

## TEST REPORT ADDENDUM – CONDUCTED



Test of: Radwin Ltd. AP0158770

To: FCC CFR 47 15.407 & ISED RSS-247

Test Report Serial No.: RDWN48-U4\_Conducted Rev A

This report supersedes: NONE

Issue Date: 20<sup>th</sup> November 2017

As a result of the 6 Mbyte FCC file size limitation potentially large test reports require to be split into smaller components. This document is the Master document controlling Addendum reports as listed below. This Master document combined with the Addendums demonstrate compliance with the standard

Master Document Number	Addendum Reports
RDWN48-U4_Master	RDWN48-U4_Conducted Addendum
	RDWN48-U4_Radiated Addendum

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**MiCOM Labs is an ISO 17025 Accredited Testing Laboratory**



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# 1. TEST RESULTS

## 1.1. Peak Transmit Power

Conducted Test Conditions for Maximum Conducted Output Power			
<b>Standard:</b>	FCC CFR 47:15.407	<b>Ambient Temp. (°C):</b>	24.0 - 27.5
<b>Test Heading:</b>	Maximum Conducted Output Power	<b>Rel. Humidity (%):</b>	32 - 45
<b>Standard Section(s):</b>	15.407 (a)	<b>Pressure (mBars):</b>	999 - 1001
<b>Reference Document(s):</b>	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 ( $\Sigma$ ) of each antenna port output power is provided which includes any offset due to Duty Cycle Correction Factor (DCCF). Testing was performed under ambient conditions at nominal voltage.

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

Supporting Information

Calculated Power = A + G + Y + 10 log (1/x) dBm

A = Total Power [ $10 \cdot \text{Log}_{10} (10^{a/10} + 10^{b/10} + 10^{c/10} + 10^{d/10})$ ]

G = Antenna Gain

Y = Beamforming Gain

x = Duty Cycle (average power measurements only)

### Limits Maximum Conducted Output Power

#### Operating Frequency Band 5150-5250 MHz

15.407 (a)(1)

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

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

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

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

**Operating Frequency Band 5250-5350 and 5470 – 5725 MHz**

15. 407 (a)(2)

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

**Operating Frequency Band 5725 – 5850 MHz**

15. 407 (a)(3)

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

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**Equipment Configuration for Peak Transmit Power**

<b>Variant:</b>	10 MHz	<b>Duty Cycle (%):</b>	100.0
<b>Data Rate:</b>	3.25 MBit/s	<b>Antenna Gain (dBi):</b>	11.00
<b>Modulation:</b>	OFDM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	CC
<b>Engineering Test Notes:</b>	Fixed Point-to-point		

**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	
5730.0	20.90	16.57	--	--	22.26	--	30.00	-7.74	21.00
5787.0	26.87	24.37	--	--	28.81	--	30.00	-1.19	29.00
5845.0	22.54	19.82	--	--	24.40	--	30.00	-5.60	23.00

**Traceability to Industry Recognized Test Methodologies**

Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	±1.33 dB

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

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**Equipment Configuration for Peak Transmit Power**

<b>Variant:</b>	20 MHz	<b>Duty Cycle (%):</b>	100.0
<b>Data Rate:</b>	6.50 MBit/s	<b>Antenna Gain (dBi):</b>	11.00
<b>Modulation:</b>	OFDM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	CC
<b>Engineering Test Notes:</b>	Fixed Point-to-point		

**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	
5735.0	20.16	16.65	--	--	21.76	--	30.00	-8.24	20.00
5787.0	26.69	24.26	--	--	28.65	--	30.00	-1.35	29.00
5840.0	22.78	19.42	--	--	24.43	--	30.00	-5.57	23.00

**Traceability to Industry Recognized Test Methodologies**

Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	±1.33 dB

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**Equipment Configuration for Peak Transmit Power**

<b>Variant:</b>	40 MHz	<b>Duty Cycle (%):</b>	100.0
<b>Data Rate:</b>	13.50 MBit/s	<b>Antenna Gain (dBi):</b>	11.00
<b>Modulation:</b>	OFDM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	CC
<b>Engineering Test Notes:</b>	Fixed Point-to-point		

**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	
5745.0	20.83	18.60	--	--	22.87	--	30.00	-7.13	21.00
5787.0	26.45	24.02	--	--	28.41	--	30.00	-1.59	29.00
5830.0	22.87	19.52	--	--	24.52	--	30.00	-5.48	23.50

**Traceability to Industry Recognized Test Methodologies**

Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	±1.33 dB

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**Equipment Configuration for Peak Transmit Power**

<b>Variant:</b>	80 MHz	<b>Duty Cycle (%):</b>	100.0
<b>Data Rate:</b>	29.30 MBit/s	<b>Antenna Gain (dBi):</b>	11.00
<b>Modulation:</b>	OFDM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	CC
<b>Engineering Test Notes:</b>	Fixed Point-to-point		

**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	
5765.0	20.24	18.95	--	--	22.65	--	30.00	-7.35	19.50
5787.0	26.17	23.78	--	--	28.15	--	30.00	-1.85	29.00
5810.0	20.79	17.39	--	--	22.42	--	30.00	-7.58	21.00

**Traceability to Industry Recognized Test Methodologies**

Work Instruction:	WI-01 MEASURING RF OUTPUT POWER
Measurement Uncertainty:	±1.33 dB

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## 1.2. 6 dB & 99% Bandwidth

Conducted Test Conditions for 6 dB and 99% Bandwidth			
<b>Standard:</b>	FCC CFR 47:15.407	<b>Ambient Temp. (°C):</b>	24.0 - 27.5
<b>Test Heading:</b>	6 dB and 99 % Bandwidth	<b>Rel. Humidity (%):</b>	32 - 45
<b>Standard Section(s):</b>	15.407 (a)	<b>Pressure (mBars):</b>	999 - 1001
<b>Reference Document(s):</b>	See Normative References		
<b>Test Procedure for 6 dB and 99% Bandwidth Measurement</b> The bandwidth at 6 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 100 kHz. Testing was performed under ambient conditions at nominal voltage. Where the device operated with multiple antenna ports i.e. MIMO device, each port was measured and reported.  Test configuration and setup used for the measurement was per the Conducted Test Set-up section specified in this document.			

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**Equipment Configuration for 6 dB & 99% Bandwidth**

<b>Variant:</b>	10 MHz	<b>Duty Cycle (%):</b>	100.0
<b>Data Rate:</b>	3.25 MBit/s	<b>Antenna Gain (dBi):</b>	11.00
<b>Modulation:</b>	OFDM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	CC
<b>Engineering Test Notes:</b>	Fixed Point-to-point		

**Test Measurement Results**

Test Frequency	Measured 6 dB Bandwidth (MHz)				6 dB Bandwidth (MHz)			
	Port(s)				Highest	Lowest		
MHz	a	b	c	d				
5730.0	<a href="#">8.750</a>	<a href="#">8.830</a>	--	--	8.830	8.750		
5787.0	<a href="#">8.750</a>	<a href="#">8.830</a>	--	--	8.830	8.750		
5845.0	<a href="#">8.750</a>	<a href="#">8.830</a>	--	--	8.830	8.750		

Test Frequency	Measured 99% Bandwidth (MHz)				99% Bandwidth (MHz)			
	Port(s)				Highest	Lowest		
MHz	a	b	c	d				
5730.0	<a href="#">9.705</a>	<a href="#">9.025</a>	--	--	9.705	9.025		
5787.0	<a href="#">10.279</a>	<a href="#">9.014</a>	--	--	10.279	9.014		
5845.0	<a href="#">9.880</a>	<a href="#">9.028</a>	--	--	9.880	9.028		

**Traceability to Industry Recognized Test Methodologies**

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

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

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**Equipment Configuration for 6 dB & 99% Bandwidth**

<b>Variant:</b>	20 MHz	<b>Duty Cycle (%):</b>	100.0
<b>Data Rate:</b>	6.50 MBit/s	<b>Antenna Gain (dBi):</b>	11.00
<b>Modulation:</b>	OFDM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	CC
<b>Engineering Test Notes:</b>	Fixed Point-to-point		

**Test Measurement Results**

Test Frequency	Measured 6 dB Bandwidth (MHz)				6 dB Bandwidth (MHz)			
	Port(s)				Highest	Lowest		
MHz	a	b	c	d				
5735.0	<a href="#">17.500</a>	<a href="#">17.500</a>	--	--	17.500	17.500		
5787.0	<a href="#">17.500</a>	<a href="#">17.500</a>	--	--	17.500	17.500		
5840.0	<a href="#">17.500</a>	<a href="#">17.500</a>	--	--	17.500	17.500		

Test Frequency	Measured 99% Bandwidth (MHz)				99% Bandwidth (MHz)			
	Port(s)				Highest	Lowest		
MHz	a	b	c	d				
5735.0	<a href="#">18.816</a>	<a href="#">17.767</a>	--	--	18.816	17.767		
5787.0	<a href="#">19.267</a>	<a href="#">17.790</a>	--	--	19.267	17.790		
5840.0	<a href="#">18.693</a>	<a href="#">17.791</a>	--	--	18.693	17.791		

**Traceability to Industry Recognized Test Methodologies**

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

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**Equipment Configuration for 6 dB & 99% Bandwidth**

<b>Variant:</b>	40 MHz	<b>Duty Cycle (%):</b>	100.0
<b>Data Rate:</b>	13.50 MBit/s	<b>Antenna Gain (dBi):</b>	11.00
<b>Modulation:</b>	OFDM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	CC
<b>Engineering Test Notes:</b>	Fixed Point-to-point		

**Test Measurement Results**

Test Frequency	Measured 6 dB Bandwidth (MHz)				6 dB Bandwidth (MHz)			
	Port(s)				Highest	Lowest		
MHz	a	b	c	d				
5745.0	<a href="#">36.000</a>	<a href="#">36.300</a>	--	--	36.300	36.000		
5787.0	<a href="#">36.300</a>	<a href="#">36.300</a>	--	--	36.300	36.300		
5830.0	<a href="#">36.300</a>	<a href="#">36.300</a>	--	--	36.300	36.300		

Test Frequency	Measured 99% Bandwidth (MHz)				99% Bandwidth (MHz)			
	Port(s)				Highest	Lowest		
MHz	a	b	c	d				
5745.0	<a href="#">37.442</a>	<a href="#">36.588</a>	--	--	37.442	36.588		
5787.0	<a href="#">38.983</a>	<a href="#">36.513</a>	--	--	38.983	36.513		
5830.0	<a href="#">37.110</a>	<a href="#">36.572</a>	--	--	37.110	36.572		

**Traceability to Industry Recognized Test Methodologies**

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

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**Equipment Configuration for 6 dB & 99% Bandwidth**

<b>Variant:</b>	80 MHz	<b>Duty Cycle (%):</b>	100.0
<b>Data Rate:</b>	29.30 MBit/s	<b>Antenna Gain (dBi):</b>	11.00
<b>Modulation:</b>	OFDM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	CC
<b>Engineering Test Notes:</b>	Fixed Point-to-point		

**Test Measurement Results**

Test Frequency	Measured 6 dB Bandwidth (MHz)				6 dB Bandwidth (MHz)			
	Port(s)				Highest	Lowest		
MHz	a	b	c	d				
5765.0	<a href="#">75.300</a>	<a href="#">74.700</a>	--	--	75.300	74.700		
5787.0	<a href="#">75.300</a>	<a href="#">75.300</a>	--	--	75.300	75.300		
5810.0	<a href="#">75.300</a>	<a href="#">75.300</a>	--	--	75.300	75.300		

Test Frequency	Measured 99% Bandwidth (MHz)				99% Bandwidth (MHz)			
	Port(s)				Highest	Lowest		
MHz	a	b	c	d				
5765.0	<a href="#">77.505</a>	<a href="#">77.082</a>	--	--	77.505	77.082		
5787.0	<a href="#">77.981</a>	<a href="#">75.627</a>	--	--	77.981	75.627		
5810.0	<a href="#">76.428</a>	<a href="#">75.667</a>	--	--	76.428	75.667		

**Traceability to Industry Recognized Test Methodologies**

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

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

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### 1.3. Power Spectral Density

Conducted Test Conditions for Power Spectral Density			
<b>Standard:</b>	FCC CFR 47:15.407	<b>Ambient Temp. (°C):</b>	24.0 - 27.5
<b>Test Heading:</b>	Power Spectral Density	<b>Rel. Humidity (%):</b>	32 - 45
<b>Standard Section(s):</b>	15.407 (a)	<b>Pressure (mBars):</b>	999 - 1001
<b>Reference Document(s):</b>	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 ( $\hat{a}$ ) 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 [ $10 \cdot \text{Log}_{10}(10^{a/10} + 10^{b/10} + 10^{c/10} + 10^{d/10})$ ]

x = Duty Cycle

#### Limits Power Spectral Density

##### Operating Frequency Band 5150-5250 MHz

15.407 (a)(1)

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

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

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

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

#### **Operating Frequency Band 5250-5350 and 5470 – 5725 MHz**

##### **15. 407 (a)(2)**

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

#### **Operating Frequency Band 5725 – 5850 MHz**

##### **15. 407 (a)(3)**

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

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**Equipment Configuration for Power Spectral Density**

<b>Variant:</b>	10 MHz	<b>Duty Cycle (%):</b>	100.0
<b>Data Rate:</b>	3.25 MBit/s	<b>Antenna Gain (dBi):</b>	11.00
<b>Modulation:</b>	OFDM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	CC
<b>Engineering Test Notes:</b>	Fixed Point-to-point		

Test Measurement Results							
Test Frequency	Measured Power Spectral Density				Summation Peak Marker + DCCF (+0 dB)	Limit	Margin
	Port(s) (dBm/500 KHz)						
MHz	a	b	c	d	dBm/500 KHz	dBm/500 KHz	dB
5730.0	<a href="#">15.151</a>	<a href="#">13.222</a>	--	--	<a href="#">17.107</a>	30.0	-12.9
5787.0	<a href="#">15.382</a>	<a href="#">13.766</a>	--	--	<a href="#">17.397</a>	30.0	-12.6
5845.0	<a href="#">15.323</a>	<a href="#">13.796</a>	--	--	<a href="#">17.445</a>	30.0	-12.6

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

DCCF - Duty Cycle Correction Factor

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

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**Equipment Configuration for Power Spectral Density**

<b>Variant:</b>	20 MHz	<b>Duty Cycle (%):</b>	100.0
<b>Data Rate:</b>	6.50 MBit/s	<b>Antenna Gain (dBi):</b>	11.00
<b>Modulation:</b>	OFDM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	CC
<b>Engineering Test Notes:</b>	Fixed Point-to-point		

Test Measurement Results							
Test Frequency	Measured Power Spectral Density				Summation Peak Marker + DCCF (+0 dB)	Limit	Margin
	Port(s) (dBm/500 KHz)						
MHz	a	b	c	d	dBm/500 KHz	dBm/500 KHz	dB
5735.0	<a href="#">12.578</a>	<a href="#">11.142</a>	--	--	<a href="#">14.831</a>	30.0	-15.2
5787.0	<a href="#">12.403</a>	<a href="#">10.473</a>	--	--	<a href="#">14.495</a>	30.0	-15.5
5840.0	<a href="#">12.571</a>	<a href="#">11.065</a>	--	--	<a href="#">14.714</a>	30.0	-15.3

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

DCCF - Duty Cycle Correction Factor

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**Equipment Configuration for Power Spectral Density**

<b>Variant:</b>	40 MHz	<b>Duty Cycle (%):</b>	100.0
<b>Data Rate:</b>	13.50 MBit/s	<b>Antenna Gain (dBi):</b>	11.00
<b>Modulation:</b>	OFDM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	CC
<b>Engineering Test Notes:</b>	Fixed Point-to-point		

**Test Measurement Results**

Test Frequency	Measured Power Spectral Density				Summation Peak Marker + DCCF (+0 dB)	Limit	Margin
	Port(s) (dBm/500 KHz)						
MHz	a	b	c	d	dBm/500 KHz	dBm/500 KHz	dB
5745.0	<a href="#">9.683</a>	<a href="#">8.410</a>	--	--	<a href="#">11.952</a>	30.0	-18.1
5787.0	<a href="#">9.310</a>	<a href="#">7.570</a>	--	--	<a href="#">11.384</a>	30.0	-18.6
5830.0	<a href="#">9.568</a>	<a href="#">7.815</a>	--	--	<a href="#">11.566</a>	30.0	-18.4

**Traceability to Industry Recognized Test Methodologies**

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

DCCF - Duty Cycle Correction Factor

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

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**Equipment Configuration for Power Spectral Density**

<b>Variant:</b>	80 MHz	<b>Duty Cycle (%):</b>	100.0
<b>Data Rate:</b>	29.30 MBit/s	<b>Antenna Gain (dBi):</b>	11.00
<b>Modulation:</b>	OFDM	<b>Beam Forming Gain (Y)(dB):</b>	Not Applicable
<b>TPC:</b>	Not Applicable	<b>Tested By:</b>	CC
<b>Engineering Test Notes:</b>	Fixed Point-to-point		

Test Measurement Results							
Test Frequency	Measured Power Spectral Density				Summation Peak Marker + DCCF (+0 dB)	Limit	Margin
	Port(s) (dBm/500 KHz)						
MHz	a	b	c	d	dBm/500 KHz	dBm/500 KHz	dB
5765.0	<a href="#">6.529</a>	<a href="#">7.547</a>	--	--	<a href="#">10.000</a>	30.0	-20.0
5787.0	<a href="#">6.259</a>	<a href="#">4.527</a>	--	--	<a href="#">8.230</a>	30.0	-21.8
5810.0	<a href="#">5.982</a>	<a href="#">4.794</a>	--	--	<a href="#">8.103</a>	30.0	-21.9

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

DCCF - Duty Cycle Correction Factor

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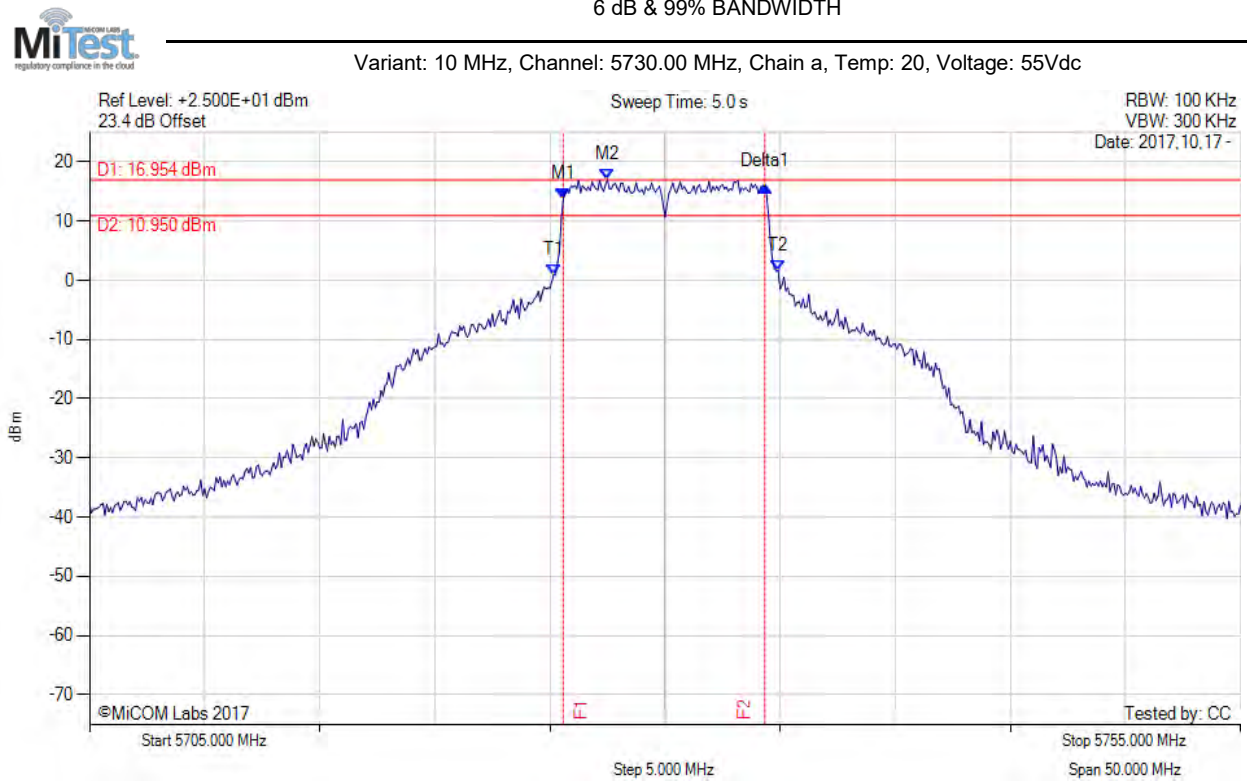
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## **A. APPENDIX - GRAPHICAL IMAGES**

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### A.1. 6 dB & 99% Bandwidth



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5725.580 MHz : 13.786 dBm M2 : 5727.500 MHz : 16.954 dBm Delta1 : 8.750 MHz : 2.142 dB T1 : 5725.167 MHz : 0.967 dBm T2 : 5734.917 MHz : 1.642 dBm OBW : 9.705 MHz	Measured 6 dB Bandwidth: 8.750 MHz Measured 99% Bandwidth: 9.705 MHz

[back to matrix](#)

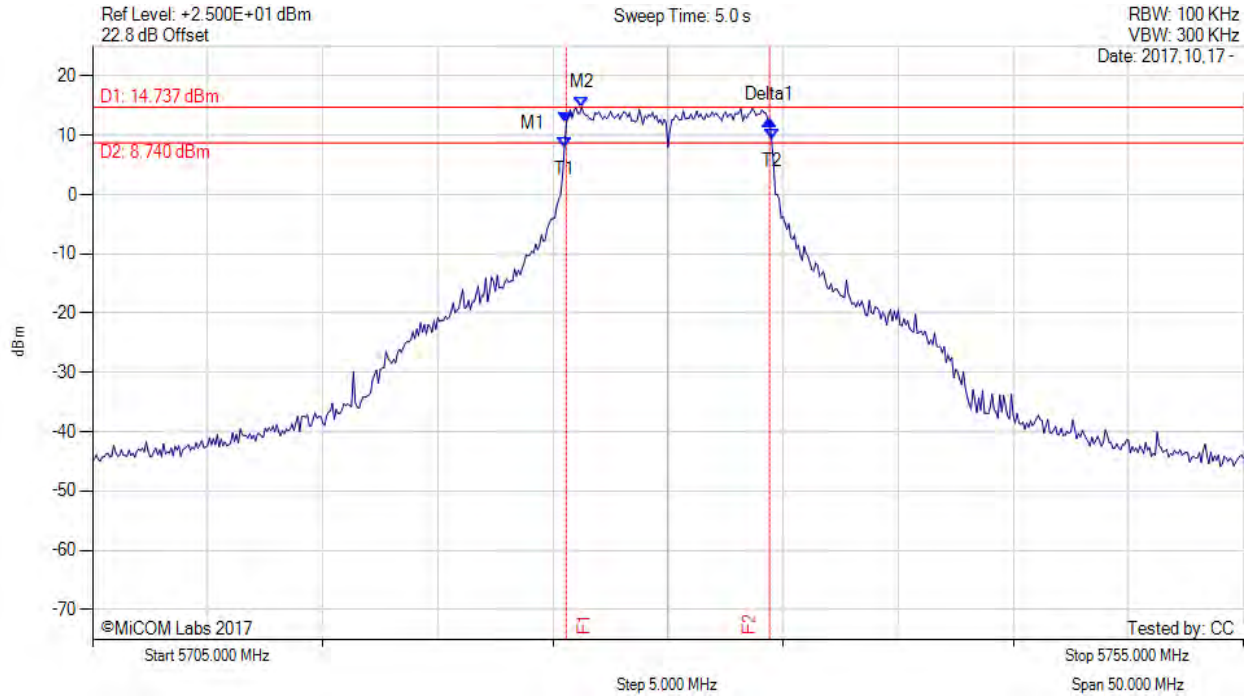
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6 dB & 99% BANDWIDTH



Variant: 10 MHz, Channel: 5730.00 MHz, Chain b, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5725.580 MHz : 12.146 dBm M2 : 5726.250 MHz : 14.737 dBm Delta1 : 8.830 MHz : 0.461 dB T1 : 5725.500 MHz : 7.930 dBm T2 : 5734.500 MHz : 9.225 dBm OBW : 9.025 MHz	Measured 6 dB Bandwidth: 8.830 MHz Measured 99% Bandwidth: 9.025 MHz

[back to matrix](#)

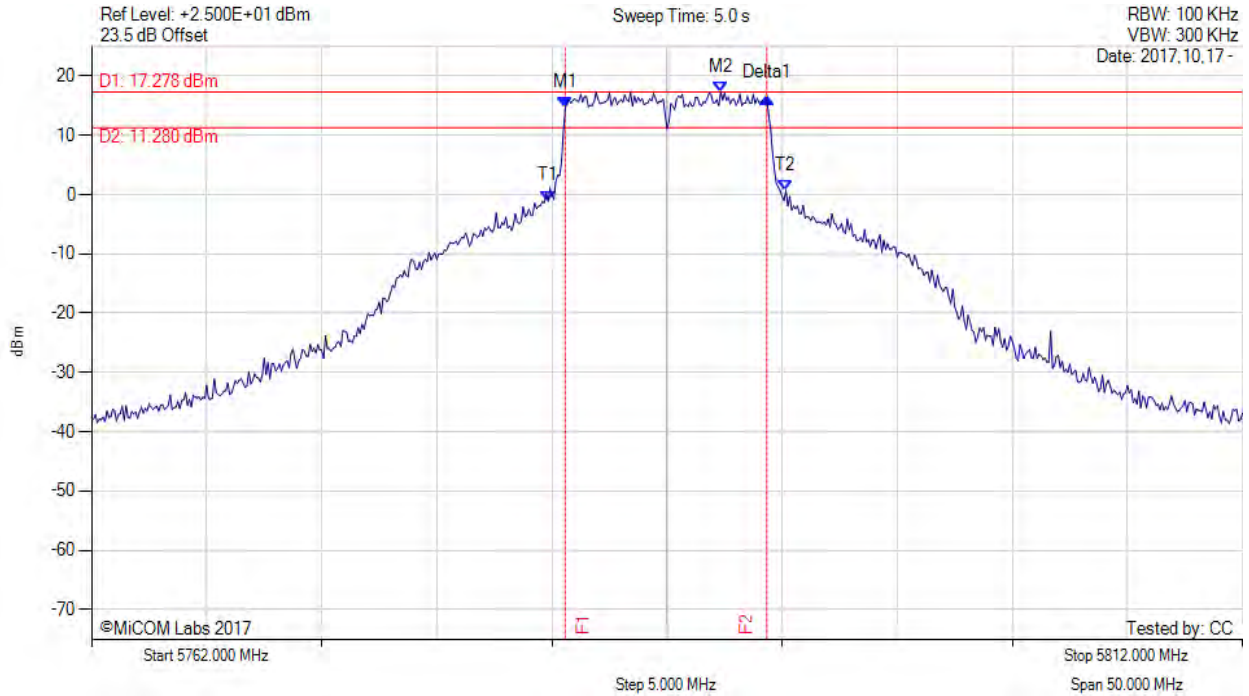
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6 dB & 99% BANDWIDTH



