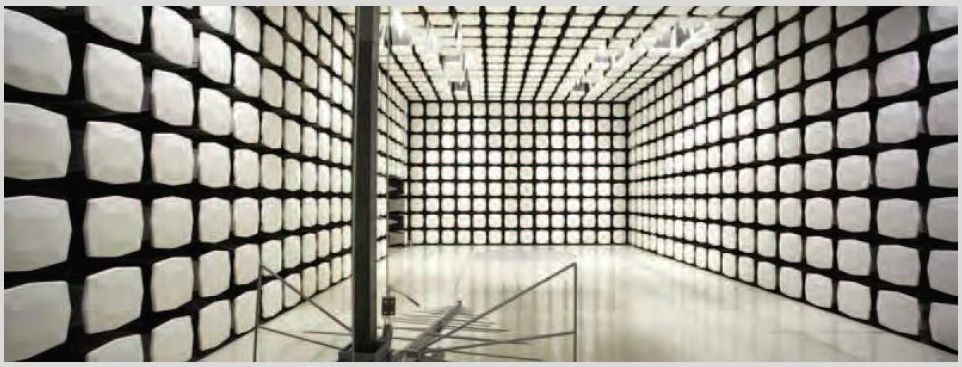
Starkey Laboratories, Inc.

SurfLink Programmer

FCC 15.247:2022
DTS Transceiver

Report: STAK0262 Rev. 1, Issue Date: February 25, 2022



CERT #3310.05

CERTIFICATE OF TEST

Last Date of Test: February 25, 2022
Starkey Laboratories, Inc.
EUT: SurfLink Programmer

Radio Equipment Testing

Standards

Specification	Method
FCC 15.209:2022	ANSI C63.10:2013, KDB 558074
FCC 15.247:2022	

Results

Method Clause	Test Description	Applied	Results	Comments
6.2	Powerline Conducted Emissions (Transmitter)	Yes	Pass	
6.5, 6.6, 11.12.1, 11.13.2	Spurious Radiated Emissions	Yes	Pass	
11.6	Duty Cycle	Yes	Pass	
7.8.2	Carrier Frequency Separation	No	N/A	Not required for DTS devices.
7.8.3	Number of Hopping Frequencies	No	N/A	Not required for DTS devices.
7.8.4	Dwell Time	No	N/A	Not required for DTS devices.
11.9.1.1	Output Power	Yes	Pass	
11.9.1.1	Equivalent Isotropic Radiated Power	Yes	Pass	
11.11	Band Edge Compliance	Yes	Pass	
7.8.6	Band Edge Compliance - Hopping Mode	No	N/A	Not required for DTS devices.
11.8.2	DTS Bandwidth (6 dB)	Yes	Pass	
11.11	Spurious Conducted Emissions	Yes	Pass	
11.10.2	Power Spectral Density	Yes	Pass	

Deviations From Test Standards

None

Approved By:

James E Morris

James Morris, Operations Manager

Product compliance is the responsibility of the client; therefore, the tests and equipment modes of operation represented in this report were agreed upon by the client, prior to testing. The results of this test pertain only to the sample(s) tested. The specific description is noted in each of the individual sections of the test report supporting this certificate of test. This report reflects only those tests from the referenced standards shown in the certificate of test. It does not include inspection or verification of labels, identification, marking or user information. As indicated in the Statement of Work sent with the quotation, Element's standard process is to always use the latest published version of the test methods even when earlier versions are cited in the test specification. Issuance of a purchase order was de facto acceptance of this approach. Otherwise, the client would have advised Element in writing of the specific version of the test methods they wanted applied to the subject testing.

REVISION HISTORY

Revision Number	Description	Date (yyyy-mm-dd)	Page Number
01	Updated antenna gain in Power Table.	2022-02-25	11
	Retested Powerline CE.	2022-02-25	14-18
	Recalculated EIRP.	2022-02-25	31-35
	Updated test dates.	2022-02-25	2, 10, 13

ACCREDITATIONS AND AUTHORIZATIONS

element
2021.09.01

United States

FCC - Designated by the FCC as a Telecommunications Certification Body (TCB). Certification chambers, Open Area Test Sites, and conducted measurement facilities are listed with the FCC.

A2LA - Each laboratory is accredited by A2LA to ISO / IEC 17025, and as a product certifier to ISO / IEC 17065 which allows Element to certify transmitters to FCC and IC specifications.

Canada

ISED - Recognized by Innovation, Science and Economic Development Canada as a Certification Body (CB) and as a CAB for the acceptance of test data.

European Union

European Commission – Recognized as an EU Notified Body validated for the EMCD and RED Directives.

United Kingdom

BEIS – Recognized by the UK as an Approved Body under the UK Radio Equipment and UK EMC Regulations.

Australia/New Zealand

ACMA - Recognized by ACMA as a CAB for the acceptance of test data.

Korea

MSIT / RRA - Recognized by KCC's RRA as a CAB for the acceptance of test data.

Japan

VCCI - Associate Member of the VCCI. Conducted and radiated measurement facilities are registered.

Taiwan

BSMI – Recognized by BSMI as a CAB for the acceptance of test data.

NCC - Recognized by NCC as a CAB for the acceptance of test data.

Singapore

IDA – Recognized by IDA as a CAB for the acceptance of test data.

Israel

MOC – Recognized by MOC as a CAB for the acceptance of test data.

Hong Kong

OFCA – Recognized by OFCA as a CAB for the acceptance of test data.

Vietnam

MIC – Recognized by MIC as a CAB for the acceptance of test data.

SCOPE

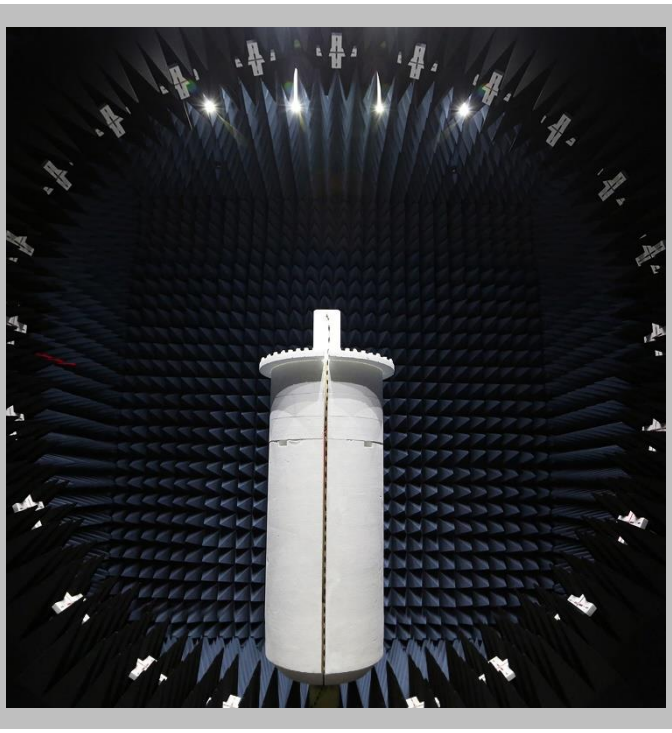
For details on the Scopes of our Accreditations, please visit:

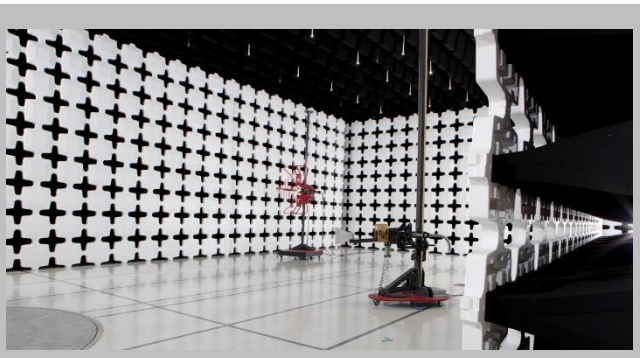
California Minnesota Oregon Texas Washington

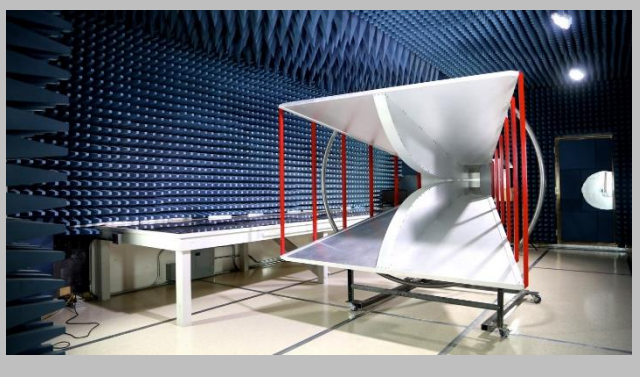
FACILITIES

element
2020.12.15

California	Minnesota	Oregon	Texas	Washington
Labs OC01-17 41 Tesla Irvine, CA 92618 (949) 861-8918	Labs MN01-11 9349 W Broadway Ave. Brooklyn Park, MN 55445 (612)-638-5136	Labs EV01-12 6775 NE Evergreen Pkwy #400 Hillsboro, OR 97124 (503) 844-4066	Labs TX01-09 3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	Labs NC01-05 19201 120th Ave NE Bothell, WA 98011 (425)984-6600
A2LA				
Lab Code: 3310.04	Lab Code: 3310.05	Lab Code: 3310.02	Lab Code: 3310.03	Lab Code: 3310.06
Innovation, Science and Economic Development Canada				
2834B-1, 2834B-3	2834E-1, 2834E-3	2834D-1	2834G-1	2834F-1
BSMI				
SL2-IN-E-1154R	SL2-IN-E-1152R	SL2-IN-E-1017	SL2-IN-E-1158R	SL2-IN-E-1153R
VCCI				
A-0029	A-0109	A-0108	A-0201	A-0110
Recognized Phase I CAB for ISED, ACMA, BSMI, IDA, KCC/RRA, MIC, MOC, NCC, OFCA				
US0158	US0175	US0017	US0191	US0157







MEASUREMENT UNCERTAINTY

element
TMU.2015.07.10

Measurement Uncertainty

When a measurement is made, the result will be different from the true or theoretically correct value. The difference is the result of tolerances in the measurement system that cannot be completely eliminated. To the extent that technology allows us, it has been our aim to minimize this error. Measurement uncertainty is a statistical expression of measurement error qualified by a probability distribution.

A measurement uncertainty estimation has been performed for each test per our internal quality document QM205.4.6. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty (K=2) can be found in the table below. A lab specific value may also be found in the applicable test description section. Our measurement data meets or exceeds the measurement uncertainty requirements of the applicable specification; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for estimating measurement uncertainty are based upon ETSI TR 100 028 (or CISPR 16-4-2 as applicable), and are available upon request.

The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

Test	+ MU	- MU
Frequency Accuracy	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	1.2 dB	-1.2 dB
Radiated Power via Substitution (dB)	0.7 dB	-0.7 dB
Temperature (degrees C)	0.7°C	-0.7°C
Humidity (% RH)	2.5% RH	-2.5% RH
Voltage (AC)	1.0%	-1.0%
Voltage (DC)	0.7%	-0.7%
Field Strength (dB)	5.2 dB	-5.2 dB
AC Powerline Conducted Emissions (dB)	3.2 dB	-3.2 dB

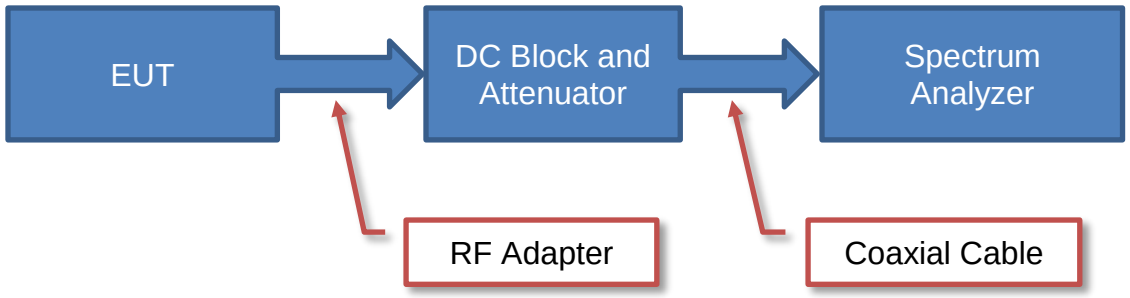
TEST SETUP BLOCK DIAGRAMS

Measurement Bandwidths

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (kHz)
0.01 - 0.15	1.0	0.2	0.2
0.15 - 30.0	10.0	9.0	9.0
30.0 - 1000	100.0	120.0	120.0
Above 1000	1000.0	N/A	1000.0

Unless otherwise stated, measurements were made using the bandwidths and detectors specified. No video filter was used.

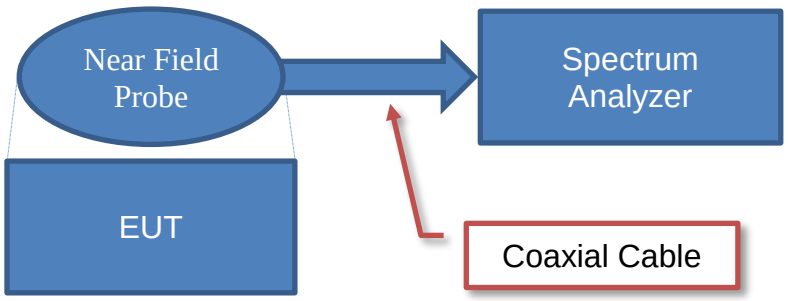
Antenna Port Conducted Measurements



Sample Calculation (logarithmic units)

Measured Value		Measured Level		Reference Level Offset
71.2	=	42.6	+	28.6

Near Field Test Fixture Measurements

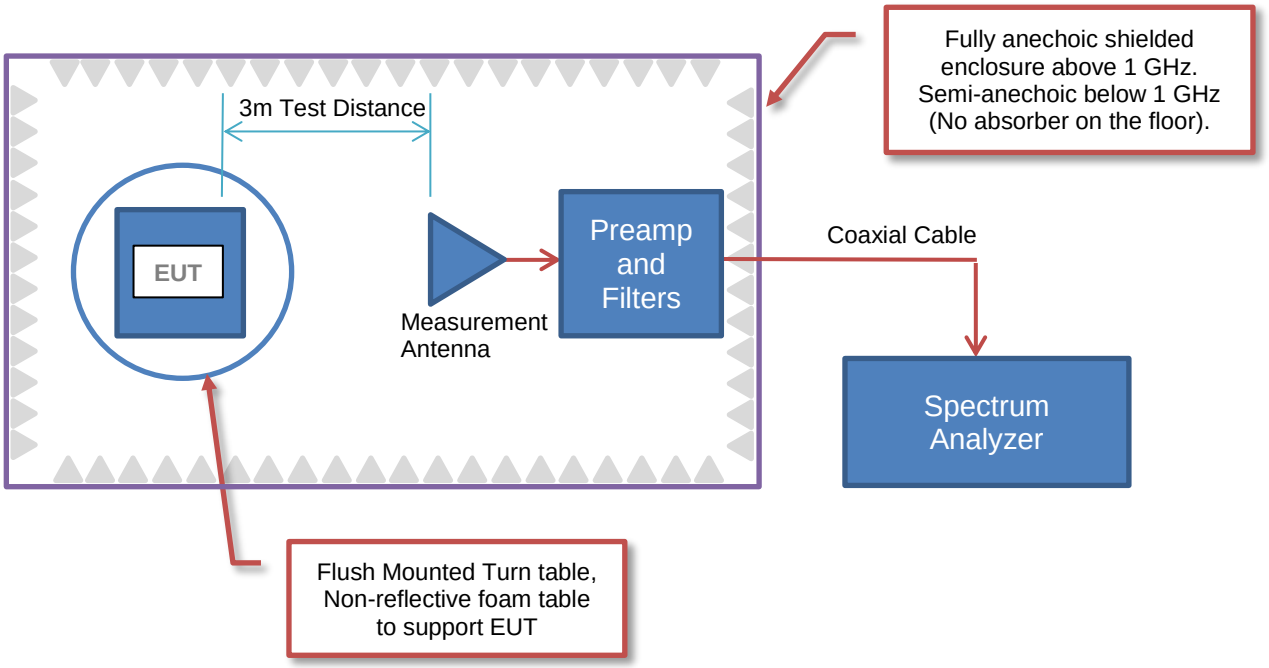


Sample Calculation (logarithmic units)

Measured Value		Measured Level		Reference Level Offset
71.2	=	42.6	+	28.6

TEST SETUP BLOCK DIAGRAMS

Emissions Measurements



Sample Calculation (logarithmic units)

Radiated Emissions:

Measured Level (Amplitude)		Factor: Antenna Factor		Factor: Cable Factor		Factor: Amplifier Gain		Distance Adjustment Factor		External Attenuation		Field Strength
42.6	+	28.6	+	3.1	-	40.8	+	0.0	+	0.0	=	**33.5**

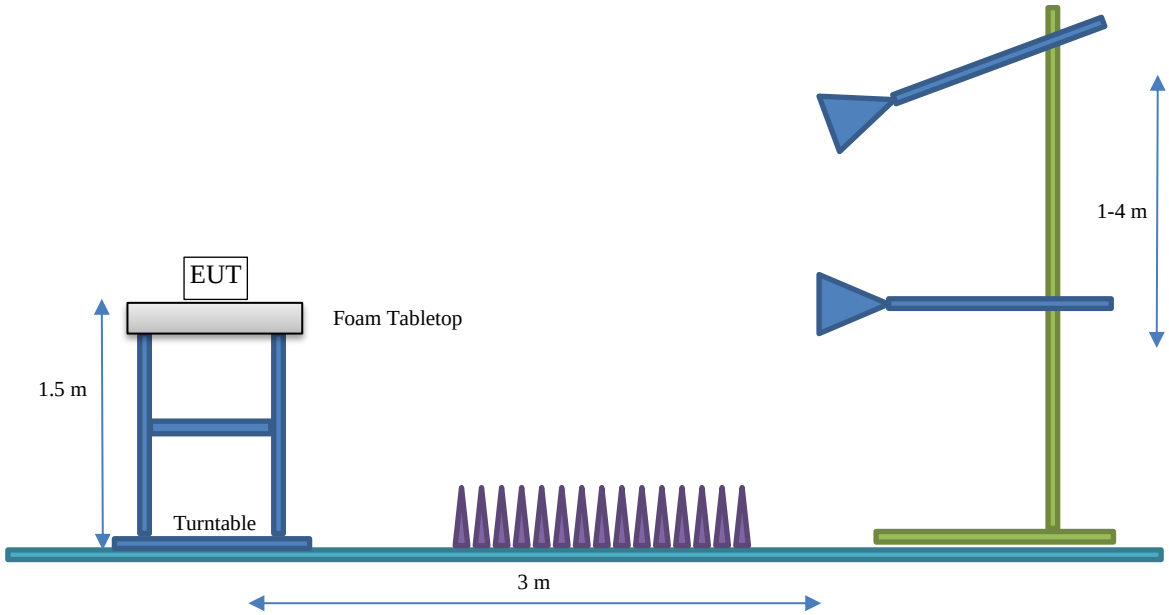
Conducted Emissions:

Measured Level (Amplitude)		Factor: Transducer Factor		Factor: Cable Factor		External Attenuation		Adjusted Level
26.7	+	0.3	+	0.1	+	20.0	=	**47.1**

TEST SETUP BLOCK DIAGRAMS

Bore Sighting (>1GHz)

The diameter of the illumination area is the dimension of the line tangent to the EUT formed by 3 dB beamwidth of the measurement antenna at the measurement distance. At a 3 meter test distance, the diameter of the illumination area was 3.8 meters at 1 GHz and greater than 2.1 meters up to 6 GHz. Above 1 GHz, when required by the measurement standard, the antenna is pointed for both azimuth and elevation to maintain the receive antenna within the cone of radiation from the EUT. The specified measurement detectors were used for comparison of the emissions to the peak and average specification limits.



PRODUCT DESCRIPTION

Client and Equipment Under Test (EUT) Information

Company Name:	Starkey Laboratories, Inc.
Address:	6600 Washington Ave S
City, State, Zip:	Eden Prairie, MN 55344-3404
Test Requested By:	Bill Mitchell
EUT:	SurfLink Programmer
First Date of Test:	January 25, 2022
Last Date of Test:	February 25, 2022
Receipt Date of Samples:	January 26, 2022
Equipment Design Stage:	Prototype
Equipment Condition:	No Damage
Purchase Authorization:	Verified

Information Provided by the Party Requesting the Test

Functional Description of the EUT:
900 -928 MHz DTS transceiver; with two antenna types and two ports.

Testing Objective:
Seeking to demonstrate compliance under FCC 15.247:2022 for operation in the 902 – 928 MHz band.

POWER SETTINGS AND ANTENNAS

The power settings, antenna gain value(s) and cable loss (if applicable) used for the testing contained in this report were provided by the customer and will affect the validity of the results. Element assumes no responsibility for the accuracy of this information.

