FCC PART 15, SUBPART B and C
TEST REPORT

for

RING FLOOD/FREEZE SENSOR

Part Number: 4SF1S80EN0

Prepared for

ECOLINK INTELLIGENT TECHNOLOGY, INC.
2055 CORTE DEL NOGAL
CARLSBAD, CALIFORNIA 92011

Prepared by: _____

JAMES ROSS

Approved by: _____

KYLE FUJIMOTO

COMPATIBLE ELECTRONICS INC.
114 OLINDA DRIVE
BREA, CALIFORNIA 92823
(714) 579-0500

DATE: SEPTEMBER 7, 2018

	REPORT BODY	APPENDICES					TOTAL
		A	***B***	***C***	***D***	***E***	
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NVLAP TESTING
NVLAP LAB CODE 200528-0

ilac-MRA

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GENERAL REPORT SUMMARY

This electromagnetic emission test report is generated by Compatible Electronics Inc., which is an independent testing and consulting firm. The test report is based on testing performed by Compatible Electronics personnel according to the measurement procedures described in the test specifications given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced without the written permission of Compatible Electronics, unless done so in full.

This report must not be used to claim product certification, approval or endorsement by NVLAP, NIST or any agency of the federal government.

Device Tested: Ring Flood/Freeze Sensor
P/N: 4SF1S80EN0
S/N: N/A

Product Description: The equipment under test is a flood and freeze sensor that will transmit an alarm notifying the user of a possible flood, or freezing low temperatures that could damage pipes.

Modifications: The EUT was not modified in order to meet the specifications.

Customer: Ecolink Intelligent Technology, Inc.
2055 Corte Del Nogal
Carlsbad, California 92011

Test Dates: August 14 and 15; September 7, 2018

Test Specifications covered by accreditation:

CFR Title 47, Part 15, Subpart B; and Subpart C sections 15.205, 15.209, and 15.249

NVLAP TESTING
NVLAP LAB CODE 200528-0

ilac-MRA

Test Procedures: ANSI C63.4: 2014 and ANSI C63.10: 2013

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Spurious Radiated RF Emissions, 9 kHz –9300 MHz	Complies with the **Class B** limits of CFR Title 47, Part 15 Subpart B; and the limits of CFR Title 47, Part 15 Subpart C, section 15.205, 15.209 and 15.249 Highest reading in relation to spec limit 93.52 dBuV/m (QP) @ 908.42 MHz (*U = 3.19 dB)

1. PURPOSE

This document is a qualification test report based on the emissions tests performed on the Ring Flood/Freeze Sensor, P/N: 4SF1S80EN0. The emissions measurements were performed according to the measurement procedure described in ANSI C63.4 and ANSI C63.10. The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT hereafter, are within the **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.249.

2. ADMINISTRATIVE DATA

2.1 Location of Testing

The emissions tests described herein were performed at the test facility of Compatible Electronics, 114 Olinda Drive, Brea, California 92823.

2.2 Traceability Statement

The calibration certificates of all test equipment used during the test are on file at the location of the test. The calibration is traceable to the National Institute of Standards and Technology (NIST).

2.3 Cognizant Personnel

Ecolink Intelligent Technology, Inc.

Anna Poltoratska	Project Manager

Compatible Electronics Inc.

Tom Szynal	Test Technician
Johnny Le	Test Technician
James Ross	Test Engineer
Kyle Fujimoto	Test Engineer

2.4 Date Test Sample was Received

The test sample was received prior to the initial test date of August 14, 2018.

2.5 Disposition of the Test Sample

The test sample has not been returned to Ecolink Intelligent Technology, Inc. as of the date of this report.

2.6 Abbreviations and Acronyms

The following abbreviations and acronyms may be used in this document.

RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
ITE	Information Technology Equipment
DoC	Declaration of Conformity
N/A	Not Applicable
Tx	Transmit
Rx	Receive
Inc.	Incorporated
FCC	Federal Communications Commission

3. APPLICABLE DOCUMENTS

The following documents are referenced or used in the preparation of this emissions Test Report.

SPEC	TITLE
FCC Title 47, Part 15 Subpart C	FCC Rules – Radio frequency devices (including digital devices) – Intentional Radiators
FCC Title 47, Part 15 Subpart B	FCC Rules – Radio frequency devices (including digital devices) – Unintentional Radiators
ANSI C63.4: 2014	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 25 GHz
ANSI C63.10: 2013	American National Standard of procedure for compliance testing of unlicensed wireless devices

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration – Emissions

The Ring Flood/Freeze Sensor, P/N: 4SF1S80EN0 (EUT) was setup in a stand-alone configuration. The EUT was investigated in all three orthogonal axis (X, Y, & Z) at its low and high channels (908.42 MHz and 916 MHz), respectively. During the testing, the EUT was continuously transmitting. Finally, the EUT was tested from 9 kHz to 9.3 GHz.

The "X" orientation is when the EUT is parallel to the ground. The "Y" orientation is when the EUT is perpendicular to the ground mounted vertically. The "Z" orientation is when the EUT is perpendicular to the ground mounted horizontally.

A fresh battery was installed inside the EUT prior to the testing. The EUT was programmed via an installed v1.0 firmware.

The final radiated emissions data for the EUT was taken in the X-axis (worse case). Please see Appendix E for the data sheets.

4.1.1 Cable Construction and Termination

The EUT had no external cables.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
RING FLOOD/FREEZE SENSOR (EUT)	ECOLINK INTELLIGENT TECHNOLOGY, INC.	4SF1S80EN0	N/A	XQCBHAWS001
FIRMWARE	ECOLINK INTELLIGENT TECHNOLOGY, INC.	v1.0	N/A	N/A

5.2 Emissions Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. CYCLE
RF RADIATED AND CONDUCTED EMISSIONS TEST EQUIPMENT					
TDK TestLab	TDK RF Solutions, Inc.	9.22	700145	N/A	N/A
MXE EMI Receiver	Keysight Technologies Inc.	N9038A	MY512010150	July 26, 2018	1 Year
System Controller	Sunol Sciences Corporation	SC110V	112213-1	N/A	N/A
Turntable	Sunol Sciences Corporation	2011VS	N/A	N/A	N/A
Antenna-Mast	Sunol Sciences Corporation	TWR95-4	112213-3	N/A	N/A
Loop Antenna	Com-Power	AL-130R	121090	February 9, 2017	2 Year
CombiLog Antenna	Com-Power	AC-220	61060	July 27, 2017	2 Year
Horn Antenna	Com-Power	AH-118	071175	February 22, 2018	2 Year
Preamplifier	Com-Power	PAM-118A	551024	May 10, 2018	1 Year
Computer	Hewlett Packard	p6716f	MXX1030PX0	N/A	N/A
LCD Monitor	Hewlett Packard	52031a	3CQ046N3MG	N/A	N/A

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 of this report for emissions test location.

6.2 EUT Mounting, Bonding and Grounding

For frequencies 1 GHz and below: The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

For frequencies above 1 GHz: The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 1.5 meters above the ground plane.

The EUT was not grounded.

7. TEST PROCEDURES

The following sections describe the test methods and the specifications for the tests. Test results are also included in this section.

7.1 RF Emissions

7.1.1 Radiated Emissions Test

The EMI Receiver was used as the measuring meter. Preamplifiers were used to increase the sensitivity of the instrument. The EMI Receiver was initially used with the Analyzer mode feature activated. In this mode, the EMI receiver can then record the actual frequency to be measured. This final reading is then taken accurately in the EMI Receiver mode, which takes into account the cable loss, amplifier gain and antenna factors, so that a true reading is compared to the true limit. The effective measurement bandwidth used for the radiated emissions test was according to the frequency measured.

The frequencies below 1 GHz were quasi-peaked using the quasi-peak detector of the EMI Receiver.

The frequencies for the harmonics above 1 GHz were averaged using a duty cycle correction factor.

All the other frequencies above 1 GHz were averaged using the average detector of the EMI Receiver.

The EMI test chamber of Compatible Electronics, Inc. was used for radiated emissions testing. This test site is in full compliance with ANSI C63.4. Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT. At each reading, the EUT was rotated 360 degrees and the antenna height was varied from 1 to 4 meters (for E field radiated field strength). The gunsight method was used when measuring with the horn antenna in order to ensure accurate results.

The EUT was tested at a 3-meter test distance. The six highest emissions are listed in Table 1.0.

Radiated Emissions Test (Continued)

The measurement bandwidths and transducers used for the radiated emissions test were:

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
9 kHz to 150 kHz	200 Hz	Loop Antenna
150 kHz to 30 MHz	9 kHz	Loop Antenna
30 MHz to 1 GHz	120 kHz	CombiLog Antenna
1 GHz to 9.3 GHz	1 MHz	Horn Antenna

Test Results:

The EUT complies with the **Class B** limits of **CFR** Title 47, Part 15, Subpart B; and Subpart C sections 15.205, 15.209 and 15.249 for radiated emissions.

7.1.2 RF Emissions Test Results

Table 1.0 RADIATED EMISSION RESULTS
Ring Flood/Freeze Sensor
P/N: 4SF1S80EN0

Frequency (MHz)	Quasi-Peak EMI Reading (dBuV/m)	Quasi-Peak Specification Limit (dBuV/m)	Delta (Cor. Reading – Spec. Limit) (dB)
908.42 (H) (Z-Axis)	93.52	93.97	-0.45
916.00 (V) (Z-Axis)	93.07	93.97	-0.90
916.00 (V) (Y-Axis)	92.98	93.97	-0.99
916.00 (H) (X-Axis)	92.55	93.97	-1.42
908.42 (V) (Z-Axis)	92.34	93.97	-1.63
908.42 (V) (Y-Axis)	91.68	93.97	-2.29

Notes:

* The complete emissions data is given in Appendix E of this report.
(V) Vertical
(H) Horizontal

7.1.3 Duty Cycle Calculation

The fundamental and harmonics were measured at a 3-meter test distance. The EMI Receiver was used to obtain the final test data. The final qualification data sheets are located in Appendix E.

Where

$$\delta(\mathrm{dB}) = 20\log\left[\sum\left(nt_1 + mt_2 + \ldots + \xi t_x\right)/T\right]$$

n is the number of pulses of duration *t*1
m is the number of pulses of duration *t*2
ξ is the number of pulses of duration *tx*
T is the period of the pulse train or 100 ms if the pulse train length is greater than 100 ms

The worst case was when the EUT was in node frame mode

Duty Cycle Correction Factor = -6.76 dB

Time of One Pulse = 45.90 ms

Total On Time = 45.90 ms

The time between pulses is greater than 100 ms

Duty Cycle = 45.90 ms / 100 ms = 0.4590 = 45.90%

8. CONCLUSIONS

The Ring Flood/Freeze Sensor, P/N: 4SF1S80EN0, as tested, meets all of the **Class B** specification limits defined in FCC Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209 and 15.249.

APPENDIX A

LABORATORY ACCREDITATIONS AND RECOGNITIONS

LABORATORY ACCREDITATIONS AND RECOGNITIONS

NVLAP® TESTING
NVLAP LAB CODE 200528-0

ilac-MRA

For US, Canada, Australia/New Zealand, Japan, Taiwan, Korea, and the European Union, Compatible Electronics is currently accredited by NVLAP to ISO/IEC 17025.
For the most up-to-date version of our scopes and certificates please visit http://celectronics.com/quality/scope/

Quote from ISO-ILAC-IAF Communiqué on 17025:
"A laboratory's fulfilment of the requirements of ISO/IEC 17025:2005 means the laboratory meets both the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically valid test results and calibrations. The management system requirements in ISO/IEC 17025:2005 (Section 4) are written in language relevant to laboratory operations and meet the principles of ISO 9001:2008 Quality Management Systems — Requirements."

APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC Subpart B and FCC 15.249 specifications.

All the rework described below was implemented during the test in a method that could be reproduced in all the units by the manufacturer.

No modifications were made to the EUT during the testing.

