

*FCC PART 15 SUBPART B & SUBPART C SECTION 15.247
RSS GEN, RSS 210
TEST REPORT*

For

Verizon Fios TV+ Remote
MODEL: R32141A00
FCC ID: MG3-R32141A00

Prepared for

UNIVERSAL ELECTRONICS, INC.
15147 N. SCOTTSDALE ROAD, SUITE H300
SCOTTSDALE, AZ 85254

Prepared by: 

ANDREW NIMEH

Approved by: 
TOM SZYNAL

COMPATIBLE ELECTRONICS, INC.
20621 PASCAL WAY
LAKE FOREST, CA 92630
(949) 587-0400

DATE: JUNE 16, 2026

	REPORT BODY	APPENDICES					TOTAL
		A	B	C	D	E	
PAGES	25	2	2	2	15	147	193

This report shall not be reproduced, except in full, without the written approval of Compatible Electronics.



TABLE OF CONTENTS

Section / Title	PAGE
GENERAL REPORT SUMMARY	4
SUMMARY OF TEST RESULTS	5
1. PURPOSE	6
1.1 Decision Rule & Risk	7
2. ADMINISTRATIVE DATA	8
2.1 Location of Testing	8
2.2 Traceability Statement	8
2.3 Cognizant Personnel	8
2.4 Date Test Sample was Received	8
2.5 Disposition of the Test Sample	8
2.6 Abbreviations and Acronyms	8
3. APPLICABLE DOCUMENTS	9
4. DESCRIPTION OF TEST CONFIGURATION	10
4.1 Description of Test Configuration - EMI	10
5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT	13
5.1 EUT and Accessory List	13
5.2 Emissions Test Equipment	14
5.3 Test Software	14
6. TEST SITE DESCRIPTION	15
6.1 Test Facility Description	15
6.2 EUT Mounting, Bonding and Grounding	15
6.3 Facility Environmental Characteristics	15
6.4 Measurement Uncertainty	15
7. CHARACTERISTICS OF THE TRANSMITTER	16
7.1 Channel Number and Frequencies	16
7.2 Antenna Gain	16
8. TEST PROCEDURES	17
8.1 RF Emissions	17
8.2 DTS Bandwidth	21
8.3 Maximum Peak Conducted Output Power	21
8.4 Emissions in Non-Restricted Bands	22
8.5 RF Band Edges and Out of Band Emissions	22
8.6 Spectral Density Test	23
8.7 99 % Bandwidth	24
8.8 Variation of the Input Power	24
9. TEST PROCEDURE DEVIATIONS	25
10. CONCLUSIONS	25

LIST OF APPENDICES

APPENDIX	TITLE
A	Laboratory Accreditations
B	Modifications to the EUT
C	Additional Models
D	Diagrams, Charts and Photos • Test Setup Diagrams • Antenna and Amplifier Gain Factors • EUT Pictures • Radiated and Conducted Emissions Photos
E	Data Sheets

LIST OF FIGURES

FIGURE	TITLE
1	Conducted Emissions Test Setup
2	Radiated Emissions 3-Meter Semi-Anechoic Test Chamber
3	High Frequency Test Volume

LIST OF TABLES

TABLE	TITLE
1	Radiated Emissions Test results

GENERAL REPORT SUMMARY

This electromagnetic emission 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 in any form except in full, without the written permission of Compatible Electronics.

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.

Device Tested: Verizon Fios TV+ Remote
Model: R32141A00

Product Description: The EUT is a Verizon Television Remote.
Highest Clock Frequency: 32.768 MHz
(Dimensions: 2.3" x 9.2" x 13.7")

Modifications: The EUT was not modified during the testing to comply with the specifications.

Manufacturer: Universal Electronics, Inc.
15147 N. Scottsdale Road, Suite H300
Scottsdale, AZ 85254

Test Date: June 5, 8-11, 2026

Test Specifications Covered by Accreditation:



Test Specifications: Intentional Radiators
FCC CFR Title 47, Part 15 Subpart C, Subpart C Section 15.247
RSS GEN, RSS 210

Test Procedures: ANSI C63.4 & C63.10.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 150 kHz – 30 MHz	This test was not performed because the EUT operates on battery power only.
2	Spurious Radiated RF Emissions, 30 MHz – 9200 MHz	The EUT complies with the Class B limits of CFR Title 47, Part 15 Subpart B; the limits of CFR Title 47, Part 15, Subpart C, section 15.209
3	Fundamental and Emissions produced by the intentional radiator in non-restricted bands, 9 kHz – 9.3 GHz	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(d)
4	Emissions produced by the intentional radiator in restricted bands, 9 kHz – 9.3 GHz	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.205, 15.209, section 15.247 (d)
6	Maximum Conducted Output Power	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (b)(3)
7	RF Conducted Antenna Test	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (d)
8	Power Spectral Density from the Intentional Radiator to the Antenna	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (e)
9	Variation of the Input Power	The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.31 (e)
10	99% Bandwidth	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C (e.g., §15.247)

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the Verizon Fios TV+ Remote Model: R32141A00. The EMI measurements were performed according to the measurement procedure described in ANSI C63.4 and C63.10. The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT (equipment under test) hereafter, are within the **Class B** specification limits defined by CFR Title 47, Part 15, SubpartB, section 15.109; and Subpart C, sections 15.205, 15.207, 15.209 and 15.247

1.1 Decision Rule & Risk

If a measured value exceeds a specification limit it implies non-compliance. If the value is below a specification limit it implies compliance. Measurement uncertainty of the laboratory is reported with all measurement results but generally not taken into consideration unless a standard, rule or law requires it to be considered.

Qualification test reports are only produced for products that are in compliance with the test requirements, therefore results are always in conformity. Otherwise, an engineering report or just the data is provided to the customer.

When performing a measurement and making a statement of conformity, in or out-of-specification to manufacturer's specifications or Pass/Fail against a requirement, there are two possible outcomes:

- The result is reported as conforming with the specification
- The result is reported as not conforming with the specification

The decision rule is defined below.

When the test result is found to be below the limit but within our measurement uncertainty of the limit, it is our policy that the final acceptance decision is left to the customer, after discussing the implications and potential risks of the decision.

When the test result is found to be exactly on the specification, it is our policy, in the case of unwanted emissions measurements to consider the result non-compliant, however, the final decision is left to the customer, after discussing the implications and potential risks of the decision.

When the test result is found to be over the specification limit under any condition, it is our policy to consider the result non-compliant.

