

TEST REPORT ADDENDUM – RADIATED



Test of: Radwin Ltd. AP0158770

To: FCC CFR 47 15.407 & ISSED RSS-247

Test Report Serial No.: RDWN48-U4_Radiated Rev A

This report supersedes: NONE

Issue Date: 20th November 2017

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

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

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1. TEST RESULTS

1.1. Radiated

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

Test Procedure for Radiated Spurious and Band-Edge Emissions

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

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

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

- (1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (4) For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
- (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: 68.23 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);

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

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. RADWIN Ltd. RW-9061-5002

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	RADWIN Ltd. RW-9061-5002	Variant:	10 Mhz
Antenna Gain (dBi):	15.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5730.00	Data Rate:	15.00 MBit/s
Power Setting:	14	Tested By:	SB

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	5731.89	78.18	3.18	-12.80	68.56	Fundamental	Horizontal	100	0	--	--	
#2	6130.05	61.17	3.25	-11.91	52.51	Max Peak	Horizontal	151	357	68.2	-15.7	Pass
#3	11458.31	57.81	4.64	-0.81	61.64	Max Peak	Horizontal	147	240	68.2	-6.6	Pass
#4	11458.31	44.43	4.64	-0.81	48.26	Max Avg	Horizontal	147	240	54.0	-5.7	Pass
#5	11460.19	58.79	4.63	-0.79	62.63	Max Peak	Vertical	112	264	68.2	-5.6	Pass
#6	11460.19	46.40	4.63	-0.79	50.24	Max Avg	Vertical	112	264	54.0	-3.8	Pass
#7	16165.72	48.00	5.58	0.84	54.42	Max Peak	Horizontal	141	352	68.2	-13.8	Pass
#8	16165.72	34.67	5.58	0.84	41.09	Max Avg	Horizontal	141	352	54.0	-12.9	Pass
#9	17239.97	47.81	5.78	0.18	53.77	Max Peak	Horizontal	123	261	68.2	-14.5	Pass
#10	17239.97	34.60	5.78	0.18	40.56	Max Avg	Horizontal	123	261	54.0	-13.4	Pass

Test Notes: Sector Antenna

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Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	RADWIN Ltd. RW-9061-5002	Variant:	10 Mhz
Antenna Gain (dBi):	15.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5787.00	Data Rate:	15.00 MBit/s
Power Setting:	29	Tested By:	SB

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	5790.76	88.08	3.20	-12.82	78.46	Fundamental	Vertical	151	0	--	--	
#2	6070.28	71.05	3.25	-11.84	62.46	Max Peak	Vertical	146	2	68.2	-5.8	Pass
#3	11572.53	56.82	4.52	-0.48	60.86	Max Peak	Horizontal	156	239	68.2	-7.4	Pass
#4	11572.53	43.67	4.52	-0.48	47.71	Max Avg	Horizontal	156	239	54.0	-6.3	Pass
#5	11574.07	59.25	4.56	-0.46	63.35	Max Peak	Vertical	123	228	68.2	-4.9	Pass
#6	11574.07	45.36	4.56	-0.46	49.46	Max Avg	Vertical	123	228	54.0	-4.5	Pass
#7	16218.48	48.70	5.64	0.64	54.98	Max Peak	Vertical	141	93	68.2	-13.3	Pass
#8	16218.48	34.91	5.64	0.64	41.19	Max Avg	Vertical	141	93	54.0	-12.8	Pass
#9	17065.45	48.13	5.64	1.13	54.90	Max Peak	Horizontal	133	200	68.2	-13.3	Pass
#10	17065.45	33.86	5.64	1.13	40.63	Max Avg	Horizontal	133	200	54.0	-13.4	Pass

Test Notes: Sector Antenna

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Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	RADWIN Ltd. RW-9061-5002	Variant:	10 Mhz
Antenna Gain (dBi):	15.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5845.00	Data Rate:	15.00 MBit/s
Power Setting:	14	Tested By:	SB

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	5847.32	78.78	3.20	-12.74	69.24	Fundamental	Vertical	100	0	--	--	
#2	6066.98	72.36	3.25	-12.01	63.60	Max Peak	Horizontal	149	0	68.2	-4.6	Pass
#3	6066.98	76.23	3.25	-12.01	67.47	Max Peak	Vertical	154	11	68.2	-0.8	Pass
#4	11678.27	45.34	4.77	-0.39	49.72	Peak (Scan)	Horizontal	151	0	68.2	-18.5	Pass
#5	11688.08	59.09	5.04	-0.51	63.62	Max Peak	Vertical	134	230	68.2	-4.6	Pass
#6	11688.08	45.49	5.04	-0.51	50.02	Max Avg	Vertical	134	230	54.0	-4.0	Pass
#7	11688.74	54.43	5.04	-0.51	58.96	Max Peak	Horizontal	165	243	68.2	-9.3	Pass
#8	11688.74	40.56	5.04	-0.51	45.09	Max Avg	Horizontal	165	243	54.0	-8.9	Pass
#9	15690.49	48.26	5.45	0.37	54.08	Max Peak	Vertical	161	124	68.2	-14.2	Pass
#10	15690.49	34.91	5.45	0.37	40.73	Max Avg	Vertical	161	124	54.0	-13.3	Pass
#11	16450.24	49.19	5.68	-0.11	54.76	Max Peak	Horizontal	98	57	68.2	-13.5	Pass
#12	16450.24	35.81	5.68	-0.11	41.38	Max Avg	Horizontal	98	57	54.0	-12.6	Pass

Test Notes: Sector Antenna

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1.1.1.2. RADWIN Ltd. RW-9401-5002

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	RADWIN Ltd. RW-9401-5002	Variant:	10 Mhz
Antenna Gain (dBi):	12.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5730.00	Data Rate:	15.00 MBit/s
Power Setting:	21	Tested By:	SB

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	5735.47	56.67	3.19	-12.81	47.05	Fundamental	Horizontal	100	0	--	--	
#2	6071.90	61.36	3.25	-11.79	52.82	Max Peak	Vertical	168	0	68.2	-15.4	Pass
#3	16156.95	47.34	5.52	1.01	53.87	Max Peak	Vertical	157	171	68.2	-14.4	Pass
#4	16156.95	34.35	5.52	1.01	40.88	Max Avg	Vertical	157	171	54.0	-13.1	Pass

Test Notes: Antenna Setup: 2 omni directional antennas.

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Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	RADWIN Ltd. RW-9401-5002	Variant:	10 Mhz
Antenna Gain (dBi):	12.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5787.00	Data Rate:	15.00 MBit/s
Power Setting:	29	Tested By:	SB

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	5790.87	75.78	3.20	-12.82	66.16	Fundamental	Vertical	100	0	--	--	
#2	6069.42	55.03	3.24	-11.88	46.39	Max Peak	Horizontal	99	34	68.2	-21.8	Pass
#3	6073.14	65.98	3.26	-11.75	57.49	Max Peak	Vertical	157	0	68.2	-10.7	Pass
#4	11572.70	59.19	4.52	-0.48	63.23	Max Peak	Vertical	191	333	68.2	-5.0	Pass
#5	11572.70	45.51	4.52	-0.48	49.55	Max Avg	Vertical	191	333	54.0	-4.5	Pass
#6	11573.74	56.12	4.54	-0.48	60.18	Max Peak	Horizontal	155	318	68.2	-8.1	Pass
#7	11573.74	43.33	4.54	-0.48	47.39	Max Avg	Horizontal	155	318	54.0	-6.6	Pass
#8	16271.85	48.27	5.68	-0.25	53.70	Max Peak	Vertical	109	107	68.2	-14.5	Pass
#9	16271.85	35.12	5.68	-0.25	40.55	Max Avg	Vertical	109	107	54.0	-13.5	Pass

Test Notes: Antenna Setup: 2 omni directional antennas.

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Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	RADWIN Ltd. RW-9401-5002	Variant:	10 Mhz
Antenna Gain (dBi):	12.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5845.00	Data Rate:	15.00 MBit/s
Power Setting:	23	Tested By:	SB

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	5843.57	76.62	3.21	-12.82	67.01	Fundamental	Vertical	100	0	--	--	
#2	6070.69	63.01	3.25	-11.84	54.42	Max Peak	Vertical	126	2	68.2	-13.8	Pass
#3	11689.13	55.90	5.07	-0.52	60.45	Max Peak	Vertical	109	339	68.2	-7.8	Pass
#4	11689.13	41.83	5.07	-0.52	46.38	Max Avg	Vertical	109	339	54.0	-7.6	Pass
#5	16210.44	47.06	5.72	0.64	53.42	Max Peak	Horizontal	123	87	68.2	-14.8	Pass
#6	16210.44	33.83	5.72	0.64	40.19	Max Avg	Horizontal	123	87	54.0	-13.8	Pass

Test Notes: Antenna Setup: 2 omni directional antennas.

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1.1.1.3. RADWIN Ltd. RW-9622-5001

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	RADWIN Ltd. RW-9622-5001	Variant:	10 Mhz
Antenna Gain (dBi):	29.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5730.00	Data Rate:	15.00 MBit/s
Power Setting:	8	Tested By:	SB

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	4498.68	68.39	2.87	-15.53	55.73	Max Peak	Horizontal	147	2	68.2	-12.5	Pass
#2	4498.68	54.67	2.87	-15.53	42.01	Max Avg	Horizontal	147	2	54.0	-12.0	Pass
#3	5728.36	63.79	3.17	-12.85	54.11	Fundamental	Vertical	100	0	--	--	
#4	6101.64	71.57	3.24	-11.89	62.92	Max Peak	Vertical	152	2	68.2	-5.3	Pass
#5	6287.94	68.08	3.19	-11.98	59.29	Max Peak	Horizontal	152	2	68.2	-8.9	Pass
#6	16153.07	47.88	5.54	0.98	54.40	Max Peak	Horizontal	99	24	68.2	-13.8	Pass
#7	16153.07	34.59	5.54	0.98	41.11	Max Avg	Horizontal	99	24	54.0	-12.9	Pass

Test Notes: Flat Panel Antenna

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To: FCC Part 15 Subpart E 15.407, ISSED RSS-247
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Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	RADWIN Ltd. RW-9622-5001	Variant:	10 Mhz
Antenna Gain (dBi):	29.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5787.00	Data Rate:	15.00 MBit/s
Power Setting:	28	Tested By:	SB

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	5784.47	74.03	3.21	-12.77	64.47	Fundamental	Horizontal	100	0	--	--	
#2	6106.16	73.22	3.24	-11.81	64.65	Max Peak	Horizontal	150	2	68.2	-3.6	Pass
#3	7716.01	57.87	3.76	-8.03	53.60	Max Peak	Horizontal	148	2	68.2	-14.6	Pass
#4	7716.01	52.95	3.76	-8.03	48.68	Max Avg	Horizontal	148	2	54.0	-5.3	Pass
#5	11572.47	56.82	4.52	-0.48	60.86	Max Peak	Vertical	166	342	68.2	-7.4	Pass
#6	11572.47	43.65	4.52	-0.48	47.69	Max Avg	Vertical	166	342	54.0	-6.3	Pass
#7	11572.87	56.45	4.52	-0.48	60.49	Max Peak	Horizontal	148	238	68.2	-7.7	Pass
#8	11572.87	43.88	4.52	-0.48	47.92	Max Avg	Horizontal	148	238	54.0	-6.1	Pass
#9	17386.61	46.42	6.00	1.15	53.57	Peak (NRB)	Horizontal	149	0	--	--	Pass

Test Notes: Flat Panel Antenna

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Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	RADWIN Ltd. RW-9622-5001	Variant:	10 Mhz
Antenna Gain (dBi):	29.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5845.00	Data Rate:	15.00 MBit/s
Power Setting:	10	Tested By:	SB

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	1869.48	56.60	2.03	-18.57	40.06	Max Peak	Horizontal	106	177	68.2	-28.2	Pass
#2	1869.48	43.20	2.03	-18.57	26.66	Max Avg	Horizontal	106	177	54.0	-27.3	Pass
#3	4582.56	69.63	2.92	-15.59	56.96	Max Peak	Horizontal	158	2	68.2	-11.3	Pass
#4	4582.56	55.75	2.92	-15.59	43.08	Max Avg	Horizontal	158	2	54.0	-10.9	Pass
#5	5848.09	77.69	3.20	-12.71	68.18	Fundamental	Vertical	151	0	--	--	
#6	6161.25	69.90	3.22	-11.96	61.16	Max Peak	Vertical	160	2	68.2	-7.1	Pass
#7	6291.55	68.92	3.19	-12.04	60.07	Max Peak	Horizontal	152	2	68.2	-8.2	Pass
#8	16479.33	48.79	5.67	0.28	54.74	Max Peak	Vertical	106	134	68.2	-13.5	Pass
#9	16479.33	35.18	5.67	0.28	41.13	Max Avg	Vertical	106	134	54.0	-12.9	Pass

Test Notes: Flat Panel Antenna

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1.1.1.4. RADWIN Ltd. RW-9732-4958

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	RADWIN Ltd. RW-9732-4958	Variant:	10 Mhz
Antenna Gain (dBi):	32.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5730.00	Data Rate:	15.00 MBit/s
Power Setting:	11	Tested By:	SB

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	4693.26	67.91	2.95	-15.47	55.39	Max Peak	Horizontal	155	0	68.2	-12.8	Pass
#2	4693.26	54.07	2.95	-15.47	41.55	Max Avg	Horizontal	155	0	54.0	-12.5	Pass
#3	5730.79	72.04	3.18	-12.81	62.41	Fundamental	Horizontal	100	0	--	--	
#4	6231.50	72.75	3.20	-11.90	64.05	Max Peak	Horizontal	159	0	68.2	-4.2	Pass
#5	6250.90	69.91	3.23	-11.86	61.28	Max Peak	Vertical	157	0	68.2	-7.0	Pass
#6	16149.79	47.94	5.56	0.93	54.43	Max Peak	Horizontal	197	106	68.2	-13.8	Pass
#7	16149.79	34.56	5.56	0.93	41.05	Max Avg	Horizontal	197	106	54.0	-13.0	Pass

Test Notes: Dish Antenna

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Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	RADWIN Ltd. RW-9732-4958	Variant:	10 Mhz
Antenna Gain (dBi):	32.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5787.00	Data Rate:	15.00 MBit/s
Power Setting:	20.5	Tested By:	SB

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	5788.44	82.80	3.21	-12.78	73.23	Fundamental	Horizontal	100	0	--	--	
#2	6071.08	74.48	3.25	-11.79	65.94	Max Peak	Horizontal	156	0	68.2	-2.3	Pass
#3	11576.39	58.26	4.60	-0.44	62.42	Max Peak	Horizontal	155	0	68.2	-5.8	Pass
#4	11576.39	43.03	4.60	-0.44	47.19	Max Avg	Horizontal	155	0	54.0	-6.8	Pass
#5	11578.04	59.30	4.63	-0.41	63.52	Max Peak	Vertical	168	0	68.2	-4.7	Pass
#6	11578.04	44.46	4.63	-0.41	48.68	Max Avg	Vertical	168	0	54.0	-5.3	Pass
#7	16716.50	47.62	5.66	0.29	53.57	Peak (NRB)	Vertical	151	0	--	--	Pass

Test Notes: Dish Antenna

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Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	RADWIN Ltd. RW-9732-4958	Variant:	10 Mhz
Antenna Gain (dBi):	32.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5845.00	Data Rate:	15.00 MBit/s
Power Setting:	12.5	Tested By:	SB

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	4600.66	71.04	2.90	-15.59	58.35	Max Peak	Vertical	160	0	68.2	-9.9	Pass
#2	4600.66	57.70	2.90	-15.59	45.01	Max Avg	Vertical	160	0	54.0	-9.0	Pass
#3	5848.75	86.06	3.20	-12.68	76.58	Fundamental	Horizontal	151	0	--	--	
#4	6233.11	72.27	3.20	-11.91	63.56	Max Peak	Horizontal	157	0	68.2	-4.7	Pass
#5	6424.28	68.05	3.13	-11.84	59.34	Max Peak	Vertical	153	0	68.2	-8.9	Pass
#6	15744.50	48.31	5.58	0.05	53.94	Max Peak	Horizontal	98	41	68.2	-14.3	Pass
#7	15744.50	34.54	5.58	0.05	40.17	Max Avg	Horizontal	98	41	54.0	-13.8	Pass

Test Notes: Dish Antenna

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1.1.2. Restricted Edge & Band-Edge Emissions

1.1.2.5. RADWIN Ltd. RW-9061-5002 (15.50 dBi)

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5725 MHz Radiated Lower Band-Edge Emissions

RADWIN Ltd. RW-9061-5002		Band-Edge Freq	Limit 68.2dBµV/m	Limit 122.2dBµV/m	Power Setting
Channel Bandwidth(s)	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
10 MHz	5730.00	5725.00	67.77	114.21	14
20 MHz	5735.00	5725.00	67.48	107.72	14
40 MHz	5745.00	5725.00	68.02	101.02	15
80 MHz	5765.00	5725.00	65.03	96.22	9.5

5850 MHz Radiated Higher Band-Edge Emissions

RADWIN Ltd. RW-9061-5002		Band-Edge Freq	Limit 122.2dBµV/m	Limit 68.2dBµV/m	Power Setting
Channel Bandwidth(s)	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
10 MHz	5845.00	5850.00	112.80	67.80	14
20 MHz	5840.00	5850.00	106.78	67.40	16
40 MHz	5830.00	5850.00	100.56	68.10	14
80 MHz	5810.00	5850.00	100.20	67.13	16

Click on the links to view the data.



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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9061-5002	Variant:	10 Mhz
Antenna Gain (dBi):	15.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5730.00	Data Rate:	15.00 MBit/s
Power Setting:	14	Tested By:	SB

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	5640.69	28.29	3.18	36.30	67.77	Max Avg	Horizontal	153	11	68.2	-0.5	Pass
#2	5725.00	74.54	3.17	36.50	114.21	Max Avg	Horizontal	153	11	122.2	-8.0	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Sector Antenna

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9061-5002	Variant:	20 Mhz
Antenna Gain (dBi):	15.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5735.00	Data Rate:	15.00 MBit/s
Power Setting:	14	Tested By:	SB

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	5632.76	27.97	3.21	36.30	67.48	Max Avg	Horizontal	153	11	68.2	-0.8	Pass
#2	5725.00	68.05	3.17	36.50	107.72	Max Avg	Horizontal	153	11	122.2	-14.5	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Sector Antenna

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9061-5002	Variant:	40 Mhz
Antenna Gain (dBi):	15.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5745.00	Data Rate:	15.00 MBit/s
Power Setting:	15	Tested By:	SB

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	5643.94	28.53	3.19	36.30	68.02	Max Avg	Horizontal	153	11	68.2	-0.2	Pass
#2	5725.00	61.35	3.17	36.50	101.02	Max Avg	Horizontal	153	11	122.2	-21.2	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Sector Antenna

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9061-5002	Variant:	80 Mhz
Antenna Gain (dBi):	15.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5765.00	Data Rate:	15.00 MBit/s
Power Setting:	9.5	Tested By:	SB

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	5632.03	25.52	3.21	36.30	65.03	Max Avg	Horizontal	153	-2	68.2	-3.2	Pass
#2	5725.00	56.55	3.17	36.50	96.22	Max Avg	Horizontal	153	-2	122.2	-26.0	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Sector Antenna

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9061-5002	Variant:	10 Mhz
Antenna Gain (dBi):	15.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5845.00	Data Rate:	15.00 MBit/s
Power Setting:	14	Tested By:	SB

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
#1	5850.00	72.90	3.20	36.70	112.80	Max Avg	Horizontal	153	11	122.2	-9.4	Pass
#3	5970.62	27.61	3.29	36.90	67.80	Max Avg	Horizontal	153	11	68.2	-0.4	Pass
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Sector Antenna

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9061-5002	Variant:	20 Mhz
Antenna Gain (dBi):	15.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5840.00	Data Rate:	15.00 MBit/s
Power Setting:	16	Tested By:	SB

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
#1	5850.00	66.88	3.20	36.70	106.78	Max Avg	Horizontal	153	11	122.2	-15.4	Pass
#3	5970.62	27.21	3.29	36.90	67.40	Max Avg	Horizontal	153	11	68.2	-0.8	Pass
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Sector Antenna

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9061-5002	Variant:	40 Mhz
Antenna Gain (dBi):	15.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5830.00	Data Rate:	15.00 MBit/s
Power Setting:	14	Tested By:	SB

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
#1	5850.00	60.66	3.20	36.70	100.56	Max Avg	Vertical	153	-2	122.2	-21.6	Pass
#3	5933.29	28.11	3.19	36.80	68.10	Max Avg	Vertical	153	-2	68.2	-0.1	Pass
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Sector Antenna

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9061-5002	Variant:	80 Mhz
Antenna Gain (dBi):	15.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5810.00	Data Rate:	15.00 MBit/s
Power Setting:	16	Tested By:	SB

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
#1	5850.00	63.30	3.20	36.70	100.20	Max Avg	Vertical	153	-2	122.2	-22.0	Pass
#3	5924.53	29.14	3.19	36.80	67.13	Max Avg	Vertical	153	-2	68.2	-1.1	Pass
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Sector Antenna

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1.1.2.6. RADWIN Ltd. RW-9401-5002 (12.50 dBi)

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5725 MHz Radiated Lower Band-Edge Emissions

RADWIN Ltd. RW-9401-5002		Band-Edge Freq	Limit 68.2dBµV/m	Limit 122.2dBµV/m	Power Setting
Channel Bandwidths	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
10 MHz	5730.00	5725.00	66.94	109.55	21
20 MHz	5735.00	5725.00	67.52	96.41	20
40 MHz	5745.00	5725.00	65.03	97.48	21
80 MHz	5765.00	5725.00	67.73	93.56	19.5

5850 MHz Radiated Higher Band-Edge Emissions

RADWIN Ltd. RW-9401-5002		Band-Edge Freq	Limit 122.2dBµV/m	Limit 68.2dBµV/m	Power Setting
Channel Bandwidths	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
10 MHz	5845.00	5850.00	106.58	66.80	23
20 MHz	5840.00	5850.00	98.60	65.72	23
40 MHz	5830.00	5850.00	96.04	65.65	23.5
80 MHz	5810.00	5850.00	95.61	72.31	21.0

Click on the links to view the data.

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Title: Radwin AP0158770
To: FCC Part 15 Subpart E 15.407, ISED RSS-247
Serial #: RDWN48-U4_Radiated Rev A
Issue Date: 20th November 2017
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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9401-5002	Variant:	10 Mhz
Antenna Gain (dBi):	12.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5730.00	Data Rate:	15.00 MBit/s
Power Setting:	21	Tested By:	SB

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	5634.92	27.44	3.20	36.30	66.94	Max Avg	Vertical	155	11	68.2	-1.3	Pass
#2	5725.00	69.88	3.17	36.50	109.55	Max Avg	Vertical	155	11	122.2	-12.7	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Antenna Setup: 2 omni directional antennas.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9401-5002	Variant:	20 Mhz
Antenna Gain (dBi):	12.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5735.00	Data Rate:	15.00 MBit/s
Power Setting:	20	Tested By:	SB

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	5622.29	28.04	3.18	36.30	67.52	Max Avg	Vertical	155	11	68.2	-0.7	Pass
#2	5725.00	56.74	3.17	36.50	96.41	Max Avg	Vertical	155	11	122.2	-25.8	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Antenna Setup: 2 omni directional antennas.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9401-5002	Variant:	40 Mhz
Antenna Gain (dBi):	12.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5745.00	Data Rate:	15.00 MBit/s
Power Setting:	21	Tested By:	SB

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	5640.69	25.55	3.18	36.30	65.03	Max Avg	Vertical	155	4	68.2	-3.2	Pass
#2	5725.00	57.81	3.17	36.50	97.48	Max Avg	Vertical	155	4	122.2	-24.7	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Antenna Setup: 2 omni directional antennas.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9401-5002	Variant:	80 Mhz
Antenna Gain (dBi):	12.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5765.00	Data Rate:	15.00 MBit/s
Power Setting:	19.5	Tested By:	SB

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	5639.25	28.24	3.19	36.30	67.73	Max Avg	Vertical	155	4	68.2	-0.5	Pass
#2	5725.00	53.89	3.17	36.50	93.56	Max Avg	Vertical	155	4	122.2	-28.6	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Antenna Setup: 2 omni directional antennas.