APPENDIX C

ADDITIONAL MODEL COVERED UNDER THIS REPORT

ADDITIONAL MODEL COVERED UNDER THIS REPORT

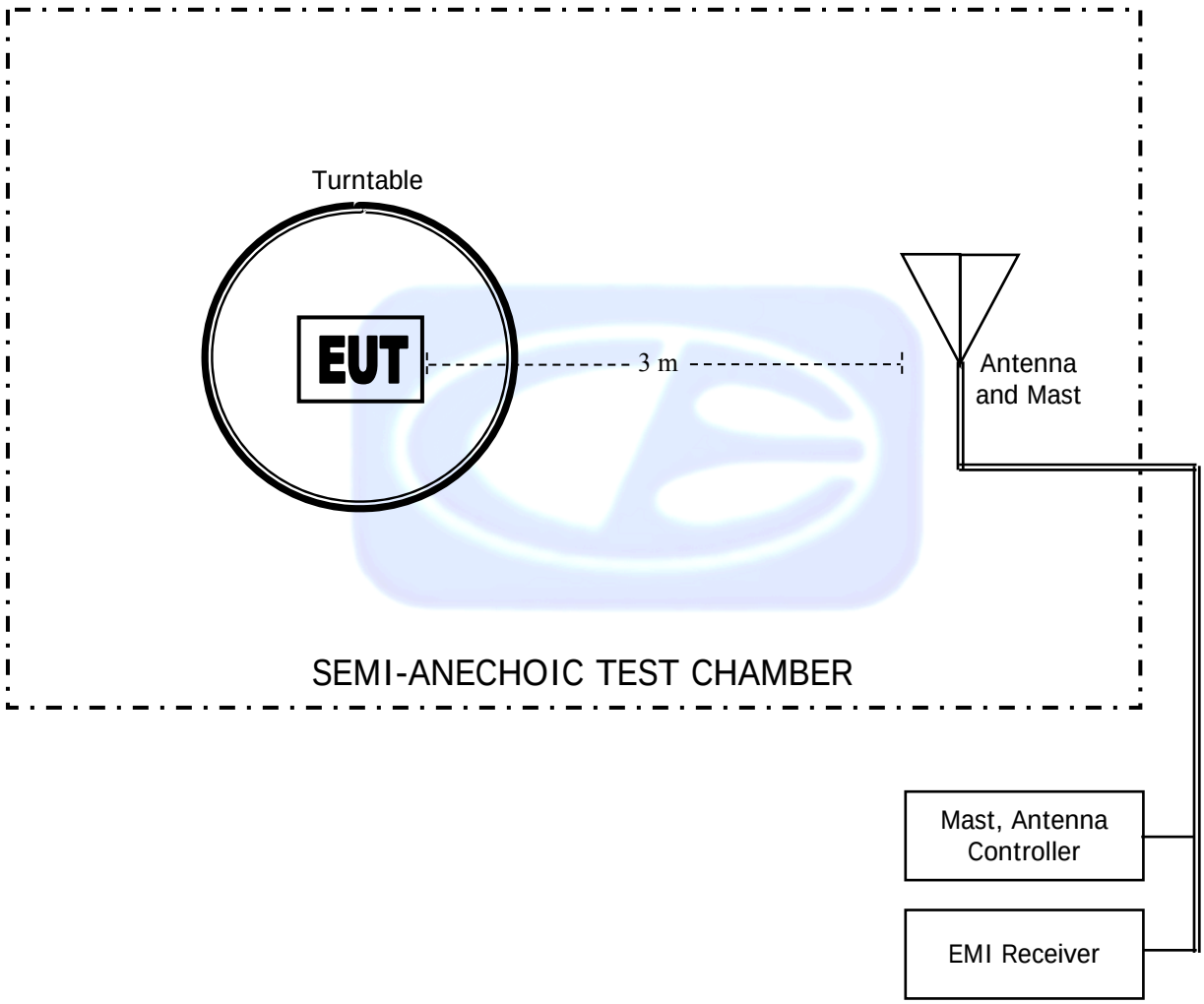
USED FOR THE PRIMARY TEST	Ring Flood/Freeze Sensor P/N: 4SF1S80EN0 S/N: N/A

There are no additional models covered under this report.

APPENDIX D

DIAGRAMS AND CHARTS

FIGURE 1: LAYOUT OF THE SEMI -ANECHOIC TEST CHAMBER



COM-POWER AL-130R

LOOP ANTENNA

S/N: 121090

CALIBRATION DATE: FEBRUARY 9, 2017

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-36.17	15.33
0.01	-35.86	15.64
0.02	-37.30	14.20
0.03	-36.58	14.92
0.04	-36.99	14.51
0.05	-37.66	13.84
0.06	-37.53	13.97
0.07	-37.64	13.86
0.08	-37.52	13.98
0.09	-37.62	13.88
0.1	-37.59	13.91
0.2	-37.79	13.71
0.3	-37.80	13.70
0.4	-37.70	13.80
0.5	-37.79	13.71
0.6	-37.79	13.71
0.7	-37.69	13.81
0.8	-37.49	14.01
0.9	-37.39	14.11
1	-37.39	14.11
2	-37.09	14.41
3	-37.09	14.41
4	-37.19	14.31
5	-36.98	14.52
6	-37.17	14.33
7	-37.05	14.45
8	-36.85	14.65
9	-36.84	14.66
10	-36.75	14.75
15	-37.16	14.34
20	-36.44	15.06
25	-37.88	13.62
30	-39.14	12.36

COM-POWER AC-220

COMBILOG ANTENNA

S/N: 61060

CALIBRATION DATE: JULY 27, 2017

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	23.80	200	14.10
35	24.00	250	15.30
40	24.70	300	17.70
45	22.90	350	17.70
50	22.10	400	19.00
60	17.60	450	21.30
70	12.70	500	21.00
80	11.20	550	22.30
90	13.10	600	23.40
100	14.40	650	22.90
120	15.30	700	24.60
125	15.00	750	24.50
140	12.80	800	25.40
150	16.50	850	26.40
160	12.90	900	27.20
175	14.30	950	27.80
180	14.50	1000	26.80

COM POWER AH-118

HORN ANTENNA

S/N: 071175

CALIBRATION DATE: FEBRUARY 22, 2018

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	23.71	10.0	40.08
1.5	25.46	10.5	40.75
2.0	29.26	11.0	41.78
2.5	27.95	11.5	41.02
3.0	29.03	12.0	40.32
3.5	29.70	12.5	40.96
4.0	30.71	13.0	40.29
4.5	31.62	13.5	39.48
5.0	33.23	14.0	39.89
5.5	35.07	14.5	42.75
6.0	34.43	15.0	40.98
6.5	34.98	15.5	38.54
7.0	36.75	16.0	39.40
7.5	37.10	16.5	39.40
8.0	37.66	17.0	41.74
8.5	39.29	17.5	42.58
9.0	37.75	18.0	44.68
9.5	38.23		

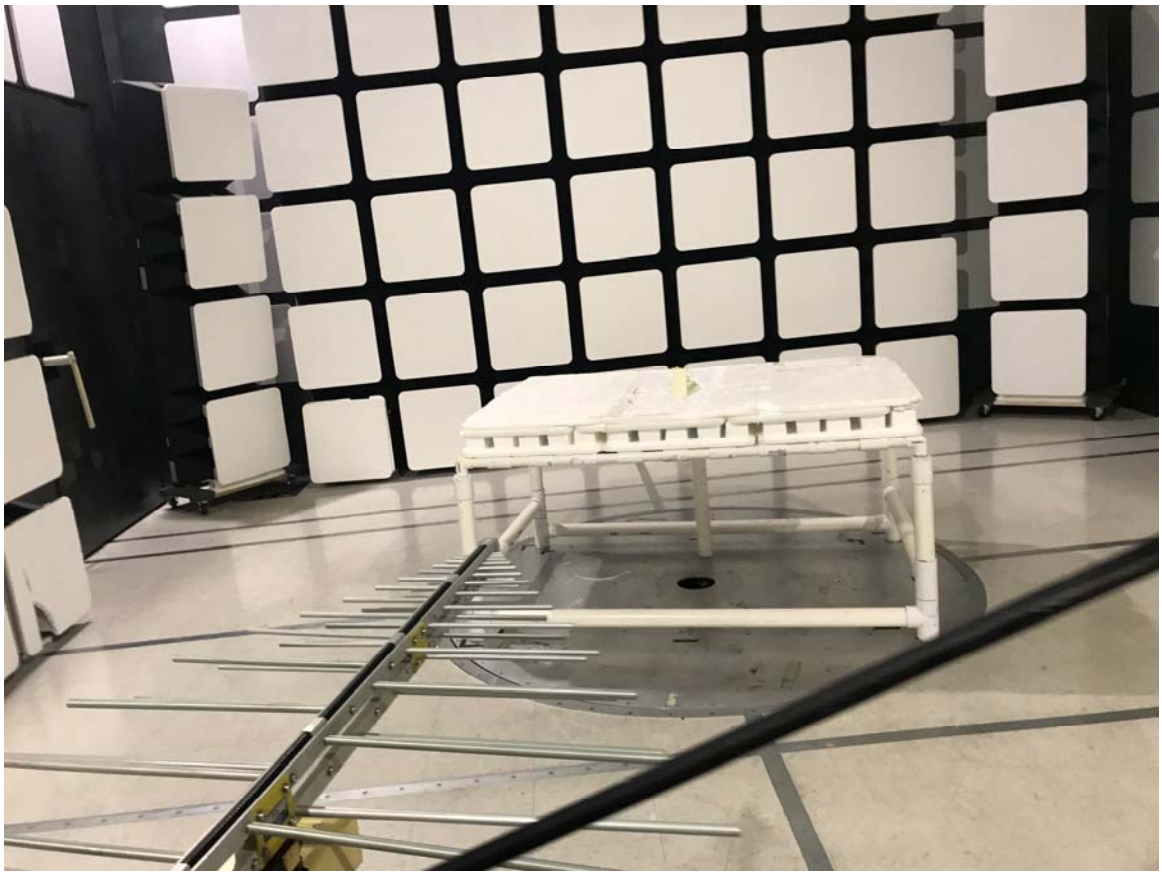
COM-POWER PAM-118A

PREAMPLIFIER

S/N: 551024

CALIBRATION DATE: MAY 10, 2018

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	40.99	6.0	39.01
1.1	39.77	6.5	39.00
1.2	39.02	7.0	39.69
1.3	39.44	7.5	38.96
1.4	39.64	8.0	38.57
1.5	40.23	8.5	39.17
1.6	40.17	9.0	38.82
1.7	40.23	9.5	39.30
1.8	39.48	10.0	38.90
1.9	39.85	11.0	38.86
2.0	39.99	12.0	39.87
2.5	40.38	13.0	39.55
3.0	40.64	14.0	38.92
3.5	40.68	15.0	39.33
4.0	40.87	16.0	39.60
4.5	40.04	17.0	40.28
5.0	39.54	18.0	39.58
5.5	39.58		



