FCC PART 15 SUBPART B and C
TEST REPORT

for

COMCAST TRACER RF4CE REMOTE 2010

MODEL: URC-4167BJ0-R

Prepared for

UNIVERSAL ELECTRONICS, INC.
6101 GATEWAY DRIVE
CYPRESS, CALIFORNIA 90630-4841

Prepared by:_____

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JAMES ROSS

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DATE: MARCH 17, 2011

	REPORT BODY	APPENDICES					TOTAL
		A	***B***	***C***	***D***	***E***	
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GENERAL REPORT SUMMARY

Compatible Electronics Inc. generates this electromagnetic emission test report, 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 endorsement by NVLAP, NIST or any other agency of the U.S. Government.

Device Tested:	Comcast Tracer RF4CE Remote 2010 Model: URC-4167BJ0-R S/N: N/A
Product Description:	See Expository Statement
Modifications:	The EUT was not modified in order to meet the specifications.
Manufacturer:	Jetta House 19 On Kui Street On Lok Tsuen, Fanling, Hong Kong
Customer:	Universal Electronics, Inc. 6101 Gateway Drive Cypress, California 90630-4841
Test Date(s):	January 12 and March 9, 2011
Test Specifications:	EMI requirements CFR Title 47, Part 15, Subpart B
Test Procedure:	ANSI C63.4
Test Deviations:	The test procedure was not deviated from during the testing.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions 150 kHz to 30 MHz	This test was not performed because the EUT operates on battery power only.
2	Radiated RF Emissions 10 kHz – 25000 MHz (Transmitter, Receive, and Digital Portion)	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. Highest reading in relation to spec limit: 53.05 dBuV @ 4950 MHz (*U = 5.24 dB)

*U = Expanded Uncertainty with a coverage factor of k=2

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the Comcast Tracer RF4CE Remote 2010, Model: URC-4167BJ0-R. The EMI 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 for the digital and receiver portion; and the limits defined in Subpart C, sections 15.205, 15.209, and 15.249 for the transmitter portion.

2. ADMINISTRATIVE DATA

2.1 Location of Testing

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

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 Core Electrical Engineer

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 testing.

2.5 Disposition of the Test Sample

The test sample has not yet been returned as of the date of this report.

2.6 Abbreviations and Acronyms

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

FCC	Federal Communications Commission
RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
ITE	Information Technology Equipment
LISN	Line Impedance Stabilization Network
NVLAP	National Voluntary Laboratory Accreditation Program
CFR	Code of Federal Regulations
N/A	Not Applicable
Ltd.	Limited
Inc.	Incorporated
IR	Infrared

3. APPLICABLE DOCUMENTS

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

SPEC	TITLE
CFR Title 47, Part 15	FCC Rules – Radio frequency devices (including digital devices)
ANSI C63.4: 2009	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

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration – EMI

The Comcast Tracer RF4CE Remote 2010, Model: URC-4167BJ0-R (EUT) was tested as a stand alone unit in three orthogonal axis. The EUT was continuously transmitting and receiving.

The antenna is directly connected to the PCB.

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

4.1.1 Cable Construction and Termination

The EUT 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 TRACER RF4CE REMOTE 2010 (EUT)	UNIVERSAL ELECTRONICS, INC.	URC-4167BJ0-R	N/A	MG3-4167

5.2 EMI Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CALIBRATION DUE DATE
GENERAL TEST EQUIPMENT USED FOR ALL RF EMISSIONS TESTS					
Computer	Hewlett Packard	4530	US91912319	N/A	N/A
EMI Receiver	Rohde & Schwarz	ESIB40	100218	April 9, 2009	April 9, 2011
Monitor	Hewlett Packard	D5258A	TW74500641	N/A	N/A
RF RADIATED EMISSIONS TEST EQUIPMENT					
Biconical Antenna	Com-Power	AB-900	15250	June 18, 2010	June 18, 2011
Log Antenna	Com-Power	AL-100	16252	June 9, 2010	June 9, 2011
Preamplifier	Com-Power	PA-102	1017	January 11, 2011	January 11, 2012
Horn Antenna	Com-Power	AH-118	071175	March 18, 2010	March 18, 2012
Loop Antenna	Com-Power	AL-130	17089	January 21, 2011	January 21, 2012
Microwave Preamplifier	Com-Power	PA-840	711013	March 11, 2010	March 11, 2011
Horn Antenna	Com-Power	AH826	71957	NCR	N/A
Microwave Preamplifier	Com-Power	PA-118	181656	December 22, 2010	December 22, 2011
Antenna Mast	Com Power	AM-100	N/A	N/A	N/A

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 and 7.1.2 of this report for EMI test location.

6.2 EUT Mounting, Bonding and Grounding

The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

The EUT was not grounded.

6.3 Facility Environmental Characteristics

When applicable refer to the data sheets in Appendix E for the relative humidity, air temperature, and barometric pressure.

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 Conducted Emissions Test

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

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

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

Test Results:

This test was not performed because the EUT operates on battery power only.

7.1.2 Radiated Emissions (Spurious and Harmonics) Test

The spectrum analyzer and EMI Receiver were used as a measuring meter along with the quasi-peak adapter. Amplifiers were used to increase the sensitivity of the instrument. The Com Power Preamplifier Model: PA-102 was used for frequencies from 30 MHz to 1 GHz and the Com Power Microwave Preamplifier Model: PA-118 was used for frequencies above 1 GHz. The spectrum analyzer and EMI Receiver were used in the peak detect mode with the "Max Hold" feature activated. In this mode, the spectrum analyzer records the highest measured reading over all the sweeps.

The quasi-peak adapter was used only for those readings which are marked accordingly on the data sheets.

The frequencies above 1 GHz were averaged manually by narrowing the video filter down to 10 Hz and putting the sweep time on AUTO on the spectrum analyzer to keep the amplitude reading calibrated.

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

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
10 kHz to 150 kHz	200 Hz	Active Loop Antenna
150 kHz to 30 MHz	9 kHz	Active Loop Antenna
30 MHz to 300 MHz	120 kHz	Biconical Antenna
300 MHz to 1 GHz	120 kHz	Log Periodic Antenna
1 GHz to 25 GHz	1 MHz	Horn Antenna

The open field test site of Compatible Electronics, Inc. was used for radiated emission testing. This test site is set up according to 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 by the Radiated Emission Manual Test software. 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 loop antenna was also rotated in the horizontal and vertical axis in order to ensure accurate results.

Radiated Emissions (Spurious and Harmonics) Test (continued)

The presence of ambient signals was verified by turning the EUT off. In case an ambient signal was detected, the measurement bandwidth was reduced temporarily and verification was made that an additional adjacent peak did not exist. This ensures that the ambient signal does not hide any emissions from the EUT. The EUT was tested at a 3-meter test distance to obtain the final test data.

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.