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To: FCC Part 15 Subpart E 15.407, ISED RSS-247
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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9401-5002	Variant:	10 Mhz
Antenna Gain (dBi):	12.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5845.00	Data Rate:	15.00 MBit/s
Power Setting:	23	Tested By:	SB

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
#1	5850.00	66.68	3.20	36.70	106.58	Max Avg	Vertical	155	11	122.2	-15.6	Pass
#3	5926.83	26.81	3.19	36.80	66.80	Max Avg	Vertical	155	11	68.2	-1.4	Pass
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Antenna Setup: 2 omni directional antennas.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9401-5002	Variant:	20 Mhz
Antenna Gain (dBi):	12.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5840.00	Data Rate:	15.00 MBit/s
Power Setting:	23	Tested By:	SB

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
#1	5850.00	58.70	3.20	36.70	98.60	Max Avg	Vertical	155	11	122.2	-23.6	Pass
#3	5927.29	25.73	3.19	36.80	65.72	Max Avg	Vertical	155	11	68.2	-2.5	Pass
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Antenna Setup: 2 omni directional antennas.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9401-5002	Variant:	40 Mhz
Antenna Gain (dBi):	12.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5830.00	Data Rate:	15.00 MBit/s
Power Setting:	23.5	Tested By:	SB

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
#1	5850.00	56.14	3.20	36.70	96.04	Max Avg	Vertical	155	4	122.2	-26.2	Pass
#3	5948.04	25.62	3.23	36.80	65.65	Max Avg	Vertical	155	4	68.2	-2.6	Pass
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Antenna Setup: 2 omni directional antennas.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9401-5002	Variant:	80 Mhz
Antenna Gain (dBi):	12.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5810.00	Data Rate:	15.00 MBit/s
Power Setting:	21.0	Tested By:	SB

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
#1	5850.00	55.71	3.20	36.70	95.61	Max Avg	Vertical	155	4	122.2	-26.6	Pass
#3	5916.69	32.30	3.21	36.80	72.31	Max Avg	Vertical	155	4	74.1	-1.8	Pass
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Antenna Setup: 2 omni directional antennas.

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1.1.2.7. RADWIN Ltd. RW-9622-5001 (29.0 dBi)

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5725 MHz Radiated Lower Band-Edge Emissions

RADWIN Ltd. RW-9622-5001		Band-Edge Freq	Limit 68.2dBµV/m	Limit 122.2dBµV/m	Power Setting
Channel Bandwidth(s)	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
10 MHz	5730.00	5725.00	64.74	113.28	8
20 MHz	5735.00	5725.00	64.63	102.16	10
40 MHz	5745.00	5725.00	66.39	99.93	9.5
80 MHz	5765.00	5725.00	66.79	94.89	9

5850 MHz Radiated Higher Band-Edge Emissions

RADWIN Ltd. RW-9622-5001		Band-Edge Freq	Limit 122.2dBµV/m	Limit 68.2dBµV/m	Power Setting
Channel Bandwidth(s)	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
10 MHz	5845.00	5850.00	111.32	66.25	10
20 MHz	5840.00	5850.00	73.23	63.63	10
40 MHz	5830.00	5850.00	95.11	65.83	10
80 MHz	5810.00	5850.00	97.44	67.16	10

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To: FCC Part 15 Subpart E 15.407, ISSED RSS-247
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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9622-5001	Variant:	10 Mhz
Antenna Gain (dBi):	29.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5730.00	Data Rate:	15.00 MBit/s
Power Setting:	8	Tested By:	SB

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	5644.66	25.25	3.19	36.30	64.74	Max Avg	Vertical	153	-2	68.2	-3.5	Pass
#2	5725.00	73.61	3.17	36.50	113.28	Max Avg	Vertical	153	-2	122.2	-8.9	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Sector Antenna

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9622-5001	Variant:	20 Mhz
Antenna Gain (dBi):	29.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5735.00	Data Rate:	15.00 MBit/s
Power Setting:	10	Tested By:	SB

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	5643.58	25.14	3.19	36.30	64.63	Max Avg	Horizontal	153	-2	68.2	-3.6	Pass
#2	5725.00	62.49	3.17	36.50	102.16	Max Avg	Horizontal	153	-2	122.2	-20.0	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Sector Antenna

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9622-5001	Variant:	40 Mhz
Antenna Gain (dBi):	29.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5745.00	Data Rate:	15.00 MBit/s
Power Setting:	9.5	Tested By:	SB

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	5630.23	26.88	3.21	36.30	66.39	Max Avg	Vertical	153	-2	68.2	-1.8	Pass
#2	5725.00	60.26	3.17	36.50	99.93	Max Avg	Vertical	153	-2	122.2	-22.3	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Sector Antenna

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9622-5001	Variant:	80 Mhz
Antenna Gain (dBi):	29.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5765.00	Data Rate:	15.00 MBit/s
Power Setting:	9	Tested By:	SB

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	5617.24	27.30	3.19	36.30	66.79	Max Avg	Horizontal	153	-2	68.2	-1.4	Pass
#2	5725.00	55.22	3.17	36.50	94.89	Max Avg	Horizontal	153	-2	122.2	-27.3	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Sector Antenna

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9622-5001	Variant:	10 Mhz
Antenna Gain (dBi):	29.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5845.00	Data Rate:	15.00 MBit/s
Power Setting:	10	Tested By:	SB

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
#1	5850.00	71.42	3.20	36.70	111.32	Max Avg	Vertical	153	-2	122.2	-10.9	Pass
#3	5932.36	26.26	3.19	36.80	66.25	Max Avg	Vertical	153	-2	68.2	-2.0	Pass
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Sector Antenna

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9622-5001	Variant:	20 Mhz
Antenna Gain (dBi):	29.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5840.00	Data Rate:	15.00 MBit/s
Power Setting:	10	Tested By:	SB

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	5860.00	33.33	3.20	36.70	73.23	Max Avg	Horizontal	153	-2	109.4	-36.2	Pass
#3	5998.16	23.48	3.25	36.90	63.63	Max Avg	Horizontal	153	-2	68.2	-4.6	Pass
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Sector Antenna

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9622-5001	Variant:	40 Mhz
Antenna Gain (dBi):	29.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5830.00	Data Rate:	15.00 MBit/s
Power Setting:	10	Tested By:	SB

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
#1	5850.00	55.21	3.20	36.70	95.11	Max Avg	Horizontal	153	-2	122.2	-27.1	Pass
#3	5963.25	25.76	3.27	36.80	65.83	Max Avg	Horizontal	153	-2	68.2	-2.4	Pass
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Sector Antenna

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9622-5001	Variant:	80 Mhz
Antenna Gain (dBi):	29.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5810.00	Data Rate:	15.00 MBit/s
Power Setting:	10	Tested By:	SB

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
#1	5850.00	57.54	3.20	36.70	97.44	Max Avg	Vertical	153	-2	122.2	-24.8	Pass
#3	5945.27	27.14	3.22	36.80	67.16	Max Avg	Vertical	153	-2	68.2	-1.1	Pass
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Sector Antenna

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1.1.2.8. RADWIN Ltd. RW-9732-4958 (32.0 dBi)

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5725 MHz Radiated Lower Band-Edge Emissions

RADWIN Ltd. RW-9732-4958		Band-Edge Freq	Limit 68.2dBµV/m	Limit 122.2dBµV/m	Power Setting
Channel Bandwidth(s)	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
10 MHz	5730.00	5725.00	67.87	107.61	11
20 MHz	5735.00	5725.00	68.05	101.32	12.5
40 MHz	5745.00	5725.00	67.53	95.10	13
80 MHz	5765.00	5725.00	67.94	94.16	15

5850 MHz Radiated Higher Band-Edge Emissions

RADWIN Ltd. RW-9732-4958		Band-Edge Freq	Limit 122.2dBµV/m	Limit 68.2dBµV/m	Power Setting
Channel Bandwidth(s)	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
10 MHz	5845.00	5850.00	104.00	67.39	12
20 MHz	5840.00	5850.00	98.28	67.37	13
40 MHz	5830.00	5850.00	92.94	67.04	15
80 MHz	5810.00	5850.00	93.81	67.86	15

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Title: Radwin AP0158770
To: FCC Part 15 Subpart E 15.407, ISSED RSS-247
Serial #: RDWN48-U4_Radiated Rev A
Issue Date: 20th November 2017
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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9732-4958	Variant:	10 Mhz
Antenna Gain (dBi):	32.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5730.00	Data Rate:	15.00 MBit/s
Power Setting:	11	Tested By:	SB

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	5615.08	28.38	3.19	36.30	67.87	Max Avg	Horizontal	153	348	68.2	-0.4	Pass
#2	5725.00	67.94	3.17	36.50	107.61	Max Avg	Horizontal	153	348	122.2	-14.6	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Dish Antenna

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9732-4958	Variant:	20 Mhz
Antenna Gain (dBi):	32.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5735.00	Data Rate:	15.00 MBit/s
Power Setting:	12.5	Tested By:	SB

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	5615.08	28.56	3.19	36.30	68.05	Max Avg	Horizontal	153	348	68.2	-0.2	Pass
#2	5725.00	61.65	3.17	36.50	101.32	Max Avg	Horizontal	153	348	122.2	-20.9	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Dish Antenna

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9732-4958	Variant:	40 Mhz
Antenna Gain (dBi):	32.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5745.00	Data Rate:	15.00 MBit/s
Power Setting:	13	Tested By:	SB

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	5637.15	28.03	3.20	36.30	67.53	Max Avg	Horizontal	153	348	68.2	-0.7	Pass
#2	5725.00	55.43	3.17	36.50	95.10	Max Avg	Horizontal	153	348	122.2	-27.1	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Dish Antenna

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9732-4958	Variant:	80 Mhz
Antenna Gain (dBi):	32.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5765.00	Data Rate:	15.00 MBit/s
Power Setting:	15	Tested By:	SB

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	5637.08	28.44	3.20	36.30	67.94	Max Avg	Horizontal	153	348	68.2	-0.3	Pass
#2	5725.00	54.49	3.17	36.50	94.16	Max Avg	Horizontal	153	348	122.2	-28.0	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Dish Antenna

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9732-4958	Variant:	10 Mhz
Antenna Gain (dBi):	32.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5845.00	Data Rate:	15.00 MBit/s
Power Setting:	12	Tested By:	SB

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
#1	5850.00	64.10	3.20	36.70	104.00	Max Avg	Horizontal	153	348	122.2	-18.2	Pass
#3	5939.74	27.38	3.21	36.80	67.39	Max Avg	Horizontal	153	348	68.2	-0.8	Pass
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Dish Antenna

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9732-4958	Variant:	20 Mhz
Antenna Gain (dBi):	32.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5840.00	Data Rate:	15.00 MBit/s
Power Setting:	13	Tested By:	SB

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
#1	5850.00	58.38	3.20	36.70	98.28	Max Avg	Horizontal	153	348	122.2	-23.9	Pass
#3	5939.28	27.36	3.21	36.80	67.37	Max Avg	Horizontal	153	348	68.2	-0.9	Pass
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Dish Antenna

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9732-4958	Variant:	40 Mhz
Antenna Gain (dBi):	32.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5830.00	Data Rate:	15.00 MBit/s
Power Setting:	15	Tested By:	SB

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
#1	5850.00	53.04	3.20	36.70	92.94	Max Avg	Horizontal	153	348	122.2	-29.3	Pass
#3	5987.09	26.91	3.23	36.90	67.04	Max Avg	Horizontal	153	348	68.2	-1.2	Pass
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Dish Antenna

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	RADWIN Ltd. RW-9732-4958	Variant:	80 Mhz
Antenna Gain (dBi):	32.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5810.00	Data Rate:	15.00 MBit/s
Power Setting:	15	Tested By:	SB

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
#1	5850.00	53.91	3.20	36.70	93.81	Max Avg	Horizontal	153	348	122.2	-28.4	Pass
#3	5984.45	27.73	3.23	36.90	67.86	Max Avg	Horizontal	153	348	68.2	-0.4	Pass
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Dish Antenna

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A. APPENDIX - GRAPHICAL IMAGES

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A.1. Radiated

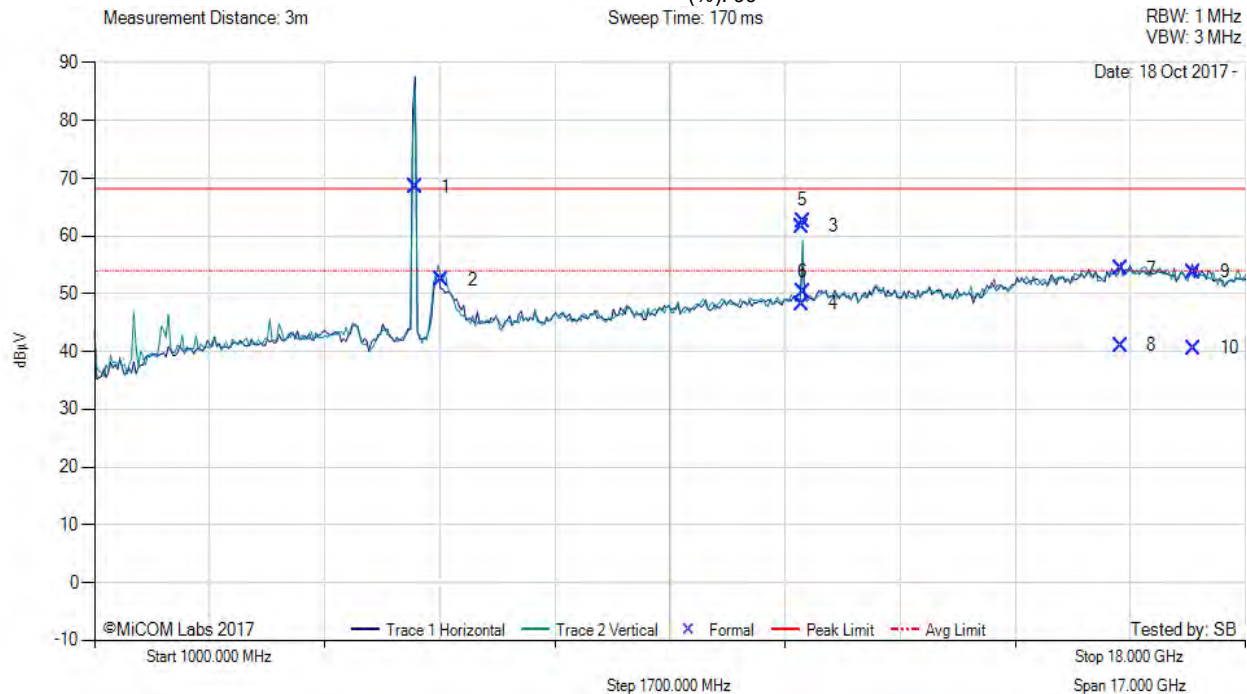
A.1.1. TX Spurious & Restricted Band Emissions

A.1.1.1. RADWIN Ltd. RW-9061-5002



TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 10 Mhz, Test Freq: 5730.00 MHz, Antenna: RADWIN Ltd. RW-9061-5002, Power Setting: 14, 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	5731.89	78.18	3.18	-12.80	68.56	Fundamental	Horizontal	100	0	--	--	
2	6130.05	61.17	3.25	-11.91	52.51	Max Peak	Horizontal	151	357	68.2	-15.7	Pass
3	11458.31	57.81	4.64	-0.81	61.64	Max Peak	Horizontal	147	240	68.2	-6.6	Pass
4	11458.31	44.43	4.64	-0.81	48.26	Max Avg	Horizontal	147	240	54.0	-5.7	Pass
5	11460.19	58.79	4.63	-0.79	62.63	Max Peak	Vertical	112	264	68.2	-5.6	Pass
6	11460.19	46.40	4.63	-0.79	50.24	Max Avg	Vertical	112	264	54.0	-3.8	Pass
7	16165.72	48.00	5.58	0.84	54.42	Max Peak	Horizontal	141	352	68.2	-13.8	Pass
8	16165.72	34.67	5.58	0.84	41.09	Max Avg	Horizontal	141	352	54.0	-12.9	Pass
9	17239.97	47.81	5.78	0.18	53.77	Max Peak	Horizontal	123	261	68.2	-14.5	Pass
10	17239.97	34.60	5.78	0.18	40.56	Max Avg	Horizontal	123	261	54.0	-13.4	Pass

Test Notes: Sector Antenna

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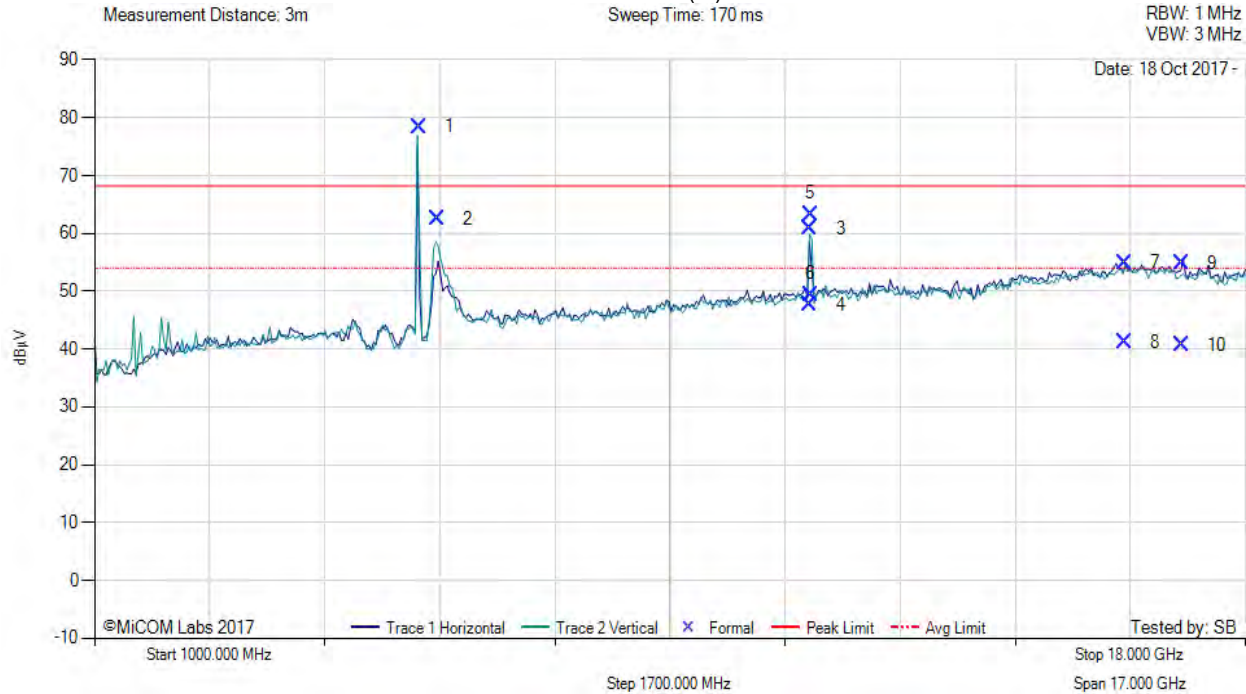


Title: Radwin AP0158770
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TX SPURIOUS & RESTRICTED BAND EMISSIONS



Variant: 10 Mhz, Test Freq: 5787.00 MHz, Antenna: RADWIN Ltd. RW-9061-5002, Power Setting: 29, 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	5790.76	88.08	3.20	-12.82	78.46	Fundamental	Vertical	151	0	--	--	
2	6070.28	71.05	3.25	-11.84	62.46	Max Peak	Vertical	146	2	68.2	-5.8	Pass
3	11572.53	56.82	4.52	-0.48	60.86	Max Peak	Horizontal	156	239	68.2	-7.4	Pass
4	11572.53	43.67	4.52	-0.48	47.71	Max Avg	Horizontal	156	239	54.0	-6.3	Pass
5	11574.07	59.25	4.56	-0.46	63.35	Max Peak	Vertical	123	228	68.2	-4.9	Pass
6	11574.07	45.36	4.56	-0.46	49.46	Max Avg	Vertical	123	228	54.0	-4.5	Pass
7	16218.48	48.70	5.64	0.64	54.98	Max Peak	Vertical	141	93	68.2	-13.3	Pass
8	16218.48	34.91	5.64	0.64	41.19	Max Avg	Vertical	141	93	54.0	-12.8	Pass
9	17065.45	48.13	5.64	1.13	54.90	Max Peak	Horizontal	133	200	68.2	-13.3	Pass
10	17065.45	33.86	5.64	1.13	40.63	Max Avg	Horizontal	133	200	54.0	-13.4	Pass

Test Notes: Sector Antenna

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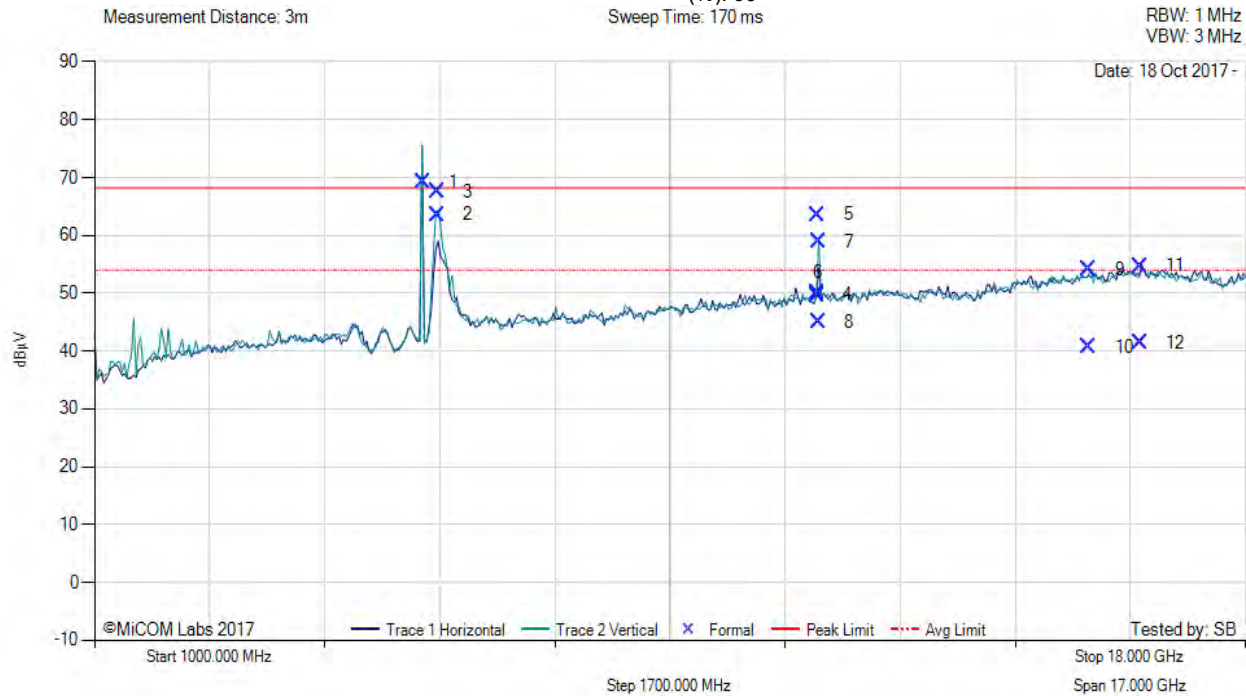


