FCC PART 15, SUBPART B and C
TEST REPORT

for

COMCAST XR15 REMOTE UE878 2018

MODEL: URC-4352BC3-X-R

Prepared for

UNIVERSAL ELECTRONICS, INC.
201 EAST SANDPOINTE AVANUE, 8TH FLOOR
SANTA ANA CALIFORNIA, 92707

Prepared by: Kyle Fujimoto

KYLE FUJIMOTO

Approved by: James Ross

JAMES ROSS

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

DATE: APRIL 27, 2018

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

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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 XR15 Remote UE878 2018 Model: URC-4352BC3-X-R Remote Number: R34352BA00-0004 S/N: N/A
Product Description:	The EUT is a universal remote control that allows users to operate audio/video (A/V) devices using radio frequency (RF) or infrared (IR) signals
Modifications:	The EUT was not modified in order to meet the specifications.
Customer:	Universal Electronics, Inc. 201 East Sandpointe Avanue, 8th Floor Santa Ana California, 92707
Test Dates:	March 29 and 30; April 3; and May 2 and 3, 2018

Test Specifications covered by accreditation:

NVLAP® TESTING
NVLAP LAB CODE 200528-0

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

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

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Spurious Radiated RF Emissions, 9 kHz –25000MHz	Complies with the **Class B** limits of CFR Title 47, Part 15 Subpart B; and the limits of CFR Title 47, Part 15 Subpart C, section 15.205, 15.209 and 15.249 Highest reading in relation to spec limit 85.12 (Avg) dBuV/m @ 2450.00 MHz (*U = 3.67 dB)

1. PURPOSE

This document is a qualification test report based on the emissions tests performed on the Comcast XR15 Remote UE878 2018, Model: URC-4352BC3-X-R. The emissions measurements were performed according to the measurement procedure described in ANSI C63.4 and ANSI C63.10. The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT hereafter, are within the **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.249.

2. ADMINISTRATIVE DATA

2.1 Location of Testing

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

2.2 Traceability Statement

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

2.3 Cognizant Personnel

Universal Electronics, Inc.

Jesse Mendez	Staff Engineer, Electrical

Compatible Electronics Inc.

Kyle Fujimoto	Test Engineer
James Ross	Test Engineer

2.4 Date Test Sample was Received

The test sample was received prior to the date of this report.

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
ASK	Amplitude Shift Key
ITE	Information Technology Equipment
N/A	Not Applicable
Tx	Transmit
Rx	Receive
PIR	Pyroelectric (“Passive”) Infrared
Inc.	Incorporated
IR	Infrared

3. APPLICABLE DOCUMENTS

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

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

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration – Emissions

The Comcast XR15 Remote UE878 2018, Model: URC-4352BC3-X-R (EUT) was setup in a stand-alone configuration. The EUT was investigated in all three orthogonal axis. During the testing, the EUT was continuously transmitting at 2425 MHz, 2450 MHz, or 2475 MHz. The EUT was tested from 9 kHz to 25 GHz.

Fresh batteries were installed inside the EUT prior to the testing. The EUT was programmed via the Radio Control Console v4.0.3 firmware.

The firmware is stored in one of the network drives in the company's server.

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

4.1.1 Cable Construction and Termination

The EUT had no external cables.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
COMCAST XR15 REMOTE UE878 2018 (EUT)	UNIVERSAL ELECTRONICS, INC.	URC-4352BC3-X-R	N/A	MG3-43523
LAPTOP*	HEWLETT PACKARD	HSTNN-C82C	N/A	N/A
AC ADAPTER FOR LAPTOP*	HEWLETT PACKARD	HSTNN-DA40	N/A	N/A
PROGRAM BOARD*	UNIVERSAL ELECTRONICS, INC.	RMF-TX300C	N/A	N/A
FIRMWARE*	UNIVERSAL ELECTRONICS, INC.	RADIO CONTROL CONSOLE	v4.0.3	N/A

***Used to program the EUT only and was removed prior to the testing

5.2 Emissions Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. CYCLE
RF RADIATED AND CONDUCTED EMISSIONS TEST EQUIPMENT					
TDK TestLab	TDK RF Solutions, Inc.	9.22	700145	N/A	N/A
EMI Receiver, 20 Hz – 26.5 GHz	Keysight Technologies	N9038A	MY5120150	December 6, 2017	1 Year
CombiLog Antenna	Com-Power	AC-220	61060	July 27, 2017	1 Year
Loop Antenna	Com-Power	AL-130R	121090	February 9, 2017	2 Year
System Controller	Sunol Sciences Corporation	SC110V	112213-1	N/A	N/A
Turntable	Sunol Sciences Corporation	2011VS	N/A	N/A	N/A
Antenna-Mast	Sunol Sciences Corporation	TWR95-4	112213-3	N/A	N/A
Computer	Hewlett Packard	p6716f	MXX1030PX0	N/A	N/A
LCD Monitor	Hewlett Packard	52031a	3CQ046N3MG	N/A	N/A
Horn Antenna	Com-Power	AH-118	071175	February 22, 2018	2 Year
Preamplifier	Com-Power	PAM-118A	551024	May 12, 2016	2 Year
Preamplifier	Com-Power	PA-840	711013	May 13, 2016	2 Year
Horn Antenna	Com-Power	AH-826	71957	N/A	N/A

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

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

6.2 EUT Mounting, Bonding and Grounding

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

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

The EUT was not grounded.

7. TEST PROCEDURES

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

7.1 RF Emissions

7.1.1 Radiated Emissions Test

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

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

The frequencies for the fundamental, high channel band edge, and harmonics above 1 GHz were averaged using a duty cycle correction factor.

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

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

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

Radiated Emissions Test (Continued)

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

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
9 kHz to 150 kHz	200 Hz	Loop Antenna
150 kHz to 30 MHz	9 kHz	Loop Antenna
30 MHz to 1 GHz	120 kHz	CombiLog Antenna
1 GHz to 25 GHz	1 MHz	Horn Antenna

Test Results:

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

7.1.2 RF Emissions Test Results

Table 1.0 RADIATED EMISSION RESULTS
Comcast XR15 Remote UE878 2018
Model: URC-4352BC3-X-R

Frequency MHz	Average EMI Reading (dBuV/m)	Average Specification Limit (dBuV/m)	Delta (Cor. Reading – Spec. Limit) dB)
2450.00 (H) (X-Axis)	85.12	93.97	-8.85
2475.00 (H) (X-Axis)	84.51	93.97	-9.46
2425.00 (H) (X-Axis)	84.40	93.97	-9.57
2450.00 (V) (Y-Axis)	83.49	93.97	-10.48
2450.00 (H) (Z-Axis)	83.41	93.97	-10.56
2475.00 (H) (Z-Axis)	83.19	93.97	-10.78

Notes:

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

7.1.3 Duty Cycle Calculation

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

Where

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

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

The worst case was when the EUT was in pairing mode

Duty Cycle Correction Factor = -20.00 dB

Time of One Pulse = 1.060 ms

Total On Time = 1.060 ms

The time between pulses is 31.87 ms

Duty Cycle = 1.060 ms / 31.87 ms = 0.03326 = 3.326%

The duty cycle is less than 10%, so the maximum Peak to Average ratio of -20 dB can be utilized.

8. CONCLUSIONS

The Comcast XR15 Remote UE878 2018, Model: URC-4352BC3-X-R, as tested, meets all of the **Class B** specification limits defined in FCC Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209 and 15.249.

APPENDIX A

LABORATORY ACCREDITATIONS AND RECOGNITIONS

LABORATORY ACCREDITATIONS AND RECOGNITIONS

NVLAP® TESTING
NVLAP LAB CODE 200528-0

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

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

APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

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

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

No modifications were made to the EUT during the testing.

APPENDIX C

ADDITIONAL MODEL COVERED UNDER THIS REPORT

ADDITIONAL MODEL COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

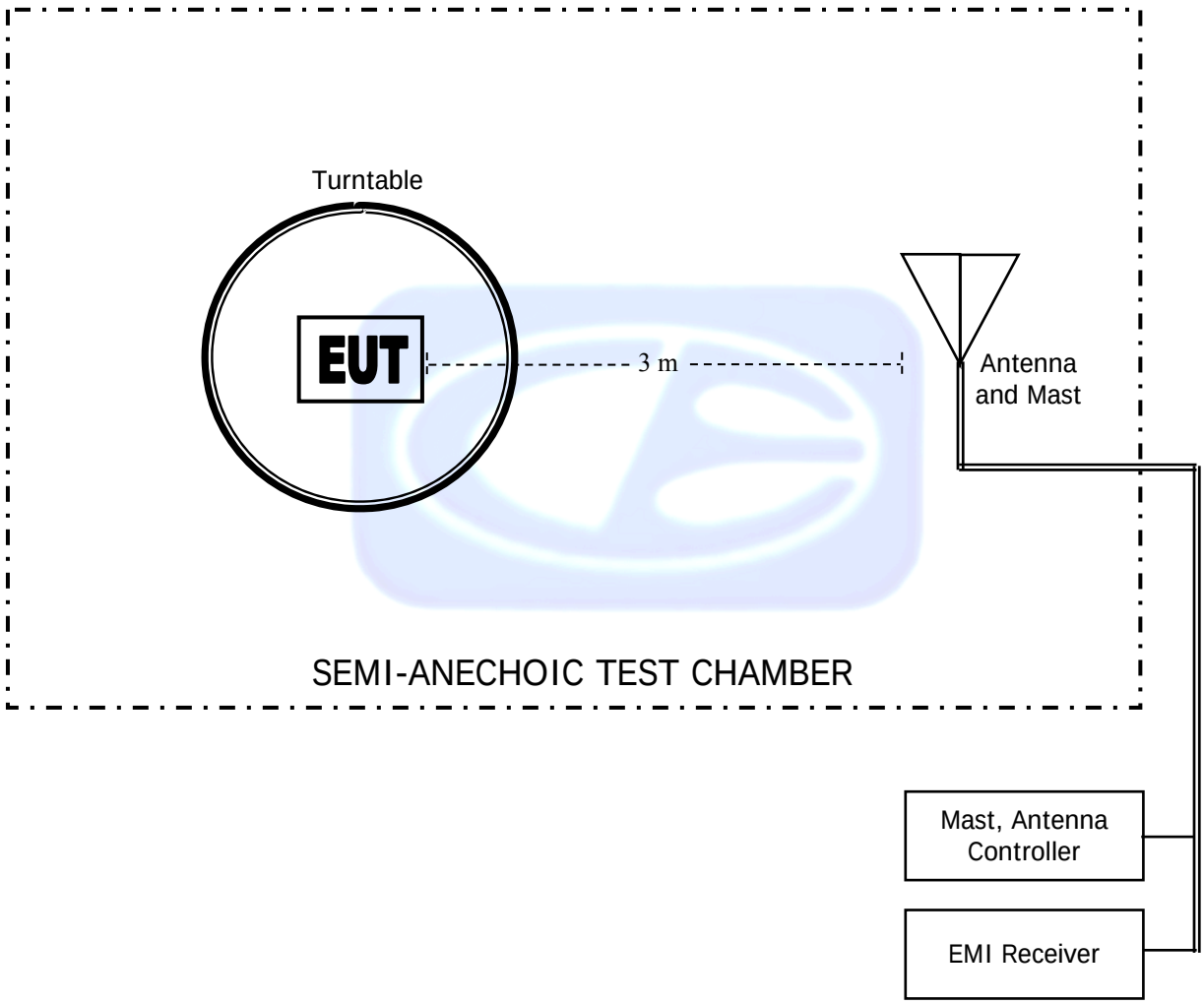
Comcast XR15 Remote UE878 2018
Model: URC-4352BC3-X-R
S/N: N/A

There are no additional Models covered under this report.