In terms of uncertainty of measurement, the laboratory is a calibrated and tightly controlled environment and generally exceptionally stable, the measurement uncertainties are evaluated without the consideration of the test sample. When it comes to the test sample however, as most testing is performed on a single sample rather than a sample population, and that sample is often a pre-production representation of the final product, that test sample represents a significantly higher source of measurement uncertainty. We advise our customers of this and that when in doubt (small test to limit margins), they may wish to perform statistical sampling on a population to gain a higher confidence in the results. All lab reported results are that of a single sample in any event.

2. ADMINISTRATIVE DATA

2.1 Location of Testing

The emissions tests described herein were performed at the test facility of Compatible Electronics, 20621 Pascal Way, Lake Forest, CA 92630.

2.2 Traceability Statement

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

2.3 Cognizant Personnel

Universal Electronics, Inc.

Jesse Mendez Staff Engineer, Electrical

Compatible Electronics, Inc.

Andrew Nimeh Test Technician
Tom Szynal Test Engineer

2.4 Date Test Sample was Received

The test sample was received on June 16, 2025. Received as described in product description.

2.5 Disposition of the Test Sample

The test sample remains at Compatible Electronics, Inc. as of the completion of this report.

2.6 Abbreviations and Acronyms

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

RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
HP	Hewlett Packard
ITE	Information Technology Equipment
NVLAP	National Voluntary Laboratory Accreditation Program
CML	Corrected Meter Limit
LISN	Line Impedance Stabilization Network
NCR	No Calibration Required
RX	Receive
TX	Transmit
PCB	Printed Circuit Board
GFSK	Gaussian Frequency-shift Keying

3. APPLICABLE DOCUMENTS

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

SPEC	TITLE
FCC Title 47, Part 15 Subpart C	FCC Rules – Radio frequency devices (including digital devices) – Intentional Radiators
FCC Title 47, Part 15 Subpart B	FCC Rules – Radio frequency devices (including digital devices) – Unintentional Radiators
558074 D01 DTS Meas Guidance v05 r02	Guidance for Performing Compliance Measurements on Digital Transmissions Systems (DTS) Operating Under Section 15.247
EN 50147-2: 1997	Anechoic chambers. Alternative test site suitability with respect to site attenuation
ANSI C63.4 2014	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
ANSI C63.10 2020 + Cor. 1-2023+ C36.10a-2024	American National Standard for Testing Unlicensed Wireless Devices

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration - EMI

The EUT was set up in a standalone table-top configuration. was battery powered and had no external cables. The EUT was transmitting BLE on a continuous basis, fixed at GFSK modulation, 1 Mbps and 2 Mbps data rates. The firmware/software used to exercise the EUT during testing is Qorvo, Model: Radio Control Console, Version: PTC_UE878NME_CFG_B_DIF.hex.

The EUT was placed into a continuous transmit test mode using manufacturer-supplied engineering firmware/software on the host laptop. Continuous transmission at 2402 MHz, 2440 MHz, and 2480 MHz was enabled solely for compliance measurements. This test configuration is not available to the end user under normal operating conditions.

The EUT was tested for emissions while in the X, Y and Z axis:

During X-axis testing, the Front-to-Back axis of the EUT was oriented vertically relative to the chamber ground plane.

During Y-axis testing, the Top-to-Bottom axis was oriented vertically.

During Z-axis testing, the Left-to-Right axis was oriented vertically.

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

4.1.1 Photograph of Test Configuration



4.1.2 Photograph of Test Configuration (Continued)



X-Axis (Front-Back)



Y-Axis (Top-Bottom)



Z-Axis (Left-Right)

4.1.3 Cable Construction and Termination

The EUT has no external cables

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

#	EQUIPMENT TYPE	MANUFACTURER	MODEL	S/N
EUT	Television Remote	Verizon	FIOS	R32141A00-00002
1	Laptop*	Lenovo	Legion	PF36NNMP
2	Bluetooth Software	Qorvo	Radio Control Console	Software Version: PTC_UE878NME_CFG_B_DIF.hex

*The laptop was used to program the EUT only and was removed from the test setup after the EUT was programmed.



5.2 Emissions Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. DUE DATE
Thermometer & Hygrometer	Davis Instruments	6312C	A120626P010	16/16/2024	12/16/2027
Computer	Compatible Electronics	NONE	NONE	NCR	NCR
EMI Receiver	Keysight Technologies	N9038A	MY56400077	01/05/2026	01/05/2027
CombiLog Antenna	Com-Power	ACL-6000	10350010	09/23/2025	09/23/2027
Loop Antenna	Electro-Metrics	ALR-25M	726	03/04/2025	03/04/2027
Horn Antenna	Com-Power	AH-118	10050347	10/21/2025	10/21/2026
Horn Antenna with Preamp	Com-Power	AHA-840H	10340001	08/09/2024	08/09/2026
Preamplifier 1-1000 MHz	Com-Power	PAM-103A	18020182	11/18/2025	11/18/2026
Preamplifier 1-18 GHz	Com-Power	PAM-118A	18080000	10/21/2025	10/21/2026
Below 1 GHz Cable	N/A	RG-214	Asset 5020 and 5566	01/14/2026	01/14/2027
Above 1 GHz Cable	WithWave	WT400-KM1KM1-10M-T	Asset 5284	11/12/2024	11/12/2026
Above 1 GHz Cable	Junkosha	MWX342-00610KMSKM S/B	Asset 5267	11/11/2024	11/11/2026
Notch Filter	Microwave Circuits, Inc.	N012411	509784 DC 2303	11/08/2024	11/08/2026
LISN (EUT)	Com-Power	LI-220C	20070061	05/16/2025	05/16/2026
LISN (ACCY)	Com-Power	LI-220C	20070059	08/04/2025	08/04/2026
10 dB Attenuator	Aeroflex/Weinshchel	2-10	BX9279	NCR	NCR
Mast, Antenna Positioner	Sunol Science Corporation	SC104V	020808-1	NCR	NCR
Antenna Mast	Sunol Science Corporation	TWR 95-4	020808-3	NCR	NCR
Turntable	Sunol Science Corporation	FM2001	NONE	NCR	NCR
Power Supply	Chroma	61511	615114800078	NCR	NCR

5.3 Test Software

LAB(S)	SOFTWARE TITLE	MANUFACTURER	VERSION
P, R	Measurement and Automation Software	TDK TestLab	12.12

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

All the radiated emissions measurements were performed in a semi-anechoic chamber.

