

TEST REPORT

Report Number: 105735816MPK-002

Project Numbers: G105735816

Issue Date: March 28, 2024

Revised Date: June 21, 2024

Testing performed on the

Room Hub ASM

Model Number: 01030

to

FCC Part 15 Subpart C (15.225)

Industry Canada RSS-210 Issue 10

for

Activate Games, Inc.

Test Performed by:

Intertek

1365 Adams Court

Menlo Park, CA 94025 USA

Test Authorized by:

Activate Games, Inc.

18 Paradise Bay

Winnipeg, MB R3R 1L3 Canada

Prepared by:



Kenneth Roque

Date: March 28, 2024

Reviewed by:



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Date: March 28, 2024

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Report No. 105735816MPK-002	
Equipment Under Test:	Room Hub ASM
Model Number:	01030
Applicant:	Activate Games, Inc.
Contact:	Jeremy Darvill
Address:	Activate Games, Inc. 18 Paradise Bay Winnipeg, MB R3R 1L3
Country:	Canada
Tel. Number:	1 (204) 470-0535
Email:	jeremy.darvill@activate.ca
Applicable Regulation:	FCC Part 15 Subpart C (15.225) Industry Canada RSS-210 Issue 10
Date of Test:	February 27 – February 29, 2024

We attest to the accuracy of this report:



Kenneth Roque
EMC Project Engineer



Anderson Soungpanya
EMC Team Leader

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1.0 Summary of Tests

TEST	REFERENCE FCC 15.225	REFERENCE RSS- 210	RESULTS
Field Strength of Fundamental	15.225(a)	B.6	Complies
Radiated Emissions Outside the band	15.225(b), 15.225(c), 15.225(d), 15.209	B.6	Complies
Frequency Tolerance of the Carrier	15.225(e)	B.6	Complies
Line Conducted Emissions	15.207	RSS-GEN	Complies
Occupied Bandwidth	15.215	RSS-GEN	Complies
Antenna requirement	15.203	RSS-GEN	Complies ¹

¹ The EUT utilizes an internal Antenna.

EUT receive date: February 27, 2024

EUT receive condition: The pre-production version of the EUT was received in good condition with no apparent damage. As declared by the Applicant, it is identical to the production units.

Test start date: February 27, 2024

Test completion date: February 29, 2024

The test results in this report pertain only to the item tested.

2.0 General Description

2.1 Product Description

Activate Games, Inc. supplied the following description of the EUT:

The Room Hub is a wall-mounted touch screen kiosk used to control access to a game room. The device is only intended to be installed and used at Activate retail locations, and is not available for purchase by the general public.

Overview of the EUT

Applicant name & address	Activate Games, Inc. 18 Paradise Bay Winnipeg, MB R3R 1L3 Canada
Contact info / Email	Jeremy Darvill / jeremy.darvill@activate.ca
Model	01030
Operating Frequency	13.56 MHz
Number of Channels	1
Type of Modulation	ASK
Antenna Type	Internal Antenna

2.2 Related Submittal(s) Grants

None

2.3 Test Methodology

Both AC mains line-conducted and radiated emissions measurements were performed according to the procedures in ANSI C63.4: 2014. Radiated tests were performed at an antenna to EUT distance of 10 meters, unless stated otherwise in this test report. All other measurements were made in accordance with the procedures in part 2 of CFR 47 7, ANSI C63.10: 2013, ANSI C63.4-2014 & RSS-GEN Issue 5.

2.4 Test Facility

The radiated emission test site and conducted measurement facility used to collect the data is 10m semi-anechoic chamber located in Menlo Park, California. This test facility and site measurement data have been fully placed on file with the FCC and Industry Canada (Site # 2042L-1).

2.5 Measurement Uncertainty

Compliance with the limits was based on the results of the measurements and doesn't take into account the measurement uncertainty.

Estimated Measurement Uncertainty

Measurement	Expanded Uncertainty (k=2)		
	0.15 MHz – 1 GHz	1 GHz – 2.5 GHz	> 2.5 GHz
RF Power and Power Density – antenna conducted	-	0.7 dB	-
Unwanted emissions - antenna conducted	1.1 dB	1.3 dB	1.9 dB
Bandwidth – antenna conducted	-	30 Hz	-

Measurement	Expanded Uncertainty (k=2)		
	0.15 MHz – 30MHz	30 MHz – 1 GHz	1 GHz – 18 GHz
Radiated emissions	-	4.6	5.0 dB
AC mains conducted emissions	2.1 dB	-	-

3.0 System Test Configuration

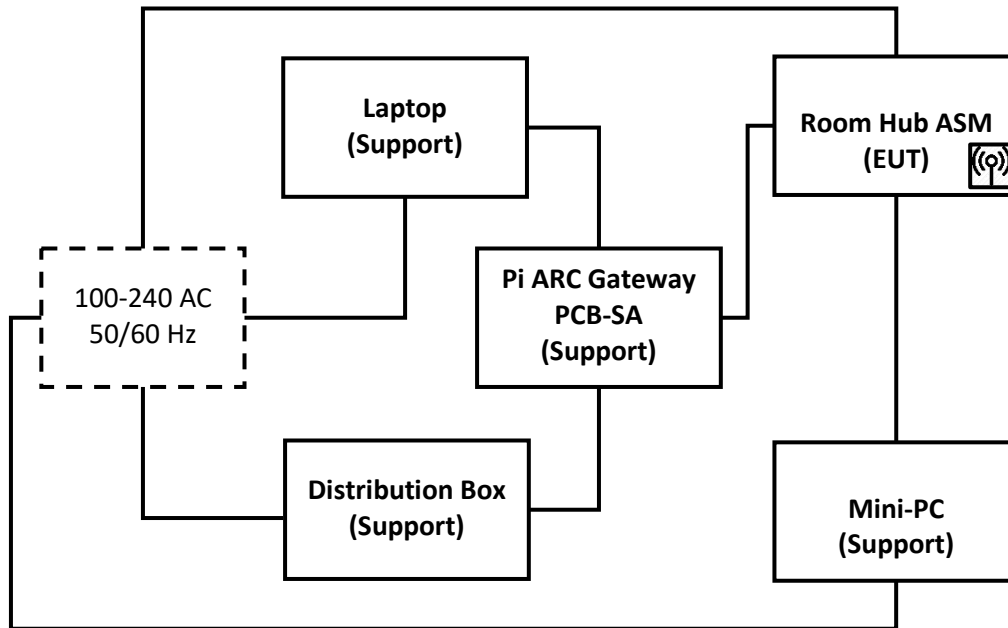
3.1 Support Equipment

Support Equipment		
Description	Manufacturer	Model
Mini-PC	Beelink	MINI S
Laptop	Dell	P70F
Distribution Box	Activate Games, Inc.	00189
Pi ARC Gateway PCB-SA	Activate Games, Inc.	v1.1

Equipment Under Test			
Description	Manufacturer	Model	Serial Number
Room Hub ASM	Activate Games, Inc.	01030	0001

3.2 Block Diagram of Test Setup

The diagram shown below details the interconnection of the EUT and support equipment. For specific layout, refer to the test configuration photograph in the relevant section of this report.



EUT Photo



3.3 Justification

For radiated emission measurements the EUT is placed on a non-conductive table. The EUT was configured to continuously transmit. As declared by the manufacturer, the highest clock frequency used is 148.5 MHz.

