FCC PART 15, SUBPART B and C
TEST REPORT

for

COMCAST XFINITY HOME MOTION SENSOR

MODEL: URC4470BC0-X-R

Prepared for

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DATE: JULY 12, 2016

	REPORT BODY	APPENDICES					TOTAL
		A	***B***	***C***	***D***	***E***	
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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:	Comcast Xfinity Home Motion Sensor Model: URC4470BC0-X-R S/N: N/A
Product Description:	The EUT is a wireless device used to detect motion inside homes.
Modifications:	The EUT was not modified during the testing.
Customer:	Ecolink Intelligent Technology, Inc. 2055 Corte Del Nogal Carlsbad, California 92011
Test Dates:	June 24, 27, 28, 29; July 2, July 5, July 19; and August 5, 2016
Test Specifications:	Emissions requirements CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.247
Test Procedure:	ANSI C63.10 and ANSI C63.4
Test Deviations:	The test procedure was not deviated from during the testing.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 150 kHz – 30 MHz	This test was not performed because the EUT is battery powered only and cannot be connected to the AC public mains.
2	Fundamental and Emissions produced by the intentional radiator in non-restricted bands, 9 kHz – 25 GHz	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(d)
3	Emissions produced by the intentional radiator in restricted bands, 9 kHz – 25 GHz	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.205, 15.209, and section 15.247 (d)
4	DTS Bandwidth	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (a)(2)
5	Peak Power Output	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (b)(3)
6	RF Conducted Antenna Test	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (d)
7	Peak Power Spectral Density from the Intentional Radiator to the Antenna	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (e)

1. PURPOSE

This document is a qualification test report based on the emissions tests performed on the Comcast Xfinity Home Motion Sensor, Model: URC4470BC0-X-R. The emissions measurements were performed according to the measurement procedure described in ANSI C63.10 and ANSI C63.4. 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, 15.207, 15.209, and 15.247.

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.

Mike Archbold	Product Development Engineer
Mike Bailey	VP of Operations and Product Development

Compatible Electronics Inc.

Kyle Fujimoto	Test Engineer
James Ross	Test Engineer

2.4 Date Test Sample was Received

The test sample was received on July 5, 2016.

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 test 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
HP	Hewlett Packard
ITE	Information Technology Equipment
CML	Corrected Meter Limit
LISN	Line Impedance Stabilization Network
N/A	Not Applicable

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
ANSI C63.4 2014	Methods of measurement of radio-noise emissions from low-voltage electrical and electronic equipment in the range of 9 kHz to 40 GHz
ANSI C63.10 2013	American National Standard for Testing Unlicensed Wireless Devices
FCC Title 47, Part 15 Subpart B	FCC Rules - Radio frequency devices (including digital devices) – Unintentional Radiators
558074 D01 DTS Meas Guidance v03r05	Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating under 15.247

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration – Emissions

The Comcast Xfinity Home Motion Sensor Model: URC4470BC0-X-R (EUT) was tested as a stand-alone unit. The EUT was continuously transmitting on the selected antenna.

The EUT was tested in the X, Y and Z axis. 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.

It was determined that the emissions were at their highest level when the EUT was operating in the above configuration. The final emissions data was taken in this mode of operation and any cables were maximized. All initial investigations were performed with the measurement receiver in manual mode scanning the frequency range continuously. Photographs of the test setup are in Appendix D of this report.

4.1.1 Cable Construction and Termination

The EUT has 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
COMCAST XFINITY HOME MOTION SENSOR	ECOLINK INTELLIGENT TECHNOLOGY, INC.	URC4470BC0-X-R	N/A	XQC-PIRZB1

5.2 Emissions Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CAL. CYCLE
GENERAL TEST EQUIPMENT USED IN LAB D					
TDK TestLab	TDK RF Solutions, Inc.	9.22	700145	N/A	N/A
Computer	Hewlett Packard	p6716f	MXX1030PX0	N/A	N/A
LCD Monitor	Hewlett Packard	52031a	3CQ046N3MG	N/A	N/A
EMI Receiver, 20 Hz – 26.5 GHz	Keysight	N9038A	MY51210150	December 29, 2015	1 Year
RF RADIATED EMISSIONS TEST EQUIPMENT					
CombiLog Antenna	Com-Power	AC-220	61060	September 3, 2015	1 Year
Preamplifier	Com-Power	PAM-118A	551024	May 12, 2016	1 Year
Preamplifier	Com-Power	PA-840	711013	May 13, 2016	2 Year
Loop Antenna	Com-Power	AL-130	17089	February 6, 2015	2 Year
Horn Antenna	Com-Power	AH-826	71957	N/A	N/A
Horn Antenna	Com-Power	AH-118	071175	February 26, 2016	2 Year
Antenna Mast	Com Power	AM-100	N/A	N/A	N/A
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

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 and 7.1 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. CHARACTERISTICS OF THE TRANSMITTER

7.1 Channel Description and Frequencies

The lowest frequency the EUT will use is 2405 MHz and the highest frequency the EUT will use is 2480 MHz. The EUT will be able to be tuned every 5 MHz between the lowest frequency and the highest frequency.

7.2 Antenna Gain

The EUT utilizes two internal inverted-F PCB trace antennas. The first antenna has a gain of -1.6 dBi and the second antenna has a gain of -3.7 dBi.

8. TEST PROCEDURES

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

8.1 RF Emissions

8.1.1 Conducted Emissions Test

The spectrum analyzer was used as a measuring meter. The data was collected with the spectrum analyzer in the peak detect mode with the "Max Hold" feature activated. The quasi-peak was used only where indicated in the data sheets. A transient limiter was used for the protection of the spectrum analyzer input stage, and the offset was adjusted accordingly to read the actual data measured. The LISN output was measured using the spectrum analyzer. The output of the second LISN was terminated by a 50 ohm termination. The effective measurement bandwidth used for this test was 9 kHz.

Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The EUT was powered through the LISN, which was bonded to the ground plane. The LISN power was filtered and the filter was bonded to the ground plane. The EUT was set up with the minimum distances from any conductive surfaces as specified in ANSI C63.4. The excess power cord was wrapped in a figure eight pattern to form a bundle not exceeding 0.4 meters in length.

The conducted emissions from the EUT were maximized for operating mode as well as cable placement. The final data was collected under program control by the Compatible Electronics conducted emissions software in several overlapping sweeps by running the spectrum analyzer at a minimum scan rate of 10 seconds per octave. The final qualification data is located in Appendix E.

Test Results:

This test was not performed because the EUT is battery powered only and cannot be connected to the AC public mains.

8.1.2 Radiated Emissions (Spurious and Harmonics) Test

The EMI Receiver was used as the measuring meter. Below 1 GHz, a built-in, internal preamplifier was 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. A quasi-peak reading was taken only for those readings, which are marked accordingly on the data sheets.

The frequencies above 1 GHz were averaged by using a duty cycle correction factor.

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 25 GHz	1 MHz	Horn Antenna

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.

Test Results:

The EUT 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, Sections 15.209 and 15.247 (d) for radiated emissions. Please see Appendix E for the data sheets.

8.1.3 RF Emissions Test Results

Table 1.0 RADIATED EMISSION RESULTS
Comcast Xfinity Home Motion Sensor, Model: URC4470BC0-X-R

Frequency MHz	Corrected Reading* dBuV	Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
4880 (V)(X-Axis)(Antenna #1)	53.16 (Avg)	53.97	-0.81
4880 (H)(Y-Axis)(Antenna #1)	53.09 (Avg)	53.97	-0.88
4880 (V)(Y-Axis)(Antenna #1)	52.84 (Avg)	53.97	-1.13
4880 (V)(Z-Axis)(Antenna #1)	52.30 (Avg)	53.97	-1.67
4880 (V)(X-Axis)(Antenna #2)	51.96 (Avg)	53.97	-2.01
4880 (V)(Z-Axis)(Antenna #2)	51.61 (Avg)	53.97	-2.36

Notes:

*	The complete emissions data is given in Appendix E of this report.		
Pk	Peak Reading	Avg	Average Reading
H	Horizontal Polarization	V	Vertical Polarization

8.2 DTS Bandwidth

The DTS Bandwidth was measured using the EMI Receiver. The bandwidth was measured using a direct connection from the RF output of the EUT. The following steps were performed for measuring the DTS Bandwidth.

1. Set RBW = 100 kHz
2. Set the video bandwidth (VBW) to equal or greater than 3 times the RBW
3. Detector = Peak
4. Trace Mode = Max Hold
5. Sweep = Auto Couple
6. Allow the trace to stabilize
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (a)(2).

8.3 Peak Output Power

The Peak Output Power was measured using the EMI Receiver. The peak output power was measured using a direct connection from the RF output of the EUT. The resolution bandwidth was 8 MHz and the video bandwidth was 50 MHz. The cable loss was also added back into the reading using the reference level offset. The Peak Output Power was then taken.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (b)(3).

8.4 Emissions in Non-Restricted Bands

The emissions in the non-restricted frequency bands measurements were performed via radiated per section 8.1.2. of this test report to maximize the emission. The reference level was established by setting the instrument center frequency to DTS channel center frequency. A peak detector was used with sweep set to auto. A max hold trace was used and allowed to fully stabilize. The peak marker function was used to determine the level and 20 dB below that was the reference level. For emission level measurement, the center frequency and span were set to encompass the frequency range to be measured. A peak detector was used with a sweep time set to auto. The number of measurement points were greater than the span/RBW. A max hold trace was used and allowed to fully stabilize. The peak marker function was used to determine the maximum amplitude level. The final qualification data sheets are located in Appendix E.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d).

8.5 RF Band Edges

The RF band edges were taken at 2390 MHz when the EUT was on the low channel and 2483.5 MHz when the EUT was on the high channel using the EMI Receiver. A preamplifier was used to boost the signal level, with the plots being taken at a 3 meter test distance. The radiated emissions test procedure as describe in section 8.1.2 of this test report was used to maximize the emission.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d). The RF power at the restricted bands closest to the band edges at 2390 MHz and 2483.5 MHz also meet the limits of section 15.209. Please see the data sheets located in Appendix E.

8.6 Spectral Density Test

The spectrum density output was measured using the EMI Receiver. The spectral density output was measured using a direct connection from the RF out on the EUT into the input of the EMI Receiver. The following steps were performed for measuring the spectral density.

1. Set analyzer center frequency to DTS channel center frequency
2. Set the span to 1.5 times the DTS bandwidth.
3. Set the RBW to 3 kHz <= RBW <= 100 kHz
4. Set the VBW >= 3 X RBW
5. Detector = peak
6. Sweep time = auto couple
7. Trace mode = max hold
8. Allow trace to fully stabilize
9. Use the peak marker function to determine the maximum amplitude level within the RBW
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat..

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (e).

9. CONCLUSIONS

The Comcast Xfinity Home Motion Sensor, Model: URC4470BC0-X-R, as tested, meets all of the specification limits defined in FCC Title 47, Part 15, Subpart B, and Subpart C, sections 15.205, 15.209, 15.207, and 15.247.

APPENDIX A

LABORATORY ACCREDITATIONS AND RECOGNITIONS

LABORATORY ACCREDITATIONS AND RECOGNITIONS

NVLAP LAB CODES 200063-0, 200528-0, 200527-0

For US, Canada, Australia/New Zealand, Japan, Taiwan, Korea, and the European Union, Compatible Electronics is currently accredited by NVLAP to ISO/IEC 17025. Please follow the link to the NIST/NVLAP site for each of our facilities' NVLAP certificate and scope of accreditation

NVLAP listing links
Agoura Division / **Brea Division** / **Silverado/Lake Forest Division**
.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."

ANSI listing CETCB

Compatible Electronics has been nominated as a Conformity Assessment Body (CAB) for EMC under the US/EU Mutual Recognition Agreement (MRA).
US/EU MRA list NIST MRA site

Compatible Electronics has been nominated as a Conformity Assessment Body (CAB) for Taiwan/BSMI under the US/APEC (Asia-Pacific Economic Cooperation) Mutual Recognition Agreement (MRA).
APEC MRA list NIST MRA site

We are also listed for IT products by the following country/agency:

VCCI Support member: Please visit http://www.vcci.jp/vcci_e/

FCC Listing, from FCC OET site
FCC test lab search https://fjallfoss.fcc.gov/oetcf/eas/reports/TestFirmSearch.cfm

Compatible Electronics IC listing can be found at:
http://www.ic.gc.ca/eic/site/ic1.nsf/eng/home

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 15.247 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.

The EUT was not modified during the testing.

APPENDIX C

ADDITIONAL MODELS COVERED UNDER THIS REPORT

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST	Comcast Xfinity Home Motion Sensor Model: URC4470BC0-X-R S/N: N/A

There were no additional models covered under this report.

APPENDIX D

DIAGRAMS AND CHARTS

FIGURE 1: LAYOUT OF THE SEMI-ANECHOIC TEST CHAMBER

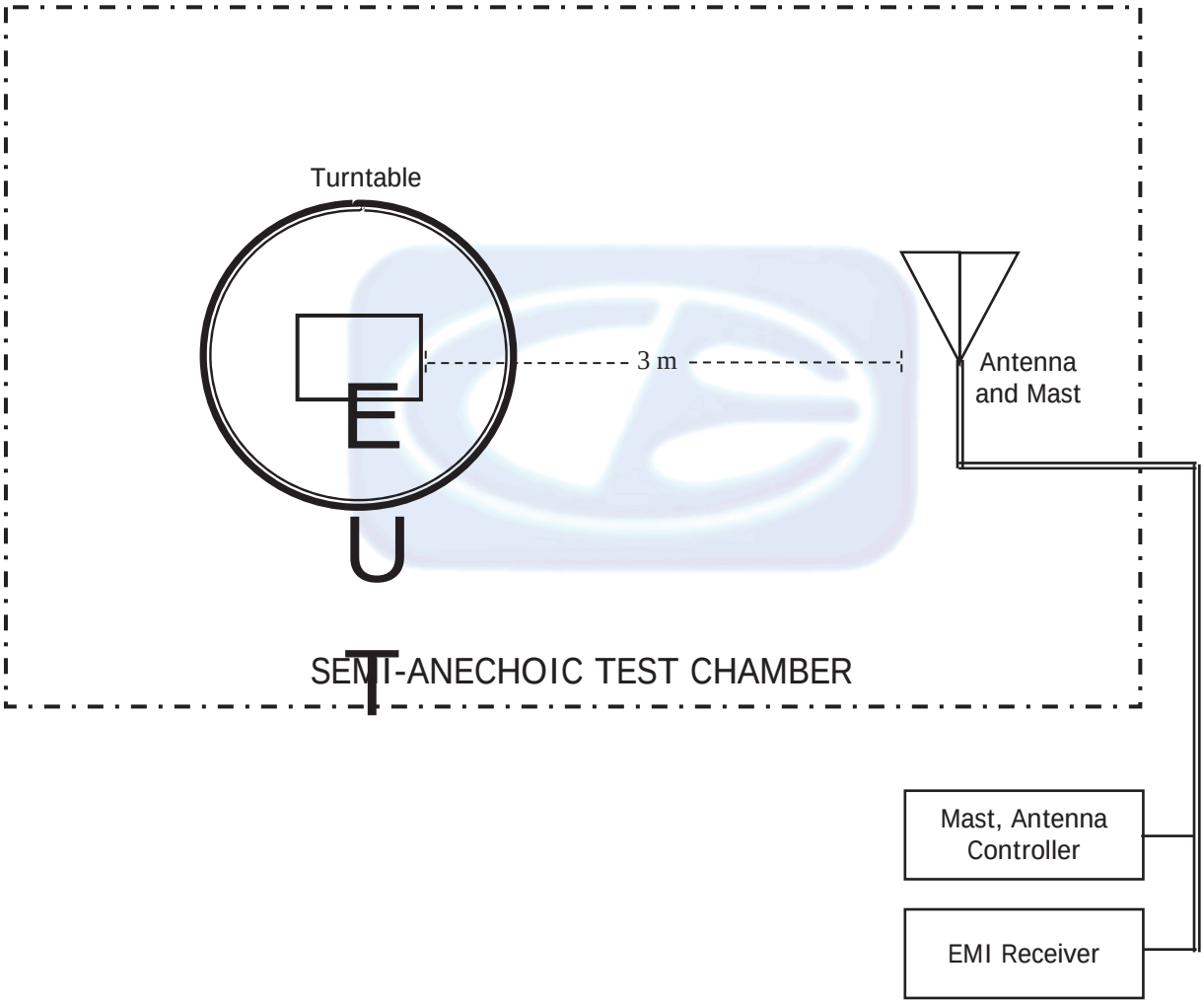
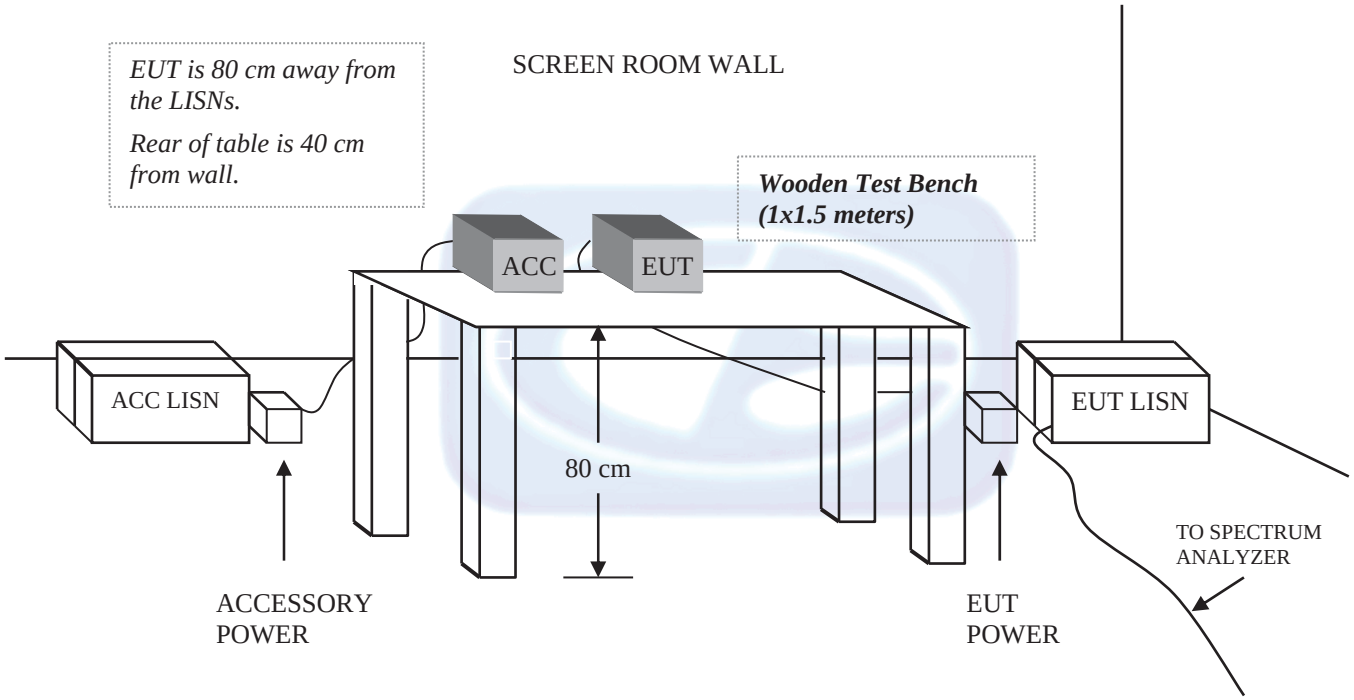


FIGURE 2: CONDUCTED EMISSIONS TEST SETUP



COM-POWER AL-130

LOOP ANTENNA

S/N: 17089

CALIBRATION DATE: FEBRUARY 6, 2015

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-33.18	18.32
0.01	-34.10	17.40
0.02	-38.65	12.85
0.03	-39.28	12.22
0.04	-40.09	11.41
0.05	-40.85	10.65
0.06	-40.88	10.62
0.07	-41.07	10.43
0.08	-41.04	10.46
0.09	-41.19	10.31
0.1	-41.20	10.30
0.2	-41.52	9.98
0.3	-41.53	9.97
0.4	-41.42	10.08
0.5	-41.53	9.97
0.6	-41.53	9.97
0.7	-41.43	10.07
0.8	-41.23	10.27
0.9	-41.13	10.37
1	-41.14	10.36
2	-40.80	10.70
3	-40.66	10.84
4	-40.61	10.89
5	-40.33	11.17
6	-40.53	10.97
7	-40.47	11.03
8	-40.48	11.02
9	-39.93	11.57
10	-39.81	11.69
15	-43.35	8.15
20	-39.16	12.34
25	-40.24	11.26
30	-43.18	8.32

COM-POWER AC-220

COMBILOG ANTENNA

S/N: 61060

CALIBRATION DATE: SEPTEMBER 3, 2015

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	24.00	200	13.00
35	24.30	250	15.30
40	25.40	300	18.20
45	21.50	350	17.90
50	22.50	400	18.60
60	15.40	450	19.80
70	12.70	500	21.60
80	11.10	550	22.40
90	13.40	600	23.70
100	13.80	650	24.30
120	15.40	700	24.00
125	15.40	750	24.50
140	13.10	800	24.30
150	17.20	850	26.30
160	13.20	900	26.90
175	14.20	950	26.00
180	14.30	1000	25.60

COM POWER AH-118

HORN ANTENNA

S/N: 071175

CALIBRATION DATE: FEBRUARY 26, 2016

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	23.93	10.0	39.33
1.5	25.54	10.5	39.64
2.0	28.09	11.0	41.04
2.5	30.21	11.5	44.29
3.0	30.15	12.0	41.22
3.5	30.17	12.5	41.50
4.0	31.90	13.0	41.62
4.5	33.51	13.5	40.63
5.0	33.87	14.0	39.94
5.5	35.08	14.5	41.84
6.0	34.81	15.0	42.69
6.5	34.26	15.5	39.03
7.0	36.33	16.0	39.07
7.5	37.03	16.5	41.40
8.0	37.56	17.0	43.18
8.5	40.07	17.5	47.01
9.0	38.92	18.0	46.48
9.5	38.21		

COM-POWER PA-118

PREAMPLIFIER

S/N: 551024

CALIBRATION DATE: MAY 12, 2016

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	39.84	6.0	39.05
1.1	39.40	6.5	38.94
1.2	39.58	7.0	39.25
1.3	39.68	7.5	39.09
1.4	39.91	8.0	39.01
1.5	39.78	8.5	38.60
1.6	39.50	9.0	38.64
1.7	39.81	9.5	39.67
1.8	39.89	10.0	39.30
1.9	39.94	11.0	39.15
2.0	39.57	12.0	39.24
2.5	40.39	13.0	39.49
3.0	40.63	14.0	39.44
3.5	40.80	15.0	39.94
4.0	40.86	16.0	40.09
4.5	39.94	17.0	40.06
5.0	34.47	18.0	39.76
5.5	39.32		

COM-POWER AH-826

HORN ANTENNA

S/N: 71957

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	33.5	22.5	35.5
18.5	33.5	23.0	35.9
19.0	34.0	23.5	35.7
19.5	34.0	24.0	35.6
20.0	34.3	24.5	36.0
20.5	34.9	25.0	36.2
21.0	34.7	25.5	36.1
21.5	35.0	26.0	36.2
22.0	35.0	26.5	35.7