6.2 EUT Mounting, Bonding and Grounding

The EUT was mounted on a 0.6 by 1.2-meter by 0.8 meters high non-conductive surface for below 1 GHz which was placed on the ground plane. For above 1 GHz, the EUT was mounted 1.5 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.

6.4 Measurement Uncertainty

"Compatible Electronics" U_{lab} value is less than U_{cisp} , thus based on this – compliance is deemed to occur if no measured disturbance exceeds the disturbance limit

$$u_c(y) = \sqrt{\sum_i c_i^2 u^2(x_i)}$$

Measurement		U	U = 2 uc (y)
Conducted disturbance (mains port)	(150 kHz – 30 MHz)	3.6 dB	2.72 dB
Radiated disturbance (electric field strength on an open area test site or alternative test site)	(30 MHz – 1 000 MHz)	5.2 dB	3.39 dB
Radiated disturbance (electric field strength on an open area test site or alternative test site)	(1 GHz – 18 GHz)	5.2 dB	3.67dB
Radiated disturbance (electric field strength on an open area test site or alternative test site)	(18 GHz – 26.5 GHz)	5.2 dB	3.09dB
Radiated disturbance (electric field strength on an open area test site or alternative test site)	(26.5 GHz – 40 GHz)	5.2 dB	3.20dB

7. CHARACTERISTICS OF THE TRANSMITTER

7.1 Channel Number and Frequencies

BLE Mode: The EUT operates on 40 channels. The low channel is 2402 MHz and the high channel is 2480 MHz

7.2 Antenna Gain

The antenna is a PCB trace antenna, nominal peak gain -0.35 dBi in the frequency range 2402 MHz to 2480 MHz. The -0.35 dBi antenna gain is based on manufacturer-provided specifications and remains the responsibility of the applicant/manufacture.

8. TEST PROCEDURES

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

8.1 RF Emissions

8.1.1 Conducted Emissions Test

Test Results:

The EUT is battery powered; therefore, this test was deemed unnecessary and thus was not performed. Had this test been applicable it would have been performed as described below.

The EMI Receiver was used as a measuring meter. A 10-dB attenuator was used for the protection of the EMI Receiver input stage. All factors associated with attenuator and cables were recorded into the EMI Software Program accordingly to display the actual corrected measured level. The LISN output was connected to the input of the EMI Receiver. The effective measurement bandwidth used for the conducted emissions 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 minimum distances from any conductive surfaces as specified in EN 55032. The excess power cord was wrapped in a figure eight pattern to form a bundle not exceeding 0.4 meters in length.

The initial test data was taken in manual mode while scanning the frequency ranges of 0.15 MHz to 30 MHz. The conducted emissions from the EUT were maximized for operating mode as well as cable placement. Once a predominant frequency (within 12 dB of the limit) was found, it was more closely examined with the spectrum analyzer span adjusted to 1 MHz.

Test Results:

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

8.1.2 Radiated Emissions (Harmonics and Spurious) Test

The EMI receiver was used as a measuring meter. The receiver was used in the peak detect mode with the "Max Hold" feature activated. In this mode, the receiver records the highest measured reading over all the sweeps.

For spurious emissions, the quasi-peak detector was used for frequencies below 1GHz and the average detector was used for frequencies above 1 GHz.

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

FREQUENCY RANGE (MHz)	TRANSDUCER	EFFECTIVE MEASUREMENT BANDWIDTH
.009 to .150	Active Loop Antenna	200 Hz
.150 to 30	Active Loop Antenna	9 kHz
30 to 1000	Combilog Antenna	100 kHz (120kHz for QP Measurements)
1000 to 25000	Horn Antenna	1 MHz

The TDK FAC-3 shielded test chamber of Compatible Electronics, Inc. was used for radiated emissions testing. This test site is in full compliance with ANSI C63.4 & ANSI C63.10. 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 in both vertical and horizontal polarizations (for E field radiated field strength).

Test Results:

The EUT complies with the limits of CFR Title 47 Part 15 Subpart C sections 15.205, 15.209 and 15.247; and RSS-247, RSS-GEN. The six highest emissions are listed in Table 1.

8.1.3 RF Emissions Test Results

Table 1 RADIATED EMISSION RESULTS
Verizon Television Remote, MODEL: FIOS TV+

Frequency MHz	Emission Level* dBuV/m	Specification Limit dBuV/m	Delta (Emission – Spec. Limit) dB
4880.00 (H) (X-Axis) 1Mb	50.92 A	53.97	-3.05
4960.00 (V) (X-Axis) 1Mb	50.54 A	53.97	-3.43
4804.00 (V) (Z-Axis) 1Mb	50.39 A	53.97	-3.58
4804.00 (V) (Z-Axis) 2Mb	50.34 A	53.97	-3.63
4880.00 (H) (Y-Axis) 2Mb	49.92 A	53.97	-4.05
4960.00 (V) (Z-Axis) 1Mb	49.83 A	53.97	-4.14

Notes:

- * The complete emissions data is given in Appendix E of this report.
- ** The factors for the antenna are attached in Appendix D of this report.
- # Quasi-Peak Reading
- A** Average Reading
- L** Line Reading
- N** Neutral Reading
- H** Horizontal Reading
- V** Vertical Reading

8.1.4 Sample Calculations

A correction factor for the antenna, cable and a distance factor (if any) must be applied to the meter reading before a true field strength reading can be obtained. This Corrected Meter Reading is then compared to the specification limit in order to determine compliance with the limits.

Conversion to logarithmic terms: Specification limit (μ V/m) $\log \times 20$ = Specification Limit in dBuV/m

To correct for distance when measuring at a distance other than the specification

For measurements below 30 MHz: (Specification distance / test distance) $\log \times 40$ = distance factor

For measurements above 30 MHz: (Specification distance / test distance) $\log \times 20$ = distance factor

Note: When using an Active Antenna, the Antenna factor shall be subtracted due to the combination of the internal amplification and antenna loss.

Corrected Meter Reading = meter reading + F – A + C
where:

F = antenna factor

A= amplifier gain

C = cable loss

The correction factors for the antenna and the amplifier gain are attached in Appendix D of this report. The data sheets are attached in Appendix E.

The distance factor D is 0 when the test is performed at the required specification distance.

