

**TEST REPORT ADDENDUM - RADIATED**

FROM



Test of: MikroTik RBLHGG-5aCD Wireless Module

To: FCC CFR 47 Part 15 Subpart E 15.407

Test Report Serial No.: MIKO60-U2\_Radiated Rev A

Issue Date: 23<sup>rd</sup> October 2017

Master Document Number	Addendum Reports
MIKO60-U2_Master	MIKO60-U2_Conducted
	MIKO60-U2_Radiated
	MIKO60-U2 (FCC Part 15B & ICES_003)



**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
**Issue Date:** 23<sup>rd</sup> October 2017  
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# 1. TEST RESULTS

## 1.1. Radiated

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

### Test Procedure for Radiated Spurious and Band-Edge Emissions

Radiated emissions for restricted bands above 1 GHz are measured in the anechoic chamber at a 3-meter distance on every azimuth in both horizontal and vertical polarities. The emissions are recorded and maximized as a function of azimuth by rotation through 360° with a spectrum analyzer in peak hold mode. Depending on the frequency band spanned a notch filter was used to remove the fundamental frequency. The highest emissions relative to the limit are listed for each frequency spanned.

Measurements on any restricted band frequency or frequencies above 1 GHz are based on the use of measurement instrumentation employing peak and average detectors. All measurements were performed using a resolution bandwidth of 1 MHz.

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

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

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

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

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

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

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

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

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

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

### Limits for Restricted Bands (15.205, 15.209)

Peak emission: 74 dBuV/m

Average emission: 54 dBuV/m

### Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Loss, and subtracting Amplifier Gain from the measured reading. All factors are included in the reported data.

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$$FS = R + AF + CORR - FO$$

where:

FS = Field Strength  
R = Measured Spectrum analyzer Input Amplitude  
AF = Antenna Factor  
CORR = Correction Factor = CL – AG + NFL  
CL = Cable Loss  
AG = Amplifier Gain  
FO = Distance Falloff Factor  
NFL = Notch Filter Loss

Example:

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

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

where P is the EIRP in Watts

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

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

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

**Restricted Bands of Operation (15.205)**

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

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

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12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	Above 38.6
13.36-13.41			

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

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

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

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

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

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

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

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

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

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

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

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

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

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### 1.1.1. TX Spurious & Restricted Band Emissions

#### 1.1.1.1. 9 dBi Dual Polarity

##### Equipment Configuration for TX Spurious & Restricted Band Emissions

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11a
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5180.00	<b>Data Rate:</b>	6.00 MBit/s
<b>Power Setting:</b>	20	<b>Tested By:</b>	JMH

##### Test Measurement Results

##### 1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5178.08	79.54	3.69	-11.51	71.72	Fundamental	Horizontal	100	0	--	--	
#2	6906.85	50.38	4.11	-7.54	46.95	Peak (NRB)	Vertical	100	0	--	--	Pass
#3	10359.64	55.53	5.57	-5.27	55.83	Peak (NRB)	Horizontal	100	0	--	--	Pass
#4	15544.83	62.50	5.97	-0.55	67.92	Max Peak	Horizontal	188	136	74.0	-6.1	Pass
#5	15544.83	45.79	5.97	-0.55	51.21	Max Avg	Horizontal	188	136	54.0	-2.8	Pass

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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#### Equipment Configuration for TX Spurious & Restricted Band Emissions

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11a
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5200.00	<b>Data Rate:</b>	6.00 MBit/s
<b>Power Setting:</b>	21	<b>Tested By:</b>	JMH

#### Test Measurement Results

##### 1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5203.11	79.10	3.65	-11.45	71.30	Fundamental	Horizontal	100	0	--	--	
#2	10400.44	50.24	5.41	-5.03	50.62	Peak (NRB)	Horizontal	200	28	--	--	Pass
#3	15600.03	61.82	6.03	-0.23	67.62	Max Peak	Horizontal	193	125	74.0	-6.4	Pass
#4	15600.03	46.70	6.03	-0.23	52.50	Max Avg	Horizontal	193	125	54.0	-1.5	Pass

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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**Equipment Configuration for TX Spurious & Restricted Band Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11a
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5240.00	<b>Data Rate:</b>	6.00 MBit/s
<b>Power Setting:</b>	21	<b>Tested By:</b>	JMH

**Test Measurement Results**

**1000.00 - 18000.00 MHz**

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5239.16	82.50	3.63	-11.37	74.76	Fundamental	Horizontal	100	0	--	--	
#2	10481.69	48.72	5.41	-4.44	49.69	Peak (NRB)	Horizontal	200	2	--	--	Pass
#3	15715.26	61.95	6.02	0.18	68.15	Max Peak	Horizontal	189	122	74.0	-5.9	Pass
#4	15715.26	46.08	6.02	0.18	52.28	Max Avg	Horizontal	189	122	54.0	-1.7	Pass

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**Equipment Configuration for TX Spurious & Restricted Band Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11a
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5745.00	<b>Data Rate:</b>	6.00 MBit/s
<b>Power Setting:</b>	23	<b>Tested By:</b>	JMH

**Test Measurement Results**

**1000.00 - 18000.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5739.27	62.26	3.82	-10.67	55.41	Fundamental	Vertical	151	0	--	--	
#2	7660.03	51.17	4.38	-6.95	48.60	Max Peak	Horizontal	98	81	74.0	-25.4	Pass
#3	7660.03	43.42	4.38	-6.95	40.85	Max Avg	Horizontal	98	81	54.0	-13.2	Pass
#4	11490.41	61.64	5.45	-4.84	62.25	Max Peak	Horizontal	198	110	74.0	-11.8	Pass
#5	11490.41	48.31	5.45	-4.84	48.92	Max Avg	Horizontal	198	110	54.0	-5.1	Pass
#6	17236.87	51.20	6.47	0.35	58.02	Peak (NRB)	Horizontal	200	15	--	--	Pass

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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**Equipment Configuration for TX Spurious & Restricted Band Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11a
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5785.00	<b>Data Rate:</b>	6.00 MBit/s
<b>Power Setting:</b>	23	<b>Tested By:</b>	JMH

**Test Measurement Results**

**1000.00 - 180000.00 MHz**

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5779.18	59.96	3.80	-10.48	53.28	Fundamental	Vertical	100	0	--	--	
#2	11569.90	65.86	5.46	-4.64	66.68	Max Peak	Horizontal	193	116	74.0	-7.3	Pass
#3	11569.90	52.46	5.46	-4.64	53.28	Max Avg	Horizontal	193	116	54.0	-0.7	Pass
#4	17358.78	53.98	6.28	-0.04	60.22	Peak (NRB)	Horizontal	200	13	--	--	Pass

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**Equipment Configuration for TX Spurious & Restricted Band Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11a
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5825.00	<b>Data Rate:</b>	6.00 MBit/s
<b>Power Setting:</b>	22	<b>Tested By:</b>	JMH

**Test Measurement Results**

**1000.00 - 18000.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5828.25	62.13	3.84	-10.24	55.73	Fundamental	Vertical	100	0	--	--	
#2	11649.07	66.18	5.44	-4.47	67.15	Max Peak	Horizontal	197	116	74.0	-6.9	Pass
#3	11649.07	52.40	5.44	-4.47	53.37	Max Avg	Horizontal	197	116	54.0	-0.6	Pass
#4	17485.23	54.10	6.42	-0.63	59.89	Peak (NRB)	Horizontal	200	9	--	--	Pass

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### 1.1.1.2. 16 dBi Dual Polarity Directional

#### Equipment Configuration for TX Spurious & Restricted Band Emissions

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11a
<b>Antenna Gain (dBi):</b>	16.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5180.00	<b>Data Rate:</b>	6.00 MBit/s
<b>Power Setting:</b>	15	<b>Tested By:</b>	JMH

#### Test Measurement Results

1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5181.07	73.23	3.69	-11.50	65.42	Fundamental	Horizontal	100	0	--	--	
#2	6906.64	56.29	4.11	-7.54	52.86	Peak (NRB)	Horizontal	101	0	--	--	Pass

Test Notes: EUT powered by POE, connected to laptop outside chamber

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**Equipment Configuration for TX Spurious & Restricted Band Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11a
<b>Antenna Gain (dBi):</b>	16.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5200.00	<b>Data Rate:</b>	6.00 MBit/s
<b>Power Setting:</b>	15	<b>Tested By:</b>	JMH

**Test Measurement Results**

**1000.00 - 18000.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5205.98	78.10	3.65	-11.45	70.30	Fundamental	Horizontal	100	0	--	--	
#2	6933.30	53.48	4.11	-7.49	50.10	Peak (NRB)	Horizontal	100	0	--	--	Pass

Test Notes: EUT powered by POE, connected to laptop outside chamber

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**Equipment Configuration for TX Spurious & Restricted Band Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11a
<b>Antenna Gain (dBi):</b>	16.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5240.00	<b>Data Rate:</b>	6.00 MBit/s
<b>Power Setting:</b>	15	<b>Tested By:</b>	JMH

**Test Measurement Results**

**1000.00 - 18000.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5239.82	80.20	3.63	-11.37	72.46	Fundamental	Vertical	100	0	--	--	
#2	6986.62	54.52	4.13	-7.45	51.20	Peak (NRB)	Horizontal	100	0	--	--	Pass

Test Notes: EUT powered by POE, connected to laptop outside chamber

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**Equipment Configuration for TX Spurious & Restricted Band Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11a
<b>Antenna Gain (dBi):</b>	16.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5745.00	<b>Data Rate:</b>	6.00 MBit/s
<b>Power Setting:</b>	18	<b>Tested By:</b>	JMH

**Test Measurement Results**

**1000.00 - 18000.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5739.82	58.65	3.83	-10.67	51.81	Fundamental	Vertical	100	0	--	--	
#2	11487.04	55.49	5.45	-4.85	56.09	Max Peak	Vertical	187	171	74.0	-17.9	Pass
#3	11487.04	40.94	5.45	-4.85	41.54	Max Avg	Vertical	187	171	54.0	-12.5	Pass

Test Notes: EUT powered by POE, connected to laptop outside chamber

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**Equipment Configuration for TX Spurious & Restricted Band Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11a
<b>Antenna Gain (dBi):</b>	16.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5785.00	<b>Data Rate:</b>	6.00 MBit/s
<b>Power Setting:</b>	18	<b>Tested By:</b>	JMH

**Test Measurement Results**

**1000.00 - 18000.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5784.91	58.41	3.80	-10.44	51.77	Fundamental	Vertical	100	0	--	--	
#2	11571.56	56.15	5.42	-4.63	56.94	Max Peak	Horizontal	173	188	74.0	-17.1	Pass
#3	11571.56	42.05	5.42	-4.63	42.84	Max Avg	Horizontal	173	188	54.0	-11.2	Pass

Test Notes: EUT powered by POE, connected to laptop outside chamber

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**Equipment Configuration for TX Spurious & Restricted Band Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11a
<b>Antenna Gain (dBi):</b>	16.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5825.00	<b>Data Rate:</b>	6.00 MBit/s
<b>Power Setting:</b>	18	<b>Tested By:</b>	JMH

**Test Measurement Results**

**1000.00 - 18000.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5828.25	57.59	3.84	-10.24	51.19	Fundamental	Horizontal	100	0	--	--	
#2	11651.44	57.68	5.48	-4.46	58.70	Max Peak	Vertical	193	181	74.0	-15.3	Pass
#3	11651.44	43.04	5.48	-4.46	44.06	Max Avg	Vertical	193	181	54.0	-9.9	Pass

Test Notes: EUT powered by POE, connected to laptop outside chamber

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### 1.1.1.3. 27 dBi Dish Antenna

#### Equipment Configuration for TX Spurious & Restricted Band Emissions

<b>Antenna:</b>	Dish Antenna	<b>Variant:</b>	802.11a
<b>Antenna Gain (dBi):</b>	27.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5180.00	<b>Data Rate:</b>	6.00 MBit/s
<b>Power Setting:</b>	3	<b>Tested By:</b>	JMH

#### Test Measurement Results

1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5176.99	65.81	3.69	-11.51	57.99	Fundamental	Horizontal	200	0	--	--	
#2	6250.07	51.54	3.93	-8.56	46.91	Peak (NRB)	Horizontal	200	0	--	--	Pass
#3	6906.63	55.34	4.11	-7.54	51.91	Peak (NRB)	Horizontal	200	0	--	--	Pass

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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**Equipment Configuration for TX Spurious & Restricted Band Emissions**

<b>Antenna:</b>	Dish Antenna	<b>Variant:</b>	802.11a
<b>Antenna Gain (dBi):</b>	27.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5200.00	<b>Data Rate:</b>	6.00 MBit/s
<b>Power Setting:</b>	8	<b>Tested By:</b>	JMH

**Test Measurement Results**

**1000.00 - 18000.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5204.54	69.55	3.65	-11.45	61.75	Fundamental	Vertical	200	0	--	--	
#2	6250.07	48.79	3.93	-8.56	44.16	Peak (NRB)	Horizontal	200	0	--	--	Pass
#3	6933.42	52.59	4.11	-7.49	49.21	Peak (NRB)	Horizontal	200	3	--	--	Pass

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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**Equipment Configuration for TX Spurious & Restricted Band Emissions**

<b>Antenna:</b>	Dish Antenna	<b>Variant:</b>	802.11a
<b>Antenna Gain (dBi):</b>	27.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5240.00	<b>Data Rate:</b>	6.00 MBit/s
<b>Power Setting:</b>	8	<b>Tested By:</b>	JMH

**Test Measurement Results**

**1000.00 - 18000.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5238.94	70.70	3.63	-11.37	62.96	Fundamental	Vertical	200	0	--	--	
#2	6250.03	52.44	3.93	-8.56	47.81	Peak (NRB)	Horizontal	200	0	--	--	Pass
#3	6986.77	54.33	4.13	-7.45	51.01	Peak (NRB)	Vertical	200	1	--	--	Pass

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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**Equipment Configuration for TX Spurious & Restricted Band Emissions**

<b>Antenna:</b>	Dish Antenna	<b>Variant:</b>	802.11a
<b>Antenna Gain (dBi):</b>	27.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5745.00	<b>Data Rate:</b>	6.00 MBit/s
<b>Power Setting:</b>	2	<b>Tested By:</b>	JMH

**Test Measurement Results**

**1000.00 - 18000.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5738.94	52.57	3.82	-10.67	45.72	Fundamental	Horizontal	200	0	--	--	
#2	6250.13	51.75	3.93	-8.56	47.12	Peak (NRB)	Horizontal	200	0	--	--	Pass
#3	7660.10	56.31	4.38	-6.95	53.74	Max Peak	Horizontal	193	8	74.0	-20.3	Pass
#4	7660.10	52.47	4.38	-6.95	49.90	Max Avg	Horizontal	193	8	54.0	-4.1	Pass
#5	11458.53	50.59	5.51	-4.91	51.19	Max Peak	Horizontal	146	6	74.0	-22.8	Pass
#6	11458.53	41.55	5.51	-4.91	42.15	Max Avg	Horizontal	146	6	54.0	-11.9	Pass

Test Notes: EUT powered by POE, connected to laptop outside chamber. Power reduced to 2 to meet spurious emissions limit.

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**Equipment Configuration for TX Spurious & Restricted Band Emissions**

<b>Antenna:</b>	Dish Antenna	<b>Variant:</b>	802.11a
<b>Antenna Gain (dBi):</b>	27.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5785.00	<b>Data Rate:</b>	6.00 MBit/s
<b>Power Setting:</b>	2	<b>Tested By:</b>	JMH

**Test Measurement Results**

**1000.00 - 18000.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	3856.70	61.60	3.23	-10.81	54.02	Max Peak	Vertical	164	5	74.0	-20.0	Pass
#2	3856.70	53.17	3.23	-10.81	45.59	Max Avg	Vertical	164	5	54.0	-8.4	Pass
#3	6250.40	51.06	3.93	-8.56	46.43	Peak (NRB)	Horizontal	150	0	--	--	Pass
#4	7713.41	55.75	4.41	-6.85	53.31	Max Peak	Horizontal	193	7	74.0	-20.7	Pass
#5	7713.41	52.87	4.41	-6.85	50.43	Max Avg	Horizontal	193	7	54.0	-3.6	Pass

Test Notes: EUT powered by POE, connected to laptop outside chamber. Power reduced to 2 to meet spurious emissions limit.

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**Equipment Configuration for TX Spurious & Restricted Band Emissions**

<b>Antenna:</b>	Dish Antenna	<b>Variant:</b>	802.11a
<b>Antenna Gain (dBi):</b>	27.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5825.00	<b>Data Rate:</b>	6.00 MBit/s
<b>Power Setting:</b>	3	<b>Tested By:</b>	JMH

**Test Measurement Results**

**1000.00 - 18000.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	3883.31	61.47	3.25	-10.76	53.96	Max Peak	Vertical	159	5	74.0	-20.0	Pass
#2	3883.31	52.15	3.25	-10.76	44.64	Max Avg	Vertical	159	5	54.0	-9.4	Pass
#3	6250.07	52.26	3.93	-8.56	47.63	Peak (NRB)	Horizontal	200	0	--	--	Pass
#4	7766.70	56.05	4.43	-6.71	53.77	Peak (NRB)	Horizontal	200	0	--	--	Pass

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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### 1.1.2. Restricted Edge & Band-Edge Emissions

#### 1.1.2.4. 9 dBi Dual Polarity

#### RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

##### 5150 - 5250 MHz

MikroTik		Band-Edge Freq	Limit 74.0dB $\mu$ V/m	Limit 54.0dB $\mu$ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB $\mu$ V/m	dB $\mu$ V/m	
802.11a	5180.00	5150.00	69.35	53.73	23
802.11ac-80	5210.00	5150.00	69.20	51.53	18
802.11n HT-20	5180.00	5150.00	68.16	53.73	23
802.11n HT-40	5190.00	5150.00	67.76	51.41	19

##### 5725 MHz Radiated Lower Band-Edge Emissions

MikroTik		Band-Edge Freq	dB $\mu$ V/m @	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	Limit	
802.11a	5725.00	5725.00	62.06	23
802.11ac-80	5725.00	5725.00	64.27	22
802.11n HT-20	5725.00	5725.00	62.36	23
802.11n HT-40	5725.00	5725.00	62.51	23

##### 5850 MHz Radiated Higher Band-Edge Emissions

MikroTik		Band-Edge Freq	dB $\mu$ V/m @	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	Limit	
802.11a	5850.00	5850.00	59.48	23
802.11ac-80	5850.00	5850.00	57.43	22
802.11n HT-20	5850.00	5850.00	60.29	23
802.11n HT-40	5850.00	5850.00	59.10	23

Click on the links to view the data.

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**Equipment Configuration for Restricted Lower Band-Edge Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11a
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5180.00	<b>Data Rate:</b>	6.00 MBit/s
<b>Power Setting:</b>	23	<b>Tested By:</b>	JMH

**Test Measurement Results**

**4500.00 - 5250.00 MHz**

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5150.00	15.95	3.67	34.11	53.73	Max Avg	Vertical	150	2	54.0	-0.3	Pass
#2	5150.00	31.57	3.67	34.11	69.35	Max Peak	Vertical	150	2	74.0	-4.7	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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**Equipment Configuration for Restricted Lower Band-Edge Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11ac-80
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5210.00	<b>Data Rate:</b>	29.30 MBit/s
<b>Power Setting:</b>	18	<b>Tested By:</b>	JMH

**Test Measurement Results**

**4500.00 - 5250.00 MHz**

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5140.98	31.38	3.70	34.12	69.20	Max Peak	Vertical	150	2	74.0	-4.8	Pass
#2	5150.00	13.75	3.67	34.11	51.53	Max Avg	Vertical	150	2	54.0	-2.5	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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**Equipment Configuration for Restricted Lower Band-Edge Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11n HT-20
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5180.00	<b>Data Rate:</b>	6.50 MBit/s
<b>Power Setting:</b>	23	<b>Tested By:</b>	JMH

**Test Measurement Results**

**4500.00 - 5250.00 MHz**

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5150.00	15.95	3.67	34.11	53.73	Max Avg	Vertical	150	2	54.0	-0.3	Pass
#2	5150.00	30.38	3.67	34.11	68.16	Max Peak	Vertical	150	2	74.0	-5.8	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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**Equipment Configuration for Restricted Lower Band-Edge Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11n HT-40
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5190.00	<b>Data Rate:</b>	13.50 MBit/s
<b>Power Setting:</b>	19	<b>Tested By:</b>	JMH

**Test Measurement Results**

**4500.00 - 5250.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5150.00	13.63	3.67	34.11	51.41	Max Avg	Vertical	150	2	54.0	-2.6	Pass
#2	5150.00	29.98	3.67	34.11	67.76	Max Peak	Vertical	150	2	74.0	-6.2	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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**Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11a
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5745.00	<b>Data Rate:</b>	6.00 MBit/s
<b>Power Setting:</b>	23	<b>Tested By:</b>	JMH

**Test Measurement Results**

**5600.00 - 5780.00 MHz**

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5615.80	24.06	3.78	34.22	62.06	Max Peak	Vertical	149	4	68.2	-6.2	Pass
#2	5717.06	36.64	3.81	34.34	74.79	Max Peak	Vertical	149	4	110.0	-35.2	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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**Title:** MikroTik RBLHGG-5aCD Wireless Module  
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**Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11ac-80
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5775.00	<b>Data Rate:</b>	29.30 MBit/s
<b>Power Setting:</b>	22	<b>Tested By:</b>	JMH

**Test Measurement Results**

**5600.00 - 5851.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5651.12	26.33	3.76	34.18	64.27	Max Peak	Vertical	149	4	68.9	-4.7	Pass
#2	5712.37	49.59	3.83	34.34	87.76	Max Peak	Vertical	149	4	108.6	-20.8	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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**Title:** MikroTik RBLHGG-5aCD Wireless Module  
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**Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11n HT-20
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5745.00	<b>Data Rate:</b>	6.50 MBit/s
<b>Power Setting:</b>	23	<b>Tested By:</b>	JMH

**Test Measurement Results**

**5600.00 - 5780.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5620.56	24.38	3.77	34.21	62.36	Max Peak	Vertical	149	4	68.2	-5.9	Pass
#2	5719.95	46.82	3.80	34.35	84.97	Max Peak	Vertical	149	4	110.0	-25.0	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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**Title:** MikroTik RBLHGG-5aCD Wireless Module  
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**Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11n HT-40
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5755.00	<b>Data Rate:</b>	13.50 MBit/s
<b>Power Setting:</b>	23	<b>Tested By:</b>	JMH

**Test Measurement Results**

**5600.00 - 5780.00 MHz**

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5641.05	24.56	3.76	34.19	62.51	Max Peak	Vertical	149	4	68.2	-5.7	Pass
#2	5713.82	50.45	3.82	34.34	88.61	Max Peak	Vertical	149	4	109.1	-20.5	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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**Title:** MikroTik RBLHGG-5aCD Wireless Module  
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**Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11a
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5825.00	<b>Data Rate:</b>	6.00 MBit/s
<b>Power Setting:</b>	23	<b>Tested By:</b>	JMH

**Test Measurement Results**

**5770.00 - 6000.00 MHz**

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#2	5854.15	37.12	3.83	34.64	75.59	Max Peak	Vertical	149	4	111.3	-35.7	Pass
#3	5929.60	20.81	3.84	34.83	59.48	Max Peak	Vertical	149	4	68.2	-8.8	Pass
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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**Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11ac-80
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5775.00	<b>Data Rate:</b>	29.30 MBit/s
<b>Power Setting:</b>	22	<b>Tested By:</b>	JMH

**Test Measurement Results**

**5770.00 - 6000.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#2	5854.61	44.67	3.83	34.64	83.14	Max Avg	Vertical	149	4	111.2	-28.1	Pass
#3	5966.01	18.69	3.84	34.90	57.43	Max Avg	Vertical	149	4	68.9	-11.5	Pass
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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**Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11n HT-20
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5825.00	<b>Data Rate:</b>	6.50 MBit/s
<b>Power Setting:</b>	23	<b>Tested By:</b>	JMH

**Test Measurement Results**

**5770.00 - 6000.00 MHz**

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#2	5855.99	30.02	3.84	34.64	68.50	Max Avg	Vertical	149	4	109.9	-41.4	Pass
#3	5927.29	21.63	3.83	34.83	60.29	Max Avg	Vertical	149	4	68.2	-7.9	Pass
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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**Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11n HT-40
<b>Antenna Gain (dBi):</b>	9.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5795.00	<b>Data Rate:</b>	13.50 MBit/s
<b>Power Setting:</b>	23	<b>Tested By:</b>	JMH

**Test Measurement Results**

**5770.00 - 6000.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#2	5855.99	30.08	3.84	34.64	68.56	Max Avg	Vertical	149	4	109.9	-41.3	Pass
#3	5924.99	20.44	3.84	34.82	59.10	Max Avg	Vertical	149	4	68.2	-9.1	Pass
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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### 1.1.2.5. 16 dBi Dual Polarity Directional

#### RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

##### 5150 - 5250 MHz

MikroTik1		Band-Edge Freq	Limit 74.0dBµV/m	Limit 54.0dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5180.00	5150.00	64.69	46.47	15
802.11ac-80	5210.00	5150.00	72.77	51.65	15
802.11n HT-20	5180.00	5150.00	63.39	46.89	15
802.11n HT-40	5190.00	5150.00	63.60	46.68	15

##### 5725 MHz Radiated Lower Band-Edge Emissions

MikroTik1		Band-Edge Freq	dBµV/m @	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	Limit	
802.11a	5725.00	5725.00	54.00	18
802.11ac-80	5725.00	5725.00	57.53	18
802.11n HT-20	5725.00	5725.00	54.00	18
802.11n HT-40	5725.00	5725.00	54.01	18

##### 5850 MHz Radiated Higher Band-Edge Emissions

MikroTik1		Band-Edge Freq	dBµV/m @	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	Limit	
802.11a	5850.00	5850.00	54.13	18
802.11ac-80	5850.00	5850.00	55.53	18
802.11n HT-20	5850.00	5850.00	54.13	18
802.11n HT-40	5850.00	5850.00	54.13	18

Click on the links to view the data.