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TX SPURIOUS & RESTRICTED BAND EMISSIONS



Variant: 10 Mhz, Test Freq: 5845.00 MHz, Antenna: RADWIN Ltd. RW-9061-5002, Power Setting: 29, 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	5847.32	78.78	3.20	-12.74	69.24	Fundamental	Vertical	100	0	--	--	
2	6066.98	72.36	3.25	-12.01	63.60	Max Peak	Horizontal	149	0	68.2	-4.6	Pass
3	6066.98	76.23	3.25	-12.01	67.47	Max Peak	Vertical	154	11	68.2	-0.8	Pass
4	11678.27	45.34	4.77	-0.39	49.72	Peak (Scan)	Horizontal	151	0	68.2	-18.5	Pass
5	11688.08	59.09	5.04	-0.51	63.62	Max Peak	Vertical	134	230	68.2	-4.6	Pass
6	11688.08	45.49	5.04	-0.51	50.02	Max Avg	Vertical	134	230	54.0	-4.0	Pass
7	11688.74	54.43	5.04	-0.51	58.96	Max Peak	Horizontal	165	243	68.2	-9.3	Pass
8	11688.74	40.56	5.04	-0.51	45.09	Max Avg	Horizontal	165	243	54.0	-8.9	Pass
9	15690.49	48.26	5.45	0.37	54.08	Max Peak	Vertical	161	124	68.2	-14.2	Pass
10	15690.49	34.91	5.45	0.37	40.73	Max Avg	Vertical	161	124	54.0	-13.3	Pass
11	16450.24	49.19	5.68	-0.11	54.76	Max Peak	Horizontal	98	57	68.2	-13.5	Pass
12	16450.24	35.81	5.68	-0.11	41.38	Max Avg	Horizontal	98	57	54.0	-12.6	Pass

Test Notes: Sector Antenna

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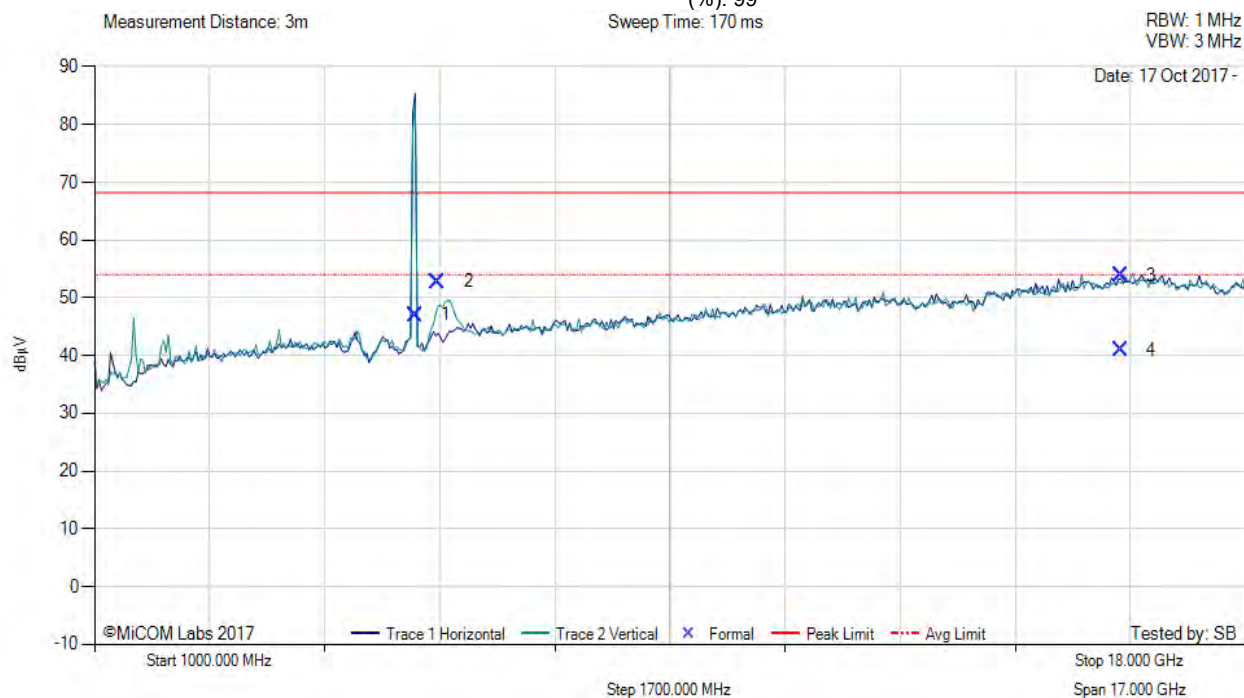
Title: Radwin AP0158770
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A.1.1.2. RADWIN Ltd. RW-9401-5002



TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 10 Mhz, Test Freq: 5730.00 MHz, Antenna: RADWIN Ltd. RW-9401-5002, 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	5735.47	56.67	3.19	-12.81	47.05	Fundamental	Horizontal	100	0	--	--	
2	6071.90	61.36	3.25	-11.79	52.82	Max Peak	Vertical	168	0	68.2	-15.4	Pass
3	16156.95	47.34	5.52	1.01	53.87	Max Peak	Vertical	157	171	68.2	-14.4	Pass
4	16156.95	34.35	5.52	1.01	40.88	Max Avg	Vertical	157	171	54.0	-13.1	Pass
Test Notes: Antenna Setup: 2 omni directional antennas.												

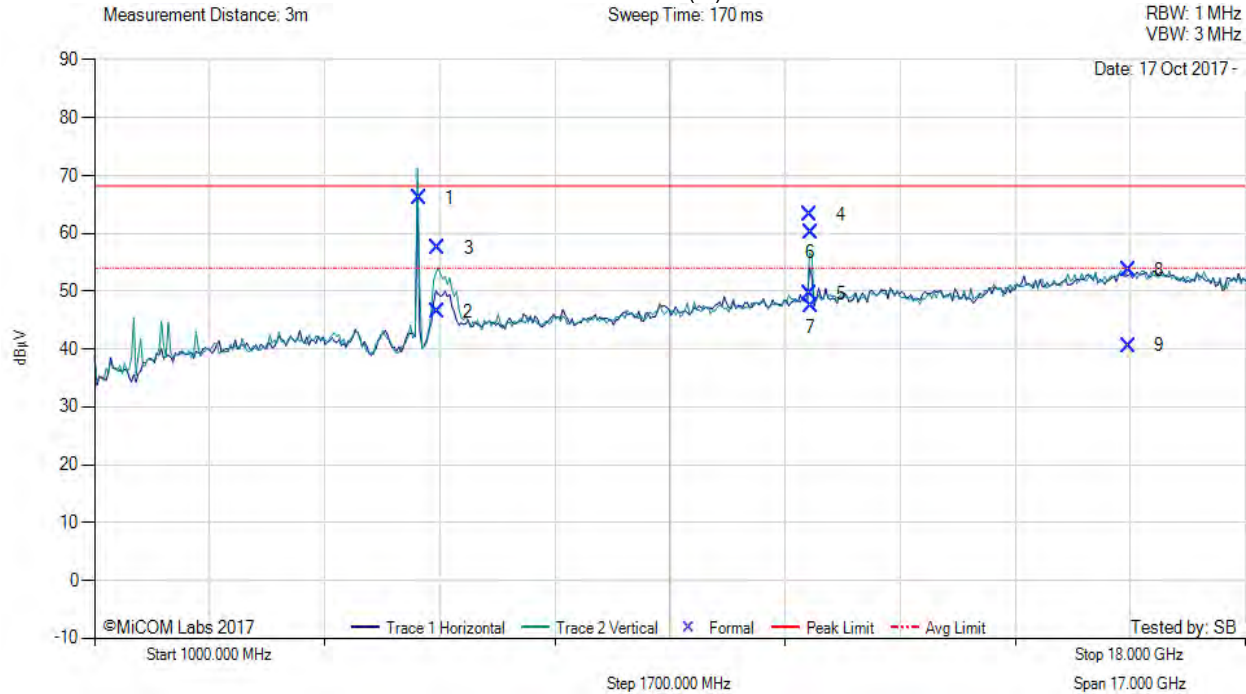
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TX SPURIOUS & RESTRICTED BAND EMISSIONS



Variant: 10 Mhz, Test Freq: 5787.00 MHz, Antenna: RADWIN Ltd. RW-9401-5002, Power Setting: 29, 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	5790.87	75.78	3.20	-12.82	66.16	Fundamental	Vertical	100	0	--	--	
2	6069.42	55.03	3.24	-11.88	46.39	Max Peak	Horizontal	99	34	68.2	-21.8	Pass
3	6073.14	65.98	3.26	-11.75	57.49	Max Peak	Vertical	157	0	68.2	-10.7	Pass
4	11572.70	59.19	4.52	-0.48	63.23	Max Peak	Vertical	191	333	68.2	-5.0	Pass
5	11572.70	45.51	4.52	-0.48	49.55	Max Avg	Vertical	191	333	54.0	-4.5	Pass
6	11573.74	56.12	4.54	-0.48	60.18	Max Peak	Horizontal	155	318	68.2	-8.1	Pass
7	11573.74	43.33	4.54	-0.48	47.39	Max Avg	Horizontal	155	318	54.0	-6.6	Pass
8	16271.85	48.27	5.68	-0.25	53.70	Max Peak	Vertical	109	107	68.2	-14.5	Pass
9	16271.85	35.12	5.68	-0.25	40.55	Max Avg	Vertical	109	107	54.0	-13.5	Pass

Test Notes: Antenna Setup: 2 omni directional antennas.

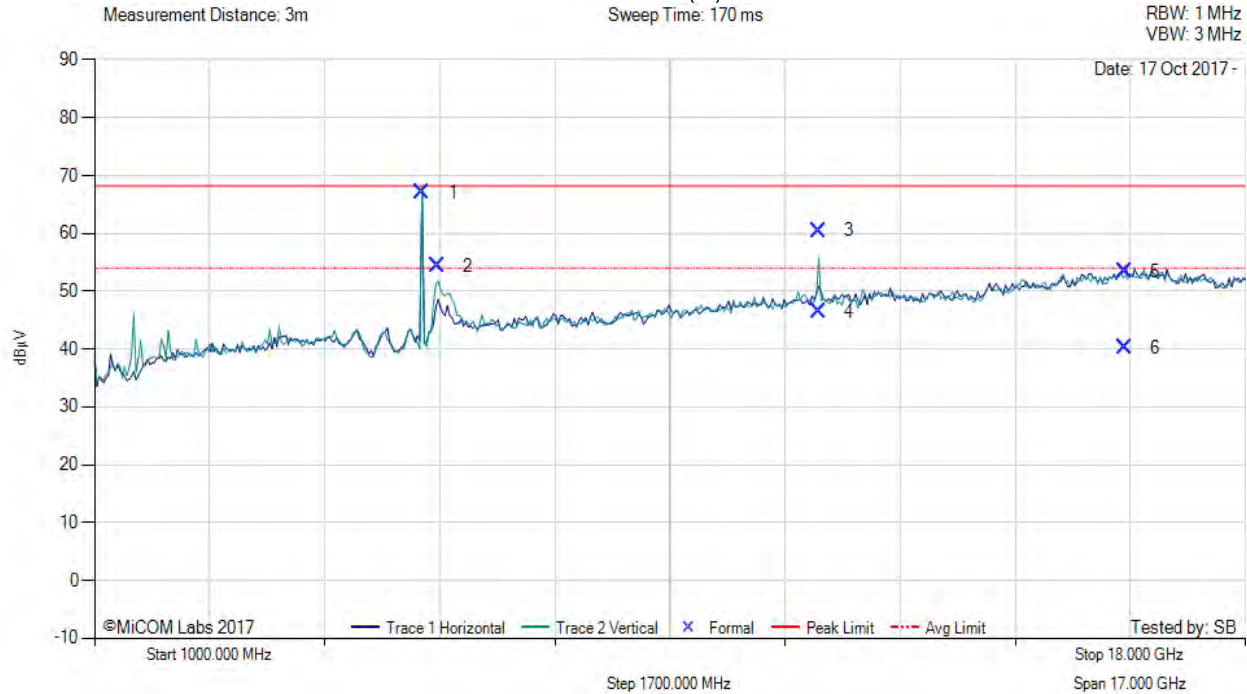
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TX SPURIOUS & RESTRICTED BAND EMISSIONS



Variant: 10 Mhz, Test Freq: 5845.00 MHz, Antenna: RADWIN Ltd. RW-9401-5002, 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	5843.57	76.62	3.21	-12.82	67.01	Fundamental	Vertical	100	0	--	--	
2	6070.69	63.01	3.25	-11.84	54.42	Max Peak	Vertical	126	2	68.2	-13.8	Pass
3	11689.13	55.90	5.07	-0.52	60.45	Max Peak	Vertical	109	339	68.2	-7.8	Pass
4	11689.13	41.83	5.07	-0.52	46.38	Max Avg	Vertical	109	339	54.0	-7.6	Pass
5	16210.44	47.06	5.72	0.64	53.42	Max Peak	Horizontal	123	87	68.2	-14.8	Pass
6	16210.44	33.83	5.72	0.64	40.19	Max Avg	Horizontal	123	87	54.0	-13.8	Pass

Test Notes: Antenna Setup: 2 omni directional antennas.

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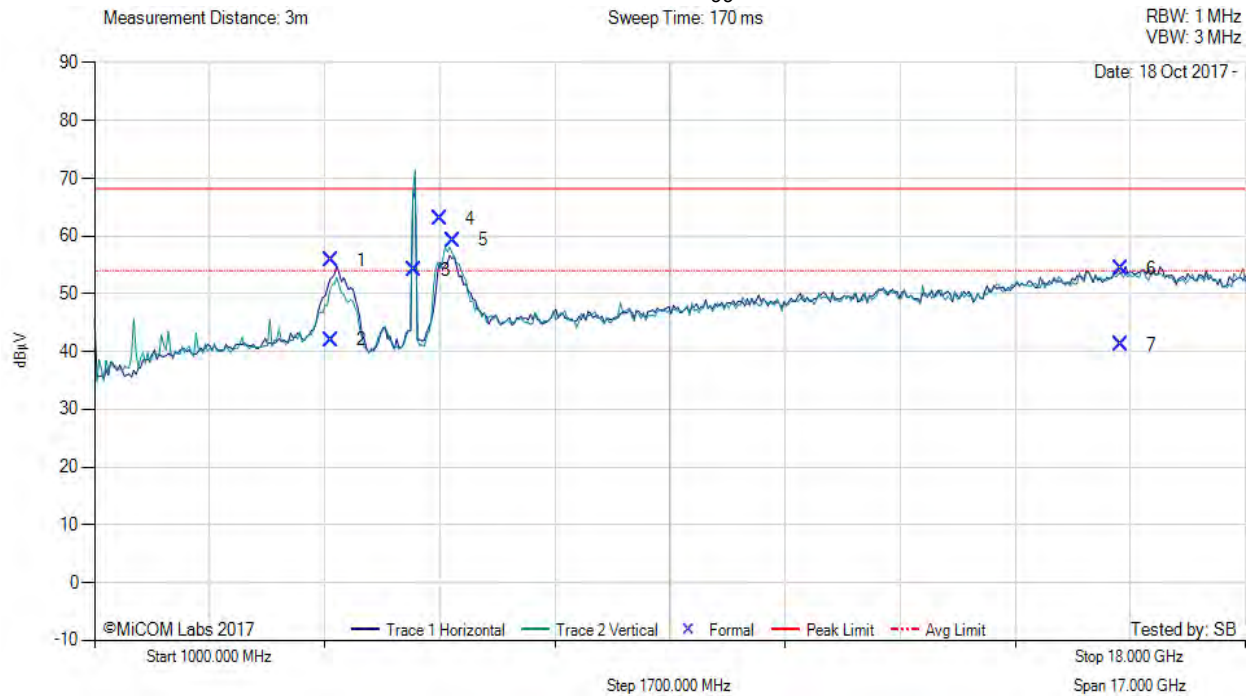
Title: Radwin AP0158770
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A.1.1.3. RADWIN Ltd. RW-9622-5001



TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 10 Mhz, Test Freq: 5730.00 MHz, Antenna: RADWIN Ltd. RW-9622-5001, 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	4498.68	68.39	2.87	-15.53	55.73	Max Peak	Horizontal	147	2	68.2	-12.5	Pass
2	4498.68	54.67	2.87	-15.53	42.01	Max Avg	Horizontal	147	2	54.0	-12.0	Pass
3	5728.36	63.79	3.17	-12.85	54.11	Fundamental	Vertical	100	0	--	--	
4	6101.64	71.57	3.24	-11.89	62.92	Max Peak	Vertical	152	2	68.2	-5.3	Pass
5	6287.94	68.08	3.19	-11.98	59.29	Max Peak	Horizontal	152	2	68.2	-8.9	Pass
6	16153.07	47.88	5.54	0.98	54.40	Max Peak	Horizontal	99	24	68.2	-13.8	Pass
7	16153.07	34.59	5.54	0.98	41.11	Max Avg	Horizontal	99	24	54.0	-12.9	Pass

Test Notes: Sector Antenna

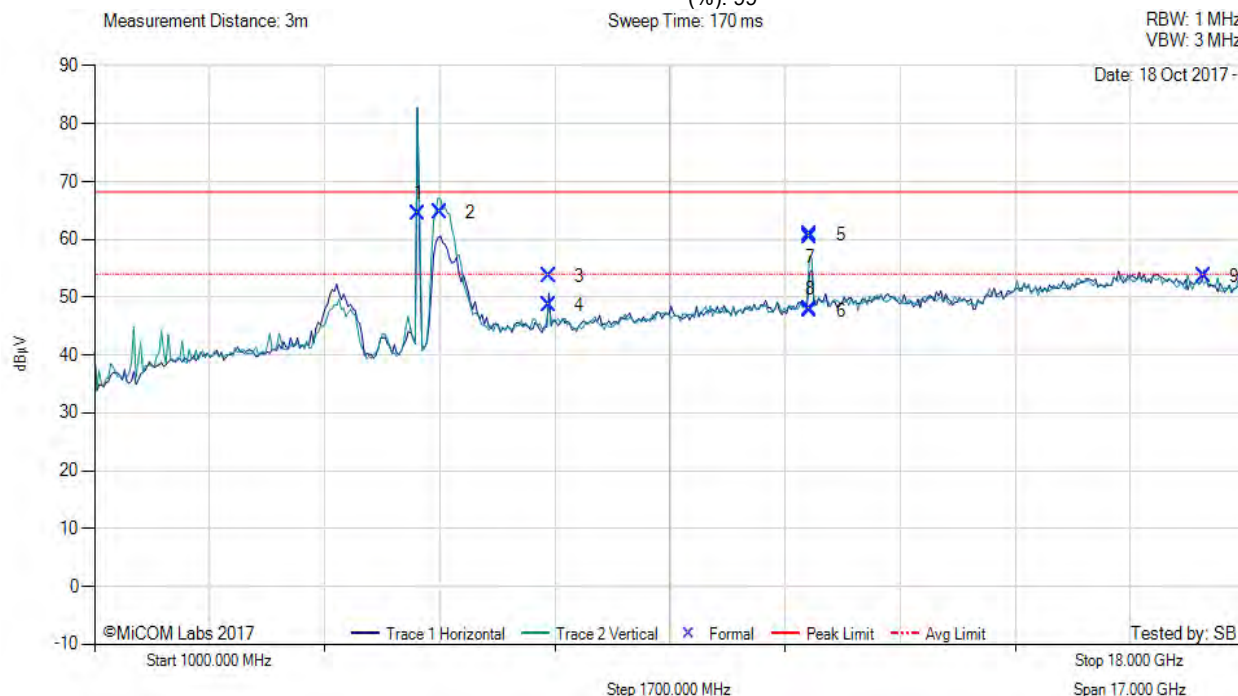
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TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 10 Mhz, Test Freq: 5787.00 MHz, Antenna: RADWIN Ltd. RW-9622-5001, Power Setting: 28, 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	5784.47	74.03	3.21	-12.77	64.47	Fundamental	Horizontal	100	0	--	--	
2	6106.16	73.22	3.24	-11.81	64.65	Max Peak	Horizontal	150	2	68.2	-3.6	Pass
3	7716.01	57.87	3.76	-8.03	53.60	Max Peak	Horizontal	148	2	68.2	-14.6	Pass
4	7716.01	52.95	3.76	-8.03	48.68	Max Avg	Horizontal	148	2	54.0	-5.3	Pass
5	11572.47	56.82	4.52	-0.48	60.86	Max Peak	Vertical	166	342	68.2	-7.4	Pass
6	11572.47	43.65	4.52	-0.48	47.69	Max Avg	Vertical	166	342	54.0	-6.3	Pass
7	11572.87	56.45	4.52	-0.48	60.49	Max Peak	Horizontal	148	238	68.2	-7.7	Pass
8	11572.87	43.88	4.52	-0.48	47.92	Max Avg	Horizontal	148	238	54.0	-6.1	Pass
9	17386.61	46.42	6.00	1.15	53.57	Peak (NRB)	Horizontal	149	0	--	--	Pass
Test Notes: Sector Antenna												