3.4 Software Exercise Program

The EUT exercise program used during testing was provided by Activate Games, Inc.

3.5 Mode of Operation during test

The EUT was constantly broadcasting a 13.56 MHz signal while reading an RFID tag embedded into a wrist band.

3.6 Modifications required for Compliance

No modifications were made by the manufacturer to bring the EUT into compliance.

3.7 Additions, deviations and exclusions from standards

No additions, deviations or exclusion have been made from standard.

4.0 Measurement Results

4.1 Field Strength of Fundamental and Radiated Emissions Outside the band

4.1.1 Requirements

FCC Rules 15.225

- a) The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter (84 dBuV) at 30 meters.
- b) Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.
- c) Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.
- d) The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in §15.209.

§15.209 Radiated emission limits; general requirements.

Frequency (MHz)	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

4.1.2 Procedure

Radiated Measurements Below 30 MHz

During the test the EUT is rotated and the measuring antenna angles are varied during the search for maximum signal level.

Radiated emissions are taken at ten meters unless the signal level is too low for measurement at that distance. If necessary, a pre-amplifier is used and/or the test is conducted at a closer distance. Measurements for below 30 MHz were made at 10 meters. Data results below are corrected for distance back to 30 meters.

Radiated Measurements Above 30 MHz

During the test the EUT is rotated and the measuring antenna height and polarization are varied during the search for maximum signal level. The antenna height is varied from 1 to 4 meters.

Radiated emissions are taken at ten meters unless the signal level is too low for measurement at that distance. If necessary, a pre-amplifier is used and/or the test is conducted at a closer distance. Measurements for above 30 MHz were made at 10 meters.

Radiated emission measurements were performed from 9kHz to 1 GHz.
Analyzer resolution is:

200Hz or greater for 9kHz to 150kHz
9 kHz or greater for 150kHz to 30 MHz
120 kHz or greater for 30MHz to 1000 MHz
For those frequencies quasi-peak detector applies

Data includes of the worst-case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included.

Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation is as follows:

$$FS = RA + AF + CF - AG - DCF$$

Where FS = Field Strength in dB (μ V/m)

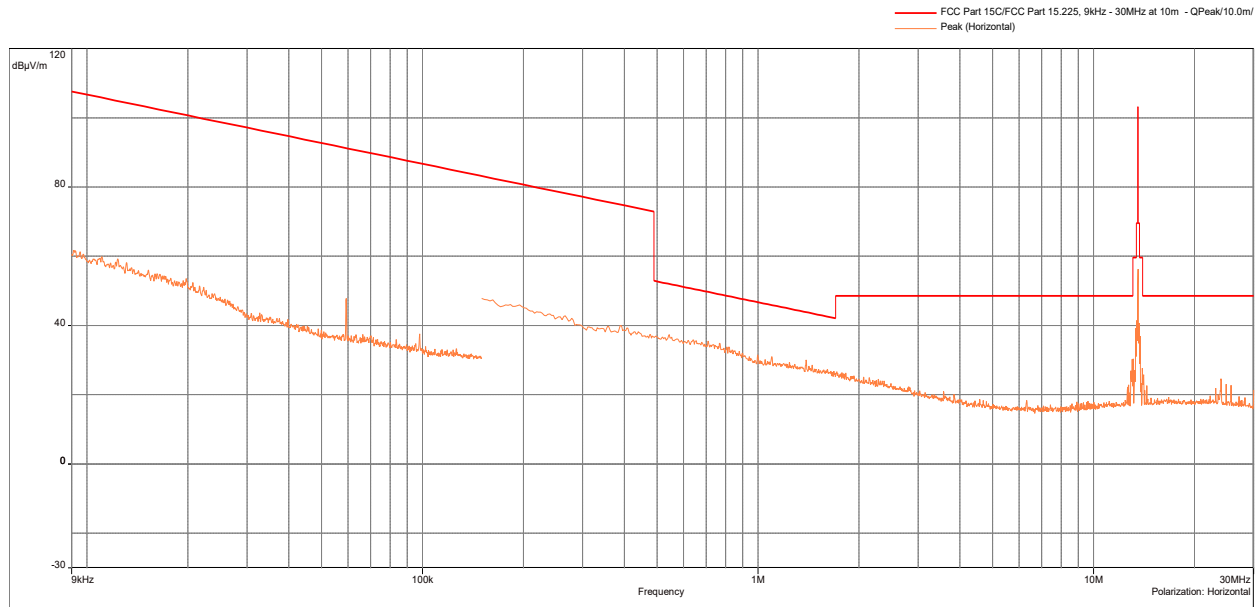
RA = Receiver Amplitude (including preamplifier) in dB (μ V)
CF = Cable Attenuation Factor in dB
AF = Antenna Factor in dB (1/m)
AG = Amplifier Gain in dB
DCF = Distance Correction Factor

Note: FS was measured with loop antenna below 30MHz

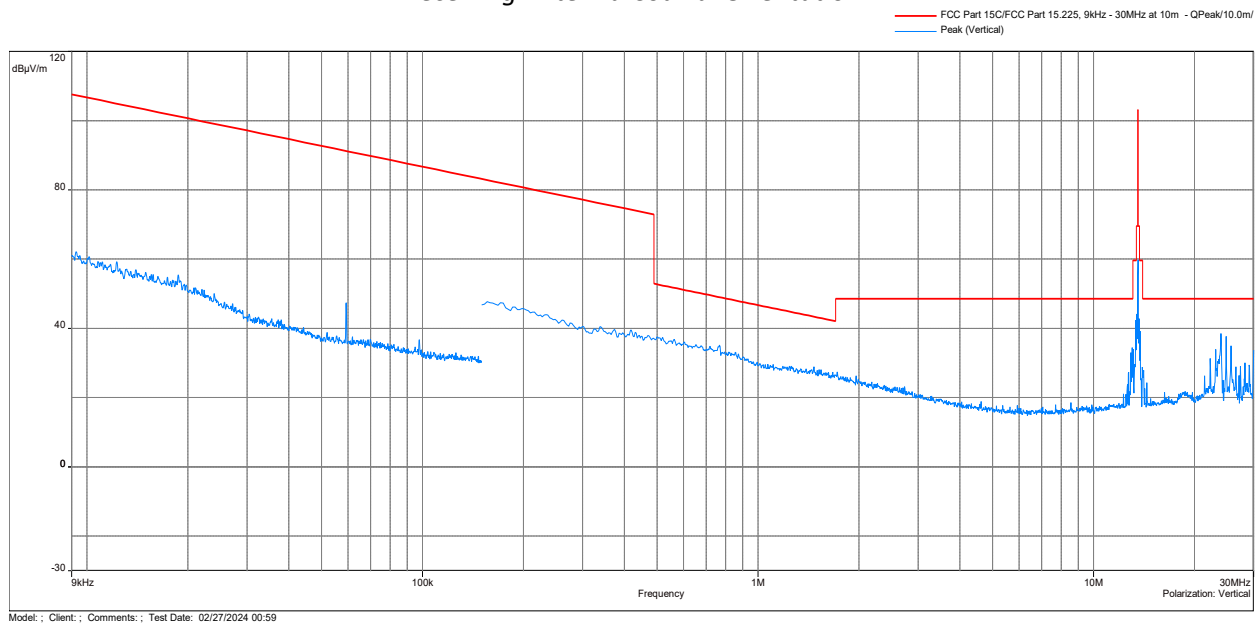
4.1.3 Test Result 15.225 (a)(b)(c)