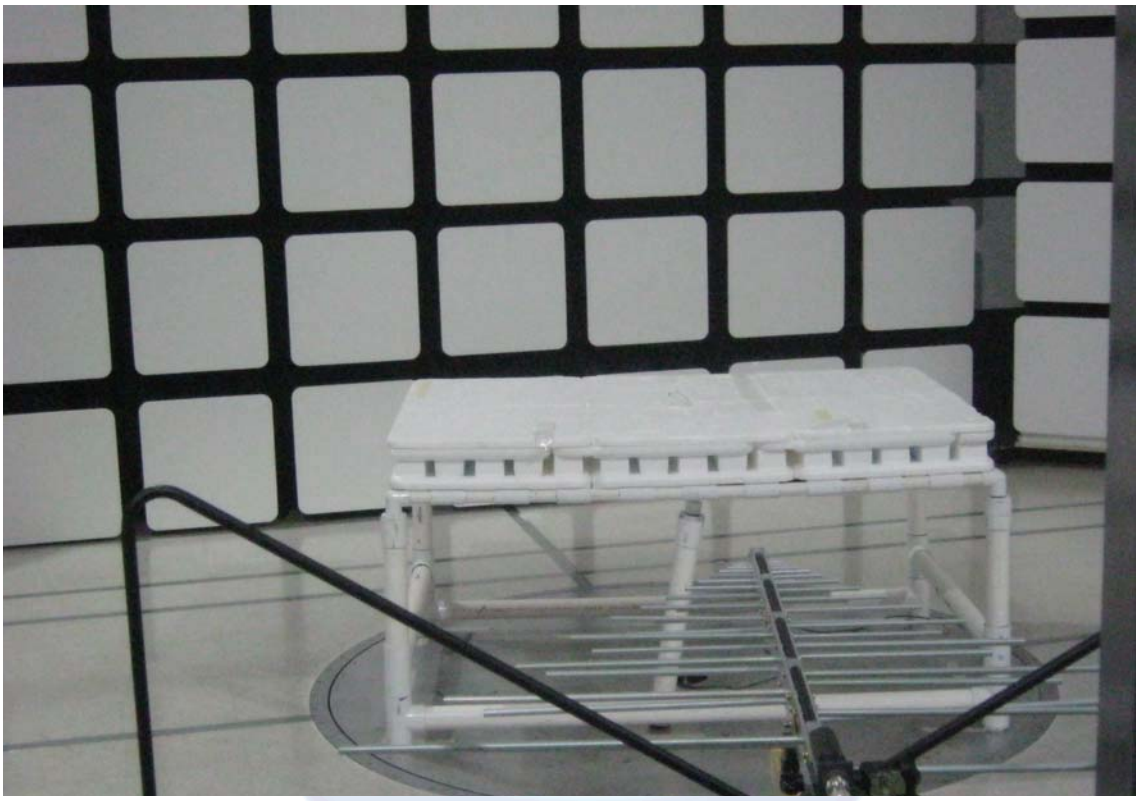
COM-POWER PA-840

MICROWAVE PREAMPLIFIER

S/N: 711013

CALIBRATION DATE: MAY 13, 2016

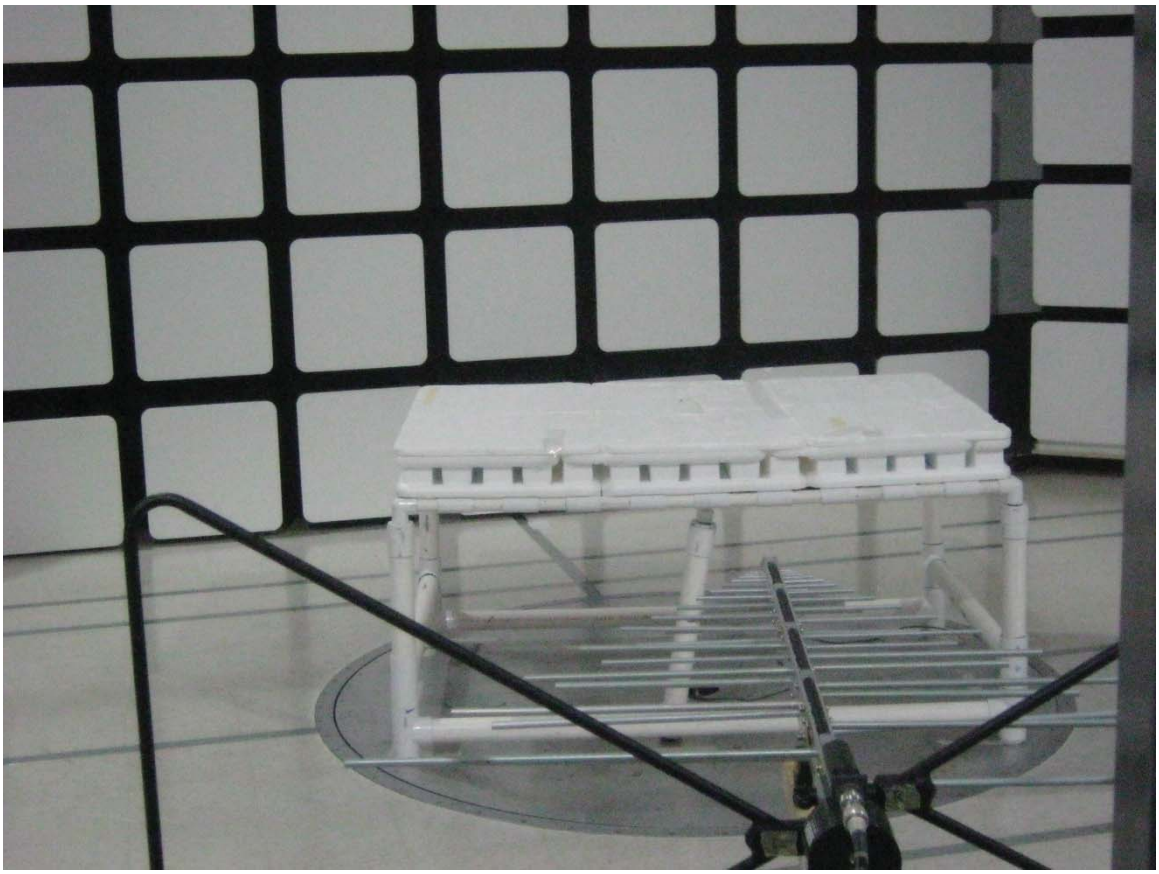
FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	25.19	31.0	25.69
19.0	24.48	31.5	25.74
20.0	24.39	32.0	26.35
21.0	24.73	32.5	26.64
22.0	23.49	33.0	25.98
23.0	24.23	33.5	24.68
24.0	24.59	34.0	24.61
25.0	25.32	34.5	23.78
26.0	25.66	35.0	24.74
26.5	25.99	35.5	24.39
27.0	26.26	36.0	23.46
27.5	25.33	36.5	23.71
28.0	24.49	37.0	26.35
28.5	24.74	37.5	23.49
29.0	25.93	38.0	25.42
29.5	26.28	38.5	24.87
30.0	26.17	39.0	22.60
30.5	26.11	39.5	20.57
		40.0	19.15



FRONT VIEW

ECOLINK INTELLIGENT TECHNOLOGY, INC.
COMCAST XFINITY HOME MOTION SENSOR
MODEL: URC4470BC0-X-R
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

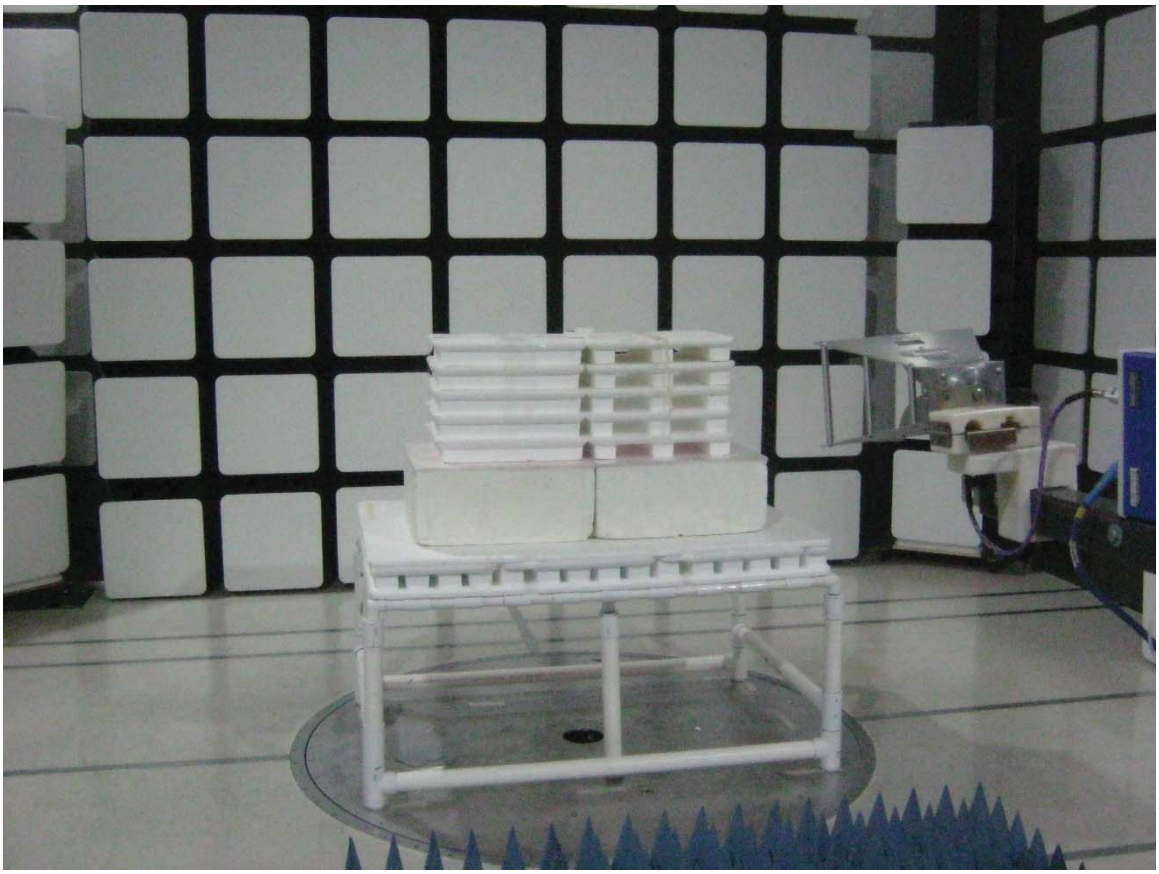
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

ECOLINK INTELLIGENT TECHNOLOGY, INC.
COMCAST XFINITY HOME MOTION SENSOR
MODEL: URC4470BC0-X-R
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

ECOLINK INTELLIGENT TECHNOLOGY, INC.
COMCAST XFINITY HOME MOTION SENSOR
MODEL: URC4470BC0-X-R
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

ECOLINK INTELLIGENT TECHNOLOGY, INC.
COMCAST XFINITY HOME MOTION SENSOR
MODEL: URC4470BC0-X-R
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 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC4470BC0-X-R

Date: 06/27/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel - Power Level -7
X-Axis - Antenna #1

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4810	59.80	V	73.97	-14.17	Peak	346.50	110.88	
4810	48.08	V	53.97	-5.89	Avg	346.50	110.88	
7215	60.24	V	--	--	Peak	291.75	111.89	**Not in**
7215	48.52	V	--	--	Avg	291.75	111.89	**Restricted Band**
9620	60.52	V	--	--	Peak	178.00	111.11	**Not in**
9620	48.80	V	--	--	Avg	178.00	111.11	**Restricted Band**
12025								**No Emissions**
12025								**Detected**
14430								**No Emissions**
14430								**Detected**
16835								**No Emissions**
16835								**Detected**
19240								**No Emissions**
19240								**Detected**
21645								**No Emissions**
21645								**Detected**
24050								**No Emissions**
24050								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC4470BC0-X-R

Date: 06/27/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel - Power Level -7
X-Axis - Antenna #1

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4810	56.60	H	73.97	-17.37	Peak	332.75	111.95	
4810	44.88	H	53.97	-9.09	Avg	332.75	111.95	
7215	59.05	H	--	--	Peak	300.25	142.76	**Not in**
7215	47.33	H	--	--	Avg	300.25	142.76	**Restricted Band**
9620	63.05	H	--	--	Peak	202.00	111.17	**Not in**
9620	51.33	H	--	--	Avg	202.00	111.17	**Restricted Band**
12025								**No Emissions**
12025								**Detected**
14430								**No Emissions**
14430								**Detected**
16835								**No Emissions**
16835								**Detected**
19240								**No Emissions**
19240								**Detected**
21645								**No Emissions**
21645								**Detected**
24050								**No Emissions**
24050								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC4470BC0-X-R

Date: 06/27/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel - Power Level -7
Y-Axis - Antenna #1

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4810	58.56	V	73.97	-15.41	Peak	98.75	111.83	
4810	46.84	V	53.97	-7.13	Avg	98.75	111.83	
7215	58.81	V	--	--	Peak	314.00	112.79	**Not in**
7215	47.09	V	--	--	Avg	314.00	112.79	**Restricted Band**
9620	58.18	V	--	--	Peak	140.00	110.34	**Not in**
9620	46.46	V	--	--	Avg	140.00	110.34	**Restricted Band**
12025								**No Emissions**
12025								**Detected**
14430								**No Emissions**
14430								**Detected**
16835								**No Emissions**
16835								**Detected**
19240								**No Emissions**
19240								**Detected**
21645								**No Emissions**
21645								**Detected**
24050								**No Emissions**
24050								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC4470BC0-X-R

Date: 06/27/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel - Power Level -7
Y-Axis - Antenna #1

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4810	60.80	H	73.97	-13.17	Peak	31.75	159.00	
4810	49.08	H	53.97	-4.89	Avg	31.75	159.00	
7215	60.71	H	--	--	Peak	333.00	111.59	**Not in**
7215	48.99	H	--	--	Avg	333.00	111.59	**Restricted Band**
9620	61.65	H	--	--	Peak	11.00	206.82	**Not in**
9620	49.93	H	--	--	Avg	11.00	206.82	**Restricted Band**
12025								**No Emissions**
12025								**Detected**
14430								**No Emissions**
14430								**Detected**
16835								**No Emissions**
16835								**Detected**
19240								**No Emissions**
19240								**Detected**
21645								**No Emissions**
21645								**Detected**
24050								**No Emissions**
24050								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC4470BC0-X-R

Date: 06/27/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel - Power Level -7
Z-Axis - Antenna #1

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4810	59.76	V	73.97	-14.21	Peak	358.25	127.23	
4810	48.04	V	53.97	-5.93	Avg	358.25	127.23	
7215	53.35	V	--	--	Peak	51.75	239.53	**Not in**
7215	41.63	V	--	--	Avg	51.75	239.53	**Restricted Band**
9620	60.79	V	--	--	Peak	356.00	223.17	**Not in**
9620	49.07	V	--	--	Avg	356.00	223.17	**Restricted Band**
12025								**No Emissions**
12025								**Detected**
14430								**No Emissions**
14430								**Detected**
16835								**No Emissions**
16835								**Detected**
19240								**No Emissions**
19240								**Detected**
21645								**No Emissions**
21645								**Detected**
24050								**No Emissions**
24050								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC4470BC0-X-R

Date: 06/27/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel - Power Level -7
Z-Axis - Antenna #1

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4810	60.61	H	73.97	-13.36	Peak	223.25	159.35	
4810	48.89	H	53.97	-5.08	Avg	223.25	159.35	
7215	59.03	H	--	--	Peak	53.00	111.53	**Not in**
7215	47.31	H	--	--	Avg	53.00	111.53	**Restricted Band**
9620	60.98	H	--	--	Peak	309.25	111.00	**Not in**
9620	49.26	H	--	--	Avg	309.25	111.00	**Restricted Band**
12025								**No Emissions**
12025								**Detected**
14430								**No Emissions**
14430								**Detected**
16835								**No Emissions**
16835								**Detected**
19240								**No Emissions**
19240								**Detected**
21645								**No Emissions**
21645								**Detected**
24050								**No Emissions**
24050								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC4470BC0-X-R

Date: 06/27/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel - Power Level -7
X-Axis - Antenna #1

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880	64.88	V	73.97	-9.09	Peak	41.25	112.19	
4880	53.16	V	53.97	-0.81	Avg	41.25	112.19	
7320	61.63	V	73.97	-12.34	Peak	236.25	111.17	
7320	49.91	V	53.97	-4.06	Avg	236.25	111.17	
9760	60.96	V	--	--	Peak	56.00	111.05	**Not in**
9760	49.24	V	--	--	Avg	56.00	111.05	**Restricted Band**
12200								**No Emissions**
12200								**Detected**
14640								**No Emissions**
14640								**Detected**
17080								**No Emissions**
17080								**Detected**
19520								**No Emissions**
19520								**Detected**
21960								**No Emissions**
21960								**Detected**
24400								**No Emissions**
24400								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC4470BC0-X-R

Date: 06/27/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel - Power Level -7
X-Axis - Antenna #1

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880	60.04	H	73.97	-13.93	Peak	114.00	111.53	
4880	48.32	H	53.97	-5.65	Avg	114.00	111.53	
7320	60.19	H	73.97	-13.78	Peak	117.25	127.05	
7320	48.47	H	53.97	-5.50	Avg	117.25	127.05	
9760	62.06	H	--	--	Peak	88.25	111.41	**Not in**
9760	50.34	H	--	--	Avg	88.25	111.41	**Restricted Band**
12200								**No Emissions**
12200								**Detected**
14640								**No Emissions**
14640								**Detected**
17080								**No Emissions**
17080								**Detected**
19520								**No Emissions**
19520								**Detected**
21960								**No Emissions**
21960								**Detected**
24400								**No Emissions**
24400								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC4470BC0-X-R

Date: 06/27/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel - Power Level -7
Y-Axis - Antenna #1

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880	64.56	V	73.97	-9.41	Peak	286.75	111.53	
4880	52.84	V	53.97	-1.13	Avg	286.75	111.53	
7320	58.38	V	73.97	-15.59	Peak	123.25	111.17	
7320	46.66	V	53.97	-7.31	Avg	123.25	111.17	
9760	57.80	V	--	--	Peak	241.25	111.47	**Not in**
9760	46.08	V	--	--	Avg	241.25	111.47	**Restricted Band**
12200								**No Emissions**
12200								**Detected**
14640								**No Emissions**
14640								**Detected**
17080								**No Emissions**
17080								**Detected**
19520								**No Emissions**
19520								**Detected**
21960								**No Emissions**
21960								**Detected**
24400								**No Emissions**
24400								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC4470BC0-X-R

Date: 06/27/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel - Power Level -7
Y-Axis - Antenna #1

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880	64.81	H	73.97	-9.16	Peak	222.50	159.35	
4880	53.09	H	53.97	-0.88	Avg	222.50	159.35	
7320	59.87	H	73.97	-14.10	Peak	152.75	111.00	
7320	48.15	H	53.97	-5.82	Avg	152.75	111.00	
9760	59.88	H	--	--	Peak	149.25	175.00	**Not in**
9760	48.16	H	--	--	Avg	149.25	175.00	**Restricted Band**
12200								**No Emissions**
12200								**Detected**
14640								**No Emissions**
14640								**Detected**
17080								**No Emissions**
17080								**Detected**
19520								**No Emissions**
19520								**Detected**
21960								**No Emissions**
21960								**Detected**
24400								**No Emissions**
24400								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC4470BC0-X-R

Date: 06/27/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel - Power Level -7
Z-Axis - Antenna #1

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880	64.02	V	73.97	-9.95	Peak	149.00	159.17	
4880	52.30	V	53.97	-1.67	Avg	149.00	159.17	
7320	59.81	V	73.97	-14.16	Peak	147.25	143.59	
7320	48.09	V	53.97	-5.88	Avg	147.25	143.59	
9760	58.81	V	--	--	Peak	188.00	109.08	**Not in**
9760	47.09	V	--	--	Avg	188.00	109.08	**Restricted Band**
12200								**No Emissions**
12200								**Detected**
14640								**No Emissions**
14640								**Detected**
17080								**No Emissions**
17080								**Detected**
19520								**No Emissions**
19520								**Detected**
21960								**No Emissions**
21960								**Detected**
24400								**No Emissions**
24400								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC4470BC0-X-R

Date: 06/27/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel - Power Level -7
Z-Axis - Antenna #1

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880	58.22	H	73.97	-15.75	Peak	227.75	111.17	
4880	46.50	H	53.97	-7.47	Avg	227.75	111.17	
7320	58.04	H	73.97	-15.93	Peak	256.50	111.35	
7320	46.32	H	53.97	-7.65	Avg	256.50	111.35	
9760	56.42	H	--	--	Peak	94.75	111.35	**Not in**
9760	44.70	H	--	--	Avg	94.75	111.35	**Restricted Band**
12200								**No Emissions**
12200								**Detected**
14640								**No Emissions**
14640								**Detected**
17080								**No Emissions**
17080								**Detected**
19520								**No Emissions**
19520								**Detected**
21960								**No Emissions**
21960								**Detected**
24400								**No Emissions**
24400								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC4470BC0-X-R

Date: 06/24/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel - Power Level -15
X-Axis - Antenna #1

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960	43.10	V	73.97	-30.87	Peak	96.50	143.43	
4960	31.38	V	53.97	-22.59	Avg	96.50	143.43	
7440	44.14	V	73.97	-29.83	Peak	0.00	224.14	
7440	32.42	V	53.97	-21.55	Avg	0.00	224.14	
9920	44.54	V	--	--	Peak	0.00	204.86	**Not in**
9920	32.82	V	--	--	Avg	0.00	204.86	**Restricted Band**
12400								**No Emissions**
12400								**Detected**
14880								**No Emissions**
14880								**Detected**
17360								**No Emissions**
17360								**Detected**
19840								**No Emissions**
19840								**Detected**
22320								**No Emissions**
22320								**Detected**
24800								**No Emissions**
24800								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC4470BC0-X-R

Date: 06/24/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel - Power Level -15
X-Axis - Antenna #1

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960	43.19	H	73.97	-30.78	Peak	275.50	111.31	
4960	31.47	H	53.97	-22.50	Avg	275.50	111.31	
7440	44.51	H	73.97	-29.46	Peak	126.00	237.10	
7440	32.79	H	53.97	-21.18	Avg	126.00	237.10	
9920	44.31	H	--	--	Peak	238.25	192.08	**Not in**
9920	32.59	H	--	--	Avg	238.25	192.08	**Restricted Band**
12400								**No Emissions**
12400								**Detected**
14880								**No Emissions**
14880								**Detected**
17360								**No Emissions**
17360								**Detected**
19840								**No Emissions**
19840								**Detected**
22320								**No Emissions**
22320								**Detected**
24800								**No Emissions**
24800								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC4470BC0-X-R

Date: 06/24/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel - Power Level -15
Y-Axis - Antenna #1

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960	43.22	V	73.97	-30.75	Peak	121.50	221.82	
4960	31.50	V	53.97	-22.47	Avg	121.50	221.82	
7440	43.75	V	73.97	-30.22	Peak	277.25	141.82	
7440	32.03	V	53.97	-21.94	Avg	277.25	141.82	
9920	44.46	V	--	--	Peak	54.25	159.07	**Not in**
9920	32.74	V	--	--	Avg	54.25	159.07	**Restricted Band**
12400								**No Emissions**
12400								**Detected**
14880								**No Emissions**
14880								**Detected**
17360								**No Emissions**
17360								**Detected**
19840								**No Emissions**
19840								**Detected**
22320								**No Emissions**
22320								**Detected**
24800								**No Emissions**
24800								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC4470BC0-X-R

Date: 06/24/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel - Power Level -15
Y-Axis - Antenna #1

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960	43.56	H	73.97	-30.41	Peak	69.75	249.94	
4960	31.84	H	53.97	-22.13	Avg	69.75	249.94	
7440	43.49	H	73.97	-30.48	Peak	68.75	142.89	
7440	31.77	H	53.97	-22.20	Avg	68.75	142.89	
9920	44.83	H	--	--	Peak	0.25	205.94	**Not in**
9920	33.11	H	--	--	Avg	0.25	205.94	**Restricted Band**
12400								**No Emissions**
12400								**Detected**
14880								**No Emissions**
14880								**Detected**
17360								**No Emissions**
17360								**Detected**
19840								**No Emissions**
19840								**Detected**
22320								**No Emissions**
22320								**Detected**
24800								**No Emissions**
24800								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC4470BC0-X-R

Date: 06/24/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel - Power Level -15
Z-Axis - Antenna #1

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960	42.84	V	73.97	-31.13	Peak	100.25	250.00	
4960	31.12	V	53.97	-22.85	Avg	100.25	250.00	
7440	44.62	V	73.97	-29.35	Peak	262.25	127.31	
7440	32.90	V	53.97	-21.07	Avg	262.25	127.31	
9920	44.39	V	--	--	Peak	308.00	250.00	**Not in**
9920	32.67	V	--	--	Avg	308.00	250.00	**Restricted Band**
12400								**No Emissions**
12400								**Detected**
14880								**No Emissions**
14880								**Detected**
17360								**No Emissions**
17360								**Detected**
19840								**No Emissions**
19840								**Detected**
22320								**No Emissions**
22320								**Detected**
24800								**No Emissions**
24800								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC4470BC0-X-R

Date: 06/24/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel - Power Level -15
Z-Axis - Antenna #1

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960	43.63	H	73.97	-30.34	Peak	160.50	250.00	
4960	31.91	H	53.97	-22.06	Avg	160.50	250.00	
7440	43.81	H	73.97	-30.16	Peak	85.75	207.07	
7440	32.09	H	53.97	-21.88	Avg	85.75	207.07	
9920	44.95	H	--	--	Peak	281.50	207.13	**Not in**
9920	33.23	H	--	--	Avg	281.50	207.13	**Restricted Band**
12400								**No Emissions**
12400								**Detected**
14880								**No Emissions**
14880								**Detected**
17360								**No Emissions**
17360								**Detected**
19840								**No Emissions**
19840								**Detected**
22320								**No Emissions**
22320								**Detected**
24800								**No Emissions**
24800								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC447BC0-X-R

Date: 06/27/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel - Power Level -7
X-Axis - Antenna #2

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4810	57.64	V	73.97	-16.33	Peak	322.25	112.19	
4810	45.92	V	53.97	-8.05	Avg	322.25	112.19	
7215	66.04	V	--	--	Peak	25.50	101.14	**Not in**
7215	54.32	V	--	--	Avg	25.50	101.14	**Restricted Band**
9620	60.40	V	--	--	Peak	280.25	112.67	**Not in**
9620	48.68	V	--	--	Avg	280.25	112.67	**Restricted Band**
12025								**No Emissions**
12025								**Detected**
14430								**No Emissions**
14430								**Detected**
16835								**No Emissions**
16835								**Detected**
19240								**No Emissions**
19240								**Detected**
21645								**No Emissions**
21645								**Detected**
24050								**No Emissions**
24050								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC447BC0-X-R

Date: 06/27/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel - Power Level -7
X-Axis - Antenna #2

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4810	53.41	H	73.97	-20.56	Peak	43.00	191.29	
4810	41.69	H	53.97	-12.28	Avg	43.00	191.29	
7215	64.08	H	--	--	Peak	275.50	142.58	**Not in**
7215	52.36	H	--	--	Avg	275.50	142.58	**Restricted Band**
9620	60.13	H	--	--	Peak	296.00	110.58	**Not in**
9620	48.41	H	--	--	Avg	296.00	110.58	**Restricted Band**
12025								**No Emissions**
12025								**Detected**
14430								**No Emissions**
14430								**Detected**
16835								**No Emissions**
16835								**Detected**
19240								**No Emissions**
19240								**Detected**
21645								**No Emissions**
21645								**Detected**
24050								**No Emissions**
24050								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC447BC0-X-R

Date: 06/27/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel - Power Level -7
Y-Axis - Antenna #2

