


ELECTROMAGNETIC COMPATIBILITY TEST REPORT

Equipment Under Test: BV LGI RF4CE NextGen 2016
Model Number: URC-184400-00R30
Serial Number: N/S
Prepared for: Universal Electronics, Inc.
201 East Sandpointe Road, 8th Floor
Santa Ana, CA 92707

Tested by: Bob Cole
Prepared by: Amy Jones *Amy Jones*
Verified and Approved by: Bob Cole *R. Cole*

Authorized Signatory

EMCE Engineering, Inc.
1726 Ringwood Ave.
San Jose, CA 95131 USA



ACCREDITED BY THE NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM
FOR THE SPECIFIC SCOPE OF ACCREDITATION UNDER LAB CODE #: 200092-0

Applicable Requirements:
FCC CFR Title 47 Part 15.249 – Intentional Radiators

Note: This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government. This report or certificate shall not be reproduced except in full without the written approval of the issuer.

Test Report Revision History

Report Format	Report Version	Description	Issue Date
EMCE-TRF-FCC_C_15.249	1.0	Original Release	4-28-2017
EMCE-TRF-FCC_C_15.249	2.0	Template Update	5-3-2017

ADMINISTRATIVE INFORMATION

Test Laboratory:	EMCE Engineering 1726 Ringwood Ave San Jose, CA 95131 USA Tel : 510-490-4307, Fax : 510-490-3441
Facility No. registered through NVLAP:	NVLAP Lab Code: 200092-0 FCC Test Site: US0125
Applicant Name :	Universal Electronics, Inc.
Applicant Contact Name :	Jesse Mendez
Application Purpose :	Original
EUT Description :	This product is a Remote Controller – RF4CE.
Product Name :	BV LGI RF4CE NextGen 2016
Model Number :	URC-184400-00R30
Serial Number :	N/S
Applied Requirements :	FCC CFR Title 47 Part 15.249
Measurement Distance:	3 meter
Classification of EUT	N/A
Antenna Type	PCB trace dipole antenna
Antenna Gain	-4 dB
RF Operating Frequency (ies)	2425 – 2475 MHz
Modulation	O-QPSK
Type of Equipment	Hand-held
Operating Condition (Temp)	Ambient
Supply Voltage	Battery supply; 4x (AAA) Alkaline, 3V DC total
Receipt of EUT :	5-16-2017
Date of Testing :	5-17-2017
Tested By :	Bob Cole
Approved By (CTO) :	Bob Cole
Test Report Number :	4295
Test Report Issue Date :	5-19-2017
Test Report Prepared By:	Amy Jones
Test Report Reviewed By:	Bob Cole

Additional Items Provided:

Spare Batteries	Yes
Battery Charging Device	N/A
External Power Supply or AC	N/A
Test Jig of Interface Box	Yes
RF Test Fixture (for integrated Antennas)	Yes
Host System	N/A
User Manual	Received and Reviewed
Technical Documentation	Received and Reviewed

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ACCREDITATION

EMCE Engineering, has been placed on the NVLAP's list of accredited EMC Testing facilities. Per the request of EMCE Engineering, the facility has been added to the list of those who perform Measurement Services for the public on a fee basis. This list is published periodically and is also available on the NVLAP Website. Additionally, EMCE Engineering has been accredited by the National Institute for Standards and Technology under the NVLAP program (Testing Lab Code 200092-0).

DISCLAIMER

EMCE Engineering, Inc., assumes no responsibility for the continuing validity of test data when the Equipment under Test is not under the continuous physical control of EMCE. The authorized signatory on this report attests to the fact that all measurements reported herein were performed by myself or were made under my supervision, and are correct to the best of my knowledge and belief as of the date specified. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them. Tests were conducted by qualified EMCE Engineering, Inc. personnel utilizing test equipment maintained in a "current" state of calibration with traceability to NIST.

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

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MODIFICATIONS

There were no modifications installed by EMCE Engineering.

Any modifications installed previous to testing by the Manufacturer will be incorporated in each production model sold or lease

STATEMENT OF COMPLIANCE

We, EMCE Engineering, declare under our sole responsibility that the product tested complies with the following listed standards:

Equipment Under Test: BV LGI RF4CE NextGen 2016
Model Number: URC-184400-00R30
Serial Number: N/S
Report Number: 4295
Test Date: 5-17-2017
Company: Universal Electronics, Inc.
Street Address: 201 East Sandpointe Road, 8th Floor
Santa Ana, CA 92707

This Statement of Compliance is based upon compliance of the product with the following FCC Rules:

FCC CFR Title 47 Part 15.249	Intentional Radiators
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Issued by Test Laboratory:

EMCE Engineering
1726 Ringwood Ave.
San Jose, CA 95131 USA



NVLAP Testing Lab Code: 200092-0

Verified By:

Bob Cole
Authorized Signatory

TEST FACILITY

All EMC Testing was performed in 3M Semi-Anechoic Chamber #1:

EMCE Engineering, Inc.
1726 Ringwood Ave.
San Jose, CA 95131 USA

A computer controlled spectrum analyzer with quasi-peak adapter, and printer were used for gathering and recording test data.