ANTENNA GAIN (dBi)

Type	Provided by:	Frequency Range (MHz)	Gain (dBi)
Monopole (Vertical)	No Brand	861-929	2
Monopole (Horizontal)	No Brand	861-929	2

POWER SETTINGS

Radio	Modulation	Channel	Power Setting (software value)
SRD	Modulated	Low Ch (906.6 MHz)	PA 39
SRD	Modulated	Mid Ch (914.8 MHz)	PA 39
SRD	Modulated	High Ch (922.1 MHz)	PA 39

CONFIGURATIONS

Configuration STAK0262- 1

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
SurfLink Programmer	Starkey Laboratories, Inc.	A00	213900484

Remote Equipment Outside of Test Setup Boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Laptop	Lenovo	T430	EPWIRELESS4

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
USB Cable	Yes	1.8 m	No	Laptop	SurfLink Programmer

Configuration STAK0262- 3

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
SurfLink Programmer	Starkey Laboratories, Inc.	A00	213900577

Remote Equipment Outside of Test Setup Boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Laptop	Lenovo	T430	EPWIRELESS4

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
USB Extender Cable	Yes	>3.0 m	No	USB Cable	Laptop
USB Cable	Yes	1.8 m	Yes	SurfLink Programmer	USB Extender Cable

MODIFICATIONS

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	2022-01-25	Output Power	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
2	2022-01-25	Band Edge Compliance	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
3	2022-01-25	DTS Bandwidth (6 dB)	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
4	2022-01-25	Spurious Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
5	2022-01-25	Power Spectral Density	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
6	2022-01-25	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
7	2022-02-25	Equivalent Isotropic Radiated Power	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
8	2022-02-25	Powerline Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

POWERLINE CONDUCTED EMISSIONS

element
WTD.2021.09.21.0
EmiR5 2021.12.28.2
PSA-ESCI 2022.1.12.0

TEST DESCRIPTION

Using the mode of operation and configuration noted within this report, conducted emissions tests were performed. The frequency range investigated (scanned), is also noted in this report. Conducted power line measurements are made, unless otherwise specified, over the frequency range from 150 kHz to 30 MHz to determine the line-to-ground radio-noise voltage that is conducted from the EUT power-input terminals that are directly (or indirectly via separate transformer or power supplies) connected to a public power network. Per the standard, an insulating material was also added to ground plane between the EUT's power and remote I/O cables. Equipment is tested with power cords that are normally used or that have electrical or shielding characteristics that are the same as those cords normally used. Typically those measurements are made using a LISN (Line Impedance Stabilization Network), the 50ohm measuring port is terminated by a 50ohm EMI meter or a 50ohm resistive load. All 50ohm measuring ports of the LISN are terminated by 50ohm. The test data represents the configuration / operating mode/ model that produced the highest emission levels as compared to the specification limit.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Receiver	Gauss Instruments	TDEMI 30M	ARS	2021-04-06	2022-04-06
Cable - Conducted Cable Assembly	Northwest EMC	MNC, HGN, TYK	MNCA	2021-03-10	2022-03-10
LISN	Solar Electronics	9252-50-R-24-BNC	LIY	2021-03-15	2022-03-15

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	3.2 dB	-3.2 dB

CONFIGURATIONS INVESTIGATED

STAK0262-4

MODES INVESTIGATED

Transmitting modulated on Low channel (906.6 MHz)

POWERLINE CONDUCTED EMISSIONS

element
WTD.2021.09.21.0
EmiR5 2021.12.28.2
PSA-ESCI 2022.1.12.0

EUT:	SurfLink Programmer	Work Order:	STAK0262
Serial Number:	220403102	Date:	2022-02-25
Customer:	Starkey Laboratories, Inc.	Temperature:	22.2°C
Attendees:	Zach Burmeister	Relative Humidity:	15.1%
Customer Project:	None	Bar. Pressure (PMSL):	1036 mb
Tested By:	Christopher Heintzelman	Job Site:	MN03
Power:	5 VDC via USB, Laptop powered at 110VAC/60Hz	Configuration:	STAK0262-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2022	ANSI C63.10:2014

TEST PARAMETERS

Run #:	3	Line:	Neutral	Add. Ext. Attenuation (dB):	0

COMMENTS

None

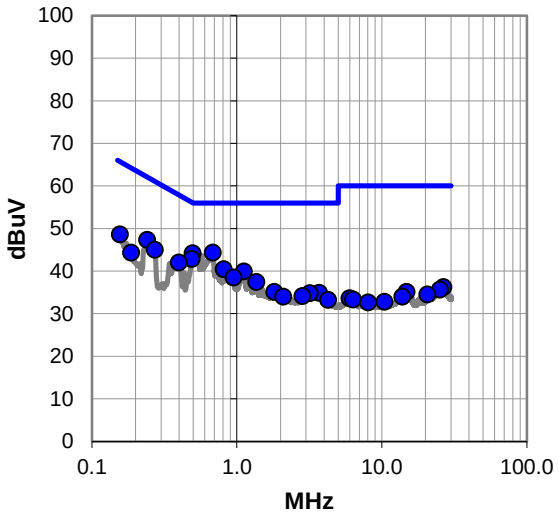
EUT OPERATING MODES

Transmitting modulated on Low channel (906.6 MHz)

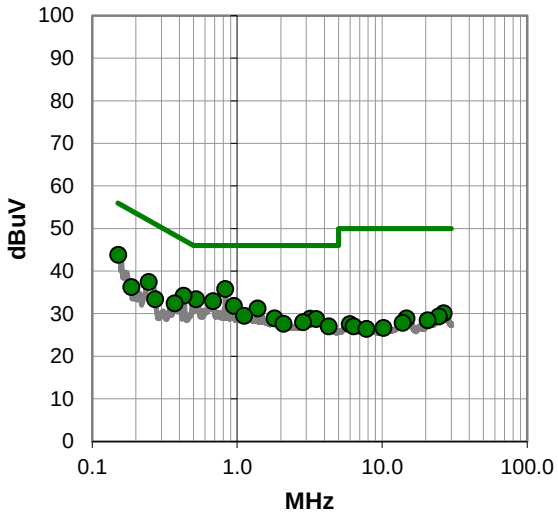
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

element
WTD.2021.09.21.0
EmiR5 2021.12.28.2
PSA-ESCI 2022.1.12.0

RESULTS - Run #3

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.683	23.9	20.4	44.3	56.0	-11.7
0.495	23.7	20.5	44.2	56.1	-11.9
0.489	22.3	20.5	42.8	56.2	-13.4
0.240	26.7	20.6	47.3	62.1	-14.8
0.814	19.9	20.5	40.4	56.0	-15.6
0.397	21.5	20.5	42.0	57.9	-15.9
0.272	24.5	20.5	45.0	61.1	-16.1
1.117	19.4	20.5	39.9	56.0	-16.1
0.156	27.7	20.9	48.6	65.7	-17.1
0.950	18.0	20.5	38.5	56.0	-17.5
1.366	16.9	20.5	37.4	56.0	-18.6
0.187	23.5	20.8	44.3	64.2	-19.9
1.810	14.6	20.5	35.1	56.0	-20.9
3.704	14.3	20.6	34.9	56.0	-21.1
3.192	14.2	20.6	34.8	56.0	-21.2
2.843	13.5	20.6	34.1	56.0	-21.9
2.088	13.5	20.5	34.0	56.0	-22.0
4.274	12.6	20.6	33.2	56.0	-22.8
26.623	14.8	21.4	36.2	60.0	-23.8
25.124	14.3	21.3	35.6	60.0	-24.4
14.848	14.0	21.1	35.1	60.0	-24.9
20.617	13.4	21.1	34.5	60.0	-25.5
13.893	13.0	21.0	34.0	60.0	-26.0
5.998	13.0	20.6	33.6	60.0	-26.4
6.345	12.6	20.7	33.3	60.0	-26.7

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.831	15.3	20.5	35.8	46.0	-10.2
0.152	22.9	20.9	43.8	55.9	-12.1
0.522	12.9	20.5	33.4	46.0	-12.6
0.428	13.7	20.5	34.2	47.3	-13.1
0.684	12.5	20.4	32.9	46.0	-13.1
0.950	11.3	20.5	31.8	46.0	-14.2
0.246	16.8	20.6	37.4	51.9	-14.5
1.384	10.7	20.5	31.2	46.0	-14.8
0.371	11.9	20.5	32.4	48.5	-16.1
1.120	9.0	20.5	29.5	46.0	-16.5
1.815	8.4	20.5	28.9	46.0	-17.1
3.192	8.2	20.6	28.8	46.0	-17.2
3.511	8.1	20.6	28.7	46.0	-17.3
0.272	12.9	20.5	33.4	51.1	-17.7
0.187	15.4	20.8	36.2	54.2	-18.0
2.849	7.4	20.6	28.0	46.0	-18.0
2.088	7.1	20.5	27.6	46.0	-18.4
4.276	6.4	20.6	27.0	46.0	-19.0
26.623	8.7	21.4	30.1	50.0	-19.9
24.645	8.0	21.3	29.3	50.0	-20.7
14.743	7.8	21.1	28.9	50.0	-21.1
20.617	7.3	21.1	28.4	50.0	-21.6
13.898	6.8	21.0	27.8	50.0	-22.2
6.011	6.8	20.7	27.5	50.0	-22.5
6.359	6.3	20.7	27.0	50.0	-23.0

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2021.09.21.0
EmiR5 2021.12.28.2
PSA-ESCI 2022.1.12.0

EUT:	SurfLink Programmer	Work Order:	STAK0262
Serial Number:	220403102	Date:	2022-02-25
Customer:	Starkey Laboratories, Inc.	Temperature:	22.2°C
Attendees:	Zach Burmeister	Relative Humidity:	15.1%
Customer Project:	None	Bar. Pressure (PMSL):	1036 mb
Tested By:	Christopher Heintzelman	Job Site:	MN03
Power:	5 VDC via USB, Laptop powered at 110VAC/60Hz	Configuration:	STAK0262-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2022	ANSI C63.10:2014

TEST PARAMETERS

Run #:	4	Line:	High Line	Add. Ext. Attenuation (dB):	0

COMMENTS

None

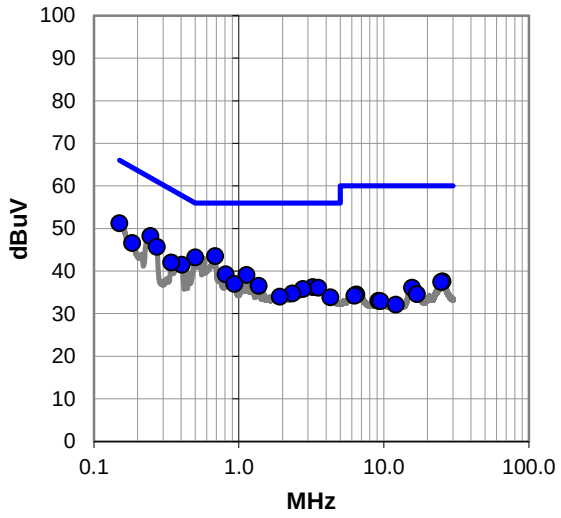
EUT OPERATING MODES

Transmitting modulated on Low channel (906.6 MHz)

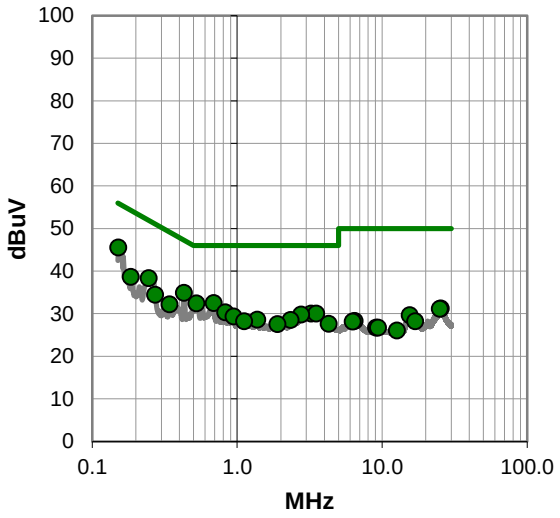
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

element
WTD.2021.09.21.0
EmiR5 2021.12.28.2
PSA-ESCI 2022.1.12.0

RESULTS - Run #4

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.687	23.1	20.4	43.5	56.0	-12.5
0.499	22.7	20.5	43.2	56.0	-12.8
0.246	27.6	20.6	48.2	61.9	-13.7
0.150	30.2	21.0	51.2	66.0	-14.8
0.272	25.2	20.5	45.7	61.1	-15.4
0.403	21.0	20.5	41.5	57.8	-16.3
0.812	18.7	20.5	39.2	56.0	-16.8
1.130	18.6	20.5	39.1	56.0	-16.9
0.342	21.5	20.5	42.0	59.1	-17.1
0.184	25.8	20.8	46.6	64.3	-17.7
0.933	16.5	20.5	37.0	56.0	-19.0
1.369	16.0	20.5	36.5	56.0	-19.5
3.244	15.6	20.6	36.2	56.0	-19.8
3.528	15.5	20.6	36.1	56.0	-19.9
2.771	15.2	20.6	35.8	56.0	-20.2
2.333	14.1	20.6	34.7	56.0	-21.3
1.915	13.5	20.5	34.0	56.0	-22.0
4.285	13.2	20.6	33.8	56.0	-22.2
25.492	16.2	21.4	37.6	60.0	-22.4
24.929	16.1	21.3	37.4	60.0	-22.6
15.654	15.0	21.1	36.1	60.0	-23.9
16.964	13.5	21.1	34.6	60.0	-25.4
6.485	13.8	20.7	34.5	60.0	-25.5
6.270	13.5	20.7	34.2	60.0	-25.8
9.186	12.2	20.8	33.0	60.0	-27.0

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.152	24.6	20.9	45.5	55.9	-10.4
0.429	14.4	20.5	34.9	47.3	-12.4
0.690	12.1	20.4	32.5	46.0	-13.5
0.246	17.7	20.6	38.3	51.9	-13.6
0.524	11.9	20.5	32.4	46.0	-13.6
0.185	17.8	20.8	38.6	54.3	-15.7
0.831	9.8	20.5	30.3	46.0	-15.7
3.235	9.4	20.6	30.0	46.0	-16.0
3.510	9.4	20.6	30.0	46.0	-16.0
2.764	9.2	20.6	29.8	46.0	-16.2
0.946	8.8	20.5	29.3	46.0	-16.7
0.272	13.9	20.5	34.4	51.1	-16.7
0.342	11.7	20.5	32.2	49.1	-16.9
1.381	8.1	20.5	28.6	46.0	-17.4
2.335	7.9	20.6	28.5	46.0	-17.5
1.117	7.7	20.5	28.2	46.0	-17.8
4.276	7.0	20.6	27.6	46.0	-18.4
1.900	7.0	20.5	27.5	46.0	-18.5
25.474	9.8	21.4	31.2	50.0	-18.8
25.080	9.8	21.3	31.1	50.0	-18.9
15.509	8.5	21.1	29.6	50.0	-20.4
6.485	7.6	20.7	28.3	50.0	-21.7
16.963	7.1	21.1	28.2	50.0	-21.8
6.265	7.4	20.7	28.1	50.0	-21.9
9.108	5.9	20.8	26.7	50.0	-23.3

CONCLUSION

Pass

Tested By

SPURIOUS RADIATED EMISSIONS

PSA-ESCI 2021.12.10.0

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data. The test data represents the configuration / operating mode/ model that produced the highest emission levels as compared to the specification limit.

MODES OF OPERATION

Transmitting modulated on Low channel (906.6 MHz). Horizontal antenna
Transmitting modulated on Low channel (906.6 MHz). Vertical antenna

POWER SETTINGS INVESTIGATED

5 VDC via USB

CONFIGURATIONS INVESTIGATED

STAK0262 - 3

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	12400 MHz

SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Filter - Low Pass	Micro-Tronics	LPM50003	HGL	2021-09-10	2022-09-10
Amplifier - Pre-Amplifier	Miteq	AM-1064-9079 and SA18E-10	AOO	2022-01-24	2023-01-24
Cable	Element	Biconilog Cable	MNX	2022-01-24	2023-01-24
Amplifier - Pre-Amplifier	L-3 Narda-Miteq	AMF-6F-12001800-30-10P	PAP	2022-01-24	2023-01-24
Cable	Element	Standard Gain Cable	MNW	2022-01-24	2023-01-24
Cable	Element	Double Ridge Guide Horn Cables	MNV	2022-01-24	2023-01-24
Filter - High Pass	Micro-Tronics	HPM50108	HFW	2021-09-10	2022-09-10
Filter - High Pass	Micro-Tronics	HPM50111	HFM	2021-09-10	2022-09-10
Antenna - Biconilog	Teseq	CBL 6141B	AYD	2020-02-05	2022-02-05
Attenuator	Coaxicom	3910-20	AXY	2021-09-10	2022-09-10
Attenuator	Coaxicom	3910-10	AWZ	2021-09-10	2022-09-10
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVX	2022-01-24	2023-01-24
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVC	2022-01-24	2023-01-24
Antenna - Standard Gain	ETS-Lindgren	3160-08	AJP	NCR	NCR
Antenna - Standard Gain	ETS-Lindgren	3160-07	AJJ	NCR	NCR
Antenna - Double Ridge	ETS Lindgren	3115	AIB	2020-09-03	2022-09-03
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFG	2021-05-18	2022-05-18
Filter - Band Pass/Notch	K&L Microwave	3TNF-500/1000-N/N	HGS	2021-06-28	2022-06-28

MEASUREMENT BANDWIDTHS

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (kHz)
0.01 - 0.15	1.0	0.2	0.2
0.15 - 30.0	10.0	9.0	9.0
30.0 - 1000	100.0	120.0	120.0
Above 1000	1000.0	N/A	1000.0

SPURIOUS RADIATED EMISSIONS

PSA-ESCI 2021.12.10.0

TEST DESCRIPTION

The highest gain antenna of each type to be used with the EUT was tested. The EUT was configured for the required transmit frequencies and the modes as showed in the data sheets.

For each configuration, the spectrum was scanned throughout the specified range as part of the exploratory investigation of the emissions. These “pre-scans” are not included in the report. Final measurements on individual emissions were then made and included in this test report.

The individual emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and EUT antenna in three orthogonal axis if required, and adjusting the measurement antenna height and polarization (per ANSI C63.10). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

Measurements were made with the required detectors and annotated on the data for each individual point using the following annotation:

QP = Quasi-Peak Detector
PK = Peak Detector
AV = RMS Detector

Measurements were made to satisfy the specific requirements of the test specification for out of band emissions as well as the restricted band requirements.

If there are no detectable emissions above the noise floor, the data included may show noise floor measurements for reference only.

Measurements within 2 MHz of the allowable band may have been taken using the integration method from ANSI C63.10 clause 11.13.3. This procedure uses the channel power feature of the spectrum analyzer to integrate the power of the emission within a 1 MHz bandwidth.

Where the radio test software does not provide for a duty cycle at continuous transmit conditions (> 98%) and the RMS (power average) measurements were made across the on and off times of the EUT transmissions, a duty cycle correction is added to the measurements using the formula of 10*log(1/dc).