Variant: 10 MHz, Channel: 5787.00 MHz, Chain a, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5782.580 MHz : 14.753 dBm M2 : 5789.330 MHz : 17.278 dBm Delta1 : 8.750 MHz : 1.471 dB T1 : 5781.833 MHz : -1.085 dBm T2 : 5792.167 MHz : 0.677 dBm OBW : 10.279 MHz	Measured 6 dB Bandwidth: 8.750 MHz Measured 99% Bandwidth: 10.279 MHz

[back to matrix](#)

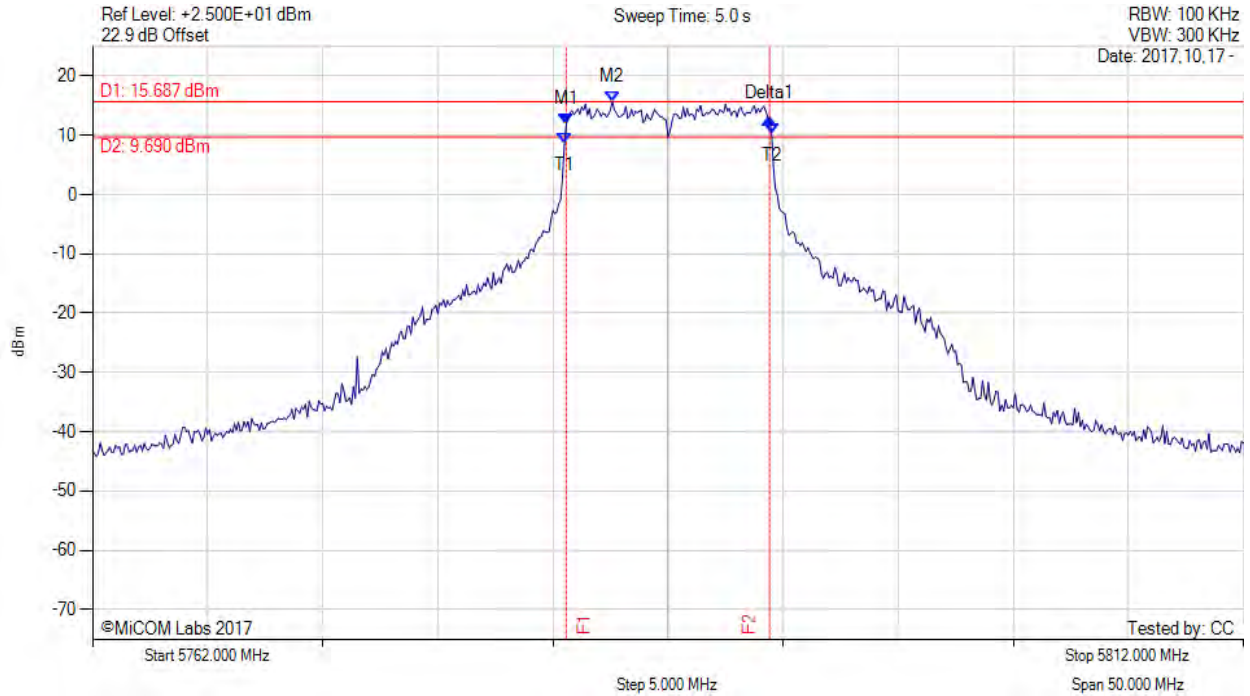
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6 dB & 99% BANDWIDTH



Variant: 10 MHz, Channel: 5787.00 MHz, Chain b, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5782.580 MHz : 11.941 dBm M2 : 5784.580 MHz : 15.687 dBm Delta1 : 8.830 MHz : 0.852 dB T1 : 5782.500 MHz : 8.538 dBm T2 : 5791.500 MHz : 10.260 dBm OBW : 9.014 MHz	Measured 6 dB Bandwidth: 8.830 MHz Measured 99% Bandwidth: 9.014 MHz

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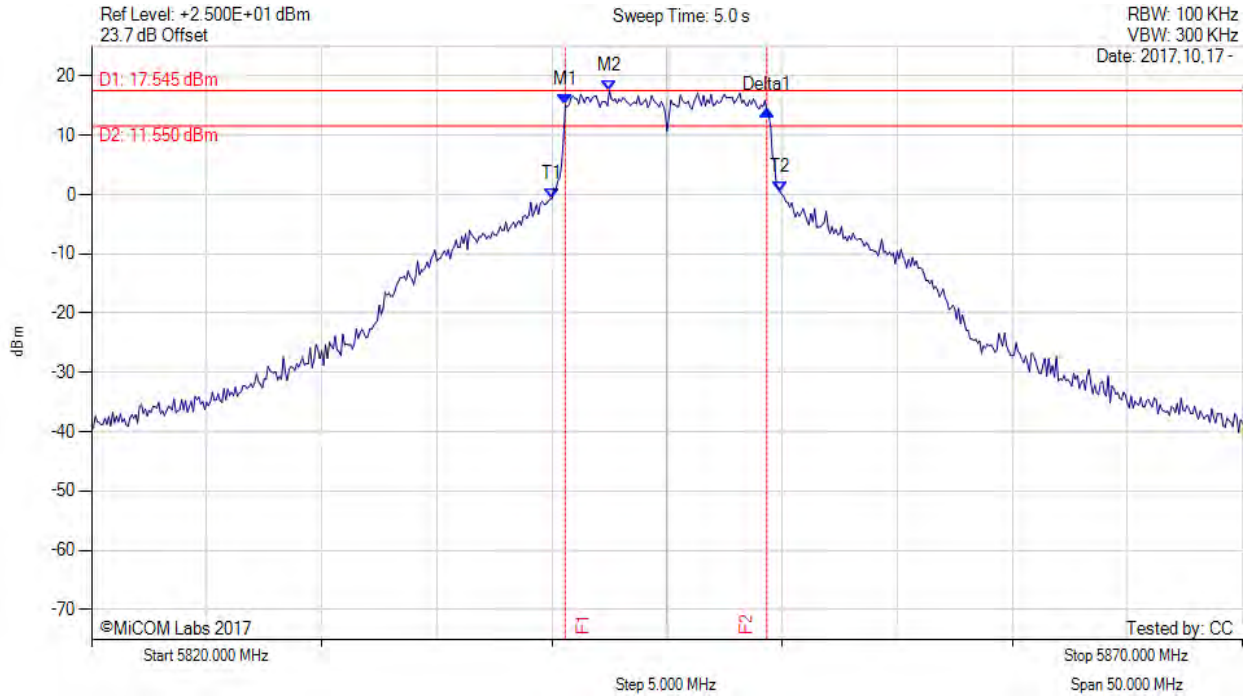




6 dB & 99% BANDWIDTH



Variant: 10 MHz, Channel: 5845.00 MHz, Chain a, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5840.580 MHz : 15.066 dBm M2 : 5842.500 MHz : 17.545 dBm Delta1 : 8.750 MHz : -0.766 dB T1 : 5840.000 MHz : -0.679 dBm T2 : 5849.917 MHz : 0.412 dBm OBW : 9.880 MHz	Measured 6 dB Bandwidth: 8.750 MHz Measured 99% Bandwidth: 9.880 MHz

[back to matrix](#)

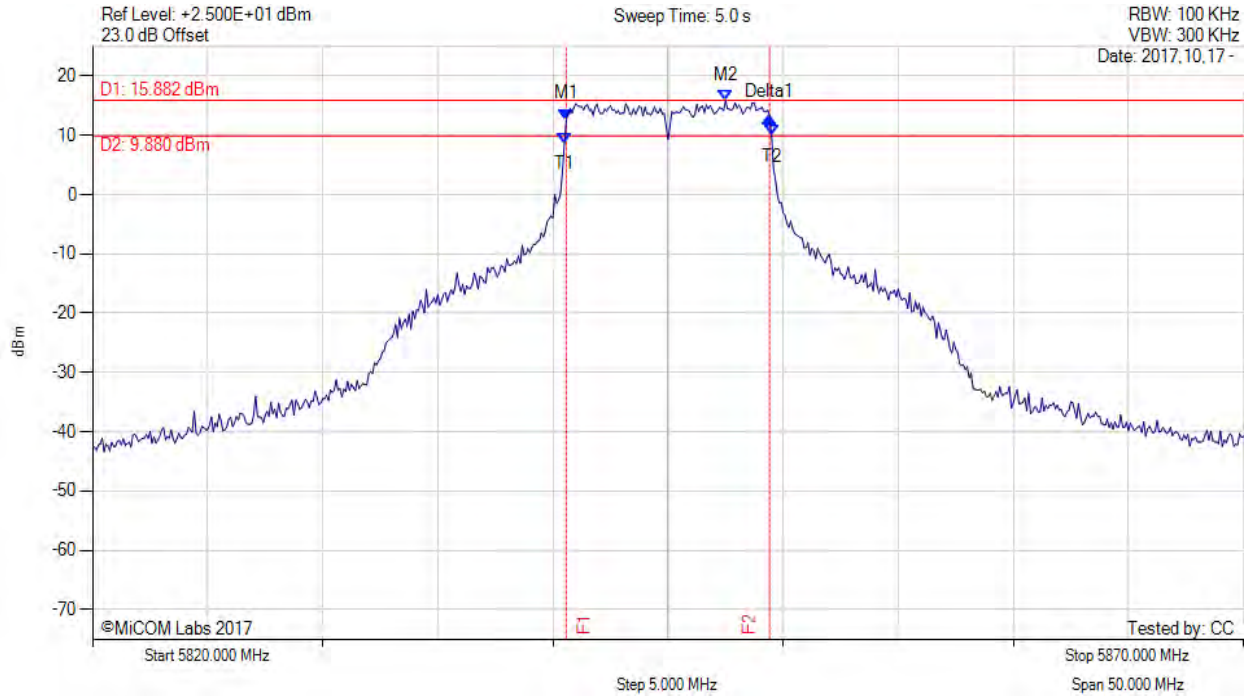
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6 dB & 99% BANDWIDTH



Variant: 10 MHz, Channel: 5845.00 MHz, Chain b, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5840.580 MHz : 12.696 dBm M2 : 5847.500 MHz : 15.882 dBm Delta1 : 8.830 MHz : 0.386 dB T1 : 5840.500 MHz : 8.650 dBm T2 : 5849.500 MHz : 9.934 dBm OBW : 9.028 MHz	Measured 6 dB Bandwidth: 8.830 MHz Measured 99% Bandwidth: 9.028 MHz

[back to matrix](#)

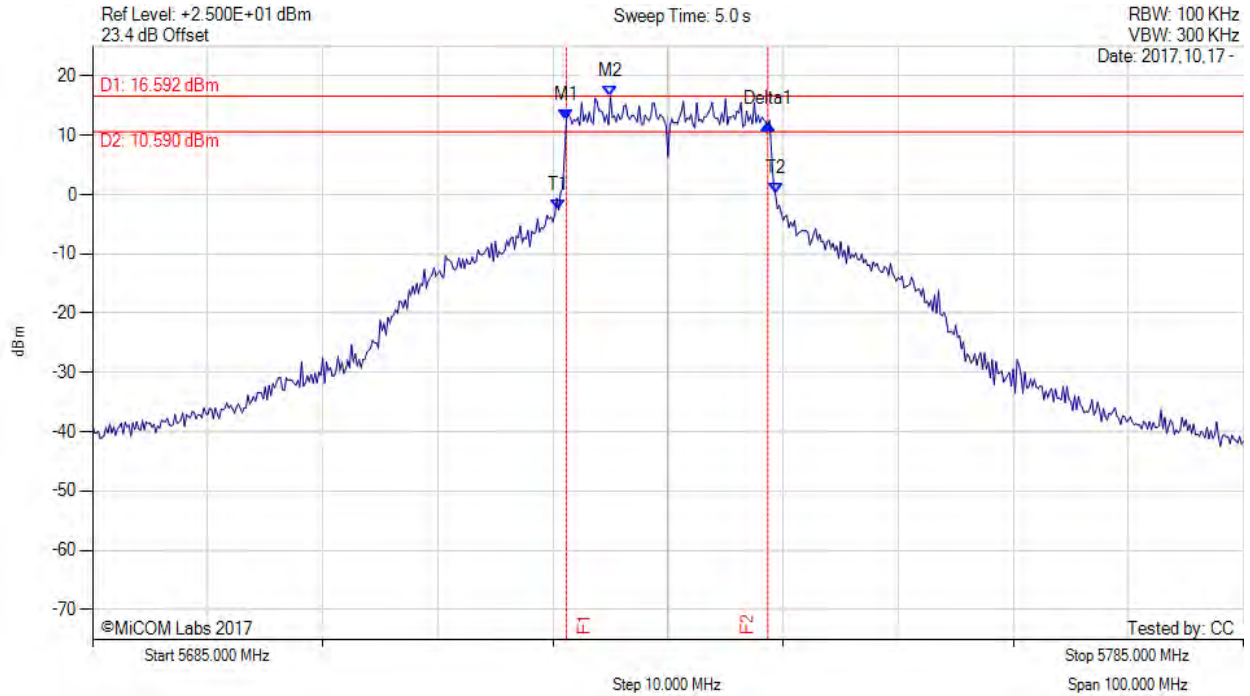
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6 dB & 99% BANDWIDTH



Variant: 20 MHz, Channel: 5735.00 MHz, Chain a, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5726.170 MHz : 12.653 dBm M2 : 5730.000 MHz : 16.592 dBm Delta1 : 17.500 MHz : -0.805 dB T1 : 5725.500 MHz : -2.575 dBm T2 : 5744.333 MHz : 0.138 dBm OBW : 18.816 MHz	Measured 6 dB Bandwidth: 17.500 MHz Measured 99% Bandwidth: 18.816 MHz

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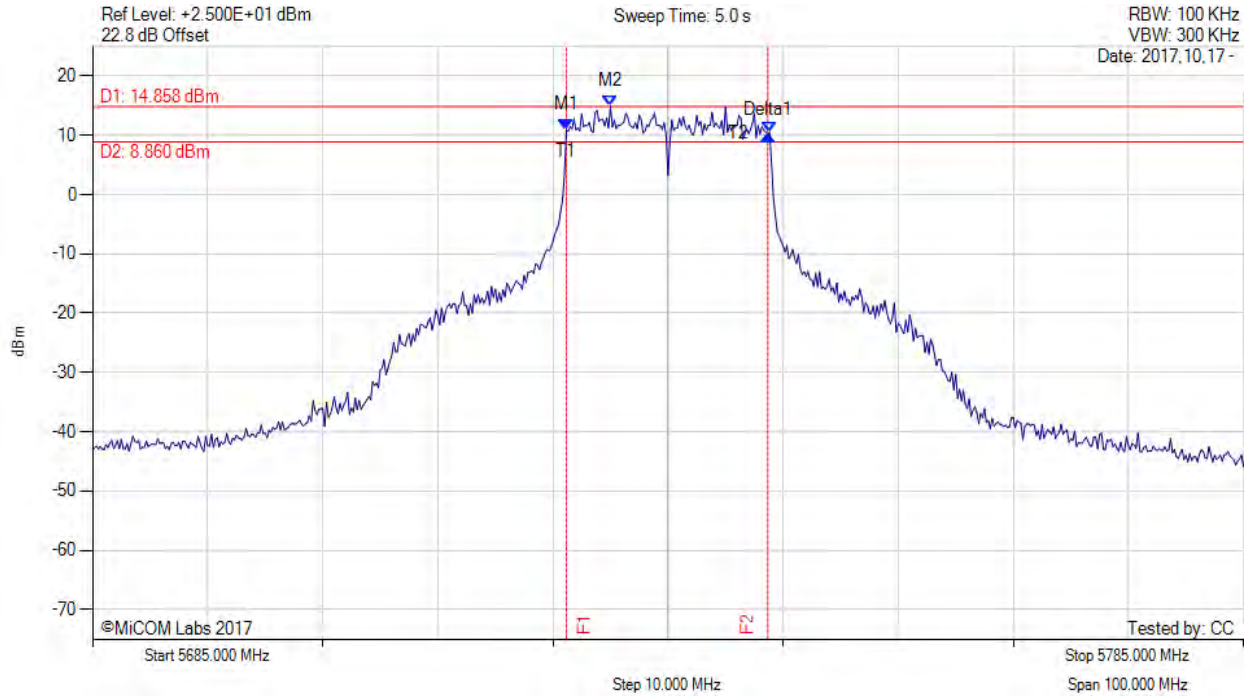


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6 dB & 99% BANDWIDTH



Variant: 20 MHz, Channel: 5735.00 MHz, Chain b, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5726.170 MHz : 10.942 dBm M2 : 5730.000 MHz : 14.858 dBm Delta1 : 17.500 MHz : -0.827 dB T1 : 5726.167 MHz : 10.942 dBm T2 : 5743.833 MHz : 10.463 dBm OBW : 17.767 MHz	Measured 6 dB Bandwidth: 17.500 MHz Measured 99% Bandwidth: 17.767 MHz

[back to matrix](#)

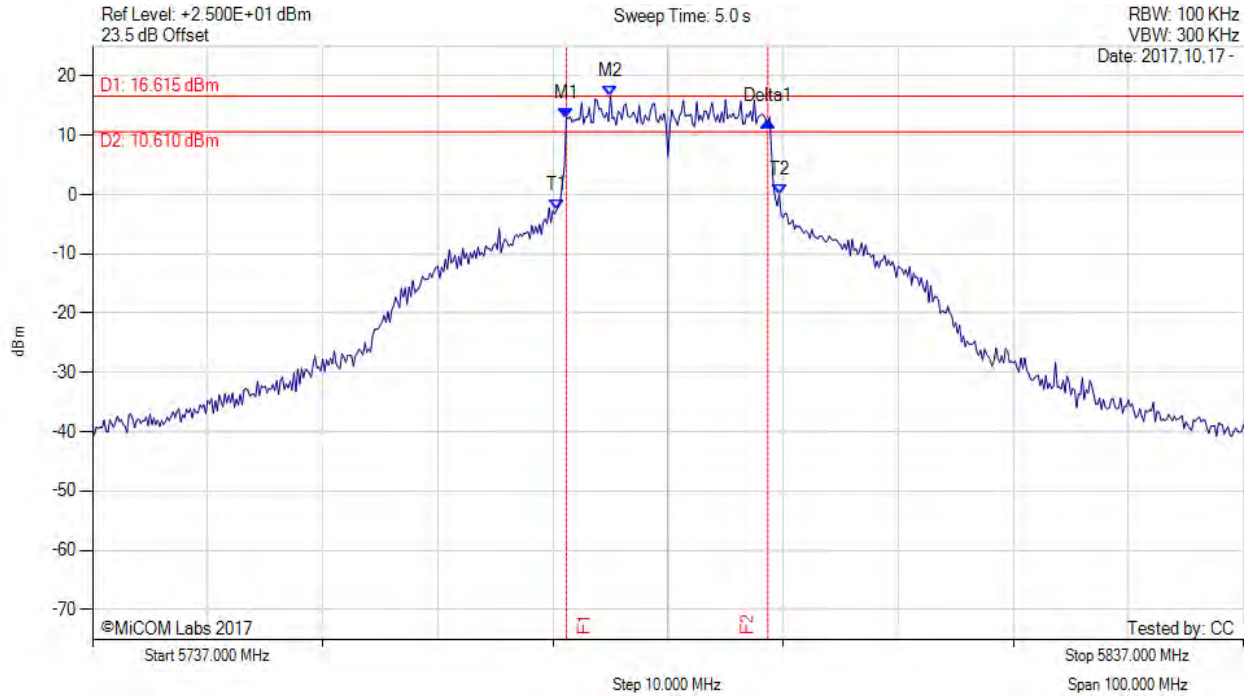
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6 dB & 99% BANDWIDTH



Variant: 20 MHz, Channel: 5787.00 MHz, Chain a, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5778.170 MHz : 12.904 dBm M2 : 5782.000 MHz : 16.615 dBm Delta1 : 17.500 MHz : -0.643 dB T1 : 5777.333 MHz : -2.584 dBm T2 : 5796.667 MHz : 0.002 dBm OBW : 19.267 MHz	Measured 6 dB Bandwidth: 17.500 MHz Measured 99% Bandwidth: 19.267 MHz

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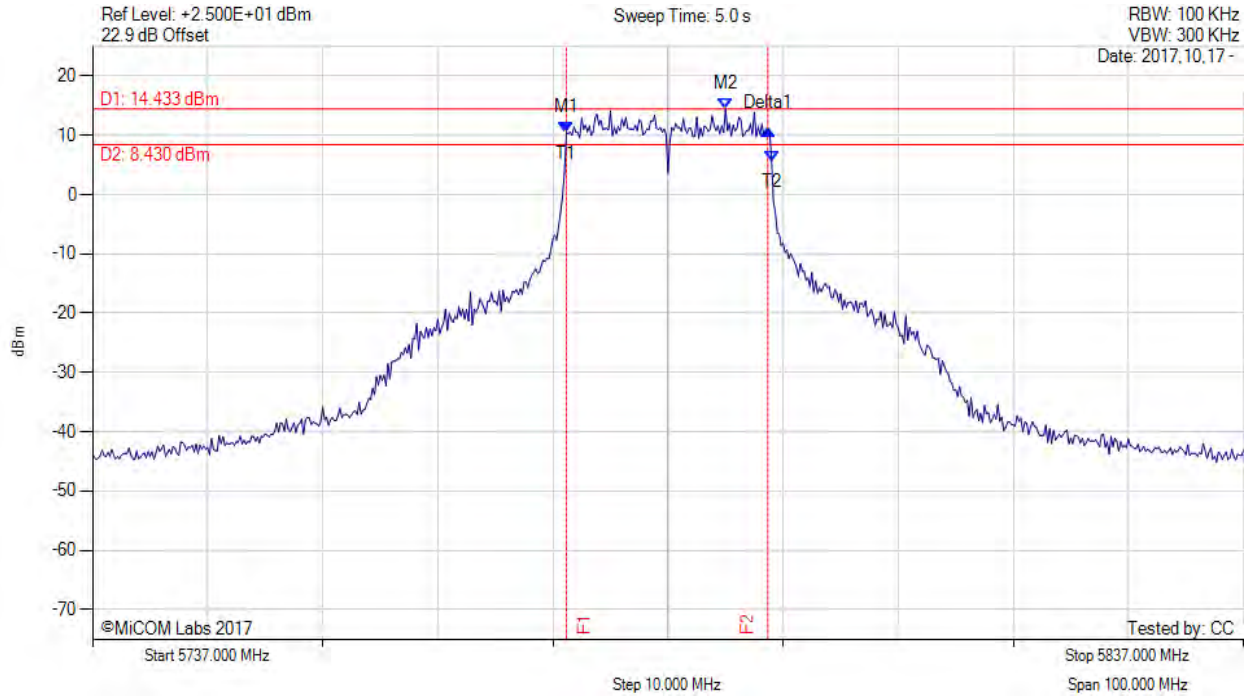


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6 dB & 99% BANDWIDTH



Variant: 20 MHz, Channel: 5787.00 MHz, Chain b, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5778.170 MHz : 10.405 dBm M2 : 5792.000 MHz : 14.433 dBm Delta1 : 17.500 MHz : 0.653 dB T1 : 5778.167 MHz : 10.405 dBm T2 : 5796.000 MHz : 5.640 dBm OBW : 17.790 MHz	Measured 6 dB Bandwidth: 17.500 MHz Measured 99% Bandwidth: 17.790 MHz

[back to matrix](#)

