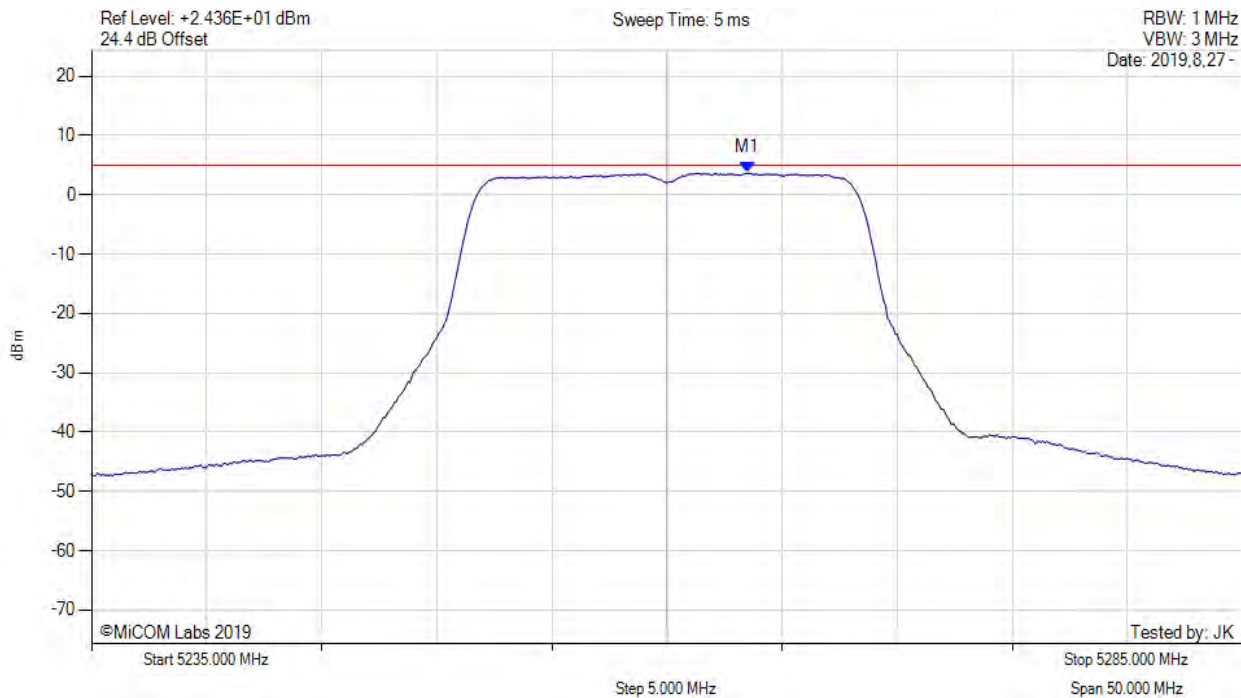
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5263.500 MHz : 3.662 dBm	Limit: ≤ 4.980 dBm

back to matrix

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POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5260.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

Ref Level: +2.343E+01 dBm
23.4 dB Offset

Sweep Time: 5 ms

RBW: 1 MHz
VBW: 3 MHz
Date: 2019,9,30 -

M1

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Tested by: JK

Start 5235.000 MHz

Stop 5285.000 MHz

Step 5.000 MHz

Span 50.000 MHz
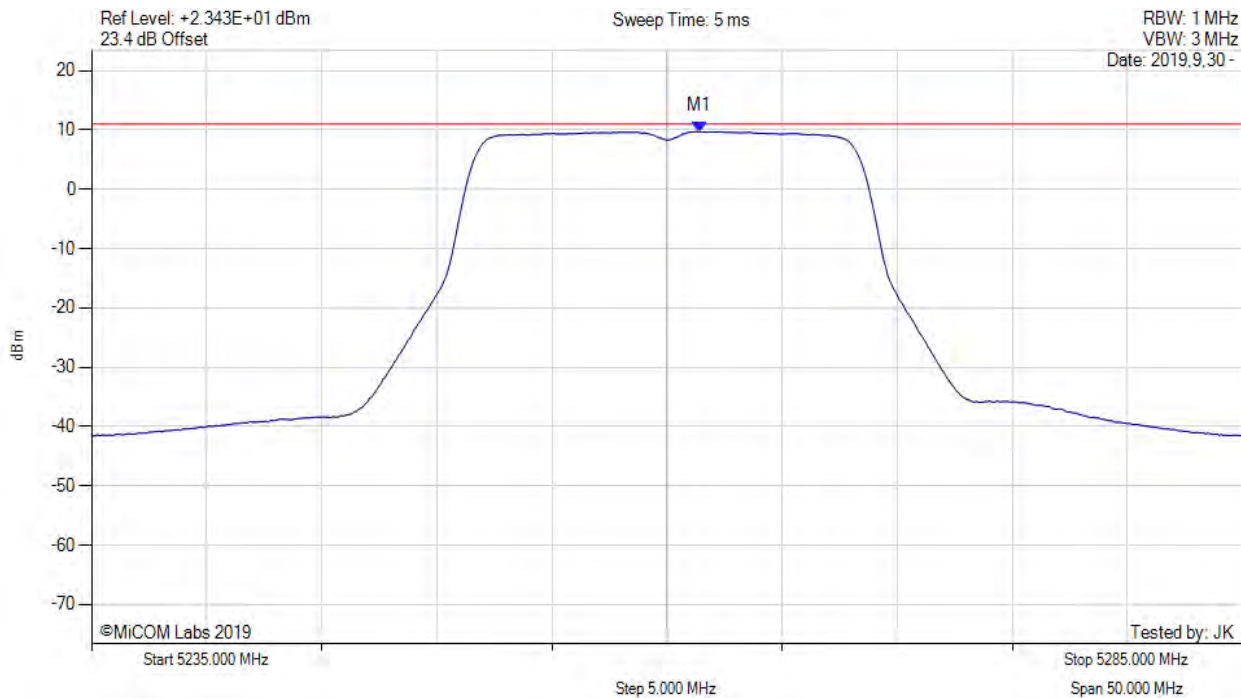
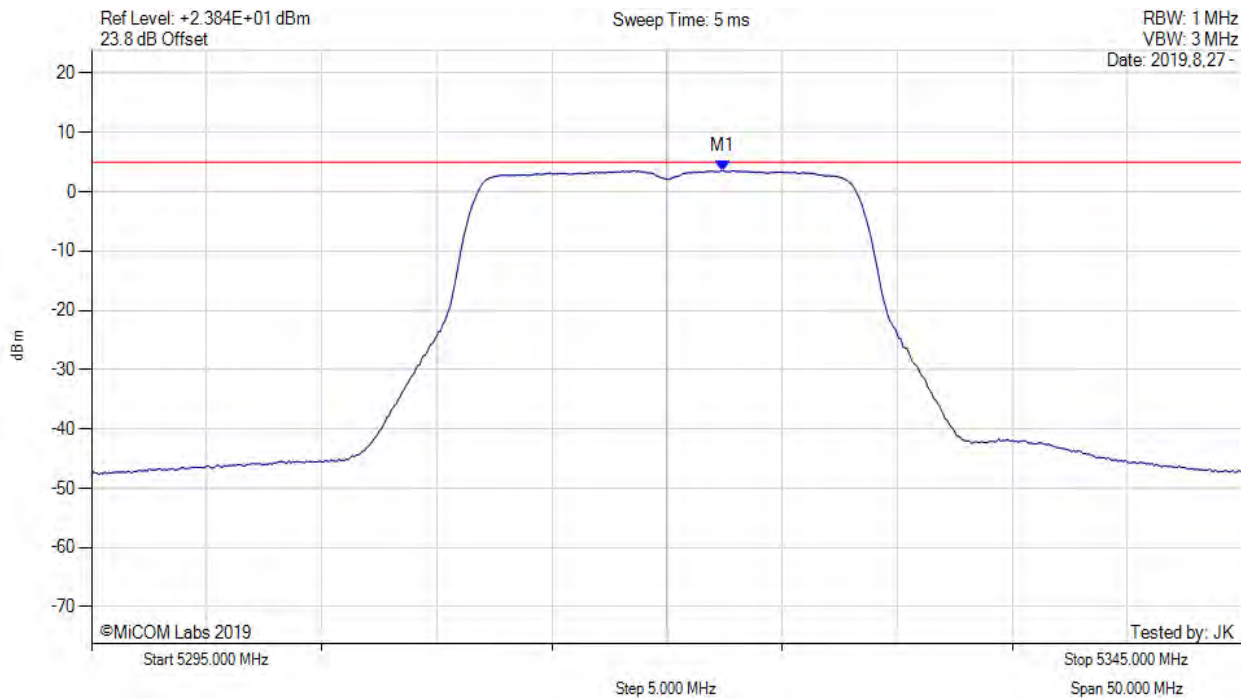| Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5261.400 MHz : 9.731 dBm M1 + DCCF : 5261.400 MHz : 9.819 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 11.0 dBm Margin: -1.2 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5300.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc
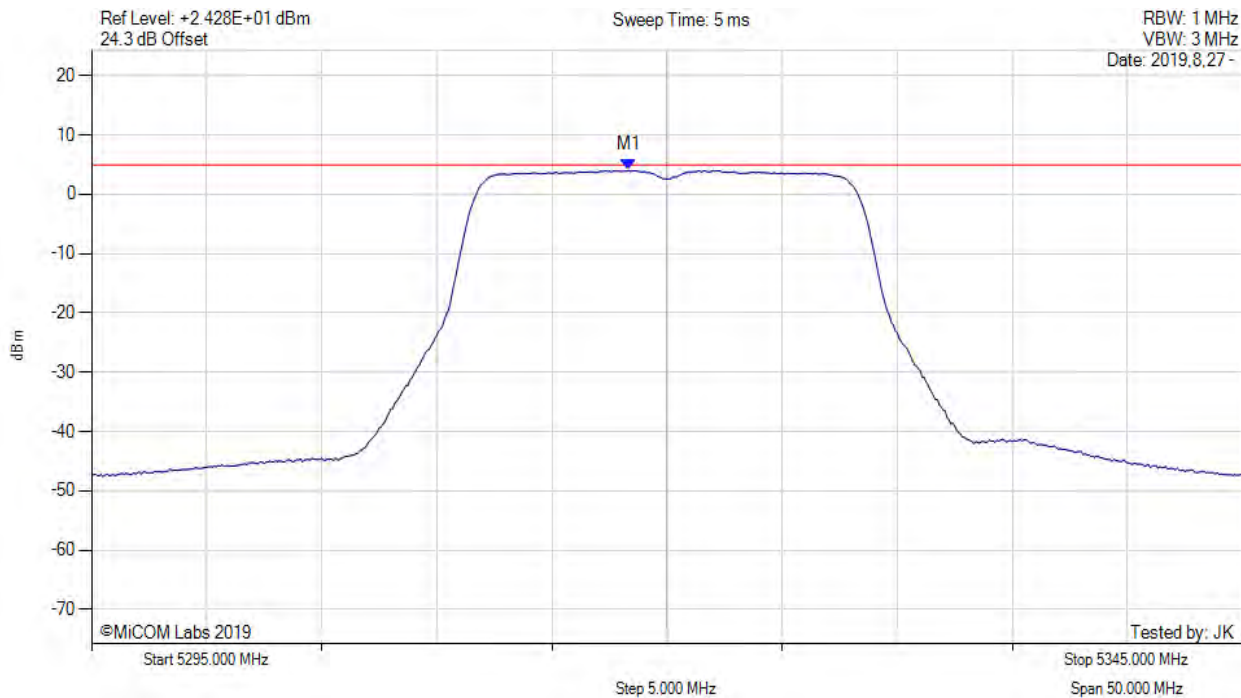

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5298.580 MHz : 3.828 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

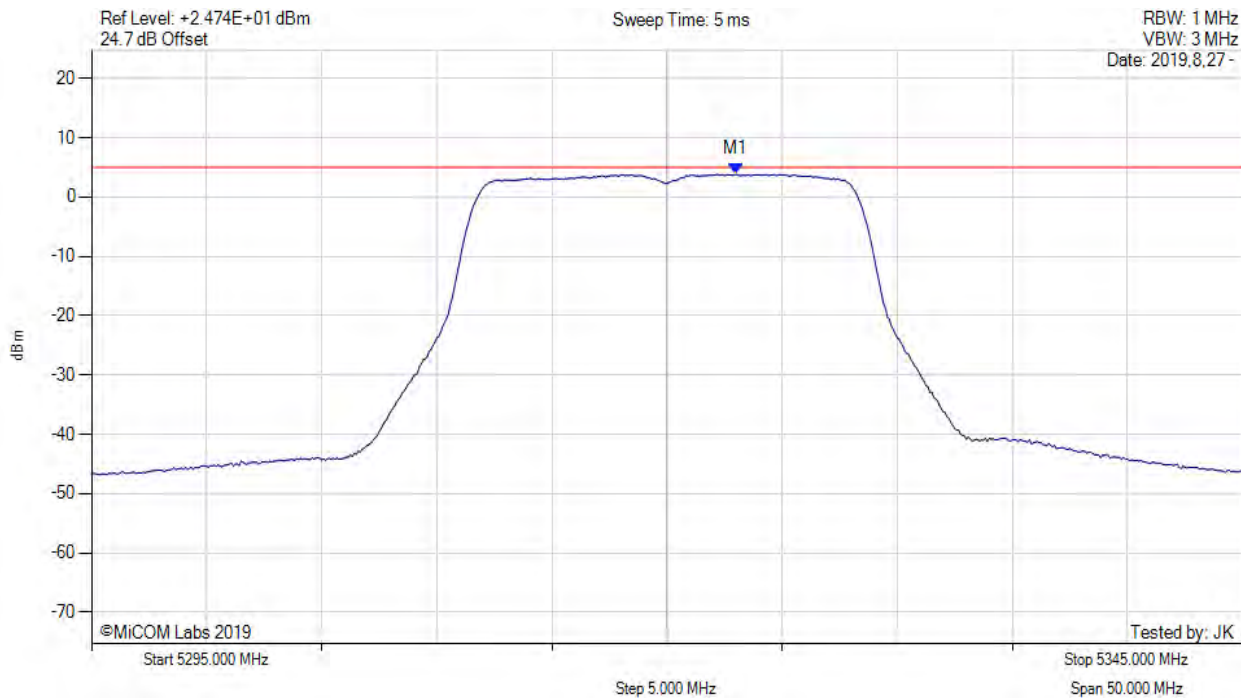Variant: 802.11a, Channel: 5300.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Ref Level: +2.398E+01 dBm
24.0 dB Offset
Sweep Time: 5 ms
RBW: 1 MHz
VBW: 3 MHz
Date: 2019,8,27 -

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Tested by: JK

Start 5275.000 MHz
Stop 5325.000 MHz
Step 5.000 MHz
Span 50.000 MHz

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5298.750 MHz : 4.002 dBm	Channel Frequency: 5300.00 MHz

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5300.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5302.580 MHz : 3.778 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

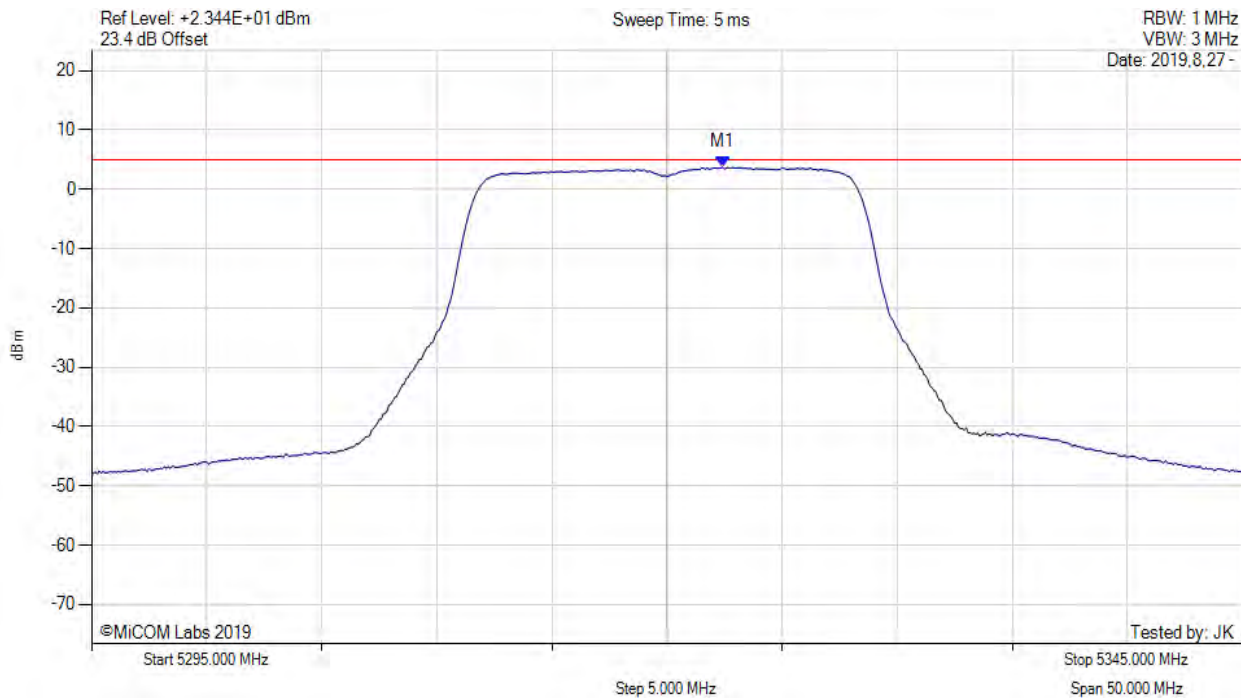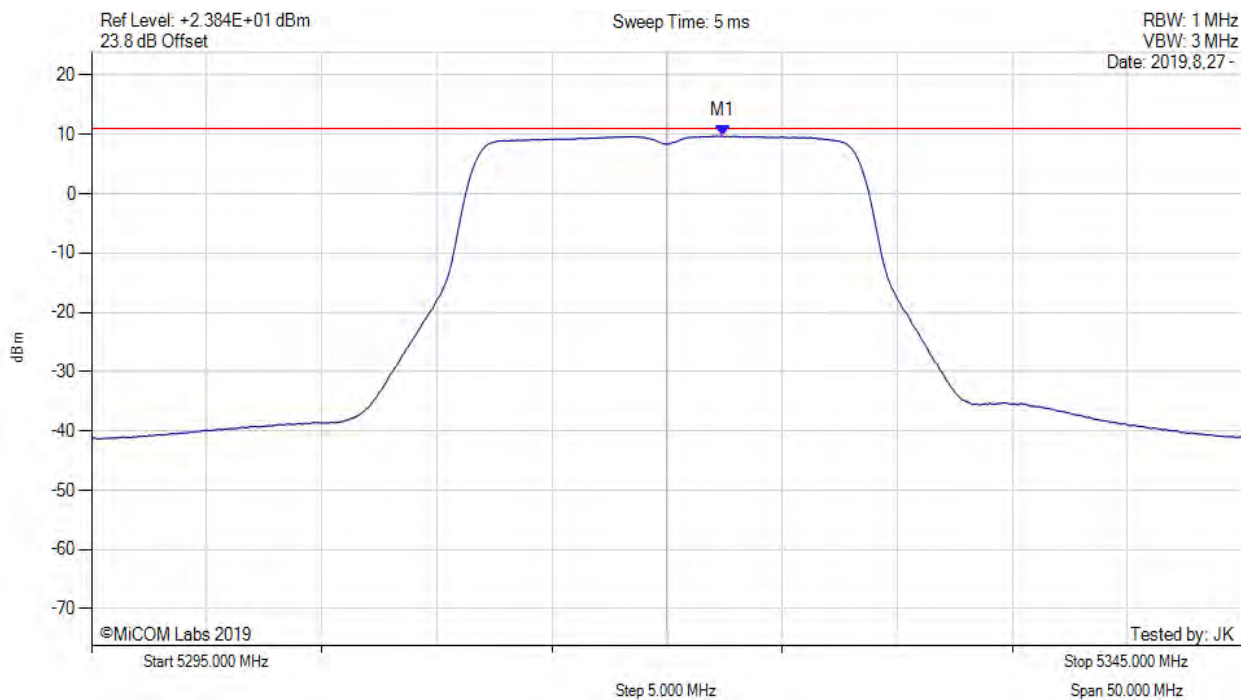Variant: 802.11a, Channel: 5300.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc
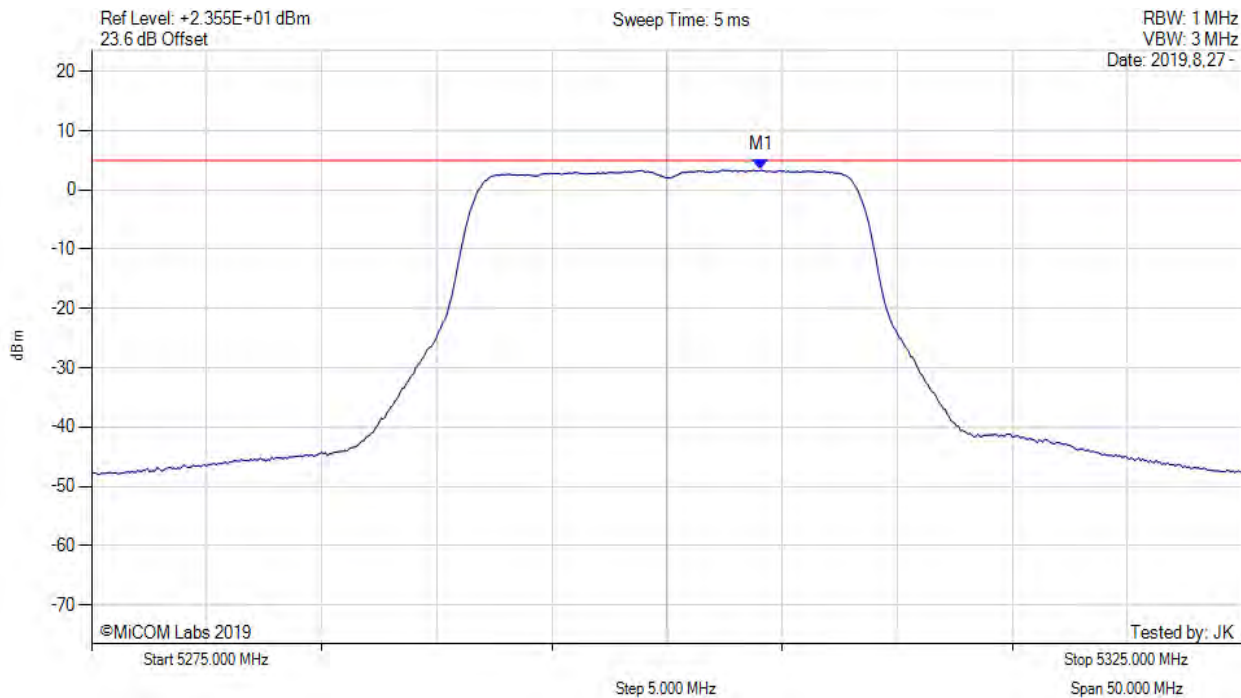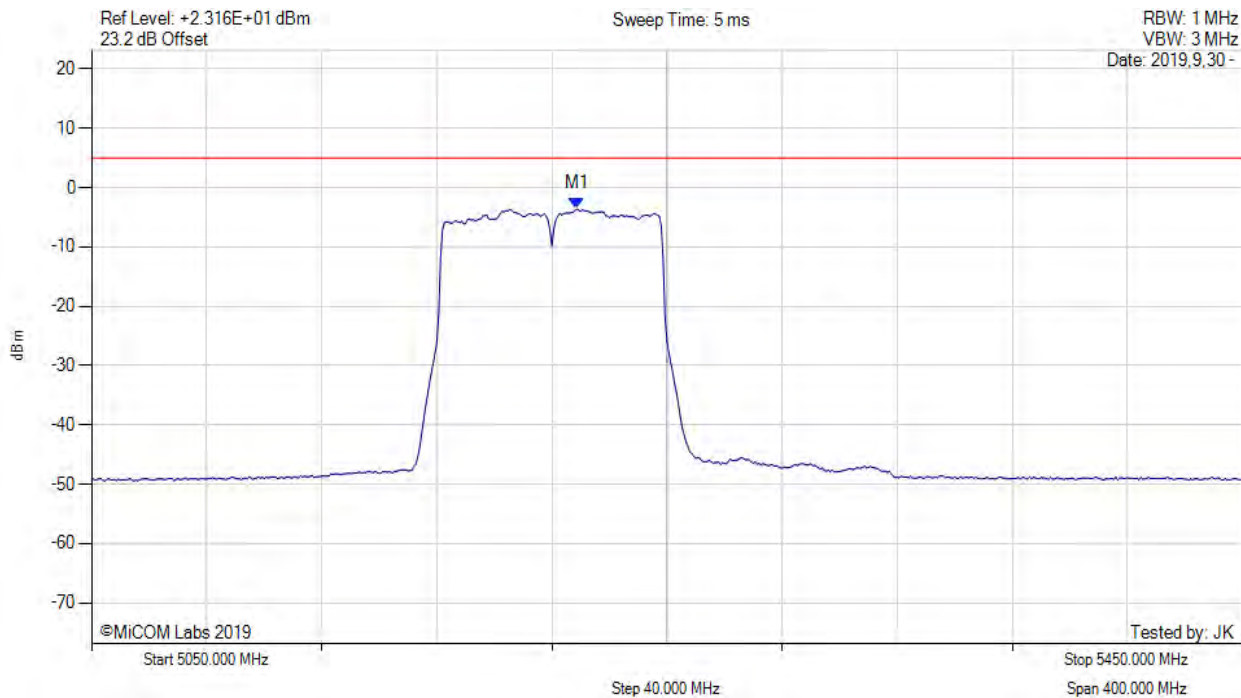

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5304.080 MHz : 3.367 dBm	Limit: ≤ 4.980 dBm

back to matrix

![MiCOM Labs]

Title:	Mikrotikls SIA (MikroTik) RB4011iGS+5HacQ2HnD-IN-US
To:	FCC CFR 47 Part 15 Subpart E 15.407
Serial #:	MIKO93-U2_Conducted Rev A

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5300.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

Ref Level: +2.359E+01 dBm
23.6 dB Offset
Sweep Time: 5 ms
RBW: 1 MHz
VBW: 3 MHz
Date: 2019,8,27 -

M1

©MiCOM Labs 2019
Tested by: JK

Start 5275.000 MHz
Stop 5325.000 MHz
Step 5.000 MHz
Span 50.000 MHz

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5298.800 MHz : 9.661 dBm M1 + DCCF : 5298.800 MHz : 9.749 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 11.0 dBm Margin: -1.3 dB

back to matrix

POWER SPECTRAL DENSITY

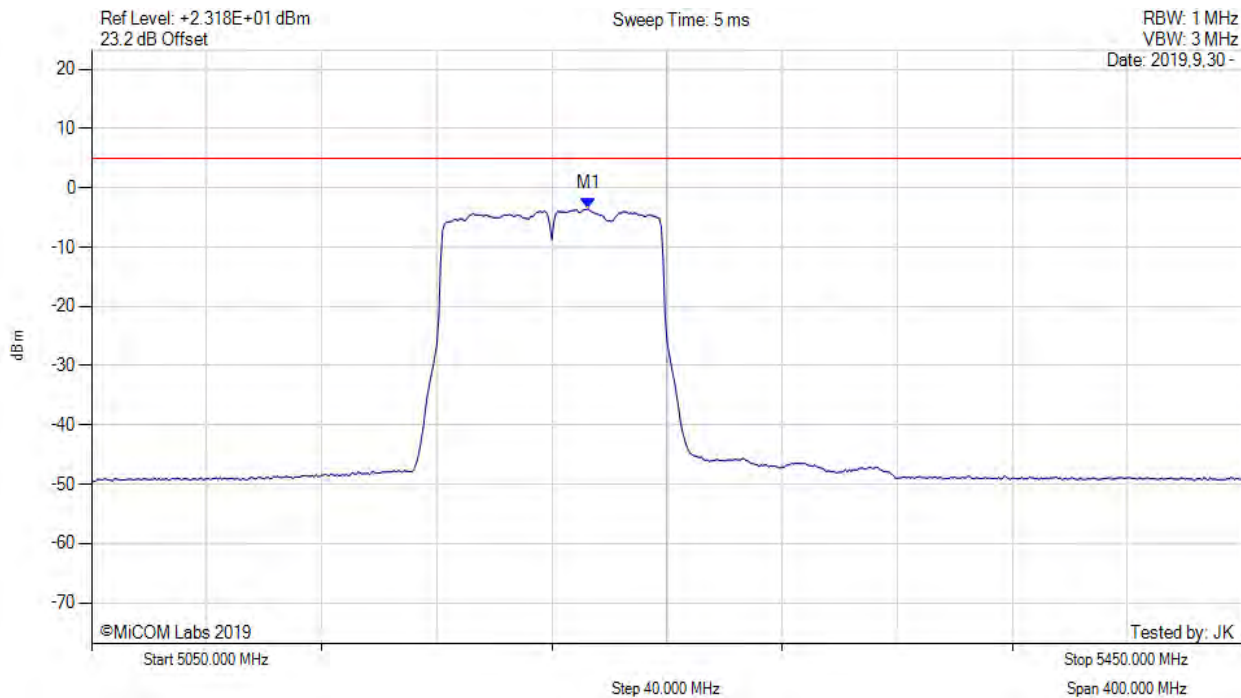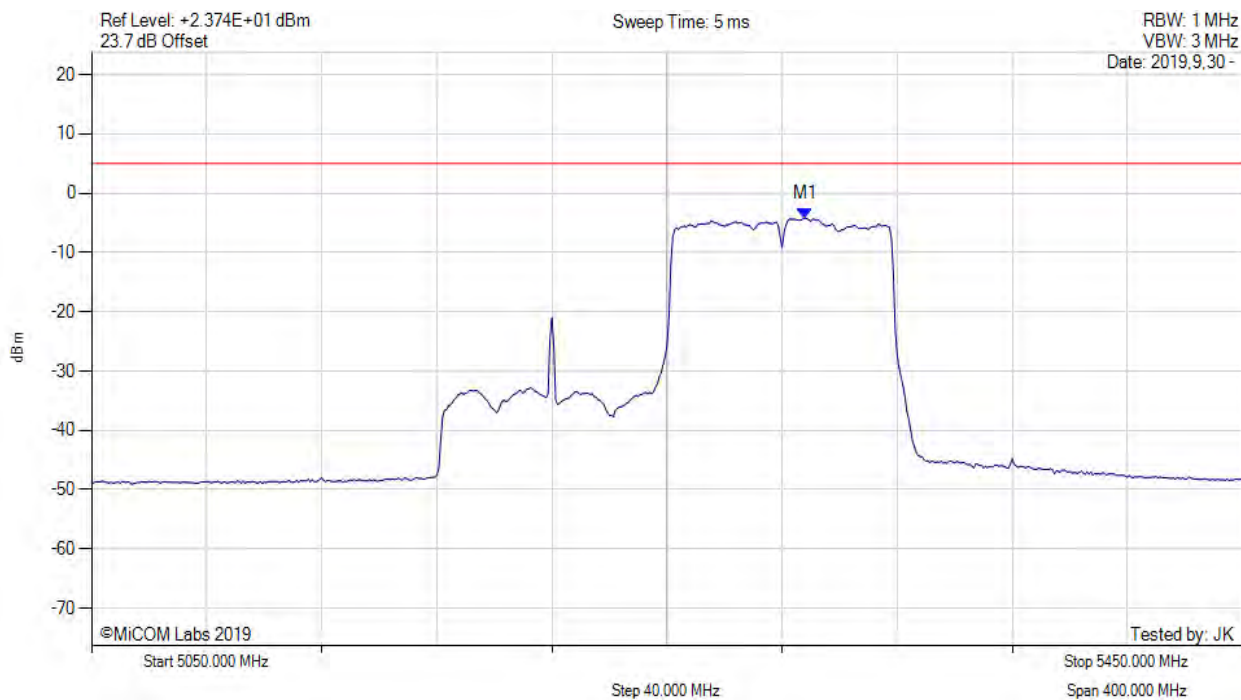Variant: 802.11a, Channel: 5320.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5322.420 MHz : 3.568 dBm	Limit: ≤ 4.980 dBm

back to matrix

Issue Date: 8th October 2019   **Page:** 137 of 242

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

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5320.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Ref Level: +2.428E+01 dBm
24.3 dB Offset

Sweep Time: 5 ms

RBW: 1 MHz
VBW: 3 MHz
Date: 2019,8,27 -

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Tested by: JK

Start 5295.000 MHz

Stop 5345.000 MHz

Step 5.000 MHz

Span 50.000 MHz

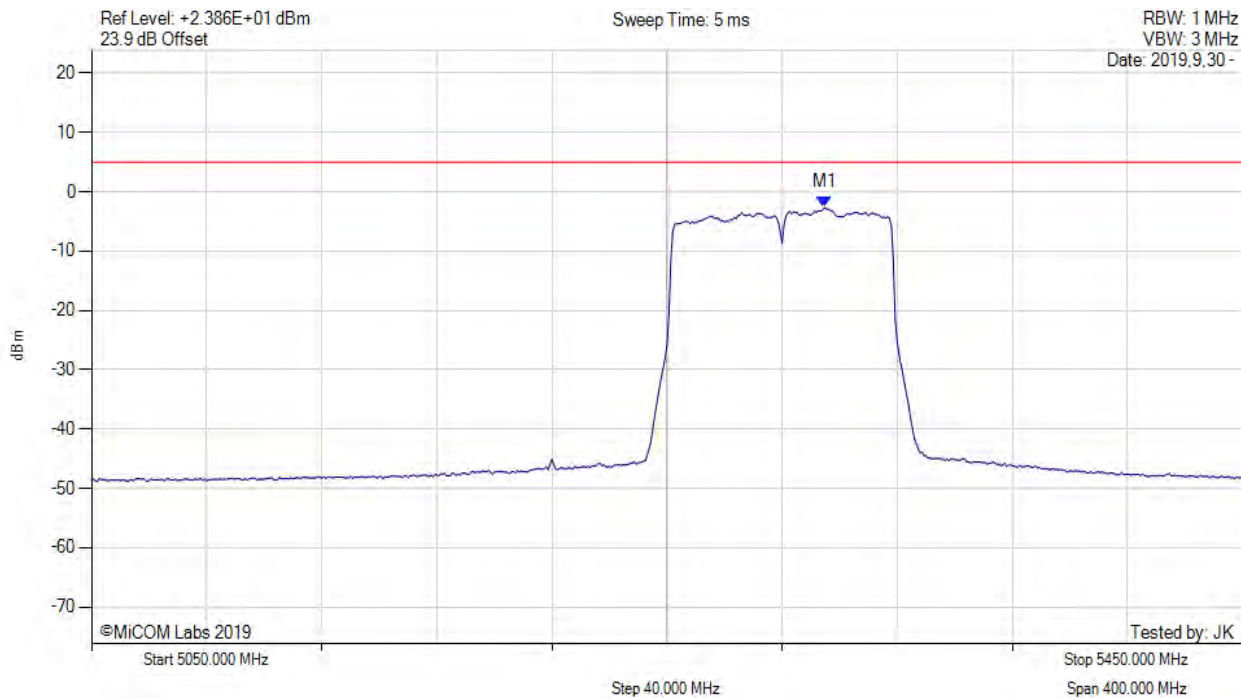| Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5318.330 MHz : 4.057 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

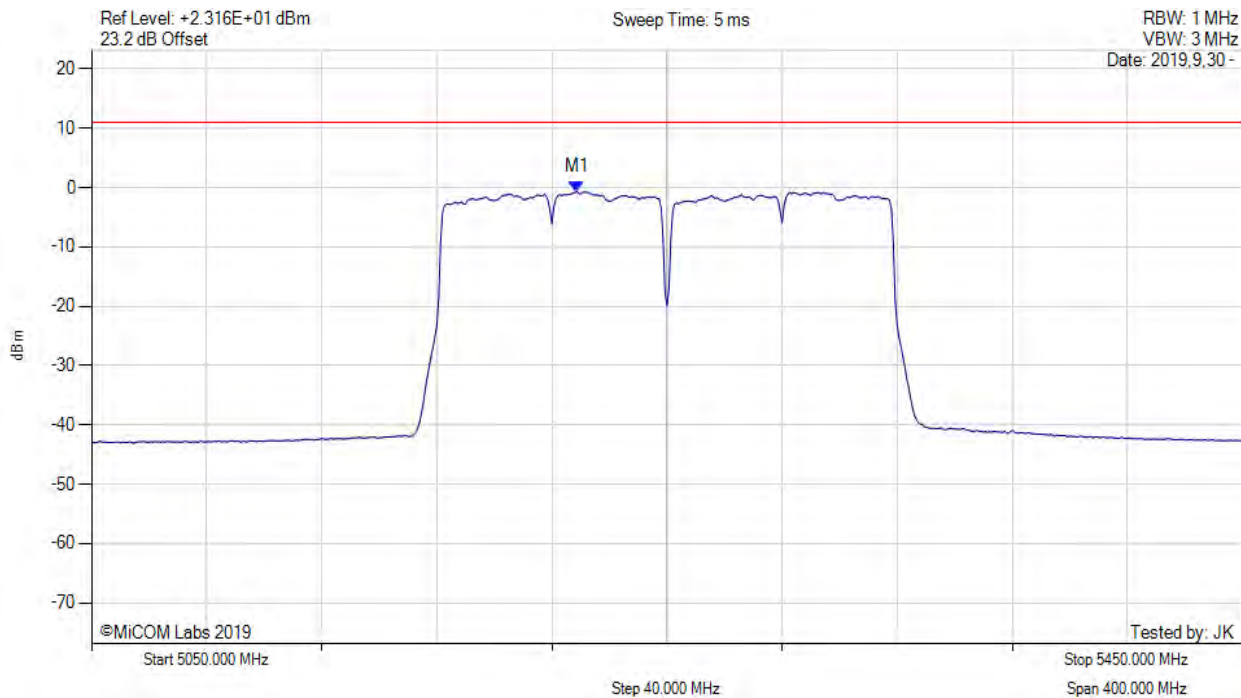Variant: 802.11a, Channel: 5320.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5323.000 MHz : 3.843 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5320.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5322.420 MHz : 3.724 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11a, Channel: 5320.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc
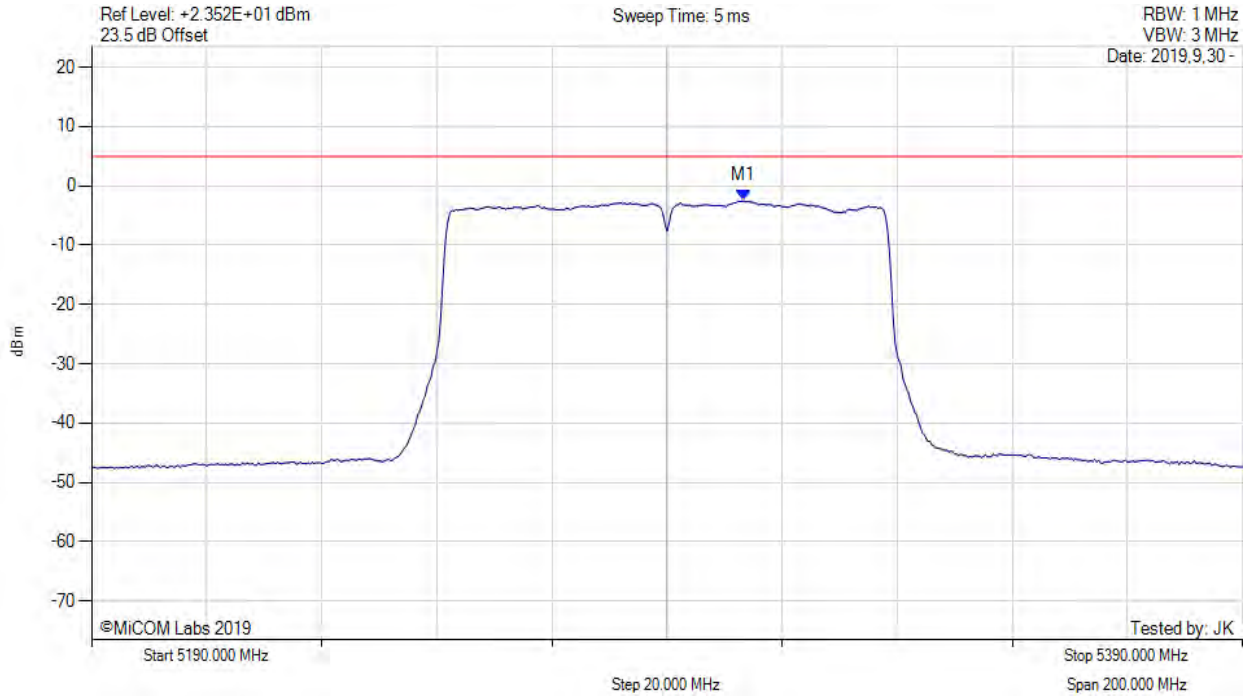