Radiated Spurious Emissions from 9kHz to 30MHz

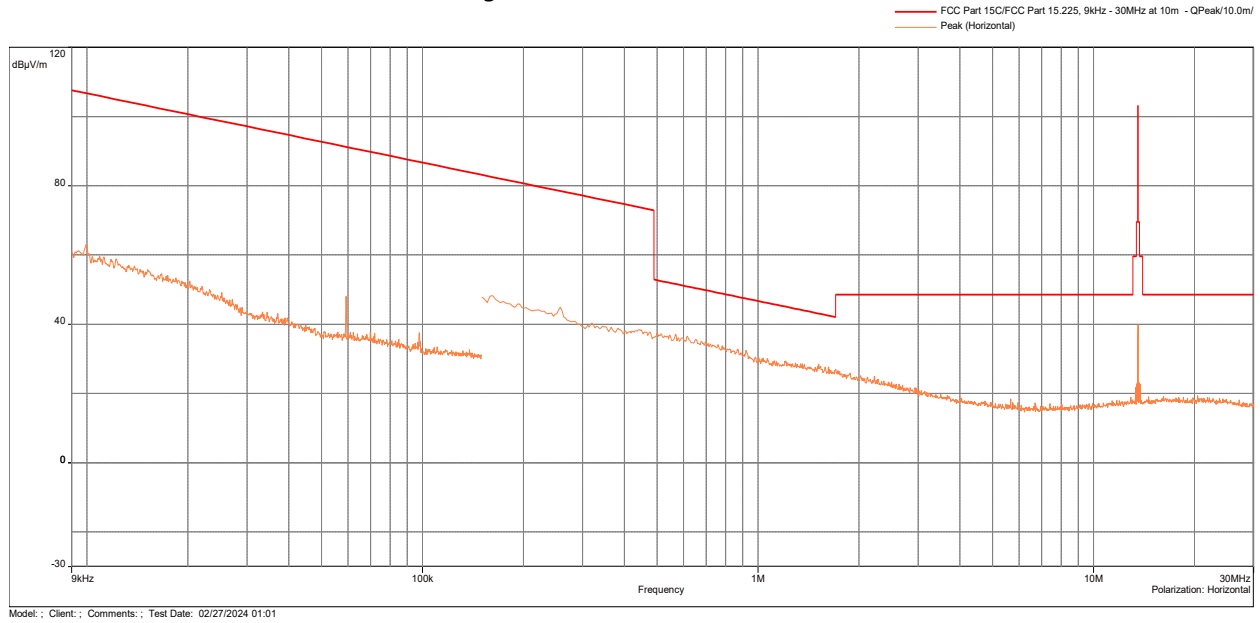
Receiving Antenna Coplanar Orientation



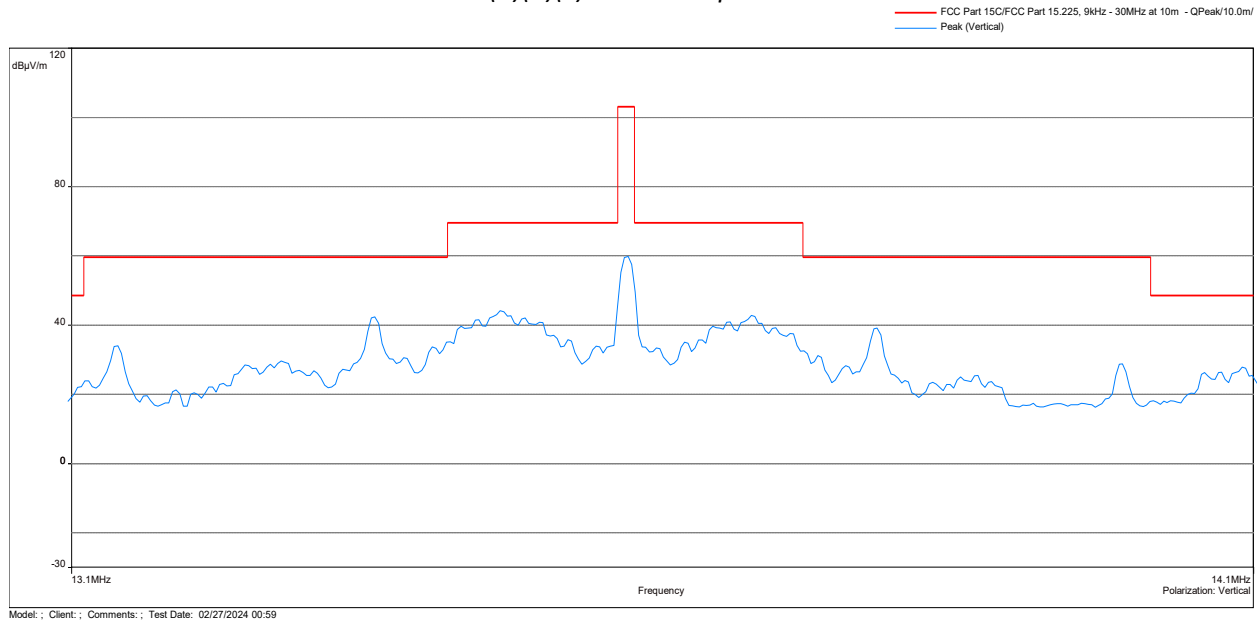
Receiving Antenna Coaxial Orientation



Receiving Antenna Horizontal Orientation



Test Result 15.225 (a)(b)(c) Radiated Spurious Emissions Mask



Frequency (MHz)	Peak FS@10m dB(uV/m)	Limit@10m dB(uV/m)	Margin dB	Comment	Correction dB
13.56	59.81	103.1	-43.29	Coaxial	2.52

Note: Correction = AF+CF-AG- distance correction factor
Distance correction factor= $40 \cdot \log_{10}(\text{limit distance}/\text{measured distance})$