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4810	57.56	V	73.97	-16.41	Peak	304.00	127.41	
4810	45.84	V	53.97	-8.13	Avg	304.00	127.41	
7215	60.18	V	--	--	Peak	303.50	112.73	**Not in**
7215	48.46	V	--	--	Avg	303.50	112.73	**Restricted Band**
9620	53.46	V	--	--	Peak	158.25	111.35	**Not in**
9620	41.74	V	--	--	Avg	158.25	111.35	**Restricted Band**
12025								**No Emissions**
12025								**Detected**
14430								**No Emissions**
14430								**Detected**
16835								**No Emissions**
16835								**Detected**
19240								**No Emissions**
19240								**Detected**
21645								**No Emissions**
21645								**Detected**
24050								**No Emissions**
24050								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC447BC0-X-R

Date: 06/27/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel - Power Level -7
Y-Axis - Antenna #2

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4810	58.54	H	73.97	-15.43	Peak	311.25	110.40	
4810	46.82	H	53.97	-7.15	Avg	311.25	110.40	
7215	65.83	H	--	--	Peak	341.00	113.80	**Not in**
7215	54.11	H	--	--	Avg	341.00	113.80	**Restricted Band**
9620	58.18	H	--	--	Peak	0.00	223.29	**Not in**
9620	46.46	H	--	--	Avg	0.00	223.29	**Restricted Band**
12025								**No Emissions**
12025								**Detected**
14430								**No Emissions**
14430								**Detected**
16835								**No Emissions**
16835								**Detected**
19240								**No Emissions**
19240								**Detected**
21645								**No Emissions**
21645								**Detected**
24050								**No Emissions**
24050								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC447BC0-X-R

Date: 06/27/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel - Power Level -7
Z-Axis - Antenna #2

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4810	58.10	V	73.97	-15.87	Peak	355.75	111.00	
4810	46.38	V	53.97	-7.59	Avg	355.75	111.00	
7215	57.48	V	--	--	Peak	56.50	111.41	**Not in**
7215	45.76	V	--	--	Avg	56.50	111.41	**Restricted Band**
9620	58.44	V	--	--	Peak	355.00	238.94	**Not in**
9620	46.72	V	--	--	Avg	355.00	238.94	**Restricted Band**
12025								**No Emissions**
12025								**Detected**
14430								**No Emissions**
14430								**Detected**
16835								**No Emissions**
16835								**Detected**
19240								**No Emissions**
19240								**Detected**
21645								**No Emissions**
21645								**Detected**
24050								**No Emissions**
24050								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC447BC0-X-R

Date: 06/28/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel - Power Level -7
Z-Axis - Antenna #2

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4810	60.11	H	73.97	-13.86	Peak	220.50	143.95	
4810	48.39	H	53.97	-5.58	Avg	220.50	143.95	
7215	60.24	H	--	--	Peak	49.25	223.53	**Not in**
7215	48.52	H	--	--	Avg	49.25	223.53	**Restricted Band**
9620	56.93	H	--	--	Peak	303.75	127.05	**Not in**
9620	45.21	H	--	--	Avg	303.75	127.05	**Restricted Band**
12025								**No Emissions**
12025								**Detected**
14430								**No Emissions**
14430								**Detected**
16835								**No Emissions**
16835								**Detected**
19240								**No Emissions**
19240								**Detected**
21645								**No Emissions**
21645								**Detected**
24050								**No Emissions**
24050								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC447BC0-X-R

Date: 06/27/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel - Power Level -7
X-Axis - Antenna #2

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880	63.68	V	73.97	-10.29	Peak	269.25	142.94	
4880	51.96	V	53.97	-2.01	Avg	269.25	142.94	
7320	62.99	V	73.97	-10.98	Peak	212.00	104.01	
7320	51.27	V	53.97	-2.70	Avg	212.00	104.01	
9760	54.25	V	--	--	Peak	176.00	110.94	**Not in**
9760	42.53	V	--	--	Avg	176.00	110.94	**Restricted Band**
12200								**No Emissions**
12200								**Detected**
14640								**No Emissions**
14640								**Detected**
17080								**No Emissions**
17080								**Detected**
19520								**No Emissions**
19520								**Detected**
21960								**No Emissions**
21960								**Detected**
24400								**No Emissions**
24400								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC447BC0-X-R

Date: 06/27/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel - Power Level -7
X-Axis - Antenna #2

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880	58.60	H	73.97	-15.37	Peak	227.75	110.64	
4880	46.88	H	53.97	-7.09	Avg	227.75	110.64	
7320	63.10	H	73.97	-10.87	Peak	204.00	111.41	
7320	51.38	H	53.97	-2.59	Avg	204.00	111.41	
9760	57.00	H	--	--	Peak	179.00	126.94	**Not in**
9760	45.28	H	--	--	Avg	179.00	126.94	**Restricted Band**
12200								**No Emissions**
12200								**Detected**
14640								**No Emissions**
14640								**Detected**
17080								**No Emissions**
17080								**Detected**
19520								**No Emissions**
19520								**Detected**
21960								**No Emissions**
21960								**Detected**
24400								**No Emissions**
24400								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC447BC0-X-R

Date: 06/27/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel - Power Level -7
Y-Axis - Antenna #2

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880	61.70	V	73.97	-12.27	Peak	9.00	110.94	
4880	49.98	V	53.97	-3.99	Avg	9.00	110.94	
7320	59.93	V	73.97	-14.04	Peak	117.25	111.29	
7320	48.21	V	53.97	-5.76	Avg	117.25	111.29	
9760	46.94	V	--	--	Peak	234.00	111.00	**Not in**
9760	35.22	V	--	--	Avg	234.00	111.00	**Restricted Band**
12200								**No Emissions**
12200								**Detected**
14640								**No Emissions**
14640								**Detected**
17080								**No Emissions**
17080								**Detected**
19520								**No Emissions**
19520								**Detected**
21960								**No Emissions**
21960								**Detected**
24400								**No Emissions**
24400								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC447BC0-X-R

Date: 06/27/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel - Power Level -7
Y-Axis - Antenna #2

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880	62.71	H	73.97	-11.26	Peak	221.75	159.17	
4880	50.99	H	53.97	-2.98	Avg	221.75	159.17	
7320	62.57	H	73.97	-11.40	Peak	152.75	127.41	
7320	50.85	H	53.97	-3.12	Avg	152.75	127.41	
9760	52.09	H	--	--	Peak	149.25	127.17	**Not in**
9760	40.37	H	--	--	Avg	149.25	127.17	**Restricted Band**
12200								**No Emissions**
12200								**Detected**
14640								**No Emissions**
14640								**Detected**
17080								**No Emissions**
17080								**Detected**
19520								**No Emissions**
19520								**Detected**
21960								**No Emissions**
21960								**Detected**
24400								**No Emissions**
24400								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC447BC0-X-R

Date: 06/27/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel - Power Level -7
Z-Axis - Antenna #2

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880	63.33	V	73.97	-10.64	Peak	134.25	143.41	
4880	51.61	V	53.97	-2.36	Avg	134.25	143.41	
7320	62.01	V	73.97	-11.96	Peak	147.25	159.05	
7320	50.29	V	53.97	-3.68	Avg	147.25	159.05	
9760	53.54	V	--	--	Peak	188.50	127.35	**Not in**
9760	41.82	V	--	--	Avg	188.50	127.35	**Restricted Band**
12200								**No Emissions**
12200								**Detected**
14640								**No Emissions**
14640								**Detected**
17080								**No Emissions**
17080								**Detected**
19520								**No Emissions**
19520								**Detected**
21960								**No Emissions**
21960								**Detected**
24400								**No Emissions**
24400								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC447BC0-X-R

Date: 06/27/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel - Power Level -7
Z-Axis - Antenna #2

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880	56.64	H	73.97	-17.33	Peak	227.75	110.40	
4880	44.92	H	53.97	-9.05	Avg	227.75	110.40	
7320	60.45	H	73.97	-13.52	Peak	300.00	111.00	
7320	48.73	H	53.97	-5.24	Avg	300.00	111.00	
9760	52.22	H	--	--	Peak	99.75	127.17	**Not in**
9760	40.50	H	--	--	Avg	99.75	127.17	**Restricted Band**
12200								**No Emissions**
12200								**Detected**
14640								**No Emissions**
14640								**Detected**
17080								**No Emissions**
17080								**Detected**
19520								**No Emissions**
19520								**Detected**
21960								**No Emissions**
21960								**Detected**
24400								**No Emissions**
24400								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC447BC0-X-R

Date: 06/27/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel - Power Level -15
X-Axis - Antenna #2

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960	43.60	V	73.97	-30.37	Peak	203.25	100.02	
4960	31.88	V	53.97	-22.09	Avg	203.25	100.02	
7440	44.57	V	73.97	-29.40	Peak	270.25	127.13	
7440	32.85	V	53.97	-21.12	Avg	270.25	127.13	
9920	44.17	V	--	--	Peak	291.00	174.83	**Not in**
9920	32.45	V	--	--	Avg	291.00	174.83	**Restricted Band**
12400								**No Emissions**
12400								**Detected**
14880								**No Emissions**
14880								**Detected**
17360								**No Emissions**
17360								**Detected**
19840								**No Emissions**
19840								**Detected**
22320								**No Emissions**
22320								**Detected**
24800								**No Emissions**
24800								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC447BC0-X-R

Date: 06/27/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel - Power Level -15
X-Axis - Antenna #2

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960	43.80	H	73.97	-30.17	Peak	225.00	249.79	
4960	32.08	H	53.97	-21.89	Avg	225.00	249.79	
7440	44.85	H	73.97	-29.12	Peak	3.75	143.25	
7440	33.13	H	53.97	-20.84	Avg	3.75	143.25	
9920	44.55	H	--	--	Peak	273.25	190.71	**Not in**
9920	32.83	H	--	--	Avg	273.25	190.71	**Restricted Band**
12400								**No Emissions**
12400								**Detected**
14880								**No Emissions**
14880								**Detected**
17360								**No Emissions**
17360								**Detected**
19840								**No Emissions**
19840								**Detected**
22320								**No Emissions**
22320								**Detected**
24800								**No Emissions**
24800								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC447BC0-X-R

Date: 06/27/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel - Power Level -15
Y-Axis - Antenna #2

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960	43.00	V	73.97	-30.97	Peak	283.75	191.19	
4960	31.28	V	53.97	-22.69	Avg	283.75	191.19	
7440	44.91	V	73.97	-29.06	Peak	2.00	142.59	
7440	33.19	V	53.97	-20.78	Avg	2.00	142.59	
9920	44.23	V	--	--	Peak	351.25	250.05	**Not in**
9920	32.51	V	--	--	Avg	351.25	250.05	**Restricted Band**
12400								**No Emissions**
12400								**Detected**
14880								**No Emissions**
14880								**Detected**
17360								**No Emissions**
17360								**Detected**
19840								**No Emissions**
19840								**Detected**
22320								**No Emissions**
22320								**Detected**
24800								**No Emissions**
24800								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC447BC0-X-R

Date: 06/27/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel - Power Level -15
Y-Axis - Antenna #2

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960	43.97	H	73.97	-30.00	Peak	357.50	250.05	
4960	32.25	H	53.97	-21.72	Avg	357.50	250.05	
7440	44.90	H	73.97	-29.07	Peak	39.75	207.19	
7440	33.18	H	53.97	-20.79	Avg	39.75	207.19	
9920	44.74	H	--	--	Peak	248.75	248.26	**Not in**
9920	33.02	H	--	--	Avg	248.75	248.26	**Restricted Band**
12400								**No Emissions**
12400								**Detected**
14880								**No Emissions**
14880								**Detected**
17360								**No Emissions**
17360								**Detected**
19840								**No Emissions**
19840								**Detected**
22320								**No Emissions**
22320								**Detected**
24800								**No Emissions**
24800								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC447BC0-X-R

Date: 06/27/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel - Power Level -15
Z-Axis - Antenna #2

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960	43.30	V	73.97	-30.67	Peak	261.75	142.35	
4960	31.58	V	53.97	-22.39	Avg	261.75	142.35	
7440	44.59	V	73.97	-29.38	Peak	153.00	205.70	
7440	32.87	V	53.97	-21.10	Avg	153.00	205.70	
9920	44.08	V	--	--	Peak	159.00	173.94	**Not in**
9920	32.36	V	--	--	Avg	159.00	173.94	**Restricted Band**
12400								**No Emissions**
12400								**Detected**
14880								**No Emissions**
14880								**Detected**
17360								**No Emissions**
17360								**Detected**
19840								**No Emissions**
19840								**Detected**
22320								**No Emissions**
22320								**Detected**
24800								**No Emissions**
24800								**Detected**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC447BC0-X-R

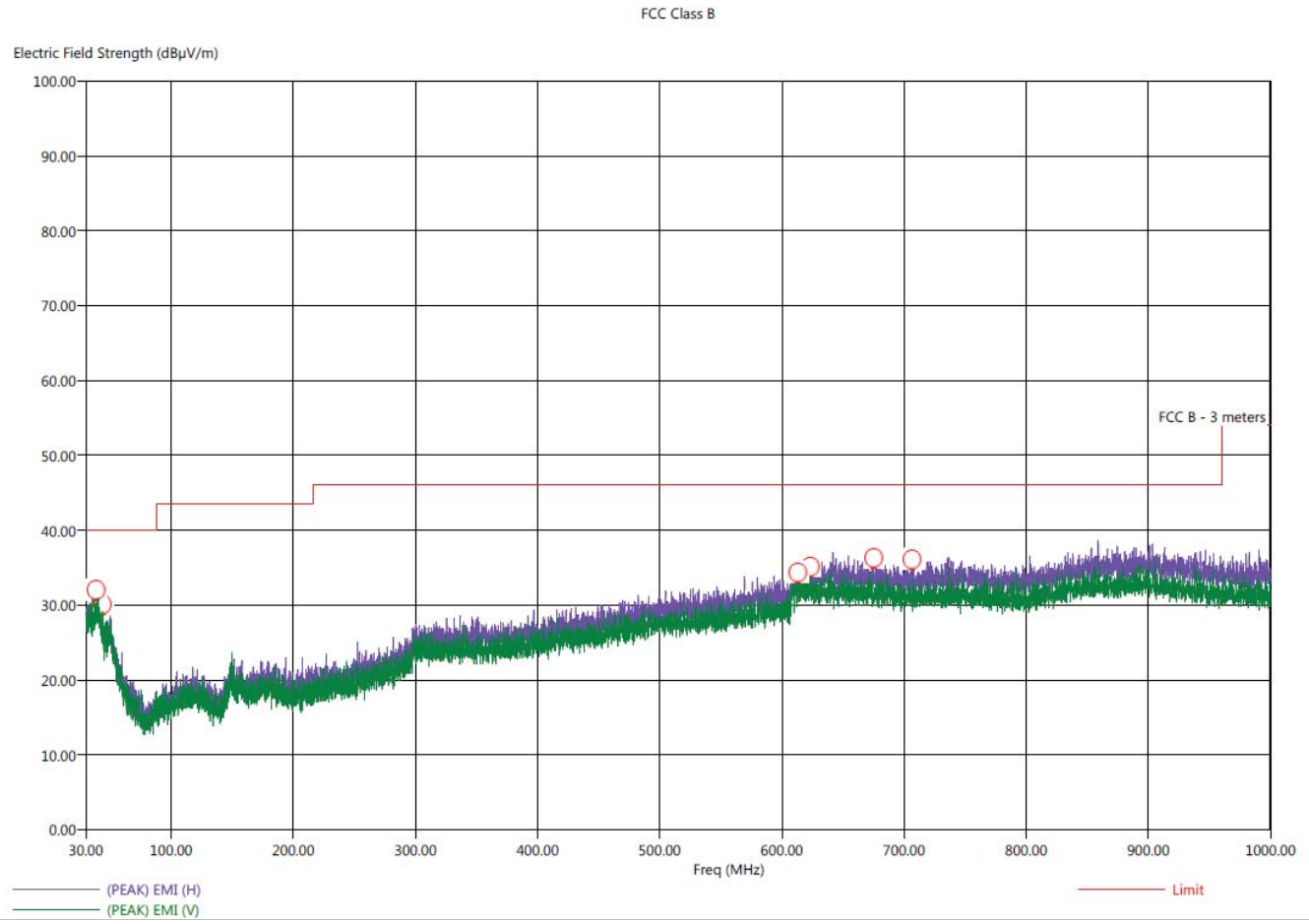
Date: 06/27/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel - Power Level -15
Z-Axis - Antenna #2

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960	43.66	H	73.97	-30.31	Peak	98.50	159.37	
4960	31.94	H	53.97	-22.03	Avg	98.50	159.37	
7440	44.65	H	73.97	-29.32	Peak	262.25	191.31	
7440	32.93	H	53.97	-21.04	Avg	262.25	191.31	
9920	44.02	H	--	--	Peak	0.00	250.05	**Not in**
9920	32.30	H	--	--	Avg	0.00	250.05	**Restricted Band**
12400								**No Emissions**
12400								**Detected**
14880								**No Emissions**
14880								**Detected**
17360								**No Emissions**
17360								**Detected**
19840								**No Emissions**
19840								**Detected**
22320								**No Emissions**
22320								**Detected**
24800								**No Emissions**
24800								**Detected**

Title: Pre-Scan - FCC Class B
File: Agilent - Pre-Scan - Antenna 1 - X-Axis - FCC Class B - 30 MHz to 1000 MHz.set
Operator: Kyle Fujimoto
EUT Type: Comcast Xfinity Home Motion Sensor
EUT Condition: The EUT is continuously transmitting - Antenna 1 - X-Axis Worst Case
Comments: Company: Ecolink Intelligent Technology, Inc.
Model: URC4470BC0-X-R

7/5/2016 3:39:01 PM
Sequence: Preliminary Scan



No additional emissions, except for harmonics, were found between 9 kHz – 30 MHz and 1 GHz – 25 GHz.

Title: Radiated Final - FCC Class B
File: Agilent - Final Scan - Antenna 1 - FCC Class B - 30 MHz to 1000 MHz.set
Operator: Kyle Fujimoto
EUT Type: Comcast Xfinity Home Motion Sensor
EUT Condition: The EUT is cotinuously transmitting - Antenna 1 - X-Axis Worst Case
Comments: Company: Ecolink Intelligent Technology, Inc.
Model: URC4470BC0-X-R

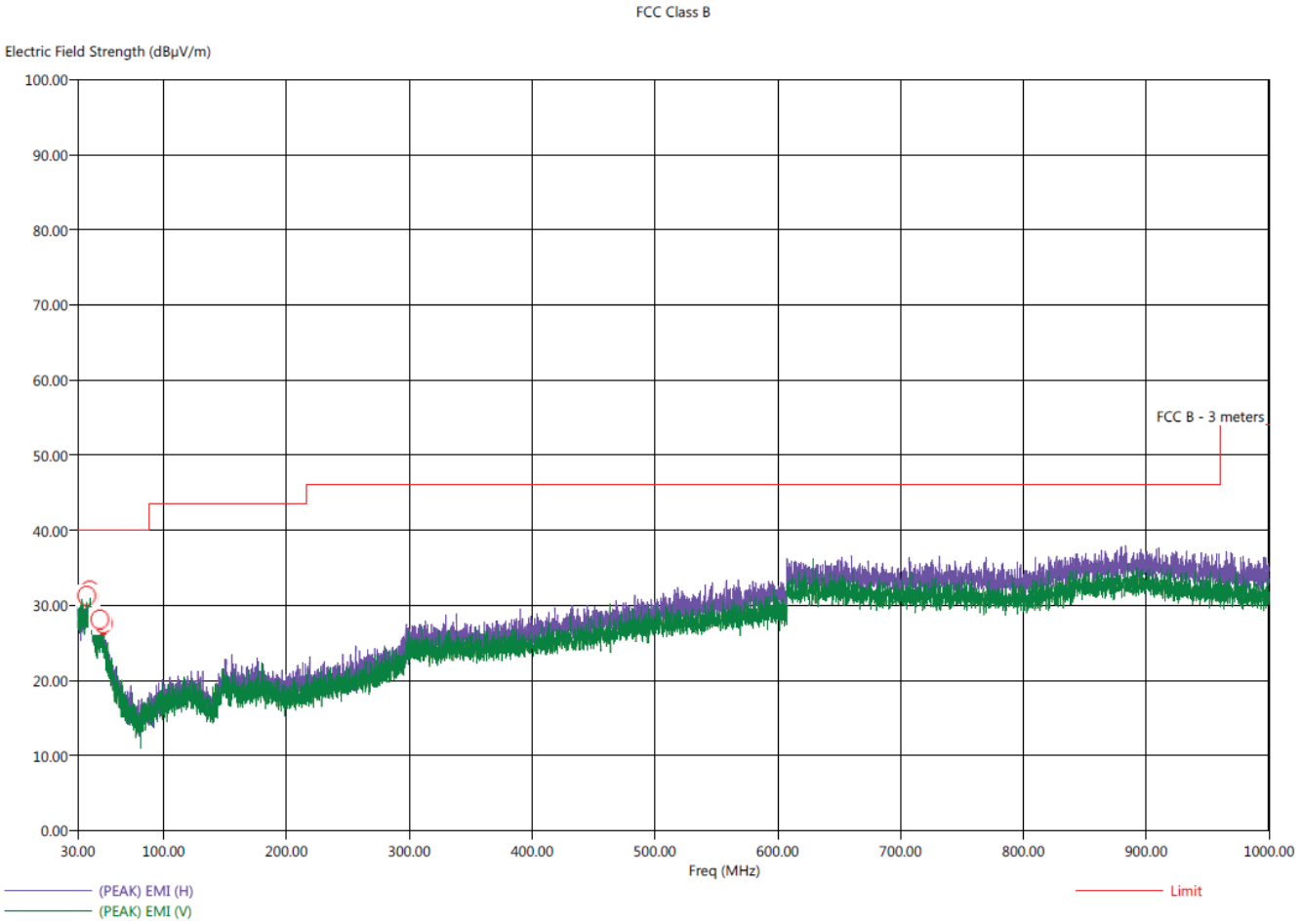
7/5/2016 4:08:17 PM
Sequence: Final Measurements

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 Agl (deg)	Twr Ht (cm)
38.60	H	33.01	27.37	-6.99	-12.63	40.00	25.06	0.38	87.25	303.25
43.60	H	30.18	24.55	-9.82	-15.45	40.00	22.47	0.40	192.25	223.43
613.20	V	35.87	31.40	-10.13	-14.60	46.00	23.87	2.01	225.50	399.85
623.40	V	36.46	31.40	-9.54	-14.60	46.00	23.99	2.04	176.75	335.31
675.20	H	36.33	31.23	-9.67	-14.77	46.00	24.15	2.12	173.75	174.83
706.70	H	35.90	30.85	-10.10	-15.15	46.00	24.07	2.17	334.00	335.91

Title: Pre-Scan - FCC Class B
File: Agilent - Pre-Scan - Antenna 2 - X-Axis - FCC Class B - 30 MHz to 1000 MHz.set
Operator: Kyle Fujimoto
EUT Type: Comcast Xfinity Home Motion Sensor
EUT Condition: The EUT is continuously transmitting - Antenna 2 - X-Axis Worst Case
Comments: Company: Ecolink Intelligent Technology, Inc.
Model: URC4470BC0-X-R

7/5/2016 4:25:40 PM
Sequence: Preliminary Scan



No additional emissions, except for harmonics, were found between 9 kHz – 30 MHz and 1 GHz – 25 GHz.