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5322.400 MHz : 9.712 dBm M1 + DCCF : 5322.400 MHz : 9.800 dBm Duty Cycle Correction Factor : +0.09 dB	Limit: ≤ 11.0 dBm Margin: -1.2 dB

back to matrix

POWER SPECTRAL DENSITY

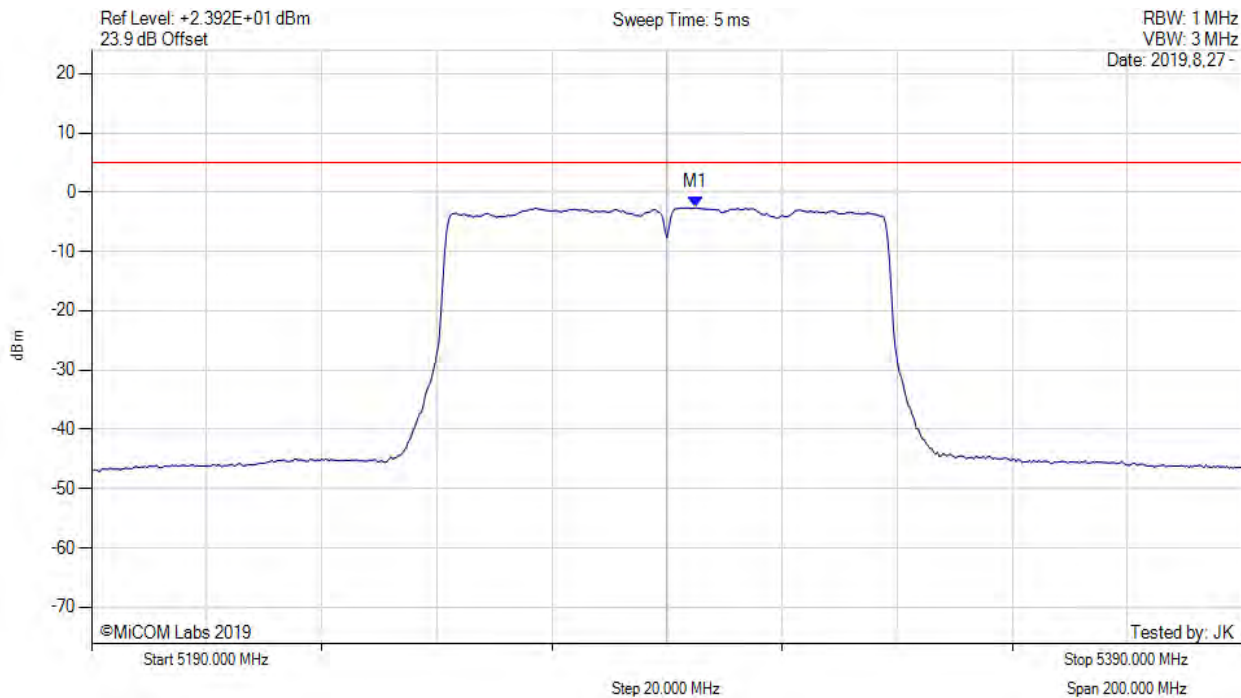Variant: 802.11ac-160, Channel: 5250.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5218.700 MHz : -3.607 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

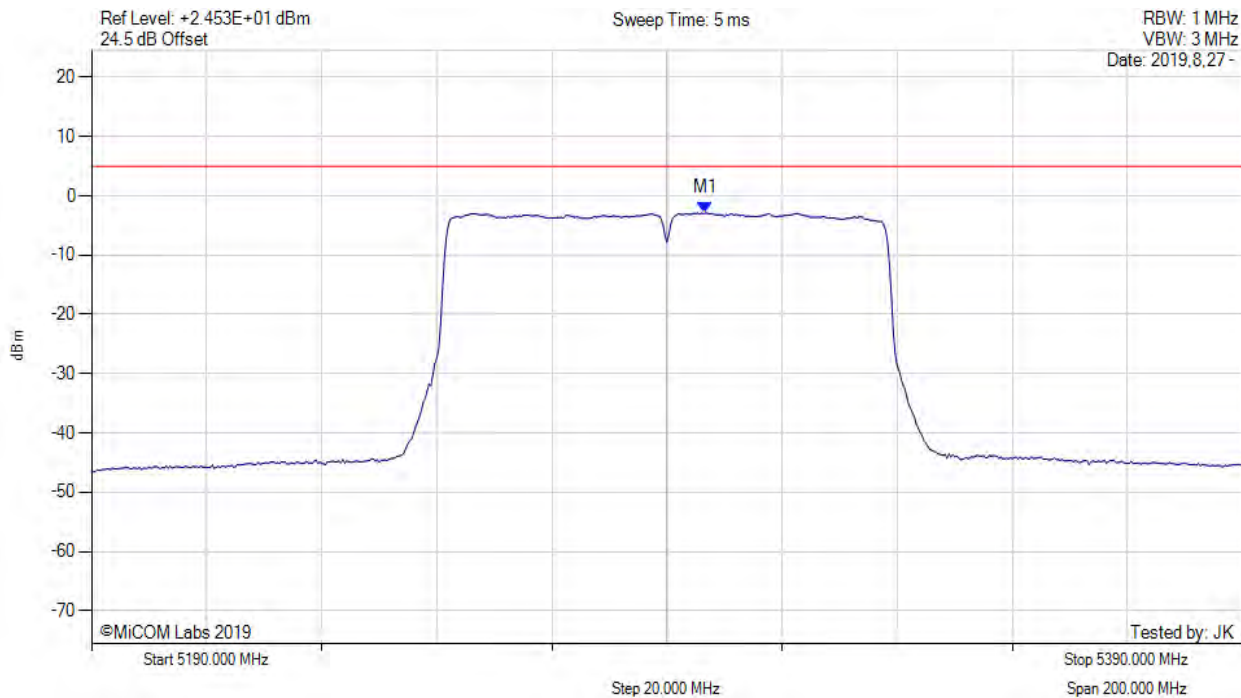Variant: 802.11ac-160, Channel: 5250.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Ref Level: +2.318E+01 dBm
23.2 dB Offset
Sweep Time: 5 ms
RBW: 1 MHz
VBW: 3 MHz
Date: 2019,9,30 -

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Tested by: JK

Start 5050.000 MHz
Stop 5450.000 MHz
Step 40.000 MHz
Span 400.000 MHz

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5222.700 MHz : -3.542 dBm	Limit: ≤ 4.980 dBm

back to matrix

Issue Date: 8th October 2019   Page: 143 of 242

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POWER SPECTRAL DENSITY

Variant: 802.11ac-160, Channel: 5250.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5298.000 MHz : -4.235 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

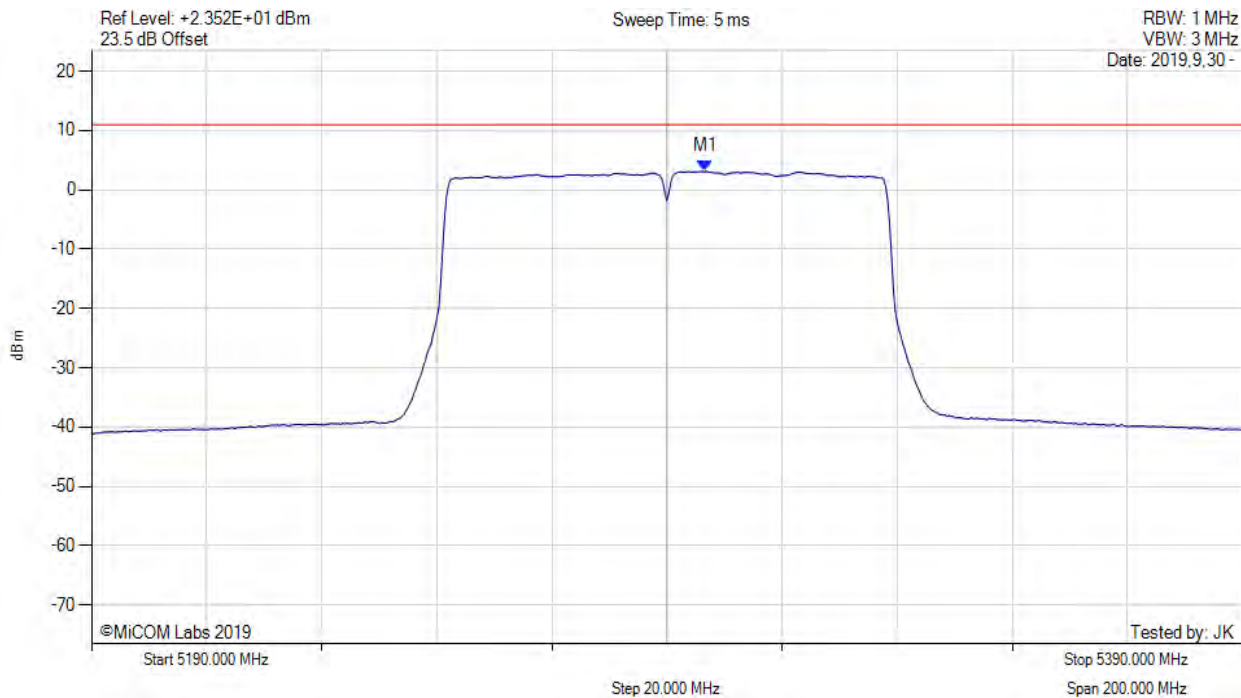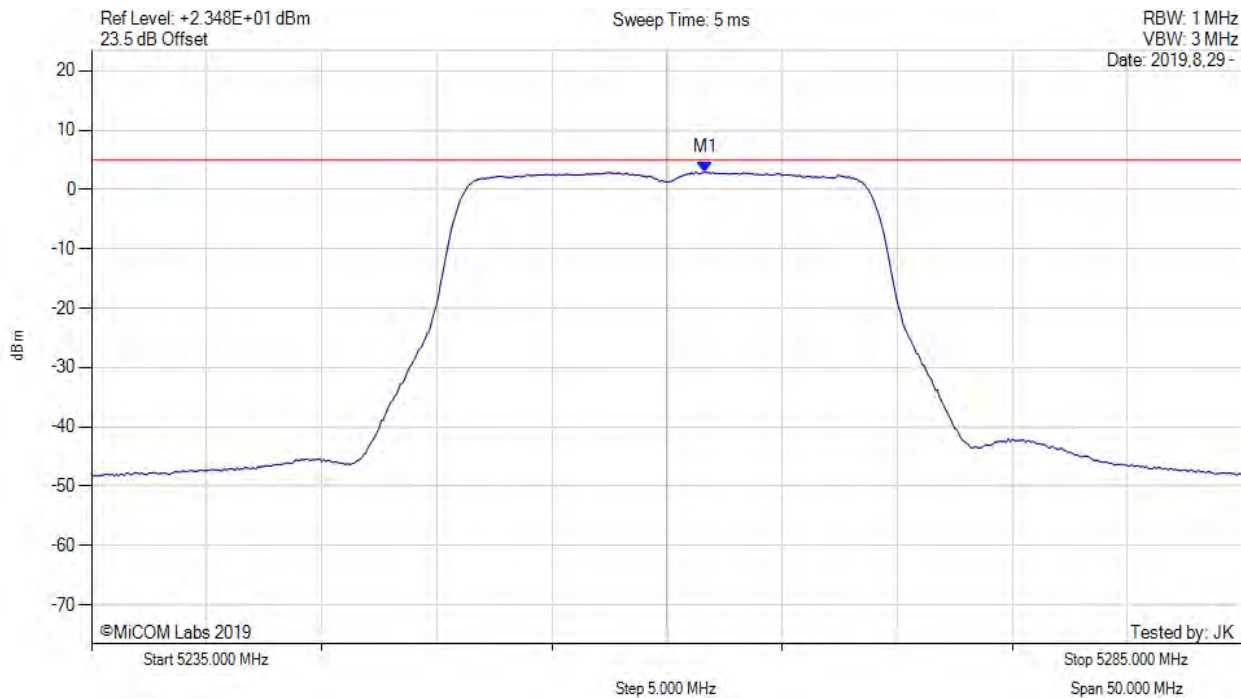Variant: 802.11ac-160, Channel: 5250.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

Ref Level: +2.386E+01 dBm
23.9 dB Offset

Sweep Time: 5 ms

RBW: 1 MHz
VBW: 3 MHz
Date: 2019,9,30 -

M1

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Tested by: JK

Start 5050.000 MHz

Stop 5450.000 MHz

Step 40.000 MHz

Span 400.000 MHz

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5304.700 MHz : -2.676 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-160, Channel: 5250.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

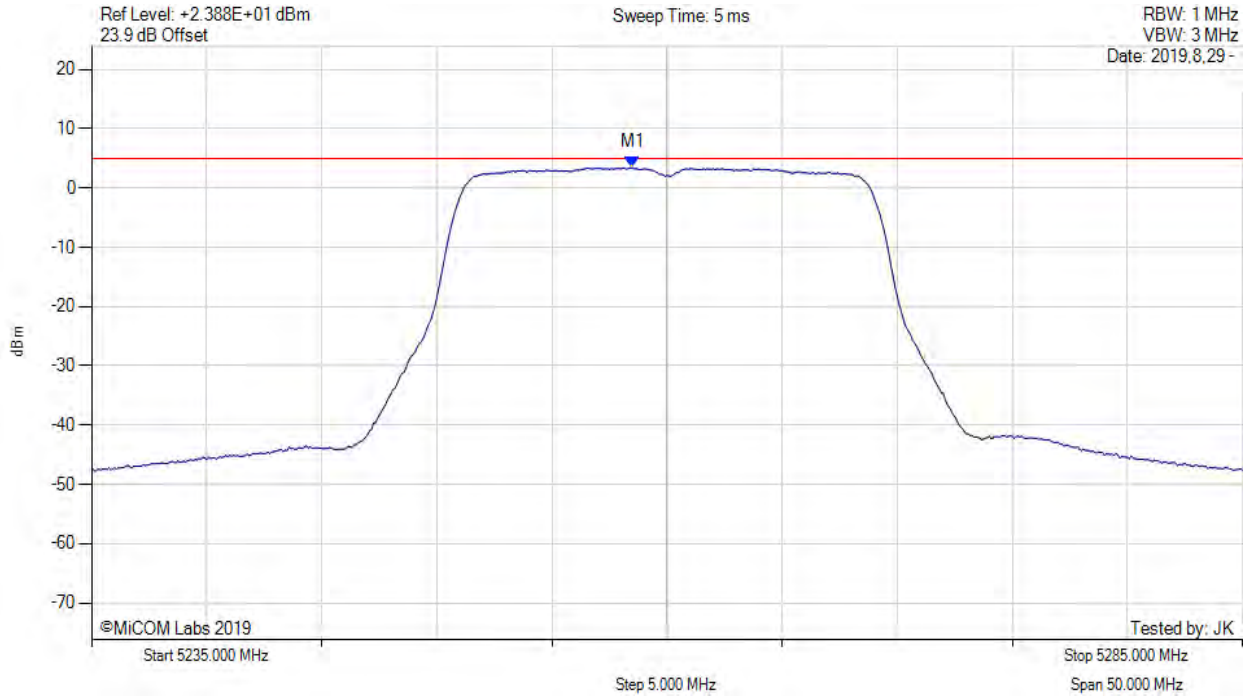| Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER	M1 : 5218.700 MHz : -0.658 dBm	Limit: ≤ 11.0 dBm
Sweep Count = +100	M1 + DCCF : 5218.700 MHz : -0.570 dBm	Margin: -11.6 dB
RF Atten (dB) = 20	Duty Cycle Correction Factor : +0.09 dB	
Trace Mode = VIEW		

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5290.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5303.300 MHz : -2.545 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

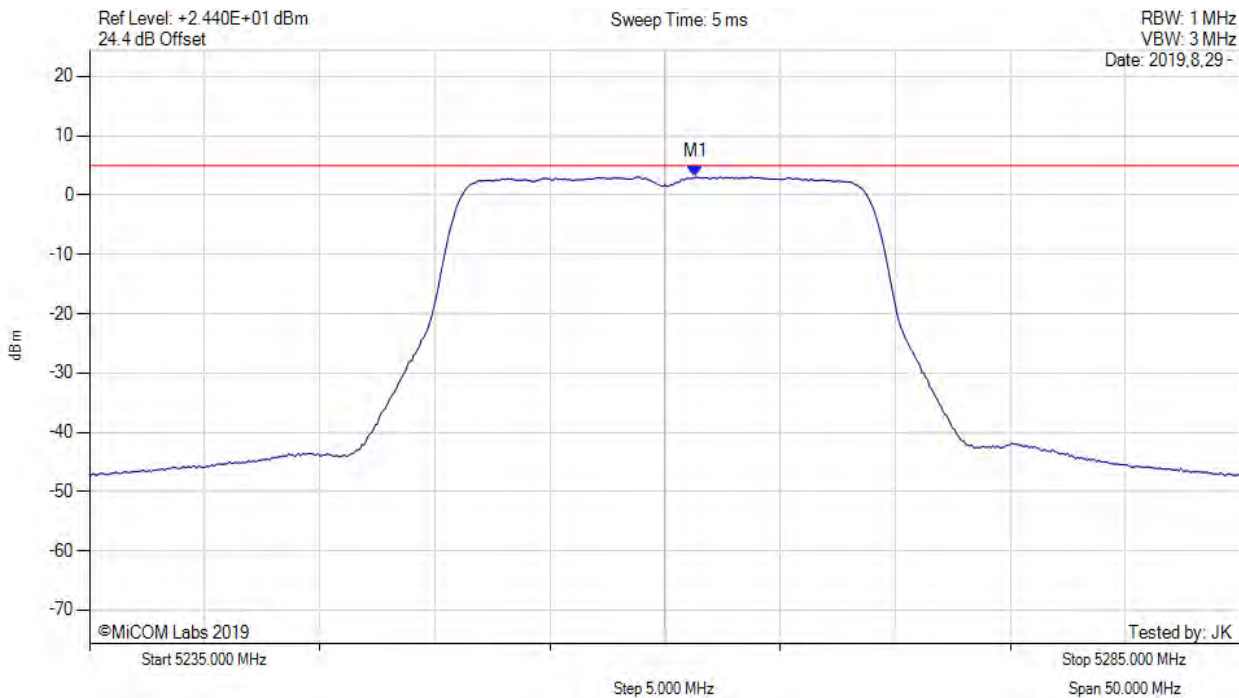Variant: 802.11ac-80, Channel: 5290.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5295.000 MHz : -2.615 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

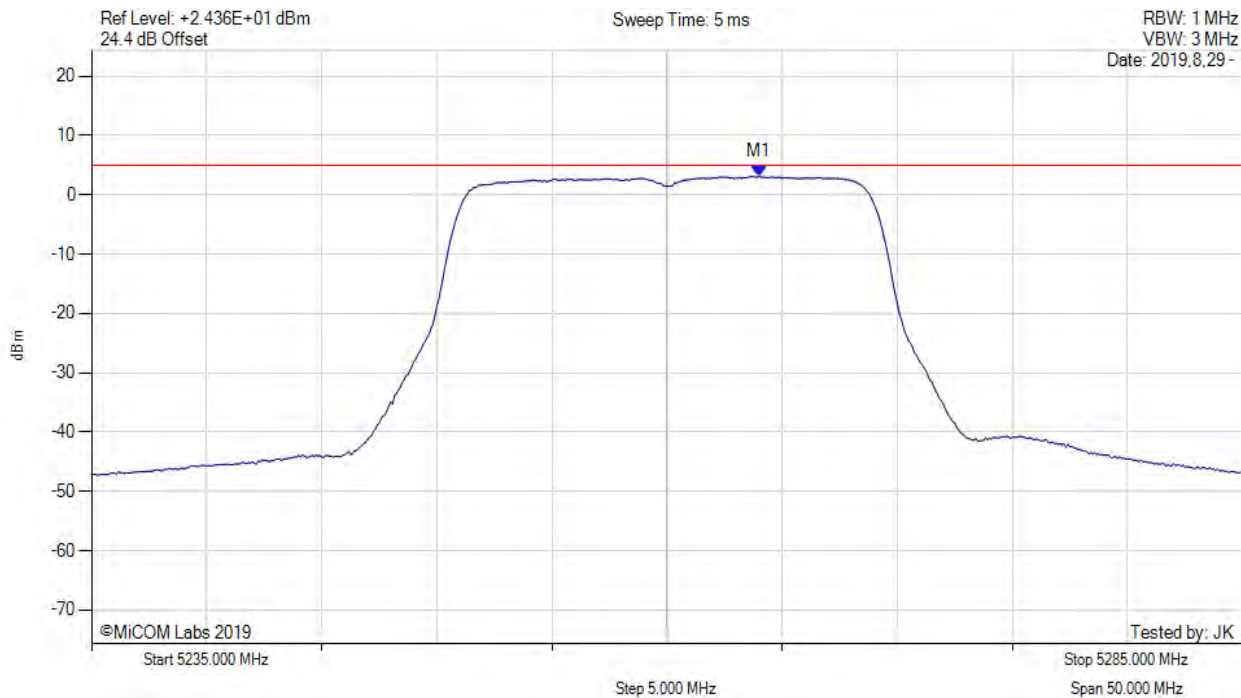Variant: 802.11ac-80, Channel: 5290.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5296.700 MHz : -2.894 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

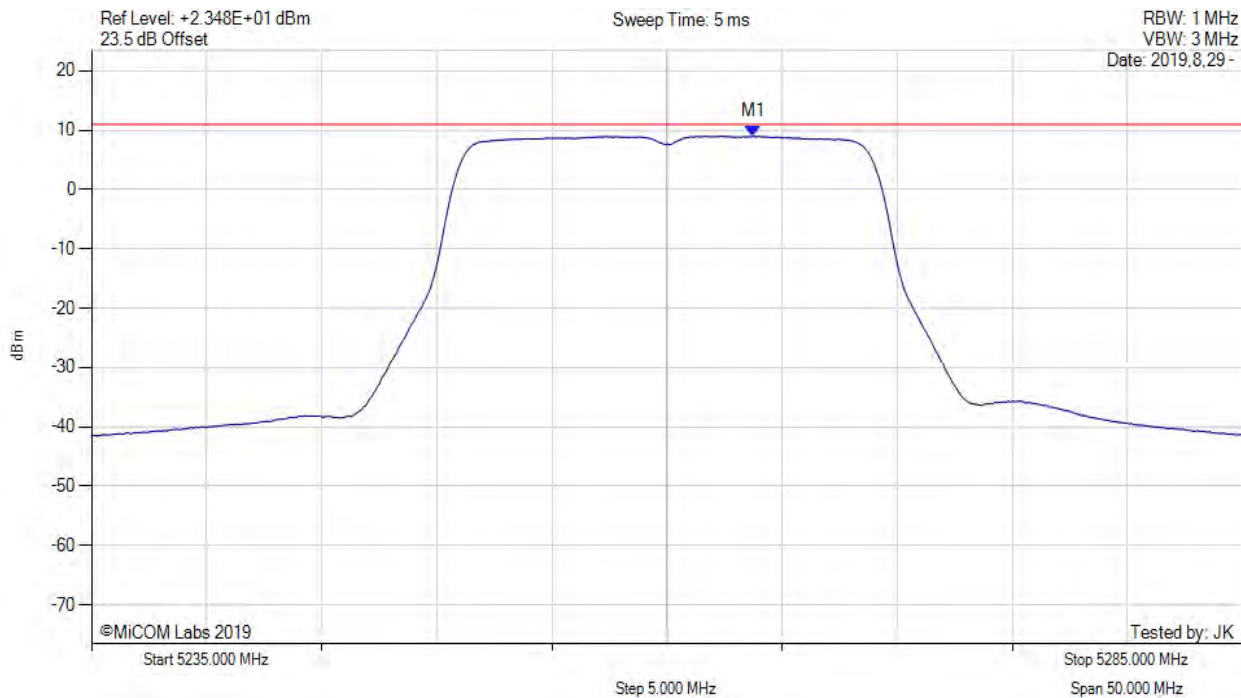Variant: 802.11ac-80, Channel: 5290.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc
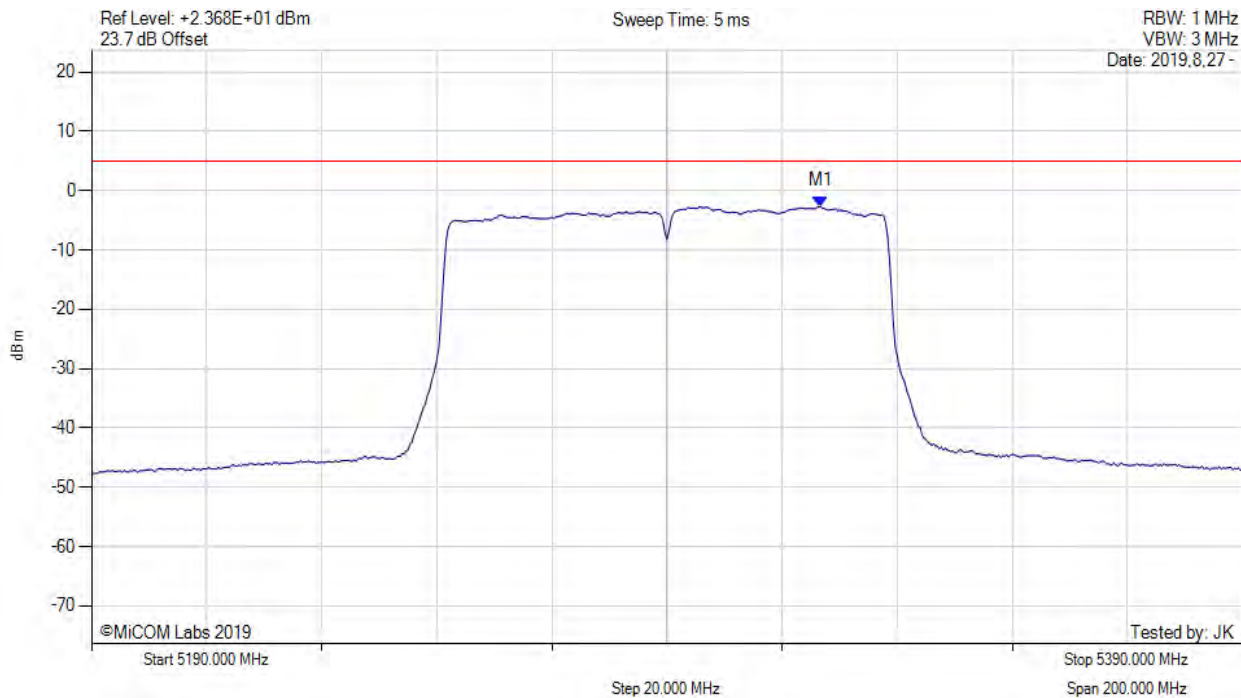
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5316.700 MHz : -2.655 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

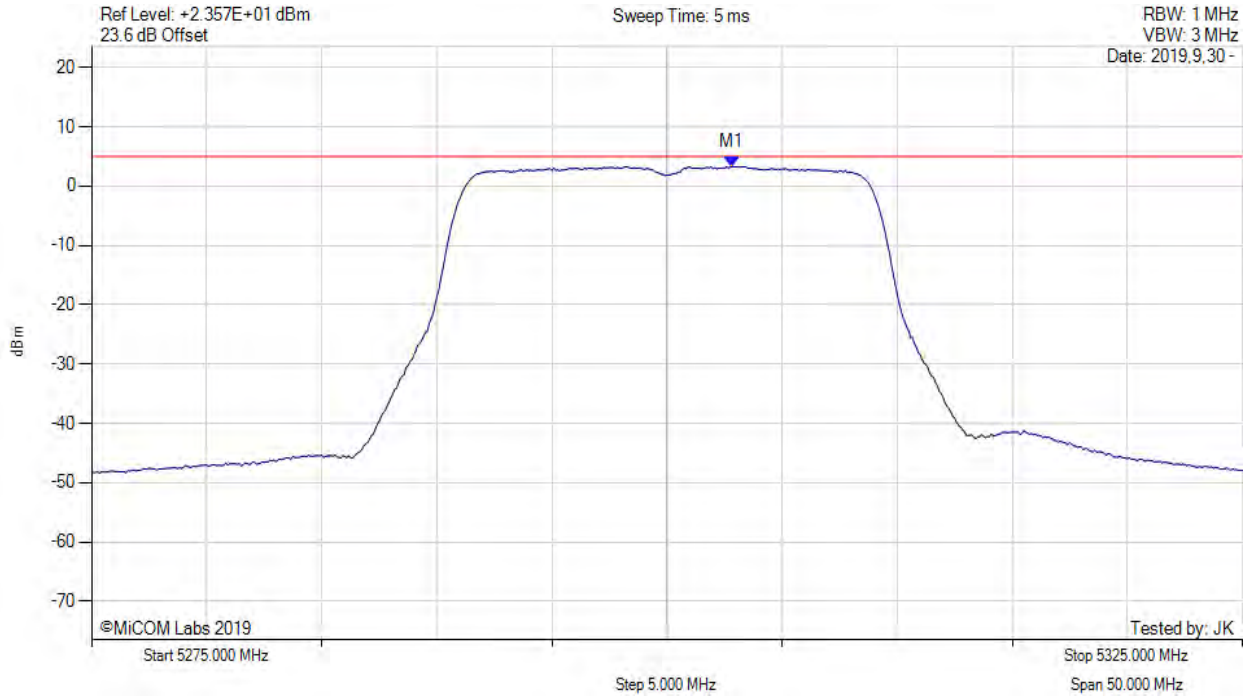### Variant: 802.11ac-80, Channel: 5290.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

Ref Level: +2.352E+01 dBm
23.5 dB Offset

Sweep Time: 5 ms

RBW: 1 MHz
VBW: 3 MHz
Date: 2019,9,30 -

Start 5190.000 MHz

Step 20.000 MHz

Stop 5390.000 MHz

Span 200.000 MHz

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Tested by: JK

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5296.700 MHz : 3.085 dBm M1 + DCCF : 5296.700 MHz : 4.452 dBm Duty Cycle Correction Factor : +1.37 dB	Limit: ≤ 11.0 dBm Margin: -6.6 dB

back to matrix

POWER SPECTRAL DENSITY

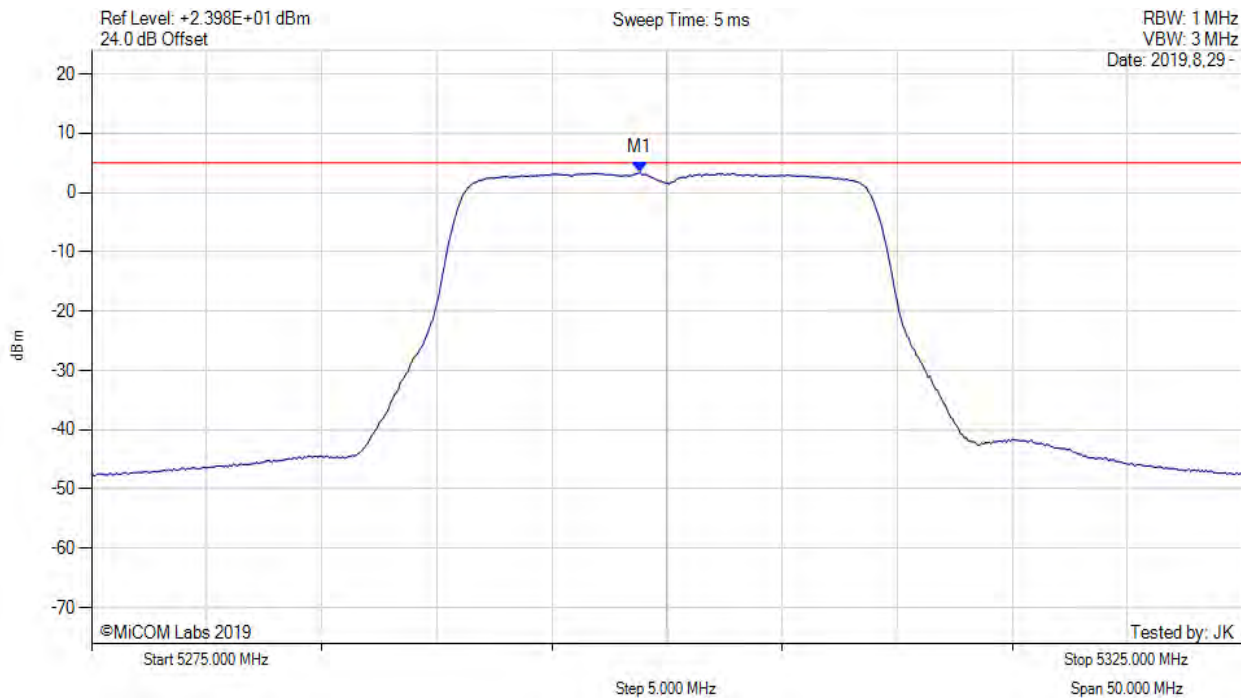Variant: 802.11n HT-20, Channel: 5260.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5261.670 MHz : 2.963 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5260.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5258.500 MHz : 3.425 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

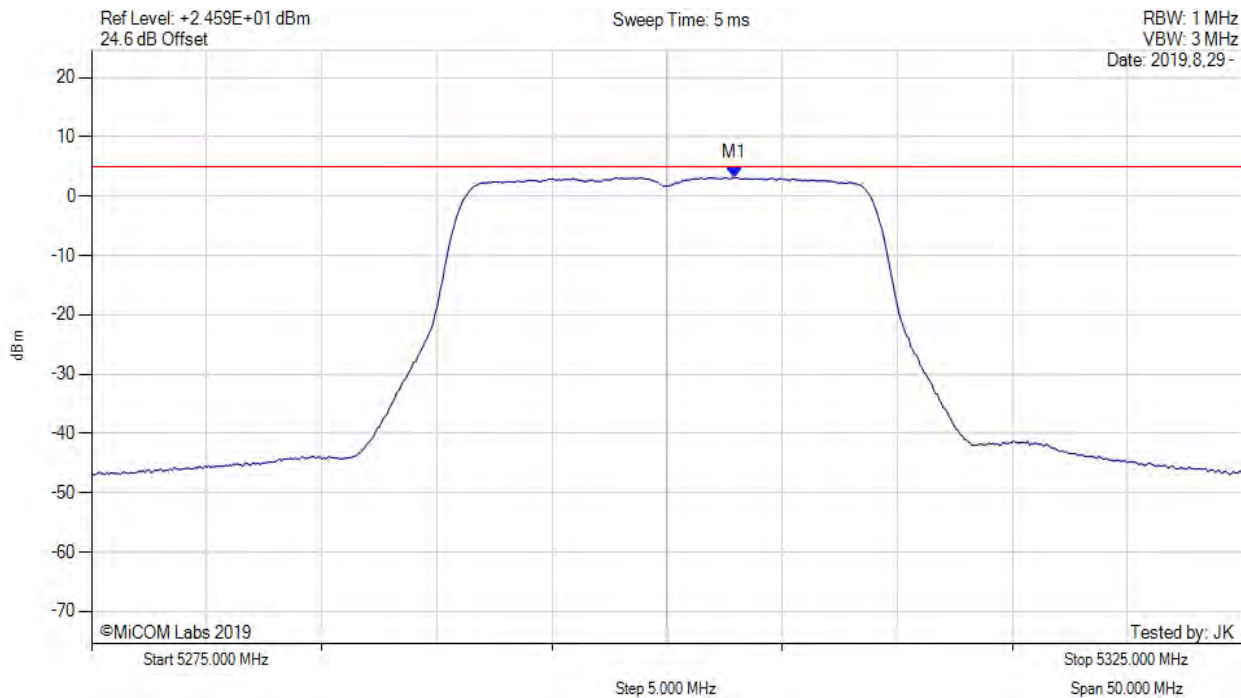Variant: 802.11n HT-20, Channel: 5260.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

Ref Level: +2.440E+01 dBm
24.4 dB Offset

Sweep Time: 5 ms

RBW: 1 MHz
VBW: 3 MHz
Date: 2019,8,29 -

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Tested by: JK

Start 5235.000 MHz

Stop 5285.000 MHz

Step 5.000 MHz

Span 50.000 MHz

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5261.330 MHz : 3.059 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5260.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

