FCC PART 15, SUBPART B and C
TEST REPORT

for

COMCAST XFINITY HOME CLASSIC KEYPAD 2015

MODEL: URC-4450BC0-X-R

Prepared for

UNIVERSAL ELECTRONICS, INC.
201 EAST SANDPOINTE AVE., 8TH FLOOR
SANTA ANA, CA 92707

Prepared by: Kyle Fujimoto

KYLE FUJIMOTO

Approved by: James Ross

JAMES ROSS

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DATE: OCTOBER 31, 2015

	REPORT	APPENDICES					TOTAL
	BODY	*A*	*B*	*C*	*D*	*E*	
PAGES	16	2	2	2	13	41	**76**

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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 Classic Keypad 2015 Model: URC-4450BC0-X-R S/N: N/A
Product Description:	See Expository Statement.
Modifications:	The EUT was not modified in order to meet the specifications.
Customer:	Universal Electronics, Inc. 201 East Sandpointe Ave., 8TH Floor Santa Ana California, 92707
Test Dates:	October 8, 9, and 12, 2015
Test Specifications:	Emissions requirements CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.249
Test Procedure:	ANSI C63.4, ANSI C63.10
Test Deviations:	The test procedure was not deviated from during the testing.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Spurious Radiated RF Emissions, 10 kHz – 25,000 MHz (Transmitter and Digital portion)	Complies with the **Class B** limits of CFR Title 47, Part 15 Subpart B; and the limits of CFR Title 47, Part 15, Subpart C, section 15.205, 15.209 and 15.249
2	Conducted RF Emissions, 150 kHz to 30 MHz	This test was not performed because the EUT operates on battery power and does not connect to the AC mains.

1. PURPOSE

This document is a qualification test report based on the emissions tests performed on the Comcast Xfinity Home Classic Keypad 2015, Model: URC-4450BC0-X-R. The emissions measurements were performed according to the measurement procedure described in 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, 15.209, and 15.249.

2. ADMINISTRATIVE DATA

2.1 Location of Testing

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

2.2 Traceability Statement

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

2.3 Cognizant Personnel

Universal Electronics, Inc.

Jesse Mendez	Senior Electrical Core Engineer

Compatible Electronics Inc.

Kyle Fujimoto	Test Engineer
James Ross	Test Engineer

2.4 Date Test Sample was Received

The test sample was received on October 8, 2015.

2.5 Disposition of the Test Sample

The test sample has not been returned to Universal Electronics, 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
DNF	Do Not Fit
URC	Universal Remote Control

3. APPLICABLE DOCUMENTS

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

SPEC	TITLE
FCC Title 47, Part 15 Subpart C	FCC Rules - Radio frequency devices (including digital devices) – Intentional Radiators
FCC Title 47, Part 15 Subpart B	FCC Rules - Radio frequency devices (including digital devices) – Unintentional Radiators
ANSI C63.4 2014	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
ANSI C63.10 2013	American National Standard for Testing Unlicensed Wireless Devices

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration - Emissions

The Comcast Xfinity Home Classic Keypad 2015, Model: URC-4450BC0-X-R (EUT) is a remote control that is powered by two AA 1.5 VDC batteries.

The EUT was tested for emissions at the low, middle, and high channels while in the X and Y axis. The EUT was continuously transmitting.

The final radiated data for the EUT as was taken in the mode described above. Please see Appendix E for the data sheets.

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 CLASSIC KEYPAD 2015	UNIVERSAL ELECTRONICS, INC.	URC-4450BC0-X-R	N/A	MG3-4450

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	Agilent Technologies	N9038A	MY51100115	April 3, 2015	1 Year
RF RADIATED EMISSIONS TEST EQUIPMENT					
CombiLog Antenna	Com-Power	AC-220	61060	September 3, 2015	1 Year
Preamplifier	Com-Power	PA-118	551024	March 6, 2015	1 Year
Preamplifier	Com-Power	PA-840	711013	May 13, 2014	2 Year
Loop Antenna	Com-Power	AL-130	17089	February 6, 2015	2 Year
Horn Antenna	Com-Power	AH-118	071175	February 26, 2014	2 Year
Horn Antenna	Com-Power	AH-826	0071957	N/A	N/A
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. TEST PROCEDURES

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

7.1 RF Emissions

7.1.1 Radiated Emissions Test

The EMI Receiver was used as the measuring meter. 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.

For frequencies above 1 GHz, the readings were average by a "duty cycle correction factor", derived from 20 log (dwell time / 100 ms). This duty cycle correction factor was then subtracted from the peak reading.

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.

Radiated Emissions Test (Continued)

The EUT was tested at a 3-meter test distance from 10 kHz to 25 GHz.

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 15.249 for radiated emissions. Please see Appendix E for the data sheets.

7.1.3 RF Emissions Test Results

Table 1.0 RADIATED EMISSION RESULTS
Comcast Xfinity Home Classic Keypad 2015, Model: URC-4450BC0-X-R

Frequency MHz	**Corrected Reading* dBuV**	**Specification Limit dBuV**	**Delta (Cor. Reading – Spec. Limit) dB**
2483.5 (H) (X-Axis) (Chip Antenna)	47.33 (Avg)	54.00	-6.67
4960 (H) (Y-Axis) (Main Antenna)	44.43 (Avg)	54.00	-9.57
4960 (V) (X-Axis) (Main Antenna)	44.36 (Avg)	54.00	-9.64
4960 (H) (X-Axis) (Main Antenna)	44.24 (Avg)	54.00	-9.76
2483.5 (H) (X-Axis) (Main Antenna)	43.92 (Avg)	54.00	-10.08
4880 (H) (Y-Axis) (Chip Antenna)	43.85 (Avg)	54.00	-10.15

Notes:

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

8. CONCLUSIONS

The Comcast Xfinity Home Classic Keypad 2015, Model: URC-4450BC0-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, and 15.249.

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 15.249 specifications.

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

No Modifications were made to the EUT during the testing.

APPENDIX C

ADDITIONAL MODELS COVERED UNDER THIS REPORT

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

Comcast Xfinity Home Classic Keypad 2015
Model: URC-4450BC0-X-R
S/N: N/A

There were no additional models covered under this report.

APPENDIX D

DIAGRAMS AND CHARTS

FIGURE 1: PLOT MAP AND LAYOUT OF RADIATED SITE

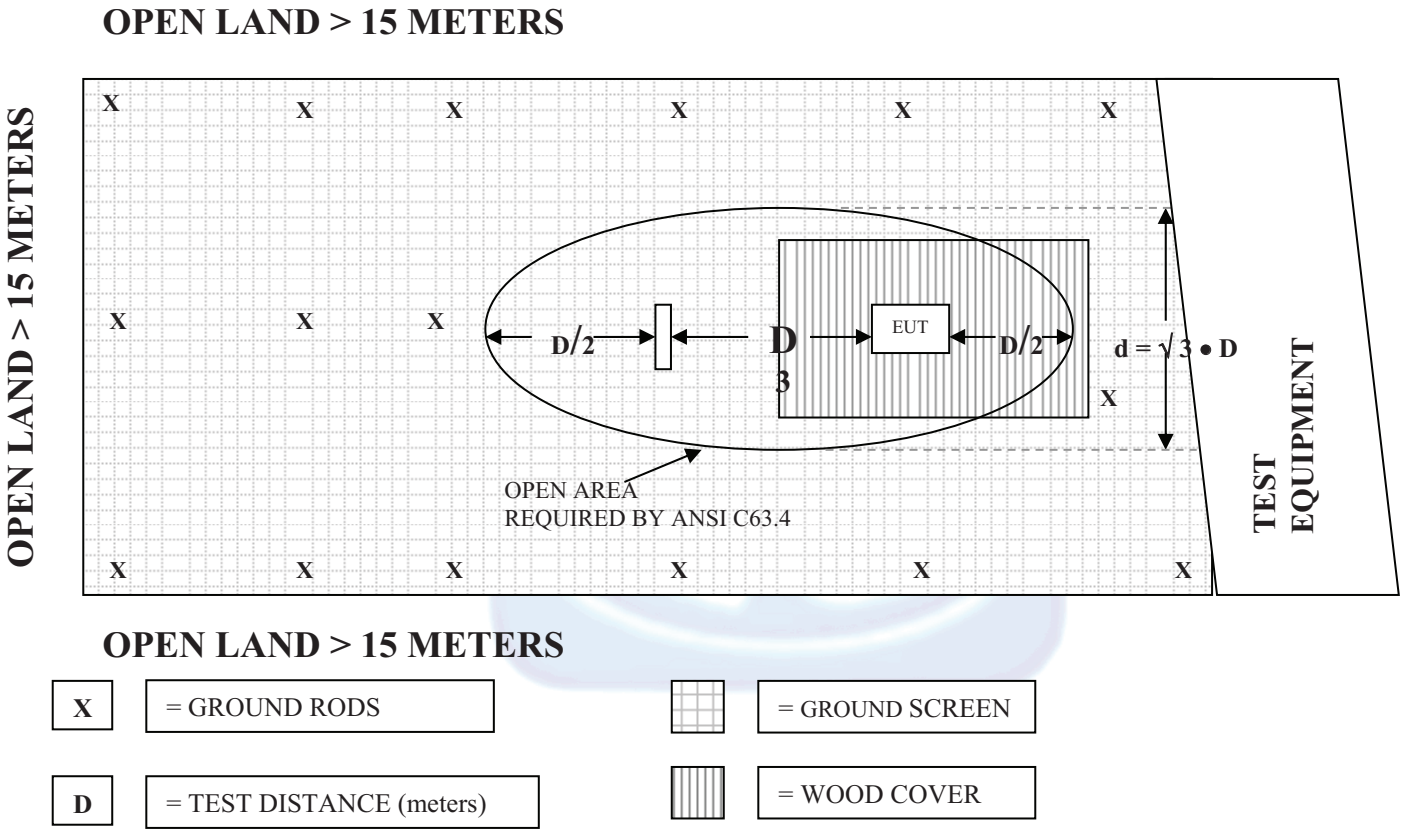
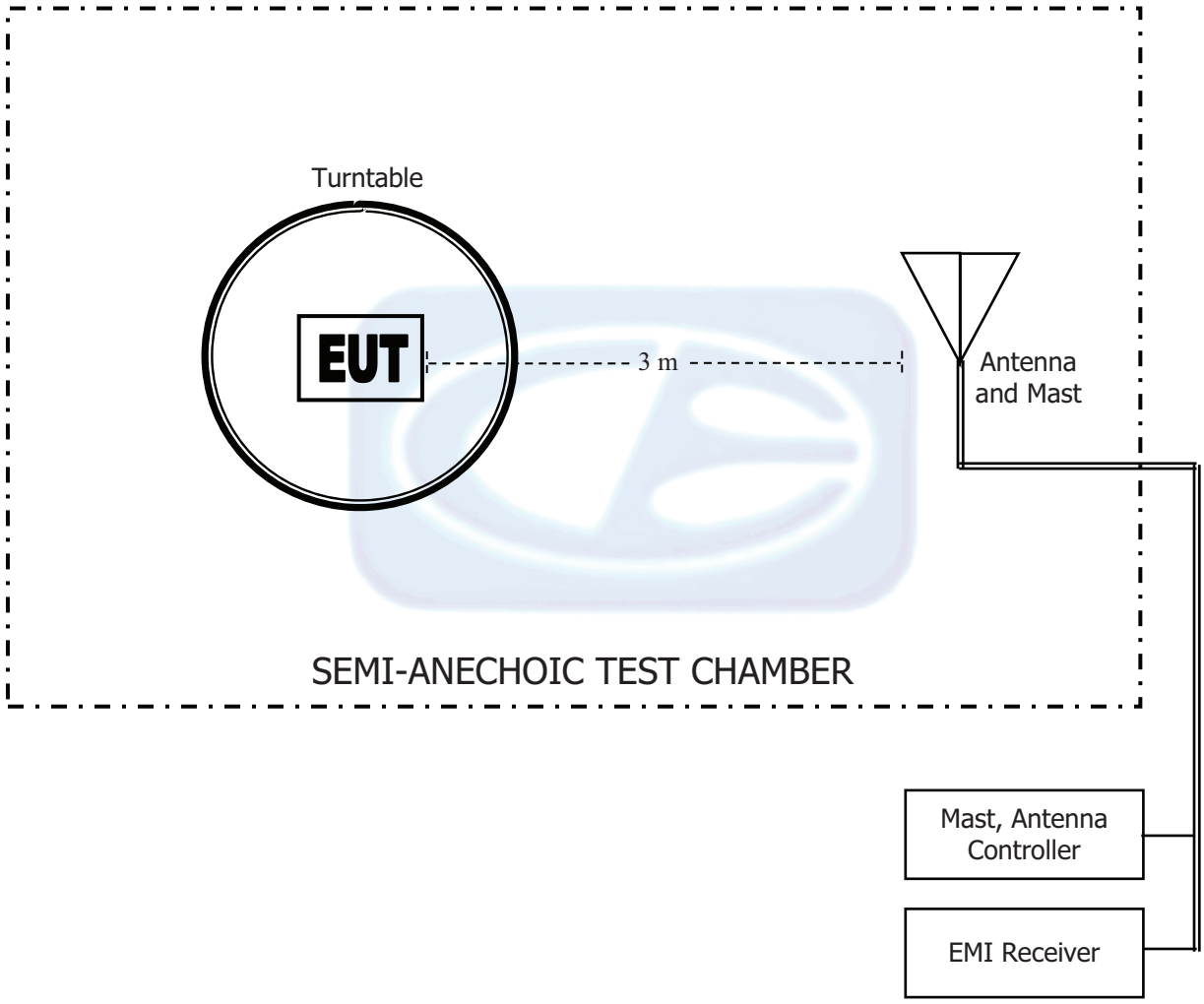


