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FCC Part 15, Subpart C, Section 15.231
Test Report

On

Wireless Flash / Camera Trigger
FCC ID: 2AWL4-R1

Customer Name:	Smart Team LLC
Customer P.O:	1010
Date of Report:	March 24, 2021
Test Report No:	R-6563H-1
Test Start Date:	January 5, 2021
Test Finish Date:	January 14, 2021
Test Technician:	M. Seamans
Test Engineer:	T. Hannemann
Approved By:	T. Hannemann
Report Prepared By:	P. Harris

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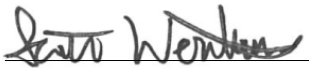
Certification and Signatures

We certify that this report is a true representation of the results obtained from the tests of the equipment stated. We further certify that the measurements shown in this report were made in accordance with the procedures indicated and vouch for the qualifications of all Retlif Testing Laboratories personnel taking them.

Todd Hannemann
EMC Test Engineer
iNARTE Certified Technician ATL-0255-T



Scott Wentworth
Branch Manager

Non-Warranty Provision
The testing services have been performed, findings obtained and reports prepared in accordance with generally accepted laboratory principles and practices. This warranty is in lieu of all others, either expressed or implied.

Non-Endorsement
This test report contains only findings and results arrived at after employing the specific test procedures and standards listed herein. It is not intended to constitute a recommendation, endorsement or certification of the product or material tested. This report must not be used by the client to claim product endorsement by ANSI National Accreditation Board (ANAB).

Revision History

Revisions to this document are listed below; the latest revised document supersedes all previous issues of this document.

Revision	Date	Pages Affected
-	March 24, 2021	Original Release

Technical Information

Report Number:	R-6563H-1
Customer:	Smart Team LLC
Address:	43 Golf Course Road
	South Burlington, VT 05403
Manufacturer:	Smart Team LLC
Manufacturer Address:	43 Golf Course Road
	South Burlington, VT 05403
Test Sample:	Wireless Flash / Camera Trigger
Model:	Raven
FCC ID:	2AWL4-R1
Type:	Remote Control Transmitter
Equipment Use:	Wireless Flash Control Transceiver

Test Specification:
FCC Rules and Regulations Part 15, Subpart C, Section 15.231

Test Procedure:
ANSI C63.10:2013

Test Site:
ANSI C63.4:2014

Test Facility:
Retlif Testing Laboratories
101 New Boston Road
Goffstown, NH 03041

FCC Accreditation Designation Number: US2320

Tests Performed

The test methods performed on the Wireless Flash / Camera Trigger are shown below:

FCC Part 15, Subpart C	Test Method	Test Results
15.231(b)	Field Strength of Emissions	Complied
15.231(b)(2)	Duty Cycle Determination	Complied
15.231(b)(3) / 15.205/15.209	Field Strength of Spurious Emissions	Complied
15.231(c)	Bandwidth of Emission	Complied
15.207(a)	Conducted Emissions	Complied

All test methods listed above are included in Retlif Testing Laboratories ANSI National Accreditation Board (ANAB), ISO/IEC 17025 Scope of Accreditation.

EUT Operation and Description

The Wireless Flash / Camera Trigger provides a means of communication with a flash or camera without a physical connectors. The EUT communicates / operates in the 340 to 350 MHz and 2404 MHz to 2479 MHz frequency bands. In its intended operation it is mounted and connected to a DSLR camera or remote flash unit and operates on an internal battery and is used in a variety of locations.

During the performance of all testing specified herein, the EUT was:

- Continuously Transmitting at Low, Mid and High frequencies while mounted / connected to a camera
- Standby (receive) while mounted\connected to a camera
- Transmitting while charging internal battery (Conducted emissions)

Table 1 - Electrical Characteristics (while charging)

EUT Component	Input Voltage	Frequency	Current	Phase
EUT	120 VAC	60 Hz	1.0 A	Single

Table 2 - Support Equipment

Description	Manufacturer	Model Number	Serial Number
Representative AC Adapter	Apple	A1265	N/A
DSLR Camera	Nikon	D3008	3041089

General Test Requirements

1. The measurement procedures of ANSI C63.10:2013 were utilized as specified in FCC Part 15, Subpart C, Section 15.31(a)(3) .
2. All radiated emissions measurements were performed on an Open Area Test Site (OATS), listed with the FCC, in accordance with FCC Section 15.31(d).
3. The level of the fundamental field strength was recorded with a new battery installed in the EUT, in accordance with FCC Section 15.231(e).
4. All measurements were performed at the specified 3 meter test distance as required by FCC Section 15.31(f).
5. The EUT was rotated throughout 360 degrees for all radiated emissions measurements as specified in FCC Section 15.31(f)(5).
6. All readily accessible EUT controls were adjusted in such a manner as to maximize the level of emissions in accordance with FCC Section 15.31(g).
7. Appropriate accessories were attached to all EUT ports during the performance of radiated emissions measurements as required by FCC Section 15.31(i).
8. The EUT operated over a frequency of range of 338.00 to 351.20 MHz and testing was performed in accordance with FCC Section 15.31(m).
9. The frequency spectrum was investigated from the lowest frequency generated in the device up to the 10^{th} harmonic of the highest fundamental frequency in accordance with FCC Section 15.33(a)(1).
10. All measurements were taken with a peak detector function as specified in FCC Section 15.35(a). The duty cycle, calculated in accordance with FCC Section 15.35(c), was applied to the peak readings in order to obtain the average value of emissions. The peak value of emissions was verified to meet the 20 dB requirement of FCC Section 15.35(b).

Requirements and Test Results

Requirement:
FCC Section 15.231(a) - Periodic operation in the band 40.66 - 40.7 MHz and above 70 MHz
The provisions of this Section are restricted to periodic operation within the band 40.66-40.7 MHz and above 70 MHz. Except as shown in Paragraph (e) of this Section, the intentional radiator is restricted to the transmissions of a control signal such as those used with alarm systems, door openers, remote switches, etc. Continuous transmissions, voice, video and the radio control of toys are not permitted. Data is permitted to be sent with a control signal.

- Results:
  The device was operated at a frequencies of 338.00 MHz, 340.01 MHz, 344.50 MHz, 345.40 MHz, 351.00 MHz and 351.20 MHz and is for the transmission of a control signal used with remote camera flashes. Data is sent with the control signal.

Requirement:
FCC Sections 15.231(a)(1)-(5)
Periodic operation in the band 40.66 - 40.7 MHz and above 70 MHz
The following conditions were met in order to comply with the provisions for momentary operation:

FCC 15.231(a)(1): A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.

- Results:
  The device is a manually operated, push to operate transmitter under manual control. The device ceased transmission within 5 seconds of deactivation. This was verified with a spectrum analyzer and manual deactivation of the transmitter in accordance with C63.10, 2013, Paragraph 7.4.

FCC 15.231(a)(2): A transmitter activated automatically shall cease transmission within 5 seconds after activation.

- Results:
  Transmission is not automatically activated.

FCC 15.231(a)(3): Periodic transmissions at regular predetermined intervals are not permitted. However, polling or supervision transmissions, including data, to determine system integrity of transmitters used in security or safety applications are allowed if the total duration of transmissions does not exceed more than two seconds per hour for each transmitter. There is no limit on the number of individual transmissions, provided the total transmission time does not exceed two seconds per hour.

- Results:
  The transmitter does not perform periodic transmissions.

FCC 15.231(a)(4): Intentional radiators which are employed for radio control purposes during emergencies involving fire, security and safety of life, when activated to signal an alarm, may operate during the pendency of the alarm condition.

- Results:
  This device is not employed for radio control purposes during emergencies involving fire, security and safety for life.

FCC 15.231(a)(5): Transmission of set-up information for security systems may exceed the transmission duration limits in paragraphs (a)(1) and (a)(2) of this section, provided such transmission are under the control of a professional installer and do not exceed ten seconds after a manually operated switch is released or a transmitter is activated automatically. Such set-up information may include data.

- Results:
  The device is not employed for security systems.

Requirement:
FCC Section 15.231(b) - Field Strength of Emissions
In addition to the provisions of Section 15.205, the field strength of emissions from intentional radiators operated under this Section shall not exceed the limits specified in Table 3.

Table 3 - Test Limits, Field Strength of Emissions

Fundamental Frequency (MHz)	**Field Strength of Fundamental microvolts/meter @3 meters (watts, e.i.r.p.) Quasi Peak or Average**	**Field Strength of Spurious Emissions microvolts/meter @3 meters Quasi Peak or Average**
40.66 to 40.70	2,250	225
70 to 130	1,250 (470 nW)	125
130 to 174	1,250 to 3,750**	125 to 375**
174 to 260	3,750 (4.2 µW)	375
260 to 470	3,750 to 12,500**	375 to 1,250**
Above 470	12,500 (47 µW)	1,250

**Linear Interpolations
For 130-174 MHz: FS (microvolts/m) = (56.82 x F) - 6,136
For 260-470 MHz: FS (microvolts/m) = (41.67 x F) - 7,083
The maximum permitted unwanted emission level is 20 dB below the maximum permitted fundamental level.

The Fundamental and Harmonic Emissions limits for a device operating from 338.0 to 351.2 MHz are listed in Table 4.

