

*FCC PART 15, SUBPART B and C
TEST REPORT**for***STAR CHOICE URC 551 IR/UHF REMOTE CONTROL
MODEL: URC551**

Prepared for

MOTOROLA, INC.
6450 SEQUENCE DRIVE
SAN DIEGO, CALIFORNIA 92121Prepared by: *Kyle Fujimoto*

KYLE FUJIMOTO

Approved by: *James Ross*

JAMES ROSS

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

DATE: JULY 6, 2006

	REPORT BODY	APPENDICES					TOTAL
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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 endorsement by NVLAP, NIST or any other agency of the U.S. Government.

Device Tested: Star Choice URC 551 IR/UHF Remote Control
Model: URC551
S/N: N/A

Product Description: See Expository Statement

Modifications: The EUT was not modified in order to meet the specifications.

Customer: Motorola, Inc.
6450 Sequence Drive
San Diego, California 92121

Manufacturer: Universal Electronics, Inc.
6101 Gateway Drive
Cypress, California 60340-4841

Test Date: May 24, 2006

Test Specifications: EMI requirements
CFR Title 47, Part 15 Subpart B; and Subpart C, Sections 15.205, 15.209 and 15.231

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 - 30 MHz	This test was not performed because the EUT is battery powered only and does not connect to the AC public mains.
2	Radiated RF Emissions, 10 kHz - 4400 MHz	Complies with the Class B limits of CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.231.

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the Star Choice URC 551 IR/UHF Remote Control Model: URC551. 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; and Subpart C, sections 15.205, 15.209, and 15.231.



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 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 Electrical Staff Engineer

Motorola, Inc.

Keith Teare Vice President of Engineering

Compatible Electronics, Inc.

Kyle Fujimoto Test Engineer

James Ross Test Engineer

2.4 Date Test Sample was Received

The test sample was received on May 3, 2006

2.5 Disposition of the Test Sample

The sample has not yet been returned to Motorola, Inc. as of June 1, 2006.

2.6 Abbreviations and Acronyms

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

RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
HP	Hewlett Packard
ITE	Information Technology Equipment
CML	Corrected Meter Limit
LISN	Line Impedance Stabilization Network

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 2003	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

Setup and operation of the equipment under test.

Specifics of the EUT and Peripherals Tested

The Star Choice URC 551 IR/UHF Remote Control Model: URC551 (EUT) was tested as a stand-alone unit and continuously transmitting. The EUT's antenna was hard wired onto the PCB. The EUT was tested in three orthogonal axis.

After the EUT is activated by pressing the button, the transmission will cease operation once the button is released.

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

4.1.1 Cable Construction and Termination

There are no external cables connected to the EUT.



5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT**5.1 EUT and Accessory List**

EQUIPMENT	MANU-FACTURER	MODEL NUMBER	PART NUMBER	FCC ID
STAR CHOICE URC 551 IR/UHF REMOTE CONTROL (EUT)	UNIVERSAL ELECTRONICS, INC.	URC551	530129-001	MG32051

5.2 EMI Test Equipment

EQUIPMENT TYPE	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CALIBRATION DUE DATE
GENERAL TEST EQUIPMENT USED FOR ALL RF EMISSIONS TESTS					
Spectrum Analyzer – Main Section	Hewlett Packard	8566B	3638A08768	June 21, 2005	June 21, 2006
Spectrum Analyzer – Display Section	Hewlett Packard	85662A	3701A22262	June 21, 2005	June 21, 2006
Quasi-Peak Adapter	Hewlett Packard	85650A	2811A01363	June 17, 2005	June 17, 2006
Computer	Hewlett Packard	4530	US91912319	N/A	N/A
EMI Receiver	Rohde & Schwarz	ESIB40	100172	October 28, 2004	October 28, 2006
Monitor	Hewlett Packard	D5258A	TW74500641	N/A	N/A
RF RADIATED EMISSIONS TEST EQUIPMENT					
Radiated Emissions Data Capture Program	Compatible Electronics	2.0	N/A	N/A	N/A
Preamplifier	Com Power	PA-102	1017	January 19, 2006	Jan. 19, 2007
Biconical Antenna	Com Power	AB-900	15227	March 9, 2006	March 9, 2007
Log Periodic Antenna	Com Power	AL-100	16060	August 22, 2005	Aug. 22, 2006
Loop Antenna	Com Power	AL-130	17089	September 21, 2005	Sept. 21, 2006
Horn Antenna	Com Power	AH-118	10067	July 27, 2004	July 27, 2006
Microwave Preamplifier	Com Power	PA-122	181917	January 20, 2006	Jan. 20, 2007
Antenna Mast	Com Power	AM-100	N/A	N/A	N/A