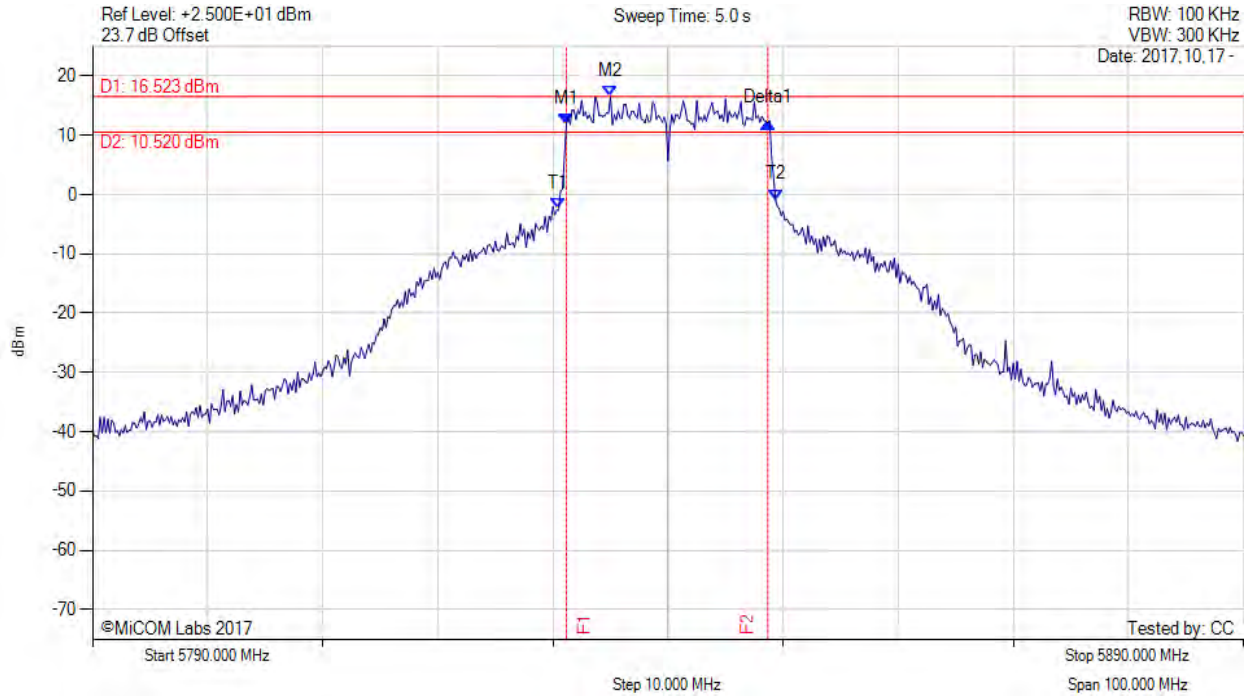
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6 dB & 99% BANDWIDTH



Variant: 20 MHz, Channel: 5840.00 MHz, Chain a, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5831.170 MHz : 11.949 dBm M2 : 5835.000 MHz : 16.523 dBm Delta1 : 17.500 MHz : 0.065 dB T1 : 5830.500 MHz : -2.472 dBm T2 : 5849.333 MHz : -0.840 dBm OBW : 18.693 MHz	Measured 6 dB Bandwidth: 17.500 MHz Measured 99% Bandwidth: 18.693 MHz

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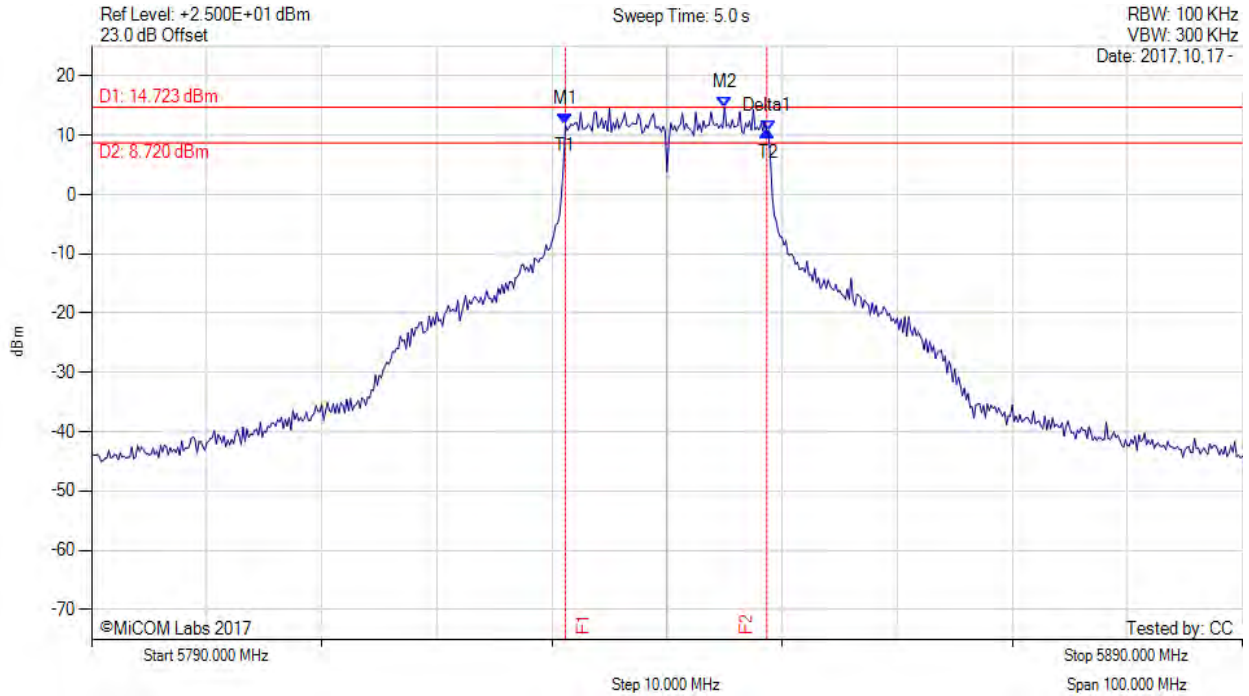


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6 dB & 99% BANDWIDTH



Variant: 20 MHz, Channel: 5840.00 MHz, Chain b, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5831.170 MHz : 11.798 dBm M2 : 5845.000 MHz : 14.723 dBm Delta1 : 17.500 MHz : -1.093 dB T1 : 5831.167 MHz : 11.798 dBm T2 : 5848.833 MHz : 10.622 dBm OBW : 17.791 MHz	Measured 6 dB Bandwidth: 17.500 MHz Measured 99% Bandwidth: 17.791 MHz

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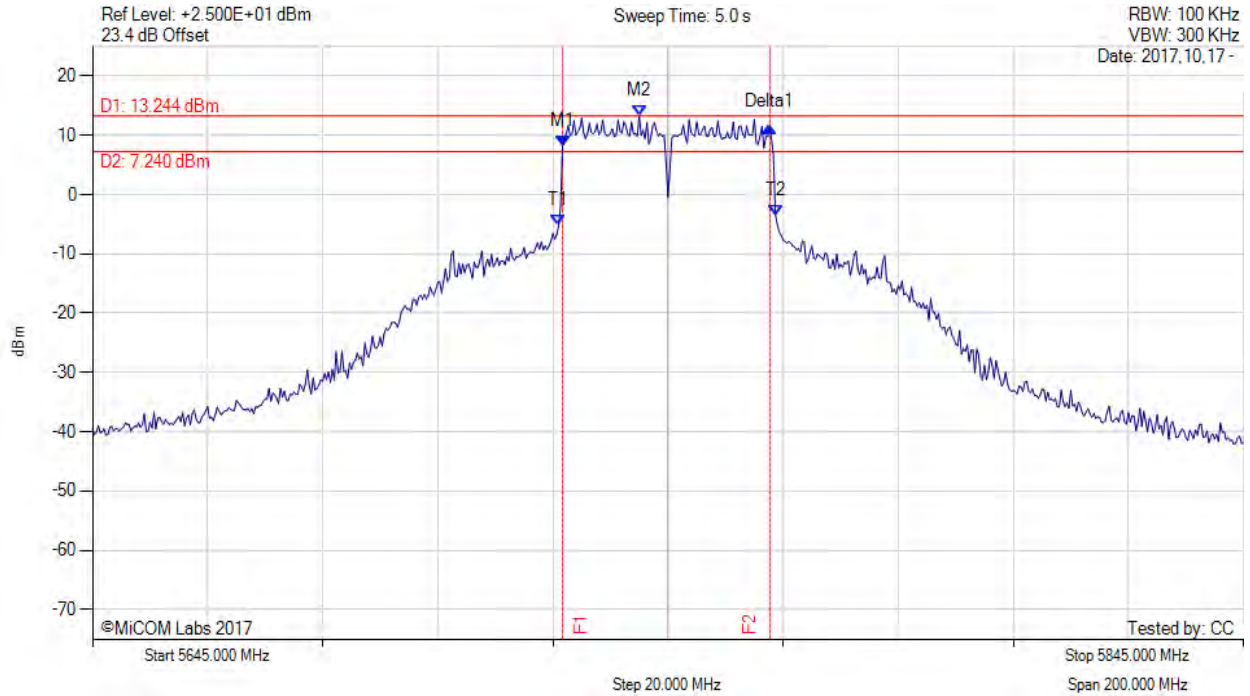


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6 dB & 99% BANDWIDTH



Variant: 40 MHz, Channel: 5745.00 MHz, Chain a, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5726.700 MHz : 8.137 dBm M2 : 5740.000 MHz : 13.244 dBm Delta1 : 36.000 MHz : 3.232 dB T1 : 5726.000 MHz : -5.203 dBm T2 : 5763.667 MHz : -3.447 dBm OBW : 37.442 MHz	Measured 6 dB Bandwidth: 36.000 MHz Measured 99% Bandwidth: 37.442 MHz

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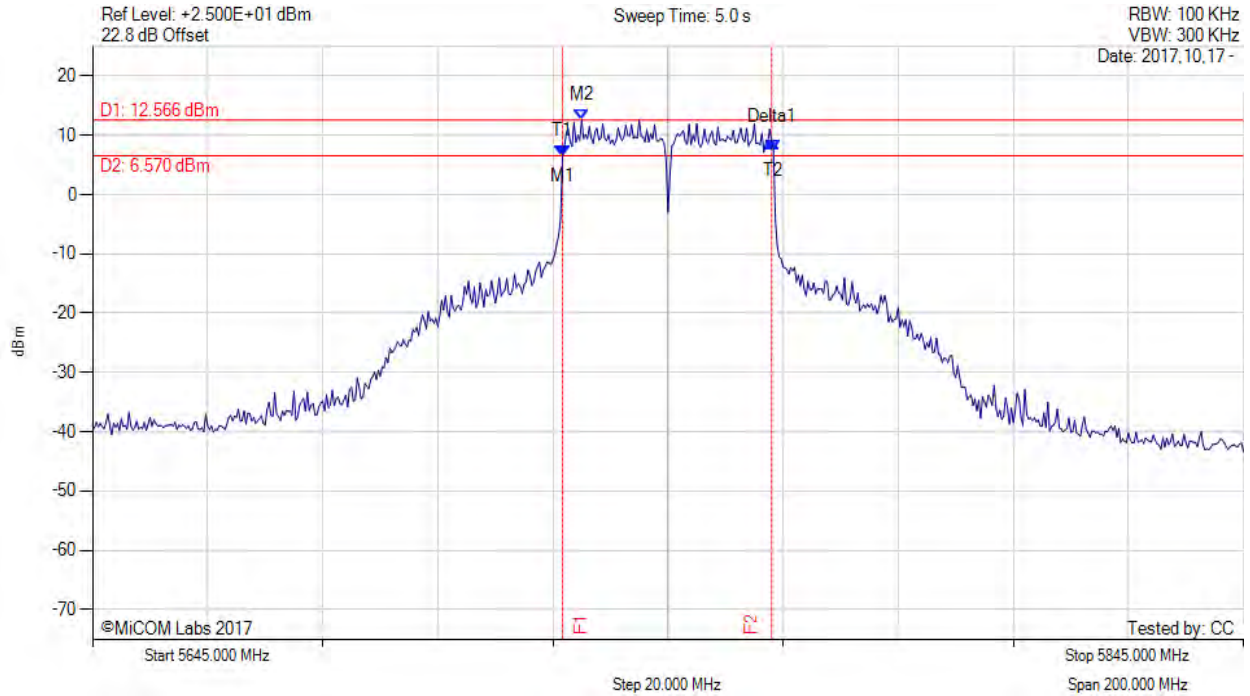


**Title:** Radwin Ltd. AP0158770  
**To:** FCC CFR 47 15.407 & ISED RSS-247  
**Serial #:** RDWN48-U4\_Conducted Rev A  
**Issue Date:** 20<sup>th</sup> November 2017  
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6 dB & 99% BANDWIDTH



Variant: 40 MHz, Channel: 5745.00 MHz, Chain b, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5726.700 MHz : 6.603 dBm M2 : 5730.000 MHz : 12.566 dBm Delta1 : 36.300 MHz : 2.270 dB T1 : 5726.667 MHz : 6.603 dBm T2 : 5763.333 MHz : 7.481 dBm OBW : 36.588 MHz	Measured 6 dB Bandwidth: 36.300 MHz Measured 99% Bandwidth: 36.588 MHz

[back to matrix](#)

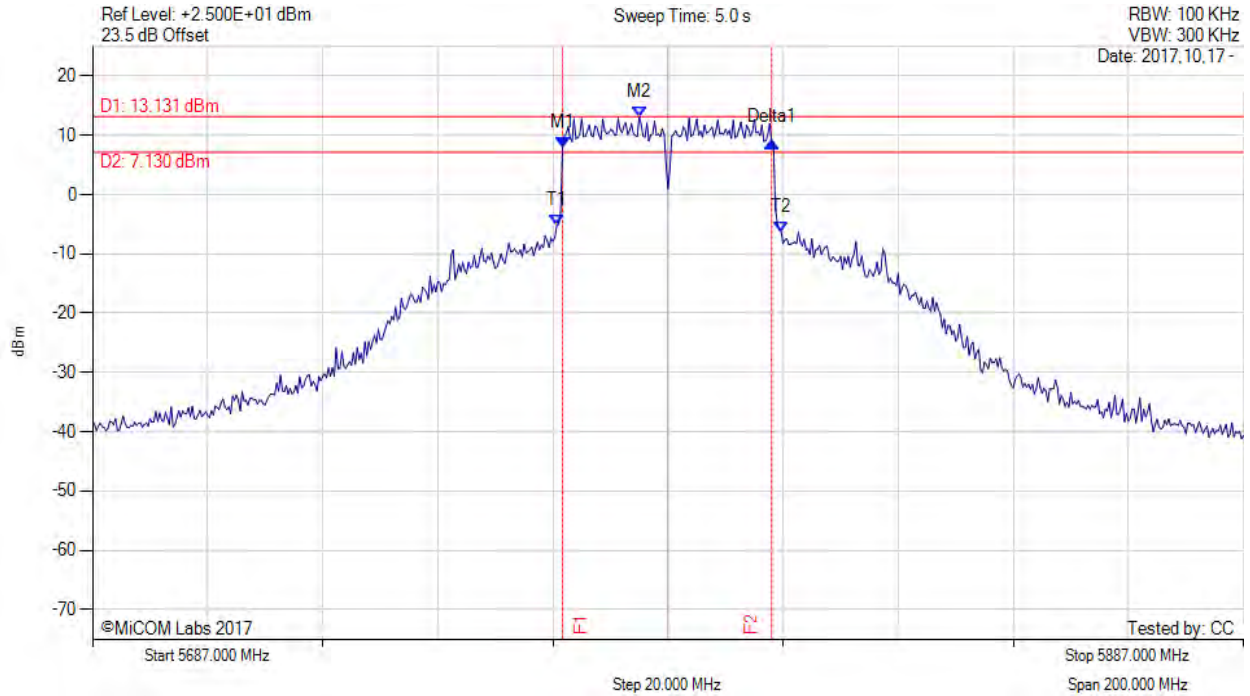
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6 dB & 99% BANDWIDTH



Variant: 40 MHz, Channel: 5787.00 MHz, Chain a, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5768.700 MHz : 7.919 dBm M2 : 5782.000 MHz : 13.131 dBm Delta1 : 36.300 MHz : 0.956 dB T1 : 5767.667 MHz : -5.242 dBm T2 : 5806.667 MHz : -6.278 dBm OBW : 38.983 MHz	Measured 6 dB Bandwidth: 36.300 MHz Measured 99% Bandwidth: 38.983 MHz

[back to matrix](#)

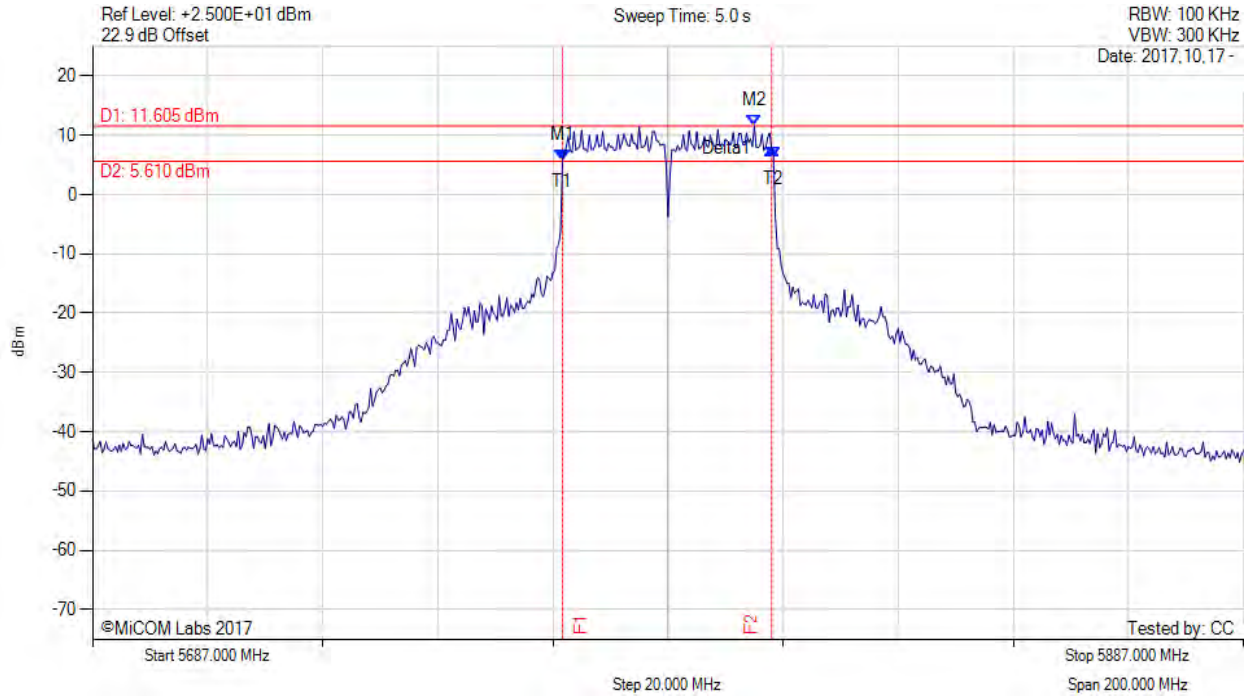
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6 dB & 99% BANDWIDTH



Variant: 40 MHz, Channel: 5787.00 MHz, Chain b, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5768.700 MHz : 5.843 dBm M2 : 5802.000 MHz : 11.605 dBm Delta1 : 36.300 MHz : 1.895 dB T1 : 5768.667 MHz : 5.843 dBm T2 : 5805.333 MHz : 6.304 dBm OBW : 36.513 MHz	Measured 6 dB Bandwidth: 36.300 MHz Measured 99% Bandwidth: 36.513 MHz

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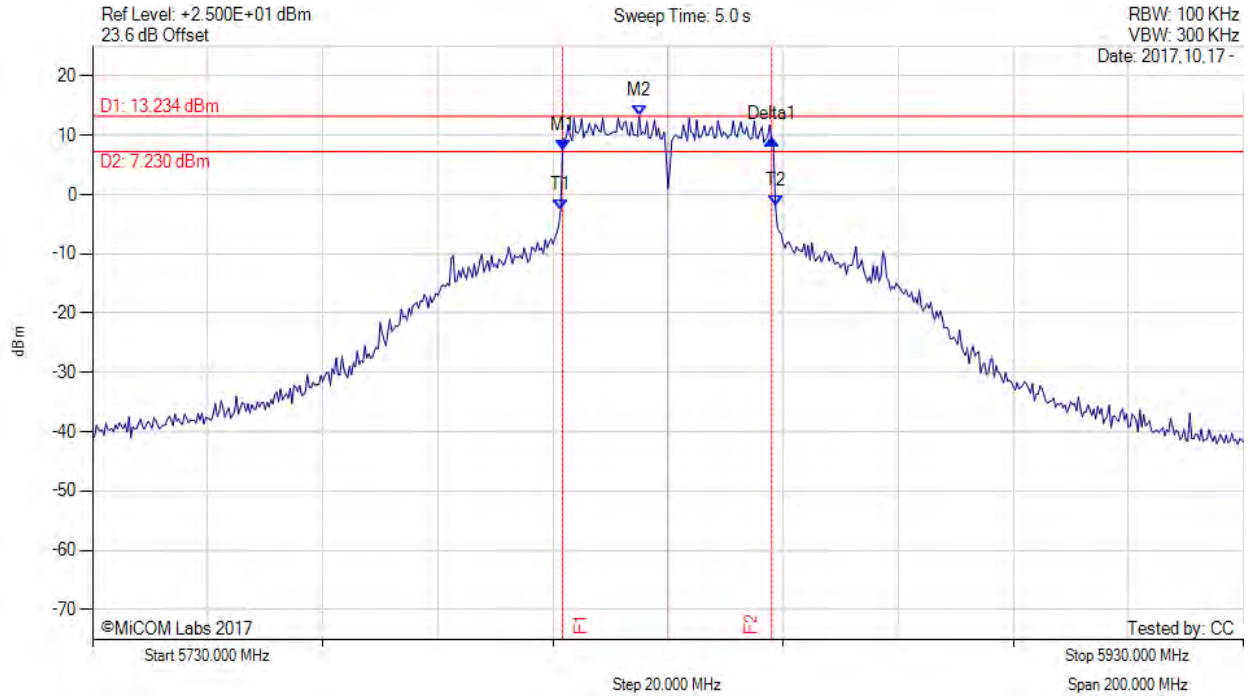
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6 dB & 99% BANDWIDTH



Variant: 40 MHz, Channel: 5830.00 MHz, Chain a, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5811.700 MHz : 7.453 dBm M2 : 5825.000 MHz : 13.234 dBm Delta1 : 36.300 MHz : 1.883 dB T1 : 5811.333 MHz : -2.688 dBm T2 : 5848.667 MHz : -1.927 dBm OBW : 37.110 MHz	Measured 6 dB Bandwidth: 36.300 MHz Measured 99% Bandwidth: 37.110 MHz

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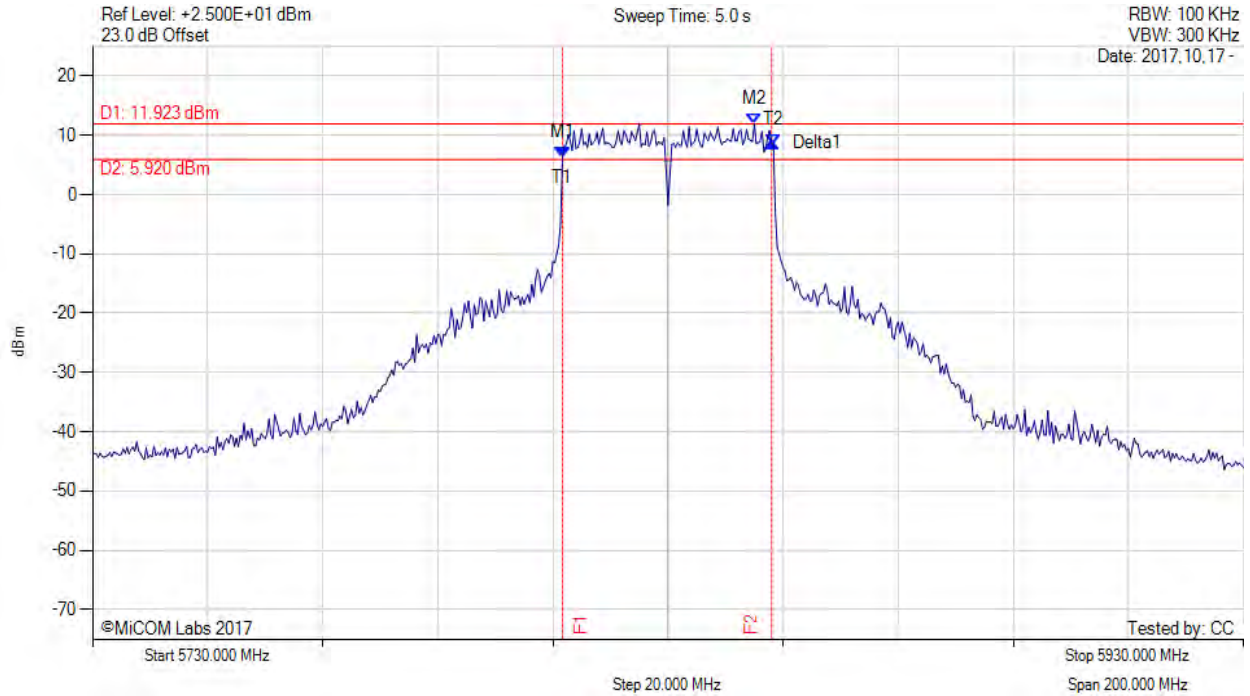


**Title:** Radwin Ltd. AP0158770  
**To:** FCC CFR 47 15.407 & ISED RSS-247  
**Serial #:** RDWN48-U4\_Conducted Rev A  
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6 dB & 99% BANDWIDTH



Variants: 40 MHz, Channel: 5830.00 MHz, Chain b, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5811.700 MHz : 6.315 dBm M2 : 5845.000 MHz : 11.923 dBm Delta1 : 36.300 MHz : 2.429 dB T1 : 5811.667 MHz : 6.315 dBm T2 : 5848.333 MHz : 8.372 dBm OBW : 36.572 MHz	Measured 6 dB Bandwidth: 36.300 MHz Measured 99% Bandwidth: 36.572 MHz