Table 4 - Fundamental and Harmonic Limits

Frequency of Operation MHz	Fundamental (µV/m)		Harmonics (µV/m)	
	Peak	Average	Peak	Average
338	69984.2	6998.42	6998.42	699.84
344.5	72694.24	7269.42	7296.42	726.94
351	75422.34	7542.23	7542.23	754.22

- Results:
  The Fundamental and Harmonics field strengths did not exceed the limits specified in Table 4 at a test distance of 3 meters, taken with an Average Detector.

Requirement:
FCC Section 15.231(b)(2) - Duty Cycle Determination-Pulsed Operation
Intentional radiators operating under the provisions of the Section shall demonstrate compliance with the limits on the field strength emissions, as shown in Table 3, based on the average value of the measured emissions. As an alternative, compliance with the limits in the Table 3 may be based on the use of measurement instrumentation with a CISPR quasi-peak detector. The specific method of measurement employed shall be specified int eh application for equipment authorization. If average emission measurements are employed, the provisions in Section 15.35 for averaging pulsed emissions and for limiting peak emissions apply. Further, compliance with the provisions of Section 15.205 shall be demonstrated using the measurement instrumentation specified in that Section.

The unit's RF output was directly coupled to the input of the spectrum analyzer. The analyzer was set for a frequency span of 0 Hz. The sweep time was then adjusted in order to display one full pulse train. The transmitter on time was then summed and compared to the time for one full cycle in order to obtain the duty cycle. (See plots for additional information).

- Results:
  The emissions did not exceed the limits specified in Table 3. See below for the exact method of calculating the average field strength.

Flash Mode

Transmitter On Time = 0.621 milliseconds (maximum per cycle)

Transmitter Cycle Time = 100 milliseconds (100 ms maximum)

Transmitter Duty Cycle = 0.621 %

CALCULATION

1 pulse x 621.242 µs = 621.242 ms

Duty Cycle (0.621/100) = 0.621 %

Correction Factor = 20Log(0.00621) = -44.138 dB

Camera Mode

Transmitter On Time = 6.934 milliseconds (maximum per cycle)

Transmitter Cycle Time = 100 milliseconds (100 ms maximum)

Transmitter Duty Cycle = 6.934%

CALCULATION

1 pulse x 6.934 ms= 6.934 ms

Duty Cycle (6.934/100) = 6.934 %

Correction Factor = 20Log(0.06934) = -23.18 dB

Requirement:
FCC Section 15.231(b)(3) - Field Strength of Spurious Emissions
The limits on the field strength of the spurious emissions specified in Table 3 are based on the fundamental frequency of the intentional radiator. Spurious emissions shall be attenuated to the average (or, alternatively, CISPR quasi-peak) limits shown in Table 3 or to the general limits shown in Section 15.209, whichever limit permits a higher field strength.

Results:
No spurious emissions were observed within 10 dB of the specified limit.

Requirement:
FCC Section 15.231(c) - Bandwidth of Emissions
The bandwidth of the emissions shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

- Results:

  The 20dB bandwidth was measured and found to be 242.485 kHz.

Requirement:
FCC Section 15.207(a) - Conducted Limits

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits shown in Table 5, as measured using a 50 µH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of the paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applied at the boundary between the frequency ranges.

Except when the requirements applicable to a given device state otherwise, for any license-exempt radio communication device equipped to operate from the public utility AC power supply, either directly or indirectly, the radio frequency voltage that is conducted back onto the AC power lines in the frequency range of 0.15 MHz to 30 MHz shall not exceed the limits shown in Table 5. The tighter limit applies at the frequency range boundaries.

The conducted emissions shall be measured with a 50 ohm/50 microhenry line impedance stabilization network.

Table 5 - Conducted Emission Limits

Frequency of Emission (MHz)	**Conducted Limit (dBµV)**	
	Quasi-Peak	Average
0.15 to 0.5	66 to 56*	56 to 46*
0.5 to 5	56	46
5 to 30	60	50
*Decreases due to logarithm of the frequency		

- Results:
  The conducted emissions observed did not exceed the limits specified in Table 5.

General Requirements FCC

Spectrum Analyzer Desensitization Considerations

Due to the nature of the emissions being measured, care was taken to ensure that the resolution bandwidth of the spectrum analyzer was adequate to provide accurate measurements. The following formula was utilized:

minimum bandwidth = 1/{minimum pulse width (in seconds) x 1.5} = Hz

Setting pulse desensitization equal to zero and utilizing the minimum observed pulse width of 156 µs yields a minimum required bandwidth of 4273.5 Hz. FCC specified bandwidths of 100 kHz and 1 MHz were utilized below and above 1GHz, respectively.

Equipment Lists

FCC Section 15.231(b) - Field Strength of Emissions

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
4029B	RETLIF	OPEN AREA TEST SITE, ATTENUATION	3 / 10 Meters	RNH	9/30/2019	9/30/2021
443	ELECTRO-METRICS	ANTENNA, LOG PERIODIC	200 MHz - 1000 MHz	LPA-25	12/13/2019	6/29/2021
1232	AGILENT / HP	PRE-AMPLIFIER	1 - 26.5 GHz	8449B	5/8/2020	5/31/2021
3258	ETS / EMCO	ANTENNA, DOUBLE RIDGED GUIDE	1 - 18 GHz	3115	12/2/2019	6/30/2021
4029B	RETLIF	OPEN AREA TEST SITE, ATTENUATION	3 / 10 Meters	RNH	9/30/2019	9/30/2021
5070	ROHDE & SCHWARZ	RECEIVER, EMI	20 Hz - 40 GHz	ESIB40	1/23/2020	1/31/2021
5179B	MICRO-COAX	CABLE, COAXIAL	10 kHz - 18 GHz	UFB311A-1-036050U50U	11/17/2020	11/30/2021
5242	TELEDYNE MICROWAVE	CABLE, COAXIAL	10 kHz - 6 GHz	PR90-195-1275, 106'	9/21/2020	9/30/2021

FCC Section 15.231(b)(2) - Duty Cycle Determination - Pulsed Operation

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
4029B	RETLIF	OPEN AREA TEST SITE, ATTENUATION	3 / 10 Meters	RNH	9/30/2019	9/30/2021
443	ELECTRO-METRICS	ANTENNA, LOG PERIODIC	200 MHz - 1000 MHz	LPA-25	12/13/2019	6/29/2021
5070	ROHDE & SCHWARZ	RECEIVER, EMI	20 Hz - 40 GHz	ESIB40	1/23/2020	1/31/2021
5242	TELEDYNE MICROWAVE	CABLE, COAXIAL	10 kHz - 6 GHz	PR90-195-1275, 106'	9/21/2020	9/30/2021

FCC Section 15.231(b)(3) / 15.205/15. 209 - Field Strength of Spurious Emissions

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
1232	AGILENT / HP	PRE-AMPLIFIER	1 - 26.5 GHz	8449B	5/8/2020	5/31/2021
3258	ETS / EMCO	ANTENNA, DOUBLE RIDGED GUIDE	1 - 18 GHz	3115	12/2/2019	6/30/2021
3427B	ETS / EMCO	ANTENNA, BICONICAL	20 - 200 MHz	3104	10/27/2020	4/30/2022
4029B	RETLIF	OPEN AREA TEST SITE, ATTENUATION	3 / 10 Meters	RNH	9/30/2019	9/30/2021
443	ELECTRO-METRICS	ANTENNA, LOG PERIODIC	200 MHz - 1000 MHz	LPA-25	12/13/2019	6/29/2021
5070	ROHDE & SCHWARZ	RECEIVER, EMI	20 Hz - 40 GHz	ESIB40	1/23/2020	1/31/2021
5179B	MICRO-COAX	CABLE, COAXIAL	10 kHz - 18 GHz	UFB311A-1-036050U50U	11/17/2020	11/30/2021
5242	TELEDYNE MICROWAVE	CABLE, COAXIAL	10 kHz - 6 GHz	PR90-195-1275, 106'	9/21/2020	9/30/2021

FCC Section 15.231(c) - Bandwidth of Emission

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
1232	AGILENT / HP	PRE-AMPLIFIER	1 - 26.5 GHz	8449B	5/8/2020	5/31/2021
3258	ETS / EMCO	ANTENNA, DOUBLE RIDGED GUIDE	1 - 18 GHz	3115	12/2/2019	6/30/2021
3427B	ETS / EMCO	ANTENNA, BICONICAL	20 - 200 MHz	3104	10/27/2020	4/30/2022
4029B	RETLIF	OPEN AREA TEST SITE, ATTENUATION	3 / 10 Meters	RNH	9/30/2019	9/30/2021
443	ELECTRO-METRICS	ANTENNA, LOG PERIODIC	200 MHz - 1000 MHz	LPA-25	12/13/2019	6/29/2021
5070	ROHDE & SCHWARZ	RECEIVER, EMI	20 Hz - 40 GHz	ESIB40	1/23/2020	1/31/2021
5179B	MICRO-COAX	CABLE, COAXIAL	10 kHz - 18 GHz	UFB311A-1-036050U50U	11/17/2020	11/30/2021
5242	TELEDYNE MICROWAVE	CABLE, COAXIAL	10 kHz - 6 GHz	PR90-195-1275, 106'	9/21/2020	9/30/2021