APPENDIX D

DIAGRAMS AND CHARTS

FIGURE 1: LAYOUT OF THE SEMI -ANECHOIC TEST CHAMBER



COM-POWER AL-130R

LOOP ANTENNA

S/N: 121090

CALIBRATION DATE: FEBRUARY 9, 2017

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

COM-POWER AC-220

COMBILOG ANTENNA

S/N: 61060

CALIBRATION DATE: JULY 27, 2017

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

COM POWER AH-118

HORN ANTENNA

S/N: 071175

CALIBRATION DATE: FEBRUARY 22, 2018

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

COM-POWER 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

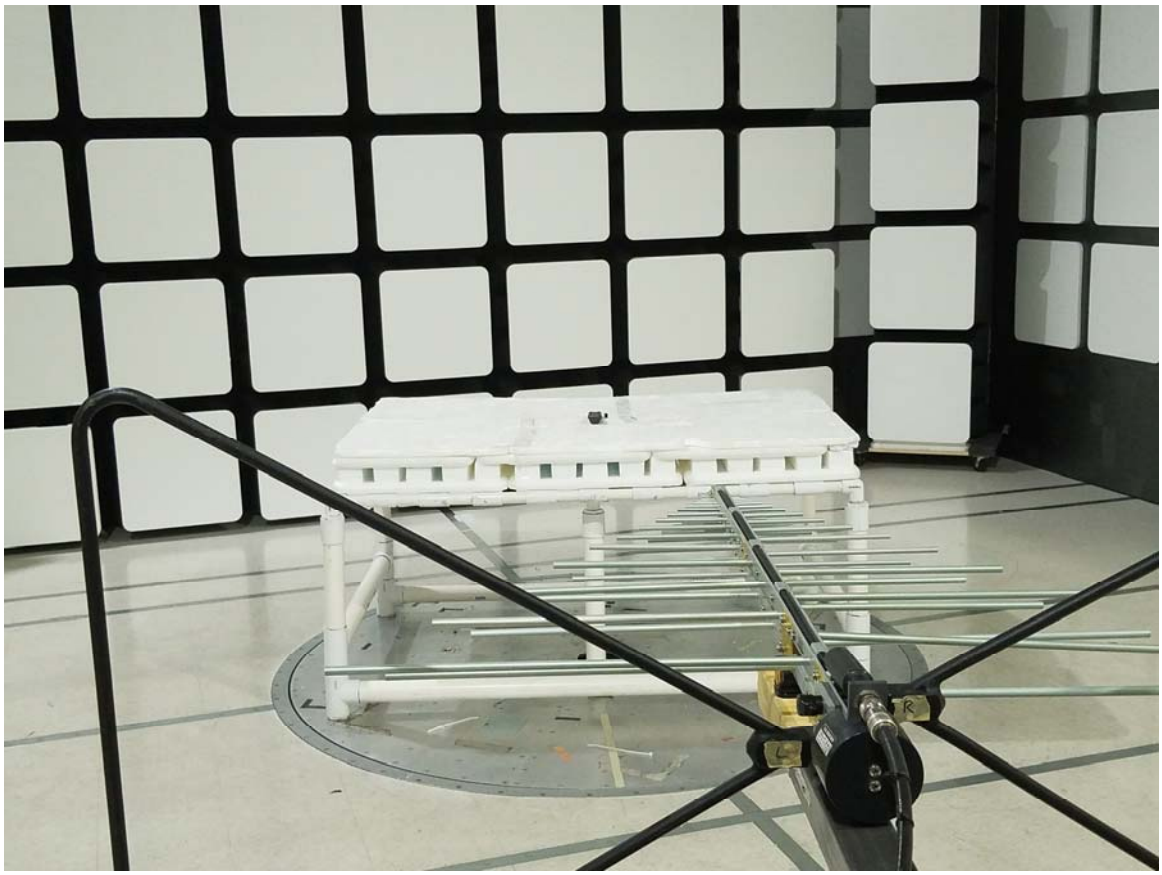
COM-POWER PA-840

MICROWAVE PREAMPLIFIER

S/N: 711013

CALIBRATION DATE: MAY 13, 2016

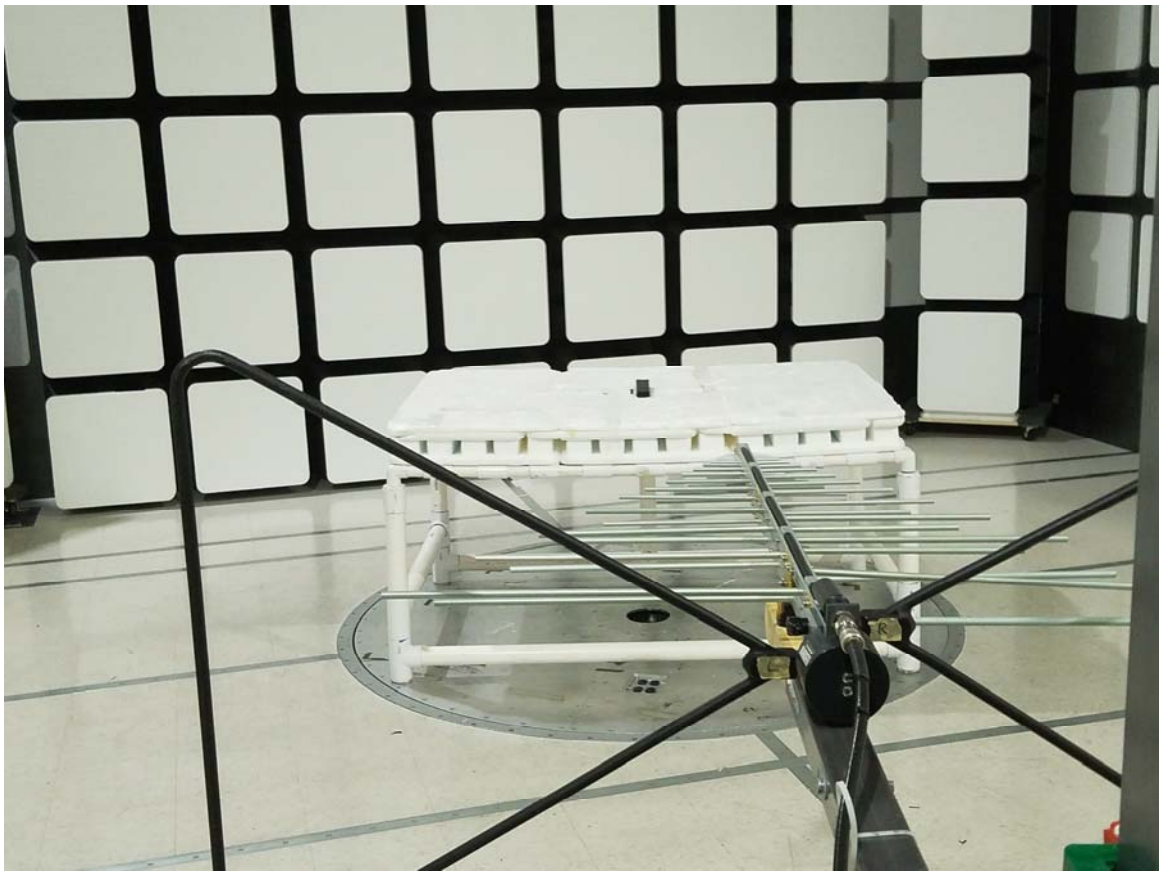
FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	25.19	31.0	25.69
19.0	24.48	31.5	25.74
20.0	24.39	32.0	26.35
21.0	24.73	32.5	26.64
22.0	23.49	33.0	25.98
23.0	24.23	33.5	24.68
24.0	24.59	34.0	24.61
25.0	25.32	34.5	23.78
26.0	25.66	35.0	24.74
26.5	25.99	35.5	24.39
27.0	26.26	36.0	23.46
27.5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

UNIVERSAL ELECTRONICS, INC.
COMCAST XR15 REMOTE UE878 2018
MODEL: URC-4352BC3-X-R
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

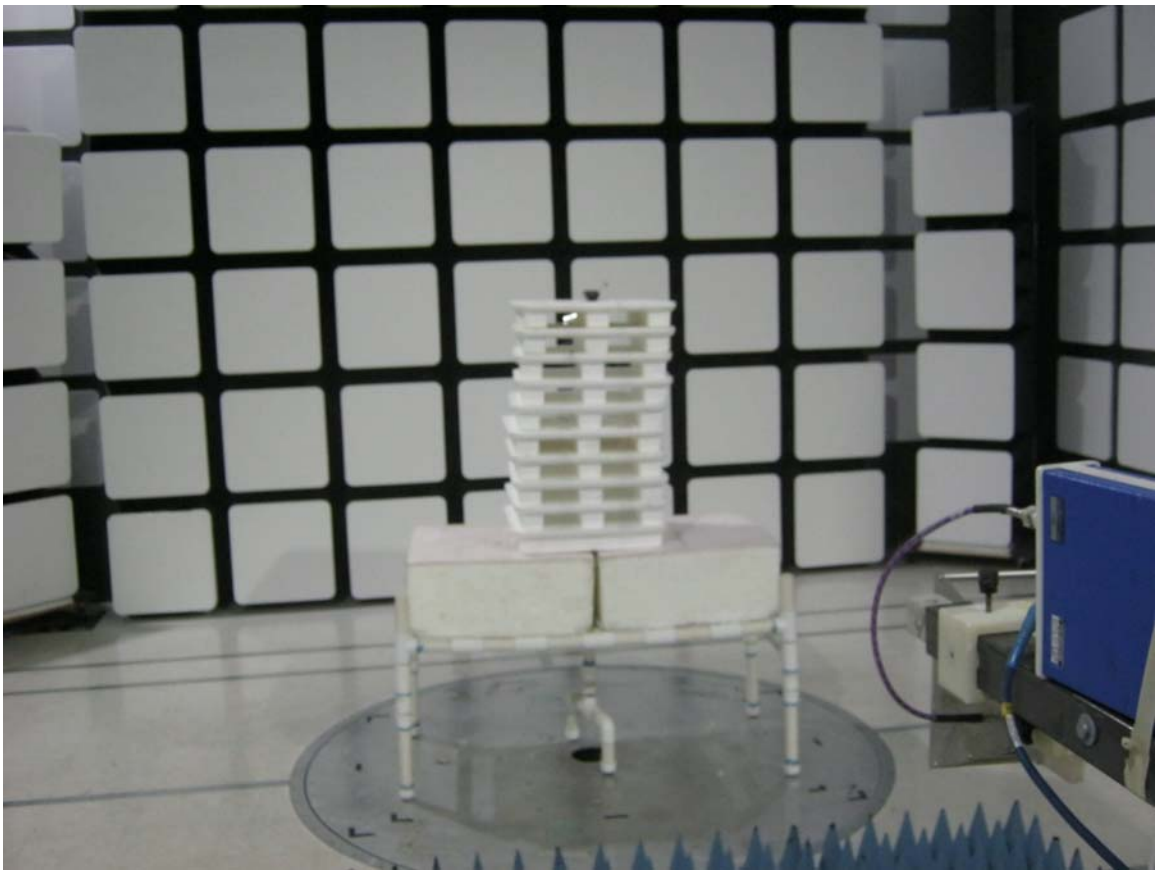
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

