EcoFlow Inc.

TEST REPORT

SCOPE OF WORK
FCC TESTING–EF-GC-H-55, EF-GC-H-35, EF-GC-H-45

REPORT NUMBER
250307026SZN-002

ISSUE DATE **[REVISED DATE]**

25 April 2025 [----------]

PAGES
44

DOCUMENT CONTROL NUMBER
FCC ID 249_C

EcoFlow Inc.

Application
For
Certification

FCC ID: 2A2P9-RF403

Portable Fridge

Model: EF-GC-H-55, EF-GC-H-35, EF-GC-H-45

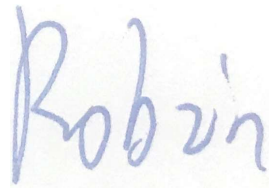
Brand Name: EF ECOFLOW, ECOFLOW

2.4GHz Transceiver

Report No.: 250307026SZN-002

We hereby certify that the sample of the above item is considered to comply with the requirements of FCC Part 15, Subpart C for Intentional Radiator, mention 47 CFR [10-1-23]

Prepared and Checked by:



Robin Zhou
Senior Project Engineer

Approved by:

Johnny Wang
Project Engineer
Date: 25 April 2025

Intertek Testing Services Shenzhen Ltd. Longhua Branch
101, 201, Building B, No. 308 Wuhe Avenue, Zhangkengjing Community, GuanHu Subdistrict, LongHua District, ShenZhen, P.R. China
Tel: (86 755) 8601 6288 Fax: (86 755) 8601 6751

MEASUREMENT/TECHNICAL REPORT

This report concerns (check one:) Original Grant X Class II Change _____

Equipment Type: DXX - Part 15 Low Power Communication Device Transmitter

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Deferred grant requested per 47 CFR 0.457(d)(1)(ii)? Yes _____ No X

If yes, defer until: _____
date

Company Name agrees to notify the Commission by: _____
date
of the intended date of announcement of the product so that the grant can be issued on that date.

Transition Rules Request per 15.37? Yes _____ No X

If no, assumed Part 15, Subpart C for intentional radiator – the new 47 CFR [10-1-23 Edition] provision.

Report prepared by:

Robin Zhou
Intertek Testing Services Shenzhen Ltd. Longhua Branch
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Table of Contents

1.0 Summary of Test Result

Applicant: EcoFlow Inc.
Applicant Address: RM 401,Plant #1,Runheng Industrial Zone, Fuhai Street,Bao'an District, Shenzhen 518000, China
Manufacturer: EcoFlow Inc.
Manufacturer Address: RM 401,Plant #1,Runheng Industrial Zone, Fuhai Street,Bao'an District, Shenzhen 518000, China

MODEL: EF-GC-H-55, EF-GC-H-45, EF-GC-H-35
FCC ID: 2A2P9-RF403

Test Specification	Reference	Results
Transmitter Radiated Emission	15.249 &15.209 &15.205	Pass
Conducted Emission	15.207	Pass
Band edge	15.249 &15.209 &15.205	Pass
20dB Bandwidth	15.215(c)	Pass

Notes: The EUT uses an Integral Antenna which in accordance to Section 15.203 is considered sufficient to comply with the provisions of this section.

2.0 General Description

2.1 Product Description

The equipment under test (EUT) is a Portable Fridge, EF-GC-H-55, EF-GC-H-45, EF-GC-H-35 with Bluetooth 5.0 BLE function operating in 2402-2480MHz. The EUT is powered by DC 21.6 V from battery or DC 14.5V from adapter or DC 12V, DC 24V from Car charger and DC 11-30V from Solar input. For more detail information pls. refer to the user manual.

Ratings:

Solar Input: DC 11-30V, 8A Max, 110W Max,
Car Input: DC 12 or DC 24V, 8A Max, 100W Max,
Lithium-ion battery: DC 21.6V, 13.8Ah, 298.08Wh

Antenna Type: PCB antenna
Modulation Type: GFSK
Antenna Gain: 6.63dBi Max (This information is provided by applicant, and the applicant is responsible for the authenticity of the provided information.)
Bluetooth Version: 5.0 BLE (Single Mode BLE only, support 1M and 2M)

The Model: EF-GC-H-35, EF-GC-H-45 are the same as the Model: EF-GC-H-55 in hardware aspect. The difference in model number, capacity, size, weight, temperature zone and lamp board serve as marketing strategy. After the evaluation, The model EF-GC-H-55 has been evaluated for all tests, the models EF-GC-H-45 and EF-GC-H- 35 have only been evaluated for conducted emission and radiated emission (30MHz to 1GHz) tests. For details see below:

Model number	Capacity	Size	Weight	Temperature zone	Lamp board
EF-GC-H-35	35L	706×400×405 mm	20.46kg	Single temperature zone and single control	Single lamp board
EF-GC-H-45	45L	706×400×480 mm	23.165kg	Dual temperature zone and dual control	Dual lamp board
EF-GC-H-55	55L	706×466×480 mm	25.21kg	Dual temperature zone and dual control	Dual lamp board

For electronic filing, the brief circuit description is saved with filename: descri.pdf.