8.2 DTS Bandwidth

The DTS Bandwidth was measured using the EMI Receiver. The Bandwidth was measured using a direct connection from the EUT. The following steps were performed for measuring the DTS Bandwidth, as described in section 11.8.1 of ANSI C63.10

1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) to equal or greater than 3 times the RBW
3. Detector = Peak
4. Trace Mode = Max Hold
5. Sweep = Auto Couple
6. Allow the trace to stabilize
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (a)(2); and RSS-247.

8.3 Maximum Peak Conducted Output Power

The Conducted Peak Output Power was measured using the EMI Receiver. The Peak Output Power was measured using the peak power measurement procedure describe in section 11.9.1.1 of ANSI C63.10. The Maximum Conducted Output Power was then taken.

1. Set RBW $\geq$ DTS Bandwidth
2. Set the VBW $\geq$ [3x RBW]
3. Set span $\geq$ [3x RBW]
4. Detector = Peak
5. Sweep time = Auto Couple
6. Trace mode = Max Hold
7. Allow the trace to stabilize
8. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Test Results:

The EUT complies with the relevant requirements of CFR Title 47, Part 15, Subpart C Section 15.247 (b)(3); and RSS-247.

8.4 Emissions in Non-Restricted Bands

The emissions in the non-restricted frequency bands measurements were performed using the EMI receiver directly connected to the EUT. The reference level was established by setting the instrument center frequency to DTS channel center frequency. The span was set to ≥ 1.5 times the DTS bandwidth. The RBW was set to 100 kHz and the VBW was set to 300 kHz. A peak detector was used with sweep set to auto. A max hold trace was used and allowed to fully stabilize. The peak marker function was used to determine the level and 20 dB below that was the reference level. For emission level measurement, the center frequency and span were set to encompass the frequency range to be measured. The RBW was set to 100 kHz and the VBW was set to 300 kHz. A peak detector was used with a sweep time set to auto. The number of measurement points were greater than the span/RBW. A max hold trace was used and allowed to fully stabilize. The peak marker function was used to determine the maximum amplitude level. The final qualification data sheets are located in Appendix E.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247(d); and RSS-247.

8.5 RF Band Edges and Out of Band Emissions

The RF band edges were measured using the EMI Receiver. The RF band edges were measured twice using a direct connection from the RF out on the EUT into the input of the EMI Receiver for non-restricted bands and using radiated field strength measurement for restricted bands.

The RF band edges were taken at 902 MHz (restricted bands) when the EUT was on the low channel and 928 MHz when the EUT was on the high channel using the EMI Receiver. The radiated emissions test procedure as describe in section 8.1.2 of this test report was used to maximize the emission.

The following steps were performed for measuring the band edges at 902 MHz and 928 MHz:

1. Set analyzer center frequency to DTS channel center frequency
2. Set the span wide enough to cover the band edges.
3. Set the RBW to 100 kHz (1 MHz for non-restricted band)
4. Set the VBW $\geq 3 \times$ RBW
5. Detector = Peak
6. Sweep time = auto couple
7. Allow the trace to stabilize
8. Use the peak marker function to determine the maximum amplitude level

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247(d) for band edges; and RSS-247.

8.6 Spectral Density Test

The spectrum density output was measured using the EMI Receiver. The spectral density output was measured using a direct connection from the RF out on the EUT into the input of the EMI Receiver.

The following steps were performed for measuring the spectral density, per section 11.10.2 of ANSI C63.10.

1. Set analyzer center frequency to DTS channel center frequency
2. Set the span to at least 1.5 times the OBW.
3. Set the RBW to $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$
4. Set the VBW $\geq [3 \times \text{RBW}]$
5. Detector = peak
6. Sweep time = auto couple
7. Trace mode = max hold
8. Allow trace to fully stabilize
9. Use the peak marker function to determine the maximum amplitude level within the RBW
10. If measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247(e); and RSS-247.

8.7 99 % Bandwidth

The 99 % bandwidth was measured using an EMI Receiver.

The following steps were performed for measuring the 99 % bandwidth per RSS-GEN, Issue 5, clause 6.7:

Set RBW to 1 % to 5 % of the actual occupied bandwidth.
Set VBW to greater than 3 times the RBW.
Set the EMI Receiver to the occupied bandwidth Function set at 99 %
Set the peak detector to max hold.
Set the sweep time to auto
Allow the trace to stabilize.

Please note that this was only used to determine the emission bandwidth and that there are no limits or pass/fail criteria for this test. Please see the data sheets located in Appendix E.

8.8 Variation of the Input Power

Test Results:

This test was not performed because the EUT operates on battery power only and cannot be plugged into the AC public mains. For battery operated equipment, the equipment tests were performed using a new battery. The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart A section 15.31 (e); and RSS-Gen. If it were applicable, the following procedure would be followed:

The variation of the input power test was performed using the EMI Receiver. The EUT input power was varied between 85% and 115% of the nominal rated supply voltage. The carrier frequency was monitored for any change in amplitude.

9. TEST PROCEDURE DEVIATIONS

There were no deviations from the test procedures.

10. CONCLUSIONS

The Verizon Fios TV+ Remote Model: R32141A00 as tested, meets all of the relevant specification requirements defined in the Code of Federal Regulations Title 47, Part 15 Subpart C, sections 15.205, 15.207, 15.209 and 15.247.

APPENDIX A

LABORATORY ACCREDITATIONS

LABORATORY ACCREDITATIONS AND RECOGNITIONS



For US, Canada, Australia/New Zealand, Japan, Taiwan, Korea, and the European Union, Compatible Electronics is currently accredited by NVLAP to ISO/IEC 17025.

For the most up-to-date version of our scopes and certificates please visit

<http://celectronics.com/quality/scope/>

Quote from ISO-ILAC-IAF Communiqué on 17025:

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

Innovation, Science and Economic Development Canada Lab Code 2154C

APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

There were no modifications made to the EUT.

APPENDIX C

ADDITIONAL MODELS

Used for the Primary Tests

Verizon FIOS TV+ Remote
Model: R32141A00
S/N: D4:95:8E:F9:90:86
FCC ID: MG3-R32141A00

No additional models.