UNIVERSAL ELECTRONICS, INC.
COMCAST XR15 REMOTE UE878 2018
MODEL: URC-4352BC3-X-R
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

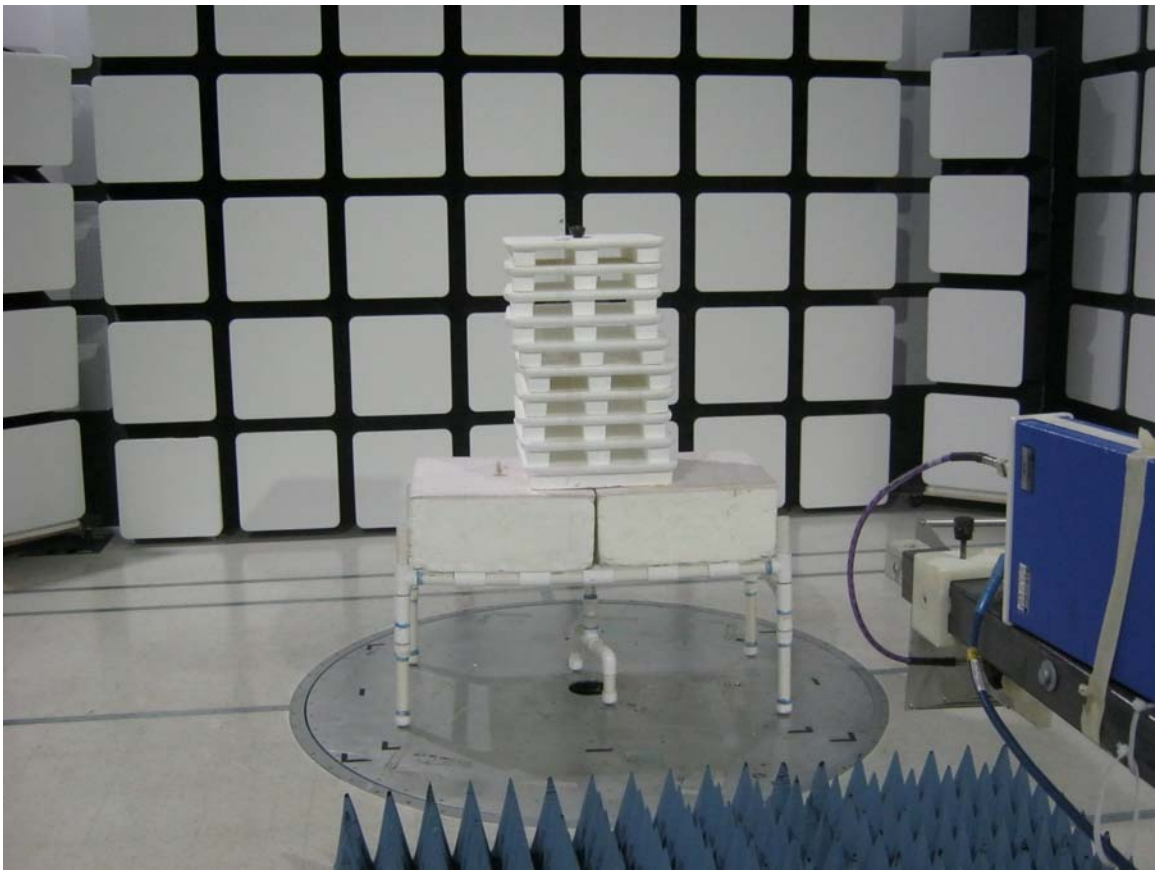
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

UNIVERSAL ELECTRONICS, INC.
COMCAST XR15 REMOTE UE878 2018
MODEL: URC-4352BC3-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.
COMCAST XR15 REMOTE UE878 2018
MODEL: URC-4352BC3-X-R
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONs

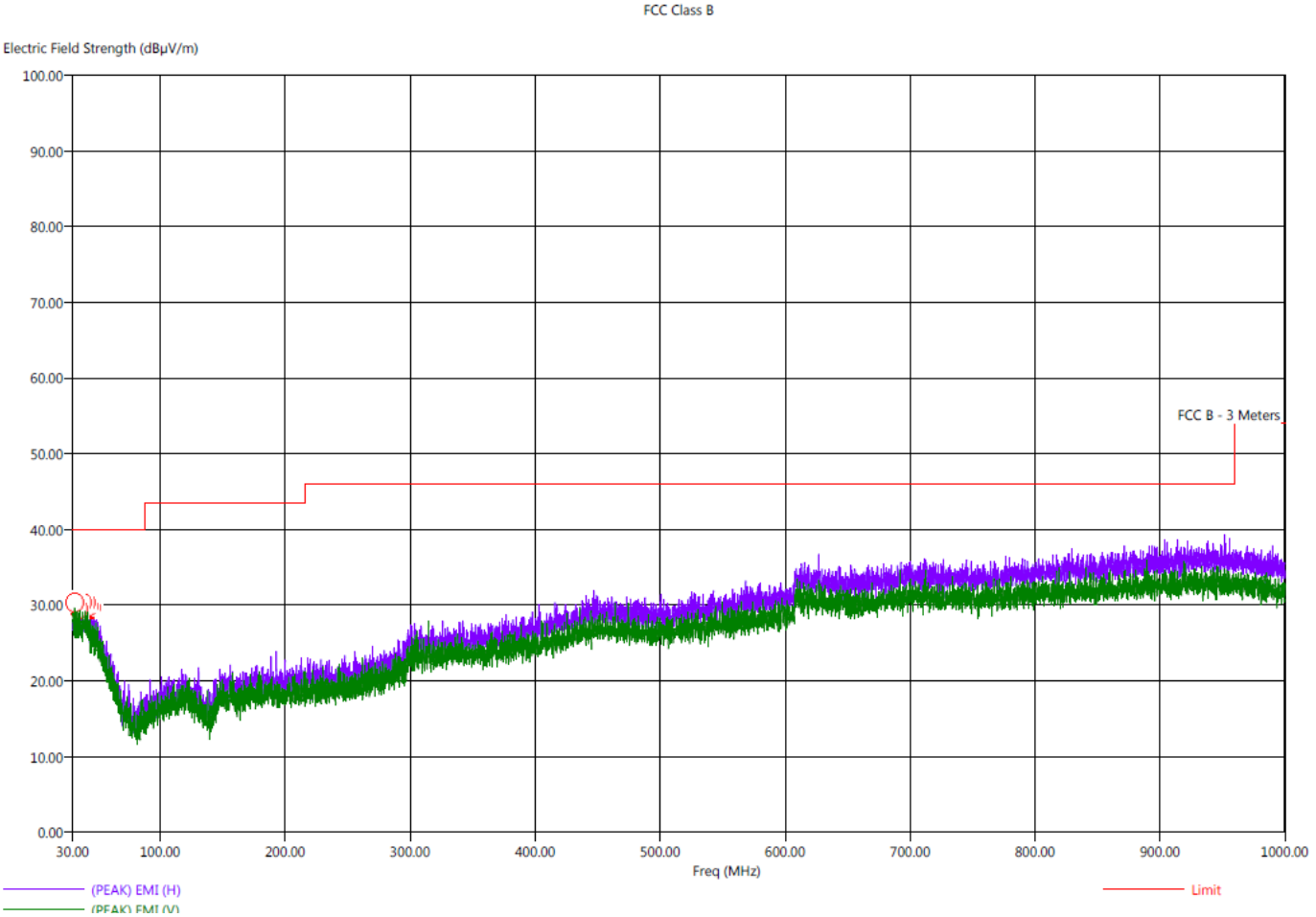
APPENDIX E

DATA SHEETS

RADIATED EMISSIONS DATA SHEETS

Title: Radiated Emissions - FCC Class B
File: Agilent - Pre-Scan - FCC Class B - 30 MHz to 1000 MHz 4-03-18.set
Operator: Kyle Fujimoto
EUT Type: Comcast XR15 Remote UR878 2018
EUT Condition: The EUT is continuosuly transmitting at 2475 MHz - X-Axis Worst Case
Comments: Company: Universal Electronics, Inc.
M/N: URC-4352BC3-X-R
S/N: N/A

4/3/2018 11:37:53 AM
Sequence: Preliminary Scan



Title: Radiated Emissions - FCC Class B
File: Agilent - Final Scan - FCC Class B - 30 MHz to 1000 MHz.set
Operator: Kyle Fujimoto
EUT Type: Comcast XR15 Remote UR878 2018
EUT Condition: The EUT is continuously transmitting at 2475 MHz - Z-Axis Worst Case
Comments: Company: Universal Electronics, Inc.
M/N: URC-4352BC3-X-R
S/N: N/A

4/3/2018 12:17:06 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)
31.30	H	32.30	26.57	-7.70	-13.43	40.00	23.85	0.81	328.75	398.85
34.50	H	32.54	26.37	-7.46	-13.63	40.00	23.98	0.85	204.50	111.50
37.60	H	31.84	26.73	-8.16	-13.27	40.00	24.41	0.88	175.00	398.91
40.70	H	31.94	27.43	-8.06	-12.57	40.00	24.43	0.90	241.50	303.08
42.70	H	31.59	25.85	-8.41	-14.15	40.00	23.71	0.90	260.25	239.14
45.30	H	30.40	25.15	-9.60	-14.85	40.00	22.87	0.90	262.75	206.79

FCC 15.249
Universal Electronics, Inc.
Comcast XR15 Remote UE878 2018
Model: URC-4352BC3-X-R

Dates: 05/02/2018 and 05/03/2018
Lab: D
Tested By: Kyle Fujimoto

Fundamental
Low Channel

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2425.00	90.11	V	113.97	-23.87	Peak	344.25	173.11	**X-Axis**
2425.00	70.11	V	93.97	-23.87	Avg	344.25	173.11	**Vertical Polarization**
2425.00	102.16	V	113.97	-11.81	Peak	52.50	183.08	**Y-Axis**
2425.00	82.16	V	93.97	-11.81	Avg	52.50	183.08	**Vertical Polarization**
2425.00	101.99	V	113.97	-11.98	Peak	178.25	100.01	**Z-Axis**
2425.00	81.99	V	93.97	-11.98	Avg	178.25	100.01	**Vertical Polarization**
2425.00	104.40	H	113.97	-9.57	Peak	139.25	138.43	**X-Axis**
2425.00	84.40	H	93.97	-9.57	Avg	139.25	138.43	**Horizontal Polarization**
2425.00	92.83	H	113.97	-21.14	Peak	10.25	246.37	**Y-Axis**
2425.00	72.83	H	93.97	-21.14	Avg	10.25	246.37	**Horizontal Polarization**
2425.00	102.43	H	113.97	-11.54	Peak	65.75	180.10	**Z-Axis**
2425.00	82.43	H	93.97	-11.54	Avg	65.75	180.10	**Horizontal Polarization**