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**Equipment Configuration for Restricted Lower Band-Edge Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11a
<b>Antenna Gain (dBi):</b>	16.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5180.00	<b>Data Rate:</b>	6.00 MBit/s
<b>Power Setting:</b>	15	<b>Tested By:</b>	JMH

**Test Measurement Results**

**4500.00 - 5250.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5120.74	8.71	3.64	34.12	46.47	Max Avg	Horizontal	200	0	54.0	-7.5	Pass
#2	5150.00	26.91	3.67	34.11	64.69	Max Peak	Horizontal	200	0	74.0	-9.3	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber

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**Equipment Configuration for Restricted Lower Band-Edge Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11ac-80
<b>Antenna Gain (dBi):</b>	16.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5210.00	<b>Data Rate:</b>	29.30 MBit/s
<b>Power Setting:</b>	15	<b>Tested By:</b>	JMH

**Test Measurement Results**

**4500.00 - 5250.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5145.49	34.97	3.69	34.11	72.77	Max Peak	Horizontal	200	0	74.0	-1.2	Pass
#2	5150.00	13.87	3.67	34.11	51.65	Max Avg	Horizontal	200	0	54.0	-2.4	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber

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**Equipment Configuration for Restricted Lower Band-Edge Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11n HT-20
<b>Antenna Gain (dBi):</b>	16.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5180.00	<b>Data Rate:</b>	6.50 MBit/s
<b>Power Setting:</b>	15	<b>Tested By:</b>	JMH

**Test Measurement Results**

**4500.00 - 5250.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5120.74	9.13	3.64	34.12	46.89	Max Avg	Horizontal	200	0	54.0	-7.1	Pass
#2	5150.00	25.61	3.67	34.11	63.39	Max Peak	Horizontal	200	0	74.0	-10.6	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber

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**Equipment Configuration for Restricted Lower Band-Edge Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11n HT-40
<b>Antenna Gain (dBi):</b>	16.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5190.00	<b>Data Rate:</b>	13.50 MBit/s
<b>Power Setting:</b>	15	<b>Tested By:</b>	JMH

**Test Measurement Results**

**4500.00 - 5250.00 MHz**

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5120.74	8.92	3.64	34.12	46.68	Max Avg	Horizontal	200	0	54.0	-7.3	Pass
#2	5146.99	25.81	3.68	34.11	63.60	Max Peak	Horizontal	200	0	74.0	-10.4	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber

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**Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11a
<b>Antenna Gain (dBi):</b>	16.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5745.00	<b>Data Rate:</b>	6.00 MBit/s
<b>Power Setting:</b>	18	<b>Tested By:</b>	JMH

**Test Measurement Results**

**5600.00 - 5780.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5633.84	16.03	3.77	34.20	54.00	Max Avg	Horizontal	197	2	68.2	-14.2	Pass
#2	5725.00	17.47	3.79	34.35	55.61	Max Avg	Horizontal	197	2	122.2	-66.6	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber

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**Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11ac-80
<b>Antenna Gain (dBi):</b>	16.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5775.00	<b>Data Rate:</b>	29.30 MBit/s
<b>Power Setting:</b>	18	<b>Tested By:</b>	JMH

**Test Measurement Results**

**5600.00 - 5780.00 MHz**

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5715.00	19.38	3.81	34.34	57.53	Max Avg	Horizontal	197	2	109.4	-51.9	Pass
#2	5725.00	19.75	3.79	34.35	57.89	Max Avg	Horizontal	197	2	122.2	-64.3	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber

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**Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11n HT-20
<b>Antenna Gain (dBi):</b>	16.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5745.00	<b>Data Rate:</b>	6.50 MBit/s
<b>Power Setting:</b>	18	<b>Tested By:</b>	JMH

**Test Measurement Results**

**5600.00 - 5780.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5633.55	16.03	3.77	34.20	54.00	Max Avg	Horizontal	197	2	68.2	-14.2	Pass
#2	5725.00	17.89	3.79	34.35	56.03	Max Avg	Horizontal	197	2	122.2	-66.2	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber

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**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
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**Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11n HT-40
<b>Antenna Gain (dBi):</b>	16.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5755.00	<b>Data Rate:</b>	13.50 MBit/s
<b>Power Setting:</b>	18	<b>Tested By:</b>	JMH

**Test Measurement Results**

**5600.00 - 5780.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5632.39	16.04	3.77	34.20	54.01	Max Avg	Horizontal	197	2	68.2	-14.2	Pass
#2	5725.00	17.02	3.79	34.35	55.16	Max Avg	Horizontal	197	2	122.2	-67.0	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber

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**Title:** MikroTik RBLHGG-5aCD Wireless Module  
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**Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11a
<b>Antenna Gain (dBi):</b>	16.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5825.00	<b>Data Rate:</b>	6.00 MBit/s
<b>Power Setting:</b>	18	<b>Tested By:</b>	JMH

**Test Measurement Results**

**5770.00 - 6000.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5850.00	16.08	3.81	34.63	54.52	Max Avg	Horizontal	197	2	122.2	-67.7	Pass
#3	5909.78	15.51	3.83	34.79	54.13	Max Avg	Horizontal	197	2	79.3	-25.2	Pass
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber

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**Title:** MikroTik RBLHGG-5aCD Wireless Module  
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**Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11ac-80
<b>Antenna Gain (dBi):</b>	16.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5775.00	<b>Data Rate:</b>	29.30 MBit/s
<b>Power Setting:</b>	18	<b>Tested By:</b>	JMH

**Test Measurement Results**

**5770.00 - 6000.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#2	5851.38	17.92	3.81	34.63	56.36	Max Avg	Horizontal	197	2	119.9	-63.6	Pass
#3	5871.06	17.04	3.81	34.68	55.53	Max Avg	Horizontal	197	2	106.3	-50.8	Pass
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber

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**Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11n HT-20
<b>Antenna Gain (dBi):</b>	16.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5825.00	<b>Data Rate:</b>	6.50 MBit/s
<b>Power Setting:</b>	18	<b>Tested By:</b>	JMH

**Test Measurement Results**

**5770.00 - 6000.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5850.00	16.08	3.81	34.63	54.52	Max Avg	Horizontal	197	2	122.2	-67.7	Pass
#3	5910.24	15.51	3.83	34.79	54.13	Max Avg	Horizontal	197	2	79.3	-25.2	Pass
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber

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**Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Dual Polarity	<b>Variant:</b>	802.11n HT-40
<b>Antenna Gain (dBi):</b>	16.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5795.00	<b>Data Rate:</b>	13.50 MBit/s
<b>Power Setting:</b>	18	<b>Tested By:</b>	JMH

**Test Measurement Results**

**5770.00 - 6000.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5850.00	16.08	3.81	34.63	54.52	Max Avg	Horizontal	197	2	122.2	-67.7	Pass
#3	5909.78	15.51	3.83	34.79	54.13	Max Avg	Horizontal	197	2	79.3	-25.2	Pass
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber

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### 1.1.2.6. 27 dBi Dish Antenna

#### RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

##### 5150 - 5250 MHz

MikroTik3		Band-Edge Freq	Limit 74.0dBµV/m	Limit 54.0dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5180.00	5150.00	62.15	45.61	3
802.11ac-80	5210.00	5150.00	70.67	46.50	2
802.11n HT-20	5180.00	5150.00	62.65	45.61	3
802.11n HT-40	5190.00	5150.00	63.30	45.61	3

##### 5725 MHz Radiated Lower Band-Edge Emissions

MikroTik3		Band-Edge Freq	dBµV/m @	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	Limit	
802.11a	5725.00	5725.00	65.42	3
802.11ac-80	5725.00	5725.00	66.81	2
802.11n HT-20	5725.00	5725.00	64.55	3
802.11n HT-40	5725.00	5725.00	65.63	3

##### 5850 MHz Radiated Higher Band-Edge Emissions

MikroTik3		Band-Edge Freq	dBµV/m @	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	Limit	
802.11a	5850.00	5850.00	57.66	3
802.11ac-80	5850.00	5850.00	58.29	2
802.11n HT-20	5850.00	5850.00	57.82	3
802.11n HT-40	5850.00	5850.00	58.01	3

Click on the links to view the data.

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**Equipment Configuration for Restricted Lower Band-Edge Emissions**

<b>Antenna:</b>	Dish Antenna	<b>Variant:</b>	802.11a
<b>Antenna Gain (dBi):</b>	27.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5180.00	<b>Data Rate:</b>	6.00 MBit/s
<b>Power Setting:</b>	3	<b>Tested By:</b>	JMH

**Test Measurement Results**

**4500.00 - 5250.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5137.27	7.80	3.69	34.12	45.61	Max Avg	Vertical	187	4	54.0	-8.4	Pass
#2	5147.80	24.36	3.68	34.11	62.15	Max Peak	Vertical	187	4	74.0	-11.9	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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**Equipment Configuration for Restricted Lower Band-Edge Emissions**

<b>Antenna:</b>	Dish Antenna	<b>Variant:</b>	802.11ac-80
<b>Antenna Gain (dBi):</b>	27.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5210.00	<b>Data Rate:</b>	29.30 MBit/s
<b>Power Setting:</b>	2	<b>Tested By:</b>	JMH

**Test Measurement Results**

**4500.00 - 5250.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5137.98	8.68	3.70	34.12	46.50	Max Avg	Vertical	187	4	54.0	-7.5	Pass
#2	5150.00	32.89	3.67	34.11	70.67	Max Peak	Vertical	187	4	74.0	-3.3	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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**Equipment Configuration for Restricted Lower Band-Edge Emissions**

<b>Antenna:</b>	Dish Antenna	<b>Variant:</b>	802.11n HT-20
<b>Antenna Gain (dBi):</b>	27.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5180.00	<b>Data Rate:</b>	6.50 MBit/s
<b>Power Setting:</b>	3	<b>Tested By:</b>	JMH

**Test Measurement Results**

**4500.00 - 5250.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5137.27	7.80	3.69	34.12	45.61	Max Avg	Vertical	187	4	54.0	-8.4	Pass
#2	5141.78	24.83	3.70	34.12	62.65	Max Peak	Vertical	187	4	74.0	-11.4	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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**Equipment Configuration for Restricted Lower Band-Edge Emissions**

<b>Antenna:</b>	Dish Antenna	<b>Variant:</b>	802.11n HT-40
<b>Antenna Gain (dBi):</b>	27.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5190.00	<b>Data Rate:</b>	13.50 MBit/s
<b>Power Setting:</b>	3	<b>Tested By:</b>	JMH

**Test Measurement Results**

**4500.00 - 5250.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5137.27	7.80	3.69	34.12	45.61	Max Avg	Vertical	187	4	54.0	-8.4	Pass
#2	5150.00	25.52	3.67	34.11	63.30	Max Peak	Vertical	187	4	74.0	-10.7	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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**Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Dish Antenna	<b>Variant:</b>	802.11a
<b>Antenna Gain (dBi):</b>	27.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5745.00	<b>Data Rate:</b>	6.00 MBit/s
<b>Power Setting:</b>	3	<b>Tested By:</b>	JMH

**Test Measurement Results**

**5600.00 - 5780.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5612.92	27.42	3.78	34.22	65.42	Max Peak	Horizontal	188	5	68.2	-2.8	Pass
#2	5712.01	26.66	3.83	34.34	64.83	Max Peak	Horizontal	188	5	108.6	-43.7	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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**Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Dish Antenna	<b>Variant:</b>	802.11ac-80
<b>Antenna Gain (dBi):</b>	27.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5775.00	<b>Data Rate:</b>	29.30 MBit/s
<b>Power Setting:</b>	2	<b>Tested By:</b>	JMH

**Test Measurement Results**

**5600.00 - 5780.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5647.55	28.88	3.75	34.18	66.81	Max Peak	Horizontal	188	5	68.2	-1.4	Pass
#2	5715.26	38.15	3.81	34.34	76.30	Max Peak	Horizontal	188	5	109.4	-33.1	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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**Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Dish Antenna	<b>Variant:</b>	802.11n HT-20
<b>Antenna Gain (dBi):</b>	27.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5745.00	<b>Data Rate:</b>	6.50 MBit/s
<b>Power Setting:</b>	3	<b>Tested By:</b>	JMH

**Test Measurement Results**

**5600.00 - 5780.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#1	5607.14	26.54	3.78	34.23	64.55	Max Peak	Horizontal	188	5	68.2	-3.7	Pass
#2	5710.21	27.31	3.84	34.34	65.49	Max Peak	Horizontal	188	5	108.0	-42.5	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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**Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Dish Antenna	<b>Variant:</b>	802.11n HT-40
<b>Antenna Gain (dBi):</b>	27.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5755.00	<b>Data Rate:</b>	13.50 MBit/s
<b>Power Setting:</b>	3	<b>Tested By:</b>	JMH

**Test Measurement Results**

**5600.00 - 5780.00 MHz**

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5641.77	27.68	3.76	34.19	65.63	Max Peak	Horizontal	188	5	68.2	-2.6	Pass
#2	5714.18	28.40	3.82	34.34	66.56	Max Peak	Horizontal	188	5	109.1	-42.6	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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**Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Dish Antenna	<b>Variant:</b>	802.11a
<b>Antenna Gain (dBi):</b>	27.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5825.00	<b>Data Rate:</b>	6.00 MBit/s
<b>Power Setting:</b>	3	<b>Tested By:</b>	JMH

**Test Measurement Results**

**5770.00 - 6000.00 MHz**

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#2	5859.68	24.10	3.86	34.65	62.61	Max Peak	Horizontal	188	5	109.9	-47.3	Pass
#3	5986.29	18.85	3.89	34.92	57.66	Max Peak	Horizontal	188	5	68.2	-10.6	Pass
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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**Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Dish Antenna	<b>Variant:</b>	802.11ac-80
<b>Antenna Gain (dBi):</b>	27.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5775.00	<b>Data Rate:</b>	29.30 MBit/s
<b>Power Setting:</b>	2	<b>Tested By:</b>	JMH

**Test Measurement Results**

**5770.00 - 6000.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#2	5858.04	33.09	3.85	34.65	71.59	Max Peak	Horizontal	188	5	109.5	-37.9	Pass
#3	5931.90	19.60	3.85	34.84	58.29	Max Peak	Horizontal	188	5	68.2	-9.9	Pass
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
**Issue Date:** 23<sup>rd</sup> October 2017  
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**Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Dish Antenna	<b>Variant:</b>	802.11n HT-20
<b>Antenna Gain (dBi):</b>	27.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5825.00	<b>Data Rate:</b>	6.50 MBit/s
<b>Power Setting:</b>	3	<b>Tested By:</b>	JMH

**Test Measurement Results**

**5770.00 - 6000.00 MHz**

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#2	5861.52	24.18	3.85	34.66	62.69	Max Peak	Horizontal	188	5	108.7	-46.0	Pass
#3	5961.40	19.10	3.83	34.89	57.82	Max Peak	Horizontal	188	5	68.2	-10.4	Pass
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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**Title:** MikroTik RBLHGG-5aCD Wireless Module  
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**Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions**

<b>Antenna:</b>	Dish Antenna	<b>Variant:</b>	802.11n HT-40
<b>Antenna Gain (dBi):</b>	27.00	<b>Modulation:</b>	OFDM
<b>Beam Forming Gain (Y):</b>	Not Applicable	<b>Duty Cycle (%):</b>	99
<b>Channel Frequency (MHz):</b>	5795.00	<b>Data Rate:</b>	13.50 MBit/s
<b>Power Setting:</b>	3	<b>Tested By:</b>	JMH

**Test Measurement Results**

**5770.00 - 6000.00 MHz**

Num	Frequency MHz	Raw dB $\mu$ V	Cable Loss dB	AF dB	Level dB $\mu$ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB $\mu$ V/m	Margin dB	Pass /Fail
#2	5856.91	23.92	3.84	34.65	62.41	Max Peak	Horizontal	188	5	109.9	-47.5	Pass
#3	5992.16	19.19	3.89	34.93	58.01	Max Peak	Horizontal	188	5	68.2	-10.2	Pass
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by POE, connected to laptop outside chamber.

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**Title:** MikroTik RBLHGG-5aCD Wireless Module  
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## **A. APPENDIX - GRAPHICAL IMAGES**

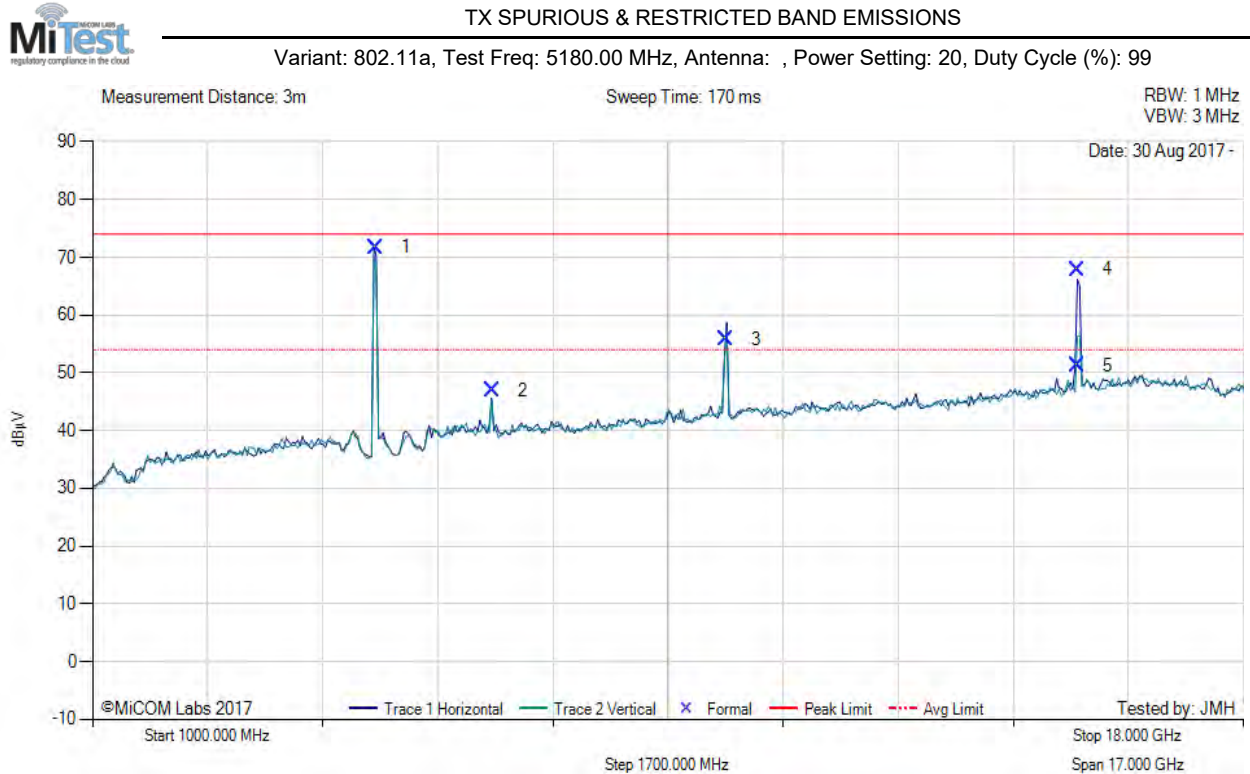
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## A.1. Radiated

### A.1.1. TX Spurious & Restricted Band Emissions

#### A.1.1.1. MikroTik Dual Polarity



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5178.08	79.54	3.69	-11.51	71.72	Fundamental	Horizontal	100	0	--	--	
2	6906.85	50.38	4.11	-7.54	46.95	Peak (NRB)	Vertical	100	0	--	--	Pass
3	10359.64	55.53	5.57	-5.27	55.83	Peak (NRB)	Horizontal	100	0	--	--	Pass
4	15544.83	62.50	5.97	-0.55	67.92	Max Peak	Horizontal	188	136	74.0	-6.1	Pass
5	15544.83	45.79	5.97	-0.55	51.21	Max Avg	Horizontal	188	136	54.0	-2.8	Pass

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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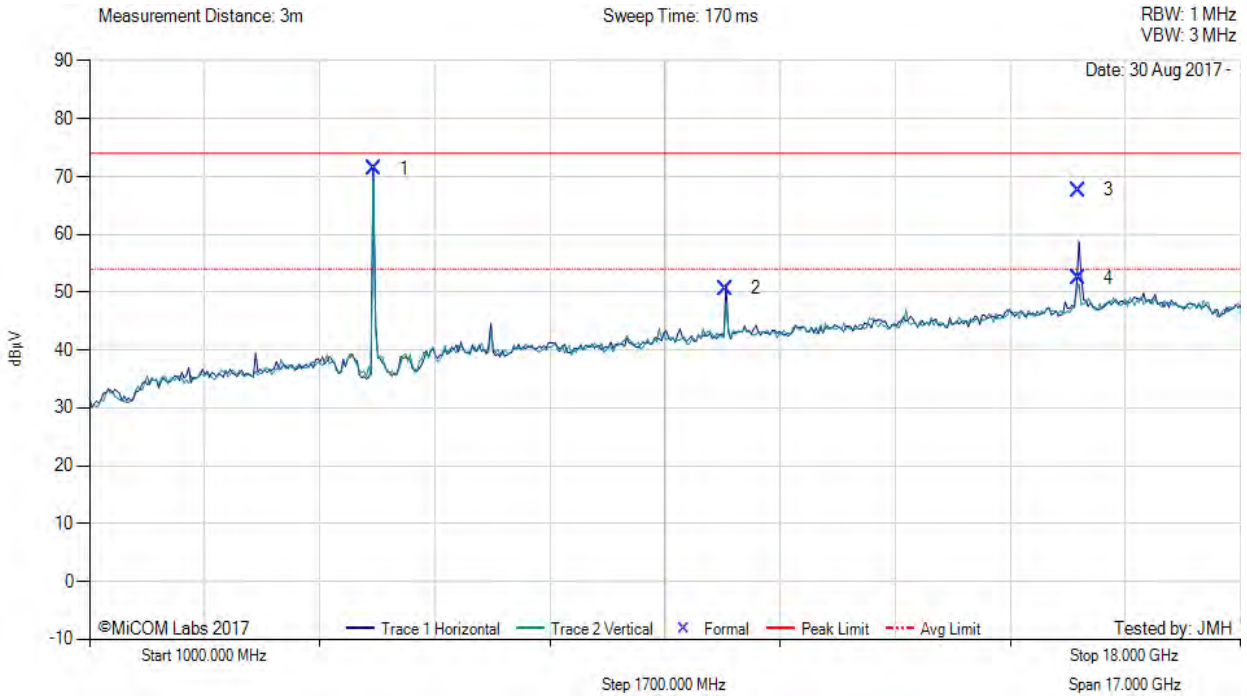


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
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**TX SPURIOUS & RESTRICTED BAND EMISSIONS**

Variant: 802.11a, Test Freq: 5200.00 MHz, Antenna: , Power Setting: 21, Duty Cycle (%): 99



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5203.11	79.10	3.65	-11.45	71.30	Fundamental	Horizontal	100	0	--	--	
2	10400.44	50.24	5.41	-5.03	50.62	Peak (NRB)	Horizontal	200	28	--	--	Pass
3	15600.03	61.82	6.03	-0.23	67.62	Max Peak	Horizontal	193	125	74.0	-6.4	Pass
4	15600.03	46.70	6.03	-0.23	52.50	Max Avg	Horizontal	193	125	54.0	-1.5	Pass

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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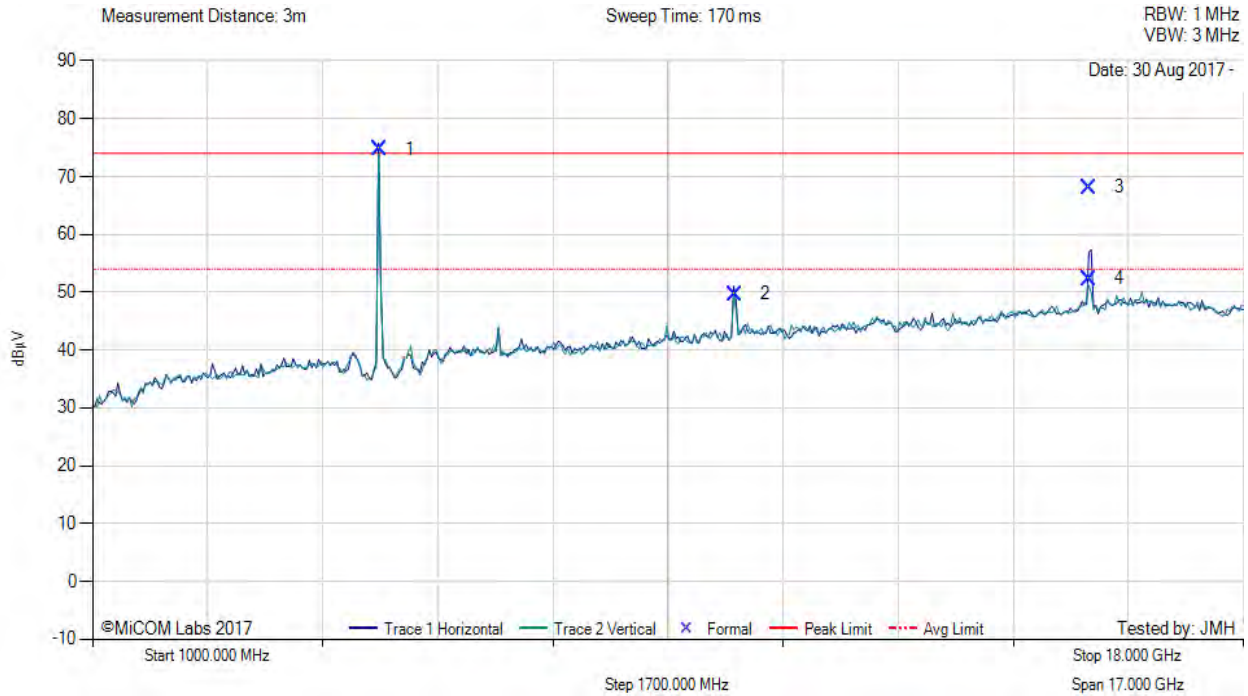


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
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**TX SPURIOUS & RESTRICTED BAND EMISSIONS**

Variant: 802.11a, Test Freq: 5240.00 MHz, Antenna: , Power Setting: 21, Duty Cycle (%): 99