Title: Radiated Final - FCC Class B
File: Agilent - Final Scan - Antenna 2 - FCC Class B - 30 MHz to 1000 MHz.set
Operator: Kyle Fujimoto
EUT Type: Comcast Xfinity Home Motion Sensor
EUT Condition: The EUT is cotinuously transmitting - Antenna 2 - X-Axis Worst Case
Comments: Company: Ecolink Intelligent Technology, Inc.
Model: URC4470BC0-X-R

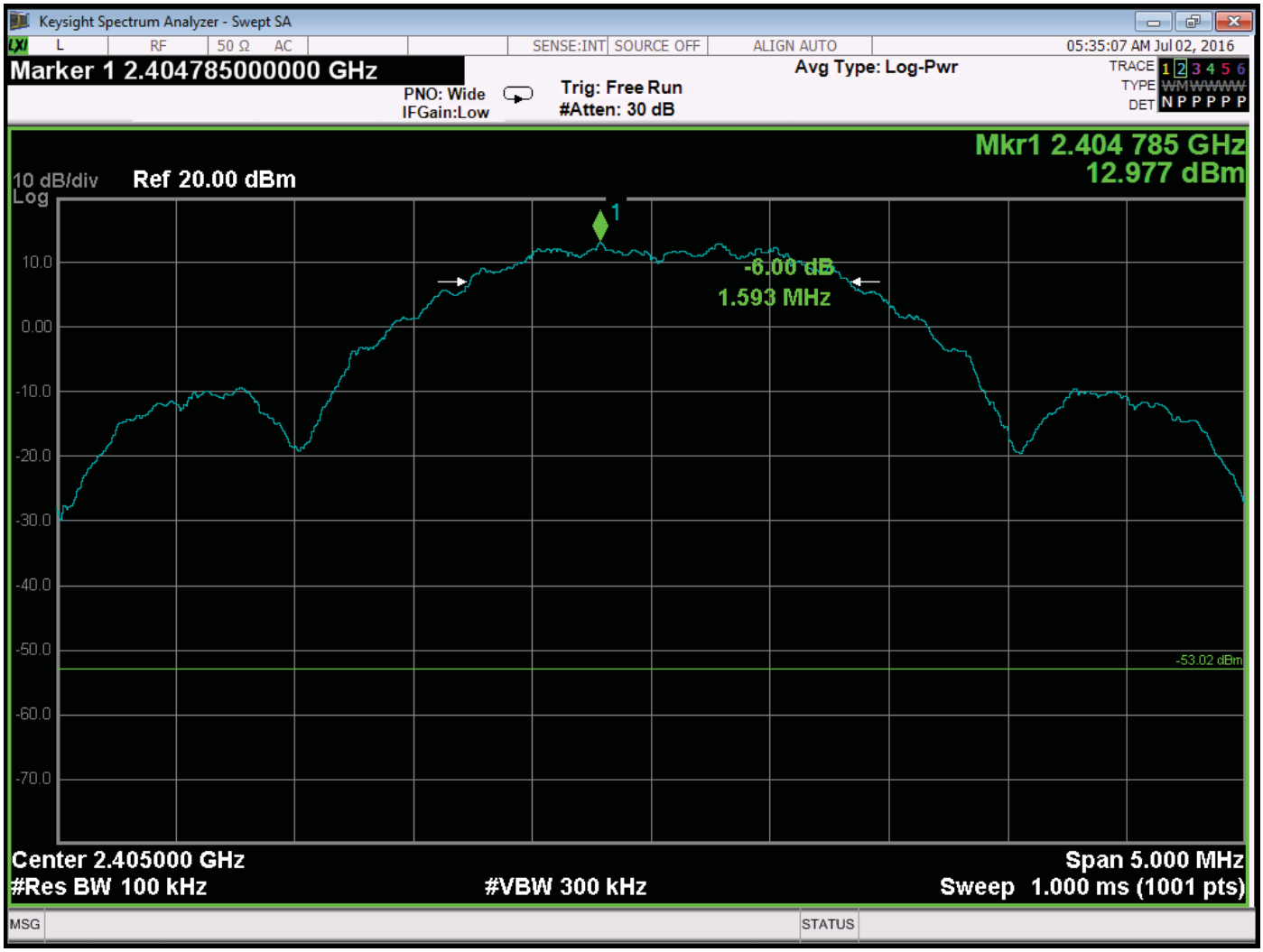
7/5/2016 4:53:47 PM
Sequence: Final Measurements

FCC Class B

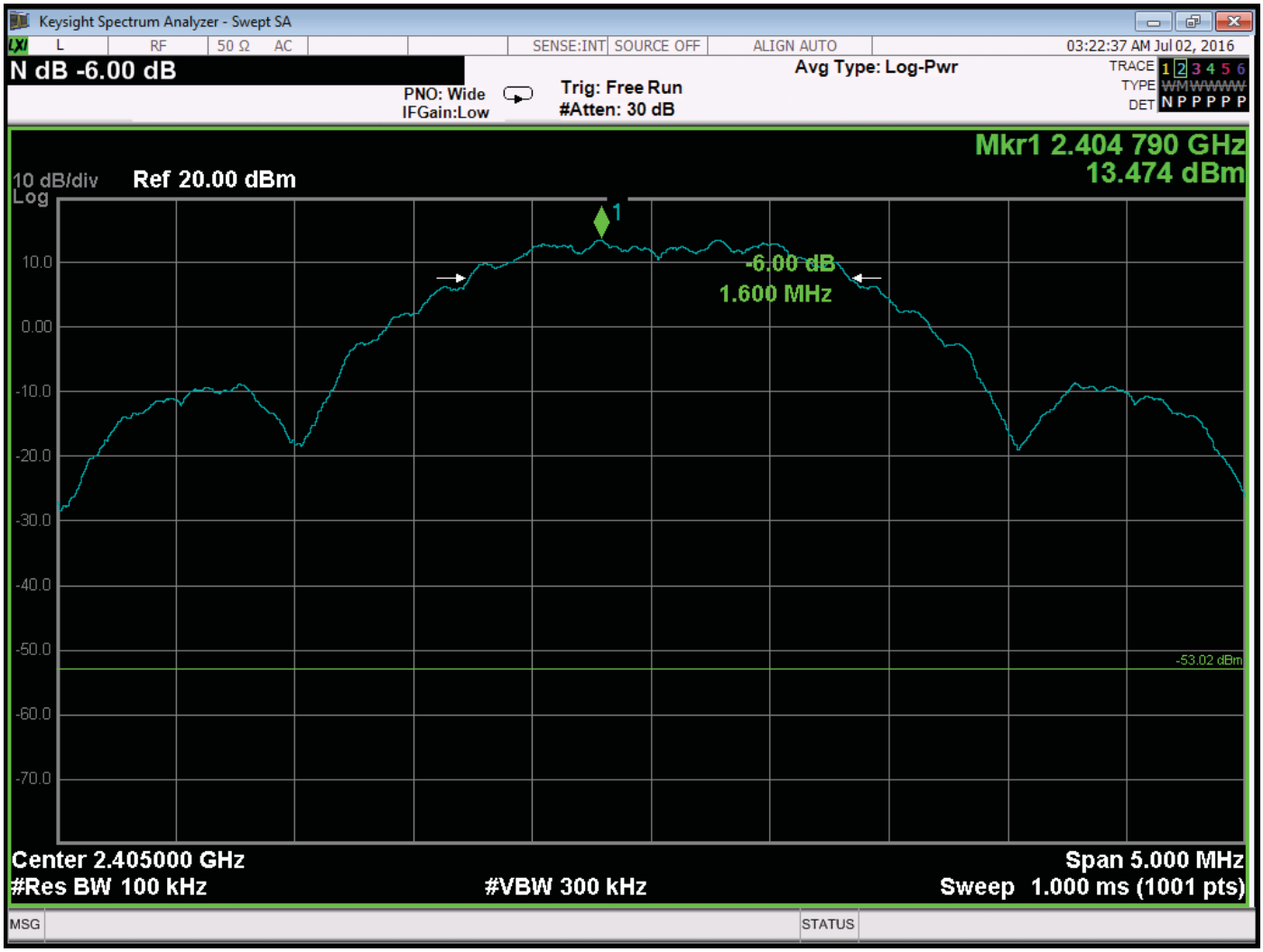
Freq (MHz)	Pol	(PEAK) EMI (dBµV/m)	(QP) EMI (dBµV/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dBµV/m)	Transducer (dB)	Cable (dB)	Ttbl Agl (deg)	Twr Ht (cm)
37.30	H	32.30	27.05	-7.70	-12.95	40.00	24.81	0.38	120.25	315.91
39.00	H	32.67	27.48	-7.33	-12.52	40.00	25.23	0.39	139.75	142.35
39.90	H	32.89	27.53	-7.11	-12.47	40.00	25.35	0.39	159.75	173.28
48.10	V	29.65	24.30	-10.35	-15.70	40.00	22.11	0.41	89.00	189.22
50.80	V	28.49	23.65	-11.51	-16.35	40.00	21.71	0.43	61.75	366.35
51.20	V	28.57	23.36	-11.43	-16.64	40.00	21.43	0.44	170.50	252.68

-6 dB BANDWIDTH

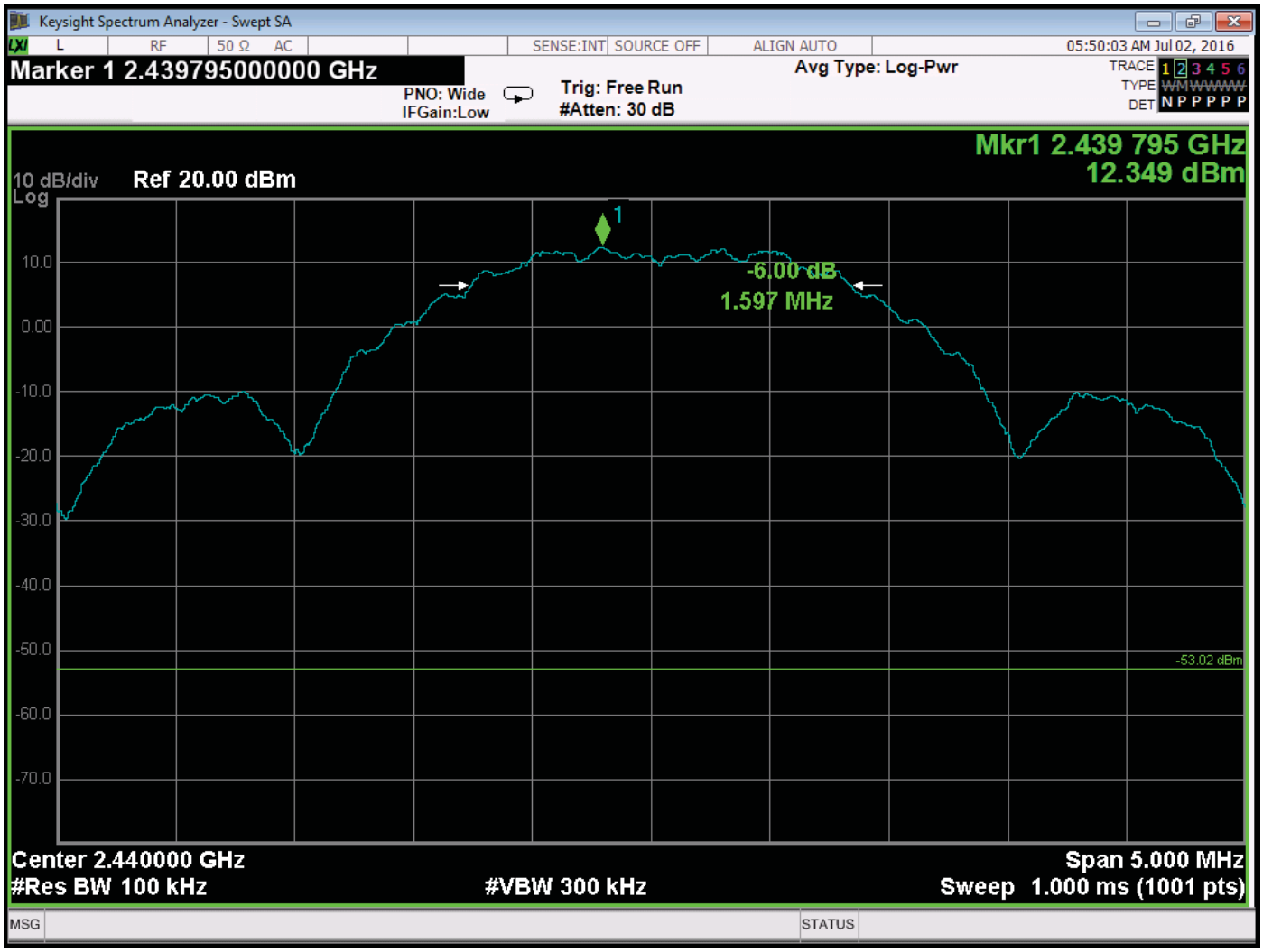
DATA SHEETS



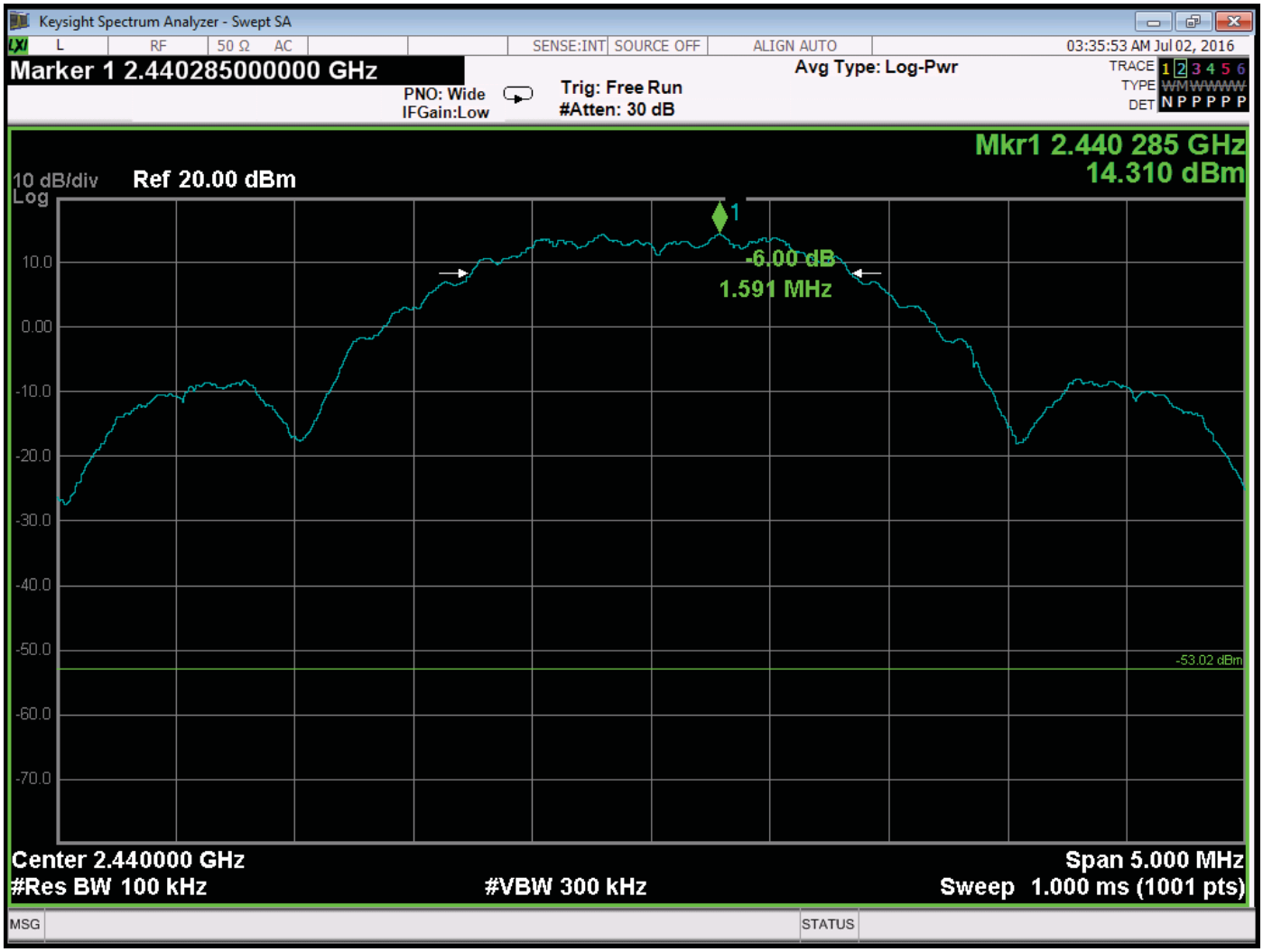
-6 dB Bandwidth – Low Channel – Antenna #1



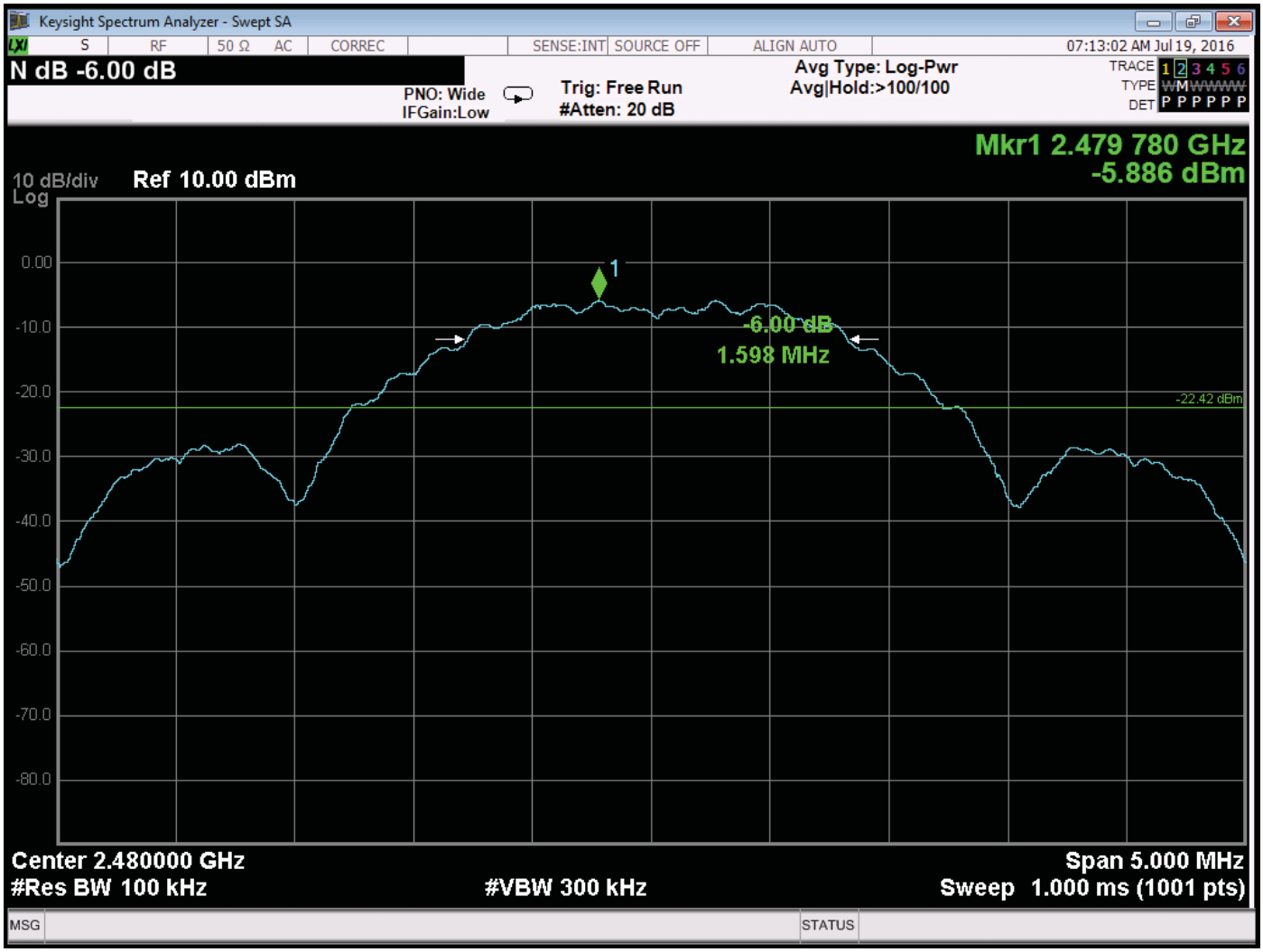
-6 dB Bandwidth – Low Channel – Antenna #2



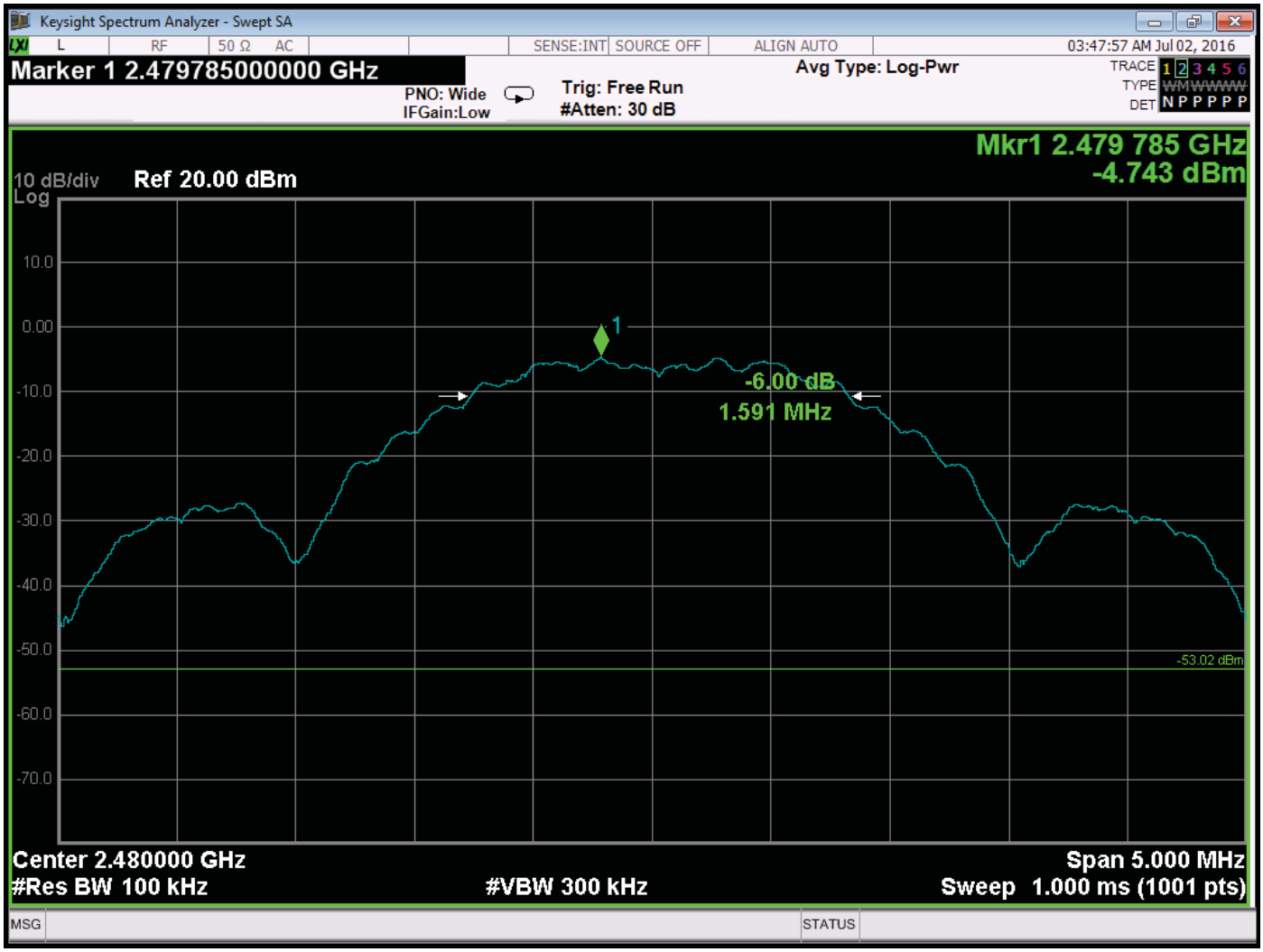
-6 dB Bandwidth – Middle Channel – Antenna #1



-6 dB Bandwidth – Middle Channel – Antenna #2



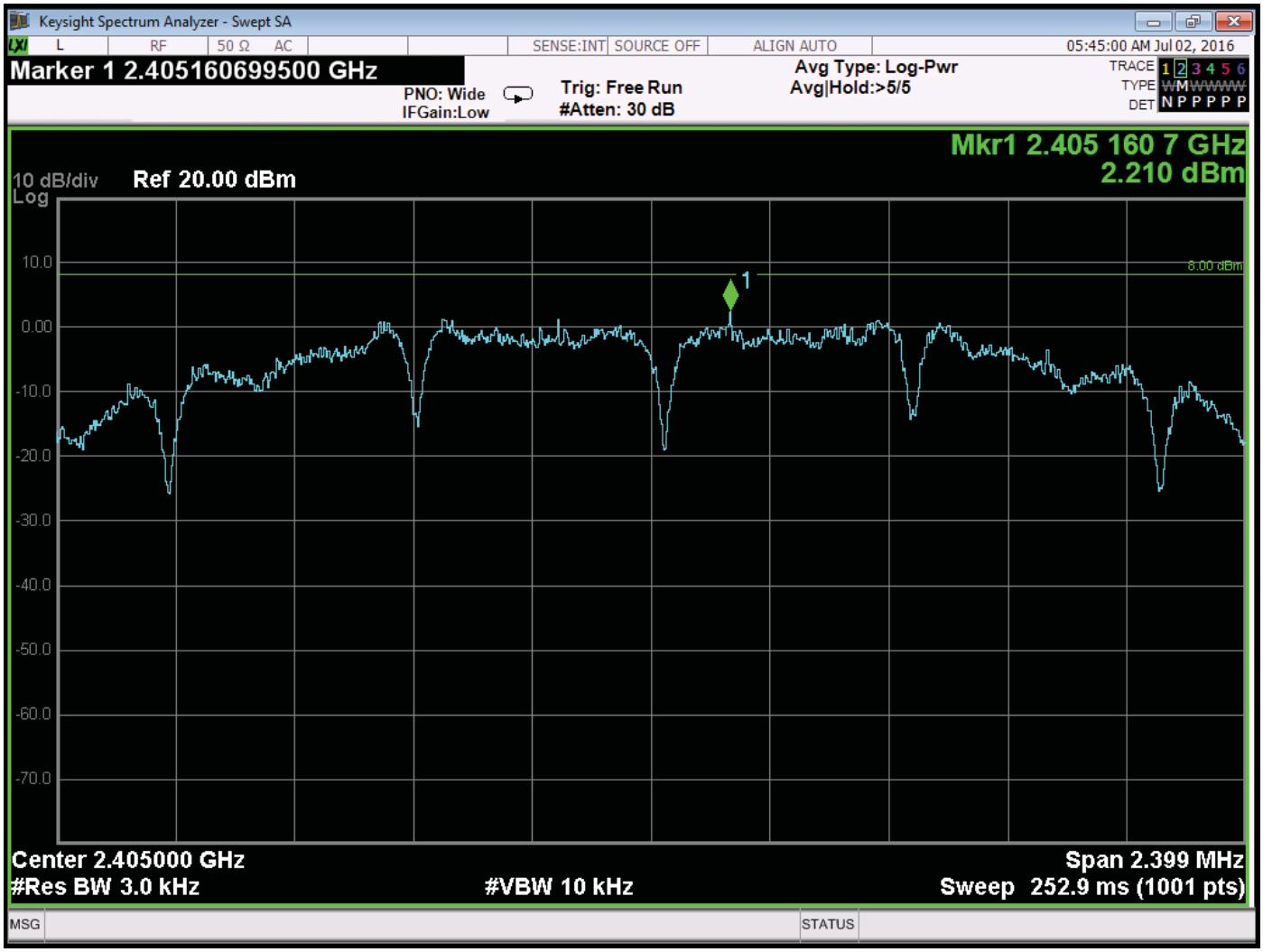
-6 dB Bandwidth – High Channel – Antenna #1