FCC 15.249
Universal Electronics, Inc.
Comcast XR15 Remote UE878 2018
Model: URC-4352BC3-X-R

Date: 03/30/2018
Lab: D
Tested By: Kyle Fujimoto

Fundamental
Middle Channel

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2450.00	95.35	V	113.97	-18.63	Peak	210.75	236.94	**X-Axis**
2450.00	75.35	V	93.97	-18.63	Avg	210.75	236.94	**Vertical Polarization**
2450.00	103.49	V	113.97	-10.48	Peak	52.25	162.97	**Y-Axis**
2450.00	83.49	V	93.97	-10.48	Avg	52.25	162.97	**Vertical Polarization**
2450.00	102.70	V	113.97	-11.27	Peak	192.00	131.86	**Z-Axis**
2450.00	82.70	V	93.97	-11.27	Avg	192.00	131.86	**Vertical Polarization**
2450.00	104.92	H	113.97	-9.05	Peak	139.75	140.10	**X-Axis**
2450.00	84.92	H	93.97	-9.05	Avg	139.75	140.10	**Horizontal Polarization**
2450.00	95.78	H	113.97	-18.19	Peak	14.50	223.44	**Y-Axis**
2450.00	75.78	H	93.97	-18.19	Avg	14.50	223.44	**Horizontal Polarization**
2450.00	103.41	H	113.97	-10.56	Peak	267.00	174.49	**Z-Axis**
2450.00	83.41	H	93.97	-10.56	Avg	267.00	174.49	**Horizontal Polarization**

FCC 15.249
Universal Electronics, Inc.
Comcast XR15 Remote UE878 2018
Model: URC-4352BC3-X-R

Date: 03/30/2018
Lab: D
Tested By: Kyle Fujimoto

Fundamental
High Channel

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2475.00	94.82	V	113.97	-19.15	Peak	351.25	215.14	**X-Axis**
2475.00	74.82	V	93.97	-19.15	Avg	351.25	215.14	**Vertical Polarization**
2475.00	100.94	V	113.97	-13.03	Peak	205.50	164.10	**Y-Axis**
2475.00	80.94	V	93.97	-13.03	Avg	205.50	164.10	**Vertical Polarization**
2475.00	100.47	V	113.97	-13.50	Peak	351.00	102.21	**Z-Axis**
2475.00	80.47	V	93.97	-13.50	Avg	351.00	102.21	**Vertical Polarization**
2475.00	104.51	H	113.97	-9.46	Peak	318.25	149.53	**X-Axis**
2475.00	84.51	H	93.97	-9.46	Avg	318.25	149.53	**Horizontal Polarization**
2475.00	92.99	H	113.97	-20.98	Peak	316.25	207.08	**Y-Axis**
2475.00	72.99	H	93.97	-20.98	Avg	316.25	207.08	**Horizontal Polarization**
2475.00	103.19	H	113.97	-10.78	Peak	83.75	130.97	**Z-Axis**
2475.00	83.19	H	93.97	-10.78	Avg	83.75	130.97	**Horizontal Polarization**

FCC 15.249
Universal Electronics, Inc.
Comcast XR15 Remote UE878 2018
Model: URC-4352BC3-X-R

Date: 03/29/2018
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4850.00	47.71	V	73.97	-26.26	Peak	176.25	100.00	
4850.00	27.71	V	53.97	-26.26	Avg	176.25	100.00	
7275.00	52.77	V	73.97	-21.20	Peak	245.75	100.00	
7275.00	32.77	V	53.97	-21.20	Avg	245.75	100.00	
9700.00	52.62	V	73.97	-21.35	Peak	328.75	100.00	
9700.00	32.62	V	53.97	-21.35	Avg	328.75	100.00	
12125.00								**No Emission**
12125.00								**Detected**
14550.00								**No Emission**
14550.00								**Detected**
16975.00								**No Emission**
16975.00								**Detected**
19400.00								**No Emission**
19400.00								**Detected**
21825.00								**No Emission**
21825.00								**Detected**
24250.00								**No Emission**
24250.00								**Detected**

FCC 15.249
Universal Electronics, Inc.
Comcast XR15 Remote UE878 2018
Model: URC-4352BC3-X-R

Date: 03/29/2018
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel
Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4850.00	50.72	V	73.97	-23.25	Peak	234.50	100.00	
4850.00	30.72	V	53.97	-23.25	Avg	234.50	100.00	
7275.00	53.72	V	73.97	-20.25	Peak	316.50	223.02	
7275.00	33.72	V	53.97	-20.25	Avg	316.50	223.02	
9700.00	53.82	V	73.97	-20.15	Peak	153.50	100.00	
9700.00	33.82	V	53.97	-20.15	Avg	153.50	100.00	
12125.00								**No Emission**
12125.00								**Detected**
14550.00								**No Emission**
14550.00								**Detected**
16975.00								**No Emission**
16975.00								**Detected**
19400.00								**No Emission**
19400.00								**Detected**
21825.00								**No Emission**
21825.00								**Detected**
24250.00								**No Emission**
24250.00								**Detected**

FCC 15.249
Universal Electronics, Inc.
Comcast XR15 Remote UE878 2018
Model: URC-4352BC3-X-R

Date: 03/29/2018
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel
Transmit Mode - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4850.00	53.09	V	73.97	-20.88	Peak	169.75	123.98	
4850.00	33.09	V	53.97	-20.88	Avg	169.75	123.98	
7275.00	55.13	V	73.97	-18.84	Peak	340.50	100.00	
7275.00	35.13	V	53.97	-18.84	Avg	340.50	100.00	
9700.00	54.15	V	73.97	-19.82	Peak	184.00	100.00	
9700.00	34.15	V	53.97	-19.82	Avg	184.00	100.00	
12125.00								**No Emission**
12125.00								**Detected**
14550.00								**No Emission**
14550.00								**Detected**
16975.00								**No Emission**
16975.00								**Detected**
19400.00								**No Emission**
19400.00								**Detected**
21825.00								**No Emission**
21825.00								**Detected**
24250.00								**No Emission**
24250.00								**Detected**

FCC 15.249
Universal Electronics, Inc.
Comcast XR15 Remote UE878 2018
Model: URC-4352BC3-X-R

Date: 03/29/2018
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4850.00	50.32	H	73.97	-23.65	Peak	189.75	100.00	
4850.00	30.32	H	53.97	-23.65	Avg	189.75	100.00	
7275.00	56.10	H	73.97	-17.87	Peak	187.25	100.00	
7275.00	36.10	H	53.97	-17.87	Avg	187.25	100.00	
9700.00	54.90	H	73.97	-19.07	Peak	291.75	100.00	
9700.00	34.90	H	53.97	-19.07	Avg	291.75	100.00	
12125.00								**No Emission**
12125.00								**Detected**
14550.00								**No Emission**
14550.00								**Detected**
16975.00								**No Emission**
16975.00								**Detected**
19400.00								**No Emission**
19400.00								**Detected**
21825.00								**No Emission**
21825.00								**Detected**
24250.00								**No Emission**
24250.00								**Detected**

FCC 15.249
Universal Electronics, Inc.
Comcast XR15 Remote UE878 2018
Model: URC-4352BC3-X-R

Date: 03/29/2018
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel
Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4850.00	47.05	H	73.97	-26.92	Peak	124.00	100.00	
4850.00	27.05	H	53.97	-26.92	Avg	124.00	100.00	
7275.00	53.64	H	73.97	-20.33	Peak	98.75	100.00	
7275.00	33.64	H	53.97	-20.33	Avg	98.75	100.00	
9700.00	52.55	H	73.97	-21.42	Peak	162.75	100.00	
9700.00	32.55	H	53.97	-21.42	Avg	162.70	100.00	
12125.00								**No Emission**
12125.00								**Detected**
14550.00								**No Emission**
14550.00								**Detected**
16975.00								**No Emission**
16975.00								**Detected**
19400.00								**No Emission**
19400.00								**Detected**
21825.00								**No Emission**
21825.00								**Detected**
24250.00								**No Emission**
24250.00								**Detected**

FCC 15.249
Universal Electronics, Inc.
Comcast XR15 Remote UE878 2018
Model: URC-4352BC3-X-R

Date: 03/29/2018
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Low Channel
Transmit Mode - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4850.00	49.27	H	73.97	-24.71	Peak	360.00	145.17	
4850.00	29.27	H	53.97	-24.71	Avg	360.00	145.17	
7275.00	55.78	H	73.97	-18.19	Peak	315.00	100.00	
7275.00	35.78	H	53.97	-18.19	Avg	315.00	100.00	
9700.00	53.94	H	73.97	-20.03	Peak	123.50	100.00	
9700.00	33.94	H	53.97	-20.03	Avg	123.50	100.00	
12125.00								**No Emission**
12125.00								**Detected**
14550.00								**No Emission**
14550.00								**Detected**
16975.00								**No Emission**
16975.00								**Detected**
19400.00								**No Emission**
19400.00								**Detected**
21825.00								**No Emission**
21825.00								**Detected**
24250.00								**No Emission**
24250.00								**Detected**

FCC 15.249
Universal Electronics, Inc.
Comcast XR15 Remote UE878 2018
Model: URC-4352BC3-X-R

Date: 03/29/2018
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4900.00	46.68	V	73.97	-27.29	Peak	250.00	100.00	
4900.00	26.68	V	53.97	-27.29	Avg	250.00	100.00	
7350.00	51.44	V	73.97	-22.54	Peak	59.25	100.00	
7350.00	31.44	V	53.97	-22.54	Avg	59.25	100.00	
9800.00	53.07	V	73.97	-20.90	Peak	343.00	100.00	
9800.00	33.07	V	53.97	-20.90	Avg	343.00	100.00	
12250.00								**No Emission**
12250.00								**Detected**
14700.00								**No Emission**
14700.00								**Detected**
17150.00								**No Emission**
17150.00								**Detected**
19600.00								**No Emission**
19600.00								**Detected**
22050.00								**No Emission**
22050.00								**Detected**
24500.00								**No Emission**
24500.00								**Detected**

FCC 15.249
Universal Electronics, Inc.
Comcast XR15 Remote UE878 2018
Model: URC-4352BC3-X-R

Date: 03/29/2018
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel
Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4900.00	51.22	V	73.97	-22.75	Peak	80.00	100.00	
4900.00	31.22	V	53.97	-22.75	Avg	80.00	100.00	
7350.00	51.47	V	73.97	-22.50	Peak	170.25	116.88	
7350.00	31.47	V	53.97	-22.50	Avg	170.25	116.88	
9800.00	52.52	V	73.97	-21.45	Peak	227.00	117.17	
9800.00	32.52	V	53.97	-21.45	Avg	227.00	117.17	
12250.00								**No Emission**
12250.00								**Detected**
14700.00								**No Emission**
14700.00								**Detected**
17150.00								**No Emission**
17150.00								**Detected**
19600.00								**No Emission**
19600.00								**Detected**
22050.00								**No Emission**
22050.00								**Detected**
24500.00								**No Emission**
24500.00								**Detected**

FCC 15.249
Universal Electronics, Inc.
Comcast XR15 Remote UE878 2018
Model: URC-4352BC3-X-R