7.1.3 RF Emissions Test Results

Table 1.0 RADIATED EMISSION RESULTS
Comcast Tracer RF4CE Remote 2010, Model: URC-4167BJ0-R

Frequency MHz	**Corrected Reading* dBuV**	**Specification Limit dBuV**	**Delta (Cor. Reading – Spec. Limit) dB**
4950 **(A)**	53.05	54.00	-0.95
4900 **(A)**	53.03	54.00	-0.97
4850 **(A)**	52.51	54.00	-1.49
7275 **(A)**	50.61	54.00	-3.39
7349.99 **(A)**	48.07	54.00	-5.93
7343.99 **(A)**	47.49	54.00	-6.51

Notes:
* The complete emissions data is given in Appendix E of this report.
A Average Reading

8. CONCLUSIONS

The Comcast Tracer RF4CE Remote 2010, Model: URC-4167BJ0-R, as tested, meets all of the **Class B** specification limits defined in CFR Title 47, Part 15, Subpart B for the digital and receiver portion; and the limits defined in Subpart C, sections 15.205, 15.209, and 15.249 for the transmitter portion.

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

Industry Canada Industrie Canada 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 15.249 and/or FCC **Class B** 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 modification 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 Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R
S/N: N/A

ALSO APPROVED UNDER THIS REPORT:

There were no additional models covered under this report.

APPENDIX D

DIAGRAMS, CHARTS, AND PHOTOS

FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

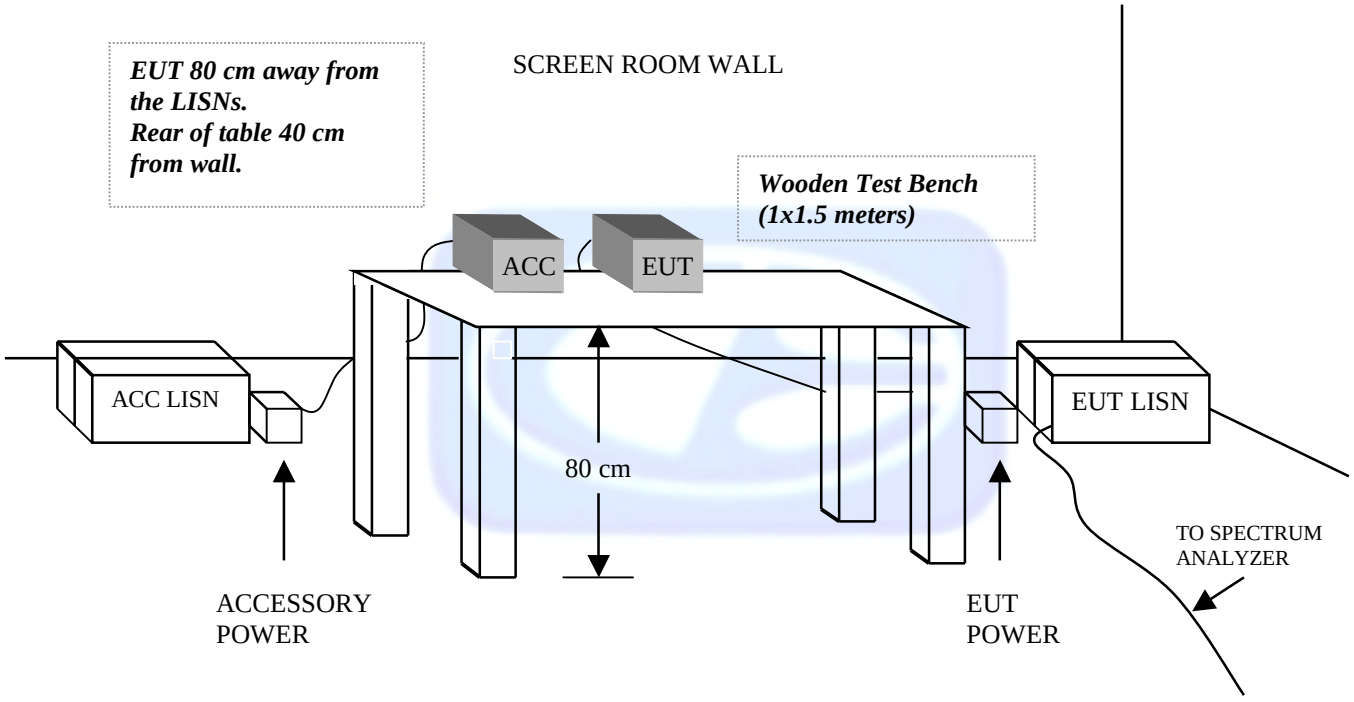
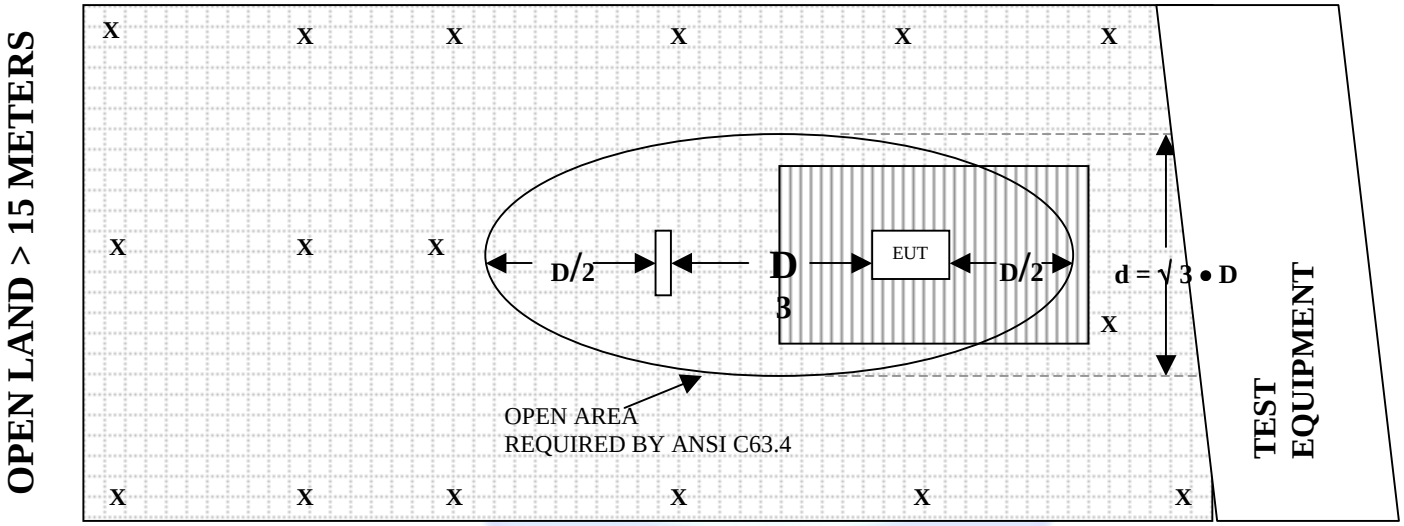


FIGURE 2: PLOT MAP AND LAYOUT OF RADIATED SITE – 3 METERS

OPEN LAND > 15 METERS



OPEN LAND > 15 METERS

X = GROUND RODS	= GROUND SCREEN
D = TEST DISTANCE (meters)	= WOOD COVER

COM-POWER AB-900

BICONICAL ANTENNA

S/N: 15250

CALIBRATION DATE: JUNE 18, 2010

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	12.8	100	11.5
35	11.3	120	13.6
40	10.8	140	12.5
45	10.1	160	13.2
50	11.0	180	15.5
60	11.1	200	16.9
70	7.3	250	16.4
80	7.5	275	18.7
90	8.3	300	19.5