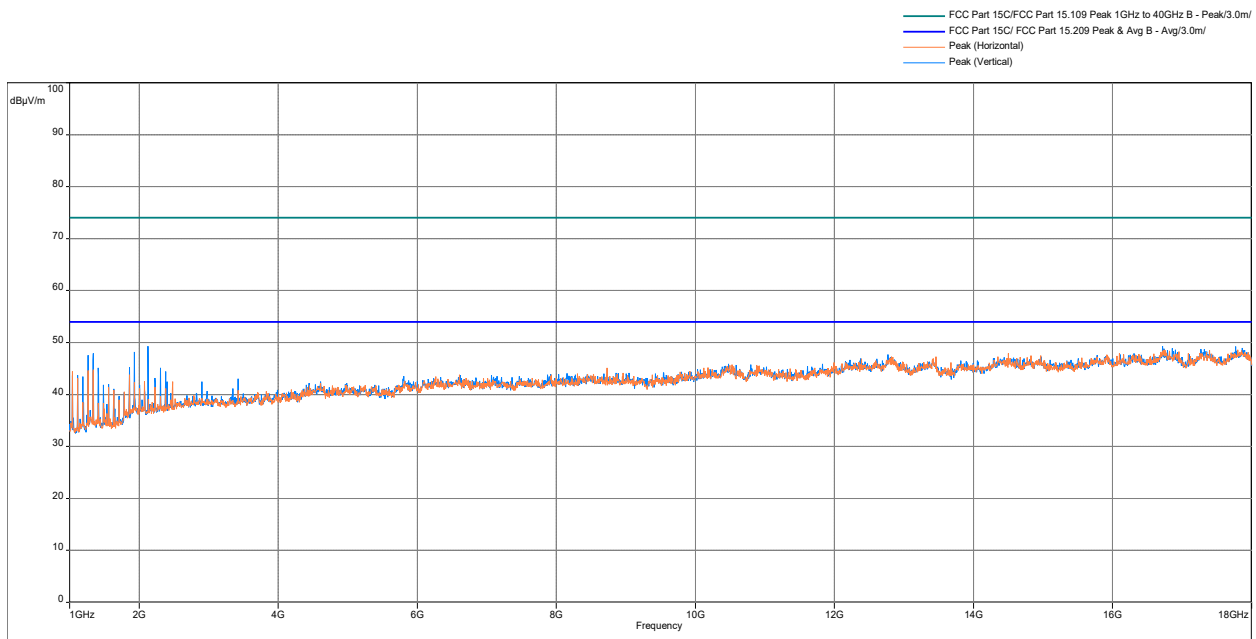
4.1.4 Test Result 15.225 (d) and 15.209

Radiated Spurious Emissions from 30 MHz to 1000 MHz

Freq (MHz)	FS@10m dB(uV/m)	Limit@10m dB(uV/m)	Margin (dB)	Azimuth (Deg)	Height (m)	Polarity	Correction (dB)
54.259	28.44	29.50	-1.06	111.75	3.20	Vertical	-20.21
35.917	27.79	29.50	-1.71	327.50	1.01	Vertical	-11.00
123.249	31.29	33.00	-1.71	54.75	4.00	Horizontal	-14.49
414.314	33.44	35.50	-2.06	237.00	2.01	Horizontal	-8.11
82.234	27.38	29.50	-2.12	352.00	3.68	Horizontal	-18.68
383.985	31.81	35.50	-3.69	212.25	1.99	Vertical	-9.80

Note: Correction = AF + CF – Preamp

Radiated Spurious Emissions from 1 to 18 GHz, Peak Scan vs Avg and Peak Limits

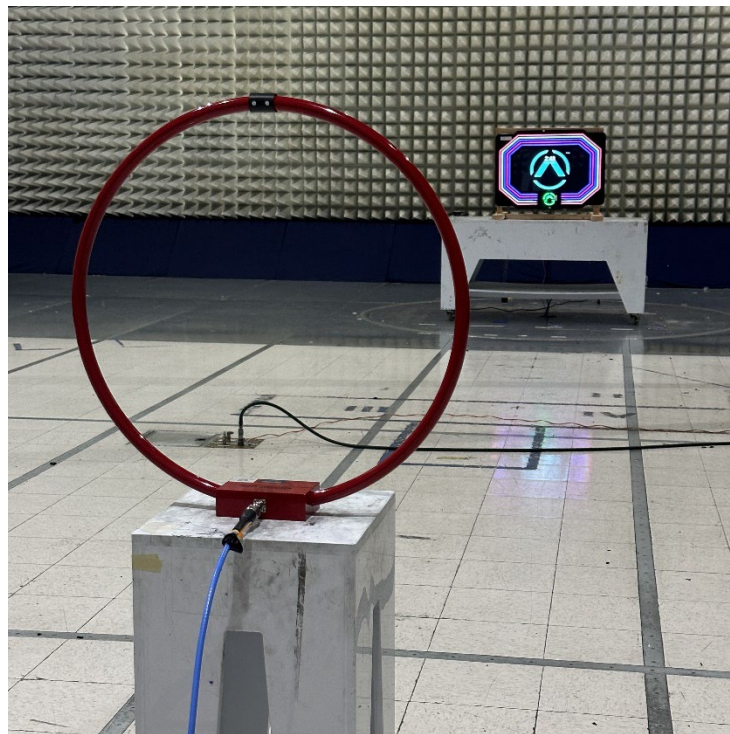


Model: ; Client: ; Comments: ; Test Date: 02/23/2024 01:36

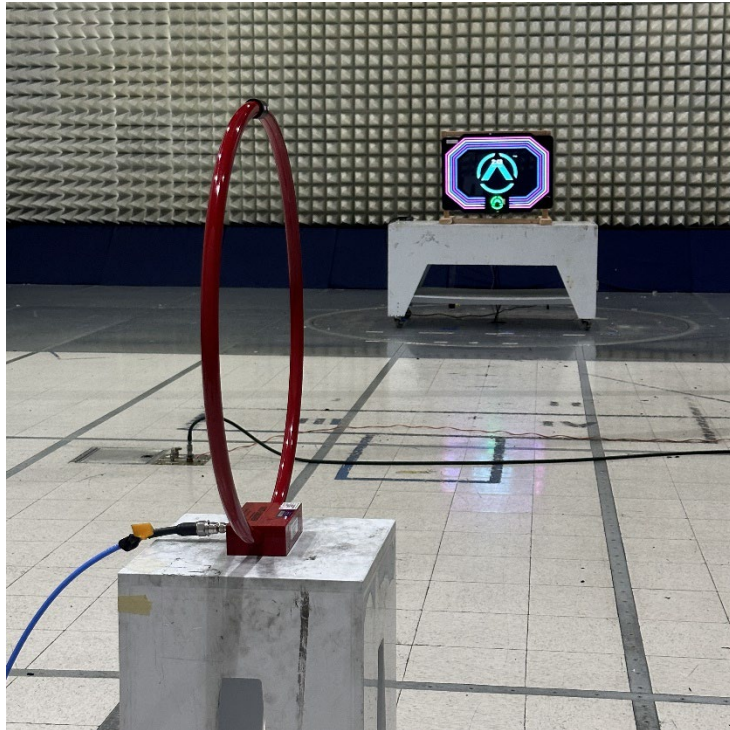
Result Complies by 1.06 dB

4.1.5 Test Configuration Photographs

The following photographs show the testing configurations used.