FCC Section 15.207(a) – Conducted Emissions

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
5070	ROHDE & SCHWARZ	RECEIVER, EMI	20 Hz - 40 GHz	ESIB40	1/23/2020	1/31/2021
5133	NARDA MICROWAVE	ATTENUATOR, COAXIAL	10 dB, DC - 12.4 GHz, 2 W	757C-10	12/8/2020	12/31/2021
5188	Cybertron	COMPUTER, CONTROL	N/A	TSVQJA2221	No Calibration Required	
5209	SOLAR ELECTRONICS	LISN	50 uH, 150 kHz - 30	21106-50-BP-25-BNC	5/26/2020	5/31/2021
5210	SOLAR ELECTRONICS	LISN	50 uH, 150 kHz - 30	21106-50-BP-25-BNC	5/26/2020	5/31/2021
5218	COM-POWER	GENERATOR, COMB	100 kHz - 400 MHz	CGC-510E	8/24/2020	8/31/2021
7044	OMEGA	HYGROMETER	-20 to 70 deg. C, 0 to 99% RH	OM-73	8/21/2020	8/31/2021

Test Data

FCC Section 15.231(b) - Field Strength of Emissions

EMISSIONS TEST DATA SHEET	
Method:	**Field Strength of Emissions - Fundamental Field Strength**
Test Specification:	FCC Part 15, Subpart C Paragraph: 15.231(b)
Job Number:	R-6563H-1
Customer:	Smart Team LLC
Test Sample:	Wireless Flash/Camera Trigger
Model Number:	Raven
Serial Number:	001
Operating Mode:	Transmitting Pocket Wizard Protocol Flash Mode
Technician:	M. Seamans
Date(s):	January 8th, 2021
Notes:	Test Distance: 3 meters Detector: Peak Resolution BW: 100 kHz

TEST PARAMETERS								
Frequency	**Axis/ Antenna Position**	**Measured level**	**Correction Factor**	**Corrected Peak Reading**	**Duty Cycle Factor**	**Average Reading**	**Converted Average Reading**	**Average Limit at 3m**
MHz	**(X/Y/X) (H/V)**	**dBuV**	**dB**	**dBuV/m**	**dB**	**dBuV/m**	**uV/m**	**uV/m**
340.01	Y/H	78.86	17.70	96.56	-44.14	52.42	417.83	7087.61
345.40	Y/H	75.40	17.82	93.22	-44.14	49.08	284.45	7311.39
351.20	Y/H	74.84	17.94	92.78	-44.14	48.64	270.40	7550.92

TEST PARAMETERS								
Frequency	**Antenna Position**	**Measured level**	**Correction Factor**	**Corrected Peak Reading**			**Converted Peak Reading**	**Peak Limit at 3m**
MHz	**H/V**	**dBuV**	**dB**	**dBuV/m**			**uV/m**	**uV/m**
340.01	Y/H	78.86	17.70	96.56			67297.67	70876.13
345.40	Y/H	75.40	17.82	93.22			45814.19	73113.91
351.20	Y/H	74.84	17.94	92.78			43551.19	75509.22
Peak Limit is 20dB higher than the Average limit.								

EMISSIONS TEST DATA SHEET	
Method:	**Field Strength of Emissions - Fundamental Field Strength**
Test Specification:	FCC Part 15, Subpart C Paragraph: 15.231(b)
Job Number:	R-6563H-1
Customer:	Smart Team LLC
Test Sample:	Wireless Flash/Camera Trigger
Model Number:	Raven
Serial Number:	001
Operating Mode:	Transmitting Pocket Wizard Protocol Camera Mode
Technician:	M. Seamans
Date(s):	January 8th, 2021
Notes:	Test Distance: 3 meters Detector: Peak Resolution BW: 100 kHz

TEST PARAMETERS								
Frequency	**Axis/ Antenna Position**	**Measured level**	**Correction Factor**	**Corrected Peak Reading**	**Duty Cycle Factor**	**Average Reading**	**Converted Average Reading**	**Average Limit at 3m**
MHz	**(X/Y/X) (H/V)**	**dBuV**	**dB**	**dBuV/m**	**dB**	**dBuV/m**	**uV/m**	**uV/m**
338.00	Y/H	78.97	17.66	96.63	-23.18	73.45	4704.35	6998.42
344.50	Y/H	76.77	17.80	94.57	-23.18	71.39	3711.08	7269.42
351.00	Y/H	74.54	17.93	92.47	-23.18	69.29	2914.07	7542.23

TEST PARAMETERS								
Frequency	**Antenna Position**	**Measured level**	**Correction Factor**	**Corrected Peak Reading**			**Converted Peak Reading**	**Peak Limit at 3m**
MHz	**H/V**	**dBuV**	**dB**	**dBuV/m**			**uV/m**	**uV/m**
338.00	Y/H	78.97	17.66	96.63			67842.21	69984.20
344.50	Y/H	76.77	17.80	94.57			53518.02	72694.24
351.00	Y/H	74.54	17.93	92.47			42510.87	75422.34
Peak Limit is 20dB higher than the Average limit.								

EMISSIONS TEST DATA SHEET	
Method:	**Field Strength of Emissions – Spurious**
Test Specification:	FCC Part 15, Subpart C Paragraph: 15.231(b)
Job Number:	R-6563H-1
Customer:	Smart Team LLC
Test Sample:	Wireless Flash/Camera Trigger
Model Number:	Raven
Serial Number:	001
Operating Mode:	Transmitting Pocket Wizard Protocol
Technician:	M. Seamans
Date(s):	January 12th, 2021
Notes:	Test Distance: 3 meters Detector: Peak

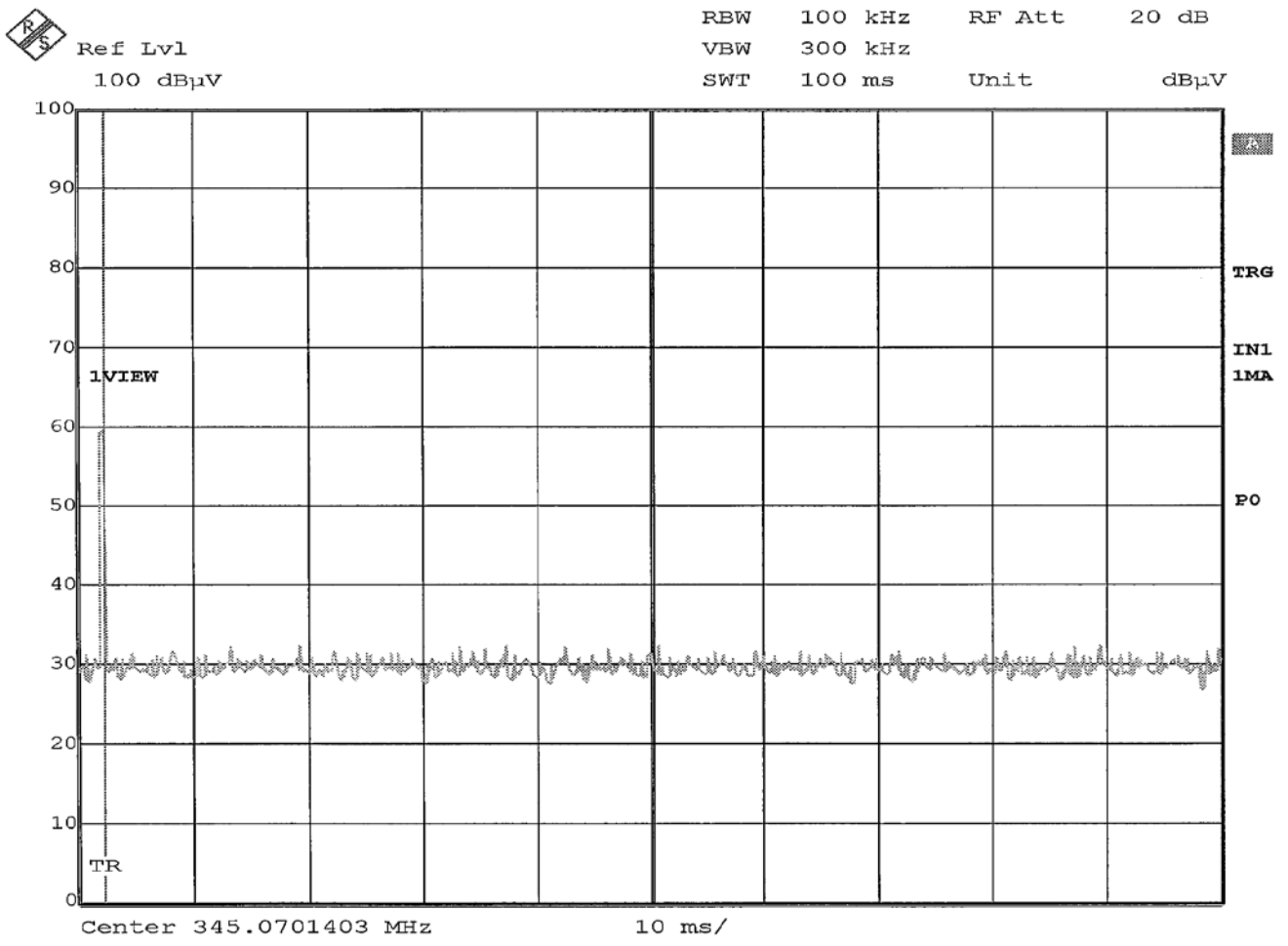
TEST PARAMETERS

Test Frequency	Antenna Position	EUT Orientation	Peak Reading	Duty Cycle Correction	Corrected Reading		Converted Peak Reading	Average Limit at 3M
MHz	(H/V)	X/Y/Z	dBuV	dB	dBuV/m		uV/m	uV/m
30.00	-	-	-	-	-		-	700.00
|	-	-	-	-	-		-	|
|	-	-	-	-	-		-	|
676.00*	H	Y	42.96	-	42.96		140.60	|
1014.00*	H	Y	40.10	-	40.10		101.16	|
1352.00*	H	Y	45.30	-	45.30		184.08	|
1690.00*	H	Y	40.30	-	40.30		103.51	|
2028.00*	H	Y	44.30	-	44.30		164.06	|
2366.00*	H	Y	45.10	-	45.10		179.89	|
2704.00*	H	Y	46.60	-	46.60		213.80	|
3042.00*	H	Y	48.90	-	48.90		278.61	|
3380.00*	H	Y	50.70	-	50.70		342.77	|
3718.00*	H	Y	51.80	-	51.80		389.05	|
|	-	-	-	-	-		-	|
4000.00	-	-	-	-	-		-	700.00