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5239.16	82.50	3.63	-11.37	74.76	Fundamental	Horizontal	100	0	--	--	
2	10481.69	48.72	5.41	-4.44	49.69	Peak (NRB)	Horizontal	200	2	--	--	Pass
3	15715.26	61.95	6.02	0.18	68.15	Max Peak	Horizontal	189	122	74.0	-5.9	Pass
4	15715.26	46.08	6.02	0.18	52.28	Max Avg	Horizontal	189	122	54.0	-1.7	Pass

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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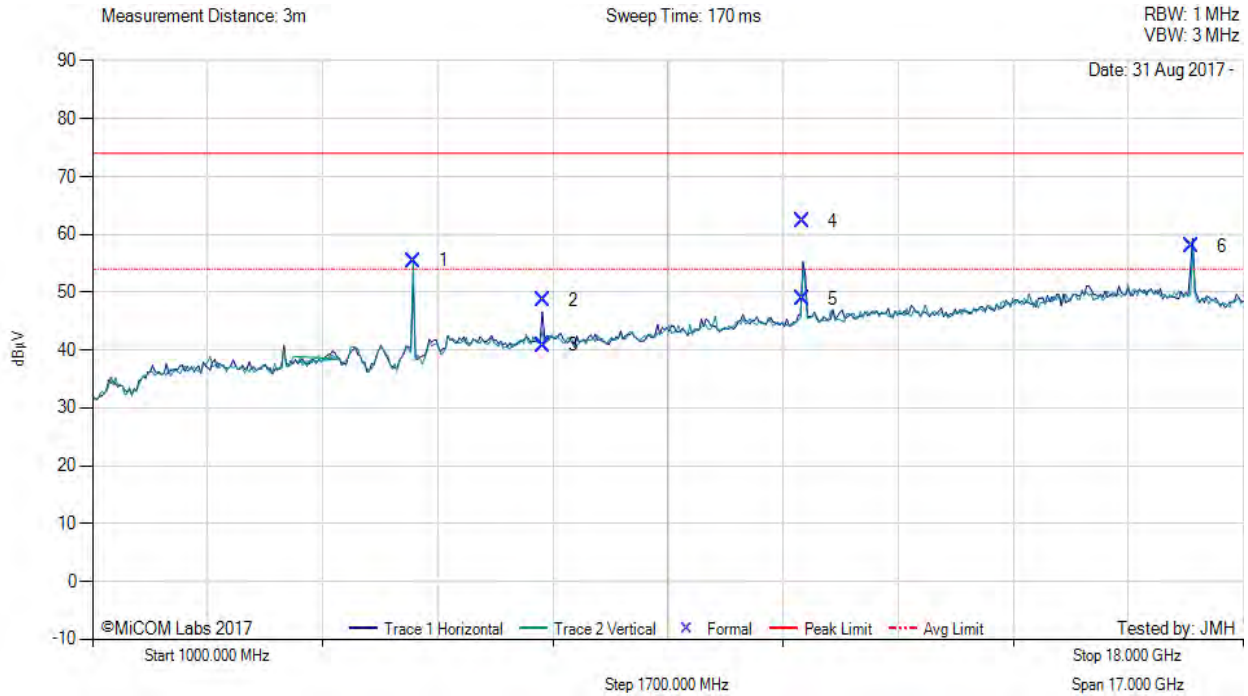


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
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**TX SPURIOUS & RESTRICTED BAND EMISSIONS**

Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: , Power Setting: 23, Duty Cycle (%): 99



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5739.27	62.26	3.82	-10.67	55.41	Fundamental	Vertical	151	0	--	--	
2	7660.03	51.17	4.38	-6.95	48.60	Max Peak	Horizontal	98	81	74.0	-25.4	Pass
3	7660.03	43.42	4.38	-6.95	40.85	Max Avg	Horizontal	98	81	54.0	-13.2	Pass
4	11490.41	61.64	5.45	-4.84	62.25	Max Peak	Horizontal	198	110	74.0	-11.8	Pass
5	11490.41	48.31	5.45	-4.84	48.92	Max Avg	Horizontal	198	110	54.0	-5.1	Pass
6	17236.87	51.20	6.47	0.35	58.02	Peak (NRB)	Horizontal	200	15	--	--	Pass

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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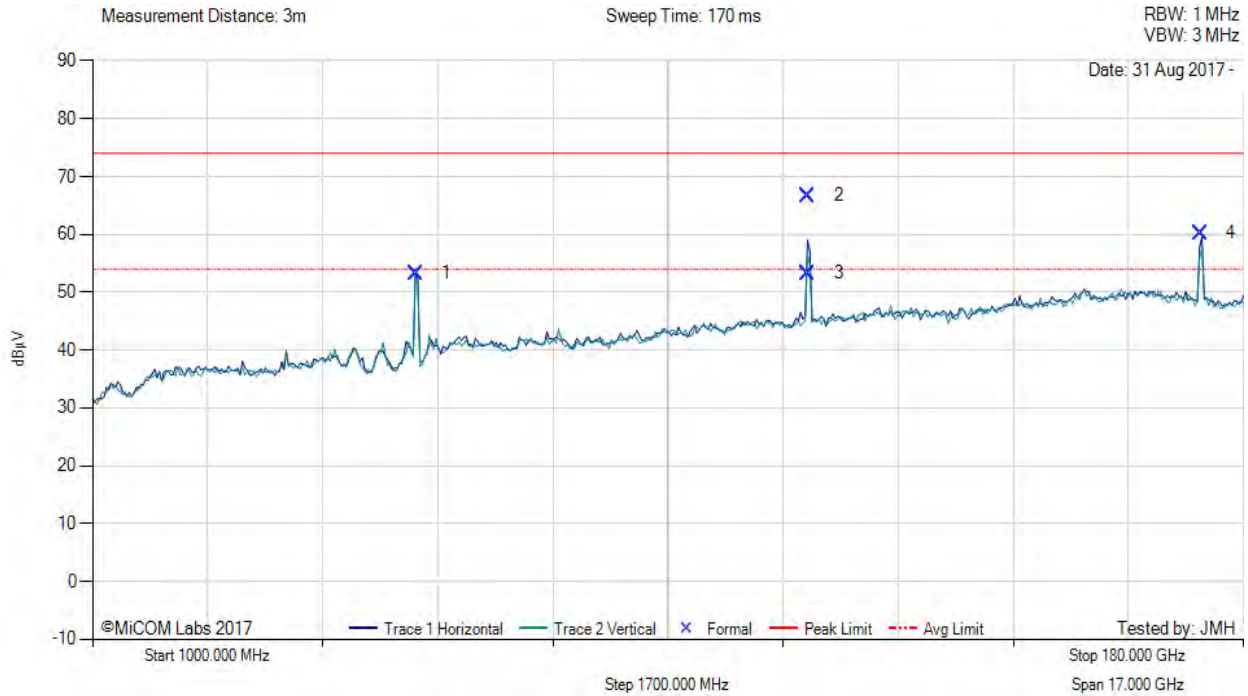


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
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**TX SPURIOUS & RESTRICTED BAND EMISSIONS**

Variant: 802.11a, Test Freq: 5785.00 MHz, Antenna: , Power Setting: 23, Duty Cycle (%): 99



1000.00 - 180000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5779.18	59.96	3.80	-10.48	53.28	Fundamental	Vertical	100	0	--	--	
2	11569.90	65.86	5.46	-4.64	66.68	Max Peak	Horizontal	193	116	74.0	-7.3	Pass
3	11569.90	52.46	5.46	-4.64	53.28	Max Avg	Horizontal	193	116	54.0	-0.7	Pass
4	17358.78	53.98	6.28	-0.04	60.22	Peak (NRB)	Horizontal	200	13	--	--	Pass

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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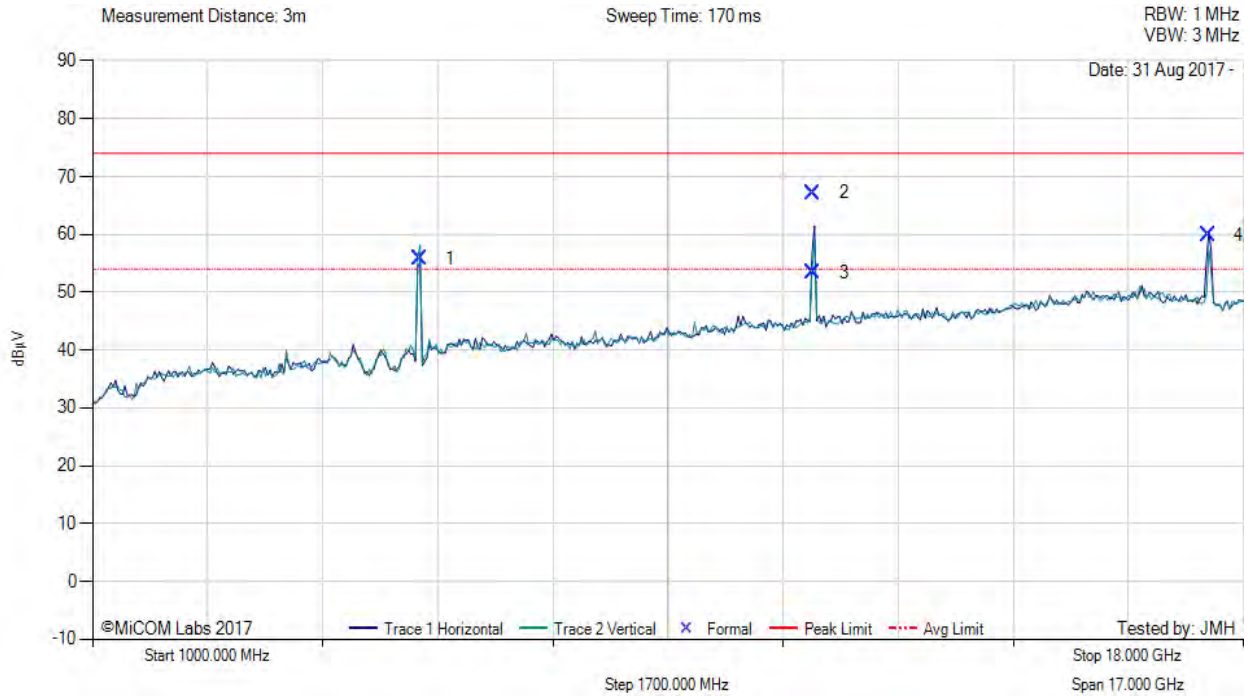


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
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**TX SPURIOUS & RESTRICTED BAND EMISSIONS**

Variant: 802.11a, Test Freq: 5825.00 MHz, Antenna: , Power Setting: 22, Duty Cycle (%): 99



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5828.25	62.13	3.84	-10.24	55.73	Fundamental	Vertical	100	0	--	--	
2	11649.07	66.18	5.44	-4.47	67.15	Max Peak	Horizontal	197	116	74.0	-6.9	Pass
3	11649.07	52.40	5.44	-4.47	53.37	Max Avg	Horizontal	197	116	54.0	-0.6	Pass
4	17485.23	54.10	6.42	-0.63	59.89	Peak (NRB)	Horizontal	200	9	--	--	Pass

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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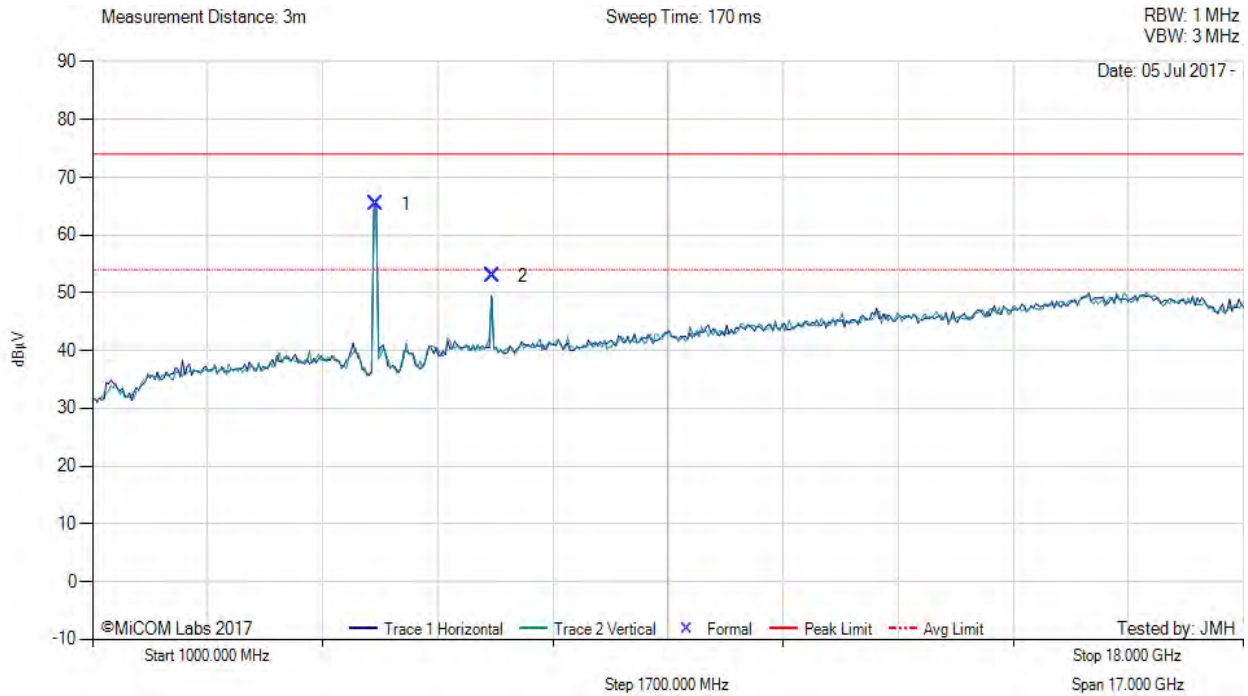
**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
**Issue Date:** 23<sup>rd</sup> October 2017  
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### A.1.1.2. MikroTik 16



#### TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5180.00 MHz, Antenna: 1, Power Setting: 15, Duty Cycle (%): 99



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5181.07	73.23	3.69	-11.50	65.42	Fundamental	Horizontal	100	0	--	--	
2	6906.64	56.29	4.11	-7.54	52.86	Peak (NRB)	Horizontal	101	0	--	--	Pass

**Test Notes:** EUT powered by POE, connected to laptop outside chamber

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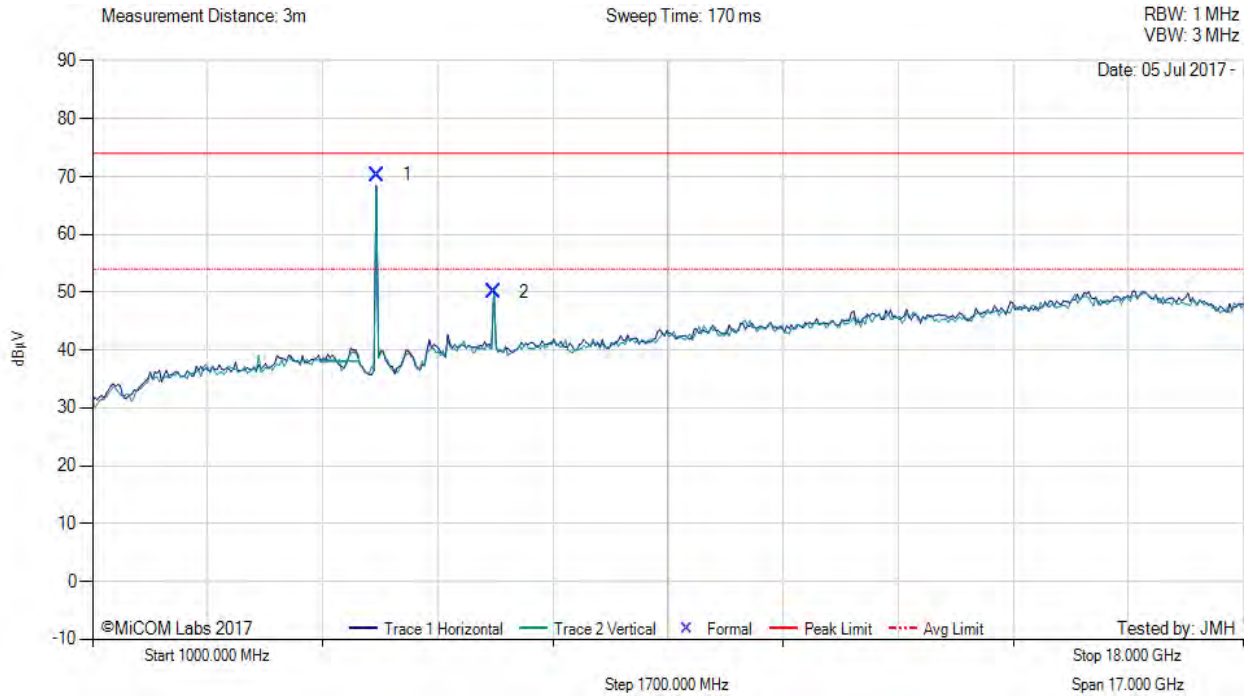


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
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**TX SPURIOUS & RESTRICTED BAND EMISSIONS**

Variant: 802.11a, Test Freq: 5200.00 MHz, Antenna: 1, Power Setting: 15, Duty Cycle (%): 99



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5205.98	78.10	3.65	-11.45	70.30	Fundamental	Horizontal	100	0	--	--	
2	6933.30	53.48	4.11	-7.49	50.10	Peak (NRB)	Horizontal	100	0	--	--	Pass

**Test Notes:** EUT powered by POE, connected to laptop outside chamber

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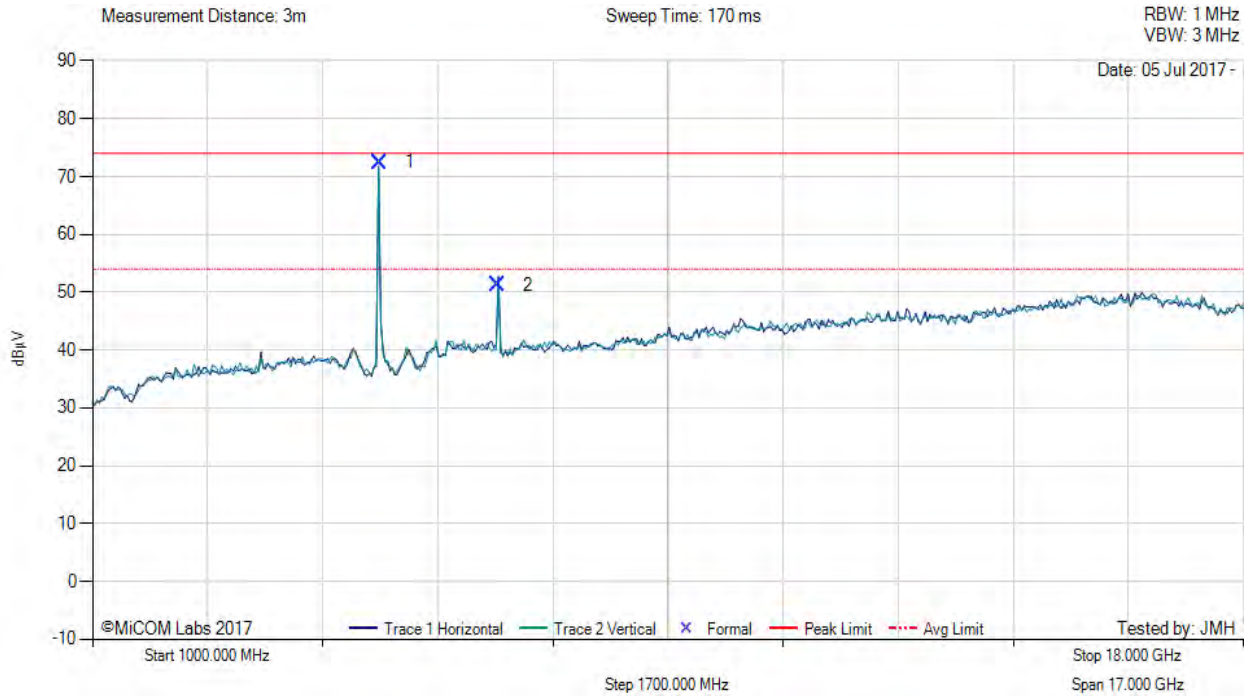


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
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**TX SPURIOUS & RESTRICTED BAND EMISSIONS**

Variant: 802.11a, Test Freq: 5240.00 MHz, Antenna: 1, Power Setting: 15, Duty Cycle (%): 99



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5239.82	80.20	3.63	-11.37	72.46	Fundamental	Vertical	100	0	--	--	
2	6986.62	54.52	4.13	-7.45	51.20	Peak (NRB)	Horizontal	100	0	--	--	Pass

**Test Notes:** EUT powered by POE, connected to laptop outside chamber

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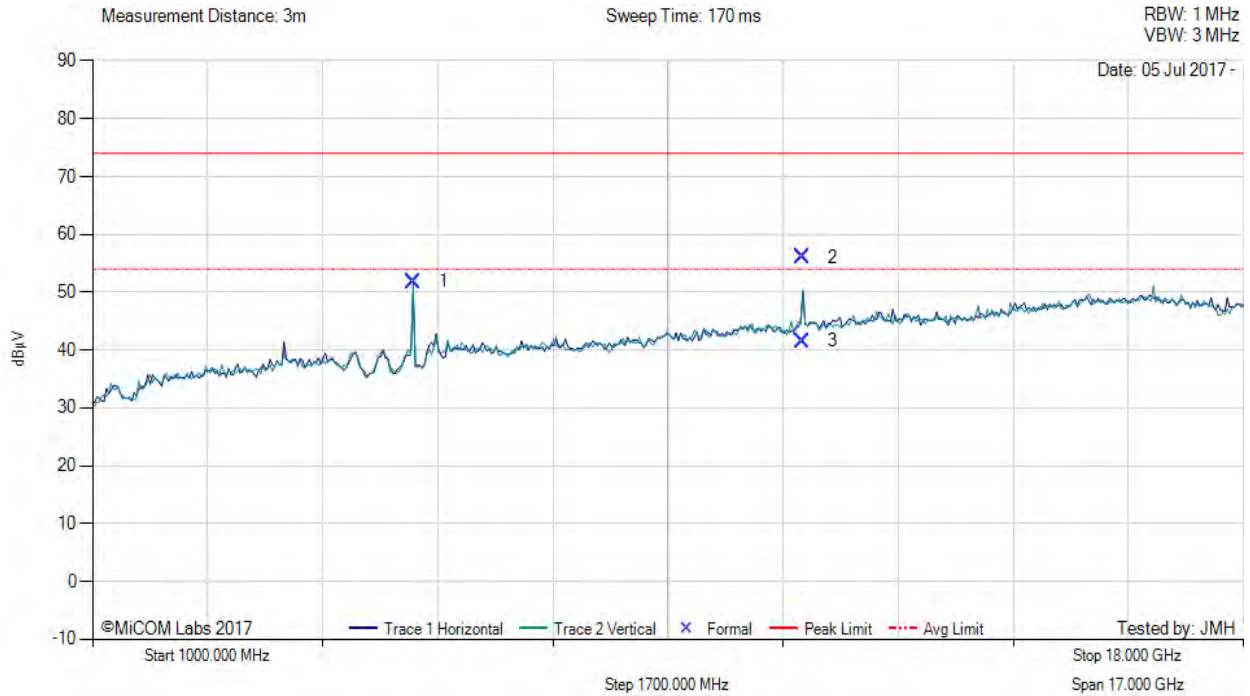


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
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**Page:** 73 of 118



**TX SPURIOUS & RESTRICTED BAND EMISSIONS**

Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: 1, Power Setting: 18, Duty Cycle (%): 99



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5739.82	58.65	3.83	-10.67	51.81	Fundamental	Vertical	100	0	--	--	
2	11487.04	55.49	5.45	-4.85	56.09	Max Peak	Vertical	187	171	74.0	-17.9	Pass
3	11487.04	40.94	5.45	-4.85	41.54	Max Avg	Vertical	187	171	54.0	-12.5	Pass

**Test Notes:** EUT powered by POE, connected to laptop outside chamber

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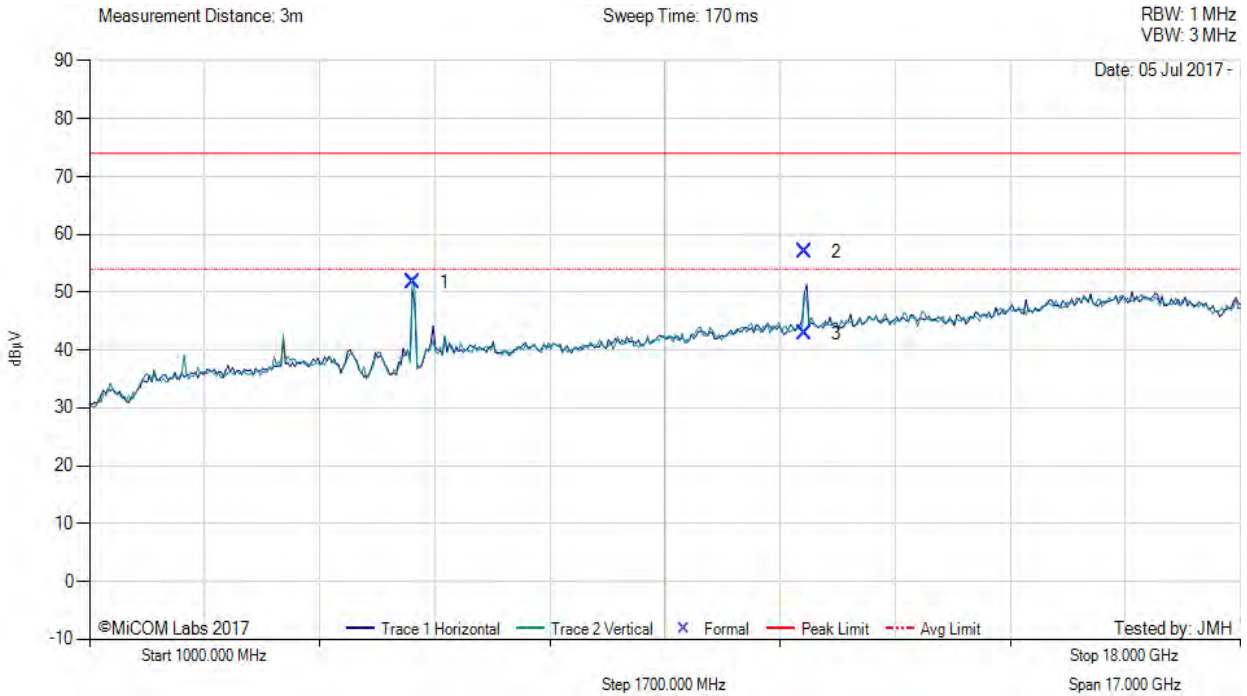