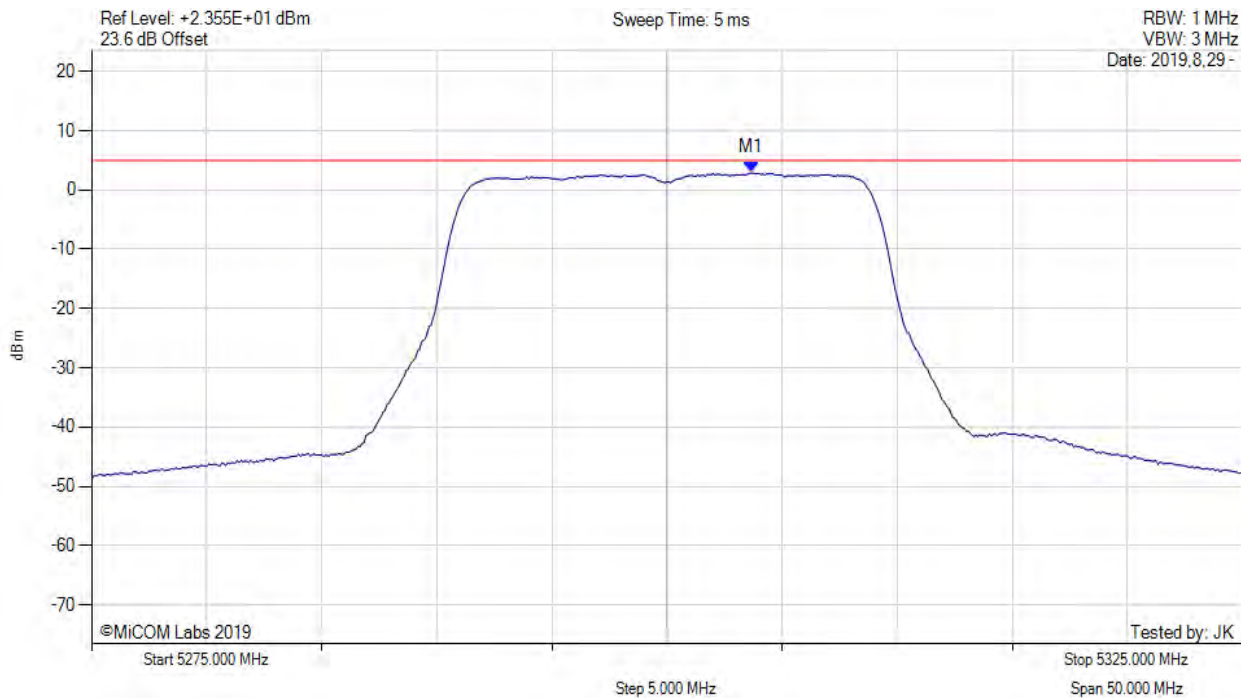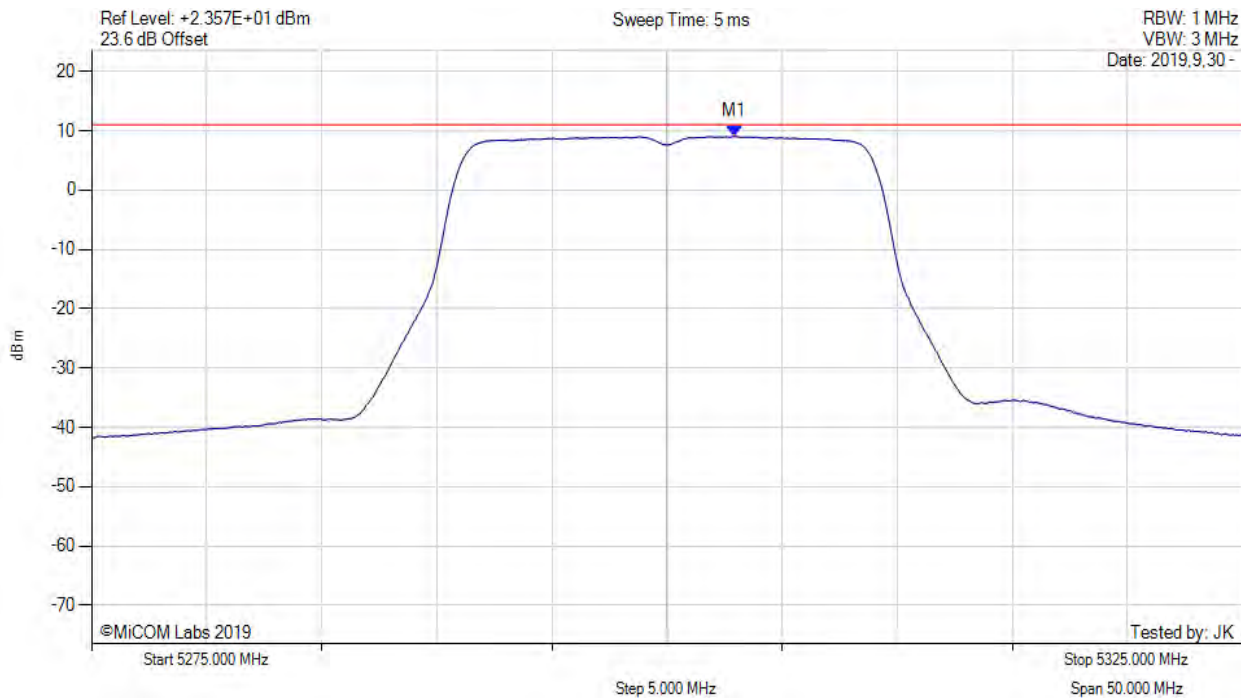| Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5264.000 MHz : 3.117 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

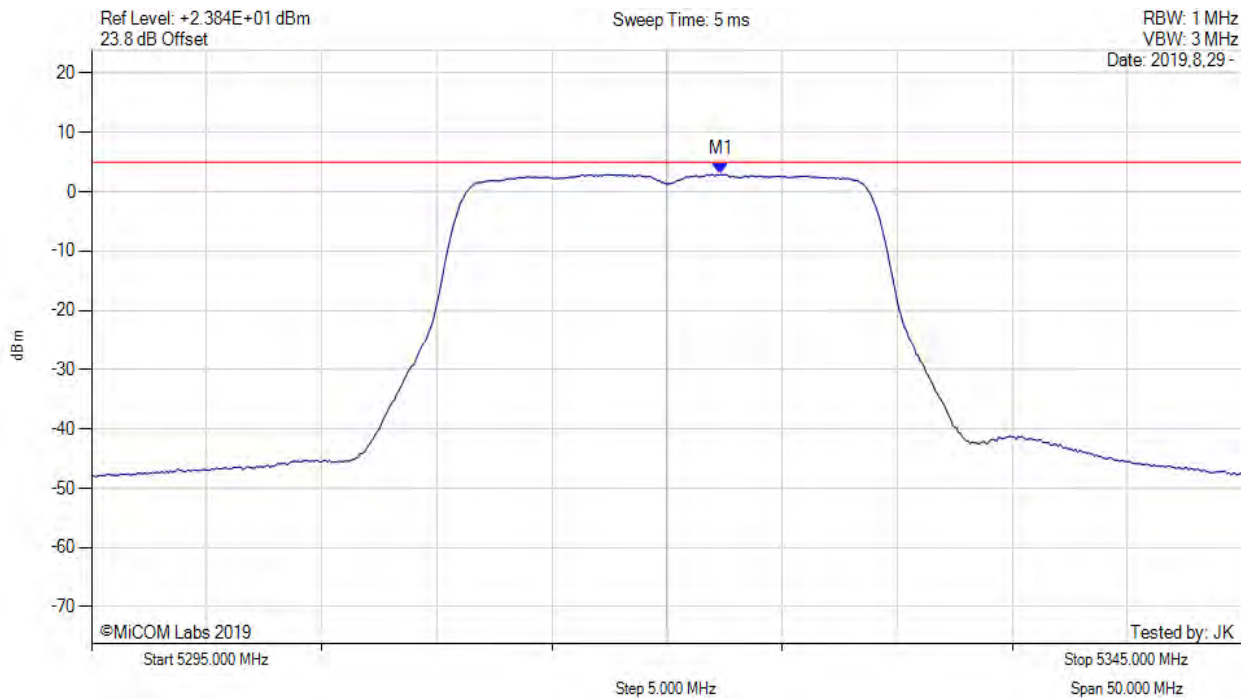Variant: 802.11n HT-20, Channel: 5260.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5263.800 MHz : 9.017 dBm M1 + DCCF : 5263.800 MHz : 9.194 dBm Duty Cycle Correction Factor : +0.18 dB	Limit: ≤ 11.0 dBm Margin: -1.8 dB

back to matrix

POWER SPECTRAL DENSITY

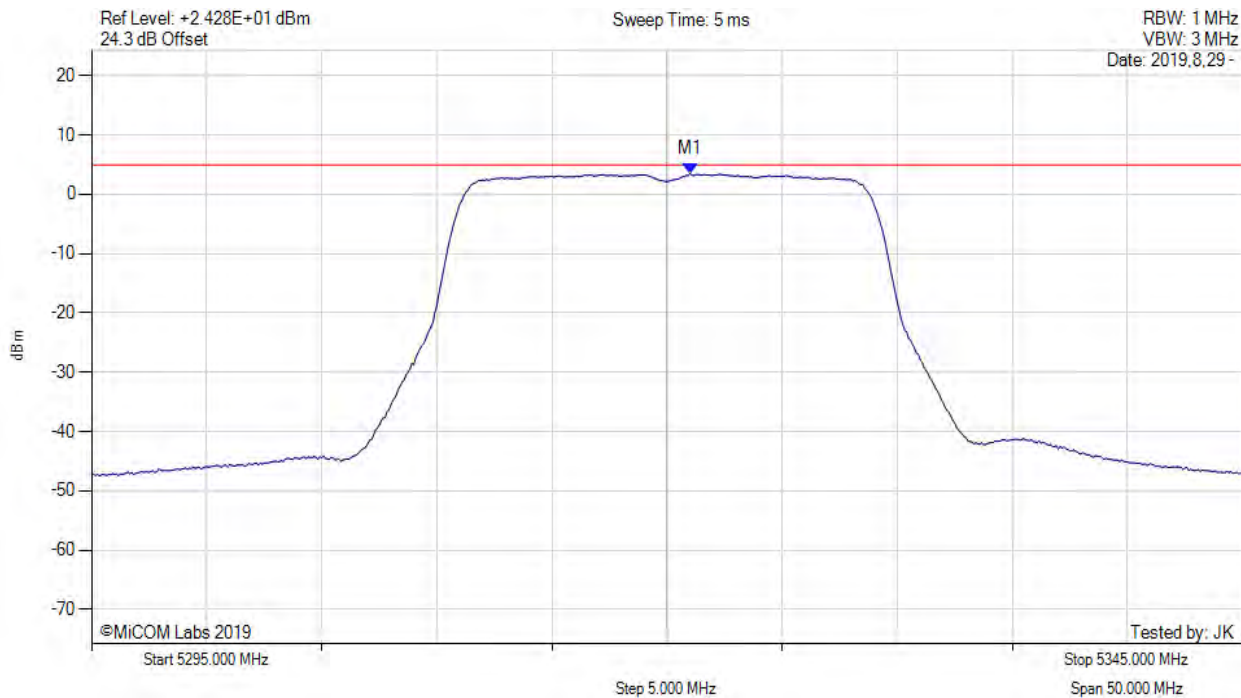Variant: 802.11n HT-20, Channel: 5300.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

Ref Level: +2.357E+01 dBm
23.6 dB Offset

Sweep Time: 5 ms

RBW: 1 MHz
VBW: 3 MHz
Date: 2019,9,30 -

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Tested by: JK

Start 5275.000 MHz
Stop 5325.000 MHz
Step 5.000 MHz
Span 50.000 MHz

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5302.830 MHz : 3.298 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5300.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5298.830 MHz : 3.412 dBm	Channel Frequency: 5300.00 MHz

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5300.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5302.920 MHz : 3.158 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

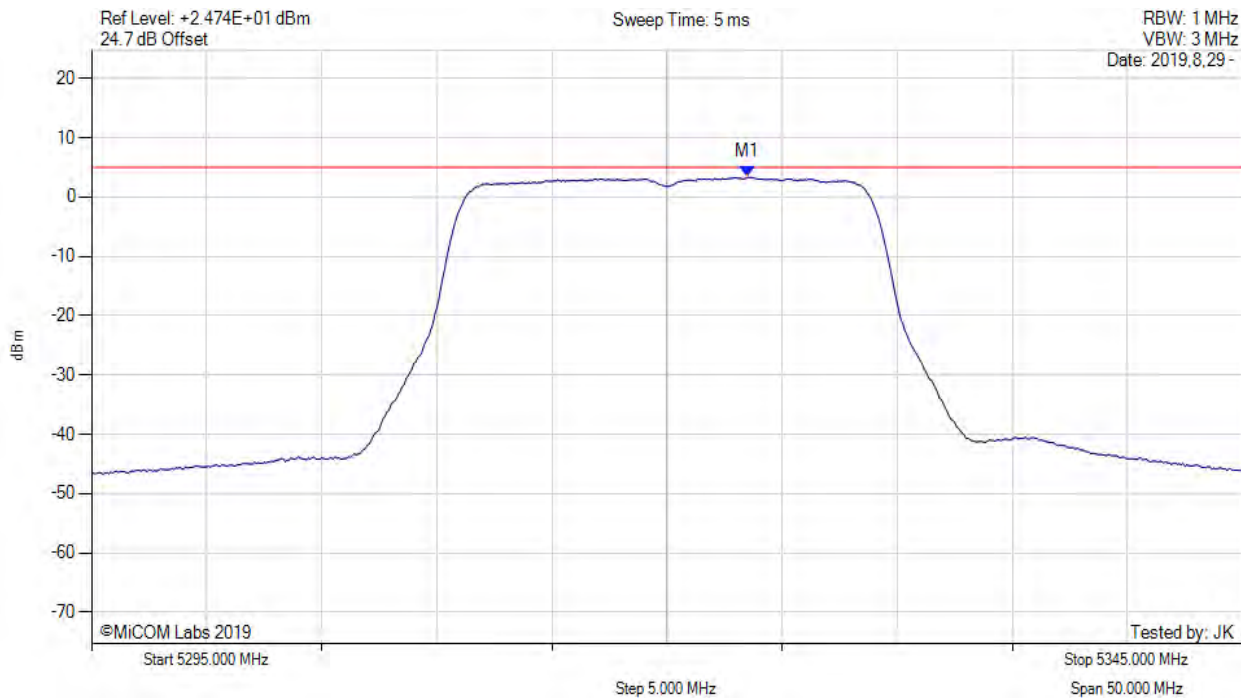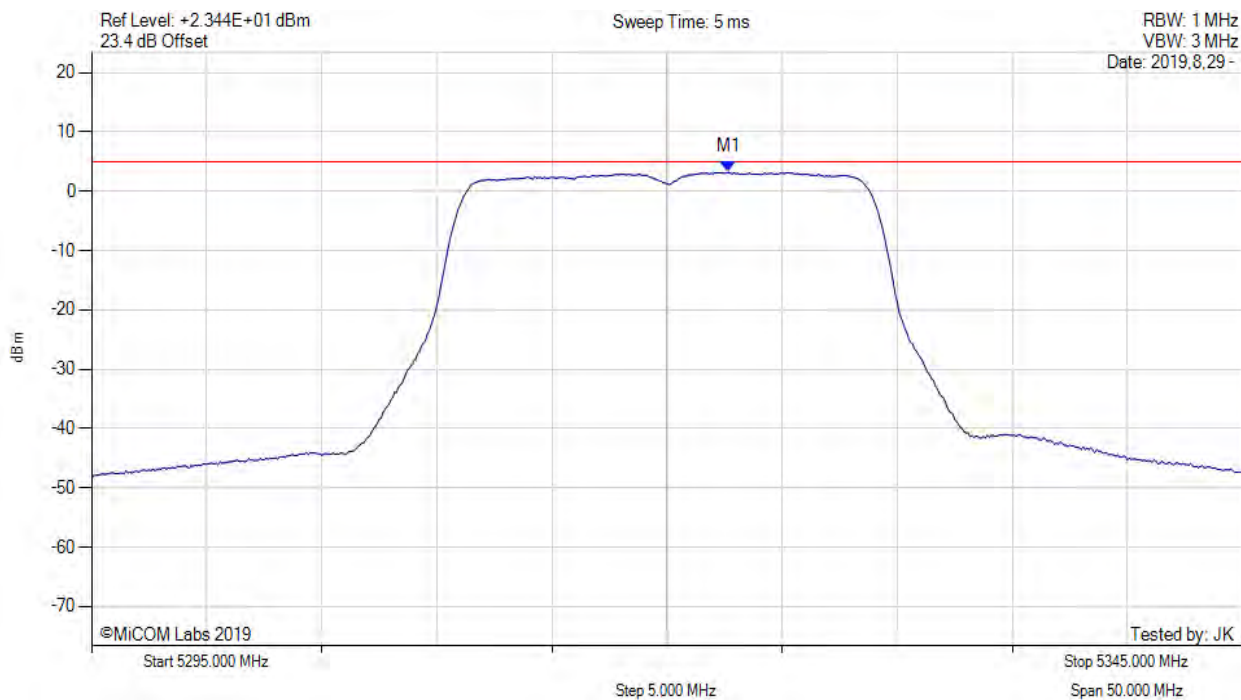Variant: 802.11n HT-20, Channel: 5300.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5303.670 MHz : 2.889 dBm	Limit: ≤ 4.980 dBm

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5300.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5302.900 MHz : 9.045 dBm M1 + DCCF : 5302.900 MHz : 9.222 dBm Duty Cycle Correction Factor : +0.18 dB	Limit: ≤ 11.0 dBm Margin: -1.8 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5320.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5322.330 MHz : 2.936 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

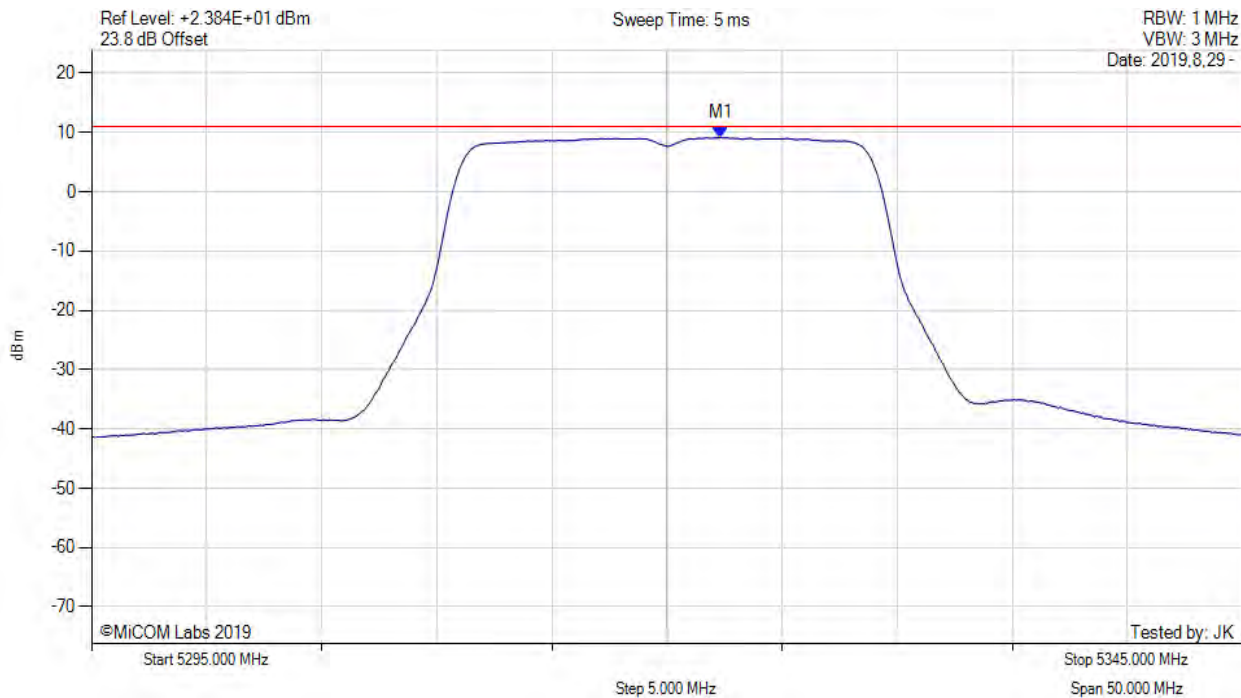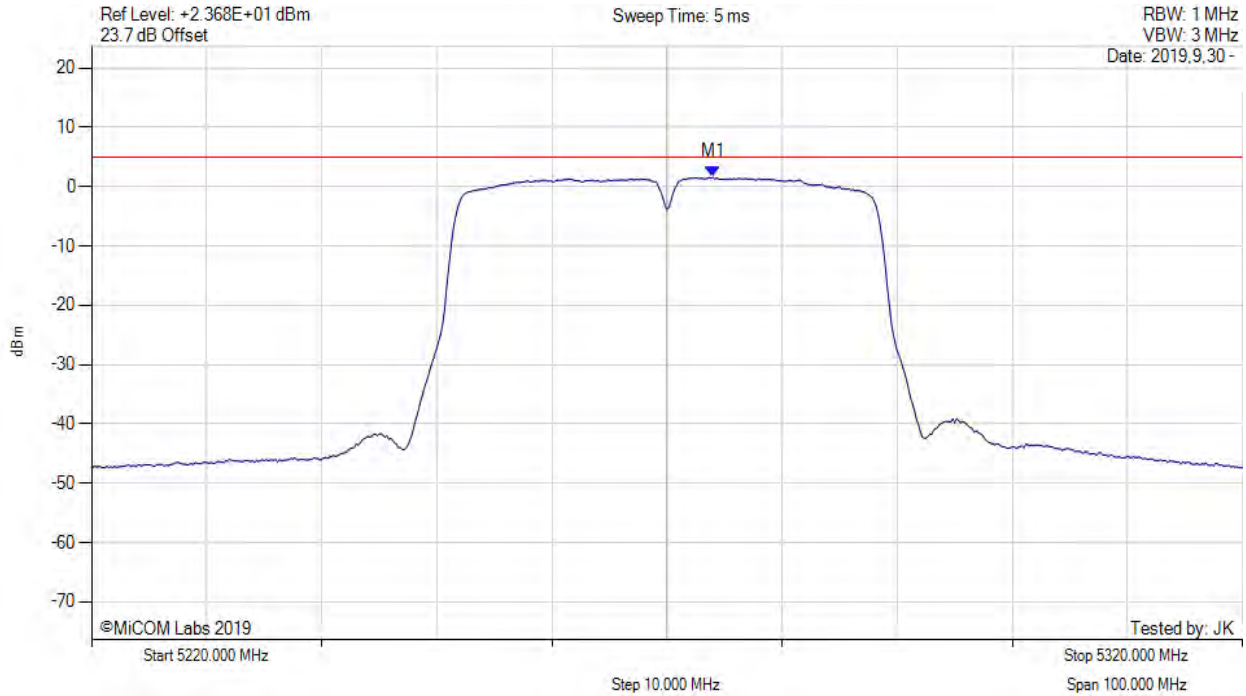Variant: 802.11n HT-20, Channel: 5320.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5321.000 MHz : 3.500 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

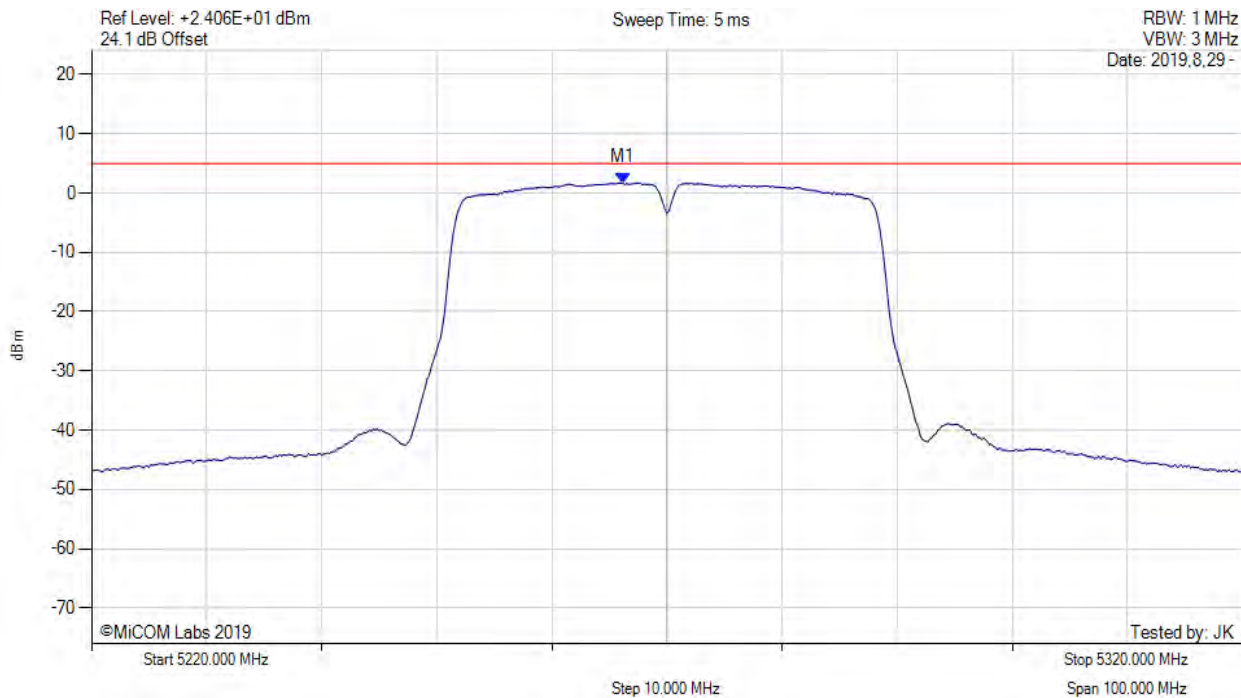Variant: 802.11n HT-20, Channel: 5320.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

Ref Level: +2.474E+01 dBm
24.7 dB Offset

Sweep Time: 5 ms

RBW: 1 MHz
VBW: 3 MHz
Date: 2019,8,29 -

Start 5295.000 MHz   Stop 5345.000 MHz

Step 5.000 MHz   Span 50.000 MHz

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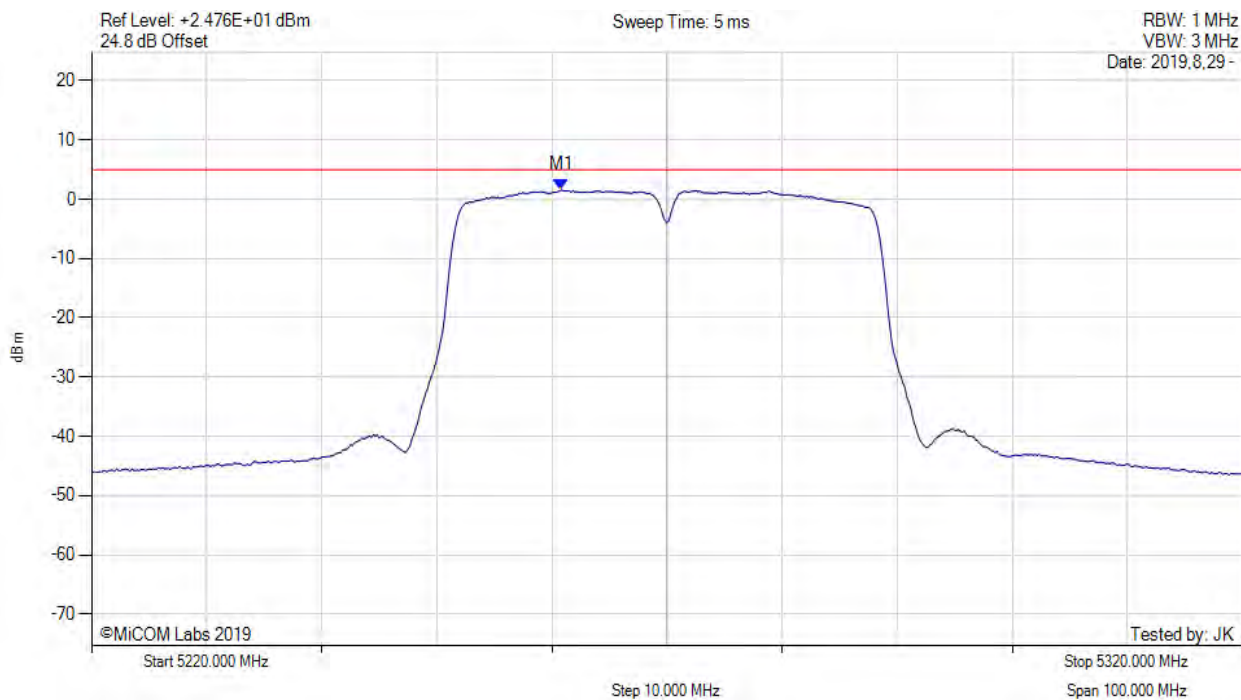| Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5323.500 MHz : 3.384 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5320.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc
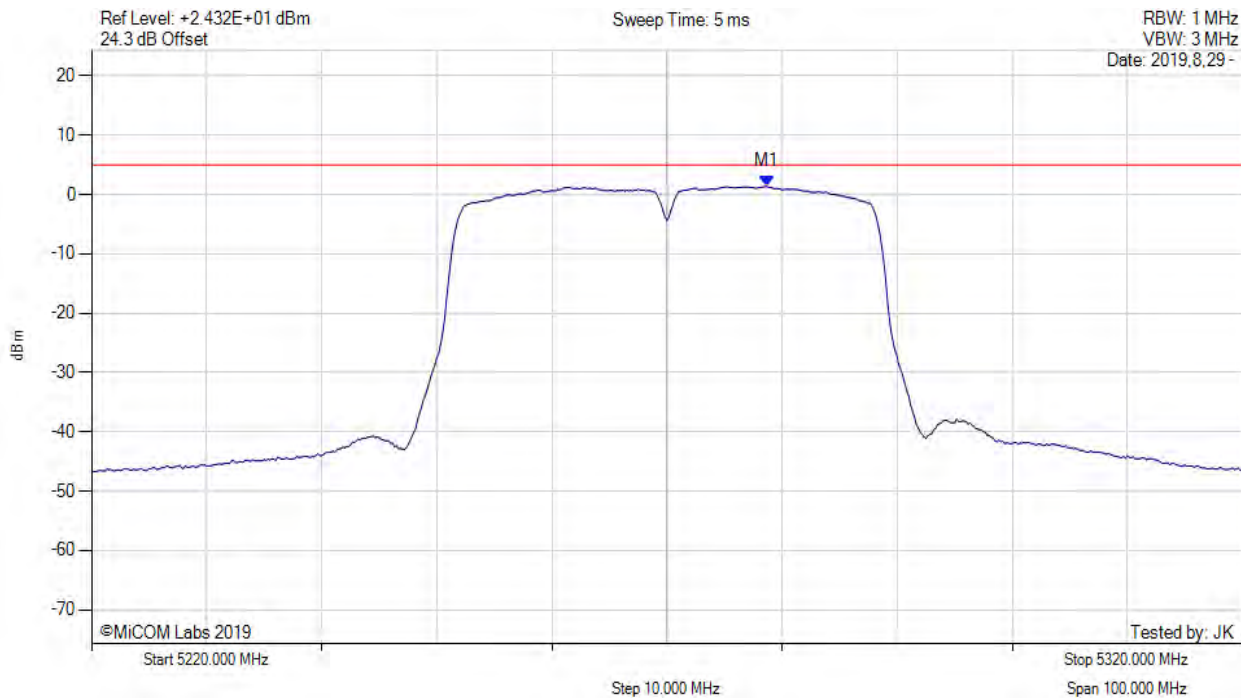

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5322.670 MHz : 3.253 dBm	Limit: ≤ 4.980 dBm

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5320.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5322.300 MHz : 9.131 dBm M1 + DCCF : 5322.300 MHz : 9.308 dBm Duty Cycle Correction Factor : +0.18 dB	Limit: ≤ 11.0 dBm Margin: -1.7 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5270.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5274.000 MHz : 1.608 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

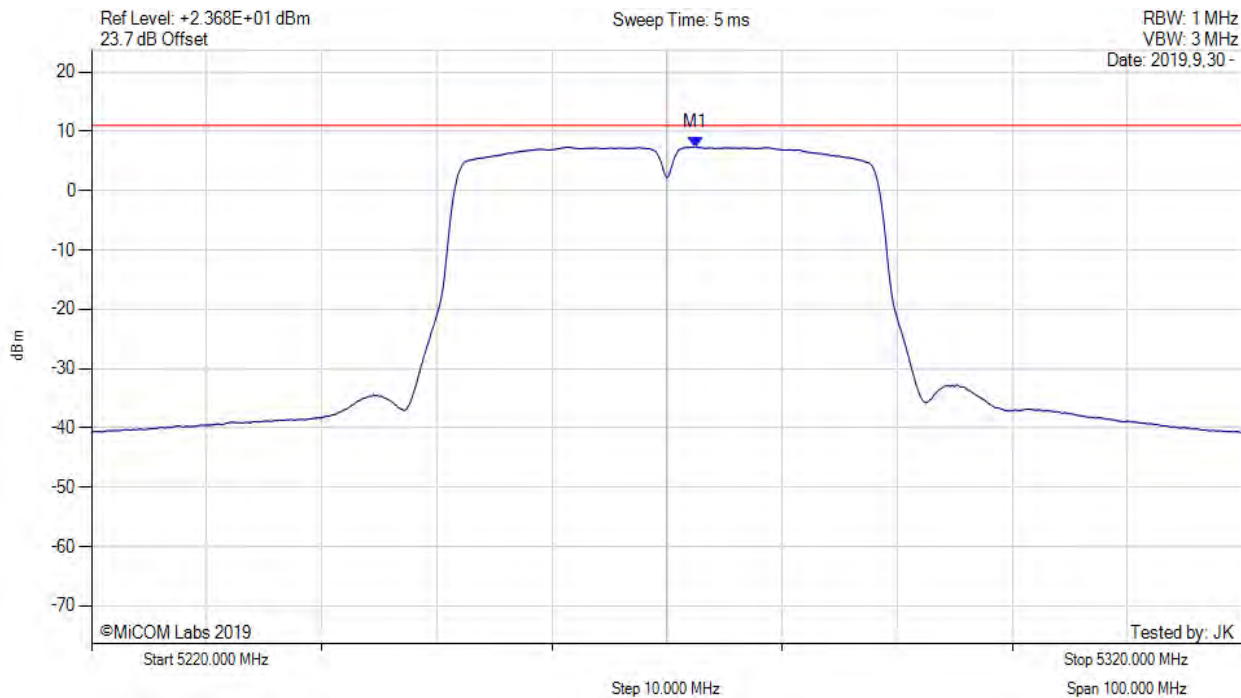Variant: 802.11n HT-40, Channel: 5270.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Ref Level: +2.406E+01 dBm
24.1 dB Offset

Sweep Time: 5 ms

RBW: 1 MHz
VBW: 3 MHz
Date: 2019,8,29 -

Start 5220.000 MHz
Step 10.000 MHz
Stop 5320.000 MHz
Span 100.000 MHz

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Tested by: JK

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5266.170 MHz : 1.706 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5270.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc
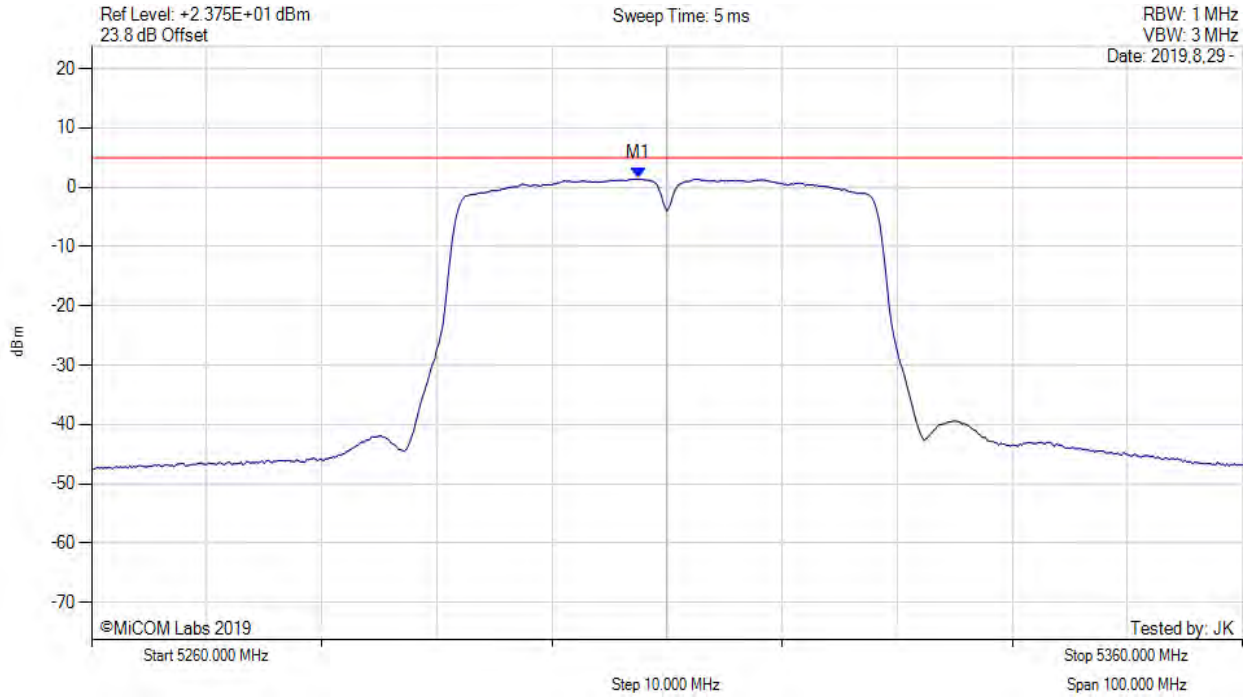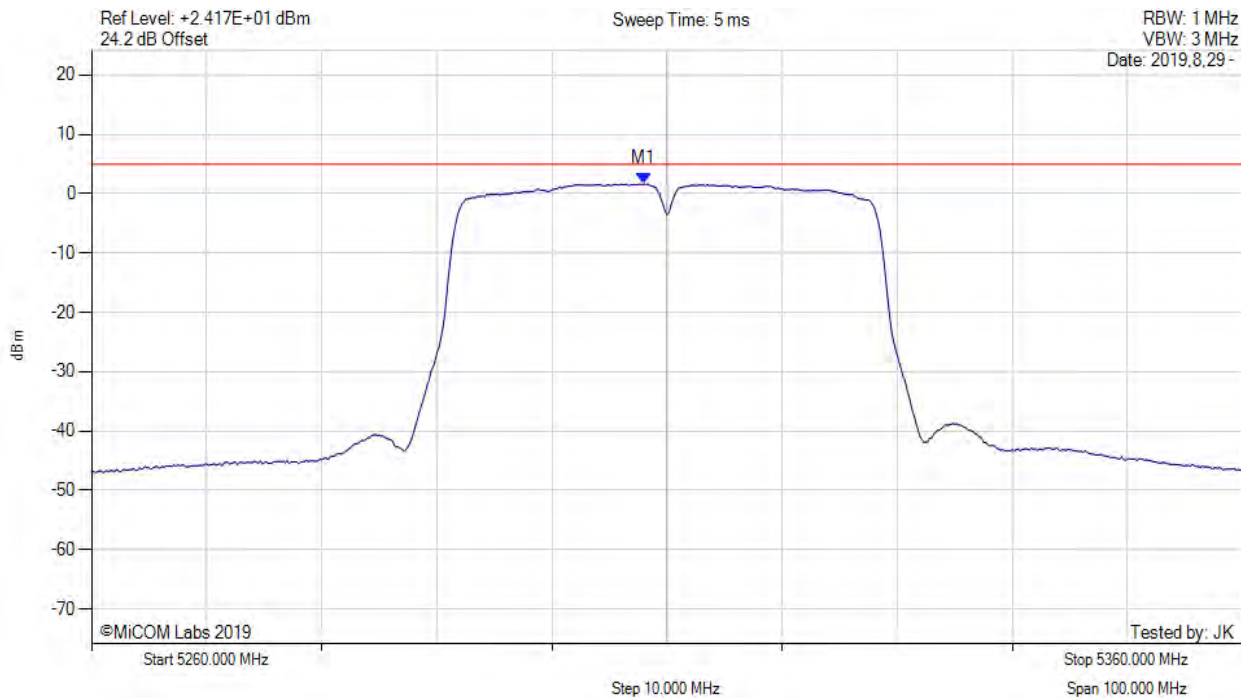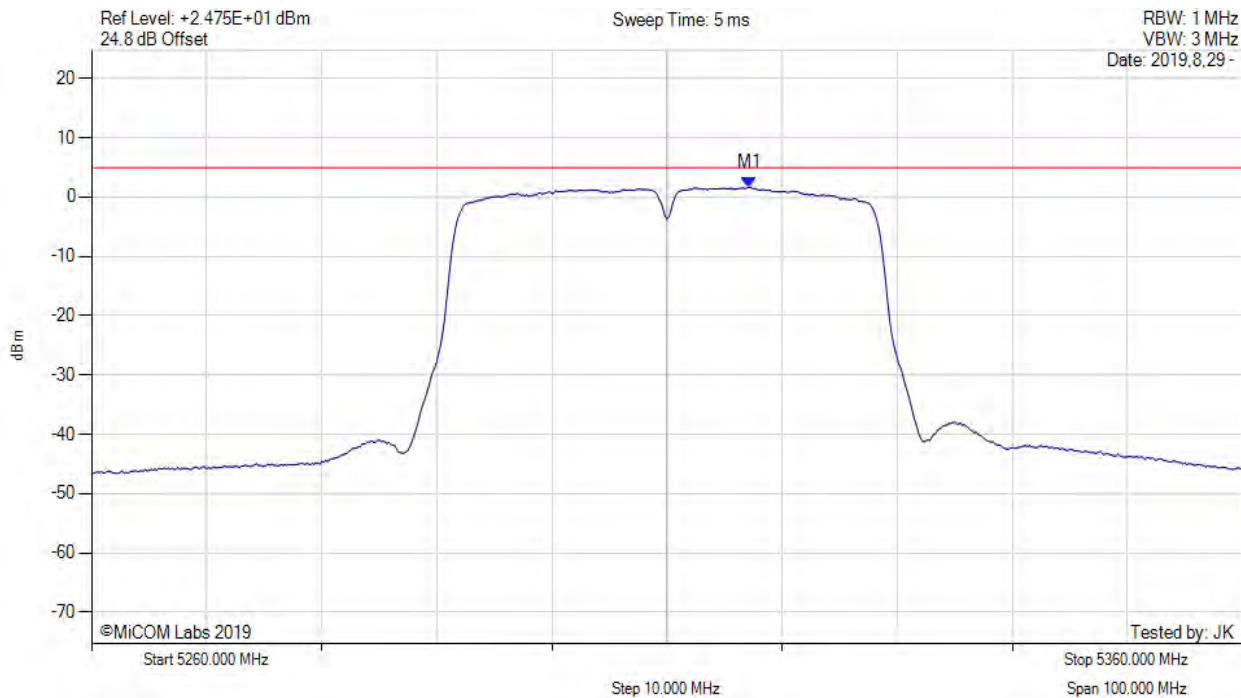