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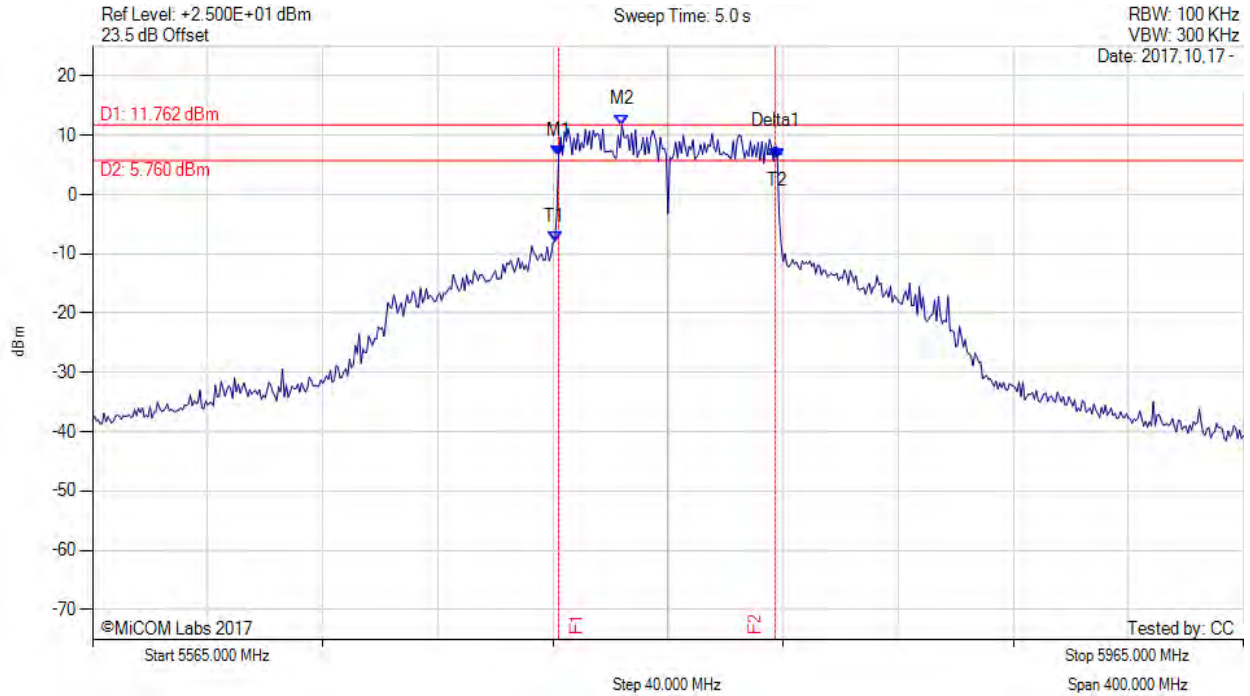
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6 dB & 99% BANDWIDTH



Variant: 80 MHz, Channel: 5765.00 MHz, Chain a, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5727.000 MHz : 6.539 dBm M2 : 5749.000 MHz : 11.762 dBm Delta1 : 75.300 MHz : 1.485 dB T1 : 5725.667 MHz : -7.959 dBm T2 : 5803.000 MHz : 6.048 dBm OBW : 77.505 MHz	Measured 6 dB Bandwidth: 75.300 MHz Measured 99% Bandwidth: 77.505 MHz

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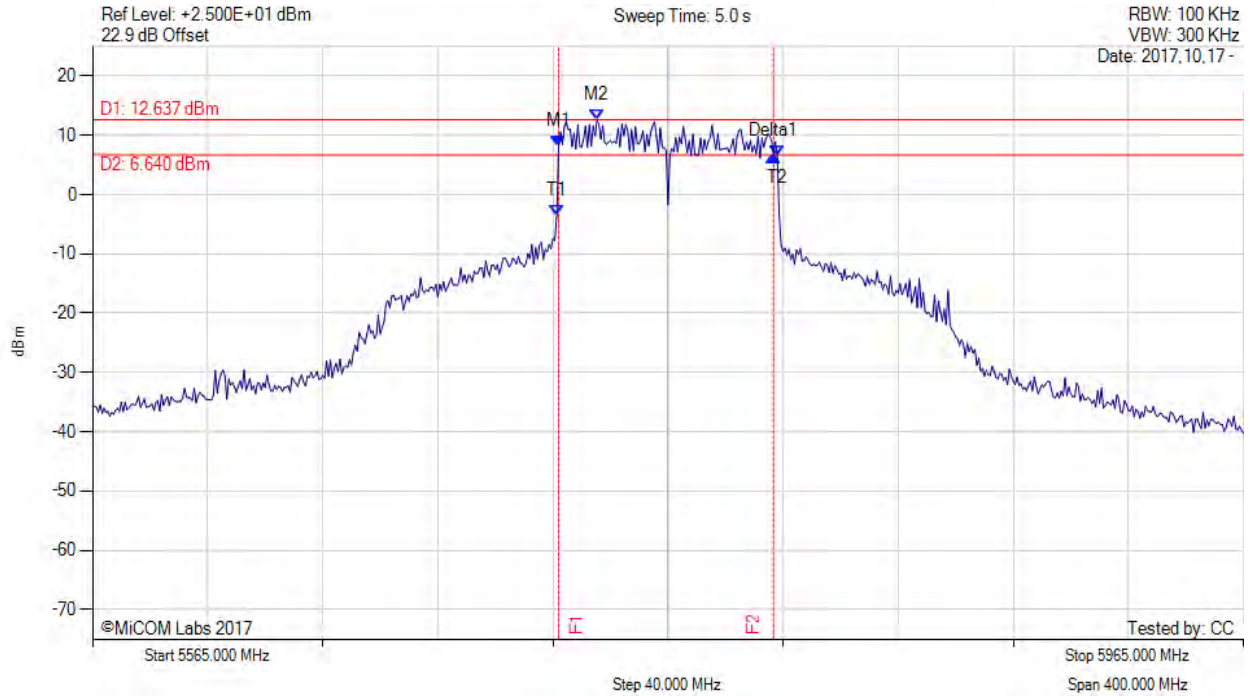


**Title:** Radwin Ltd. AP0158770  
**To:** FCC CFR 47 15.407 & ISED RSS-247  
**Serial #:** RDWN48-U4\_Conducted Rev A  
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6 dB & 99% BANDWIDTH



Variant: 80 MHz, Channel: 5765.00 MHz, Chain b, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5727.000 MHz : 8.064 dBm M2 : 5740.300 MHz : 12.637 dBm Delta1 : 74.700 MHz : -1.492 dB T1 : 5726.333 MHz : -3.589 dBm T2 : 5803.000 MHz : 6.428 dBm OBW : 77.082 MHz	Measured 6 dB Bandwidth: 74.700 MHz Measured 99% Bandwidth: 77.082 MHz

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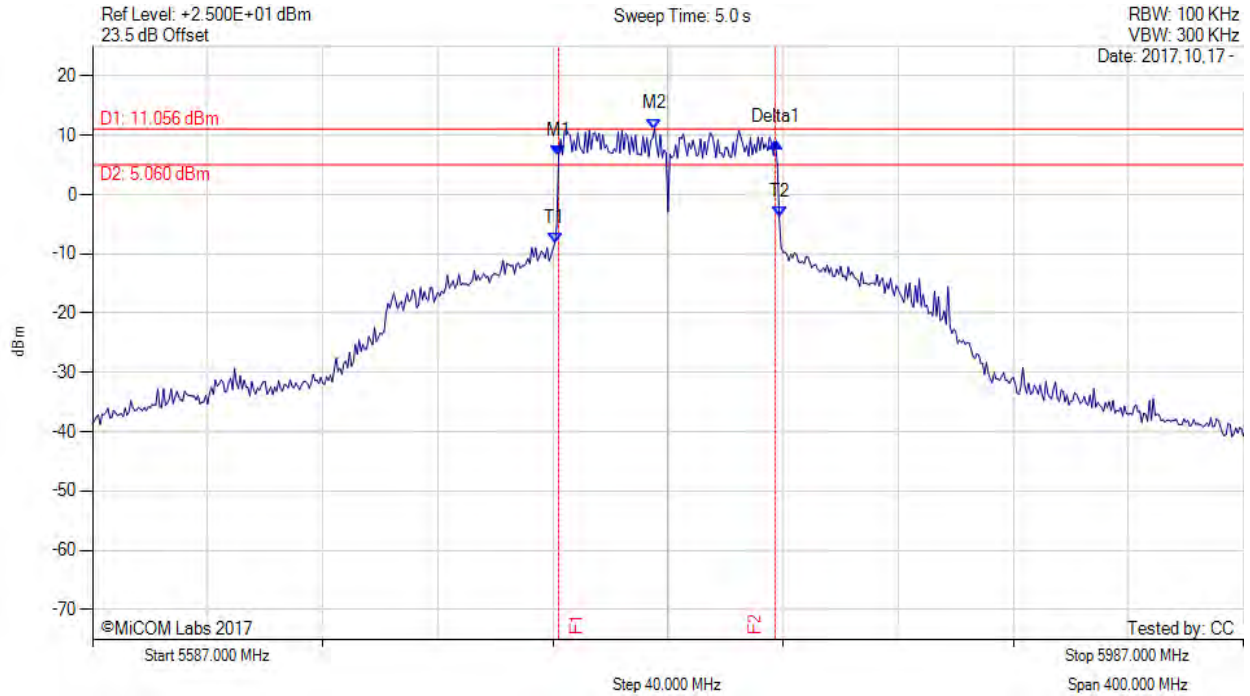




6 dB & 99% BANDWIDTH



Variant: 80 MHz, Channel: 5787.00 MHz, Chain a, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5749.000 MHz : 6.495 dBm M2 : 5782.300 MHz : 11.056 dBm Delta1 : 75.300 MHz : 2.295 dB T1 : 5747.667 MHz : -8.261 dBm T2 : 5825.667 MHz : -3.815 dBm OBW : 77.981 MHz	Measured 6 dB Bandwidth: 75.300 MHz Measured 99% Bandwidth: 77.981 MHz

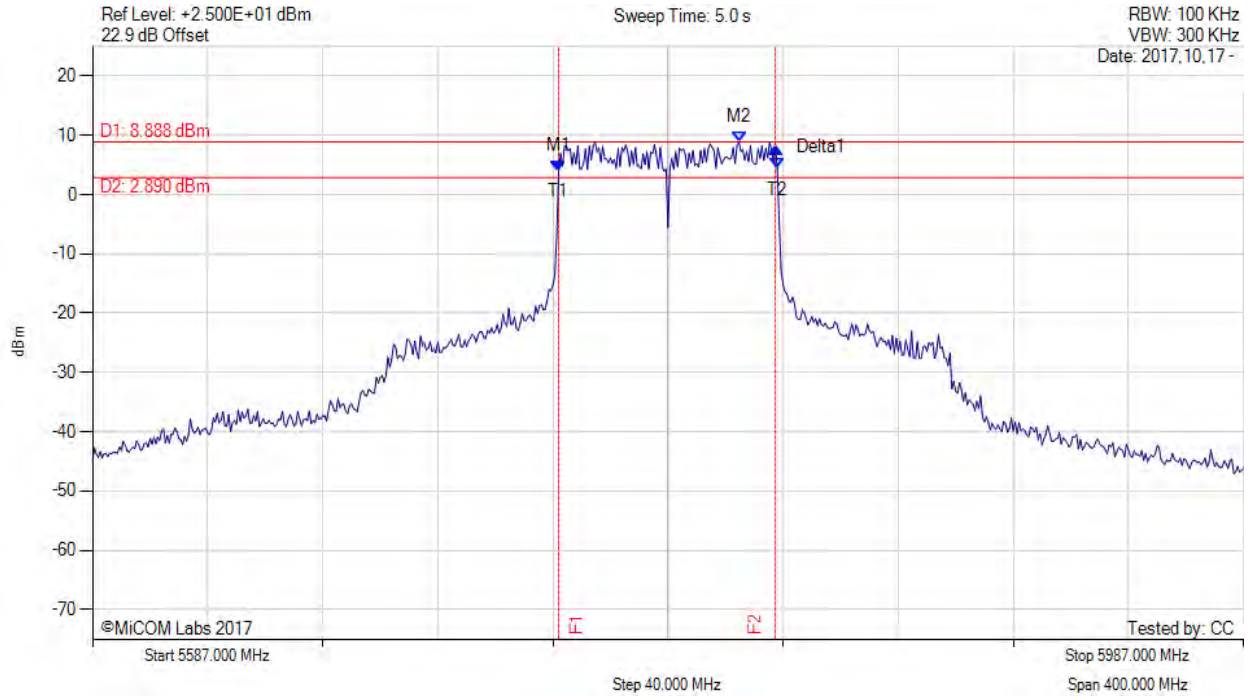
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6 dB & 99% BANDWIDTH



Variant: 80 MHz, Channel: 5787.00 MHz, Chain b, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5749.000 MHz : 3.989 dBm M2 : 5811.700 MHz : 8.888 dBm Delta1 : 75.300 MHz : 4.032 dB T1 : 5749.000 MHz : 3.989 dBm T2 : 5825.000 MHz : 4.367 dBm OBW : 75.627 MHz	Measured 6 dB Bandwidth: 75.300 MHz Measured 99% Bandwidth: 75.627 MHz

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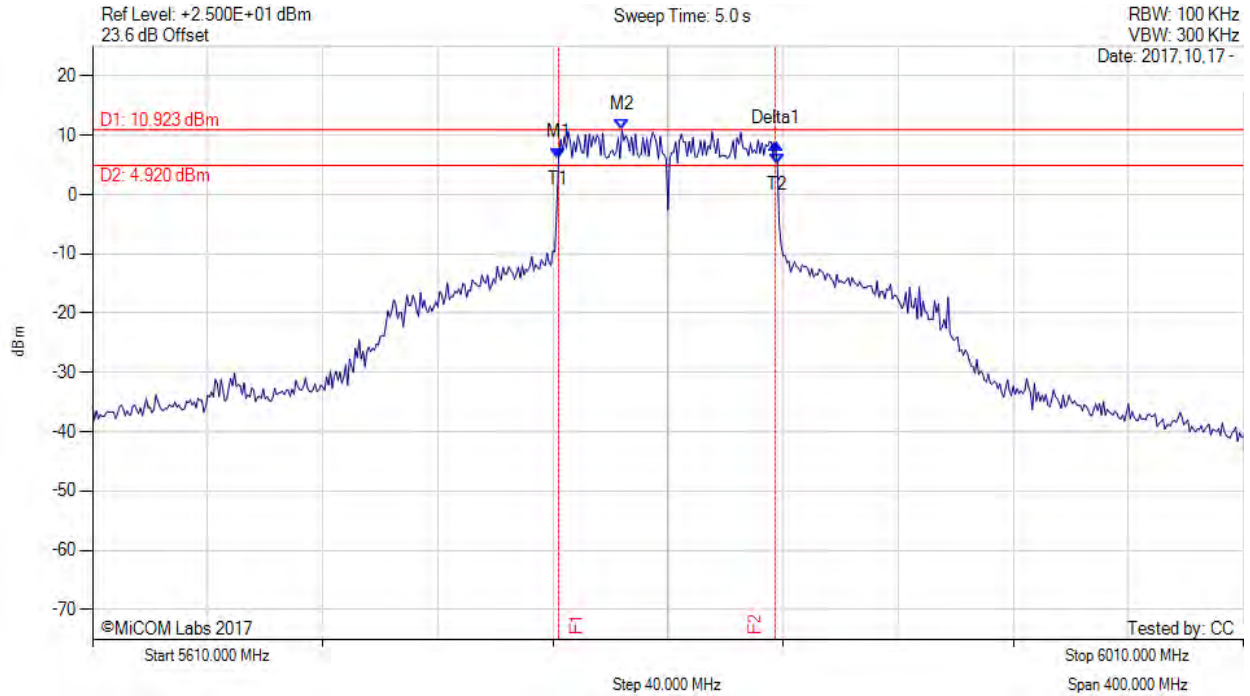


**Title:** Radwin Ltd. AP0158770  
**To:** FCC CFR 47 15.407 & ISED RSS-247  
**Serial #:** RDWN48-U4\_Conducted Rev A  
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6 dB & 99% BANDWIDTH



Variant: 80 MHz, Channel: 5810.00 MHz, Chain a, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5772.000 MHz : 6.168 dBm M2 : 5794.000 MHz : 10.923 dBm Delta1 : 75.300 MHz : 2.412 dB T1 : 5772.000 MHz : 6.168 dBm T2 : 5848.000 MHz : 5.221 dBm OBW : 76.428 MHz	Measured 6 dB Bandwidth: 75.300 MHz Measured 99% Bandwidth: 76.428 MHz

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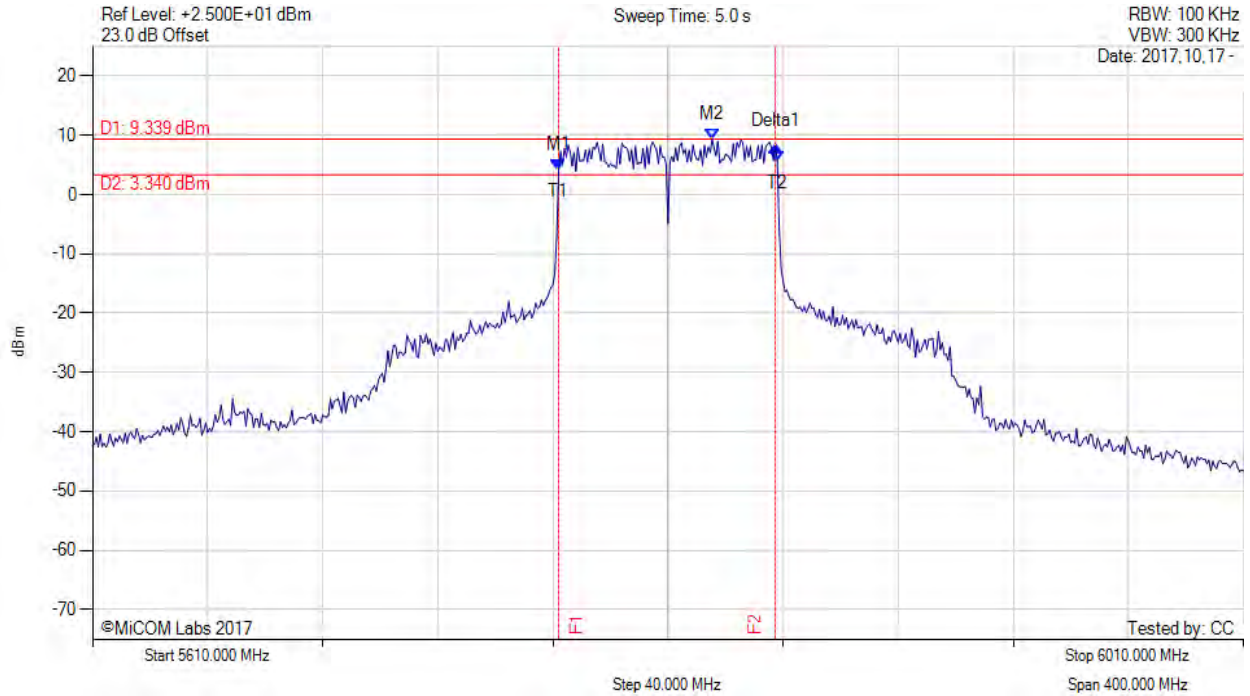


**Title:** Radwin Ltd. AP0158770  
**To:** FCC CFR 47 15.407 & ISED RSS-247  
**Serial #:** RDWN48-U4\_Conducted Rev A  
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6 dB & 99% BANDWIDTH



Variant: 80 MHz, Channel: 5810.00 MHz, Chain b, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = POS Sweep Count = 0 RF Atten (dB) = 20 Trace Mode = MAXH	M1 : 5772.000 MHz : 4.112 dBm M2 : 5825.300 MHz : 9.339 dBm Delta1 : 75.300 MHz : 4.028 dB T1 : 5772.000 MHz : 4.112 dBm T2 : 5848.000 MHz : 5.516 dBm OBW : 75.667 MHz	Measured 6 dB Bandwidth: 75.300 MHz Measured 99% Bandwidth: 75.667 MHz

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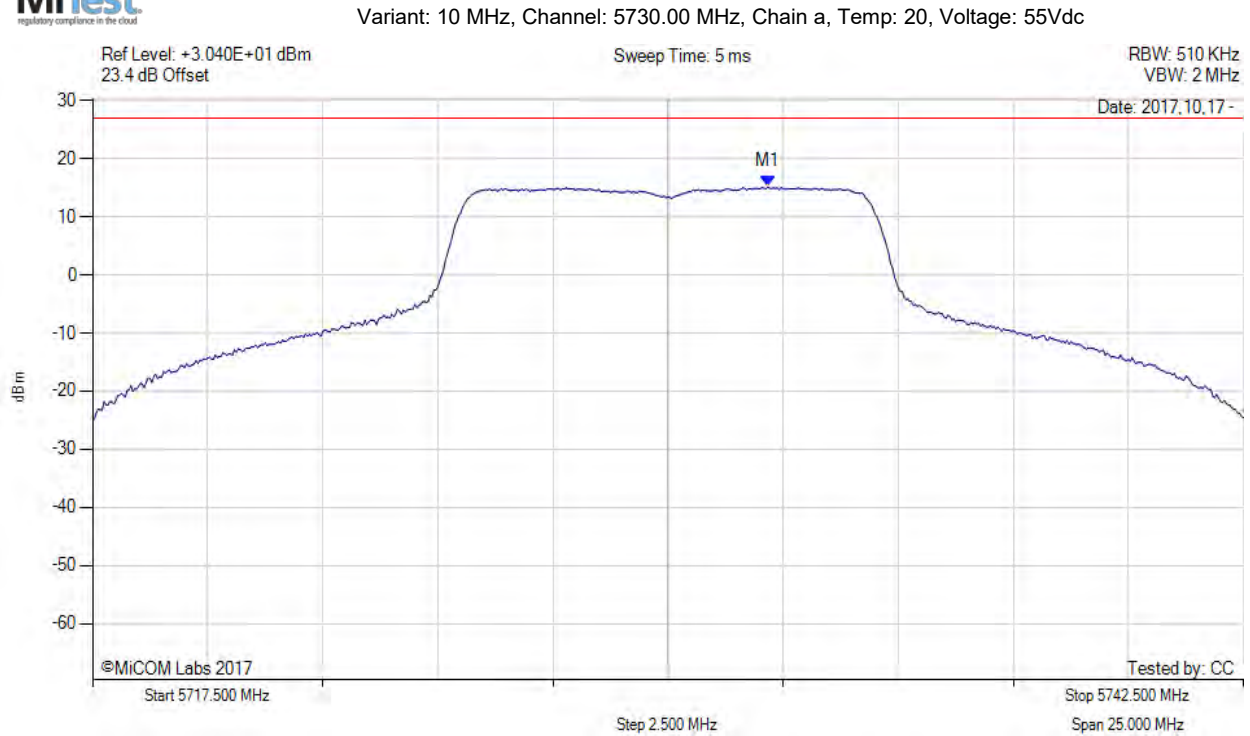
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## A.2. Power Spectral Density



### POWER SPECTRAL DENSITY



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5732.170 MHz : 15.151 dBm	Limit: ≤ 26.990 dBm

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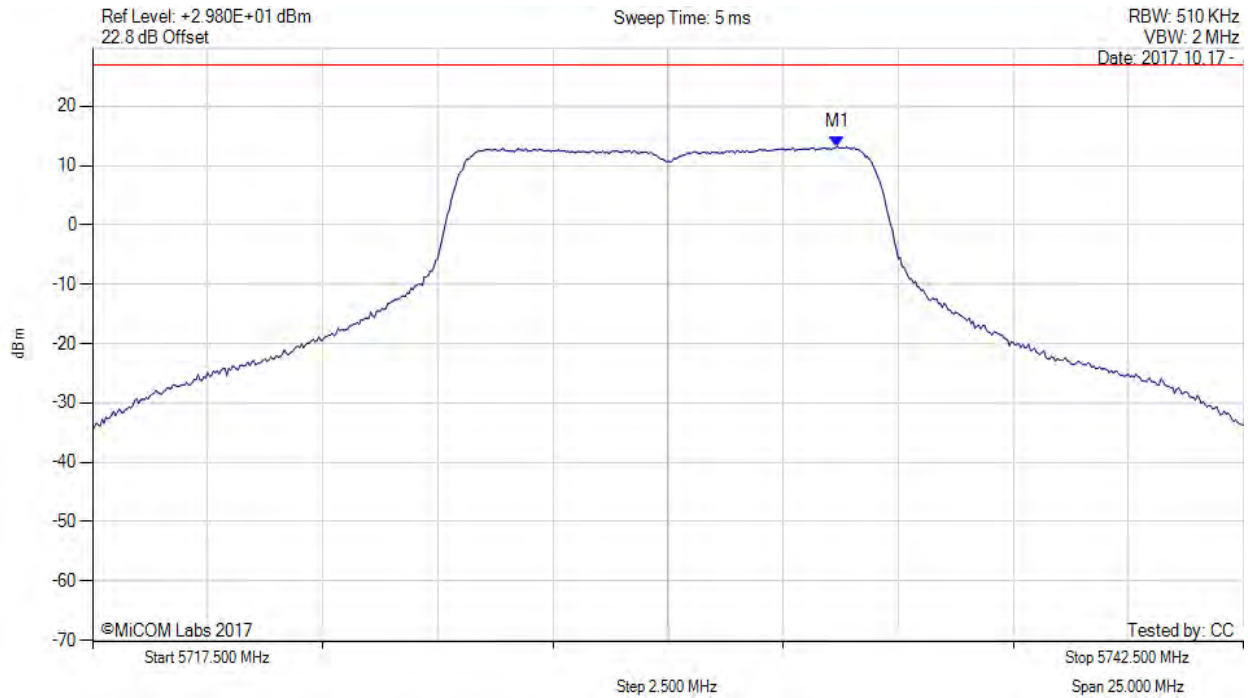


**Title:** Radwin Ltd. AP0158770  
**To:** FCC CFR 47 15.407 & ISED RSS-247  
**Serial #:** RDWN48-U4\_Conducted Rev A  
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POWER SPECTRAL DENSITY



Variants: 10 MHz, Channel: 5730.00 MHz, Chain b, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5733.670 MHz : 13.222 dBm	Limit: ≤ 26.990 dBm