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
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**TX SPURIOUS & RESTRICTED BAND EMISSIONS**

Variant: 802.11a, Test Freq: 5785.00 MHz, Antenna: 1, Power Setting: 18, Duty Cycle (%): 99



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5784.91	58.41	3.80	-10.44	51.77	Fundamental	Vertical	100	0	--	--	
2	11571.56	56.15	5.42	-4.63	56.94	Max Peak	Horizontal	173	188	74.0	-17.1	Pass
3	11571.56	42.05	5.42	-4.63	42.84	Max Avg	Horizontal	173	188	54.0	-11.2	Pass

**Test Notes:** EUT powered by POE, connected to laptop outside chamber

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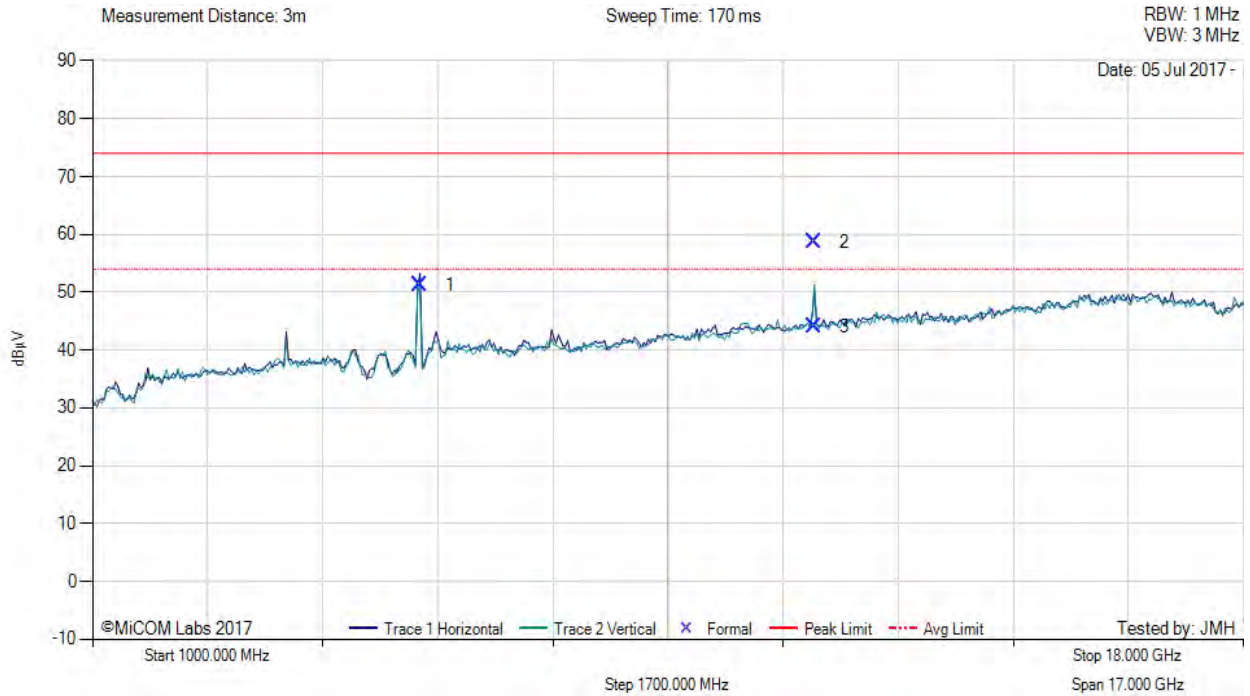


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
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**TX SPURIOUS & RESTRICTED BAND EMISSIONS**

Variant: 802.11a, Test Freq: 5825.00 MHz, Antenna: 1, Power Setting: 18, Duty Cycle (%): 99



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5828.25	57.59	3.84	-10.24	51.19	Fundamental	Horizontal	100	0	--	--	
2	11651.44	57.68	5.48	-4.46	58.70	Max Peak	Vertical	193	181	74.0	-15.3	Pass
3	11651.44	43.04	5.48	-4.46	44.06	Max Avg	Vertical	193	181	54.0	-9.9	Pass

**Test Notes:** EUT powered by POE, connected to laptop outside chamber

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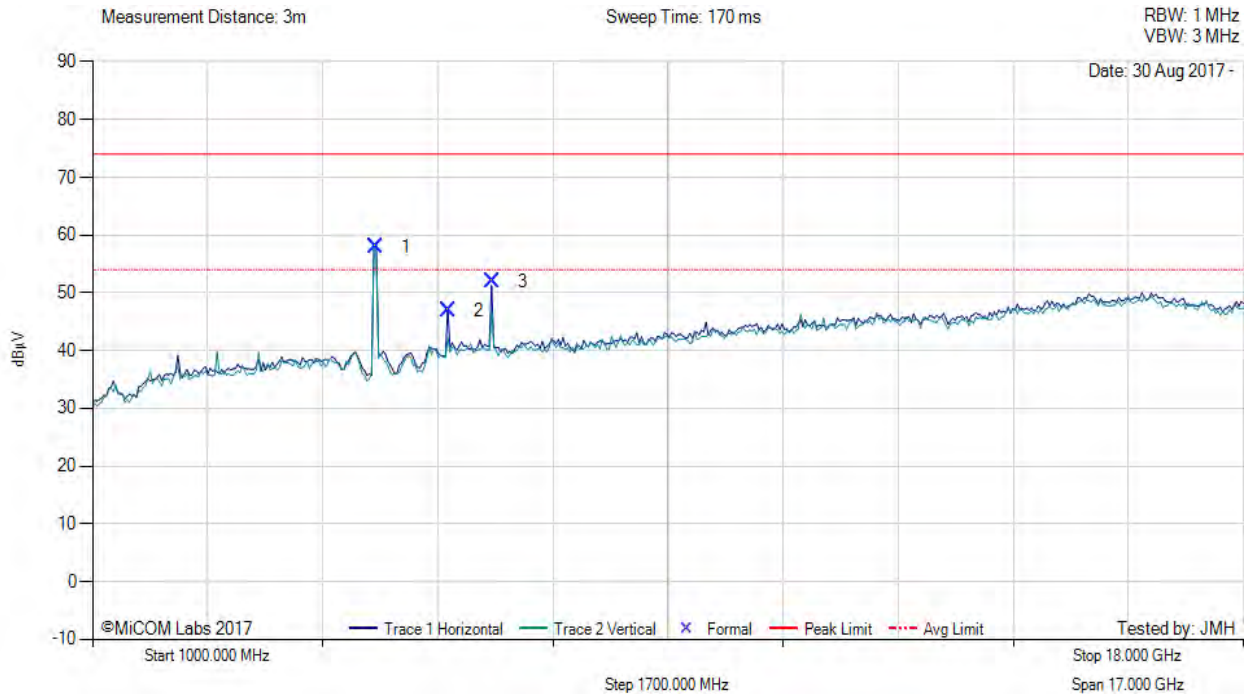
**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
**Issue Date:** 23<sup>rd</sup> October 2017  
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### A.1.1.3. MikroTik 27



#### TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5180.00 MHz, Antenna: 3, Power Setting: 3, Duty Cycle (%): 99



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5176.99	65.81	3.69	-11.51	57.99	Fundamental	Horizontal	200	0	--	--	
2	6250.07	51.54	3.93	-8.56	46.91	Peak (NRB)	Horizontal	200	0	--	--	Pass
3	6906.63	55.34	4.11	-7.54	51.91	Peak (NRB)	Horizontal	200	0	--	--	Pass

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

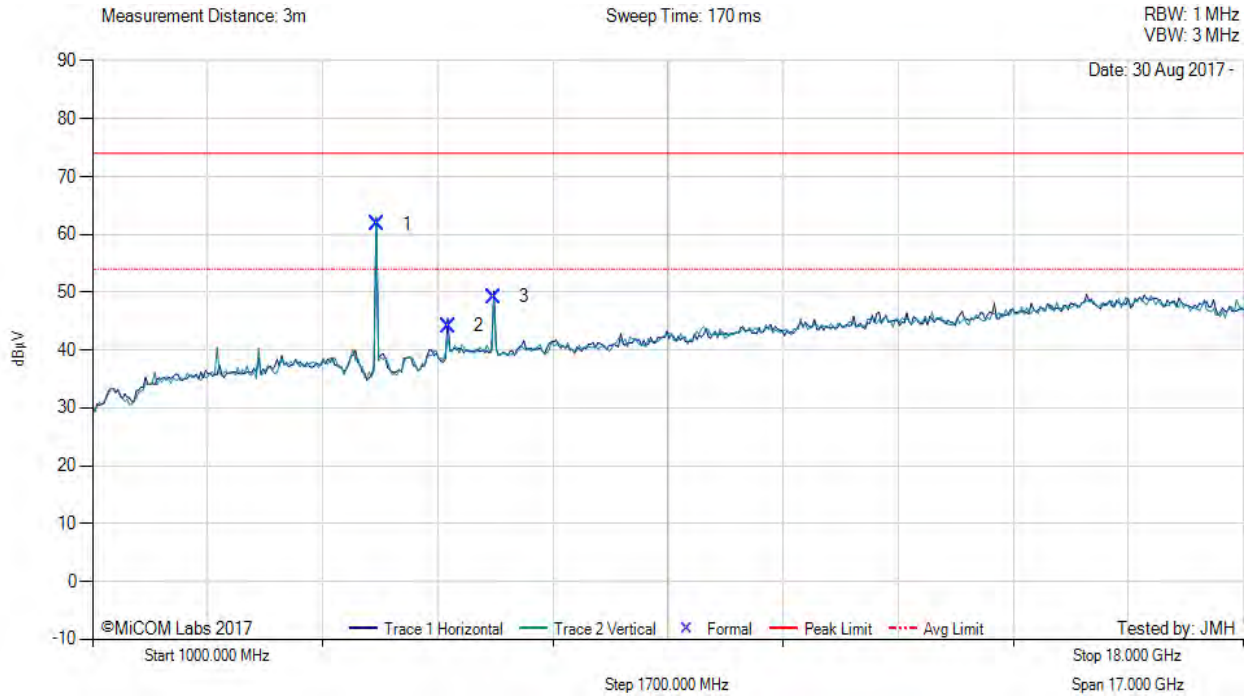


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
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**TX SPURIOUS & RESTRICTED BAND EMISSIONS**

Variant: 802.11a, Test Freq: 5200.00 MHz, Antenna: 3, Power Setting: 8, Duty Cycle (%): 99



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5204.54	69.55	3.65	-11.45	61.75	Fundamental	Vertical	200	0	--	--	
2	6250.07	48.79	3.93	-8.56	44.16	Peak (NRB)	Horizontal	200	0	--	--	Pass
3	6933.42	52.59	4.11	-7.49	49.21	Peak (NRB)	Horizontal	200	3	--	--	Pass

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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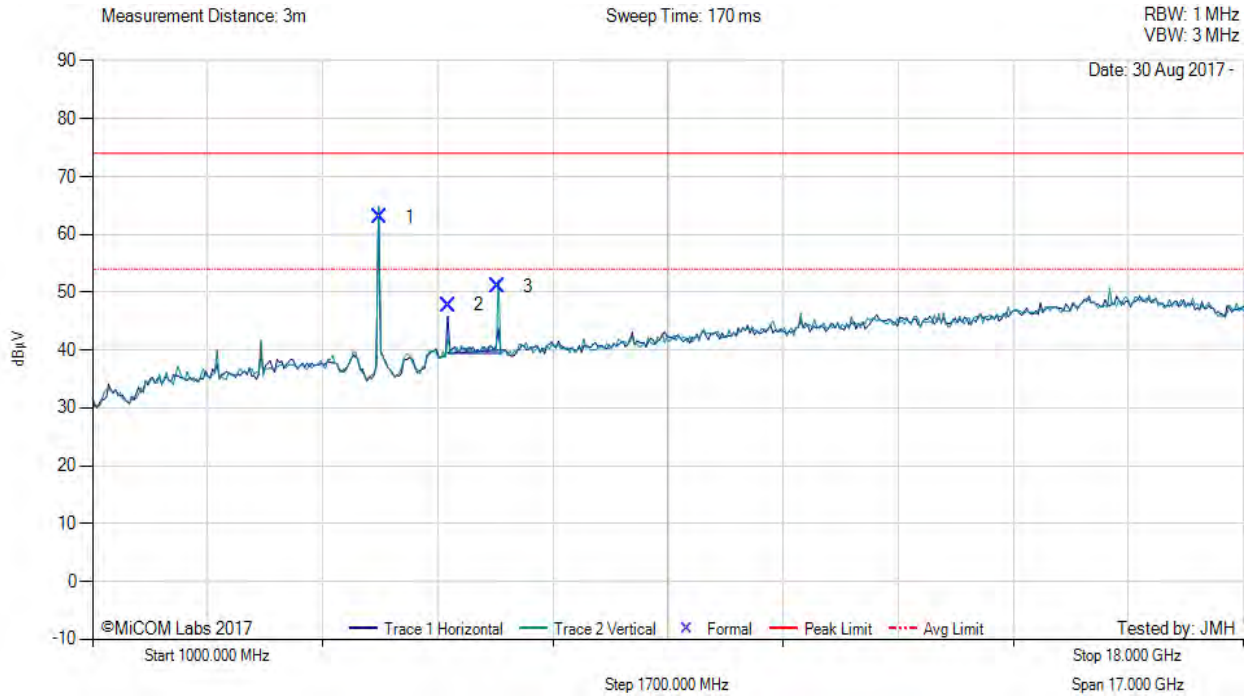


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
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**TX SPURIOUS & RESTRICTED BAND EMISSIONS**

Variant: 802.11a, Test Freq: 5240.00 MHz, Antenna: 3, Power Setting: 8, Duty Cycle (%): 99



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5238.94	70.70	3.63	-11.37	62.96	Fundamental	Vertical	200	0	--	--	
2	6250.03	52.44	3.93	-8.56	47.81	Peak (NRB)	Horizontal	200	0	--	--	Pass
3	6986.77	54.33	4.13	-7.45	51.01	Peak (NRB)	Vertical	200	1	--	--	Pass

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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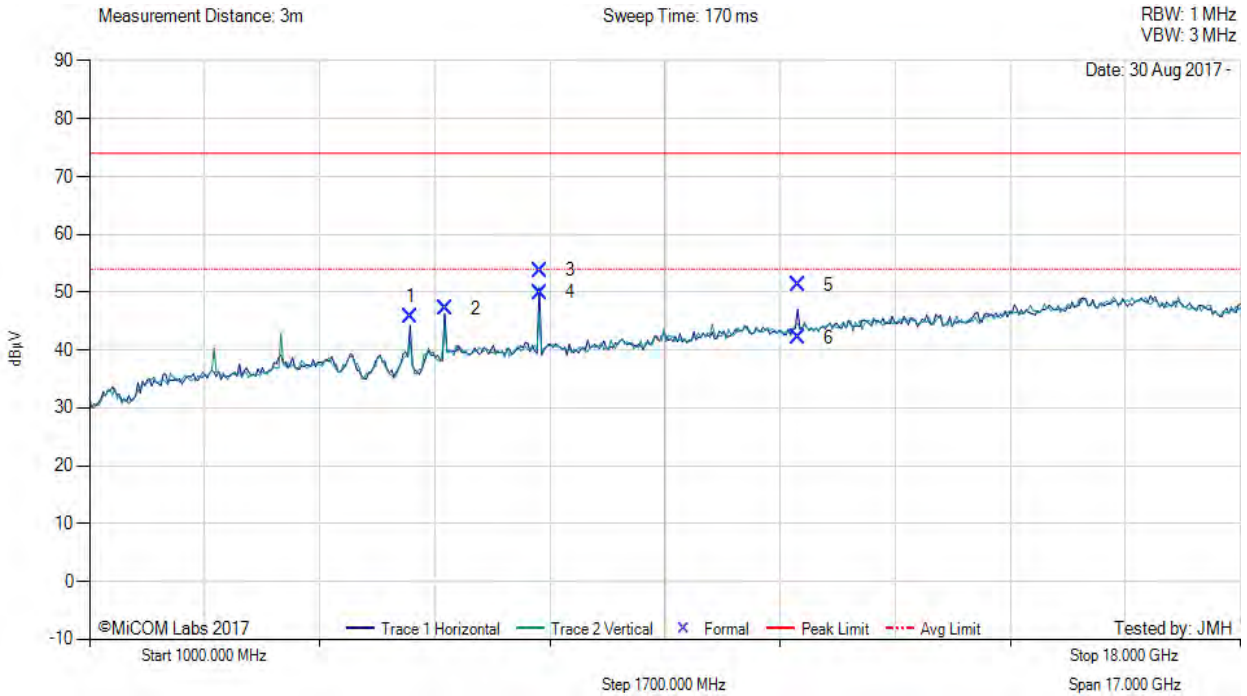


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
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**TX SPURIOUS & RESTRICTED BAND EMISSIONS**

Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: 3, Power Setting: 2, Duty Cycle (%): 99



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5738.94	52.57	3.82	-10.67	45.72	Fundamental	Horizontal	200	0	--	--	
2	6250.13	51.75	3.93	-8.56	47.12	Peak (NRB)	Horizontal	200	0	--	--	Pass
3	7660.10	56.31	4.38	-6.95	53.74	Max Peak	Horizontal	193	8	74.0	-20.3	Pass
4	7660.10	52.47	4.38	-6.95	49.90	Max Avg	Horizontal	193	8	54.0	-4.1	Pass
5	11458.53	50.59	5.51	-4.91	51.19	Max Peak	Horizontal	146	6	74.0	-22.8	Pass
6	11458.53	41.55	5.51	-4.91	42.15	Max Avg	Horizontal	146	6	54.0	-11.9	Pass

**Test Notes:** EUT powered by POE, connected to laptop outside chamber. Power reduced to 2 to meet spurious emissions limit.

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**Title:** MikroTik RBLHGG-5aCD Wireless Module  
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**TX SPURIOUS & RESTRICTED BAND EMISSIONS**

Variant: 802.11a, Test Freq: 5785.00 MHz, Antenna: 3, Power Setting: 2, Duty Cycle (%): 99



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	3856.70	61.60	3.23	-10.81	54.02	Max Peak	Vertical	164	5	74.0	-20.0	Pass
2	3856.70	53.17	3.23	-10.81	45.59	Max Avg	Vertical	164	5	54.0	-8.4	Pass
3	6250.40	51.06	3.93	-8.56	46.43	Peak (NRB)	Horizontal	150	0	--	--	Pass
4	7713.41	55.75	4.41	-6.85	53.31	Max Peak	Horizontal	193	7	74.0	-20.7	Pass
5	7713.41	52.87	4.41	-6.85	50.43	Max Avg	Horizontal	193	7	54.0	-3.6	Pass

**Test Notes:** EUT powered by POE, connected to laptop outside chamber. Power reduced to 2 to meet spurious emissions limit.

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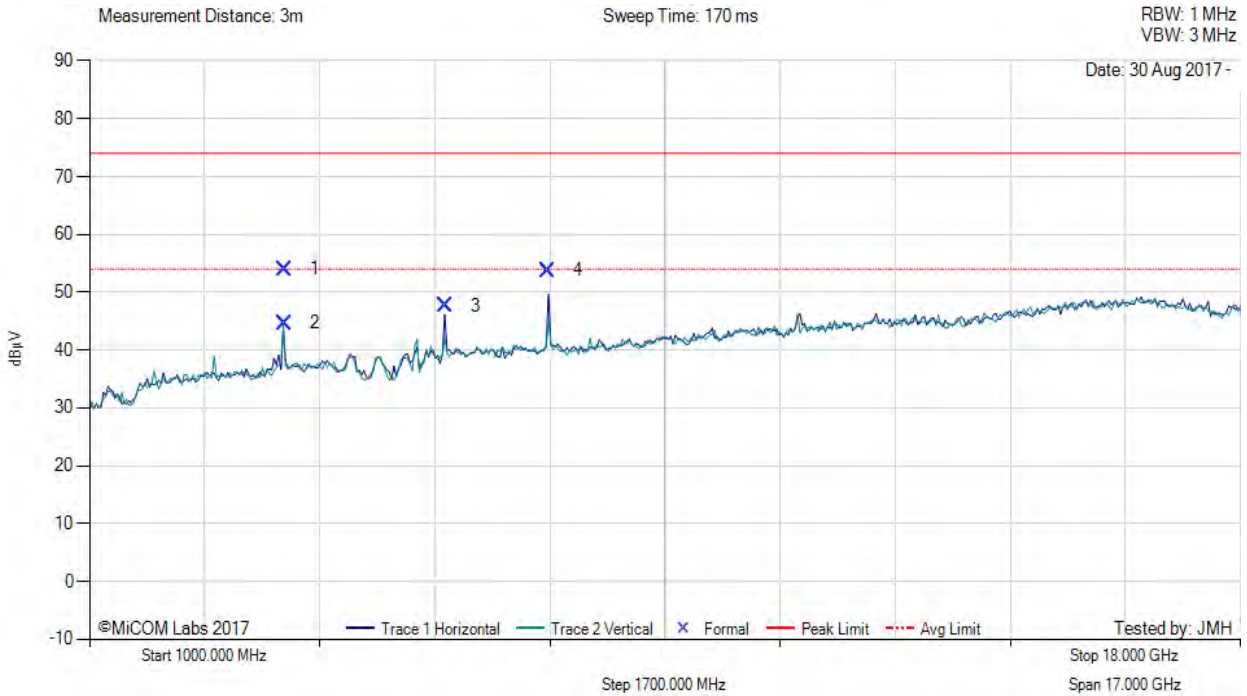


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
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**TX SPURIOUS & RESTRICTED BAND EMISSIONS**

Variant: 802.11a, Test Freq: 5825.00 MHz, Antenna: 3, Power Setting: 3, Duty Cycle (%): 99



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	3883.31	61.47	3.25	-10.76	53.96	Max Peak	Vertical	159	5	74.0	-20.0	Pass
2	3883.31	52.15	3.25	-10.76	44.64	Max Avg	Vertical	159	5	54.0	-9.4	Pass
3	6250.07	52.26	3.93	-8.56	47.63	Peak (NRB)	Horizontal	200	0	--	--	Pass
4	7766.70	56.05	4.43	-6.71	53.77	Peak (NRB)	Horizontal	200	0	--	--	Pass

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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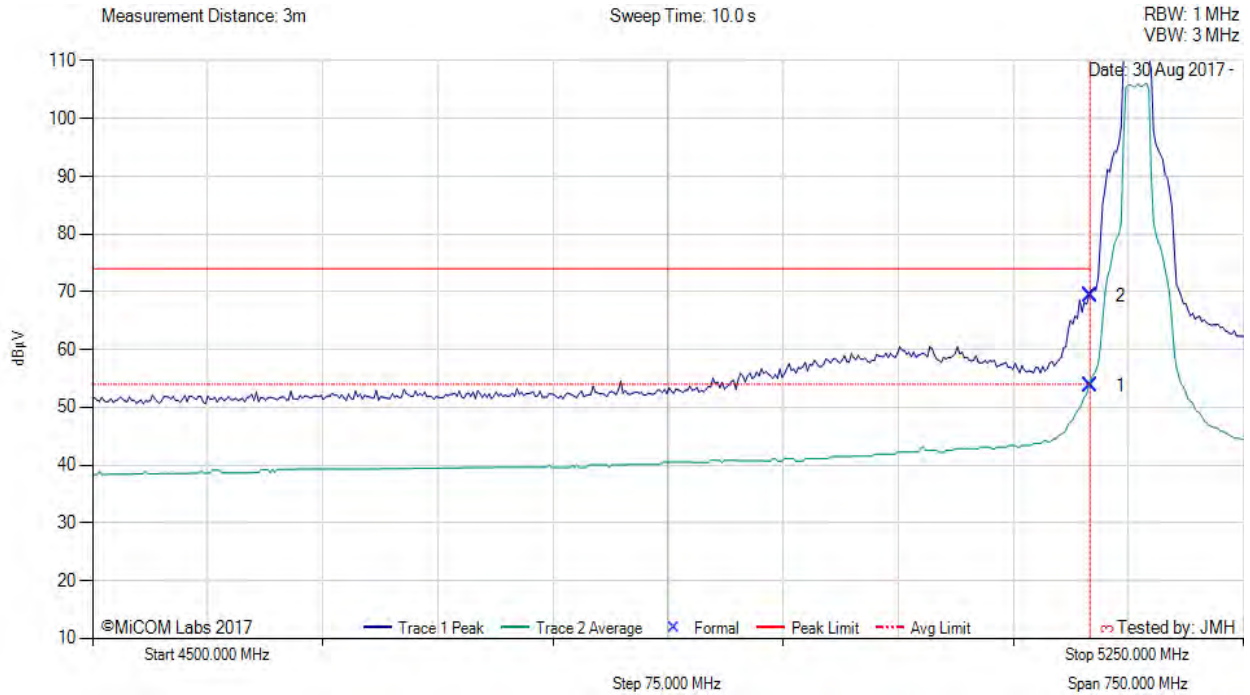
**A.1.2. Restricted Edge & Band-Edge Emissions**

**A.1.2.4. MikroTik Dual Polarity**



**RESTRICTED LOWER BAND-EDGE EMISSIONS**

Variant: 802.11a, Test Freq: 5180.00 MHz, Antenna: , Power Setting: 23, Duty Cycle (%): 99