COM-POWER AL-100

LOG PERIODIC ANTENNA

S/N: 16252

CALIBRATION DATE: JUNE 9, 2010

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	12.7	700	19.5
400	16.1	800	20.9
500	16.9	900	20.8
600	20.1	1000	21.5

COM-POWER PA-102

PREAMPLIFIER

S/N: 1017

CALIBRATION DATE: JANUARY 11, 2011

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
20	38.2	300	38.1
30	38.1	350	38.0
40	38.2	400	37.9
50	38.2	450	37.7
60	38.2	500	37.6
70	38.2	550	37.9
80	38.2	600	37.9
90	38.2	650	37.7
100	38.1	700	37.9
125	38.2	750	37.5
150	38.2	800	37.6
175	38.2	850	37.6
200	38.2	900	37.0
225	38.2	950	37.2
250	38.2	1000	36.8
275	38.2		

COM POWER AH-118

HORN ANTENNA

S/N: 071175

CALIBRATION DATE: MARCH 18, 2010

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	22.2	10.0	39.8
1.5	24.2	10.5	40.2
2.0	27.2	11.0	39.7
2.5	27.8	11.5	39.9
3.0	30.5	12.0	41.7
3.5	30.9	12.5	42.7
4.0	31.9	13.0	42.3
4.5	33.2	13.5	40.3
5.0	33.6	14.0	42.6
5.5	36.2	14.5	43.4
6.0	35.8	15.0	41.9
6.5	36.1	15.5	40.8
7.0	37.9	16.0	41.0
7.5	37.4	16.5	41.5
8.0	38.0	17.0	44.5
8.5	38.8	17.5	47.6
9.0	38.0	18.0	50.8
9.5	39.2		

COM-POWER PA-118

PREAMPLIFIER

S/N: 181656

CALIBRATION DATE: DECEMBER 22, 2010

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	24.90	10.0	26.07
1.5	26.50	10.5	24.97
2.0	26.79	11.0	24.79
2.5	26.90	11.5	24.33
3.0	27.03	12.0	24.24
3.5	26.94	12.5	24.92
4.0	27.18	13.0	24.52
4.5	26.79	13.5	24.33
5.0	26.25	14.0	24.56
5.5	26.16	14.5	24.99
6.0	25.52	15.0	26.06
6.5	25.29	15.5	26.87
7.0	24.45	16.0	25.95
7.5	24.18	16.5	24.69
8.0	24.02	17.0	24.20
8.5	24.54	17.5	25.12
9.0	24.91	18.0	26.03
9.5	25.42		

COM-POWER AL-130

LOOP ANTENNA

S/N: 17089

CALIBRATION DATE: JANUARY 21, 2011

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-41.9	9.6
0.01	-41.79	9.71
0.02	-41.43	10.07
0.05	-41.53	9.97
0.07	-41.47	10.03
0.1	-41.44	10.06
0.2	-41.61	9.89
0.3	-41.62	9.88
0.5	-41.66	9.84
0.7	-41.48	10.02
1	-41.13	10.37
2	-40.89	10.61
3	-41.00	10.50
4	-41.14	10.36
5	-41.02	10.48
10	-40.69	10.82
15	-40.41	11.09
20	-41.07	10.43
25	-42.10	9.40
30	-41.15	10.35

COM-POWER AH826

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: MARCH 11, 2010

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	24.36	29.5	23.52
18.5	24.54	30.0	21.73
19.0	24.06	30.5	22.34
19.5	23.71	31.0	20.06
20.0	23.42	31.5	20.02
20.5	22.87	32.0	18.11
21.0	22.60	32.5	19.35
21.5	21.08	33.0	17.50
22.0	22.13	33.5	17.49
22.5	22.42	34.0	17.48
23.0	22.85	34.5	18.57
23.5	22.85	35.0	18.64
24.0	23.82	35.5	18.82
24.5	22.33	36.0	19.14
25.0	24.09	36.5	18.58
25.5	23.20	37.0	15.07
26.0	23.18	37.5	17.29
26.5	23.50	38.0	20.82
27.0	24.25	38.5	19.96
27.5	23.58	39.0	20.66
28.0	23.81	39.5	21.41
28.5	23.76	40.0	18.89
29.0	24.83		

FRONT VIEW

UNIVERSAL ELECTRONICS, INC.
COMCAST TRACER RF4CE REMOTE 2010
MODEL: URC-4167BJ0-R
FCC SUBPART B AND C – RADIATED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

UNIVERSAL ELECTRONICS, INC.
COMCAST TRACER RF4CE REMOTE 2010
MODEL: URC-4167BJ0-R
FCC SUBPART B AND C – RADIATED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

DATA SHEETS

RADIATED EMISSIONS

DATA SHEETS

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

Low Channel
X-Axis - Default Power - Antenna 0

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2425	75.82	V	94	-18.18	Peak	1	180	
2425	71.13	V	94	-22.87	Avg	1	180	
4850	59.31	V	74	-14.69	Peak	1.25	135	
4850	49.77	V	54	-4.23	Avg	1.25	135	
7275	48.61	V	74	-25.39	Peak	1.35	165	
7275	36.09	V	54	-17.91	Avg	1.35	165	
9700								**No Emission**
9700								**Detected**
12125								**No Emission**
12125								**Detected**
14550								**No Emission**
14550								**Detected**
16975								**No Emission**
16975								**Detected**
19400								**No Emission**
19400								**Detected**
21825								**No Emission**
21825								**Detected**
24250								**No Emission**
24250								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

Low Channel
X-Axis - Default Power - Antenna 0

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2425	71.97	H	94	-22.03	Peak	1.25	135	
2425	67.12	H	94	-26.88	Avg	1.25	135	
4850	59.95	H	74	-14.05	Peak	1.25	155	
4850	50.41	H	54	-3.59	Avg	1.25	155	
7275	47.77	H	74	-26.23	Peak	1.35	165	
7275	36.17	H	54	-17.83	Avg	1.35	165	
9700								**No Emission**
9700								**Detected**
12125								**No Emission**
12125								**Detected**
14550								**No Emission**
14550								**Detected**
16975								**No Emission**
16975								**Detected**
19400								**No Emission**
19400								**Detected**
21825								**No Emission**
21825								**Detected**
24250								**No Emission**
24250								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

Low Channel
Y-Axis - Default Power - Antenna 0

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2425	75.58	V	94	-18.42	Peak	1.25	165	
2425	70.64	V	94	-23.36	Avg	1.25	165	
4850	57.02	V	74	-16.98	Peak	1.35	175	
4850	46.63	V	54	-7.37	Avg	1.35	175	
7275	48.83	V	74	-25.17	Peak	1.45	185	
7275	36.13	V	54	-17.87	Avg	1.45	185	
9700								**No Emission**
9700								**Detected**
12125								**No Emission**
12125								**Detected**
14550								**No Emission**
14550								**Detected**
16975								**No Emission**
16975								**Detected**
19400								**No Emission**
19400								**Detected**
21825								**No Emission**
21825								**Detected**
24250								**No Emission**
24250								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