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5260.830 MHz : 1.546 dBm	Limit: ≤ 4.980 dBm

back to matrix

Issue Date: 8th October 2019   **Page:** 169 of 242

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POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5270.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5278.670 MHz : 1.416 dBm	Limit: ≤ 4.980 dBm

back to matrix

Issue Date: 8th October 2019   **Page:** 170 of 242

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POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5270.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5272.500 MHz : 7.394 dBm M1 + DCCF : 5272.500 MHz : 7.852 dBm Duty Cycle Correction Factor : +0.46 dB	Limit: ≤ 11.0 dBm Margin: -3.2 dB

back to matrix

Issue Date: 8th October 2019   **Page:** 171 of 242

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POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5310.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5307.500 MHz : 1.421 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

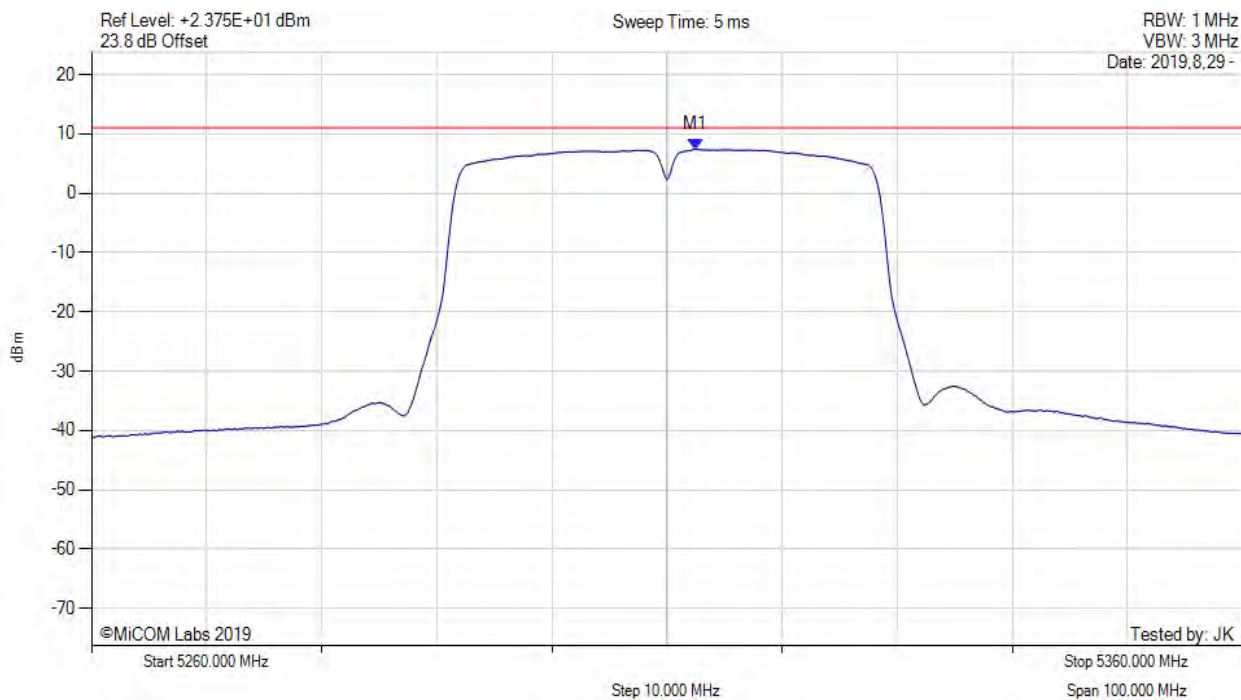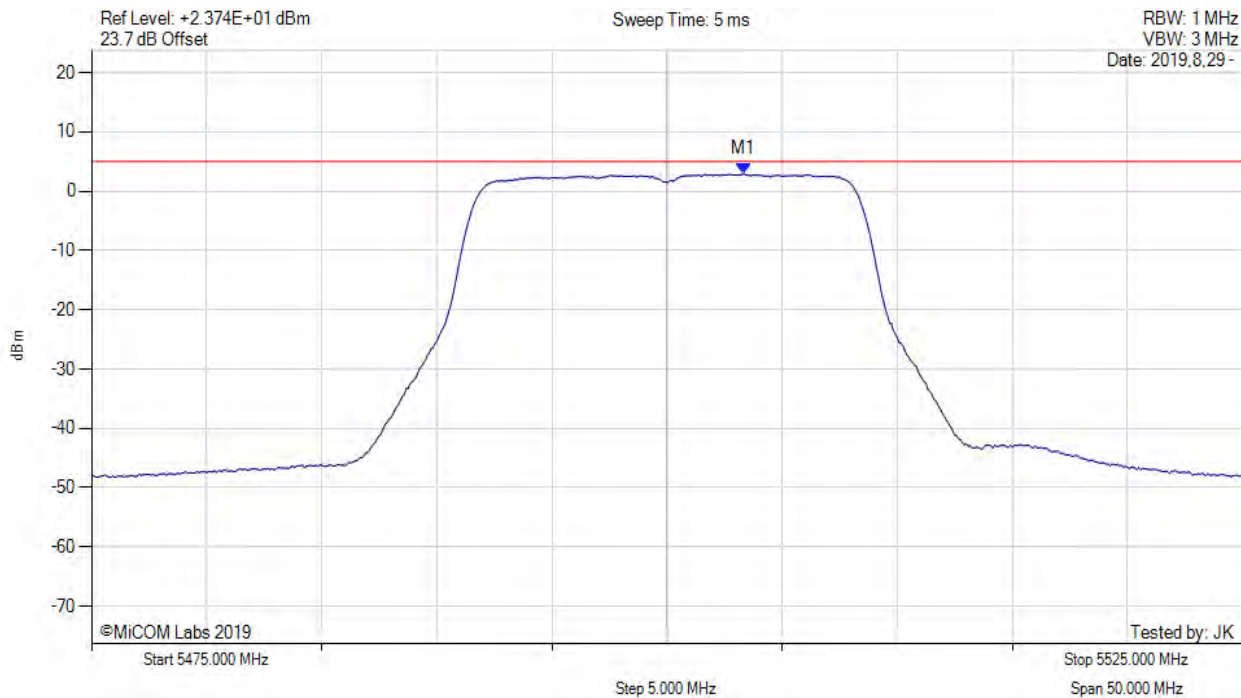Variant: 802.11n HT-40, Channel: 5310.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5308.000 MHz : 1.637 dBm	Limit: ≤ 4.980 dBm

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POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5310.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5317.170 MHz : 1.678 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

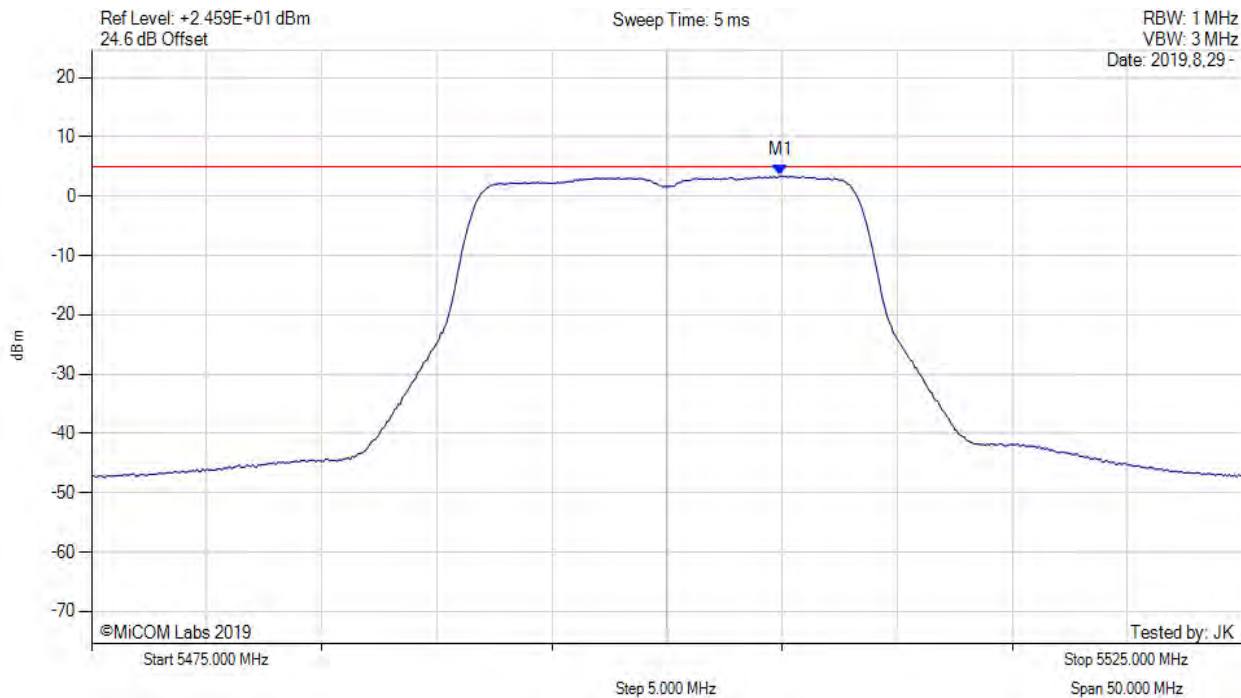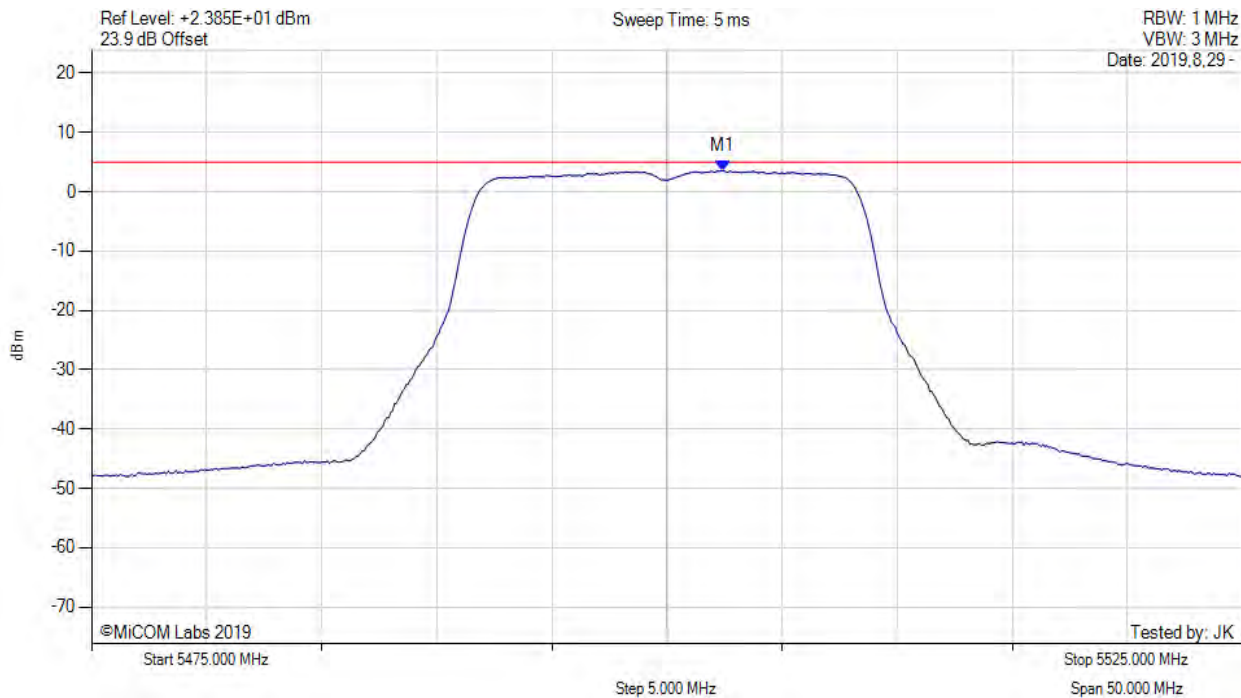Variant: 802.11n HT-40, Channel: 5310.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc
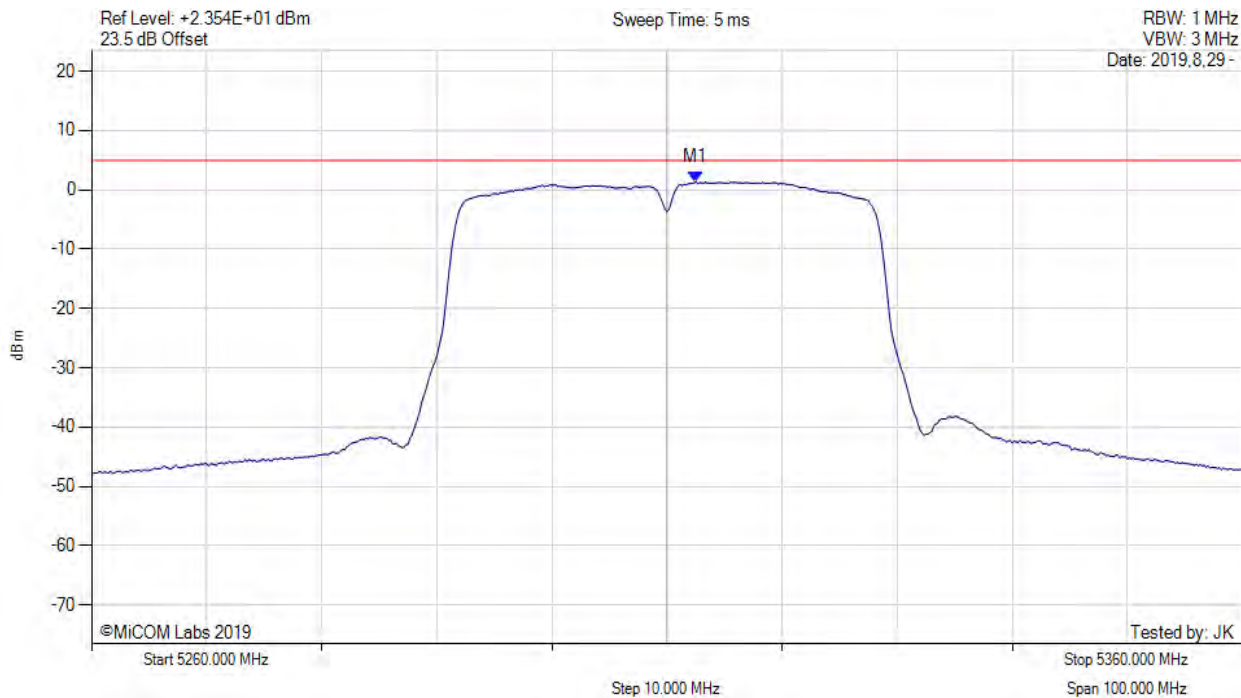
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5312.500 MHz : 1.371 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

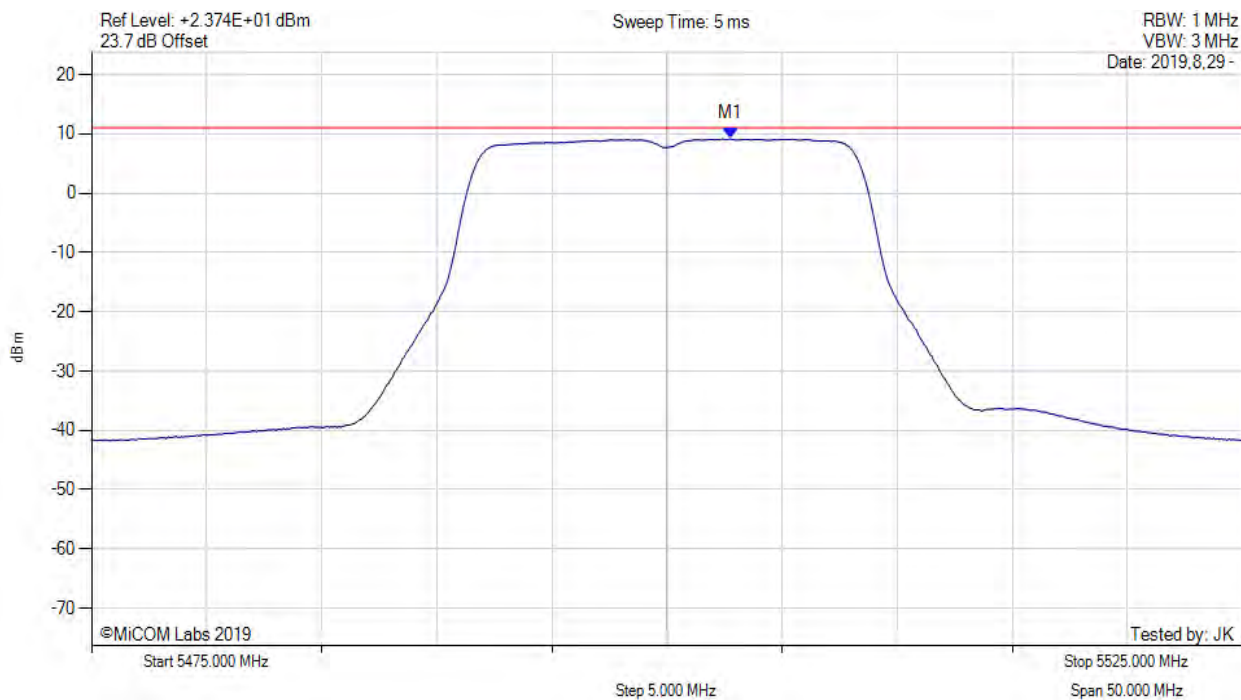Variant: 802.11n HT-40, Channel: 5310.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	**Marker:Frequency:Amplitude**	**Test Results**
Detector = AVER	M1 : 5312.500 MHz : 7.409 dBm	Limit: ≤ 11.0 dBm
Sweep Count = +100	M1 + DCCF : 5312.500 MHz : 7.867 dBm	Margin: -3.2 dB
RF Atten (dB) = 20	Duty Cycle Correction Factor : +0.46 dB	
Trace Mode = VIEW		

back to matrix

POWER SPECTRAL DENSITY

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

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5503.330 MHz : 2.901 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

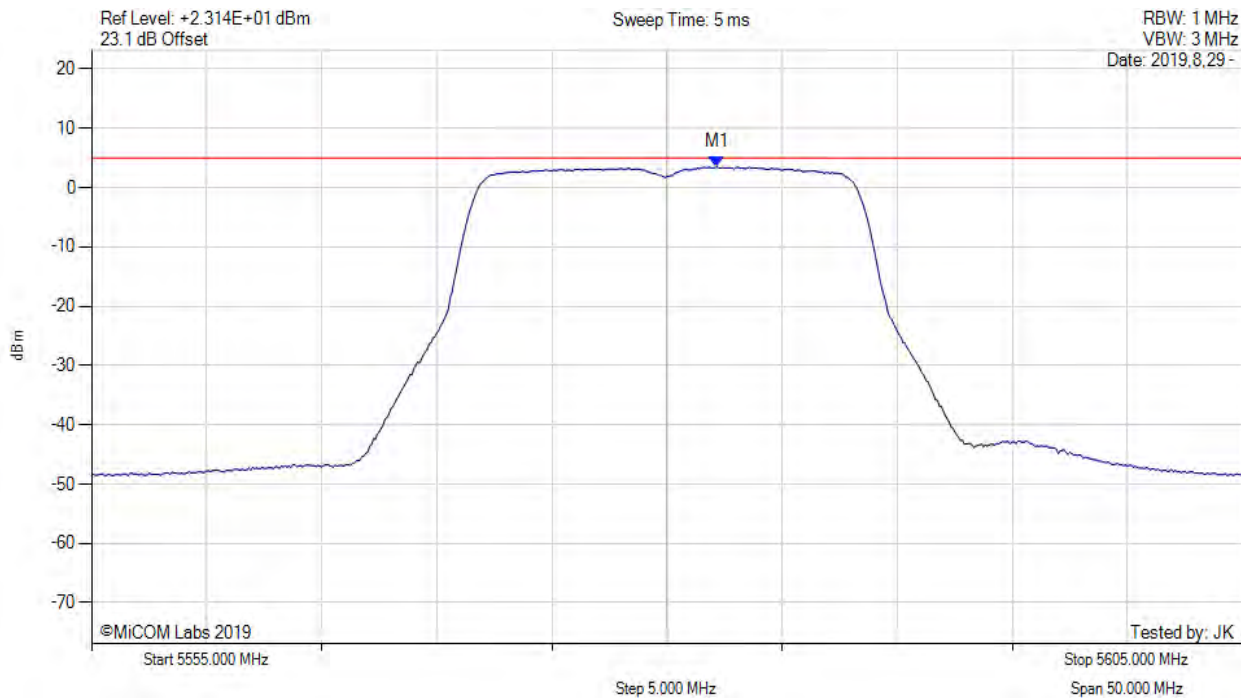Variant: 802.11a, Channel: 5500.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc
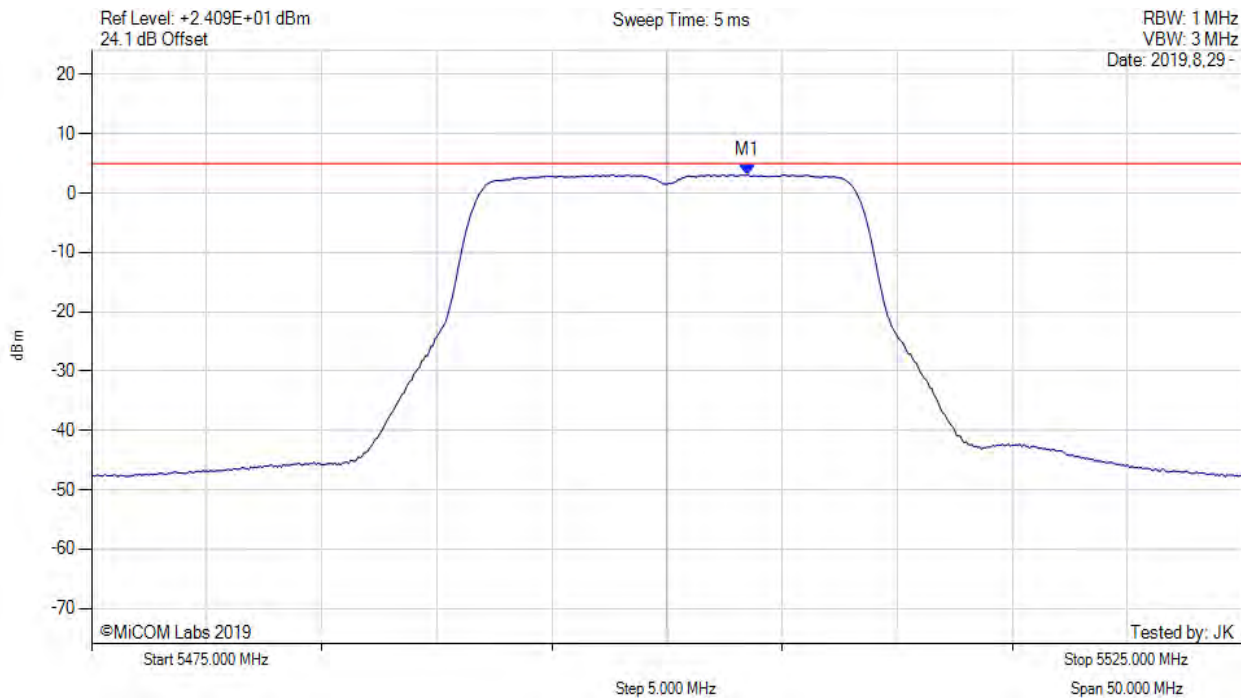
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5503.500 MHz : 3.122 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

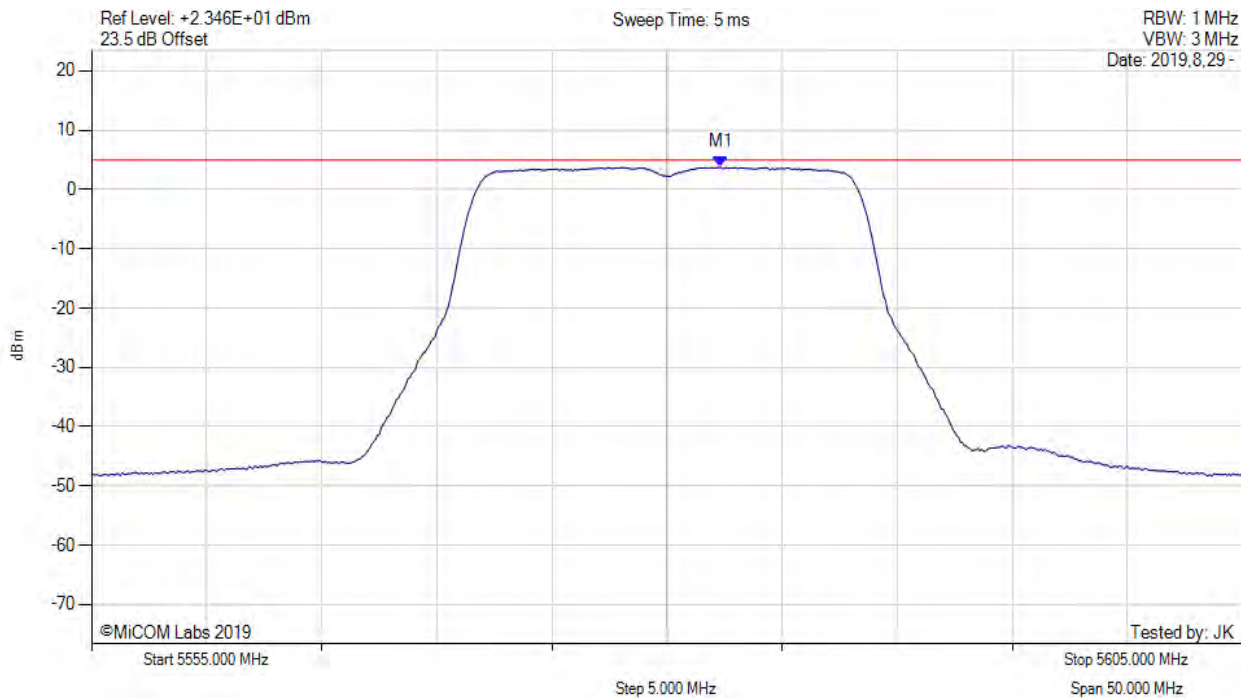Variant: 802.11a, Channel: 5500.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

Ref Level: +2.459E+01 dBm
24.6 dB Offset

Sweep Time: 5 ms

RBW: 1 MHz
VBW: 3 MHz
Date: 2019,8,29 -

M1

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Tested by: JK

Start 5475.000 MHz

Stop 5525.000 MHz

Step 5.000 MHz

Span 50.000 MHz

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5504.920 MHz : 3.463 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

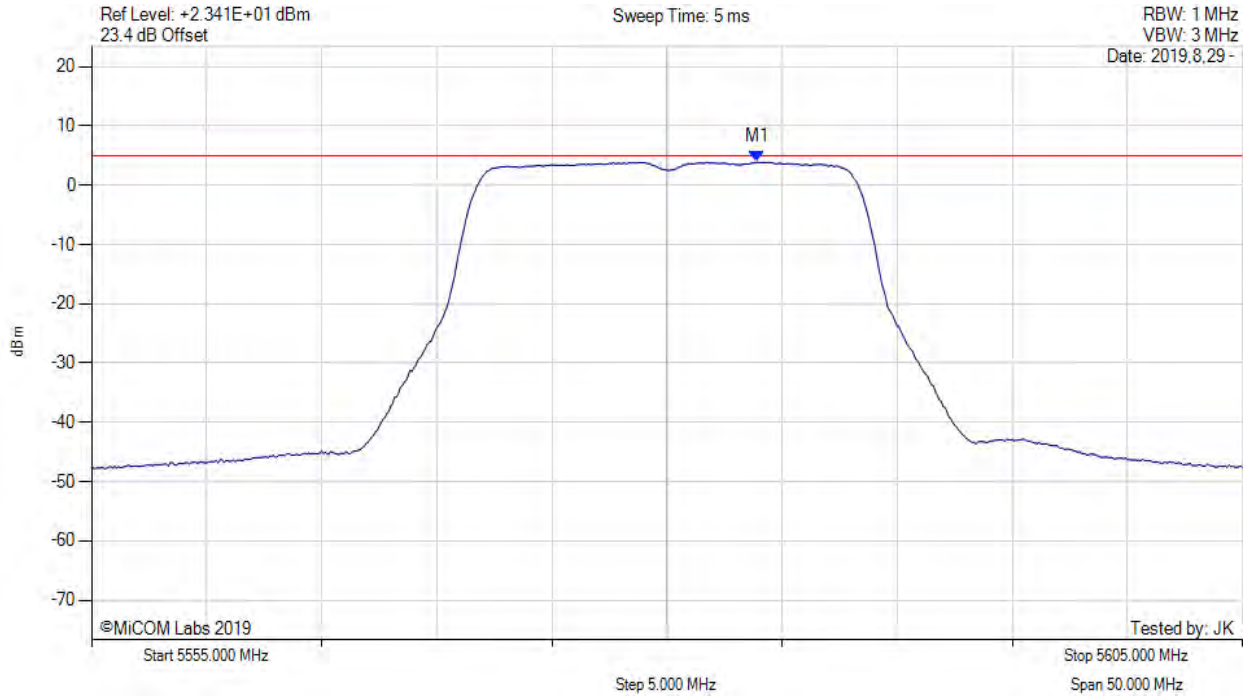Variant: 802.11a, Channel: 5500.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

Ref Level: +2.385E+01 dBm
23.9 dB Offset

Sweep Time: 5 ms

RBW: 1 MHz
VBW: 3 MHz
Date: 2019,8,29 -

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Tested by: JK

Start 5475.000 MHz

Stop 5525.000 MHz

Step 5.000 MHz

Span 50.000 MHz

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5502.420 MHz : 3.579 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

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

Ref Level: +2.374E+01 dBm
23.7 dB Offset

Sweep Time: 5 ms

RBW: 1 MHz
VBW: 3 MHz
Date: 2019,8,29 -

M1

©MiCOM Labs 2019

Tested by: JK

Start 5475.000 MHz

Stop 5525.000 MHz

Step 5.000 MHz

Span 50.000 MHz

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER	M1 : 5502.800 MHz : 9.156 dBm	Limit: ≤ 11.0 dBm
Sweep Count = +100	M1 + DCCF : 5502.800 MHz : 9.288 dBm	Margin: -1.7 dB
RF Atten (dB) = 20	Duty Cycle Correction Factor : +0.13 dB	
Trace Mode = VIEW		

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) = 20 Trace Mode = VIEW	M1 : 5582.170 MHz : 3.475 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

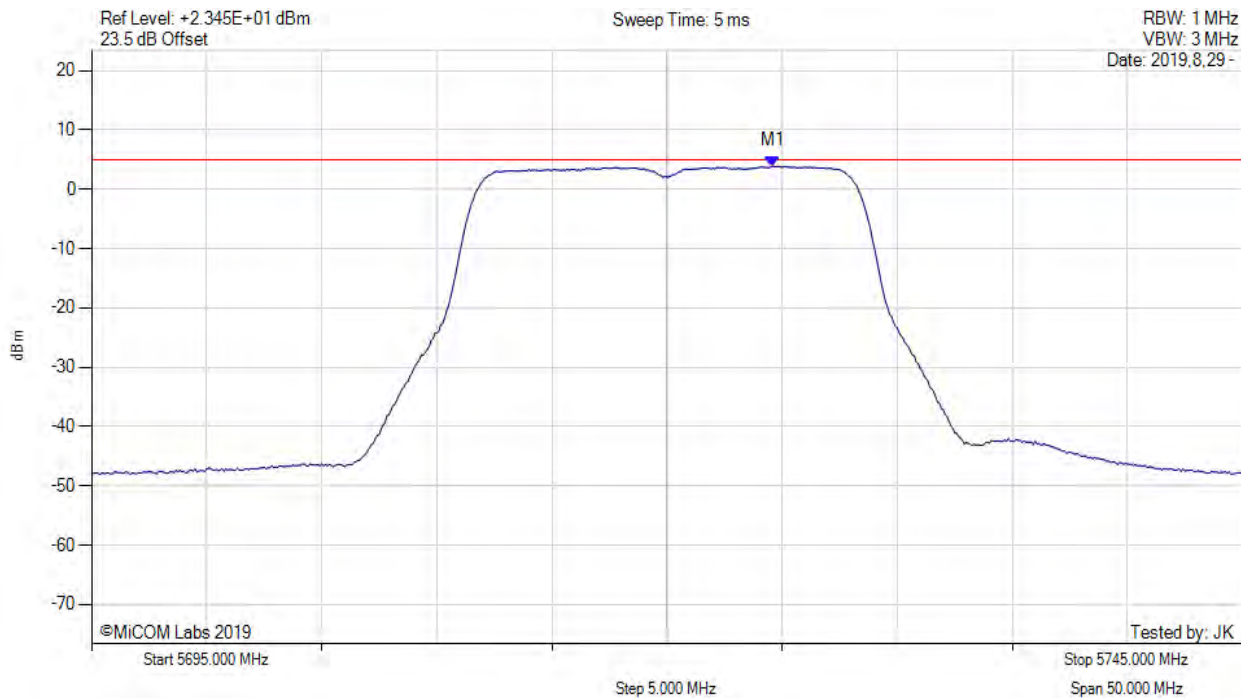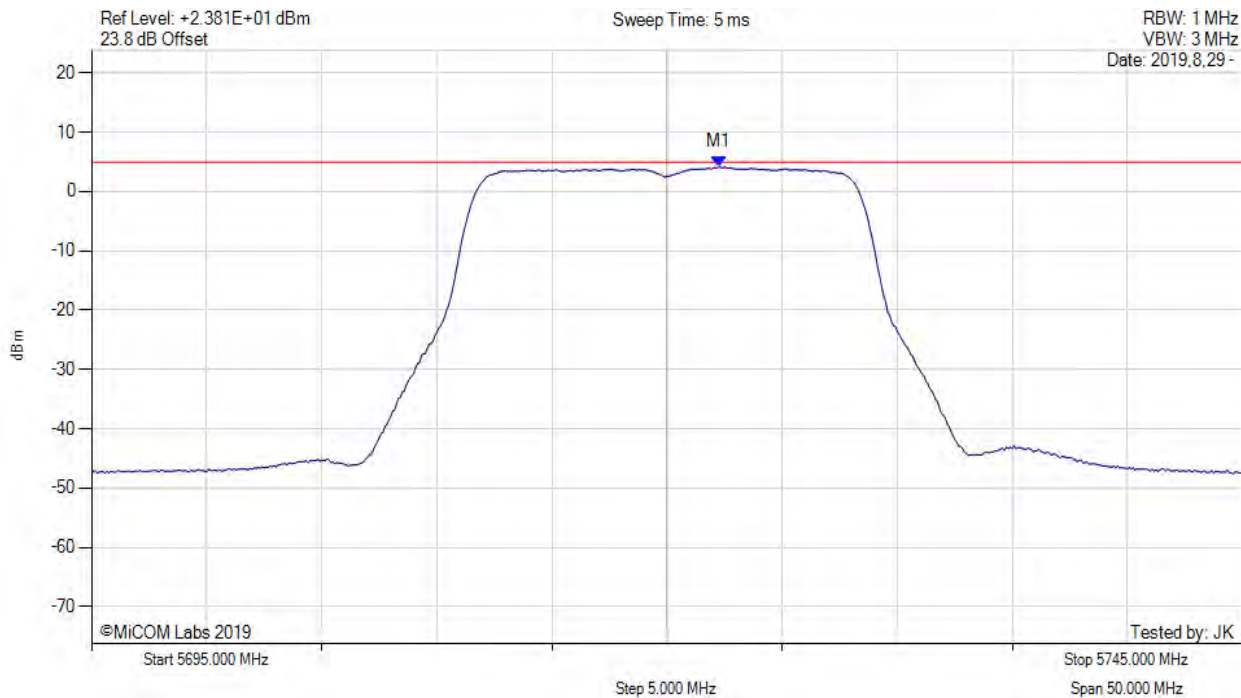Variant: 802.11a, Channel: 5580.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Ref Level: +2.346E+01 dBm
23.5 dB Offset

Sweep Time: 5 ms

RBW: 1 MHz
VBW: 3 MHz
Date: 2019,8,29 -

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Tested by: JK

Start 5555.000 MHz

Stop 5605.000 MHz

Step 5.000 MHz

Span 50.000 MHz

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5582.330 MHz : 3.766 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

Ref Level: +2.341E+01 dBm
23.4 dB Offset

Sweep Time: 5 ms

RBW: 1 MHz
VBW: 3 MHz
Date: 2019,8,29 -

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Tested by: JK

Start 5555.000 MHz

Step 5.000 MHz

Stop 5605.000 MHz

Span 50.000 MHz

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5583.920 MHz : 3.930 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