Date: 03/29/2018
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel
Transmit Mode - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4900.00	53.82	V	73.97	-20.15	Peak	173.50	100.00	
4900.00	33.82	V	53.97	-20.15	Avg	173.50	100.00	
7350.00	54.23	V	73.97	-19.74	Peak	176.50	100.00	
7350.00	34.23	V	53.97	-19.74	Avg	176.50	100.00	
9800.00	54.05	V	73.97	-19.92	Peak	168.75	99.86	
9800.00	34.05	V	53.97	-19.92	Avg	168.75	99.86	
12250.00								**No Emission**
12250.00								**Detected**
14700.00								**No Emission**
14700.00								**Detected**
17150.00								**No Emission**
17150.00								**Detected**
19600.00								**No Emission**
19600.00								**Detected**
22050.00								**No Emission**
22050.00								**Detected**
24500.00								**No Emission**
24500.00								**Detected**

FCC 15.249
Universal Electronics, Inc.
Comcast XR15 Remote UE878 2018
Model: URC-4352BC3-X-R

Date: 03/29/2018
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4900.00	47.81	H	73.97	-26.16	Peak	173.25	147.74	
4900.00	27.81	H	53.97	-26.16	Avg	173.25	147.74	
7350.00	55.73	H	73.97	-18.24	Peak	180.25	129.83	
7350.00	35.73	H	53.97	-18.24	Avg	180.25	129.83	
9800.00	54.92	H	73.97	-19.05	Peak	304.00	100.00	
9800.00	34.92	H	53.97	-19.05	Avg	304.00	100.00	
12250.00								**No Emission**
12250.00								**Detected**
14700.00								**No Emission**
14700.00								**Detected**
17150.00								**No Emission**
17150.00								**Detected**
19600.00								**No Emission**
19600.00								**Detected**
22050.00								**No Emission**
22050.00								**Detected**
24500.00								**No Emission**
24500.00								**Detected**

FCC 15.249
Universal Electronics, Inc.
Comcast XR15 Remote UE878 2018
Model: URC-4352BC3-X-R

Date: 03/29/2018
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel
Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4900.00	50.08	H	73.97	-23.89	Peak	228.50	129.00	
4900.00	30.08	H	53.97	-23.89	Avg	228.50	129.00	
7350.00	54.19	H	73.97	-19.78	Peak	208.50	100.00	
7350.00	34.19	H	53.97	-19.78	Avg	208.50	100.00	
9800.00	52.88	H	73.97	-21.09	Peak	340.25	165.11	
9800.00	32.88	H	53.97	-21.09	Avg	340.25	165.11	
12250.00								**No Emission**
12250.00								**Detected**
14700.00								**No Emission**
14700.00								**Detected**
17150.00								**No Emission**
17150.00								**Detected**
19600.00								**No Emission**
19600.00								**Detected**
22050.00								**No Emission**
22050.00								**Detected**
24500.00								**No Emission**
24500.00								**Detected**

FCC 15.249
Universal Electronics, Inc.
Comcast XR15 Remote UE878 2018
Model: URC-4352BC3-X-R

Date: 03/29/2018
Lab: D
Tested By: Kyle Fujimoto

Harmonics - Middle Channel
Transmit Mode - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4900.00	46.96	H	73.97	-27.01	Peak	190.00	138.79	
4900.00	26.96	H	53.97	-27.01	Avg	190.00	138.79	
7350.00	54.19	H	73.97	-19.79	Peak	270.00	100.00	
7350.00	34.19	H	53.97	-19.79	Avg	270.00	100.00	
9800.00	51.75	H	73.97	-22.22	Peak	295.75	120.64	
9800.00	31.75	H	53.97	-22.22	Avg	295.75	120.64	
12250.00								**No Emission**
12250.00								**Detected**
14700.00								**No Emission**
14700.00								**Detected**
17150.00								**No Emission**
17150.00								**Detected**
19600.00								**No Emission**
19600.00								**Detected**
22050.00								**No Emission**
22050.00								**Detected**
24500.00								**No Emission**
24500.00								**Detected**

FCC 15.249
Universal Electronics, Inc.
Comcast XR15 Remote UE878 2018
Model: URC-4352BC3-X-R

Date: 03/29/2018
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4950.00	45.30	V	73.97	-28.67	Peak	350.00	123.02	
4950.00	25.30	V	53.97	-28.67	Avg	350.00	123.02	
7425.00	52.95	V	73.97	-21.02	Peak	360.25	125.11	
7425.00	32.95	V	53.97	-21.02	Avg	360.25	125.11	
9900.00	50.05	V	73.97	-23.92	Peak	63.25	100.00	
9900.00	30.05	V	53.97	-23.92	Avg	63.25	100.00	
12375.00								**No Emission**
12375.00								**Detected**
14850.00								**No Emission**
14850.00								**Detected**
17325.00								**No Emission**
17325.00								**Detected**
19800.00								**No Emission**
19800.00								**Detected**
22275.00								**No Emission**
22275.00								**Detected**
24750.00								**No Emission**
24750.00								**Detected**

FCC 15.249
Universal Electronics, Inc.
Comcast XR15 Remote UE878 2018
Model: URC-4352BC3-X-R

Date: 03/29/2018
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel
Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4950.00	49.86	V	73.97	-24.11	Peak	246.50	100.64	
4950.00	29.86	V	53.97	-24.11	Avg	246.50	100.64	
7425.00	52.34	V	73.97	-21.64	Peak	325.25	100.00	
7425.00	32.34	V	53.97	-21.64	Avg	325.25	100.00	
9900.00	51.31	V	73.97	-22.66	Peak	147.75	250.01	
9900.00	31.31	V	53.97	-22.66	Avg	147.75	250.01	
12375.00								**No Emission**
12375.00								**Detected**
14850.00								**No Emission**
14850.00								**Detected**
17325.00								**No Emission**
17325.00								**Detected**
19800.00								**No Emission**
19800.00								**Detected**
22275.00								**No Emission**
22275.00								**Detected**
24750.00								**No Emission**
24750.00								**Detected**

FCC 15.249
Universal Electronics, Inc.
Comcast XR15 Remote UE878 2018
Model: URC-4352BC3-X-R

Date: 03/29/2018
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel
Transmit Mode - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4950.00	55.17	V	73.97	-18.80	Peak	59.50	128.88	
4950.00	35.17	V	53.97	-18.80	Avg	59.50	128.88	
7425.00	55.54	V	73.97	-18.43	Peak	39.00	100.00	
7425.00	35.54	V	53.97	-18.43	Avg	39.00	100.00	
9900.00	51.64	V	73.97	-22.33	Peak	245.75	100.00	
9900.00	31.64	V	53.97	-22.33	Avg	245.75	100.00	
12375.00								**No Emission**
12375.00								**Detected**
14850.00								**No Emission**
14850.00								**Detected**
17325.00								**No Emission**
17325.00								**Detected**
19800.00								**No Emission**
19800.00								**Detected**
22275.00								**No Emission**
22275.00								**Detected**
24750.00								**No Emission**
24750.00								**Detected**

FCC 15.249
Universal Electronics, Inc.
Comcast XR15 Remote UE878 2018
Model: URC-4352BC3-X-R

Date: 03/29/2018
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel
Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4950.00	45.30	H	73.97	-28.67	Peak	99.50	129.95	
4950.00	25.30	H	53.97	-28.67	Avg	99.50	129.95	
7425.00	56.74	H	73.97	-17.23	Peak	175.75	100.00	
7425.00	36.74	H	53.97	-17.23	Avg	175.75	100.00	
9900.00	50.34	H	73.97	-23.64	Peak	325.75	100.00	
9900.00	30.34	H	53.97	-23.64	Avg	325.75	100.00	
12375.00								**No Emission**
12375.00								**Detected**
14850.00								**No Emission**
14850.00								**Detected**
17325.00								**No Emission**
17325.00								**Detected**
19800.00								**No Emission**
19800.00								**Detected**
22275.00								**No Emission**
22275.00								**Detected**
24750.00								**No Emission**
24750.00								**Detected**

FCC 15.249
Universal Electronics, Inc.
Comcast XR15 Remote UE878 2018
Model: URC-4352BC3-X-R

Date: 03/29/2018
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel
Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4950.00	43.70	H	73.97	-30.27	Peak	177.75	100.00	
4950.00	23.70	H	53.97	-30.27	Avg	177.75	100.00	
7425.00	52.88	H	73.97	-21.09	Peak	190.00	123.56	
7425.00	32.88	H	53.97	-21.09	Avg	190.00	123.56	
9900.00	49.54	H	73.97	-24.43	Peak	150.00	100.00	
9900.00	29.54	H	53.97	-24.43	Avg	150.00	100.00	
12375.00								**No Emission**
12375.00								**Detected**
14850.00								**No Emission**
14850.00								**Detected**
17325.00								**No Emission**
17325.00								**Detected**
19800.00								**No Emission**
19800.00								**Detected**
22275.00								**No Emission**
22275.00								**Detected**
24750.00								**No Emission**
24750.00								**Detected**

FCC 15.249
Universal Electronics, Inc.
Comcast XR15 Remote UE878 2018
Model: URC-4352BC3-X-R

Date: 03/29/2018
Lab: D
Tested By: Kyle Fujimoto

Harmonics - High Channel
Transmit Mode - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4950.00	50.57	H	73.97	-23.40	Peak	137.75	152.16	
4950.00	30.57	H	53.97	-23.40	Avg	137.75	152.16	
7425.00	53.68	H	73.97	-20.29	Peak	201.00	100.00	
7425.00	33.68	H	53.97	-20.29	Avg	201.00	100.00	
9900.00	50.89	H	73.97	-23.08	Peak	147.75	100.00	
9900.00	30.89	H	53.97	-23.08	Avg	147.75	100.00	
12375.00								**No Emission**
12375.00								**Detected**
14850.00								**No Emission**
14850.00								**Detected**
17325.00								**No Emission**
17325.00								**Detected**
19800.00								**No Emission**
19800.00								**Detected**
22275.00								**No Emission**
22275.00								**Detected**
24750.00								**No Emission**
24750.00								**Detected**

FCC Class B and FCC 15.249

Universal Electronics, Inc.
Comcast XR15 Remote UE878 2018
Model: URC-4352BC3-X-R

Date: 03/29/2018
Lab: D
Tested By: Kyle Fujimoto

Non Harmonic Emissions from the Tx and Digital Portion - 9 kHz to 30 MHz
Non Harmonic Emissions from the Tx and Digital Portion - 1 GHz to 25 GHz

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
								No Emissions Detected
								from 9 kHz to 30 MHz
								for the digital portion
								of the EUT
								No Emissions Detected
								from 9 kHz to 30 MHz
								for the Non-Harmonic Emissions
								of the Transmitter for the EUT
								No Emissions Detected
								from 1 GHz to 25 GHz
								for the digital portion
								of the EUT
								No Emissions Detected
								from 1 GHz to 25 GHz
								for the Non-Harmonic Emissions
								of the Transmitter for the EUT
								Investigated in the X-Axis,
								Y-Axis, and Z-Axis

BAND EDGES DATA SHEETS

FCC 15.249

Universal Electronics, Inc.
Comcast XR15 Remote UE878 2018
Model: URC-4352BC3-X-R