Low Channel
Y-Axis - Default Power - Antenna 0

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2425	81.76	H	94	-12.24	Peak	1.25	225	
2425	76.71	H	94	-17.29	Avg	1.25	225	
4850	57.07	H	74	-16.93	Peak	1.25	165	
4850	46.77	H	54	-7.23	Avg	1.25	165	
7275	49.04	H	74	-24.96	Peak	1.25	165	
7275	50.61	H	54	-3.39	Avg	1.25	165	
9700								**No Emission**
9700								**Detected**
12125								**No Emission**
12125								**Detected**
14550								**No Emission**
14550								**Detected**
16975								**No Emission**
16975								**Detected**
19400								**No Emission**
19400								**Detected**
21825								**No Emission**
21825								**Detected**
24250								**No Emission**
24250								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

Low Channel
Z-Axis - Default Power - Antenna 0

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2425	77.89	V	94	-16.11	Peak	1.75	90	
2425	73.23	V	94	-20.77	Avg	1.75	90	
4850	61.87	V	74	-12.13	Peak	1.25	135	
4850	52.26	V	54	-1.74	Avg	1.25	135	
7275	47.81	V	74	-26.19	Peak	1.35	155	
7275	36.05	V	54	-17.95	Avg	1.35	155	
9700								**No Emission**
9700								**Detected**
12125								**No Emission**
12125								**Detected**
14550								**No Emission**
14550								**Detected**
16975								**No Emission**
16975								**Detected**
19400								**No Emission**
19400								**Detected**
21825								**No Emission**
21825								**Detected**
24250								**No Emission**
24250								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

Low Channel
Z-Axis - Default Power - Antenna 0

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2425	72.84	H	94	-21.16	Peak	3	225	
2425	68.38	H	94	-25.62	Avg	3	225	
4850	61.92	H	74	-12.08	Peak	2.25	155	
4850	52.51	H	54	-1.49	Avg	2.25	155	
7275	51.13	H	74	-22.87	Peak	1.25	165	
7275	36.59	H	54	-17.41	Avg	1.25	165	
9700								**No Emission**
9700								**Detected**
12125								**No Emission**
12125								**Detected**
14550								**No Emission**
14550								**Detected**
16975								**No Emission**
16975								**Detected**
19400								**No Emission**
19400								**Detected**
21825								**No Emission**
21825								**Detected**
24250								**No Emission**
24250								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

Middle Channel
X-Axis - Default Power - Antenna 0

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2450	74.61	V	94	-19.39	Peak	1.25	135	
2450	69.89	V	94	-24.11	Avg	1.25	135	
4900	58.67	V	74	-15.33	Peak	1.25	180	
4900	47.61	V	54	-6.39	Avg	1.25	180	
7350								**No Emission**
7350								**Detected**
9800								**No Emission**
9800								**Detected**
12250								**No Emission**
12250								**Detected**
14700								**No Emission**
14700								**Detected**
17150								**No Emission**
17150								**Detected**
19600								**No Emission**
19600								**Detected**
22050								**No Emission**
22050								**Detected**
24500								**No Emission**
24500								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

Middle Channel
X-Axis - Default Power - Antenna 0

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2450	70.33	H	94	-23.67	Peak	1.25	155	
2450	65.54	H	94	-28.46	Avg	1.25	155	
4900	61.74	H	74	-12.26	Peak	2.75	225	
4900	52.04	H	54	-1.96	Avg	2.75	225	
7350	48.06	H	74	-25.94	Peak	2.25	235	
7350	36.48	H	54	-17.52	Avg	2.25	235	
9800								**No Emission**
9800								**Detected**
12250								**No Emission**
12250								**Detected**
14700								**No Emission**
14700								**Detected**
17150								**No Emission**
17150								**Detected**
19600								**No Emission**
19600								**Detected**
22050								**No Emission**
22050								**Detected**
24500								**No Emission**
24500								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

Middle Channel
Y-Axis - Default Power - Antenna 0

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2450	74.01	V	94	-19.99	Peak	1.15	135	
2450	69.47	V	94	-24.53	Avg	1.15	135	
4900	57.75	V	74	-16.25	Peak	1.25	145	
4900	47.81	V	54	-6.19	Avg	1.25	145	
7350	48.13	V	74	-25.87	Peak	1.35	165	
7350	36.51	V	54	-17.49	Avg	1.35	165	
9800								**No Emission**
9800								**Detected**
12250								**No Emission**
12250								**Detected**
14700								**No Emission**
14700								**Detected**
17150								**No Emission**
17150								**Detected**
19600								**No Emission**
19600								**Detected**
22050								**No Emission**
22050								**Detected**
24500								**No Emission**
24500								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

Middle Channel
Y-Axis - Default Power - Antenna 0

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2450	81.79	H	94	-12.21	Peak	1	90	
2450	77.51	H	94	-16.49	Avg	1	90	
4900	60.37	H	74	-13.63	Peak	2.25	225	
4900	50.36	H	54	-3.64	Avg	2.25	225	
7350	49.72	H	74	-24.28	Peak	1.25	135	
7350	36.93	H	54	-17.07	Avg	1.25	135	
9800								**No Emission**
9800								**Detected**
12250								**No Emission**
12250								**Detected**
14700								**No Emission**
14700								**Detected**
17150								**No Emission**
17150								**Detected**
19600								**No Emission**
19600								**Detected**
22050								**No Emission**
22050								**Detected**
24500								**No Emission**
24500								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

Middle Channel
Z-Axis - Default Power - Antenna 0

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2450	78.41	V	94	-15.59	Peak	2.25	90	
2450	73.94	V	94	-20.06	Avg	2.25	90	
4900	62.34	V	74	-11.66	Peak	1.25	135	
4900	52.07	V	54	-1.93	Avg	1.25	135	
7350	49.44	V	74	-24.56	Peak	1.35	145	
7350	38.65	V	54	-15.35	Avg	1.35	145	
9800								**No Emission**
9800								**Detected**
12250								**No Emission**
12250								**Detected**
14700								**No Emission**
14700								**Detected**
17150								**No Emission**
17150								**Detected**
19600								**No Emission**
19600								**Detected**
22050								**No Emission**
22050								**Detected**
24500								**No Emission**
24500								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

Middle Channel
Z-Axis - Default Power - Antenna 0

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2450	72.77	H	94	-21.23	Peak	2.25	155	
2450	68.31	H	94	-25.69	Avg	2.25	155	
4900	62.85	H	74	-11.15	Peak	2.25	270	
4900	53.03	H	54	-0.97	Avg	2.25	270	
7350	48.74	H	74	-25.26	Peak	2.25	180	
7350	36.43	H	54	-17.57	Avg	2.25	180	
9800								**No Emission**
9800								**Detected**
12250								**No Emission**
12250								**Detected**
14700								**No Emission**
14700								**Detected**
17150								**No Emission**
17150								**Detected**
19600								**No Emission**
19600								**Detected**
22050								**No Emission**
22050								**Detected**
24500								**No Emission**
24500								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

High Channel
X-Axis - Default Power - Antenna 0

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2475	75.37	V	94	-18.63	Peak	1.25	155	
2475	70.96	V	94	-23.04	Avg	1.25	155	
4950	60.12	V	74	-13.88	Peak	2.25	180	
4950	50.48	V	54	-3.52	Avg	2.25	180	
7425	49.62	V	74	-24.38	Peak	1.25	135	
7425	36.73	V	54	-17.27	Avg	1.25	135	
9900								**No Emission**
9900								**Detected**
12375								**No Emission**
12375								**Detected**
14850								**No Emission**
14850								**Detected**
17325								**No Emission**
17325								**Detected**
19800								**No Emission**
19800								**Detected**
22275								**No Emission**
22275								**Detected**
24750								**No Emission**
24750								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