4500.00 - 5250.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5150.00	15.95	3.67	34.11	53.73	Max Avg	Vertical	150	2	54.0	-0.3	Pass
2	5150.00	31.57	3.67	34.11	69.35	Max Peak	Vertical	150	2	74.0	-4.7	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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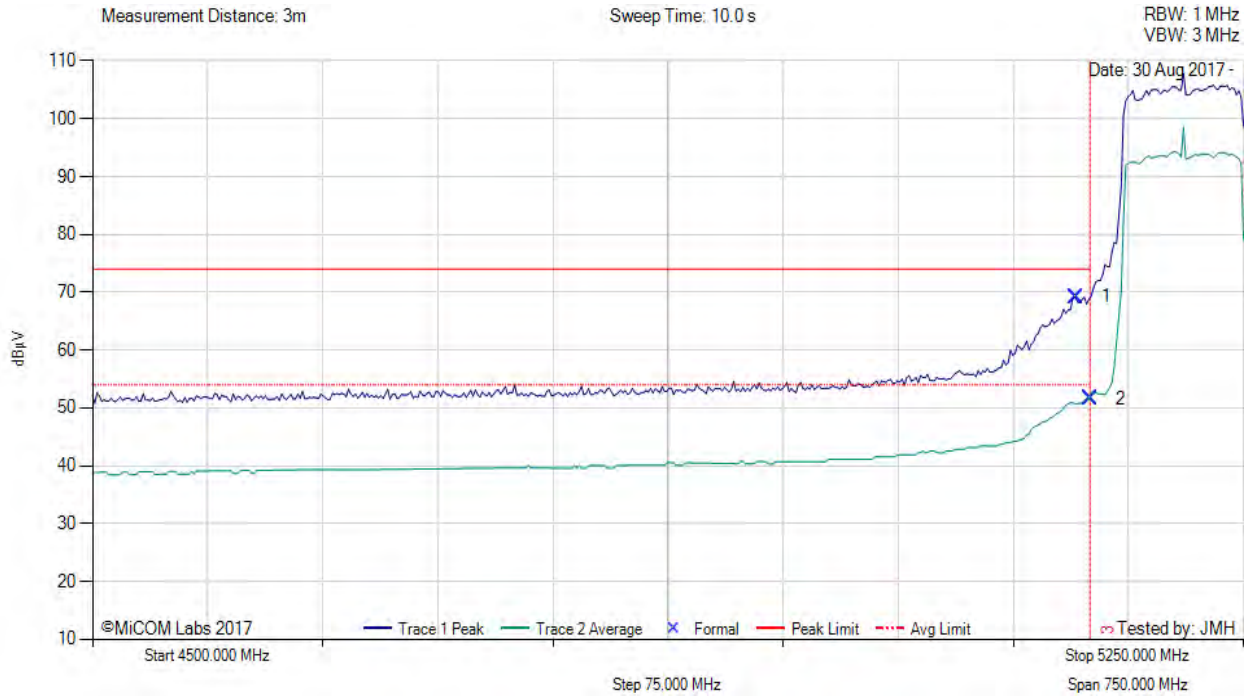


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
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RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11ac-80, Test Freq: 5210.00 MHz, Antenna: , Power Setting: 18, Duty Cycle (%): 99



4500.00 - 5250.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5140.98	31.38	3.70	34.12	69.20	Max Peak	Vertical	150	2	74.0	-4.8	Pass
2	5150.00	13.75	3.67	34.11	51.53	Max Avg	Vertical	150	2	54.0	-2.5	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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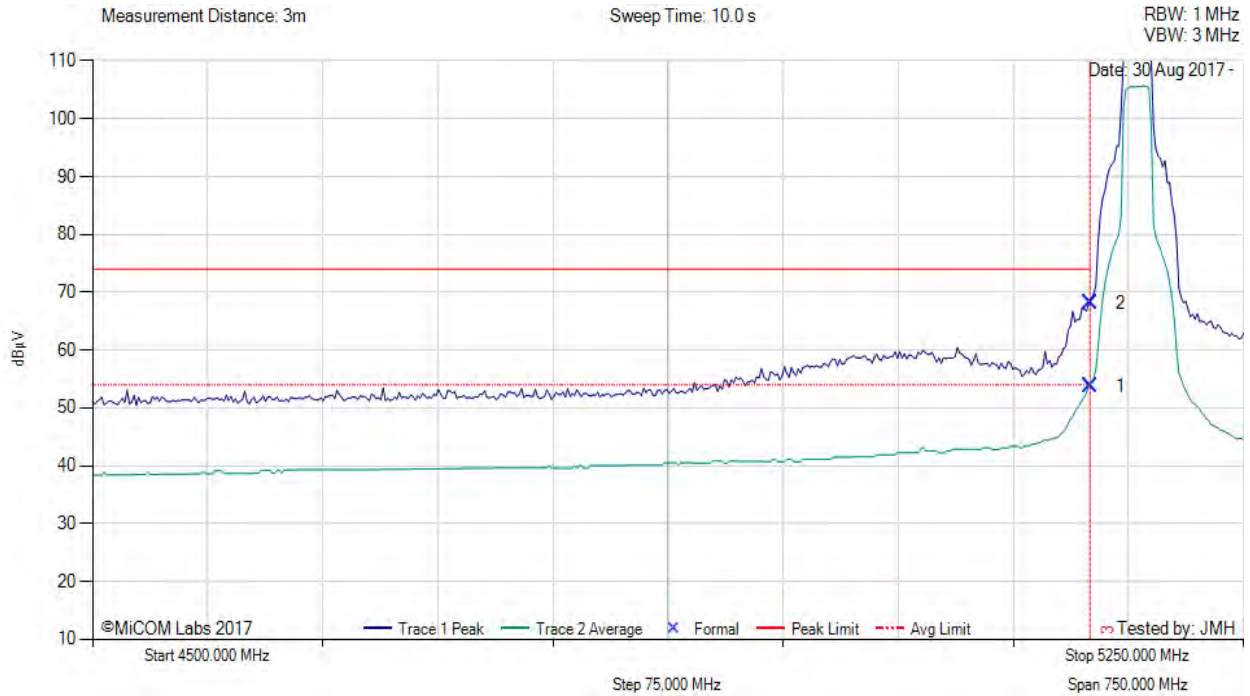


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
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RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 5180.00 MHz, Antenna: , Power Setting: 23, Duty Cycle (%): 99



4500.00 - 5250.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5150.00	15.95	3.67	34.11	53.73	Max Avg	Vertical	150	2	54.0	-0.3	Pass
2	5150.00	30.38	3.67	34.11	68.16	Max Peak	Vertical	150	2	74.0	-5.8	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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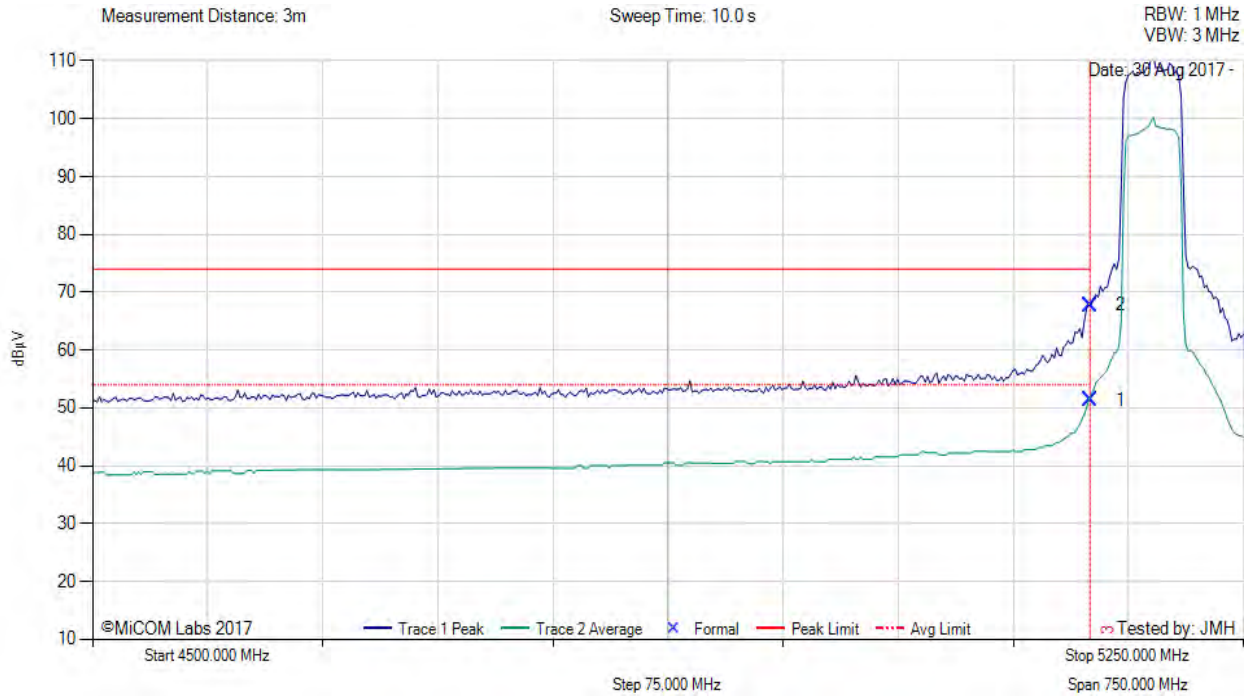


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
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RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 5190.00 MHz, Antenna: , Power Setting: 19, Duty Cycle (%): 99



4500.00 - 5250.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5150.00	13.63	3.67	34.11	51.41	Max Avg	Vertical	150	2	54.0	-2.6	Pass
2	5150.00	29.98	3.67	34.11	67.76	Max Peak	Vertical	150	2	74.0	-6.2	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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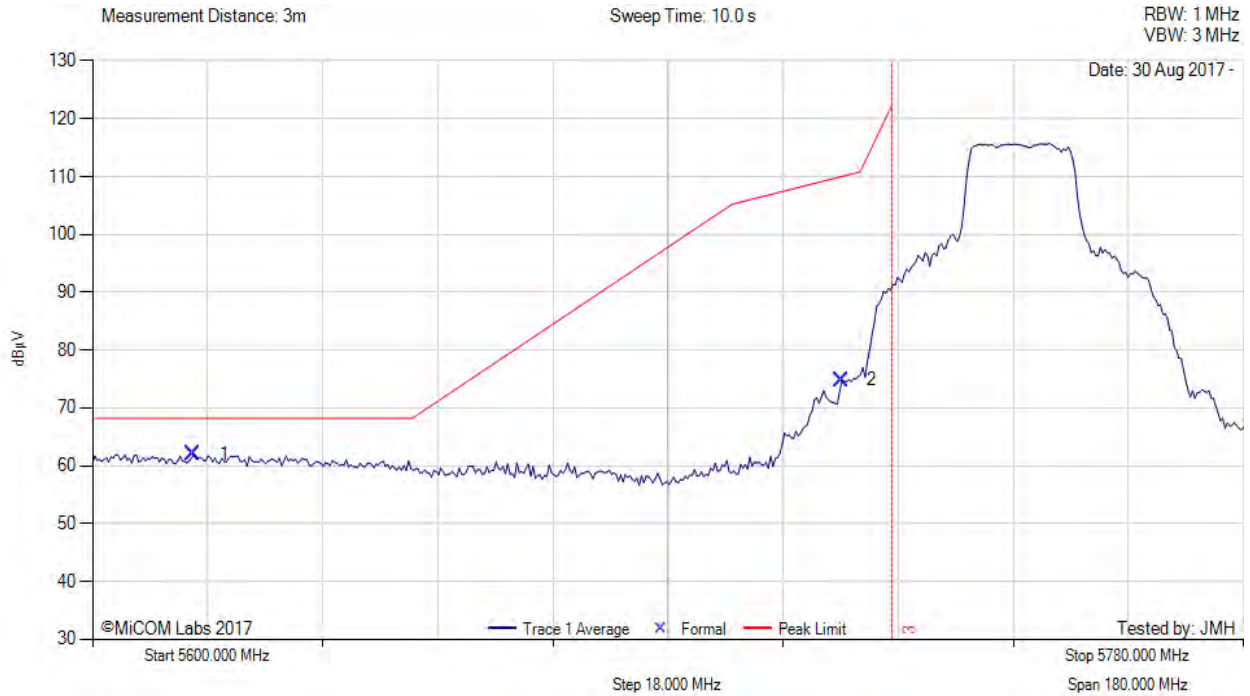


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
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5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: , Power Setting: 23, Duty Cycle (%): 99



5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5615.80	24.06	3.78	34.22	62.06	Max Peak	Vertical	149	4	68.2	-6.2	Pass
2	5717.06	36.64	3.81	34.34	74.79	Max Peak	Vertical	149	4	110.0	-35.2	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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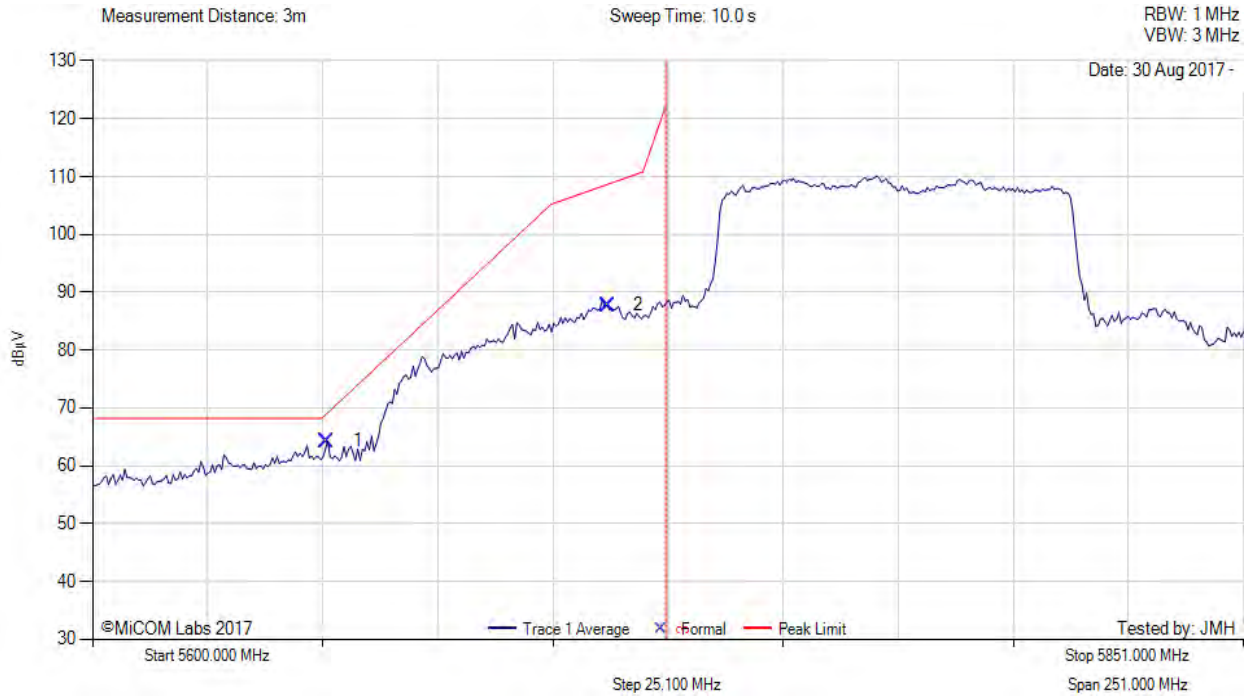


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
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5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11ac-80, Test Freq: 5775.00 MHz, Antenna: , Power Setting: 22, Duty Cycle (%): 99



5600.00 - 5851.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5651.12	26.33	3.76	34.18	64.27	Max Peak	Vertical	149	4	68.9	-4.7	Pass
2	5712.37	49.59	3.83	34.34	87.76	Max Peak	Vertical	149	4	108.6	-20.8	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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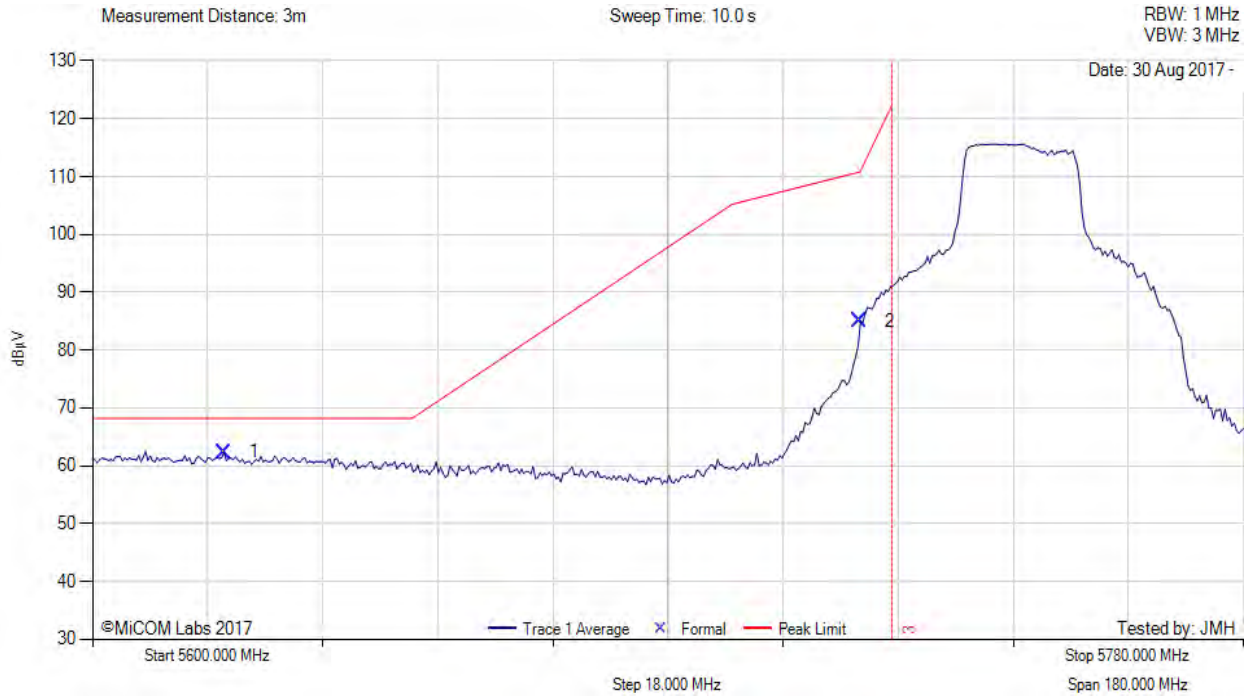


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
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5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 5745.00 MHz, Antenna: , Power Setting: 23, Duty Cycle (%): 99



5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5620.56	24.38	3.77	34.21	62.36	Max Peak	Vertical	149	4	68.2	-5.9	Pass
2	5719.95	46.82	3.80	34.35	84.97	Max Peak	Vertical	149	4	110.0	-25.0	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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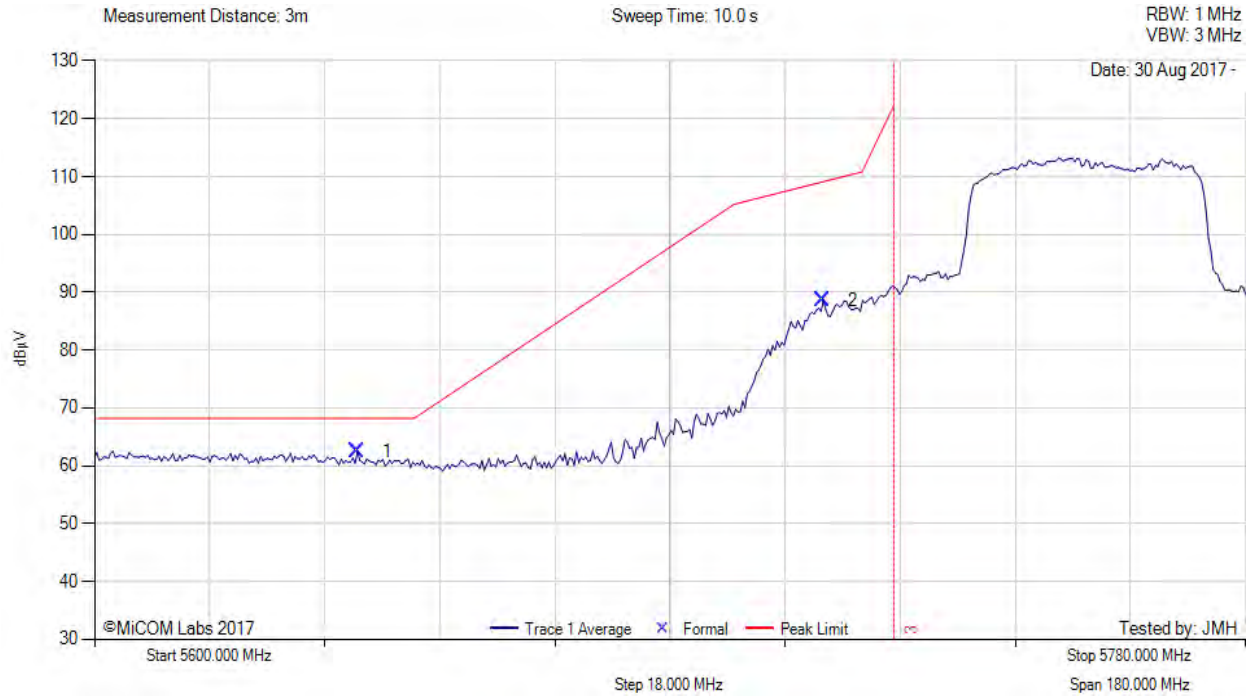


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
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5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 5755.00 MHz, Antenna: , Power Setting: 23, Duty Cycle (%): 99



5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5641.05	24.56	3.76	34.19	62.51	Max Peak	Vertical	149	4	68.2	-5.7	Pass
2	5713.82	50.45	3.82	34.34	88.61	Max Peak	Vertical	149	4	109.1	-20.5	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

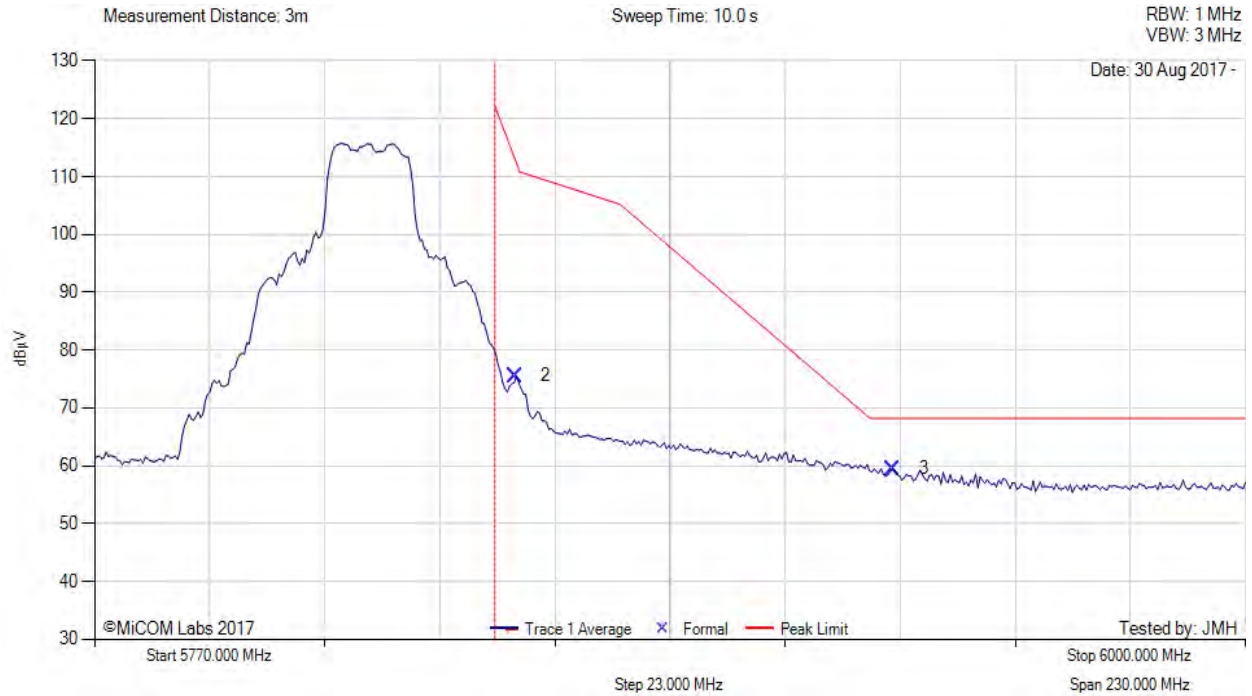
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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11a, Test Freq: 5825.00 MHz, Antenna: , Power Setting: 23, Duty Cycle (%): 99