Dates: 05/02 2018 and 05/03/2018
Lab: D
Tested By: Kyle Fujimoto

Band Edges

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2425.00	104.47	H	113.97	-9.50	Peak	139.25	138.43	**Fundamental - Low Ch.**
2425.00	84.47	H	93.97	-9.50	Avg	139.25	138.43	**X-Axis - Worst Case**
2361.00	60.37	H	73.97	-13.60	Peak	139.25	138.43	**Band Edge**
2361.00	46.24	H	53.97	-7.73	Avg	139.25	138.43	**X-Axis - Worst Case**
2425.00	101.94	V	113.97	-11.81	Peak	52.50	183.08	**Fundamental - Low Ch.**
2425.00	81.94	V	93.97	-11.81	Avg	52.50	183.08	**Y-Axis - Worst Case**
2361.00	54.44	V	73.97	-19.53	Peak	52.50	183.08	**Band Edge**
2361.00	41.45	V	53.97	-12.52	Avg	52.50	183.08	**Y-Axis - Worst Case**

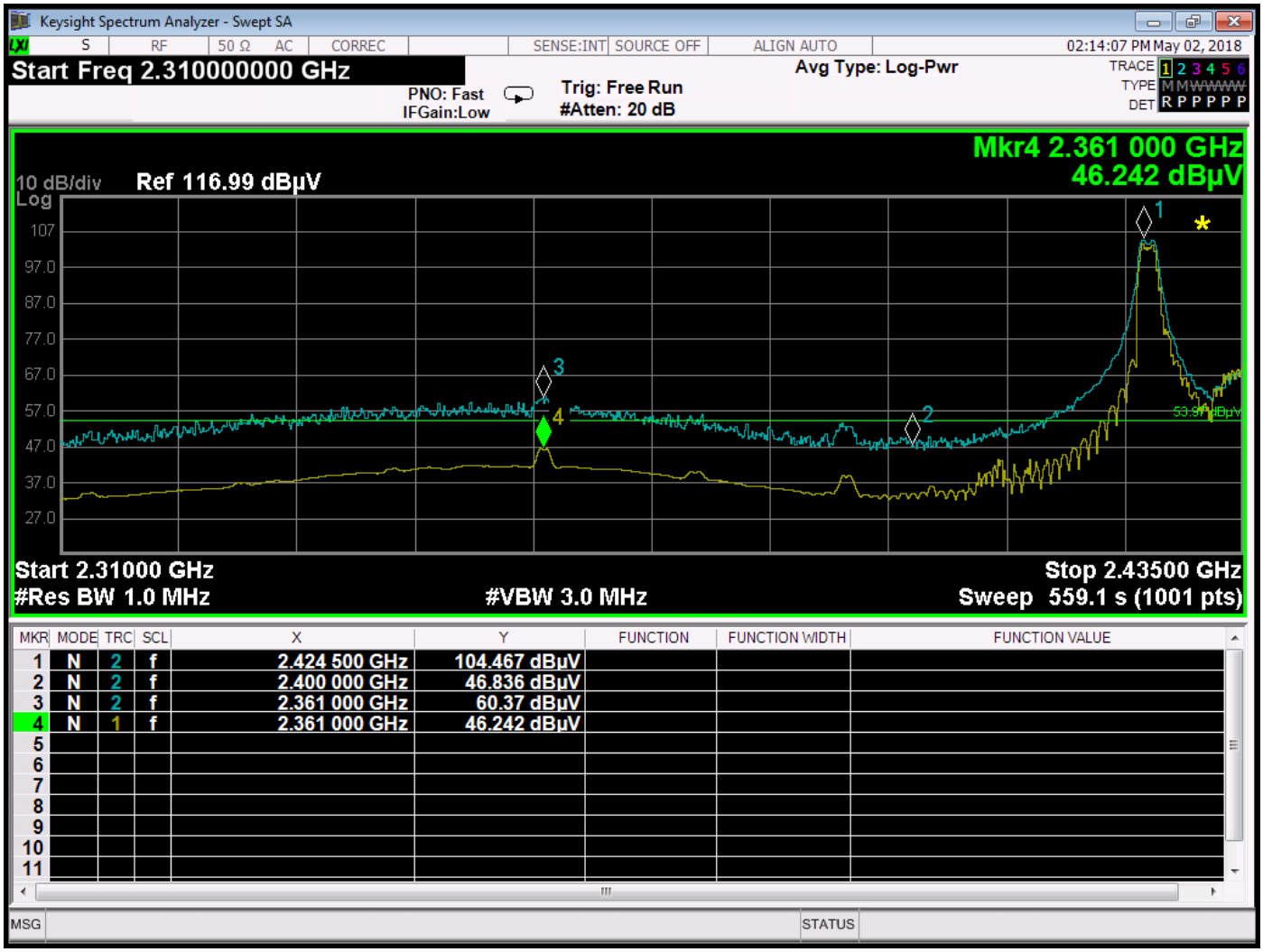
FCC 15.249

Universal Electronics, Inc.
Comcast XR15 Remote UE878 2018
Model: URC-4352BC3-X-R

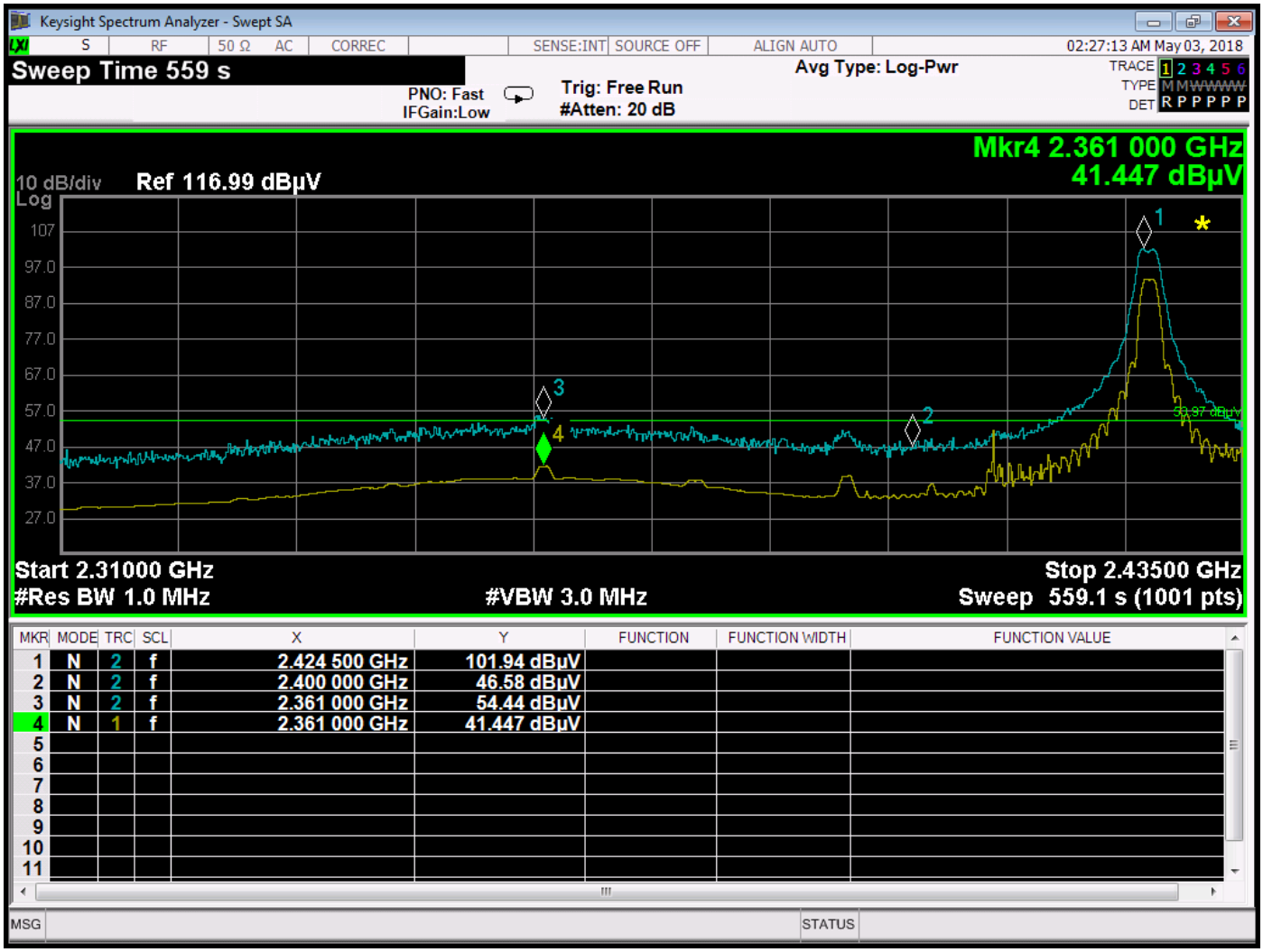
Date: 03/30/2018
Lab: D
Tested By: Kyle Fujimoto

Band Edges

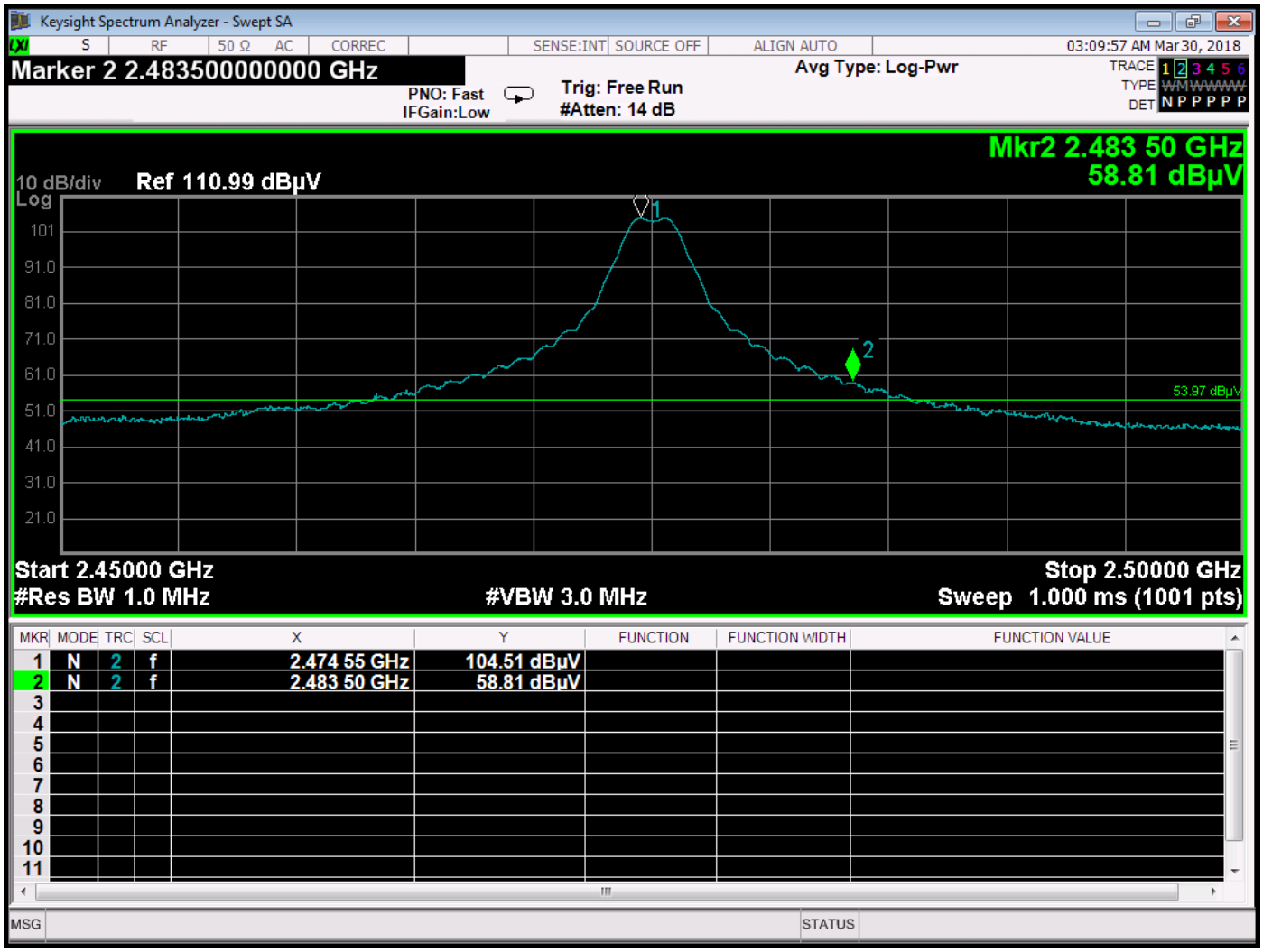
Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
2475.00	104.51	H	113.97	-9.46	Peak	318.25	149.53	**Fundamental - High Ch.**
2475.00	84.51	H	93.97	-9.46	Avg	318.25	149.53	**X-Axis - Worst Case**
2483.50	58.81	H	73.97	-15.16	Peak	318.25	149.53	**Band Edge**
2483.50	38.81	H	53.97	-15.16	Avg	318.25	149.53	**X-Axis - Worst Case**
2475.00	100.94	V	113.97	-13.03	Peak	205.50	164.10	**Fundamental - High Ch.**
2475.00	80.94	V	93.97	-13.03	Avg	205.50	164.10	**Y-Axis - Worst Case**
2483.50	55.93	V	73.97	-18.04	Peak	205.50	164.10	**Band Edge**
2483.50	35.93	V	53.97	-18.04	Avg	205.50	164.10	**Y-Axis - Worst Case**