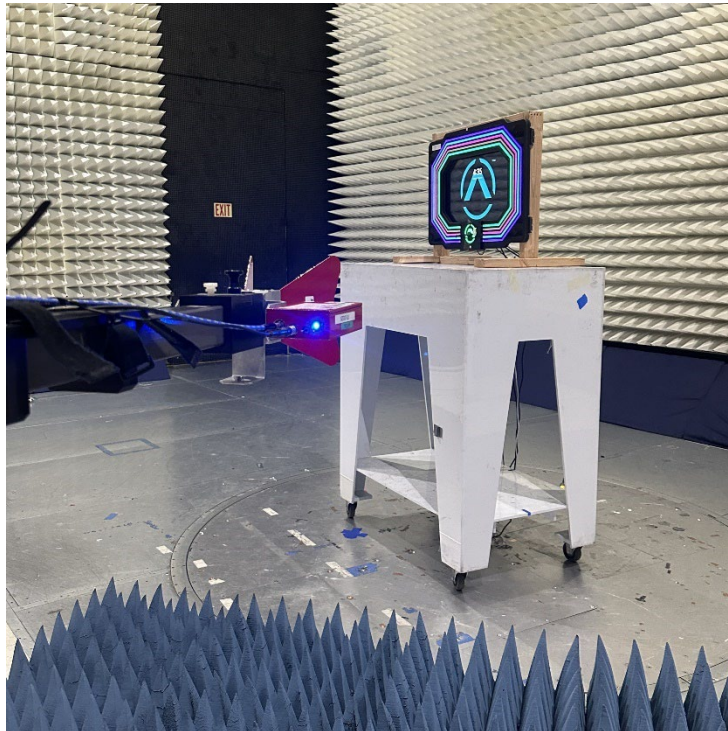
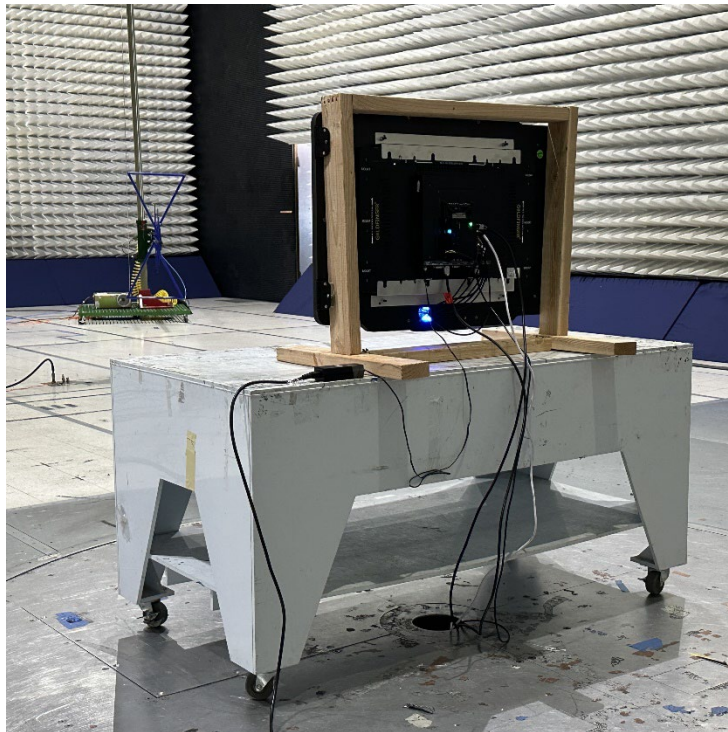


4.1.5 Test Configuration Photographs (Continued)



Electromagnetic Radiated Disturbance Setup Photograph

4.1.5 Test Configuration Photographs (Continued)



4.2 Frequency Tolerance

4.2.1 Requirement FCC 15.225 (e)

The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ 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.

4.2.2 Procedure

The EUT was placed in the temperature chamber. The frequency counter was connected to the transmitter output. For each temperature, the carrier frequency was recorded.

4.2.3 Test Results 15.225 (e)

Nominal Frequency: 13560000 Hz

Voltage (AC)	Temperature (C)	Measured Frequency (Hz)	Deviation from Reference (Hz)	Deviation (%)
120	50	13560801.282	801.282	0.00591
120	40	13560833.333	833.333	0.00615
120	30	13560865.385	865.385	0.00638
120	20	13560865.385	865.385	0.00638
120	10	13560897.436	897.436	0.00662
120	0	13560929.487	929.487	0.00685
120	-10	13560897.436	897.436	0.00662
120	-20	13560897.436	897.436	0.00662
102	20	13560865.385	865.385	0.00638
138	20	13560865.385	865.385	0.00638

4.3 Occupied Bandwidth FCC 15.215

4.3.1 Requirements

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§15.217 through 15.257, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage.

4.3.2 Procedure

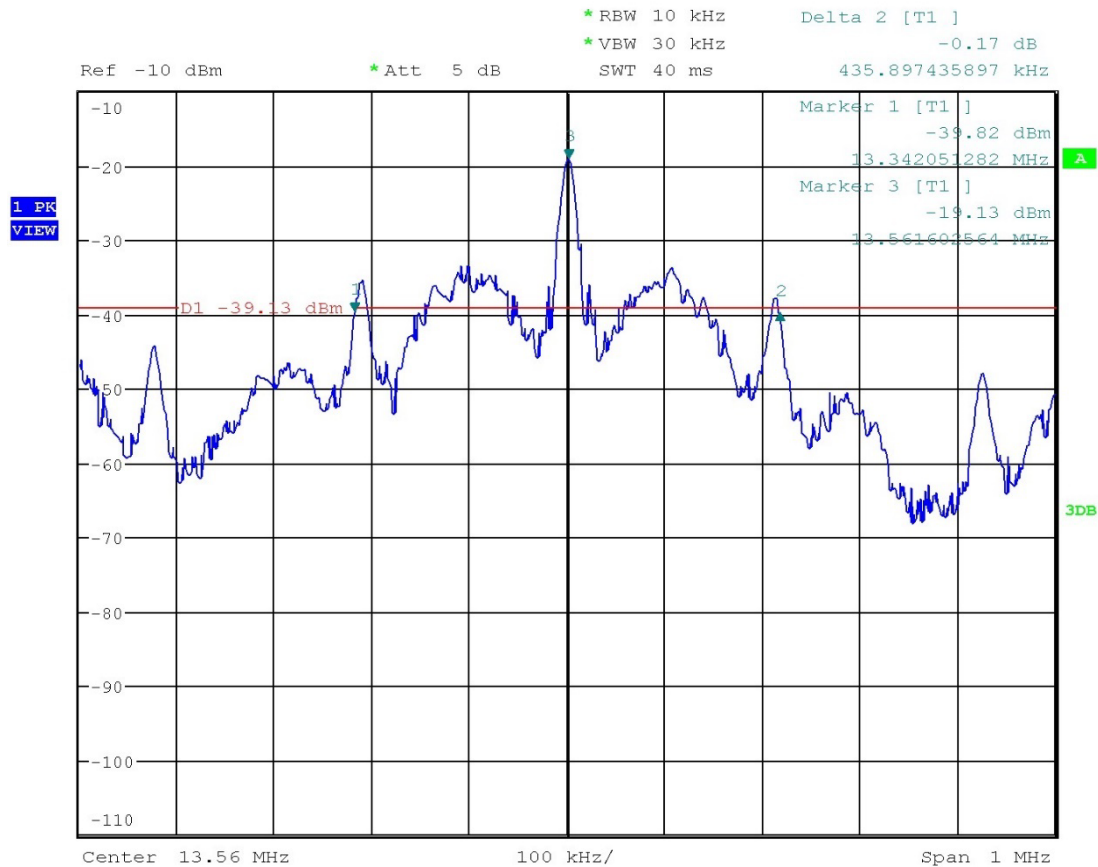
The EUT was setup to transmit in normal operating condition.

Measurements were made with the loop antenna in close proximity of the EUT. Following the procedures of ANSI 63.10: 2013, the 20dB bandwidth measurements were taken. The following plots show Occupied Bandwidth.