APPENDIX D

DIAGRAMS, CHARTS AND PHOTOS

FIGURE 1: LOW FREQUENCY TEST SETUP

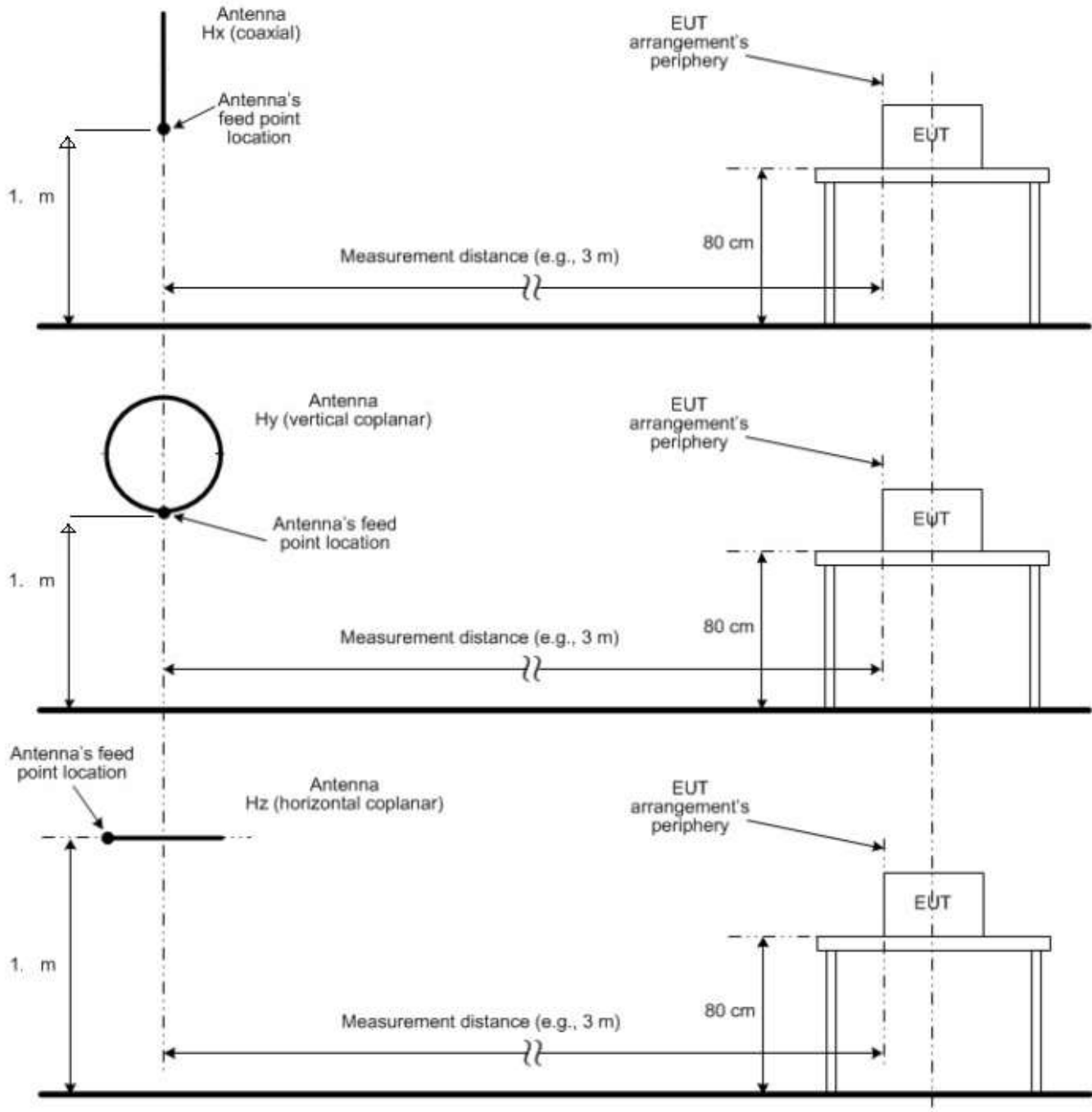


**FIGURE 2: RADIATED EMISSIONS 3-METER
SEMI-ANECHOIC TEST CHAMBER**

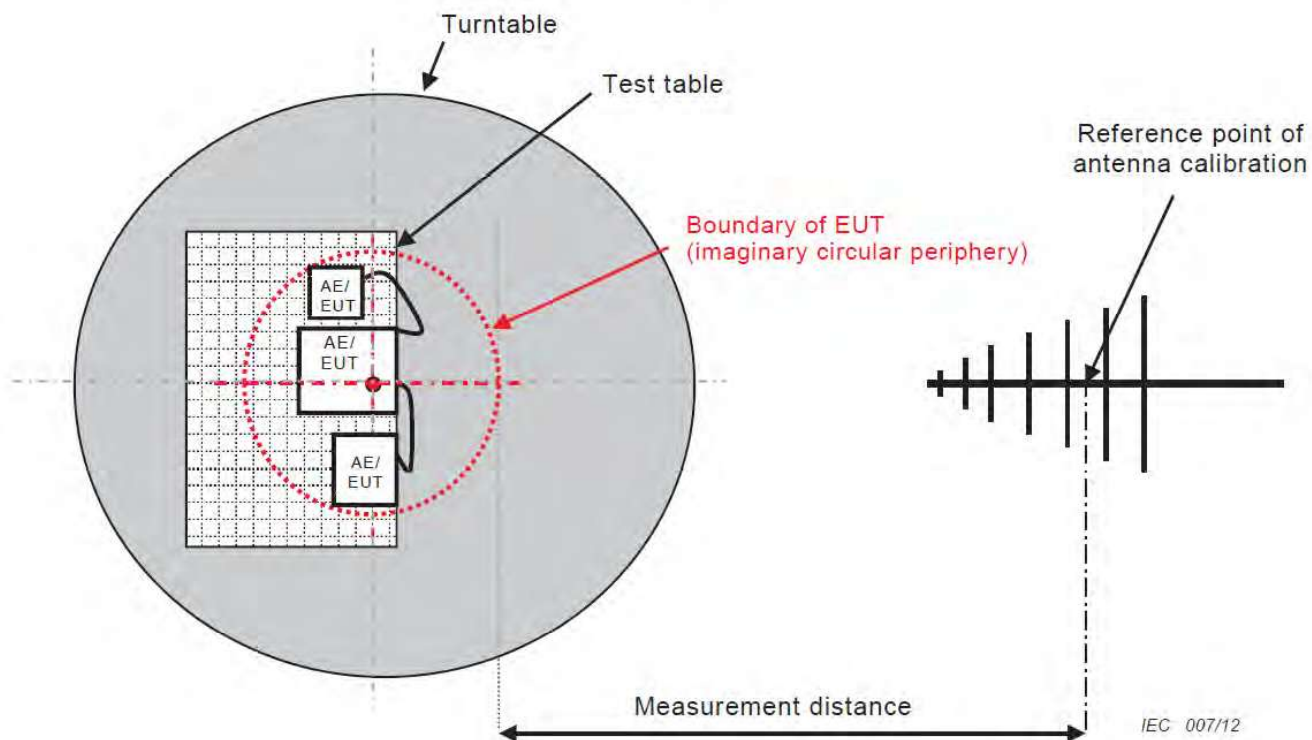
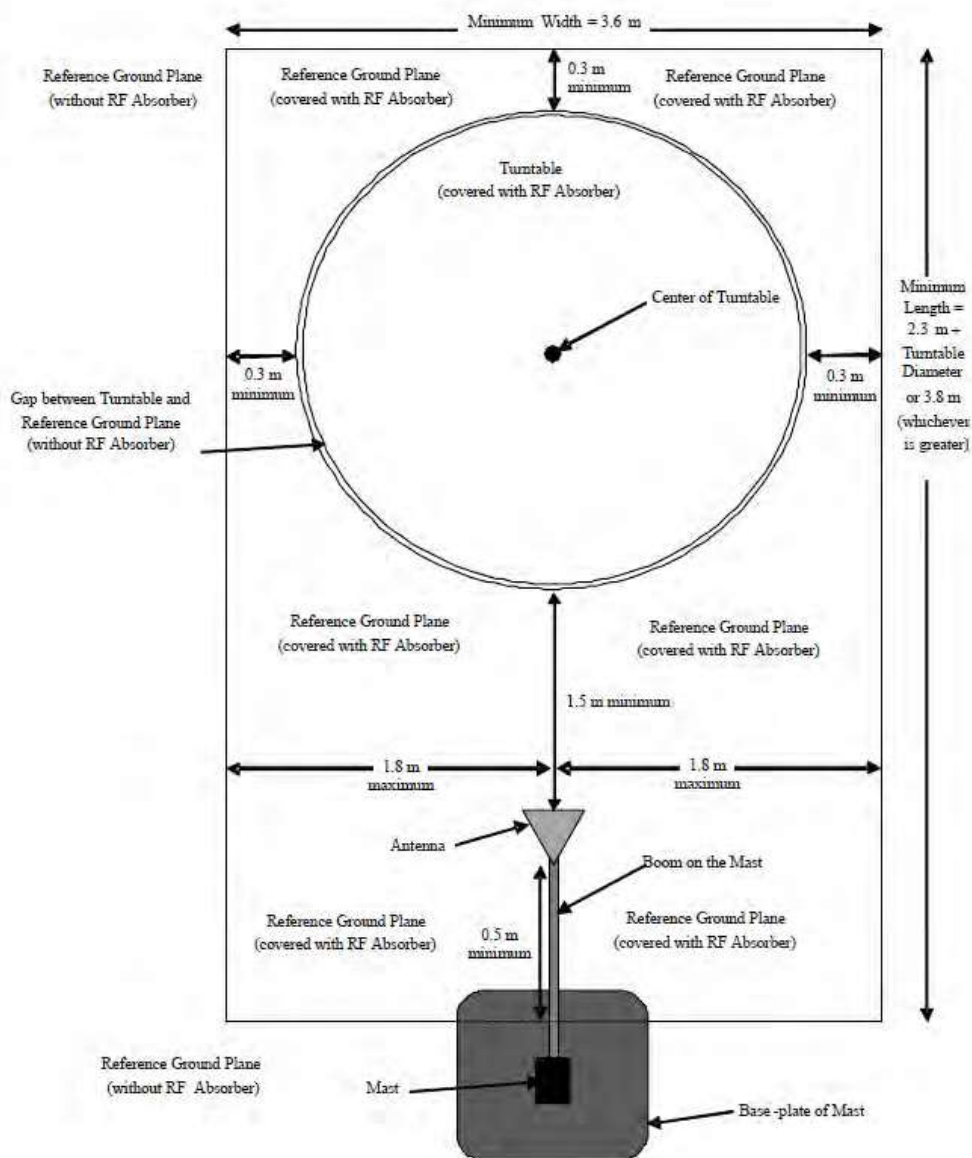


FIGURE 3: HIGH FREQUENCY TEST VOLUME



ELECTRO-METRICS ALR-25M**LOOP ANTENNA****S/N: 726****CALIBRATION DUE: MARCH 04, 2027**

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)	FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-36.06	15.44	7	-37.09	14.41
0.01	-36.76	14.74	8	-37.30	14.20
0.02	-38.26	13.24	9	-37.49	14.01
0.03	-37.66	13.84	10	-37.29	14.21
0.04	-38.16	13.34	11	-37.18	14.32
0.05	-37.56	13.94	12	-37.10	14.40
0.06	-37.36	14.14	13	-36.90	14.60
0.07	-37.56	13.94	14	-36.80	14.70
0.08	-37.66	13.84	15	-36.81	14.69
0.09	-37.37	14.13	16	-36.91	14.59
0.1	-37.77	13.73	17	-37.10	14.40
0.2	-37.76	13.74	18	-37.39	14.11
0.3	-37.86	13.64	19	-37.60	13.90