5770.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
2	5854.15	37.12	3.83	34.64	75.59	Max Peak	Vertical	149	4	111.3	-35.7	Pass
3	5929.60	20.81	3.84	34.83	59.48	Max Peak	Vertical	149	4	68.2	-8.8	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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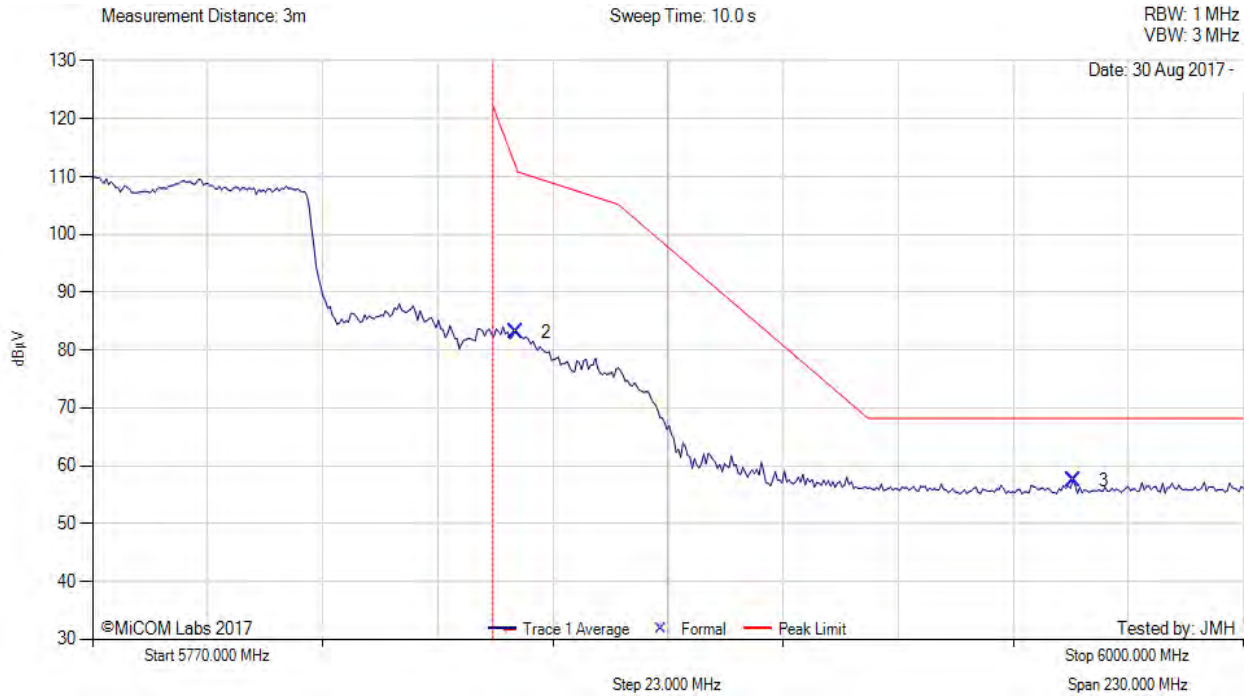


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11ac-80, Test Freq: 5775.00 MHz, Antenna: , Power Setting: 22, Duty Cycle (%): 99



5770.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
2	5854.61	44.67	3.83	34.64	83.14	Max Avg	Vertical	149	4	111.2	-28.1	Pass
3	5966.01	18.69	3.84	34.90	57.43	Max Avg	Vertical	149	4	68.9	-11.5	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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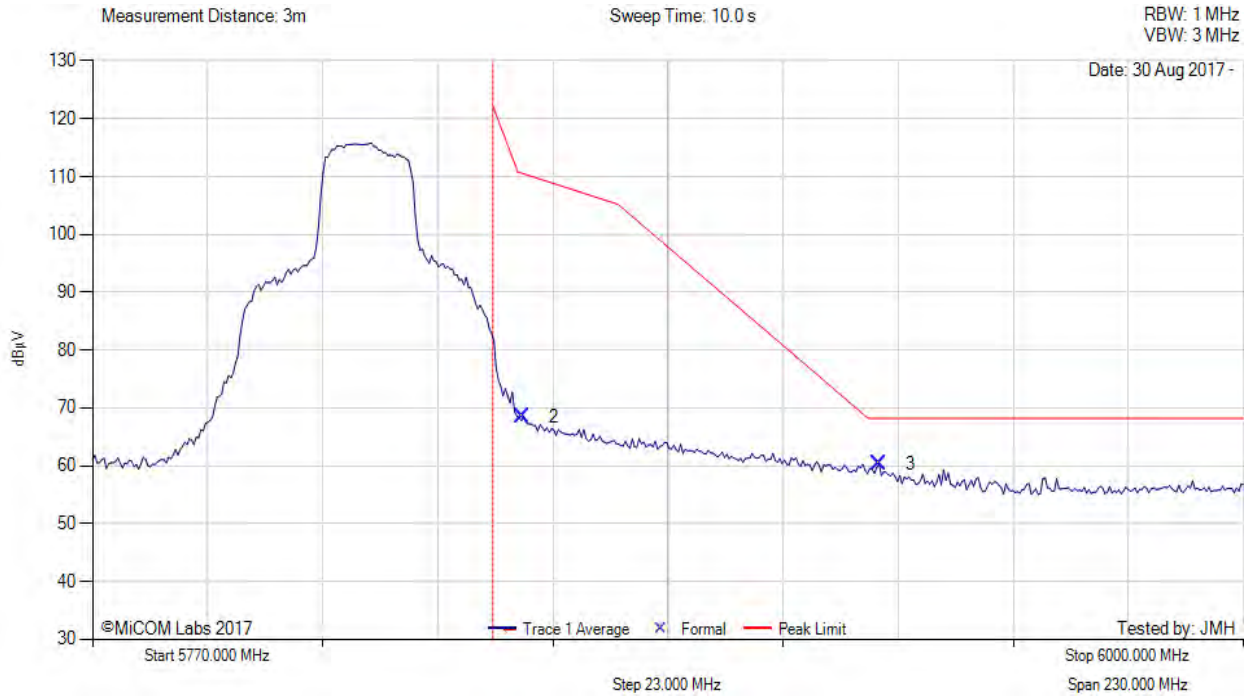


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 5825.00 MHz, Antenna: , Power Setting: 23, Duty Cycle (%): 99



5770.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
2	5855.99	30.02	3.84	34.64	68.50	Max Avg	Vertical	149	4	109.9	-41.4	Pass
3	5927.29	21.63	3.83	34.83	60.29	Max Avg	Vertical	149	4	68.2	-7.9	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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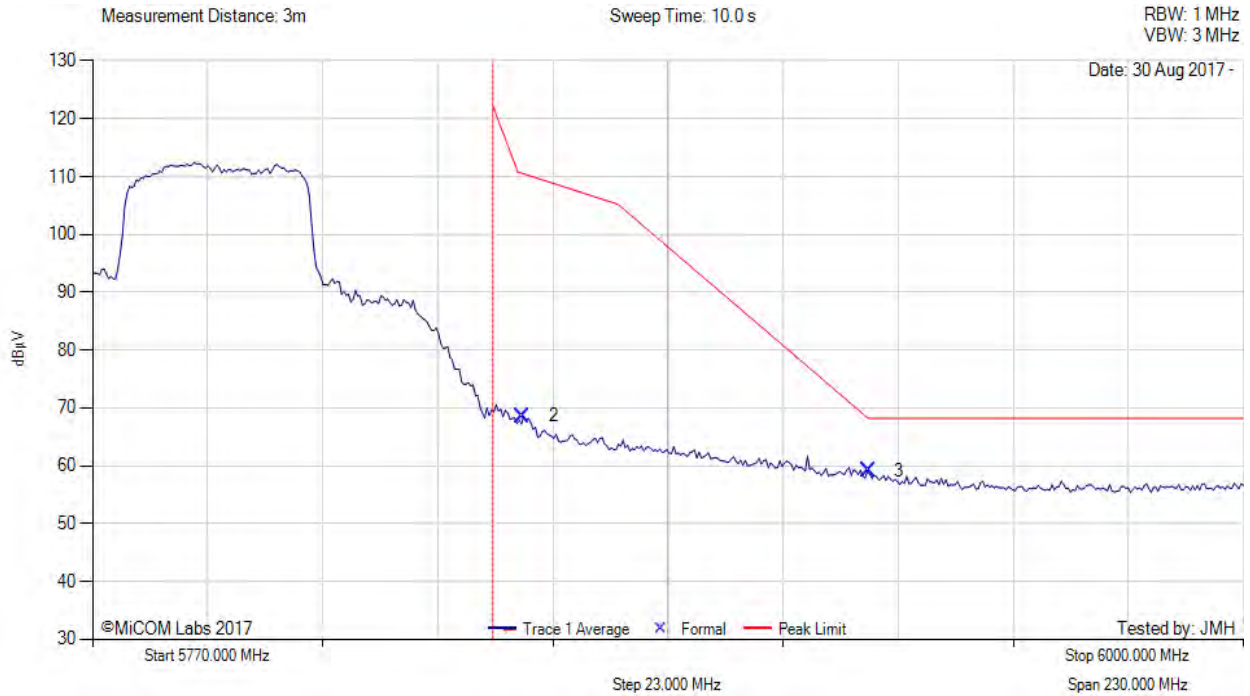


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 5795.00 MHz, Antenna: , Power Setting: 23, Duty Cycle (%): 99



5770.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
2	5855.99	30.08	3.84	34.64	68.56	Max Avg	Vertical	149	4	109.9	-41.3	Pass
3	5924.99	20.44	3.84	34.82	59.10	Max Avg	Vertical	149	4	68.2	-9.1	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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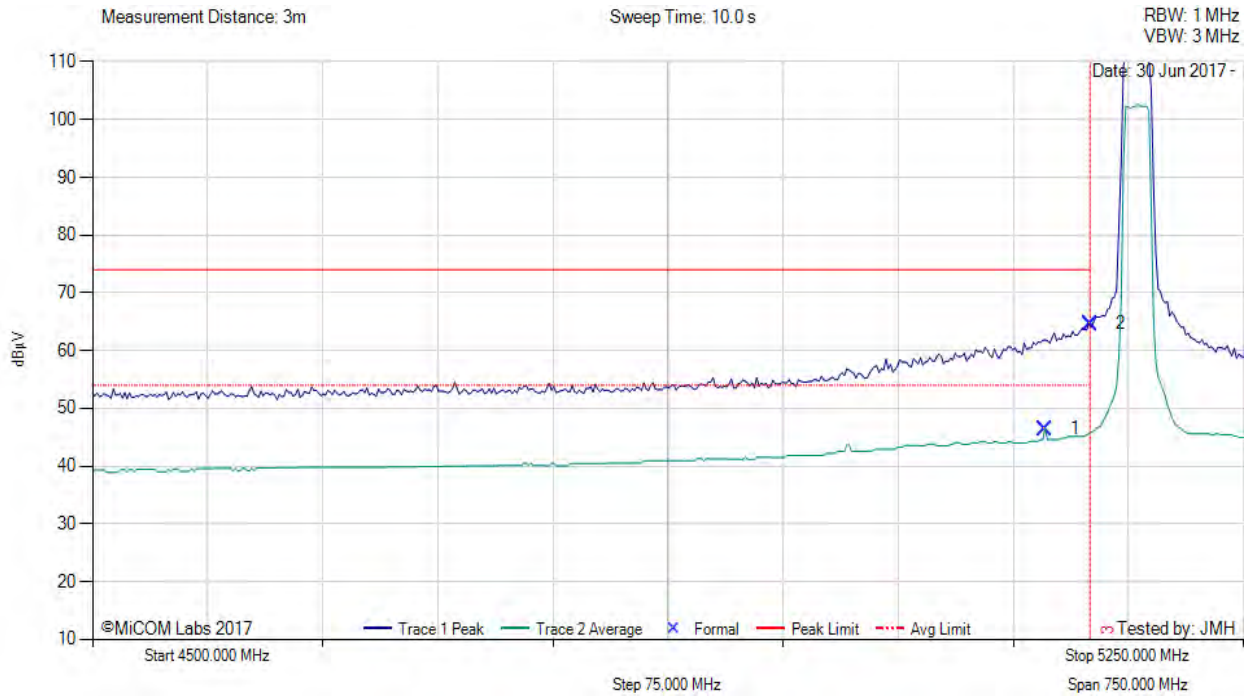
**Title:** MikroTik RBLHGG-5aCD Wireless Module  
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### A.1.2.5. MikroTik 16



#### RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11a, Test Freq: 5180.00 MHz, Antenna: 1, Power Setting: 15, Duty Cycle (%): 99



4500.00 - 5250.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5120.74	8.71	3.64	34.12	46.47	Max Avg	Horizontal	200	0	54.0	-7.5	Pass
2	5150.00	26.91	3.67	34.11	64.69	Max Peak	Horizontal	200	0	74.0	-9.3	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber

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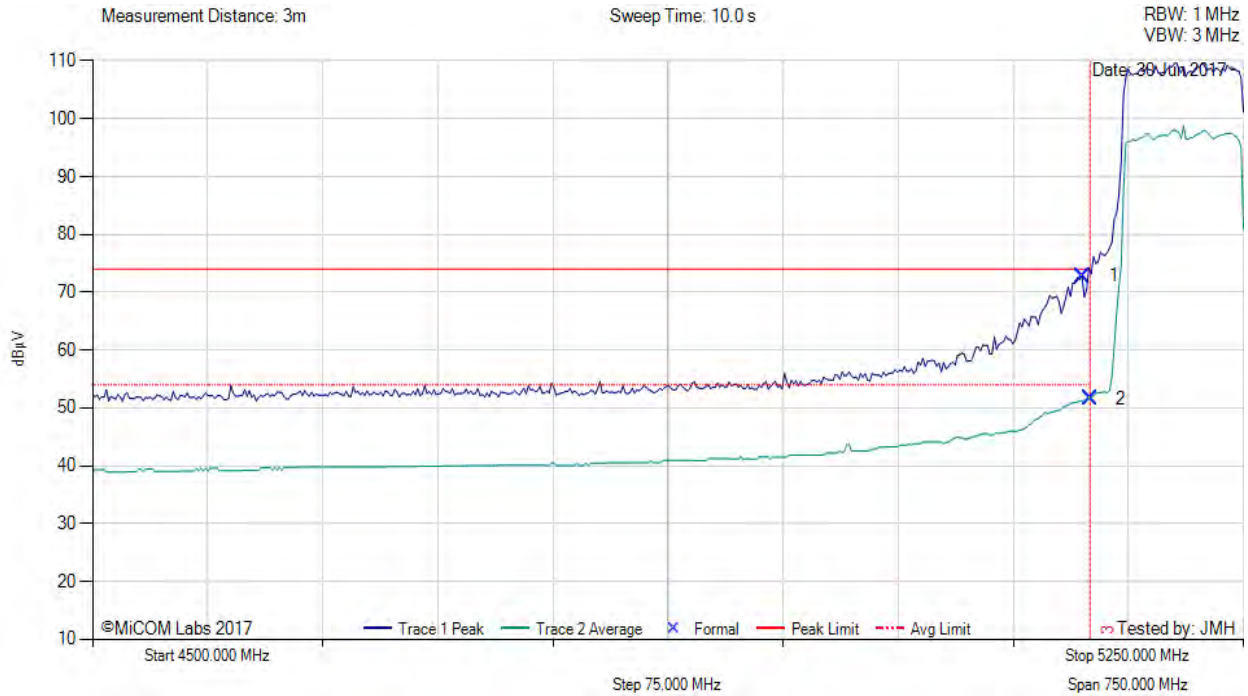


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
**Issue Date:** 23<sup>rd</sup> October 2017  
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RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11ac-80, Test Freq: 5210.00 MHz, Antenna: 1, Power Setting: 15, Duty Cycle (%): 99



4500.00 - 5250.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5145.49	34.97	3.69	34.11	72.77	Max Peak	Horizontal	200	0	74.0	-1.2	Pass
2	5150.00	13.87	3.67	34.11	51.65	Max Avg	Horizontal	200	0	54.0	-2.4	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber

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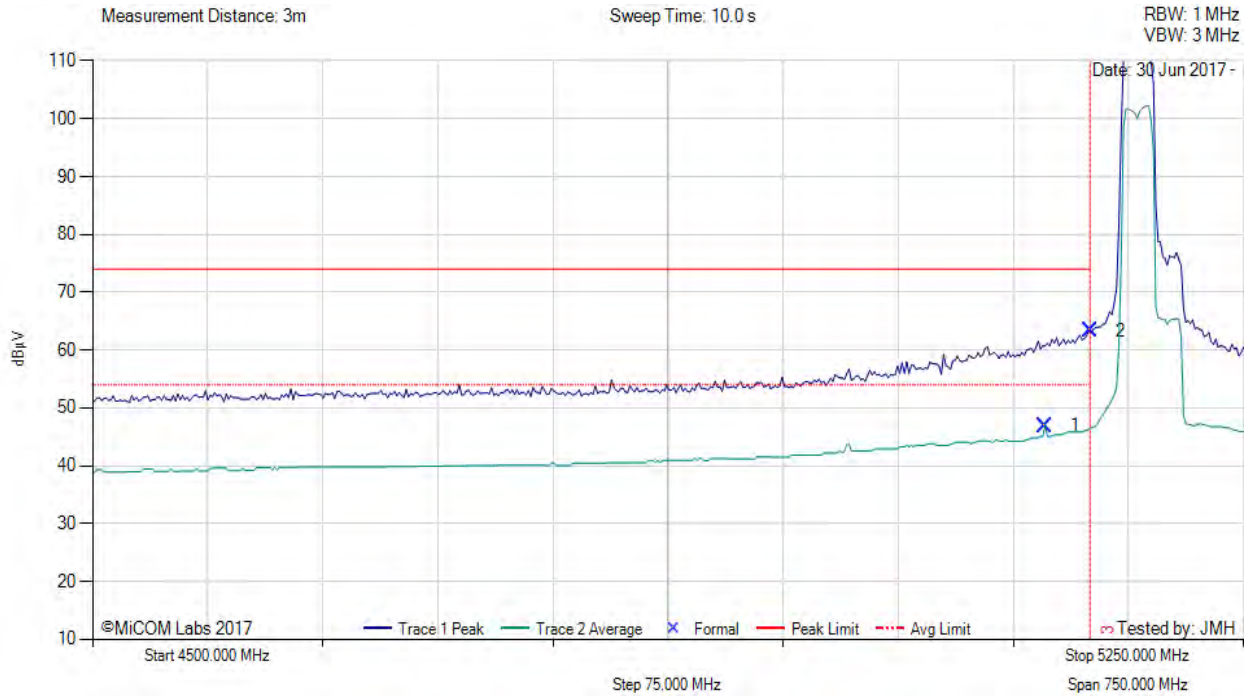


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
**Issue Date:** 23<sup>rd</sup> October 2017  
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RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 5180.00 MHz, Antenna: 1, Power Setting: 15, Duty Cycle (%): 99



4500.00 - 5250.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5120.74	9.13	3.64	34.12	46.89	Max Avg	Horizontal	200	0	54.0	-7.1	Pass
2	5150.00	25.61	3.67	34.11	63.39	Max Peak	Horizontal	200	0	74.0	-10.6	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber

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**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
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RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 5190.00 MHz, Antenna: 1, Power Setting: 15, Duty Cycle (%): 99



4500.00 - 5250.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5120.74	8.92	3.64	34.12	46.68	Max Avg	Horizontal	200	0	54.0	-7.3	Pass
2	5146.99	25.81	3.68	34.11	63.60	Max Peak	Horizontal	200	0	74.0	-10.4	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber

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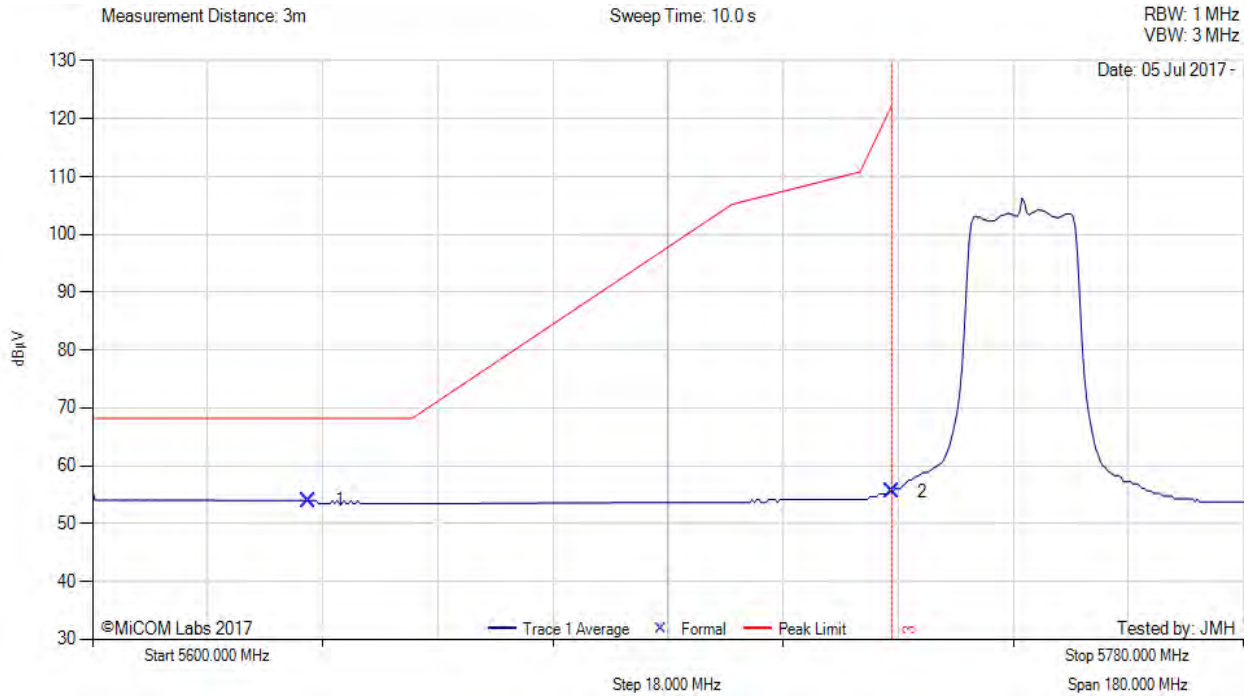


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
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5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: 1, Power Setting: 18, Duty Cycle (%): 99



5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5633.84	16.03	3.77	34.20	54.00	Max Avg	Horizontal	197	2	68.2	-14.2	Pass
2	5725.00	17.47	3.79	34.35	55.61	Max Avg	Horizontal	197	2	122.2	-66.6	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber

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This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

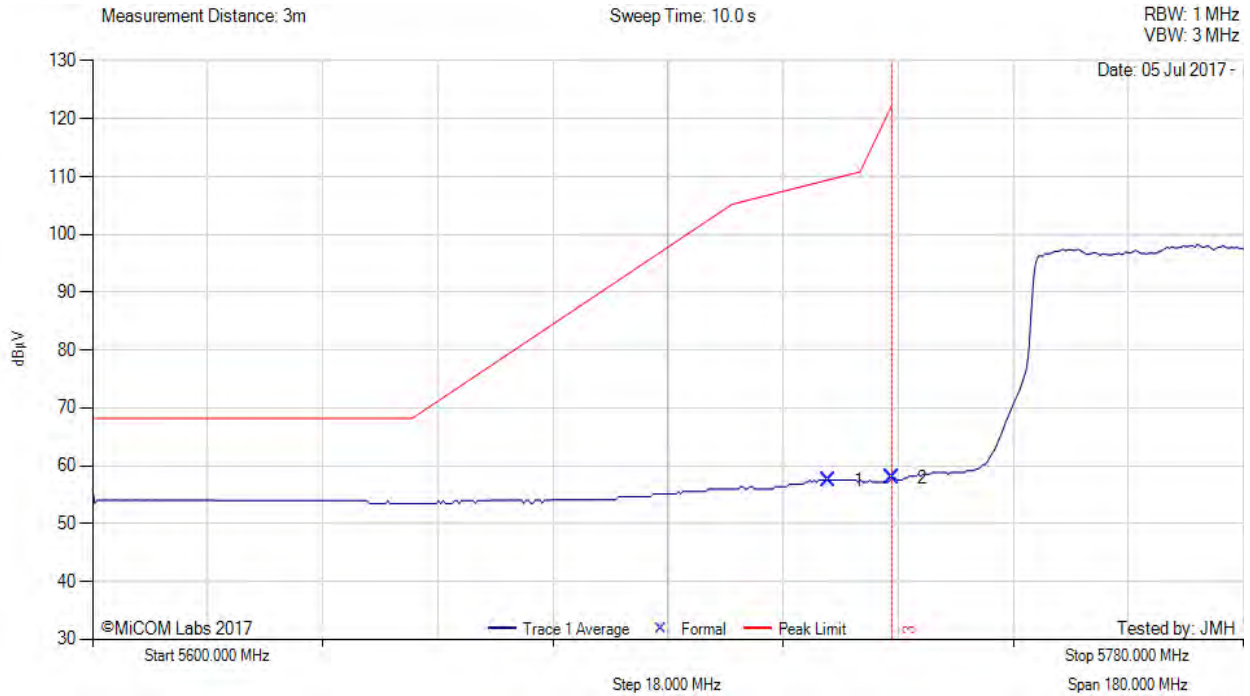


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
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5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11ac-80, Test Freq: 5775.00 MHz, Antenna: 1, Power Setting: 18, Duty Cycle (%): 99



5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5715.00	19.38	3.81	34.34	57.53	Max Avg	Horizontal	197	2	109.4	-51.9	Pass
2	5725.00	19.75	3.79	34.35	57.89	Max Avg	Horizontal	197	2	122.2	-64.3	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber

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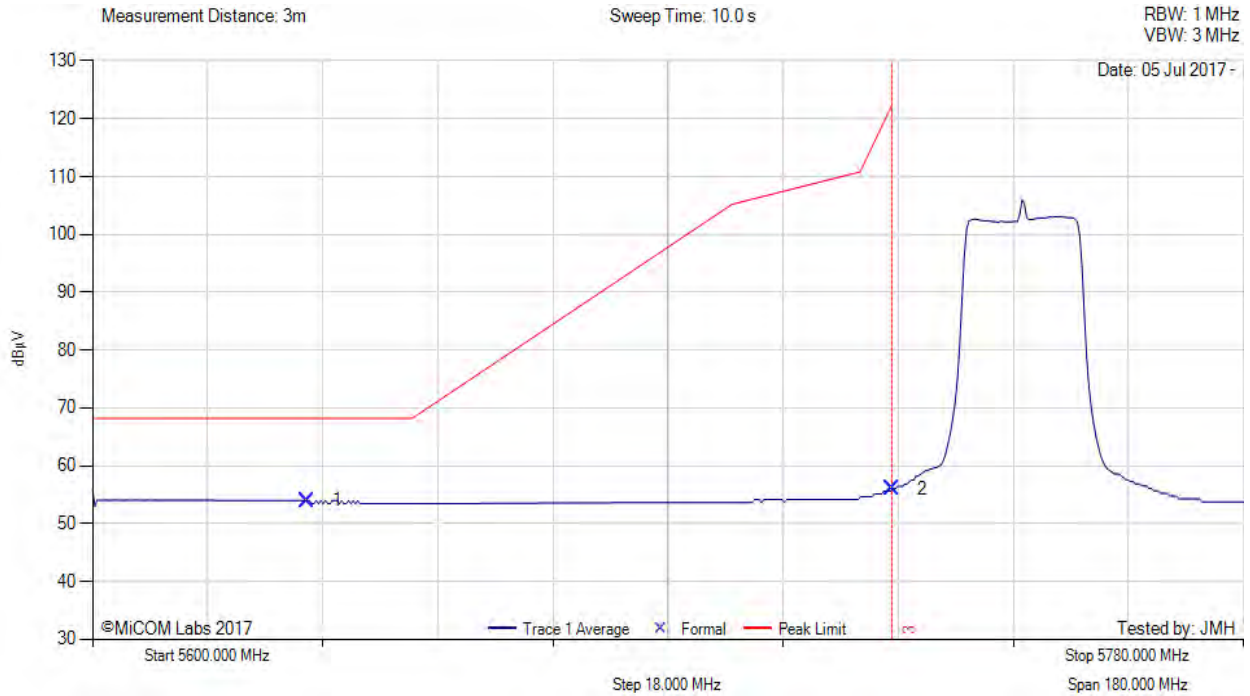