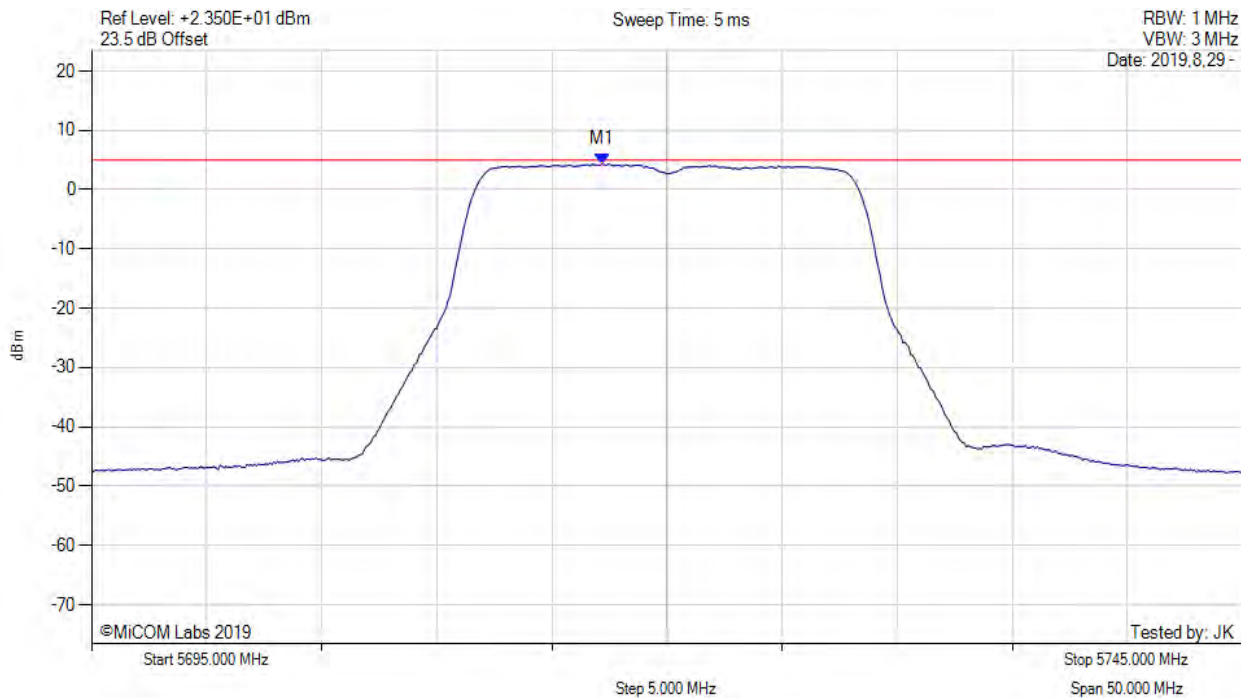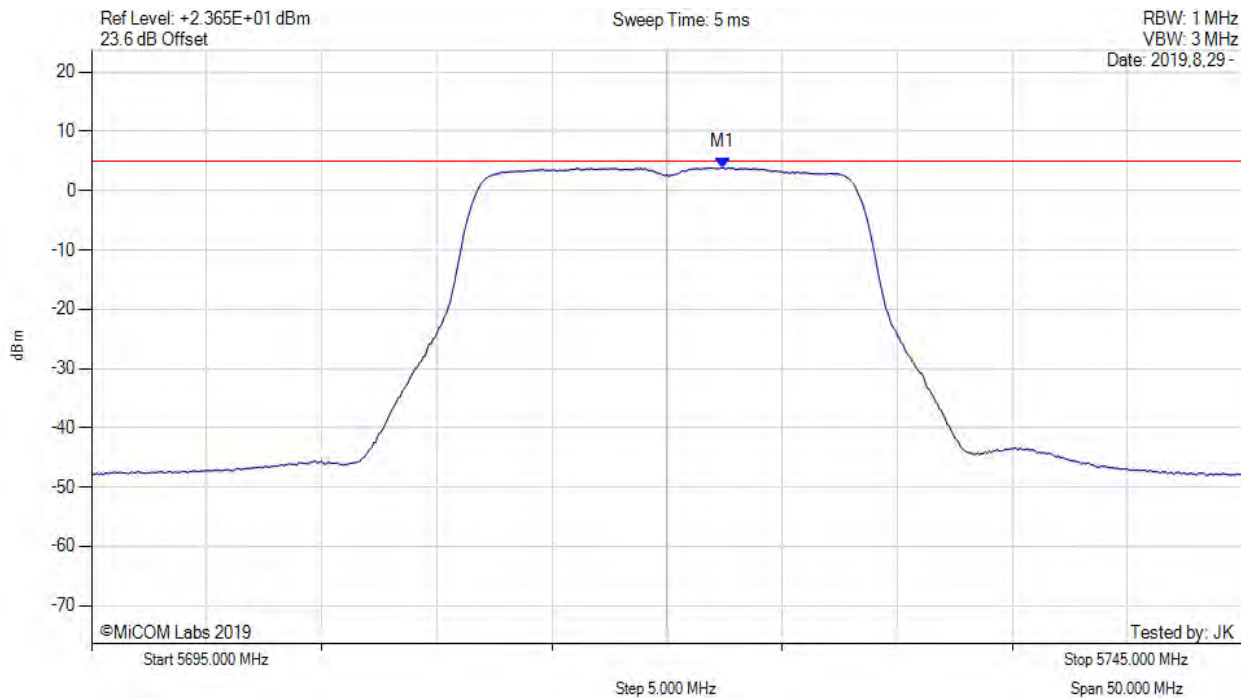Variant: 802.11a, Channel: 5580.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc
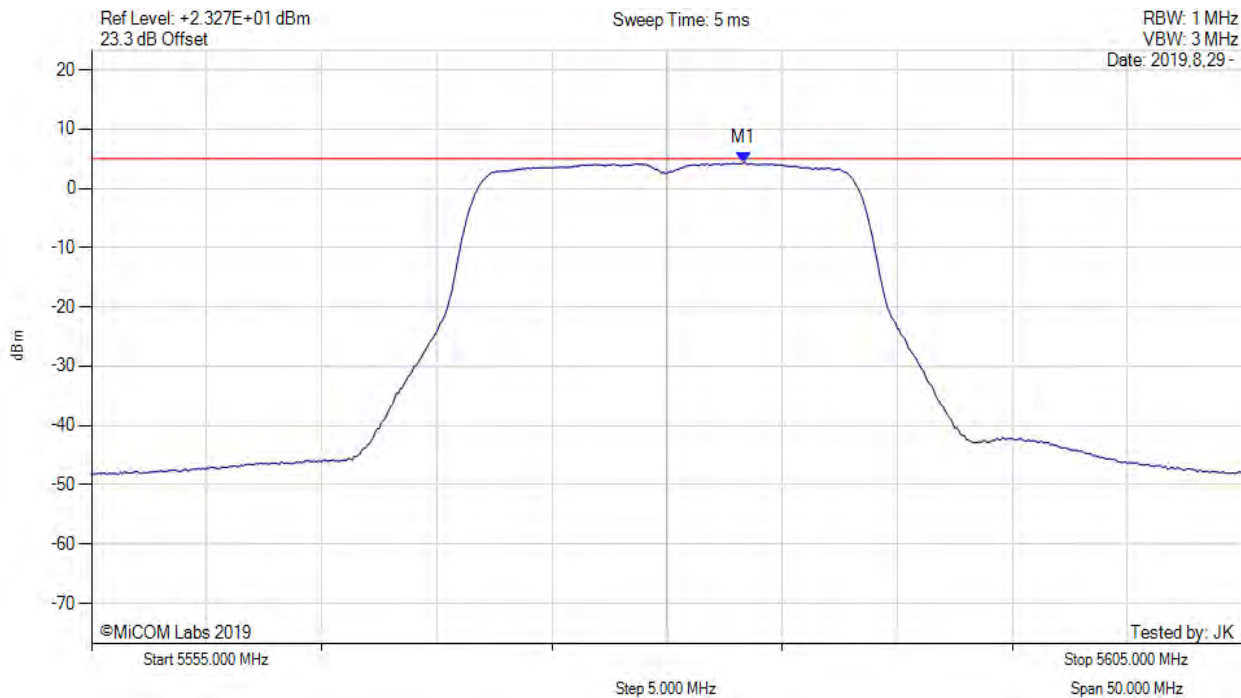
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5583.330 MHz : 4.335 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

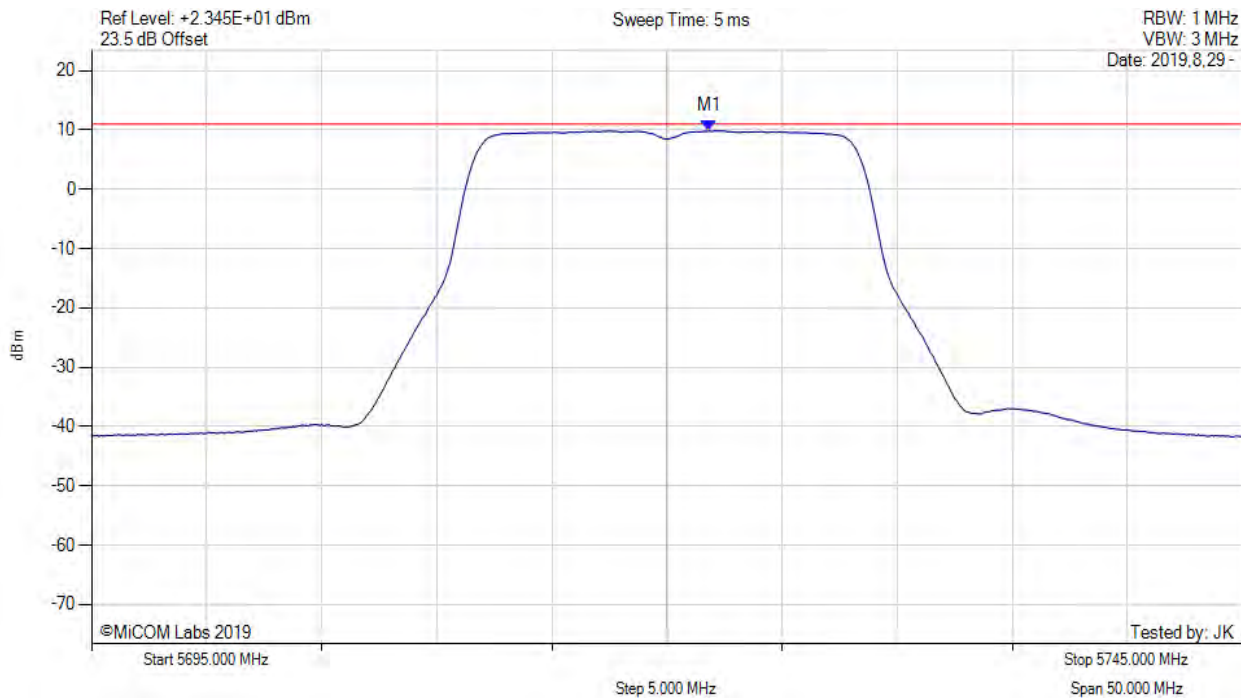Variant: 802.11a, Channel: 5580.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc
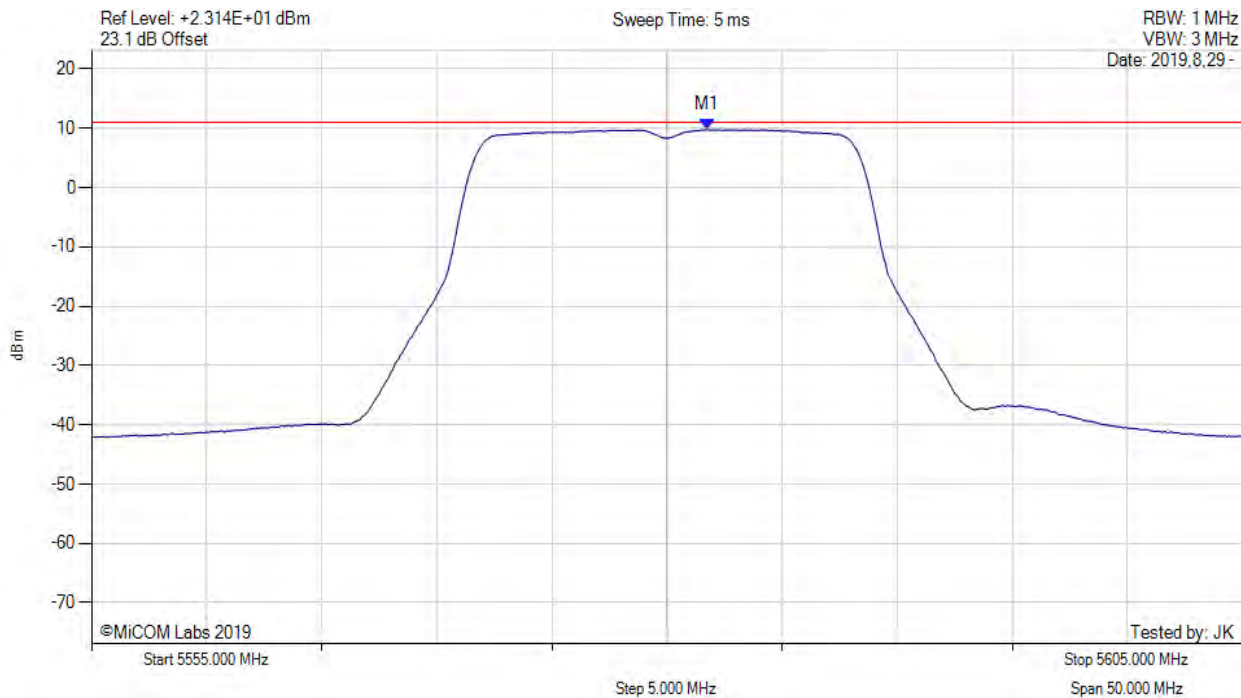
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5581.800 MHz : 9.783 dBm M1 + DCCF : 5581.800 MHz : 9.915 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 11.0 dBm Margin: -1.1 dB

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) = 20 Trace Mode = VIEW	M1 : 5724.580 MHz : 3.919 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

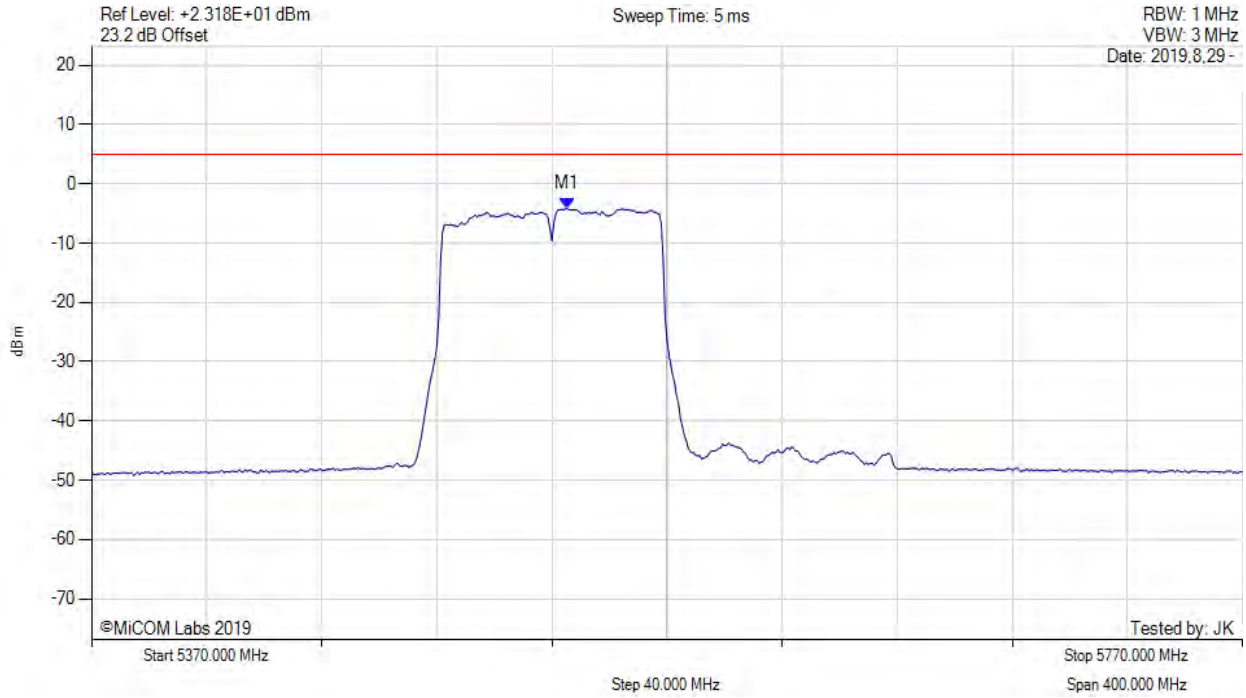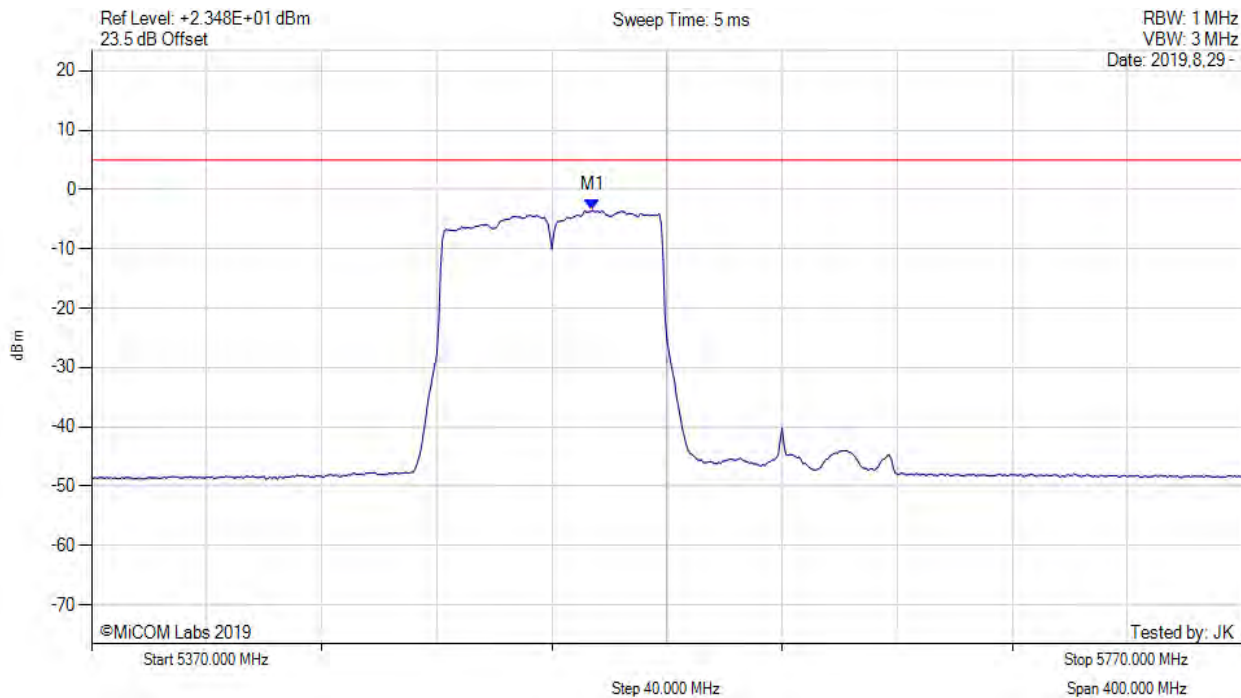Variant: 802.11a, Channel: 5720.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Ref Level: +2.381E+01 dBm
23.8 dB Offset

Sweep Time: 5 ms

RBW: 1 MHz
VBW: 3 MHz
Date: 2019,8,29 -

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Tested by: JK

Start 5695.000 MHz

Stop 5745.000 MHz

Step 5.000 MHz

Span 50.000 MHz

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5722.250 MHz : 4.190 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

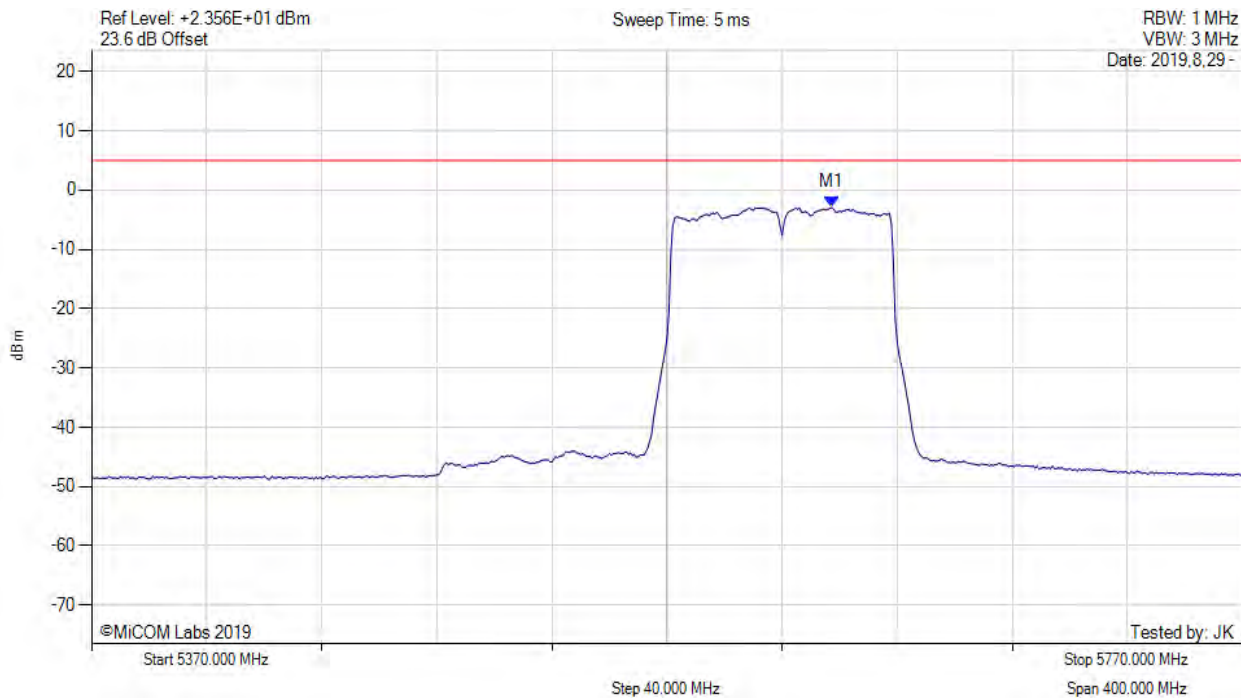Variant: 802.11a, Channel: 5720.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

Ref Level: +2.350E+01 dBm
23.5 dB Offset

Sweep Time: 5 ms

RBW: 1 MHz
VBW: 3 MHz
Date: 2019,8,29 -

Tested by: JK

Start 5695.000 MHz Stop 5745.000 MHz
Step 5.000 MHz Span 50.000 MHz

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5717.170 MHz : 4.334 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) = 20 Trace Mode = VIEW	M1 : 5722.420 MHz : 3.885 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

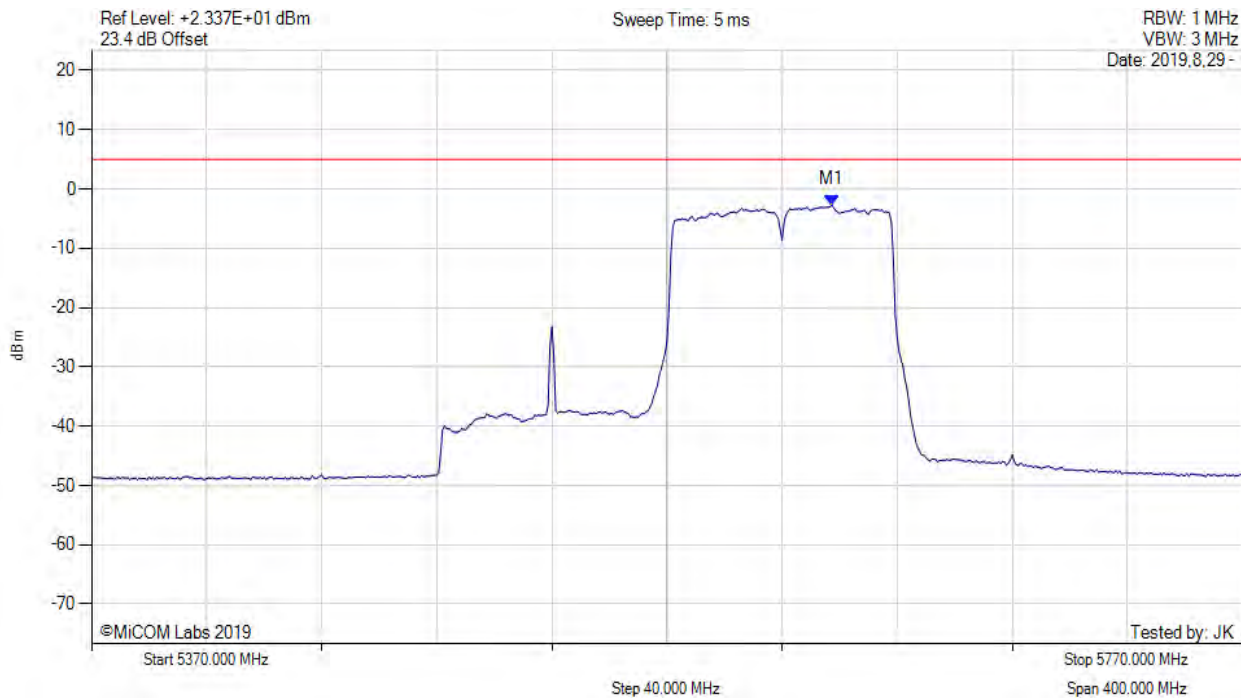Variant: 802.11a, Channel: 5720.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5721.800 MHz : 9.884 dBm M1 + DCCF : 5721.800 MHz : 10.016 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 11.0 dBm Margin: -1.0 dB

back to matrix

POWER SPECTRAL DENSITY

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

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5535.300 MHz : -4.180 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

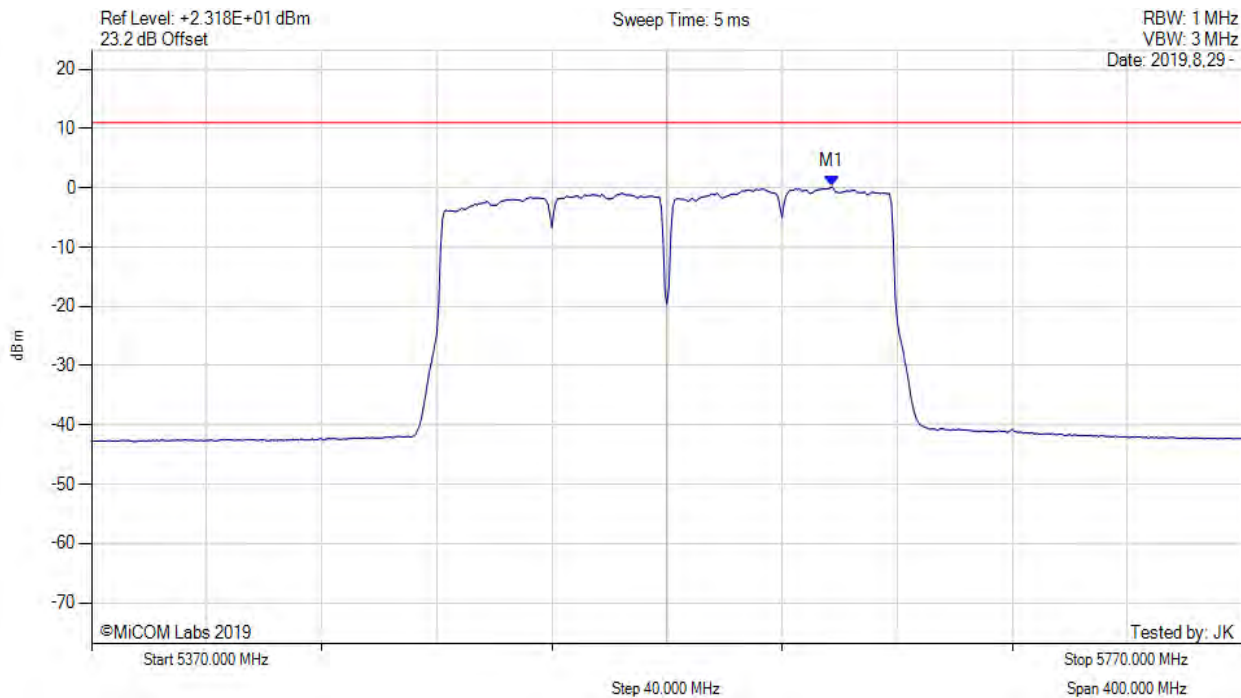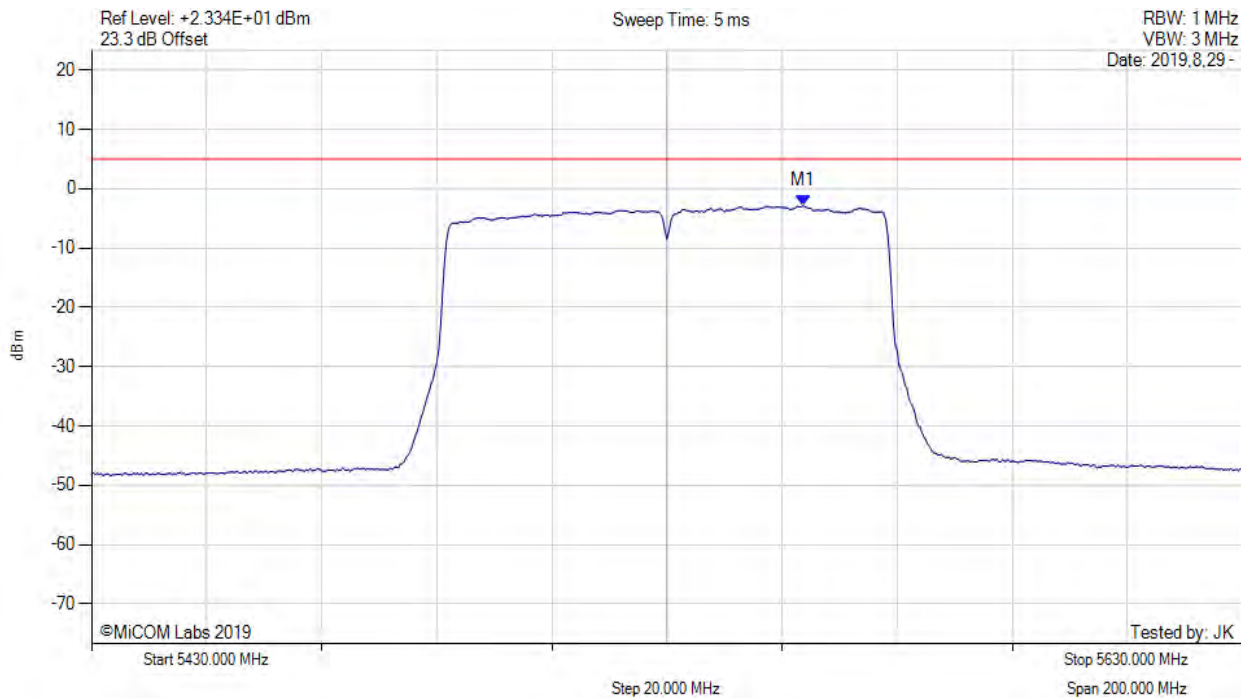Variant: 802.11ac-160, Channel: 5570.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5544.000 MHz : -3.479 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

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

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5627.300 MHz : -2.940 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

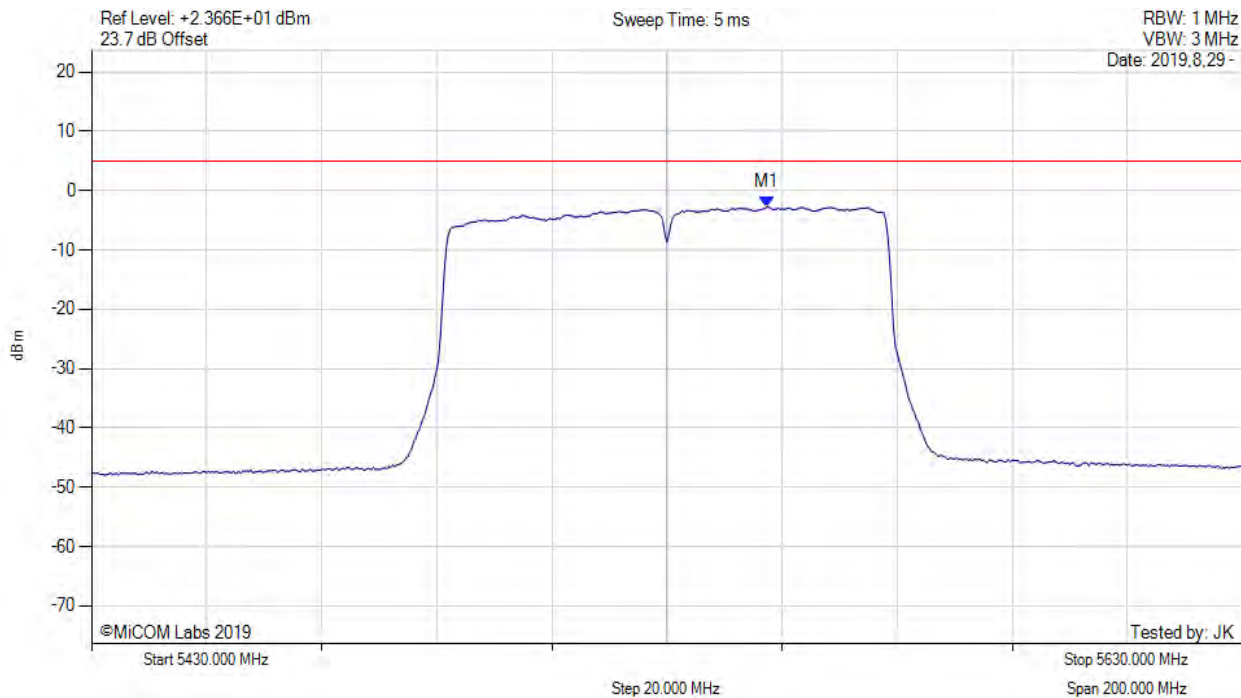Variant: 802.11ac-160, Channel: 5570.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

Ref Level: +2.337E+01 dBm
23.4 dB Offset

Sweep Time: 5 ms

RBW: 1 MHz
VBW: 3 MHz
Date: 2019,8,29 -

Start 5370.000 MHz

Step 40.000 MHz

Stop 5770.000 MHz

Span 400.000 MHz

Tested by: JK

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Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5627.300 MHz : -2.726 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

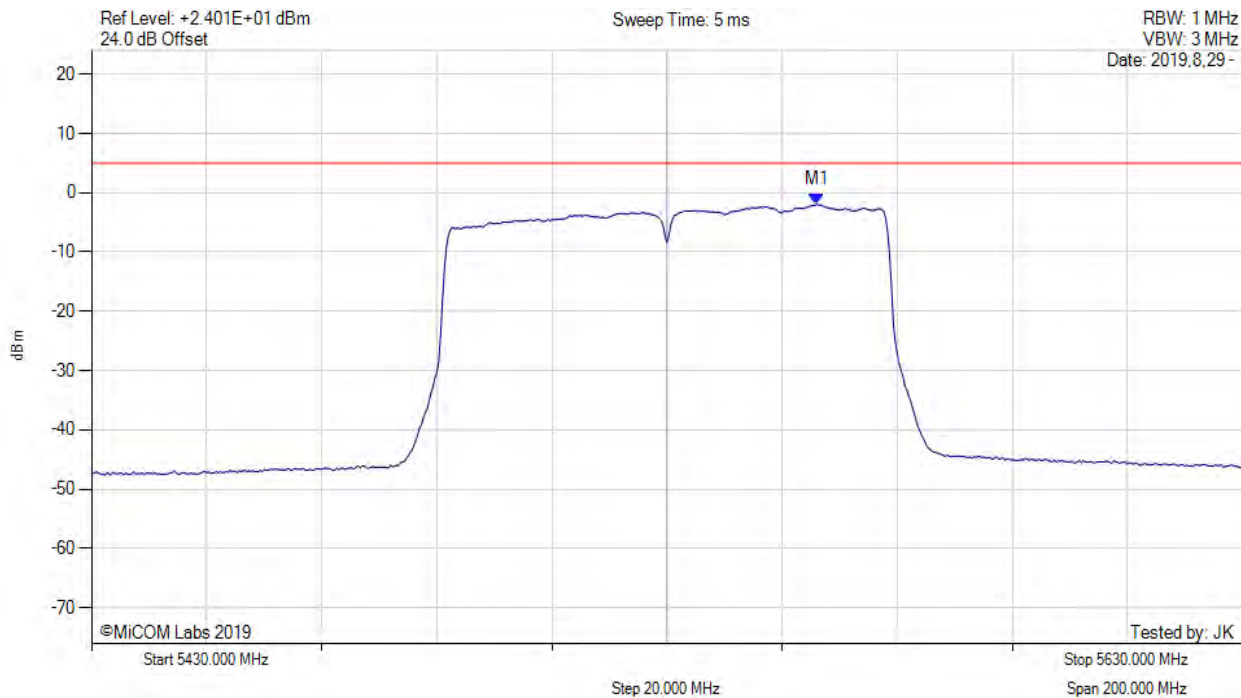Variant: 802.11ac-160, Channel: 5570.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5627.300 MHz : 0.179 dBm M1 + DCCF : 5627.300 MHz : 1.041 dBm Duty Cycle Correction Factor : +0.86 dB	Limit: ≤ 11.0 dBm Margin: -10.0 dB

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 = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5553.700 MHz : -2.876 dBm	Limit: ≤ 4.980 dBm

[back to matrix](#)

POWER SPECTRAL DENSITY

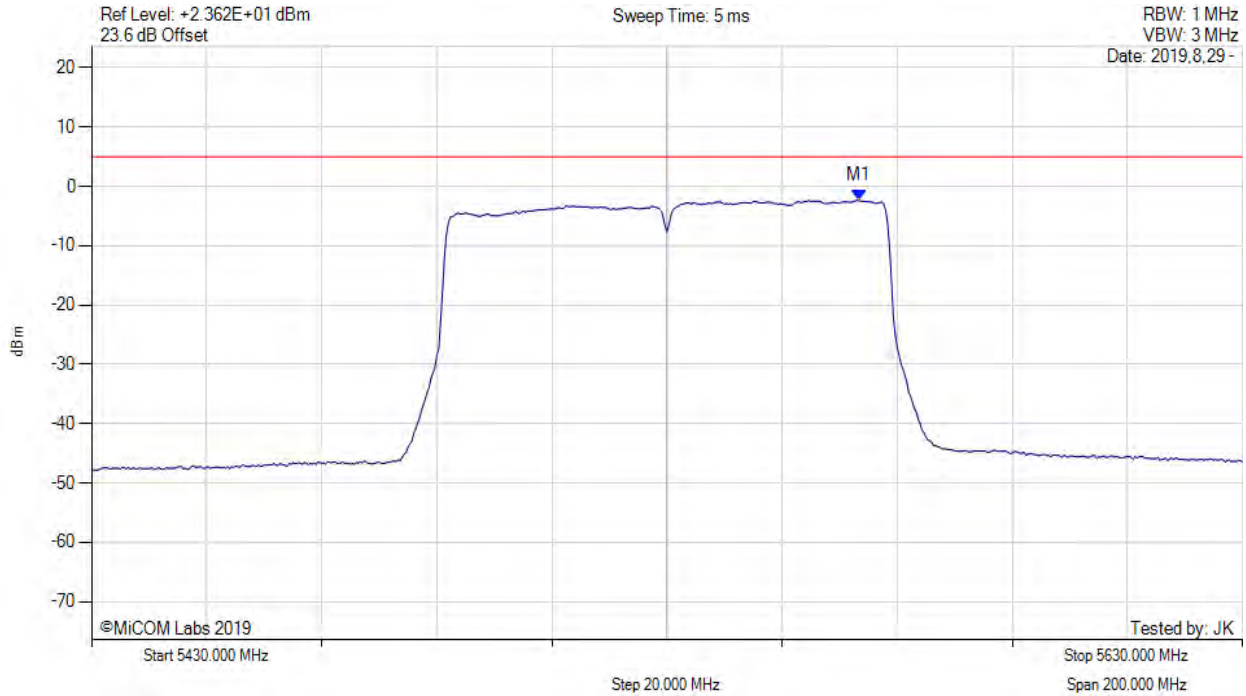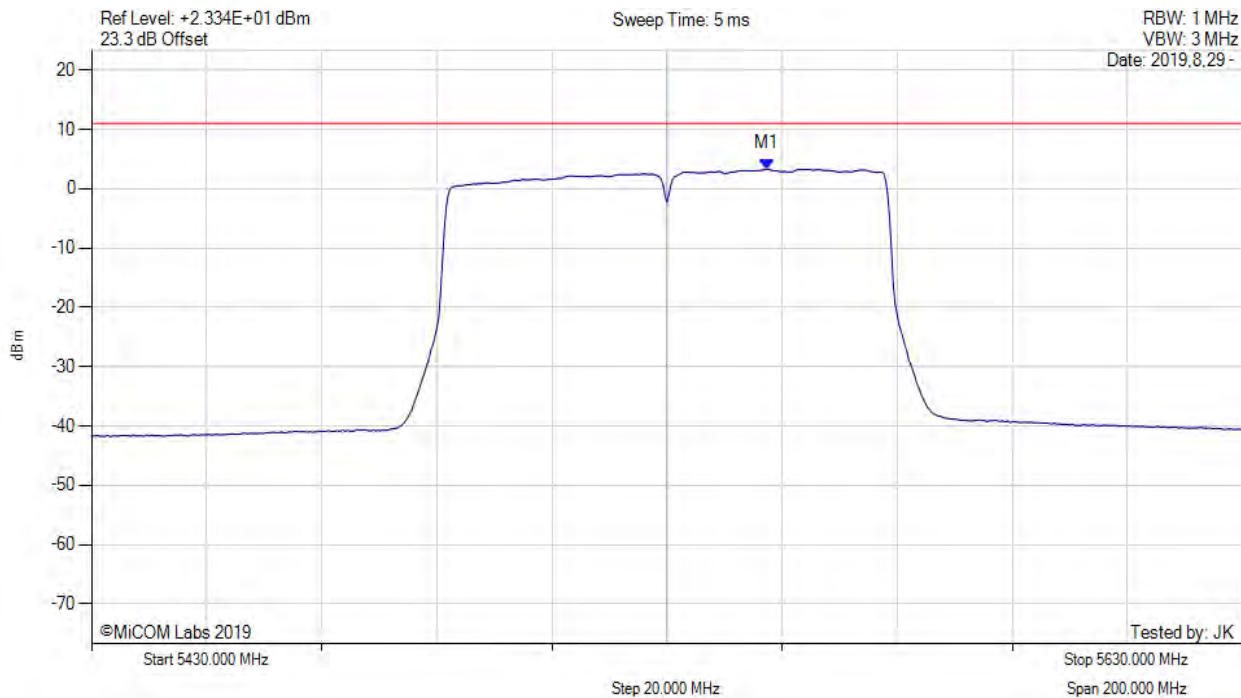Variant: 802.11ac-80, Channel: 5530.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5547.300 MHz : -2.770 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