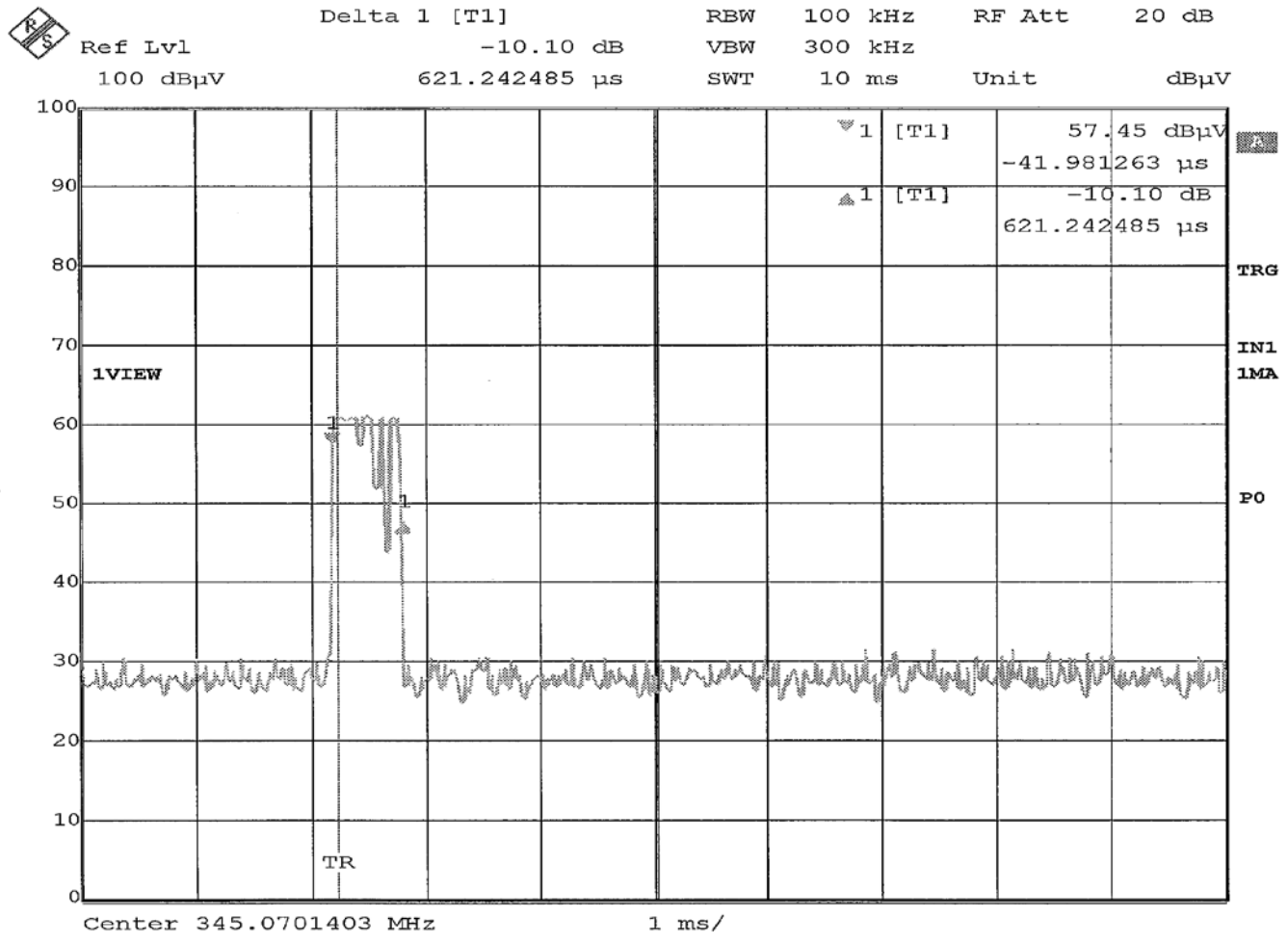
No EUT emissions were observed throughout the given frequency spectrum. * This emission is not from the EUT. It is a measurement of minimum measurement system sensitivity (Noise Floor).

FCC Section 15.231(b)(2) - Duty Cycle Determination - Pulsed Operation
Test Data

EMISSIONS TEST DATA SHEET	
Method:	**Duty Cycle Determination**
Test Specification:	FCC Part 15.35
Job Number:	R-6563H-1
Customer:	Smart Team LLC
Test Sample:	Wireless Flash/Camera Trigger
Model Number:	Raven
Serial Number:	001
Operating Mode:	Transmitting Pocket Wizard Protocol at 345.44 MHz, Flash Mode
Technician:	M. Seamans
Date(s):	January 8th, 2021
Notes:	One pulse in 100ms window



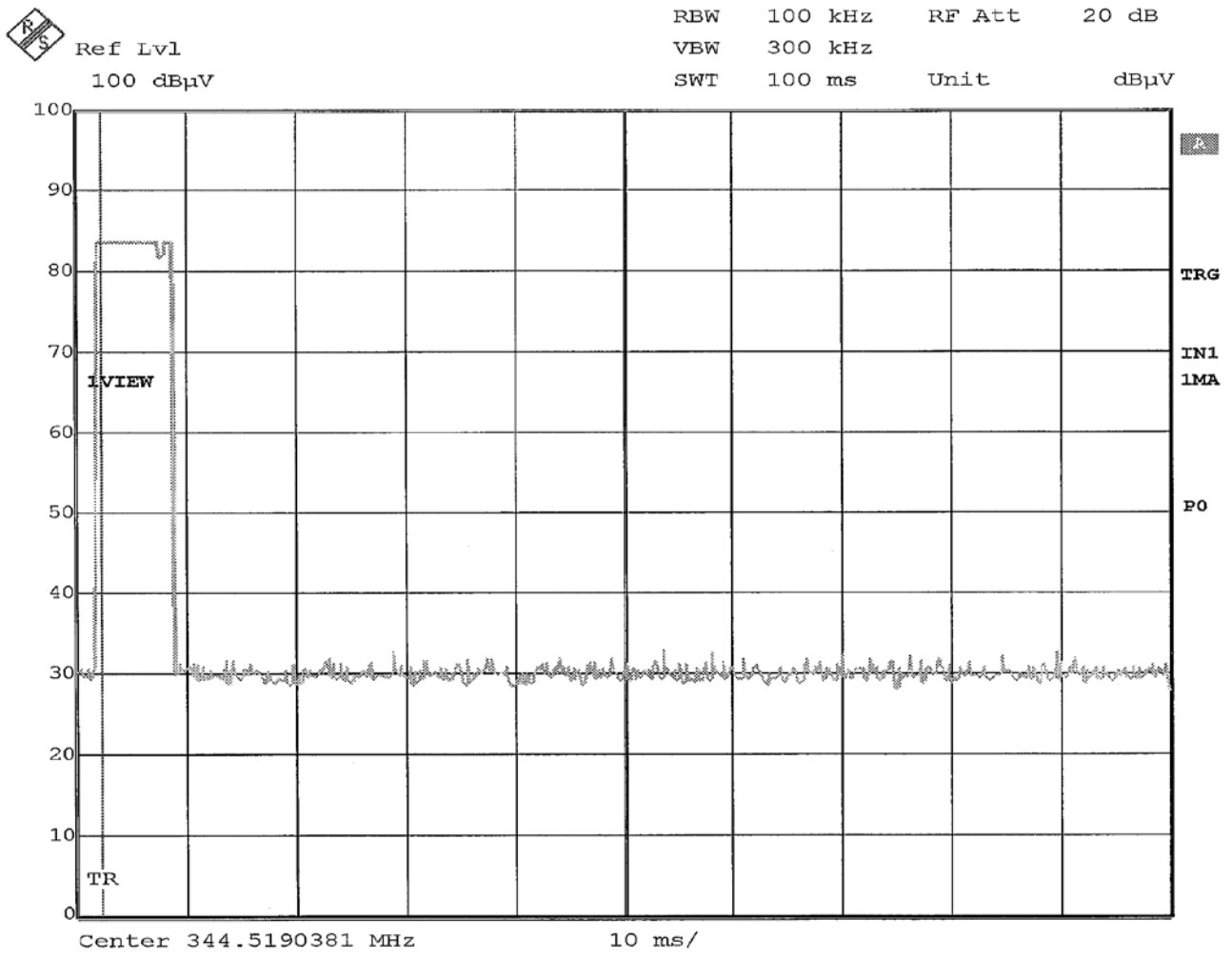
EMISSIONS TEST DATA SHEET	
Method:	**Duty Cycle Determination**
Test Specification:	FCC Part 15.35
Job Number:	R-6563H-1
Customer:	Smart Team LLC
Test Sample:	Wireless Flash/Camera Trigger
Model Number:	Raven
Serial Number:	001
Operating Mode:	Transmitting Pocket Wizard Protocol at 345.44 MHz, Flash Mode
Technician:	M. Seamans
Date(s):	January 8th, 2021
Notes:	Pulse width: 621.242 uS