FRONT VIEW

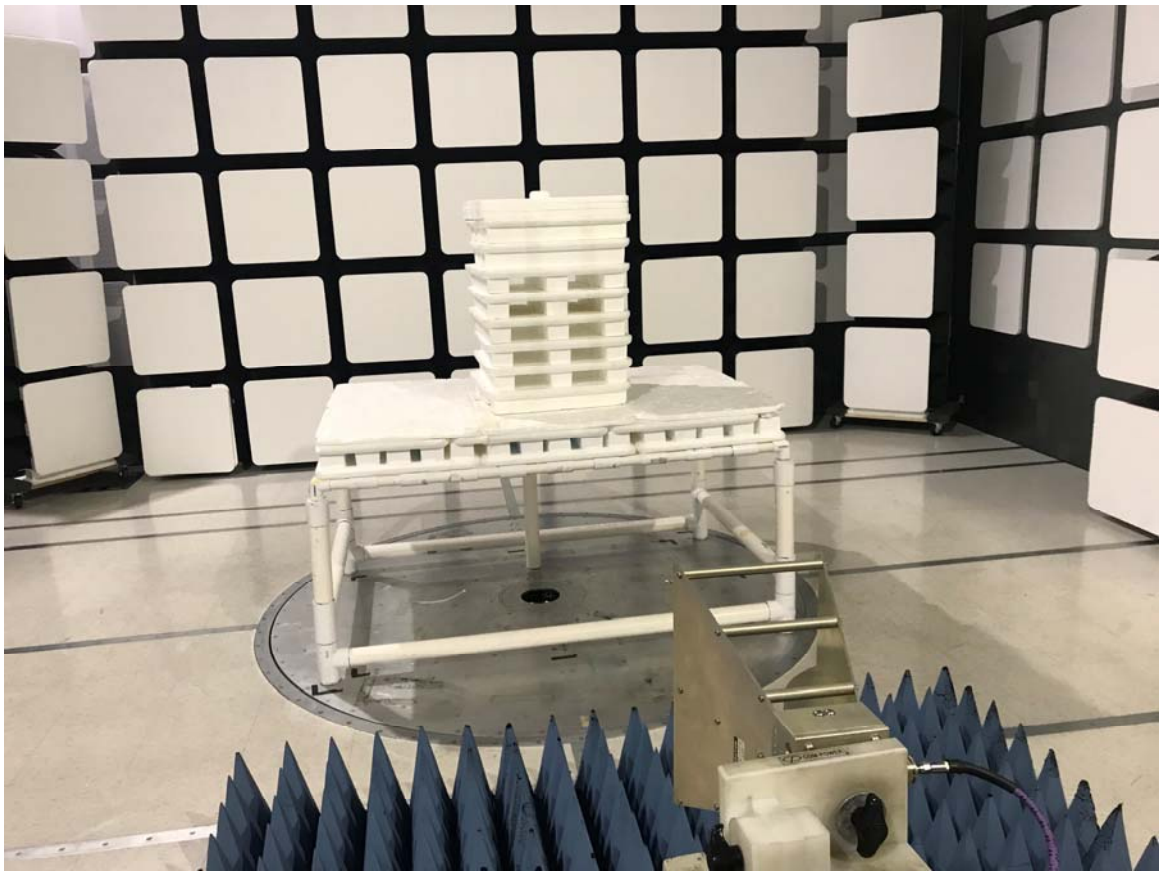
ECOLINK INTELLIGENT TECHNOLOGY, INC.
RING FLOOD/FREEZE SENSOR
PART NUMBER: 4SF1S80EN0
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

ECOLINK INTELLIGENT TECHNOLOGY, INC.
RING FLOOD/FREEZE SENSOR
PART NUMBER: 4SF1S80EN0
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

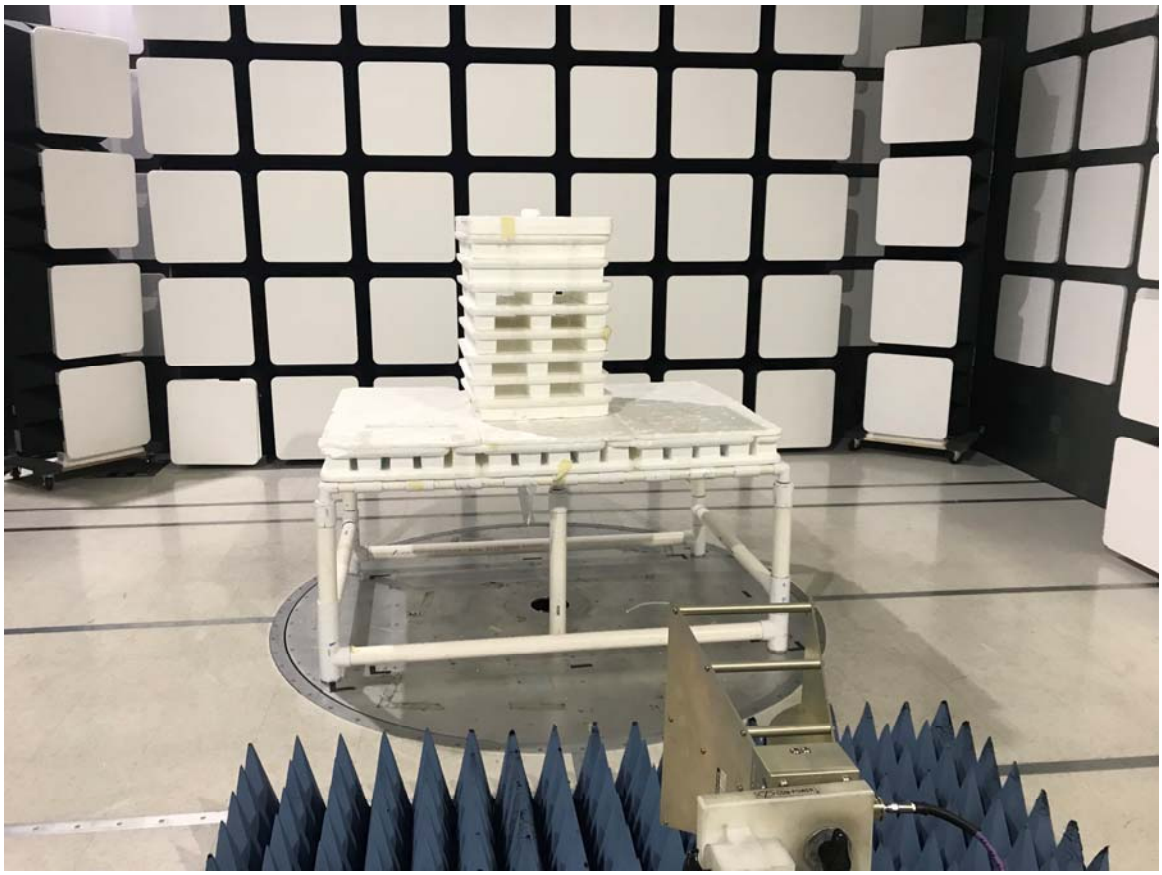
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

ECOLINK INTELLIGENT TECHNOLOGY, INC.
RING FLOOD/FREEZE SENSOR
PART NUMBER: 4SF1S80EN0
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

ECOLINK INTELLIGENT TECHNOLOGY, INC.
RING FLOOD/FREEZE SENSOR
PART NUMBER: 4SF1S80EN0
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONs

APPENDIX E

DATA SHEETS

RADIATED EMISSIONS DATA SHEETS

FCC 15.249
Ecolink Intelligent Technology, Inc.
Ring Flood/Freeze Sensor
Part Number:4SF1S80EN0

Date: 08/14/2018
Lab: D
Tested By: Johnny Le

Fundamental - Unit R3
Low Channel

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
908.42	89.74	V	93.97	-4.23	Peak	226.00	110.91	**X-Axis**
908.42	89.48	V	93.97	-4.49	QP	226.00	110.91	**Vertical Polarization**
908.42	93.12	V	93.97	-0.85	Peak	219.50	115.56	**Y-Axis**
908.42	91.68	V	93.97	-2.29	QP	219.50	115.56	**Vertical Polarization**
908.42	92.55	V	93.97	-1.42	Peak	218.75	124.40	**Z-Axis**
908.42	92.34	V	93.97	-1.63	QP	218.75	124.40	**Vertical Polarization**
908.42	88.96	H	93.97	-5.01	Peak	217.50	176.70	**X-Axis**
908.42	88.44	H	93.97	-5.53	QP	217.50	176.70	**Horizontal Polarization**
908.42	90.65	H	93.97	-3.32	Peak	300.50	136.04	**Y-Axis**
908.42	90.42	H	93.97	-3.55	QP	300.50	136.04	**Horizontal Polarization**
908.42	93.77	H	93.97	-0.20	Peak	155.25	138.55	**Z-Axis**
908.42	93.52	H	93.97	-0.45	QP	155.25	138.55	**Horizontal Polarization**

FCC 15.249
Ecolink Intelligent Technology, Inc.
Ring Flood/Freeze Sensor
Part Number:4SF1S80EN0

Date: 08/14/2018
Lab: D
Tested By: Johnny Le

Fundamental - Unit R5
High Channel

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
916.00	91.14	V	93.97	-2.83	Peak	225.25	110.97	**X-Axis**
916.00	91.19	V	93.97	-2.79	QP	225.25	110.97	**Vertical Polarization**
916.00	93.10	V	93.97	-0.87	Peak	223.75	109.83	**Y-Axis**
916.00	92.98	V	93.97	-0.99	QP	223.75	109.83	**Vertical Polarization**
916.00	93.33	V	93.97	-0.64	Peak	225.25	114.37	**Z-Axis**
916.00	93.07	V	93.97	-0.90	QP	225.25	114.37	**Vertical Polarization**
916.00	92.79	H	93.97	-1.18	Peak	278.00	152.58	**X-Axis**
916.00	92.55	H	93.97	-1.42	QP	278.00	152.58	**Horizontal Polarization**
916.00	90.50	H	93.97	-3.47	Peak	267.25	142.37	**Y-Axis**
916.00	90.24	H	93.97	-3.74	QP	267.25	142.37	**Horizontal Polarization**
916.00	91.49	H	93.97	-2.49	Peak	119.00	137.23	**Z-Axis**
916.00	91.48	H	93.97	-2.49	QP	119.00	137.23	**Horizontal Polarization**

FCC 15.249
Ecolink Intelligent Technology, Inc.
Ring Flood/Freeze Sensor
Part Number:4SF1S80EN0

Date: 08/14/2018
Lab: D
Tested By: Johnny Le

Harmonics - Low Channel - Unit R3
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1816.84	36.88	V	73.97	-37.09	Peak	200.25	206.85	
1816.84	30.12	V	53.97	-23.85	Avg	200.25	206.85	
2725.26								No Emission
2725.26								Detected
3633.68								No Emission
3633.68								Detected
4542.10	42.74	V	73.97	-31.23	Peak	229.75	118.55	
4542.10	35.98	V	53.97	-17.99	Avg	229.75	118.55	
5450.52	22.00	V	73.97	-51.97	Peak	300.50	136.04	No Emission
5450.52	15.24	V	53.97	-38.73	Avg	300.50	136.04	Detected
6358.94								No Emission
6358.94								Detected
7267.36								No Emission
7267.36								Detected
8175.78								No Emission
8175.78								Detected
9084.20								No Emission
9084.20								Detected

FCC 15.249
Ecolink Intelligent Technology, Inc.
Ring Flood/Freeze Sensor
Part Number:4SF1S80EN0

Date: 08/14/2018
Lab: D
Tested By: Johnny Le

Harmonics - Low Channel - Unit R3
Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1816.84	37.68	V	73.97	-36.29	Peak	253.50	148.04	
1816.84	30.92	V	53.97	-23.05	Avg	253.50	148.04	
2725.26	39.48	V	73.97	-34.49	Peak	219.00	148.82	
2725.26	32.72	V	53.97	-21.25	Avg	219.00	148.82	
3633.68								**No Emission**
3633.68								**Detected**
4542.10	43.24	V	73.97	-30.73	Peak	164.50	119.44	
4542.10	36.48	V	53.97	-17.49	Avg	164.50	119.44	
5450.52								**No Emission**
5450.52								**Detected**
6358.94								**No Emission**
6358.94								**Detected**
7267.36								**No Emission**
7267.36								**Detected**
8175.78								**No Emission**
8175.78								**Detected**
9084.20								**No Emission**
9084.20								**Detected**

FCC 15.249
Ecolink Intelligent Technology, Inc.
Ring Flood/Freeze Sensor
Part Number:4SF1S80EN0