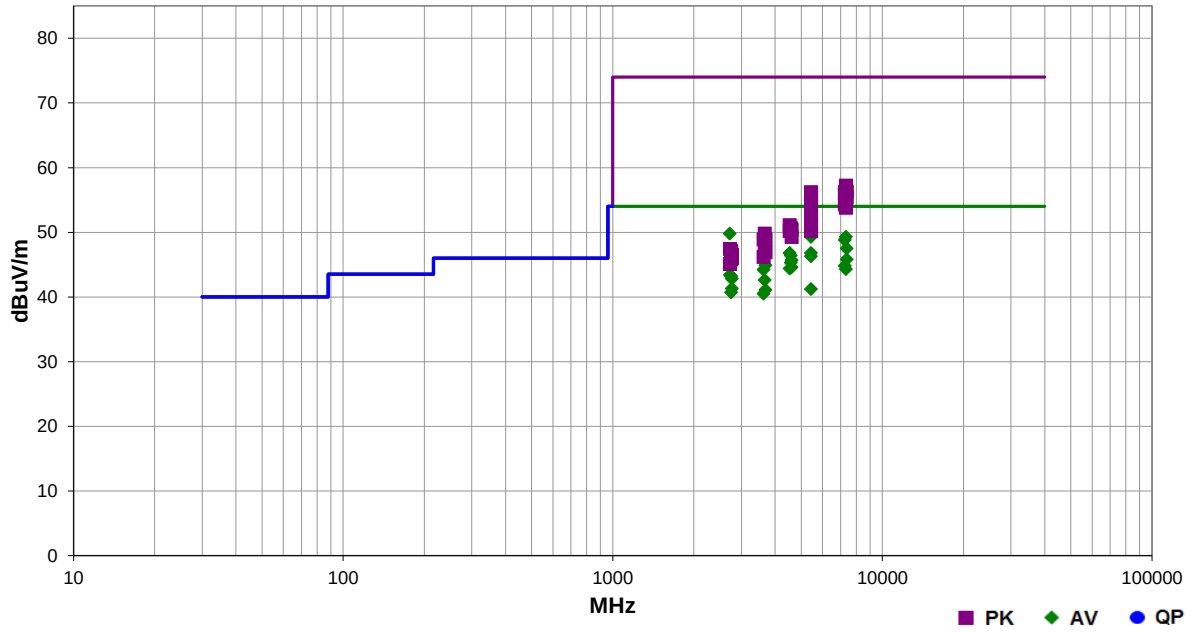
SPURIOUS RADIATED EMISSIONS

EmiR5 2021.09.09.0 PSA-ESCI 2021.12.10.0

Work Order:	STAK0262	**Date:**	2022-01-25		
Project:	None	**Temperature:**	21.8 °C		
Job Site:	MN09	**Humidity:**	15.1% RH		
Serial Number:	213900577	**Barometric Pres.:**	1031 mbar	**Tested by:**	Andrew Rogstad
EUT:	SurfLink Programmer				
Configuration:	3				
Customer:	Starkey Laboratories, Inc.				
Attendees:	Aaron Anderson				
EUT Power:	5 VDC via USB				
Operating Mode:	Transmitting modulated on Low channel (906.6 MHz). Vertical antenna				
Deviations:	None				
Comments:	None				

Test Specifications	**Test Method**
FCC 15.247:2022	ANSI C63.10:2013

Run #	6	**Test Distance (m)**	3	**Antenna Height(s)**	1 to 4(m)	**Results**	Pass



Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
5439.475	44.7	7.5	2.24	109.0	3.0	0.0	Horz	AV	0.0	52.2	54.0	-1.8	EUT vert, Low ch
5439.425	43.7	7.5	1.99	171.0	3.0	0.0	Horz	AV	0.0	51.2	54.0	-2.8	EUT horz, Low ch
2717.300	51.7	-1.9	3.89	169.0	3.0	0.0	Vert	AV	0.0	49.8	54.0	-4.2	EUT vert, Low ch
5439.417	41.8	7.5	2.88	131.0	3.0	0.0	Vert	AV	0.0	49.3	54.0	-4.7	EUT vert, Low ch
7325.233	34.7	14.6	2.56	150.0	3.0	0.0	Vert	AV	0.0	49.3	54.0	-4.7	EUT vert, Mid ch
7252.625	34.7	14.1	2.32	166.0	3.0	0.0	Vert	AV	0.0	48.8	54.0	-5.2	EUT vert, Low ch
7376.408	32.5	15.0	3.03	153.0	3.0	0.0	Vert	AV	0.0	47.5	54.0	-6.5	EUT vert, High ch
5439.417	39.3	7.5	2.97	78.0	3.0	0.0	Horz	AV	0.0	46.8	54.0	-7.2	EUT on side, Low ch
4532.908	41.8	5.0	3.48	99.0	3.0	0.0	Horz	AV	0.0	46.8	54.0	-7.2	EUT vert, Low ch
4578.392	41.3	5.1	4.0	126.0	3.0	0.0	Vert	AV	0.0	46.4	54.0	-7.6	EUT vert, Mid ch
5439.350	38.8	7.5	1.5	91.0	3.0	0.0	Vert	AV	0.0	46.3	54.0	-7.7	EUT on side, Low ch
3662.658	44.5	1.6	2.85	101.0	3.0	0.0	Horz	AV	0.0	46.1	54.0	-7.9	EUT vert, Mid ch
7376.642	30.8	15.0	1.14	190.0	3.0	0.0	Horz	AV	0.0	45.8	54.0	-8.2	EUT vert, High ch
4610.250	40.5	5.2	2.59	98.0	3.0	0.0	Horz	AV	0.0	45.7	54.0	-8.3	EUT vert, High ch
4578.408	40.2	5.1	2.54	111.0	3.0	0.0	Horz	AV	0.0	45.3	54.0	-8.7	EUT vert, Mid ch
3688.150	43.1	1.8	3.08	102.0	3.0	0.0	Horz	AV	0.0	44.9	54.0	-9.1	EUT vert, High ch
7252.750	30.7	14.1	3.92	215.0	3.0	0.0	Horz	AV	0.0	44.8	54.0	-9.2	EUT vert, Low ch
4610.217	39.4	5.2	2.41	129.0	3.0	0.0	Vert	AV	0.0	44.6	54.0	-9.4	EUT vert, High ch

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
4532.833	39.4	5.0	3.78	156.0	3.0	0.0	Vert	AV	0.0	44.4	54.0	-9.6	EUT vert, Low ch
7325.467	29.7	14.6	1.5	222.0	3.0	0.0	Horz	AV	0.0	44.3	54.0	-9.7	EUT vert, Mid ch
3626.300	42.9	1.3	3.99	204.0	3.0	0.0	Horz	AV	0.0	44.2	54.0	-9.8	EUT vert, Low ch
2719.800	45.3	-1.9	3.82	207.0	3.0	0.0	Horz	AV	0.0	43.4	54.0	-10.6	EUT vert, Low ch
2747.067	45.2	-2.0	2.17	186.0	3.0	0.0	Horz	AV	0.0	43.2	54.0	-10.8	EUT vert, Mid ch
2766.158	44.8	-2.0	1.88	202.0	3.0	0.0	Horz	AV	0.0	42.8	54.0	-11.2	EUT vert, High ch
3662.725	41.0	1.6	1.01	96.0	3.0	0.0	Vert	AV	0.0	42.6	54.0	-11.4	EUT vert, Mid ch
2766.100	43.3	-2.0	3.79	157.0	3.0	0.0	Vert	AV	0.0	41.3	54.0	-12.7	EUT vert, High ch
5439.567	33.7	7.5	1.5	125.0	3.0	0.0	Vert	AV	0.0	41.2	54.0	-12.8	EUT horz, Low ch
3688.267	39.3	1.8	1.02	237.0	3.0	0.0	Vert	AV	0.0	41.1	54.0	-12.9	EUT vert, High ch
2747.042	42.7	-2.0	3.87	155.0	3.0	0.0	Vert	AV	0.0	40.7	54.0	-13.3	EUT vert, Mid ch
3626.308	39.2	1.3	1.5	113.0	3.0	0.0	Vert	AV	0.0	40.5	54.0	-13.5	EUT vert, Low ch
7325.958	42.6	14.6	2.56	150.0	3.0	0.0	Vert	PK	0.0	57.2	74.0	-16.8	EUT vert, Mid ch
7377.050	41.3	15.0	3.03	153.0	3.0	0.0	Vert	PK	0.0	56.3	74.0	-17.7	EUT vert, High ch
5439.308	48.7	7.5	2.24	109.0	3.0	0.0	Horz	PK	0.0	56.2	74.0	-17.8	EUT vert, Low ch
7252.650	42.1	14.1	2.32	166.0	3.0	0.0	Vert	PK	0.0	56.2	74.0	-17.8	EUT vert, Low ch
5439.208	47.9	7.5	1.99	171.0	3.0	0.0	Horz	PK	0.0	55.4	74.0	-18.6	EUT horz, Low ch
7376.700	40.4	15.0	1.14	190.0	3.0	0.0	Horz	PK	0.0	55.4	74.0	-18.6	EUT vert, High ch
7252.558	40.2	14.1	3.92	215.0	3.0	0.0	Horz	PK	0.0	54.3	74.0	-19.7	EUT vert, Low ch
5439.758	46.6	7.5	2.88	131.0	3.0	0.0	Vert	PK	0.0	54.1	74.0	-19.9	EUT vert, Low ch
7324.908	39.2	14.6	1.5	222.0	3.0	0.0	Horz	PK	0.0	53.8	74.0	-20.2	EUT vert, Mid ch
5439.650	45.0	7.5	2.97	78.0	3.0	0.0	Horz	PK	0.0	52.5	74.0	-21.5	EUT on side, Low ch
5439.708	43.9	7.5	1.5	91.0	3.0	0.0	Vert	PK	0.0	51.4	74.0	-22.6	EUT on side, Low ch
4532.000	46.2	4.9	3.48	99.0	3.0	0.0	Horz	PK	0.0	51.1	74.0	-22.9	EUT vert, Low ch
4578.125	45.5	5.1	2.54	111.0	3.0	0.0	Horz	PK	0.0	50.6	74.0	-23.4	EUT vert, Mid ch
4578.567	45.5	5.1	4.0	126.0	3.0	0.0	Vert	PK	0.0	50.6	74.0	-23.4	EUT vert, Mid ch
4610.083	45.2	5.2	2.59	98.0	3.0	0.0	Horz	PK	0.0	50.4	74.0	-23.6	EUT vert, High ch
5439.983	42.7	7.5	1.5	125.0	3.0	0.0	Vert	PK	0.0	50.2	74.0	-23.8	EUT horz, Low ch
4532.592	45.2	5.0	3.78	156.0	3.0	0.0	Vert	PK	0.0	50.2	74.0	-23.8	EUT vert, Low ch
3662.417	48.2	1.6	2.85	101.0	3.0	0.0	Horz	PK	0.0	49.8	74.0	-24.2	EUT vert, Mid ch
4610.075	44.1	5.2	2.41	129.0	3.0	0.0	Vert	PK	0.0	49.3	74.0	-24.7	EUT vert, High ch
3626.550	47.6	1.3	3.99	204.0	3.0	0.0	Horz	PK	0.0	48.9	74.0	-25.1	EUT vert, Low ch
3687.958	47.1	1.8	3.08	102.0	3.0	0.0	Horz	PK	0.0	48.9	74.0	-25.1	EUT vert, High ch
3662.875	46.2	1.6	1.01	96.0	3.0	0.0	Vert	PK	0.0	47.8	74.0	-26.2	EUT vert, Mid ch
2719.625	49.3	-1.9	3.82	207.0	3.0	0.0	Horz	PK	0.0	47.4	74.0	-26.6	EUT vert, Low ch
2747.492	49.1	-2.0	2.17	186.0	3.0	0.0	Horz	PK	0.0	47.1	74.0	-26.9	EUT vert, Mid ch
3688.025	45.1	1.8	1.02	237.0	3.0	0.0	Vert	PK	0.0	46.9	74.0	-27.1	EUT vert, High ch
2766.267	48.5	-2.0	1.88	202.0	3.0	0.0	Horz	PK	0.0	46.5	74.0	-27.5	EUT vert, High ch
3626.042	44.9	1.3	1.5	113.0	3.0	0.0	Vert	PK	0.0	46.2	74.0	-27.8	EUT vert, Low ch
2766.025	48.0	-2.0	3.79	157.0	3.0	0.0	Vert	PK	0.0	46.0	74.0	-28.0	EUT vert, High ch
2747.233	47.8	-2.0	3.87	155.0	3.0	0.0	Vert	PK	0.0	45.8	74.0	-28.2	EUT vert, Mid ch
2719.442	47.0	-1.9	3.89	169.0	3.0	0.0	Vert	PK	0.0	45.1	74.0	-28.9	EUT vert, Low ch

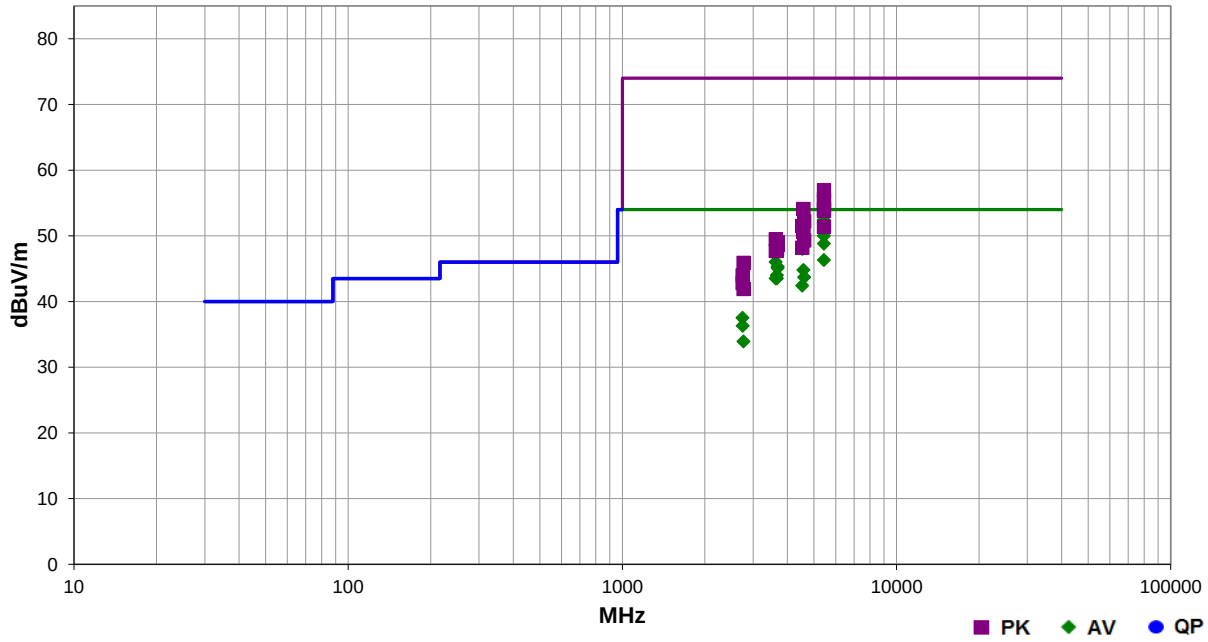
SPURIOUS RADIATED EMISSIONS

EmiR5 2021.09.09.0 PSA-ESCI 2021.12.10.0

Work Order:	STAK0262	**Date:**	2022-01-25		
Project:	None	**Temperature:**	22.1 °C		
Job Site:	MN09	**Humidity:**	12.8% RH		
Serial Number:	213900577	**Barometric Pres.:**	1026 mbar	**Tested by:**	Chris Patterson
EUT:	SurfLink Programmer				
Configuration:	3				
Customer:	Starkey Laboratories, Inc.				
Attendees:	Aaron Anderson				
EUT Power:	5 VDC via USB				
Operating Mode:	Transmitting modulated on Low channel (906.6 MHz). Horizontal antenna				
Deviations:	None				
Comments:	None				

Test Specifications	**Test Method**
FCC 15.247:2022	ANSI C63.10:2013

Run #	12	**Test Distance (m)**	3	**Antenna Height(s)**	1 to 4(m)	**Results**	Pass



Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
5439.480	46.3	7.5	2.37	106.0	3.0	0.0	Horz	AV	0.0	53.8	54.0	-0.2	EUT Vert, Low Ch
5439.430	44.9	7.5	2.64	274.0	3.0	0.0	Horz	AV	0.0	52.4	54.0	-1.6	EUT Horz, Low Ch
5439.480	44.5	7.5	2.27	128.0	3.0	0.0	Vert	AV	0.0	52.0	54.0	-2.0	EUT Vert, Low Ch
4578.420	45.7	5.1	4.0	186.0	3.0	0.0	Horz	AV	0.0	50.8	54.0	-3.2	EUT Vert, Mid Ch
5439.480	42.5	7.5	2.37	73.0	3.0	0.0	Horz	AV	0.0	50.0	54.0	-4.0	EUT On Side, Low Ch
5439.520	41.3	7.5	1.57	72.0	3.0	0.0	Vert	AV	0.0	48.8	54.0	-5.2	EUT On Side, Low Ch
4610.290	43.3	5.2	3.96	187.0	3.0	0.0	Horz	AV	0.0	48.5	54.0	-5.5	EUT Vert, High Ch
4532.920	43.0	5.0	2.47	186.0	3.0	0.0	Horz	AV	0.0	48.0	54.0	-6.0	EUT Vert, Low Ch
5439.430	38.8	7.5	1.02	235.0	3.0	0.0	Vert	AV	0.0	46.3	54.0	-7.7	EUT Horz, Low Ch
3626.320	44.7	1.3	3.98	164.0	3.0	0.0	Horz	AV	0.0	46.0	54.0	-8.0	EUT Vert, Low Ch
3688.190	43.5	1.8	3.97	247.0	3.0	0.0	Vert	AV	0.0	45.3	54.0	-8.7	EUT Vert, High Ch
3688.150	43.3	1.8	4.0	164.0	3.0	0.0	Horz	AV	0.0	45.1	54.0	-8.9	EUT Vert, High Ch
4578.380	39.7	5.1	1.5	275.0	3.0	0.0	Vert	AV	0.0	44.8	54.0	-9.2	EUT Vert, Mid Ch
3662.720	42.4	1.6	4.0	237.0	3.0	0.0	Vert	AV	0.0	44.0	54.0	-10.0	EUT Vert, Mid Ch
4610.250	38.5	5.2	2.5	277.0	3.0	0.0	Vert	AV	0.0	43.7	54.0	-10.3	EUT Vert, High Ch
3626.320	42.2	1.3	4.0	266.0	3.0	0.0	Vert	AV	0.0	43.5	54.0	-10.5	EUT Vert, Low Ch
3662.720	41.9	1.6	4.0	191.0	3.0	0.0	Horz	AV	0.0	43.5	54.0	-10.5	EUT Vert, Mid Ch

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
4532.920	37.4	5.0	1.5	271.0	3.0	0.0	Vert	AV	0.0	42.4	54.0	-11.6	EUT Vert, Low Ch
2766.180	43.9	-2.0	3.92	186.0	3.0	0.0	Horz	AV	0.0	41.9	54.0	-12.1	EUT Vert, High Ch
2747.020	39.5	-2.0	1.5	293.0	3.0	0.0	Horz	AV	0.0	37.5	54.0	-16.5	EUT Vert, Mid Ch
5439.720	49.4	7.5	2.37	106.0	3.0	0.0	Horz	PK	0.0	56.9	74.0	-17.1	EUT Vert, Low Ch
2747.100	38.3	-2.0	3.97	231.0	3.0	0.0	Vert	AV	0.0	36.3	54.0	-17.7	EUT Vert, Mid Ch
5439.310	48.2	7.5	2.64	274.0	3.0	0.0	Horz	PK	0.0	55.7	74.0	-18.3	EUT Horz, Low Ch
5439.770	47.7	7.5	2.27	128.0	3.0	0.0	Vert	PK	0.0	55.2	74.0	-18.8	EUT Vert, Low Ch
5439.850	46.6	7.5	2.37	73.0	3.0	0.0	Horz	PK	0.0	54.1	74.0	-19.9	EUT On Side, Low Ch
4578.750	49.0	5.1	4.0	186.0	3.0	0.0	Horz	PK	0.0	54.1	74.0	-19.9	EUT Vert, Mid Ch
2766.180	35.9	-2.0	1.5	56.0	3.0	0.0	Vert	AV	0.0	33.9	54.0	-20.1	EUT Vert, High Ch
5439.180	46.3	7.5	1.57	72.0	3.0	0.0	Vert	PK	0.0	53.8	74.0	-20.2	EUT On Side, Low Ch
4610.040	47.0	5.2	3.96	187.0	3.0	0.0	Horz	PK	0.0	52.2	74.0	-21.8	EUT Vert, High Ch
4532.710	46.5	5.0	2.47	186.0	3.0	0.0	Horz	PK	0.0	51.5	74.0	-22.5	EUT Vert, Low Ch
5439.770	43.9	7.5	1.02	235.0	3.0	0.0	Vert	PK	0.0	51.4	74.0	-22.6	EUT Horz, Low Ch
4578.710	45.5	5.1	1.5	275.0	3.0	0.0	Vert	PK	0.0	50.6	74.0	-23.4	EUT Vert, Mid Ch
3626.190	48.2	1.3	3.98	164.0	3.0	0.0	Horz	PK	0.0	49.5	74.0	-24.5	EUT Vert, Low Ch
4610.670	44.1	5.2	2.5	277.0	3.0	0.0	Vert	PK	0.0	49.3	74.0	-24.7	EUT Vert, High Ch
3688.480	47.2	1.8	3.97	247.0	3.0	0.0	Vert	PK	0.0	49.0	74.0	-25.0	EUT Vert, High Ch
3688.070	46.8	1.8	4.0	164.0	3.0	0.0	Horz	PK	0.0	48.6	74.0	-25.4	EUT Vert, High Ch
4533.210	43.2	5.0	1.5	271.0	3.0	0.0	Vert	PK	0.0	48.2	74.0	-25.8	EUT Vert, Low Ch
3662.260	46.3	1.6	4.0	237.0	3.0	0.0	Vert	PK	0.0	47.9	74.0	-26.1	EUT Vert, Mid Ch
3626.020	46.4	1.3	4.0	266.0	3.0	0.0	Vert	PK	0.0	47.7	74.0	-26.3	EUT Vert, Low Ch
3662.970	46.1	1.6	4.0	191.0	3.0	0.0	Horz	PK	0.0	47.7	74.0	-26.3	EUT Vert, Mid Ch
2766.300	47.9	-2.0	3.92	186.0	3.0	0.0	Horz	PK	0.0	45.9	74.0	-28.1	EUT Vert, High Ch
2746.770	46.0	-2.0	1.5	293.0	3.0	0.0	Horz	PK	0.0	44.0	74.0	-30.0	EUT Vert, Mid Ch
2746.770	44.8	-2.0	3.97	231.0	3.0	0.0	Vert	PK	0.0	42.8	74.0	-31.2	EUT Vert, Mid Ch
2765.680	43.9	-2.0	1.5	56.0	3.0	0.0	Vert	PK	0.0	41.9	74.0	-32.1	EUT Vert, High Ch

DUTY CYCLE

TEST DESCRIPTION

The Duty Cycle (x) were measured for each of the EUT operating modes. The measurements were made using a zero span on the spectrum analyzer to see the pulses in the time domain. The transmit power was set to its default maximum.