FIGURE 2: LAYOUT OF THE SEMI-ANECHOIC TEST CHAMBER



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, 2014

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	24.23	10.0	38.43
1.5	25.84	10.5	40.19
2.0	28.14	11.0	40.49
2.5	29.51	11.5	41.39
3.0	31.20	12.0	42.02
3.5	32.17	12.5	43.30
4.0	31.40	13.0	42.77
4.5	31.86	13.5	40.18
5.0	34.82	14.0	42.59
5.5	34.38	14.5	41.74
6.0	36.31	15.0	41.84
6.5	34.81	15.5	38.48
7.0	37.48	16.0	39.52
7.5	36.98	16.5	37.85
8.0	36.66	17.0	41.33
8.5	38.47	17.5	44.96
9.0	37.22	18.0	48.50
9.5	37.86		

COM-POWER PA-118

PREAMPLIFIER

S/N: 551024

CALIBRATION DATE: MARCH 6, 2015

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	39.76	6.0	38.77
1.1	40.46	6.5	38.46
1.2	40.05	7.0	38.27
1.3	40.58	7.5	38.77
1.4	39.50	8.0	39.25
1.5	39.92	8.5	38.63
1.6	40.40	9.0	39.58
1.7	40.10	9.5	42.12
1.8	40.49	10.0	38.53
1.9	38.86	11.0	40.21
2.0	41.53	12.0	41.15
2.5	41.05	13.0	40.51
3.0	40.29	14.0	40.32
3.5	40.82	15.0	39.47
4.0	40.88	16.0	39.88
4.5	41.37	17.0	39.79
5.0	40.73	18.0	40.61
5.5	39.05		

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

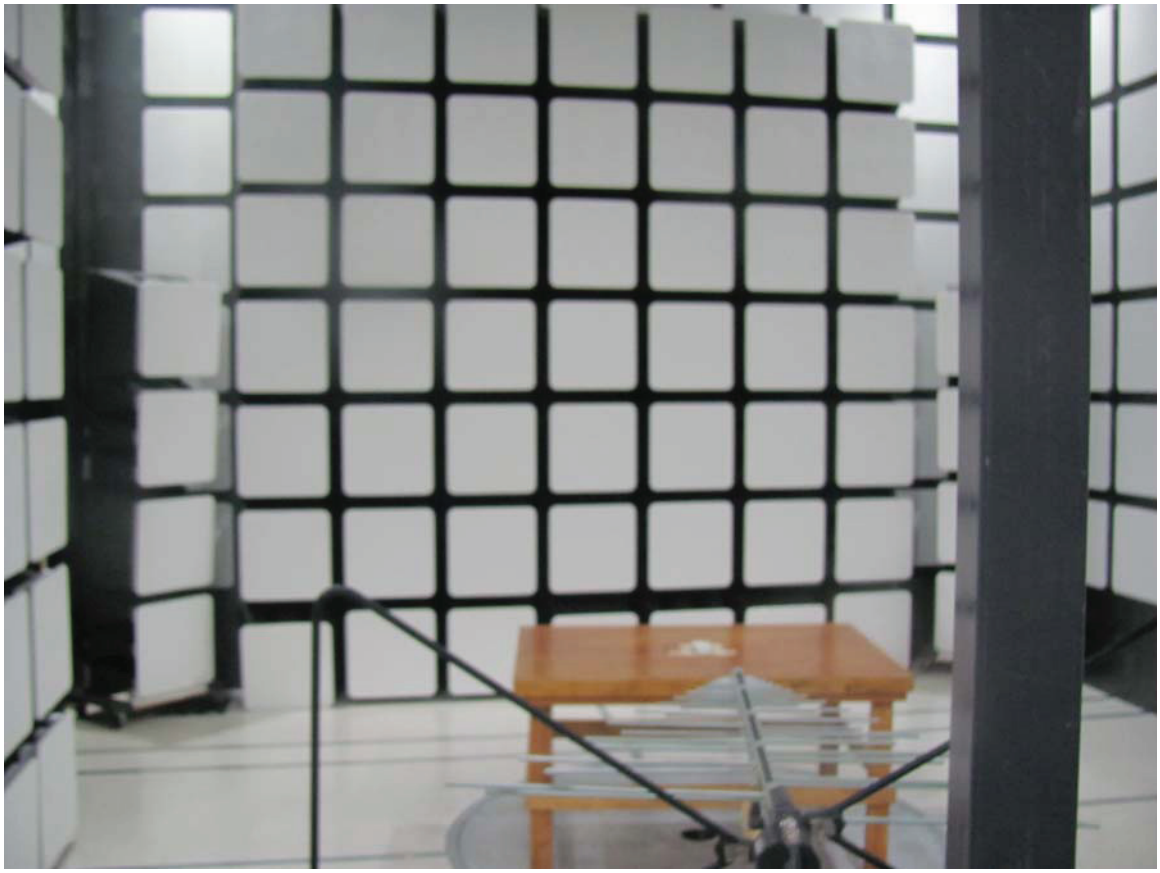
COM-POWER PA-840

MICROWAVE PREAMPLIFIER

S/N: 711013

CALIBRATION DATE: MAY 13, 2014

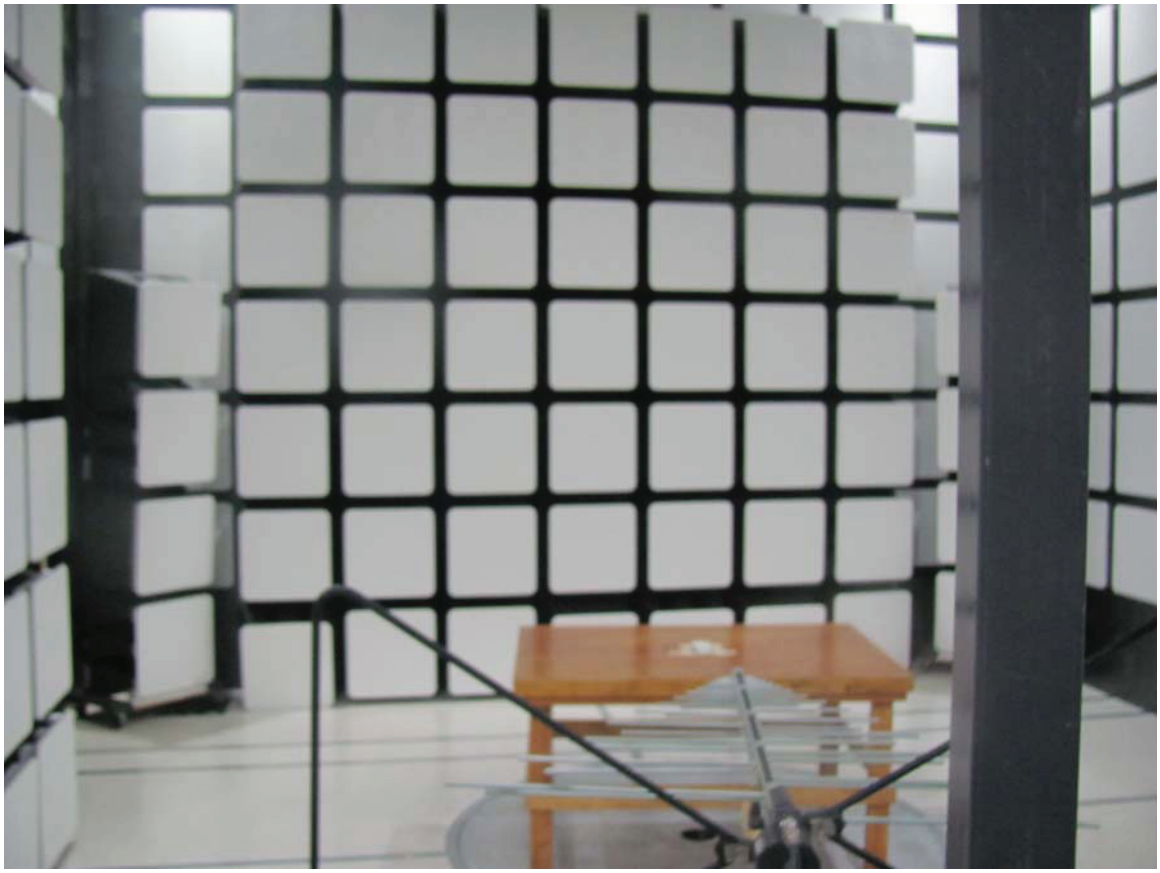
FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	25.19	31.0	25.69
19.0	24.48	31.5	25.74
20.0	24.39	32.0	26.35
21.0	24.73	32.5	26.64
22.0	23.49	33.0	25.98
23.0	24.23	33.5	24.68
24.0	24.59	34.0	24.61
25.0	25.32	34.5	23.78
26.0	25.66	35.0	24.74
26.5	25.99	35.5	24.39
27.0	26.26	36.0	23.46
27.5	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

UNIVERSAL ELECTRONICS, INC.
COMCAST XFINITY HOME CLASSIC KEYPAD 2015
MODEL: URC-4450BC0-X-R
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