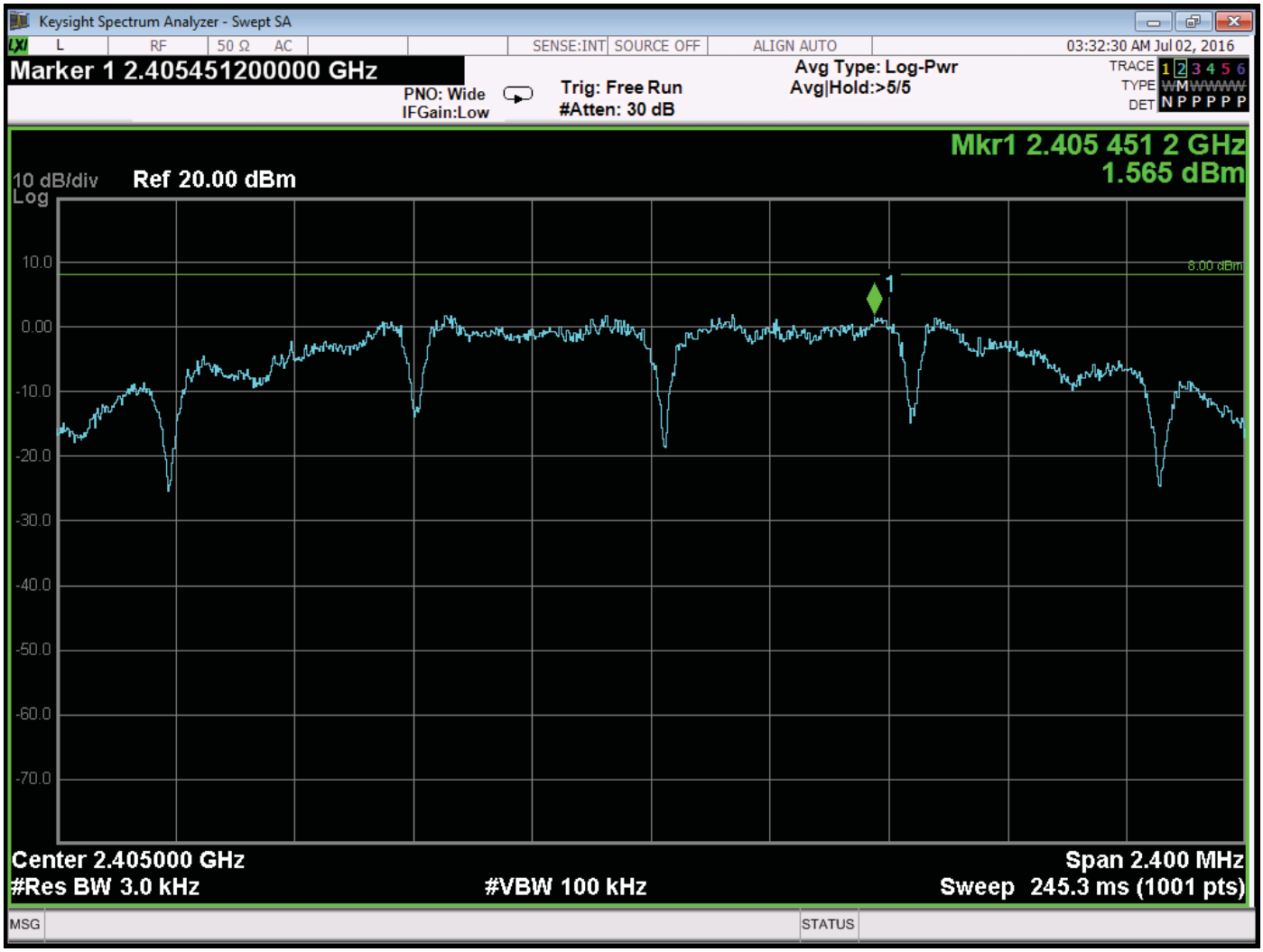
-6 dB Bandwidth – High Channel – Antenna #2

SPECTRAL DENSITY OUTPUT

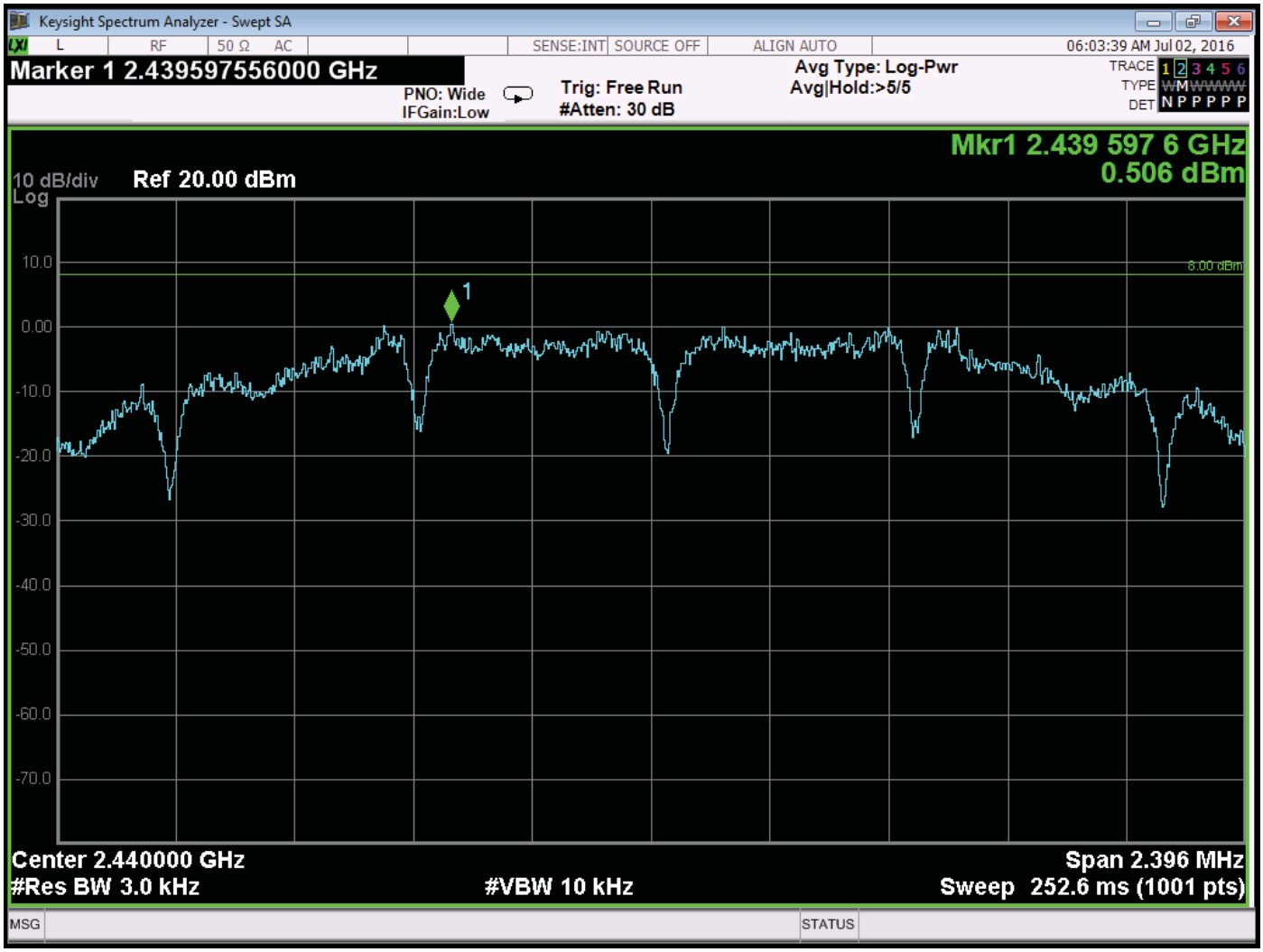
DATA SHEETS



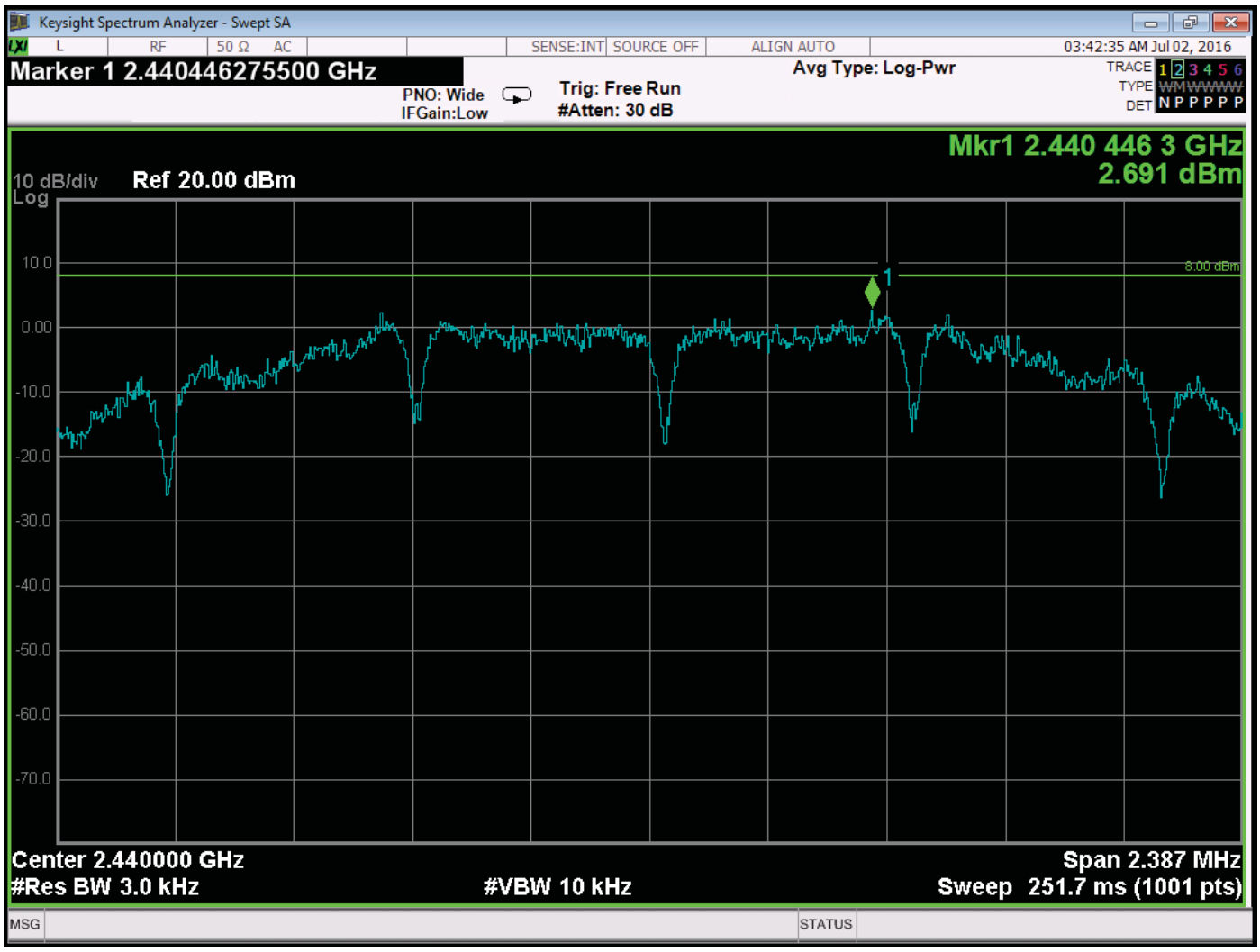
Spectral Density – Low Channel – Antenna #1



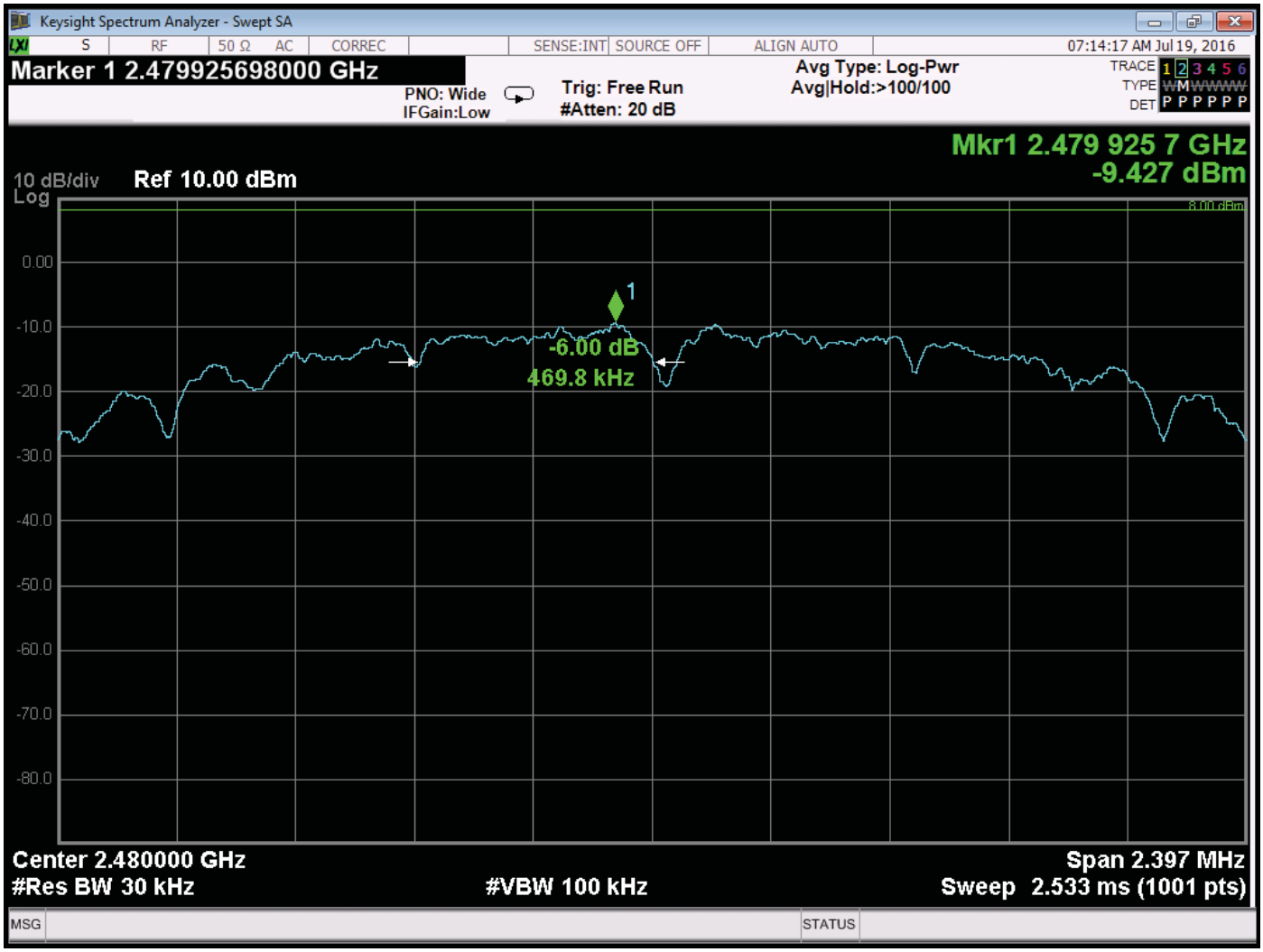
Spectral Density – Low Channel – Antenna #2



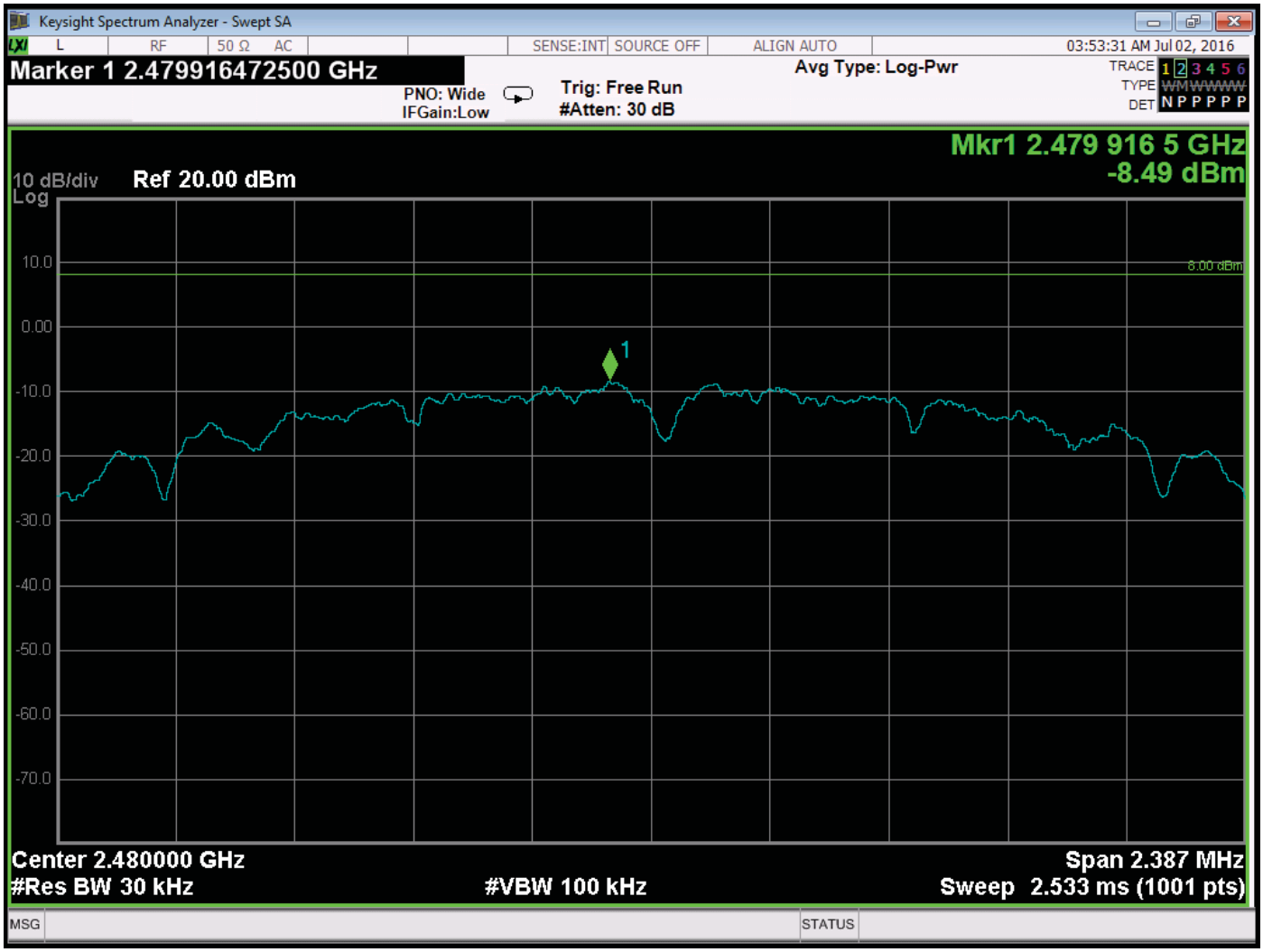
Spectral Density – Middle Channel – Antenna #1



Spectral Density – Middle Channel – Antenna #2



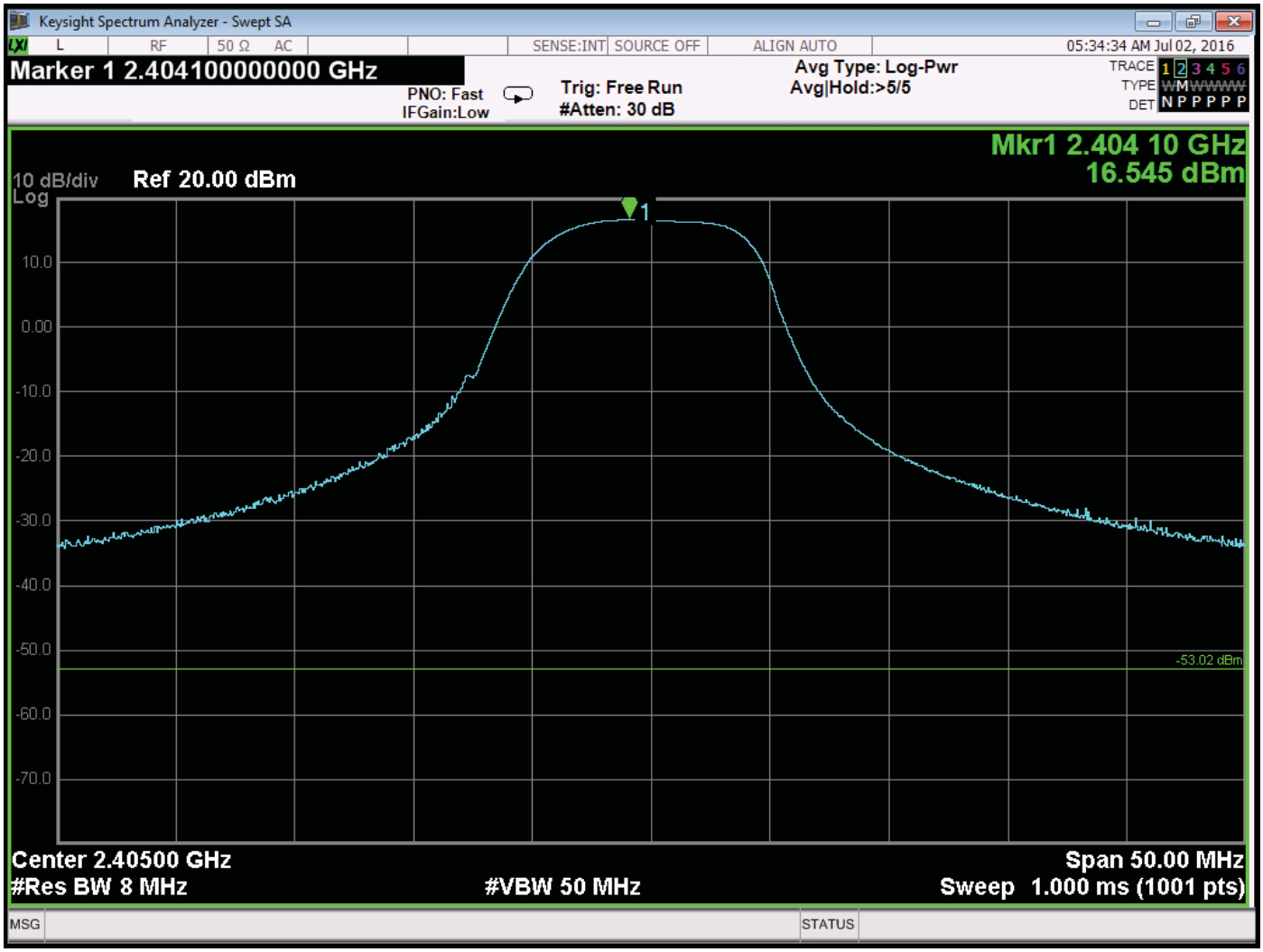
Spectral Density – High Channel – Antenna #1



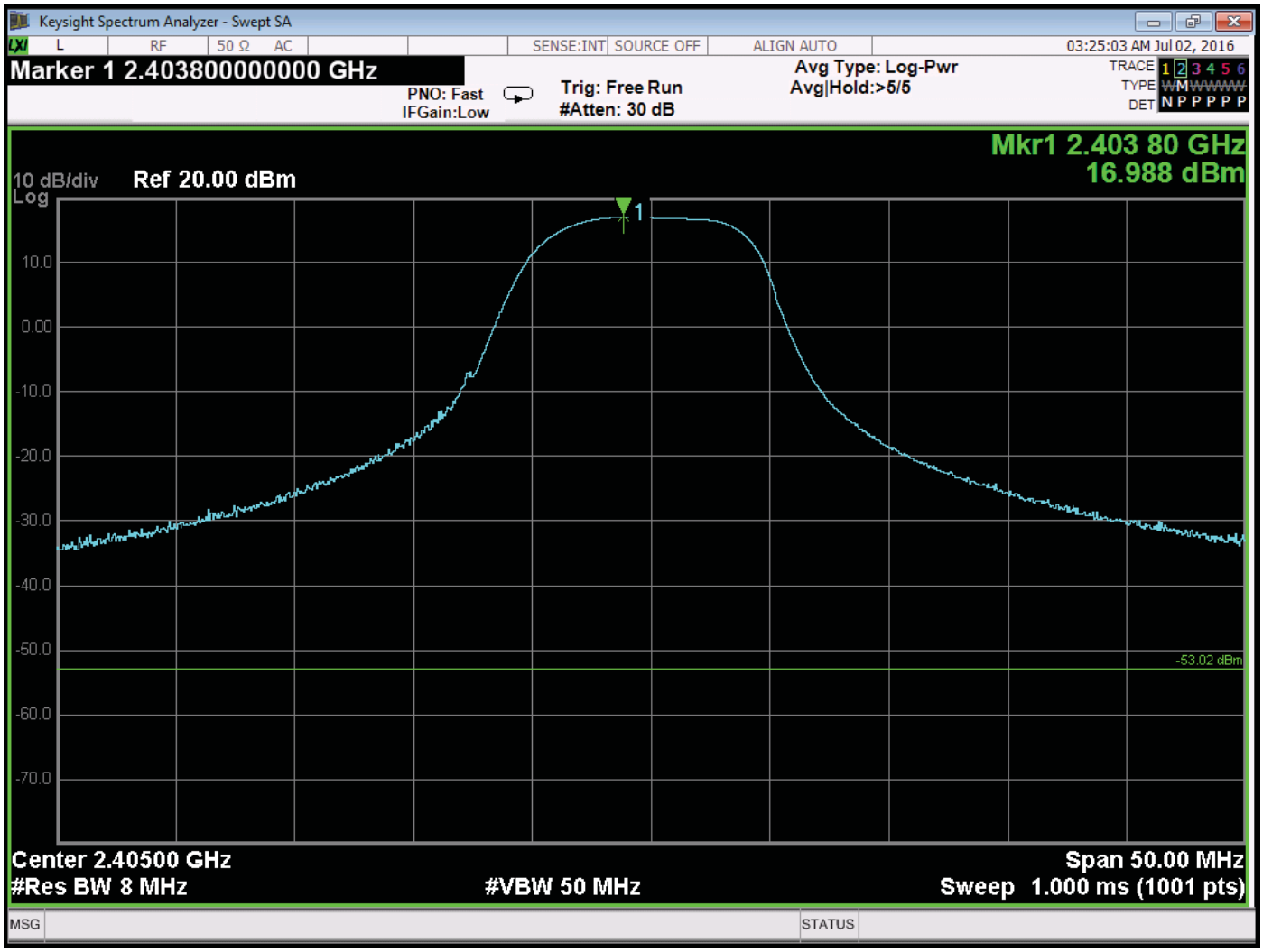
Spectral Density – High Channel – Antenna #2