0.4	-37.85	13.65	20	-37.71	13.79
0.5	-37.65	13.85	21	-37.81	13.69
0.6	-37.65	13.85	22	-37.91	13.59
0.7	-37.61	13.89	23	-37.91	13.59
0.8	-37.64	13.86	24	-38.02	13.48
0.9	-37.53	13.97	25	-38.12	13.38
1	-37.34	14.16	26	-38.37	13.13
2	-37.22	14.28	27	-38.68	12.82
3	-37.11	14.39	28	-39.08	12.42
4	-36.92	14.58	29	-39.54	11.96
5	-36.90	14.60	30	-39.84	11.66
6	-37.00	14.50			

COM-POWER ACL-6000**LAB P - COMBILOG ANTENNA****S/N: 10350010****CALIBRATION DUE DATE: September 23, 2027**

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
25	25.01	275	18.52
30	25.01	300	18.46
35	23.47	325	19.13
40	19.99	350	19.47
45	16.76	375	20.13
50	14.14	400	20.38
55	12.65	425	21.22
60	12.36	450	21.73
65	12.68	475	22.69
70	13.04	500	22.67
75	13.15	550	23.22
80	12.93	600	23.91
85	12.59	650	24.77
90	12.52	700	24.83
95	13.1	750	25.62
100	14.25	800	26.11
125	18.23	850	26.96
150	17.17	900	26.91
175	15.65	950	27.42
200	17.42	1000	27.78
225	15.76	1050	27.78
250	16.7		