Date: 08/14/2018
Lab: D
Tested By: Johnny Le

Harmonics - Low Channel - Unit R3
Transmit Mode - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1816.84	36.98	V	73.97	-37.00	Peak	75.75	134.79	
1816.84	30.22	V	53.97	-23.76	Avg	75.75	134.79	
2725.26								No Emission
2725.26								Detected
3633.68								No Emission
3633.68								Detected
4542.10	44.82	V	73.97	-29.15	Peak	171.00	209.23	
4542.10	38.06	V	53.97	-15.91	Avg	171.00	209.23	
5450.52								No Emission
5450.52								Detected
6358.94								No Emission
6358.94								Detected
7267.36								No Emission
7267.36								Detected
8175.78								No Emission
8175.78								Detected
9084.20								No Emission
9084.20								Detected

FCC 15.249
Ecolink Intelligent Technology, Inc.
Ring Flood/Freeze Sensor
Part Number:4SF1S80EN0

Date: 08/14/2018
Lab: D
Tested By: Johnny Le

Harmonics - Low Channel - Unit R3
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1816.84	37.13	H	73.97	-36.84	Peak	224.00	134.85	
1816.84	30.37	H	53.97	-23.60	Avg	224.00	134.85	
2725.26								No Emission
2725.26								Detected
3633.68								No Emission
3633.68								Detected
4542.10	42.65	H	73.97	-31.32	Peak	229.75	118.55	
4542.10	35.89	H	53.97	-18.08	Avg	229.75	118.55	
5450.52								No Emission
5450.52								Detected
6358.94								No Emission
6358.94								Detected
7267.36								No Emission
7267.36								Detected
8175.78								No Emission
8175.78								Detected
9084.20								No Emission
9084.20								Detected

FCC 15.249
Ecolink Intelligent Technology, Inc.
Ring Flood/Freeze Sensor
Part Number:4SF1S80EN0

Date: 08/14/2018
Lab: D
Tested By: Johnny Le

Harmonics - Low Channel - Unit R3
Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1816.84	37.11	H	73.97	-36.86	Peak	165.00	119.80	
1816.84	30.35	H	53.97	-23.62	Avg	165.00	119.80	
2725.26								No Emission
2725.26								Detected
3633.68								No Emission
3633.68								Detected
4542.10	44.31	H	73.97	-29.66	Peak	355.25	221.47	
4542.10	37.55	H	53.97	-16.42	Avg	355.25	221.47	
5450.52								No Emission
5450.52								Detected
6358.94								No Emission
6358.94								Detected
7267.36								No Emission
7267.36								Detected
8175.78								No Emission
8175.78								Detected
9084.20								No Emission
9084.20								Detected

FCC 15.249
Ecolink Intelligent Technology, Inc.
Ring Flood/Freeze Sensor
Part Number:4SF1S80EN0

Date: 08/14/2018
Lab: D
Tested By: Johnny Le

Harmonics - Low Channel - Unit R3
Transmit Mode - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1816.84	36.63	H	73.97	-37.34	Peak	207.50	115.98	
1816.84	29.87	H	53.97	-24.10	Avg	207.50	115.98	
2725.26	40.05	H	73.97	-33.92	Peak	160.00	172.88	
2725.26	33.29	H	53.97	-20.68	Avg	160.00	172.88	
3633.68								**No Emission**
3633.68								**Detected**
4542.10	43.20	H	73.97	-30.77	Peak	274.75	202.45	
4542.10	36.44	H	53.97	-17.53	Avg	274.75	202.45	
5450.52								**No Emission**
5450.52								**Detected**
6358.94								**No Emission**
6358.94								**Detected**
7267.36								**No Emission**
7267.36								**Detected**
8175.78								**No Emission**
8175.78								**Detected**
9084.20								**No Emission**
9084.20								**Detected**

FCC 15.249
Ecolink Intelligent Technology, Inc.
Ring Flood/Freeze Sensor
Part Number:4SF1S80EN0

Date: 08/14/2018
Lab: D
Tested By: Johnny Le

Harmonics - High Channel - Unit R5
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1832.00	36.47	V	73.97	-37.51	Peak	116.25	195.50	
1832.00	29.71	V	53.97	-24.27	Avg	116.25	195.50	
2748.00								No Emission
2748.00								Detected
3664.00								No Emission
3664.00								Detected
4580.00	44.61	V	73.97	-29.36	Peak	60.75	265.35	
4580.00	37.85	V	53.97	-16.12	Avg	60.75	265.35	
5496.00								No Emission
5496.00								Detected
6412.00								No Emission
6412.00								Detected
7328.00								No Emission
7328.00								Detected
8244.00								No Emission
8244.00								Detected
9160.00								No Emission
9160.00								Detected

FCC 15.249
Ecolink Intelligent Technology, Inc.
Ring Flood/Freeze Sensor
Part Number:4SF1S80EN0

Date: 08/14/2018
Lab: D
Tested By: Johnny Le

Harmonics - High Channel - Unit R5
Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1832.00	36.39	V	73.97	-37.58	Peak	247.00	211.92	
1832.00	29.63	V	53.97	-24.34	Avg	247.00	211.92	
2748.00								No Emission
2748.00								Detected
3664.00								No Emission
3664.00								Detected
4580.00	45.46	V	73.97	-28.51	Peak	355.25	221.47	
4580.00	38.70	V	53.97	-15.27	Avg	355.25	221.47	
5496.00								No Emission
5496.00								Detected
6412.00								No Emission
6412.00								Detected
7328.00								No Emission
7328.00								Detected
8244.00								No Emission
8244.00								Detected
9160.00								No Emission
9160.00								Detected

FCC 15.249
Ecolink Intelligent Technology, Inc.
Ring Flood/Freeze Sensor
Part Number:4SF1S80EN0

Date: 08/14/2018
Lab: D
Tested By: Johnny Le

Harmonics - High Channel - Unit R5
Transmit Mode - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1832.00	36.42	V	73.97	-37.55	Peak	240.00	216.58	
1832.00	29.66	V	53.97	-24.31	Avg	240.00	216.58	
2748.00								No Emission
2748.00								Detected
3664.00								No Emission
3664.00								Detected
4580.00	44.00	V	73.97	-29.97	Peak	169.00	103.80	
4580.00	37.24	V	53.97	-16.73	Avg	169.00	103.80	
5496.00								No Emission
5496.00								Detected
6412.00								No Emission
6412.00								Detected
7328.00								No Emission
7328.00								Detected
8244.00								No Emission
8244.00								Detected
9160.00								No Emission
9160.00								Detected

FCC 15.249
Ecolink Intelligent Technology, Inc.
Ring Flood/Freeze Sensor
Part Number:4SF1S80EN0

Date: 08/14/2018
Lab: D
Tested By: Johnny Le

Harmonics - High Channel - Unit R5
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1832.00	32.29	H	73.97	-41.68	Peak	75.25	108.28	
1832.00	25.53	H	53.97	-28.44	Avg	75.25	108.28	
2748.00								No Emission
2748.00								Detected
3664.00								No Emission
3664.00								Detected
4580.00	40.75	H	73.97	-33.22	Peak	60.75	265.35	
4580.00	33.99	H	53.97	-19.98	Avg	60.75	265.35	
5496.00								No Emission
5496.00								Detected
6412.00								No Emission
6412.00								Detected
7328.00								No Emission
7328.00								Detected
8244.00								No Emission
8244.00								Detected
9160.00								No Emission
9160.00								Detected

FCC 15.249
Ecolink Intelligent Technology, Inc.
Ring Flood/Freeze Sensor
Part Number:4SF1S80EN0

Date: 08/14/2018
Lab: D
Tested By: Johnny Le

Harmonics - High Channel - Unit R5
Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1832.00	36.78	H	73.97	-37.19	Peak	197.25	135.56	
1832.00	30.02	H	53.97	-23.95	Avg	197.25	135.56	
2748.00								No Emission
2748.00								Detected
3664.00								No Emission
3664.00								Detected
4580.00	44.85	H	73.97	-29.12	Peak	78.25	107.98	
4580.00	38.09	H	53.97	-15.88	Avg	78.25	107.98	
5496.00								No Emission
5496.00								Detected
6412.00								No Emission
6412.00								Detected
7328.00								No Emission
7328.00								Detected
8244.00								No Emission
8244.00								Detected
9160.00								No Emission
9160.00								Detected

FCC 15.249
Ecolink Intelligent Technology, Inc.
Ring Flood/Freeze Sensor
Part Number:4SF1S80EN0

Date: 08/14/2018
Lab: D
Tested By: Johnny Le

Harmonics - High Channel - Unit R5
Transmit Mode - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1832.00	36.52	H	73.97	-37.46	Peak	247.00	120.58	
1832.00	29.76	H	53.97	-24.22	Avg	247.00	120.58	
2748.00								No Emission
2748.00								Detected
3664.00								No Emission
3664.00								Detected
4580.00	43.90	H	73.97	-30.07	Peak	142.25	115.44	
4580.00	37.14	H	53.97	-16.83	Avg	142.25	115.44	
5496.00								No Emission
5496.00								Detected
6412.00								No Emission
6412.00								Detected
7328.00								No Emission
7328.00								Detected
8244.00								No Emission
8244.00								Detected
9160.00								No Emission
9160.00								Detected

FCC 15.249
Ecolink Intelligent Technology, Inc.
Ring Flood/Freeze Sensor
Part Number:4SF1S80EN0

Date: 08/14/2018
Lab: D
Tested By: Johnny Le

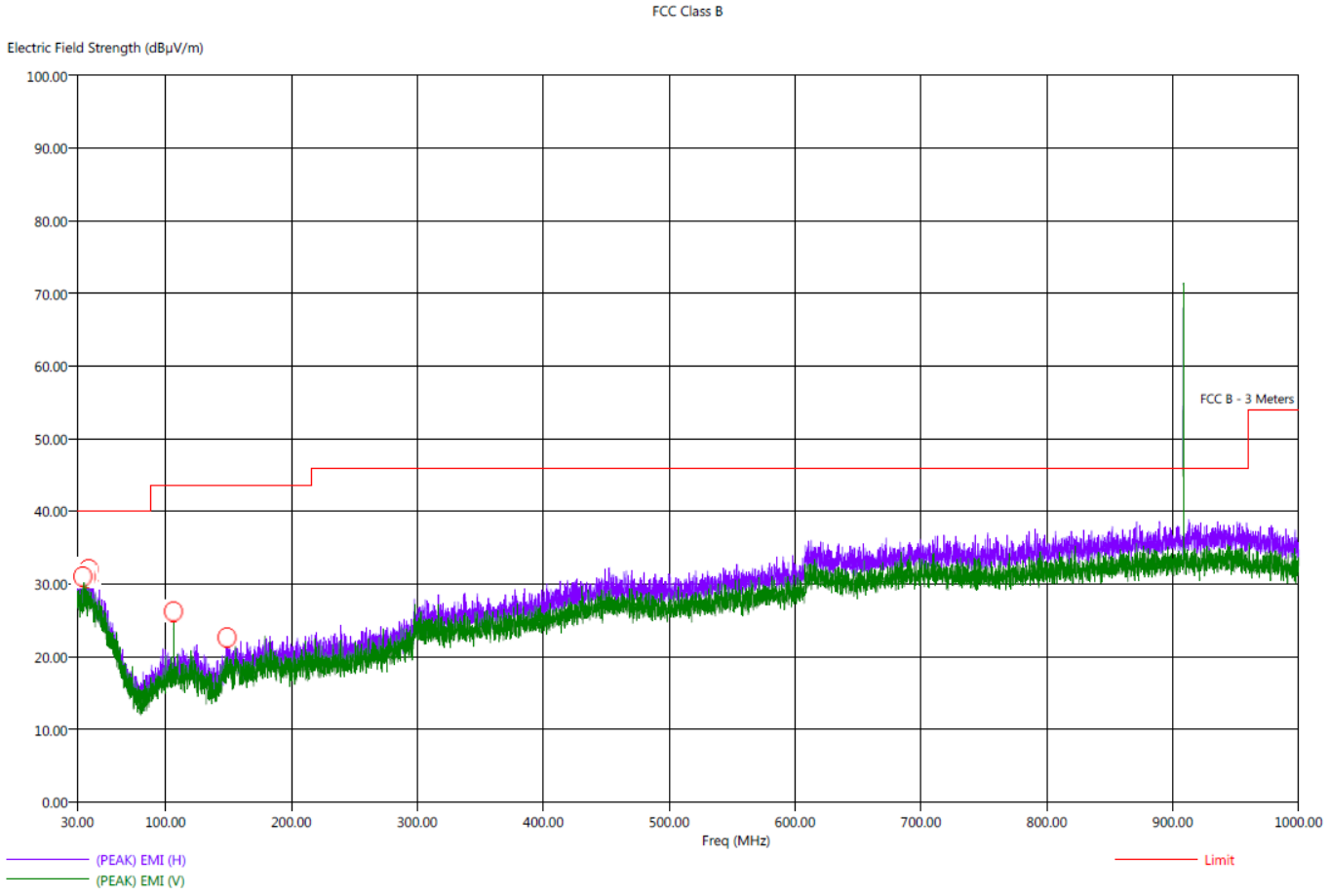
Non Harmonic Emissions from the Tx and Digital Portion - 9 kHz to 30 MHz
Non Harmonic Emissions from the Tx and Digital Portion - 1 GHz to 9.3 GHz