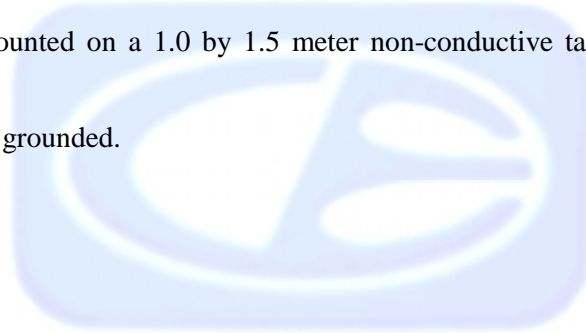
6. TEST SITE DESCRIPTION**6.1 Test Facility Description**

Please refer to section 2.1 and 7.1 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.



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 Radiated Emissions (Spurious and Harmonics) Test

The spectrum analyzer was 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-122 was used for frequencies from 1 GHz to 4.4 GHz. The spectrum analyzer was 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 readings were averaged by a "duty cycle correction factor", derived from 20 log (dwell time / one pulse train with blanking interval).

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	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 4.4 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. 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.

7.2 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 final test data. The final qualification data sheets are located in Appendix E.

Test Results:

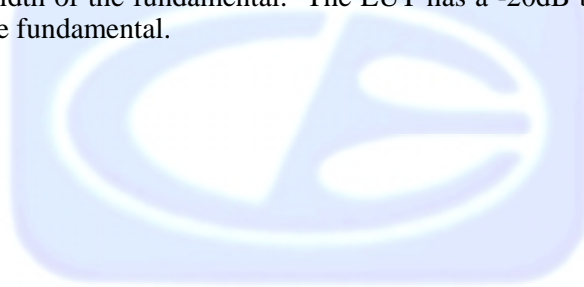
The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and CFR Title 47, Part 15, Subpart C, sections 15.205, 15.209, and 15.231.

7.3 Bandwidth of the Fundamental

The -20 dB bandwidth was checked to see that it was within 0.25% of the fundamental frequency for the EUT. Plots of the -20 dB bandwidth are located in Appendix E.

Test Results:

The EUT complies with the requirements of CFR Title 47, Part 15, Subpart C, section 15.231 (c) for the -20 dB bandwidth of the fundamental. The EUT has a -20dB bandwidth that is less than 0.25% of frequency of the fundamental.



8. CONCLUSIONS

The Star Choice URC 551 IR/UHF Remote Control Model: URC551 meets all of the **Class B** specification limits defined in CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.231.



APPENDIX A

LABORATORY RECOGNITIONS

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Agoura Division
2337 Troutdale Drive
Agoura, CA 91301
(818) 597-0600

Silverado Division
19121 El Toro Road
Silverado, CA 92676
(949) 589-0700

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

LABORATORY RECOGNITIONS

Compatible Electronics has the following agency accreditations:

National Voluntary Laboratory Accreditation Program - Lab Code: 200528-0

Voluntary Control Council for Interference - Registration Numbers: R-983, C-1026, R-984 and C-1027

Bureau of Standards and Metrology Inspection - Reference Number: SL2-IN-E-1031

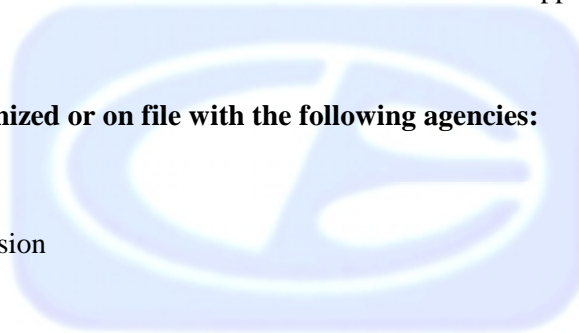
Conformity Assessment Body for the EMC Directive Under the US/EU MRA Appointed by NIST

Compatible Electronics is recognized or on file with the following agencies:

Federal Communications Commission

Industry Canada

Radio-Frequency Technologies (Competent Body)





APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC 15.231 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 modifications were made to the EUT.