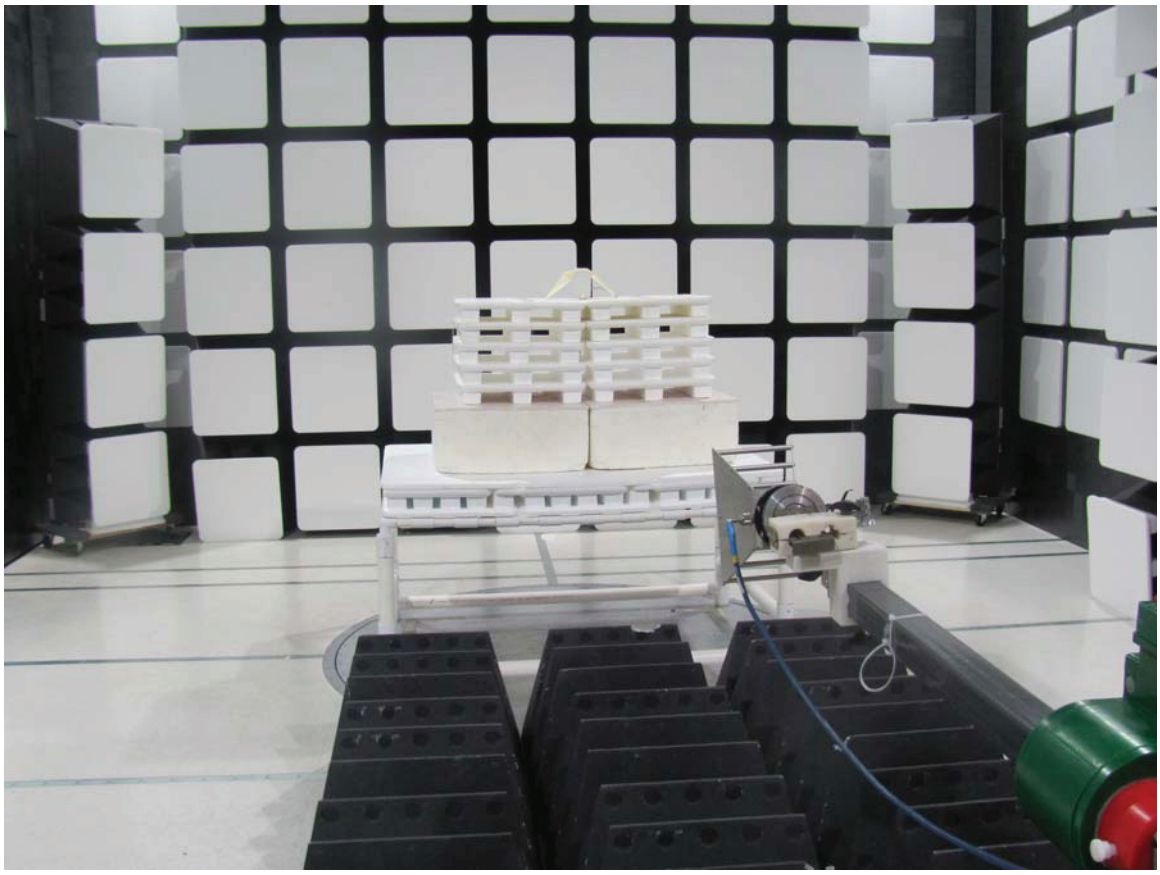
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

UNIVERSAL ELECTRONICS, INC.
COMCAST XFINITY HOME CLASSIC KEYPAD 2015
MODEL: URC-4450BC0-X-R
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

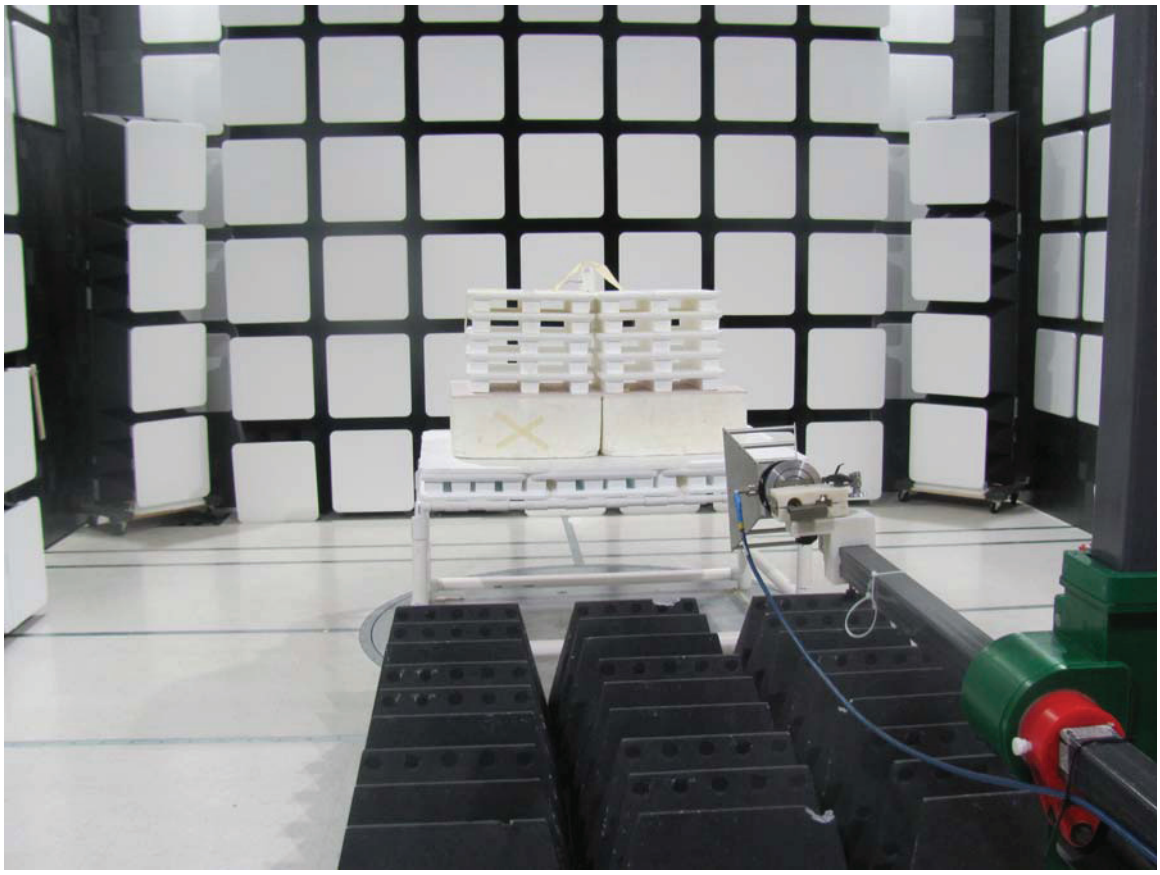
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

UNIVERSAL ELECTRONINCS, INC.
COMCAST XFINITY HOME CLASSIC KEYPAD 2015
MODEL: URC-4450BC0-X-R
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

UNIVERSAL ELECTRONICS, INC.
URC-4450BC0-X-R
MODEL: URC-4450BC0-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 15.249

Universal Electronics, Inc.
Comcast Xfinity Home Classic Keypad 2015
Model: URC-4450BC0-X-R
Chip Antenna

Date: 10/08/2015
Lab: D
Tested By: Kyle Fujimoto

Low Channel
X-Axis - Vertical

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2405	86.17	V	114.00	-27.83	Peak	51.50	126.83	
2405	66.17	V	94.00	-27.83	Avg	51.50	126.83	
4810	61.23	V	74.00	-12.77	Peak	237.50	158.77	
4810	41.23	V	54.00	-12.77	Avg	237.50	158.77	
7215	53.41	V	74.00	-20.59	Peak	2.75	113.10	
7215	33.41	V	54.00	-20.59	Avg	2.75	113.10	
9620								**No Emissions**
9620								**Detected**
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 15.249

Universal Electronics, Inc.
Comcast Xfinity Home Classic Keypad 2015
Model: URC-4450BC0-X-R
Chip Antenna

Date: 10/08/2015
Lab: D
Tested By: Kyle Fujimoto

Low Channel
X-Axis - Horizontal

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2405	99.75	H	114.00	-14.25	Peak	145.50	126.95	
2405	79.75	H	94.00	-14.25	Avg	145.50	126.95	
4810	59.69	H	74.00	-14.31	Peak	325.25	110.83	
4810	39.69	H	54.00	-14.31	Avg	325.25	110.83	
7215	57.63	H	74.00	-16.37	Peak	174.00	170.11	
7215	37.63	H	54.00	-16.37	Avg	174.00	170.11	
9620								**No Emissions**
9620								**Detected**
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 15.249

Universal Electronics, Inc.
Comcast Xfinity Home Classic Keypad 2015
Model: URC-4450BC0-X-R
Chip Antenna

Date: 10/08/2015
Lab: D
Tested By: Kyle Fujimoto

Low Channel
Y-Axis - Vertical

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2405	95.04	V	114.00	-18.96	Peak	282.25	158.83	
2405	75.04	V	94.00	-18.96	Avg	282.25	158.83	
4810	56.81	V	74.00	-17.19	Peak	168.00	254.89	
4810	36.81	V	54.00	-17.19	Avg	168.00	254.89	
7215	57.31	V	74.00	-16.69	Peak	196.00	173.34	
7215	37.31	V	54.00	-16.69	Avg	196.00	173.34	
9620								**No Emissions**
9620								**Detected**
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 15.249

Universal Electronics, Inc.
Comcast Xfinity Home Classic Keypad 2015
Model: URC-4450BC0-X-R
Chip Antenna

Date: 10/08/2015
Lab: D
Tested By: Kyle Fujimoto

Low Channel
Y-Axis - Horizontal

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2405	95.01	H	114.00	-18.99	Peak	132.25	142.83	
2405	75.01	H	94.00	-18.99	Avg	132.25	142.83	
4810	61.82	H	74.00	-12.18	Peak	57.25	190.00	
4810	41.82	H	54.00	-12.18	Avg	57.25	190.00	
7215	55.81	H	74.00	-18.19	Peak	118.75	102.05	
7215	35.81	H	54.00	-18.19	Avg	118.75	102.05	
9620								**No Emissions**
9620								**Detected**
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 15.249

Universal Electronics, Inc.
Comcast Xfinity Home Classic Keypad 2015
Model: URC-4450BC0-X-R
Chip Antenna

Date: 10/08/2015
Lab: D
Tested By: Kyle Fujimoto

Middle Channel
X-Axis - Vertical

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2440	78.24	V	114.00	-35.76	Peak	247.75	126.83	
2440	58.24	V	94.00	-35.76	Avg	247.75	126.83	
4880	63.81	V	74.00	-10.19	Peak	70.00	142.83	
4880	43.81	V	54.00	-10.19	Avg	70.00	142.83	
7320	55.29	V	74.00	-18.71	Peak	261.00	170.35	
7320	35.29	V	54.00	-18.71	Avg	261.00	170.35	
9760								**No Emissions**
9760								**Detected**
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 15.249

Universal Electronics, Inc.
Comcast Xfinity Home Classic Keypad 2015
Model: URC-4450BC0-X-R
Chip Antenna

Date: 10/08/2015
Lab: D
Tested By: Kyle Fujimoto

Middle Channel
X-Axis - Horizontal

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2440	96.64	H	114.00	-17.36	Peak	286.75	110.77	
2440	76.64	H	94.00	-17.36	Avg	286.75	110.77	
4880	58.62	H	74.00	-15.38	Peak	202.50	174.83	
4880	38.62	H	54.00	-15.38	Avg	202.50	174.83	
7320	60.22	H	74.00	-13.78	Peak	117.25	119.91	
7320	40.22	H	54.00	-13.78	Avg	117.25	119.91	
9760								**No Emissions**
9760								**Detected**
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 15.249

Universal Electronics, Inc.
Comcast Xfinity Home Classic Keypad 2015
Model: URC-4450BC0-X-R
Chip Antenna

Date: 10/08/2015
Lab: D
Tested By: Kyle Fujimoto

Middle Channel
Y-Axis - Vertical

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2440	96.62	V	114.00	-17.38	Peak	287.25	110.83	
2440	76.62	V	94.00	-17.38	Avg	287.25	110.83	
4880	56.92	V	74.00	-17.08	Peak	203.00	286.89	
4880	36.92	V	54.00	-17.08	Avg	203.00	286.89	
7320	55.29	V	74.00	-18.71	Peak	355.25	171.13	
7320	35.29	V	54.00	-18.71	Avg	355.25	171.13	
9760								**No Emissions**
9760								**Detected**
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 15.249

Universal Electronics, Inc.
Comcast Xfinity Home Classic Keypad 2015
Model: URC-4450BC0-X-R
Chip Antenna