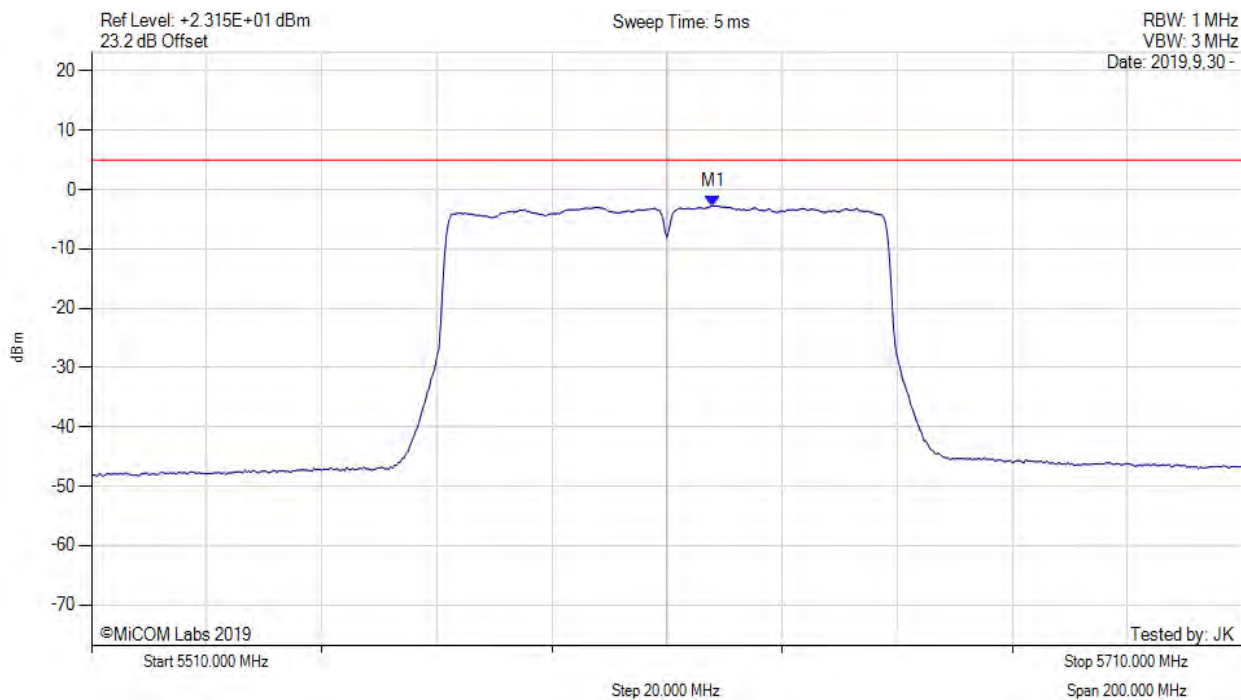Variant: 802.11ac-80, Channel: 5530.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

Ref Level: +2.401E+01 dBm
24.0 dB Offset

Sweep Time: 5 ms

RBW: 1 MHz
VBW: 3 MHz
Date: 2019,8,29 -

M1

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Tested by: JK

Start 5430.000 MHz

Stop 5630.000 MHz

Step 20.000 MHz

Span 200.000 MHz

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5556.000 MHz : -1.926 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

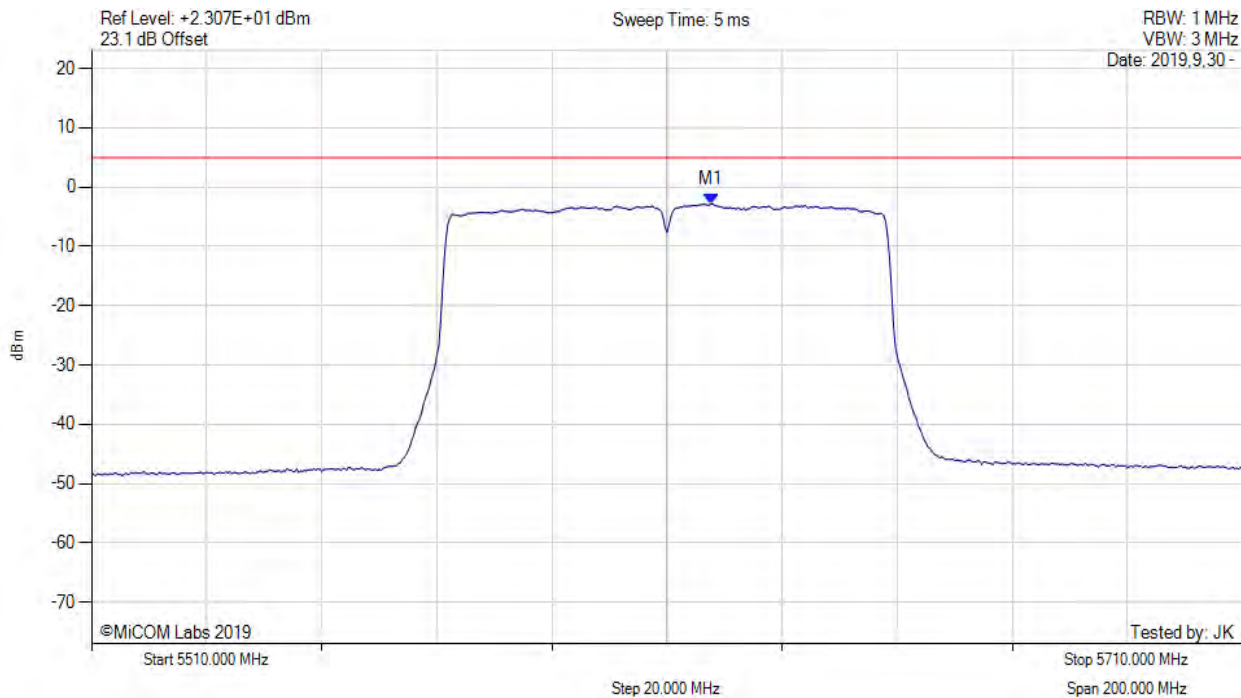| Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5563.300 MHz : -2.314 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

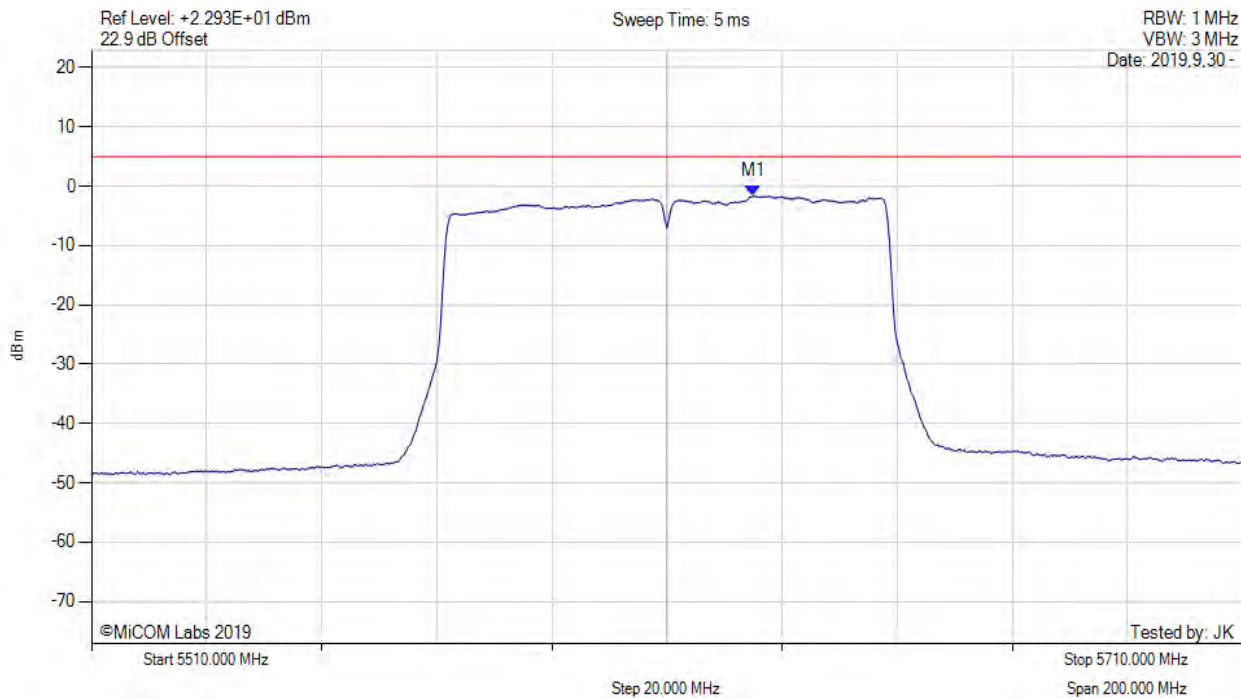### Variant: 802.11ac-80, Channel: 5530.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5547.300 MHz : 3.341 dBm M1 + DCCF : 5547.300 MHz : 3.799 dBm Duty Cycle Correction Factor : +0.46 dB	Limit: ≤ 11.0 dBm Margin: -7.2 dB

back to matrix

POWER SPECTRAL DENSITY

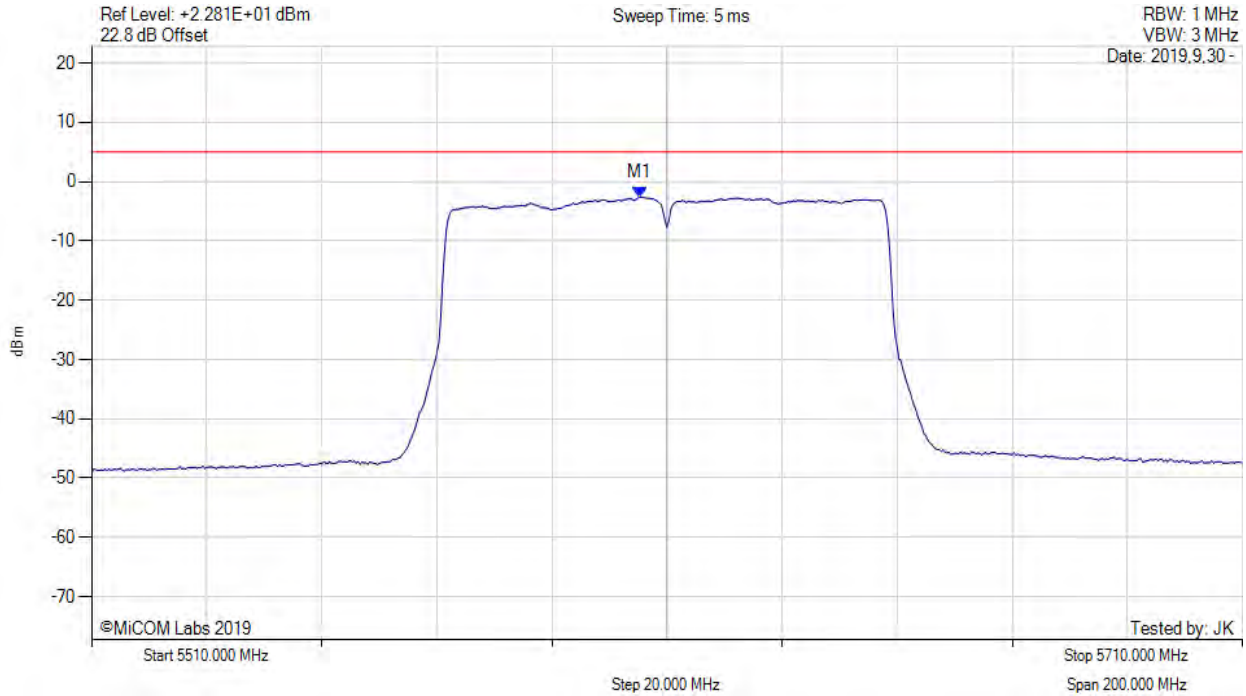Variant: 802.11ac-80, Channel: 5610.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5618.000 MHz : -2.730 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

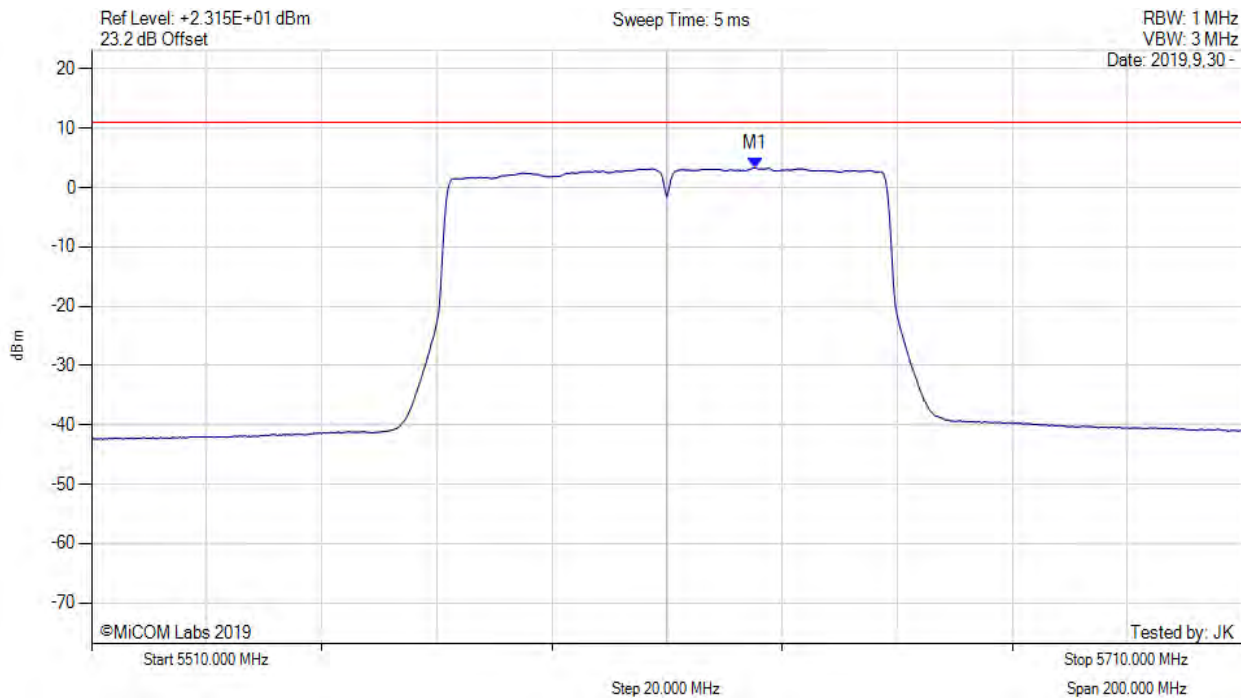Variant: 802.11ac-80, Channel: 5610.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5617.700 MHz : -2.846 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

Ref Level: +2.293E+01 dBm
22.9 dB Offset
Sweep Time: 5 ms
RBW: 1 MHz
VBW: 3 MHz
Date: 2019.9.30 -

Start 5510.000 MHz
Step 20.000 MHz
Stop 5710.000 MHz
Span 200.000 MHz

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Tested by: JK

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5625.000 MHz : -1.659 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

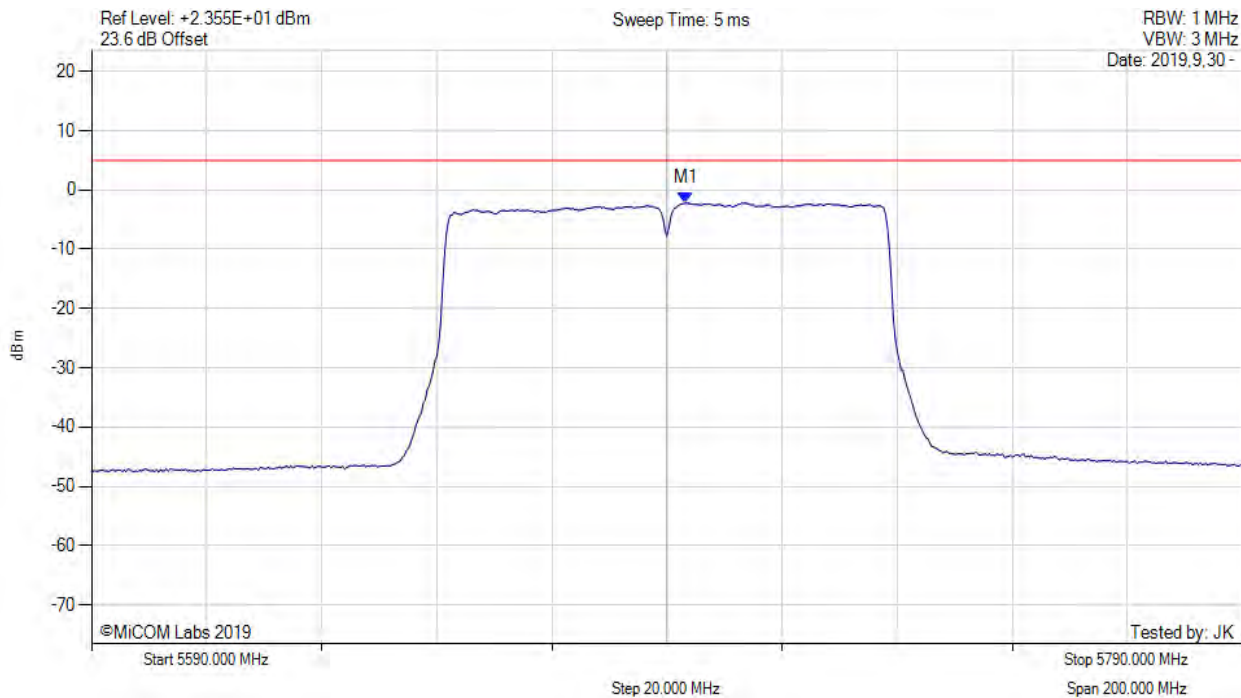Variant: 802.11ac-80, Channel: 5610.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5605.300 MHz : -2.603 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 = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5625.300 MHz : 3.288 dBm M1 + DCCF : 5625.300 MHz : 4.150 dBm Duty Cycle Correction Factor : +0.46 dB	Limit: ≤ 11.0 dBm Margin: -6.9 dB

back to matrix

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personnel. All changes will be noted in the Document History section of the report.
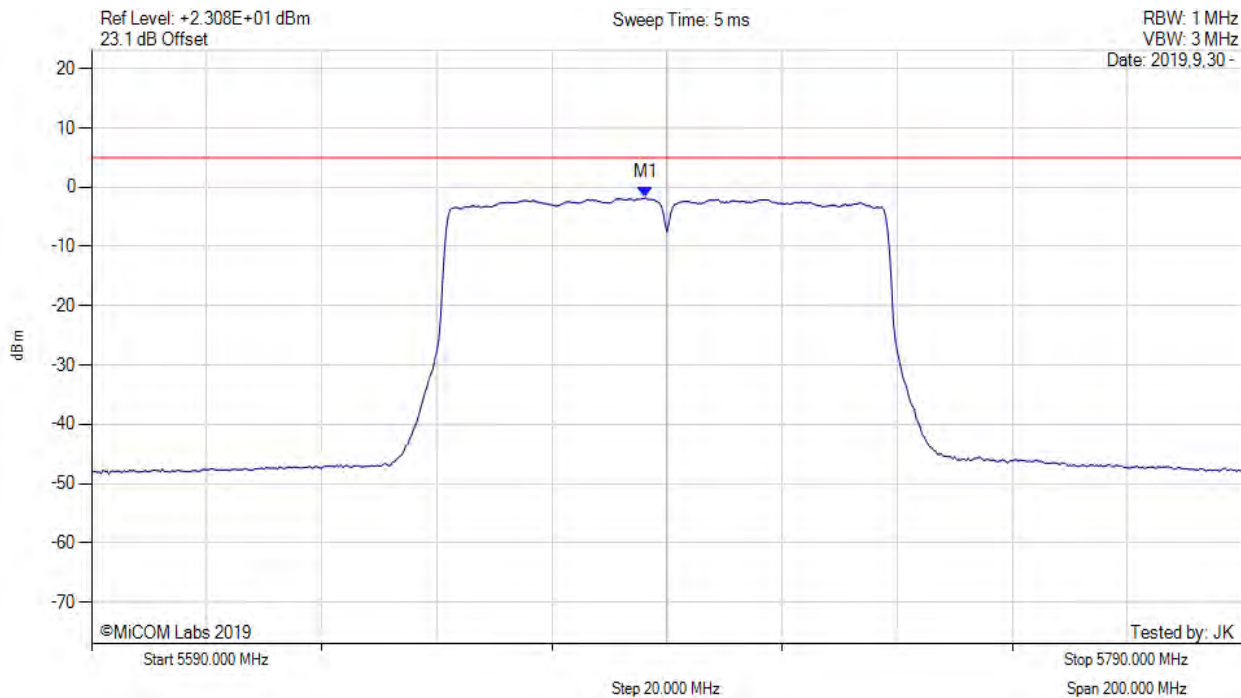MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

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 = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5693.300 MHz : -2.158 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

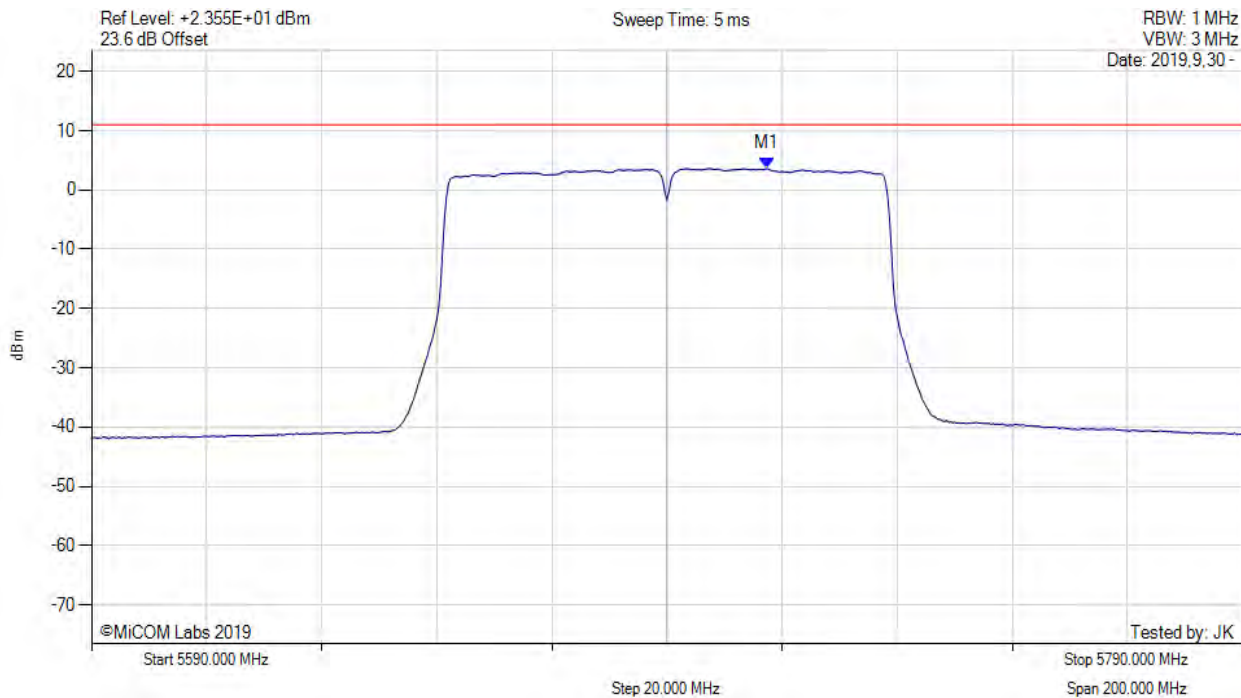Variant: 802.11ac-80, Channel: 5690.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc
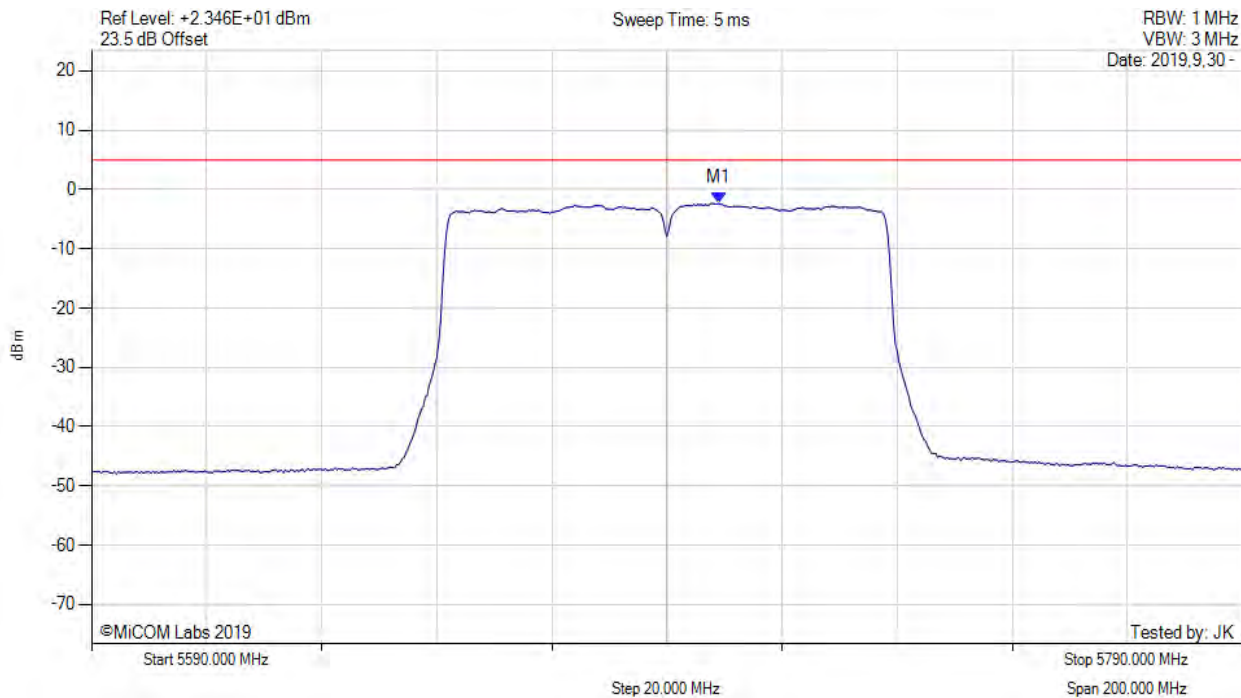
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5699.000 MHz : -2.344 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11ac-80, Channel: 5690.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc
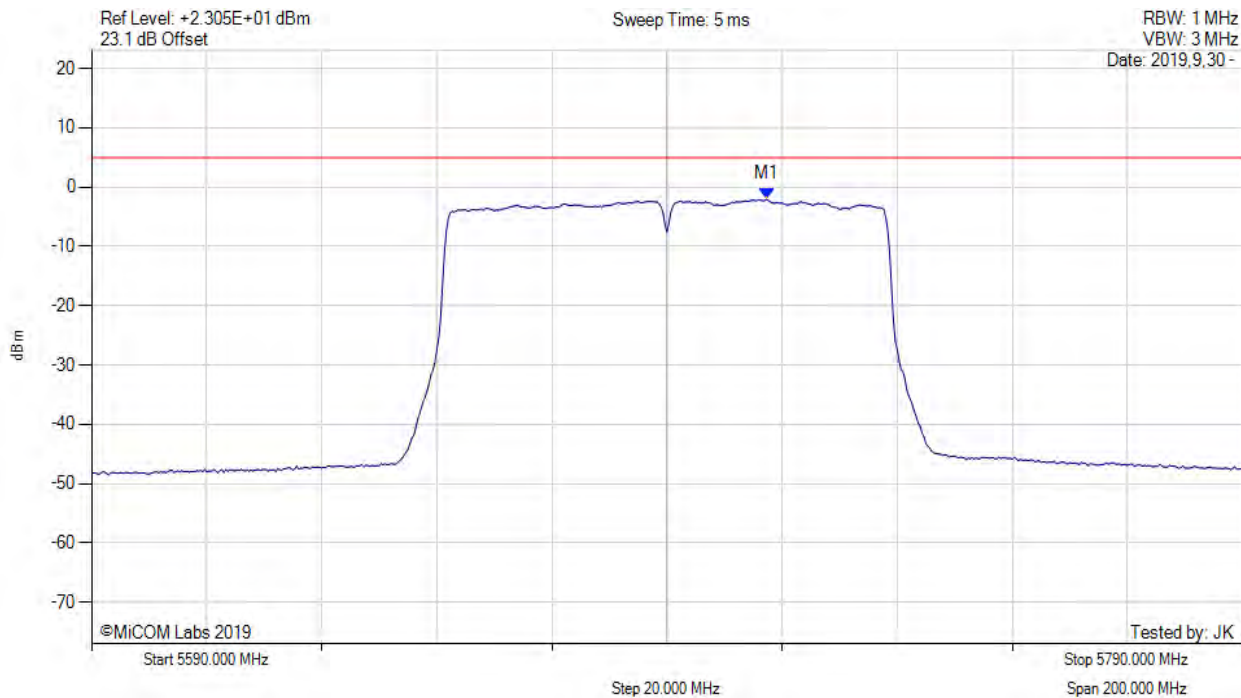
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5707.300 MHz : -2.069 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

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

Ref Level: +2.308E+01 dBm
23.1 dB Offset
Sweep Time: 5 ms
RBW: 1 MHz
VBW: 3 MHz
Date: 2019,9,30 -

Start 5590.000 MHz
Stop 5790.000 MHz
Step 20.000 MHz
Span 200.000 MHz

Tested by: JK

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Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5686.300 MHz : -1.793 dBm	Limit: ≤ 4.980 dBm

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 = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5707.300 MHz : 3.593 dBm M1 + DCCF : 5707.300 MHz : 4.455 dBm Duty Cycle Correction Factor : +0.46 dB	Limit: ≤ 11.0 dBm Margin: -6.6 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5500.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc
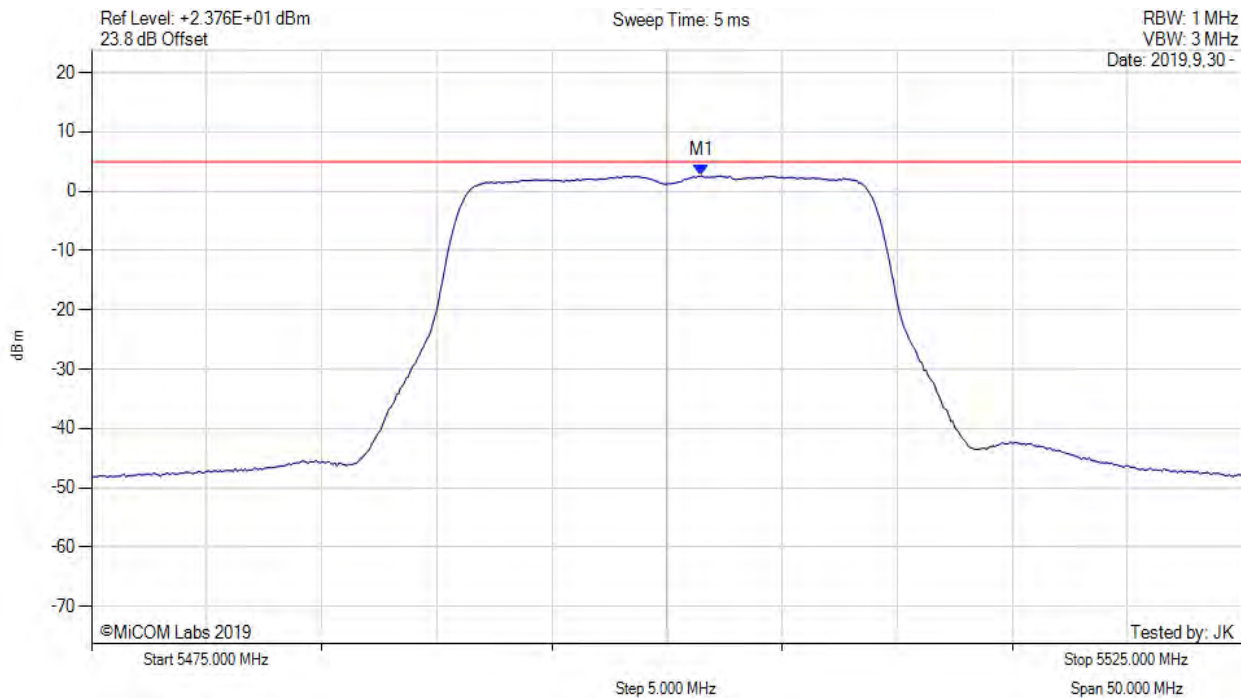
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5501.500 MHz : 2.618 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

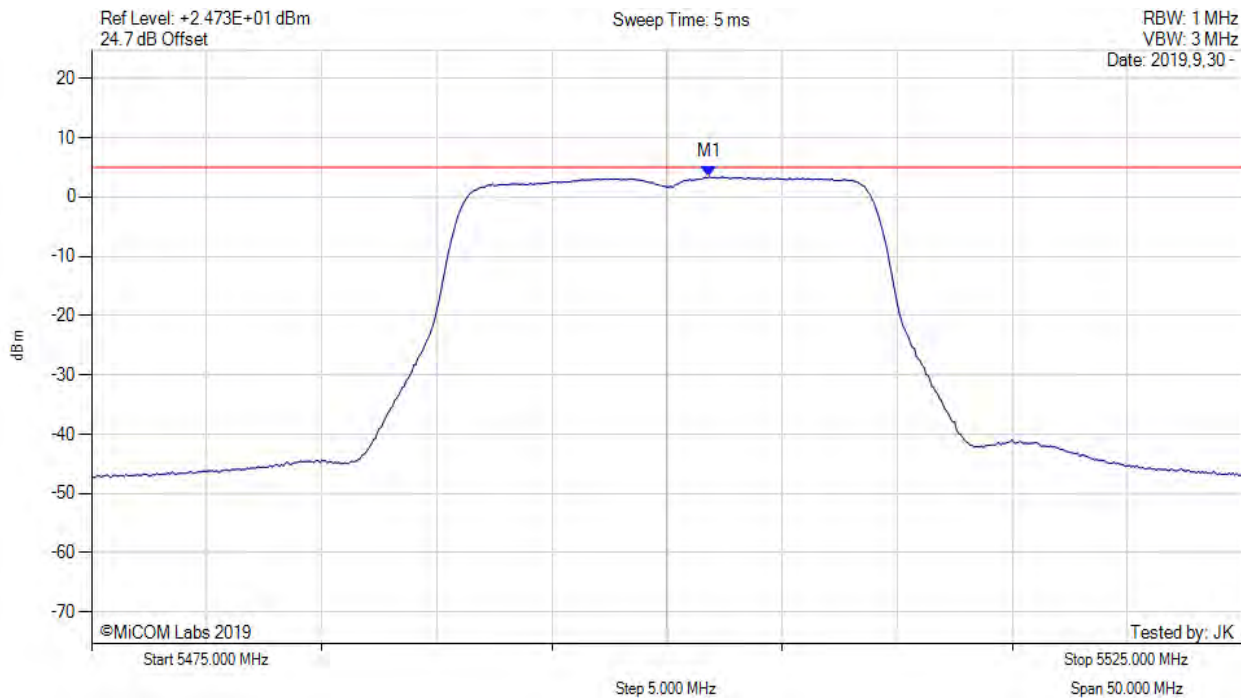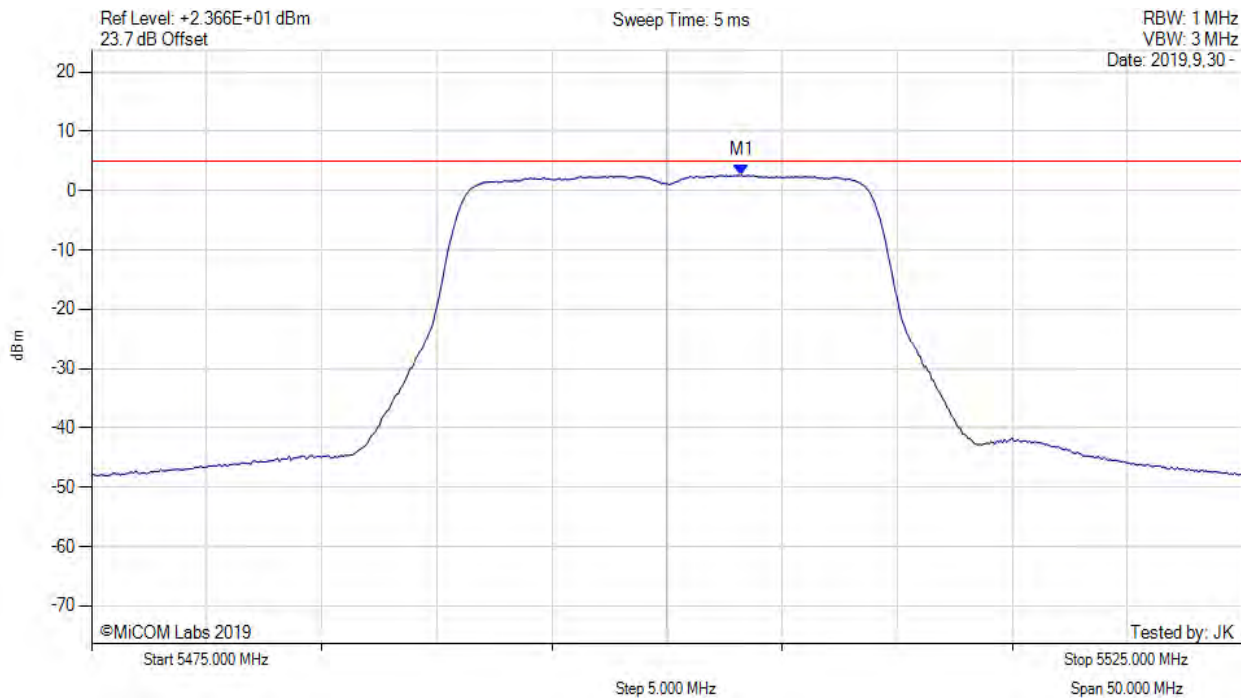Variant: 802.11n HT-20, Channel: 5500.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc
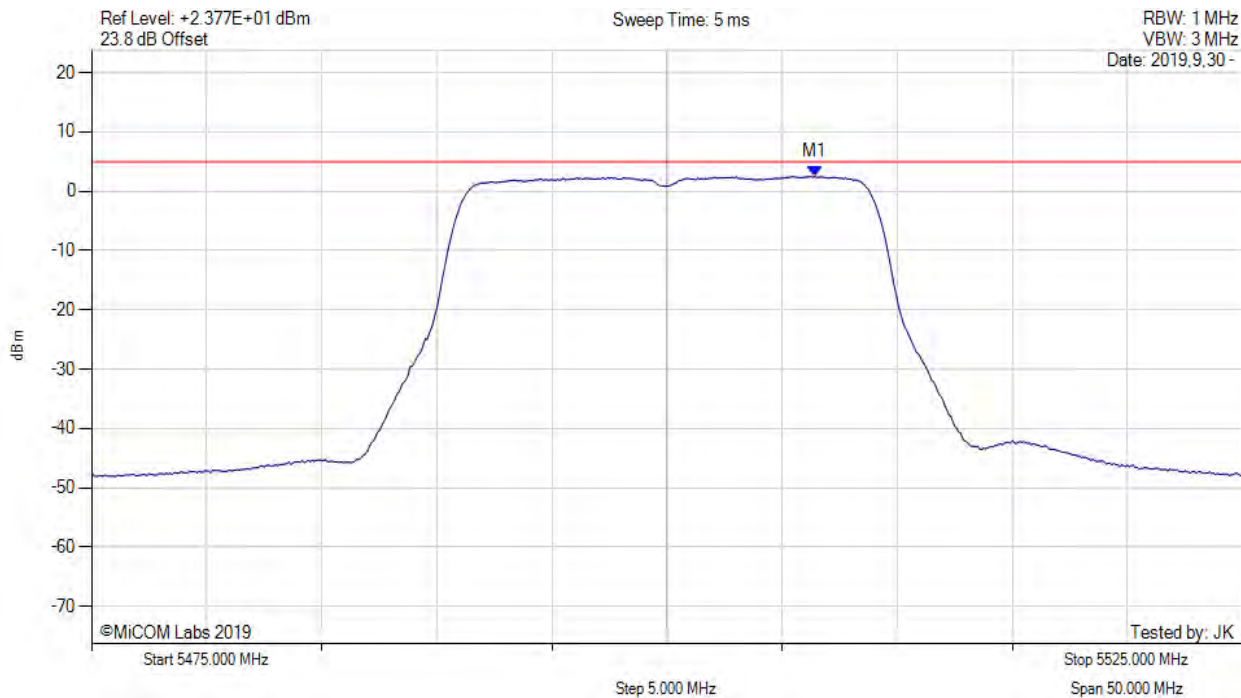
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5506.420 MHz : 2.505 dBm	Limit: ≤ 4.980 dBm