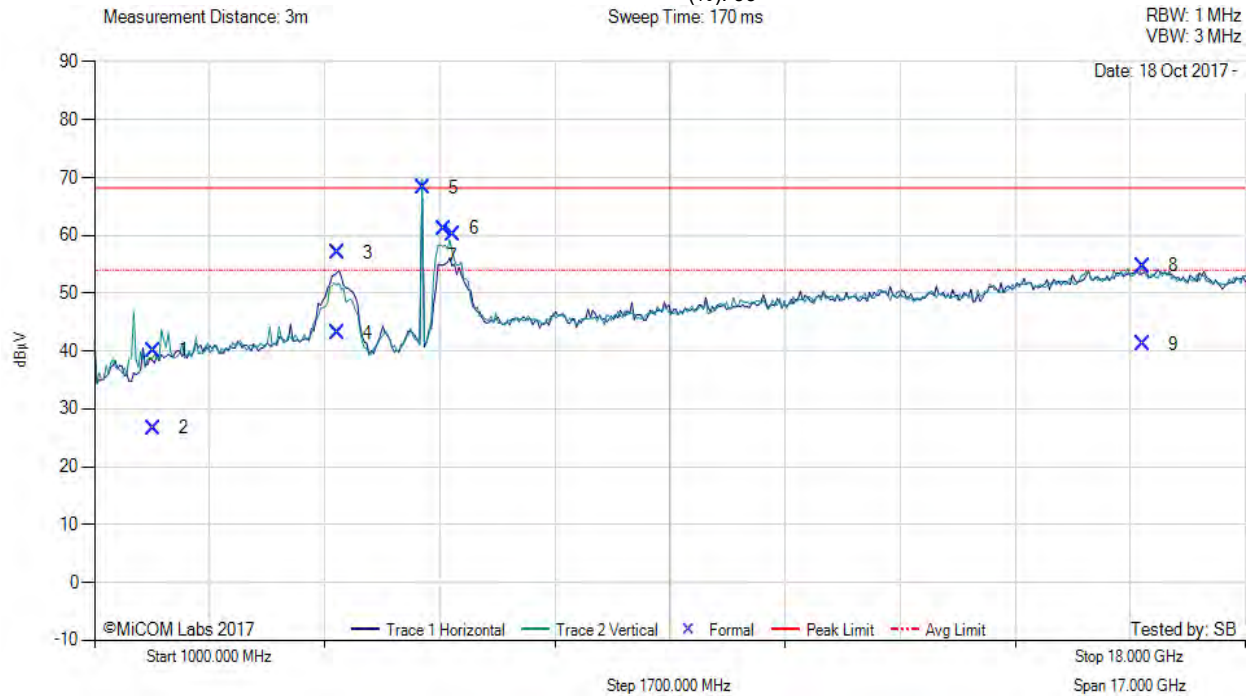
[back to matrix](#)

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TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 10 Mhz, Test Freq: 5845.00 MHz, Antenna: RADWIN Ltd. RW-9622-5001, Power Setting: 10, 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	1869.48	56.60	2.03	-18.57	40.06	Max Peak	Horizontal	106	177	68.2	-28.2	Pass
2	1869.48	43.20	2.03	-18.57	26.66	Max Avg	Horizontal	106	177	54.0	-27.3	Pass
3	4582.56	69.63	2.92	-15.59	56.96	Max Peak	Horizontal	158	2	68.2	-11.3	Pass
4	4582.56	55.75	2.92	-15.59	43.08	Max Avg	Horizontal	158	2	54.0	-10.9	Pass
5	5848.09	77.69	3.20	-12.71	68.18	Fundamental	Vertical	151	0	--	--	
6	6161.25	69.90	3.22	-11.96	61.16	Max Peak	Vertical	160	2	68.2	-7.1	Pass
7	6291.55	68.92	3.19	-12.04	60.07	Max Peak	Horizontal	152	2	68.2	-8.2	Pass
8	16479.33	48.79	5.67	0.28	54.74	Max Peak	Vertical	106	134	68.2	-13.5	Pass
9	16479.33	35.18	5.67	0.28	41.13	Max Avg	Vertical	106	134	54.0	-12.9	Pass
Test Notes: Sector Antenna												

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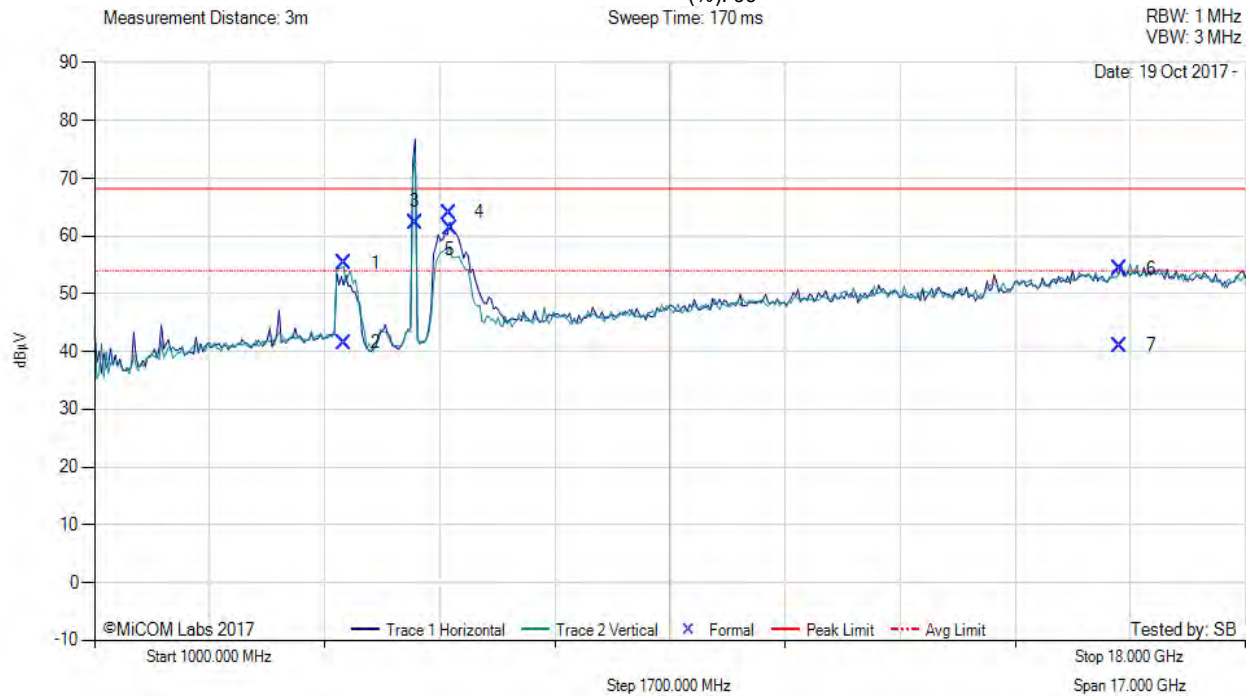
Title: Radwin AP0158770
To: FCC Part 15 Subpart E 15.407, ISSED RSS-247
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A.1.1.4. RADWIN Ltd. RW-9732-4958



TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 10 Mhz, Test Freq: 5730.00 MHz, Antenna: RADWIN Ltd. RW-9732-4958, 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	4693.26	67.91	2.95	-15.47	55.39	Max Peak	Horizontal	155	0	68.2	-12.8	Pass
2	4693.26	54.07	2.95	-15.47	41.55	Max Avg	Horizontal	155	0	54.0	-12.5	Pass
3	5730.79	72.04	3.18	-12.81	62.41	Fundamental	Horizontal	100	0	--	--	
4	6231.50	72.75	3.20	-11.90	64.05	Max Peak	Horizontal	159	0	68.2	-4.2	Pass
5	6250.90	69.91	3.23	-11.86	61.28	Max Peak	Vertical	157	0	68.2	-7.0	Pass
6	16149.79	47.94	5.56	0.93	54.43	Max Peak	Horizontal	197	106	68.2	-13.8	Pass
7	16149.79	34.56	5.56	0.93	41.05	Max Avg	Horizontal	197	106	54.0	-13.0	Pass

Test Notes: Dish Antenna

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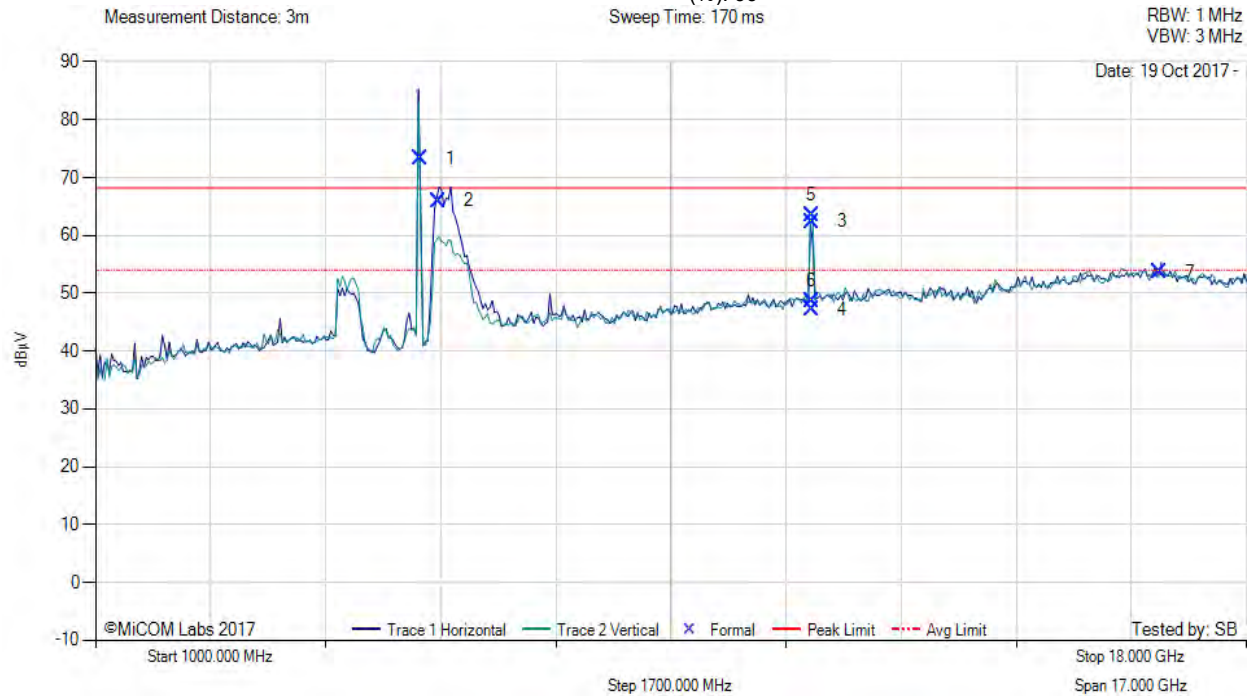


Title: Radwin AP0158770
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TX SPURIOUS & RESTRICTED BAND EMISSIONS



Variant: 10 Mhz, Test Freq: 5787.00 MHz, Antenna: RADWIN Ltd. RW-9732-4958, Power Setting: 20.5, 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	5788.44	82.80	3.21	-12.78	73.23	Fundamental	Horizontal	100	0	--	--	
2	6071.08	74.48	3.25	-11.79	65.94	Max Peak	Horizontal	156	0	68.2	-2.3	Pass
3	11576.39	58.26	4.60	-0.44	62.42	Max Peak	Horizontal	155	0	68.2	-5.8	Pass
4	11576.39	43.03	4.60	-0.44	47.19	Max Avg	Horizontal	155	0	54.0	-6.8	Pass
5	11578.04	59.30	4.63	-0.41	63.52	Max Peak	Vertical	168	0	68.2	-4.7	Pass
6	11578.04	44.46	4.63	-0.41	48.68	Max Avg	Vertical	168	0	54.0	-5.3	Pass
7	16716.50	47.62	5.66	0.29	53.57	Peak (NRB)	Vertical	151	0	--	--	Pass

Test Notes: Dish Antenna

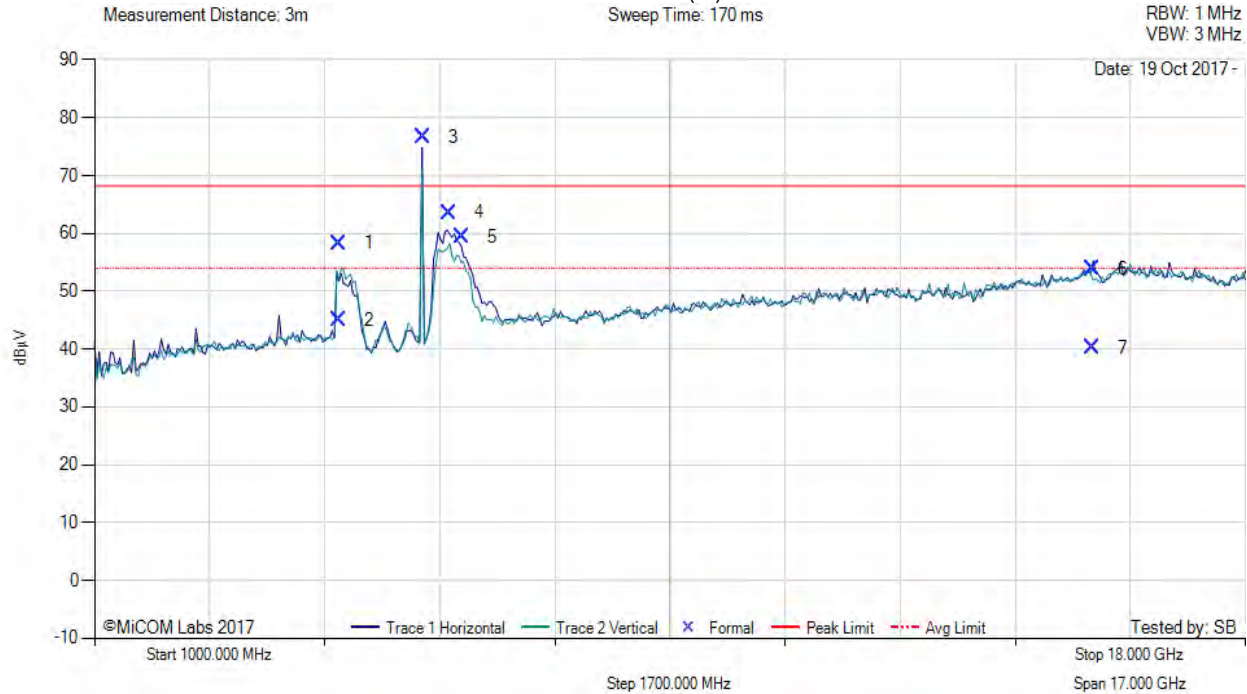
[back to matrix](#)

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TX SPURIOUS & RESTRICTED BAND EMISSIONS



Variant: 10 Mhz, Test Freq: 5845.00 MHz, Antenna: RADWIN Ltd. RW-9732-4958, Power Setting: 12.5, 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	4600.66	71.04	2.90	-15.59	58.35	Max Peak	Vertical	160	0	68.2	-9.9	Pass
2	4600.66	57.70	2.90	-15.59	45.01	Max Avg	Vertical	160	0	54.0	-9.0	Pass
3	5848.75	86.06	3.20	-12.68	76.58	Fundamental	Horizontal	151	0	--	--	
4	6233.11	72.27	3.20	-11.91	63.56	Max Peak	Horizontal	157	0	68.2	-4.7	Pass
5	6424.28	68.05	3.13	-11.84	59.34	Max Peak	Vertical	153	0	68.2	-8.9	Pass
6	15744.50	48.31	5.58	0.05	53.94	Max Peak	Horizontal	98	41	68.2	-14.3	Pass
7	15744.50	34.54	5.58	0.05	40.17	Max Avg	Horizontal	98	41	54.0	-13.8	Pass

Test Notes: Dish Antenna

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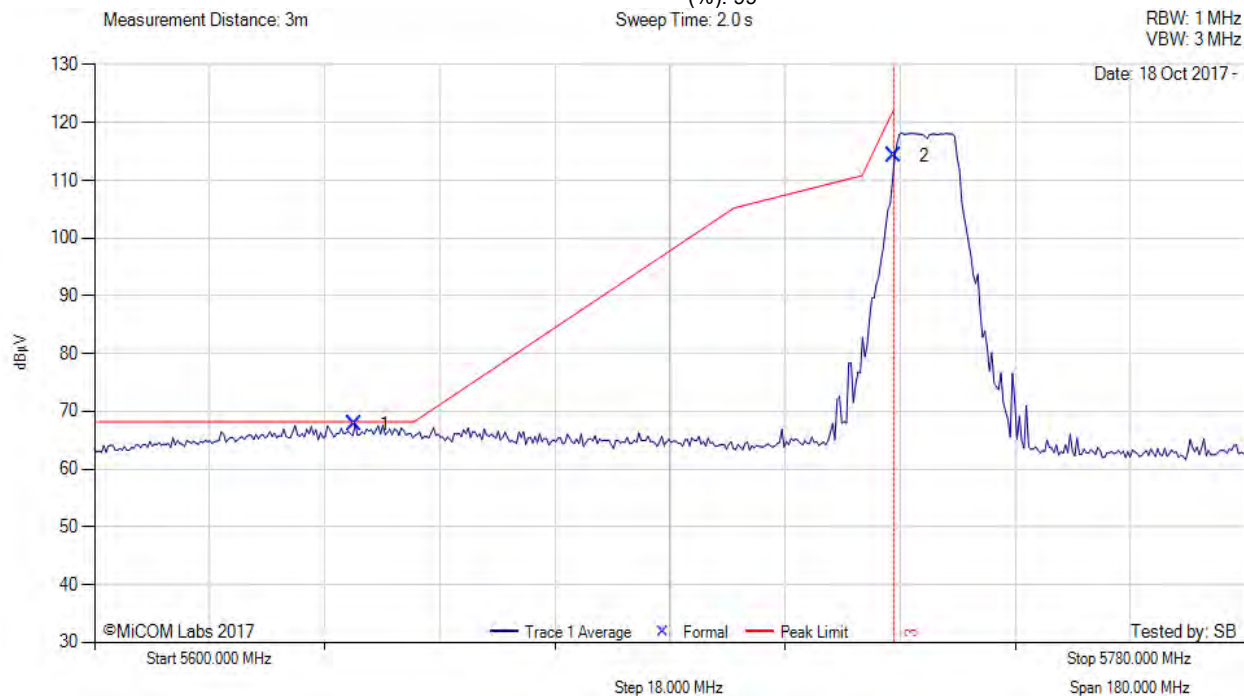
A.1.2. Restricted Edge & Band-Edge Emissions

A.1.2.5. RADWIN Ltd. RW-9061-5002

5725 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 10 Mhz, Test Freq: 5730.00 MHz, Antenna: RADWIN Ltd. RW-9061-5002, Power Setting: 14, 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	5640.69	28.29	3.18	36.30	67.77	Max Avg	Horizontal	153	11	68.2	-0.5	Pass
2	5725.00	74.54	3.17	36.50	114.21	Max Avg	Horizontal	153	11	122.2	-8.0	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: Sector Antenna												

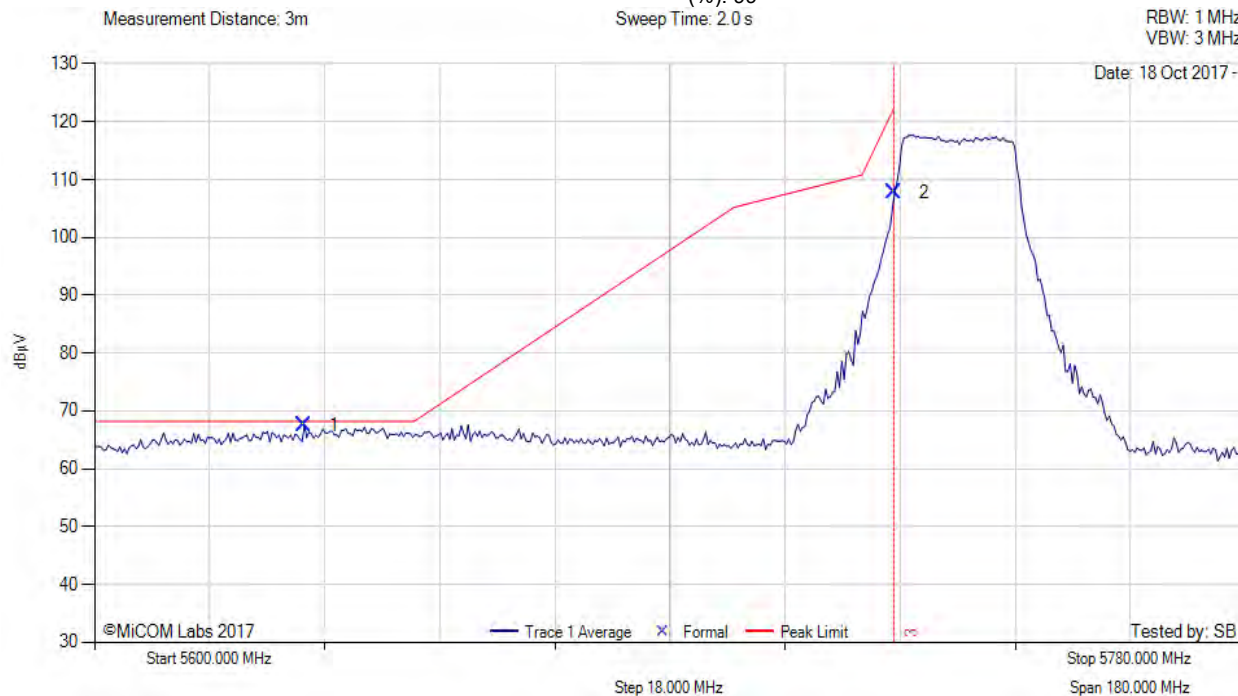
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5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 20 Mhz, Test Freq: 5735.00 MHz, Antenna: RADWIN Ltd. RW-9061-5002, Power Setting: 14, 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	5632.76	27.97	3.21	36.30	67.48	Max Avg	Horizontal	153	11	68.2	-0.8	Pass
2	5725.00	68.05	3.17	36.50	107.72	Max Avg	Horizontal	153	11	122.2	-14.5	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

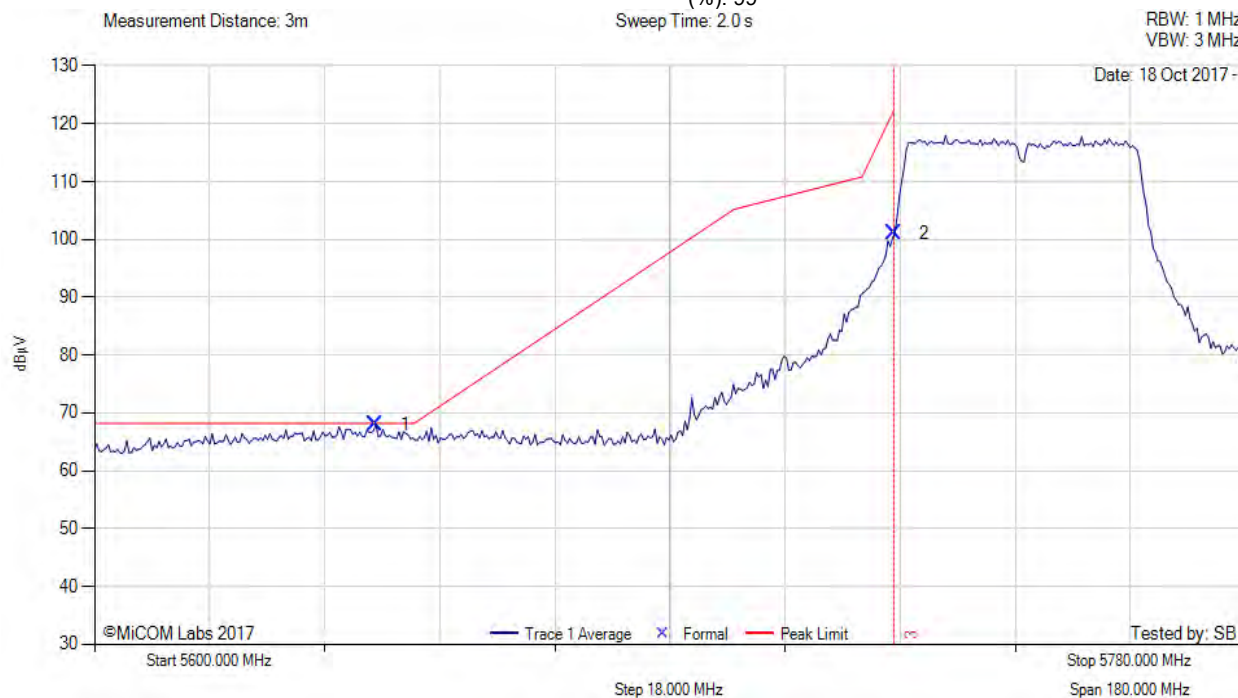
Test Notes: Sector Antenna

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5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 40 Mhz, Test Freq: 5745.00 MHz, Antenna: RADWIN Ltd. RW-9061-5002, Power Setting: 15, Duty Cycle (%): 99