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
								No Emissions Detected
								from 9 kHz to 30 MHz
								for the digital portion
								of the EUT
								from 9 kHz to 30 MHz
								for the Non-Harmonic Emissions
								of the Transmitter for the EUT
								No Emissions Detected
								from 1 GHz to 9.3 GHz
								for the digital portion
								of the EUT
								No Emissions Detected
								from 1 GHz to 9.3 GHz
								for the Non-Harmonic Emissions
								of the Transmitter for the EUT
								Investigated in the X-Axis,
								Y-Axis, and Z-Axis

Title: Radiated Emissions - FCC Class B
File: Agilent - Pre-Scan - FCC Class B - RX MODE - 30 MHz to 1000 MHz 09-07-18.set
Operator: Tom Szynal
EUT Type: Ring Flood/Freeze Sensor
EUT Condition: The EUT is continuously receiving a 908.42 MHz signal from the remote R3 transmitter
Company: Ecolink Intelligent Technology, Inc.
Model No. 4SF1S80EN0
S/N: N/A

9/7/2018 9:06:47 AM
Sequence: Preliminary Scan

Note: The emission at 908.42 MHz is of the associated R3 transmitter and not the EUT.



Title: Radiated Emissions - FCC Class B
File: Agilent - Final Scan - FCC Class B -RX MODE - 30 MHz to 1000 MHz -09-07-18.set
Operator: Tom Szynal
EUT Type: Ring Flood/Freeze Sensor
EUT Condition: The EUT is continuously receiving a 908.42 MHz signal from the remote R3 transmitter
Company: Ecolink Intelligent Technology, Inc.
Model No. 4SF1S80EN0
S/N: N/A

9/7/2018 9:36:10 AM
Sequence: Final Measurements

Note: The emission at 908.42 MHz is of the associated R3 transmitter and not the EUT.

FCC Class B

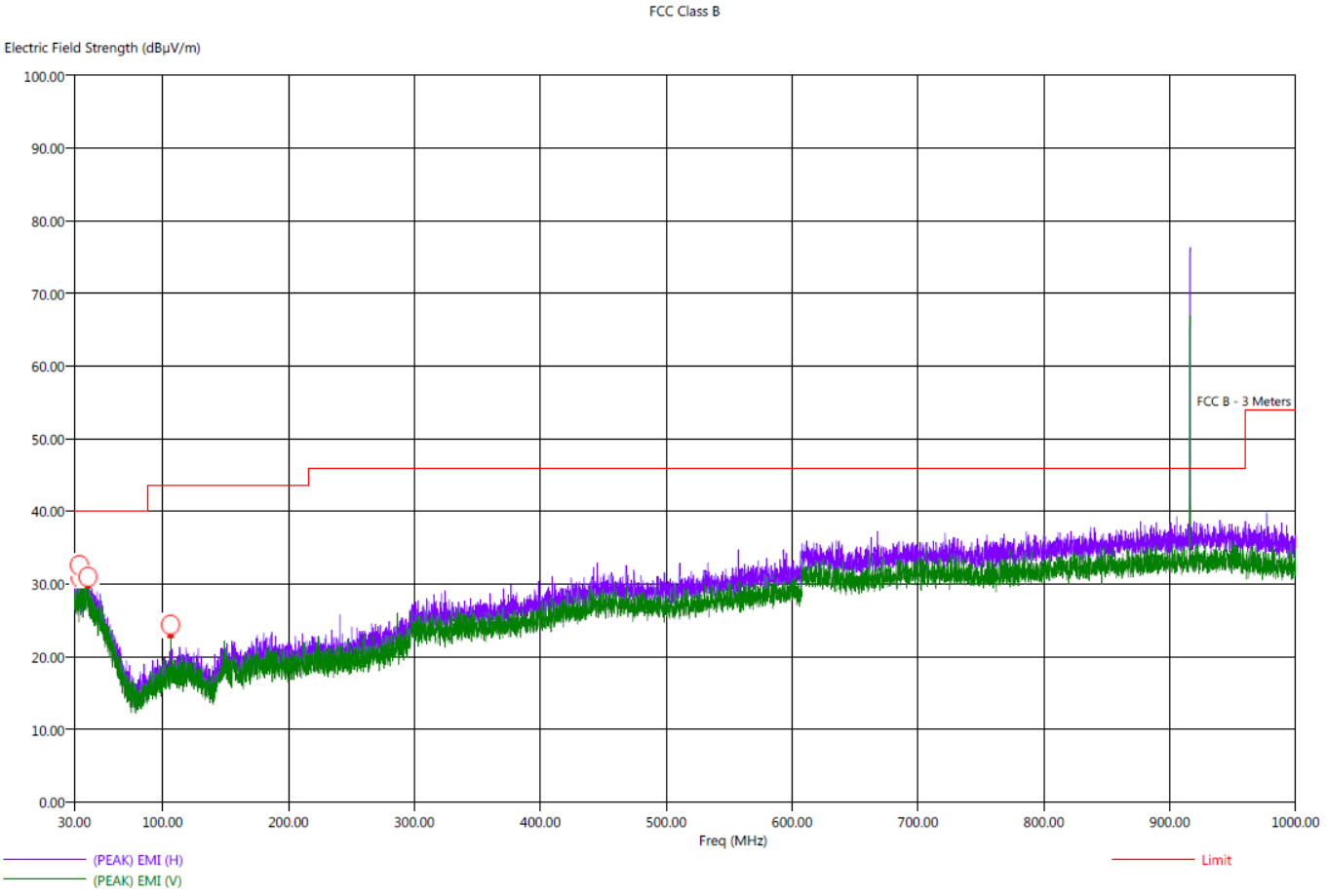
Freq (MHz)	Pol	(PEAK) EMI (dBµV/m)	(QP) EMI (dBµV/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dBµV/m)	Transducer (dB)	Cable (dB)	Ttbl Aql (deg)	Twr Ht (cm)
34.40	H	31.90	26.67	-8.10	-13.33	40.00	23.97	0.85	180.75	302.61
37.00	H	32.10	26.92	-7.90	-13.08	40.00	24.32	0.87	0.00	254.73
39.10	H	32.60	27.10	-7.40	-12.90	40.00	24.56	0.89	295.50	222.91
40.00	H	33.64	27.29	-6.36	-12.71	40.00	24.66	0.90	79.75	159.02
106.40	V	30.83	17.65	-12.67	-25.85	43.50	14.70	1.13	30.00	398.49
148.90	H	23.12	17.78	-20.38	-25.72	43.50	16.18	1.30	201.75	143.20

Note 2: The EUT was also tested between the range of 1 GHz to 5 GHz with no spurious emissions being discovered

Title: Radiated Emissions - FCC Class B
File: Agilent - Pre-Scan2 - FCC Class B - RX MODE - 30 MHz to 1000 MHz 09-07-18.set
Operator: Tom Szynal
EUT Type: Ring Flood/Freeze Sensor
EUT Condition: The EUT is continuously receiving a 916 MHz signal from the remote R5 transmitter
Company: Ecolink Intelligent Technology, Inc.
Model No. 4SF1S80EN0
S/N: N/A

9/7/2018 9:56:13 AM
Sequence: Preliminary Scan

Note: The emission at 916 MHz is of the associated R5 transmitter and not the EUT.



Title: Radiated Emissions - FCC Class B
File: Agilent - Final Scan2 - FCC Class B -RX MODE - 30 MHz to 1000 MHz -09-07-18.set
Operator: Tom Szynal
EUT Type: Ring Flood/Freeze Sensor
EUT Condition: The EUT is continuously receiving a 916 MHz signal from the remote R5 transmitter
Company: Ecolink Intelligent Technology, Inc.
Model No. 4SF1S80EN0
S/N: N/A

9/7/2018 10:12:26 AM
Sequence: Final Measurements

Note: The emission at 916 MHz is of the associated R5 transmitter and not the EUT.

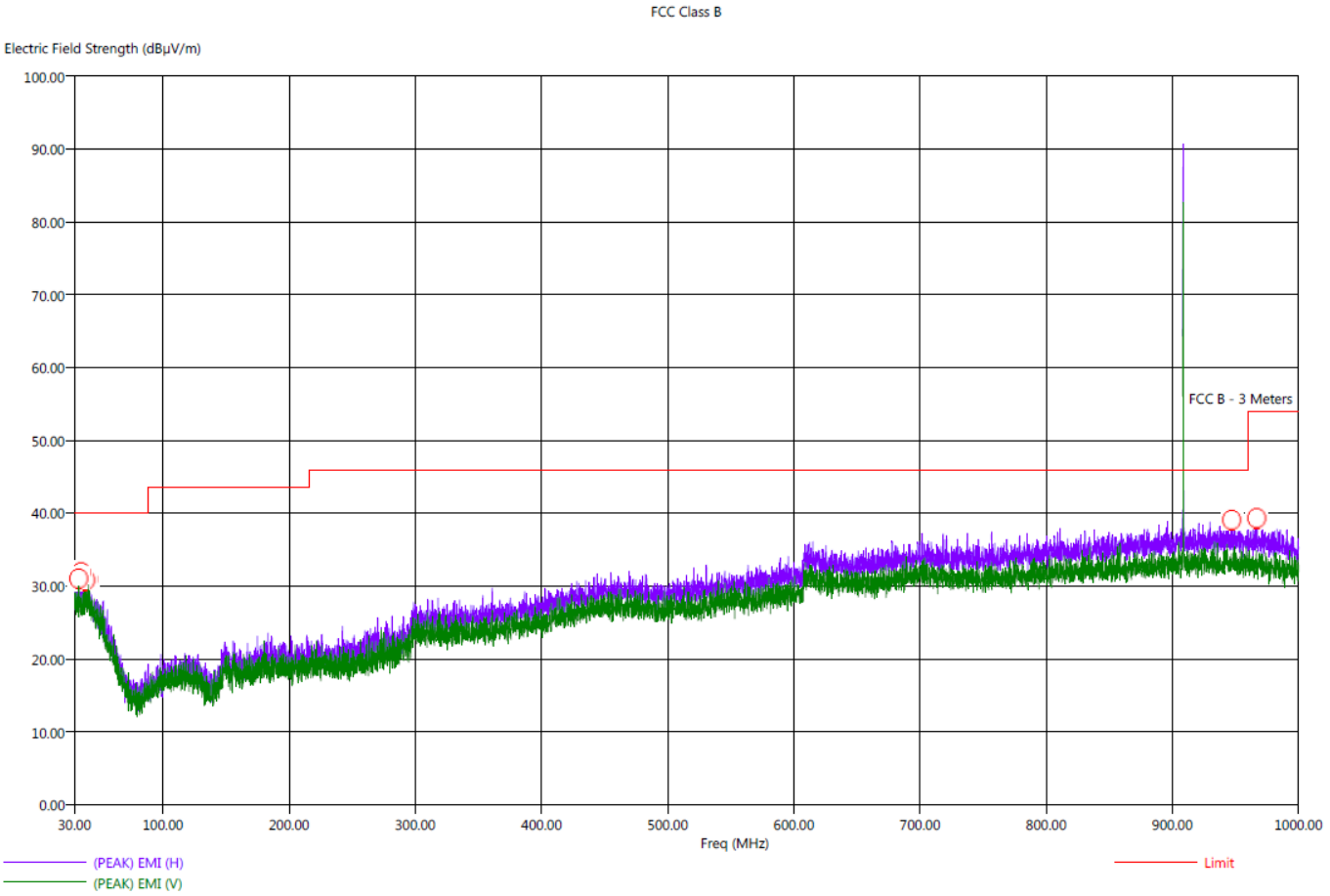
FCC Class B

Freq (MHz)	Pol	(PEAK) EMI (dBµV/m)	(QP) EMI (dBµV/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dBµV/m)	Transducer (dB)	Cable (dB)	Ttbl Agl (deg)	Twr Ht (cm)
34.00	H	31.67	27.18	-8.33	-12.82	40.00	23.96	0.84	359.50	159.14
34.70	H	32.14	26.69	-7.86	-13.31	40.00	23.98	0.85	176.75	207.32
38.80	H	32.81	27.19	-7.19	-12.81	40.00	24.54	0.89	243.25	382.67
40.80	V	33.20	26.91	-6.80	-13.09	40.00	24.37	0.90	187.25	239.26
106.40	H	25.69	21.61	-17.81	-21.89	43.50	14.71	1.13	198.00	400.04
106.40	V	29.78	27.26	-13.72	-16.24	43.50	14.71	1.13	61.00	398.85