Date: 10/08/2015
Lab: D
Tested By: Kyle Fujimoto

Middle Channel
Y-Axis - Horizontal

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2440	95.85	H	114.00	-18.15	Peak	130.00	158.77	
2440	75.85	H	94.00	-18.15	Avg	130.00	158.77	
4880	63.85	H	74.00	-10.15	Peak	60.25	206.89	
4880	43.85	H	54.00	-10.15	Avg	60.25	206.89	
7320	58.01	H	74.00	-15.99	Peak	212.50	193.16	
7320	38.01	H	54.00	-15.99	Avg	212.50	193.16	
9760								**No Emissions**
9760								**Detected**
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 15.249

Universal Electronics, Inc.
Comcast Xfinity Home Classic Keypad 2015
Model: URC-4450BC0-X-R
Chip Antenna

Date: 10/09/2015
Lab: D
Tested By: Kyle Fujimoto

High Channel
X-Axis - Vertical

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2480	87.44	V	114.00	-26.56	Peak	102.25	110.95	
2480	67.44	V	94.00	-26.56	Avg	102.25	110.95	
4960	63.77	V	74.00	-10.23	Peak	221.25	126.65	
4960	43.77	V	54.00	-10.23	Avg	221.25	126.65	
7440	62.03	V	74.00	-11.97	Peak	205.00	110.83	
7440	42.03	V	54.00	-11.97	Avg	205.00	110.83	
9920								**No Emissions**
9920								**Detected**
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 15.249

Universal Electronics, Inc.
Comcast Xfinity Home Classic Keypad 2015
Model: URC-4450BC0-X-R
Chip Antenna

Date: 10/09/2015
Lab: D
Tested By: Kyle Fujimoto

High Channel
X-Axis - Horizontal

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2480	99.25	H	114.00	-14.75	Peak	135.25	142.71	
2480	79.25	H	94.00	-14.75	Avg	135.25	142.71	
4960	60.36	H	74.00	-13.64	Peak	123.75	110.89	
4960	40.36	H	54.00	-13.64	Avg	123.75	110.89	
7440	60.21	H	74.00	-13.79	Peak	197.25	110.83	
7440	40.21	H	54.00	-13.79	Avg	197.25	110.83	
9920								**No Emissions**
9920								**Detected**
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 15.249

Universal Electronics, Inc.
Comcast Xfinity Home Classic Keypad 2015
Model: URC-4450BC0-X-R
Chip Antenna

Date: 10/09/2015
Lab: D
Tested By: Kyle Fujimoto

High Channel
Y-Axis - Vertical

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2480	94.44	V	114.00	-19.56	Peak	97.75	158.89	
2480	74.44	V	94.00	-19.56	Avg	97.75	158.89	
4960	55.91	V	74.00	-18.09	Peak	153.75	224.38	
4960	35.91	V	54.00	-18.09	Avg	153.75	224.38	
7440	63.22	V	74.00	-10.78	Peak	304.25	110.89	
7440	43.22	V	54.00	-10.78	Avg	304.25	110.89	
9920								**No Emissions**
9920								**Detected**
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 15.249

Universal Electronics, Inc.
Comcast Xfinity Home Classic Keypad 2015
Model: URC-4450BC0-X-R
Chip Antenna

Date: 10/09/2015
Lab: D
Tested By: Kyle Fujimoto

High Channel
Y-Axis - Horizontal

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2480	96.90	H	114.00	-17.10	Peak	314.25	126.77	
2480	76.90	H	94.00	-17.10	Avg	314.25	126.77	
4960	60.40	H	74.00	-13.60	Peak	314.25	126.77	
4960	40.40	H	54.00	-13.60	Avg	314.25	126.77	
7440	63.76	H	74.00	-10.24	Peak	314.25	126.77	
7440	43.76	H	54.00	-10.24	Avg	314.25	126.77	
9920								**No Emissions**
9920								**Detected**
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 15.249

Universal Electronics, Inc.
Comcast Xfinity Home Classic Keypad 2015
Model: URC-4450BC0-X-R
Main Antenna

Date: 10/08/2015
Lab: D
Tested By: Kyle Fujimoto

Low Channel
X-Axis - Vertical

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2405	83.91	V	114.00	-30.09	Peak	58.25	127.43	
2405	63.91	V	94.00	-30.09	Avg	58.25	127.43	
4810	63.43	V	74.00	-10.57	Peak	76.50	143.85	
4810	43.43	V	54.00	-10.57	Avg	76.50	143.85	
7215	56.96	V	74.00	-17.04	Peak	87.00	125.52	
7215	36.96	V	54.00	-17.04	Avg	87.00	125.52	
9620								**No Emissions**
9620								**Detected**
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 15.249

Universal Electronics, Inc.
Comcast Xfinity Home Classic Keypad 2015
Model: URC-4450BC0-X-R
Main Antenna

Date: 10/08/2015
Lab: D
Tested By: Kyle Fujimoto

Low Channel
X-Axis - Horizontal

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2405	94.83	H	114.00	-19.17	Peak	312.25	142.77	
2405	74.83	H	94.00	-19.17	Avg	312.25	142.77	
4810	58.90	H	74.00	-15.10	Peak	305.00	126.83	
4810	38.90	H	54.00	-15.10	Avg	305.00	126.83	
7215	56.65	H	74.00	-17.35	Peak	96.50	171.91	
7215	36.65	H	54.00	-17.35	Avg	96.50	171.91	
9620								**No Emissions**
9620								**Detected**
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 15.249

Universal Electronics, Inc.
Comcast Xfinity Home Classic Keypad 2015
Model: URC-4450BC0-X-R
Main Antenna

Date: 10/08/2015
Lab: D
Tested By: Kyle Fujimoto

Low Channel
Y-Axis - Vertical

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2405	92.85	V	114.00	-21.15	Peak	286.00	110.95	
2405	72.85	V	94.00	-21.15	Avg	286.00	110.95	
4810	57.11	V	74.00	-16.89	Peak	143.00	126.65	
4810	37.11	V	54.00	-16.89	Avg	143.00	126.65	
7215	56.38	V	74.00	-17.62	Peak	152.25	197.34	
7215	36.38	V	54.00	-17.62	Avg	152.25	197.34	
9620								**No Emissions**
9620								**Detected**
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 15.249

Universal Electronics, Inc.
Comcast Xfinity Home Classic Keypad 2015
Model: URC-4450BC0-X-R
Main Antenna

Date: 10/08/2015
Lab: D
Tested By: Kyle Fujimoto

Low Channel
Y-Axis - Horizontal

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2405	96.55	H	114.00	-17.45	Peak	193.50	158.89	
2405	76.55	H	94.00	-17.45	Avg	193.50	158.89	
4810	57.18	H	74.00	-16.82	Peak	173.50	142.95	
4810	37.18	H	54.00	-16.82	Avg	173.50	142.95	
7215	56.58	H	74.00	-17.42	Peak	16.50	183.97	
7215	36.58	H	54.00	-17.42	Avg	16.50	183.97	
9620								**No Emissions**
9620								**Detected**
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 15.249

Universal Electronics, Inc.
Comcast Xfinity Home Classic Keypad 2015
Model: URC-4450BC0-X-R
Main Antenna

Date: 10/08/2015
Lab: D
Tested By: Kyle Fujimoto

Middle Channel
X-Axis - Vertical

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2440	83.87	V	114.00	-30.13	Peak	323.50	238.83	
2440	63.87	V	94.00	-30.13	Avg	323.50	238.83	
4880	62.23	V	74.00	-11.77	Peak	92.25	144.08	
4880	42.23	V	54.00	-11.77	Avg	92.25	144.08	
7320	56.45	V	74.00	-17.55	Peak	149.00	194.59	
7320	36.45	V	54.00	-17.55	Avg	149.00	194.59	
9760								**No Emissions**
9760								**Detected**
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 15.249

Universal Electronics, Inc.
Comcast Xfinity Home Classic Keypad 2015
Model: URC-4450BC0-X-R
Main Antenna

Date: 10/08/2015
Lab: D
Tested By: Kyle Fujimoto

Middle Channel
X-Axis - Horizontal

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2440	95.27	H	114.00	-18.73	Peak	135.00	128.32	
2440	75.27	H	94.00	-18.73	Avg	135.00	128.32	
4880	61.43	H	74.00	-12.57	Peak	136.25	110.77	
4880	41.43	H	54.00	-12.57	Avg	136.25	110.77	
7320	55.45	H	74.00	-18.56	Peak	347.50	113.16	
7320	35.45	H	54.00	-18.56	Avg	347.50	113.16	
9760								**No Emissions**
9760								**Detected**
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 15.249

Universal Electronics, Inc.
Comcast Xfinity Home Classic Keypad 2015
Model: URC-4450BC0-X-R
Main Antenna

Date: 10/08/2015
Lab: D
Tested By: Kyle Fujimoto

Middle Channel
Y-Axis - Vertical

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2440	94.60	V	114.00	-19.40	Peak	101.00	135.79	
2440	74.60	V	94.00	-19.40	Avg	101.00	135.79	
4880	60.15	V	74.00	-13.85	Peak	26.75	158.89	
4880	40.15	V	54.00	-13.85	Avg	26.75	158.89	
7320	55.81	V	74.00	-18.19	Peak	345.25	199.13	
7320	35.81	V	54.00	-18.19	Avg	345.25	199.13	
9760								**No Emissions**
9760								**Detected**
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 15.249

Universal Electronics, Inc.
Comcast Xfinity Home Classic Keypad 2015
Model: URC-4450BC0-X-R
Main Antenna

Date: 10/08/2015
Lab: D
Tested By: Kyle Fujimoto

Middle Channel
Y-Axis - Horizontal

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2440	92.22	H	114.00	-21.78	Peak	350.75	176.38	
2440	72.22	H	94.00	-21.78	Avg	350.75	176.38	
4880	61.17	H	74.00	-12.83	Peak	193.00	142.83	
4880	41.17	H	54.00	-12.83	Avg	193.00	142.83	
7320	55.82	H	74.00	-18.18	Peak	29.00	197.22	
7320	35.82	H	54.00	-18.18	Avg	29.00	197.22	
9760								No Emissions
9760								Detected
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 15.249

Universal Electronics, Inc.
Comcast Xfinity Home Classic Keypad 2015
Model: URC-4450BC0-X-R
Main Antenna

Date: 10/08/2015
Lab: D
Tested By: Kyle Fujimoto

High Channel
X-Axis - Vertical

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2480	85.65	V	114.00	-28.35	Peak	319.00	238.83	
2480	65.65	V	94.00	-28.35	Avg	319.00	238.83	
4960	64.36	V	74.00	-9.64	Peak	96.75	110.83	
4960	44.36	V	54.00	-9.64	Avg	96.75	110.83	
7440	55.84	V	74.00	-18.16	Peak	218.75	149.64	
7440	35.84	V	54.00	-18.16	Avg	218.75	149.64	
9920								**No Emissions**
9920								**Detected**
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 15.249

Universal Electronics, Inc.
Comcast Xfinity Home Classic Keypad 2015
Model: URC-4450BC0-X-R
Main Antenna

Date: 10/08/2015
Lab: D
Tested By: Kyle Fujimoto

High Channel
X-Axis - Horizontal

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2480	95.60	H	114.00	-18.40	Peak	135.25	142.77	
2480	75.60	H	94.00	-18.40	Avg	135.25	142.77	
4960	64.24	H	74.00	-9.76	Peak	125.75	110.83	
4960	44.24	H	54.00	-9.76	Avg	125.75	110.83	
7440	56.64	H	74.00	-17.36	Peak	344.50	101.00	
7440	36.64	H	54.00	-17.36	Avg	344.50	101.00	
9920								**No Emissions**
9920								**Detected**
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 15.249

Universal Electronics, Inc.
Comcast Xfinity Home Classic Keypad 2015
Model: URC-4450BC0-X-R
Main Antenna

Date: 10/08/2015
Lab: D
Tested By: Kyle Fujimoto

High Channel
Y-Axis - Vertical

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2480	92.70	V	114.00	-21.30	Peak	102.00	142.95	
2480	72.70	V	94.00	-21.30	Avg	102.00	142.95	
4960	58.11	V	74.00	-15.89	Peak	322.00	109.82	
4960	38.11	V	54.00	-15.89	Avg	322.00	109.82	
7440	58.03	V	74.00	-15.97	Peak	294.25	122.29	
7440	38.03	V	54.00	-15.97	Avg	294.25	122.29	
9920								**No Emissions**
9920								**Detected**
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 15.249