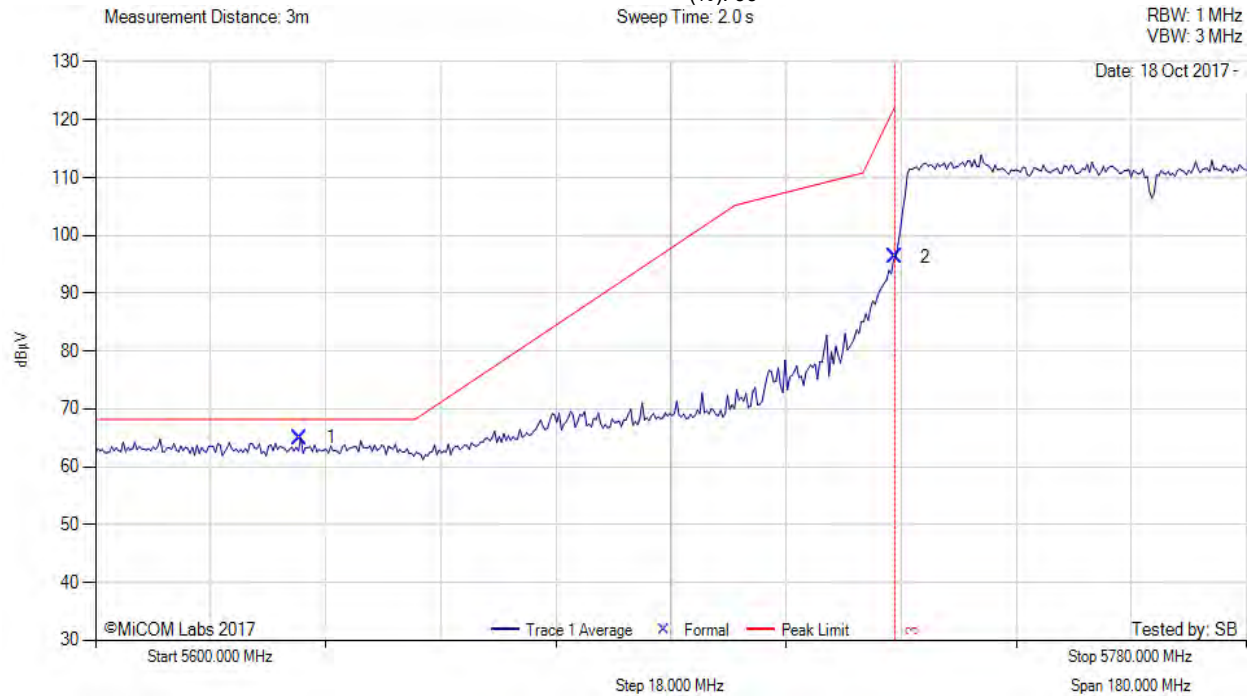
5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	5643.94	28.53	3.19	36.30	68.02	Max Avg	Horizontal	153	11	68.2	-0.2	Pass
2	5725.00	61.35	3.17	36.50	101.02	Max Avg	Horizontal	153	11	122.2	-21.2	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: Sector Antenna												

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5725 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 80 Mhz, Test Freq: 5765.00 MHz, Antenna: RADWIN Ltd. RW-9061-5002, Power Setting: 9.5, Duty Cycle (%): 99



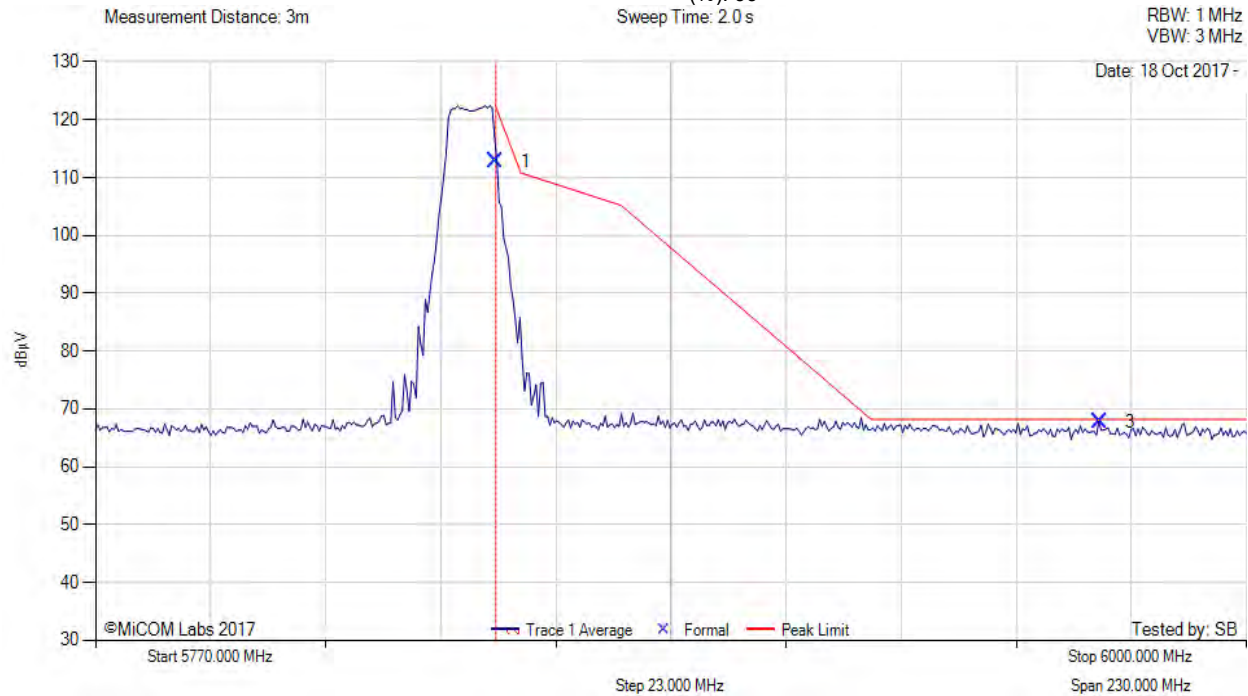
5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	5632.03	25.52	3.21	36.30	65.03	Max Avg	Horizontal	153	-2	68.2	-3.2	Pass
2	5725.00	56.55	3.17	36.50	96.22	Max Avg	Horizontal	153	-2	122.2	-26.0	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: Sector Antenna												

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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 10 Mhz, Test Freq: 5845.00 MHz, Antenna: RADWIN Ltd. RW-9061-5002, Power Setting: 14, 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	72.90	3.20	36.70	112.80	Max Avg	Horizontal	153	11	122.2	-9.4	Pass
3	5970.62	27.61	3.29	36.90	67.80	Max Avg	Horizontal	153	11	68.2	-0.4	Pass
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: Sector Antenna												

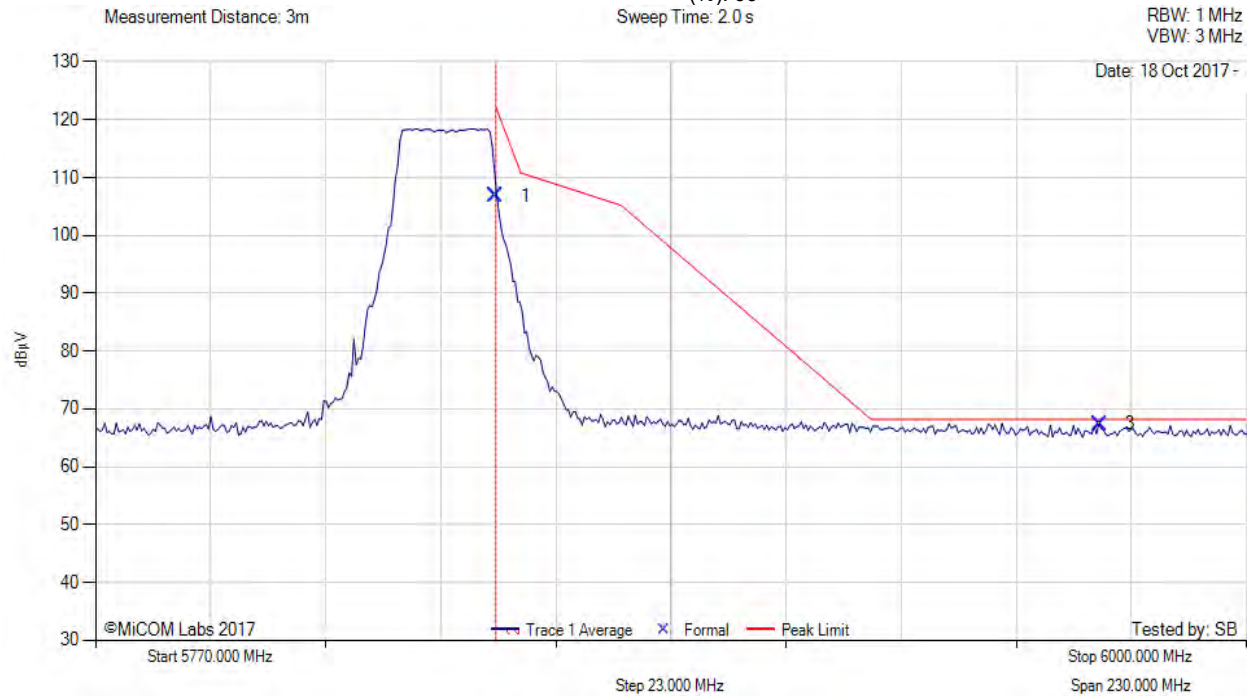
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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 20 Mhz, Test Freq: 5840.00 MHz, Antenna: RADWIN Ltd. RW-9061-5002, Power Setting: 16, 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	66.88	3.20	36.70	106.78	Max Avg	Horizontal	153	11	122.2	-15.4	Pass
3	5970.62	27.21	3.29	36.90	67.40	Max Avg	Horizontal	153	11	68.2	-0.8	Pass
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: Sector Antenna												

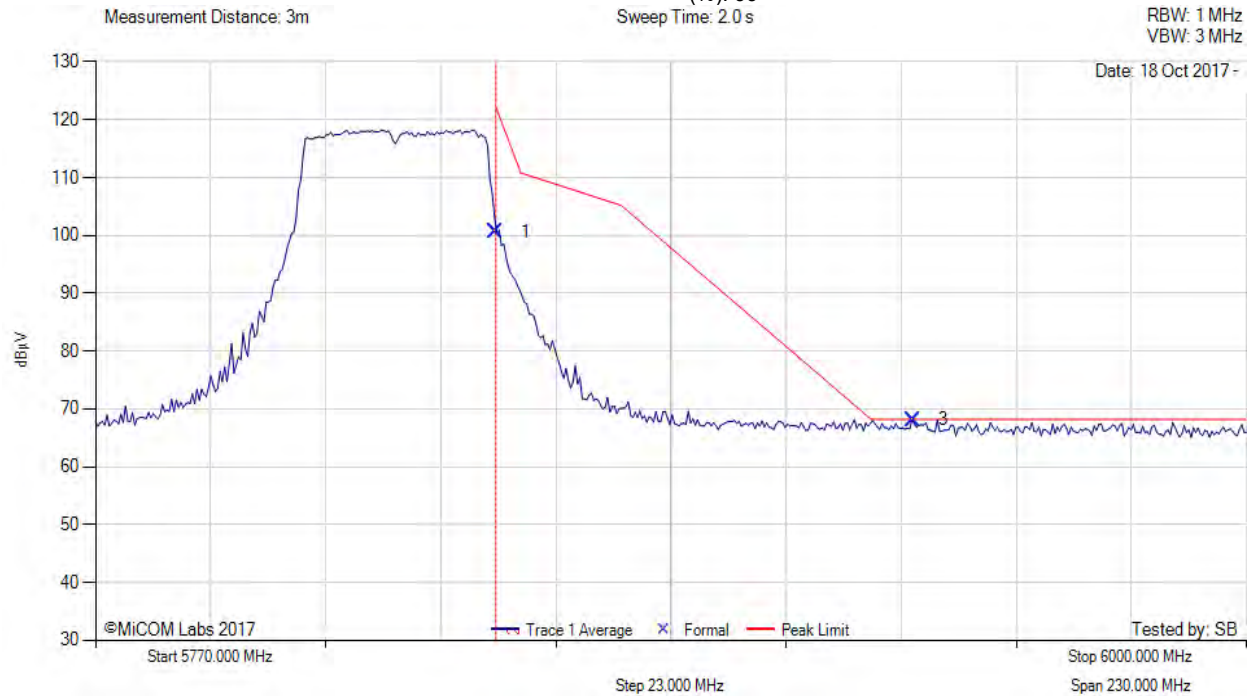
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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 40 Mhz, Test Freq: 5830.00 MHz, Antenna: RADWIN Ltd. RW-9061-5002, Power Setting: 14, 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	60.66	3.20	36.70	100.56	Max Avg	Vertical	153	-2	122.2	-21.6	Pass
3	5933.29	28.11	3.19	36.80	68.10	Max Avg	Vertical	153	-2	68.2	-0.1	Pass
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: Sector Antenna												

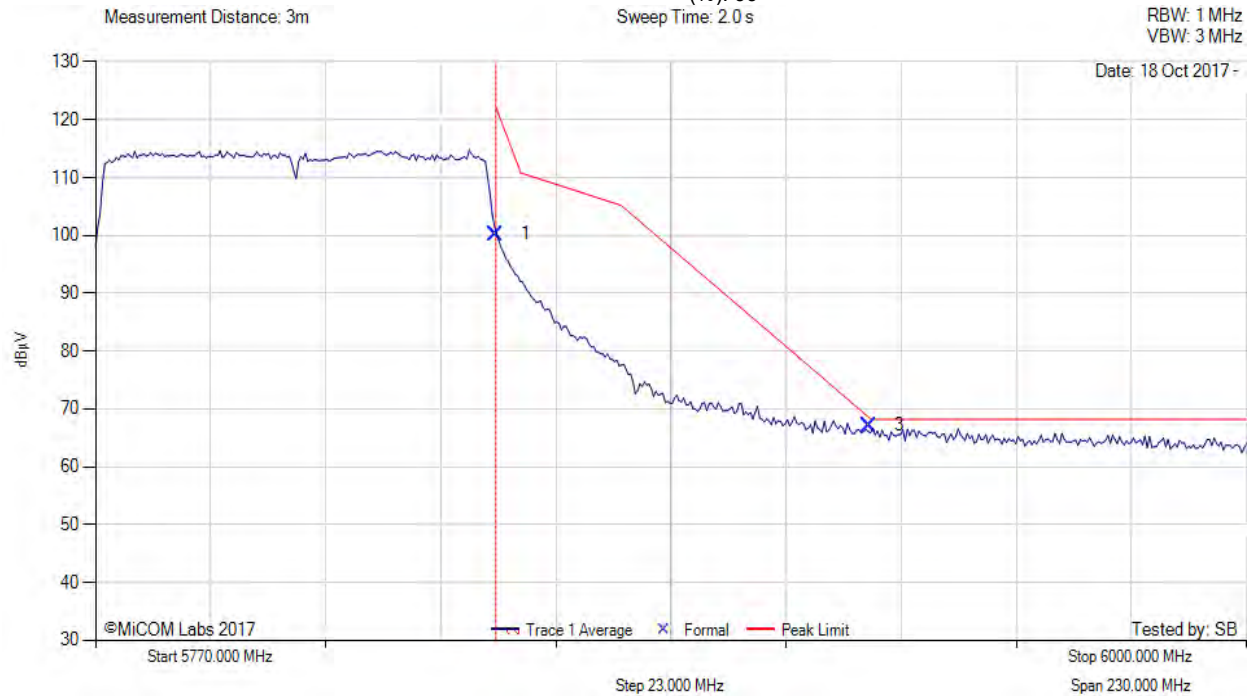
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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 80 Mhz, Test Freq: 5810.00 MHz, Antenna: RADWIN Ltd. RW-9061-5002, Power Setting: 16, 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	63.30	3.20	36.70	100.20	Max Avg	Vertical	153	-2	122.2	-22.0	Pass
3	5924.53	29.14	3.19	36.80	67.13	Max Avg	Vertical	153	-2	68.2	-1.1	Pass
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Sector Antenna

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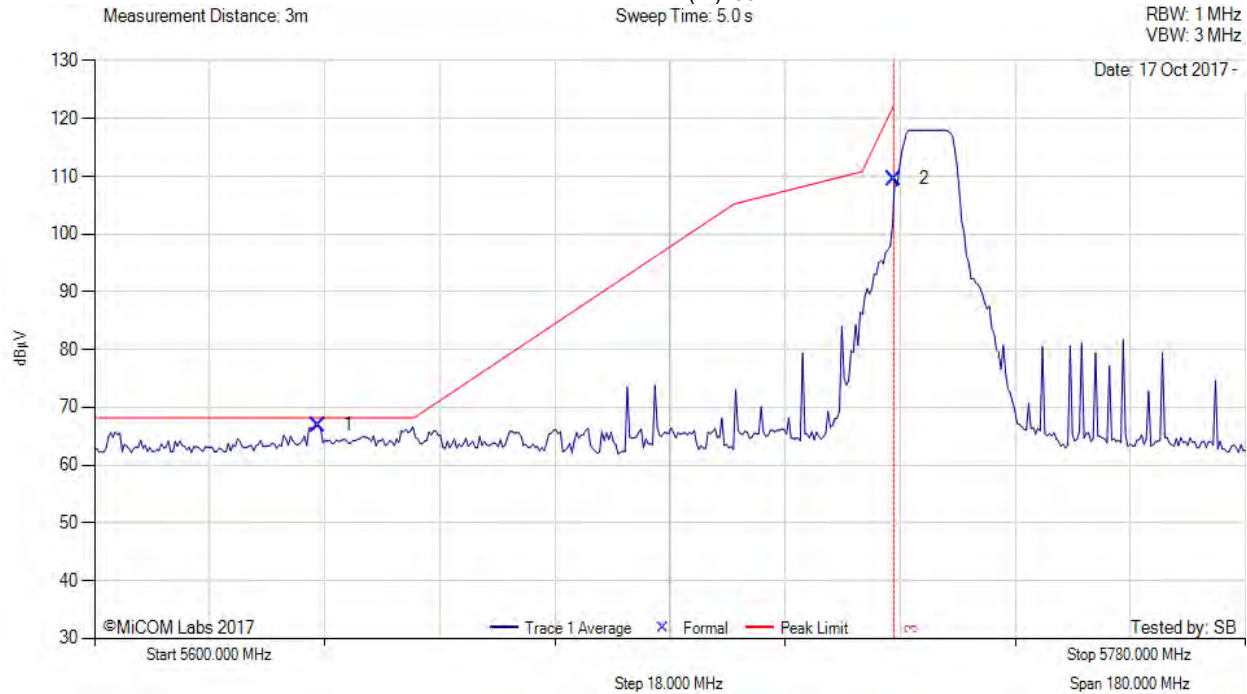
Title: Radwin AP0158770
To: FCC Part 15 Subpart E 15.407, ISED RSS-247
Serial #: RDWN48-U4_Radiated Rev A
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A.1.2.6. RADWIN Ltd. RW-9401-5002



5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 10 MHz, Test Freq: 5730.00 MHz, Antenna: RADWIN Ltd. RW-9401-5002, Power Setting: 21, 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	5634.92	27.44	3.20	36.30	66.94	Max Avg	Vertical	155	11	68.2	-1.3	Pass
2	5725.00	69.88	3.17	36.50	109.55	Max Avg	Vertical	155	11	122.2	-12.7	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Antenna Setup: 2 omni directional antennas.

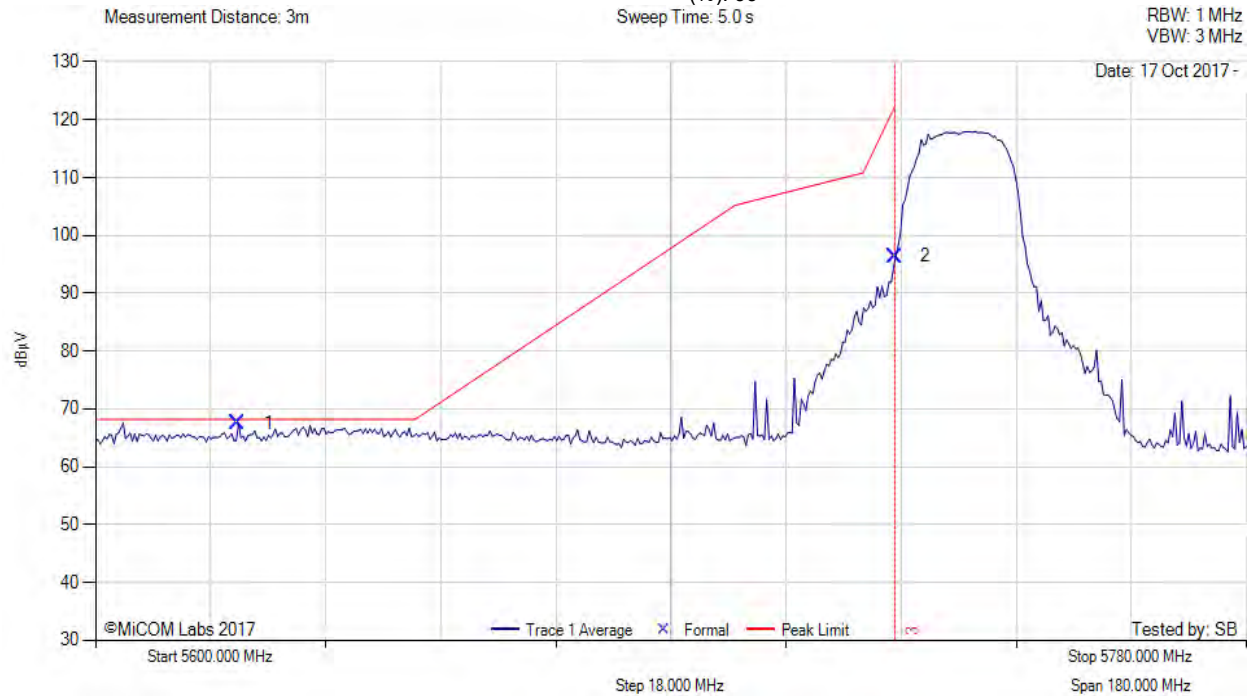
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5725 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 20 Mhz, Test Freq: 5735.00 MHz, Antenna: RADWIN Ltd. RW-9401-5002, Power Setting: 20, 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	5622.29	28.04	3.18	36.30	67.52	Max Avg	Vertical	155	11	68.2	-0.7	Pass
2	5725.00	56.74	3.17	36.50	96.41	Max Avg	Vertical	155	11	122.2	-25.8	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Antenna Setup: 2 omni directional antennas.