APPENDIX C

***ADDITIONAL MODELS COVERED
UNDER THIS REPORT***

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Agoura Division
2337 Troutdale Drive
Agoura, CA 91301
(818) 597-0600

Silverado Division
19121 El Toro Road
Silverado, CA 92676
(949) 589-0700

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

Star Choice URC 551 IR/UHF Remote Control
Model: URC551
S/N: N/A

There were no additional models covered under this report.



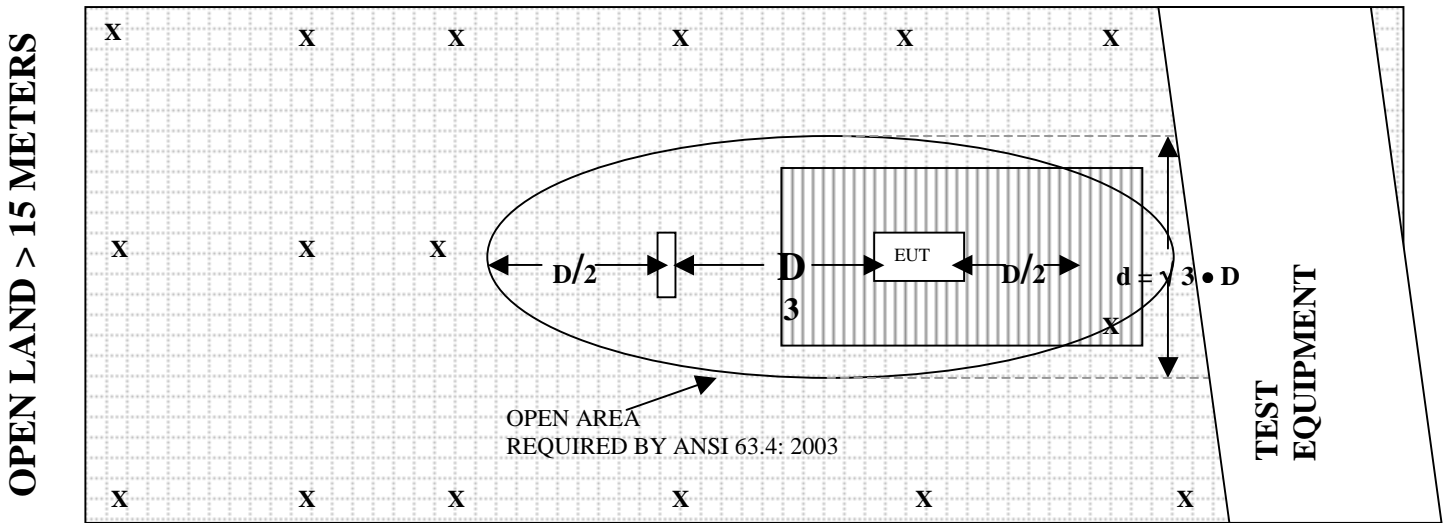


APPENDIX D

DIAGRAMS, CHARTS, AND PHOTOS

FIGURE 1: PLOT MAP AND LAYOUT OF RADIATED SITE

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: 15227

CALIBRATION DATE: MARCH 9, 2006

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	11.12	120	13.50
35	10.17	125	12.63
40	9.75	140	12.20
45	12.22	150	11.85
50	13.28	160	13.25
60	11.36	175	15.74
70	7.95	180	16.23
80	5.95	200	16.79
90	7.62	250	16.47
100	10.89	300	17.49

COM-POWER AL-100**LOG PERIODIC ANTENNA**

S/N: 16060

CALIBRATION DATE: AUGUST 22, 2005

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	12.73	700	19.72
400	13.38	800	20.49
500	15.12	900	21.31
600	16.27	1000	24.25

COM-POWER PA-102**PREAMPLIFIER**

S/N: 1017

CALIBRATION DATE: JANUARY 19, 2006

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	38.3	300	38.4
40	38.4	350	38.4
50	38.3	400	38.0
60	38.4	450	38.1
70	38.5	500	37.5
80	38.4	550	38.0
90	38.4	600	38.0
100	38.4	650	37.7
125	38.1	700	37.7
150	38.5	750	37.7
175	38.4	800	37.0
200	38.3	850	37.2
225	38.3	900	36.6
250	38.1	950	36.3
275	38.3	1000	36.3