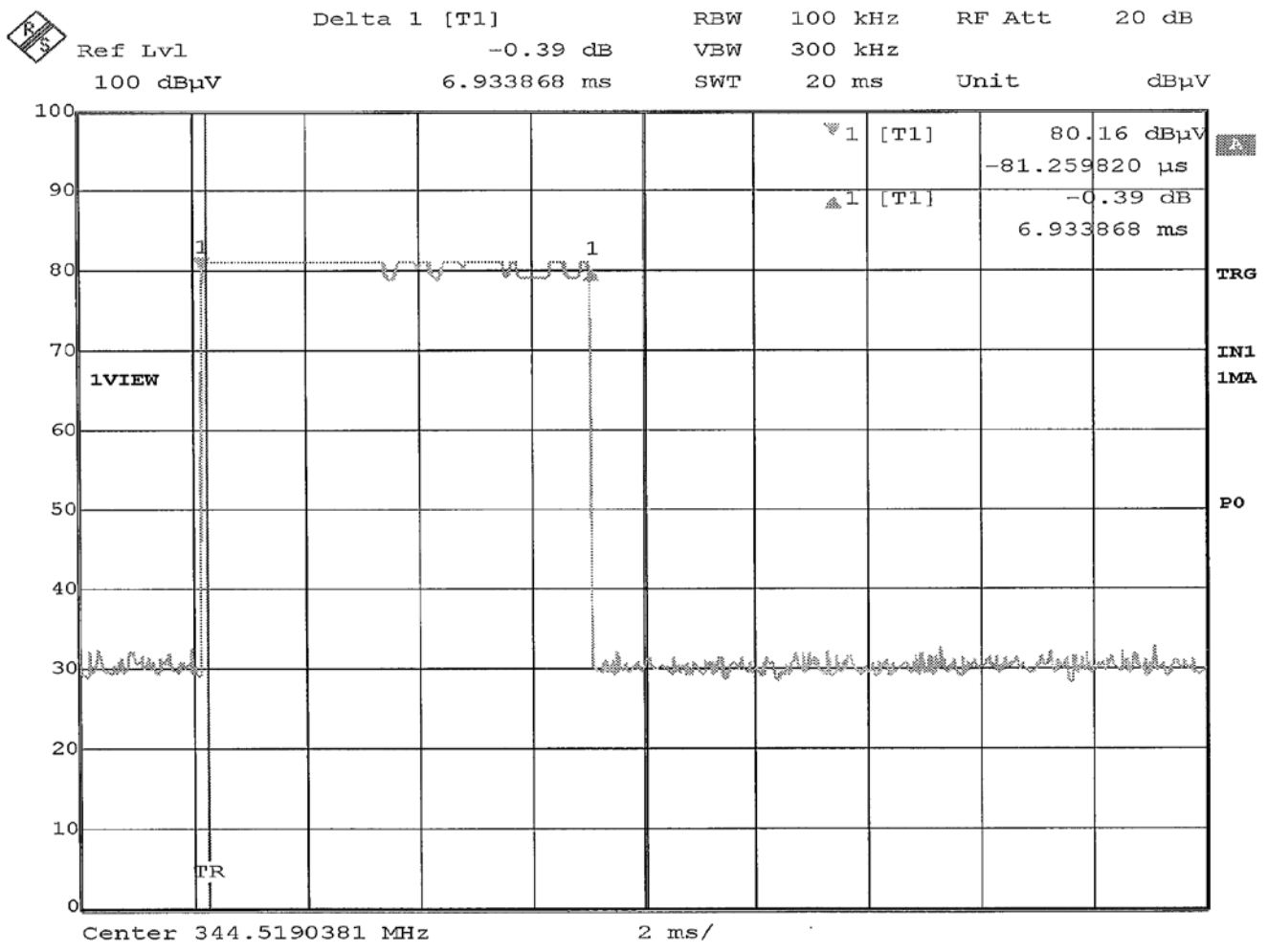
EMISSIONS TEST DATA SHEET	
Method:	**Duty Cycle Determination**
Test Specification:	FCC Part 15.35
Job Number:	R-6563H-1
Customer:	Smart Team LLC
Test Sample:	Wireless Flash/Camera Trigger
Model Number:	Raven
Serial Number:	001
Operating Mode:	Transmitting Pocket Wizard Protocol at 351.2 MHz, Flash Mode
Technician:	M. Seamans
Date(s):	January 8th, 2021
Notes:	Duty Cycle Factor: -44.138 dB

TEST PARAMETERS				
Measured on time	**Measured time interval**	**Duty Cycle Factor Calculation**	**Result**	**Duty Cycle Factor**
msec	**msec**		**dB**	**dB**
0.621	100	= $20*\text{Log}_{10}$ (0.621 ms/ 100 ms)	-44.138	-44.138

EMISSIONS TEST DATA SHEET	
Method:	**Duty Cycle Determination**
Test Specification:	FCC Part 15.35
Job Number:	R-6563H-1
Customer:	Smart Team LLC
Test Sample:	Wireless Flash/Camera Trigger
Model Number:	Raven
Serial Number:	001
Operating Mode:	Transmitting Pocket Wizard Protocol at 344.5 MHz, Camera Mode
Technician:	M. Seamans
Date(s):	January 8th, 2021
Notes:	One pulse in 100ms window



EMISSIONS TEST DATA SHEET	
Method:	**Duty Cycle Determination**
Test Specification:	FCC Part 15.35
Job Number:	R-6563H-1
Customer:	Smart Team LLC
Test Sample:	Wireless Flash/Camera Trigger
Model Number:	Raven
Serial Number:	001
Operating Mode:	Transmitting Pocket Wizard Protocol at 344.5 MHz, Camera Mode
Technician:	M. Seamans
Date(s):	January 8th, 2021
Notes:	Pulse width: 6.934 uS



EMISSIONS TEST DATA SHEET	
Method:	**Duty Cycle Determination**
Test Specification:	FCC Part 15.35
Job Number:	R-6563H-1
Customer:	Smart Team LLC
Test Sample:	Wireless Flash/Camera Trigger
Model Number:	Raven
Serial Number:	001
Operating Mode:	Transmitting Pocket Wizard Protocol at 344.5 MHz, Camera Mode
Technician:	M. Seamans
Date(s):	January 8th, 2021
Notes:	Duty Cycle Factor: -23.180 dB

TEST PARAMETERS				
Measured on time	**Measured time interval**	**Duty Cycle Factor Calculation**	**Result**	**Duty Cycle Factor**
msec	**msec**		**dB**	**dB**
6.934	100	= $20*\text{Log}_{10}$ (6.934 ms/ 100 ms)	-23.180	-23.180

FCC Section 15.231(b)(3) / 15.205 / 15.209 - Field Strength of Spurious Emissions
Test Data

EMISSIONS TEST DATA SHEET	
Method:	**Field Strength of Emissions – Spurious (Restricted Bands) 1 MHz to 4 GHz**
Test Specification:	FCC Part 15, Subpart C Paragraph: 15.205/209
Job Number:	R-6563H-1
Customer:	Smart Team LLC
Test Sample:	Wireless Flash/Camera Trigger
Model Number:	Raven
Serial Number:	001
Operating Mode:	Transmitting Pocket Wizard Protocol
Technician:	M. Seamans
Date(s):	January 12th, 2021
Notes:	Test Distance: 3 meters Detector: Peak