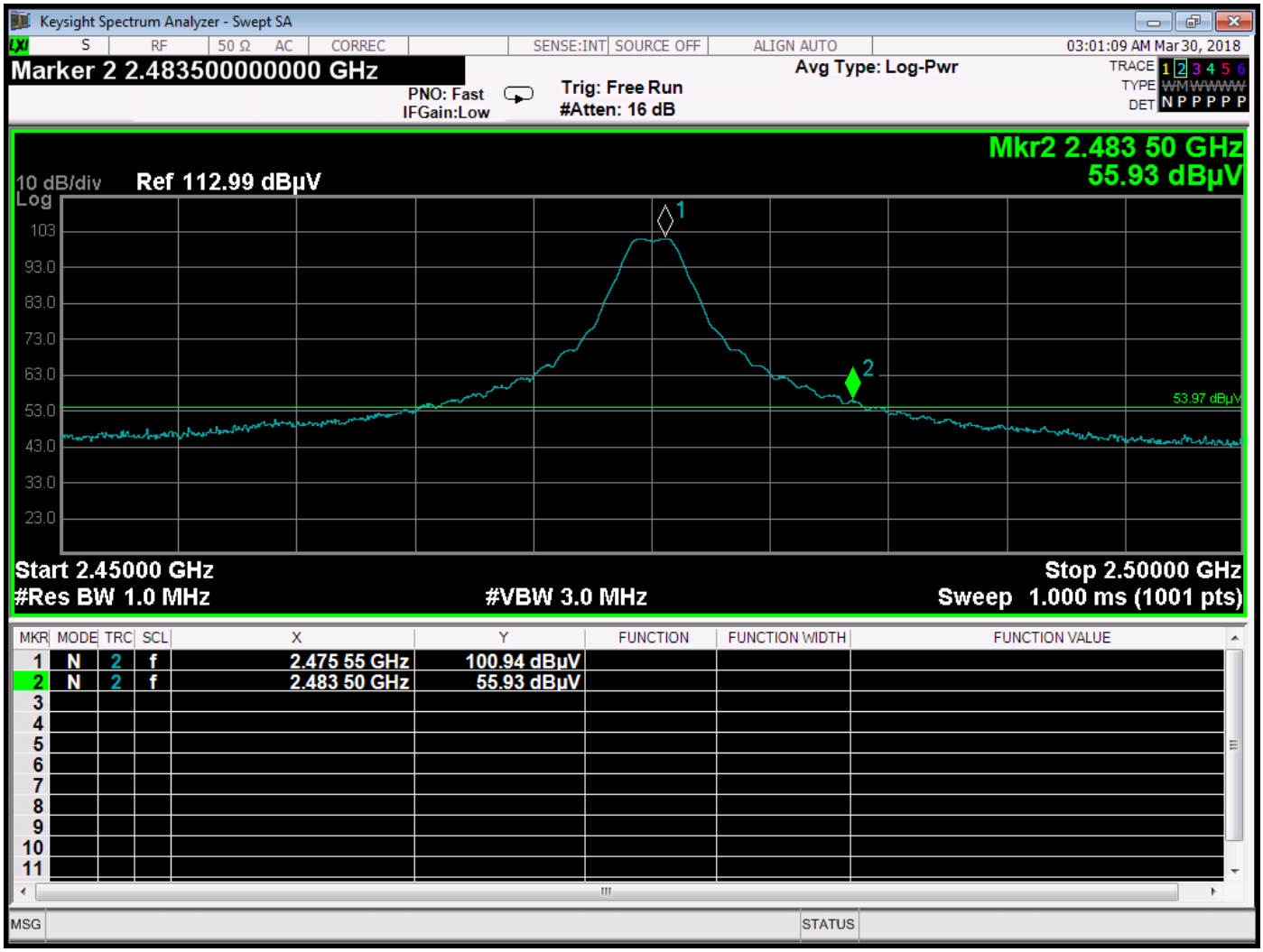
Band Edge - 2425 MHz - Horizontal - X-Axis - Worst Case