2.2 Related Submittal(s) Grants

This is an application for certification of a transceiver for the Portable Fridge, EF-GC-H-55, EF-GC-H-45, EF-GC-H-35 which has Bluetooth function, and related report for FCC SDOC is subjected to report number: 250307026SZN-001.

2.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.10 (2013). Radiated emission measurement was performed in Semi-anechoic chamber and conducted emission measurement was performed in shield room. For radiated emission measurement, preliminary scans were performed in the semi-anechoic chamber only to determine the worst-case modes. All radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "Justification Section" of this Application. All other measurements were made in accordance with the procedures in part 2 of CFR 47.

2.4 Test Facility

The Semi-Anechoic chamber and shield room used to collect the radiated data and conducted data are **Shenzhen NTEK Testing Technology Co., Ltd.** and located at No. 24 Xinfa East Road Xiangshan Community, Xinqiao St, Baoan District, Shenzhen, Guangdong, China. This test facility and site measurement data have been fully placed on file with the FCC (Registration Number: CN11884).

3.0 System Test Configuration

3.1 Justification

The system was configured for testing in a typical fashion (as a customer would normally use it), and in the confines as outlined in ANSI C63.10 (2013).

The EUT was powered by DC 14.5V from adapter input and DC 21.6V from the battery during the test. The radiation emission test was powered by the battery and the conducted emission test was powered by the adapter. Only the worst data is reported in this report.

For maximizing emissions below 30 MHz, the EUT was rotated through 360°, the centre of the loop antenna was placed 1 meter above the ground, and the antenna polarization was changed. For maximizing emissions, the EUT was rotated through 360°, the antenna height was varied from 1 meter to 4 meters above the ground plane, and the antenna polarization was changed. This step by step procedure for maximizing emissions led to the data reported in Section 4.

The EUT and transmitting antenna was centered on the turntable.

The equipment under test (EUT) was configured for testing in a typical fashion (as a customer would normally use it). The EUT was placed on a turn table, which enabled the engineer to maximize emissions through its placement in the three orthogonal axes.

3.2 EUT Exercising Software

The EUT exercise program (provided by client) used during testing was designed to exercise the various system components in a manner similar to a typical use.

The fixed frequency software uses ESP32, version v3.6.

3.3 Special Accessories

No special accessories used.

3.4 Equipment Modification

Any modifications installed previous to testing by EcoFlow Inc. will be incorporated in each production model sold / leased in the United States.

No modifications were installed by Shenzhen NTEK Testing Technology Co., Ltd.

3.5 Measurement Uncertainty

When determining the test conclusion, the Measurement Uncertainty of test has been considered.

3.6 Support Equipment List and Description

Description	Manufacturer	Remark
Adapter	FOSHAN SHUNDE GUANYUDA POWER SUPPLY CO.,LTD	Model: GM95-145600-D Input: 100-240V- 50-60Hz 2.5A Max Output: 14.5V⎓6.0A 87.0W
Car charger	FOSHAN SHUNDE GUANYUDA P OWER SUPPLY CO., LTD.	DC 12/24V
Battery	EcoFlow Inc.	DC 21.6V, 13.8Ah, 298.08Wh

4.0 Emission Results

Data is included worst-case configuration (the configuration which resulted in the highest emission levels).

4.1 Radiated Test Results

A sample calculation, configuration photographs and data tables of the emissions are included.

4.1.1 Field Strength Calculation

The field strength is calculated by adding the reading on the Spectrum Analyzer to the factors associated with preamplifiers (if any), antennas, cables, pulse desensitization and average factors (when specified limit is in average and measurements are made with peak detectors). A sample calculation is included below.

Emission Level= Meter Reading+ Factor, Margin= Emission Level – Limit

4.1.2 Radiated Emission Configuration Photograph

For electronic filing, the worst case radiated emission configuration photograph is saved with filename: radiated photos. pdf.

4.1.3 Radiated Emissions

The data on the following page lists the significant emission frequencies, the limit and the margin of compliance. Numbers with a minus sign are below the limit.