PEAK POWER

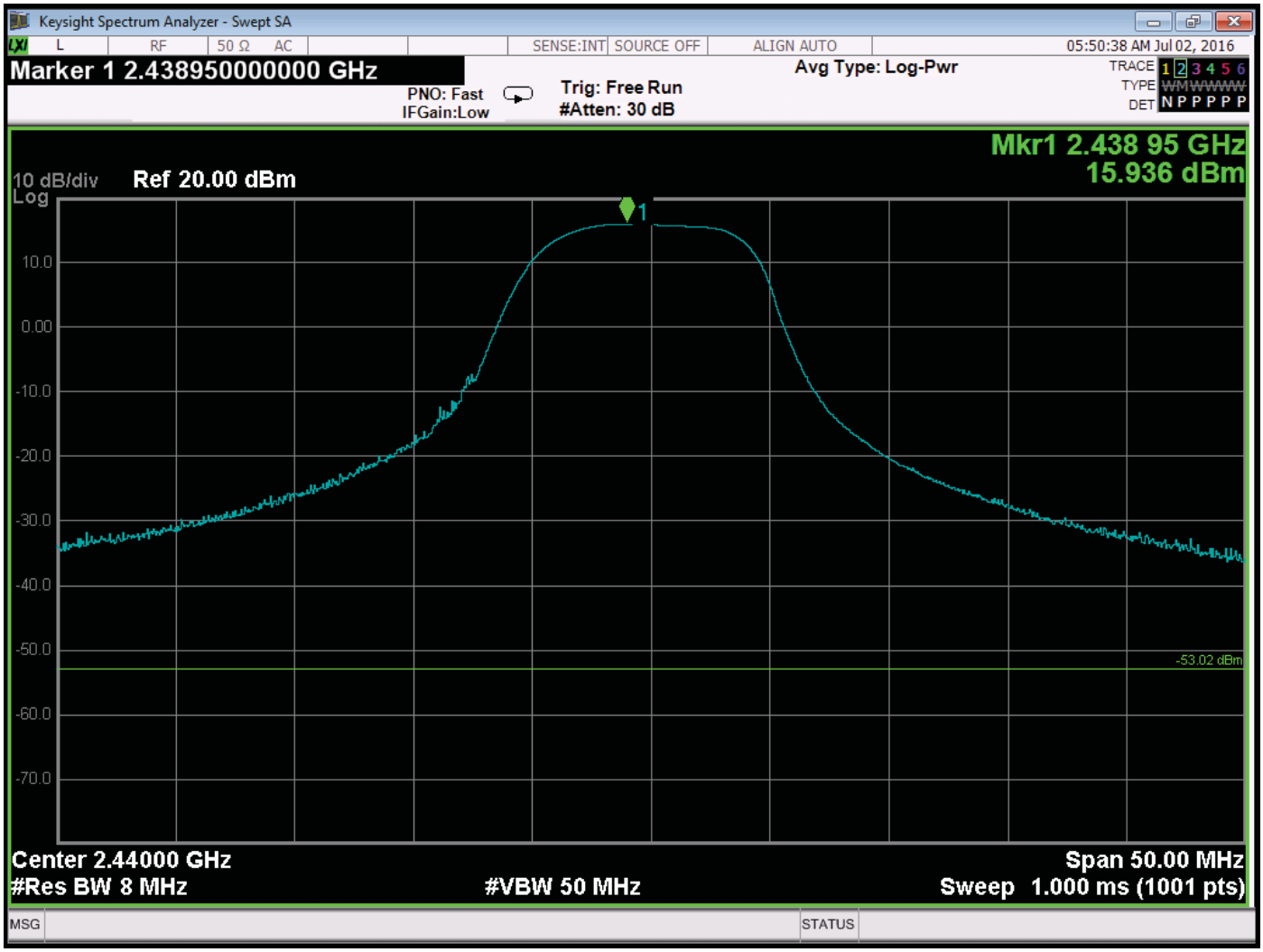
DATA SHEETS



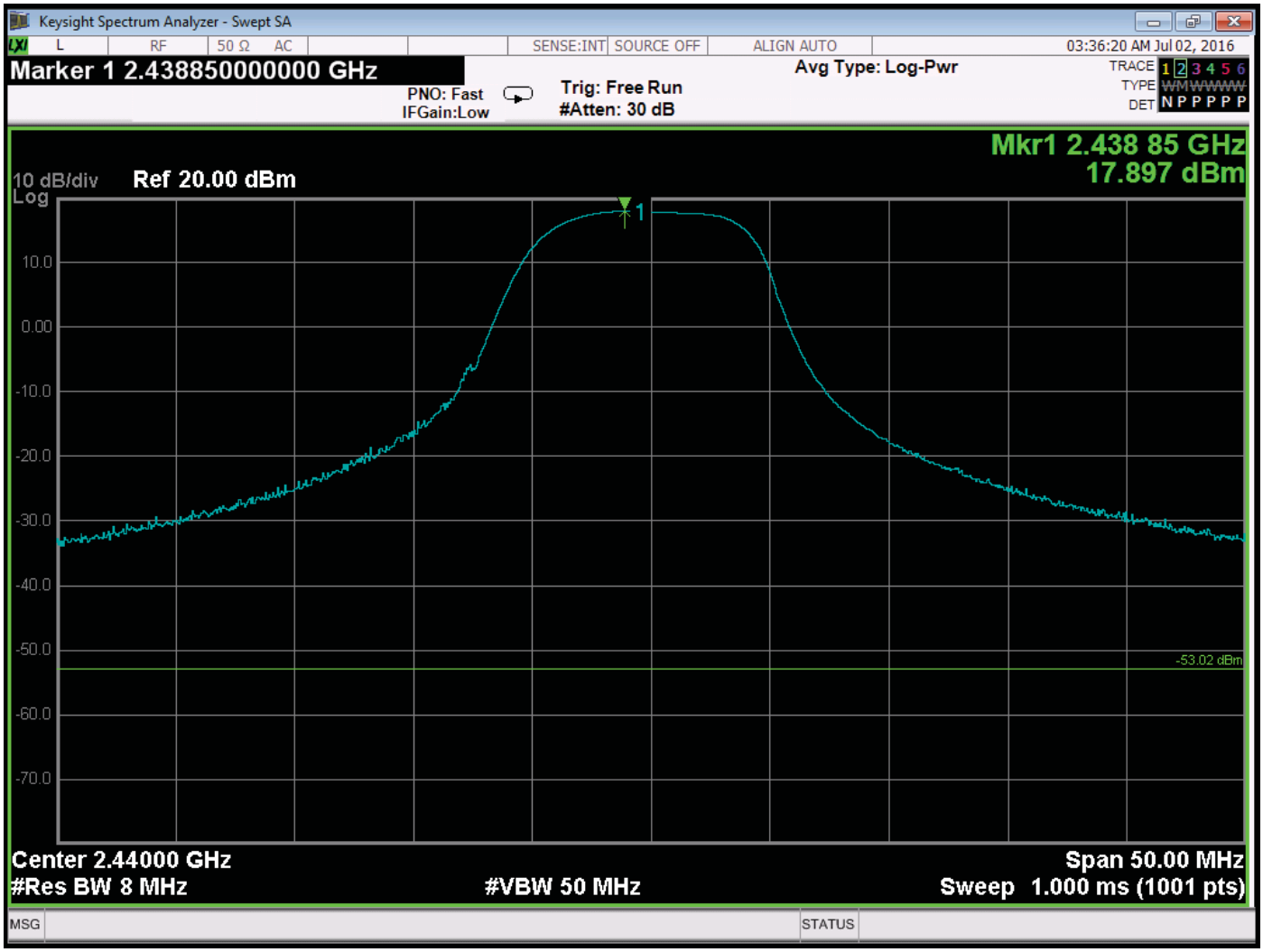
Peak Power Output – Low Channel – Antenna #1



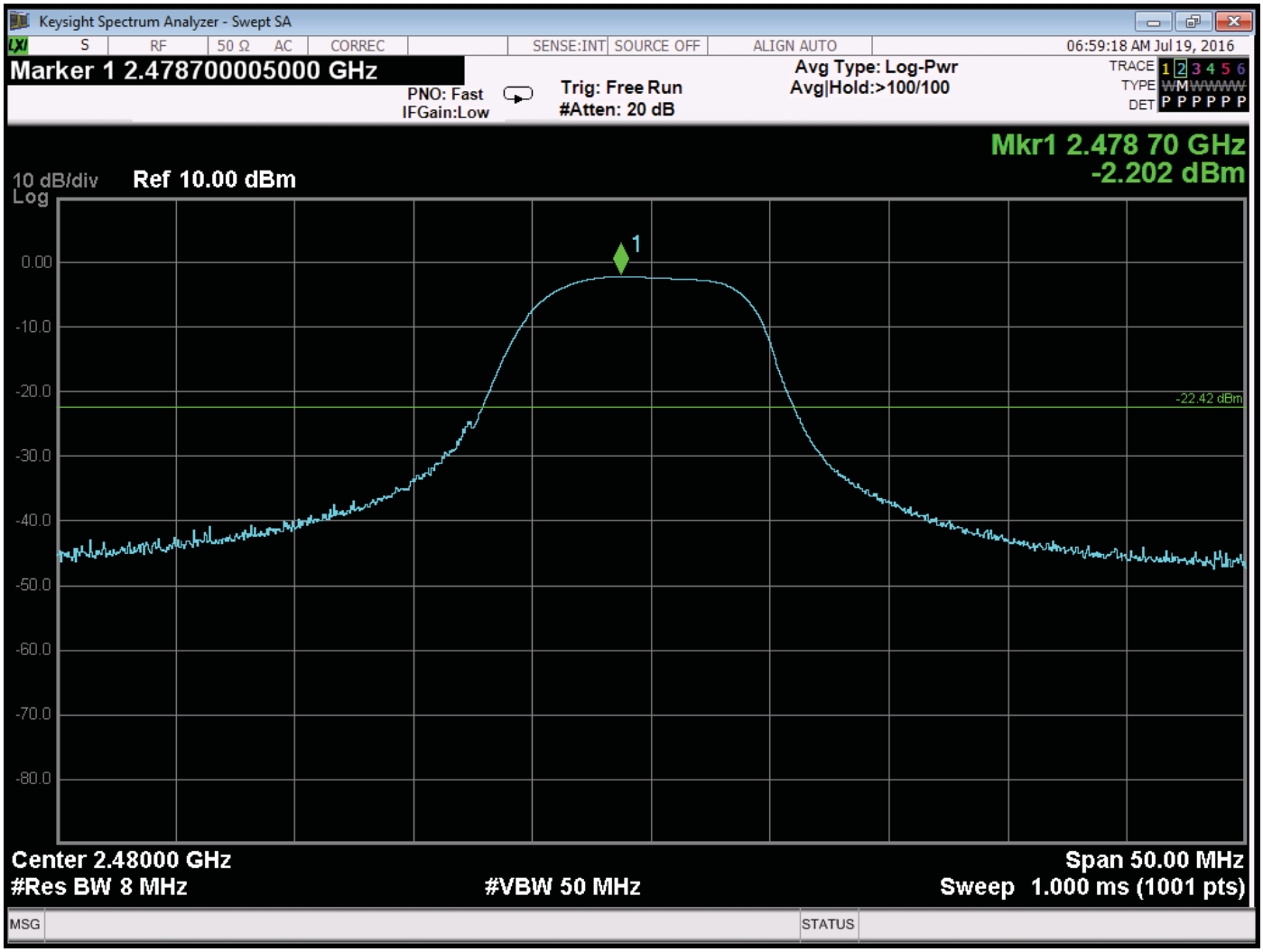
Peak Power Output – Low Channel – Antenna #2



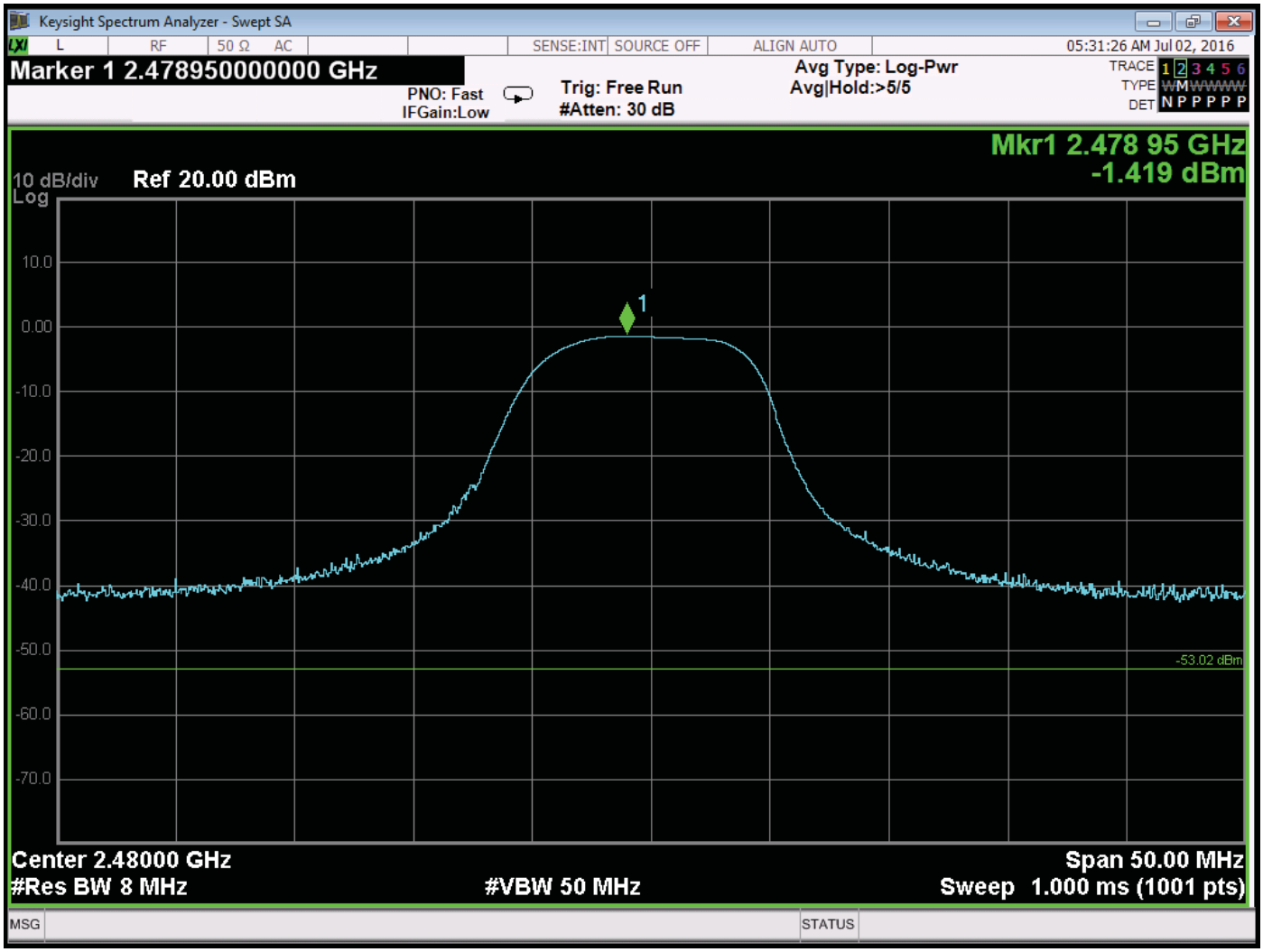
Peak Power Output – Middle Channel – Antenna #1



Peak Power Output – Middle Channel – Antenna #2



Peak Power Output – High Channel – Antenna #1



Peak Power Output – High Channel – Antenna #2

HARMONIC EMISSIONS IN NON-RESTRICTED FREQUENCY BANDS

DATA SHEETS

FCC 15.247
Ecolink Intelligent Technology, Inc., Inc.
Comcast Xfinity Home Motion Sensor
Model: URC4470BC0-X-R

Date: 06/27/2016 and 07/02/2016
Lab: D
Tested By: Kyle Fujimoto

Reference Levels to Determine Three Highest Non-Restricted Band Harmonics
Antenna #1

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2405	110.02	V	--	--	Peak	33.00	108.79	**Fundamental, Antenna #1**
								Z-Axis Worst Case
2405	109.79	H	--	--	Peak	85.00	190.04	**Fundamental, Antenna #1**
								X-Axis Worst Case
2440	110.28	V	--	--	Peak	35.55	116.65	**Fundamental, Antenna #1**
								Y-Axis Worst Case
2440	110.23	H	--	--	Peak	90.50	196.05	**Fundamental, Antenna #1**
								X-Axis Worst Case
2480	96.37	V	-	--	Peak	298.25	166.64	**Fundamental, Antenna #1**
								Y-Axis Worst Case
2480	95.65	H	--	--	Peak	153.00	178.11	**Fundamental, Antenna #1**
								X-Axis Worst Case

FCC 15.247
Ecolink Intelligent Technology, Inc., Inc.
Comcast Xfinity Home Motion Sensor
Model: URC4470BC0-X-R

Date: 06/27/2016 and 07/02/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonic Emissions in Non-Restricted Frequency Bands – Antenna #1

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Comments
9620	63.05	H	89.79	-26.74	Peak	**X-Axis, Antenna #1**
						Low Channel
9760	62.06	H	90.23	-28.17	Peak	**X-Axis, Antenna #1**
						Middle Channel
9620	61.65	H	89.79	-28.14	Peak	**Y-Axis, Antenna #1**
						Low Channel

Highest Three Non-Restricted Band Harmonics for Antenna #1

FCC 15.247
Ecolink Intelligent Technology, Inc., Inc.
Comcast Xfinity Home Motion Sensor
Model: URC4470BC0-X-R

Date: 06/27/2016 and 07/02/2016
Lab: D
Tested By: Kyle Fujimoto

Reference Levels to Determine Three Highest Non-Restricted Band Harmonics
Antenna #2

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2405	109.80	V	--	--	Peak	345.00	110.46	**Fundamental, Antenna #2**
								Y-Axis Worst Case
2405	109.07	H	--	--	Peak	297.00	160.31	**Fundamental, Antenna #2**
								X-Axis Worst Case
2440	110.09	V	--	--	Peak	86.25	105.59	**Fundamental, Antenna #2**
								Y-Axis Worst Case
2440	109.98	H	--	--	Peak	35.25	192.06	**Fundamental, Antenna #2**
								X-Axis Worst Case
2480	94.55	V	-	--	Peak	150.25	111.26	**Fundamental, Antenna #2**
								Y-Axis Worst Case
2480	94.07	H	--	--	Peak	125.25	102.25	**Fundamental, Antenna #2**
								Z-Axis Worst Case

FCC 15.247
Ecolink Intelligent Technology, Inc., Inc.
Comcast Xfinity Home Motion Sensor
Model: URC4470BC0-X-R

Date: 06/27/2016 and 07/02/2016
Lab: D
Tested By: Kyle Fujimoto

Harmonic Emissions in Non-Restricted Frequency Bands – Antenna #2

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Comments
7215	66.04	V	89.07	-23.03	Peak	**X-Axis, Antenna #2**
						Low Channel
7215	64.08	V	89.07	-24.99	Peak	**Y-Axis, Antenna #2**
						Low Channel
7215	65.83	H	89.07	-23.24	Peak	**Y-Axis, Antenna #2**
						Low Channel

Highest Three Non-Restricted Band Harmonics for Antenna #2

BAND EDGES

DATA SHEETS

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC4470BC0-X-R

Date: 06/28/2016
Lab: D
Tested By: Kyle Fujimoto

Band Edges - Low Channel - Antenna #1
Duty Cycle: 25.92% - Power Level -7

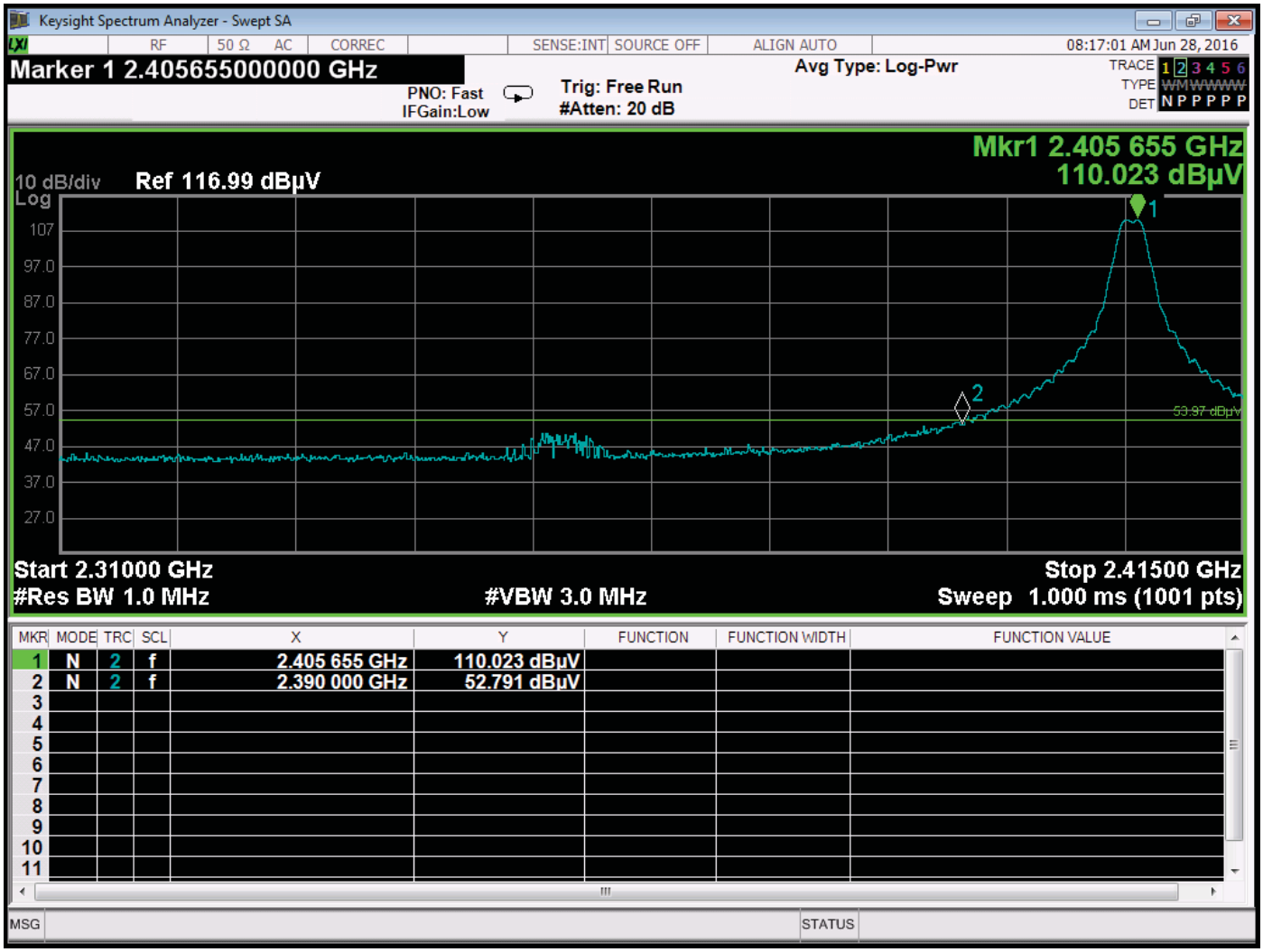
Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2405	110.02	V	--	--	Peak	33.00	108.79	**Fundamental**
2405	98.30	V	--	--	Avg	33.00	108.79	**Z-Axis Worst Case**
2390	52.79	V	73.97	-21.18	Peak	142.00	149.08	**Band Edge**
2390	41.07	V	53.97	-12.90	Avg	142.00	149.08	**Z-Axis Worst Case**
2405	109.79	H	--	--	Peak	85.00	190.04	**Fundamental**
2405	98.07	H	--	--	Avg	85.00	190.04	**X-Axis Worst Case**
2390	53.47	H	73.97	-20.50	Peak	85.00	190.04	**Band Edge**
2390	41.75	H	53.97	-12.22	Avg	85.00	190.04	**X-Axis Worst Case**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC4470BC0-X-R