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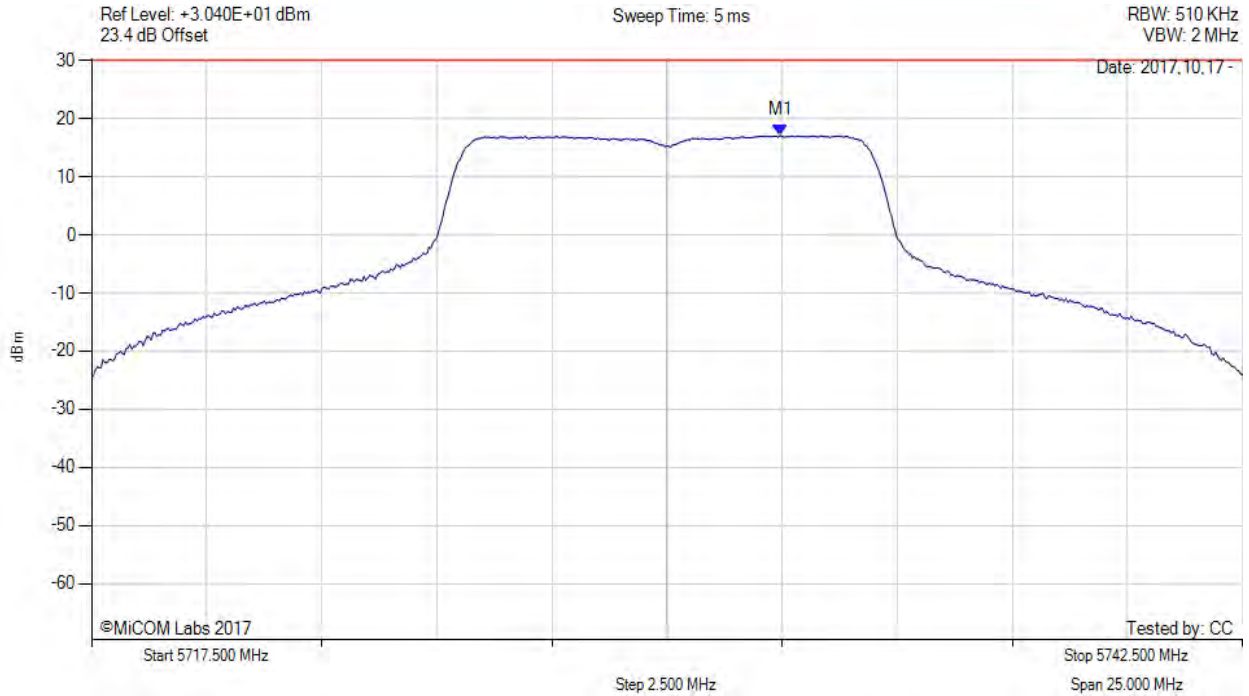


**Title:** Radwin Ltd. AP0158770  
**To:** FCC CFR 47 15.407 & ISED RSS-247  
**Serial #:** RDWN48-U4\_Conducted Rev A  
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POWER SPECTRAL DENSITY



Variant: 10 MHz, Channel: 5730.00 MHz, SUM, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5732.500 MHz : 17.107 dBm M1 + DCCF : 5732.500 MHz : 17.107 dBm Duty Cycle Correction Factor : +0 dB	Limit: $\leq 30.0$ dBm Margin: -12.9 dB

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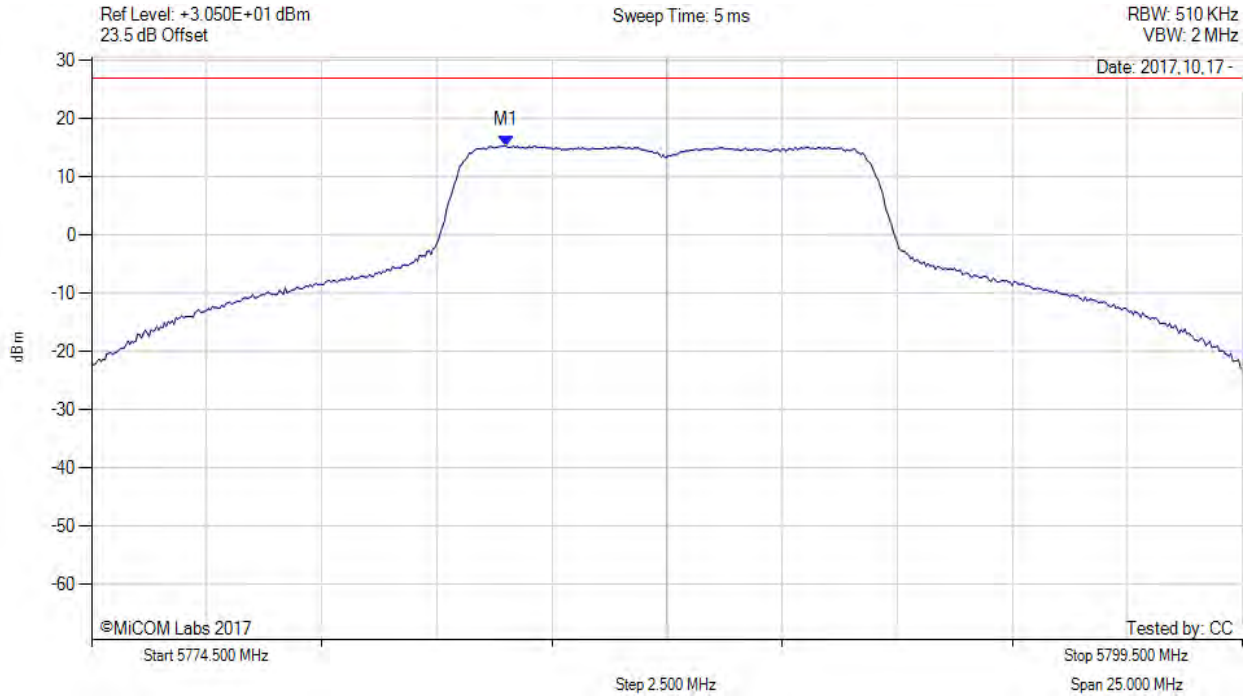


**Title:** Radwin Ltd. AP0158770  
**To:** FCC CFR 47 15.407 & ISED RSS-247  
**Serial #:** RDWN48-U4\_Conducted Rev A  
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POWER SPECTRAL DENSITY



Variant: 10 MHz, Channel: 5787.00 MHz, Chain a, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5783.500 MHz : 15.382 dBm	Limit: ≤ 26.990 dBm

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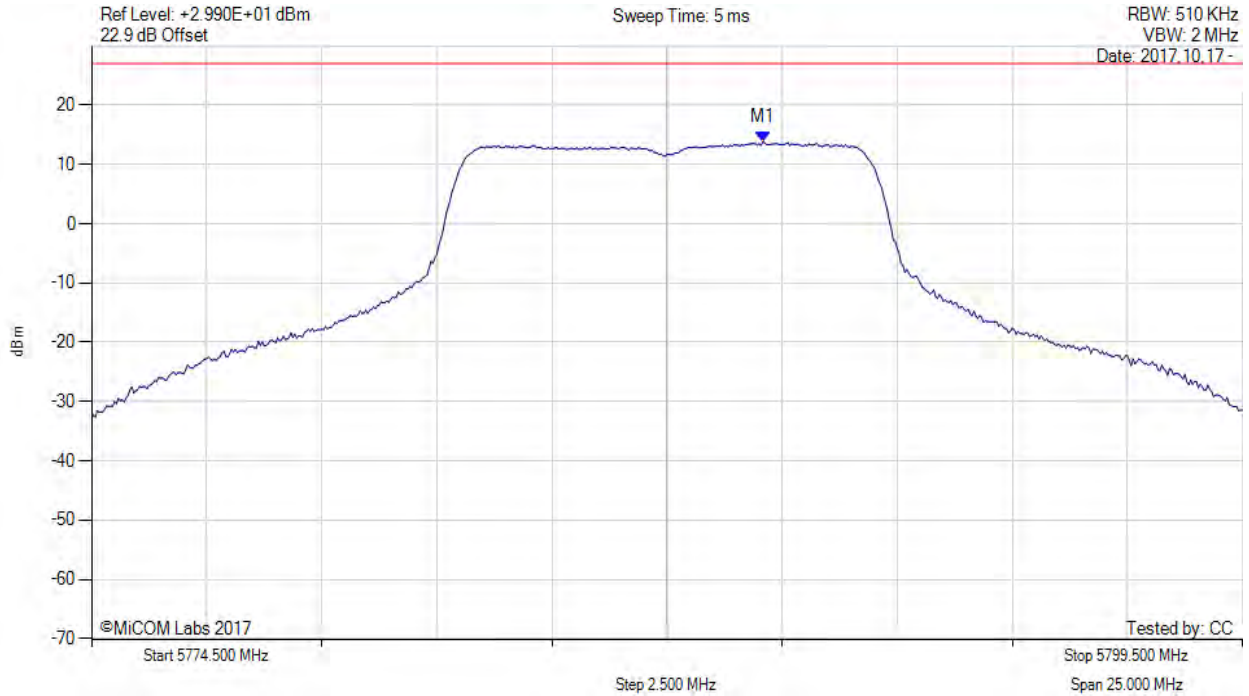


**Title:** Radwin Ltd. AP0158770  
**To:** FCC CFR 47 15.407 & ISED RSS-247  
**Serial #:** RDWN48-U4\_Conducted Rev A  
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POWER SPECTRAL DENSITY



Variant: 10 MHz, Channel: 5787.00 MHz, Chain b, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5789.080 MHz : 13.766 dBm	Channel Frequency: 5787.00 MHz

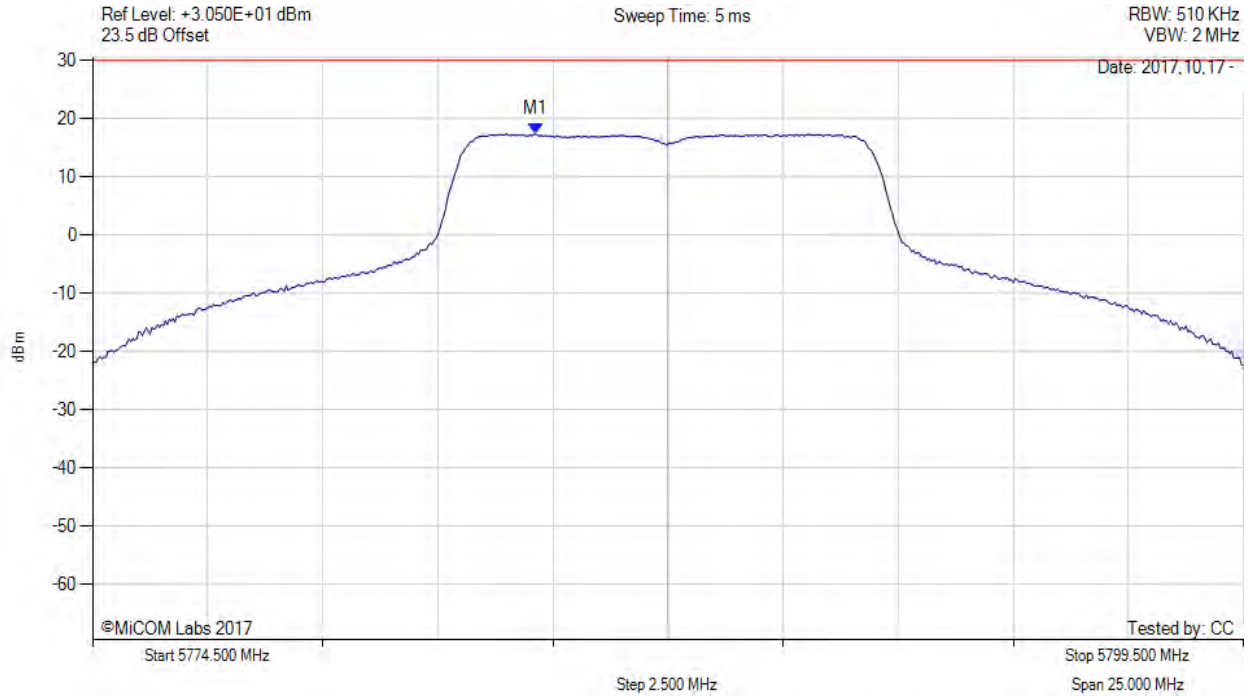
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POWER SPECTRAL DENSITY



Variant: 10 MHz, Channel: 5787.00 MHz, SUM, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5784.100 MHz : 17.397 dBm M1 + DCCF : 5784.100 MHz : 17.397 dBm Duty Cycle Correction Factor : +0 dB	Limit: ≤ 30.0 dBm Margin: -12.6 dB

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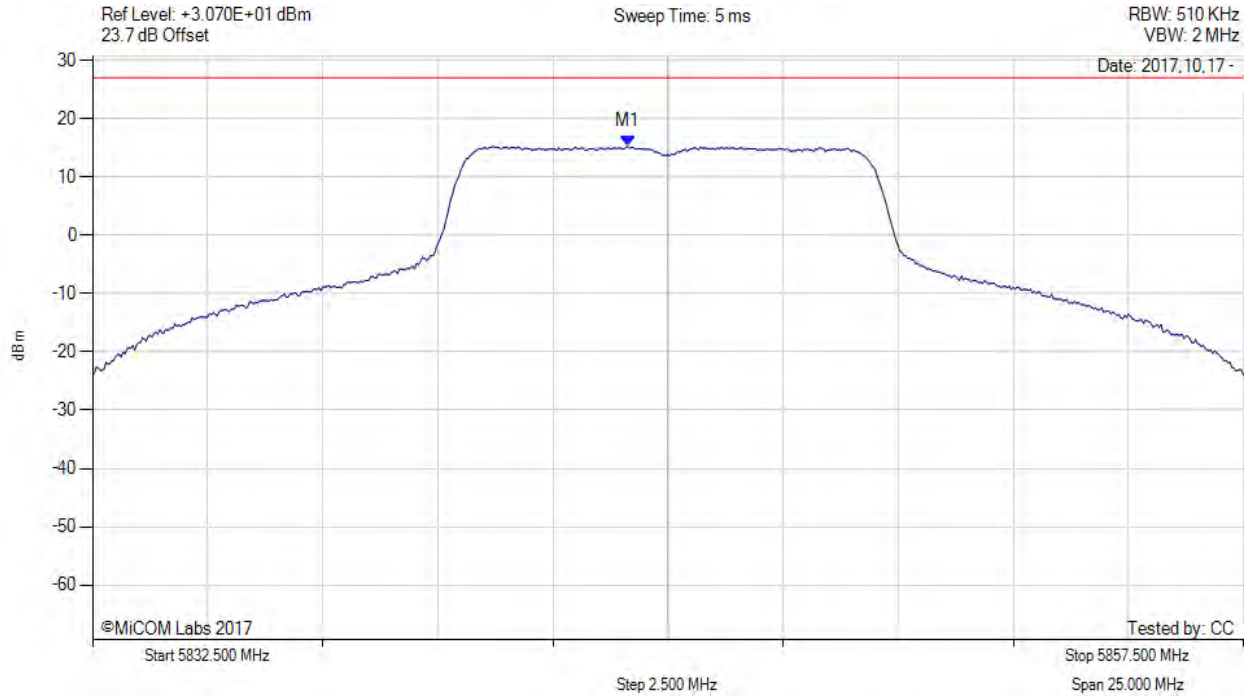


**Title:** Radwin Ltd. AP0158770  
**To:** FCC CFR 47 15.407 & ISED RSS-247  
**Serial #:** RDWN48-U4\_Conducted Rev A  
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POWER SPECTRAL DENSITY



Variant: 10 MHz, Channel: 5845.00 MHz, Chain a, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5844.120 MHz : 15.323 dBm	Limit: ≤ 26.990 dBm

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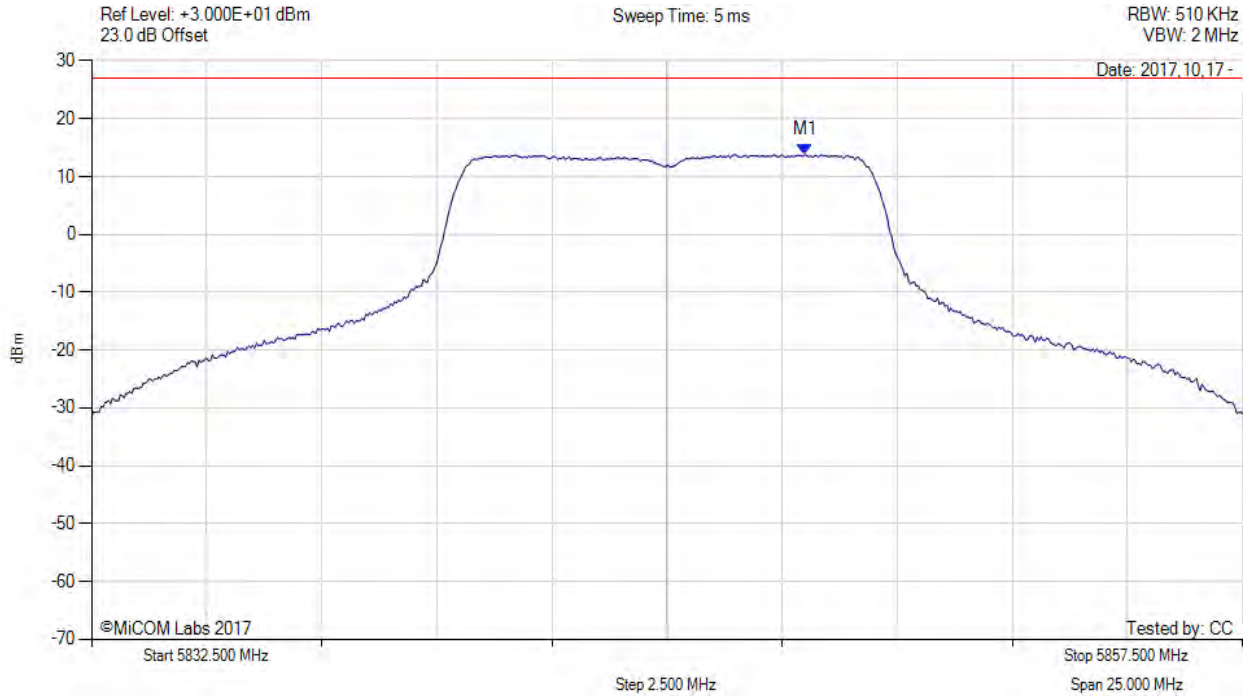


**Title:** Radwin Ltd. AP0158770  
**To:** FCC CFR 47 15.407 & ISED RSS-247  
**Serial #:** RDWN48-U4\_Conducted Rev A  
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POWER SPECTRAL DENSITY



Variant: 10 MHz, Channel: 5845.00 MHz, Chain b, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5848.000 MHz : 13.796 dBm	Limit: ≤ 26.990 dBm

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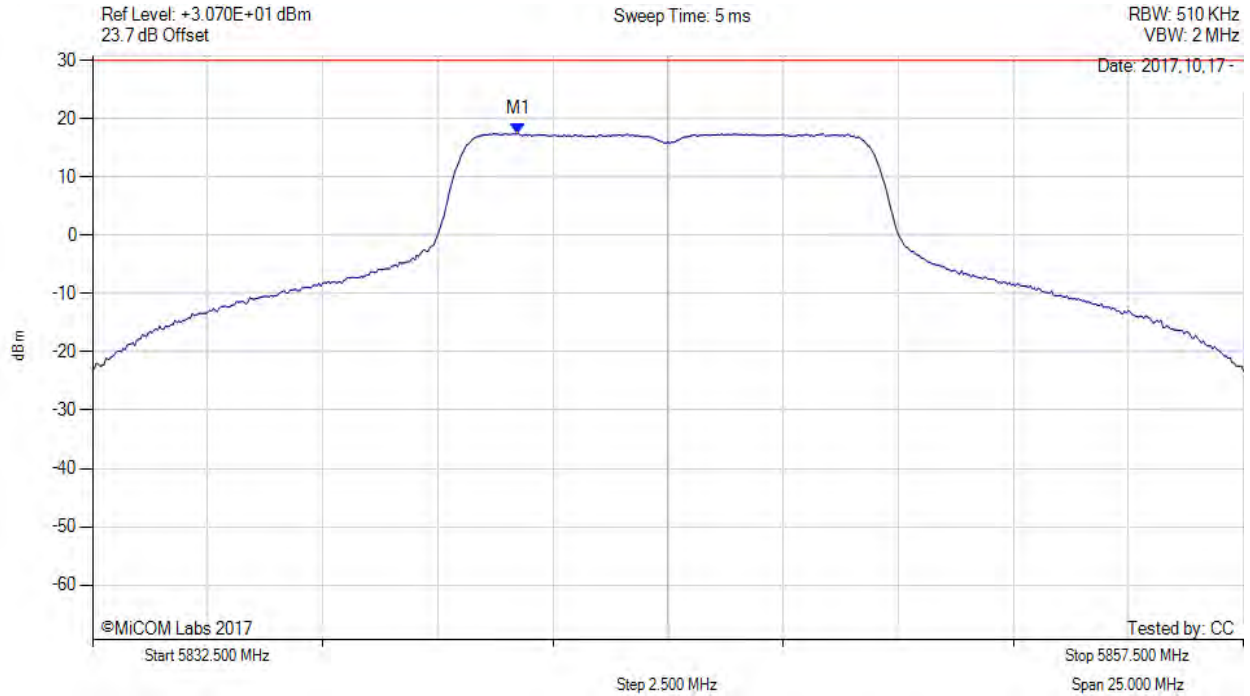


**Title:** Radwin Ltd. AP0158770  
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POWER SPECTRAL DENSITY

Variant: 10 MHz, Channel: 5845.00 MHz, SUM, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5841.800 MHz : 17.445 dBm M1 + DCCF : 5841.800 MHz : 17.445 dBm Duty Cycle Correction Factor : +0 dB	Limit: $\leq 30.0$ dBm Margin: -12.6 dB

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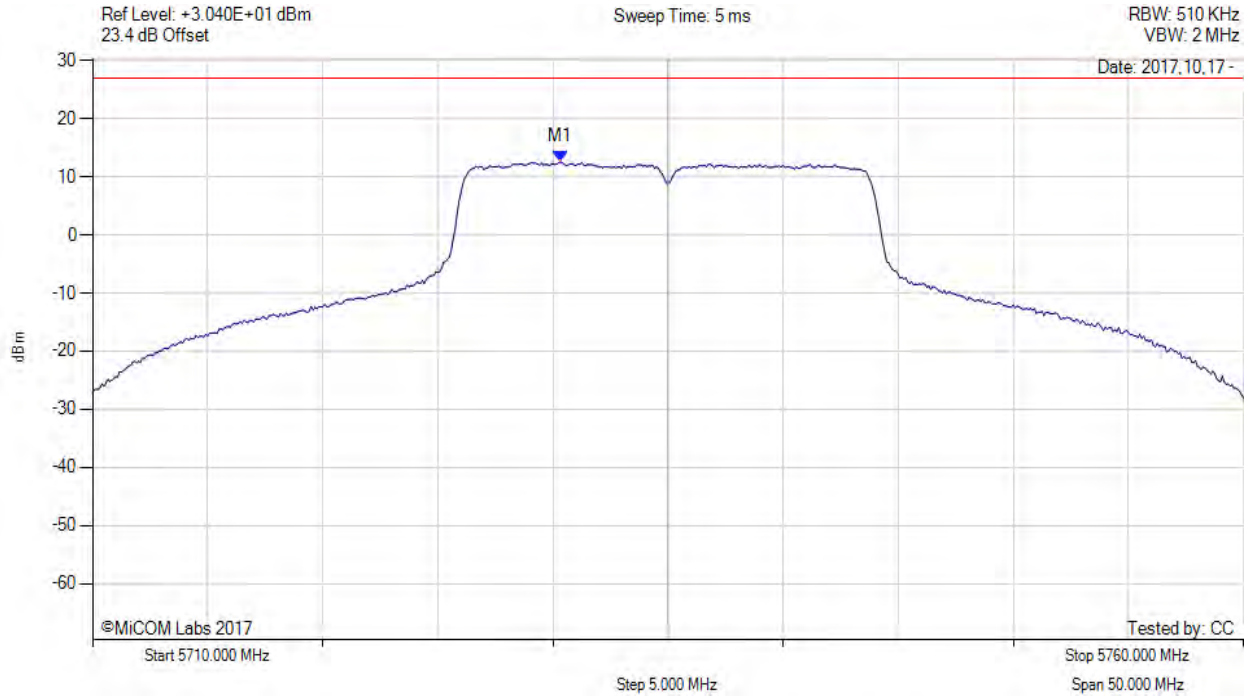


**Title:** Radwin Ltd. AP0158770  
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POWER SPECTRAL DENSITY



Variation: 20 MHz, Channel: 5735.00 MHz, Chain a, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5730.330 MHz : 12.578 dBm	Limit: ≤ 26.990 dBm

[back to matrix](#)

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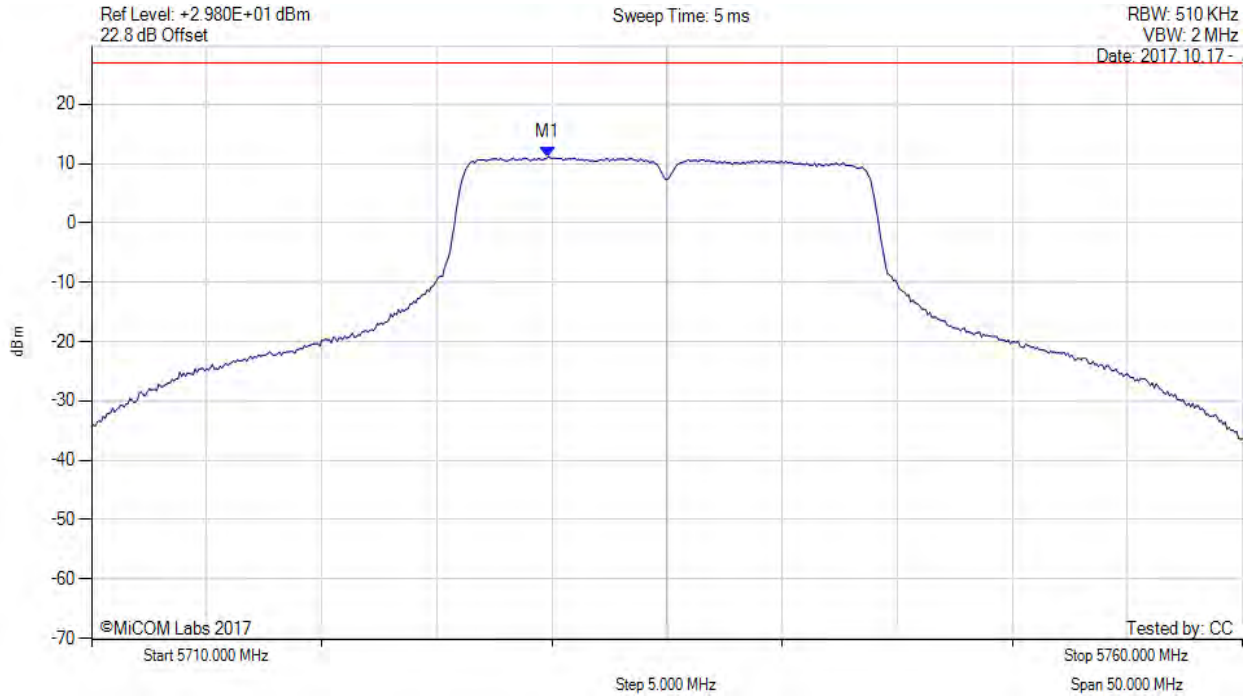