COM-POWER PA-122**PREAMPLIFIER**

S/N: 181917

CALIBRATION DATE: JANUARY 20, 2006

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	34.697	10.0	36.558
1.5	33.817	10.5	35.048
2.0	33.587	11.0	33.258
2.5	33.804	11.5	32.960
3.0	33.850	12.0	33.312
3.5	33.943	12.5	33.836
4.0	34.399	13.0	34.178
4.5	34.847	13.5	34.197
5.0	35.172	14.0	33.769
5.5	35.383	14.5	33.392
6.0	35.539	15.0	33.387
6.5	34.802	15.5	34.038
7.0	33.793	16.0	34.884
7.5	33.511	16.5	35.740
8.0	33.910	17.0	35.341
8.5	34.907	17.5	34.729
9.0	36.036	18.0	33.760
9.5	36.661		

COM POWER AH-118**HORN ANTENNA**

S/N: 10067

CALIBRATION DATE: JULY 27, 2004

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	25.0	10.0	37.8
1.5	27.9	10.5	39.4
2.0	31.5	11.0	39.4
2.5	31.1	11.5	40.6
3.0	30.6	12.0	40.8
3.5	30.5	12.5	40.5
4.0	30.6	13.0	41.2
4.5	31.4	13.5	42.0
5.0	33.7	14.0	43.1
5.5	33.8	14.5	43.4
6.0	34.7	15.0	39.2
6.5	35.0	15.5	38.8
7.0	35.9	16.0	40.1
7.5	38.1	16.5	40.2
8.0	38.2	17.0	43.4
8.5	37.7	17.5	46.6
9.0	37.7	18.0	45.8
9.5	38.4		

COM-POWER AL-130**LOOP ANTENNA**

S/N: 17089

CALIBRATION DATE: SEPTEMBER 21, 2005

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-42.84	8.66
0.01	-41.93	9.57
0.02	-41.29	10.21
0.05	-42.37	9.13
0.07	-41.8	9.7
0.1	-41.83	9.67
0.2	-44.13	7.37
0.3	-41.73	9.77
0.5	-41.8	9.7
0.7	-41.53	9.97
1	-41.46	10.04
2	-41.14	10.36
3	-41.26	10.24
4	-41.46	10.04
5	-41.10	10.40
10	-40.83	10.67
15	-41.47	10.03
20	-35.44	16.06
25	-42.37	9.13
30	-42.94	8.56



FRONT VIEW

MOTOROLA, INC.

STAR CHOICE URC 551 IR/UHF REMOTE CONTROL

MODEL: URC551

FCC SUBPART B AND FCC SUBPART C – RADIATED EMISSIONS – LAB B

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Agoura Division
2337 Troutdale Drive
Agoura, CA 91301
(818) 597-0600

Silverado Division
19121 El Toro Road
Silverado, CA 92676
(949) 589-0700

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400



REAR VIEW

MOTOROLA, INC.

STAR CHOICE URC 551 IR/UHF REMOTE CONTROL

MODEL: URC551

FCC SUBPART B AND FCC SUBPART C – RADIATED EMISSIONS – LAB B

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Agoura Division
2337 Troutdale Drive
Agoura, CA 91301
(818) 597-0600

Silverado Division
19121 El Toro Road
Silverado, CA 92676
(949) 589-0700

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400



FRONT VIEW

MOTOROLA, INC.

STAR CHOICE URC 551 IR/UHF REMOTE CONTROL

MODEL: URC551

FCC SUBPART B AND FCC SUBPART C – RADIATED EMISSIONS – LAB D

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Agoura Division
2337 Troutdale Drive
Agoura, CA 91301
(818) 597-0600

Silverado Division
19121 El Toro Road
Silverado, CA 92676
(949) 589-0700

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400



REAR VIEW

MOTOROLA, INC.