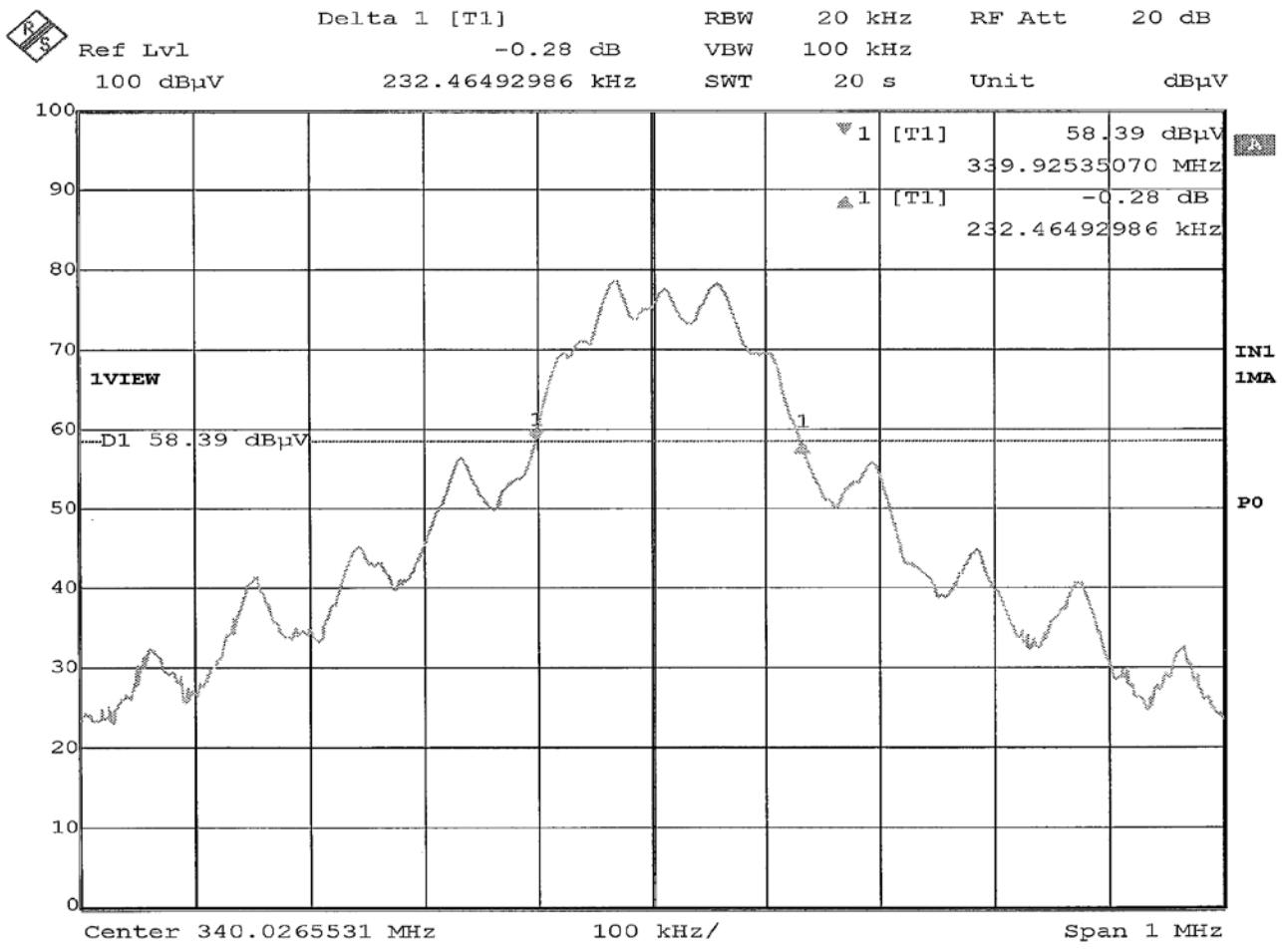
TEST PARAMETERS

Frequency	Antenna Position	EUT Orientation	Meter Reading	Correction Factor	Corrected Reading		Converted Reading	Average Limit at 3M
MHz	(H/V) / Height	Degrees	dBuV	dB	dBuV/m		uV/m	uV/m
1000.00	-	-	-	-	-		-	500.00
|	-	-	-	-	-		-	|
|	-	-	-	-	-		-	|
2028.00*	H/1.0m	Y	43.83	0.47	44.30		164.06	|
3042.00*	H/1.0m	Y	43.90	5.00	48.90		278.61	|
3718.00*	H/1.0m	Y	43.57	8.23	51.80		389.05	|
|	-	-	-	-	-		-	|
|	-	-	-	-	-		-	|
|	-	-	-	-	-		-	|
|	-	-	-	-	-		-	|
|	-	-	-	-	-		-	|
|	-	-	-	-	-		-	|
4000.00	-	-	-	-	-		-	500.00

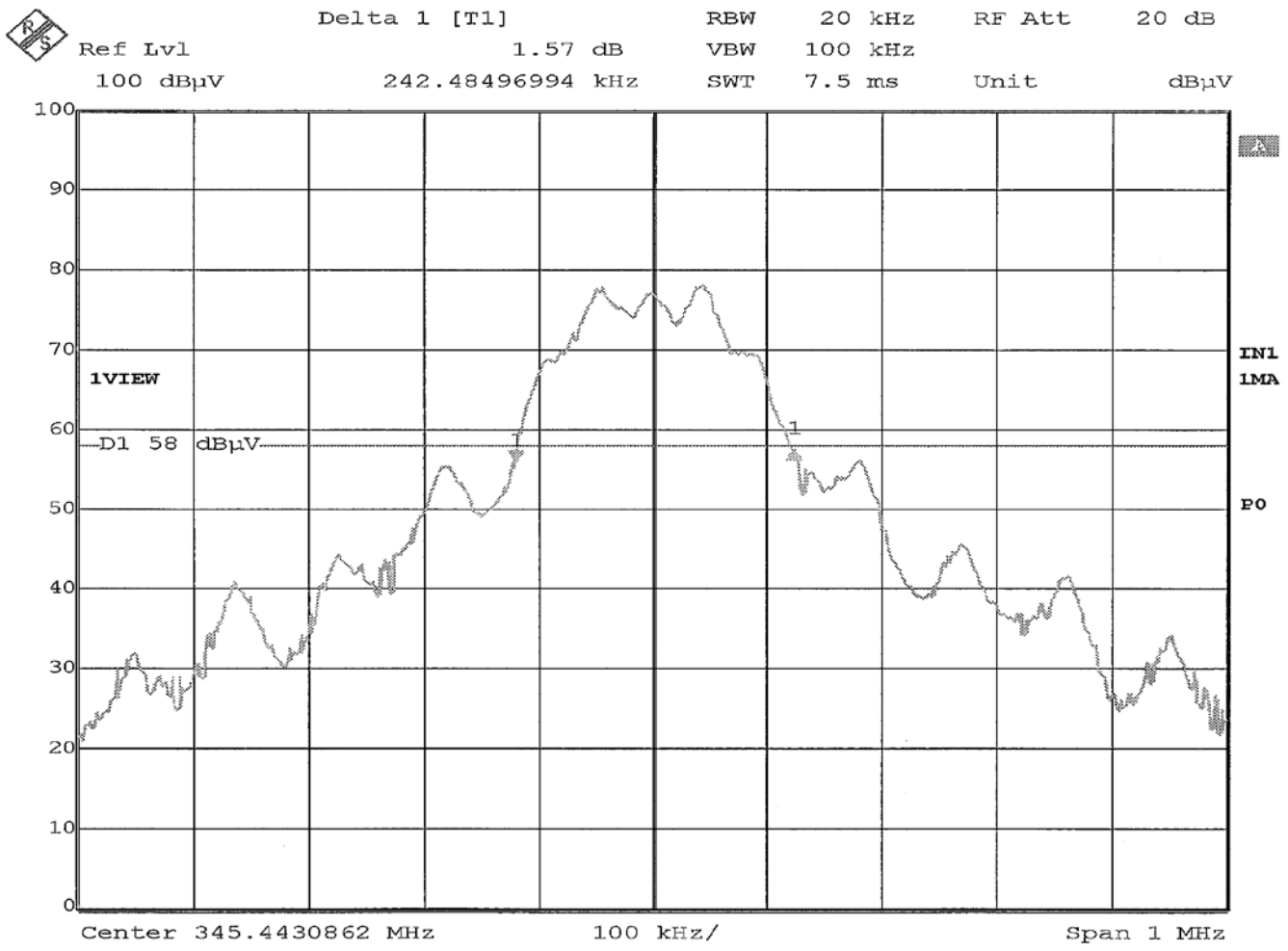
No EUT emissions were observed throughout the given frequency spectrum. * This emission is not from the EUT. It is a measurement of minimum measurement system sensitivity (Noise Floor).