Universal Electronics, Inc.
Comcast Xfinity Home Classic Keypad 2015
Model: URC-4450BC0-X-R
Main Antenna

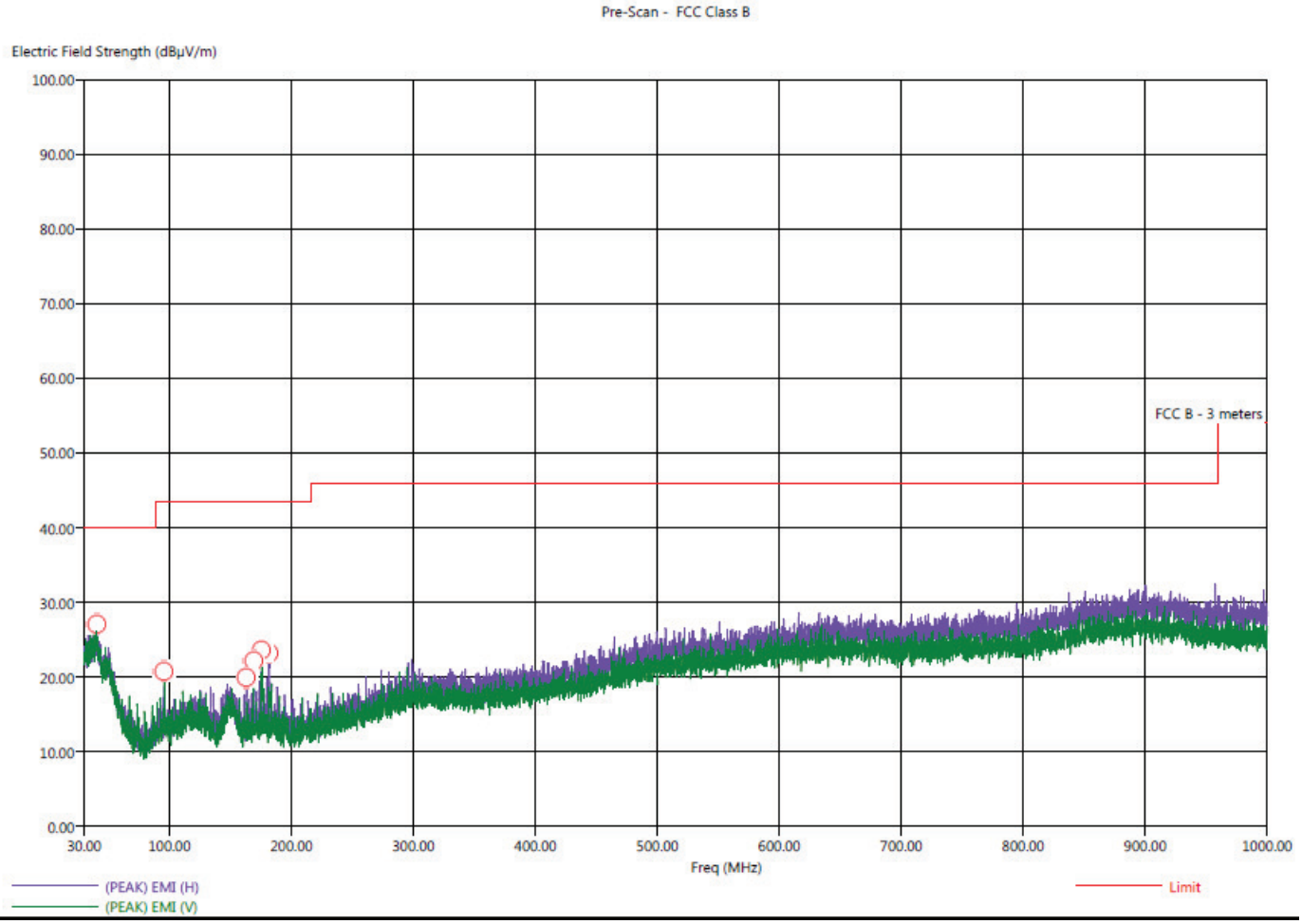
Date: 10/08/2015
Lab: D
Tested By: Kyle Fujimoto

High Channel
Y-Axis - Horizontal

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2480	94.13	H	114.00	-19.87	Peak	24.25	142.83	
2480	74.13	H	94.00	-19.87	Avg	24.25	142.83	
4960	64.43	H	74.00	-9.57	Peak	315.25	175.01	
4960	44.43	H	54.00	-9.57	Avg	315.25	175.01	
7440	57.02	H	74.00	-16.98	Peak	34.25	170.00	
7440	37.02	H	54.00	-16.98	Avg	34.25	170.00	
9920								**No Emissions**
9920								**Detected**
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: Pre-Scan - Main Antenna - Y-Axis - 10-12-2015.set
Operator: Kyle Fujimoto
EUT Type: Comcast Xfinity Home Classic Keypad 2015
EUT Condition: Main Antenna - Continuously Transmitting - Y-Axis
Comments: Customer: Universal Electronics, Inc.
Model: URC-4450BC0-X-R

10/12/2015 2:03:26 PM
Sequence: Preliminary Scan



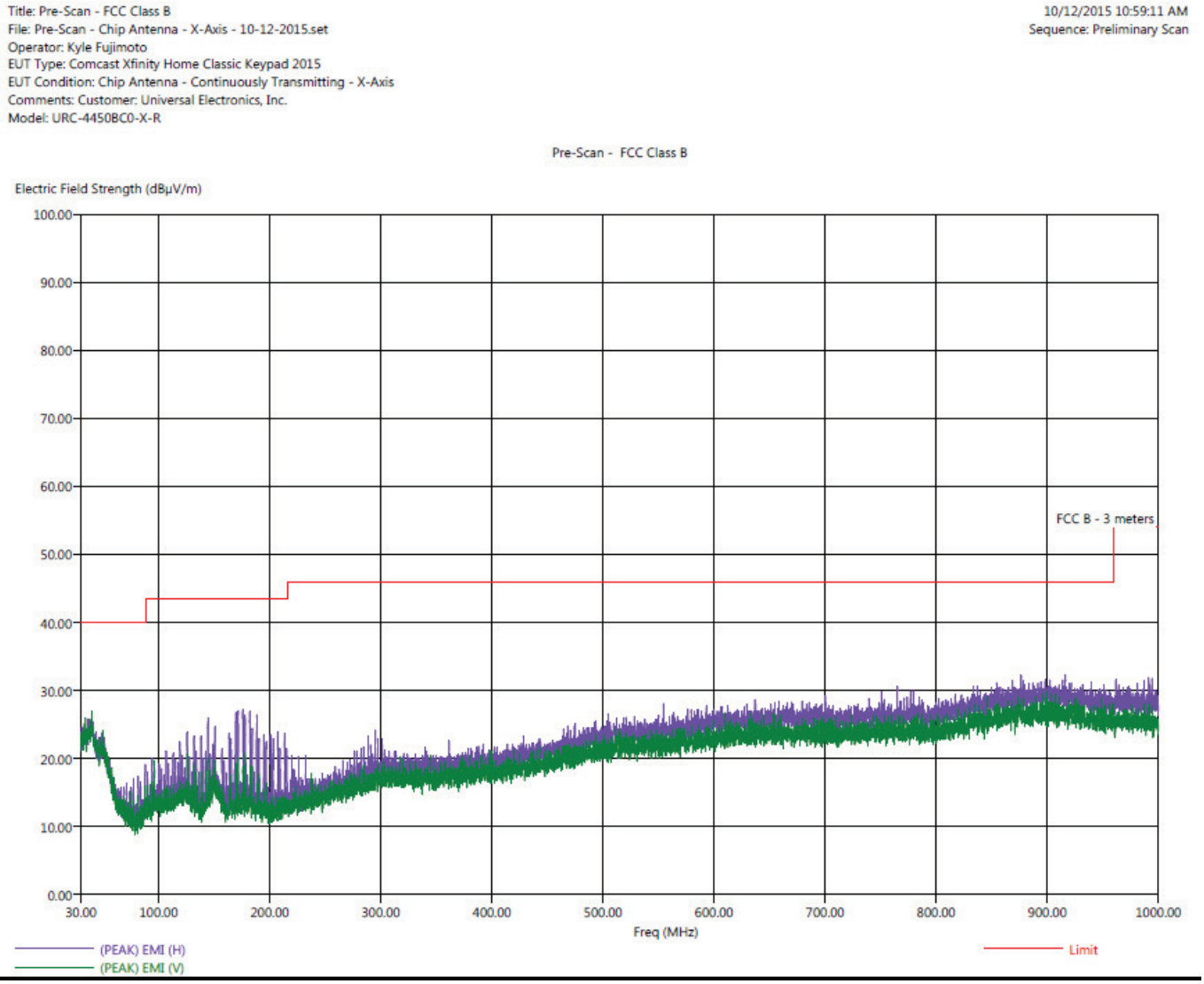
Note #1: No emissions were detected below 30 MHz
Note #2: No emissions were detected above 1GHz for non-harmonic emissions from the EUT.
Note #3: No emissions were detected above 1 GHz for the digital portion of the EUT.

Title: Radiated Final - 30-1000 MHz - FCC Class B
File: Final Scan - Main Antenna - Y-Axis Worst Case - 10-12-2015.set
Operator: Kyle Fujimoto
EUT Type: Comcast Xfinity Home Classic Keypad 2015
EUT Condition: Main Antenna - Continuously Transmitting - Y-Axis Worst Case
Comments: Customer: Universal Electronics, Inc.
Model: URC-4450BC0-X-R

10/12/2015 2:20:31 PM
Sequence: Final Measurements

FCC Class B

Freq (MHz)	Pol	(PEAK) EMI (dBµV/m)	(QP) EMI (dBµV/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dBµV/m)	Transducer (dB)	Cable (dB)	Ttbl Aql (deg)	Twr Ht (cm)
40.40	H	27.06	22.75	-12.94	-17.25	40.00	24.97	0.43	324.50	303.07
95.50	V	23.19	21.16	-20.31	-22.34	43.50	13.63	0.70	123.75	255.43
95.60	H	24.08	20.91	-19.42	-22.59	43.50	13.63	0.70	230.00	223.49
162.90	H	20.44	17.45	-23.06	-26.05	43.50	13.39	0.93	97.00	255.73
169.10	H	19.38	16.72	-24.12	-26.78	43.50	13.81	0.95	101.50	143.31
175.40	H	18.36	14.16	-25.14	-29.34	43.50	14.20	0.96	94.50	255.55
181.60	H	19.30	15.51	-24.20	-27.99	43.50	14.20	0.97	76.25	207.25



Note #1: No emissions were detected below 30 MHz
Note #2: No emissions were detected above 1GHz for non-harmonic emissions from the EUT.
Note #3: No emissions were detected above 1 GHz for the digital portion of the EUT.