STAR CHOICE URC 551 IR/UHF REMOTE CONTROL

MODEL: URC551

FCC SUBPART B AND FCC SUBPART C – RADIATED EMISSIONS – LAB D

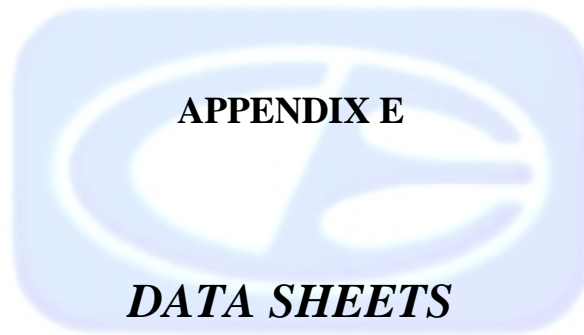
**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Agoura Division
2337 Troutdale Drive
Agoura, CA 91301
(818) 597-0600

Silverado Division
19121 El Toro Road
Silverado, CA 92676
(949) 589-0700

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400



RADIATED EMISSIONS

DATA SHEETS

FCC 15.231

Universal Electronics, Inc.
 Star Choice URC 551 IR/UHF Remote Control
 Model: URC551

Date: 05/24/06
 Labs: B and D
 Tested By: Kyle Fujimoto

X-Axis

Duty Cycle: 19.118232%

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
433.92	76.02	V	100.8	-24.78	Peak	2	180	
433.92	61.649	V	80.8	-19.151	Avg	2	180	
867.84	37.29	V	80.8	-43.51	Peak	1.5	180	
867.84	22.919	V	60.8	-37.881	Avg	1.5	180	
1301.76	32.56	V	74	-41.44	Peak	2.25	0	
1301.76	18.189	V	54	-35.811	Avg	2.25	0	
1735.7	43.68	V	80.8	-37.12	Peak	1.51	135	
1735.7	29.309	V	60.8	-31.491	Avg	1.51	135	
2169.6	51.99	V	80.8	-28.81	Peak	1.16	180	
2169.6	37.619	V	60.8	-23.181	Avg	1.16	180	
2603.52	58.82	V	80.8	-21.98	Peak	1.95	225	
2603.52	44.449	V	60.8	-16.351	Avg	1.95	225	
3037.44	64.17	V	80.8	-16.63	Peak	2.21	90	
3037.44	49.799	V	60.8	-11.001	Avg	2.21	90	
3471.36	55.96	V	80.8	-24.84	Peak	1.77	180	
3471.36	41.589	V	60.8	-19.211	Avg	1.77	180	
3905.28	48.73	V	74	-25.27	Peak	1.61	135	
3905.28	34.359	V	54	-19.641	Avg	1.61	135	
4339.2	44.97	V	74	-29.03	Peak	2.26	90	
4339.2	30.599	V	54	-23.401	Avg	2.26	90	

FCC 15.231

Universal Electronics, Inc.
 Star Choice URC 551 IR/UHF Remote Control
 Model: URC551

Date: 05/24/06
 Labs: B and D
 Tested By: Kyle Fujimoto

X-Axis

Duty Cycle: 19.118232%

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
433.92	87.32	H	100.8	-13.48	Peak	1	270	
433.92	72.949	H	80.8	-7.851	Avg	1	270	
867.84	52.39	H	80.8	-28.41	Peak	1	270	
867.84	38.019	H	60.8	-22.781	Avg	1	270	
1301.76	45.48	H	74	-28.52	Peak	1.97	135	
1301.76	31.109	H	54	-22.891	Avg	1.97	135	
1735.7	48.84	H	80.8	-31.96	Peak	2.29	180	
1735.7	34.469	H	60.8	-26.331	Avg	2.29	180	
2169.6	56.13	H	80.8	-24.67	Peak	2.18	135	
2169.6	41.759	H	60.8	-19.041	Avg	2.18	135	
2603.52	65.03	H	80.8	-15.77	Peak	2.51	135	
2603.52	50.659	H	60.8	-10.141	Avg	2.51	135	
3037.44	59.74	H	80.8	-21.06	Peak	2.16	135	
3037.44	45.369	H	60.8	-15.431	Avg	2.16	135	
3471.36	54.29	H	80.8	-26.51	Peak	2.23	135	
3471.36	39.919	H	60.8	-20.881	Avg	2.23	135	
3905.28	50.98	H	74	-23.02	Peak	2.25	135	
3905.28	36.609	H	54	-17.391	Avg	2.25	135	
4339.2	49.31	H	74	-24.69	Peak	1.88	135	
4339.2	34.939	H	54	-19.061	Avg	1.88	135	

FCC 15.231

Universal Electronics, Inc.
 Star Choice URC 551 IR/UHF Remote Control
 Model: URC551