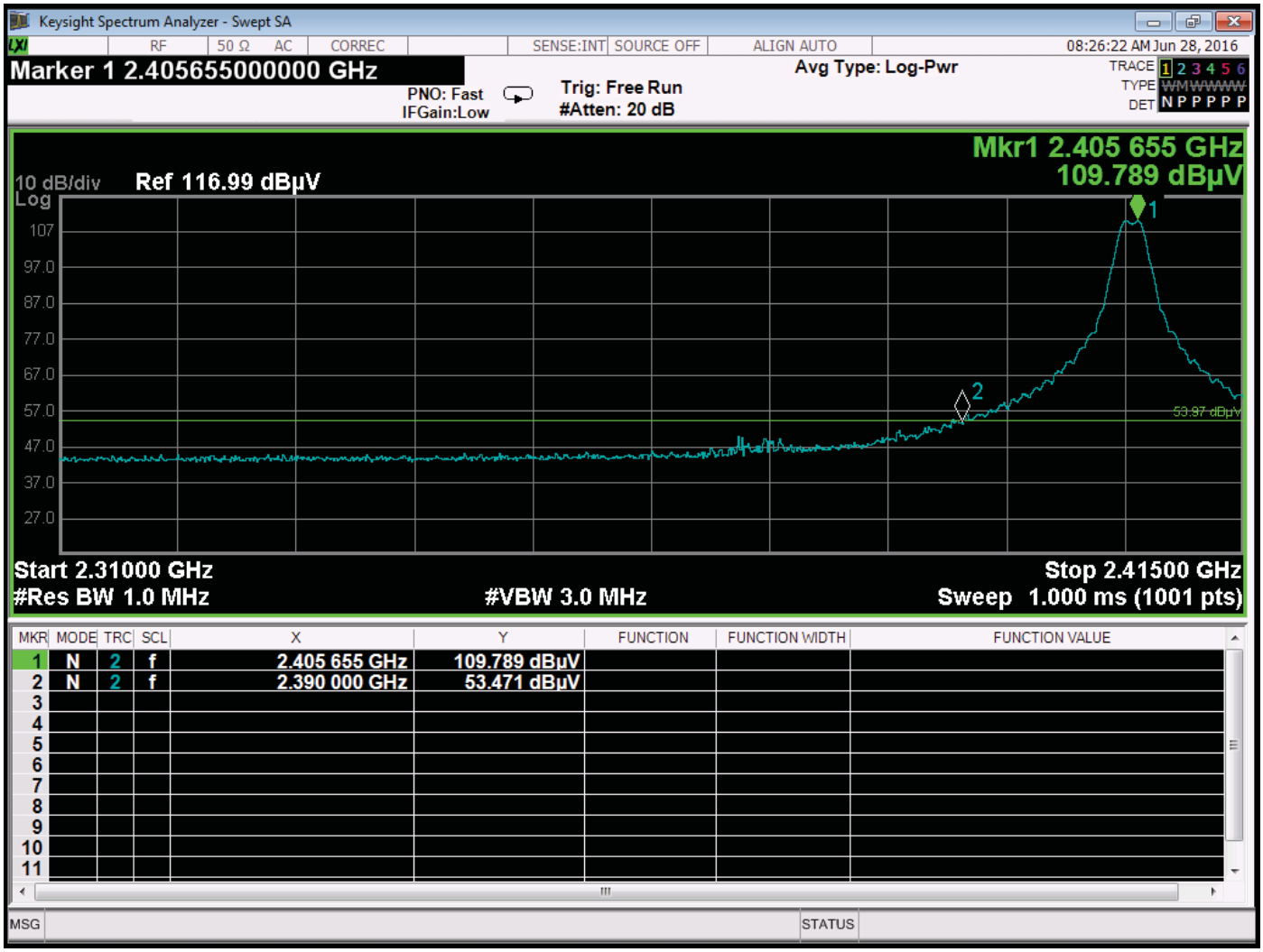
Dates: 06/28/2016 and 07/02/2016
Lab: D
Tested By: Kyle Fujimoto

Band Edge - High Channel - Antenna #1
Duty Cycle: 25.92%
2475 MHz – Power Level -7
2480 MHz – Power Level -15

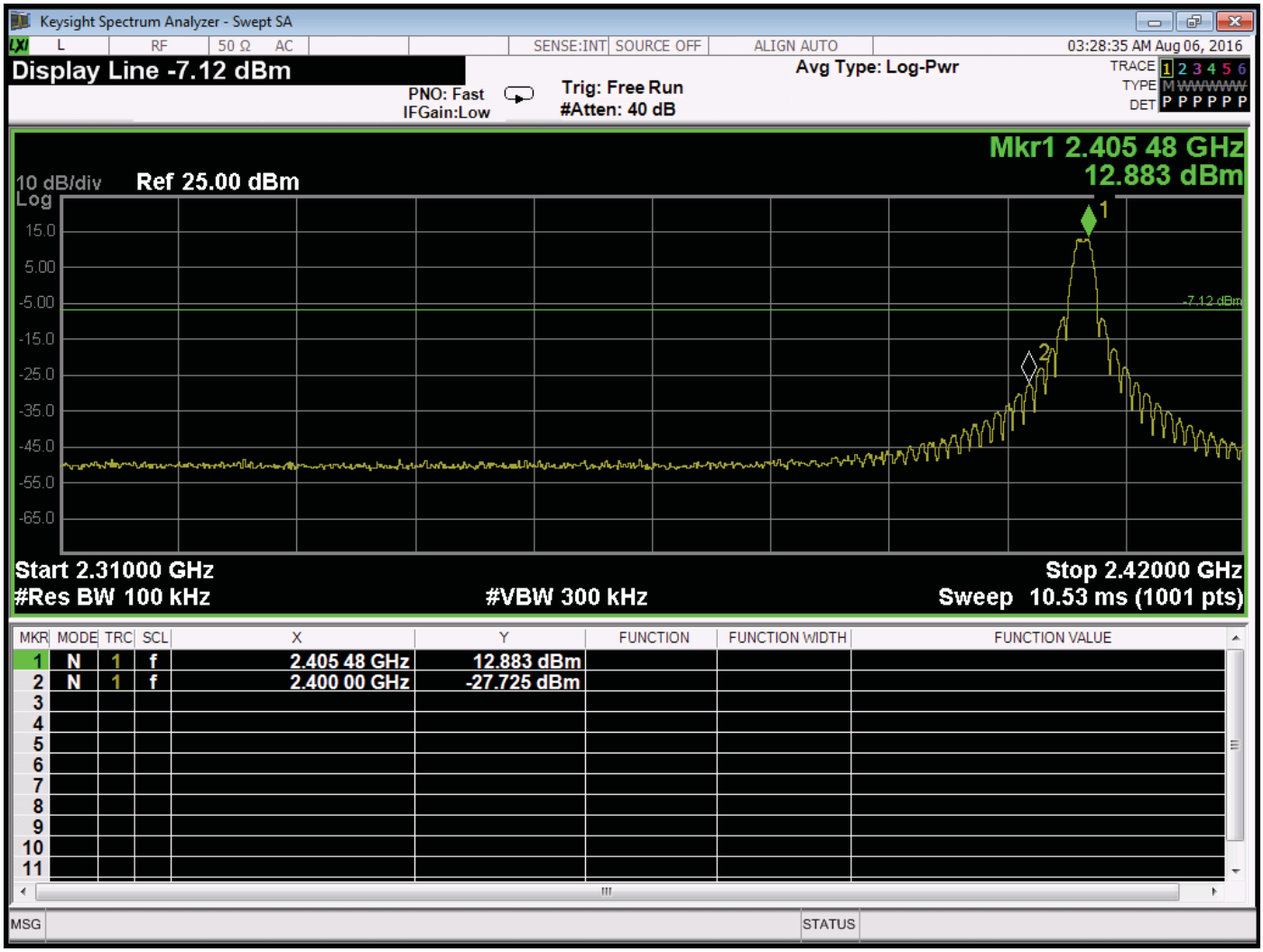
Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2480	96.37	V	113.97	-17.60	Peak	298.25	166.64	**Fund. of High Channel**
2480	84.65	V	93.97	-9.32	Avg	298.25	166.64	**Y-Axis Worst Case**
2483.5	63.80	V	73.97	-10.17	Peak	298.25	166.64	**Band Edge of High Ch.**
2483.5	52.08	V	53.97	-1.89	Avg	298.25	166.64	**Y-Axis Worst Case**
2480	95.65	H	113.97	-18.32	Peak	153.00	178.11	**Fund. of High Channel**
2480	83.93	H	93.97	-10.04	Avg	153.00	178.11	**X-Axis Worst Case**
2483.5	62.85	H	73.97	-11.12	Peak	153.00	178.11	**Fund. of High Channel**
2483.5	51.13	H	53.97	-2.84	Avg	153.00	178.11	**X-Axis Worst Case**
2475	109.28	V	--	--	Peak	298.25	159.65	**Fundamental**
2475	97.56	V	--	--	Avg	298.25	159.65	**Y-Axis Worst Case**
2483.5	62.68	V	73.97	-11.29	Peak	298.25	159.65	**Band Edge**
2483.5	50.96	V	53.97	-3.01	Avg	298.25	159.65	**Y-Axis Worst Case**
2475	109.51	H	--	--	Peak	53.25	101.26	**Fundamental**
2475	97.79	H	--	--	Avg	53.25	101.26	**X-Axis Worst Case**
2483.5	63.14	H	73.97	-10.83	Peak	53.25	101.26	**Band Edge**
2483.5	51.42	H	53.97	-2.55	Avg	53.25	101.26	**X-Axis Worst Case**



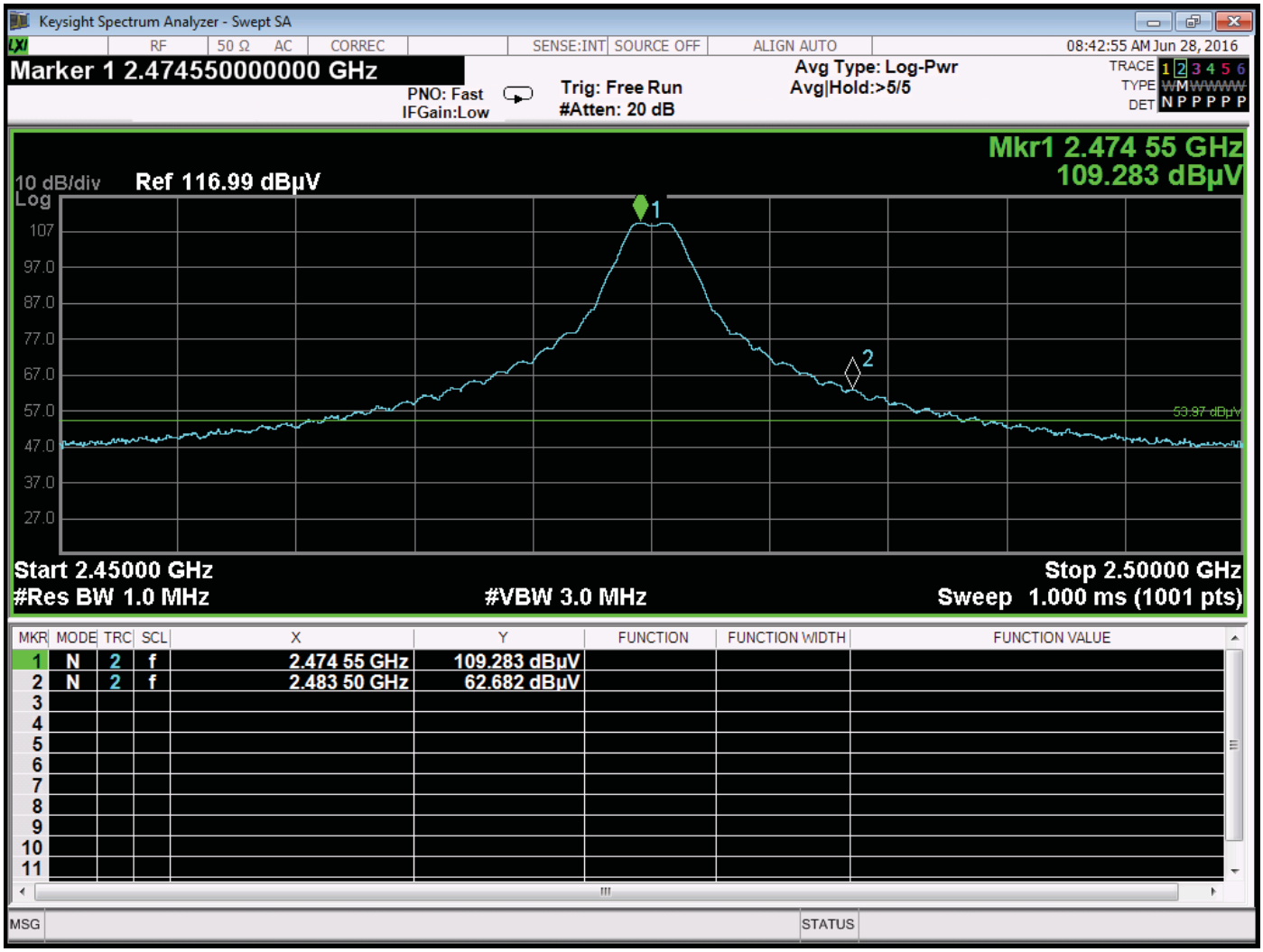
Band Edge – Low Channel – Vertical – Z-Axis – Worst Case – Antenna #1



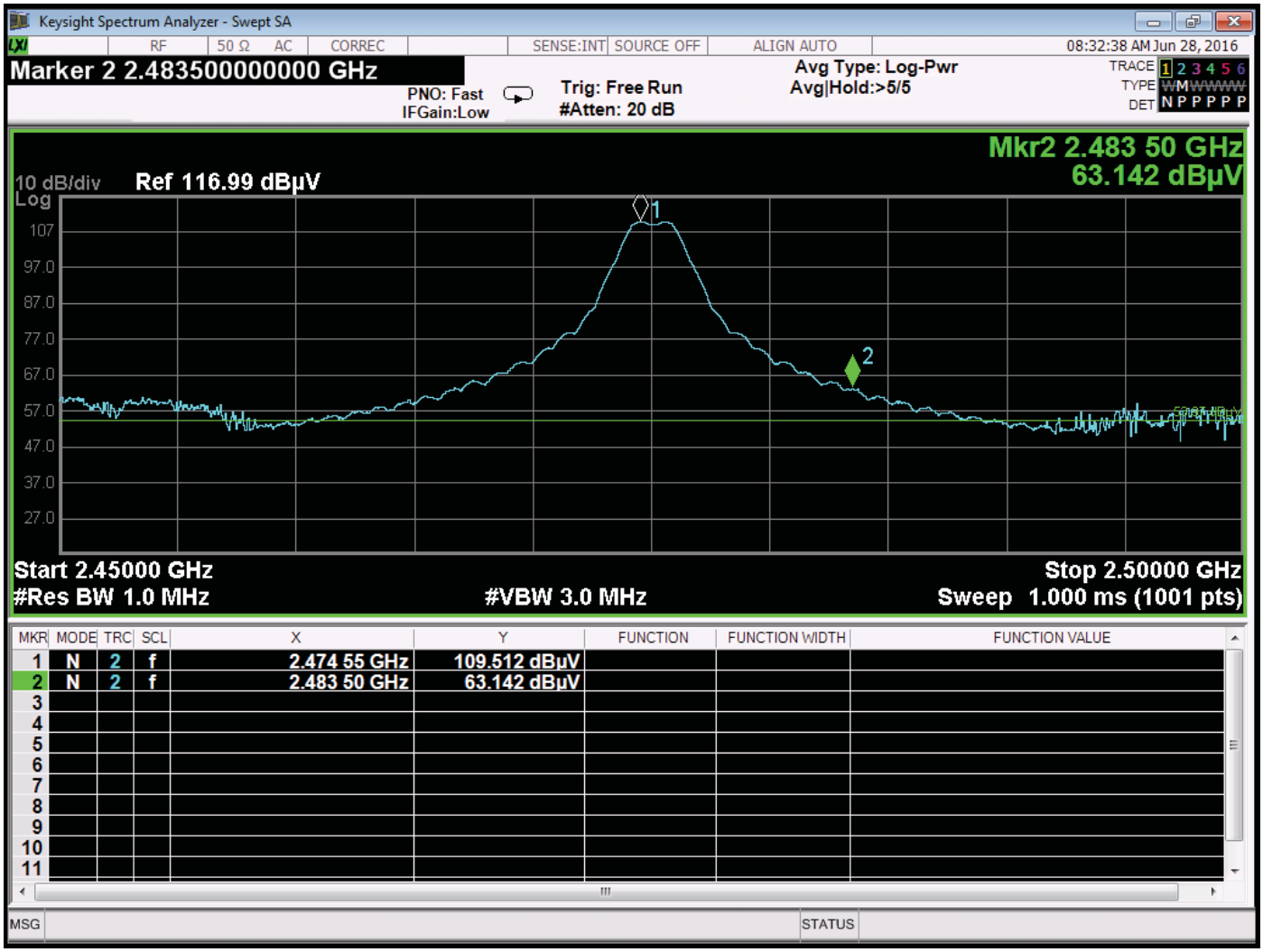
Band Edge – Low Channel – Horizontal – X-Axis – Worst Case – Antenna #1



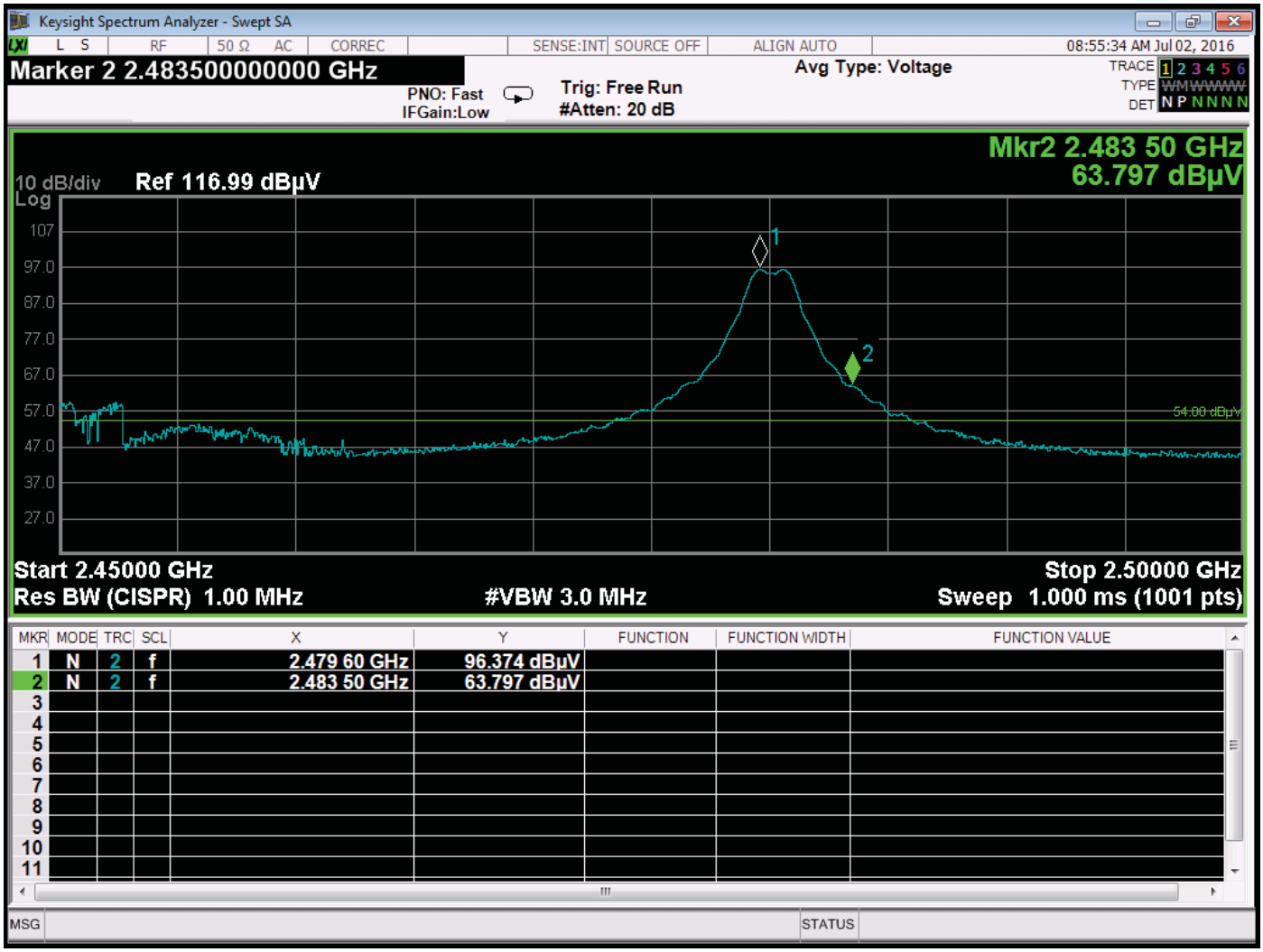
Band Edge – Low Channel – Antenna #1 – Plot Showing that 2400 MHz is 20 dB down from the Fundamental.



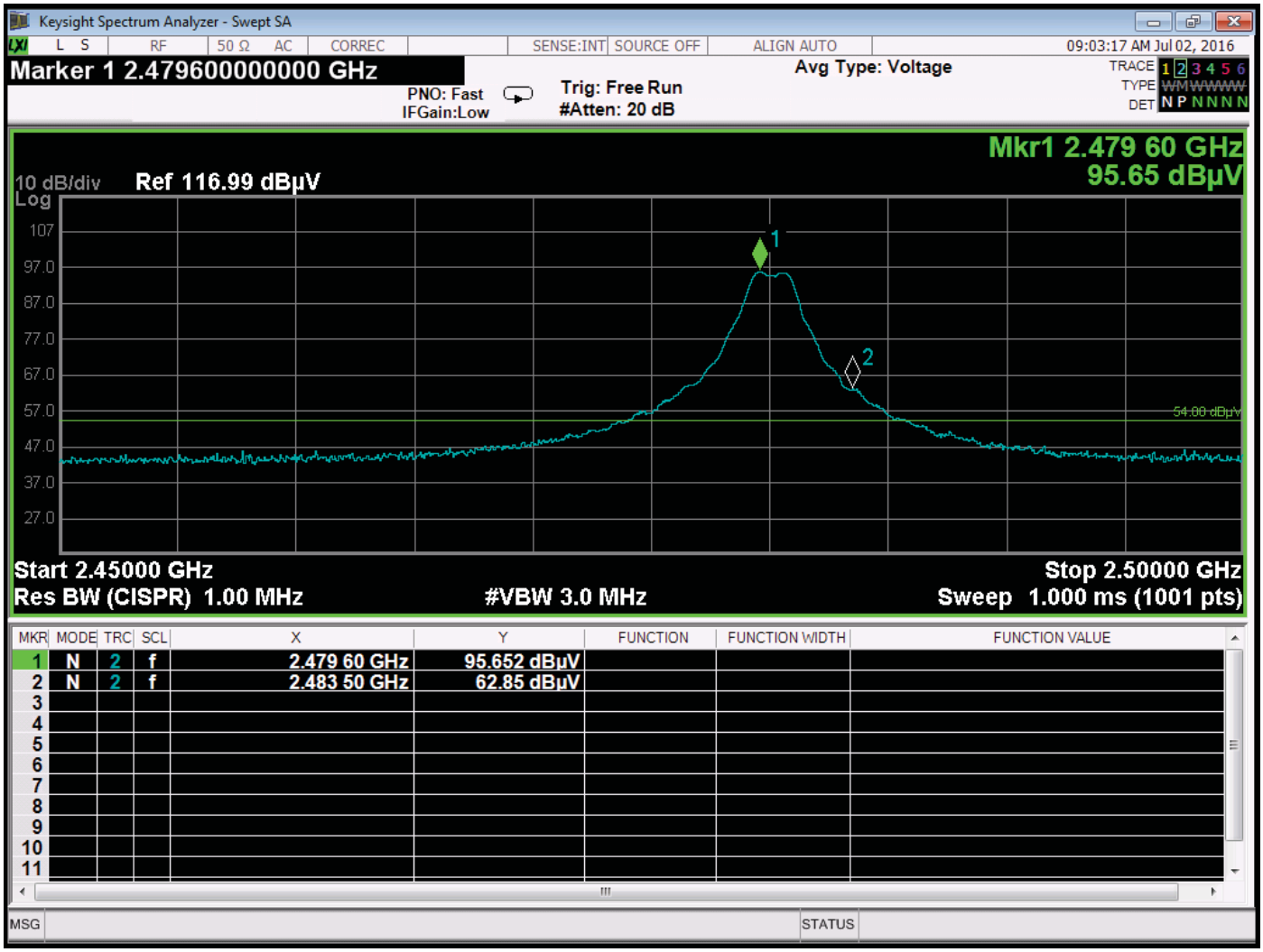
Band Edge – High Channel (2475 MHz) – Vertical – Y-Axis – Worst Case – Antenna #1



Band Edge – High Channel (2475 MHz) – Horizontal – X-Axis – Worst Case – Antenna #1



Band Edge – High Channel (2480 MHz) – Vertical – Y-Axis – Worst Case – Antenna #1



Band Edge – High Channel (2480 MHz) – Horizontal – X-Axis – Worst Case – Antenna #1