Title: Radiated Final - 30-1000 MHz - FCC Class B
File: Final Scan - Chip Antenna - X-Axis Worst Case - 10-12-2015.set
Operator: Kyle Fujimoto
EUT Type: Comcast Xfinity Home Classic Keypad 2015
EUT Condition: Chip Antenna - Continuously Transmitting - X-Axis Worst Case
Comments: Customer: Universal Electronics, Inc.
Model: URC-4450BC0-X-R

10/12/2015 11:35:09 AM
Sequence: Final Measurements

CISPR 11 Class B

Freq (MHz)	Pol	(PEAK) EMI (dBµV/m)	(QP) EMI (dBµV/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dBµV/m)	Transducer (dB)	Cable (dB)	Ttbl Aql (deg)	Twr Ht (cm)
34.00	V	26.43	21.96	-13.57	-18.04	40.00	24.25	0.39	227.25	207.25
39.70	V	27.38	23.14	-12.62	-16.86	40.00	25.33	0.43	141.00	352.26
169.40	H	19.36	15.67	-24.14	-27.83	43.50	13.83	0.95	295.50	302.77
171.50	H	26.38	24.95	-17.12	-18.55	43.50	13.96	0.95	31.00	143.37
175.60	H	28.50	27.29	-15.00	-16.21	43.50	14.21	0.96	358.50	143.25
182.00	H	32.55	31.42	-10.95	-12.08	43.50	14.18	0.97	18.50	143.13
188.10	H	31.75	29.64	-11.75	-13.86	43.50	13.76	0.98	359.75	127.01

BAND EDGES

DATA SHEETS

FCC 15.249

Universal Electronics, Inc.
Comcast Xfinity Home Classic Keypad 2015
Model: URC-4450BC0-X-R
Chip Antenna

Dates: 10/08/2015 and 10/09/2015
Lab: D
Tested By: Kyle Fujimoto

Band Edges

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2405	99.75	H	114.00	-14.25	Peak	145.50	126.95	Fundamental
2405	79.75	H	94.00	-14.25	Avg	145.50	126.95	of Low Channel
2400	59.88	H	74.00	-14.12	Peak	145.50	126.95	Band Edge of Low Channel
2400	39.88	H	54.00	-14.12	Avg	145.50	126.95	X-Axis Worst Case
2405	95.04	V	114.00	-18.96	Peak	282.25	158.83	Fundamental of
2405	75.04	V	94.00	-18.96	Avg	282.25	158.83	Low Channel
2400	54.76	V	74.00	-19.24	Peak	282.25	158.83	Band Edge of Low Channel
2400	34.76	V	54.00	-19.24	Avg	282.25	158.83	Y-Axis Worst Case
2480	99.25	H	114.00	-14.75	Peak	135.25	142.71	Fundamental of
2480	79.25	H	94.00	-14.75	Avg	135.25	142.71	High Channel
2483.5	67.33	H	74.00	-6.67	Peak	135.25	142.71	Band Edge of High Channel
2483.5	47.33	H	54.00	-6.67	Avg	135.25	142.71	X-Axis Worst Case
2480	94.44	V	114.00	-19.56	Peak	97.75	158.89	Fundamental of
2480	74.44	V	94.00	-19.56	Avg	97.75	158.89	High Channel
2483.5	62.19	V	74.00	-11.81	Peak	97.75	158.89	Band Edge of High Channel
2483.5	42.19	V	54.00	-11.81	Avg	97.75	158.89	Y-Axis Worst Case

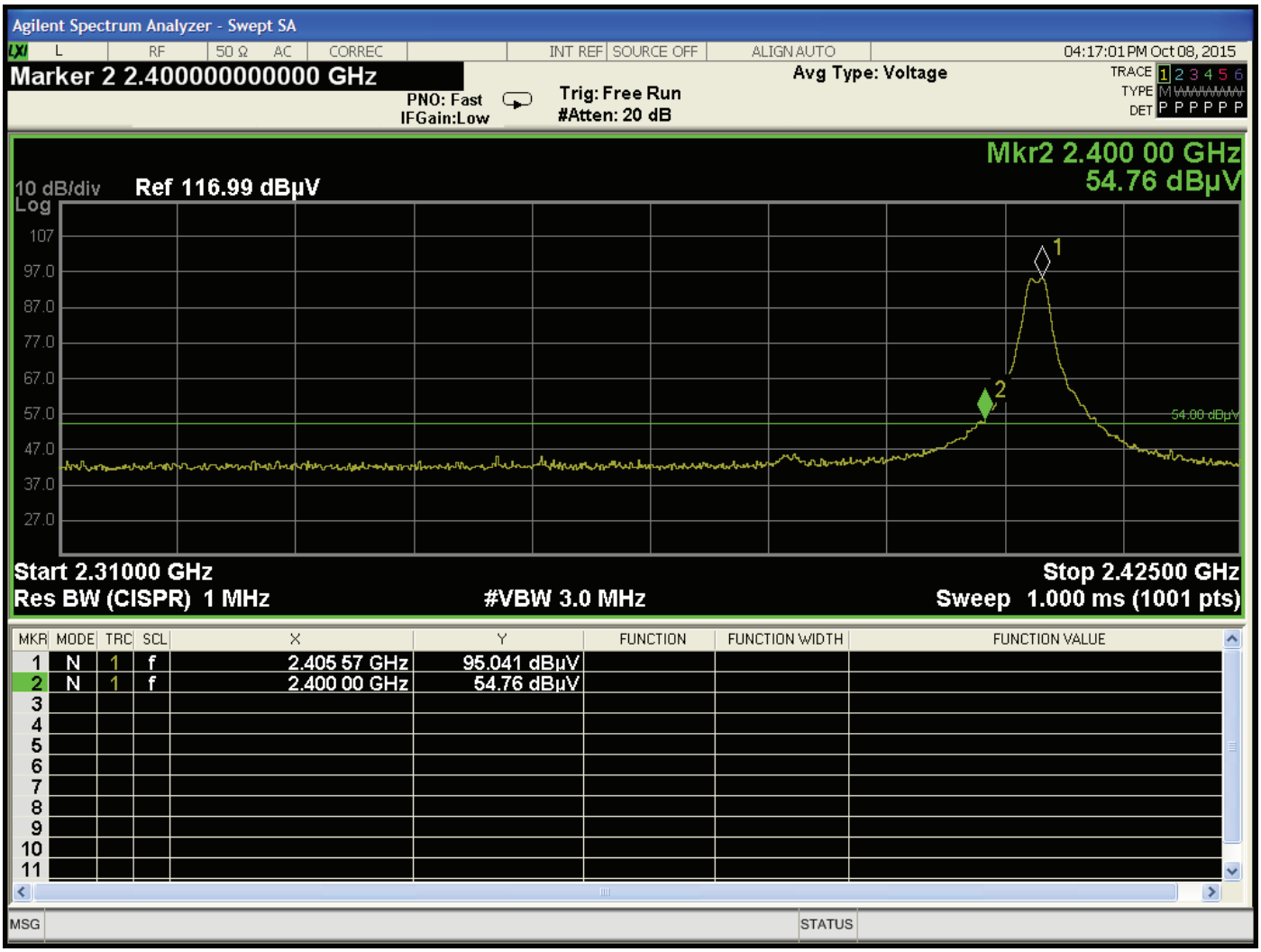
FCC 15.249

Universal Electronics, Inc.
Comcast Xfinity Home Classic Keypad 2015
Model: URC-4450BC0-X-R
Main Antenna

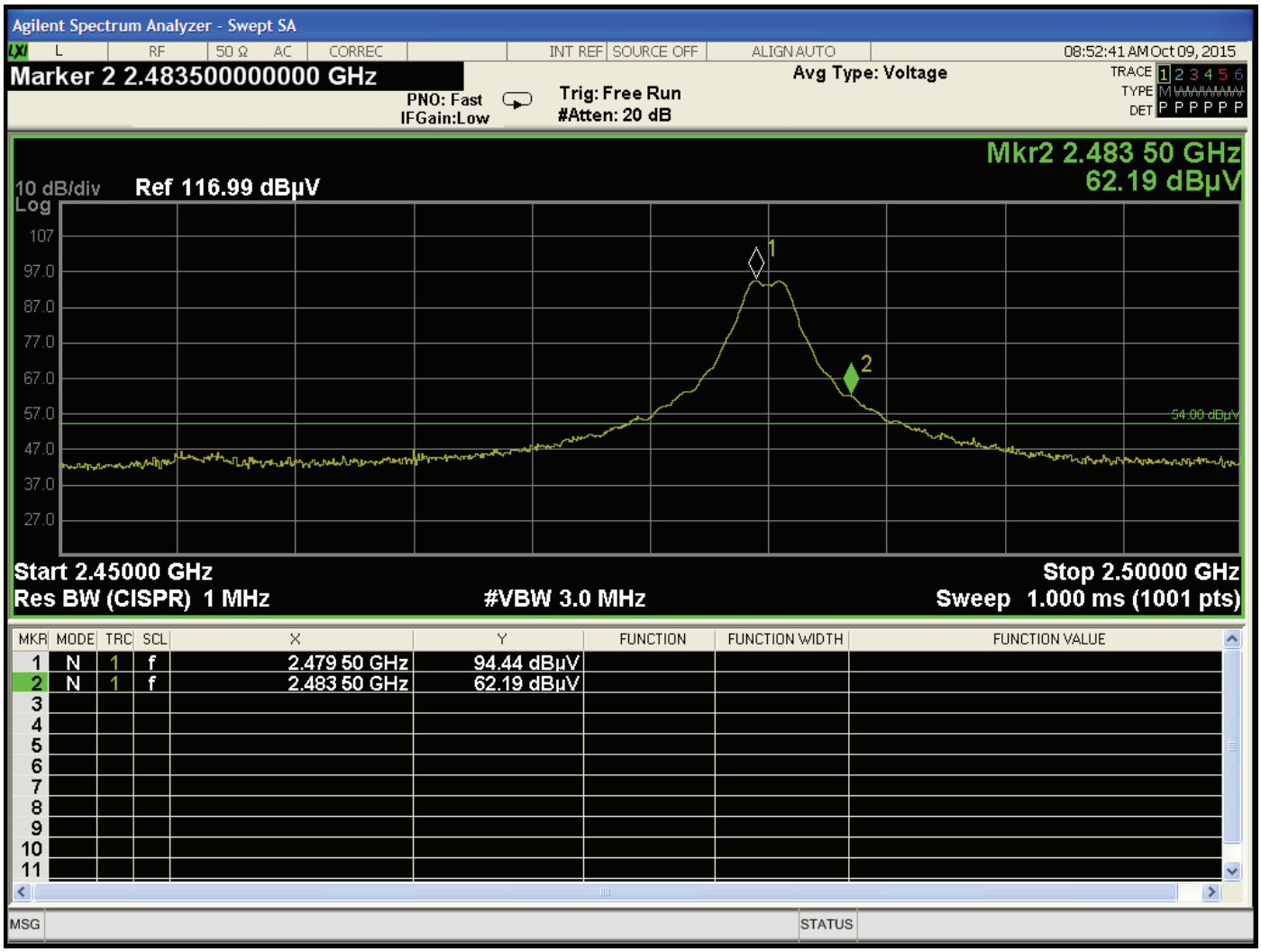
Date: 10/08/2015
Lab: D
Tested By: Kyle Fujimoto