FCC Section 15.231(c) - Bandwidth of Emission
Test Data

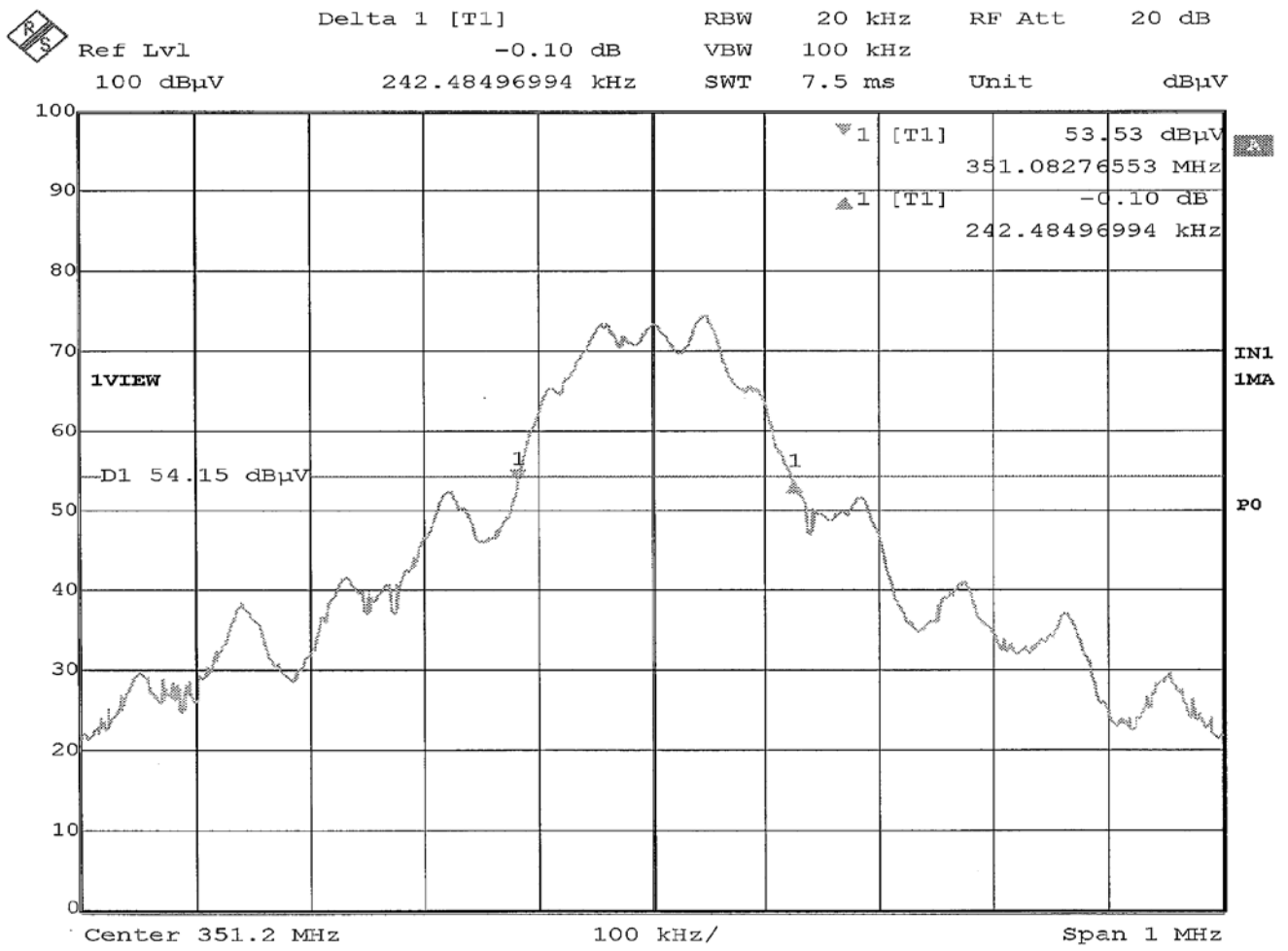
EMISSIONS TEST DATA SHEET	
Method:	**Bandwidth**
Test Specification:	FCC Part 15, Subpart C Paragraph: 15.231(c)
Job Number:	R-6563H-1
Customer:	Smart Team LLC
Test Sample:	Wireless Flash/Camera Trigger
Model Number:	Raven
Serial Number:	001
Operating Mode:	Transmitting Pocket Wizard Protocol at 340.04 MHz, Flash Mode
Technician:	M. Seamans
Date(s):	January 8th, 2021
Notes:	20dB Bandwidth: 232.465 kHz



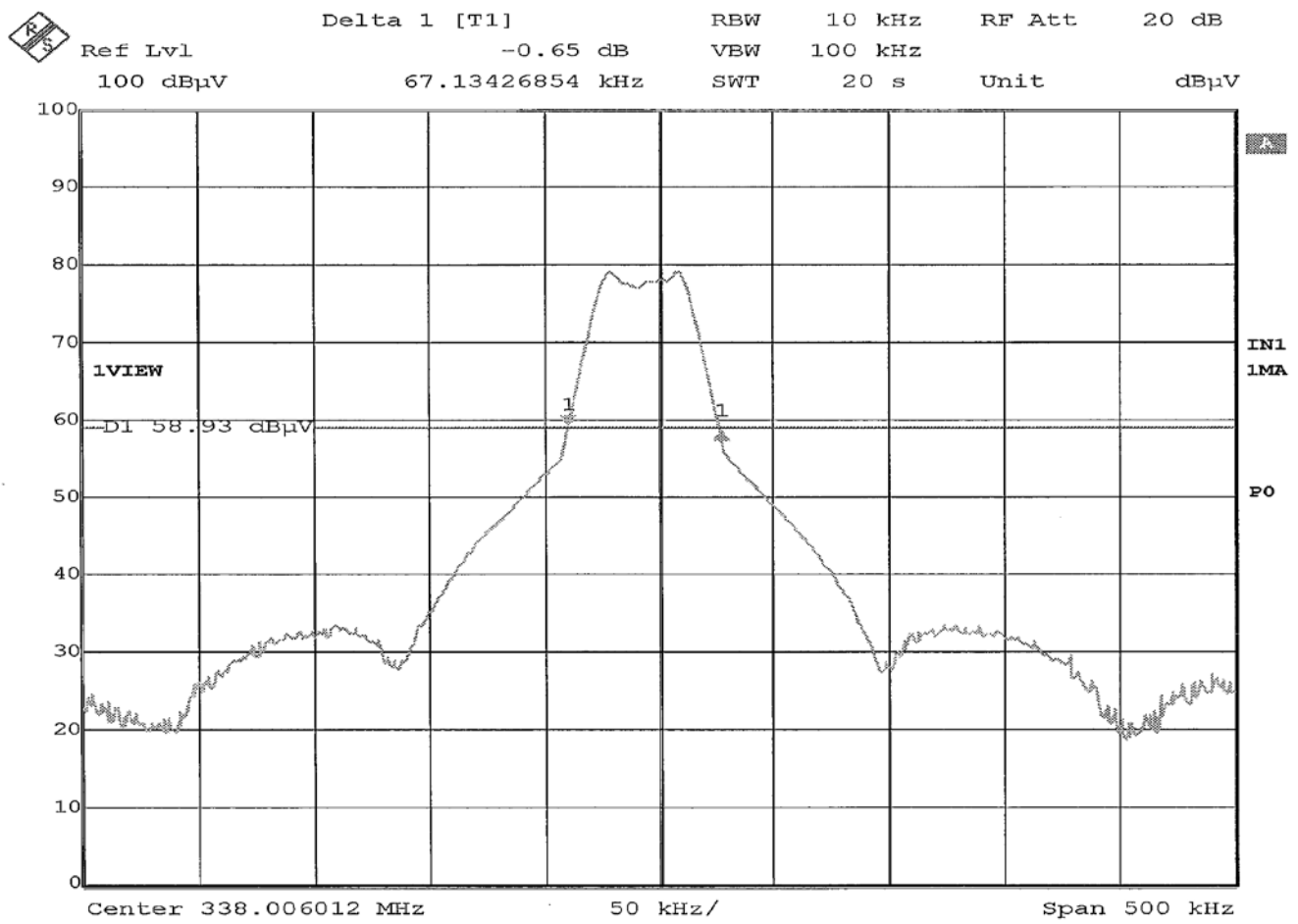
EMISSIONS TEST DATA SHEET	
Method:	**Bandwidth**
Test Specification:	FCC Part 15, Subpart C Paragraph: 15.231(c)
Job Number:	R-6563H-1
Customer:	Smart Team LLC
Test Sample:	Wireless Flash/Camera Trigger
Model Number:	Raven
Serial Number:	001
Operating Mode:	Transmitting Pocket Wizard Protocol at 345.44 MHz, Flash Mode
Technician:	M. Seamans
Date(s):	January 8th, 2021
Notes:	20dB Bandwidth: 242.485 kHz



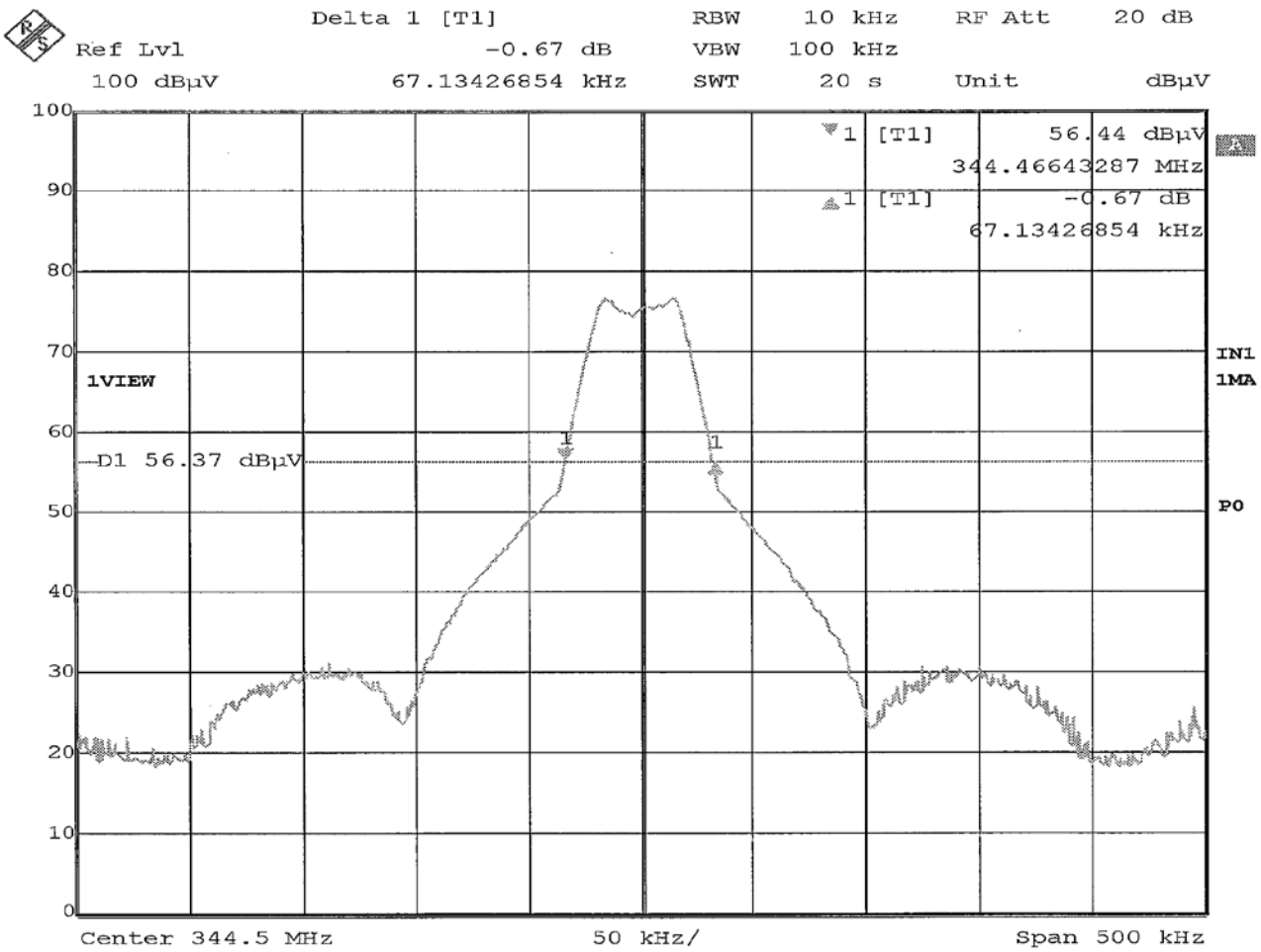
EMISSIONS TEST DATA SHEET	
Method:	**Bandwidth**
Test Specification:	FCC Part 15, Subpart C Paragraph: 15.231(c)
Job Number:	R-6563H-1
Customer:	Smart Team LLC
Test Sample:	Wireless Flash/Camera Trigger
Model Number:	Raven
Serial Number:	001
Operating Mode:	Transmitting Pocket Wizard Protocol at 351.2 MHz, Flash Mode
Technician:	M. Seamans
Date(s):	January 8th, 2021
Notes:	20dB Bandwidth: 242.485 kHz