4.3.3 Test Results

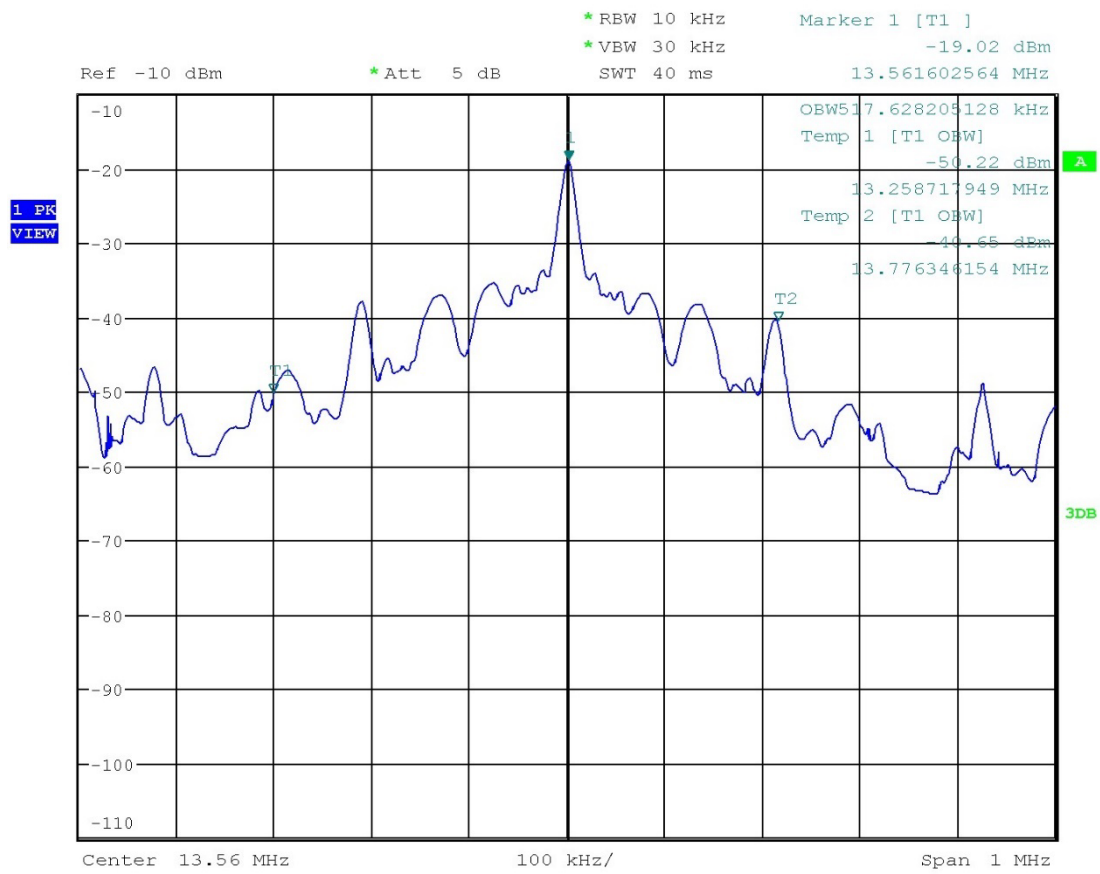
Frequency (MHz)	-20 dB Channel Bandwidth (kHz)	99% Channel Bandwidth (kHz)
13.56	435.897	517.628

-20 dB Channel Bandwidth Plot



Date: 28.FEB.2024 14:05:06

99% Channel Bandwidth Plot



Date: 28.FEB.2024 14:37:04

4.4 AC Line Conducted Emission FCC Rule 15.207, FCC 15.107

4.4.1 Requirement

Frequency Band MHz	Class B Limit dB(μ V)		Class A Limit dB(μ V)	
	Quasi-Peak	Average	Quasi-Peak	Average
0.15-0.50	66 to 56 *	56 to 46 *	79	66
0.50-5.00	56	46	73	60
5.00-30.00	60	50	73	60

Note: *Decreases linearly with the logarithm of the frequency. At the transition frequency the lower limit applies.

4.4.2 Procedure

Measurements are carried out using quasi-peak and average detector receivers in accordance with CISPR 16. An AMN is required to provide a defined impedance at high frequencies across the power feed at the point of measurement of terminal voltage and also to provide isolation of the circuit under test from the ambient noise on the power lines. An AMN as defined in CISPR 16 shall be used.

The EUT is located so that the distance between the boundary of the EUT and the closest surface of the AMN is 0.8m.

Where a flexible mains cord is provided by the manufacturer, this shall be 1m long or if in excess of 1m, the excess cable is folded back and forth as far as possible so as to form a bundle not exceeding 0.4m in length.

The EUT is arranged and connected with cables terminated in accordance with the product specification.

Conducted disturbance is measured between the phase lead and the reference ground, and between the neutral lead and the reference ground. Both measured values are reported.

The EUT, where intended for tabletop use, is placed on a table whose top is 0.8m above the ground plane. A vertical, metal reference plane is placed 0.4m from the EUT. The vertical metal reference-plane is at least 2m by 2m. The EUT shall be kept at least 0.8m from any other metal surface or other ground plane not being part of the EUT. The table is constructed of non-conductive materials. Its dimensions are 1m by 1.5m, but may be extended for larger EUT.

Floor standing EUT are placed on a horizontal metal ground plane and isolated from the ground plane by resting on an insulating material. The metal ground plane extends at least 0.5m beyond the boundaries of the EUT and has minimum dimensions of 2m by 2m.

EUT was placed in transmission mode then tested for conducted emissions per 15.207 to ensure the device complies with 15.207. After, the EUT RF was powered off and was measured to show compliance with the 15.107 limits.

4.4.3 Test Result

15.207, 120VAC 60Hz with 13.56 MHz Transmitter On + Digital Parts

Quasi Peak Table

Frequency (MHz)	Peak (dBμV)	Lim. QPeak (dBμV)	Peak-Lim (dB)	Comment	Correction (dB)
24.87075	54.94	60.00	-5.06	Phase 2	10.06
24.75150	54.93	60.00	-5.07	Phase 2	10.06
24.63225	54.87	60.00	-5.13	Phase 2	10.06
24.98775	54.85	60.00	-5.15	Phase 2	10.06
24.51300	54.81	60.00	-5.19	Phase 2	10.06
24.75375	54.65	60.00	-5.35	Phase 1	10.06
25.10475	54.62	60.00	-5.38	Phase 2	10.06
24.39600	54.59	60.00	-5.41	Phase 2	10.06
24.87075	54.59	60.00	-5.41	Phase 1	10.06
24.99000	54.54	60.00	-5.46	Phase 1	10.06
24.63450	54.51	60.00	-5.49	Phase 1	10.06
25.10700	54.34	60.00	-5.66	Phase 1	10.06
24.27900	54.34	60.00	-5.66	Phase 2	10.06
24.51525	54.31	60.00	-5.69	Phase 1	10.06
25.22400	54.29	60.00	-5.71	Phase 2	10.06
0.53250	50.20	56.00	-5.80	Phase 2	10.01
25.22625	54.16	60.00	-5.84	Phase 1	10.06
0.53250	50.13	56.00	-5.87	Phase 1	10.01
24.39825	54.11	60.00	-5.89	Phase 1	10.06
25.34325	54.01	60.00	-5.99	Phase 2	10.06
0.65175	49.52	56.00	-6.48	Phase 2	10.01
1.12425	49.34	56.00	-6.66	Phase 2	10.01
0.65175	49.23	56.00	-6.77	Phase 1	10.01
1.00725	49.21	56.00	-6.79	Phase 2	10.01
1.00725	49.09	56.00	-6.91	Phase 1	10.01
1.12425	49.06	56.00	-6.94	Phase 1	10.01
1.24350	48.81	56.00	-7.19	Phase 2	10.01
1.24350	48.37	56.00	-7.63	Phase 1	10.01
1.59900	48.37	56.00	-7.63	Phase 2	10.01
1.59900	48.04	56.00	-7.96	Phase 1	10.01
0.41550	47.24	57.54	-10.29	Phase 2	10.01
0.41550	46.44	57.54	-11.10	Phase 1	10.01
0.27375	48.13	61.00	-12.87	Phase 2	10.00
0.27375	46.95	61.00	-14.05	Phase 1	10.00