The duty cycle was calculated by dividing the transmission pulse duration (T) by the total period of a single on and total off time.

The EUT operates at 100% Duty Cycle.

OUTPUT POWER

XMit 2020.12.30.0

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2021-04-16	2022-04-16
Generator - Signal	Keysight	N5171B (EXG)	TEY	2019-12-31	2022-12-31
Block - DC	Fairview Microwave	SD3379	AMZ	2021-11-05	2022-11-05
Attenuator	Fairview Microwave	SA18S5W-20	RFX	2021-06-02	2022-06-02
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2021-09-12	2022-09-12

TEST DESCRIPTION

The transmit frequency was set to the required channels in each band. The transmit power was set to its default maximum.

Prior to measuring peak transmit power the DTS bandwidth (B) was measured.

The method found in ANSI C63.10:2013 Section 11.9.1.1 was used because the RBW on the analyzer was greater than the DTS Bandwidth of the radio.

OUTPUT POWER

element

TbtTx 2021.10.29.2 XMit 2020.12.30.0

EUT:	SurfLink Programmer			**Work Order:**	STAK0262
Serial Number:	213900484			**Date:**	25-Jan-22
Customer:	Starkey Laboratories, Inc.			**Temperature:**	21.7 °C
Attendees:	Aaron Anderson			**Humidity:**	15.6% RH
Project:	None			**Barometric Pres.:**	1031 mbar
Tested by:	Andrew Rogstad	**Power:**	5 VDC via USB	**Job Site:**	MN08

TEST SPECIFICATIONS	Test Method
FCC 15.247:2022	ANSI C63.10:2013

COMMENTS

Reference level offset includes measurement cable, attenuator, DC block, and customer's patch cable

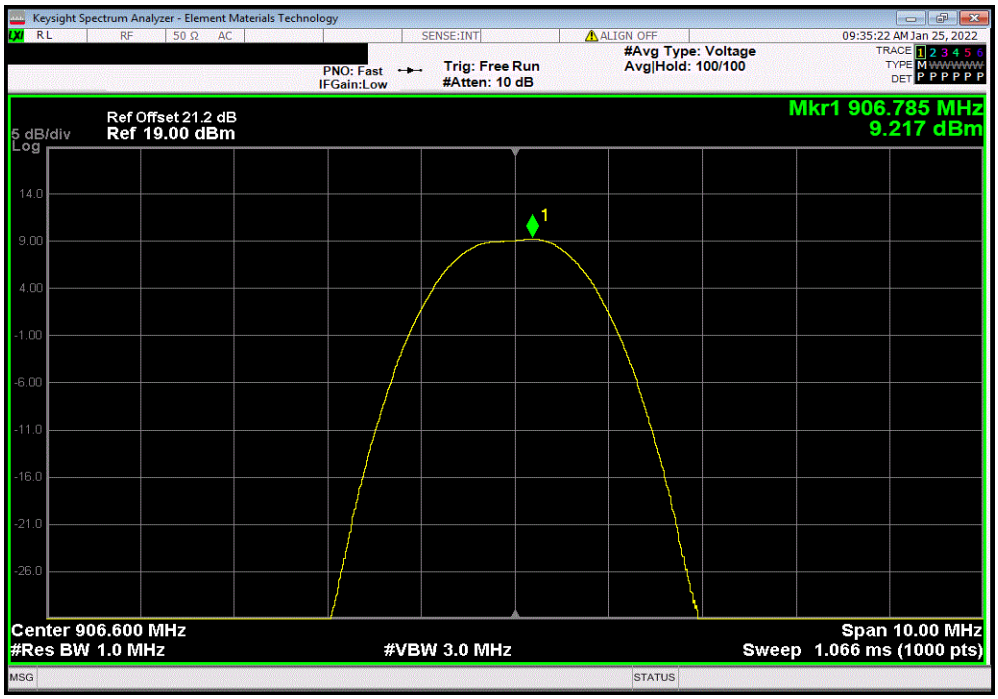
DEVIATIONS FROM TEST STANDARD

None

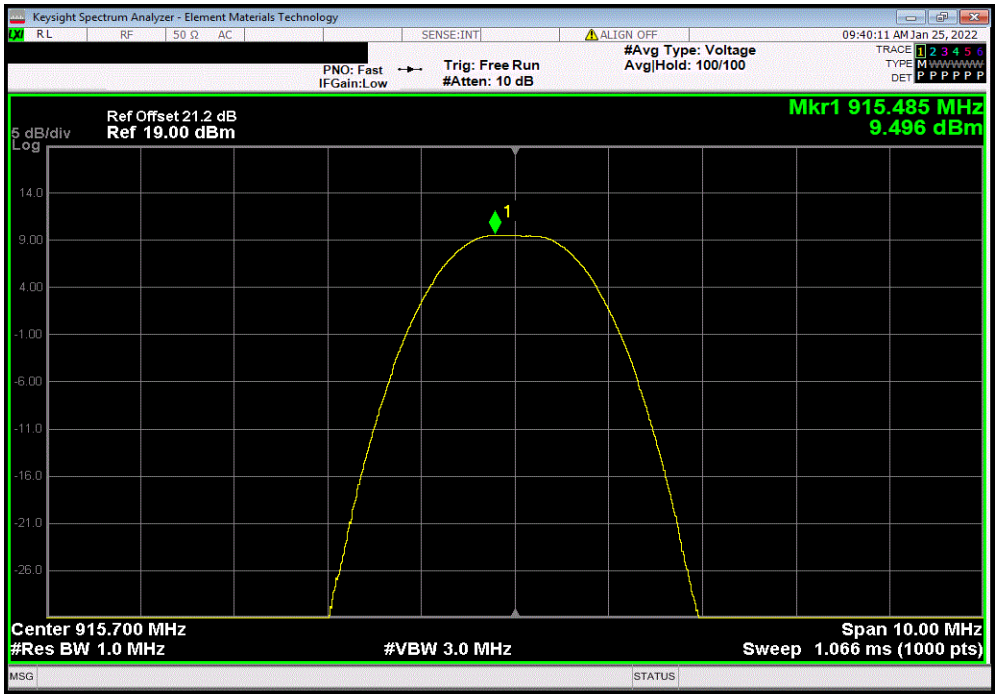
Configuration #	1	Signature

		Out Pwr (dBm)	Limit (dBm)	Result
Vertical Antenna				
	Low Channel, 906.6 MHz	9.217	30	Pass
	Mid Channel, 915.7 MHz	9.496	30	Pass
	High Channel, 922.1 MHz	10.2	30	Pass
Horizontal Antenna				
	Low Channel, 906.6 MHz	8.793	30	Pass
	Mid Channel, 915.7 MHz	8.724	30	Pass
	High Channel, 922.1 MHz	9.08	30	Pass

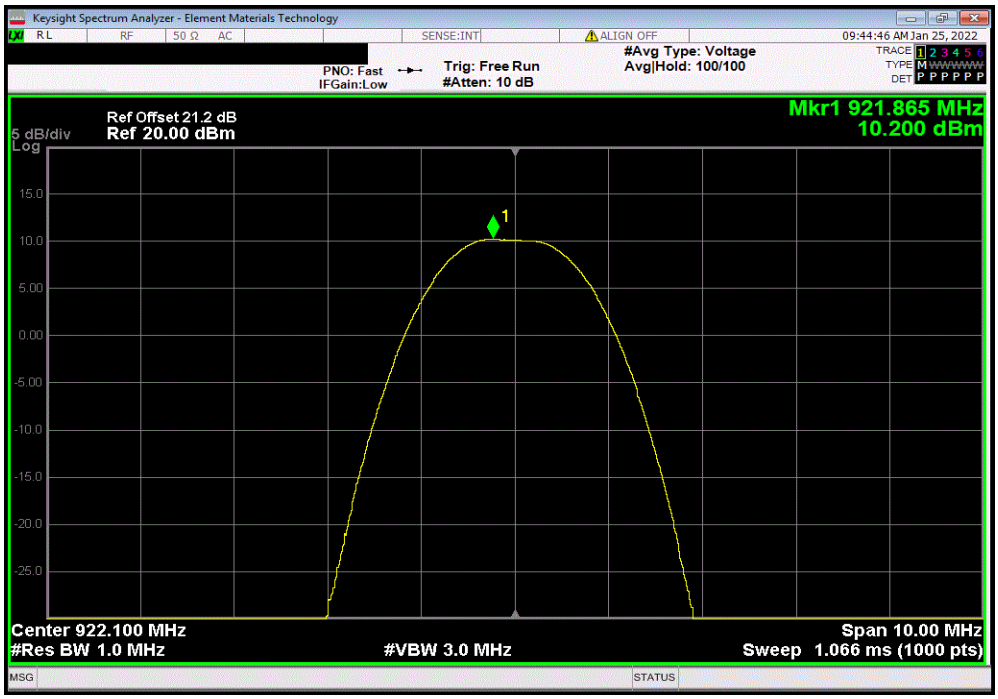
Vertical Antenna, Low Channel, 906.6 MHz						
				Out Pwr (dBm)	Limit (dBm)	Result
				9.217	30	Pass



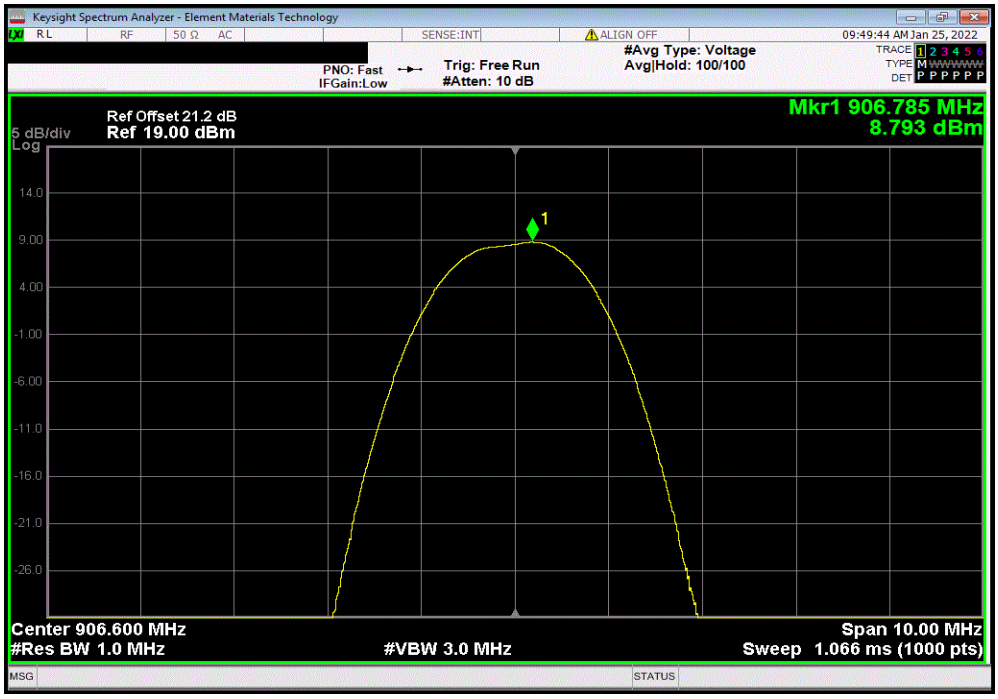
Vertical Antenna, Mid Channel, 915.7 MHz						
				Out Pwr (dBm)	Limit (dBm)	Result
				9.496	30	Pass



Vertical Antenna, High Channel, 922.1 MHz						
				Out Pwr (dBm)	Limit (dBm)	Result
				10.2	30	Pass

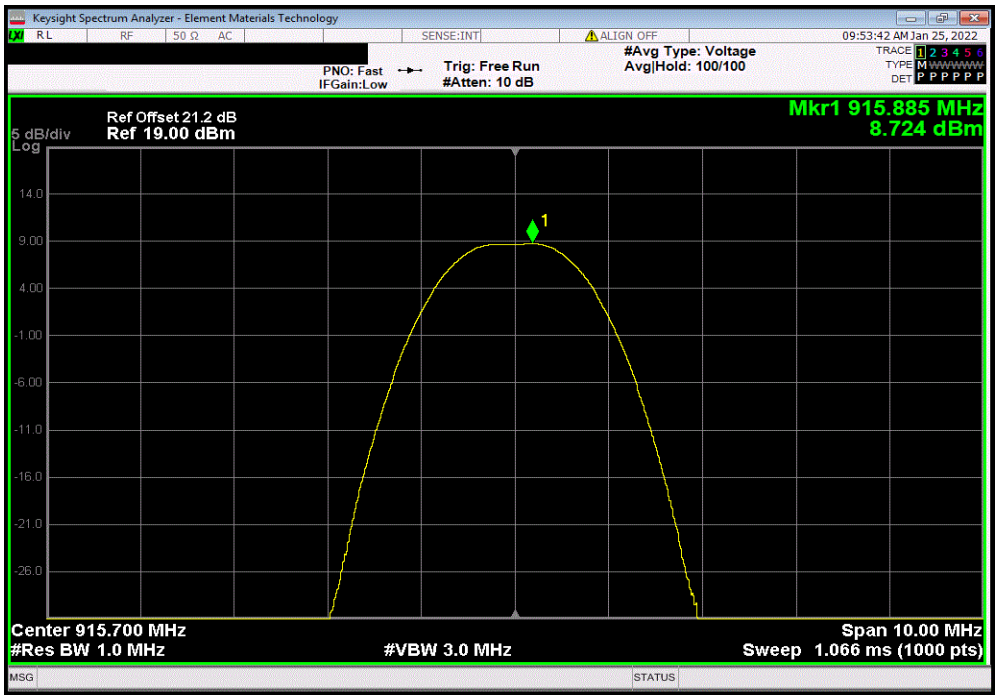


Horizontal Antenna, Low Channel, 906.6 MHz						
				Out Pwr (dBm)	Limit (dBm)	Result
				8.793	30	Pass

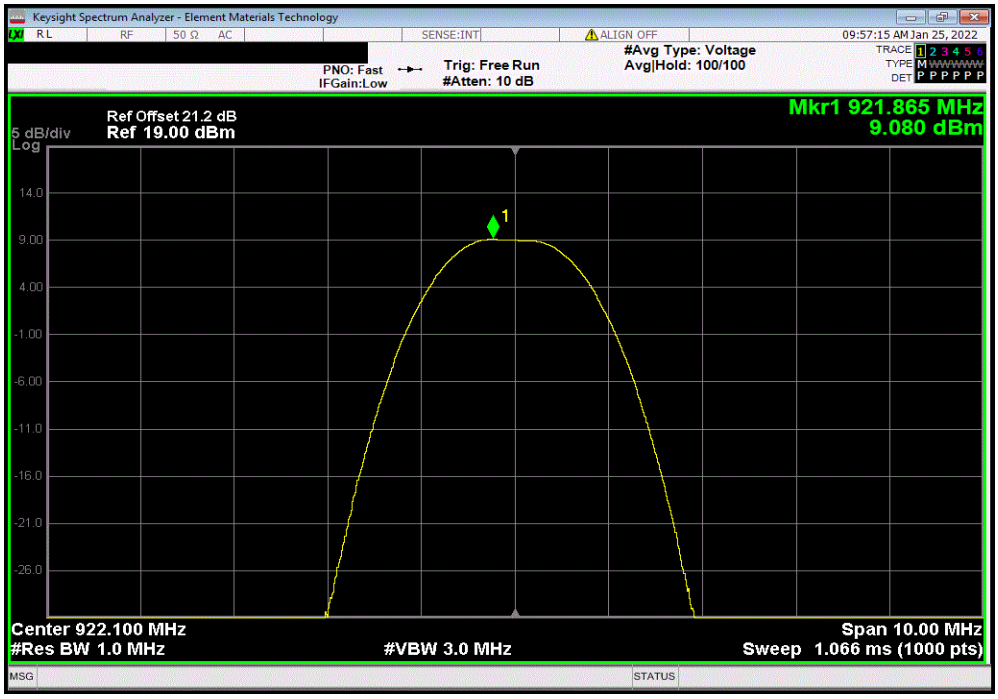


OUTPUT POWER

Horizontal Antenna, Mid Channel, 915.7 MHz						
				Out Pwr (dBm)	Limit (dBm)	Result
				8.724	30	Pass



Horizontal Antenna, High Channel, 922.1 MHz						
				Out Pwr (dBm)	Limit (dBm)	Result
				9.08	30	Pass



EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

XMit 2020.12.30.0

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Keysight	N5171B (EXG)	TEY	2019-12-31	2022-12-31
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2021-04-16	2022-04-16
Block - DC	Fairview Microwave	SD3379	AMZ	2021-11-05	2022-11-05
Attenuator	Fairview Microwave	SA18S5W-20	RFX	2021-06-02	2022-06-02
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2021-09-12	2022-09-12

TEST DESCRIPTION

The transmit frequency was set to the required channels in each band. The transmit power was set to its default maximum.

Prior to measuring peak transmit power the DTS bandwidth (B) was measured.

The method found in ANSI C63.10:2013 Section 11.9.1.1 was used because the RBW on the analyzer was greater than the DTS Bandwidth of the radio.

Equivalent Isotropic Radiated Power (EIRP) = Max Measured Power + Antenna gain (dBi)

EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

element

TbtTx 2021.10.29.2 XMit 2020.12.30.0

EUT:	SurfLink Programmer			**Work Order:**	STAK0262
Serial Number:	213900484			**Date:**	25-Jan-22
Customer:	Starkey Laboratories, Inc.			**Temperature:**	21.7 °C
Attendees:	Aaron Anderson			**Humidity:**	15.6% RH
Project:	None			**Barometric Pres.:**	1031 mbar
Tested by:	Andrew Rogstad	**Power:**	5 VDC via USB	**Job Site:**	MN08

TEST SPECIFICATIONS	Test Method
FCC 15.247:2022	ANSI C63.10:2013

COMMENTS

Reference level offset includes measurement cable, attenuator, DC block, and customer's patch cable.

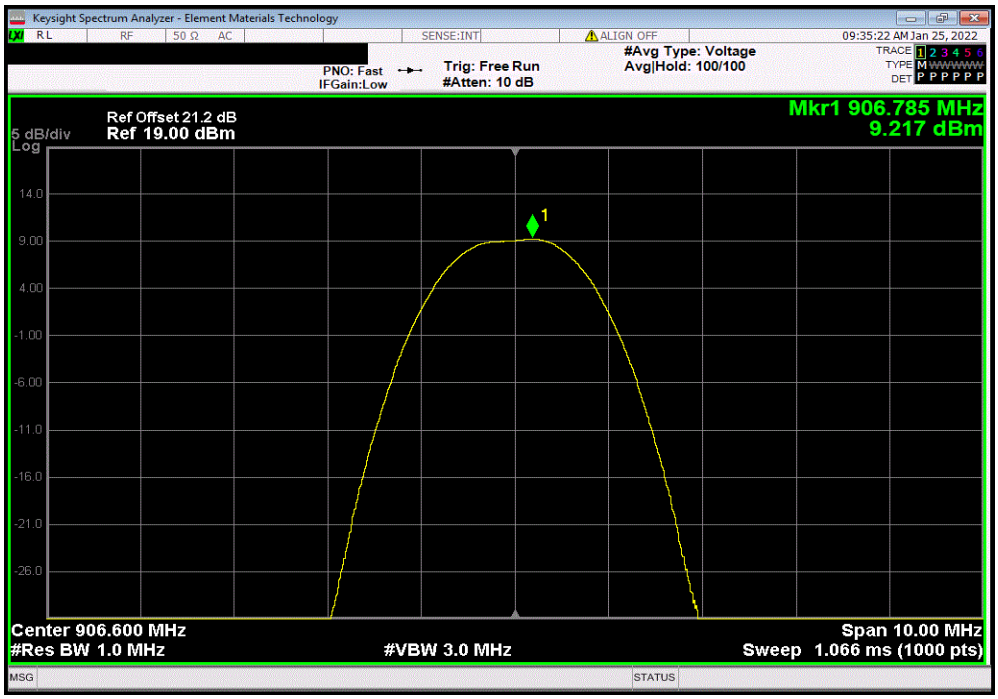
DEVIATIONS FROM TEST STANDARD

None

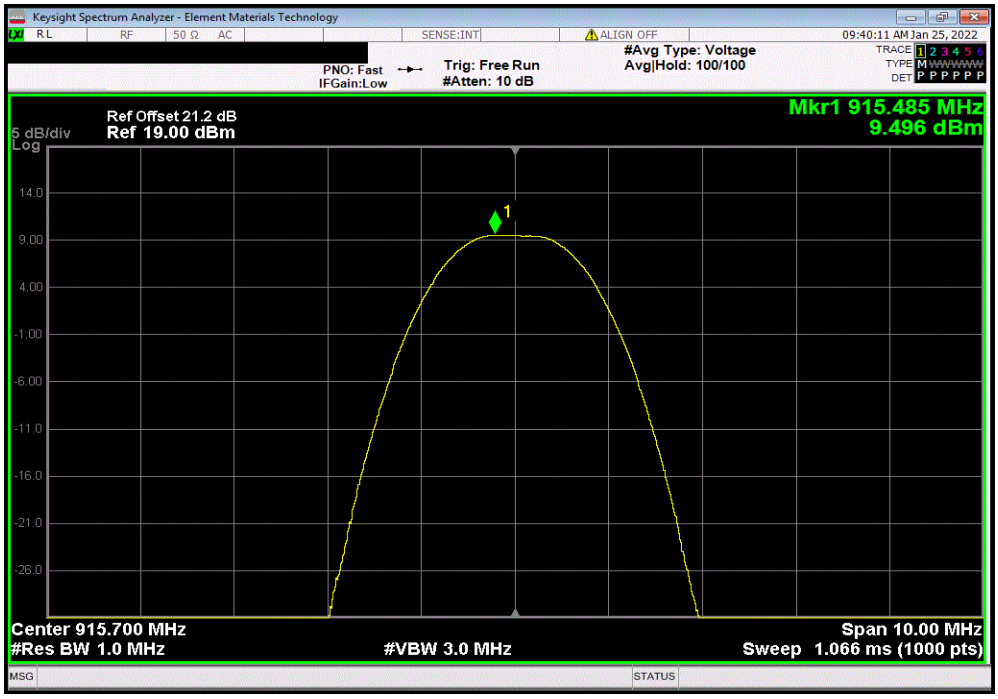
Configuration #	1	Signature

	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
Vertical Antenna					
Low Channel, 906.6 MHz	9.217	2	11.217	36	Pass
Mid Channel, 915.7 MHz	9.496	2	11.496	36	Pass
High Channel, 922.1 MHz	10.2	2	12.2	36	Pass
Horizontal Antenna					
Low Channel, 906.6 MHz	8.793	2	10.793	36	Pass
Mid Channel, 915.7 MHz	8.724	2	10.724	36	Pass
High Channel, 922.1 MHz	9.08	2	11.08	36	Pass