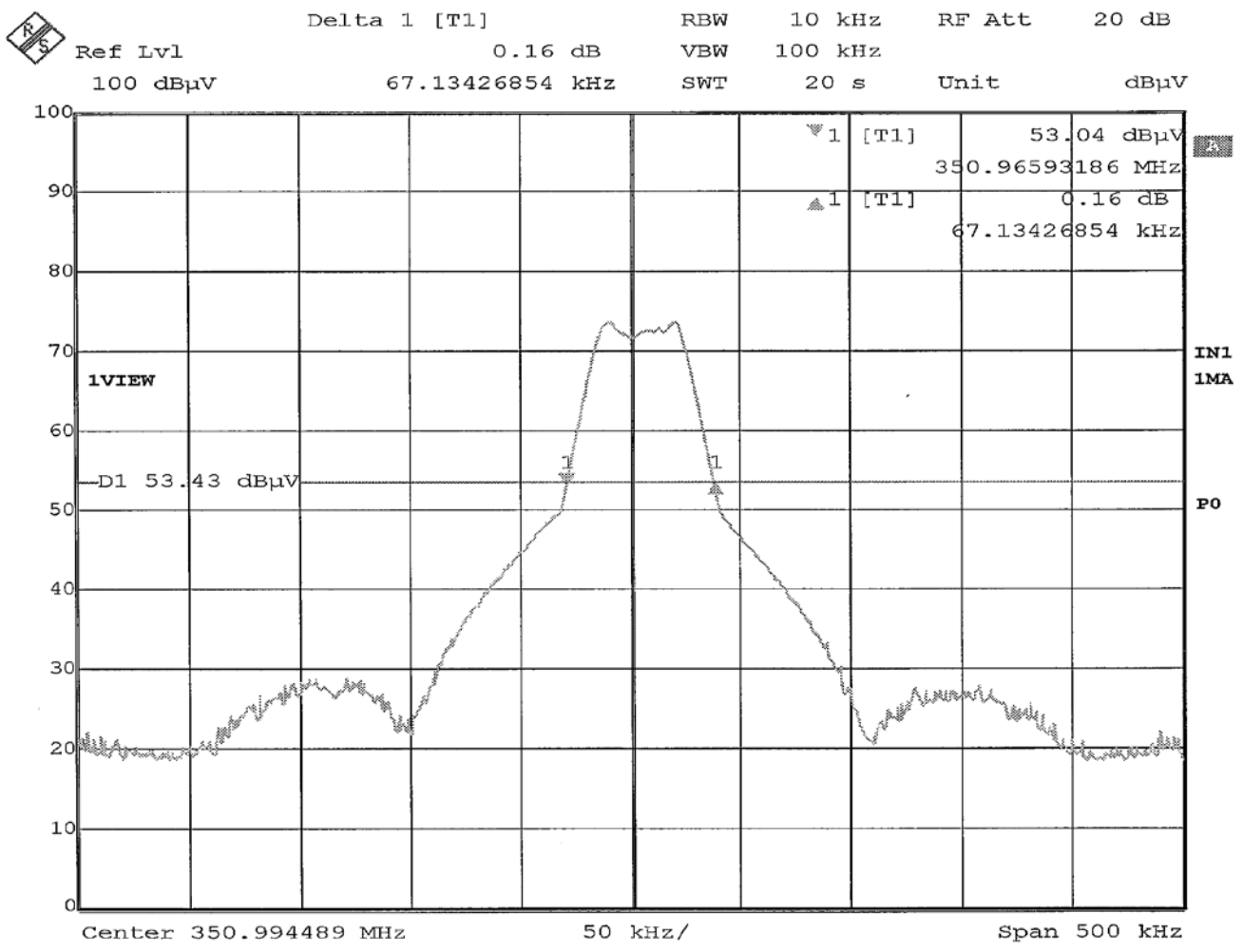
EMISSIONS TEST DATA SHEET	
Method:	**Bandwidth**
Test Specification:	FCC Part 15, Subpart C Paragraph: 15.231(c)
Job Number:	R-6563H-1
Customer:	Smart Team LLC
Test Sample:	Wireless Flash/Camera Trigger
Model Number:	Raven
Serial Number:	001
Operating Mode:	Transmitting Pocket Wizard Protocol at 338.00 MHz, Camera Mode
Technician:	M. Seamans
Date(s):	January 8th, 2021
Notes:	20dB Bandwidth: 67.134 kHz



EMISSIONS TEST DATA SHEET	
Method:	**Bandwidth**
Test Specification:	FCC Part 15, Subpart C Paragraph: 15.231(c)
Job Number:	R-6563H-1
Customer:	Smart Team LLC
Test Sample:	Wireless Flash/Camera Trigger
Model Number:	Raven
Serial Number:	001
Operating Mode:	Transmitting Pocket Wizard Protocol at 344.5 MHz, Camera Mode
Technician:	M. Seamans
Date(s):	January 8th, 2021
Notes:	20dB Bandwidth: 67.134 kHz



EMISSIONS TEST DATA SHEET	
Method:	**Bandwidth**
Test Specification:	FCC Part 15, Subpart C Paragraph: 15.231(c)
Job Number:	R-6563H-1
Customer:	Smart Team LLC
Test Sample:	Wireless Flash/Camera Trigger
Model Number:	Raven
Serial Number:	001
Operating Mode:	Transmitting Pocket Wizard Protocol at 351.00 MHz, Camera Mode
Technician:	M. Seamans
Date(s):	January 8th, 2021
Notes:	20dB Bandwidth: 67.134 kHz



FCC Part 15, Subpart C, Section 15.207 (a)
Conducted Emissions, Class B
150 kHz to 30 MHz
Test Data

EMISSIONS TEST DATA SHEET	
Test Specification:	FCC Part 15, Subpart B, Section 15.107(a), Conducted Emissions, Class B
Method:	ANSI C63.4, Section 7., AC power-line conducted emission measurements
Job Number/Customer:	R-6563H-1 / Smart Team LLC
Test Sample:	Wireless Flash/Camera Trigger
Model Number:	Raven
Part Number:	N/A
Serial Number:	001
Operating Mode:	Transmitting Pocket Wizard Protocol, charging battery
Technician:	M. Seamans
Date(s):	January 14th, 2021
Temperature:	20.8 ºC
Relative Humidity:	25.9 %
Port Tested:	120 VAC 60 Hz

Frequency	Lead Tested	Peak Meter Reading	Quasi-Peak Meter Reading	Average Meter Reading	Quasi-Peak Limit	Average Limit
MHz		**dBuV**	**dBuV**	**dBuV**	**dBuV**	**dBuV**
0.250	Hot	71.18	53.90	35.70	61.76	51.76
0.159	Neutral	59.87	41.60	17.60	65.52	55.52
0.370	Hot	63.23	43.70	25.40	58.50	48.50
0.252	Neutral	56.40	48.20	29.40	61.69	51.69
0.495	Hot	55.99	41.80	24.90	56.08	46.08
0.387	Neutral	48.56	39.90	24.30	58.13	48.13
0.620	Hot	51.58	37.50	21.90	56	46
0.536	Neutral	46.75	35.70	21.30	56	46
0.743	Hot	48.83	36.90	16.30	56	46
0.667	Neutral	42.25	34.10	20.10	56	46
0.876	Hot	47.45	39.20	20.70	56	46
1.067	Neutral	46.21	40.80	21.60	56	46

The frequency range was scanned from 0.15 MHz to 30 MHz.
The six highest emissions relative to the limit are presented.
The emissions observed from the EUT do not exceed the specified limits.