SITE ATTENUATION

The site attenuation for radiated measurements has been determined for this test site using the method described in ANSI C63.4 Paragraph 5.4.6 and sub paragraphs. The site attenuation is measured annually.

INPUT POWER FOR EUT

Battery Powered

ACCESSORY EQUIPMENT PRECAUTIONS

Care was taken that accessory equipment or adjacent equipment did not produce unacceptable interference so as to contaminate the final test data. The EMI receiver and its associated computer, printer and plotter were located greater than 15 meters away from the EUT during testing and were powered from a separately filtered power source.

AMBIENT INTERFERENCE

The Radiated emissions testing was performed in EMCE Engineering 3 Meter Semi-Anechoic Chamber #1 to identify all EUT related emissions. Scan for ambient interference was performed before final testing and no ambient signals were detected in the chamber.

PERSONNEL

All testing was performed by EMCE Engineering personnel who are properly trained for the instruments and procedures used.

USE OF INTERFERENCE MEASUREMENT EQUIPMENT

All of the emission measurements and field strength measurements were performed utilizing various EMC measurement equipment. The Emissions Measurement Lab utilizes the following basic instruments:

Toshiba Satellite Laptop Computer
EMI Test v4.1 measurement software
Rohde & Schwarz FSV40 Spectrum Analyzer
HP 8477F Pre Amp
HP 8449B Pre Amp
Sunol Sciences JB-6 Hybrid Antenna
EMCO 3110 Horn Antenna

Test results are recorded on tabular data sheets and show final corrected values compared to the specification limit. Sample calculations show how the antenna factors, cable losses, amplifier gain, etc. are combined in the automatic analyzer program to produce the final corrected values shown on the graphs and data sheets.

CALIBRATION OF MEASURING EQUIPMENT

The EMI Receiver (spectrum analyzer) is calibrated by an ISO 17025 Accredited calibration laboratory on an annual basis. The laboratory provides certification accredited to ISO 17025. Antenna factors are measured on an annual basis by an ISO 17025 Accredited Antenna Calibration Facility. Cable losses as well as amplifier gains are swept at least every month to verify accurate values.

Equipment Calibration Data

Equipment	Serial Number	Last Calibration Date	Calibration Due Date
Omega-IBTHXBP	14490199	7/8/2016	7/8/2017
Schaffner-NSG435	5892	7/8/2016	7/8/2017
Fluke-87	64920001	6/28/2016	6/28/2017
Sunol Sciences-JB1	A061416	6/27/2016	6/27/2017
EMCO-3816-2	9809-1089	8/12/2016	8/12/2017
Rohde & Schwarz- FSV40	101424	6/20/2016	6/20/2017
Sunol Sciences-JB6	A042610	6/15/2016	6/15/2017
A. H. Systems-SAS- 571	236	6/13/2016	6/13/2017

MEASUREMENT UNCERTAINTY

Measurement Uncertainty Budget Conducted Emissions 150 kHz – 30 MHz Per CISPR 16-4-2

Input Quantity	Uncertainty of x_i		$u(x_i)$ dB	c_i	$c_i u(x_i)$ dB
	dB	Probability Distribution Function			
Receiver Reading	+/- 0.1	$K = 1$	0.1	1	0.1
Attenuation: AMN –	+/- 0.1	$K = 2$	0.05	1	0.05
AMN Voltage Division Factor	+/- 0.2	$K = 2$	0.1	1	0.1
Receiver Corrections					
Sine Wave Voltage	+/- 1.0	$K = 2$	0.5	1	0.5
Pulse Amplitude Response	+/- 1.5	Rectangular	0.87	1	0.87
Pulse Rep Rate Response	+/- 1.5	Rectangular	0.87	1	0.87
Noise Floor Proximity	+/- 0.0		0.0	1	0.0
Mismatch: AMN –	+/- 0.75	U-shaped	0.53	1	0.53
AMN	+/- 2.65	Triangular	1.08	1	1.08
Total Measurement uncertainty – Conducted Emissions 150 kHz – 30 MHz $2u_c(P) = 4.45$ dB					4.45 dB