Note 2: The EUT was also tested between the range of 1 GHz to 5 GHz with no spurious emissions being discovered

Title: Radiated Emissions - FCC Class B
File: Agilent - Pre-Scan - FCC Class B -Tx - 908.42 MHz - 30 MHz to 1000 MHz - 8-15-18.set
Operator: Johnny Le
EUT Type: Ring Flood/Freeze Sensor
EUT Condition: The EUT is continuosuly transmitting at 908.42 MHz - X-Axis Worst Case
Company: Ecolink Intelligent Technology, Inc.
Part Number: 4SF1S80EN0
S/N: N/A
Note: The Frequency at 908.42 MHz is from the transmitter and is subject to the limits of FCC 15.249 instead

8/15/2018 11:25:06 AM
Sequence: Preliminary Scan



Title: Radiated Emissions - FCC Class B
File: Agilent - Final Scan - FCC Class B -Tx - 908.42 MHz - 30 MHz to 1000 MHz - 8-15-18.set
Operator: Johnny Le
EUT Type: Ring Flood/Freeze Sensor
EUT Condition: The EUT is continuously transmitting at 908.42 MHz - X-Axis Worst Case
Company: Ecolink Intelligent Technology, Inc.
Part Number: 4SF1S80EN0
S/N: N/A

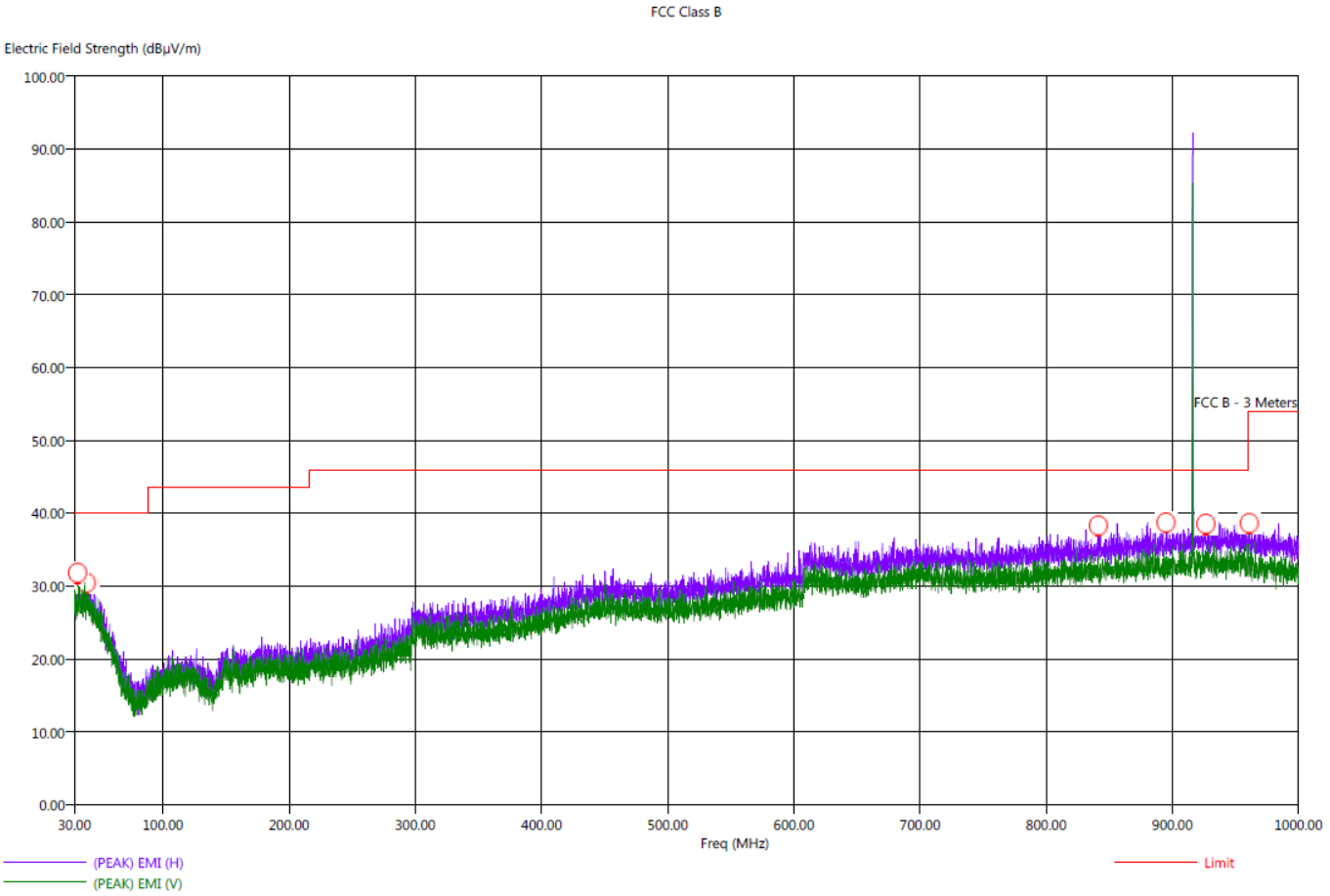
8/15/2018 11:39:32 AM
Sequence: Final Measurements

FCC Class B

Freq (MHz)	Pol	(PEAK) EMI (dBµV/m)	(QP) EMI (dBµV/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dBµV/m)	Transducer (dB)	Cable (dB)	Ttbl Agl (deg)	Twr Ht (cm)
33.30	H	32.51	26.73	-7.49	-13.27	40.00	23.93	0.84	16.00	111.32
35.20	H	31.72	26.64	-8.28	-13.36	40.00	24.00	0.85	177.25	381.53
38.90	H	31.96	27.03	-8.04	-12.97	40.00	24.57	0.89	292.25	111.26
40.70	H	33.24	26.87	-6.76	-13.13	40.00	24.37	0.90	26.00	270.49
947.10	H	39.78	33.79	-6.22	-12.21	46.00	27.77	3.09	127.25	222.37
966.90	H	39.36	33.41	-14.64	-20.59	54.00	27.46	3.10	104.25	206.49

Title: Radiated Emissions - FCC Class B
File: Agilent - Pre-Scan - FCC Class B -Tx - 916 MHz - 30 MHz to 1000 MHz - 8-15-18.set
Operator: Johnny Le
EUT Type: Ring Flood/Freeze Sensor
EUT Condition: The EUT is continuosuly transmitting at 916 MHz - X-Axis Worst Case
Company: Ecolink Intelligent Technology, Inc.
Part Number: 4SF1S80EN0
S/N: N/A
Note: The Frequency at 916 MHz is from the transmitter and is subject to the limits of FCC 15.249 instead

8/15/2018 12:04:39 PM
Sequence: Preliminary Scan



Title: Radiated Emissions - FCC Class B
File: Agilent - Final Scan - FCC Class B -Tx - 916 MHz - 30 MHz to 1000 MHz - 8-15-18.set
Operator: Johnny Le
EUT Type: Ring Flood/Freeze Sensor
EUT Condition: The EUT is continuously transmitting at 916 MHz - X-Axis Worst Case
Company: Ecolink Intelligent Technology, Inc.
Part Number: 4SF1S80EN0
S/N: N/A

8/15/2018 12:37:38 PM
Sequence: Final Measurements

FCC Class B

Freq (MHz)	Pol	(PEAK) EMI (dBµV/m)	(QP) EMI (dBµV/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dBµV/m)	Transducer (dB)	Cable (dB)	Ttbl Aql (deg)	Twr Ht (cm)
32.40	H	31.53	26.48	-8.47	-13.52	40.00	23.90	0.83	272.50	127.08
39.20	H	32.31	26.98	-7.69	-13.02	40.00	24.58	0.89	95.25	286.43
40.60	H	32.64	27.36	-7.36	-12.64	40.00	24.46	0.90	279.50	222.73
841.40	H	38.03	32.55	-7.97	-13.45	46.00	26.23	2.80	172.50	398.07
895.00	H	38.37	33.35	-7.63	-12.65	46.00	27.12	2.98	280.50	318.07
926.50	H	38.87	33.70	-7.13	-12.30	46.00	27.52	3.05	229.25	143.20
961.00	H	38.92	33.52	-15.08	-20.48	54.00	27.57	3.10	265.00	190.67

BAND EDGES DATA SHEETS

FCC 15.249
Ecolink Intelligent Technology, Inc.
Ring Flood/Freeze Sensor
Part Number:4SF1S80EN0

Date: 08/14/2018
Lab: D
Tested By: Johnny Le

Band Edges - Unit R3

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
908.42	93.12	V	93.97	-0.85	Peak	219.50	115.56	Fundamental - Low Ch.
908.42	91.68	V	93.97	-2.29	QP	219.50	115.56	Y-Axis - Worst Case
896.01	39.60	V	46.00	-6.40	Peak	219.50	115.56	Band Edge
896.01	35.53	V	46.00	-10.47	QP	219.50	115.56	Y-Axis - Worst Case
908.42	93.77	H	93.97	-0.20	Peak	155.25	138.55	Fundamental - Low Ch.
908.42	93.52	H	93.97	-0.45	QP	155.25	138.55	Z-Axis - Worst Case
901.20	35.28	H	46.00	-10.72	Peak	155.25	138.55	Band Edge
901.20	32.31	H	46.00	-13.69	QP	155.25	138.55	Z-Axis - Worst Case