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 = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5501.830 MHz : 3.387 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
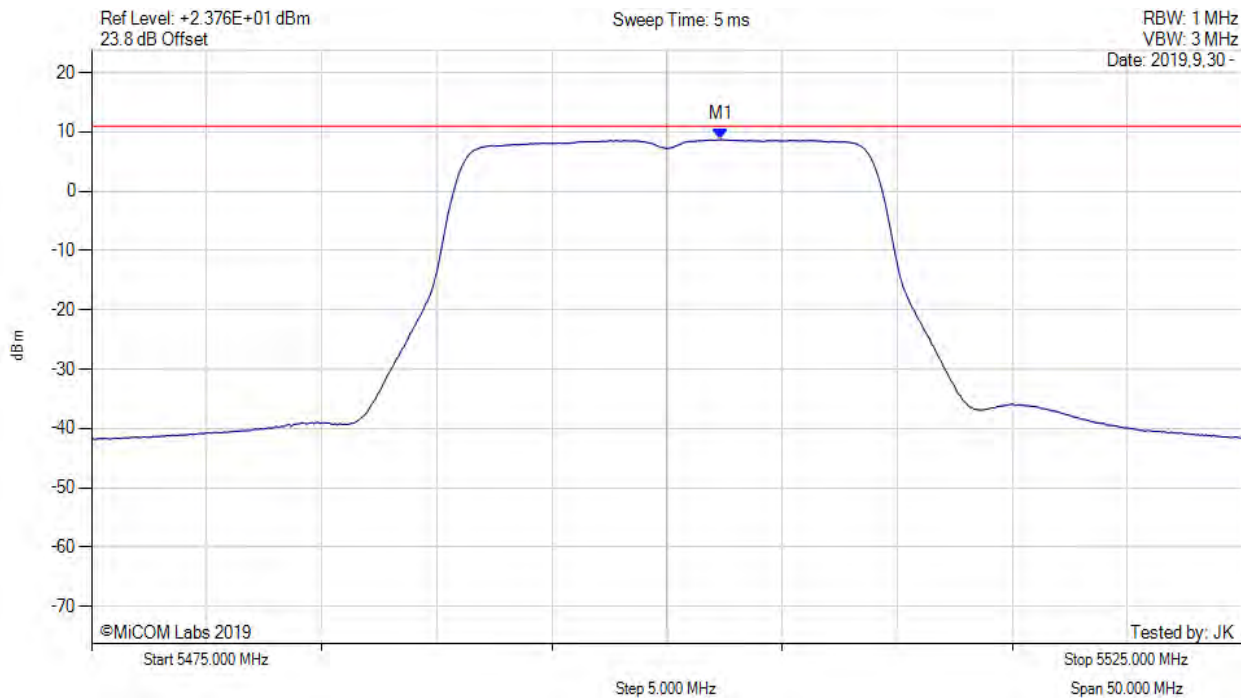

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5503.250 MHz : 2.574 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

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

Ref Level: +2.376E+01 dBm
23.8 dB Offset

Sweep Time: 5 ms

RBW: 1 MHz
VBW: 3 MHz
Date: 2019,9,30 -

Start 5475.000 MHz

Step 5.000 MHz

Stop 5525.000 MHz

Span 50.000 MHz

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Tested by: JK

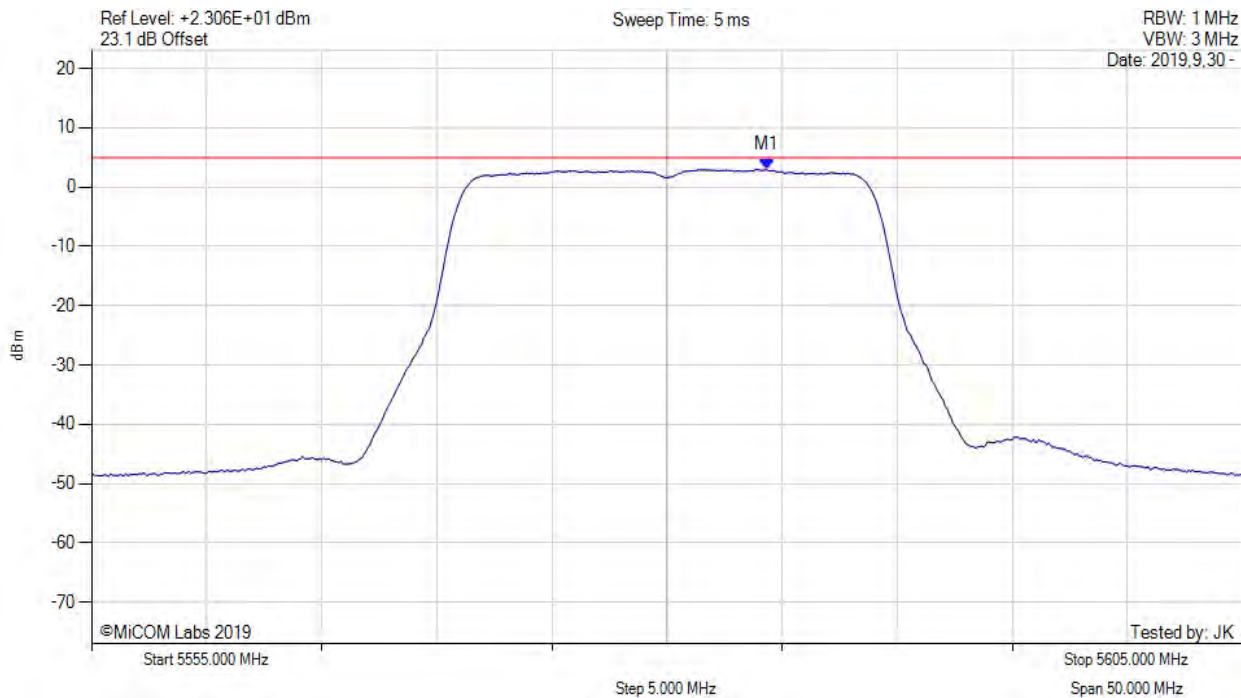| Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5502.300 MHz : 8.707 dBm M1 + DCCF : 5502.300 MHz : 8.839 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 11.0 dBm Margin: -2.2 dB

back to matrix

POWER SPECTRAL DENSITY

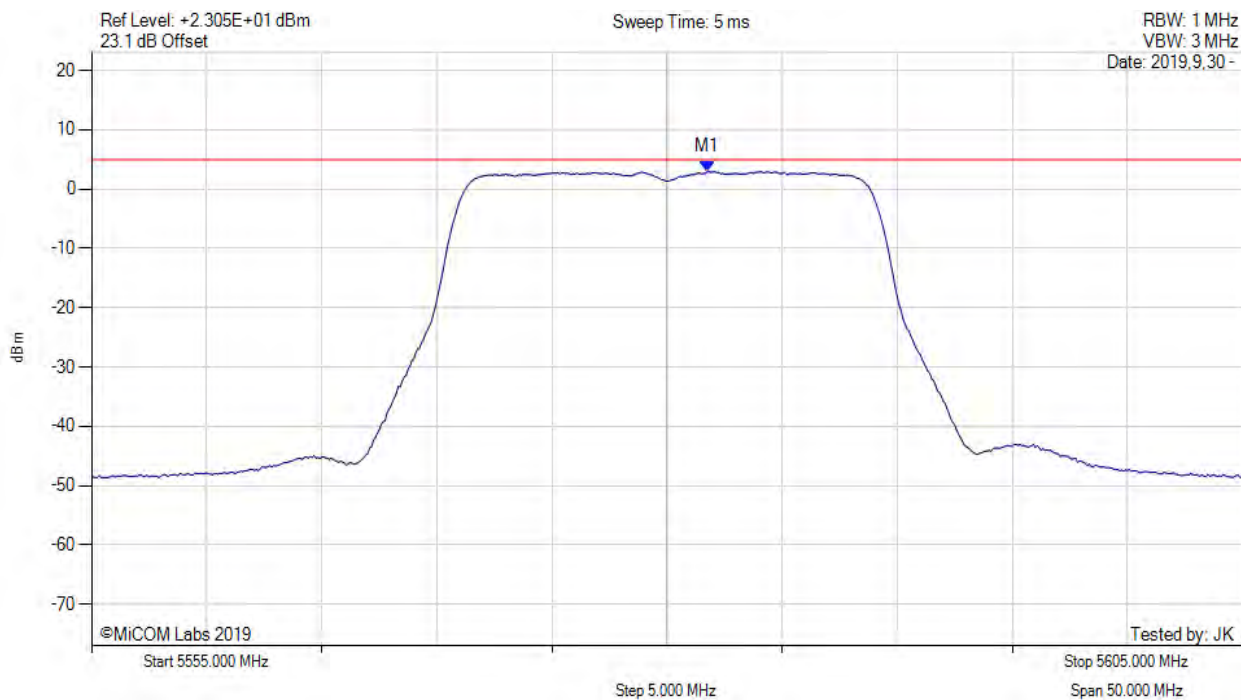Variant: 802.11n HT-20, Channel: 5580.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5584.330 MHz : 2.973 dBm	Limit: ≤ 4.980 dBm

POWER SPECTRAL DENSITY

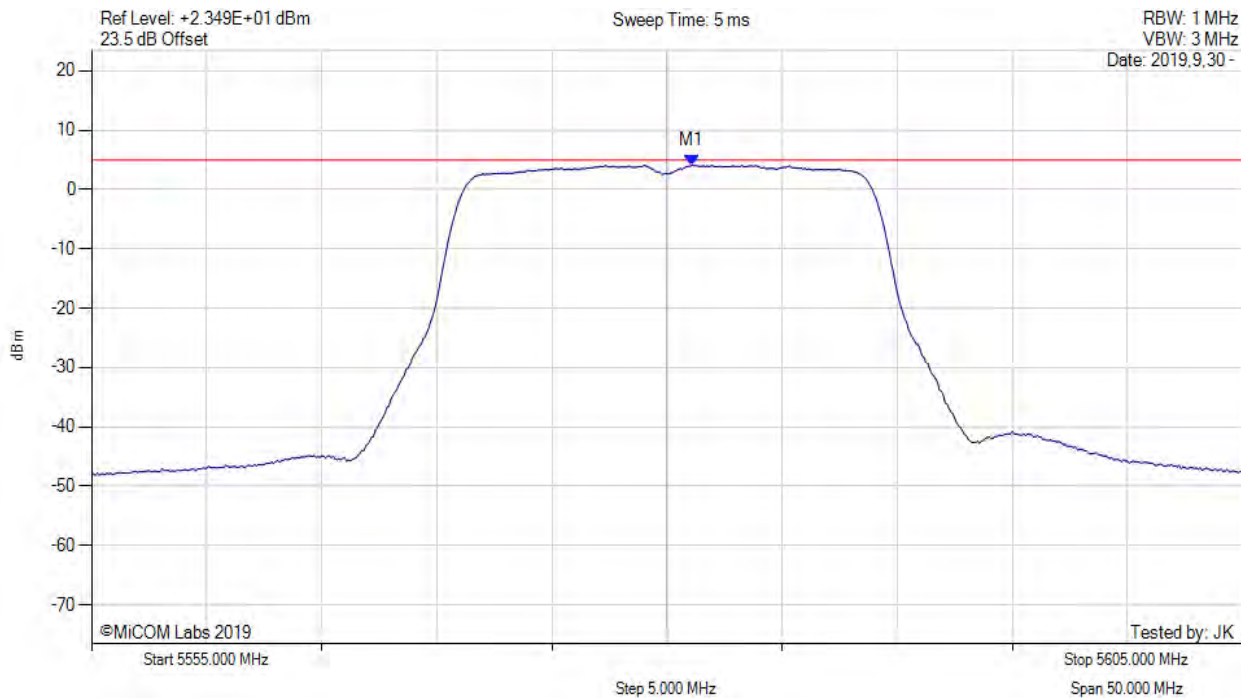Variant: 802.11n HT-20, Channel: 5580.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5581.750 MHz : 2.933 dBm	Channel Frequency: 5580.00 MHz

back to matrix

POWER SPECTRAL DENSITY

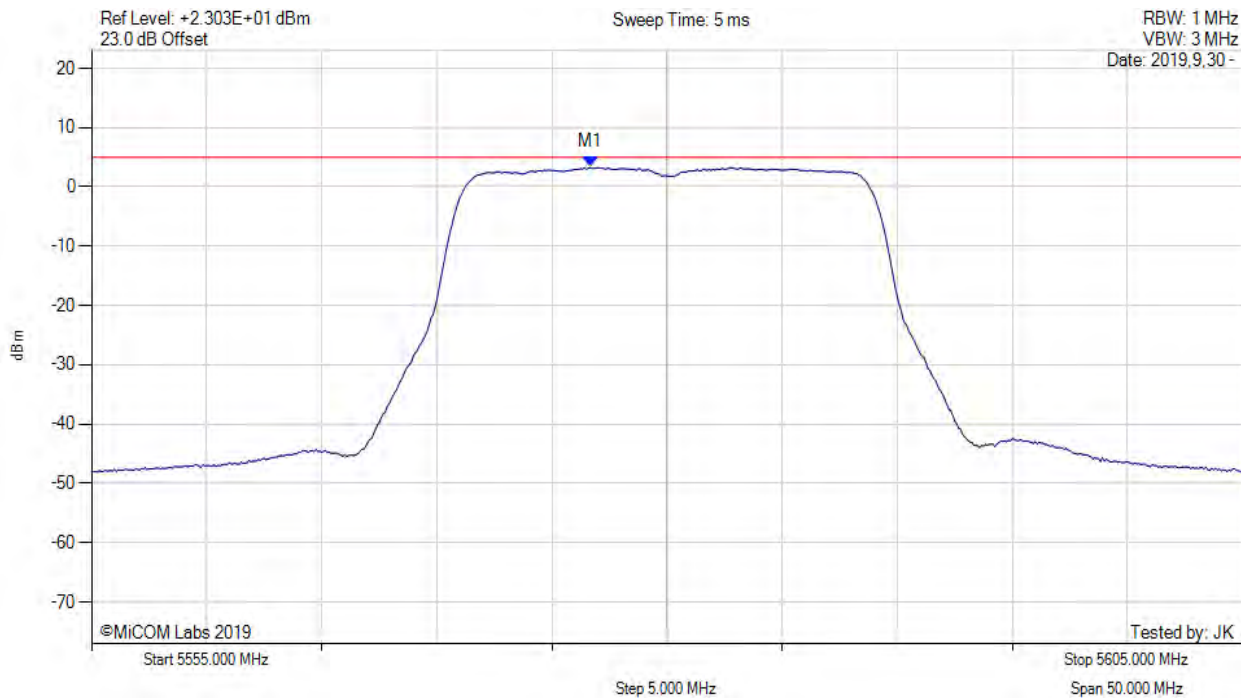Variant: 802.11n HT-20, Channel: 5580.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

Ref Level: +2.349E+01 dBm
23.5 dB Offset
Sweep Time: 5 ms
RBW: 1 MHz
VBW: 3 MHz
Date: 2019,9,30 -

Start 5555.000 MHz
Stop 5605.000 MHz
Step 5.000 MHz
Span 50.000 MHz
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Tested by: JK

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5581.080 MHz : 4.147 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

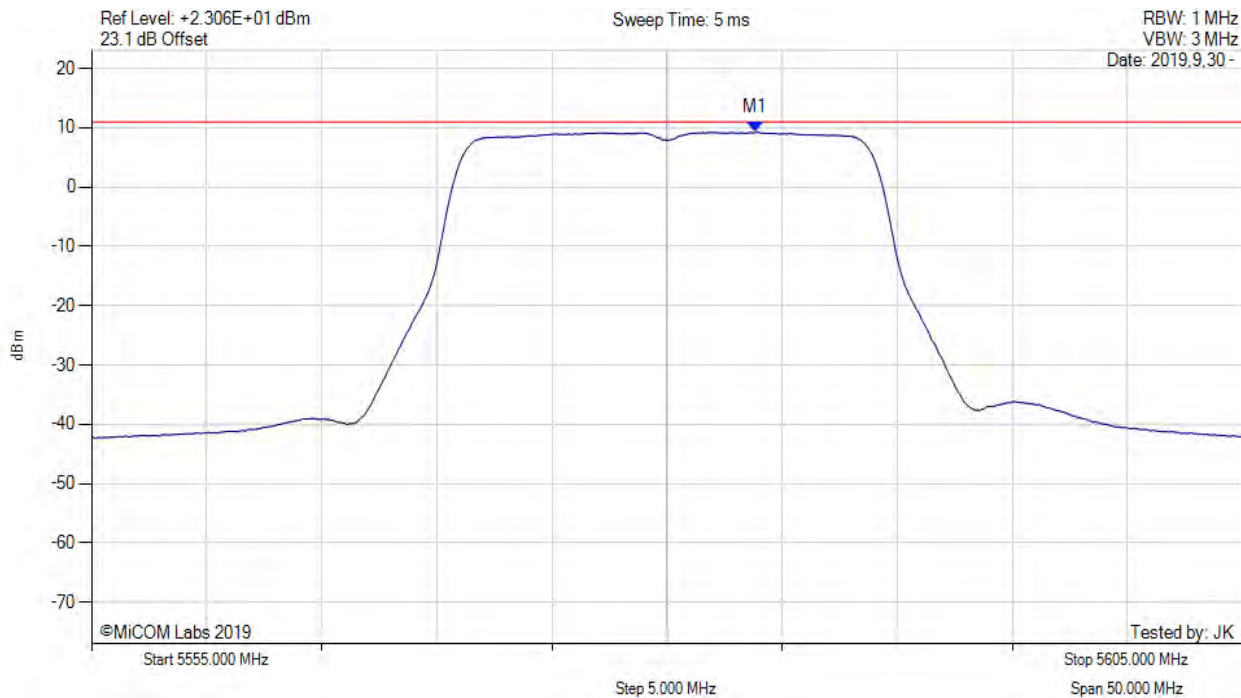Variant: 802.11n HT-20, Channel: 5580.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5576.670 MHz : 3.280 dBm	Limit: ≤ 4.980 dBm

POWER SPECTRAL DENSITY

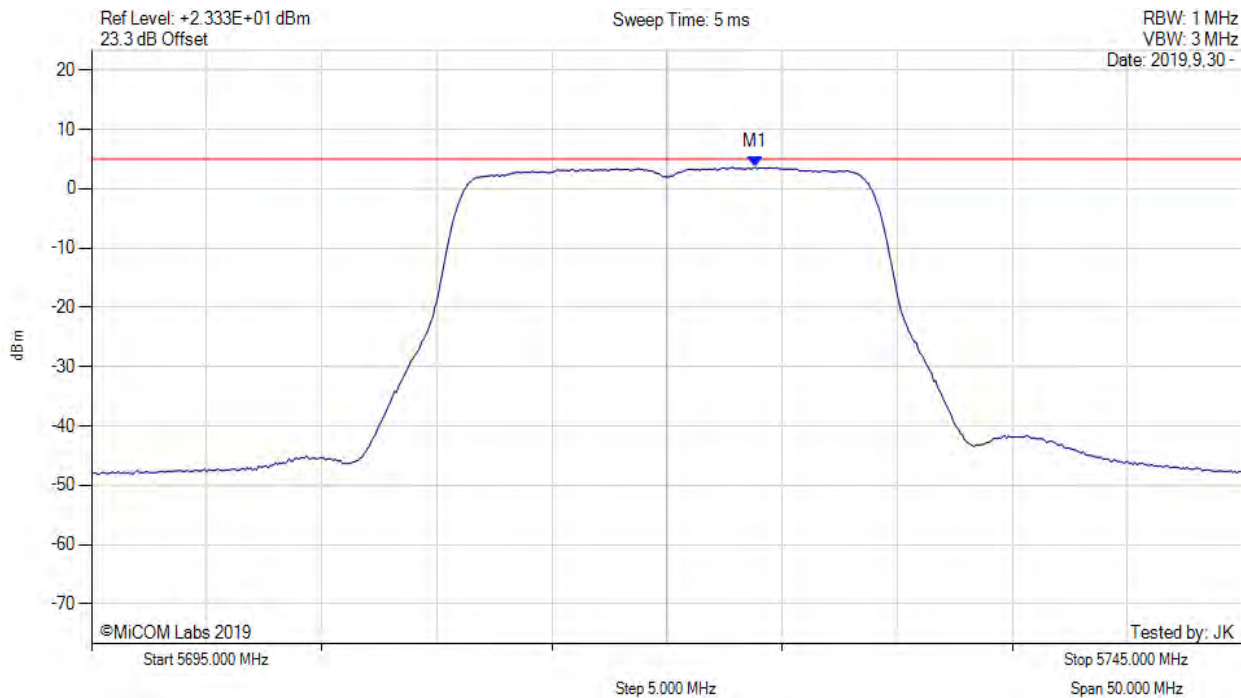Variant: 802.11n HT-20, Channel: 5580.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5583.800 MHz : 9.222 dBm M1 + DCCF : 5583.800 MHz : 9.354 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 11.0 dBm Margin: -1.7 dB

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 = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5723.830 MHz : 3.615 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

Ref Level: +2.327E+01 dBm
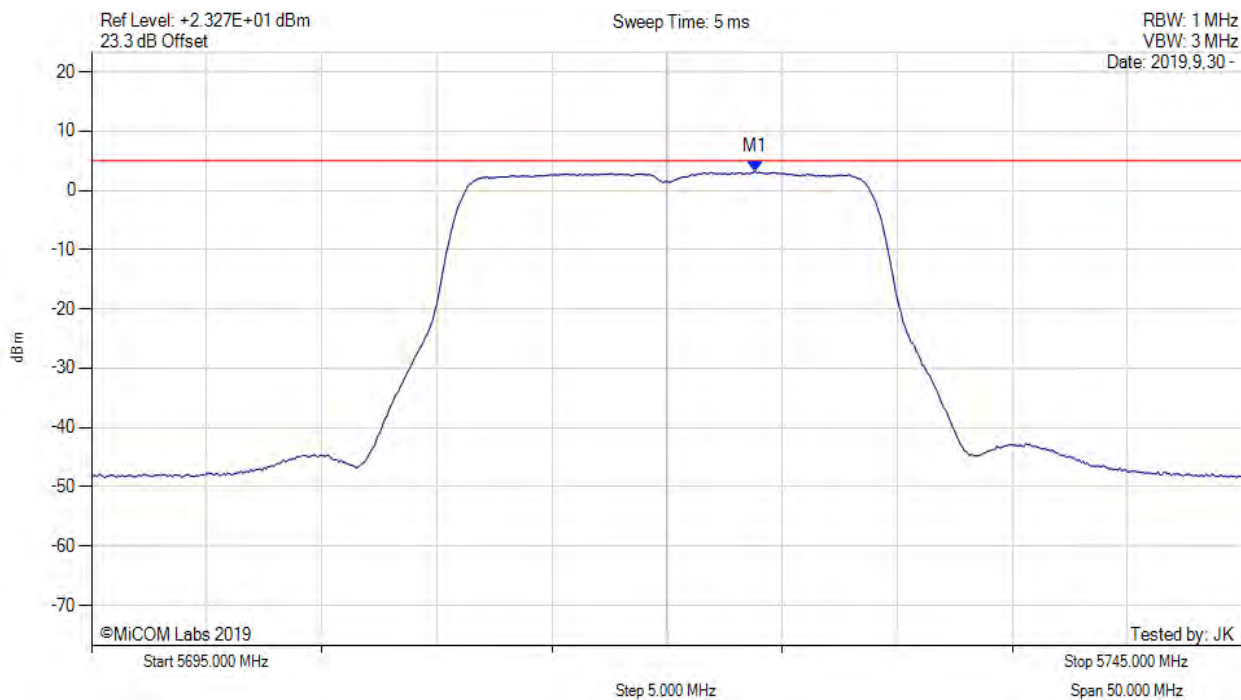23.3 dB Offset

Sweep Time: 5 ms

RBW: 1 MHz
VBW: 3 MHz
Date: 2019,9,30 -

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Tested by: JK

Start 5695.000 MHz

Stop 5745.000 MHz

Step 5.000 MHz

Span 50.000 MHz

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5723.830 MHz : 3.183 dBm	Limit: ≤ 4.980 dBm

back to matrix

Issue Date: 8th October 2019   **Page:** 223 of 242

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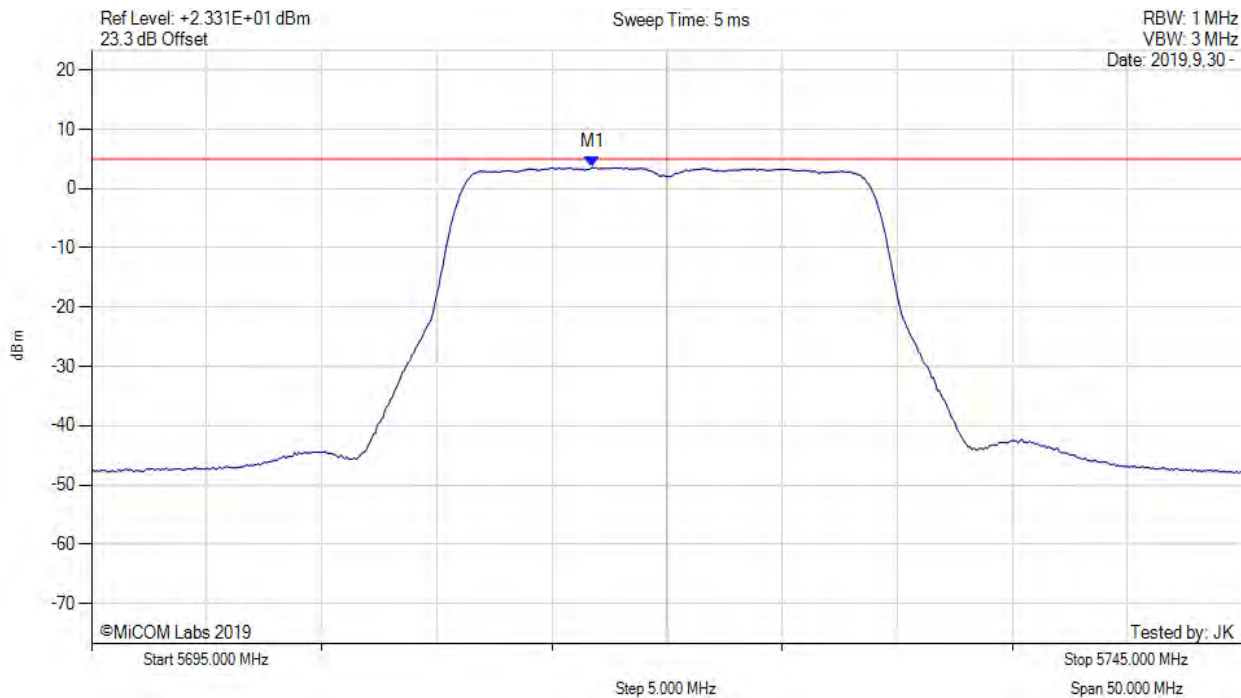
POWER SPECTRAL DENSITY

Variant: 802.11n HT-20, Channel: 5720.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc
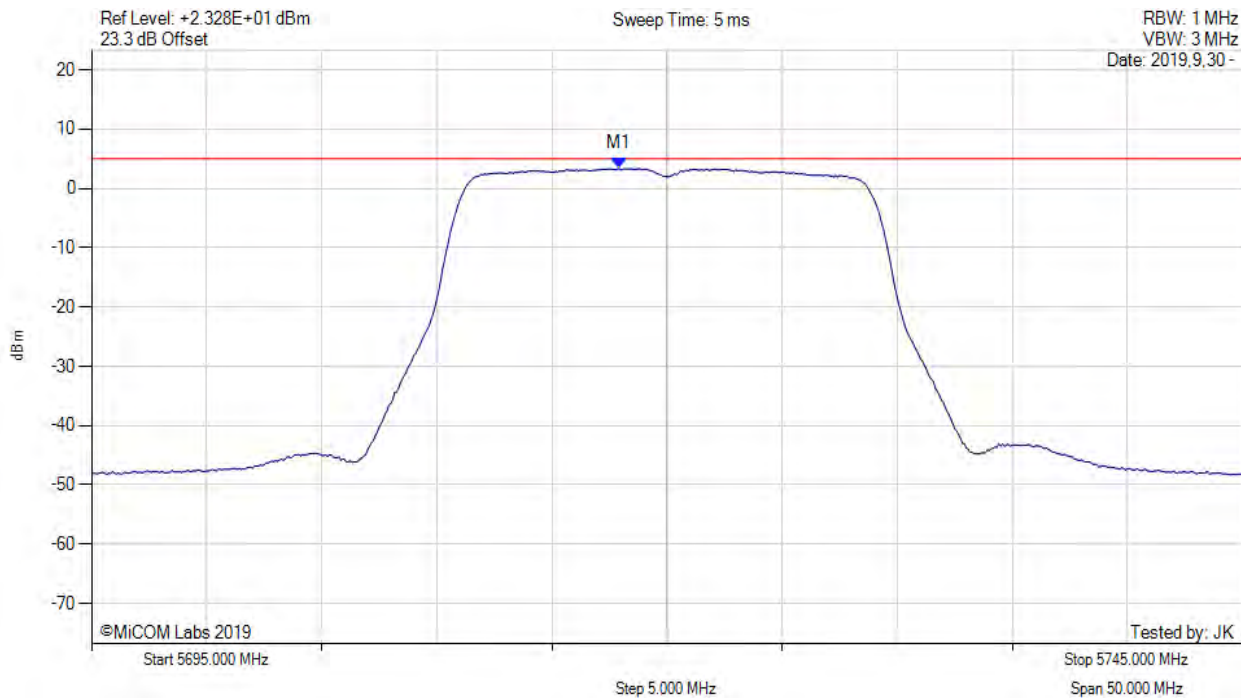
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5717.920 MHz : 3.358 dBm	Limit: ≤ 4.980 dBm

POWER SPECTRAL DENSITY

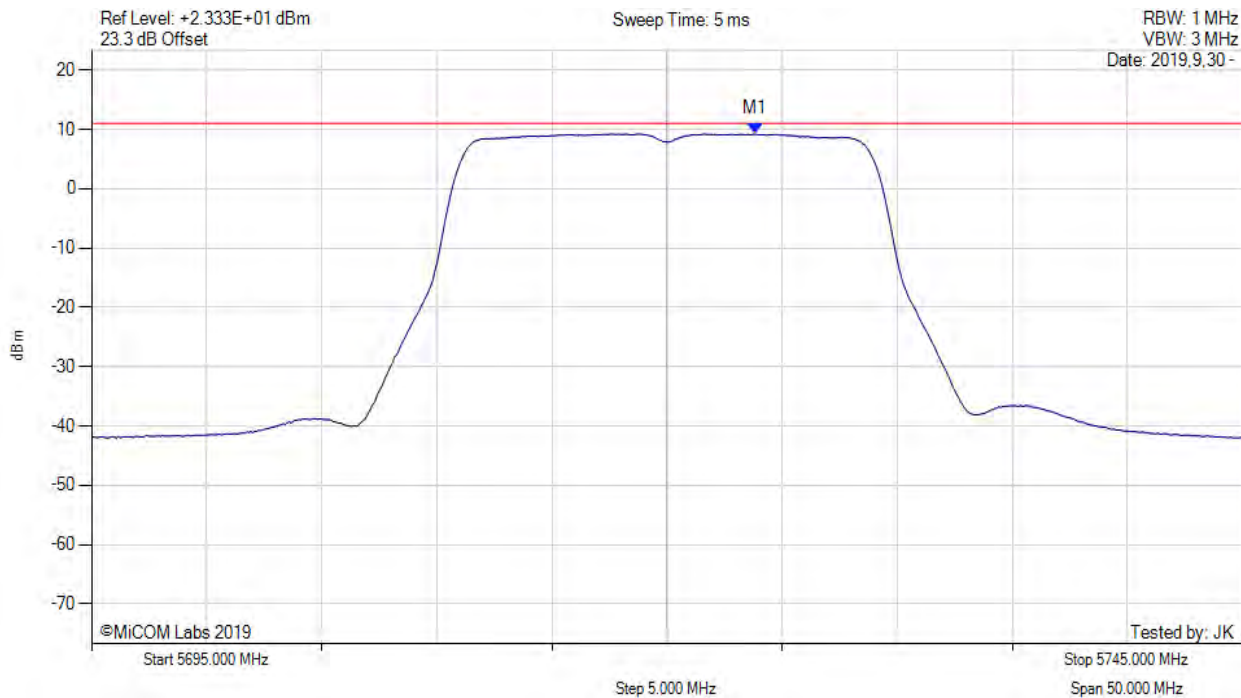Variant: 802.11n HT-20, Channel: 5720.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5716.750 MHz : 3.570 dBm	Limit: ≤ 4.980 dBm

POWER SPECTRAL DENSITY

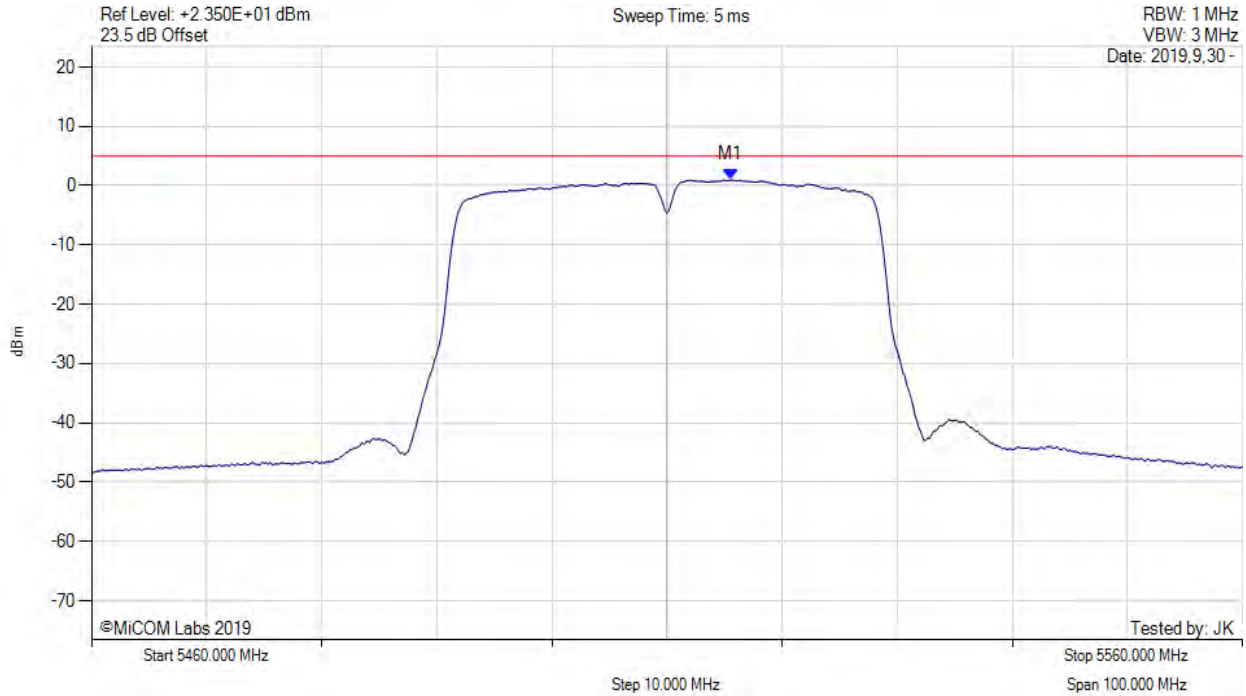Variant: 802.11n HT-20, Channel: 5720.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5723.800 MHz : 9.242 dBm M1 + DCCF : 5723.800 MHz : 9.374 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 11.0 dBm Margin: -1.6 dB

back to matrix

POWER SPECTRAL DENSITY

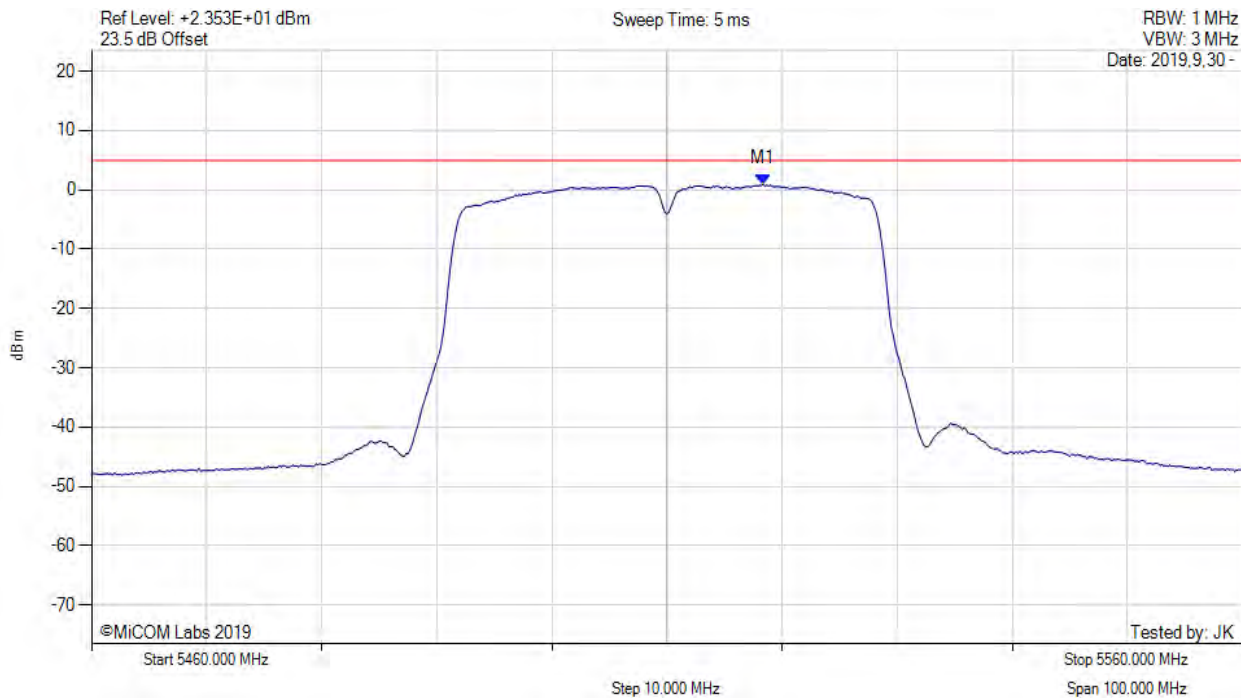Variant: 802.11n HT-40, Channel: 5510.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5515.500 MHz : 0.967 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