**Title:** Radwin Ltd. AP0158770  
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**Serial #:** RDWN48-U4\_Conducted Rev A  
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POWER SPECTRAL DENSITY



Variant: 20 MHz, Channel: 5735.00 MHz, Chain b, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5729.830 MHz : 11.142 dBm	Limit: ≤ 26.990 dBm

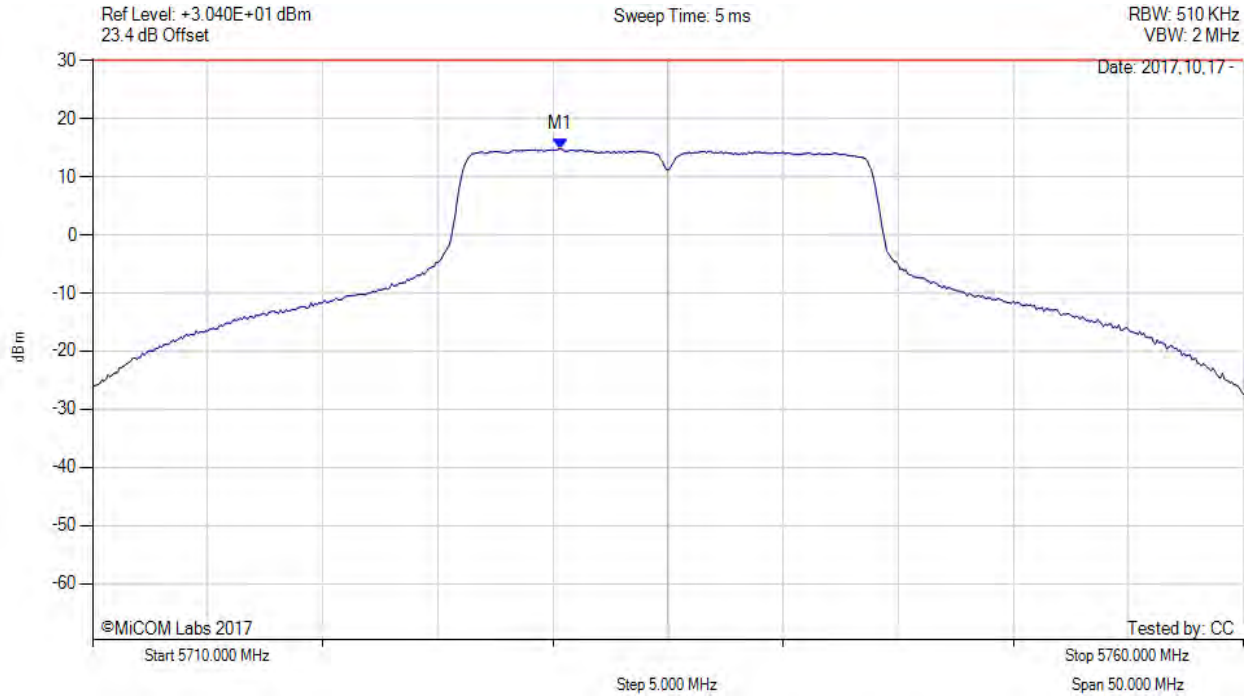
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POWER SPECTRAL DENSITY



Variant: 20 MHz, Channel: 5735.00 MHz, SUM, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5730.300 MHz : 14.831 dBm M1 + DCCF : 5730.300 MHz : 14.831 dBm Duty Cycle Correction Factor : +0 dB	Limit: ≤ 30.0 dBm Margin: -15.2 dB

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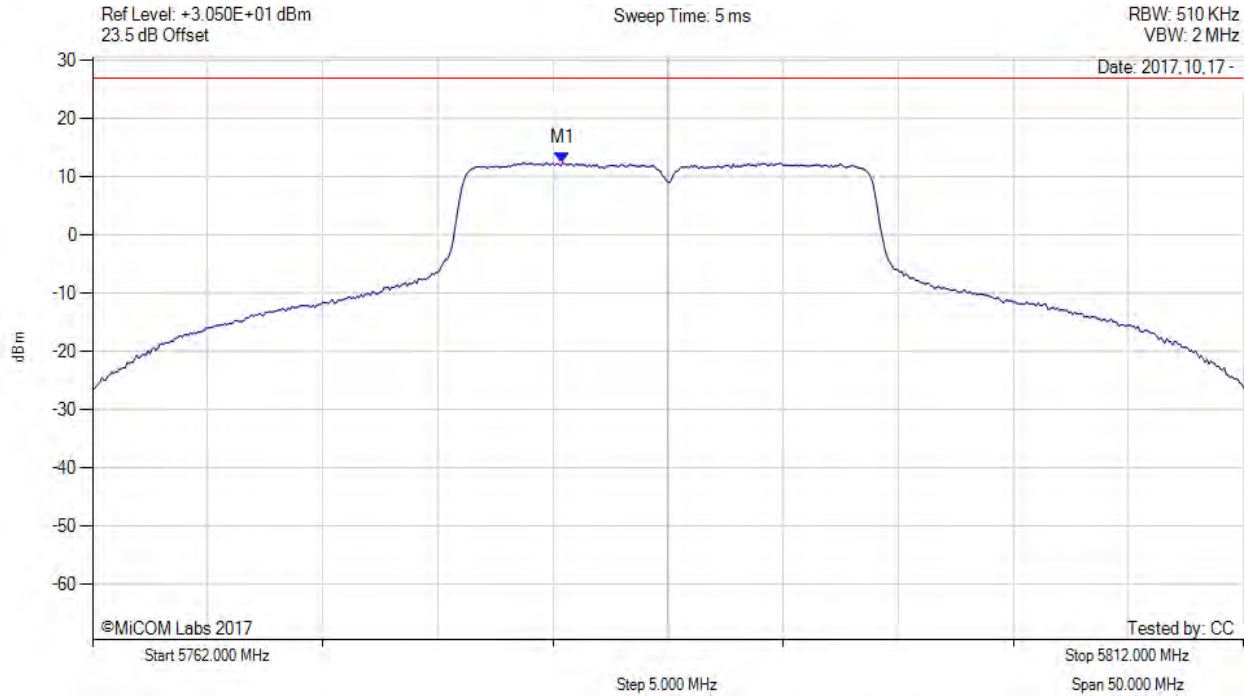


**Title:** Radwin Ltd. AP0158770  
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POWER SPECTRAL DENSITY



Variant: 20 MHz, Channel: 5787.00 MHz, Chain a, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5782.420 MHz : 12.403 dBm	Limit: ≤ 26.990 dBm

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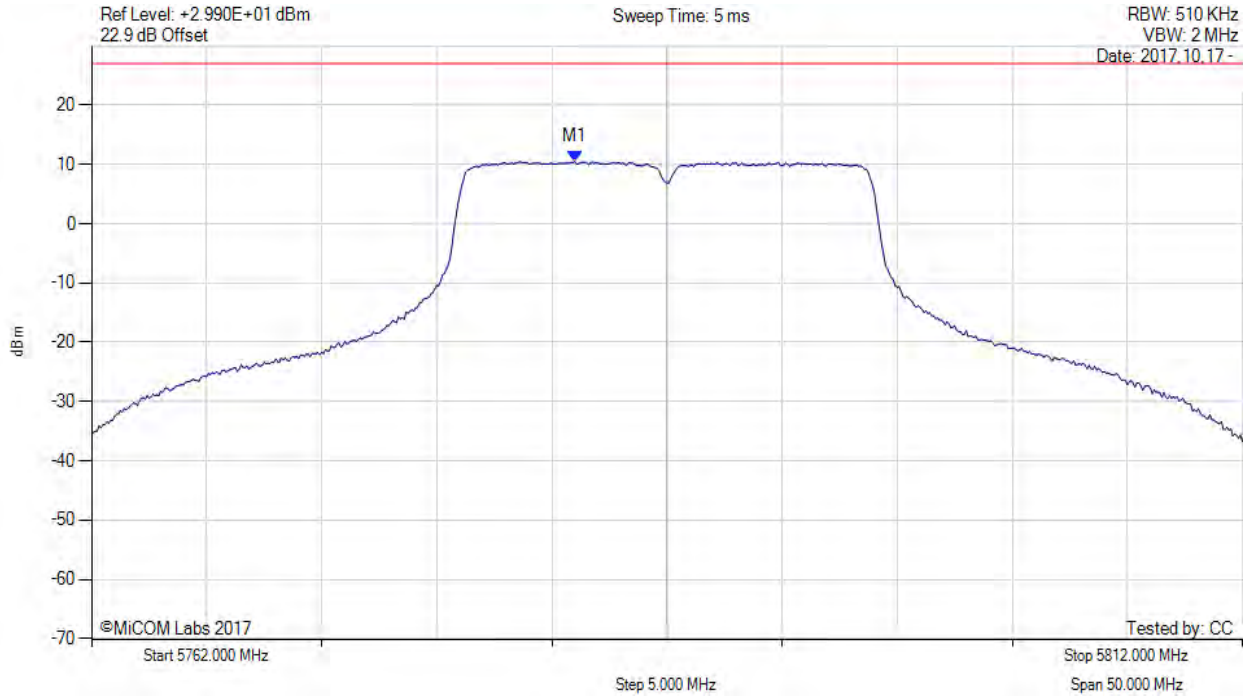


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POWER SPECTRAL DENSITY



Variant: 20 MHz, Channel: 5787.00 MHz, Chain b, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5783.000 MHz : 10.473 dBm	Channel Frequency: 5787.00 MHz

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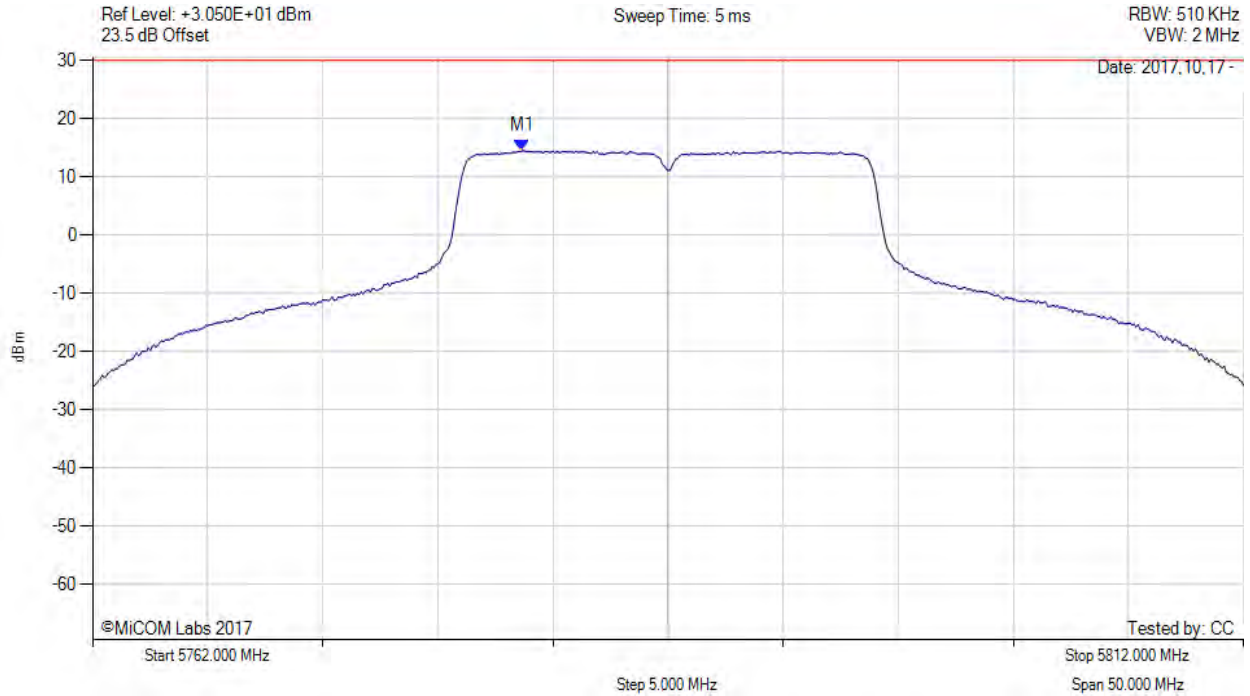


**Title:** Radwin Ltd. AP0158770  
**To:** FCC CFR 47 15.407 & ISED RSS-247  
**Serial #:** RDWN48-U4\_Conducted Rev A  
**Issue Date:** 20<sup>th</sup> November 2017  
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POWER SPECTRAL DENSITY



Variant: 20 MHz, Channel: 5787.00 MHz, SUM, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5780.700 MHz : 14.495 dBm M1 + DCCF : 5780.700 MHz : 14.495 dBm Duty Cycle Correction Factor : +0 dB	Limit: $\leq 30.0$ dBm Margin: -15.5 dB

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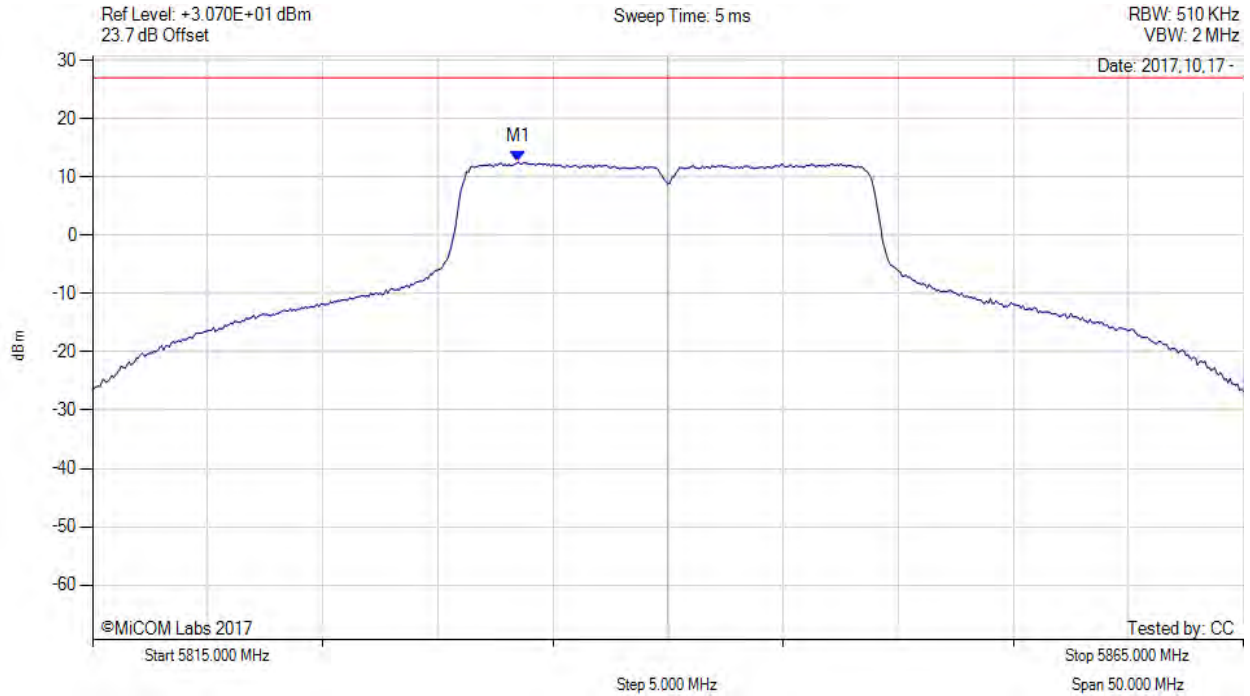


**Title:** Radwin Ltd. AP0158770  
**To:** FCC CFR 47 15.407 & ISED RSS-247  
**Serial #:** RDWN48-U4\_Conducted Rev A  
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POWER SPECTRAL DENSITY



Variant: 20 MHz, Channel: 5840.00 MHz, Chain a, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5833.500 MHz : 12.571 dBm	Limit: ≤ 26.990 dBm

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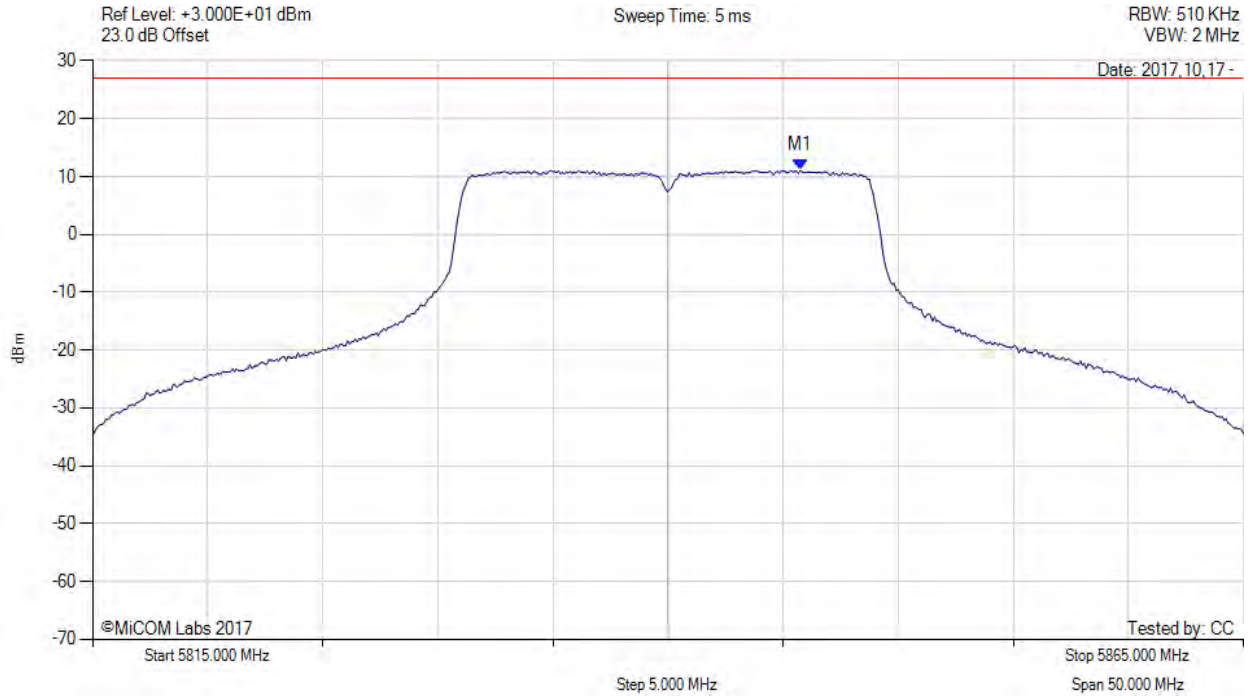


**Title:** Radwin Ltd. AP0158770  
**To:** FCC CFR 47 15.407 & ISED RSS-247  
**Serial #:** RDWN48-U4\_Conducted Rev A  
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POWER SPECTRAL DENSITY



Variant: 20 MHz, Channel: 5840.00 MHz, Chain b, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5845.750 MHz : 11.065 dBm	Limit: ≤ 26.990 dBm

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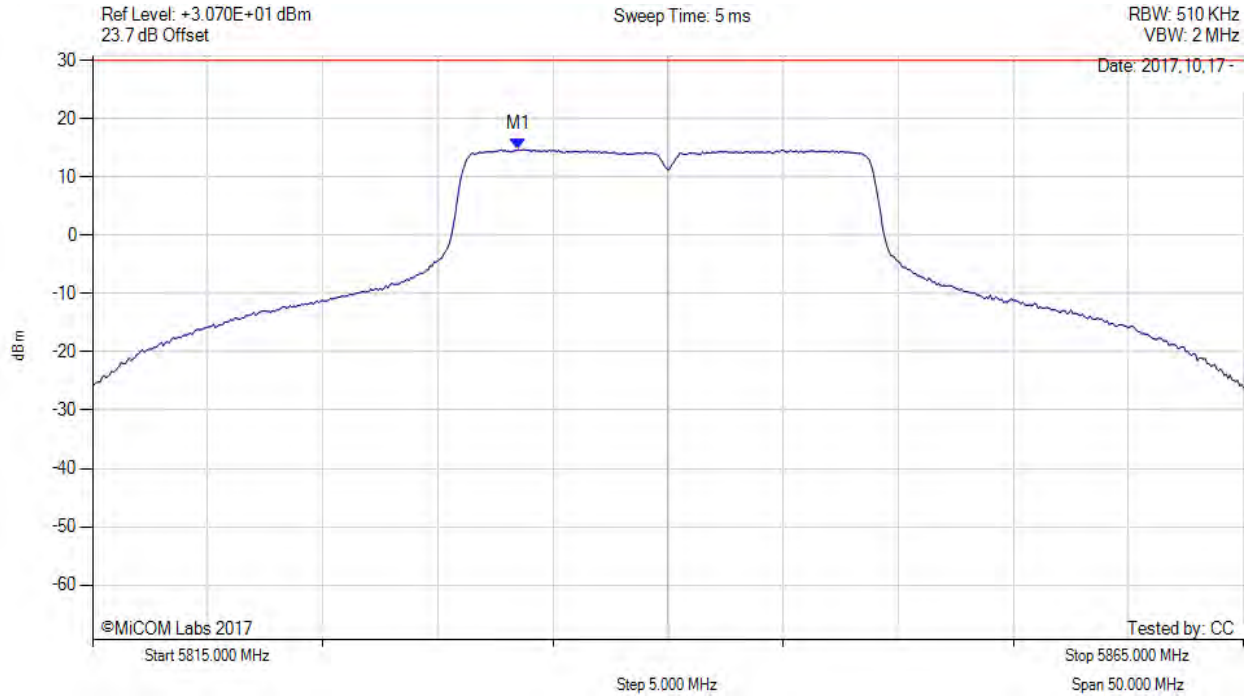


**Title:** Radwin Ltd. AP0158770  
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POWER SPECTRAL DENSITY

Variant: 20 MHz, Channel: 5840.00 MHz, SUM, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5833.500 MHz : 14.714 dBm M1 + DCCF : 5833.500 MHz : 14.714 dBm Duty Cycle Correction Factor : +0 dB	Limit: $\leq 30.0$ dBm Margin: -15.3 dB

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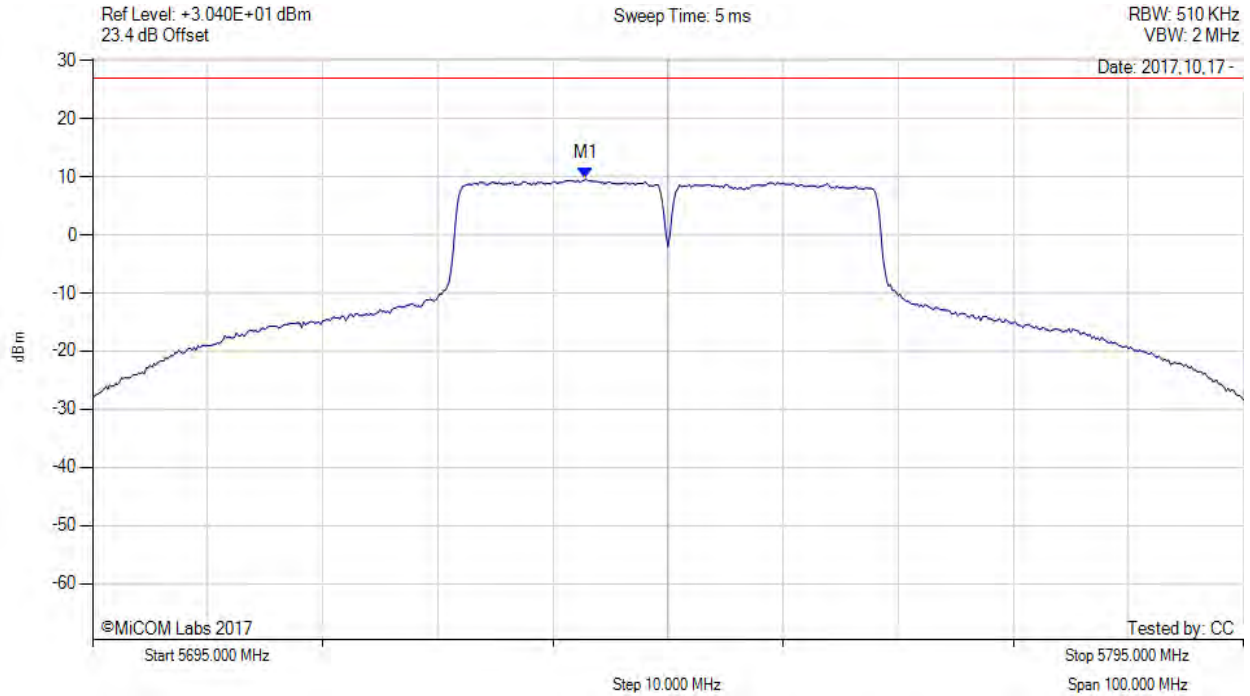