Quasi Peak Table (continued)

Frequency (MHz)	Peak (dBμV)	Lim. QPeak (dBμV)	Peak-Lim (dB)	Comment	Correction (dB)
0.17700	50.54	64.63	-14.09	Phase 2	10.00
0.17700	50.16	64.63	-14.47	Phase 1	10.00
0.49875	38.77	56.02	-17.25	Phase 2	10.01
0.49875	37.66	56.02	-18.36	Phase 1	10.01
0.20625	41.63	63.35	-21.72	Phase 1	10.00
0.20625	40.85	63.35	-22.50	Phase 2	10.00
0.29625	37.25	60.35	-23.10	Phase 2	10.00
0.34350	30.87	59.12	-28.24	Phase 1	10.01

Average Table

Frequency (MHz)	CISPR AVG (dBμV)	Lim. Average (dBμV)	CISPR AVG-Lim (dB)	Comment	Correction (dB)
25.46025	49.94	50.00	-0.06	Phase 2	10.06
23.92125	49.92	50.00	-0.08	Phase 2	10.06
24.16200	49.89	50.00	-0.11	Phase 1	10.06
25.46475	49.58	50.00	-0.42	Phase 1	10.06
24.04275	49.50	50.00	-0.50	Phase 1	10.06
25.57950	49.48	50.00	-0.52	Phase 2	10.06
23.80425	49.41	50.00	-0.59	Phase 2	10.06
23.68500	49.16	50.00	-0.84	Phase 2	10.06
25.58175	48.99	50.00	-1.01	Phase 1	10.06
23.92350	48.96	50.00	-1.04	Phase 1	10.06
25.69875	48.77	50.00	-1.23	Phase 2	10.06
23.56575	48.73	50.00	-1.27	Phase 2	10.06
23.80650	48.69	50.00	-1.31	Phase 1	10.06
25.70100	48.53	50.00	-1.47	Phase 1	10.06
23.68725	48.33	50.00	-1.67	Phase 1	10.06
23.44875	48.29	50.00	-1.71	Phase 2	10.06
1.83525	44.20	46.00	-1.80	Phase 2	10.01
25.81575	48.18	50.00	-1.82	Phase 2	10.06
0.41550	45.68	47.54	-1.86	Phase 2	10.01
2.19075	44.11	46.00	-1.89	Phase 1	10.01
23.32950	48.01	50.00	-1.99	Phase 2	10.06
2.31000	43.93	46.00	-2.07	Phase 2	10.02
2.19075	43.90	46.00	-2.10	Phase 2	10.01
25.82025	47.89	50.00	-2.11	Phase 1	10.06
23.57025	47.77	50.00	-2.23	Phase 1	10.06
25.93500	47.56	50.00	-2.44	Phase 2	10.06
23.21025	47.52	50.00	-2.48	Phase 2	10.06
23.45100	47.40	50.00	-2.60	Phase 1	10.06
0.41550	44.89	47.54	-2.65	Phase 1	10.01
2.31000	43.30	46.00	-2.70	Phase 1	10.02
1.83525	43.26	46.00	-2.74	Phase 1	10.01
25.93725	47.21	50.00	-2.79	Phase 1	10.06
23.09325	47.18	50.00	-2.82	Phase 2	10.06
23.33175	46.91	50.00	-3.09	Phase 1	10.06
22.97400	46.86	50.00	-3.14	Phase 2	10.06
26.05425	46.74	50.00	-3.26	Phase 2	10.06

Average Table (continued)

Frequency (MHz)	CISPR AVG (dBμV)	Lim. Average (dBμV)	CISPR AVG-Lim (dB)	Comment	Correction (dB)
26.05650	46.47	50.00	-3.53	Phase 1	10.06
23.21475	46.46	50.00	-3.54	Phase 1	10.06
22.85475	46.38	50.00	-3.62	Phase 2	10.06
23.09550	46.20	50.00	-3.80	Phase 1	10.06
22.73775	46.15	50.00	-3.85	Phase 2	10.06
26.17125	46.07	50.00	-3.93	Phase 2	10.06
0.76875	41.91	46.00	-4.09	Phase 2	10.01
22.61850	45.80	50.00	-4.20	Phase 2	10.06
2.42700	41.69	46.00	-4.31	Phase 2	10.02
22.97625	45.66	50.00	-4.34	Phase 1	10.06
0.76875	41.62	46.00	-4.38	Phase 1	10.01
26.17575	45.61	50.00	-4.39	Phase 1	10.06
0.17700	50.08	54.63	-4.55	Phase 2	10.00
22.50150	45.37	50.00	-4.63	Phase 2	10.06
2.78250	41.37	46.00	-4.63	Phase 1	10.02
2.90175	41.31	46.00	-4.69	Phase 2	10.02
26.29050	45.26	50.00	-4.74	Phase 2	10.06
22.85925	45.23	50.00	-4.77	Phase 1	10.06
22.38225	45.18	50.00	-4.82	Phase 2	10.06
2.78250	41.10	46.00	-4.90	Phase 2	10.02
0.17700	49.67	54.63	-4.96	Phase 1	10.00
22.74000	44.90	50.00	-5.10	Phase 1	10.06
26.29275	44.90	50.00	-5.10	Phase 1	10.06
22.26300	44.84	50.00	-5.16	Phase 2	10.06
1.47975	40.82	46.00	-5.18	Phase 1	10.01
2.90175	40.79	46.00	-5.21	Phase 1	10.02
2.07150	40.63	46.00	-5.37	Phase 1	10.01
1.36275	40.59	46.00	-5.41	Phase 2	10.01
2.42700	40.57	46.00	-5.43	Phase 1	10.02
22.14600	44.51	50.00	-5.49	Phase 2	10.06
22.62075	44.48	50.00	-5.52	Phase 1	10.06
26.40750	44.41	50.00	-5.59	Phase 2	10.06
22.02675	44.28	50.00	-5.72	Phase 2	10.06
22.50375	44.22	50.00	-5.78	Phase 1	10.06
1.47975	40.20	46.00	-5.80	Phase 2	10.01
26.41200	44.11	50.00	-5.89	Phase 1	10.06