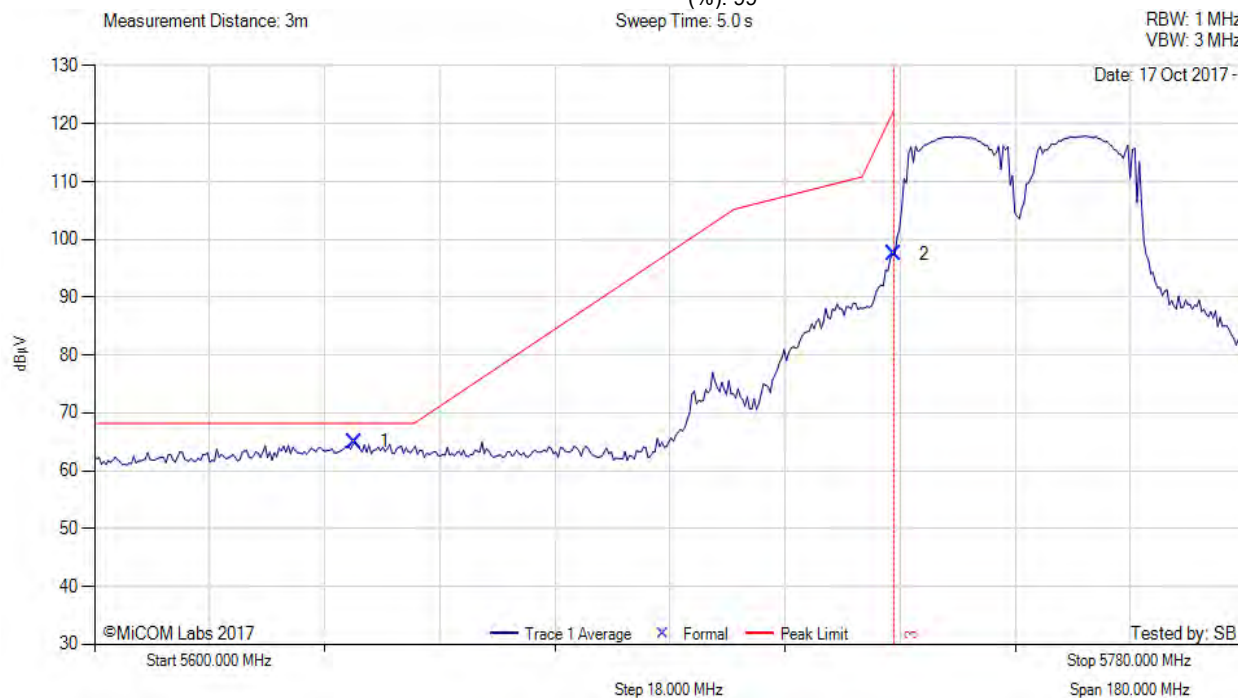
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5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 40 Mhz, Test Freq: 5745.00 MHz, Antenna: RADWIN Ltd. RW-9401-5002, Power Setting: 21, 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	5640.69	25.55	3.18	36.30	65.03	Max Avg	Vertical	155	4	68.2	-3.2	Pass
2	5725.00	57.81	3.17	36.50	97.48	Max Avg	Vertical	155	4	122.2	-24.7	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

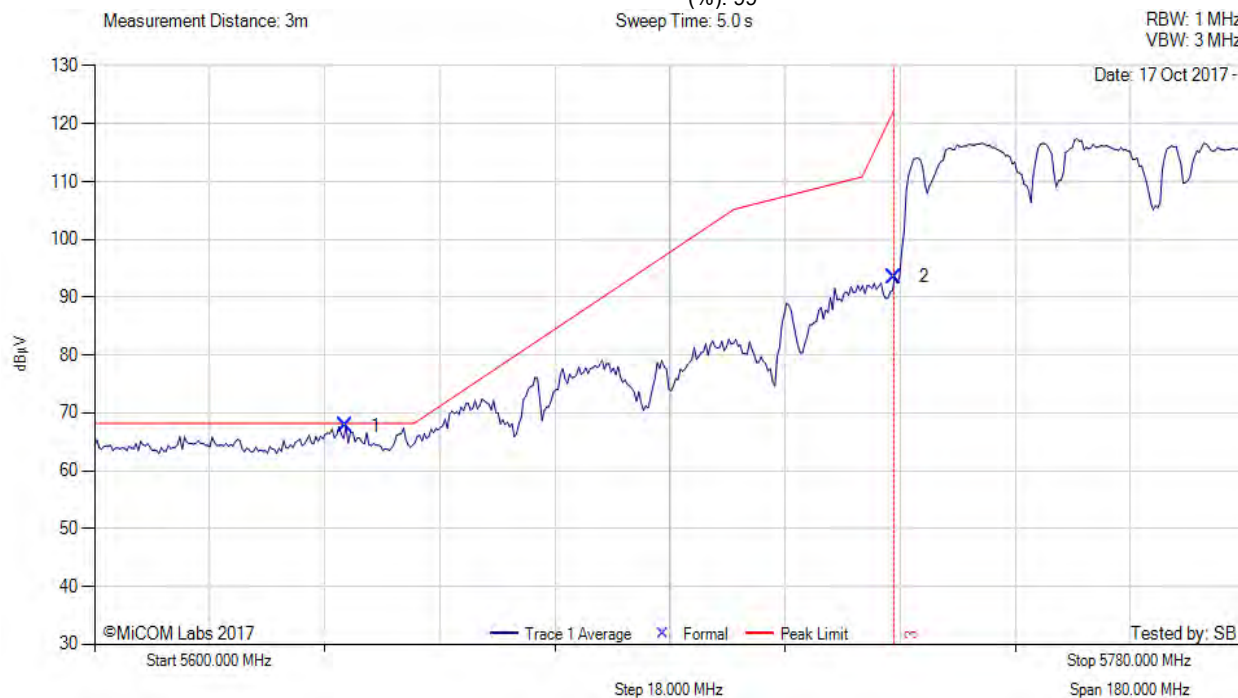
Test Notes: Antenna Setup: 2 omni directional antennas.

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5725 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 80 Mhz, Test Freq: 5765.00 MHz, Antenna: RADWIN Ltd. RW-9401-5002, Power Setting: 19.5, 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	5639.25	28.24	3.19	36.30	67.73	Max Avg	Vertical	155	4	68.2	-0.5	Pass
2	5725.00	53.89	3.17	36.50	93.56	Max Avg	Vertical	155	4	122.2	-28.6	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

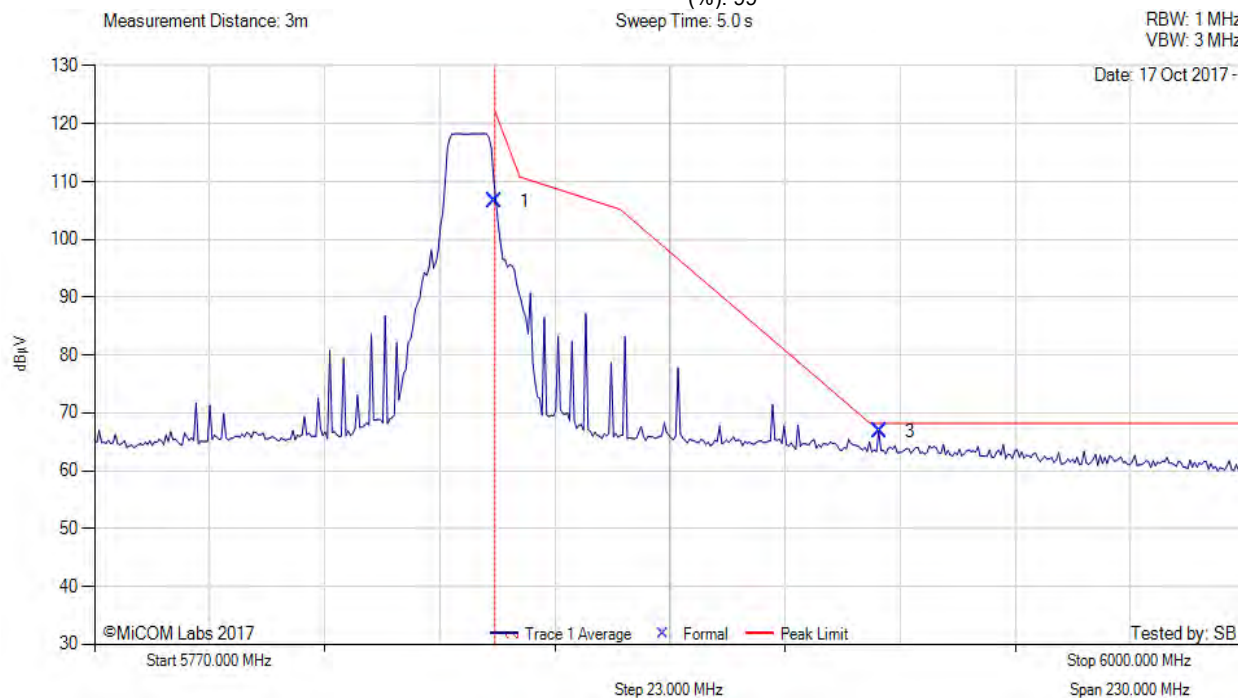
Test Notes: Antenna Setup: 2 omni directional antennas.

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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 10 Mhz, Test Freq: 5845.00 MHz, Antenna: RADWIN Ltd. RW-9401-5002, Power Setting: 23, Duty Cycle (%): 99



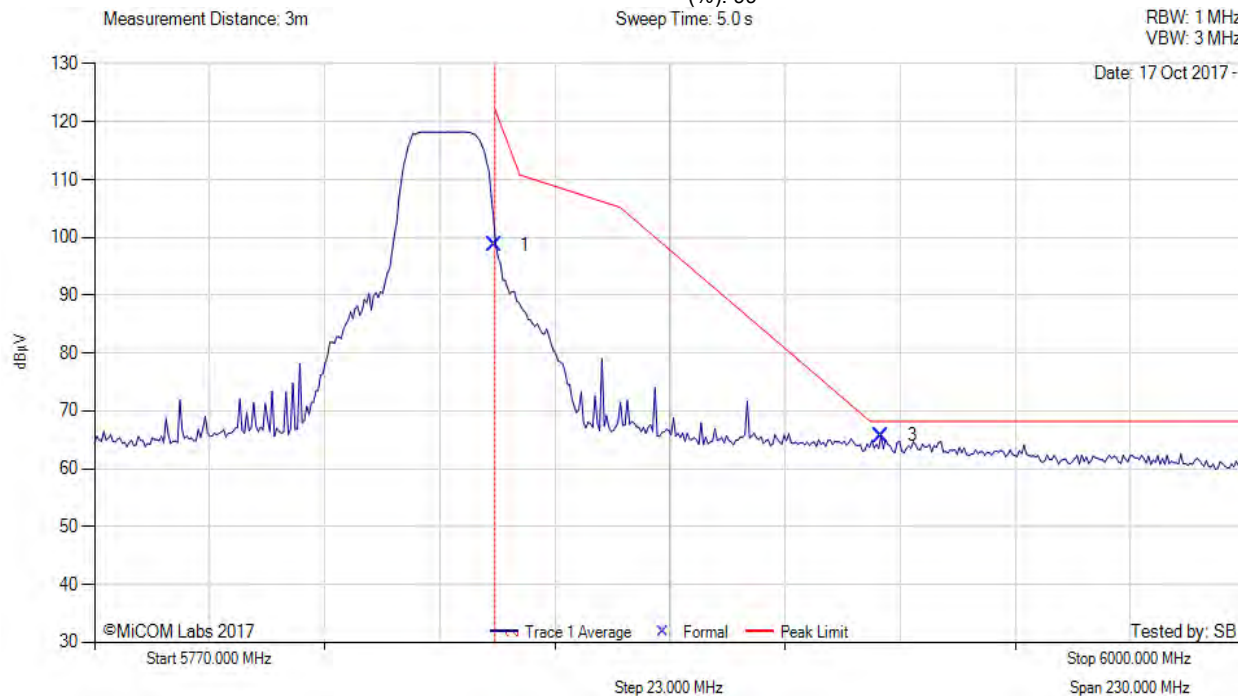
5770.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	5850.00	66.68	3.20	36.70	106.58	Max Avg	Vertical	155	11	122.2	-15.6	Pass
3	5926.83	26.81	3.19	36.80	66.80	Max Avg	Vertical	155	11	68.2	-1.4	Pass
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: Antenna Setup: 2 omni directional antennas.												

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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 20 Mhz, Test Freq: 5840.00 MHz, Antenna: RADWIN Ltd. RW-9401-5002, 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
1	5850.00	58.70	3.20	36.70	98.60	Max Avg	Vertical	155	11	122.2	-23.6	Pass
3	5927.29	25.73	3.19	36.80	65.72	Max Avg	Vertical	155	11	68.2	-2.5	Pass
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

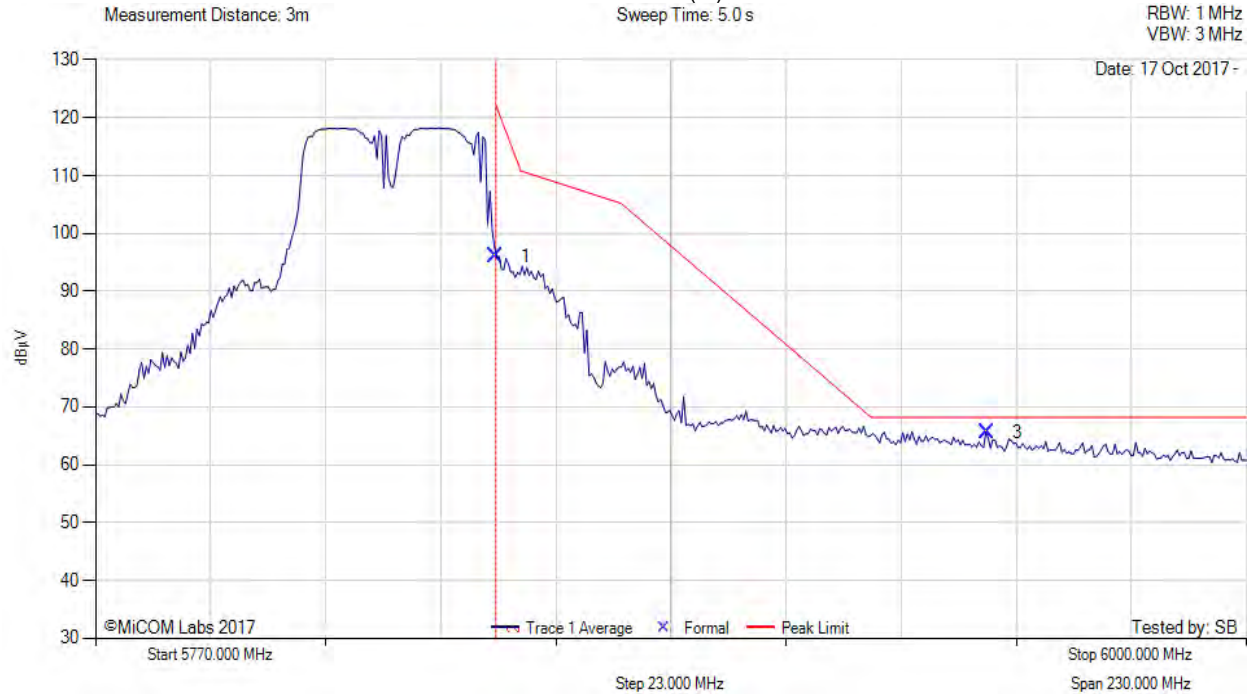
Test Notes: Antenna Setup: 2 omni directional antennas.

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5850 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 40 Mhz, Test Freq: 5830.00 MHz, Antenna: RADWIN Ltd. RW-9401-5002, Power Setting: 23.5, 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	56.14	3.20	36.70	96.04	Max Avg	Vertical	155	4	122.2	-26.2	Pass
3	5948.04	25.62	3.23	36.80	65.65	Max Avg	Vertical	155	4	68.2	-2.6	Pass
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

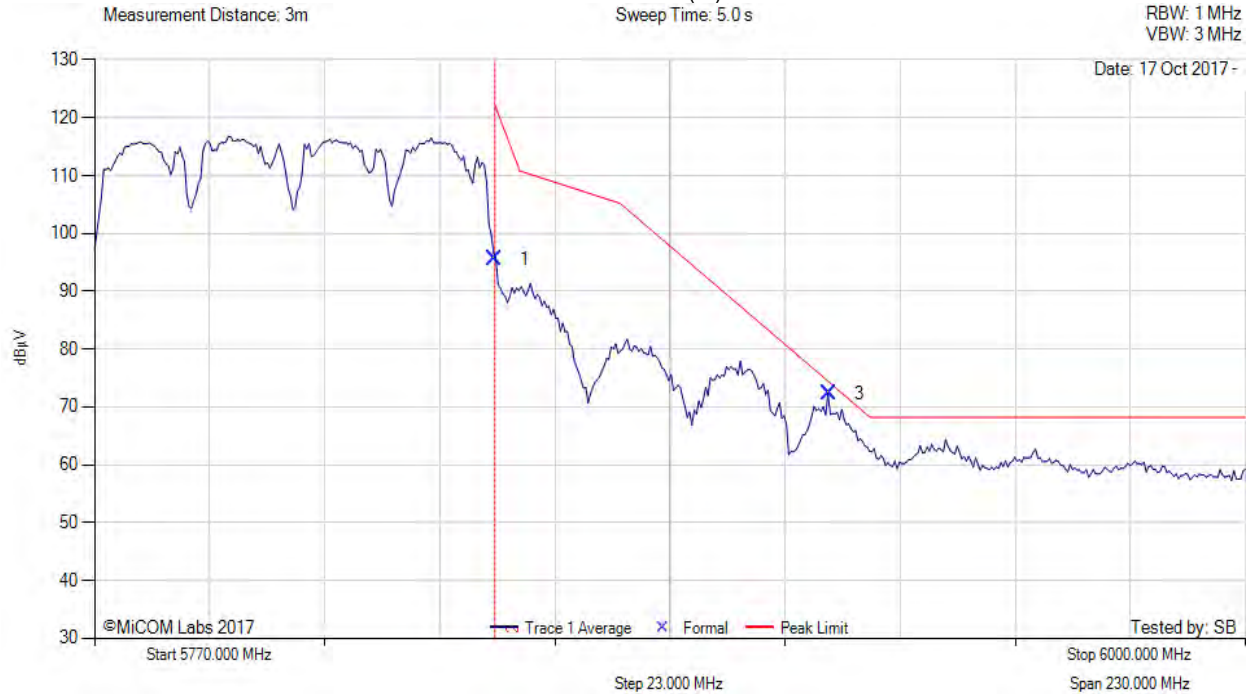
Test Notes: Antenna Setup: 2 omni directional antennas.

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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 80 Mhz, Test Freq: 5810.00 MHz, Antenna: RADWIN Ltd. RW-9401-5002, Power Setting: 21.0, 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	55.71	3.20	36.70	95.61	Max Avg	Vertical	155	4	122.2	-26.6	Pass
3	5916.69	32.30	3.21	36.80	72.31	Max Avg	Vertical	155	4	74.1	-1.8	Pass
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Antenna Setup: 2 omni directional antennas.

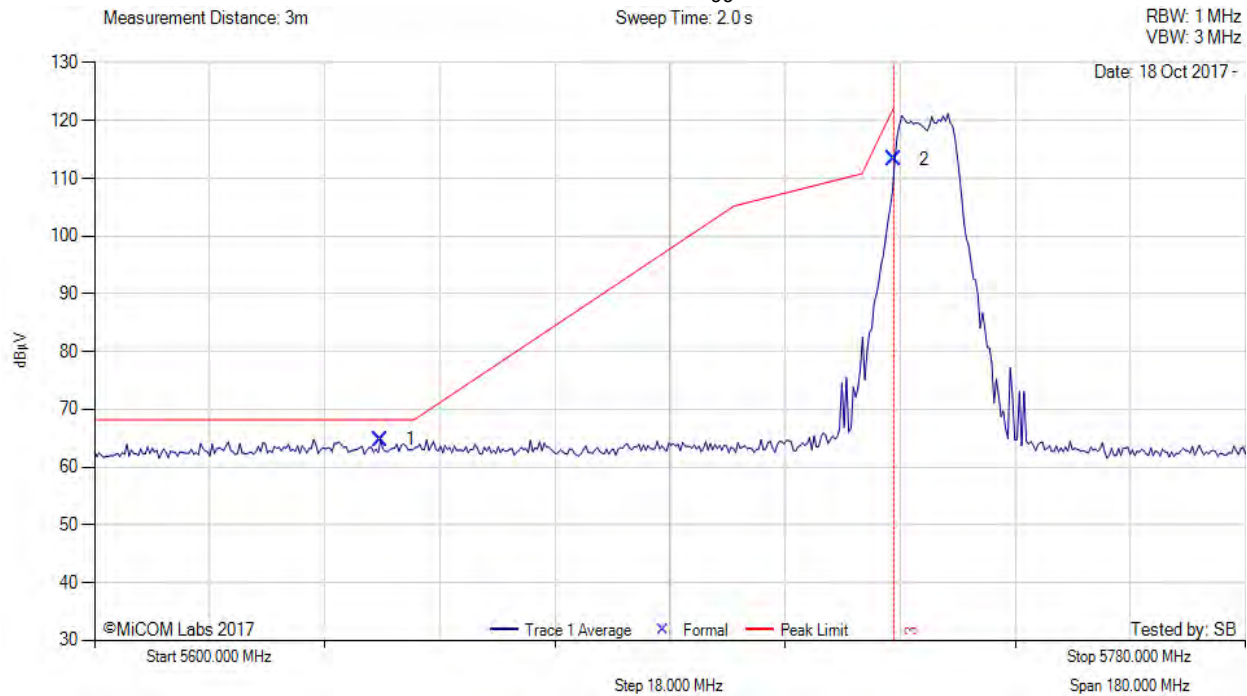
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A.1.2.7. RADWIN Ltd. RW-9622-5001



5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 10 Mhz, Test Freq: 5730.00 MHz, Antenna: RADWIN Ltd. RW-9622-5001, Power Setting: 8, Duty Cycle (%): 99