High Channel
X-Axis - Default Power - Antenna 0

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2475	73.45	H	94	-20.55	Peak	2.25	135	
2475	68.54	H	94	-25.46	Avg	2.25	135	
4950	62.48	H	74	-11.52	Peak	2.5	155	
4950	52.91	H	54	-1.09	Avg	2.5	155	
7425	48.18	H	74	-25.82	Peak	1.25	135	
7425	36.68	H	54	-17.32	Avg	1.25	135	
9900								**No Emission**
9900								**Detected**
12375								**No Emission**
12375								**Detected**
14850								**No Emission**
14850								**Detected**
17325								**No Emission**
17325								**Detected**
19800								**No Emission**
19800								**Detected**
22275								**No Emission**
22275								**Detected**
24750								**No Emission**
24750								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

High Channel
Y-Axis - Default Power - Antenna 0

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2475	74.63	V	94	-19.37	Peak	3.25	155	
2475	69.54	V	94	-24.46	Avg	3.25	155	
4950	57.42	V	74	-16.58	Peak	2.25	175	
4950	46.96	V	54	-7.04	Avg	2.25	175	
7425	48.56	V	74	-25.44	Peak	1.25	185	
7425	36.68	V	54	-17.32	Avg	1.25	185	
9900								**No Emission**
9900								**Detected**
12375								**No Emission**
12375								**Detected**
14850								**No Emission**
14850								**Detected**
17325								**No Emission**
17325								**Detected**
19800								**No Emission**
19800								**Detected**
22275								**No Emission**
22275								**Detected**
24750								**No Emission**
24750								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

High Channel
Y-Axis - Default Power - Antenna 0

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2475	81.58	H	94	-12.42	Peak	1.25	135	
2475	75.89	H	94	-18.11	Avg	1.25	135	
4950	59.72	H	74	-14.28	Peak	1.35	145	
4950	50.31	H	54	-3.69	Avg	1.35	145	
7425	48.25	H	74	-25.75	Peak	1.45	155	
7425	36.69	H	54	-17.31	Avg	1.45	155	
9900								**No Emission**
9900								**Detected**
12375								**No Emission**
12375								**Detected**
14850								**No Emission**
14850								**Detected**
17325								**No Emission**
17325								**Detected**
19800								**No Emission**
19800								**Detected**
22275								**No Emission**
22275								**Detected**
24750								**No Emission**
24750								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

High Channel
Z-Axis - Default Power - Antenna 0

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2475	77.21	V	94	-16.79	Peak	1.25	90	
2475	72.49	V	94	-21.51	Avg	1.25	90	
4950	62.55	V	74	-9.45	Peak	1.25	90	
4950	53.05	V	54	-0.95	Avg	1.25	90	
7425	47.98	V	74	-26.02	Peak	1.25	125	
7425	36.74	V	54	-17.26	Avg	1.25	125	
9900								**No Emission**
9900								**Detected**
12375								**No Emission**
12375								**Detected**
14850								**No Emission**
14850								**Detected**
17325								**No Emission**
17325								**Detected**
19800								**No Emission**
19800								**Detected**
22275								**No Emission**
22275								**Detected**
24750								**No Emission**
24750								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

High Channel
Z-Axis - Default Power - Antenna 0

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2475	71.42	H	94	-22.58	Peak	1.25	155	
2475	66.56	H	94	-27.44	Avg	1.25	155	
4950	62.39	H	74	-11.61	Peak	1.35	165	
4950	52.88	H	54	-1.12	Avg	1.35	165	
7425	47.83	H	74	-26.17	Peak	1.25	175	
7425	36.72	H	54	-17.28	Avg	1.25	175	
9900								**No Emission**
9900								**Detected**
12375								**No Emission**
12375								**Detected**
14850								**No Emission**
14850								**Detected**
17325								**No Emission**
17325								**Detected**
19800								**No Emission**
19800								**Detected**
22275								**No Emission**
22275								**Detected**
24750								**No Emission**
24750								**Detected**

FCC Class B and RSS-210

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 03/09/11
Lab: B
Tested By: Kyle Fujimoto

Middle Channel - X-Axis (Worst Case)
Receive Mode - Antenna 0

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2448.02	36.61	V	54	-17.39	Peak	2.25	225	
4895.78	43.57	V	54	-10.43	Peak	2.25	225	
7343.99	47.49	V	54	-6.51	Peak	2.25	225	
2448.02	37.41	H	54	-16.59	Peak	1	180	
4895.78	42.31	H	54	-11.69	Peak	2.25	225	
7343.99	46.62	H	54	-7.38	Peak	2.25	225	

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

Low Channel
X-Axis - Default Power - Antenna 1

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2425	79.34	V	94	-14.66	Peak	3	1.25	
2425	74.81	V	94	-19.19	Avg	3	1.25	
4850	51.74	V	74	-22.26	Peak	1	155	
4850	41.87	V	54	-12.13	Avg	1	155	
7275	52.35	V	74	-21.65	Peak	1.25	155	
7275	40.76	V	54	-13.24	Avg	1.25	155	
9700								**No Emission**
9700								**Detected**
12125								**No Emission**
12125								**Detected**
14550								**No Emission**
14550								**Detected**
16975								**No Emission**
16975								**Detected**
19400								**No Emission**
19400								**Detected**
21825								**No Emission**
21825								**Detected**
24250								**No Emission**
24250								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

Low Channel
X-Axis - Default Power - Antenna 1

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2425	79.51	H	94	-14.49	Peak	1.25	135	
2425	75.01	H	94	-18.99	Avg	1.25	135	
4850	50.25	H	74	-23.75	Peak	1.25	155	
4850	40.61	H	54	-13.39	Avg	1.25	155	
7275	52.71	H	74	-21.29	Peak	1.25	165	
7275	39.73	H	54	-14.27	Avg	1.25	165	
9700								**No Emission**
9700								**Detected**
12125								**No Emission**
12125								**Detected**
14550								**No Emission**
14550								**Detected**
16975								**No Emission**
16975								**Detected**
19400								**No Emission**
19400								**Detected**
21825								**No Emission**
21825								**Detected**
24250								**No Emission**
24250								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

Low Channel
Y-Axis - Default Power - Antenna 1

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2425	85.82	V	94	-8.18	Peak	2	135	
2425	81.23	V	94	-12.77	Avg	2	135	
4850	52.39	V	74	-21.61	Peak	2.25	135	
4850	42.21	V	54	-11.79	Avg	2.25	135	
7275	47.85	V	74	-26.15	Peak	1.25	165	
7275	37.07	V	54	-16.93	Avg	1.25	165	
9700								**No Emission**
9700								**Detected**
12125								**No Emission**
12125								**Detected**
14550								**No Emission**
14550								**Detected**
16975								**No Emission**
16975								**Detected**
19400								**No Emission**
19400								**Detected**
21825								**No Emission**
21825								**Detected**
24250								**No Emission**
24250								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