COM-POWER PAM-118A**1-1000MHz – PREAMPLIFIER****S/N: 18020182****CALIBRATION DUE: NOVEMBER 18, 2026**

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
1	36.18	175	36.12
2	36.25	200	36.11
3	36.25	225	36.06
4	36.26	250	36.05
5	36.27	275	35.97
6	36.26	300	35.97
7	36.26	325	35.81
8	36.27	350	35.77
9	36.28	375	35.72
10	36.27	400	35.72
15	36.27	425	35.66
20	36.33	450	35.64
25	36.32	475	35.57
30	36.26	500	35.46
35	36.28	525	35.41
40	36.26	550	35.42
45	36.29	575	35.28
50	36.31	600	35.23
55	36.25	625	35.18
60	36.25	650	35.05
65	36.26	675	35.00
70	36.28	700	34.99
75	36.27	725	34.84
80	36.24	750	34.68
85	36.20	775	34.78
90	36.23	800	34.54
95	36.22	825	34.57
100	36.28	850	34.49
110	36.23	875	34.42
120	36.21	900	34.24
130	36.20	925	34.39
140	36.17	950	34.15
150	36.19	1000	34.10

COM-POWER AH-118**HORN ANTENNA****S/N: 10050347****CALIBRATION DUE DATE: October 21, 2026**

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
0.7	27.25	7.5	37.42
0.75	26.50	8	37.66
0.8	25.21	8.5	37.76
0.85	24.59	9	38.35
0.9	24.02	9.5	38.53
0.95	24.12	10	38.87
1	24.42	10.5	39.35
1.25	25.04	11	38.60
1.5	25.44	11.5	39.98
1.75	26.30	12	40.05
2	28.70	12.5	40.07
2.25	28.71	13	40.48
2.5	28.82	13.5	40.59
3	29.79	14	40.74
3.5	30.63	14.5	41.62
4	31.44	15	41.62
4.5	32.27	15.5	39.36
5	33.66	16	39.68
5.5	33.97	16.5	39.95
6	34.65	17	40.86
6.5	35.20	17.5	42.72
7	36.90	18	43.17

COM-POWER PAM-118**1-18GHz Preamplifier****S/N: 18080000****CALIBRATION DUE DATE: October 21, 2026**

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
0.50	51.40	7.75	51.51
0.55	51.25	8.00	52.35
0.60	51.06	8.25	52.20
0.65	50.97	8.50	51.88
0.70	50.91	8.75	51.34
0.75	50.88	9.00	51.35
1.00	50.76	9.25	51.26
1.25	50.87	9.50	51.67
1.50	50.71	9.75	52.35
1.75	50.77	10.00	52.61
2.00	51.49	10.25	52.77
2.25	51.94	10.50	52.68
2.50	52.23	10.75	52.31
2.75	52.42	11.00	52.16
3.00	52.57	11.25	52.14
3.25	52.70	11.50	52.11
3.50	52.92	11.75	52.06
3.75	53.09	12.00	52.00
4.00	53.19	12.25	51.96
4.25	53.19	12.50	51.83
4.50	53.23	12.75	51.78
4.75	53.37	13.00	51.43
5.00	53.34	13.25	51.04
5.25	53.19	13.50	50.75
5.50	52.88	14.00	50.27
5.75	52.43	14.50	50.52
6.00	51.78	15.00	50.44
6.25	50.99	15.50	50.44
6.50	50.21	16.00	50.02
6.75	49.61	16.50	50.16
7.00	49.47	17.00	50.47
7.25	49.87	17.50	51.00
7.50	50.49	18.00	51.30

COM-POWER AHA-840H**HORN ANTENNA WITH PREAMP 18-40 GHz****S/N: 10340001****CALIBRATION DUE: AUGUST 09, 2026**

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
18000	-11.89	29500	-13.98
18500	-12.92	30000	-12.44
19000	-13.37	30500	-12.55
19500	-13.54	31000	-11.99
20000	-12.92	31500	-12.34
20500	-13.73	32000	-11.98
21000	-14.17	32500	-11.67
21500	-14.16	33000	-11.6
22000	-14.15	33500	-12.77
22500	-13.92	34000	-12.36
23000	-14.31	34500	-12.36
23500	-14.77	35000	-12.54
24000	-14.95	35500	-12.77
24500	-14.64	36000	-13.18
25000	-14.69	36500	-13.15
25500	-14.5	37000	-13.08
26000	-15.4	37500	-12.86
26500	-15.54	38000	-12.56
27000	-15.17	38500	-10.77
27500	-14.94	39000	-9.69
28000	-14.43	39500	-9.14
28500	-14.76	40000	-9.46
29000	-13.92		