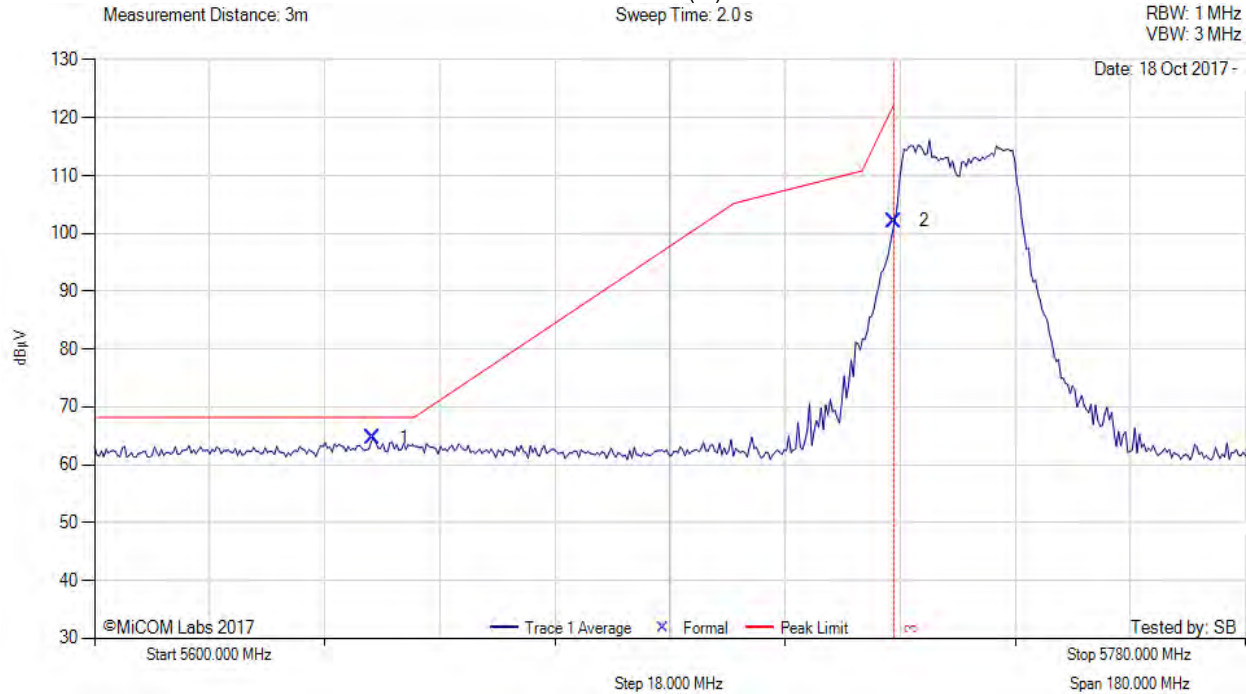
5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	5644.66	25.25	3.19	36.30	64.74	Max Avg	Vertical	153	-2	68.2	-3.5	Pass
2	5725.00	73.61	3.17	36.50	113.28	Max Avg	Vertical	153	-2	122.2	-8.9	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: Sector Antenna												

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5725 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 20 Mhz, Test Freq: 5735.00 MHz, Antenna: RADWIN Ltd. RW-9622-5001, Power Setting: 10, Duty Cycle (%): 99



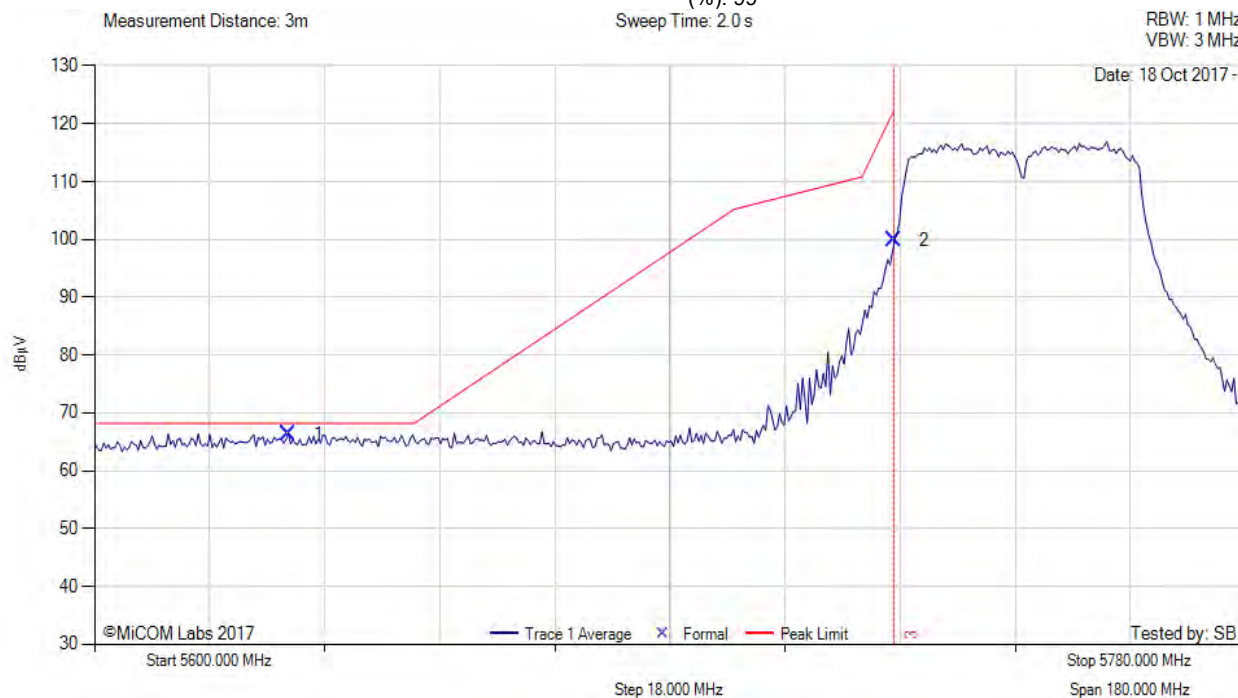
5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	5643.58	25.14	3.19	36.30	64.63	Max Avg	Horizontal	153	-2	68.2	-3.6	Pass
2	5725.00	62.49	3.17	36.50	102.16	Max Avg	Horizontal	153	-2	122.2	-20.0	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: Sector Antenna												

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5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 40 Mhz, Test Freq: 5745.00 MHz, Antenna: RADWIN Ltd. RW-9622-5001, Power Setting: 9.5, Duty Cycle (%): 99



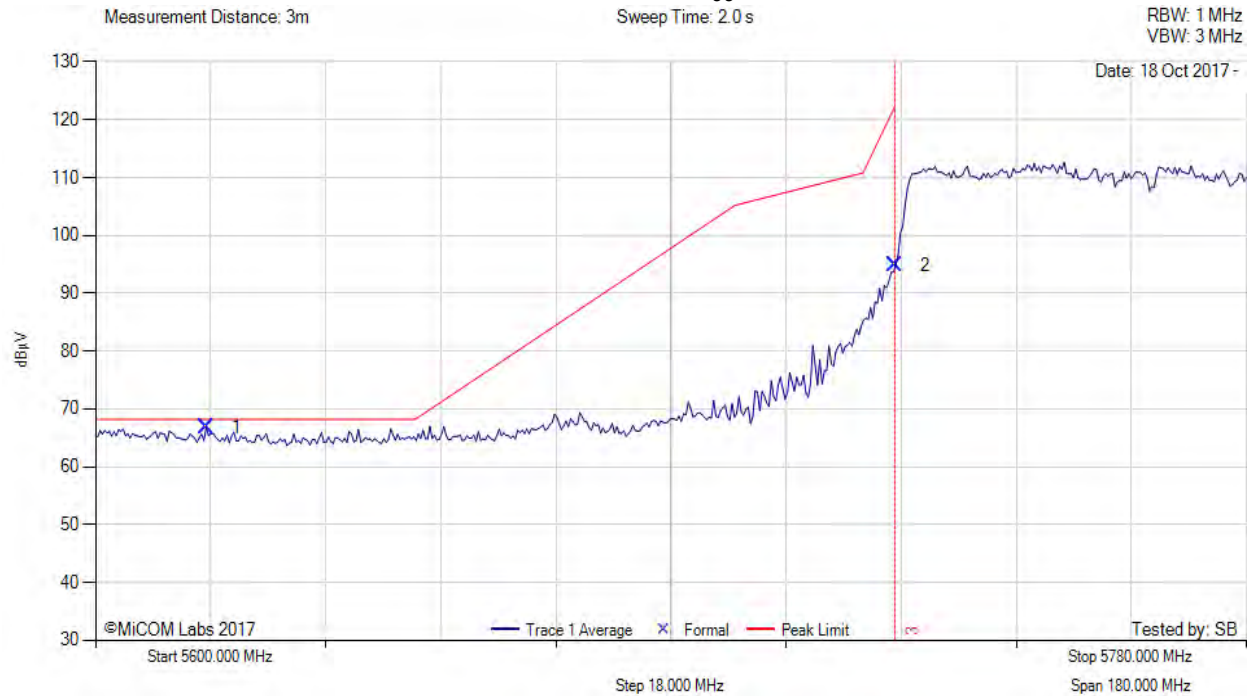
5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	5630.23	26.88	3.21	36.30	66.39	Max Avg	Vertical	153	-2	68.2	-1.8	Pass
2	5725.00	60.26	3.17	36.50	99.93	Max Avg	Vertical	153	-2	122.2	-22.3	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: Sector Antenna												

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5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 80 Mhz, Test Freq: 5765.00 MHz, Antenna: RADWIN Ltd. RW-9622-5001, Power Setting: 9, 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	5617.24	27.30	3.19	36.30	66.79	Max Avg	Horizontal	153	-2	68.2	-1.4	Pass
2	5725.00	55.22	3.17	36.50	94.89	Max Avg	Horizontal	153	-2	122.2	-27.3	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

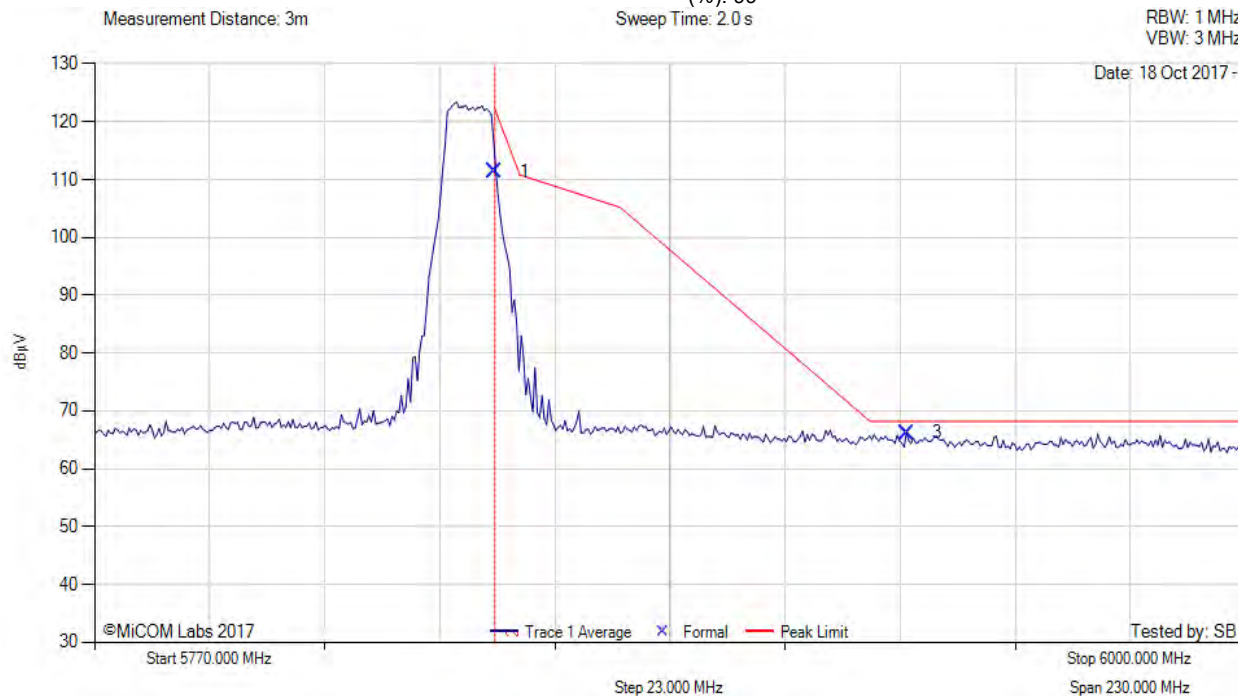
Test Notes: Sector Antenna

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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 10 Mhz, Test Freq: 5845.00 MHz, Antenna: RADWIN Ltd. RW-9622-5001, Power Setting: 10, 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	71.42	3.20	36.70	111.32	Max Avg	Vertical	153	-2	122.2	-10.9	Pass
3	5932.36	26.26	3.19	36.80	66.25	Max Avg	Vertical	153	-2	68.2	-2.0	Pass
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: Sector Antenna												

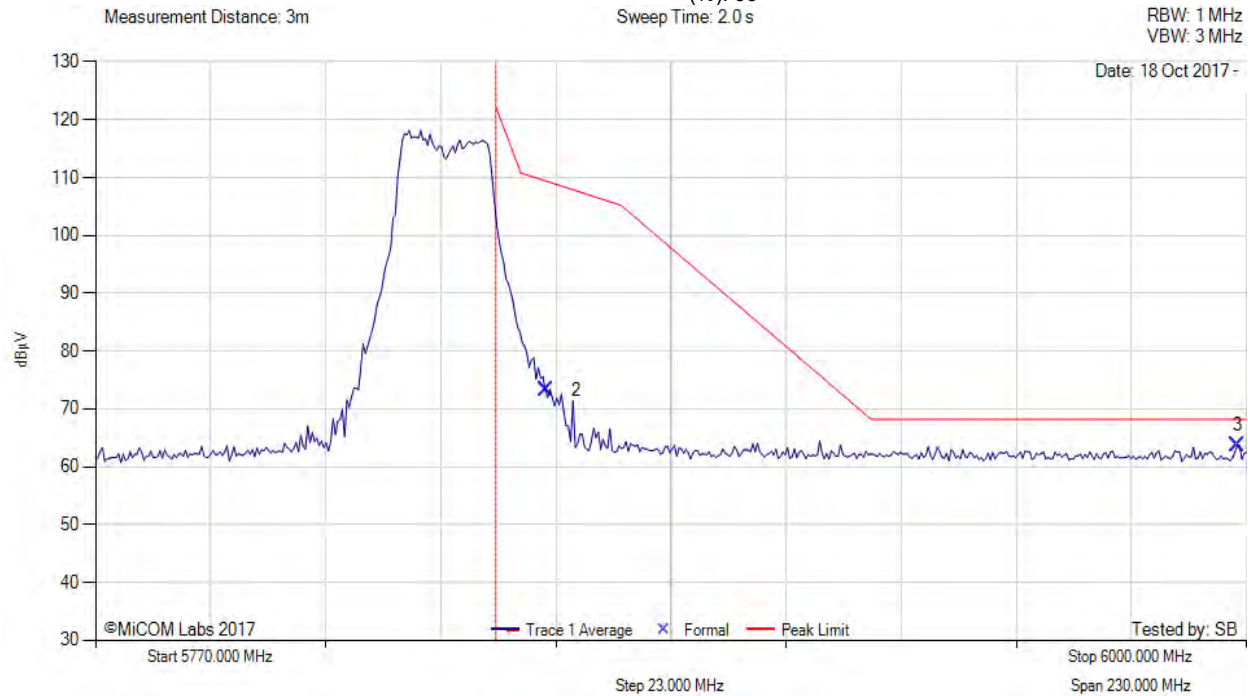
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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 20 Mhz, Test Freq: 5840.00 MHz, Antenna: RADWIN Ltd. RW-9622-5001, Power Setting: 10, Duty Cycle (%): 99



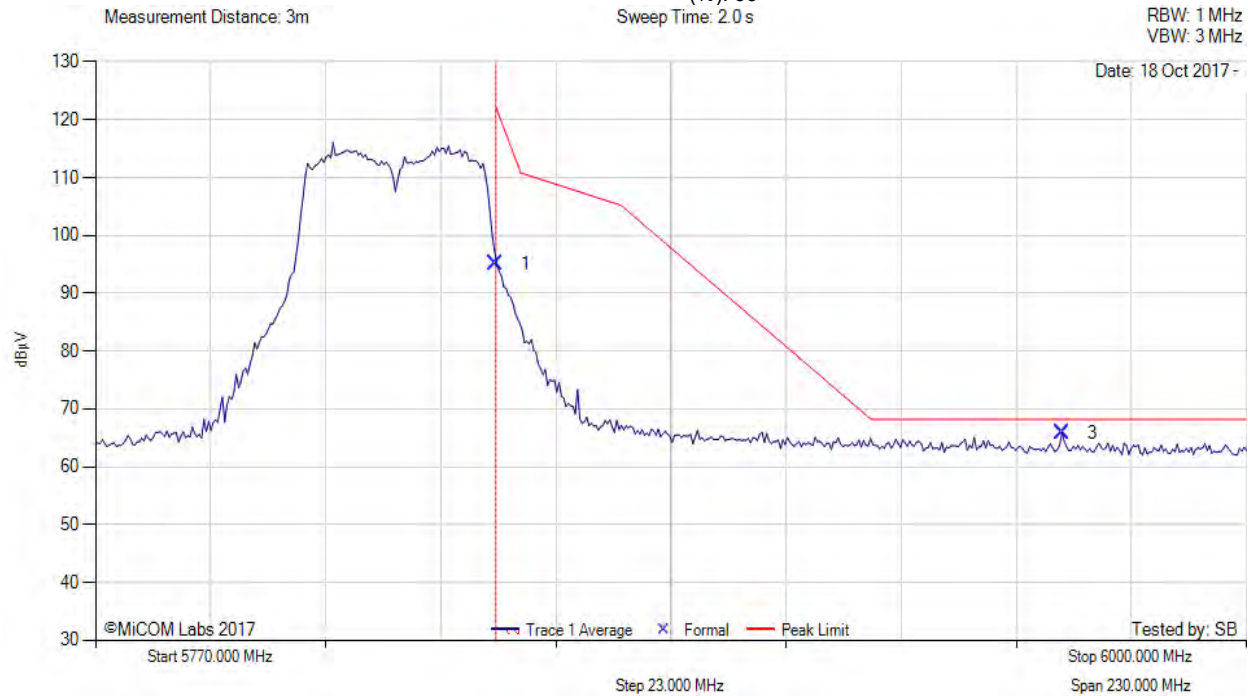
5770.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
2	5860.00	33.33	3.20	36.70	73.23	Max Avg	Horizontal	153	-2	109.4	-36.2	Pass
3	5998.16	23.48	3.25	36.90	63.63	Max Avg	Horizontal	153	-2	68.2	-4.6	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: Sector Antenna												

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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 40 Mhz, Test Freq: 5830.00 MHz, Antenna: RADWIN Ltd. RW-9622-5001, Power Setting: 10, 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	55.21	3.20	36.70	95.11	Max Avg	Horizontal	153	-2	122.2	-27.1	Pass
3	5963.25	25.76	3.27	36.80	65.83	Max Avg	Horizontal	153	-2	68.2	-2.4	Pass
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: Sector Antenna												

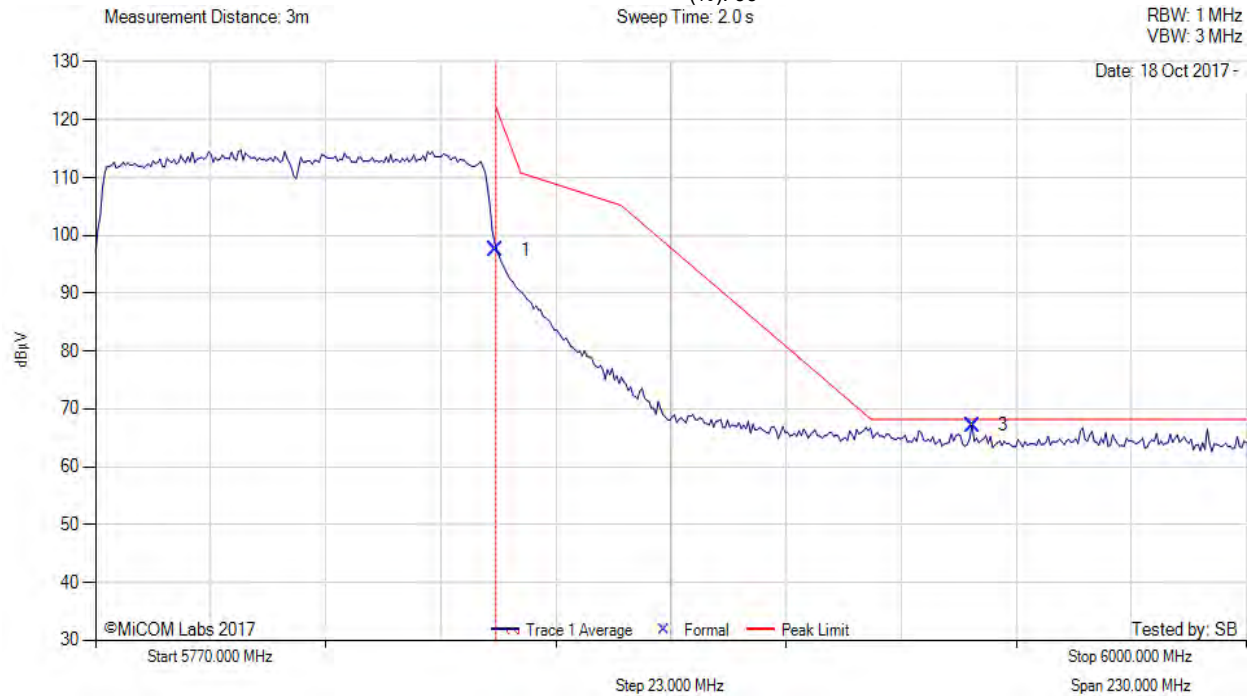
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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 80 Mhz, Test Freq: 5810.00 MHz, Antenna: RADWIN Ltd. RW-9622-5001, Power Setting: 10, 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	57.54	3.20	36.70	97.44	Max Avg	Vertical	153	-2	122.2	-24.8	Pass
3	5945.27	27.14	3.22	36.80	67.16	Max Avg	Vertical	153	-2	68.2	-1.1	Pass
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: Sector Antenna												

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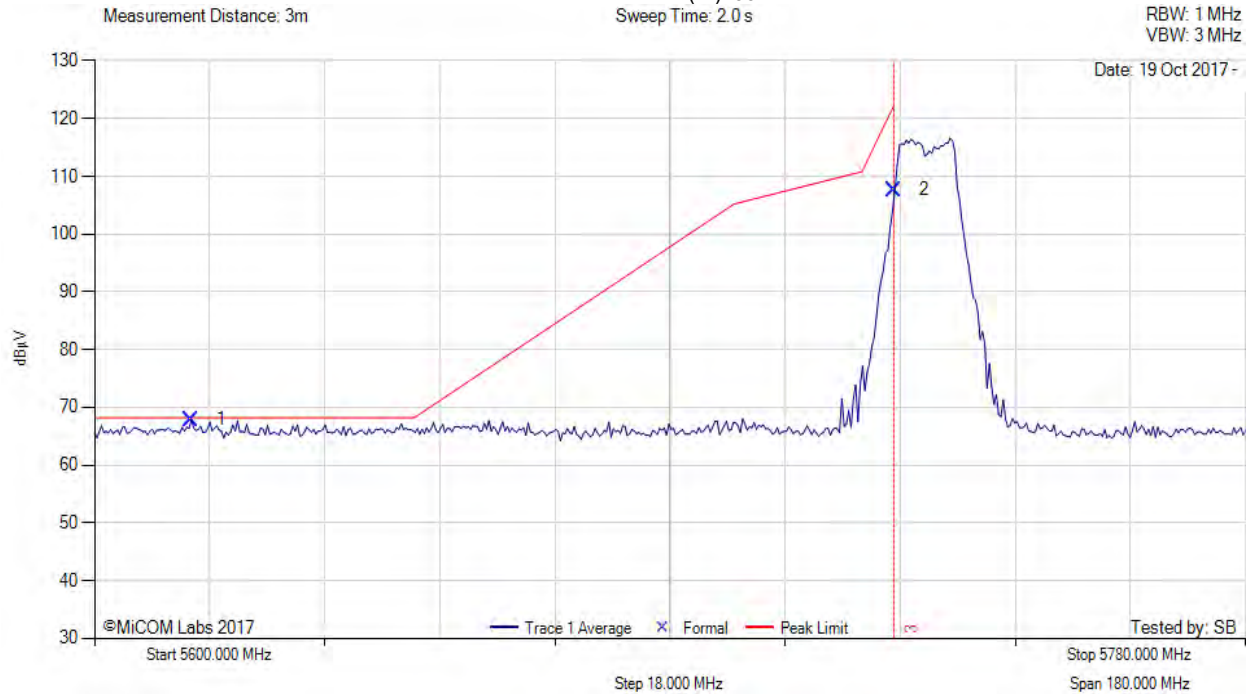
Title: Radwin AP0158770
To: FCC Part 15 Subpart E 15.407, ISSED RSS-247
Serial #: RDWN48-U4_Radiated Rev A
Issue Date: 20th November 2017
Page: 91 of 99