Low Channel
Y-Axis - Default Power - Antenna 1

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2425	79.21	H	94	-14.79	Peak	1.25	135	
2425	74.21	H	94	-19.79	Avg	1.25	135	
4850	50.47	H	74	-23.53	Peak	1.35	165	
4850	40.01	H	54	-13.99	Avg	1.35	165	
7275	47.98	H	74	-26.02	Peak	1.45	175	
7275	37.91	H	54	-16.09	Avg	1.45	175	
9700								**No Emission**
9700								**Detected**
12125								**No Emission**
12125								**Detected**
14550								**No Emission**
14550								**Detected**
16975								**No Emission**
16975								**Detected**
19400								**No Emission**
19400								**Detected**
21825								**No Emission**
21825								**Detected**
24250								**No Emission**
24250								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

Low Channel
Z-Axis - Default Power - Antenna 1

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2425	82.87	V	94	-11.13	Peak	3.5	270	
2425	78.03	V	94	-15.97	Avg	3.5	270	
4850	54.17	V	74	-19.83	Peak	1.5	90	
4850	44.69	V	54	-9.31	Avg	1.5	90	
7275	53.02	V	74	-20.98	Peak	1.25	90	
7275	40.51	V	54	-13.49	Avg	1.25	90	
9700								**No Emission**
9700								**Detected**
12125								**No Emission**
12125								**Detected**
14550								**No Emission**
14550								**Detected**
16975								**No Emission**
16975								**Detected**
19400								**No Emission**
19400								**Detected**
21825								**No Emission**
21825								**Detected**
24250								**No Emission**
24250								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

Low Channel
Z-Axis - Default Power - Antenna 1

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2425	81.33	H	94	-12.67	Peak	1.25	155	
2425	76.37	H	94	-17.63	Avg	1.25	155	
4850	55.74	H	74	-18.26	Peak	1.35	165	
4850	45.82	H	54	-8.18	Avg	1.35	165	
7275	53.97	H	74	-20.03	Peak	1.25	135	
7275	41.12	H	54	-12.88	Avg	1.25	135	
9700								**No Emission**
9700								**Detected**
12125								**No Emission**
12125								**Detected**
14550								**No Emission**
14550								**Detected**
16975								**No Emission**
16975								**Detected**
19400								**No Emission**
19400								**Detected**
21825								**No Emission**
21825								**Detected**
24250								**No Emission**
24250								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

Middle Channel
X-Axis - Default Power - Antenna 1

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2450	80.21	V	94	-13.79	Peak	3	135	
2450	75.61	V	94	-18.39	Avg	3	135	
4900	41.87	V	74	-32.13	Peak	1.25	135	
4900	29.12	V	54	-24.88	Avg	1.25	135	
7350	49.37	V	74	-24.63	Peak	1.35	145	
7350	35.74	V	54	-18.26	Avg	1.35	145	
9800								**No Emission**
9800								**Detected**
12250								**No Emission**
12250								**Detected**
14700								**No Emission**
14700								**Detected**
17150								**No Emission**
17150								**Detected**
19600								**No Emission**
19600								**Detected**
22050								**No Emission**
22050								**Detected**
24500								**No Emission**
24500								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

Middle Channel
X-Axis - Default Power - Antenna 1

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2450	80.05	H	94	-13.95	Peak	1.25	135	
2450	75.54	H	94	-18.46	Avg	1.25	135	
4900	54.02	H	74	-19.98	Peak	1.25	135	
4900	43.71	H	54	-10.29	Avg	1.25	135	
7350	51.93	H	74	-22.07	Peak	1.35	145	
7350	36.48	H	54	-17.52	Avg	1.35	145	
9800								**No Emission**
9800								**Detected**
12250								**No Emission**
12250								**Detected**
14700								**No Emission**
14700								**Detected**
17150								**No Emission**
17150								**Detected**
19600								**No Emission**
19600								**Detected**
22050								**No Emission**
22050								**Detected**
24500								**No Emission**
24500								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

Middle Channel
Y-Axis - Default Power - Antenna 1

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2450	88.76	V	94	-5.24	Peak	1.25	135	
2450	84.29	V	94	-9.71	Avg	1.25	135	
4900	52.09	V	74	-21.91	Peak	1.35	145	
4900	42.03	V	54	-11.97	Avg	1.35	145	
7350	51.82	V	74	-22.18	Peak	1.25	155	
7350	37.44	V	54	-16.56	Avg	1.25	155	
9800								**No Emission**
9800								**Detected**
12250								**No Emission**
12250								**Detected**
14700								**No Emission**
14700								**Detected**
17150								**No Emission**
17150								**Detected**
19600								**No Emission**
19600								**Detected**
22050								**No Emission**
22050								**Detected**
24500								**No Emission**
24500								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

Middle Channel
Y-Axis - Default Power - Antenna 1

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2450	79.67	H	94	-14.33	Peak	1.25	165	
2450	75.25	H	94	-18.75	Avg	1.25	165	
4900	50.54	H	74	-23.46	Peak	2.25	155	
4900	39.44	H	54	-14.56	Avg	2.25	155	
7350	52.82	H	74	-21.18	Peak	1.25	135	
7350	40.29	H	54	-13.71	Avg	1.25	135	
9800								**No Emission**
9800								**Detected**
12250								**No Emission**
12250								**Detected**
14700								**No Emission**
14700								**Detected**
17150								**No Emission**
17150								**Detected**
19600								**No Emission**
19600								**Detected**
22050								**No Emission**
22050								**Detected**
24500								**No Emission**
24500								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

Middle Channel
Z-Axis - Default Power - Antenna 1

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2450	83.06	V	94	-10.94	Peak	1.25	135	
2450	78.71	V	94	-15.29	Avg	1.25	135	
4900	55.49	V	74	-18.51	Peak	1.35	155	
4900	45.85	V	54	-8.15	Avg	1.35	155	
7350	48.51	V	74	-25.49	Peak	1.25	165	
7350	36.76	V	54	-17.24	Avg	1.25	165	
9800								**No Emission**
9800								**Detected**
12250								**No Emission**
12250								**Detected**
14700								**No Emission**
14700								**Detected**
17150								**No Emission**
17150								**Detected**
19600								**No Emission**
19600								**Detected**
22050								**No Emission**
22050								**Detected**
24500								**No Emission**
24500								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

Middle Channel
Z-Axis - Default Power - Antenna 1

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2450	85.63	H	94	-8.37	Peak	1.25	135	
2450	81.16	H	94	-12.84	Avg	1.25	135	
4900	55.51	H	74	-18.49	Peak	1.25	145	
4900	45.11	H	54	-8.89	Avg	1.25	145	
7350	54.29	H	74	-19.71	Peak	1.25	155	
7350	42.35	H	54	-11.65	Avg	1.25	155	
9800								**No Emission**
9800								**Detected**
12250								**No Emission**
12250								**Detected**
14700								**No Emission**
14700								**Detected**
17150								**No Emission**
17150								**Detected**
19600								**No Emission**
19600								**Detected**
22050								**No Emission**
22050								**Detected**
24500								**No Emission**
24500								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