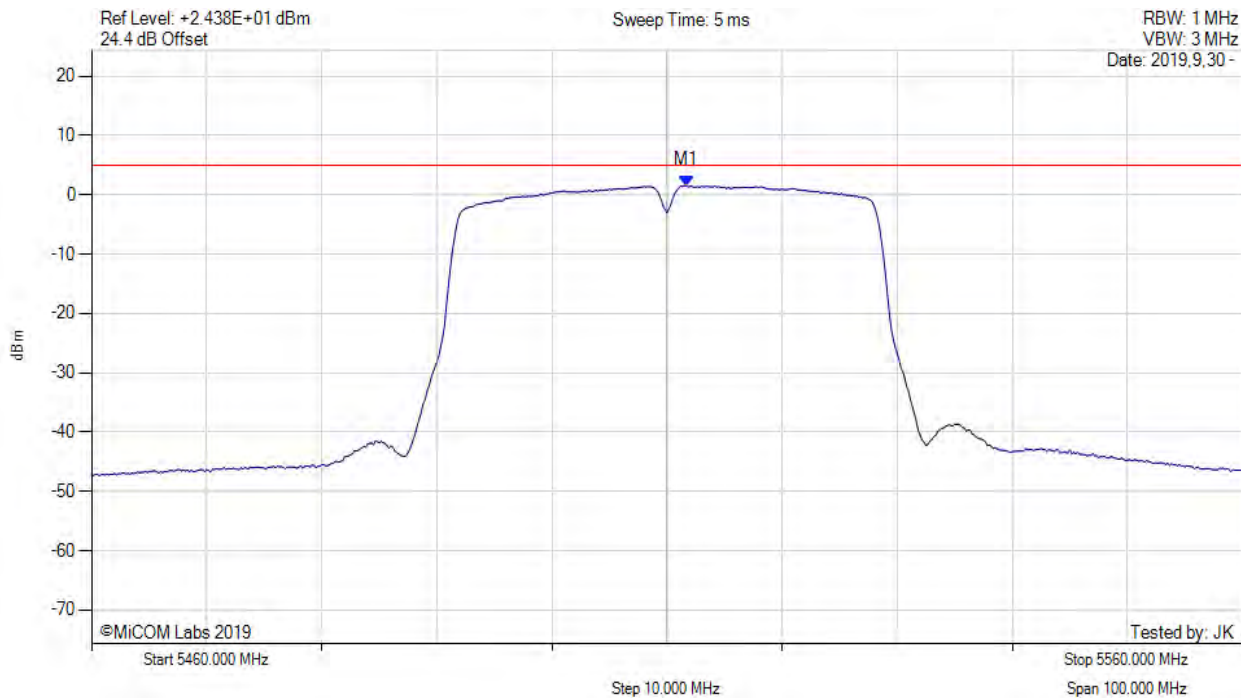Variant: 802.11n HT-40, Channel: 5510.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5518.330 MHz : 0.935 dBm	Limit: ≤ 4.980 dBm

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

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 = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5511.670 MHz : 1.561 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

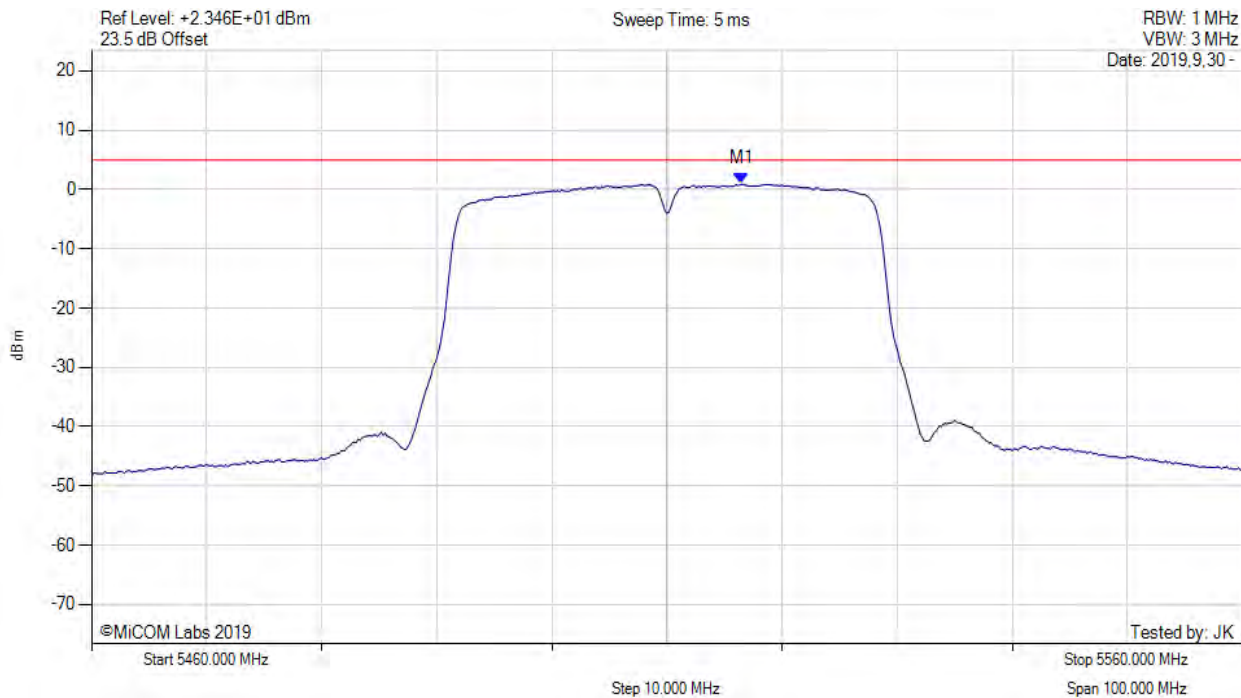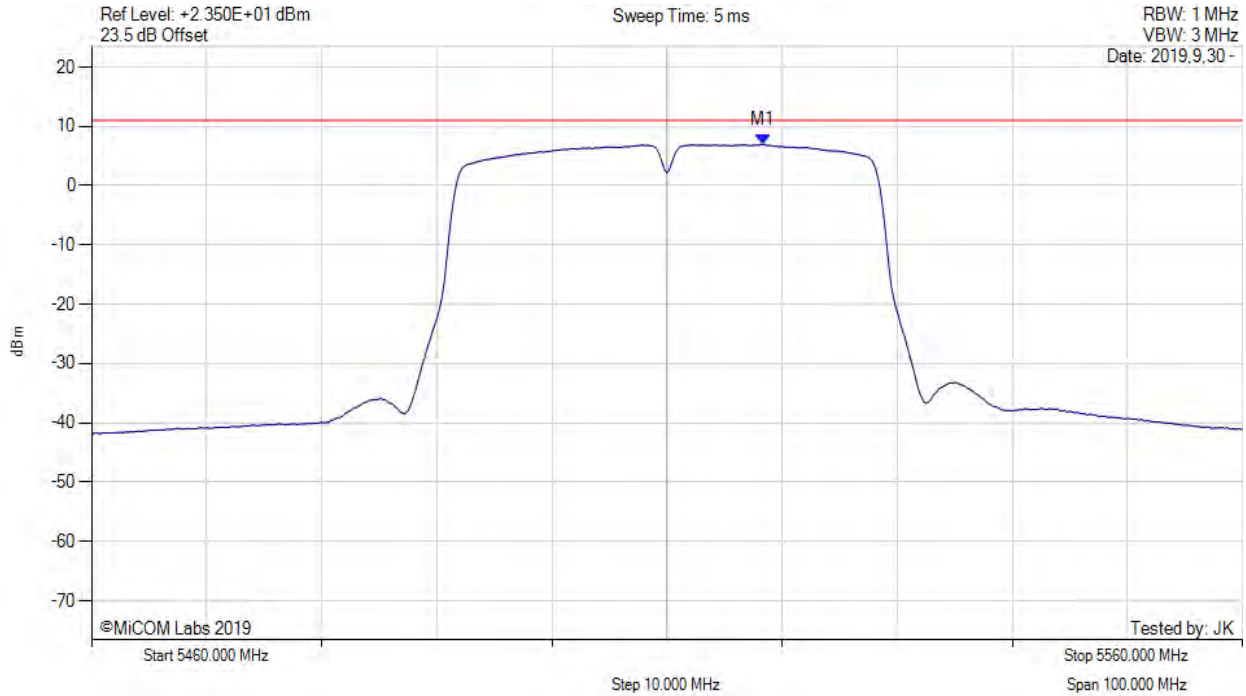Variant: 802.11n HT-40, Channel: 5510.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5516.500 MHz : 0.898 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

Ref Level: +2.350E+01 dBm
23.5 dB Offset
Sweep Time: 5 ms
RBW: 1 MHz
VBW: 3 MHz
Date: 2019,9,30 -

Start 5460.000 MHz
Stop 5560.000 MHz
Step 10.000 MHz
Span 100.000 MHz

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Tested by: JK

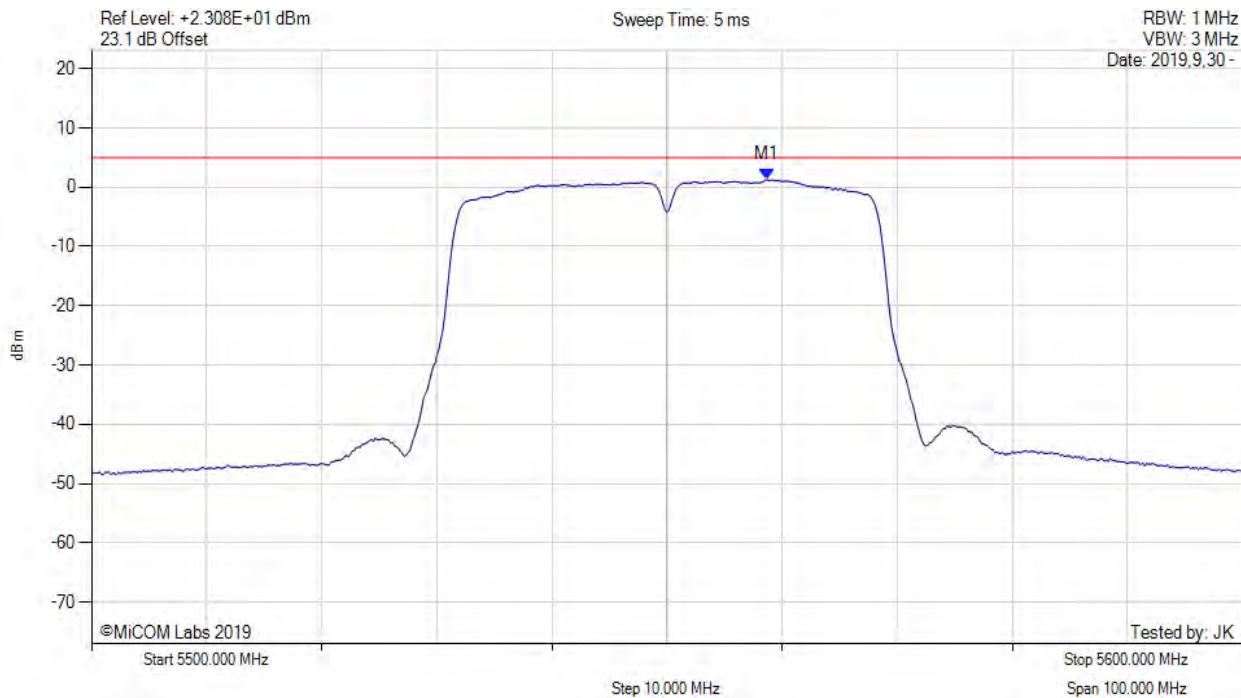| Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5518.300 MHz : 6.939 dBm M1 + DCCF : 5518.300 MHz : 7.071 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 11.0 dBm Margin: -3.9 dB

back to matrix

POWER SPECTRAL DENSITY

Variant: 802.11n HT-40, Channel: 5550.00 MHz, Chain a, Temp: 20, Voltage: 24 Vdc
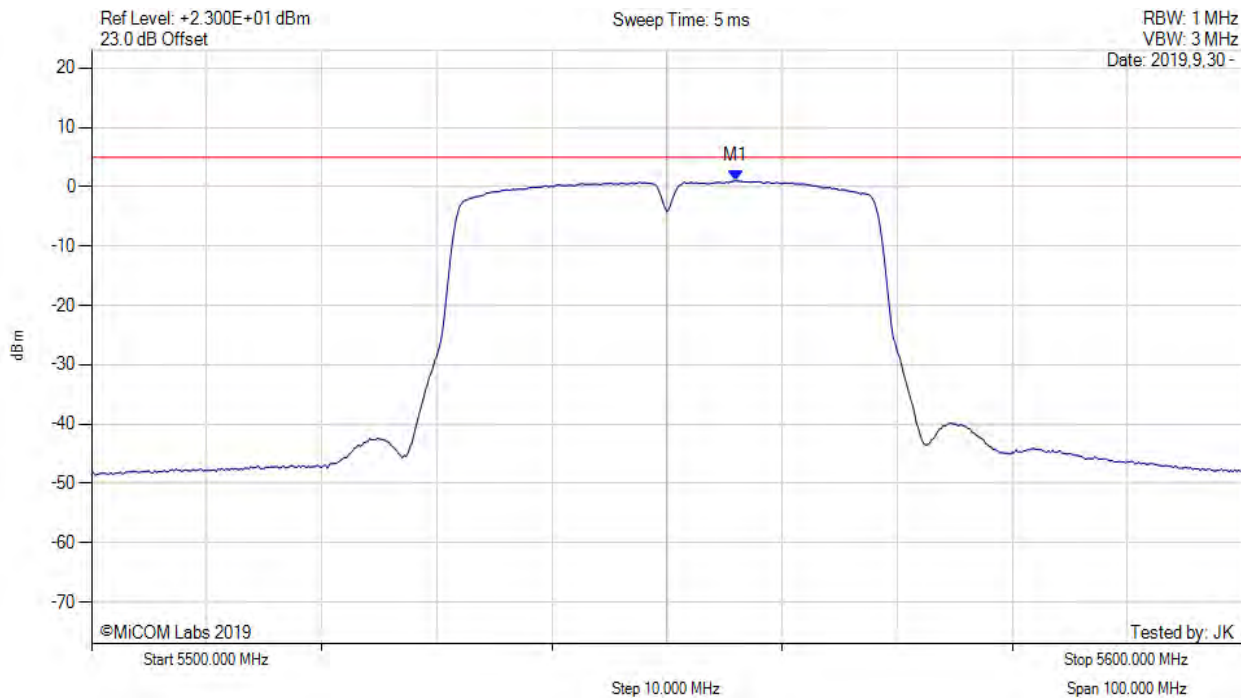
Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5556.000 MHz : 1.021 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

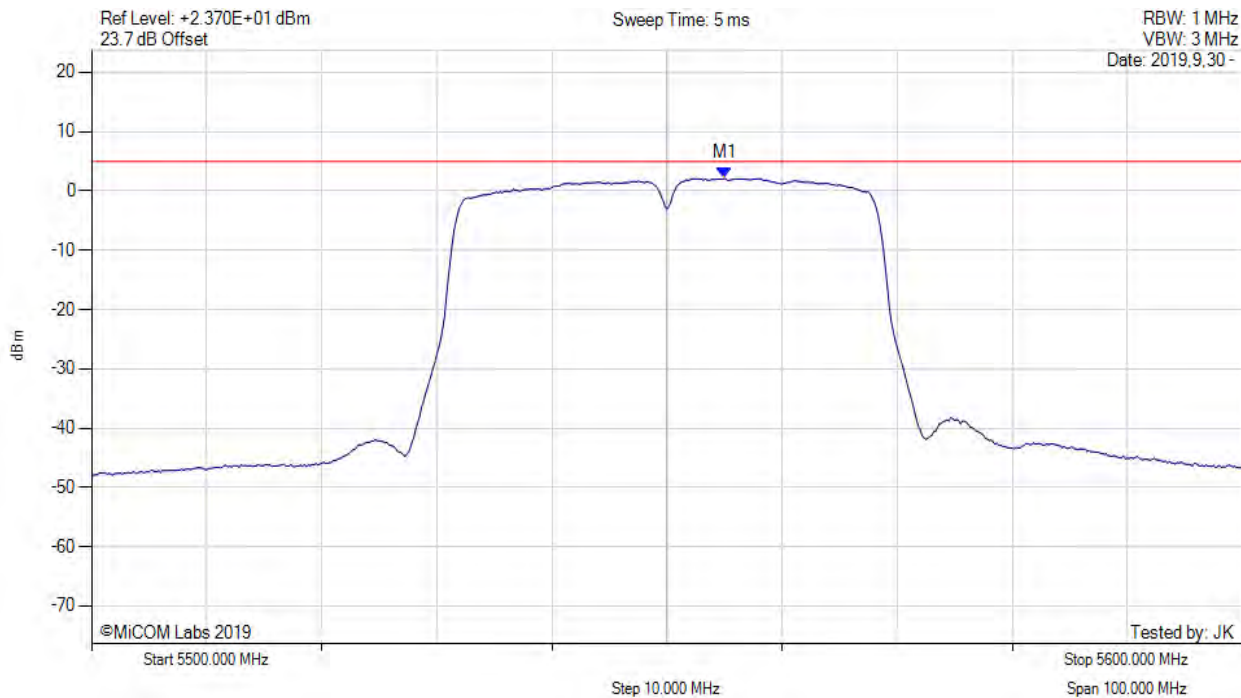Variant: 802.11n HT-40, Channel: 5550.00 MHz, Chain b, Temp: 20, Voltage: 24 Vdc

Ref Level: +2.308E+01 dBm
23.1 dB Offset
Sweep Time: 5 ms
RBW: 1 MHz
VBW: 3 MHz
Date: 2019,9,30 -

M1

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Start 5500.000 MHz   Stop 5600.000 MHz
Step 10.000 MHz   Span 100.000 MHz

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5558.670 MHz : 1.296 dBm	Channel Frequency: 5550.00 MHz

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POWER SPECTRAL DENSITY

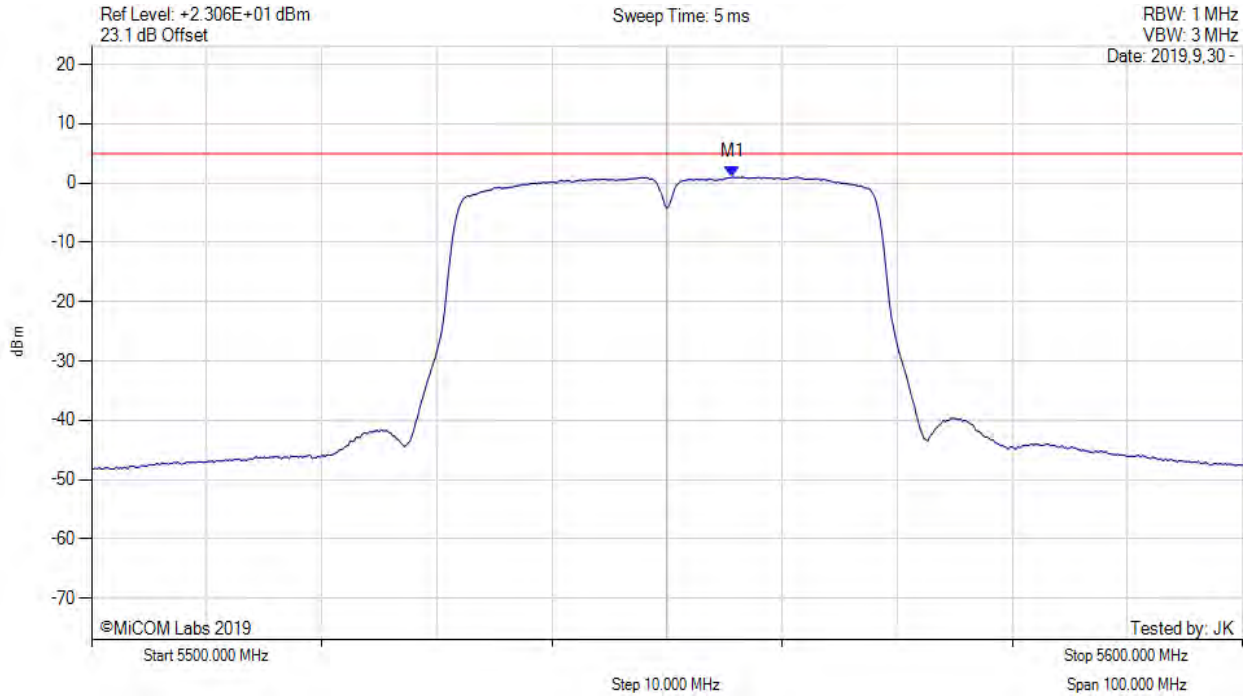Variant: 802.11n HT-40, Channel: 5550.00 MHz, Chain c, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5555.000 MHz : 2.094 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

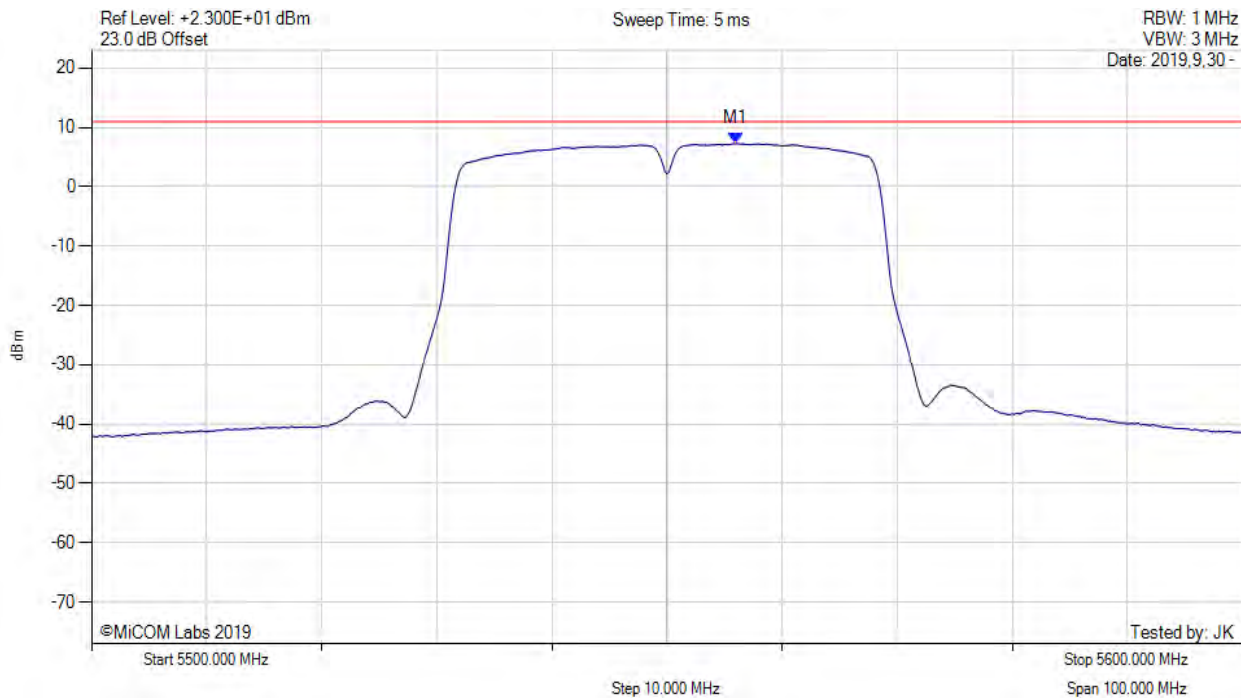Variant: 802.11n HT-40, Channel: 5550.00 MHz, Chain d, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5555.670 MHz : 1.031 dBm	Limit: ≤ 4.980 dBm

back to matrix

POWER SPECTRAL DENSITY

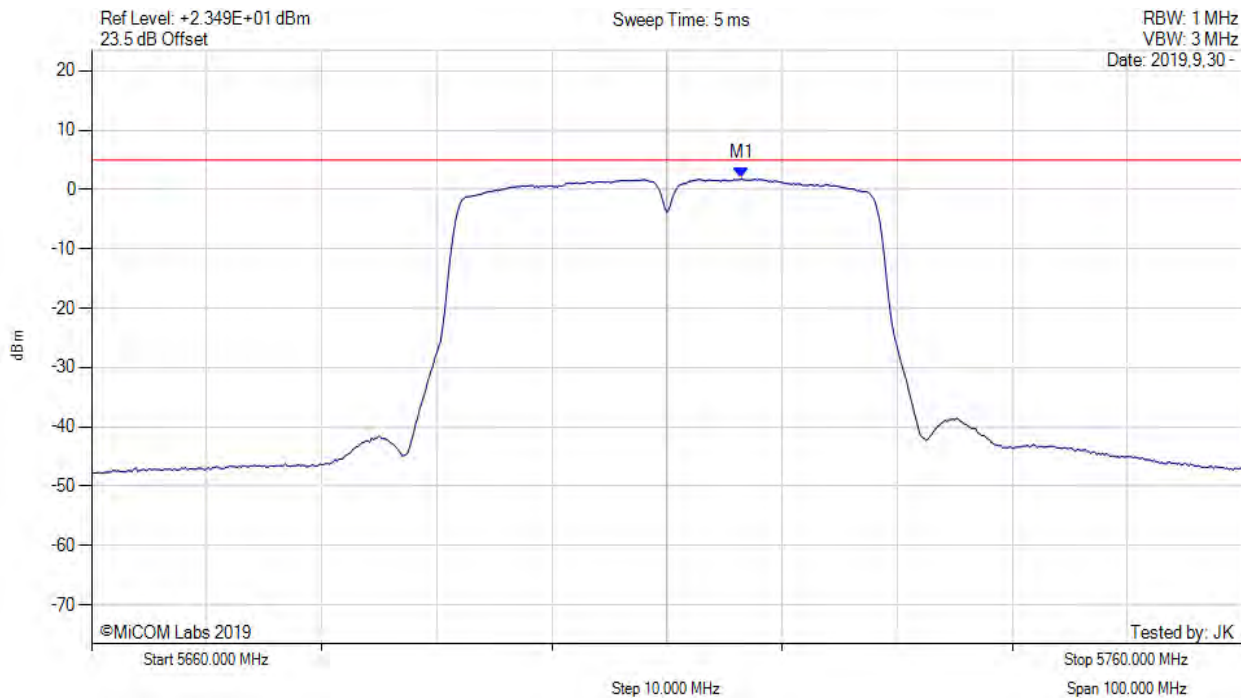Variant: 802.11n HT-40, Channel: 5550.00 MHz, SUM, Temp: 20, Voltage: 24 Vdc

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5556.000 MHz : 7.287 dBm M1 + DCCF : 5556.000 MHz : 7.419 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 11.0 dBm Margin: -3.6 dB

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

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 = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5716.500 MHz : 1.873 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

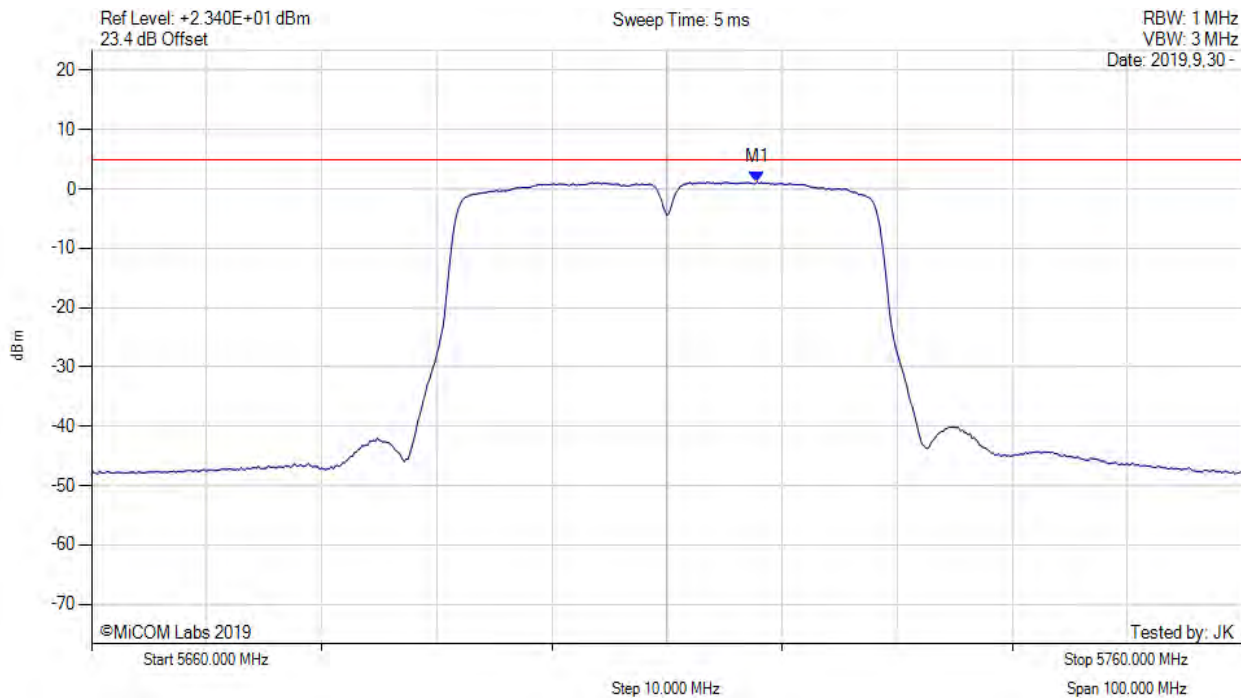| Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5717.830 MHz : 1.173 dBm	Limit: ≤ 4.980 dBm

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POWER SPECTRAL DENSITY

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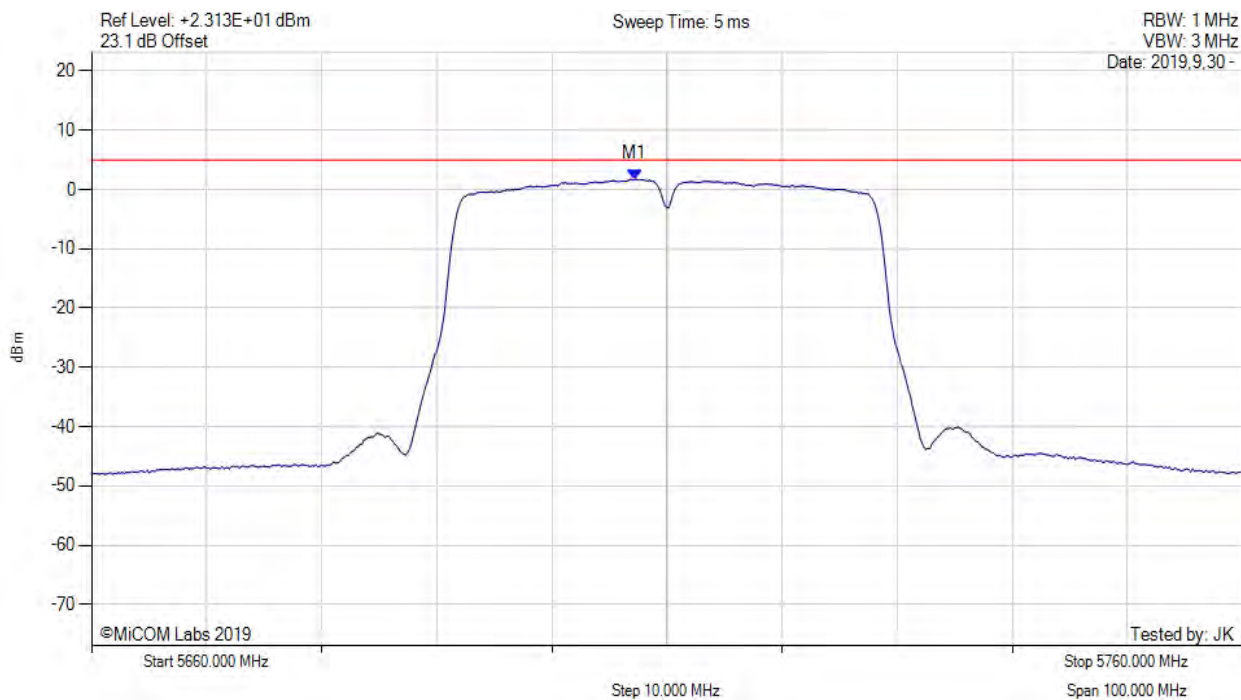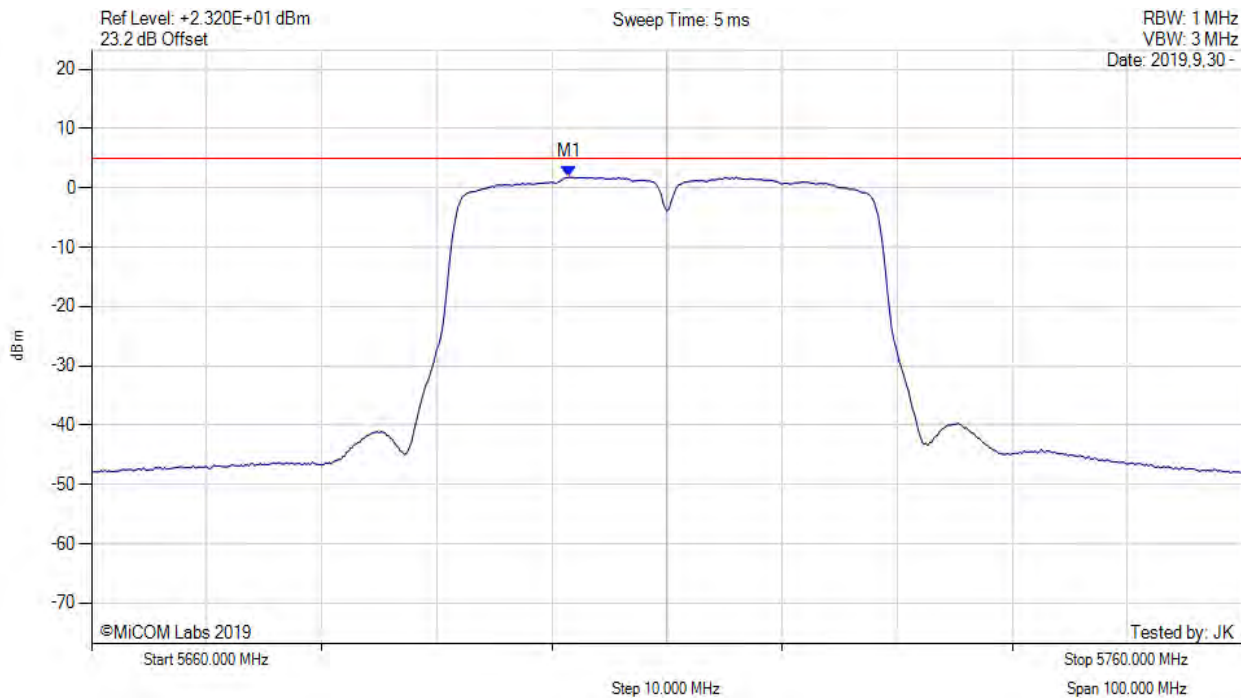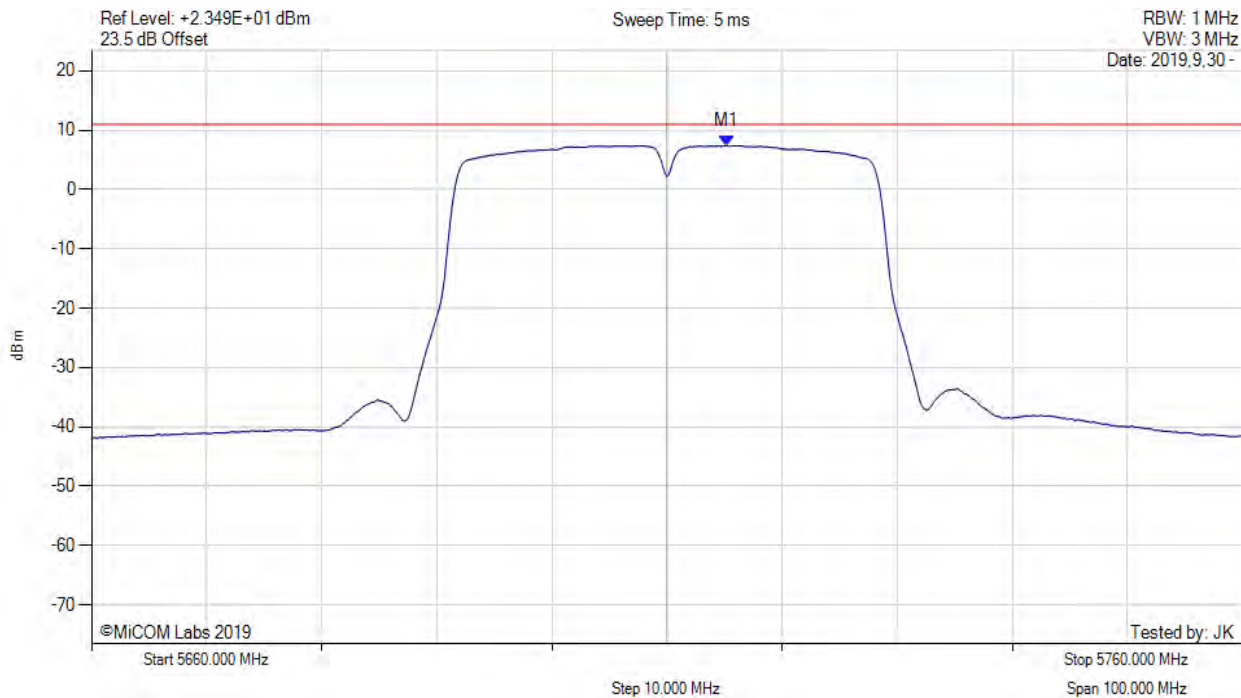

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5707.170 MHz : 1.717 dBm	Limit: ≤ 4.980 dBm

POWER SPECTRAL DENSITY

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

Ref Level: +2.320E+01 dBm
23.2 dB Offset
Sweep Time: 5 ms
RBW: 1 MHz
VBW: 3 MHz
Date: 2019,9,30 -

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Tested by: JK

Start 5660.000 MHz
Stop 5760.000 MHz
Step 10.000 MHz
Span 100.000 MHz

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5701.500 MHz : 1.818 dBm	Limit: ≤ 4.980 dBm

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POWER SPECTRAL DENSITY

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

Ref Level: +2.349E+01 dBm
23.5 dB Offset

Sweep Time: 5 ms

RBW: 1 MHz
VBW: 3 MHz
Date: 2019,9,30 -

M1

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Tested by: JK

Start 5660.000 MHz

Stop 5760.000 MHz

Step 10.000 MHz

Span 100.000 MHz

Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5715.200 MHz : 7.416 dBm M1 + DCCF : 5715.200 MHz : 7.548 dBm Duty Cycle Correction Factor : +0.13 dB	Limit: ≤ 11.0 dBm Margin: -3.5 dB