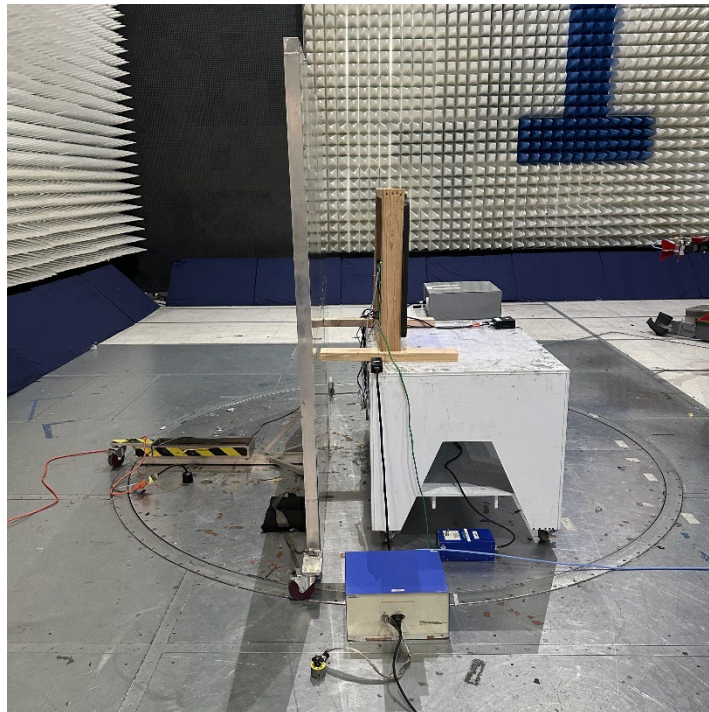
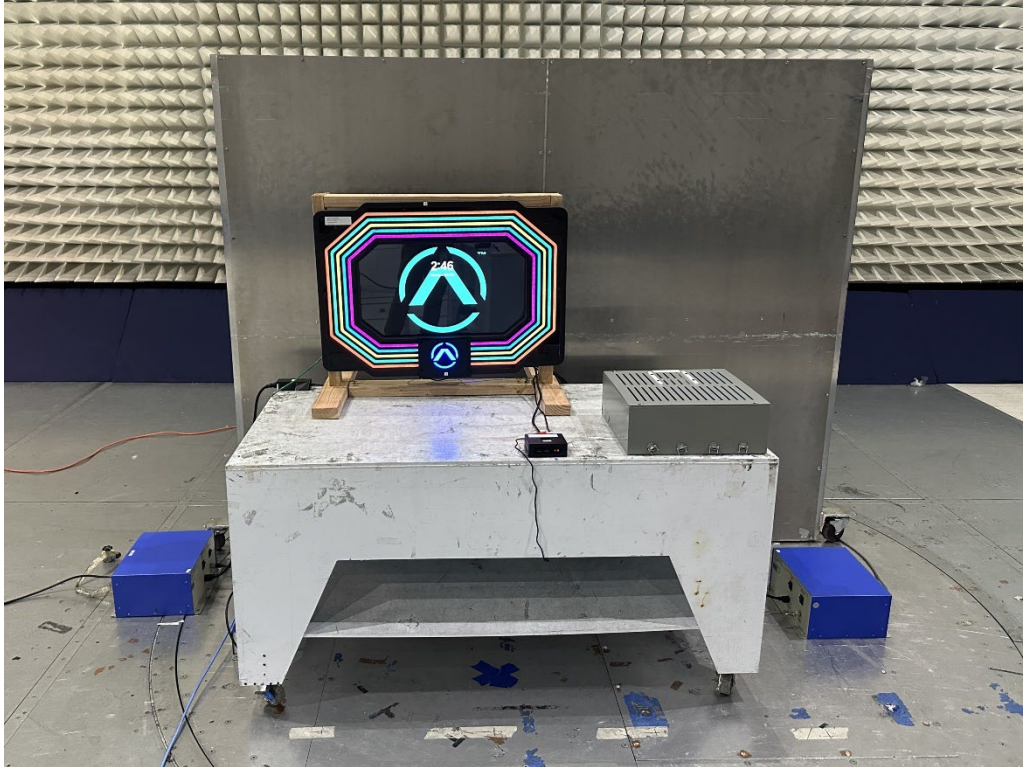
Average Table (continued)

Frequency (MHz)	CISPR AVG (dBμV)	Lim. Average (dBμV)	CISPR AVG-Lim (dB)	Comment	Correction (dB)
24.93150	44.11	50.00	-5.89	Phase 1	10.06
1.95450	40.06	46.00	-5.94	Phase 2	10.01
25.05075	44.04	50.00	-5.96	Phase 1	10.06
0.27375	37.42	51.00	-13.59	Phase 2	10.00
0.27375	36.33	51.00	-14.68	Phase 1	10.00
0.47175	29.51	46.48	-16.97	Phase 2	10.01
0.49650	27.54	46.06	-18.51	Phase 1	10.01
0.20400	34.03	53.45	-19.42	Phase 2	10.00
0.29625	30.59	50.35	-19.75	Phase 2	10.00
0.33900	22.26	49.23	-26.97	Phase 1	10.01
0.23775	23.71	52.17	-28.46	Phase 1	10.00
24.93150	44.11	50.00	-5.89	Phase 1	10.06
1.95450	40.06	46.00	-5.94	Phase 2	10.01
25.05075	44.04	50.00	-5.96	Phase 1	10.06
0.27375	37.42	51.00	-13.59	Phase 2	10.00
0.27375	36.33	51.00	-14.68	Phase 1	10.00
0.47175	29.51	46.48	-16.97	Phase 2	10.01
0.49650	27.54	46.06	-18.51	Phase 1	10.01
0.20400	34.03	53.45	-19.42	Phase 2	10.00
0.29625	30.59	50.35	-19.75	Phase 2	10.00
0.33900	22.26	49.23	-26.97	Phase 1	10.01
0.23775	23.71	52.17	-28.46	Phase 1	10.00
24.93150	44.11	50.00	-5.89	Phase 1	10.06
1.95450	40.06	46.00	-5.94	Phase 2	10.01

Results	Complies
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4.4.4 Test Configuration Photographs

The following photographs show the testing configurations used.



5.0 List of test equipment

Measurement equipment used for emission compliance testing utilized the equipment on the following list:

Equipment	Manufacturer	Model/Type	Asset #	Cal Int	Cal Due
EMI Receiver	Rohde and Schwarz	ESR7	ITS 01607	12	10/18/24
EMI Receiver	Rohde and Schwarz	ESU40	ITS 00961	12	03/14/24
Spectrum Analyzer	Rohde and Schwarz	FSU26	ITS 00913	12	06/16/24
Loop Antenna	EMCO	6512	ITS 01573	12	11/30/24
BI-Log Antenna	Teseq	CBL611D	ITS 01058	12	11/28/24
Horn Antenna	ETS-Lindgren	3117	ITS 01636	12	03/19/24
Pre-Amplifier	Sonoma Instrument	310N	ITS 00415	12	05/17/24
LISN	Com-Power	LIN-115A	ITS 01289	12	07/31/24
LISN	Com-Power	LIN-115A	ITS 01290	12	08/08/24
LISN	Com-Power	CDN T8SE	ITS 01638	12	05/22/24

Software used for emission compliance testing utilized the following:

Name	Manufacturer	Version	Template/Profile
BAT-EMC	Nexio	3.20.0.23	Activate Games - 02-22-24.bpp
RS Commander	Rohde Schwarz	1.6.4	Not Applicable (Screen Grabber)

6.0 Document History

Revision/ Job Number	Writer Initials	Reviewer Initials	Date	Change
1.0 / G105735816	KR	AS	March 28, 2024	Original document
2.0 / G105735816	KR	AS	June 21, 2024	Fixed typos