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC447BC0-X-R

Dates: 06-29-2016
Lab: D
Tested By: Kyle Fujimoto

Band Edges - Low Channel - Antenna #2
Duty Cycle: 25.92% - Power Level -7

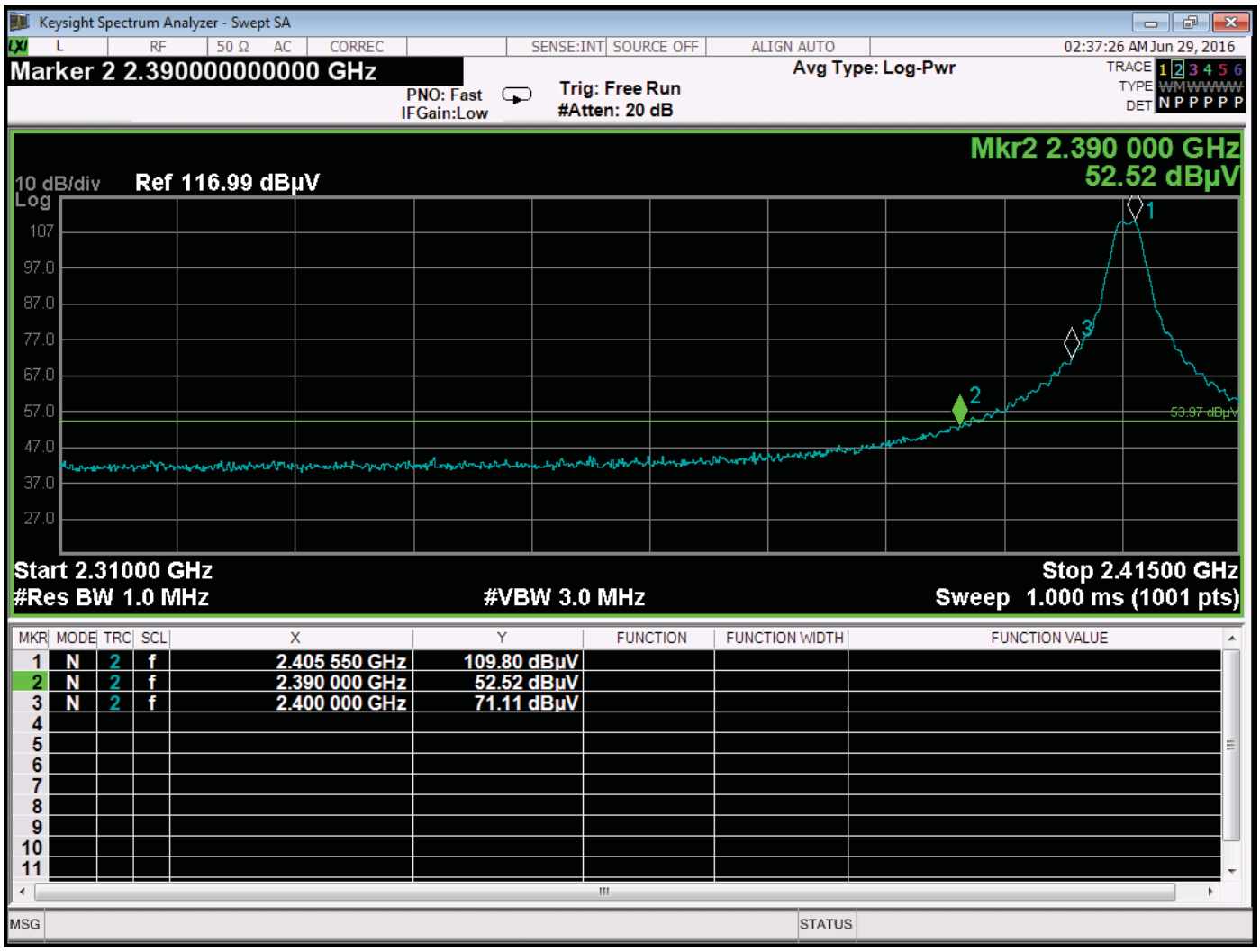
Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2405	109.80	V	--	--	Peak	345.00	110.46	**Fundamental**
2405	98.08	V	--	--	Avg	345.00	110.46	**Y-Axis Worst Case**
2390	52.52	V	73.97	-21.45	Peak	345.00	110.46	**Band Edge**
2390	40.80	V	53.97	-13.17	Avg	345.00	110.46	**Y-Axis Worst Case**
2405	109.07	H	--	--	Peak	297.00	160.31	**Fundamental**
2405	97.35	H	--	--	Avg	297.00	160.31	**X-Axis Worst Case**
2390	52.15	H	73.97	-21.82	Peak	297.00	160.31	**Band Edge**
2390	40.43	H	53.97	-13.54	Avg	297.00	160.31	**X-Axis Worst Case**

FCC 15.247
Ecolink Intelligent Technology, Inc.
Comcast Xfinity Home Motion Sensor
Model: URC447BC0-X-R

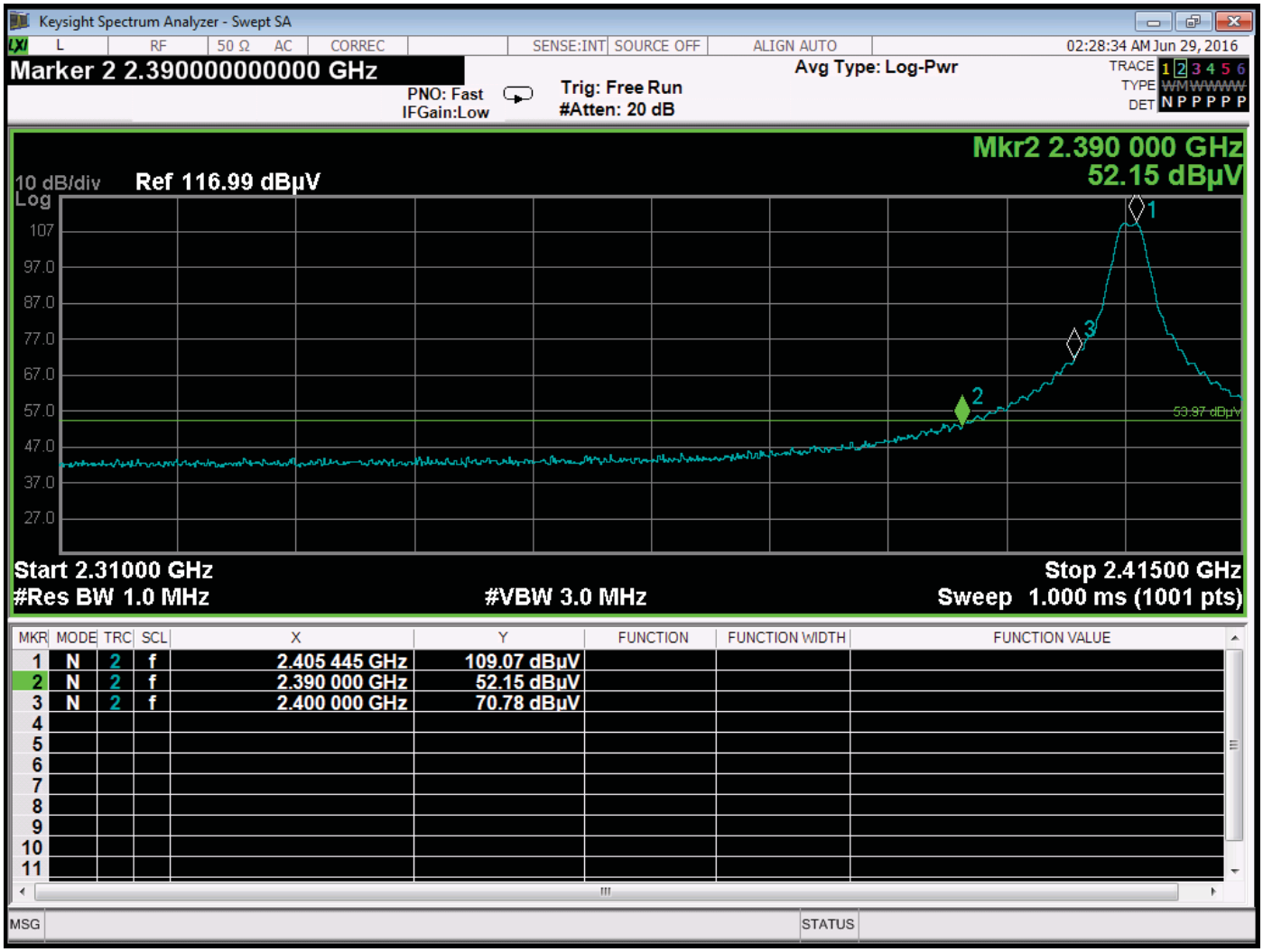
Dates: 06-28, 06-29, 07-02-2016
Lab: D
Tested By: Kyle Fujimoto

Band Edge - High Channel - Antenna #2
2475 MHz – Power Level -7
2480 MHz – Power Level -15

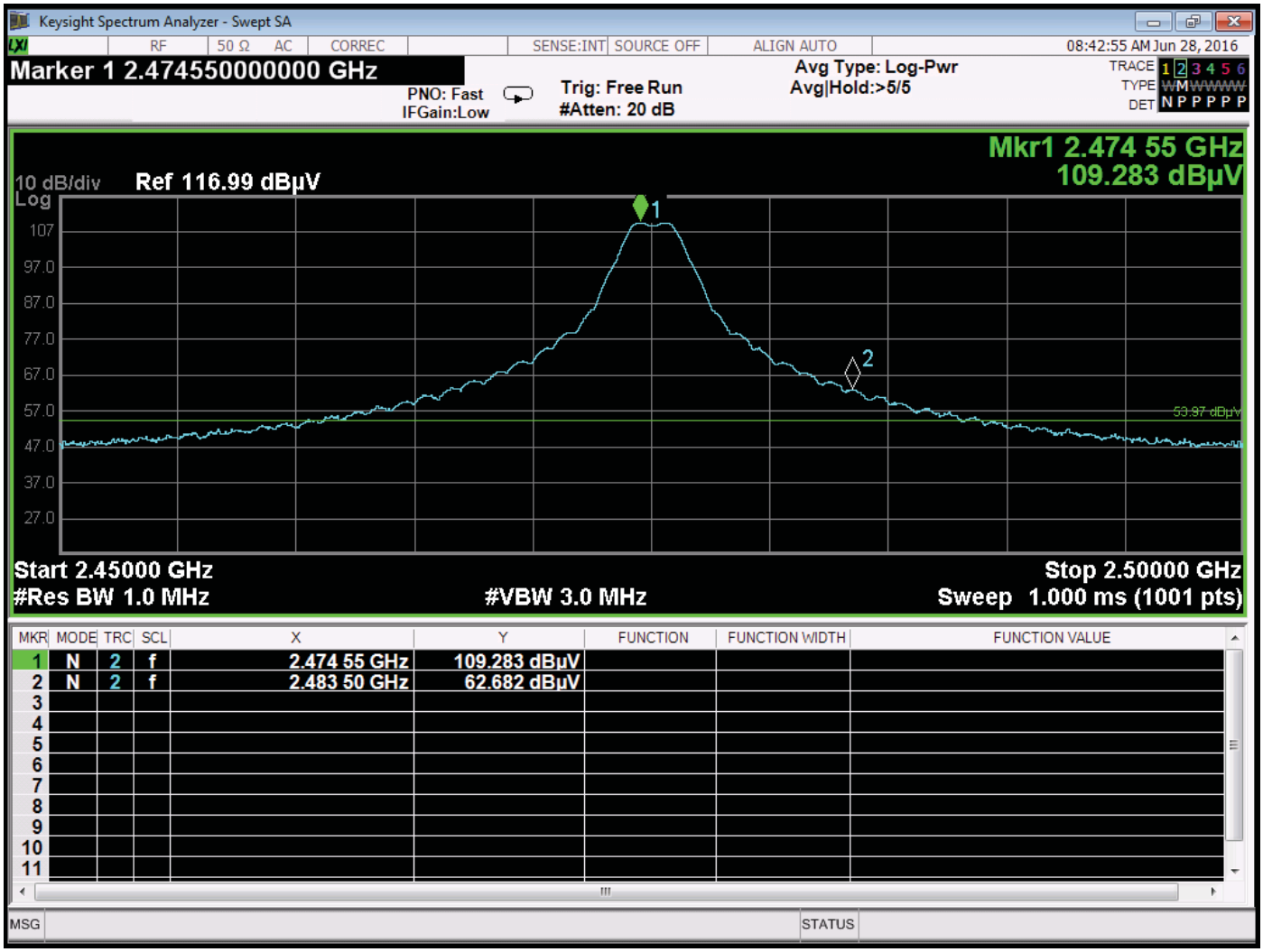
Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2480	94.55	V	-	--	Peak	150.25	111.26	**Fund. of High Channel**
2480	82.83	V	--	--	Avg	150.25	111.26	**Y-Axis Worst Case**
2483.5	61.96	V	73.97	-12.01	Peak	150.25	111.26	**Band Edge of High Ch.**
2483.5	50.24	V	53.97	-3.73	Avg	150.25	111.26	**Y-Axis Worst Case**
2480	94.07	H	--	--	Peak	125.25	102.25	**Fund. of High Channel**
2480	82.35	H	--	--	Avg	125.25	102.25	**Z-Axis Worst Case**
2483.5	61.74	H	73.97	-12.23	Peak	125.25	102.25	**Fund. of High Channel**
2483.5	50.02	H	53.97	-3.95	Avg	125.25	102.25	**Z-Axis Worst Case**
2475	109.29	V	--	--	Peak	324.75	111.71	**Fundamental**
2475	97.57	V	--	--	Avg	324.75	111.71	**Y-Axis Worst Case**
2483.5	62.63	V	73.97	-11.34	Peak	324.75	111.71	**Band Edge**
2483.5	50.91	V	53.97	-3.06	Avg	324.75	111.71	**Y-Axis Worst Case**
2475	109.40	H	--	--	Peak	355.50	112.23	**Fundamental**
2475	97.68	H	--	--	Avg	355.50	112.23	**Z-Axis Worst Case**
2483.5	62.94	H	73.97	-11.03	Peak	355.50	112.23	**Band Edge**
2483.5	51.22	H	53.97	-2.75	Avg	355.50	112.23	**Z-Axis Worst Case**



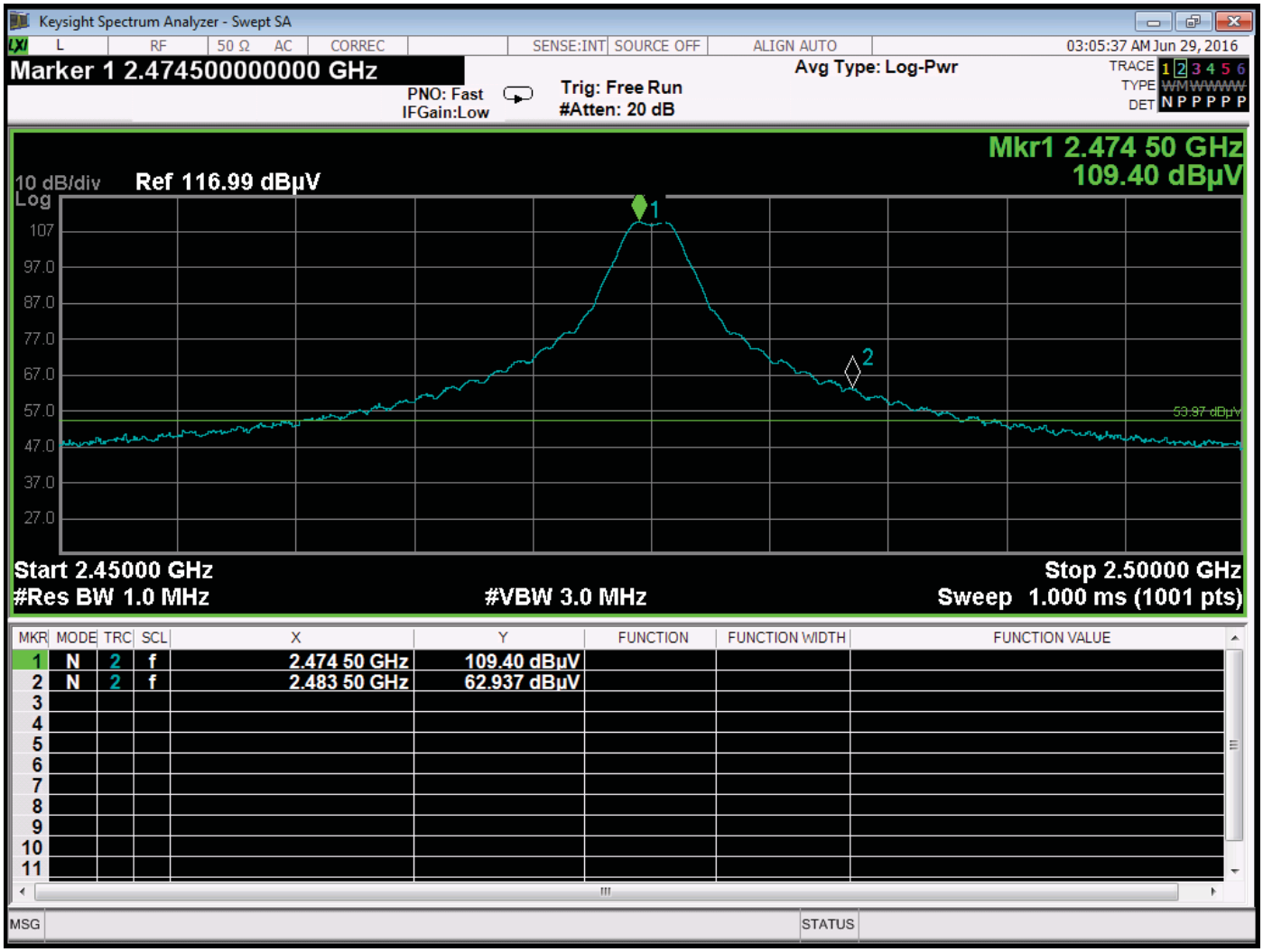
Band Edge – Low Channel – Vertical – Y-Axis – Worst Case – Antenna #2



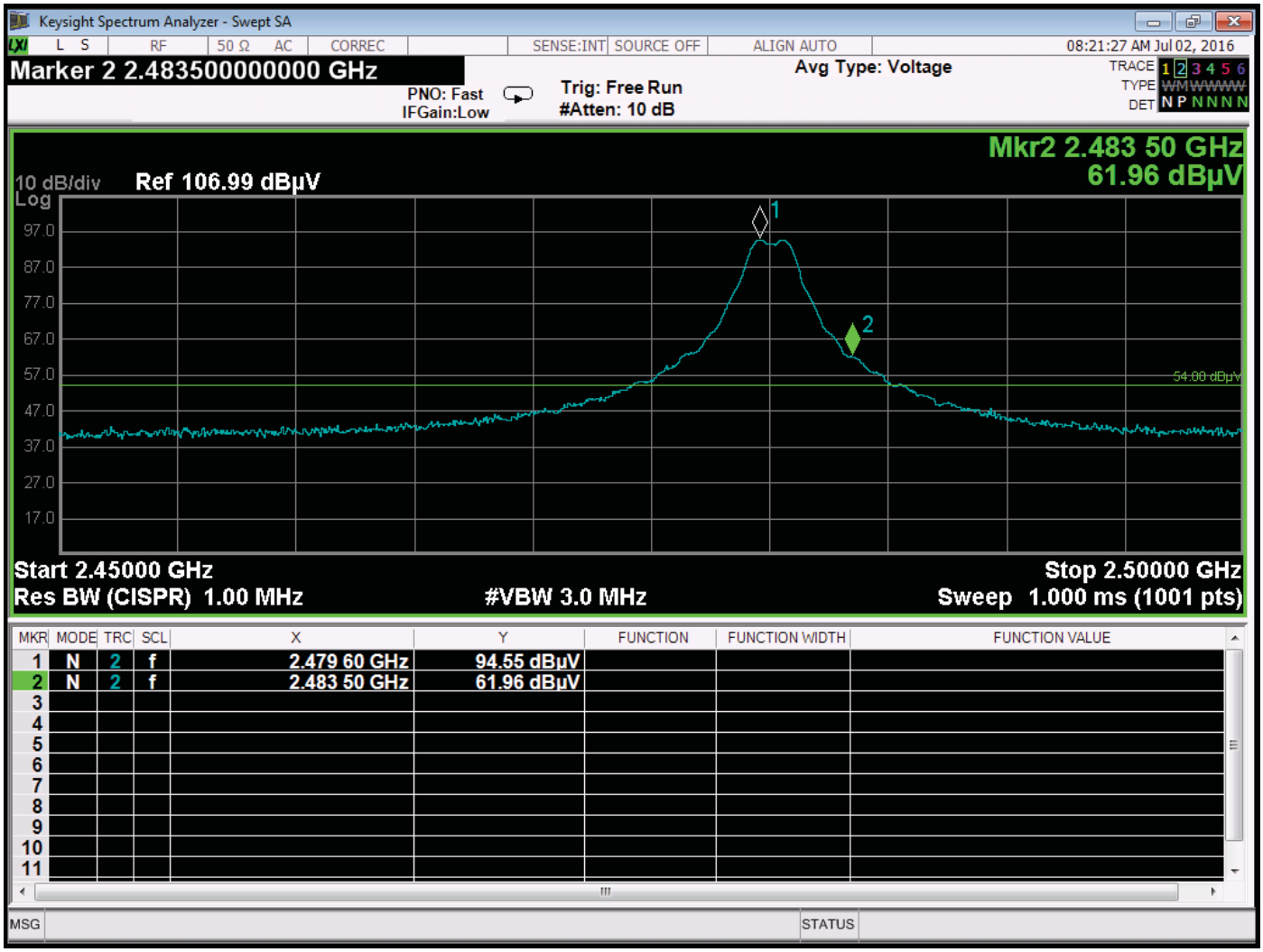
Band Edge – Low Channel – Horizontal – X-Axis – Worst Case – Antenna #2



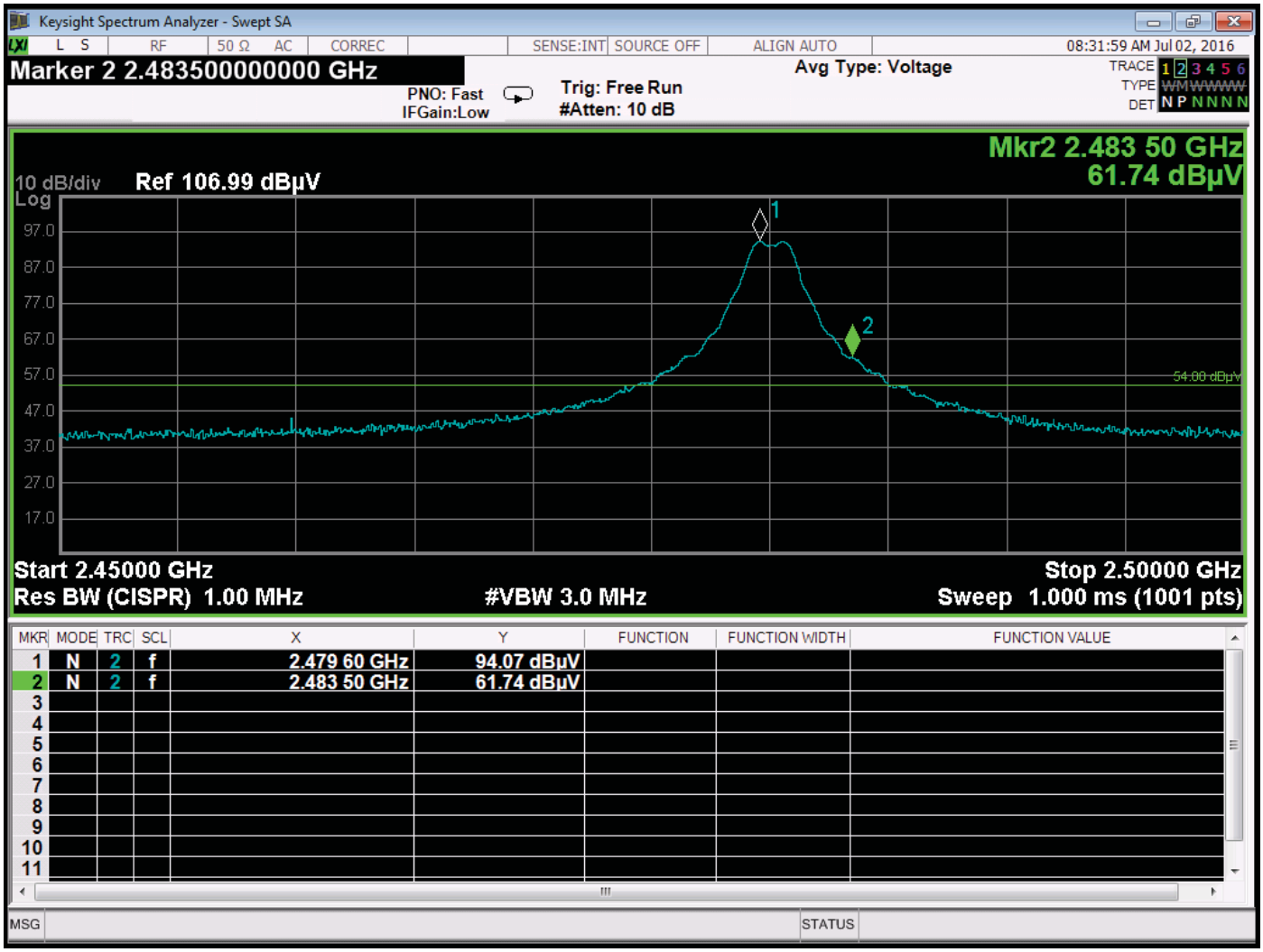
Band Edge – High Channel (2475 MHz) – Vertical – Y-Axis – Worst Case – Antenna #2



Band Edge – High Channel (2475 MHz) – Horizontal – Z-Axis – Worst Case – Antenna #2



Band Edge – High Channel (2480 MHz) – Vertical – Y-Axis – Worst Case – Antenna #2



Band Edge – High Channel (2480 MHz) – Horizontal – Z-Axis – Worst Case – Antenna #2