Date: 05/24/06
 Labs: B and D
 Tested By: Kyle Fujimoto

Y-Axis

Duty Cycle: 19.118232%

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
433.92	85.82	V	100.8	-14.98	Peak	1.25	90	
433.92	71.449	V	80.8	-9.351	Avg	1.25	90	
867.84	53.49	V	80.8	-27.31	Peak	1	225	
867.84	39.119	V	60.8	-21.681	Avg	1	225	
1301.76	38.71	V	74	-35.29	Peak	2.66	315	
1301.76	24.339	V	54	-29.661	Avg	2.66	315	
1735.7	45.13	V	80.8	-35.67	Peak	2.41	135	
1735.7	30.759	V	60.8	-30.041	Avg	2.41	135	
2169.6	51.7	V	80.8	-29.1	Peak	2.03	135	
2169.6	37.329	V	60.8	-23.471	Avg	2.03	135	
2603.52	64.34	V	80.8	-16.46	Peak	1.99	180	
2603.52	49.969	V	60.8	-10.831	Avg	1.99	180	
3037.44	61.58	V	80.8	-19.22	Peak	1.69	135	
3037.44	47.209	V	60.8	-13.591	Avg	1.69	135	
3471.36	63.97	V	80.8	-16.83	Peak	1.75	135	
3471.36	49.599	V	60.8	-11.201	Avg	1.75	135	
3905.28	54.41	V	74	-19.59	Peak	1.59	135	
3905.28	40.039	V	54	-13.961	Avg	1.59	135	
4339.2	51.04	V	74	-22.96	Peak	1.61	135	
4339.2	36.669	V	54	-17.331	Avg	1.61	135	

FCC 15.231

Universal Electronics, Inc.
 Star Choice URC 551 IR/UHF Remote Control
 Model: URC551

Date: 05/24/06
 Labs: B and D
 Tested By: Kyle Fujimoto

Y-Axis

Duty Cycle: 19.118232%

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
433.92	70.62	H	100.8	-30.18	Peak	1.25	225	
433.92	56.249	H	80.8	-24.551	Avg	1.25	225	
867.84	42.59	H	80.8	-38.21	Peak	2.5	0	
867.84	28.219	H	60.8	-32.581	Avg	2.5	0	
1301.76	39.32	H	74	-34.68	Peak	2.61	225	
1301.76	24.949	H	54	-29.051	Avg	2.61	225	
1735.7	48.46	H	80.8	-32.34	Peak	1.91	315	
1735.7	34.089	H	60.8	-26.711	Avg	1.91	315	
2169.6	52.17	H	80.8	-28.63	Peak	1.89	225	
2169.6	37.799	H	60.8	-23.001	Avg	1.89	225	
2603.52	57.46	H	80.8	-23.34	Peak	1.22	315	
2603.52	43.089	H	60.8	-17.711	Avg	1.22	315	
3037.44	71.36	H	80.8	-9.44	Peak	2.74	45	
3037.44	56.989	H	60.8	-3.811	Avg	2.74	45	
3471.36	61.68	H	80.8	-19.12	Peak	2.36	180	
3471.36	47.309	H	60.8	-13.491	Avg	2.36	180	
3905.28	53.59	H	74	-20.41	Peak	2.01	315	
3905.28	39.219	H	54	-14.781	Avg	2.01	315	
4339.2	45.9	H	74	-28.1	Peak	2.31	135	
4339.2	31.529	H	54	-22.471	Avg	2.31	135	

FCC 15.231

Universal Electronics, Inc.
 Star Choice URC 551 IR/UHF Remote Control
 Model: URC551

Date: 05/24/06
 Labs: B and D
 Tested By: Kyle Fujimoto

Z-Axis

Duty Cycle: 19.118232%

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
433.92	75.53	V	100.8	-25.27	Peak	1.2	180	
433.92	61.159	V	80.8	-19.641	Avg	1.2	180	
867.84	48.39	V	80.8	-32.41	Peak	1.25	90	
867.84	34.019	V	60.8	-26.781	Avg	1.25	90	
1301.76	37.86	V	74	-36.14	Peak	2.07	135	
1301.76	23.489	V	54	-30.511	Avg	2.07	135	
1735.7	48.07	V	80.8	-32.73	Peak	2.42	90	
1735.7	33.699	V	60.8	-27.101	Avg	2.42	90	
2169.6	51.77	V	80.8	-29.03	Peak	1.69	0	
2169.6	37.399	V	60.8	-23.401	Avg	1.69	0	
2603.52	60.86	V	80.8	-19.94	Peak	2.28	90	
2603.52	46.489	V	60.8	-14.311	Avg	2.28	90	
3037.44	68.48	V	80.8	-12.32	Peak	1.51	135	
3037.44	54.109	V	60.8	-6.691	Avg	1.51	135	
3471.36	60.77	V	80.8	-20.03	Peak	2.76	135	
3471.36	46.399	V	60.8	-14.401	Avg	2.76	135	
3905.28	56.04	V	74	-17.96	Peak	2.26	135	
3905.28	41.669	V	54	-12.331	Avg	2.26	135	
4339.2	49.22	V	74	-24.78	Peak	1.93	135	
4339.2	34.849	V	54	-19.151	Avg	1.93	135	