**Title:** Radwin Ltd. AP0158770  
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POWER SPECTRAL DENSITY



Variant: 40 MHz, Channel: 5745.00 MHz, Chain a, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5737.830 MHz : 9.683 dBm	Limit: ≤ 26.990 dBm

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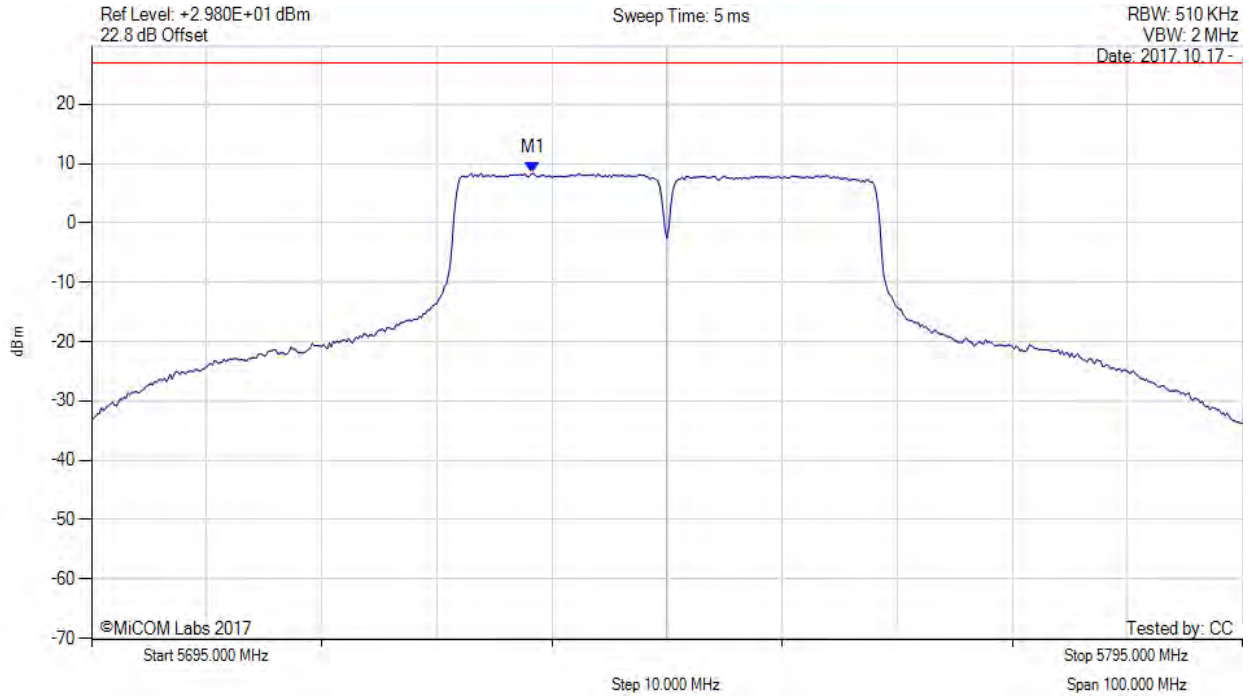


**Title:** Radwin Ltd. AP0158770  
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POWER SPECTRAL DENSITY



Variation: 40 MHz, Channel: 5745.00 MHz, Chain b, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5733.330 MHz : 8.410 dBm	Limit: ≤ 26.990 dBm

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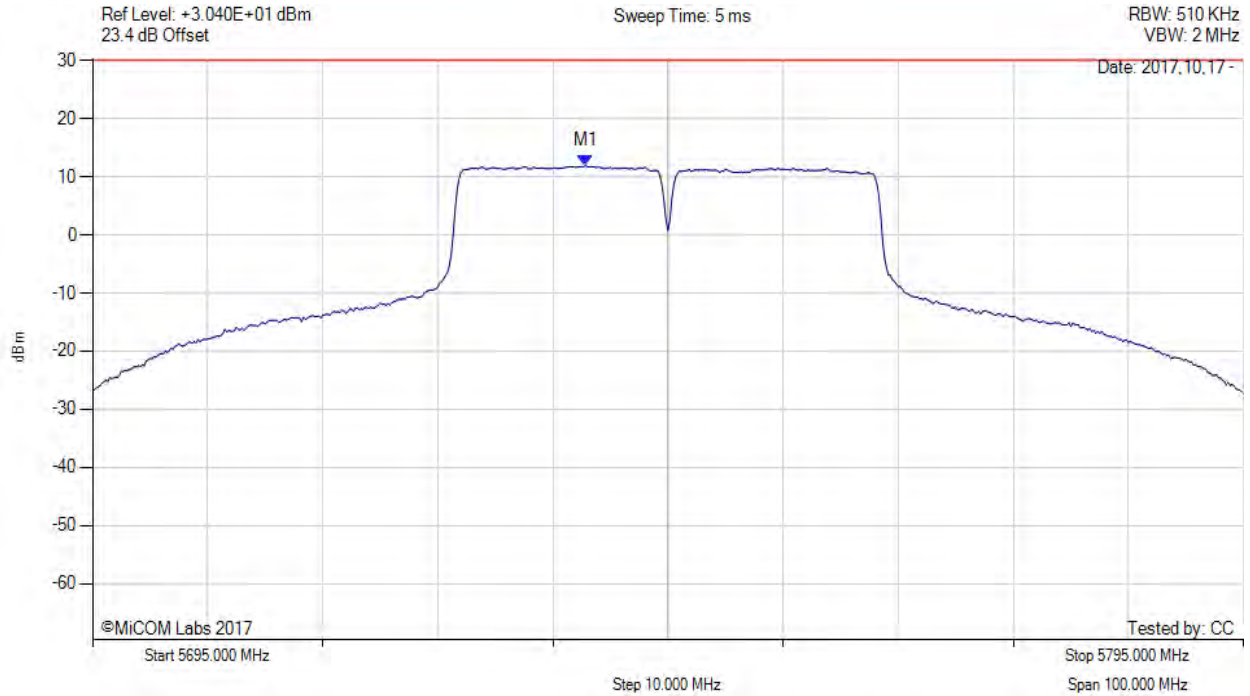


**Title:** Radwin Ltd. AP0158770  
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POWER SPECTRAL DENSITY



Variant: 40 MHz, Channel: 5745.00 MHz, SUM, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5737.800 MHz : 11.952 dBm M1 + DCCF : 5737.800 MHz : 11.952 dBm Duty Cycle Correction Factor : +0 dB	Limit: $\leq 30.0$ dBm Margin: -18.1 dB

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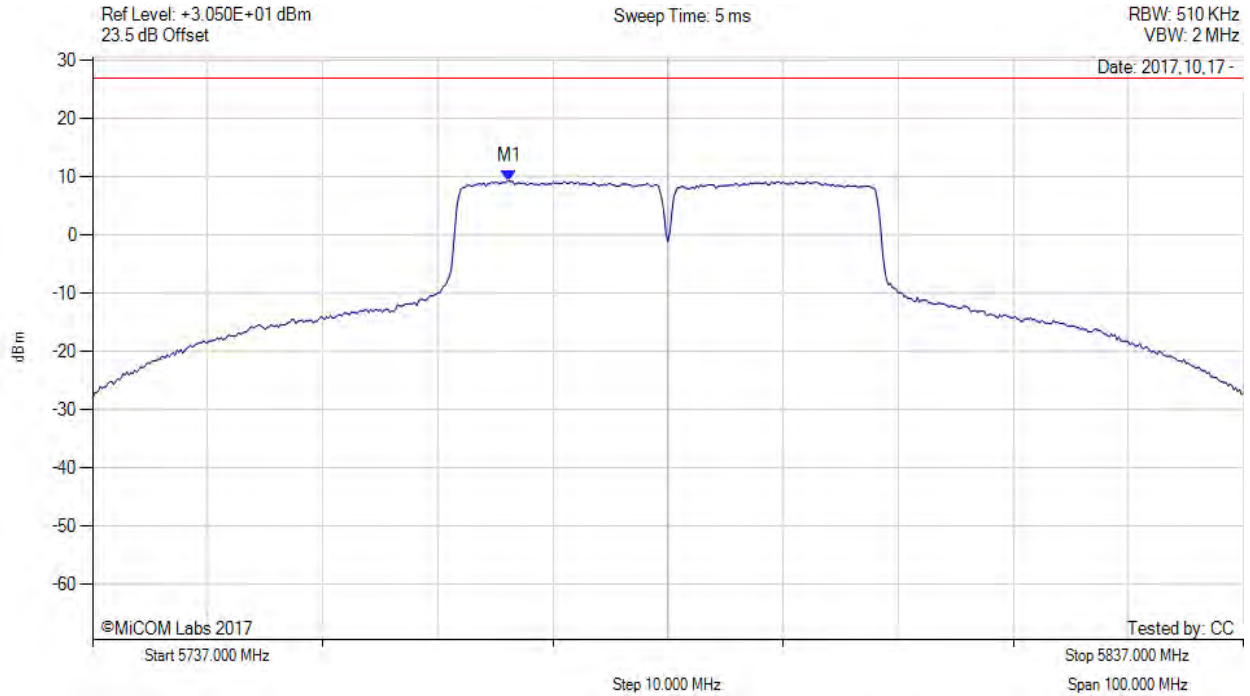


**Title:** Radwin Ltd. AP0158770  
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POWER SPECTRAL DENSITY



Variant: 40 MHz, Channel: 5787.00 MHz, Chain a, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5773.170 MHz : 9.310 dBm	Limit: ≤ 26.990 dBm

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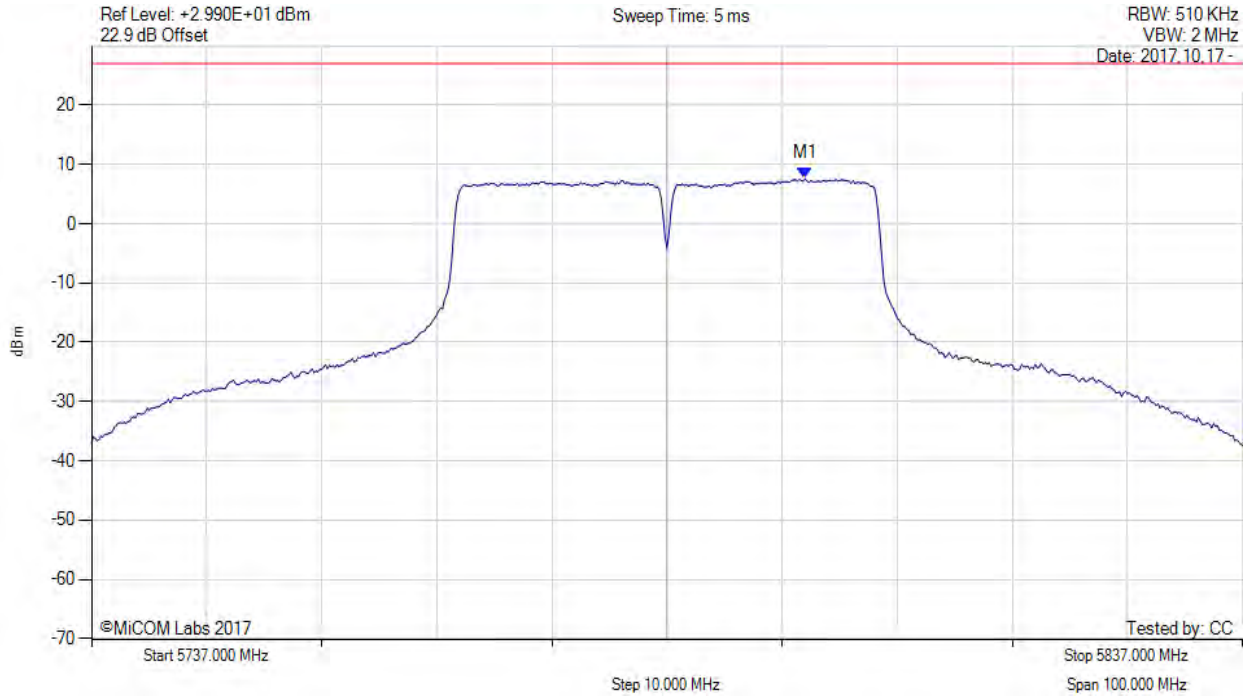


**Title:** Radwin Ltd. AP0158770  
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POWER SPECTRAL DENSITY



Variant: 40 MHz, Channel: 5787.00 MHz, Chain b, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5799.000 MHz : 7.570 dBm	Channel Frequency: 5787.00 MHz

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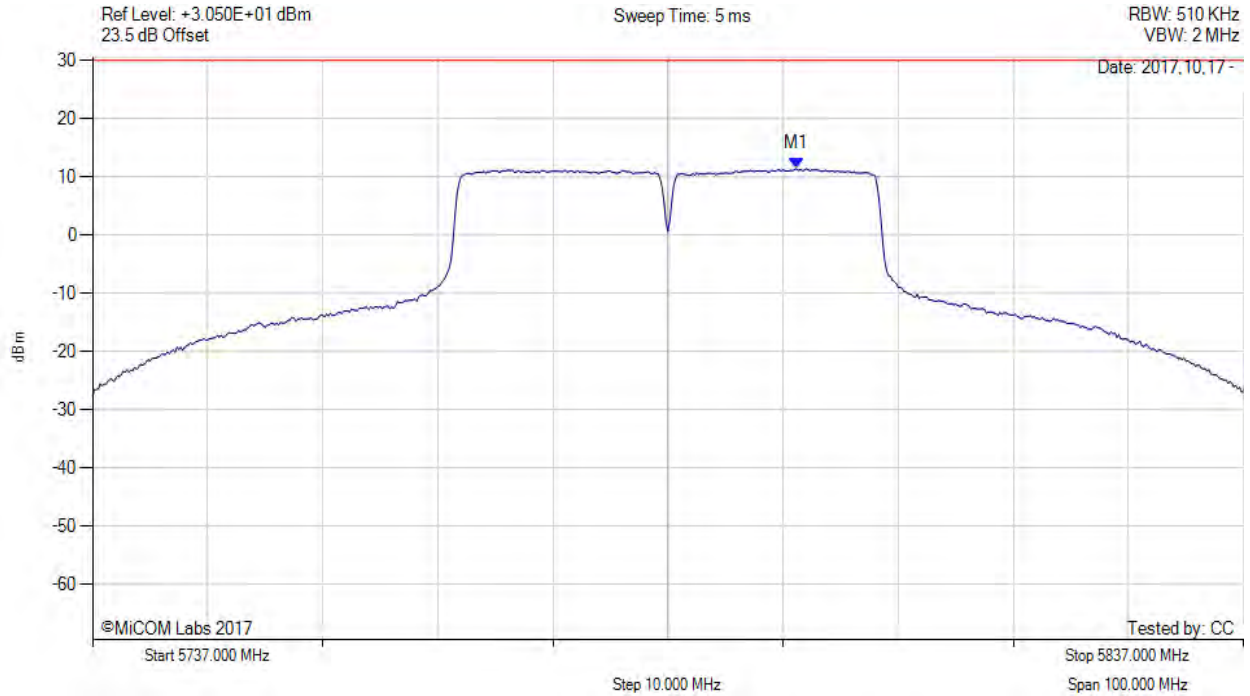


**Title:** Radwin Ltd. AP0158770  
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POWER SPECTRAL DENSITY



Variant: 40 MHz, Channel: 5787.00 MHz, SUM, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5798.200 MHz : 11.384 dBm M1 + DCCF : 5798.200 MHz : 11.384 dBm Duty Cycle Correction Factor : +0 dB	Limit: $\leq 30.0$ dBm Margin: -18.6 dB

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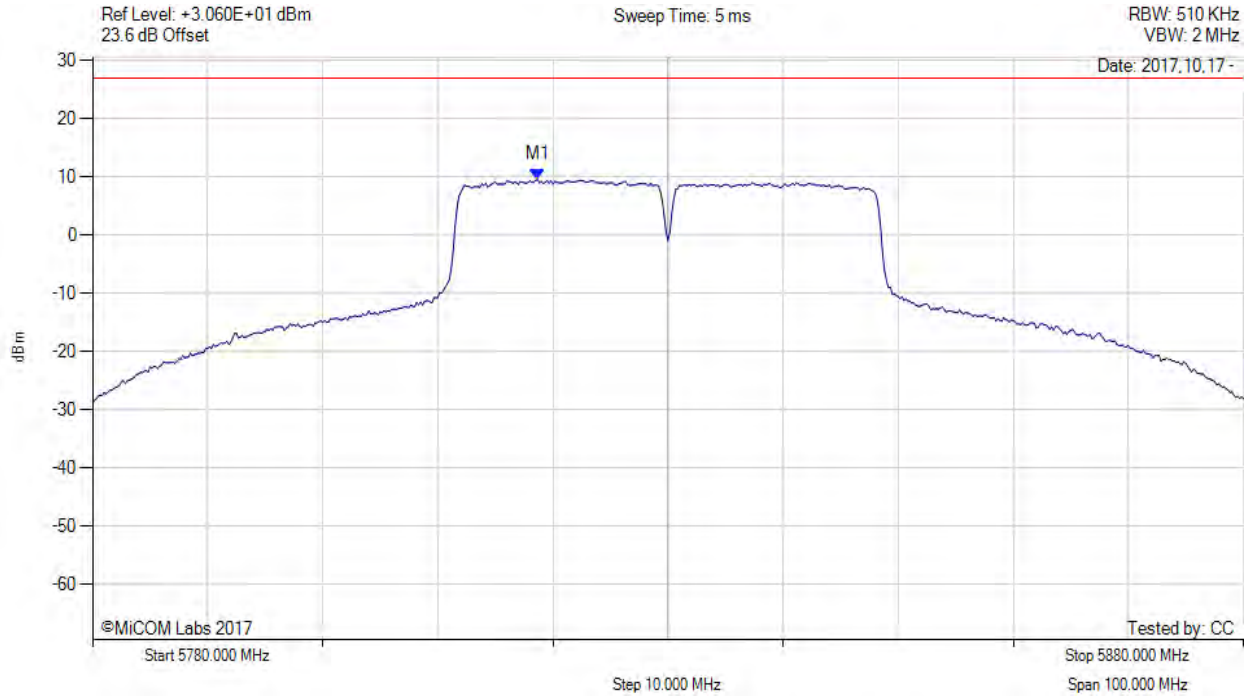


**Title:** Radwin Ltd. AP0158770  
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POWER SPECTRAL DENSITY



Variant: 40 MHz, Channel: 5830.00 MHz, Chain a, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5818.670 MHz : 9.568 dBm	Limit: ≤ 26.990 dBm

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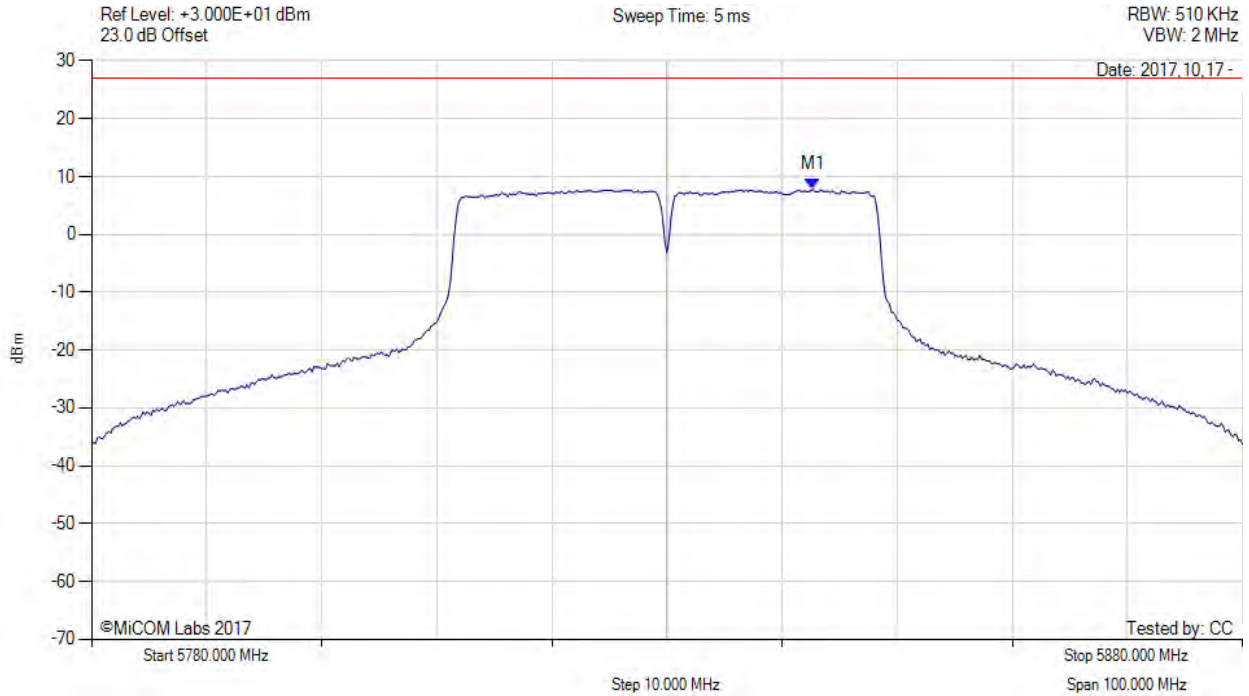


**Title:** Radwin Ltd. AP0158770  
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POWER SPECTRAL DENSITY



Variant: 40 MHz, Channel: 5830.00 MHz, Chain b, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5842.670 MHz : 7.815 dBm	Limit: ≤ 26.990 dBm

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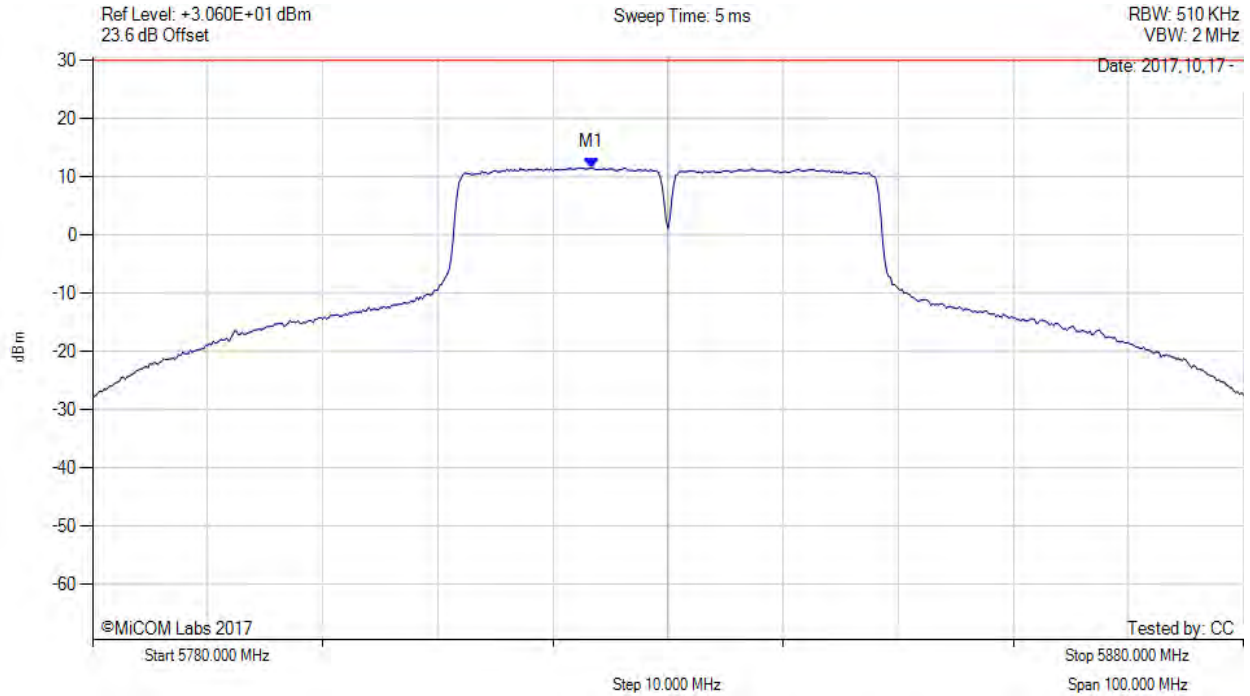


**Title:** Radwin Ltd. AP0158770  
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POWER SPECTRAL DENSITY



Variant: 40 MHz, Channel: 5830.00 MHz, SUM, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5823.300 MHz : 11.566 dBm M1 + DCCF : 5823.300 MHz : 11.566 dBm Duty Cycle Correction Factor : +0 dB	Limit: $\leq 30.0$ dBm Margin: -18.4 dB

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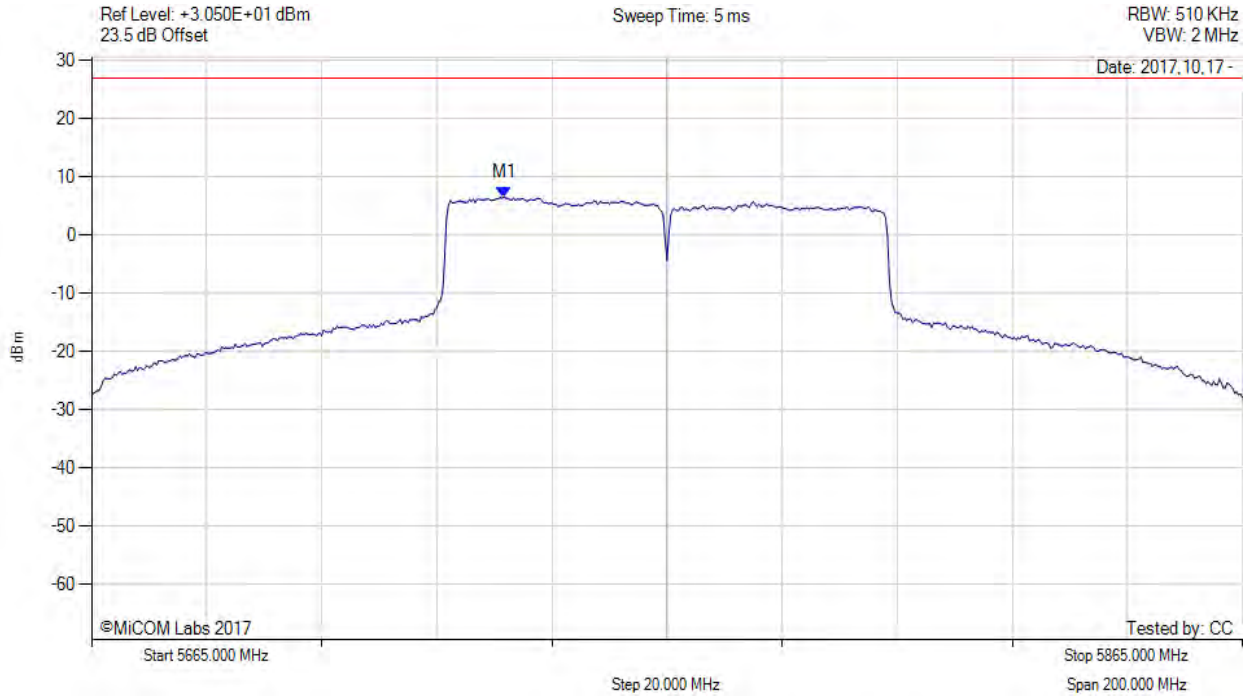