Vertical Antenna, Low Channel, 906.6 MHz						
		Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
		9.217	2	11.217	36	Pass

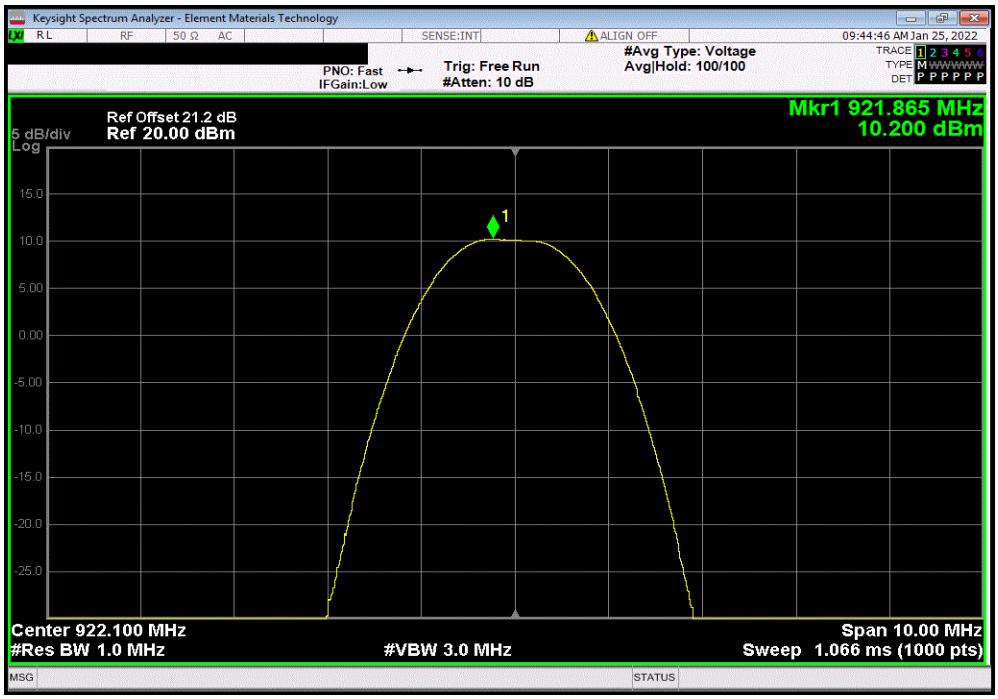


Vertical Antenna, Mid Channel, 915.7 MHz						
		Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
		9.496	2	11.496	36	Pass

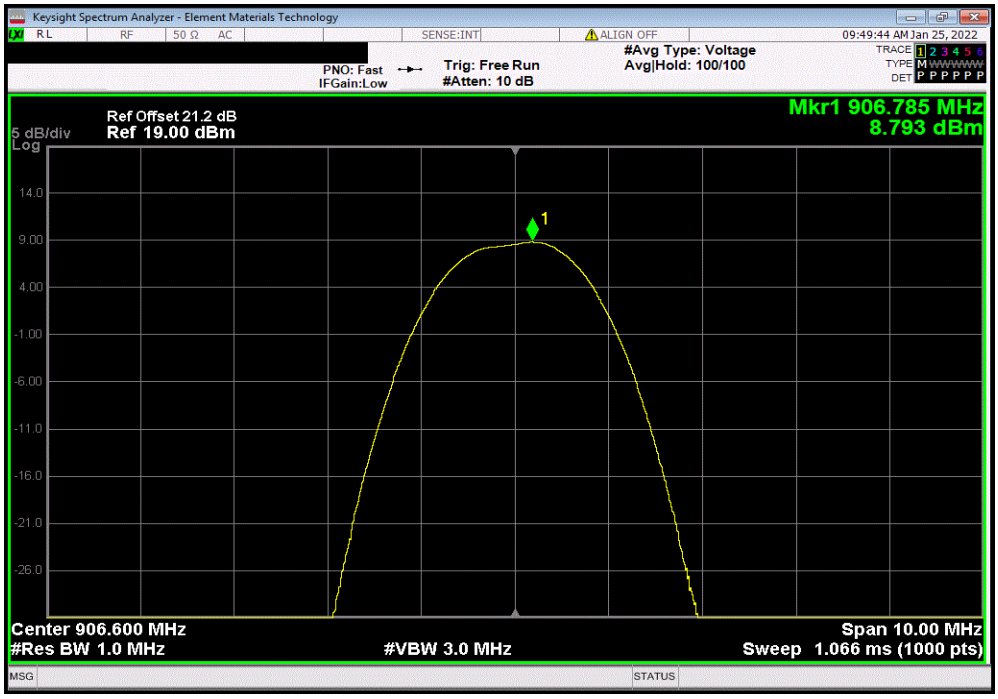


EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

Vertical Antenna, High Channel, 922.1 MHz						
		Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
		10.2	2	12.2	36	Pass

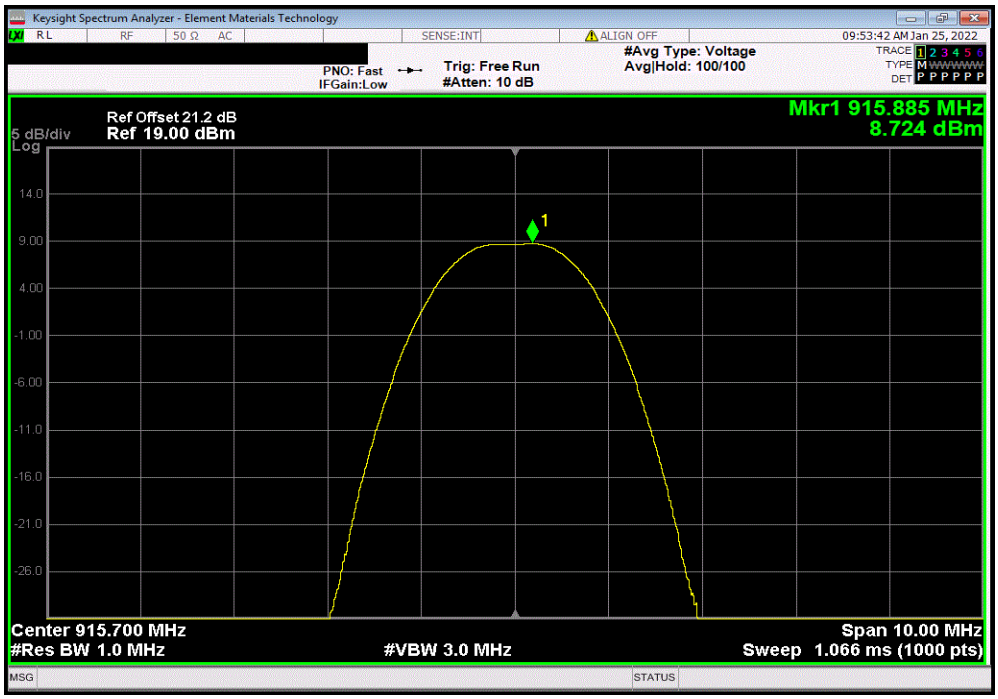


Horizontal Antenna, Low Channel, 906.6 MHz						
		Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
		8.793	2	10.793	36	Pass

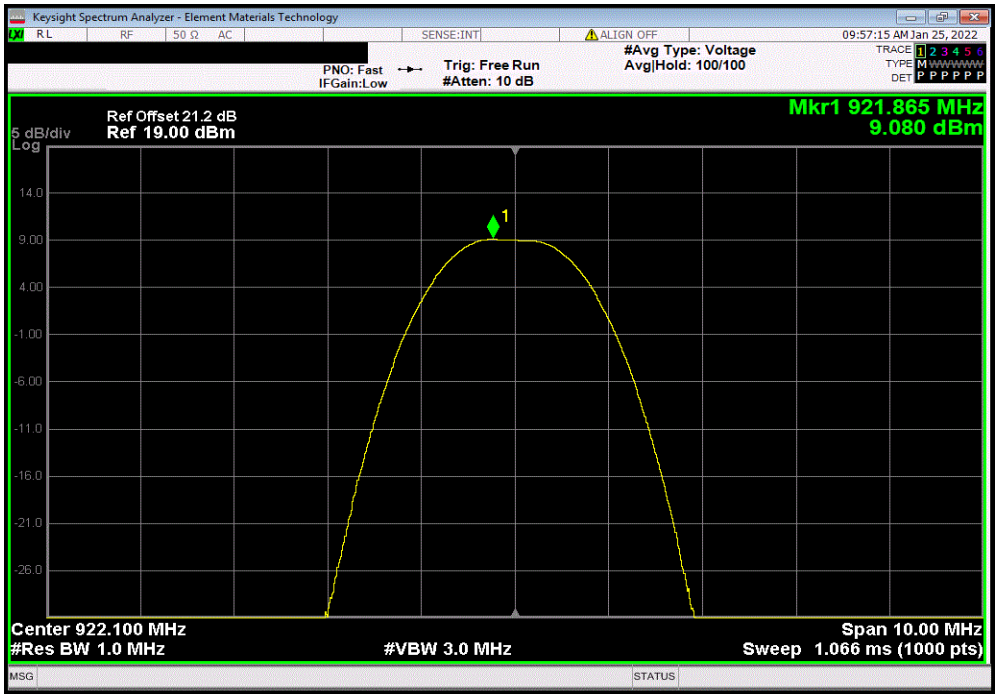


EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

Horizontal Antenna, Mid Channel, 915.7 MHz						
		Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
		8.724	2	10.724	36	Pass



Horizontal Antenna, High Channel, 922.1 MHz						
		Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
		9.08	2	11.08	36	Pass



BAND EDGE COMPLIANCE

XMit 2020.12.30.0

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Keysight	N5171B (EXG)	TEY	2019-12-31	2022-12-31
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2021-04-16	2022-04-16
Block - DC	Fairview Microwave	SD3379	AMZ	2021-11-05	2022-11-05
Attenuator	Fairview Microwave	SA18S5W-20	RFX	2021-06-02	2022-06-02
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2021-09-12	2022-09-12

TEST DESCRIPTION

The spurious RF conducted emissions at the edges of the authorized bands were measured with the EUT set to low and high transmit frequencies in each available band. The channels closest to the band edges were selected. The EUT was transmitting at the data rate(s) listed in the datasheet.

The spectrum was scanned below the lower band edge and above the higher band edge.

BAND EDGE COMPLIANCE

TbtTx 2021.10.29.2 XMit 2020.12.30.0

EUT:	SurfLink Programmer			**Work Order:**	STAK0262
Serial Number:	213900484			**Date:**	25-Jan-22
Customer:	Starkey Laboratories, Inc.			**Temperature:**	21.7 °C
Attendees:	Aaron Anderson			**Humidity:**	15.7% RH
Project:	None			**Barometric Pres.:**	1031 mbar
Tested by:	Andrew Rogstad	**Power:**	5 VDC via USB	**Job Site:**	MN08

TEST SPECIFICATIONS	Test Method
FCC 15.247:2022	ANSI C63.10:2013

COMMENTS

Reference level offset includes measurement cable, attenuator, DC block, and customer's patch cable.

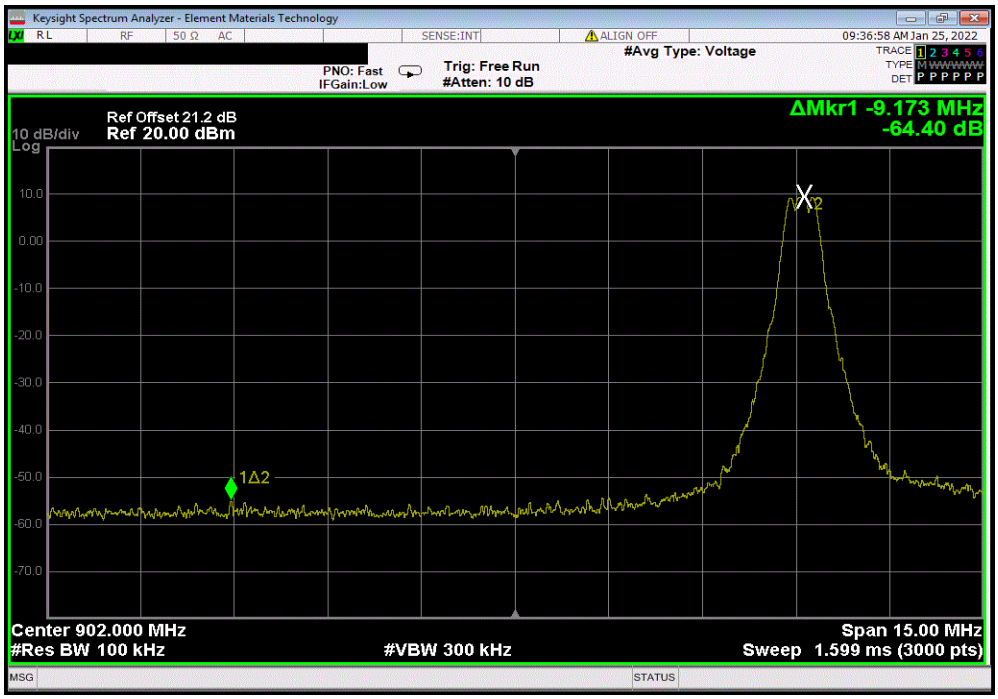
DEVIATIONS FROM TEST STANDARD

None

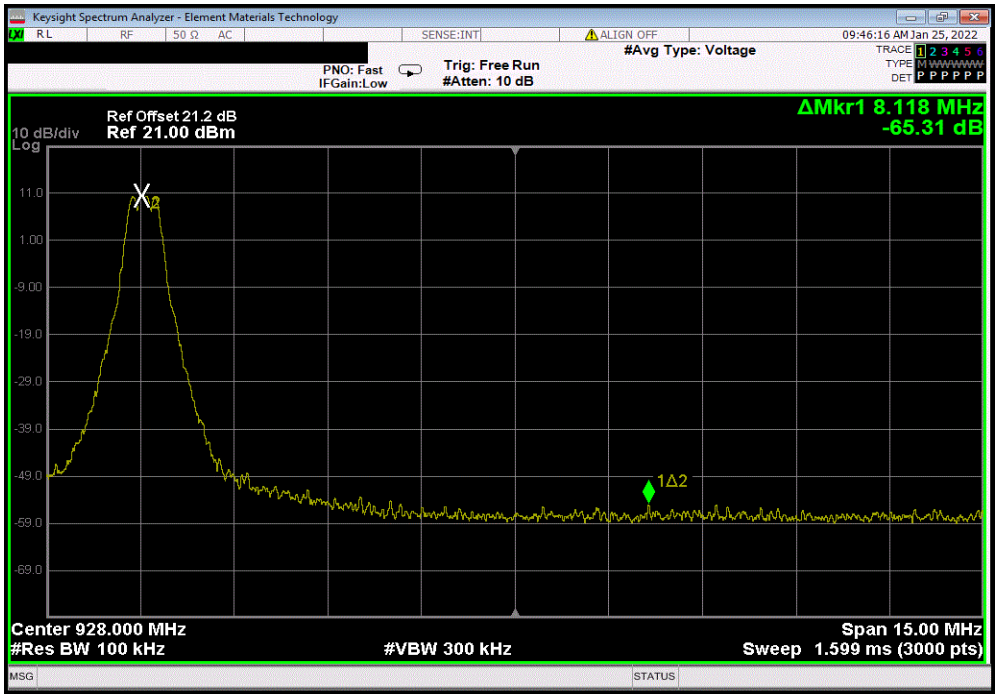
Configuration #	1	Signature

		Value (dBc)	Limit ≤ (dBc)	Result
Vertical Antenna				
	Low Channel, 906.6 MHz	-64.4	-20	Pass
	High Channel, 922.1 MHz	-65.31	-20	Pass
Horizontal Antenna				
	Low Channel, 906.6 MHz	-64.13	-20	Pass
	High Channel, 922.1 MHz	-63.98	-20	Pass

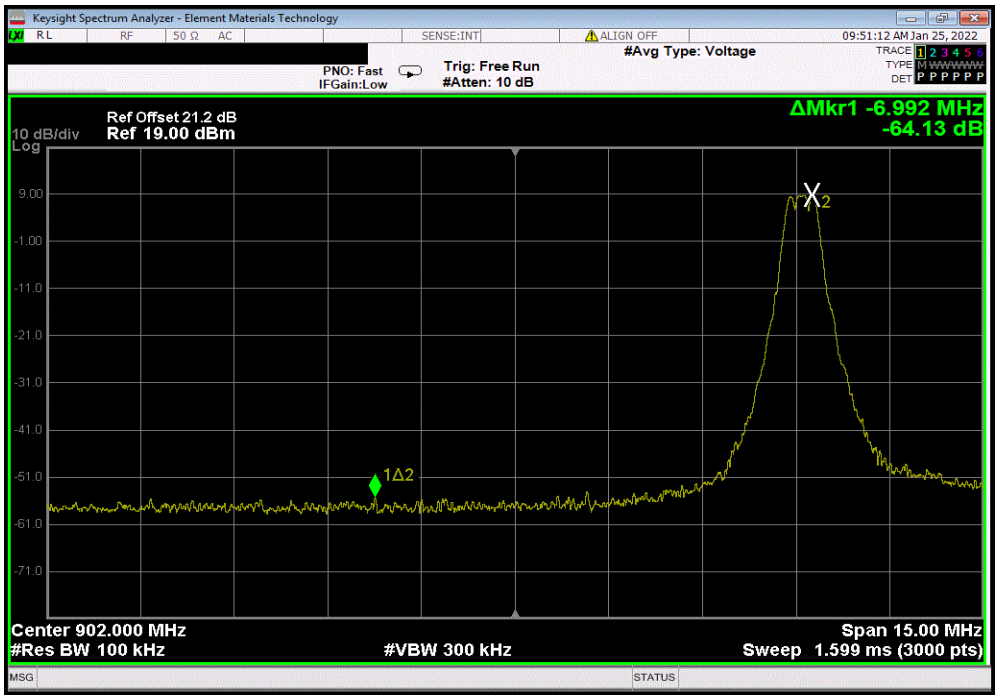
Vertical Antenna, Low Channel, 906.6 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-64.4	-20	Pass



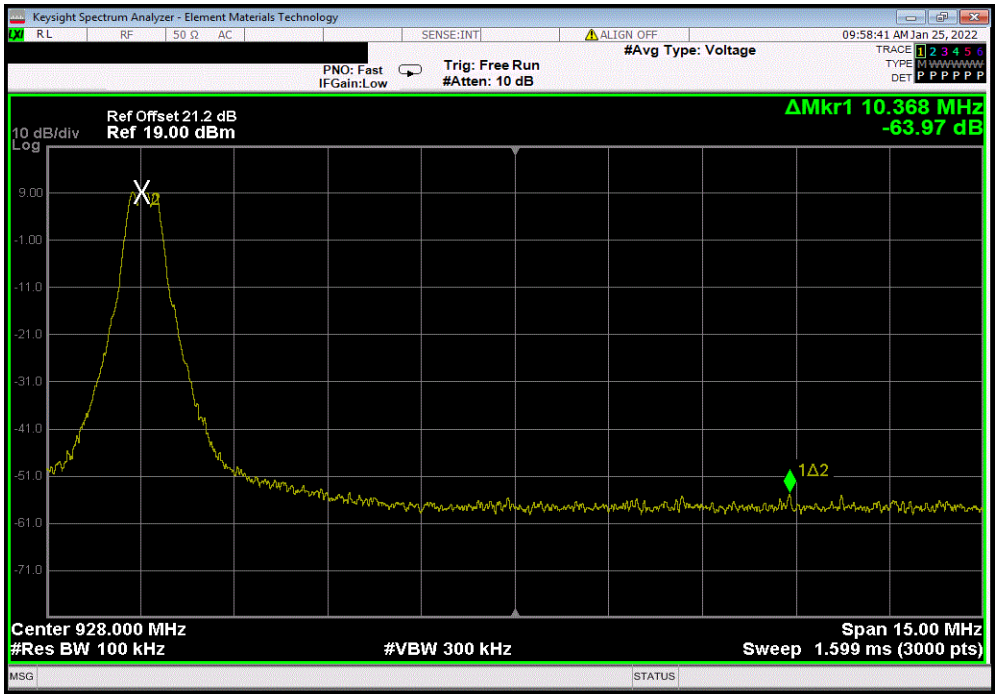
Vertical Antenna, High Channel, 922.1 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-65.31	-20	Pass



Horizontal Antenna, Low Channel, 906.6 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-64.13	-20	Pass



Horizontal Antenna, High Channel, 922.1 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-63.98	-20	Pass



DTS BANDWIDTH

XMit 2020.12.30.0

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Keysight	N5171B (EXG)	TEY	2019-12-31	2022-12-31
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2021-04-16	2022-04-16
Block - DC	Fairview Microwave	SD3379	AMZ	2021-11-05	2022-11-05
Attenuator	Fairview Microwave	SA18S5W-20	RFX	2021-06-02	2022-06-02
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2021-09-12	2022-09-12

TEST DESCRIPTION

The EUT was set to the channels and modes listed in the datasheet.