FRONT VIEW

UNIVERSAL ELECTRONICS, INC.
MODEL: FIOS TV+
RADIATED EMISSIONS UNDER 1 GHz

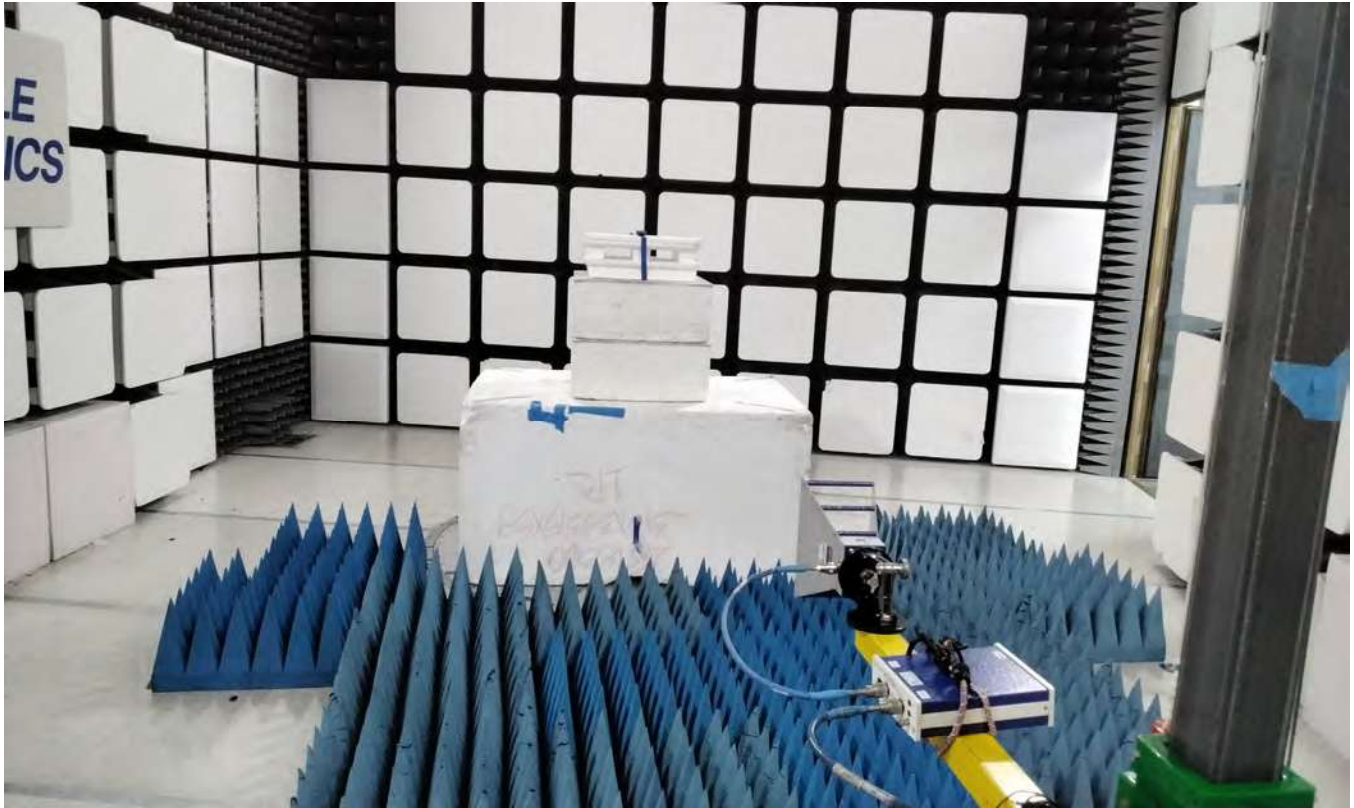
**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**



REAR VIEW

UNIVERSAL ELECTRONICS, INC.
MODEL: FIOS TV+
RADIATED EMISSIONS UNDER 1 GHz

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



FRONT VIEW

UNIVERSAL ELECTRONICS, INC.
MODEL: FIOS TV+
RADIATED EMISSIONS ABOVE 1 GHz

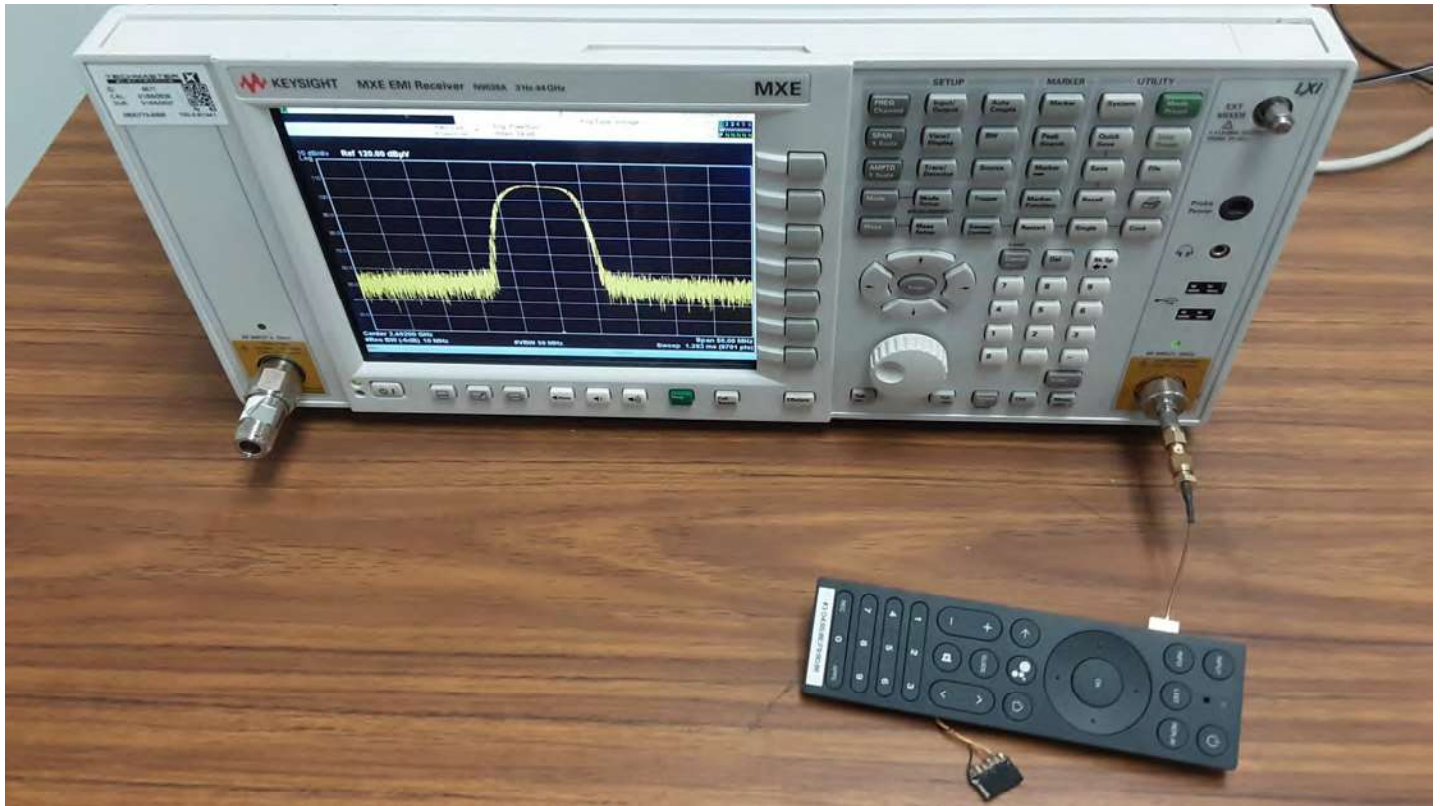
**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**



REAR VIEW

UNIVERSAL ELECTRONICS, INC.
MODEL: FIOS TV+
RADIATED EMISSIONS ABOVE 1 GHz

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



FRONT VIEW

UNIVERSAL ELECTRONICS, INC.

MODEL: FIOS TV+

Direct Measurements

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