Worst Case Radiated Emission
at
779.6067 MHz

Judgement: Passed by 8.57dB

TEST PERSONNEL:

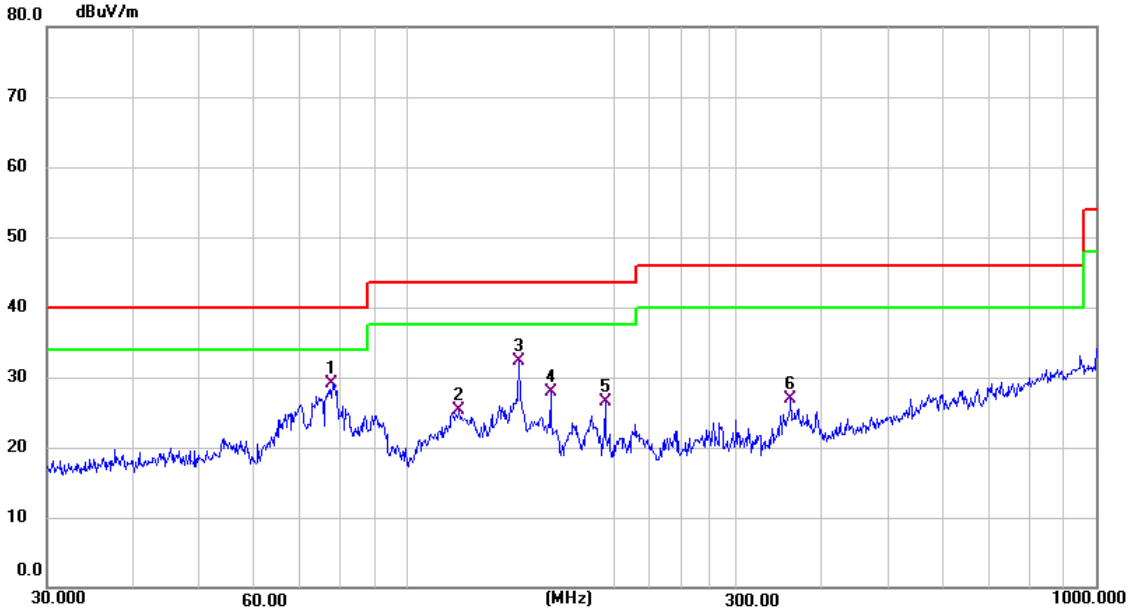
Sign on file

Robin Zhou, Senior Project Engineer
Typed/Printed Name

26 March 2025
Date

Applicant: EcoFlow Inc.
Date of Test: 26 March 2025 Model: EF-GC-H-35
Worst Case Operating Mode: BT Link Worst Case Test Voltage: DC 21.6V by battery