The 6dB DTS bandwidth was measured using 100 kHz resolution bandwidth and 300 kHz video bandwidth. The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts.

DTS BANDWIDTH

TbtTx 2021.10.29.2 XMit 2020.12.30.0

EUT:	SurfLink Programmer			Work Order:	STAK0262
Serial Number:	213900484			Date:	25-Jan-22
Customer:	Starkey Laboratories, Inc.			Temperature:	21.7 °C
Attendees:	Aaron Anderson			Humidity:	15.6% RH
Project:	None			Barometric Pres.:	1031 mbar
Tested by:	Andrew Rogstad	Power:	5 VDC via USB	Job Site:	MN08

TEST SPECIFICATIONS	Test Method
FCC 15.247:2022	ANSI C63.10:2013

COMMENTS

Reference level offset includes measurement cable, attenuator, DC block, and customer's patch cable.

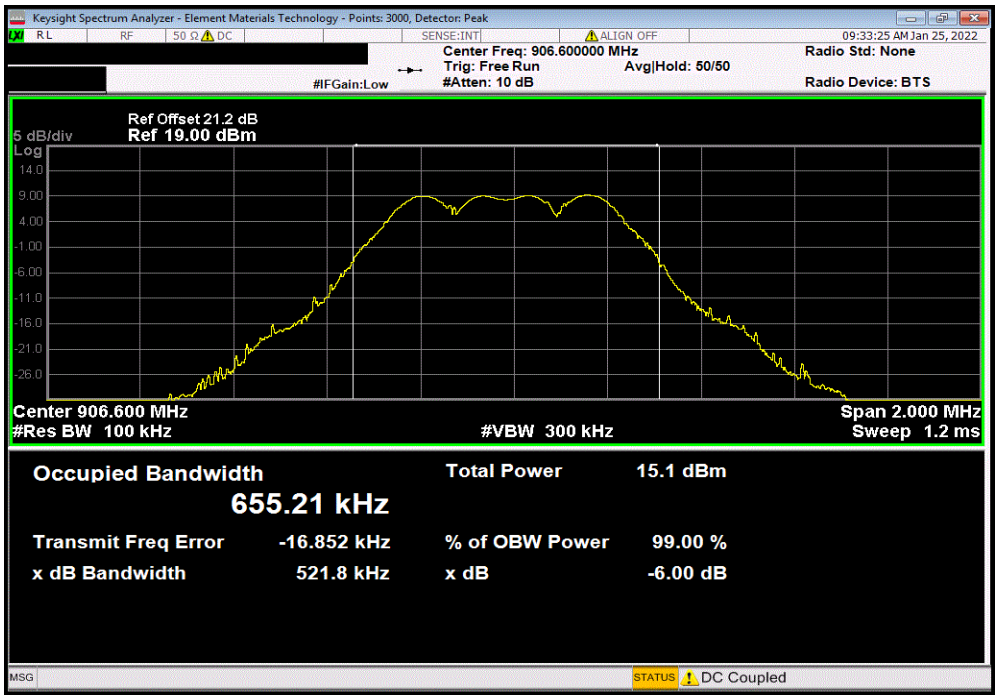
DEVIATIONS FROM TEST STANDARD

None

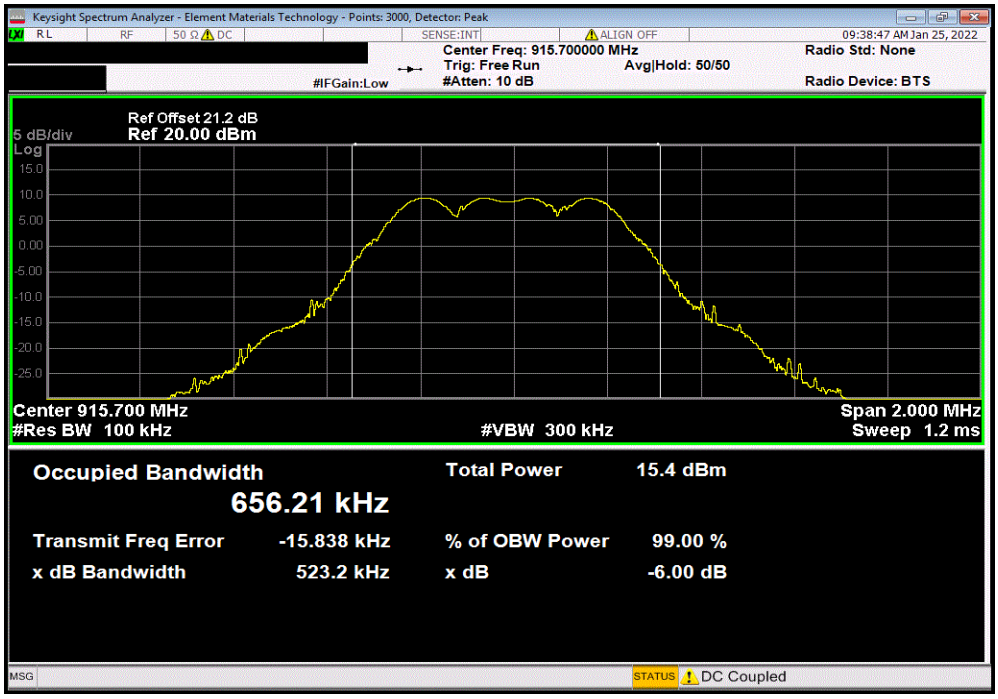
Configuration #	1	Signature

		Value	Limit (≥)	Result
Vertical Antenna				
	Low Channel, 906.6 MHz	521.821 kHz	500 kHz	Pass
	Mid Channel, 915.7 MHz	523.166 kHz	500 kHz	Pass
	High Channel, 922.1 MHz	523.174 kHz	500 kHz	Pass
Horizontal Antenna				
	Low Channel, 906.6 MHz	521.953 kHz	500 kHz	Pass
	Mid Channel, 915.7 MHz	522.568 kHz	500 kHz	Pass
	High Channel, 922.1 MHz	525.658 kHz	500 kHz	Pass

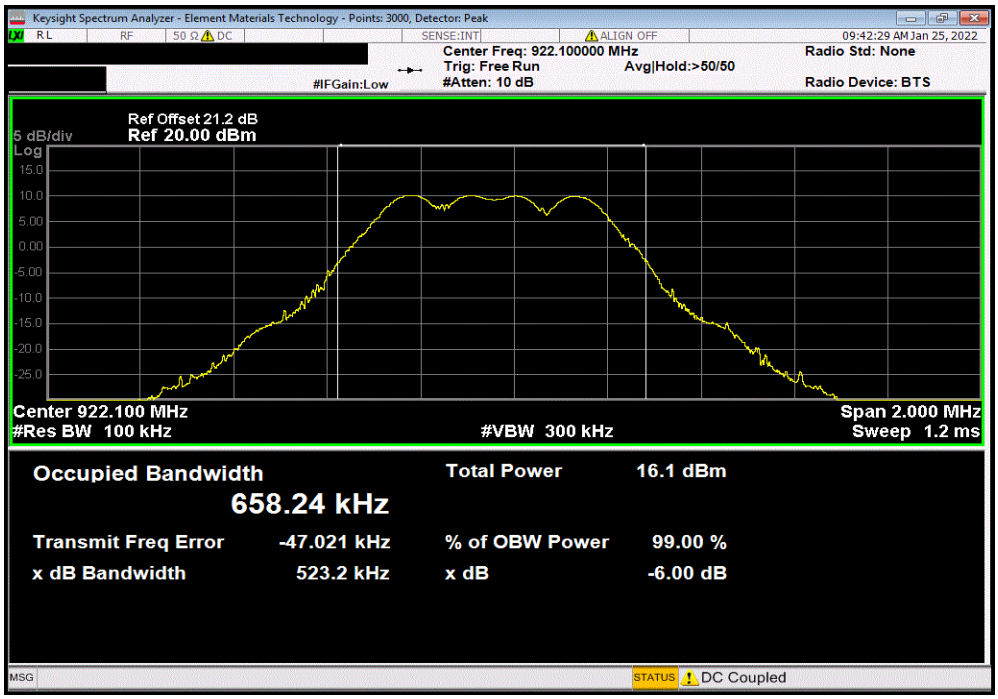
Vertical Antenna, Low Channel, 906.6 MHz						
				Value	Limit (≥)	Result
				521.821 kHz	500 kHz	Pass



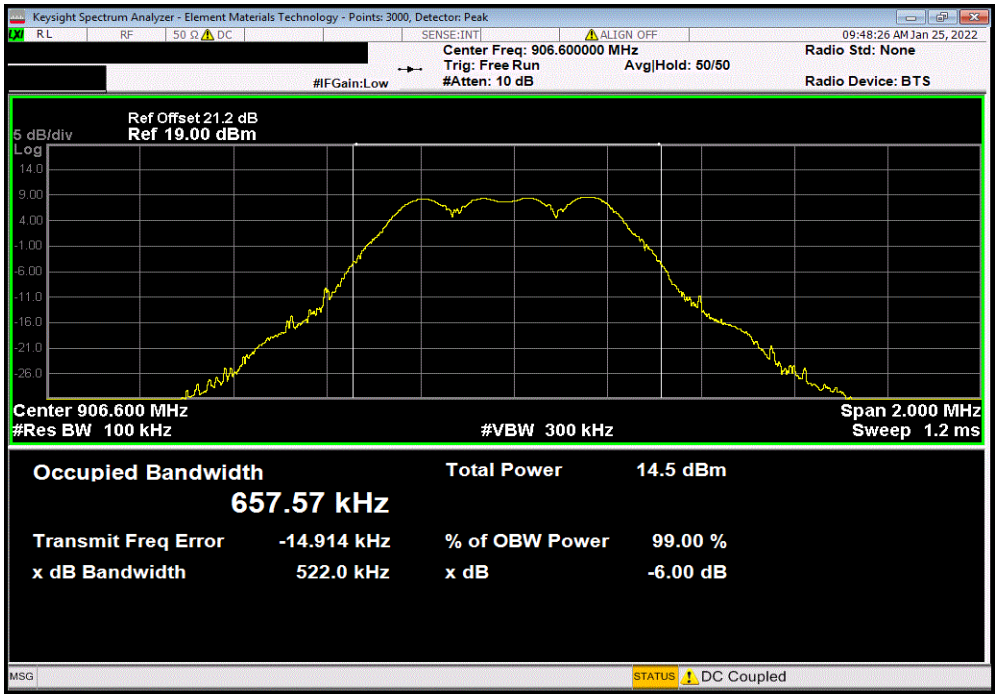
Vertical Antenna, Mid Channel, 915.7 MHz						
				Value	Limit (≥)	Result
				523.166 kHz	500 kHz	Pass



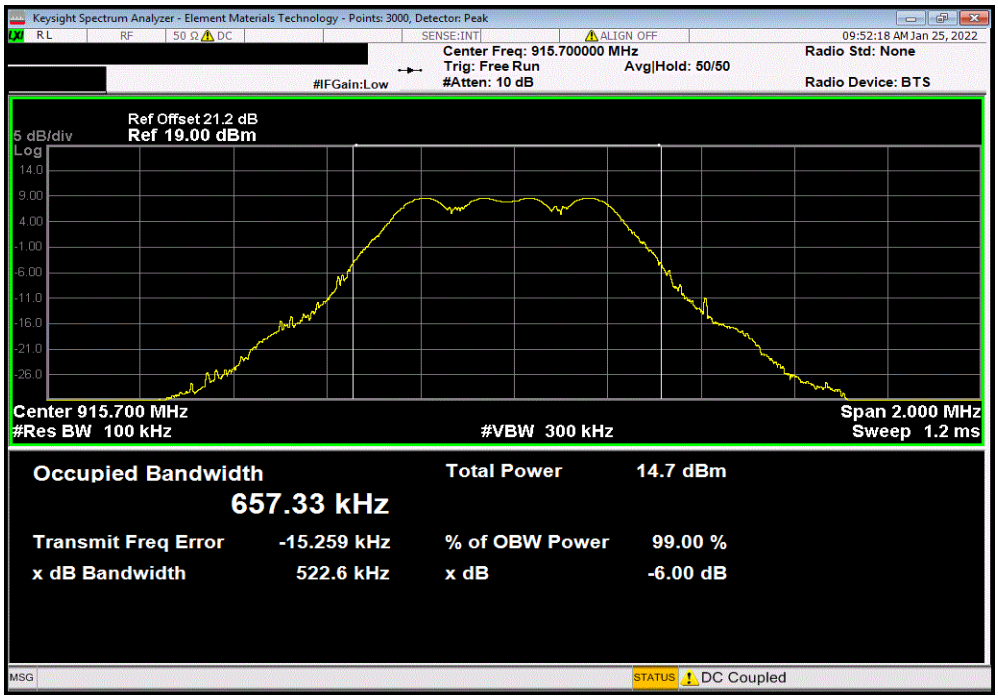
Vertical Antenna, High Channel, 922.1 MHz						
				Value	Limit (≥)	Result
				523.174 kHz	500 kHz	Pass



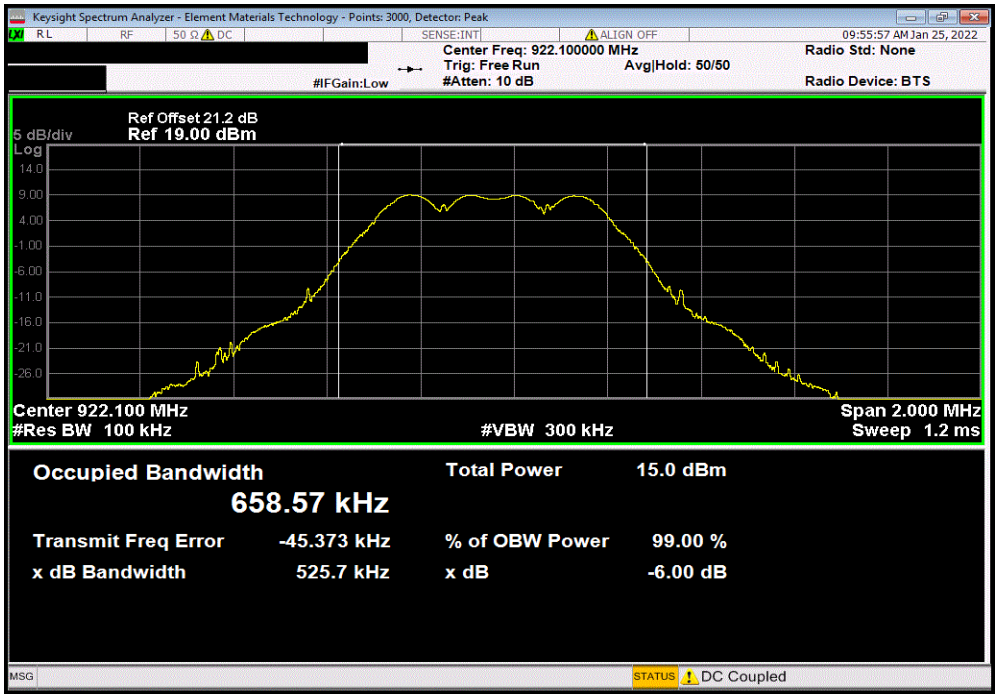
Horizontal Antenna, Low Channel, 906.6 MHz						
				Value	Limit (≥)	Result
				521.953 kHz	500 kHz	Pass



Horizontal Antenna, Mid Channel, 915.7 MHz						
				Value	Limit (≥)	Result
				522.568 kHz	500 kHz	Pass



Horizontal Antenna, High Channel, 922.1 MHz						
				Value	Limit (≥)	Result
				525.658 kHz	500 kHz	Pass



SPURIOUS CONDUCTED EMISSIONS

XMit 2020.12.30.0

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Keysight	N5171B (EXG)	TEY	2019-12-31	2022-12-31
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2021-04-16	2022-04-16
Block - DC	Fairview Microwave	SD3379	AMZ	2021-11-05	2022-11-05
Attenuator	Fairview Microwave	SA18S5W-20	RFX	2021-06-02	2022-06-02
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2021-09-12	2022-09-12

TEST DESCRIPTION

The spurious RF conducted emissions were measured with the EUT set to low, medium and high transmit frequencies. The EUT was transmitting at the data rate(s) listed in the datasheet. For each transmit frequency, the fundamental was measured with a 100 kHz resolution bandwidth and the highest value was recorded. The rest of the spectrum was then measured with a 100 kHz resolution bandwidth and the highest value was found. The difference between the value found on the fundamental and the rest of the spectrum was compared against the limit to determine compliance.

SPURIOUS CONDUCTED EMISSIONS

element

TbtTx 2021.10.29.2 XMit 2020.12.30.0

EUT:	SurfLink Programmer			**Work Order:**	STAK0262
Serial Number:	213900484			**Date:**	25-Jan-22
Customer:	Starkey Laboratories, Inc.			**Temperature:**	21.7 °C
Attendees:	Aaron Anderson			**Humidity:**	15.5% RH
Project:	None			**Barometric Pres.:**	1031 mbar
Tested by:	Andrew Rogstad	**Power:**	5 VDC via USB	**Job Site:**	MN08

TEST SPECIFICATIONS	Test Method
FCC 15.247:2022	ANSI C63.10:2013

COMMENTS

Reference level offset includes measurement cable, attenuator, DC block, and customer's patch cable.