Band Edges

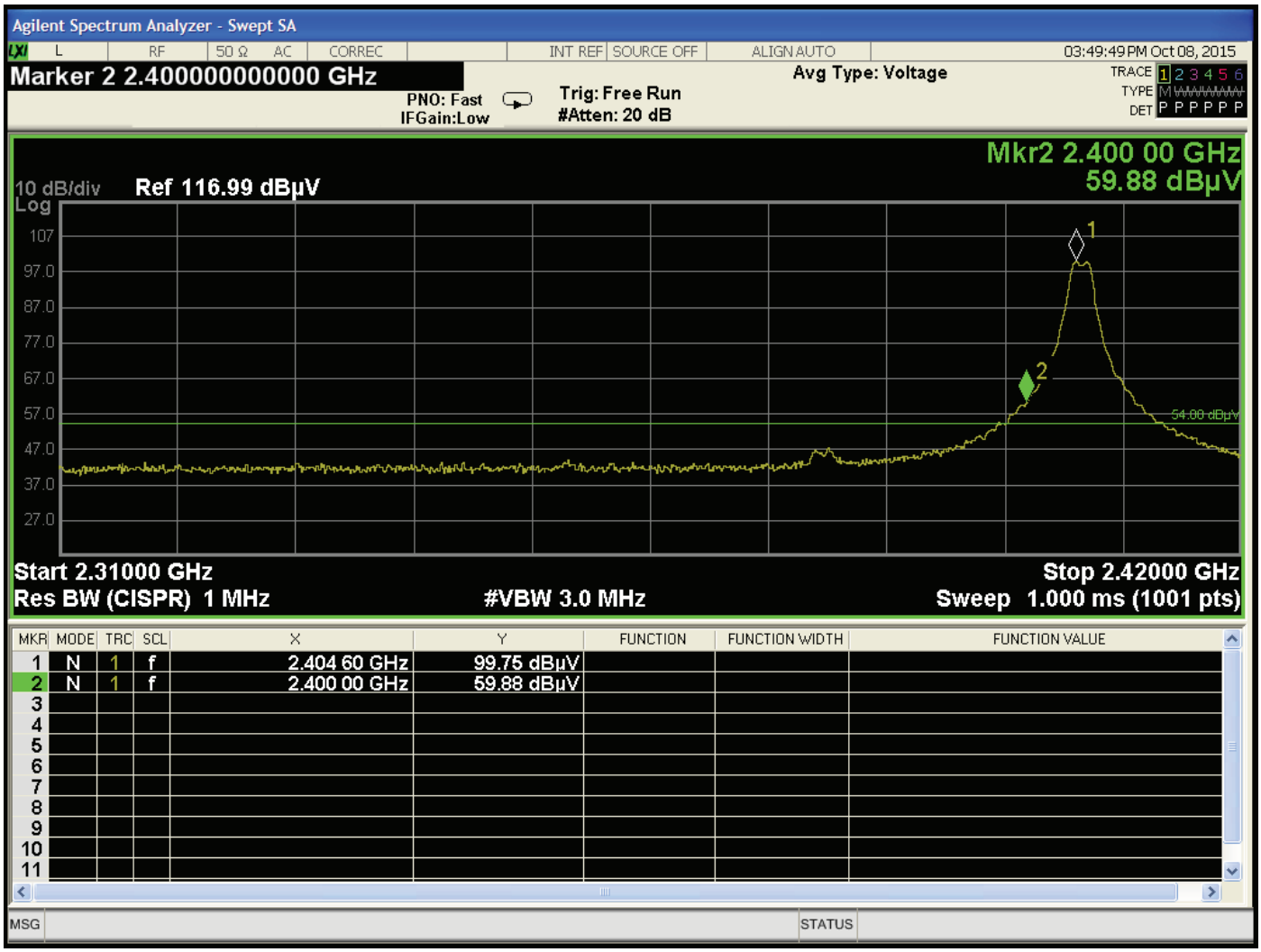
Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2405	96.55	H	114.00	-17.45	Peak	193.50	158.89	Fundamental
2405	76.55	H	94.00	-17.45	Avg	193.50	158.89	of Low Channel
2400	56.76	H	74.00	-17.24	Peak	193.50	158.89	Band Edge of Low Channel
2400	36.76	H	54.00	-17.24	Avg	193.50	158.89	Y-Axis Worst Case
2405	92.85	V	114.00	-21.15	Peak	286.00	110.95	Fundamental of
2405	72.85	V	94.00	-21.15	Avg	286.00	110.95	Low Channel
2400	54.01	V	74.00	-19.99	Peak	286.00	110.95	Band Edge of Low Channel
2400	34.01	V	54.00	-19.99	Avg	286.00	110.95	Y-Axis Worst Case
2480	95.60	H	114.00	-18.40	Peak	24.25	142.83	Fundamental of
2480	75.60	H	94.00	-18.40	Avg	24.25	142.83	High Channel
2483.5	63.92	H	74.00	-10.08	Peak	24.25	142.83	Band Edge of High Channel
2483.5	43.92	H	54.00	-10.08	Avg	24.25	142.83	X-Axis Worst Case
2480	92.70	V	114.00	-21.30	Peak	135.25	142.77	Fundamental of
2480	72.70	V	94.00	-21.30	Avg	135.25	142.77	High Channel
2483.5	60.26	V	74.00	-13.74	Peak	135.25	142.77	Band Edge of High Channel
2483.5	40.26	V	54.00	-13.74	Avg	135.25	142.77	Y-Axis Worst Case



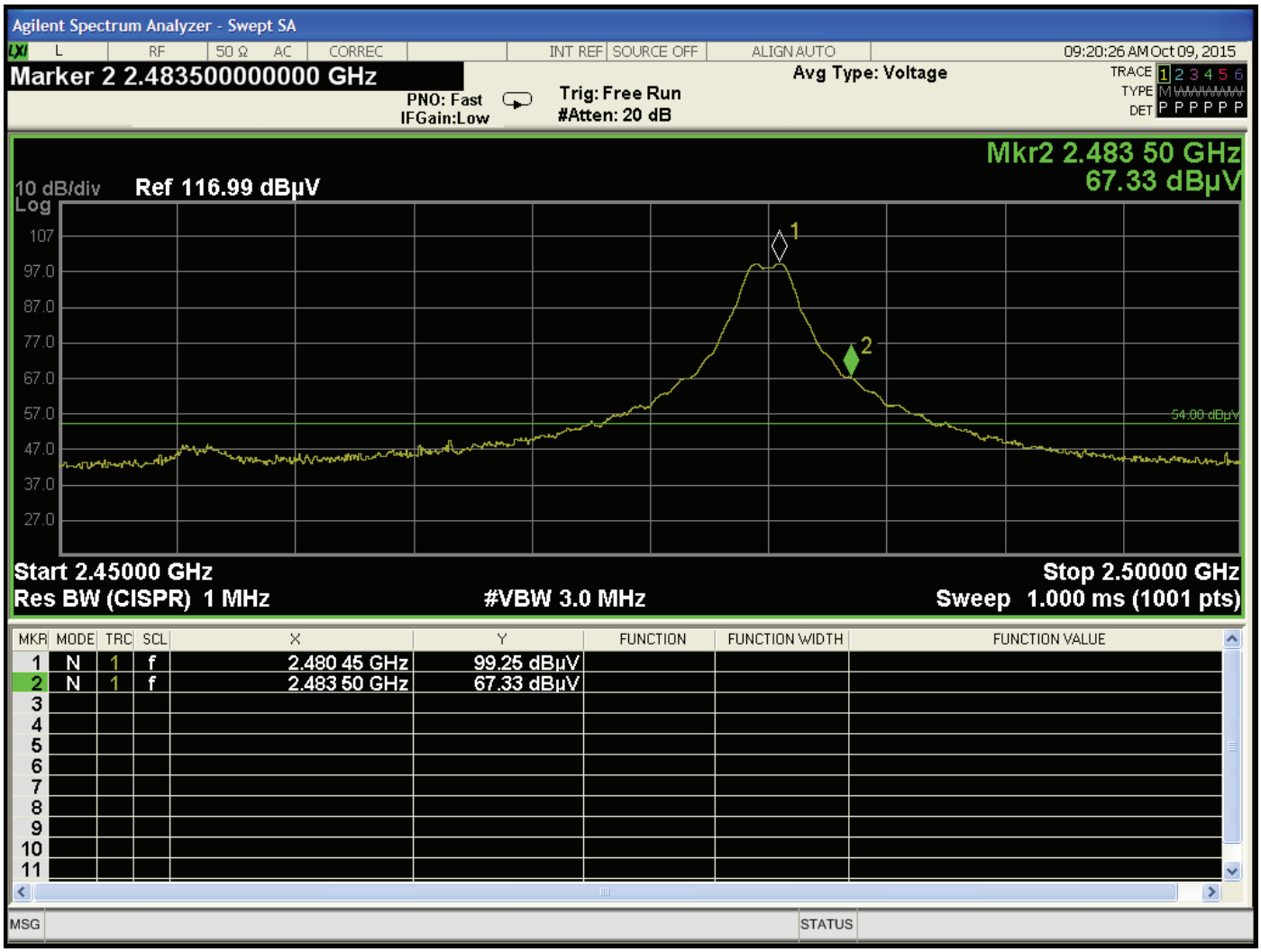
Band Edge – Low Channel – Vertical Polarization – Chip Antenna – Y-Axis Worst Case



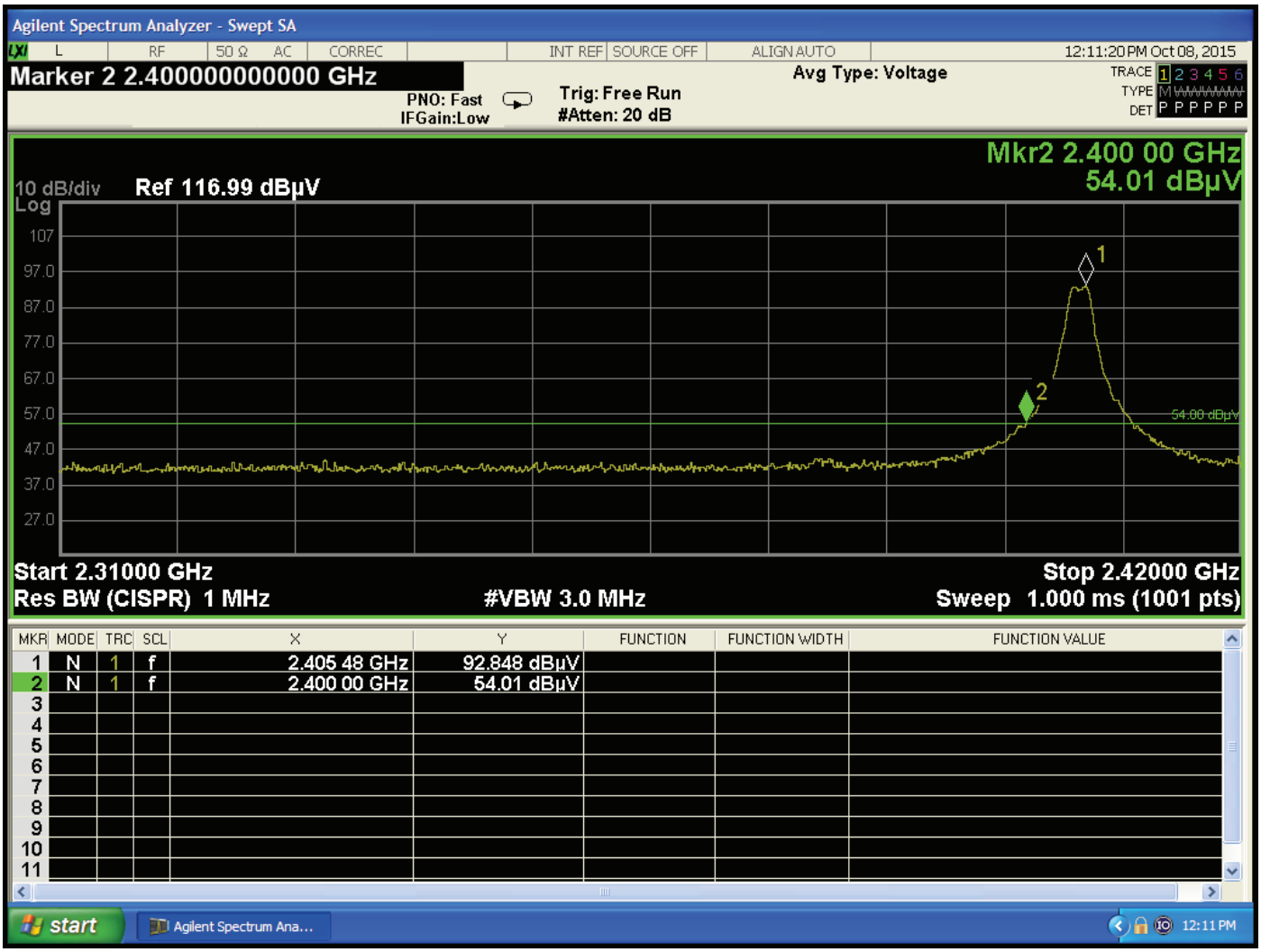
Band Edge – High Channel – Vertical Polarization – Chip Antenna – Y-Axis Worst Case