Measurement Uncertainty Budget Radiated Emissions @ 10 Meters

Input Quantity	Uncertainty of x_i		$U(x)$ dB	C_i	$C_i u(x_i)$ dB
	dB	Probability Distribution Function			
Receiver Reading	+/- 0.1	$K = 1$	0.1	1	0.1
Attenuation, Antenna - receiver	+/- 0.1	$K = 2$	0.05	1	0.05
Antenna Factor	+/- 2.0	$K = 2$	1.0	1	1.0
<i>Receiver Corrections</i>					
Sine Wave Voltage	+/- 1.0	$K = 1$	0.5	1	0.5
Pulse Amplitude Response	+/- 1.5	Rectangular	0.87	1	0.87
Pulse Rep Rate Response	+/- 1.5	Rectangular	0.87	1	0.87
Noise Floor Proximity	+/- 0.5	$K = 2$	0.25	1	0.25
Mismatch Antenna - Receiver	+/- 0.9	U shaped	0.67	1	0.67
<i>Antenna Corrections</i>					
AF Freq Interpolation	+/- 0.3	Rectangular	0.17	1	0.17
AF Height Deviations	+/- 0.5	Rectangular	0.29	1	0.29
Balance	+/- 0.3	Rectangular	0.17	1	0.17
<i>Site Corrections</i>					
Site Imperfections	+/- 3.0	Rectangular	1.22	1	0.82
Separation distance	+/- 0.1	Rectangular	0.06	1	0.06
Table Height	+/- 0.1	$K = 2$	0.05	1	0.05
<i>Total Measurement Uncertainty - Radiated Emissions @ 10 Meters</i>					5.87

ANSI C63.4-2009, Section 10.2.8.2 states:

“For ITE unintentional radiators, the Frequency and Amplitude of the six highest radiated emissions relative to the limit and independent of antenna polarization shall be reported, unless such emissions are more than 20 dB below the limit. If less than the specified number (less than six) of emissions are within 20 dB of the limit, the noise level of the measuring instrument at representative frequencies shall be reported.

SAMPLE CALCULATIONS

Conducted Spurious Emissions

Measurements are compared directly to the applicable limits. The calculation is as follows:

$$R_r - S = M$$

Where:

R_r = Measured value in dBm
 S = Specification Limit
 M = Margin

Radiated Spurious Emissions

Receiver readings are compared directly to a converted specification limit (dB form), the conversion uses the effective radiated power limit specified in the standard to calculate the expected field strength in free space using the following formula:

$$E = \sqrt{30 * P * G} / d$$

Where:

E = Field Strength in V/M
 P = Power in Watts
 G = Gain of antenna in dB
 D = Distance in meters

The field strength limit is then converted to decibel form (dBuV/M) and the margin of a given peak is calculated as follows:

$$M = R_c - L_s$$

Where:

M = Margin
 R_c = Corrected Reading in dBuV/M
 L_s = Calculated Specification Limit in dBuV/M

When substitution measurements are required (all signals with <6 dB margin relative to the Specification limit) the margin of the emission relative to the effective radiated power is calculated as follows:

$$P_s - S = M$$

Where:

P_s = ERP determined from antenna substitution (dBm)
 S = Specification limit in dBm
 M = Margin

APPLICABLE DOCUMENTS

ANSI C63.4 2014 - Methods Of Measurement Of Radio-Noise Emissions From Low-Voltage Electrical And Electronic Equipment In The Range Of 9 KHz To 40 GHz.

ANSI C63.10 2013 – American National Standards of Procedures for Compliance Testing of Unlicensed Wireless Devices

FCC CFR Title 47 15 Subpart C - FCC Rules - Radio frequency devices (including digital devices).

PREPARATION OF EUT FOR TEST

Setup of EUT: Tested in three orthogonal orientations in respect to the receive antenna.

Power to EUT: Battery supply, 3V DC (4x AAA Alkaline Batteries)

Grounding of EUT: N/A

Software: Provided by UEI

No Support Equipment was used.