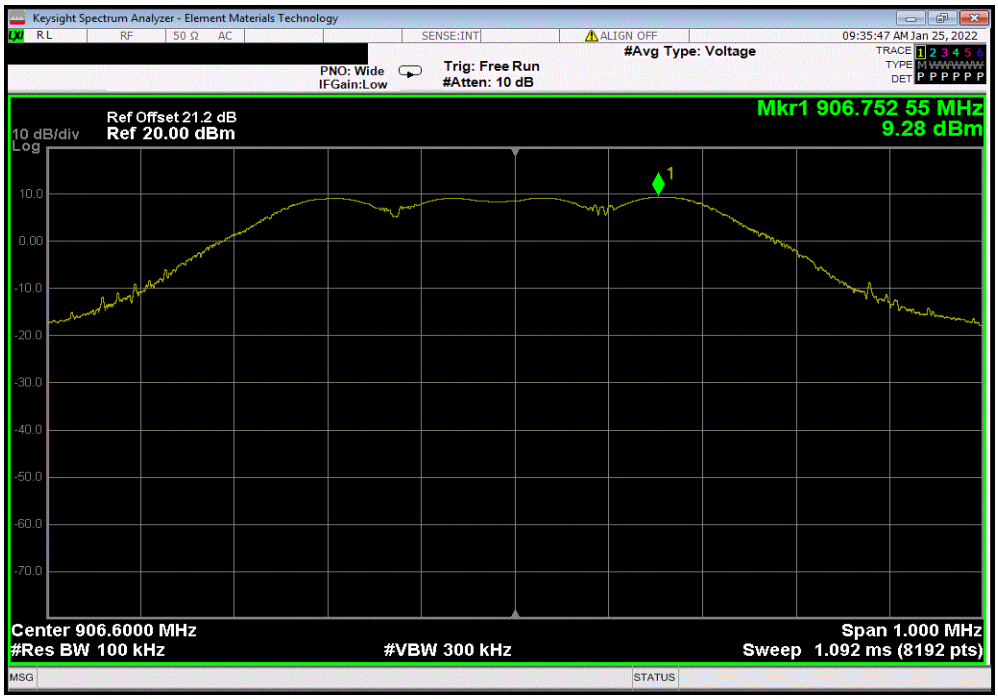
DEVIATIONS FROM TEST STANDARD

None

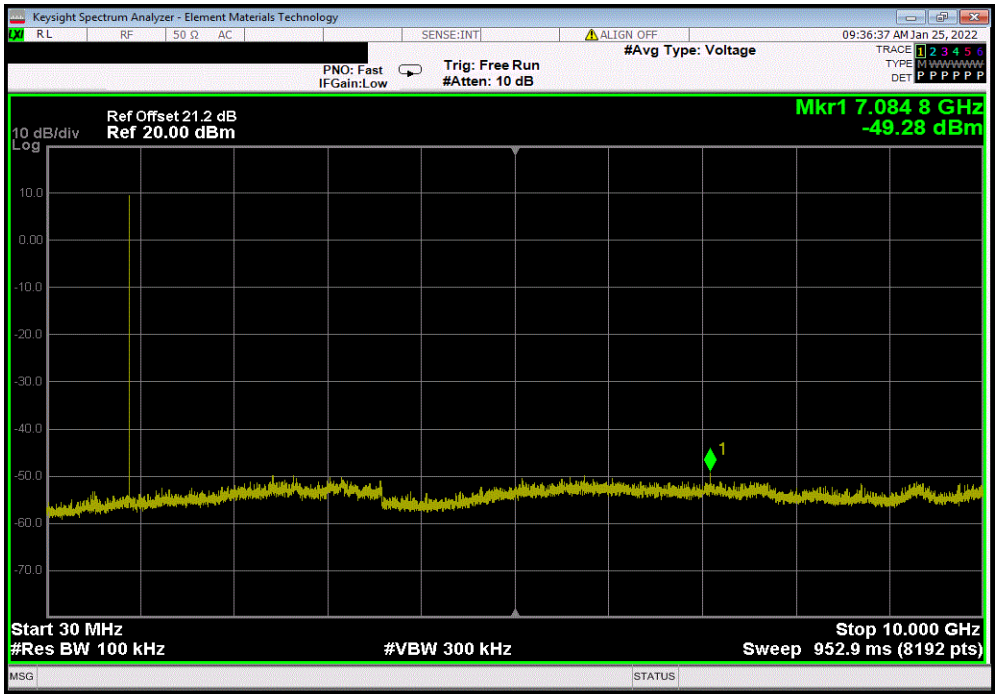
Configuration #	1	Signature

		Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
Vertical Antenna						
	Low Channel, 906.6 MHz	Fundamental	906.75	N/A	N/A	N/A
	Low Channel, 906.6 MHz	30 MHz - 10 GHz	7084.83	-58.56	-20	Pass
	Mid Channel, 915.7 MHz	Fundamental	915.51	N/A	N/A	N/A
	Mid Channel, 915.7 MHz	30 MHz - 10 GHz	5580.38	-59.47	-20	Pass
	High Channel, 922.1 MHz	Fundamental	921.88	N/A	N/A	N/A
	High Channel, 922.1 MHz	30 MHz - 10 GHz	5851.82	-60.47	-20	Pass
Horizontal Antenna						
	Low Channel, 906.6 MHz	Fundamental	906.76	N/A	N/A	N/A
	Low Channel, 906.6 MHz	30 MHz - 10 GHz	5675.33	-59	-20	Pass
	Mid Channel, 915.7 MHz	Fundamental	915.86	N/A	N/A	N/A
	Mid Channel, 915.7 MHz	30 MHz - 10 GHz	7160.3	-58.17	-20	Pass
	High Channel, 922.1 MHz	Fundamental	921.88	N/A	N/A	N/A
	High Channel, 922.1 MHz	30 MHz - 10 GHz	1882.56	-51	-20	Pass

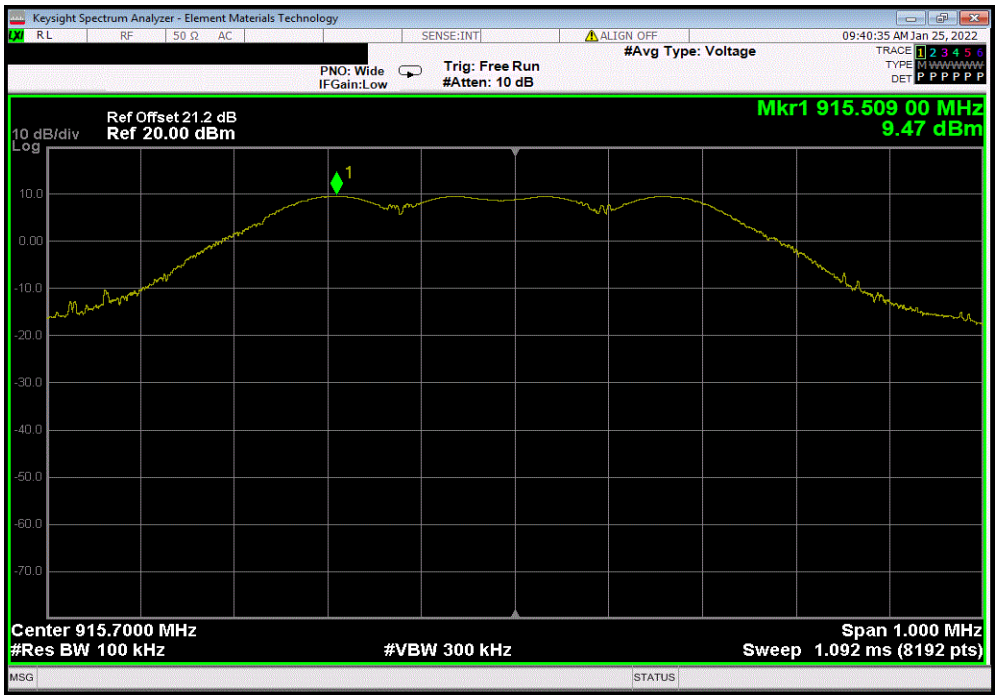
Vertical Antenna, Low Channel, 906.6 MHz					
Frequency Range		Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
	Fundamental	906.75	N/A	N/A	N/A



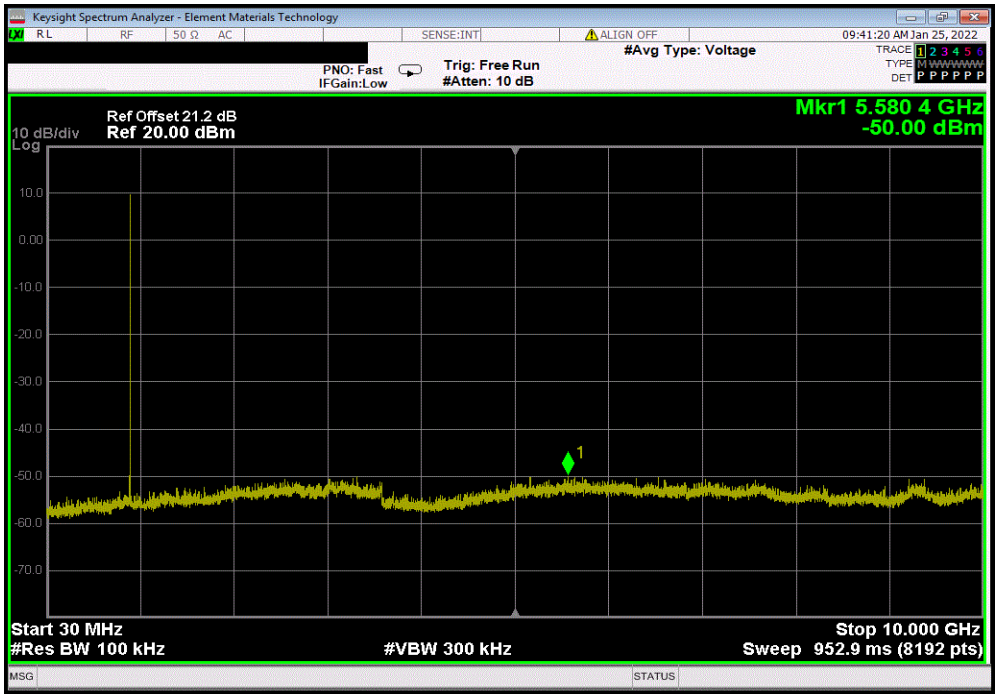
Vertical Antenna, Low Channel, 906.6 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 10 GHz	7084.83	-58.56	-20	Pass



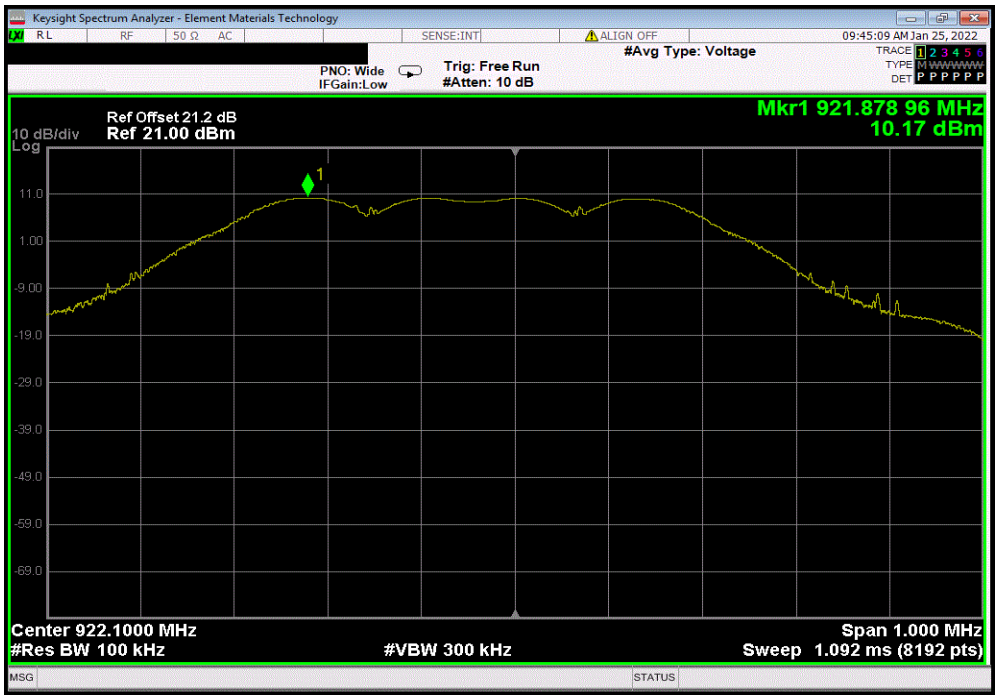
Vertical Antenna, Mid Channel, 915.7 MHz					
Frequency Range		Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
	Fundamental	915.51	N/A	N/A	N/A



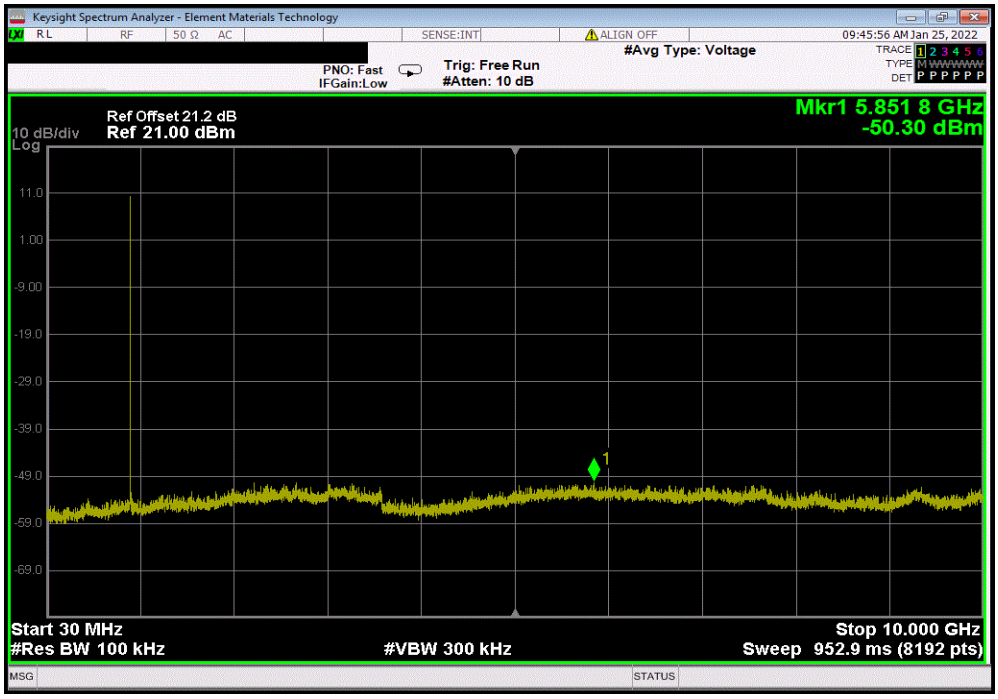
Vertical Antenna, Mid Channel, 915.7 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 10 GHz	5580.38	-59.47	-20	Pass



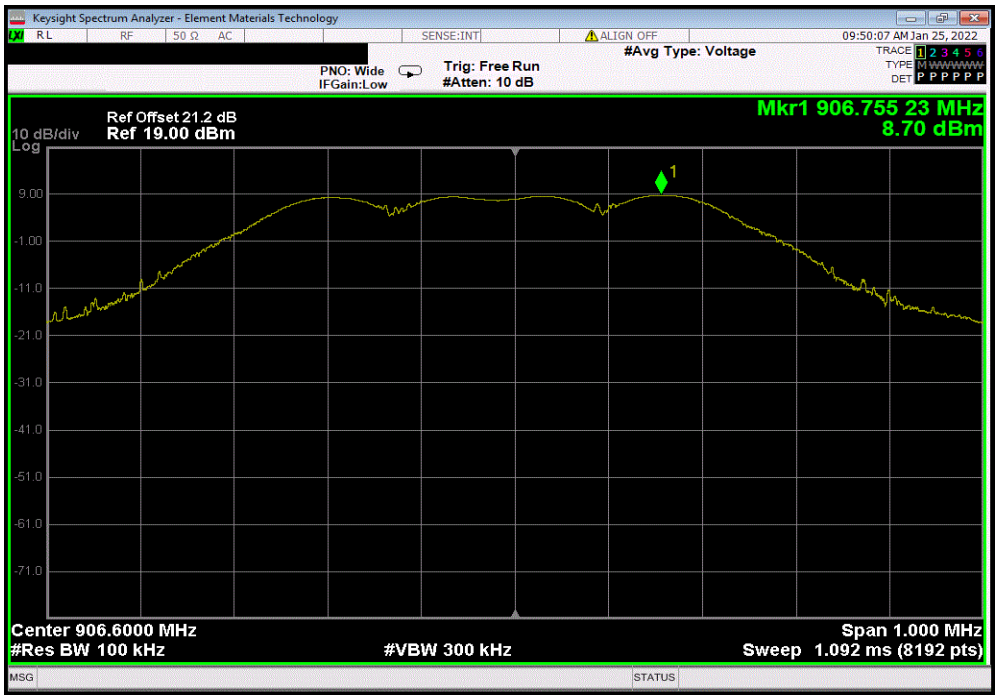
Vertical Antenna, High Channel, 922.1 MHz					
Frequency Range		Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
	Fundamental	921.88	N/A	N/A	N/A



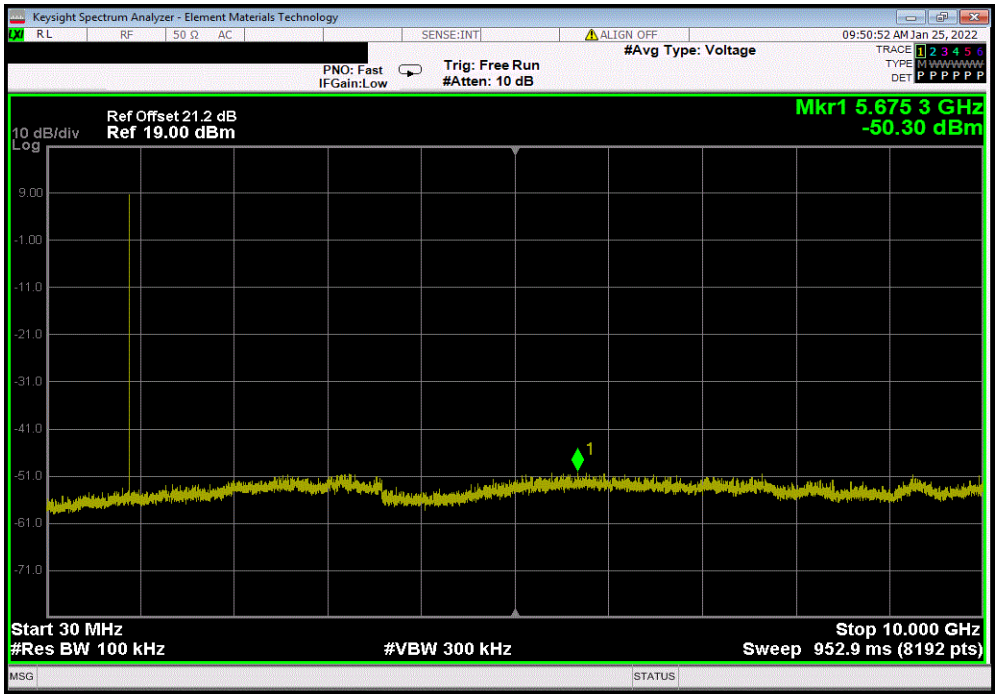
Vertical Antenna, High Channel, 922.1 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 10 GHz	5851.82	-60.47	-20	Pass



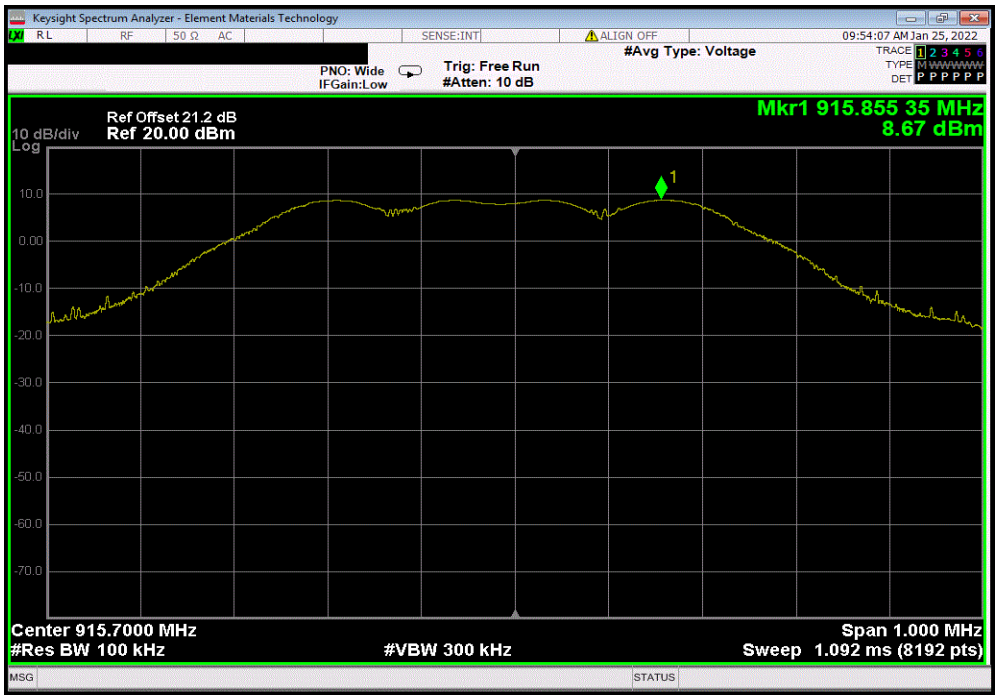
Horizontal Antenna, Low Channel, 906.6 MHz					
Frequency Range		Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
	Fundamental	906.76	N/A	N/A	N/A



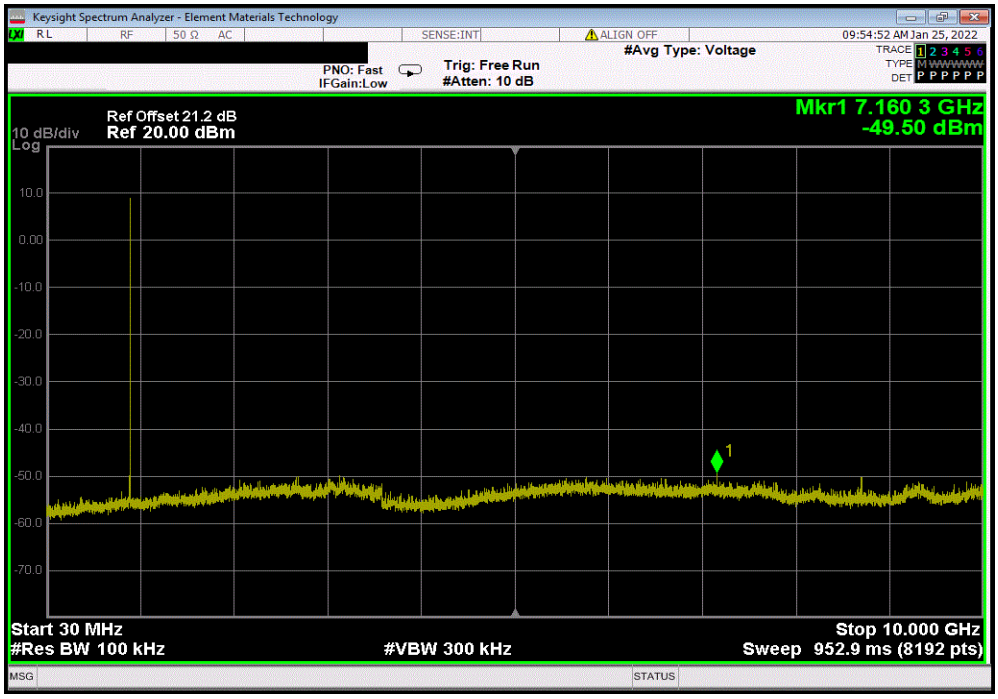
Horizontal Antenna, Low Channel, 906.6 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 10 GHz	5675.33	-59	-20	Pass