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
**Issue Date:** 23<sup>rd</sup> October 2017  
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5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 5745.00 MHz, Antenna: 1, Power Setting: 18, Duty Cycle (%): 99



5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5633.55	16.03	3.77	34.20	54.00	Max Avg	Horizontal	197	2	68.2	-14.2	Pass
2	5725.00	17.89	3.79	34.35	56.03	Max Avg	Horizontal	197	2	122.2	-66.2	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber

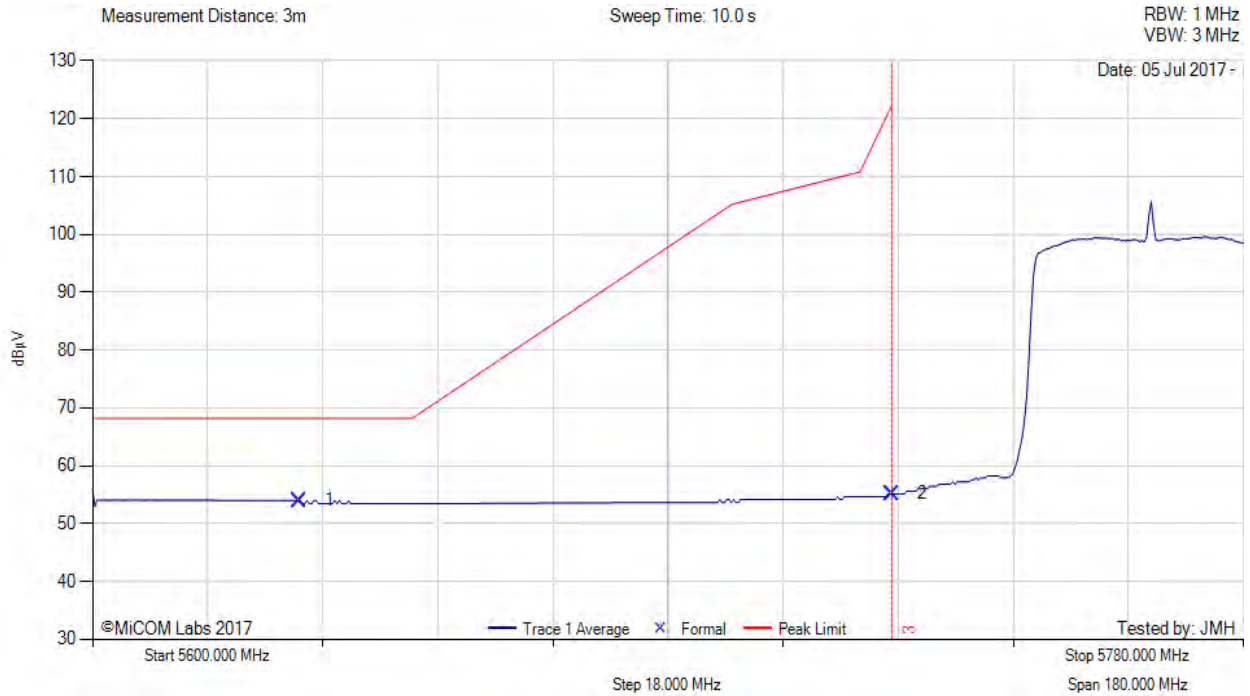
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5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 5755.00 MHz, Antenna: 1, Power Setting: 18, Duty Cycle (%): 99



5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5632.39	16.04	3.77	34.20	54.01	Max Avg	Horizontal	197	2	68.2	-14.2	Pass
2	5725.00	17.02	3.79	34.35	55.16	Max Avg	Horizontal	197	2	122.2	-67.0	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber

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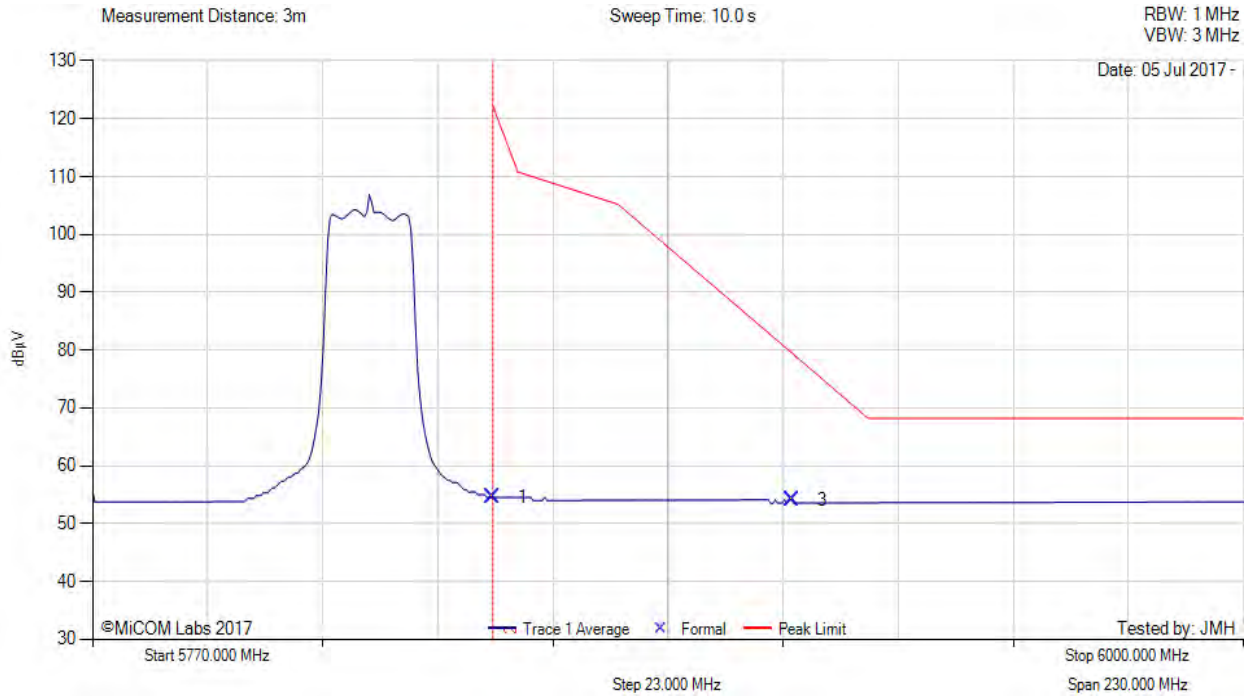


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
**Issue Date:** 23<sup>rd</sup> October 2017  
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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11a, Test Freq: 5825.00 MHz, Antenna: 1, Power Setting: 18, Duty Cycle (%): 99



5770.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5850.00	16.08	3.81	34.63	54.52	Max Avg	Horizontal	197	2	122.2	-67.7	Pass
3	5909.78	15.51	3.83	34.79	54.13	Max Avg	Horizontal	197	2	79.3	-25.2	Pass
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber

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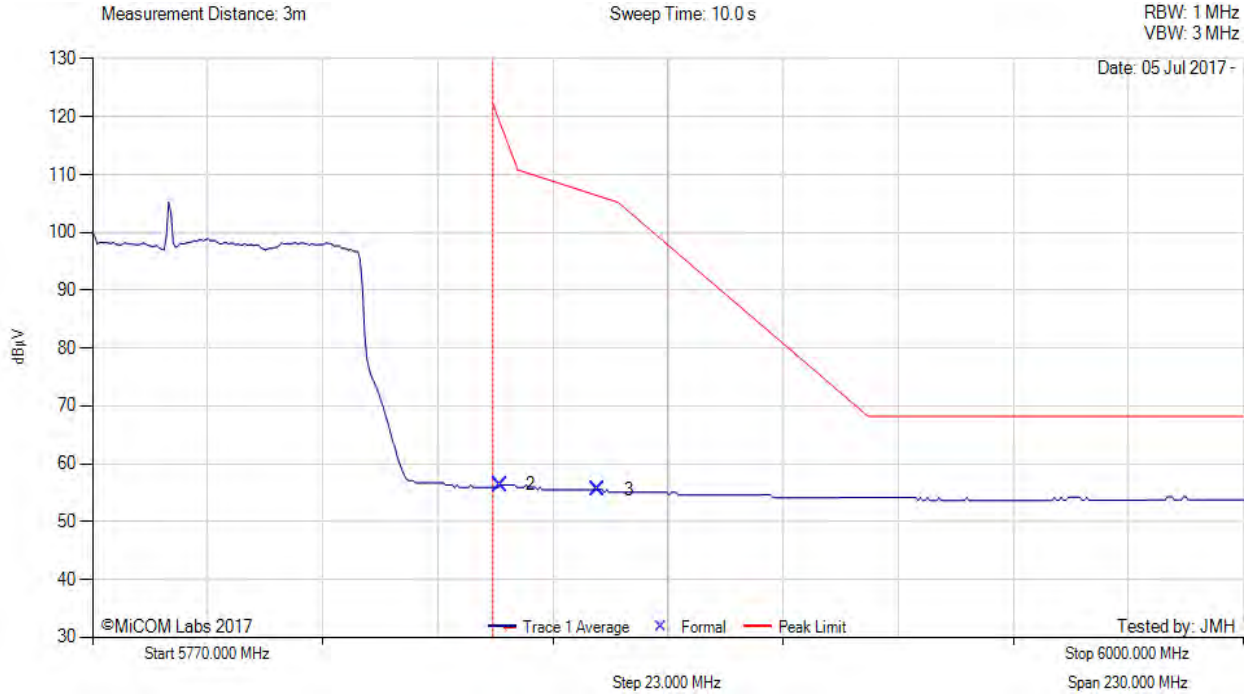


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
**Issue Date:** 23<sup>rd</sup> October 2017  
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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11ac-80, Test Freq: 5775.00 MHz, Antenna: 1, Power Setting: 18, Duty Cycle (%): 99



5770.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
2	5851.38	17.92	3.81	34.63	56.36	Max Avg	Horizontal	197	2	119.9	-63.6	Pass
3	5871.06	17.04	3.81	34.68	55.53	Max Avg	Horizontal	197	2	106.3	-50.8	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber

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This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

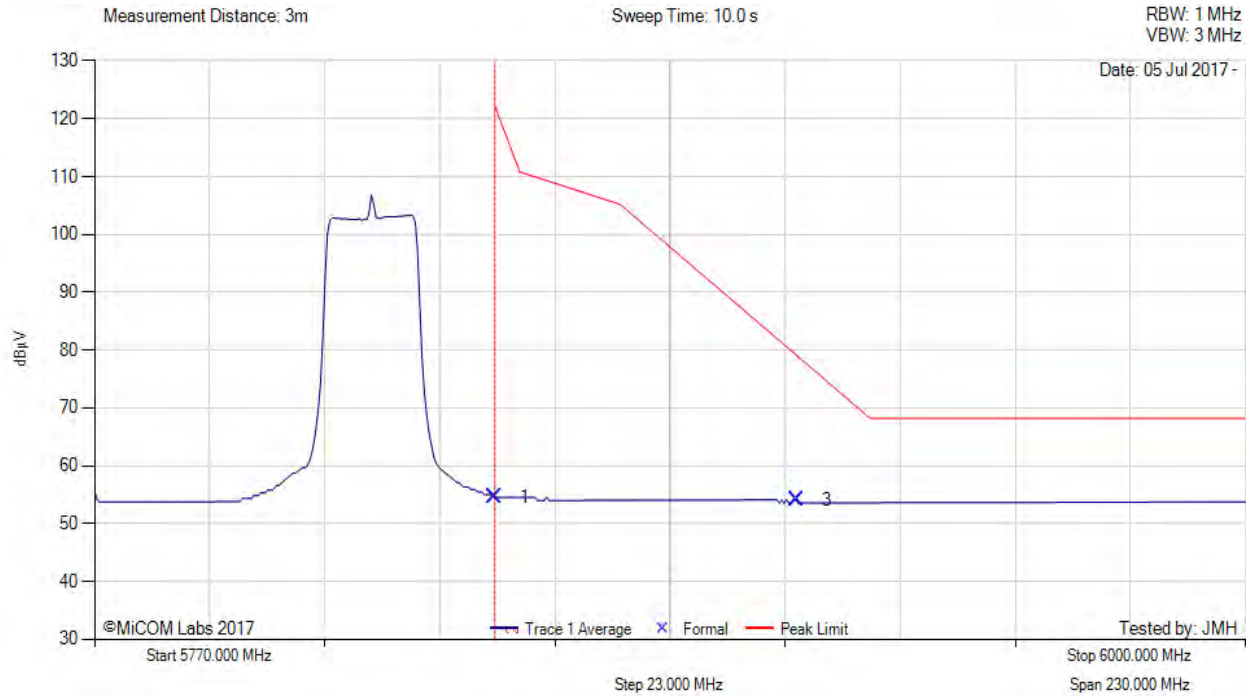


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 5825.00 MHz, Antenna: 1, Power Setting: 18, Duty Cycle (%): 99



5770.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5850.00	16.08	3.81	34.63	54.52	Max Avg	Horizontal	197	2	122.2	-67.7	Pass
3	5910.24	15.51	3.83	34.79	54.13	Max Avg	Horizontal	197	2	79.3	-25.2	Pass
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber

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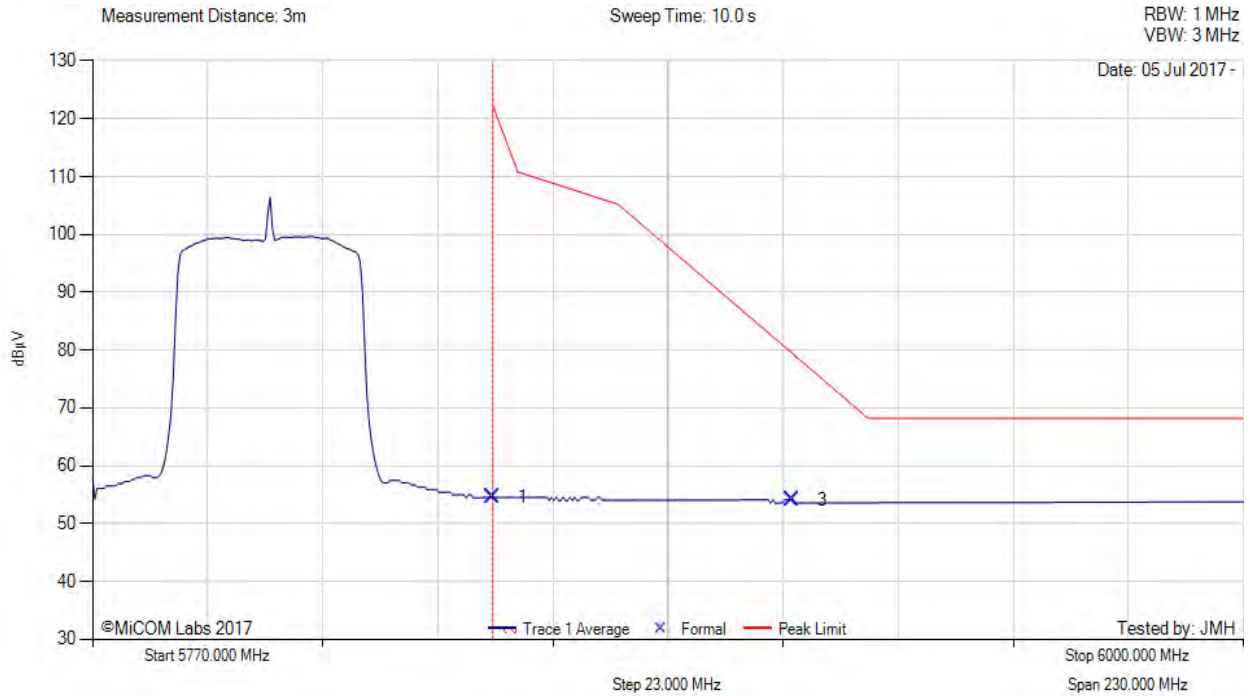
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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 5795.00 MHz, Antenna: 1, Power Setting: 18, Duty Cycle (%): 99



5770.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5850.00	16.08	3.81	34.63	54.52	Max Avg	Horizontal	197	2	122.2	-67.7	Pass
3	5909.78	15.51	3.83	34.79	54.13	Max Avg	Horizontal	197	2	79.3	-25.2	Pass
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber

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**RESTRICTED LOWER BAND-EDGE EMISSIONS**

Variant: 802.11a, Test Freq: 5180.00 MHz, Antenna: 3, Power Setting: 3, Duty Cycle (%): 99



4500.00 - 5250.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5137.27	7.80	3.69	34.12	45.61	Max Avg	Vertical	187	4	54.0	-8.4	Pass
2	5147.80	24.36	3.68	34.11	62.15	Max Peak	Vertical	187	4	74.0	-11.9	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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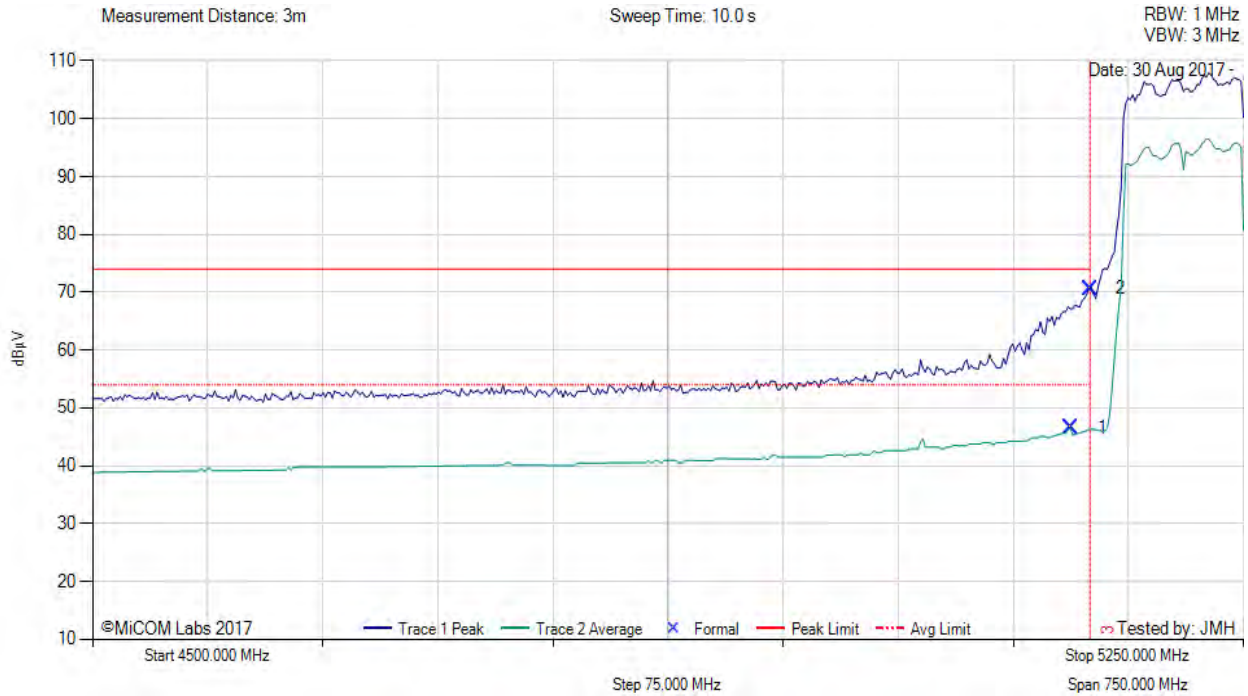


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
**Issue Date:** 23<sup>rd</sup> October 2017  
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RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11ac-80, Test Freq: 5210.00 MHz, Antenna: 3, Power Setting: 2, Duty Cycle (%): 99



4500.00 - 5250.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5137.98	8.68	3.70	34.12	46.50	Max Avg	Vertical	187	4	54.0	-7.5	Pass
2	5150.00	32.89	3.67	34.11	70.67	Max Peak	Vertical	187	4	74.0	-3.3	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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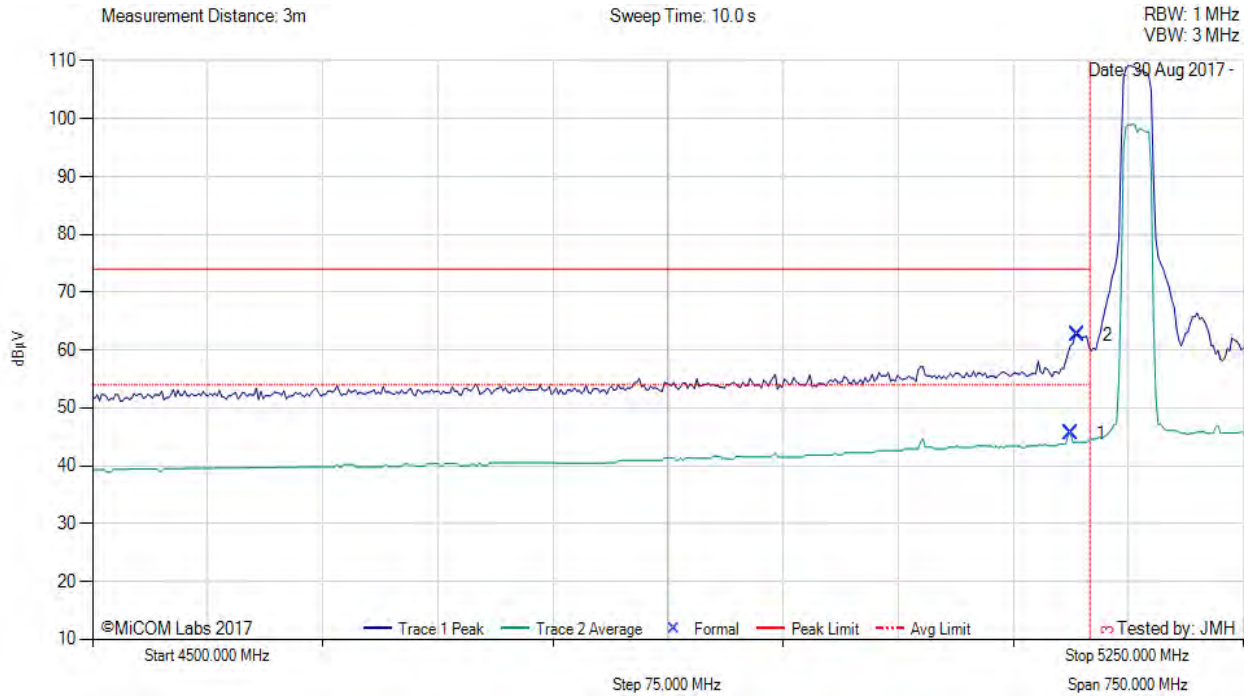


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
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RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 5180.00 MHz, Antenna: 3, Power Setting: 3, Duty Cycle (%): 99



4500.00 - 5250.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5137.27	7.80	3.69	34.12	45.61	Max Avg	Vertical	187	4	54.0	-8.4	Pass
2	5141.78	24.83	3.70	34.12	62.65	Max Peak	Vertical	187	4	74.0	-11.4	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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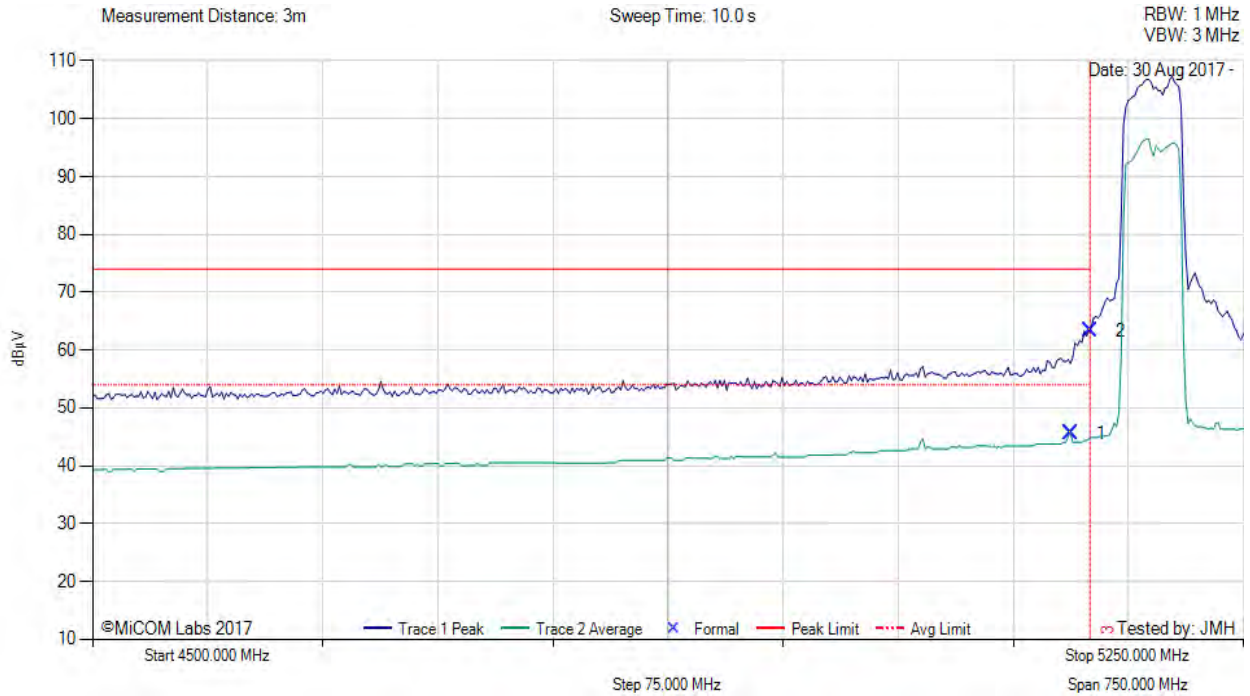