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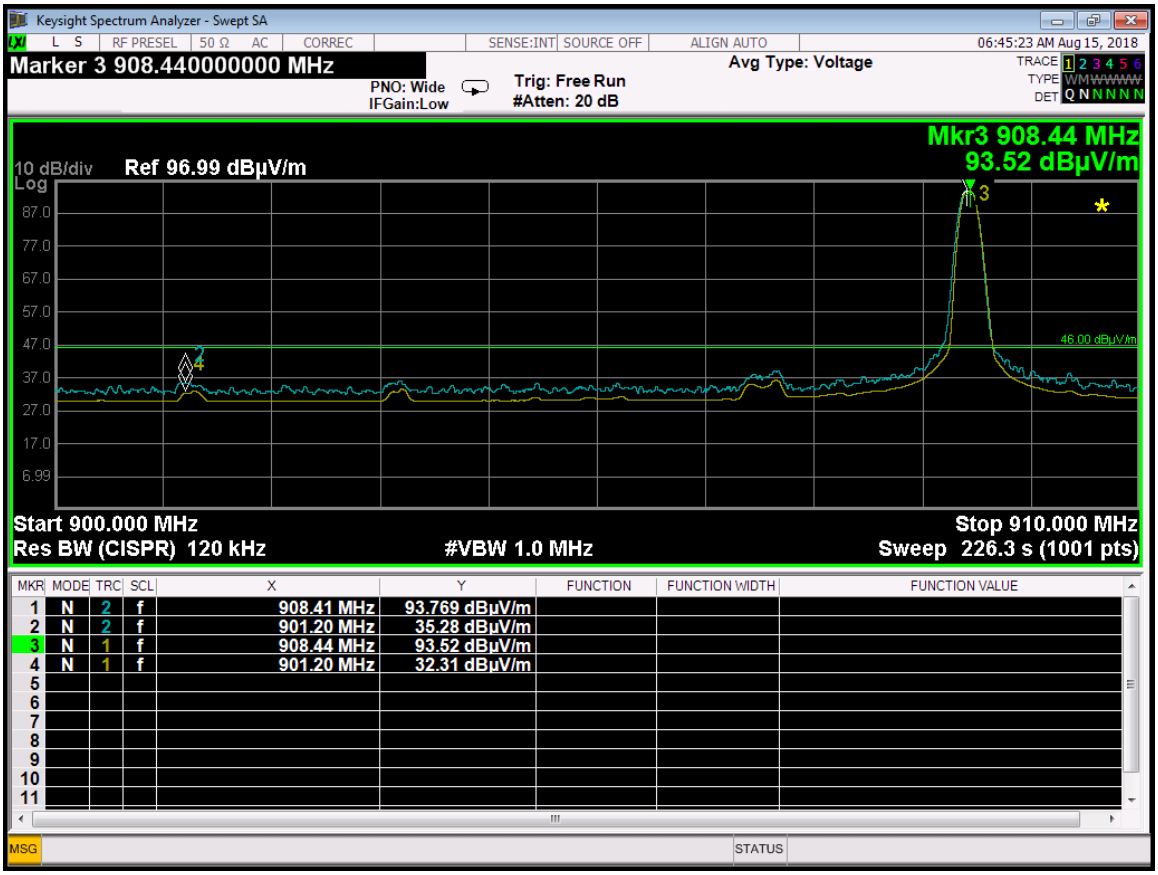
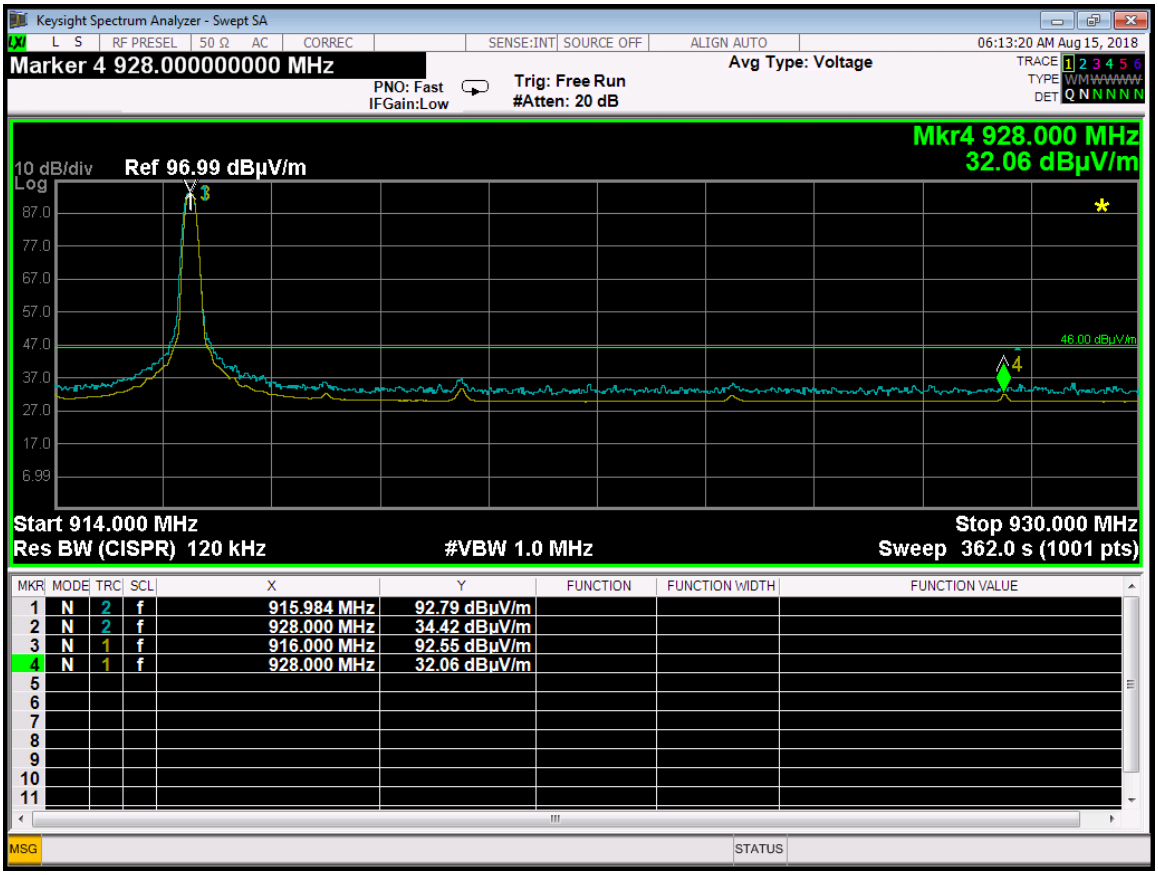
Band Edges - Unit R5

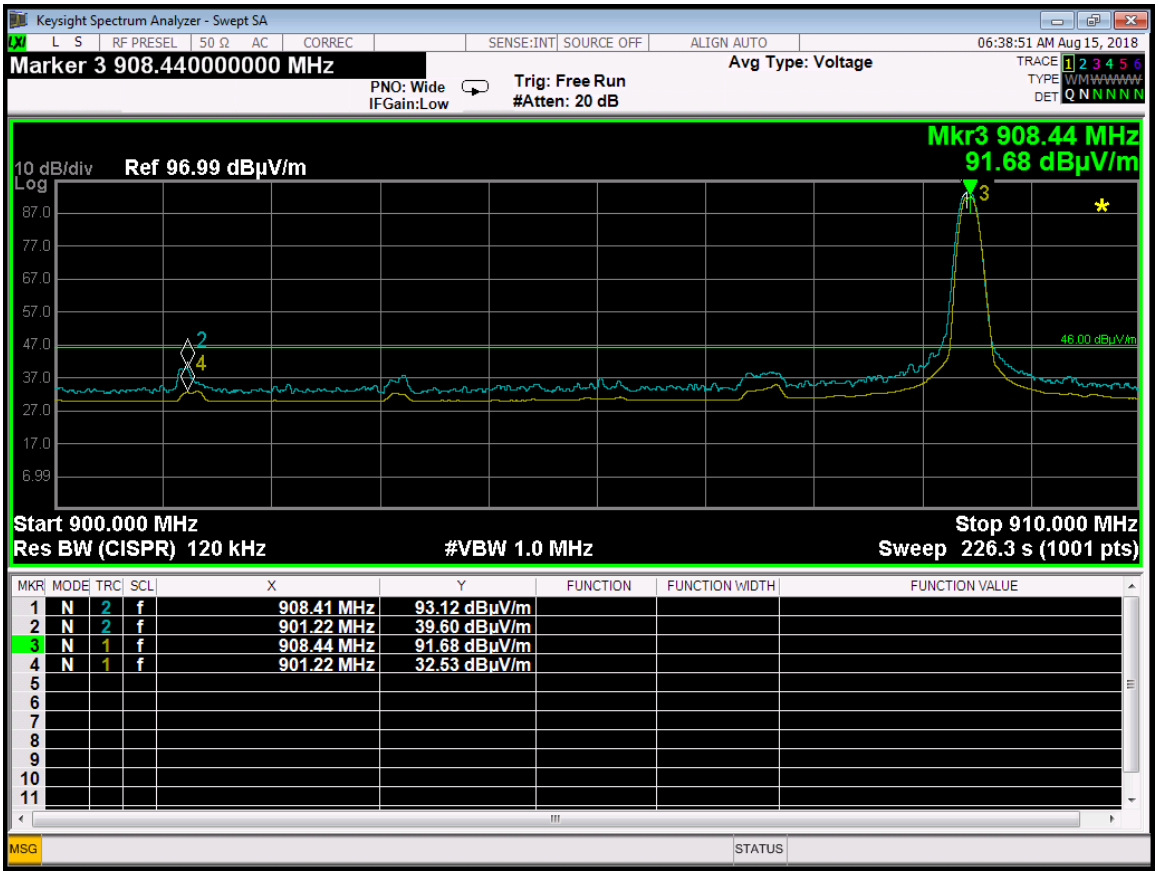
Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
916.00	93.33	V	93.97	-0.64	Peak	225.25	114.37	**Fundamental - High Ch.**
916.00	93.07	V	93.97	-0.90	QP	225.25	114.37	**Z-Axis - Worst Case**
928.00	35.27	V	46.00	-10.73	Peak	225.25	114.37	**Band Edge**
928.00	32.87	V	46.00	-13.13	QP	225.25	114.37	**Z-Axis - Worst Case**
916.00	92.79	H	93.97	-1.18	Peak	278.00	152.58	**Fundamental - High Ch.**
916.00	92.55	H	93.97	-1.42	QP	278.00	152.58	**X-Axis - Worst Case**
928.00	34.42	H	46.00	-11.58	Peak	278.00	152.58	**Band Edge**
928.00	32.06	H	46.00	-13.94	QP	278.00	152.58	**X-Axis - Worst Case**



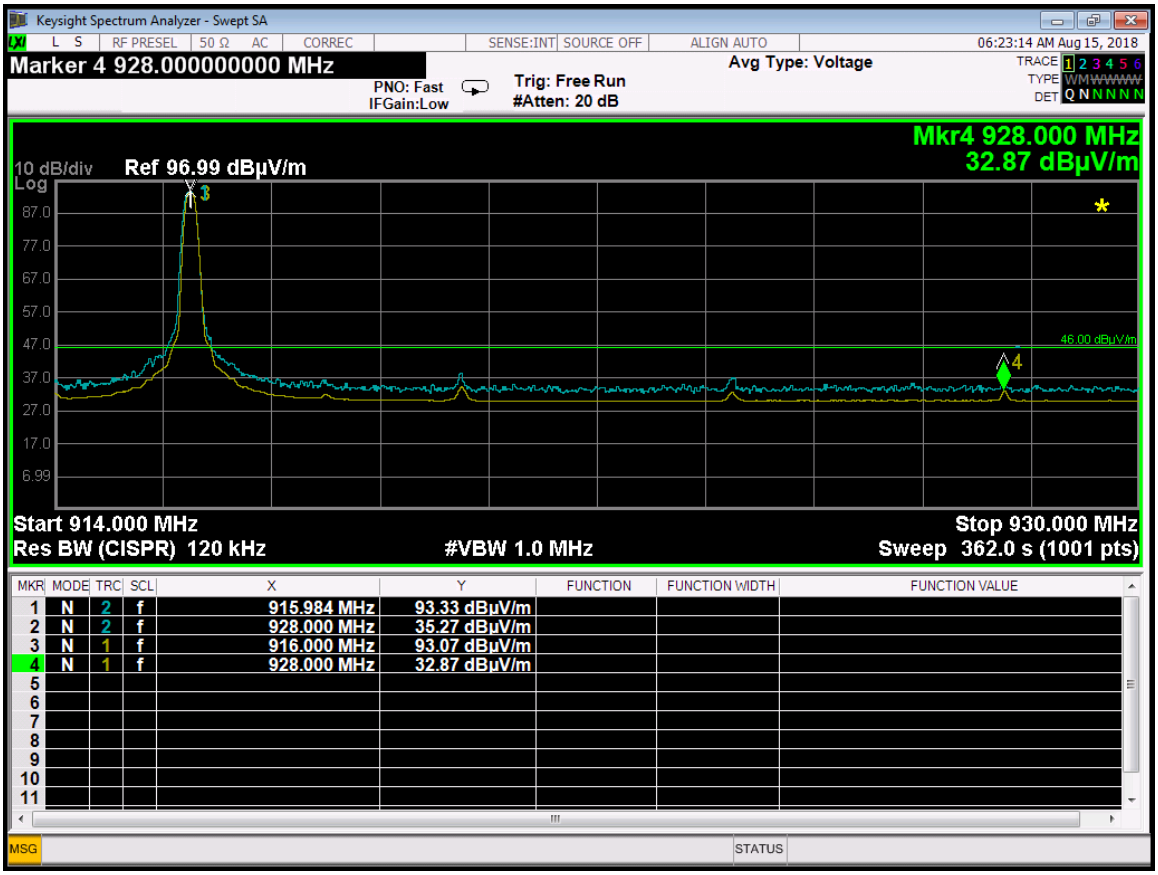
Band Edge - Horizontal - 908.42 MHz - Z-Axis Worst Case