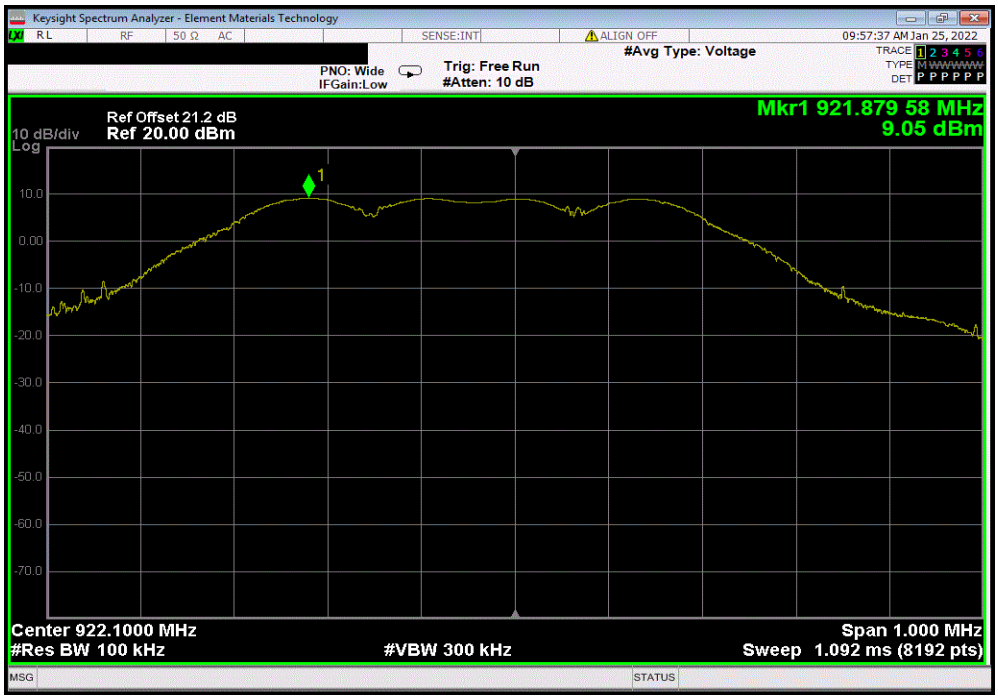
Horizontal Antenna, Mid Channel, 915.7 MHz					
Frequency Range		Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
	Fundamental	915.86	N/A	N/A	N/A



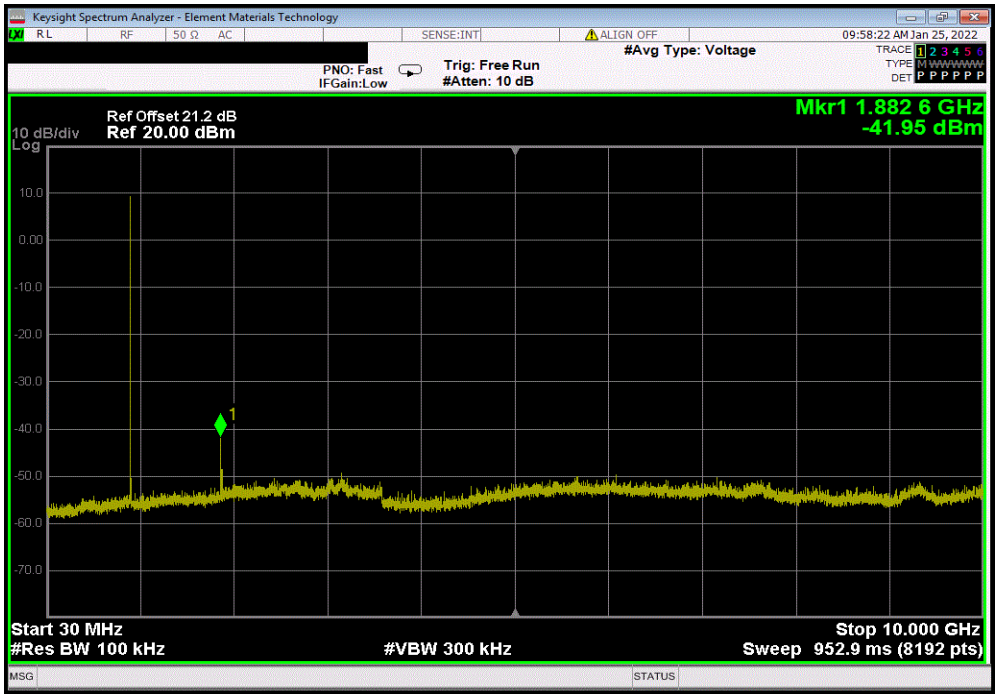
Horizontal Antenna, Mid Channel, 915.7 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 10 GHz	7160.3	-58.17	-20	Pass



Horizontal Antenna, High Channel, 922.1 MHz					
Frequency Range		Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
	Fundamental	921.88	N/A	N/A	N/A



Horizontal Antenna, High Channel, 922.1 MHz				
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 10 GHz	1882.56	-51	-20	Pass



POWER SPECTRAL DENSITY

XMit 2020.12.30.0

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Keysight	N5171B (EXG)	TEY	2019-12-31	2022-12-31
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2021-04-16	2022-04-16
Block - DC	Fairview Microwave	SD3379	AMZ	2021-11-05	2022-11-05
Attenuator	Fairview Microwave	SA18S5W-20	RFX	2021-06-02	2022-06-02
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2021-09-12	2022-09-12

TEST DESCRIPTION

The maximum power spectral density measurements was measured using the channels and modes as called out on the following data sheets.

Per the procedure outlined in ANSI C63.10 the peak power spectral density was measured in a 3 kHz RBW.

POWER SPECTRAL DENSITY

TbtTx 2021.10.29.2 XMit 2020.12.30.0

EUT:	SurfLink Programmer			**Work Order:**	STAK0262
Serial Number:	213900484			**Date:**	25-Jan-22
Customer:	Starkey Laboratories, Inc.			**Temperature:**	21.7 °C
Attendees:	Aaron Anderson			**Humidity:**	15.7% RH
Project:	None			**Barometric Pres.:**	1031 mbar
Tested by:	Andrew Rogstad	**Power:**	5 VDC via USB	**Job Site:**	MN08

TEST SPECIFICATIONS	Test Method
FCC 15.247:2022	ANSI C63.10:2013

COMMENTS

Reference level offset includes measurement cable, attenuator, DC block, and customer's patch cable.

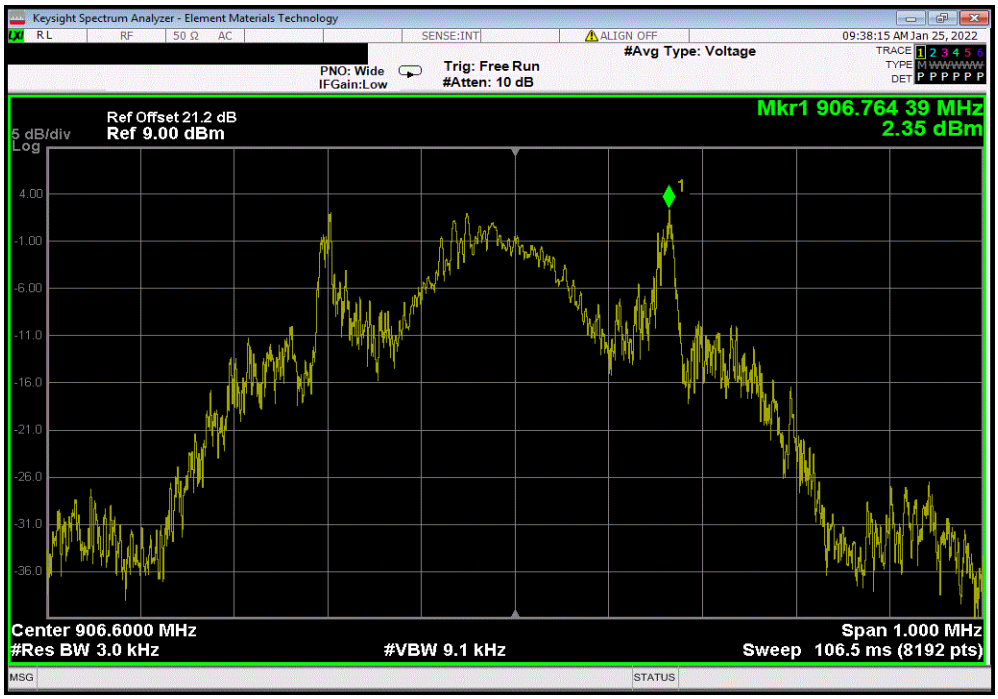
DEVIATIONS FROM TEST STANDARD

None

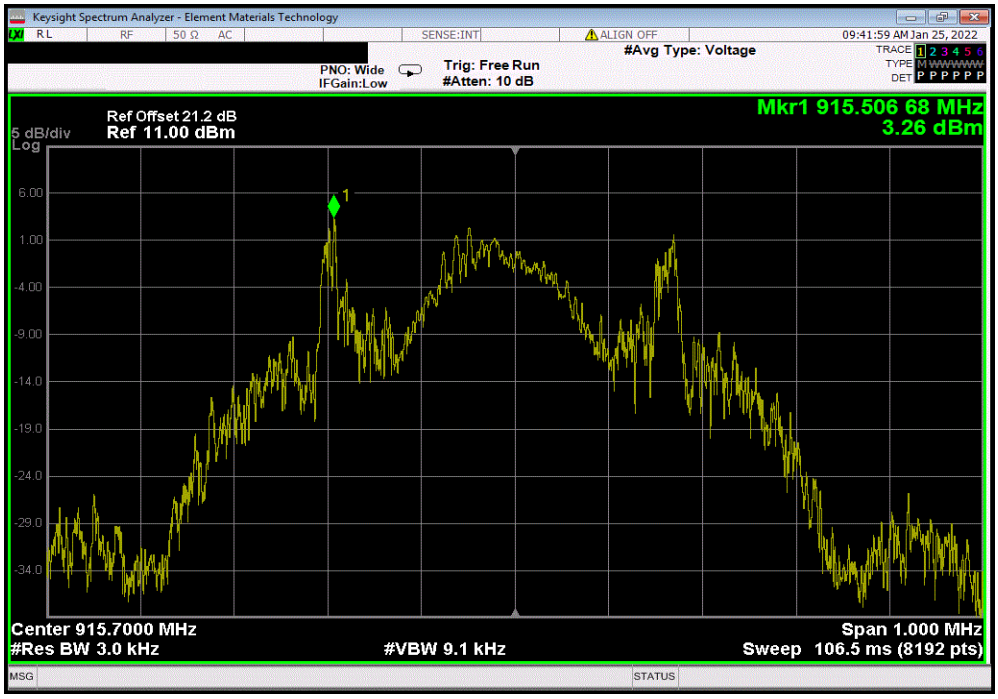
Configuration #	1	Signature

		Value dBm/3kHz	Limit < dBm/3kHz	Results
Vertical Antenna				
	Low Channel, 906.6 MHz	2.353	8	Pass
	Mid Channel, 915.7 MHz	3.255	8	Pass
	High Channel, 922.1 MHz	3.12	8	Pass
Horizontal Antenna				
	Low Channel, 906.6 MHz	1.384	8	Pass
	Mid Channel, 915.7 MHz	1.552	8	Pass
	High Channel, 922.1 MHz	1.84	8	Pass

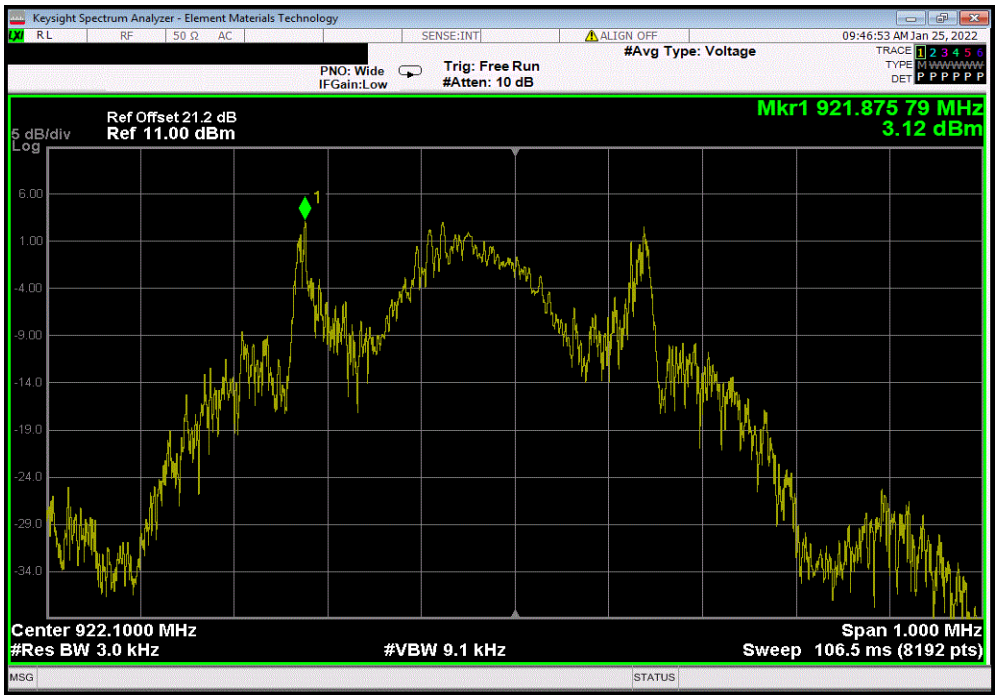
Vertical Antenna, Low Channel, 906.6 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				2.353	8	Pass



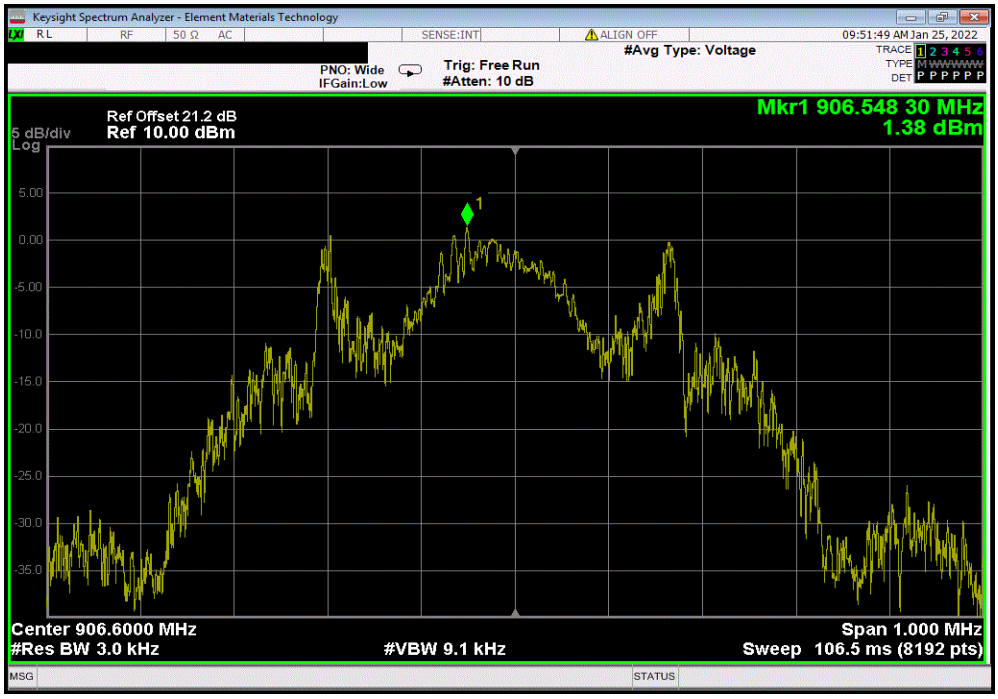
Vertical Antenna, Mid Channel, 915.7 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				3.255	8	Pass



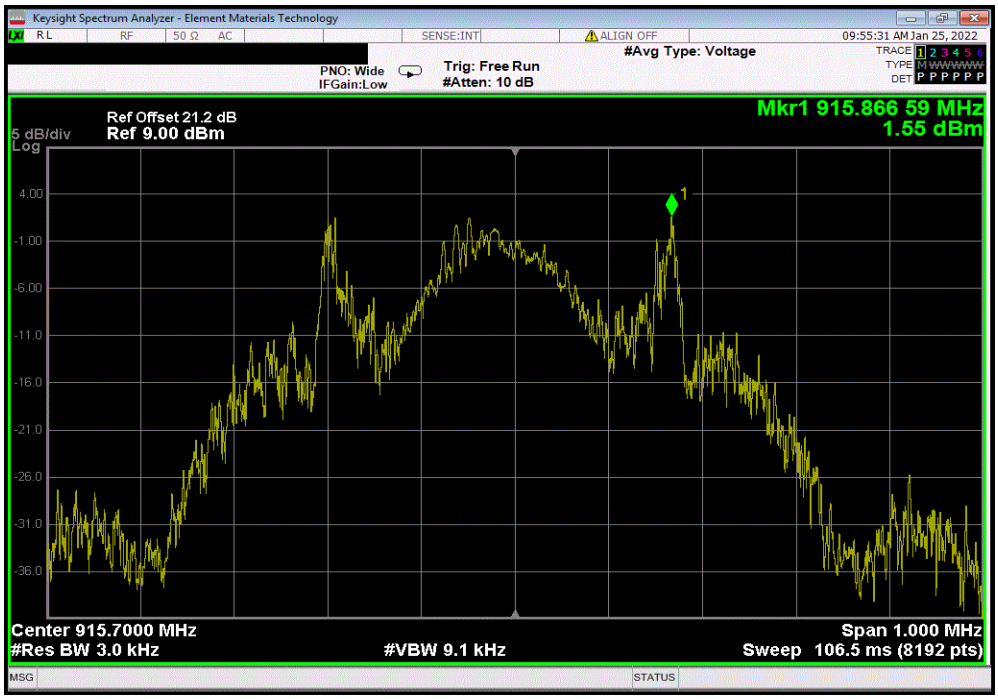
Vertical Antenna, High Channel, 922.1 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				3.12	8	Pass



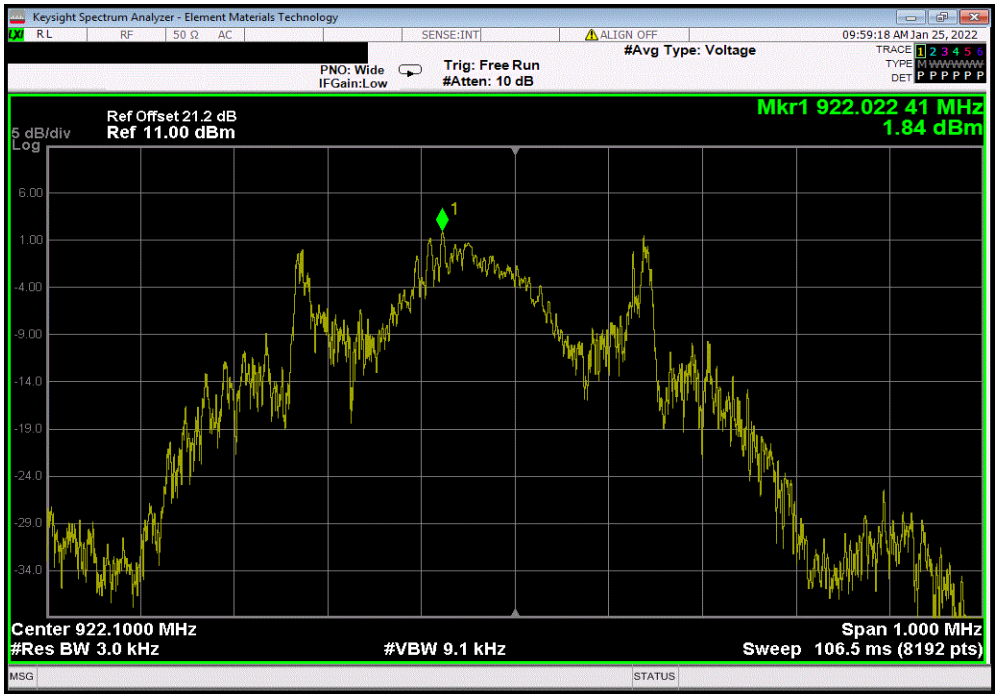
Horizontal Antenna, Low Channel, 906.6 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				1.384	8	Pass



Horizontal Antenna, Mid Channel, 915.7 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				1.552	8	Pass



Horizontal Antenna, High Channel, 922.1 MHz						
				Value dBm/3kHz	Limit < dBm/3kHz	Results
				1.84	8	Pass



End of Test Report