FCC 15.231

Universal Electronics, Inc.
 Star Choice URC 551 IR/UHF Remote Control
 Model: URC551

Date: 05/24/06
 Labs: B and D
 Tested By: Kyle Fujimoto

Z-Axis

Duty Cycle: 19.118232%

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
433.92	87.72	H	100.8	-13.08	Peak	1	270	
433.92	73.349	H	80.8	-7.451	Avg	1	270	
867.84	53.09	H	80.8	-27.71	Peak	1	180	
867.84	38.719	H	60.8	-22.081	Avg	1	180	
1301.76	35.93	H	74	-38.07	Peak	2.53	45	
1301.76	21.559	H	54	-32.441	Avg	2.53	45	
1735.7	45.05	H	80.8	-35.75	Peak	2.49	135	
1735.7	30.679	H	60.8	-30.121	Avg	2.49	135	
2169.6	49.87	H	80.8	-30.93	Peak	2.25	0	
2169.6	35.499	H	60.8	-25.301	Avg	2.25	0	
2603.52	59.69	H	80.8	-21.11	Peak	1.86	135	
2603.52	45.319	H	60.8	-15.481	Avg	1.86	135	
3037.44	64.06	H	80.8	-16.74	Peak	2.53	135	
3037.44	49.689	H	60.8	-11.111	Avg	2.53	135	
3471.36	64.84	H	80.8	-15.96	Peak	2.79	180	
3471.36	50.469	H	60.8	-10.331	Avg	2.79	180	
3905.28	53.95	H	74	-20.05	Peak	2.01	135	
3905.28	39.579	H	54	-14.421	Avg	2.01	135	
4339.2	52.67	H	74	-21.33	Peak	1.91	225	
4339.2	38.299	H	54	-15.701	Avg	1.94	225	



Test Location : Compatible Electronics **Page** : 1/1
Customer : Universal Electronics, Inc. **Date** : 5/24/2006
Manufacturer : Universal Electronics, Inc. **Time** : 13:23:03
Eut name : Star Choice URC 551 IR/UHF Remote Control **Lab** : D
Model : URC551 **Test Distance** : 3 Meters
Serial # : N/A
Specification : FCC Class B
Distance correction factor (20 * log(test/spec)) : 0.00
Test Mode : Test Type: Qualification
 Test Range: 10 kHz to 1 GHz (Vertical and Horizontal)
 Test Mode: X-Axis (Worst Case)
 Test Engineer: Kyle Fujimoto