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
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RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 5190.00 MHz, Antenna: 3, Power Setting: 3, Duty Cycle (%): 99



4500.00 - 5250.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5137.27	7.80	3.69	34.12	45.61	Max Avg	Vertical	187	4	54.0	-8.4	Pass
2	5150.00	25.52	3.67	34.11	63.30	Max Peak	Vertical	187	4	74.0	-10.7	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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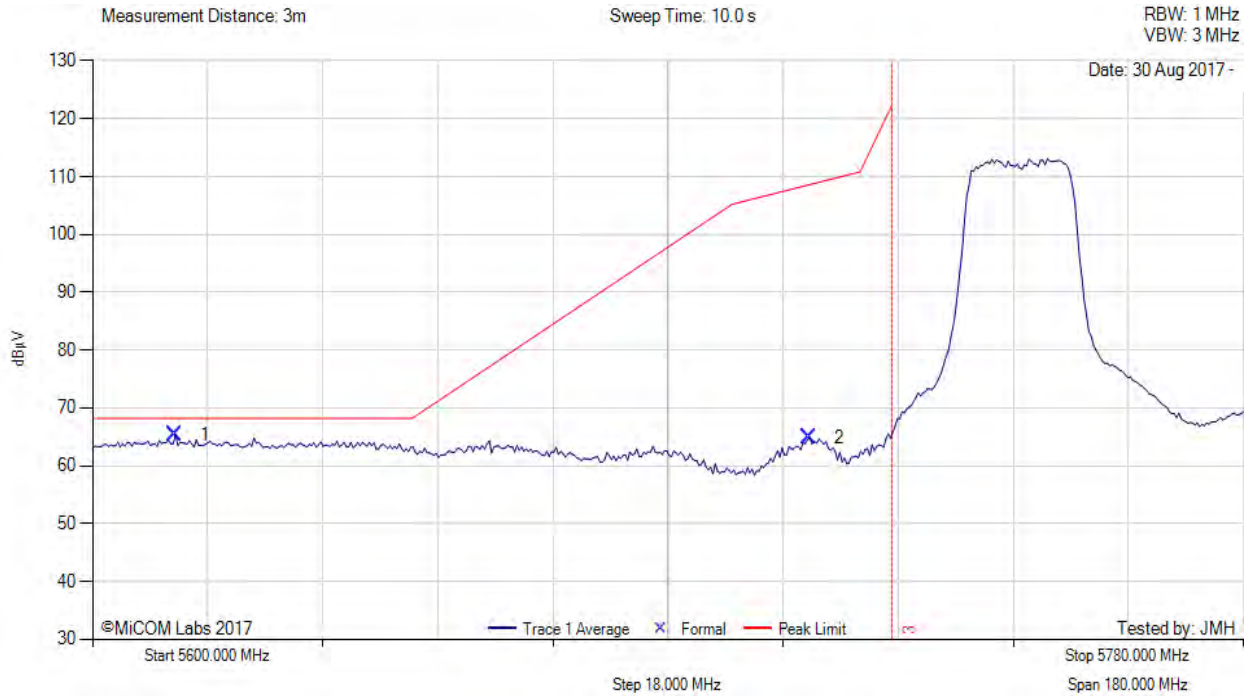


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
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5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: 3, Power Setting: 3, Duty Cycle (%): 99



5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5612.92	27.42	3.78	34.22	65.42	Max Peak	Horizontal	188	5	68.2	-2.8	Pass
2	5712.01	26.66	3.83	34.34	64.83	Max Peak	Horizontal	188	5	108.6	-43.7	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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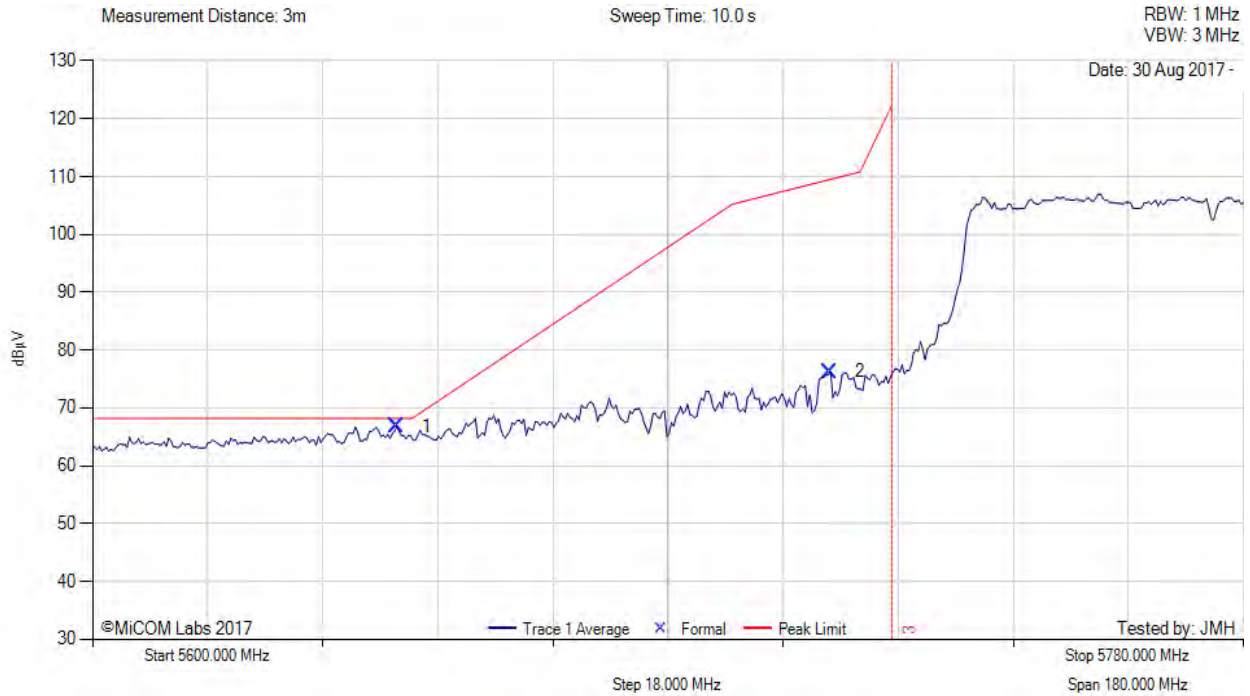


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
**Issue Date:** 23<sup>rd</sup> October 2017  
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5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11ac-80, Test Freq: 5775.00 MHz, Antenna: 3, Power Setting: 2, Duty Cycle (%): 99



5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5647.55	28.88	3.75	34.18	66.81	Max Peak	Horizontal	188	5	68.2	-1.4	Pass
2	5715.26	38.15	3.81	34.34	76.30	Max Peak	Horizontal	188	5	109.4	-33.1	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

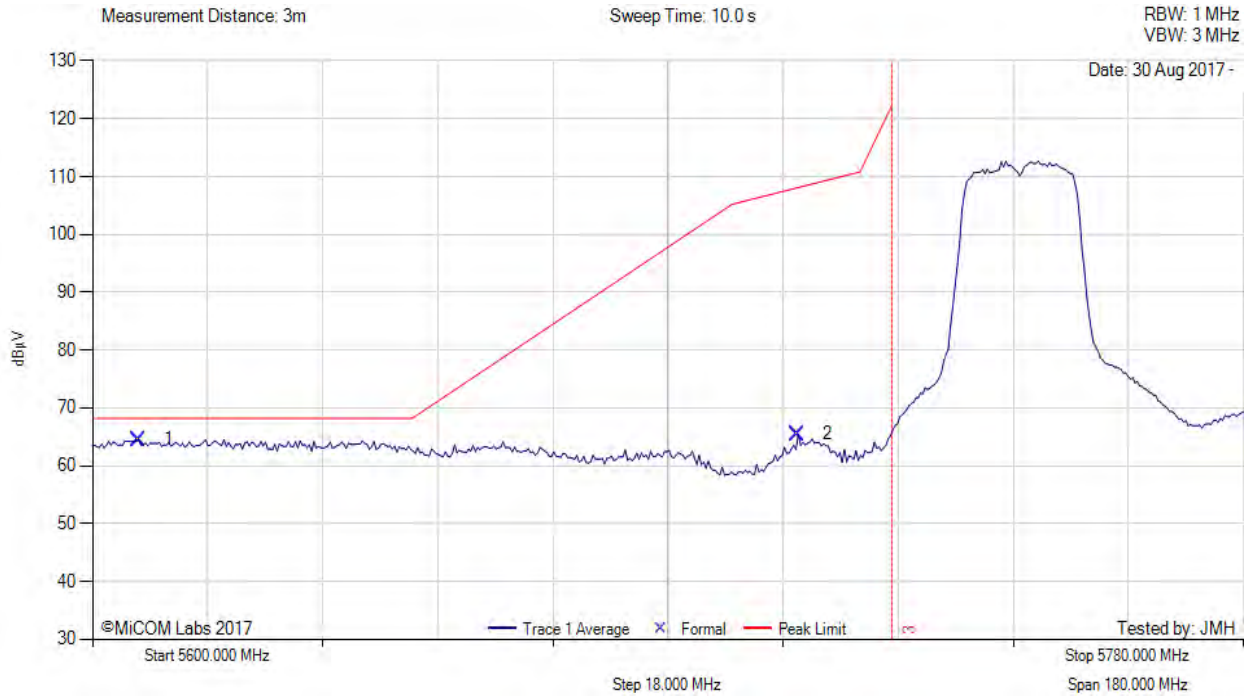


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
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5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 5745.00 MHz, Antenna: 3, Power Setting: 3, Duty Cycle (%): 99



5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5607.14	26.54	3.78	34.23	64.55	Max Peak	Horizontal	188	5	68.2	-3.7	Pass
2	5710.21	27.31	3.84	34.34	65.49	Max Peak	Horizontal	188	5	108.0	-42.5	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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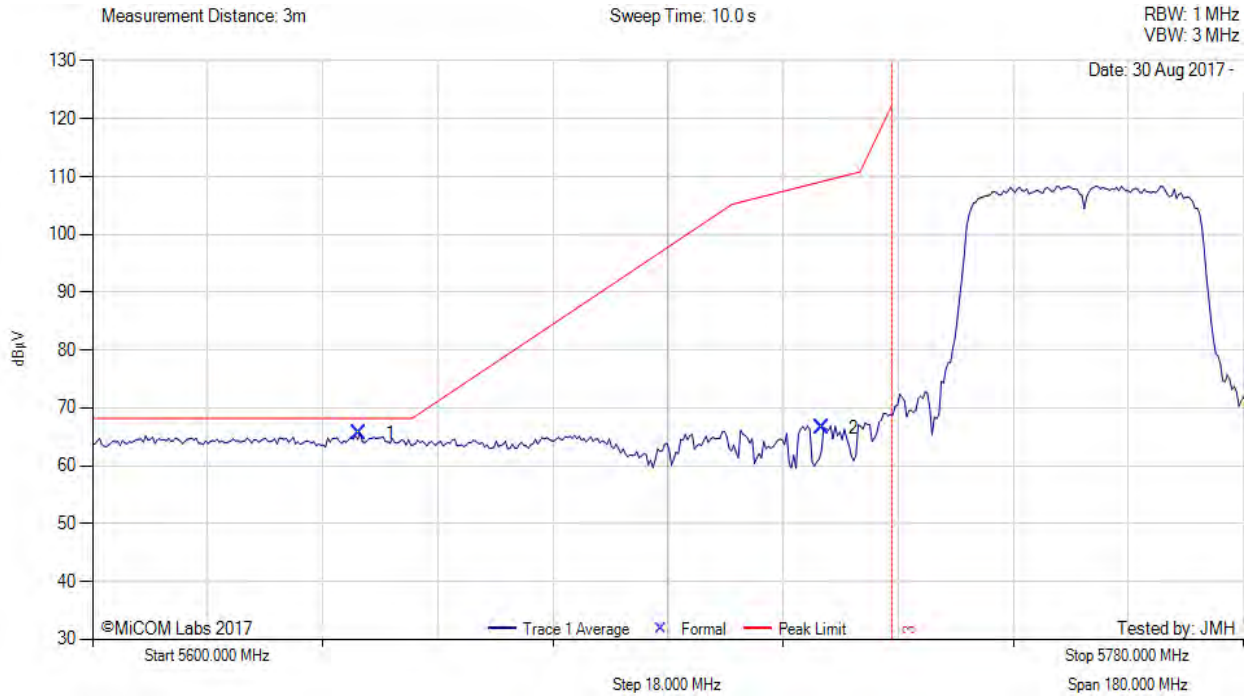


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
**Issue Date:** 23<sup>rd</sup> October 2017  
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5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 5755.00 MHz, Antenna: 3, Power Setting: 3, Duty Cycle (%): 99



5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5641.77	27.68	3.76	34.19	65.63	Max Peak	Horizontal	188	5	68.2	-2.6	Pass
2	5714.18	28.40	3.82	34.34	66.56	Max Peak	Horizontal	188	5	109.1	-42.6	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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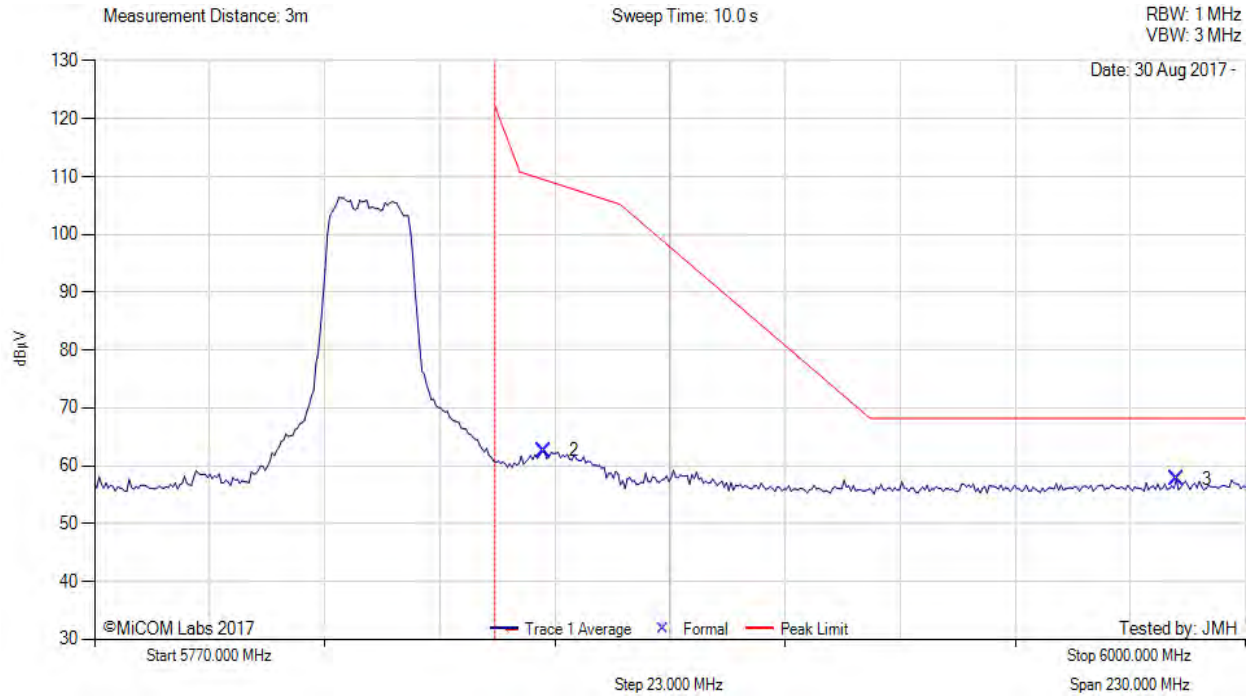


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
**Issue Date:** 23<sup>rd</sup> October 2017  
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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11a, Test Freq: 5825.00 MHz, Antenna: 3, Power Setting: 3, Duty Cycle (%): 99



5770.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
2	5859.68	24.10	3.86	34.65	62.61	Max Peak	Horizontal	188	5	109.9	-47.3	Pass
3	5986.29	18.85	3.89	34.92	57.66	Max Peak	Horizontal	188	5	68.2	-10.6	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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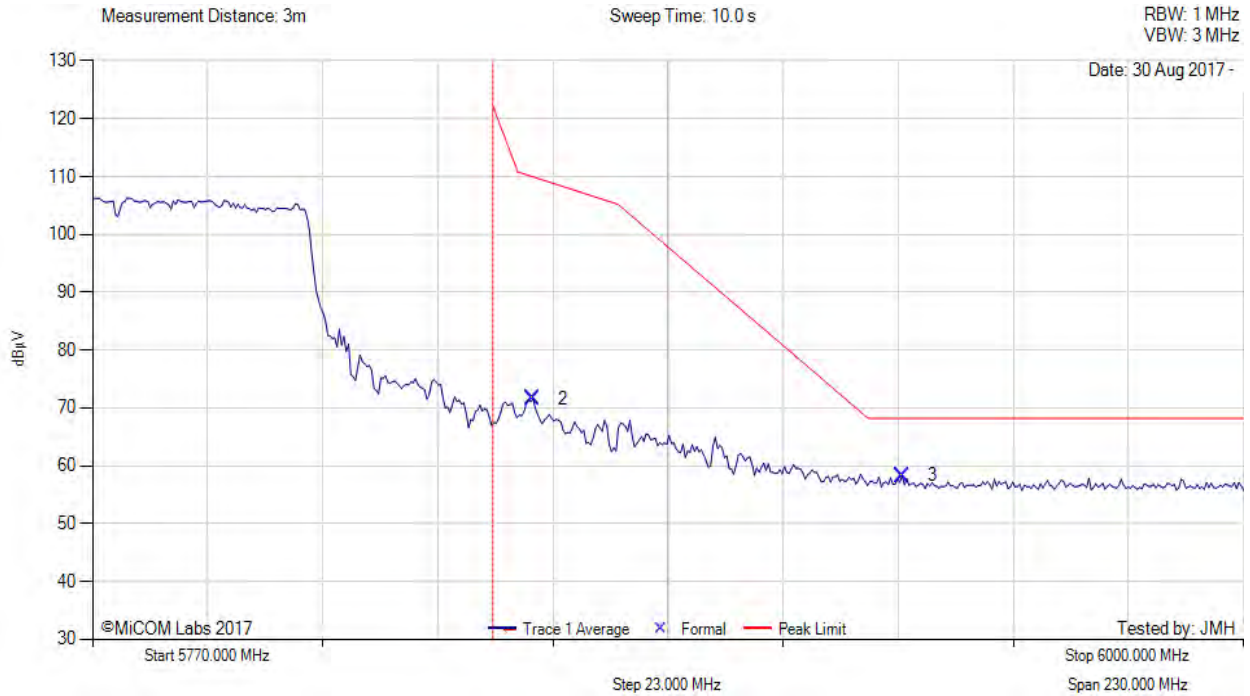


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
**Issue Date:** 23<sup>rd</sup> October 2017  
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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11ac-80, Test Freq: 5775.00 MHz, Antenna: 3, Power Setting: 2, Duty Cycle (%): 99



5770.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
2	5858.04	33.09	3.85	34.65	71.59	Max Peak	Horizontal	188	5	109.5	-37.9	Pass
3	5931.90	19.60	3.85	34.84	58.29	Max Peak	Horizontal	188	5	68.2	-9.9	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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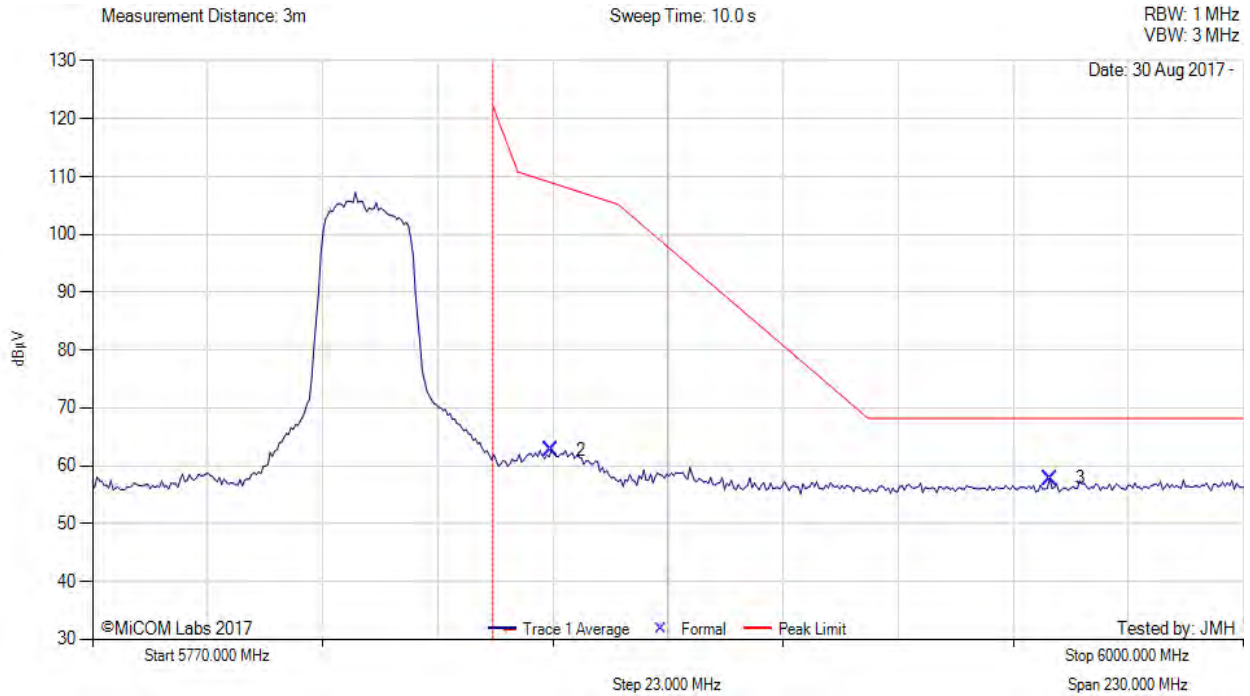


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 5825.00 MHz, Antenna: 3, Power Setting: 3, Duty Cycle (%): 99



5770.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
2	5861.52	24.18	3.85	34.66	62.69	Max Peak	Horizontal	188	5	108.7	-46.0	Pass
3	5961.40	19.10	3.83	34.89	57.82	Max Peak	Horizontal	188	5	68.2	-10.4	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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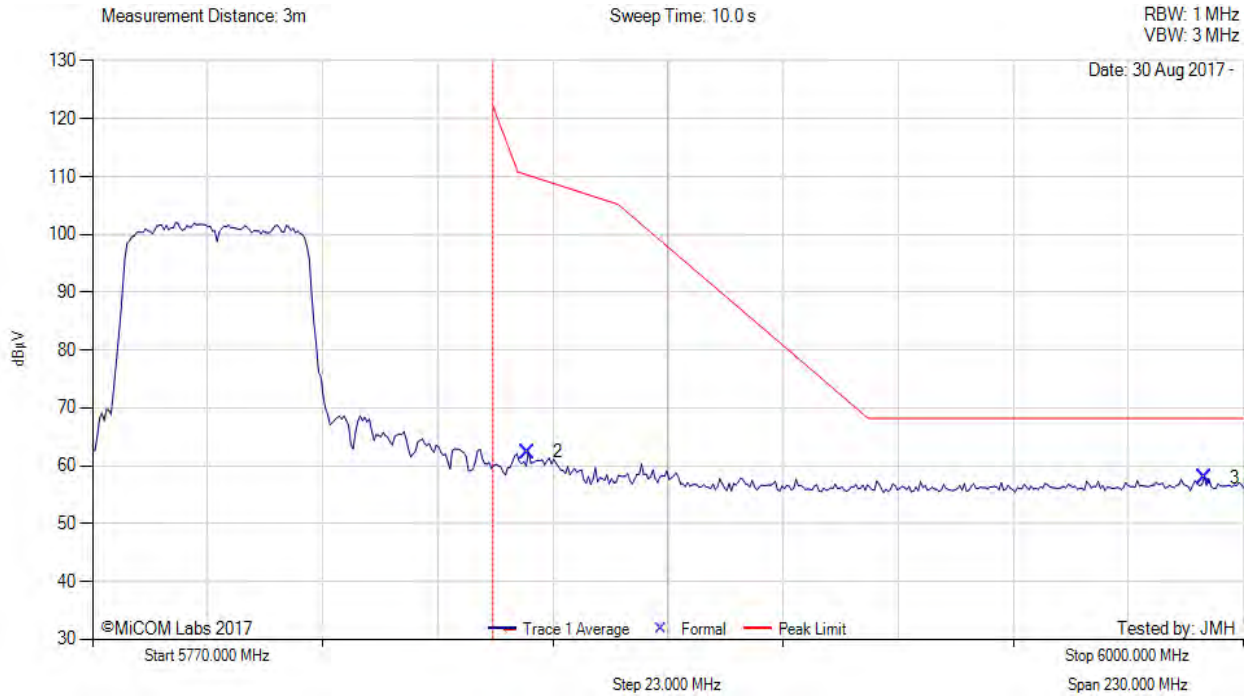


**Title:** MikroTik RBLHGG-5aCD Wireless Module  
**To:** FCC CFR 47 Part 15 Subpart E 15.407  
**Serial #:** MIKO60-U2\_Radiated Rev A  
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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 5795.00 MHz, Antenna: 3, Power Setting: 3, Duty Cycle (%): 99



5770.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
2	5856.91	23.92	3.84	34.65	62.41	Max Peak	Horizontal	188	5	109.9	-47.5	Pass
3	5992.16	19.19	3.89	34.93	58.01	Max Peak	Horizontal	188	5	68.2	-10.2	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

**Test Notes:** EUT powered by POE, connected to laptop outside chamber.

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