Support Equipment				
Description	Model Number	Serial Number	Manufacturer	Power Cable Description
Cable Description				
From	To	Length (Meters)	Shielded (Y/N)	Ferrite Loaded (Y/N)

ATTACHMENT 1 –
NVLAP ISO 17025:2005
ACCREDITATION CERTIFICATE

United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 200092-0

Universal Compliance Labs dba EMCE Engineering
Fremont, CA

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:*

Electromagnetic Compatibility & Telecommunications

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).*

2016-12-28 through 2017-12-31
Effective Dates



For the National Voluntary Laboratory Accreditation Program

ATTACHMENT 2- MEASUREMENT DATA

TEST RESULTS

SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

FCC CFR Title 47 Part 15, Subpart C		
Test Standard	Description of Test	Result (Pass / Fail)
15.207	AC Power Line Conducted Emissions	N/A
15.249 (a-c)	Radiated Emissions Test – Harmonics	PASS
15.249 (a-c)	Radiated Emissions Test – Fundamental Field Strength	PASS
15.249 (c)	Radiated Emissions Test – Spurious Emissions	PASS
15.249 (d)	Band Edge Emissions	PASS
15.203	Antenna Requirement	PASS
ANSI C63.4: 2014 All measurement uncertainties are not taken into consideration for all presented test result.		

PASS - The EUT passed that particular test.
FAIL- The EUT failed that particular test.
N/A - Not Applicable.

FCC CFR TITLE 47 PART 15, SUBPART C §15.207

AC Power Line Conducted Emissions

Test Setup

The test area and setup are in accordance with ANSI C63.4.

Test Procedure

This Test Procedure was Not Applicable.

Test Results

The EUT was found to be **Not Applicable** to the Conducted Emission requirements of FCC CFR Title 47 Part 15, Subpart C §15.207. The EUT is battery powered and cannot connect to AC Mains.

FCC CFR TITLE 47 PART 15, SUBPART C §15.249 (A-C)

Radiated Emissions Test - Harmonics

Test Setup

The test area and setup are in accordance with ANSI C63.4.

Test Limits

FCC Title 47 CFR, Part 15 §15.249

(a) Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental Frequency	Field strength of Fundamental(millivolts/meter)	Field strength of Harmonics(microvolts/meter)
902-928 MHz	50	500
2400-2483.5 MHz	50	500
5725-5875 MHz	50	500
24.0-24.25 GHz	250	2500

(b) Fixed, point-to-point operation as referred to in this paragraph shall be limited to systems employing a fixed transmitter transmitting to a fixed remote location. Point-to-multipoint systems, omnidirectional applications, and multiple co-located intentional radiators transmitting the same information are not allowed. Fixed, point-to-point operation is permitted in the 24.05-24.25 GHz band subject to the following conditions:

(1) The field strength of emissions in this band shall not exceed 2500 millivolts/meter.

(2) The frequency tolerance of the carrier signal shall be maintained within $\pm 0.001\%$ of the operating frequency over a temperature variation of -20 degrees to $+50$ degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

(3) Antenna gain must be at least 33 dBi. Alternatively, the main lobe beamwidth must not exceed 3.5 degrees. The beamwidth limit shall apply to both the azimuth and elevation planes. At antenna gains over 33 dBi or beamwidths narrower than 3.5 degrees, power must be reduced to ensure that the field strength does not exceed 2500 millivolts/meter.

(c) Field strength limits are specified at a distance of 3 meters.

Test Procedure

There were no deviations or exclusions from the test specifications.

Test Results

The EUT was found to **MEET** to the Radiated Emission Harmonics requirements of FCC Part 15.249 (a-c).

Test Data

Test Location: EMCE Engineering 3M Semi-Anechoic Chamber #1
 Customer: UEI
 Specification: 15.249 2483.5 - 25000 AVE
 Work Order #: 4295
 Test Type: Radiated Scan
 Equipment: Remote Control
 Manufacturer: Universal Electronics, Inc.
 Model: BV LGI RF4CE NextGen 2016
 S/N:
 Date: 5/17/2017
 Time: 15:43:48
 Sequence#: 4
 Tested By: Bob Cole

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
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Equipment Under Test (= EUT):*

Function	Manufacturer	Model #	S/N
Remote Control*	Universal Electronics, Inc.	BV LGI RF4CE NextGen 2016	

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

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Transducer Legend:

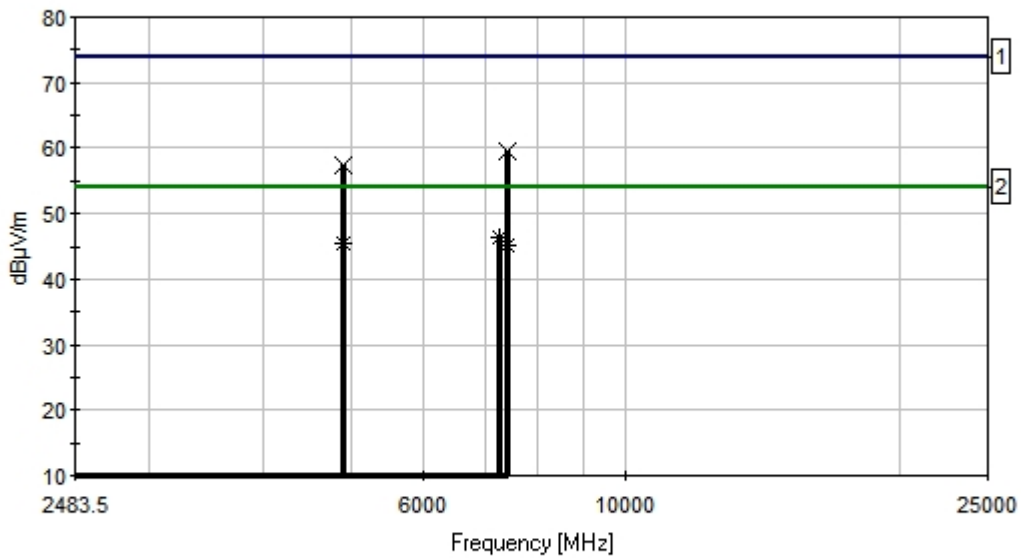
T1=Cable 3M SAC 10+5	T2=A.H. SAS-200/571 Horn
T3=8449B Preamp	

Ext Attn: 0 dB

Measurement Data: Reading listed by frequency. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	Dist dB	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	4900.499M Ave	27.4	+13.2	+35.0	+30.2	+0.0	45.4	54.0	-8.6	Vert
						198		2450 Xmit		212
2	4900.852M	39.4	+13.2	+35.0	+30.2	+0.0	57.4	74.0	-16.6	Vert
						114		2450 Xmit		245
3	7275.077M	37.6	+14.2	+36.9	+30.9	+0.0	57.8	74.0	-16.2	Horiz
						188		2525 Xmit		209
4	7275.077M Ave	26.2	+14.2	+36.9	+30.9	+0.0	46.4	54.0	-7.6	Horiz
						274		2425 Xmit		235
5	7424.500M Ave	25.1	+14.2	+36.9	+30.9	+0.0	45.3	54.0	-8.7	Vert
						255		2475 Xmit		190
6	7425.015M	39.4	+14.2	+36.9	+30.9	+0.0	59.6	74.0	-14.4	Vert
						116		2475 Xmit		294

EMCE Engineering Date: 5/17/2017 Time: 15:43:48 UEIWO#: 4295
15.249 2483.5 - 25000 AVE Test Distance: 3 Meters Sequence#: 4 Ext ATTN: 0 dB



— Readings
— 2 - 15.249 2483.5 - 25000 AVE
— 1 - 15.249 2483.5 - 25000 peak
 * Average Readings
 × Peak Readings

FCC CFR TITLE 47 PART 15, SUBPART C §15.249 (A-C)

Radiated Emissions Test - Fundamental Field Strength

Test Setup

The test area and setup are in accordance with ANSI C63.4.

Test Limits

FCC Title 47 CFR, Part 15 §15.249

(a) Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental Frequency	Field strength of Fundamental(millivolts/meter)	Field strength of Harmonics(microvolts/meter)
902-928 MHz	50	500
2400-2483.5 MHz	50	500
5725-5875 MHz	50	500
24.0-24.25 GHz	250	2500

Test Procedure

There were no deviations or exclusions from the test specifications.

Test Results

The EUT was found to **MEET** to the Radiated Emissions Fundamental Field Strength requirements of FCC Title 47 CFR, Part 15 §15.249 (a-c).

Test Data

Test Location:	EMCE Engineering 3M Semi-Anechoic Chamber #1	Date:	5/17/2017
Customer:	UEI	Time:	12:31:46
Specification:	15.249 2.4G Band AVE	Sequence#:	3
Work Order #:	4295	Tested By:	Bob Cole
Test Type:	Radiated Scan		
Equipment:	Remote Control		
Manufacturer:	Universal Electronics, Inc.		
Model:	BV LGI RF4CE NextGen 2016		
S/N:			
Test Equipment:			

Function	S/N	Calibration Date	Cal Due Date	Asset #
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Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Remote Control*	Universal Electronics, Inc.	BV LGI RF4CE NextGen 2016	

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

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Transducer Legend:

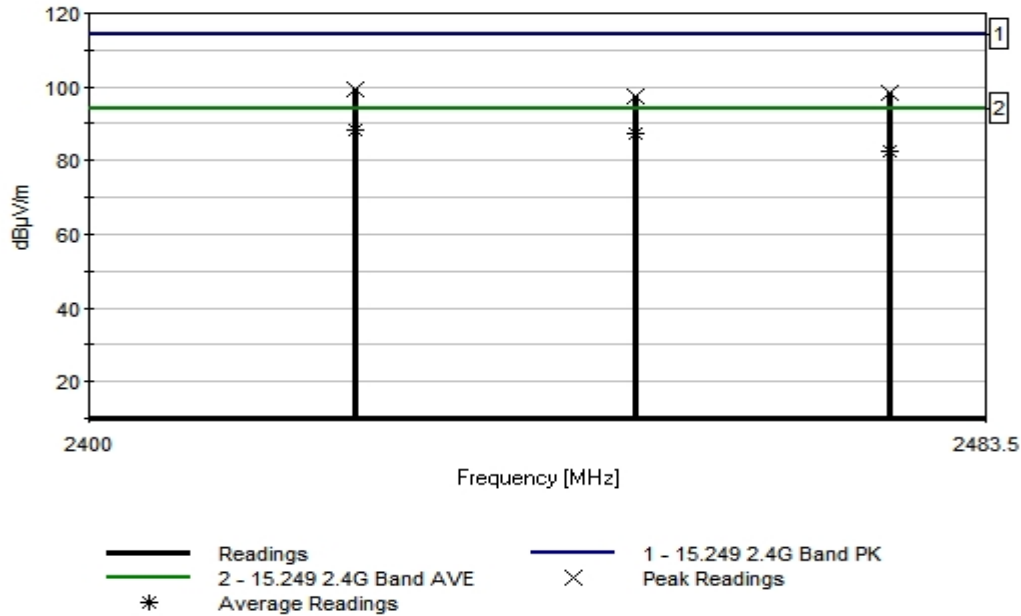
T1=Cable 3M SAC 10+5	T2=A.H. SAS-200/571 Horn
T3=8449B Preamp	

Ext Attn: 0 dB

Measurement Data: Reading listed by frequency. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	Dist dB	Corr dB	Spec dBµV/m	Margin dB	Polar Ant
1	2424.450M Ave	77.9	+11.4	+29.2	+30.1	+0.0	88.4	94.0	-5.6	Vert
								Y Vertical		
2	2424.450M	88.7	+11.4	+29.2	+30.1	+0.0	99.2	114.0	-14.8	Horiz
								Z Horiz		
3	2450.492M Ave	77.1	+11.4	+29.2	+30.2	+0.0	87.5	94.0	-6.5	Horiz
								X Horiz		
4	2450.492M	87.1	+11.4	+29.2	+30.2	+0.0	97.5	114.0	-16.5	Vert
								X Vertical		
5	2474.465M	87.7	+11.4	+29.3	+30.2	+0.0	98.2	114.0	-15.8	Vert
								Z Vertical		
6	2474.465M Ave	72.2	+11.4	+29.3	+30.2	+0.0	82.7	94.0	-11.3	Horiz
								X Horiz		

EMCE Engineering Date: 5/17/2017 Time: 12:31:46 UEI WO#: 4295
15.249 2.4G Band AVE Test Distance: 3 Meters Sequence#: 3 Ext ATTN: 0 dB



FCC CFR Title 47 Part 15, Subpart C §15.249 (d)

Radiated Emissions Test - Spurious Emissions

Test Setup

The test area and setup are in accordance with ANSI C63.4.

Test Limits

The Testing Limits noted below were used per FCC CFR Title 47 Part 15, Subpart C §15.249 (d) : Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

FCC CFR Title 47 Part 15, Subpart C §15.209

- (a) Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Field strength (microvolts/meter)	Field strength (microvolts/meter)	Measurement distance (meters)
--------------------------------------	--------------------------------------	----------------------------------

0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100**	3
88-216	150**	3
216-960	200**	3
Above 960	500	3

Test Procedure

There were no deviations or exclusions from the test specifications.

Test Results

The EUT was found to **MEET** the Radiated Spurious Emissions requirements of FCC CFR Title 47 Part 15, Subpart C §15.209 (a).

Test Data

Test Location: EMCE Engineering 3M Semi-Anechoic Chamber #1
 Customer: UEI
 Specification: FCC 15.209 1000 - 25000 AV limits
 Work Order #: 4295 Date: 5/17/2017
 Test Type: Radiated Scan Time: 16:01:56
 Equipment: Remote Control Sequence#: 5
 Manufacturer: Universal Electronics, Inc. Tested By: Bob Cole
 Model: BV LGI RF4CE NextGen 2016
 S/N:

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
----------	-----	------------------	--------------	---------

Equipment Under Test (= EUT):*

Function	Manufacturer	Model #	S/N
Remote Control*	Universal Electronics, Inc.	BV LGI RF4CE NextGen 2016	

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

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Transducer Legend:

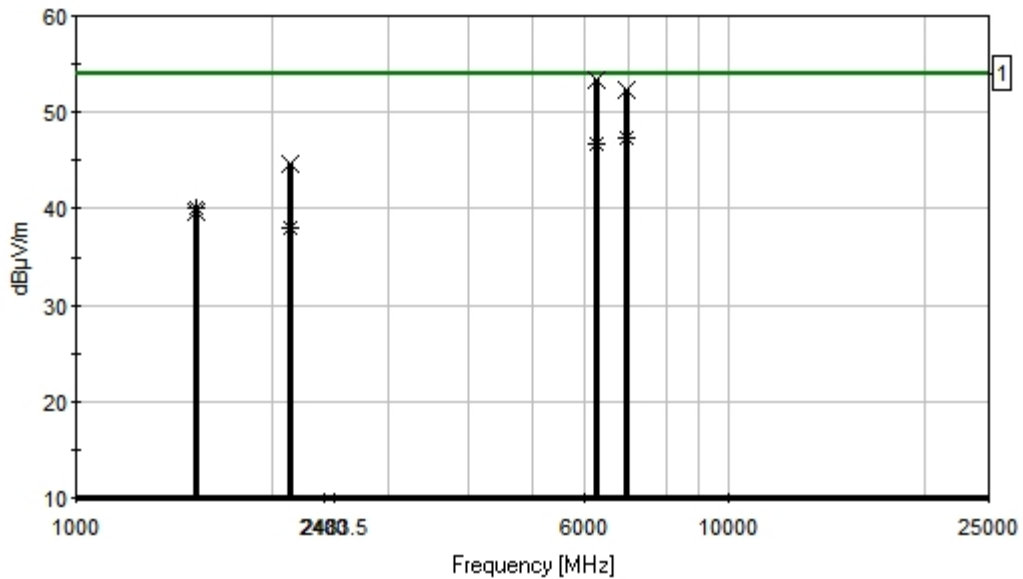
T1=Cable 3M SAC 10+5	T2=A.H. SAS-200/571 Horn
T3=8449B Preamp	

Ext Attn: 0 dB

Measurement Data: Reading listed by frequency. Test Distance: 3 Meters

#	Freq MHz	Rdng dB μ V	T1 dB	T2 dB	T3 dB	Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar Ant
1	1531.324M	31.6	+10.2	+28.0	+29.7	+0.0	40.1	54.0	-13.9	Vert
	Ave					212				185
2	1531.800M	31.1	+10.2	+28.0	+29.7	+0.0	39.6	74.0	-34.4	Vert
						212		2425 Xmit		185
3	2120.900M	28.2	+11.0	+28.7	+29.9	+0.0	38.0	54.0	-16.0	Vert
	Ave					94				190
4	2121.400M	34.8	+11.0	+28.7	+29.9	+0.0	44.6	74.0	-29.4	Vert
						94		2450 Xmit		190
5	6280.100M	34.9	+13.8	+35.6	+31.0	+0.0	53.3	74.0	-20.7	Horiz
						188		2475 Xmit		215
6	6280.599M	28.3	+13.8	+35.6	+31.0	+0.0	46.7	54.0	-7.3	Horiz
	Ave					188				215
7	6985.500M	32.2	+14.1	+37.0	+30.9	+0.0	52.4	74.0	-21.6	Vert
						117		2450 Xmit		190
8	6985.998M	27.1	+14.1	+37.0	+30.9	+0.0	47.3	54.0	-6.7	Vert
	Ave					117				190

EMCE Engineering Date: 5/17/2017 Time: 16:01:56 UEI WO#: 4295
FCC 15.209 1000 - 25000 AV limits Test Distance: 3 Meters Sequence#: 5 Ext ATTN: 0 dB



— Readings
× Peak Readings
— 1 - FCC 15.209 1000 - 25000 AV limits
* Average Readings

Band Edge Emissions

Test Location: EMCE Engineering 3M Semi-Anechoic Chamber #1
 Customer: UEI
 Specification: 15.249 2.4G Band AVE
 Work Order #: 4295
 Test Type: Radiated Scan
 Equipment: Remote Control
 Manufacturer: Universal Electronics, Inc.
 Model: BV LGI RF4CE NextGen 2016
 S/N:
 Date: 5/17/2017
 Time: 11:44:16
 Sequence#: 3
 Tested By: Bob Cole

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
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Equipment Under Test (= EUT):*

Function	Manufacturer	Model #	S/N
Remote Control*	Universal Electronics, Inc.	BV LGI RF4CE NextGen 2016	

Support Devices:

Function	Manufacturer	Model #	S/N
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Test Conditions / Notes:

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Transducer Legend:

T1=Cable 3M SAC 10+5	T2=A.H. SAS-200/571 Horn
T3=8449B Preamp	T4=dBm Line Loss - 3M

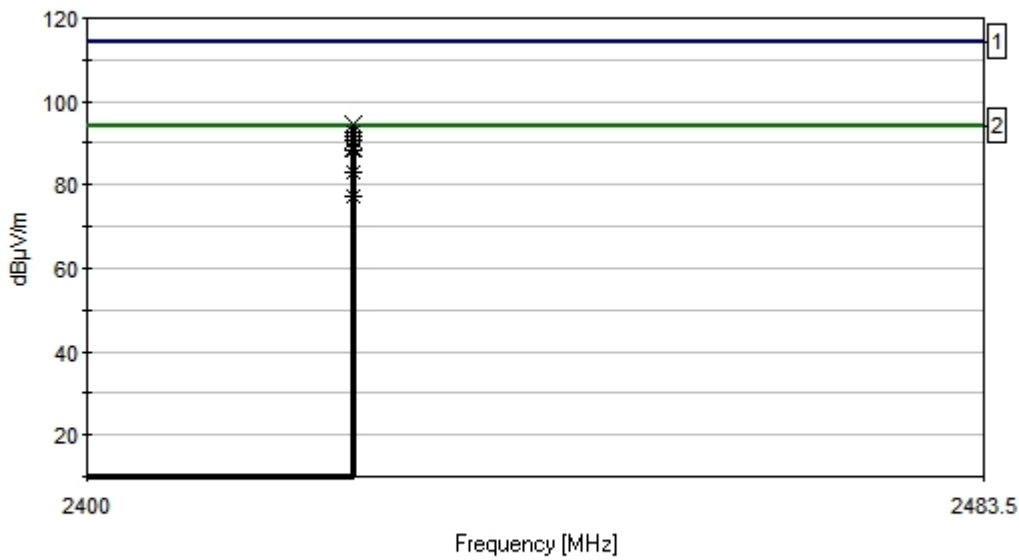
Ext Attn: 0 dB

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	2424.450M Ave	82.2	+11.4	+29.2	+30.1	+0.0	+0.0	92.7	94.0	-1.3	Vert
									X Horiz		
2	2424.472M Ave	81.0	+11.4	+29.2	+30.1	+0.0	+0.0	91.5	94.0	-2.5	Vert
									Z Vertical		
3	2424.450M Ave	80.0	+11.4	+29.2	+30.1	+0.0	+0.0	90.5	94.0	-3.5	Vert
									X Horiz		
^	2424.465M	78.4	+11.4	+29.2	+30.1	+11.7	+0.0	88.9	114.0	-25.1	Vert
									Z Vertical		
^	2424.465M	73.8	+11.4	+29.2	+30.1	+0.0	+0.0	84.3	114.0	-29.7	Vert
									X Vertical		
^	2424.472M	73.3	+11.4	+29.2	+30.1	+0.0	+0.0	83.8	114.0	-30.2	Vert
									Y Vertical		
7	2424.450M Ave	77.9	+11.4	+29.2	+30.1	+0.0	+0.0	88.4	94.0	-5.6	Vert
									Y Vertical		

8	2424.450M Ave	72.7	+11.4	+29.2	+30.1	+0.0	+0.0	83.2	94.0	-10.8	Vert
									Z Horiz		
9	2424.485M Ave	66.7	+11.4	+29.2	+30.1	+0.0	+0.0	77.2	94.0	-16.8	Vert
									X Vertical		
10	2424.465M	84.0	+11.4	+29.2	+30.1	+11.7	+0.0	94.5	114.0	-19.5	Horiz
									Y Horiz		
11	2424.465M	80.4	+11.4	+29.2	+30.1	+11.7	+0.0	90.9	114.0	-23.1	Horiz
									X Horiz		
12	2424.465M	78.4	+11.4	+29.2	+30.1	+11.7	+0.0	88.9	114.0	-25.1	Horiz
									Z Horiz		

EMCE Engineering Date: 5/17/2017 Time: 11:44:16 UEI WO#: 4295
15.249 2.4G Band AVE Test Distance: 3 Meters Sequence#: 3 Ext ATTN: 0 dB



— Readings
— 2 - 15.249 2.4G Band AVE
— 1 - 15.249 2.4G Band PK
 * Average Readings
 x Peak Readings

ANTENNA REQUIREMENT

STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

EUT ANTENNA

The EUT antenna is PCB antenna. It complies with the standard requirement.

END OF REPORT