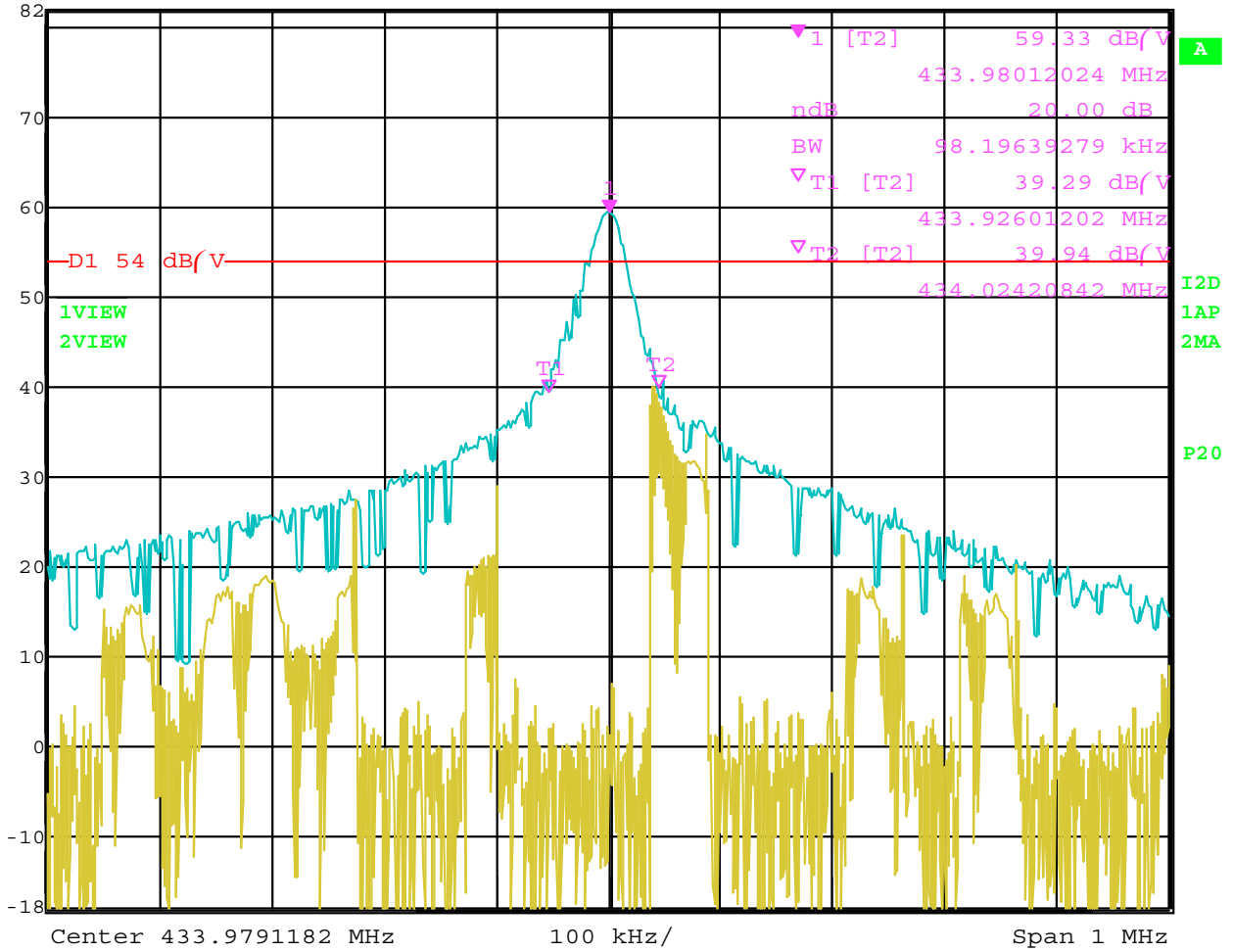
Pol	Freq MHz	Rdng dBuV	Cable loss dB	Ant factor dB	Amp gain dB	Cor'd rdg = R dBuV	Limit = L dBuV/m	Delta R-L dB
1V	339.171	34.30	2.28	13.01	38.40	11.19	46.00	-34.81
2V	391.971	34.60	2.38	13.33	38.06	12.26	46.00	-33.74
3V	447.971	34.50	2.69	14.26	38.10	13.36	46.00	-32.64
4V	493.571	36.70	2.88	15.02	37.57	17.02	46.00	-28.98
5H	531.971	37.00	2.97	15.51	37.83	17.65	46.00	-28.35
6H	626.371	35.10	3.27	17.23	37.84	17.76	46.00	-28.24
7H	716.712	38.30	3.44	19.86	37.70	23.89	46.00	-22.11
8H	846.294	35.80	3.89	20.88	37.19	23.39	46.00	-22.61
9V	699.912	36.90	3.30	19.72	37.70	22.22	46.00	-23.78
10H	110.242	33.10	1.09	12.29	38.27	8.20	43.50	-35.30
11H	113.642	41.20	1.11	12.72	38.23	16.81	43.50	-26.69
12H	169.942	37.00	1.46	14.93	38.42	14.97	43.50	-28.53

-20 dB BANDWIDTH

DATA SHEET



Marker 1 [T2 ndB] RBW 30 kHz RF Att 10 dB
Ref Lvl ndB 20.00 dB VBW 100 kHz
82 dB/V BW 98.19639279 kHz SWT 20 ms Unit dB/V



Date: 24.MAY.2006 09:41:06

-20 dB Bandwidth of the Fundamental