A.1.2.8. RADWIN Ltd. RW-9732-4958



5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 10 MHz, Test Freq: 5730.00 MHz, Antenna: RADWIN Ltd. RW-9732-4958, Power Setting: 11, 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	5615.08	28.38	3.19	36.30	67.87	Max Avg	Horizontal	153	348	68.2	-0.4	Pass
2	5725.00	67.94	3.17	36.50	107.61	Max Avg	Horizontal	153	348	122.2	-14.6	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: Dish Antenna												

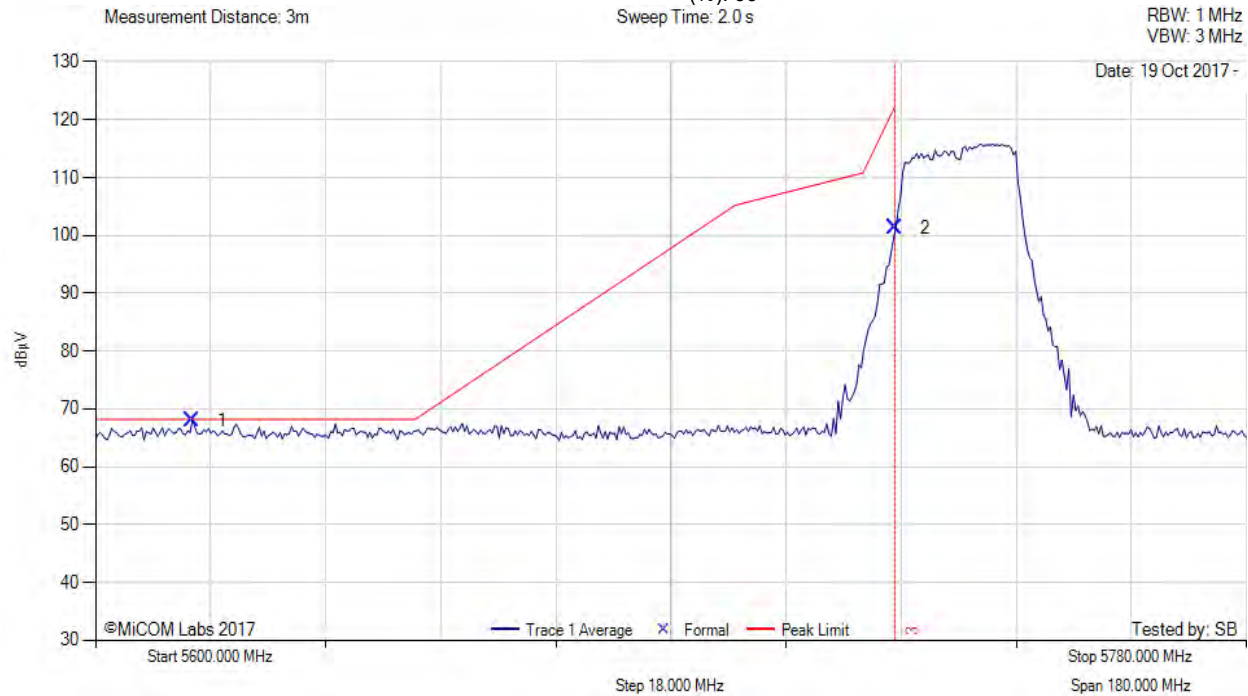
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5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 20 Mhz, Test Freq: 5735.00 MHz, Antenna: RADWIN Ltd. RW-9732-4958, Power Setting: 12.5, 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	5615.08	28.56	3.19	36.30	68.05	Max Avg	Horizontal	153	348	68.2	-0.2	Pass
2	5725.00	61.65	3.17	36.50	101.32	Max Avg	Horizontal	153	348	122.2	-20.9	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: Dish Antenna												

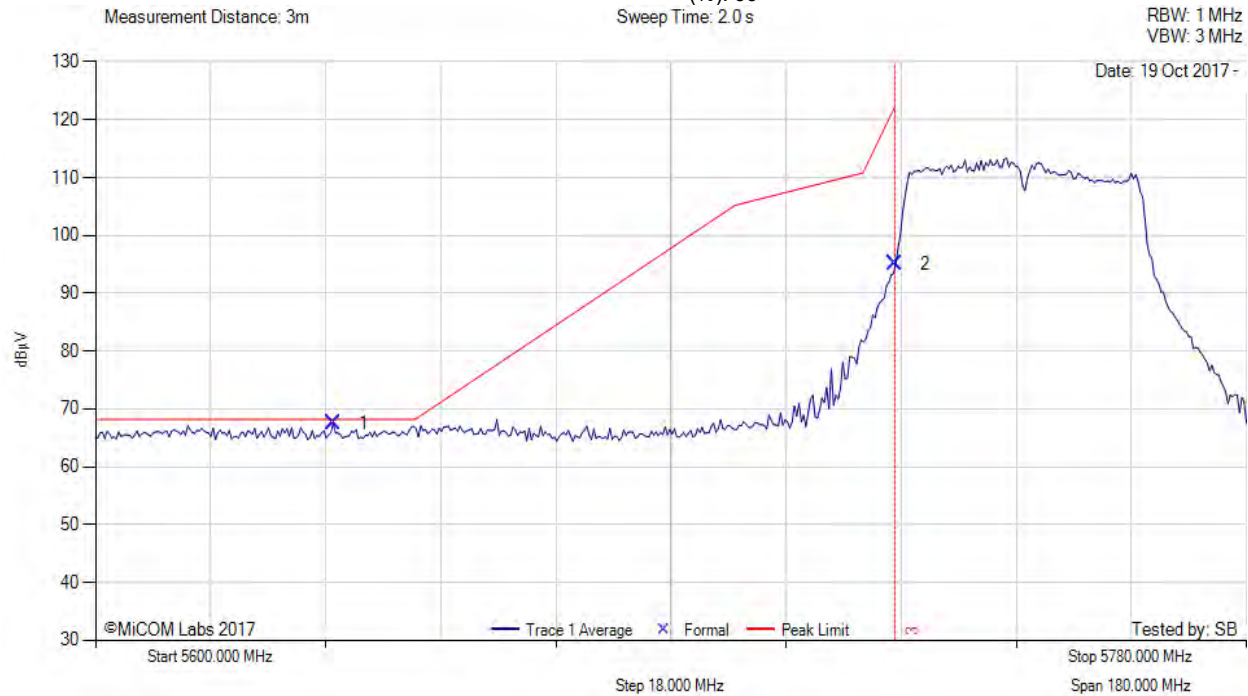
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5725 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 40 Mhz, Test Freq: 5745.00 MHz, Antenna: RADWIN Ltd. RW-9732-4958, Power Setting: 13, Duty Cycle (%): 99



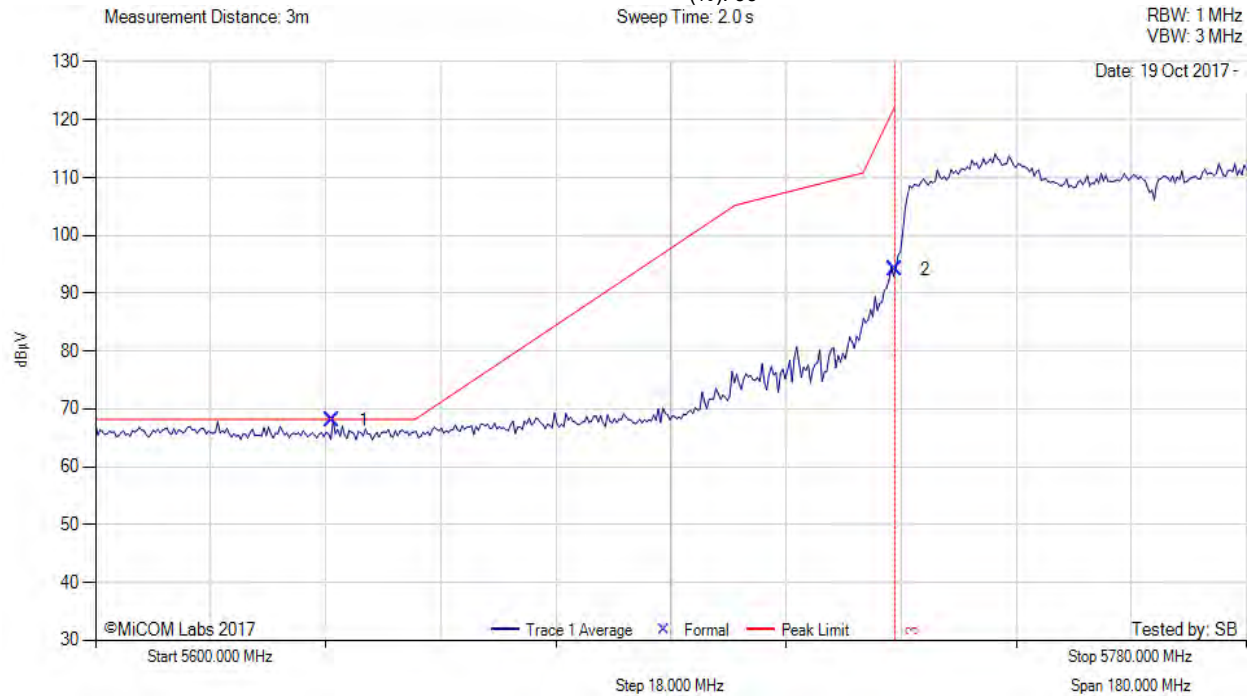
5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	5637.15	28.03	3.20	36.30	67.53	Max Avg	Horizontal	153	348	68.2	-0.7	Pass
2	5725.00	55.43	3.17	36.50	95.10	Max Avg	Horizontal	153	348	122.2	-27.1	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: Dish Antenna												

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5725 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 80 Mhz, Test Freq: 5765.00 MHz, Antenna: RADWIN Ltd. RW-9732-4958, Power Setting: 15, 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	5637.08	28.44	3.20	36.30	67.94	Max Avg	Horizontal	153	348	68.2	-0.3	Pass
2	5725.00	54.49	3.17	36.50	94.16	Max Avg	Horizontal	153	348	122.2	-28.0	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

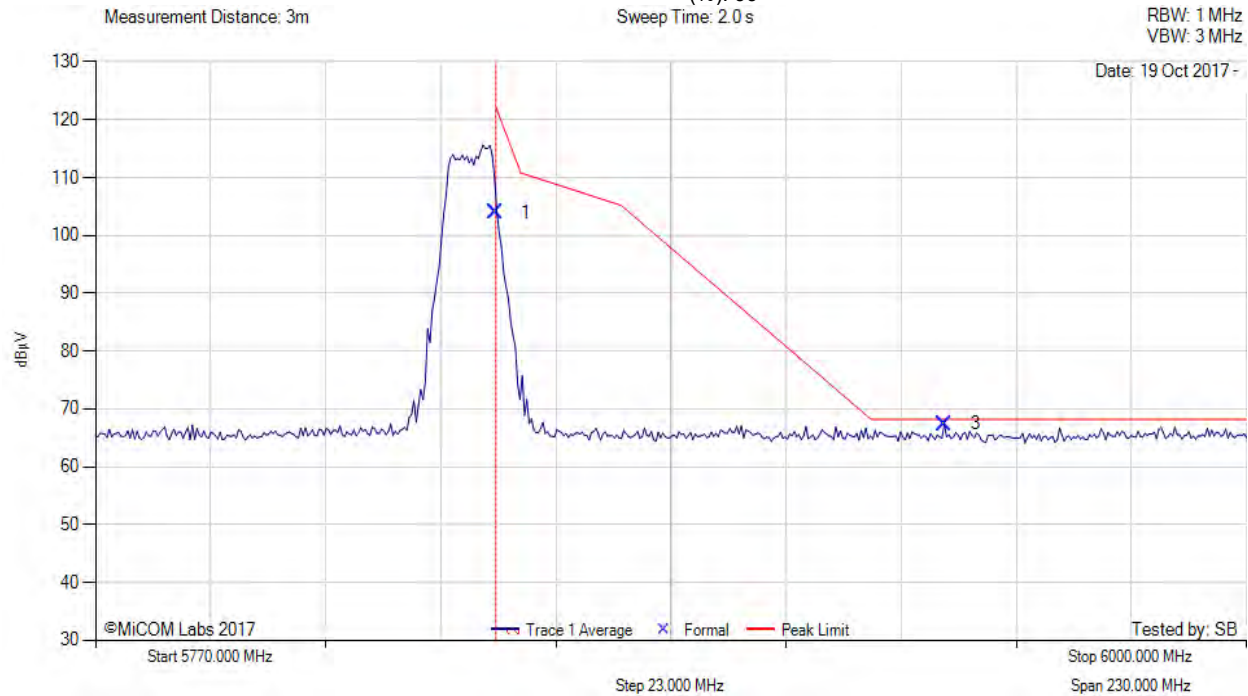
Test Notes: Dish Antenna

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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 10 Mhz, Test Freq: 5845.00 MHz, Antenna: RADWIN Ltd. RW-9732-4958, Power Setting: 12, 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	64.10	3.20	36.70	104.00	Max Avg	Horizontal	153	348	122.2	-18.2	Pass
3	5939.74	27.38	3.21	36.80	67.39	Max Avg	Horizontal	153	348	68.2	-0.8	Pass
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: Dish Antenna												

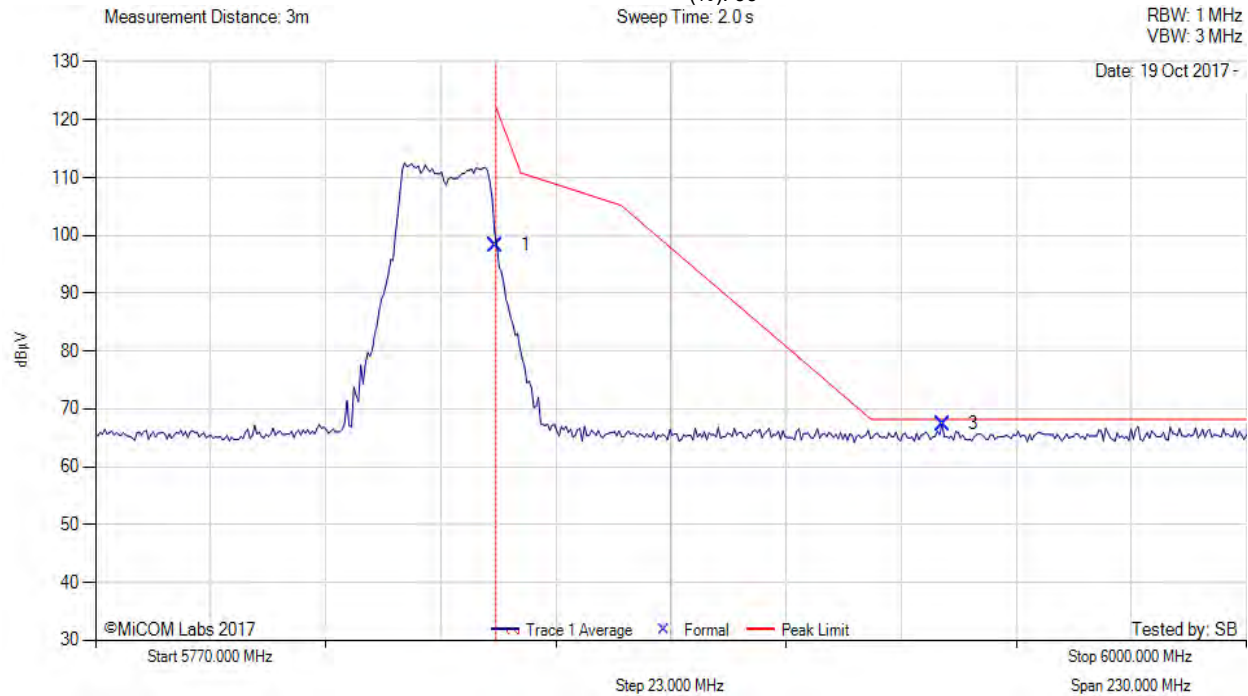
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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 20 Mhz, Test Freq: 5840.00 MHz, Antenna: RADWIN Ltd. RW-9732-4958, Power Setting: 13, 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	58.38	3.20	36.70	98.28	Max Avg	Horizontal	153	348	122.2	-23.9	Pass
3	5939.28	27.36	3.21	36.80	67.37	Max Avg	Horizontal	153	348	68.2	-0.9	Pass
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: Dish Antenna												

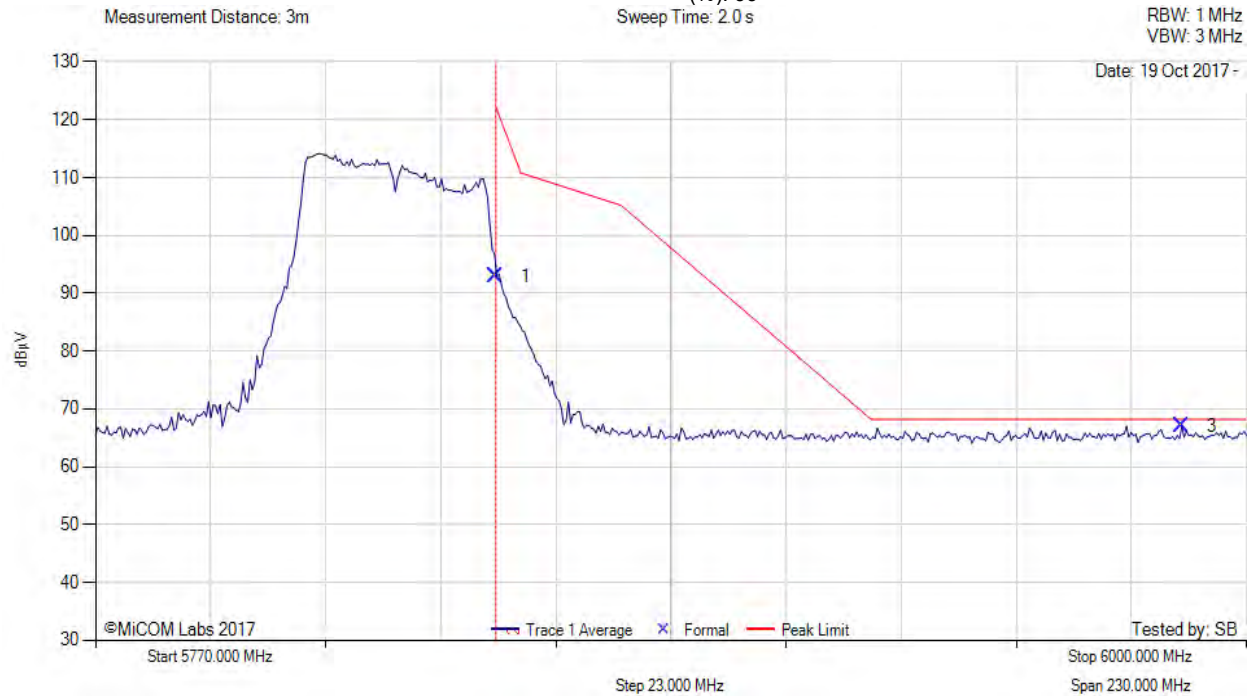
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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 40 Mhz, Test Freq: 5830.00 MHz, Antenna: RADWIN Ltd. RW-9732-4958, Power Setting: 15, Duty Cycle (%): 99



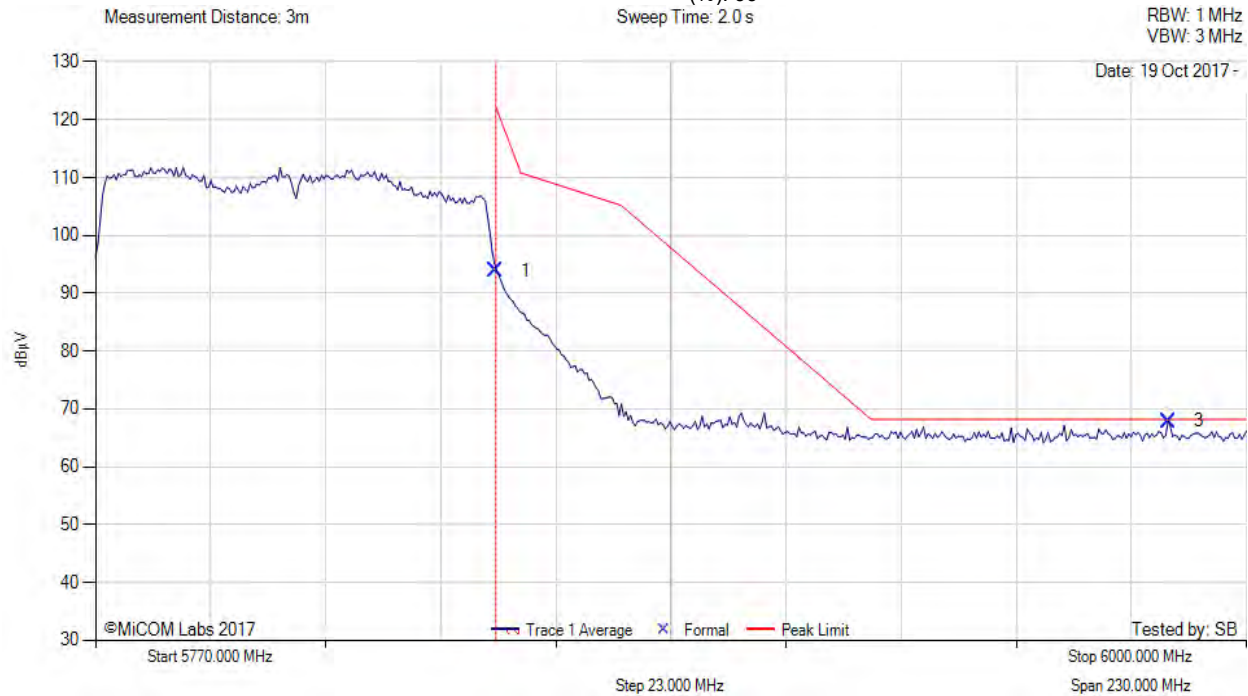
5770.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	5850.00	53.04	3.20	36.70	92.94	Max Avg	Horizontal	153	348	122.2	-29.3	Pass
3	5987.09	26.91	3.23	36.90	67.04	Max Avg	Horizontal	153	348	68.2	-1.2	Pass
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: Dish Antenna												

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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 80 Mhz, Test Freq: 5810.00 MHz, Antenna: RADWIN Ltd. RW-9732-4958, Power Setting: 15, 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	53.91	3.20	36.70	93.81	Max Avg	Horizontal	153	348	122.2	-28.4	Pass
3	5984.45	27.73	3.23	36.90	67.86	Max Avg	Horizontal	153	348	68.2	-0.4	Pass
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: Dish Antenna												

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