**Title:** Radwin Ltd. AP0158770  
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POWER SPECTRAL DENSITY



Variant: 80 MHz, Channel: 5765.00 MHz, Chain a, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5736.700 MHz : 6.529 dBm	Limit: ≤ 26.990 dBm

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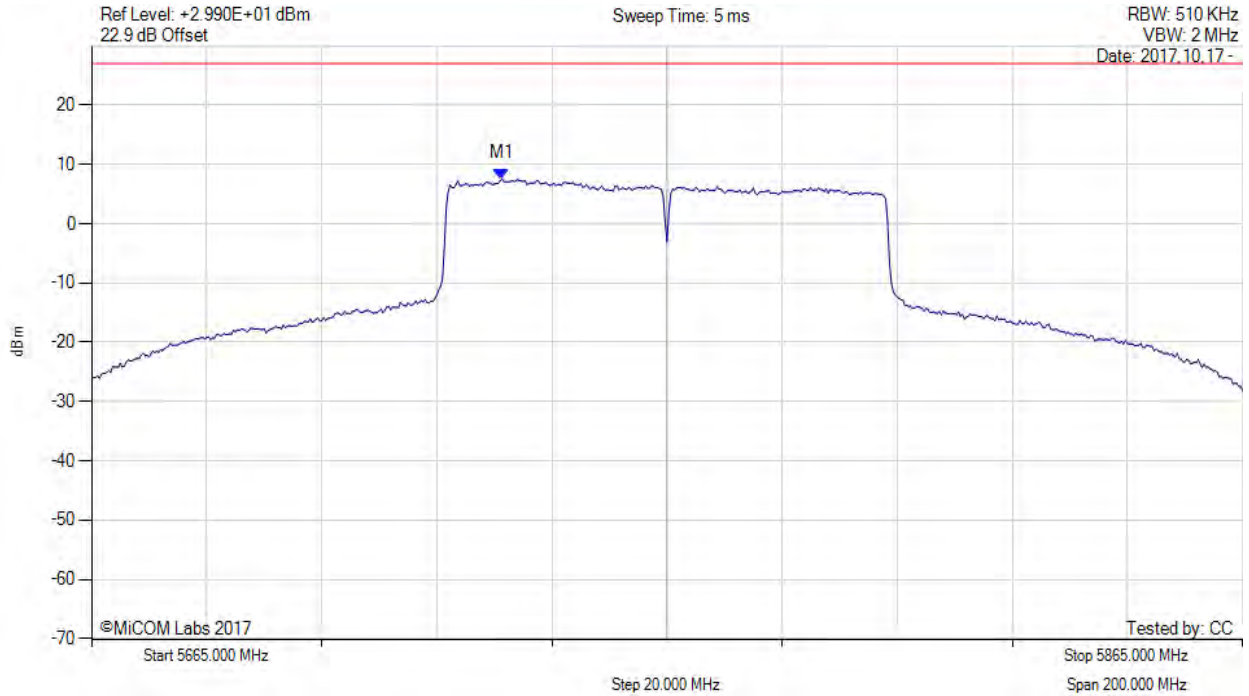


**Title:** Radwin Ltd. AP0158770  
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POWER SPECTRAL DENSITY



Variant: 80 MHz, Channel: 5765.00 MHz, Chain b, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5736.300 MHz : 7.547 dBm	Limit: ≤ 26.990 dBm

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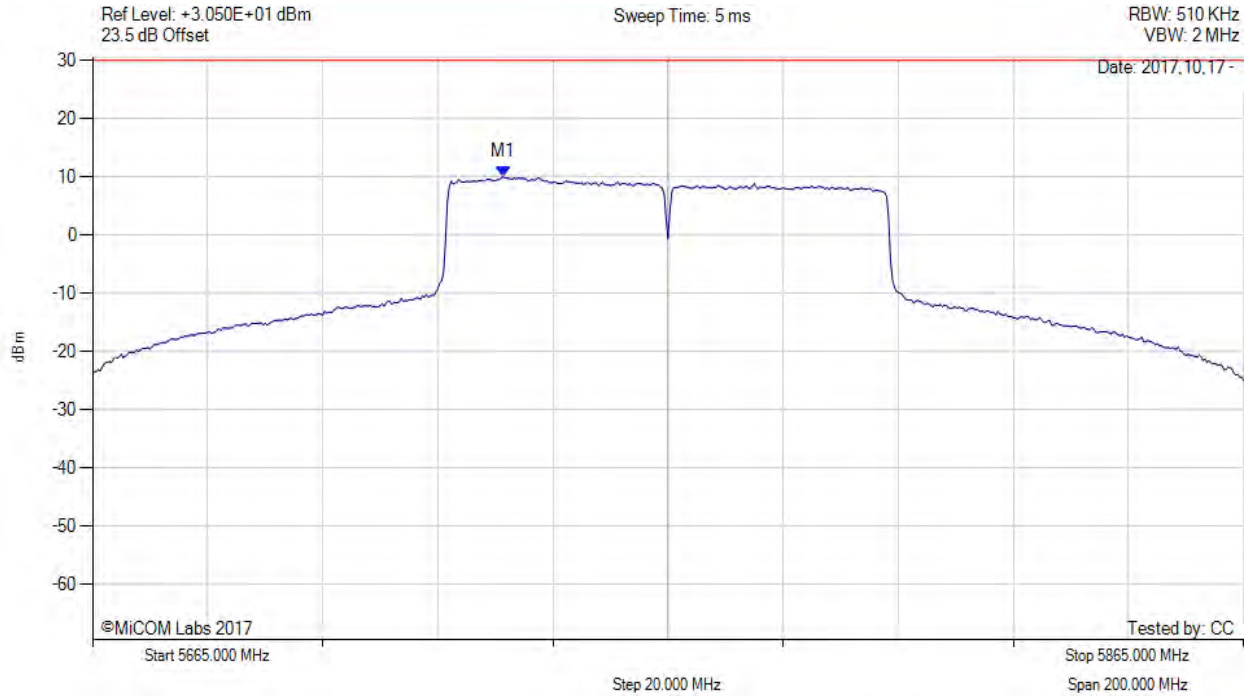


**Title:** Radwin Ltd. AP0158770  
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POWER SPECTRAL DENSITY



Variant: 80 MHz, Channel: 5765.00 MHz, SUM, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5736.300 MHz : 10.000 dBm M1 + DCCF : 5736.300 MHz : 10.000 dBm Duty Cycle Correction Factor : +0 dB	Limit: $\leq 30.0$ dBm Margin: $-20.0$ dB

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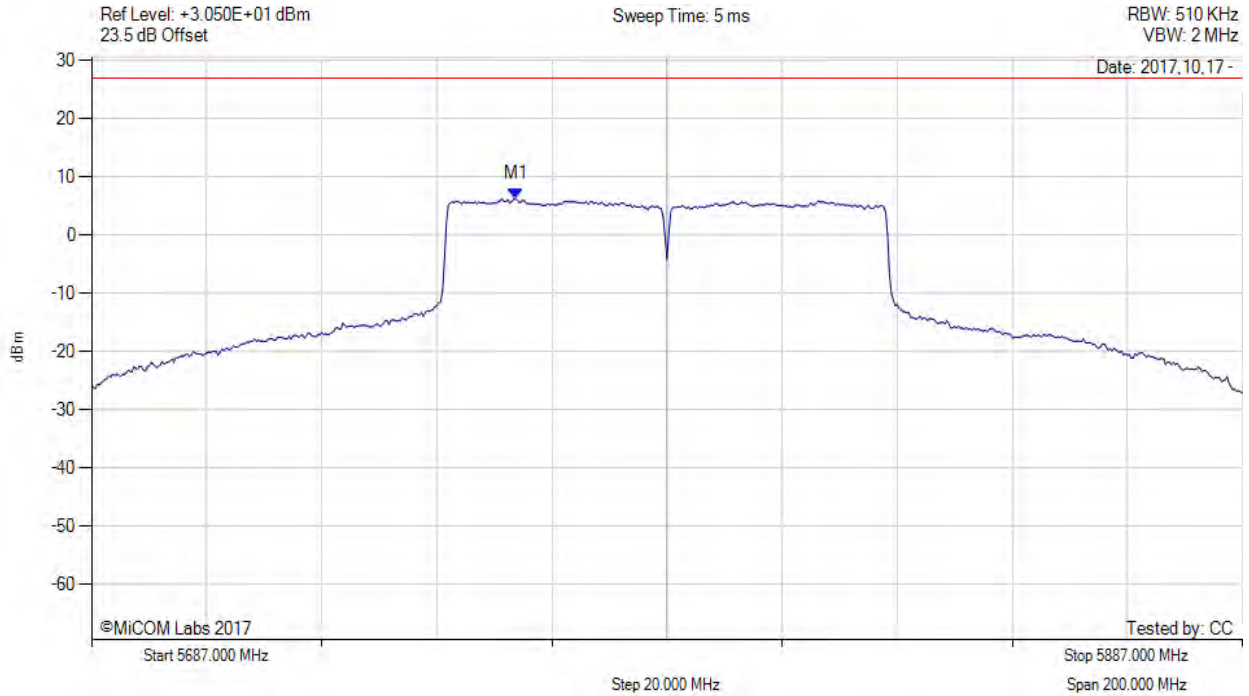


**Title:** Radwin Ltd. AP0158770  
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POWER SPECTRAL DENSITY



Variant: 80 MHz, Channel: 5787.00 MHz, Chain a, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5760.700 MHz : 6.259 dBm	Limit: ≤ 26.990 dBm

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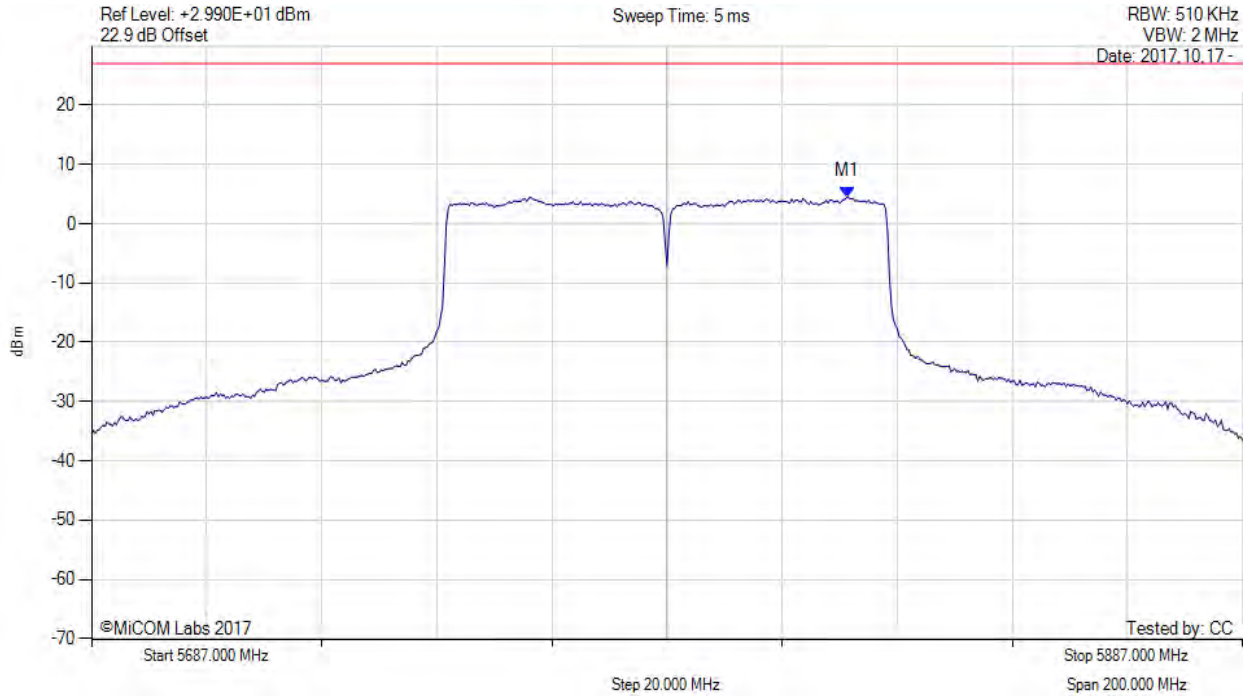


**Title:** Radwin Ltd. AP0158770  
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POWER SPECTRAL DENSITY



Variant: 80 MHz, Channel: 5787.00 MHz, Chain b, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5818.300 MHz : 4.527 dBm	Channel Frequency: 5787.00 MHz

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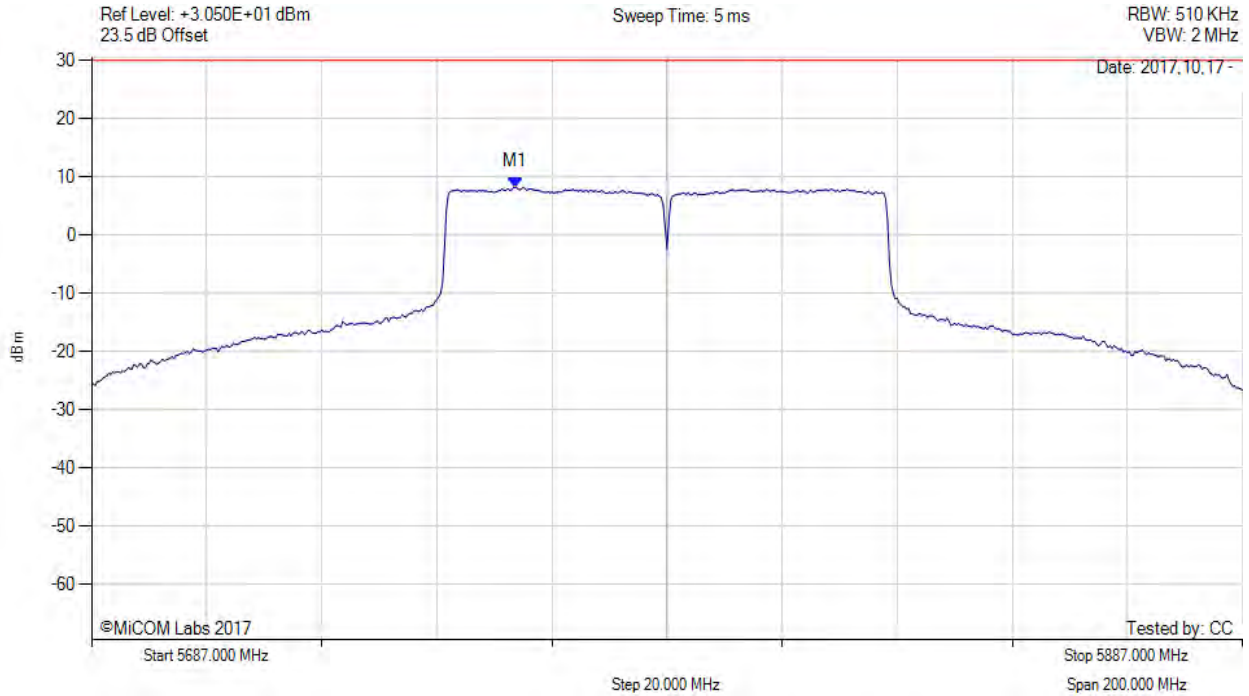


**Title:** Radwin Ltd. AP0158770  
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POWER SPECTRAL DENSITY



Variant: 80 MHz, Channel: 5787.00 MHz, SUM, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5760.700 MHz : 8.230 dBm M1 + DCCF : 5760.700 MHz : 8.230 dBm Duty Cycle Correction Factor : +0 dB	Limit: $\leq 30.0$ dBm Margin: $-21.8$ dB

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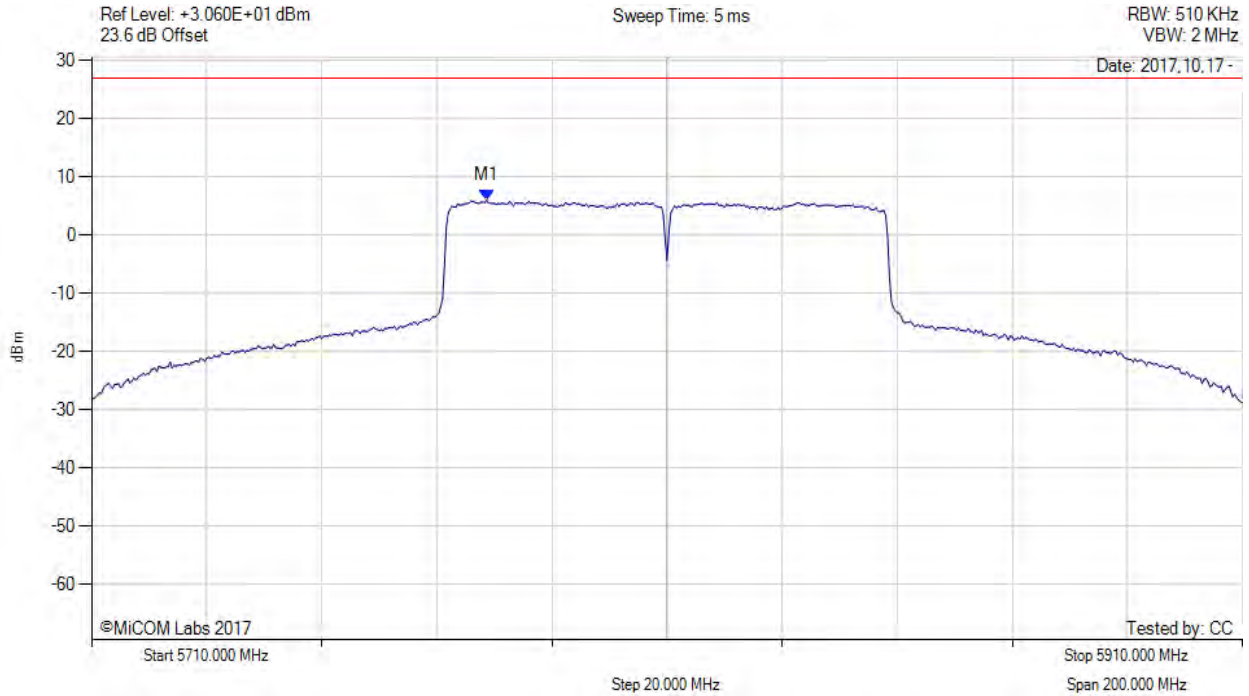


**Title:** Radwin Ltd. AP0158770  
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POWER SPECTRAL DENSITY



Variants: 80 MHz, Channel: 5810.00 MHz, Chain a, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5778.700 MHz : 5.982 dBm	Limit: ≤ 26.990 dBm

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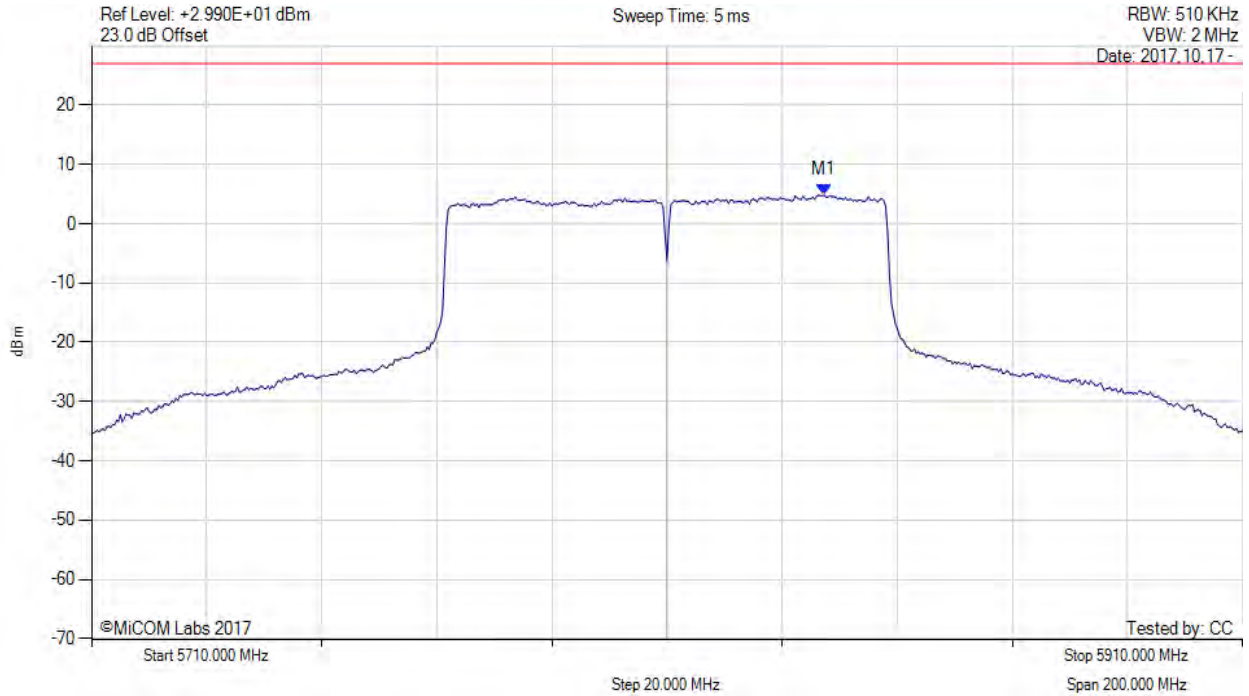


**Title:** Radwin Ltd. AP0158770  
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POWER SPECTRAL DENSITY



Variant: 80 MHz, Channel: 5810.00 MHz, Chain b, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5837.300 MHz : 4.794 dBm	Limit: ≤ 26.990 dBm

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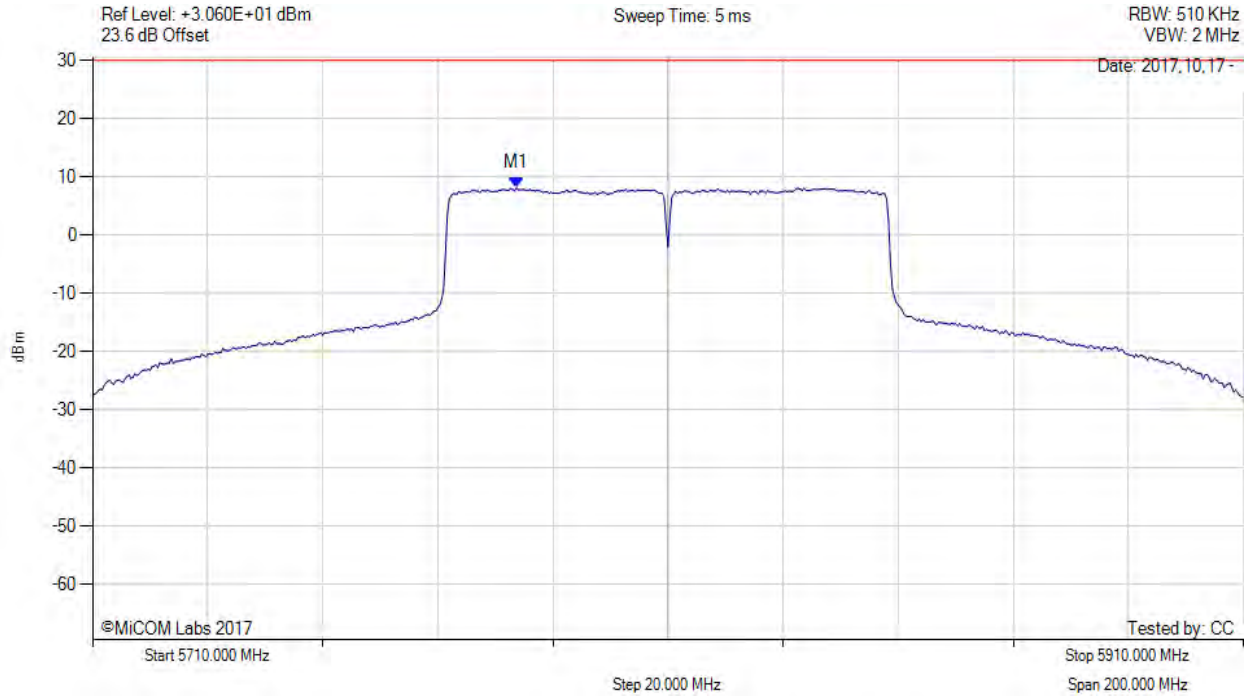


**Title:** Radwin Ltd. AP0158770  
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POWER SPECTRAL DENSITY



Variant: 80 MHz, Channel: 5810.00 MHz, SUM, Temp: 20, Voltage: 55Vdc



Analyzer Setup	Marker:Frequency:Amplitude	Test Results
Detector = AVER Sweep Count = +100 RF Atten (dB) = 20 Trace Mode = VIEW	M1 : 5783.700 MHz : 8.103 dBm M1 + DCCF : 5783.700 MHz : 8.103 dBm Duty Cycle Correction Factor : +0 dB	Limit: $\leq 30.0$ dBm Margin: -21.9 dB

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