Band Edge - 2425 MHz - Vertical - Y-Axis - Worst Case

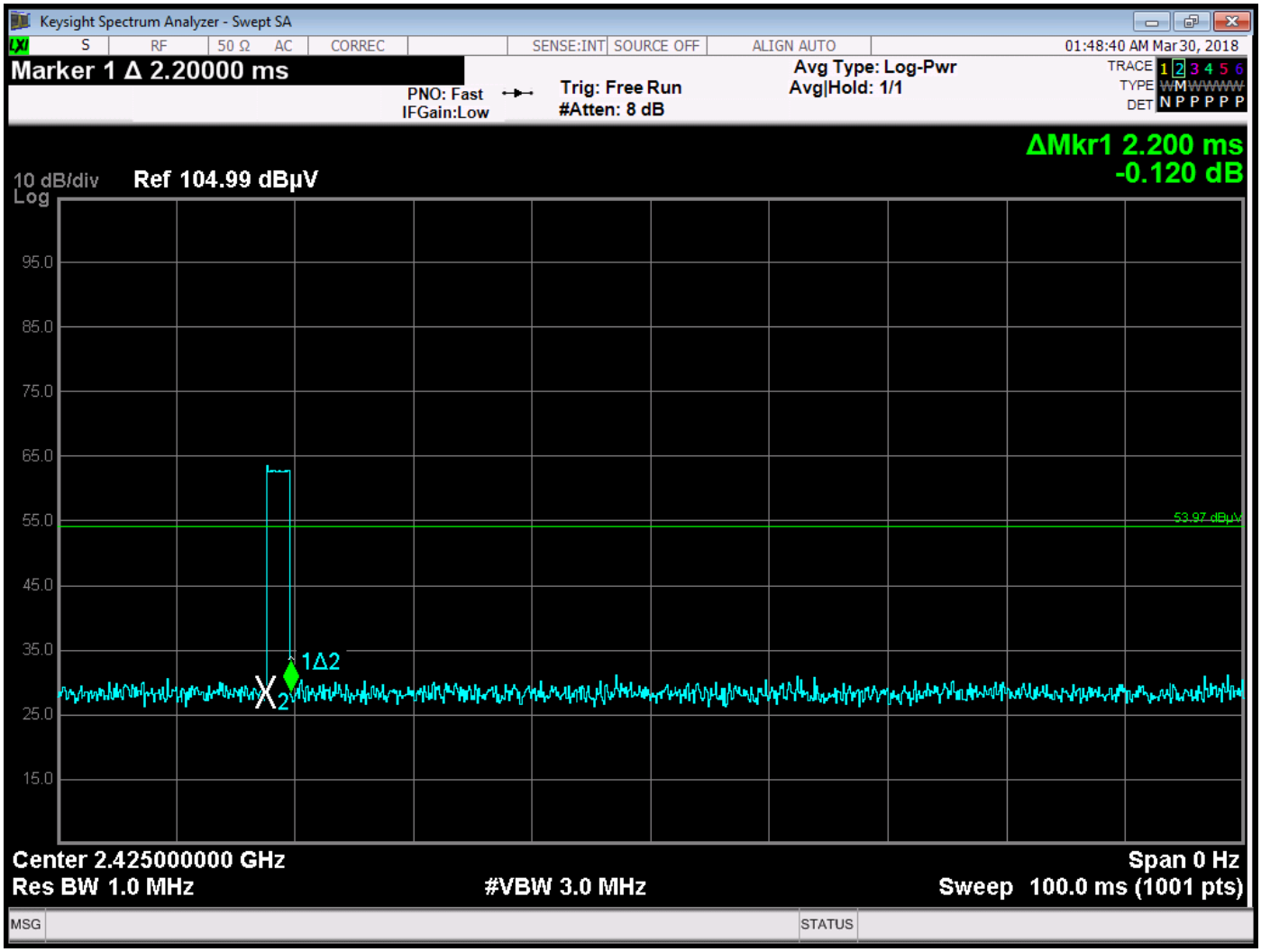


Band Edge - 2475 MHz - Horizontal - X-Axis - Worst Case

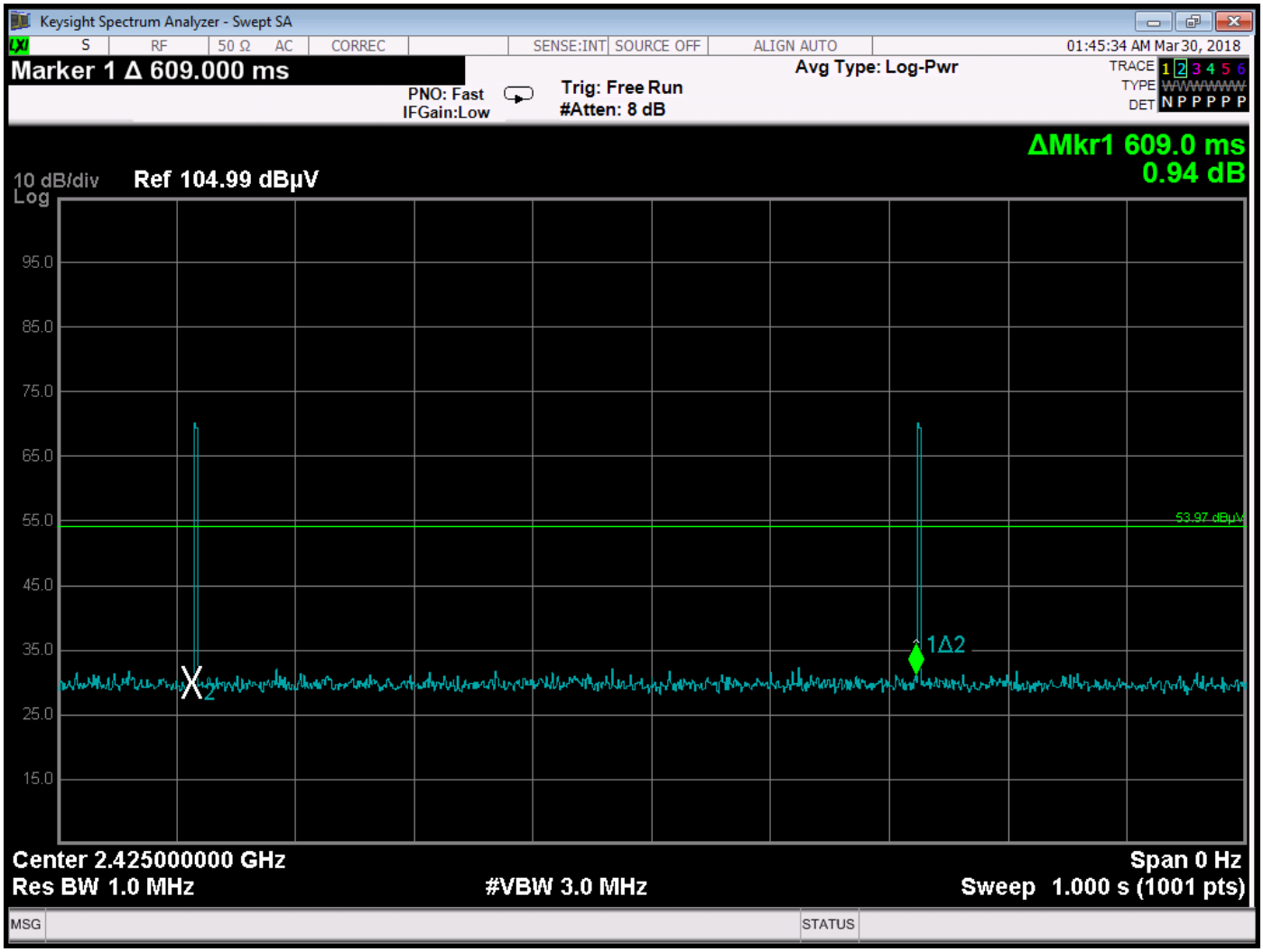


Band Edge – 2475 MHz - Vertical - Y-Axis - Worst Case

DUTY CYCLE DATA SHEETS



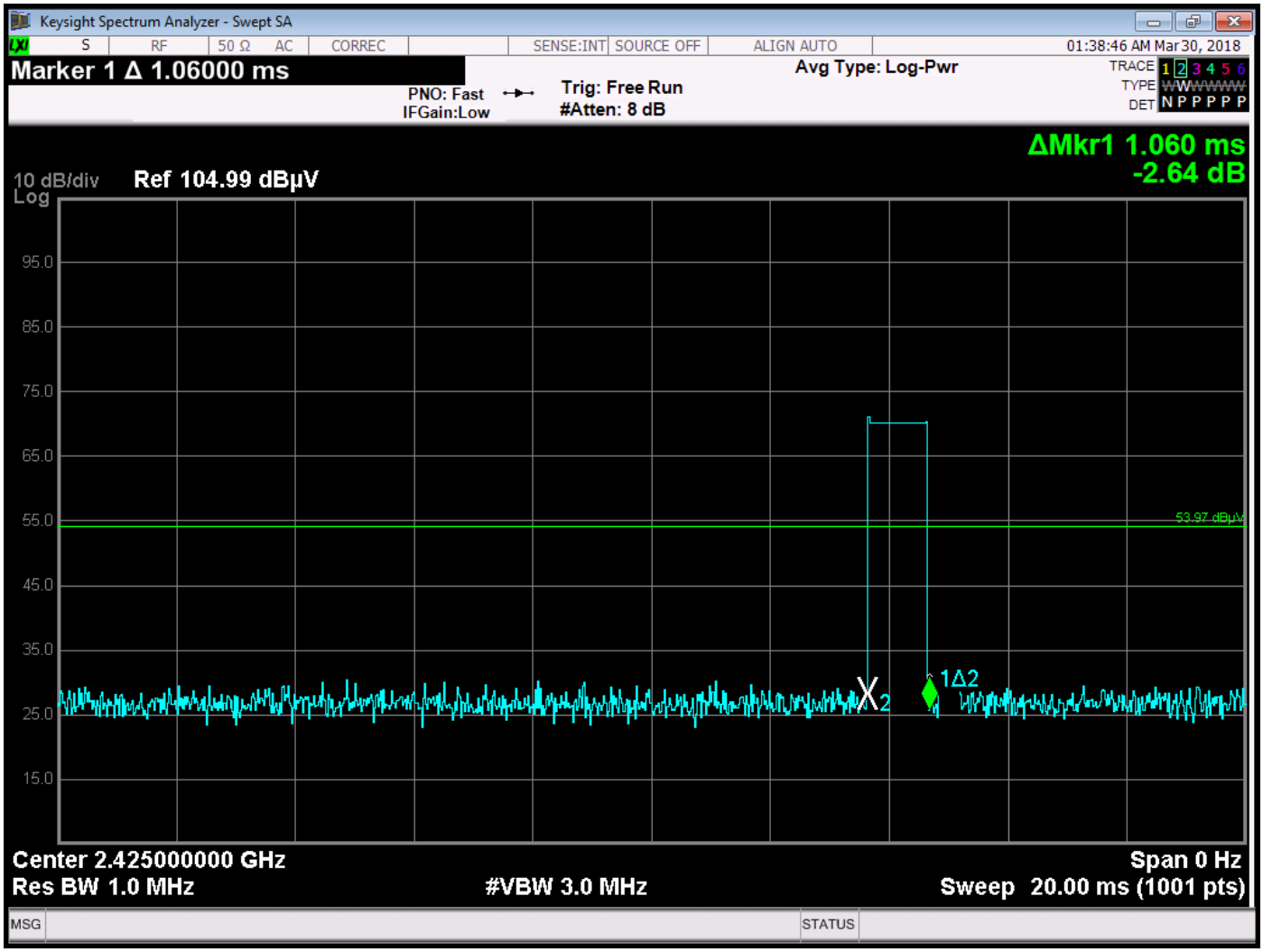
Time of Pulse = 2.200 ms – Advertising Mode



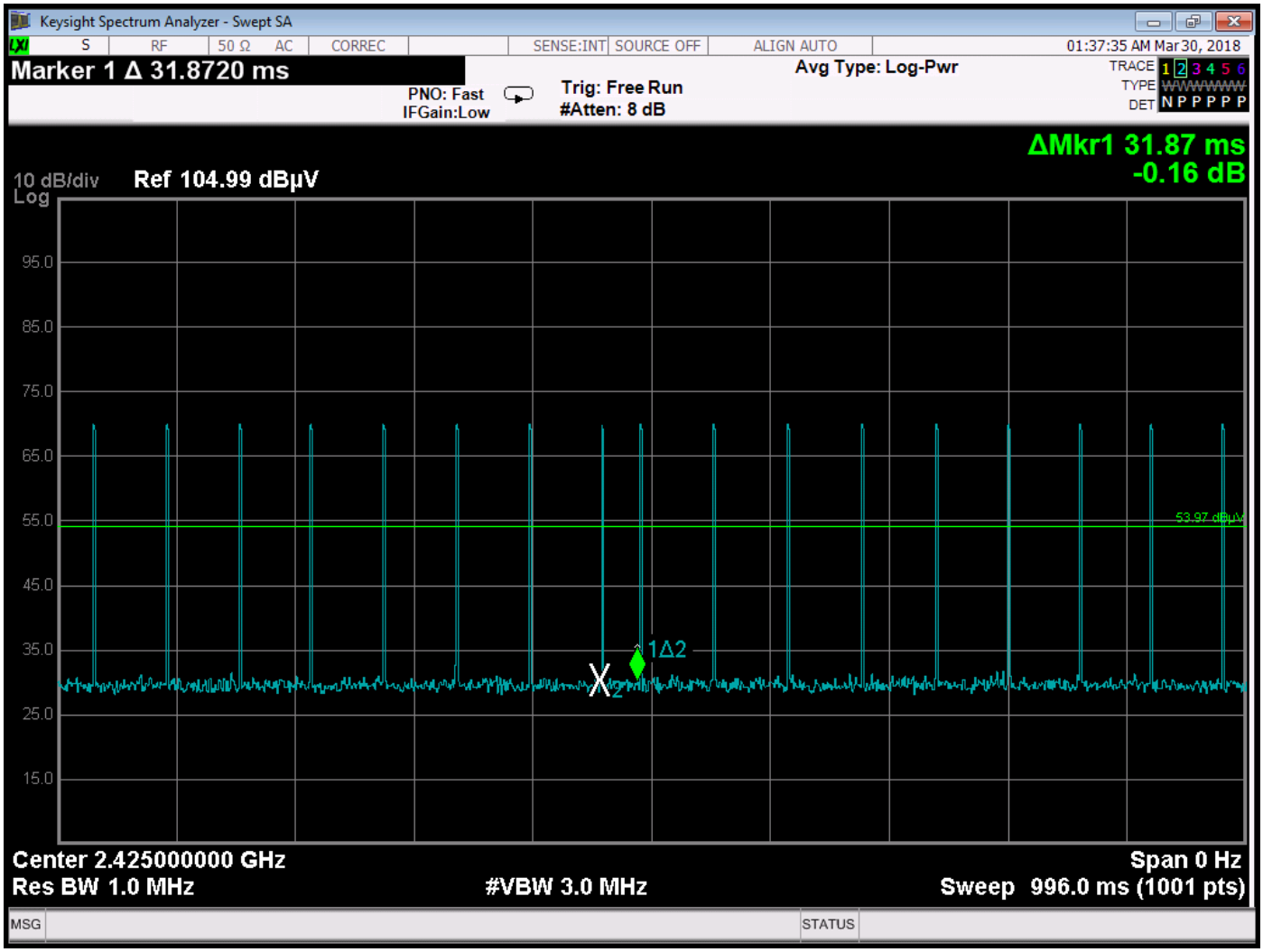
Only one pulse per 100 ms – Advertising Mode

Total Duty Cycle = 2.200 ms / 100 ms = 2.200% Duty Cycle

The Maximum Peak to Average Ratio of -20 dB can be used



Time of One Pulse = 1.060 ms – Pairing Mode



Time Between Pulses = 31.87 ms – Pairing Mode

Total Duty Cycle = 1.060 ms / 31.87 ms = 3.326%

The Maximum Peak to Average Ratio of -20 dB can be used