Band Edge - Horizontal - 916 MHz - X-Axis Worst Case

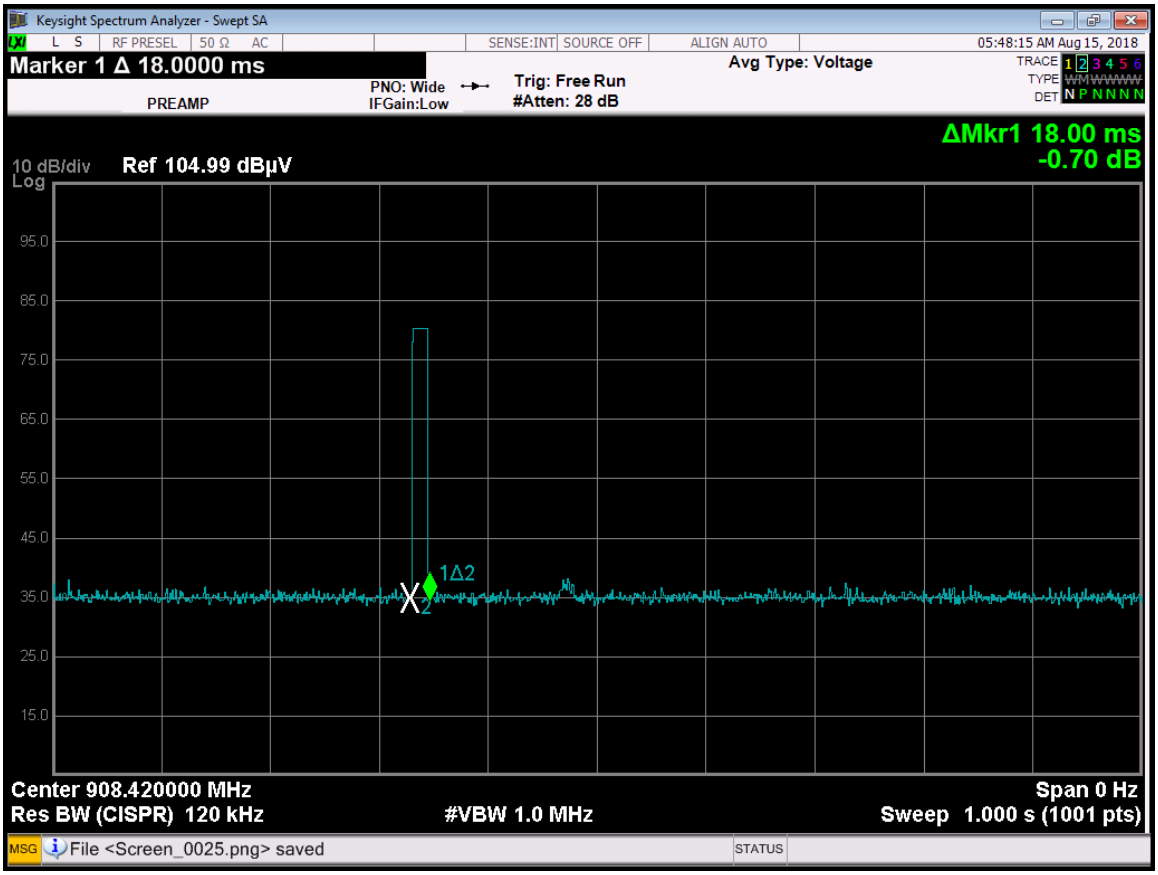


Band Edge - Vertical - 908.42 MHz - Y-Axis Worst Case

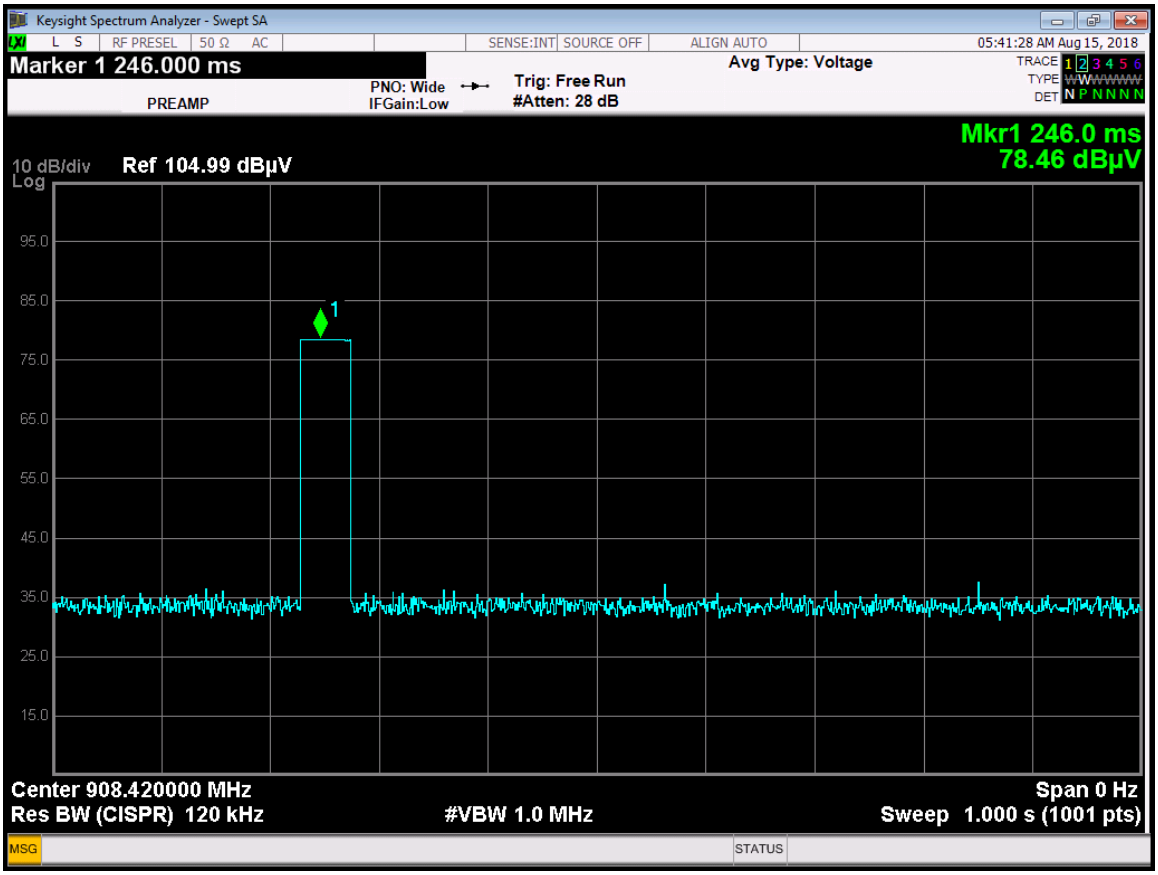


Band Edge - Vertical - 916 MHz - Z-Axis Worst Case

DUTY CYCLE DATA SHEETS

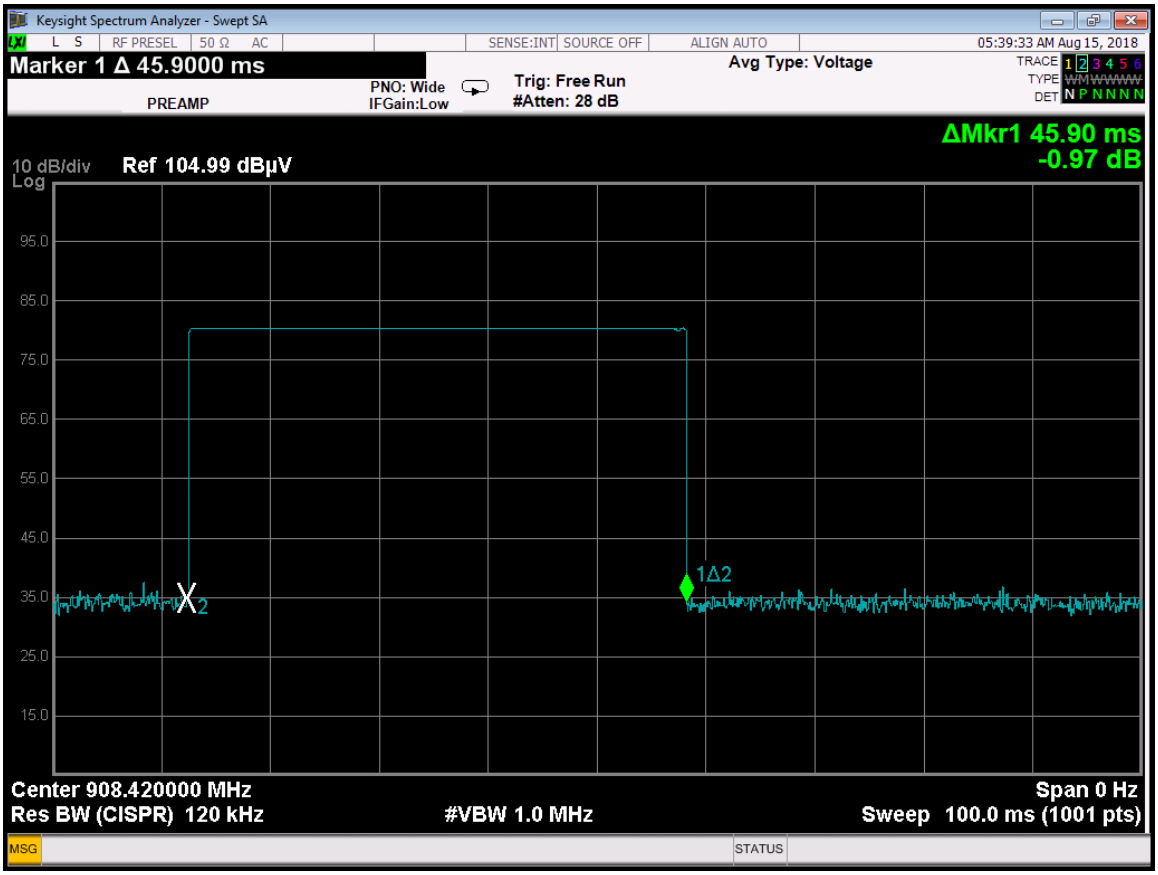


Normal Mode – One Pulse Per Second at 18 ms on Pulse



One Pulse Per 100 ms – Node Frame Mode

This is the worst case configuration for the EUT.



Time of One Pulse is 45.9 ms – Node Frame Mode

Duty Cycle = 45.9 ms / 100 ms = 45.90%
Duty Cycle Correction Factor = -6.76 dB

This is the worst case configuration for the EUT.