High Channel
X-Axis - Default Power - Antenna 1

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2475	79.32	V	94	-14.68	Peak	3	1.25	
2475	74.43	V	94	-19.57	Avg	3	1.25	
4950	44.69	V	74	-29.31	Peak	1.25	155	
4950	33.34	V	54	-20.66	Avg	1.25	155	
7425	51.26	V	74	-22.74	Peak	1.35	165	
7425	36.77	V	54	-17.23	Avg	1.35	165	
9900								**No Emission**
9900								**Detected**
12375								**No Emission**
12375								**Detected**
14850								**No Emission**
14850								**Detected**
17325								**No Emission**
17325								**Detected**
19800								**No Emission**
19800								**Detected**
22275								**No Emission**
22275								**Detected**
24750								**No Emission**
24750								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

High Channel
X-Axis - Default Power - Antenna 1

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2475	83.98	H	94	-10.02	Peak	1.25	135	
2475	79.21	H	94	-14.79	Avg	1.25	135	
4950	48.94	H	74	-25.06	Peak	1.25	135	
4950	38.77	H	54	-15.23	Avg	1.25	135	
7425	52.52	H	74	-21.48	Peak	1.35	155	
7425	40.81	H	54	-13.19	Avg	1.35	155	
9900								**No Emission**
9900								**Detected**
12375								**No Emission**
12375								**Detected**
14850								**No Emission**
14850								**Detected**
17325								**No Emission**
17325								**Detected**
19800								**No Emission**
19800								**Detected**
22275								**No Emission**
22275								**Detected**
24750								**No Emission**
24750								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

High Channel
Y-Axis - Default Power - Antenna 1

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2475	86.2	V	94	-7.8	Peak	1.25	155	
2475	81.74	V	94	-12.26	Avg	1.25	155	
4950	45.61	V	74	-28.39	Peak	1.35	165	
4950	34.77	V	54	-19.23	Avg	1.35	165	
7425	48.32	V	74	-25.68	Peak	1.25	135	
7425	36.04	V	54	-17.96	Avg	1.25	135	
9900								**No Emission**
9900								**Detected**
12375								**No Emission**
12375								**Detected**
14850								**No Emission**
14850								**Detected**
17325								**No Emission**
17325								**Detected**
19800								**No Emission**
19800								**Detected**
22275								**No Emission**
22275								**Detected**
24750								**No Emission**
24750								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

High Channel
Y-Axis - Default Power - Antenna 1

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2475	77.23	H	94	-16.77	Peak	1.25	135	
2475	72.21	H	94	-21.79	Avg	1.25	135	
4950	46.05	H	74	-27.95	Peak	1.35	155	
4950	33.52	H	54	-20.48	Avg	1.35	155	
7425	49.93	H	74	-24.07	Peak	1.25	175	
7425	37.15	H	54	-16.85	Avg	1.25	175	
9900								**No Emission**
9900								**Detected**
12375								**No Emission**
12375								**Detected**
14850								**No Emission**
14850								**Detected**
17325								**No Emission**
17325								**Detected**
19800								**No Emission**
19800								**Detected**
22275								**No Emission**
22275								**Detected**
24750								**No Emission**
24750								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

High Channel
Z-Axis - Default Power - Antenna 1

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2475	81.47	V	94	-12.53	Peak	1.25	155	
2475	76.99	V	94	-17.01	Avg	1.25	155	
4950	47.66	V	74	-26.34	Peak	1.25	135	
4950	37.54	V	54	-16.46	Avg	1.25	135	
7425	51.22	V	74	-22.78	Peak	1.35	155	
7425	38.41	V	54	-15.59	Avg	1.35	155	
9900								**No Emission**
9900								**Detected**
12375								**No Emission**
12375								**Detected**
14850								**No Emission**
14850								**Detected**
17325								**No Emission**
17325								**Detected**
19800								**No Emission**
19800								**Detected**
22275								**No Emission**
22275								**Detected**
24750								**No Emission**
24750								**Detected**

FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 01/12/2011
Lab: B
Tested By: Kyle Fujimoto

High Channel
Z-Axis - Default Power - Antenna 1

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2475	85.02	H	94	-8.98	Peak	1.25	135	
2475	80.09	H	94	-13.91	Avg	1.25	135	
4950	49.42	H	74	-24.58	Peak	1.35	145	
4950	39.71	H	54	-14.29	Avg	1.35	145	
7425	50.47	H	74	-23.53	Peak	1.25	165	
7425	37.88	H	54	-16.12	Avg	1.25	165	
9900								**No Emission**
9900								**Detected**
12375								**No Emission**
12375								**Detected**
14850								**No Emission**
14850								**Detected**
17325								**No Emission**
17325								**Detected**
19800								**No Emission**
19800								**Detected**
22275								**No Emission**
22275								**Detected**
24750								**No Emission**
24750								**Detected**

FCC Class B and RSS-210

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 03/09/11
Lab: B
Tested By: Kyle Fujimoto

Middle Channel - X-Axis (Worst Case)
Receive Mode

Freq. (MHz)	Level (dBuV)	P ol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comme nts
2448.02	40.34	V	54	-13.66	Peak	2.25	225	
4895.78	43.22	V	54	-10.78	Peak	2.25	225	
7343.99	48.07	V	54	-5.93	Peak	2.25	225	
2448.02	37.11	H	54	-16.89	Peak	1	180	
4895.78	43.01	H	54	-10.99	Peak	2.25	225	
7343.99	47.52	H	54	-6.48	Peak	2.25	225	

FCC Class B and FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

Date: 03/09/11
Lab: B
Tested By: Kyle Fujimoto

Digital Portion and Non-Harmonic Emissions from the Transmitter

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
								No Emissions Detected
								from 10 kHz to 25000 MHz
								for the Digital Portion
								for both the Vertical and
								Horizontal Polarizations.
								No Emissions Detected
								from 10 kHz to 25000 MHz
								for the Non-Harmonic
								Emissions from the Tx for the
								EUT for both the Vertical and
								Horizontal Polarizations.
								Investigated in the
								X, Y, and Z-Axis
								Investigated for both
								Antenna 0 and Antenna 1