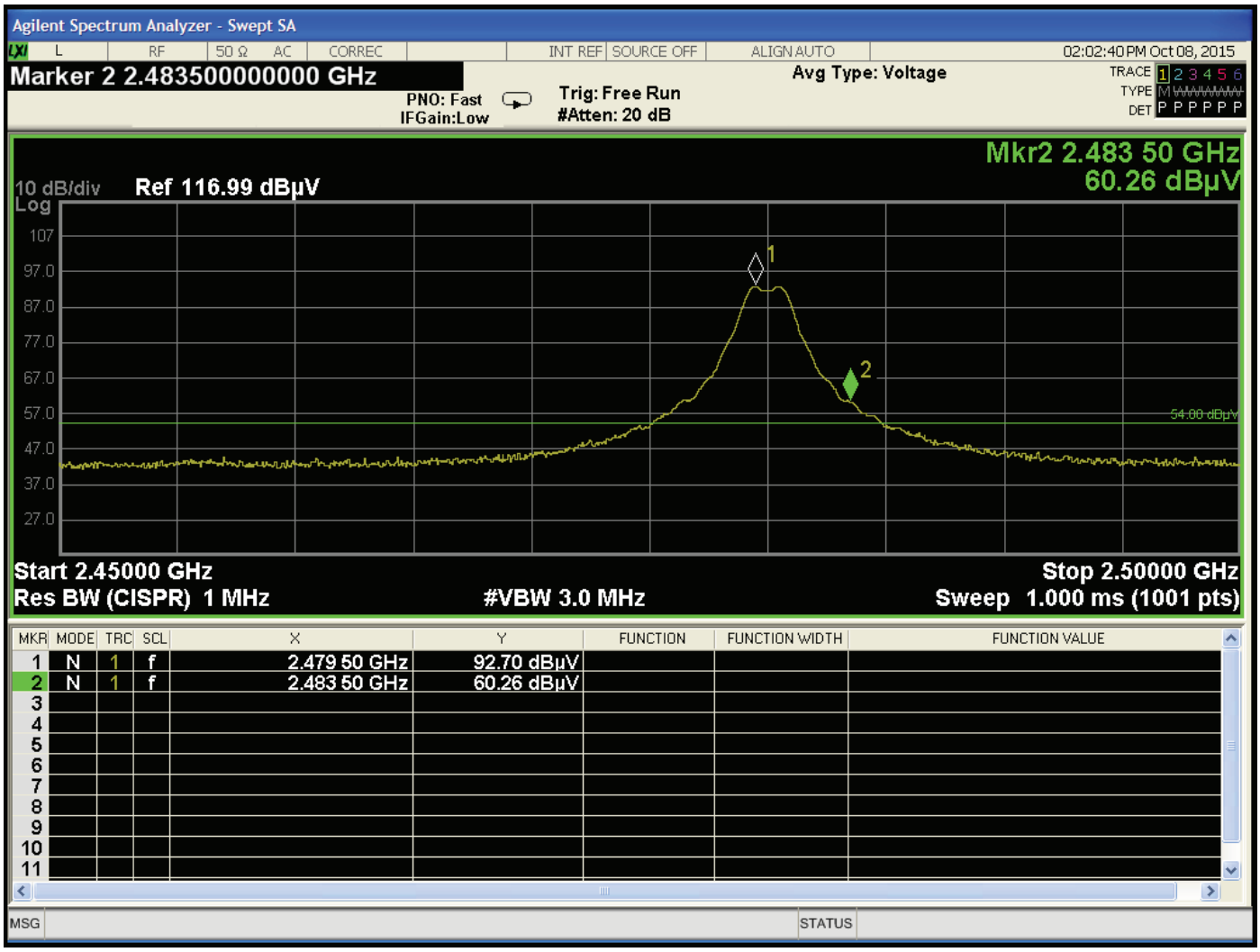
Band Edge – Low Channel – Horizontal Polarization – Chip Antenna – X-Axis Worst Case



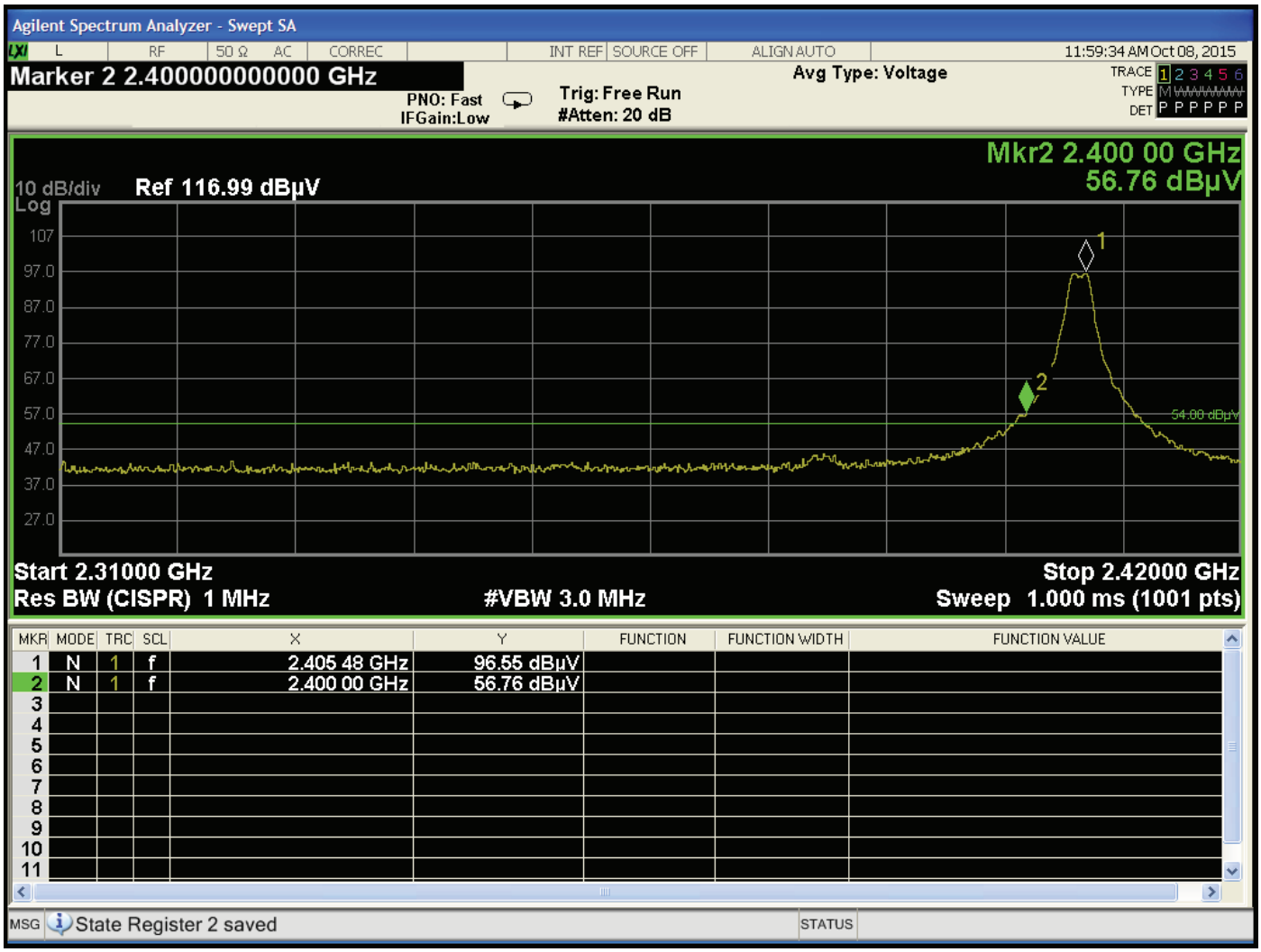
Band Edge – High Channel – Horizontal Polarization – Chip Antenna – X-Axis Worst Case



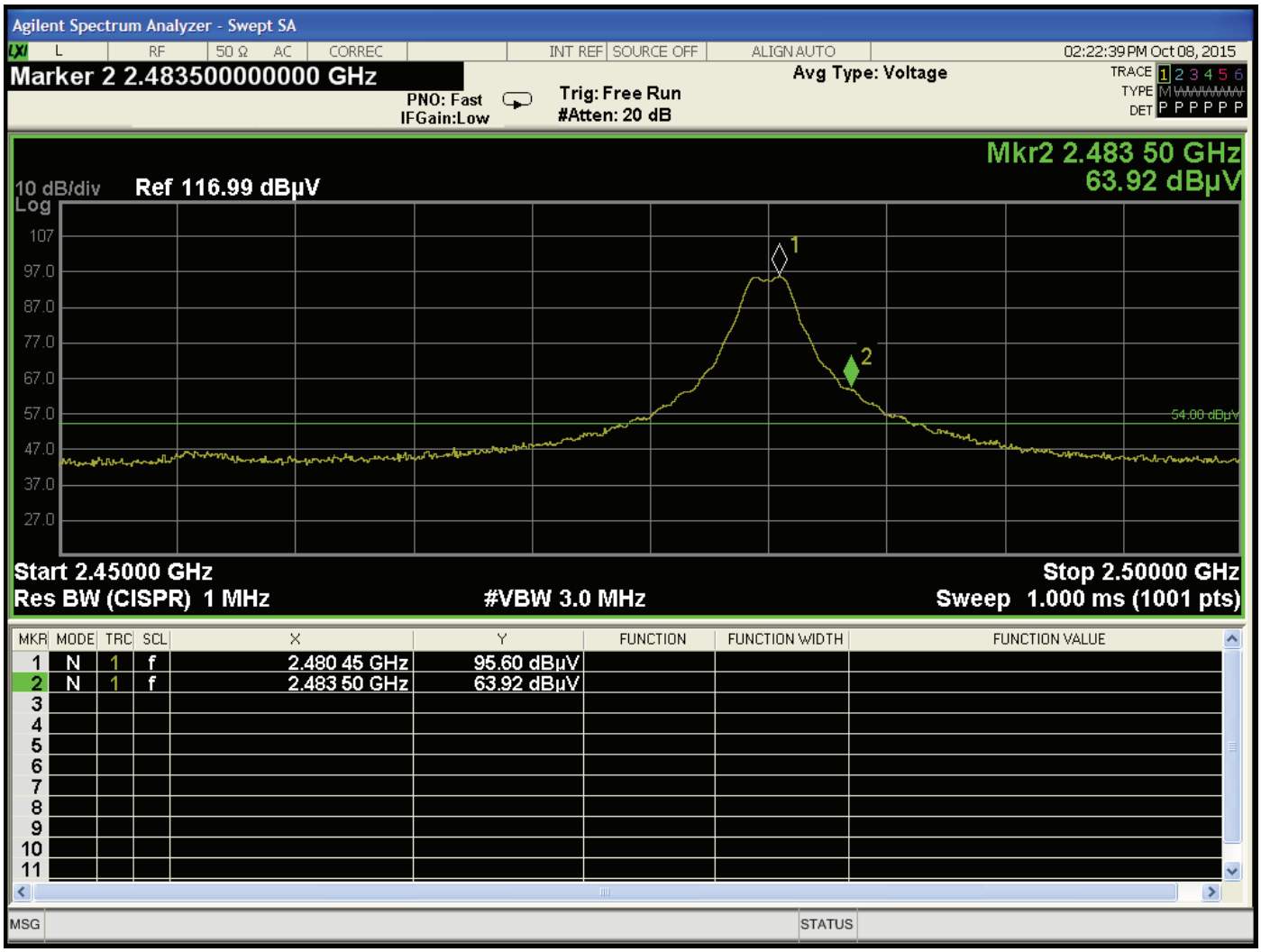
Band Edge – Low Channel – Vertical Polarization – Main Antenna – Y-Axis – Worst Case



Band Edge – High Channel – Vertical Polarization – Main Antenna – Y-Axis – Worst Case



Band Edge – Low Channel – Horizontal Polarization – Main Antenna – Y-Axis – Worst Case



Band Edge – High Channel – Horizontal Polarization – Main Antenna – X-Axis – Worst Case