BAND EDGES

DATA SHEETS

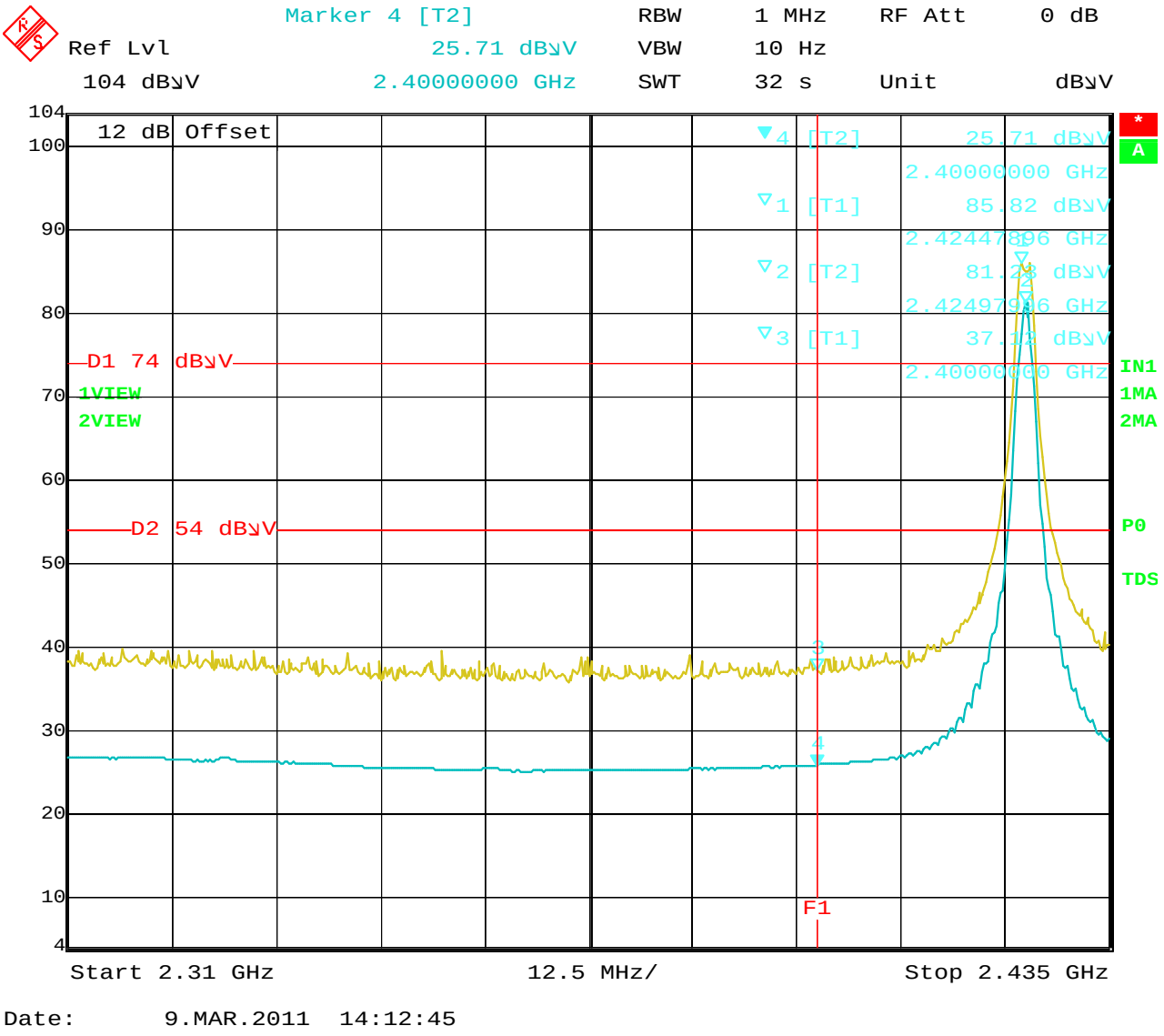
FCC 15.249

Universal Electronics, Inc.
Comcast Tracer RF4CE Remote 2010
Model: URC-4167BJ0-R

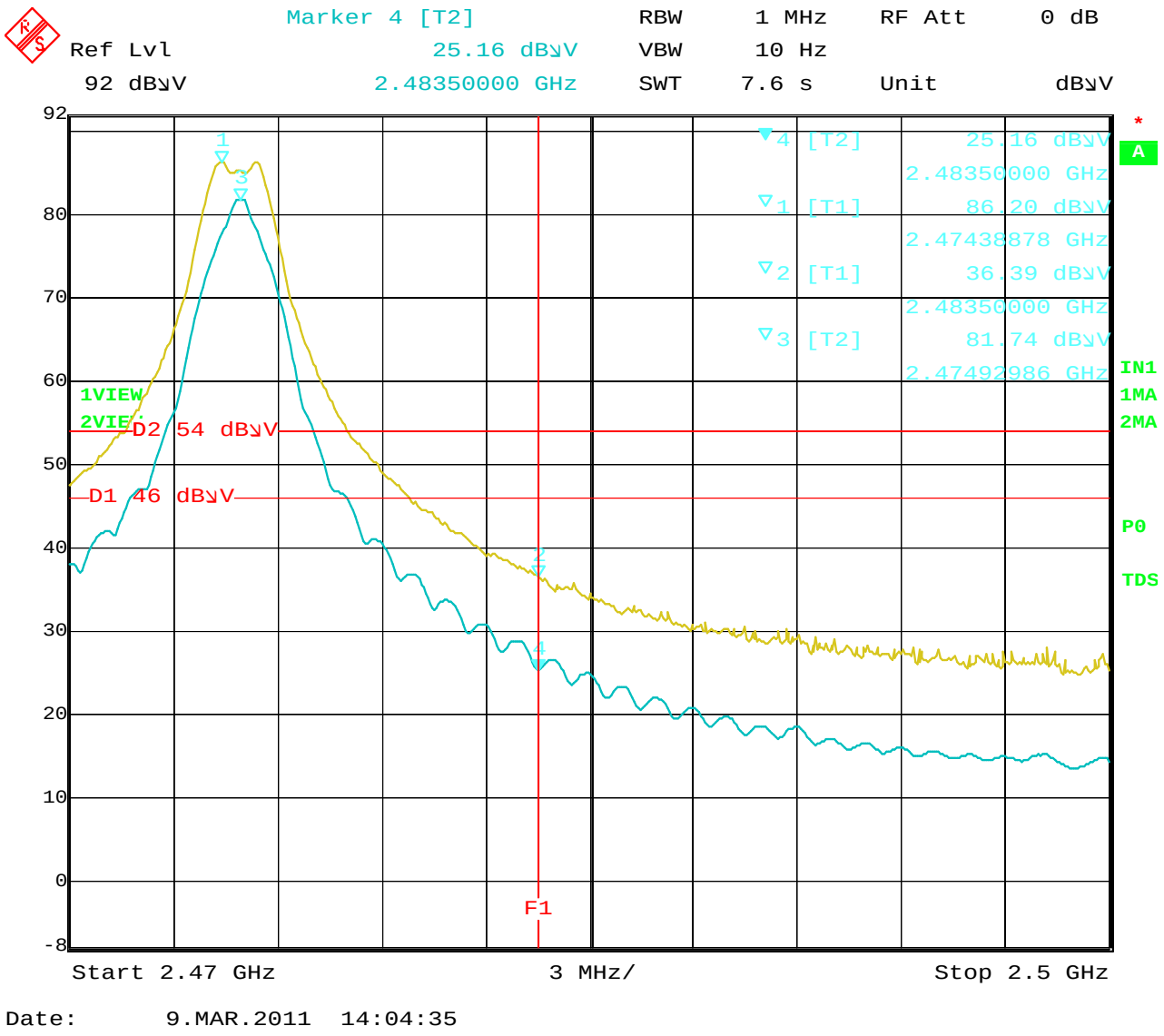
Date: 03/09/11
Lab: B
Tested By: Kyle Fujimoto

Band Edges - Antenna 1 (Worst Case)
Transmit Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2483.50	36.39	H	74	-37.61	Peak	1.25	135	Band Edge - High Channel
2483.50	25.16	H	54	-28.84	Avg	1.25	135	Y-Axis Worst Case
2400	37.12	V	74	-36.88	Peak	2	135	Band Edge - Low Channel
2400	25.71	V	54	-28.29	Avg	2	135	Y-Axis Worst Case



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



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