ANT Polarity: Horizontal

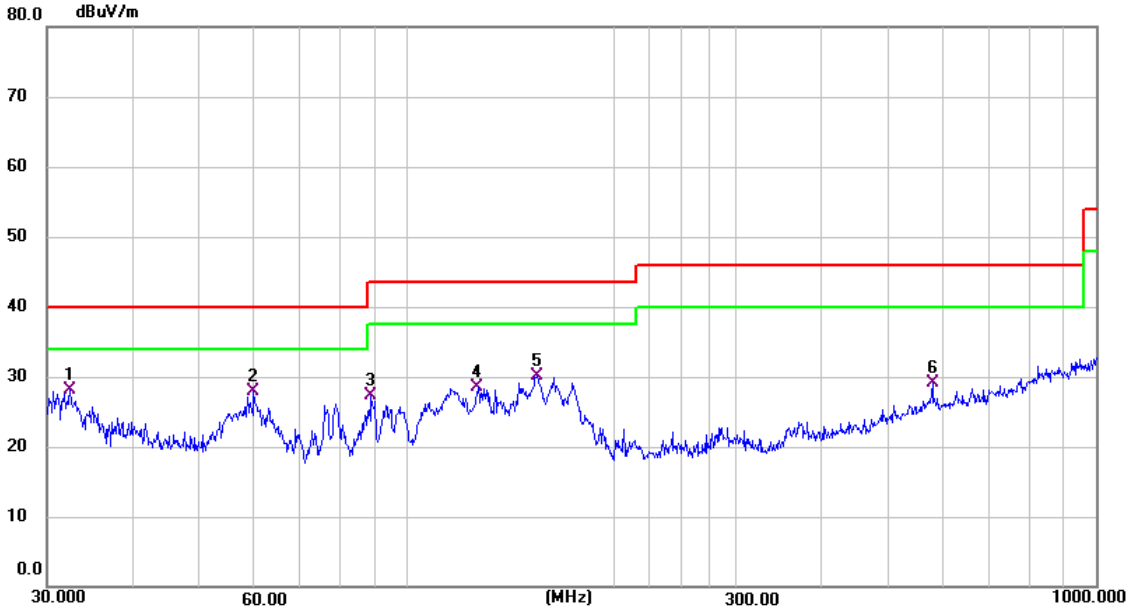


Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
77.8650	14.33	14.69	29.02	40.00	-10.98	QP
119.0180	8.21	17.05	25.26	43.50	-18.24	QP
145.3510	18.08	14.27	32.35	43.50	-11.15	QP
161.4740	13.07	14.83	27.90	43.50	-15.60	QP
193.7730	9.61	16.98	26.59	43.50	-16.91	QP
360.4480	4.96	21.90	26.86	46.00	-19.14	QP

Remark:
1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)
2. Level (dBµV/m) = Factor (dB/m) + Reading (dBµV)
3. Margin (dB) = Limit (dBµV/m) – Level (dBµV/m)

Applicant: EcoFlow Inc.
Date of Test: 26 March 2025 Model: EF-GC-H-35
Worst Case Operating Mode: BT Link Worst Case Test Voltage: DC 21.6V by battery

ANT Polarity: Vertical

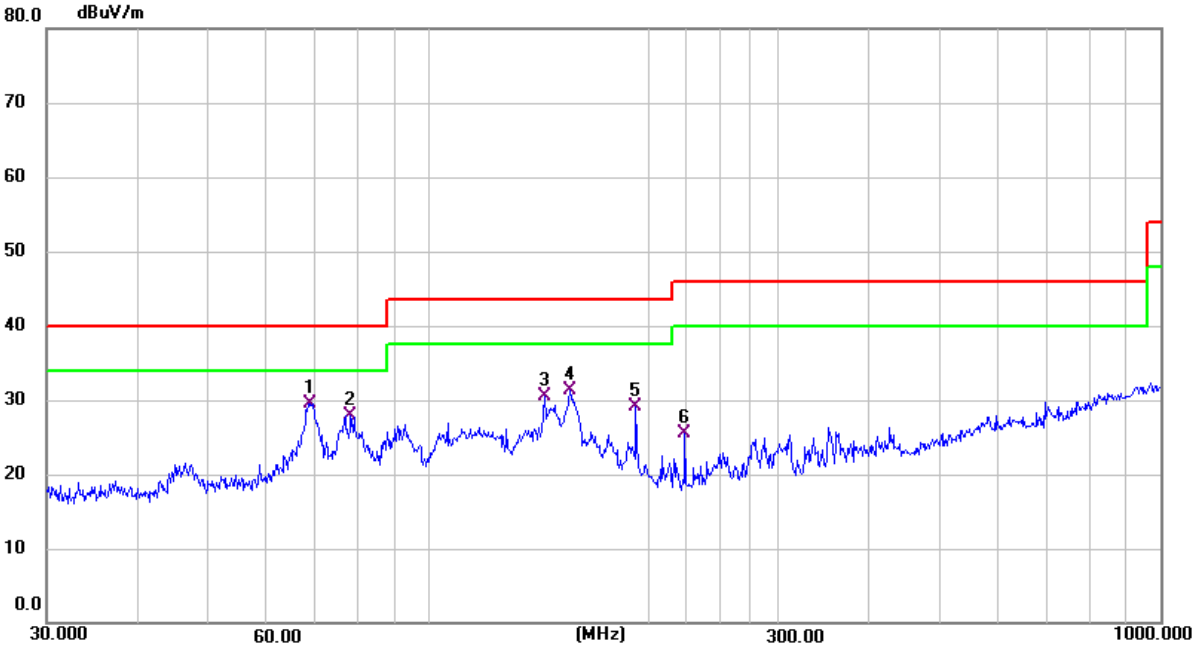


Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
32.4060	10.54	17.59	28.13	40.00	-11.87	QP
59.8590	8.87	18.95	27.82	40.00	-12.18	QP
88.6524	12.44	14.80	27.24	43.50	-16.26	QP
126.7720	13.22	15.22	28.44	43.50	-15.06	QP
154.2790	15.63	14.57	30.20	43.50	-13.30	QP
578.6700	2.40	26.70	29.10	46.00	-16.90	QP

Remark:
1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)
2. Level (dBµV/m) = Factor (dB/m) + Reading (dBµV)
3. Margin (dB) = Limit (dBµV/m) – Level (dBµV/m)

Applicant: EcoFlow Inc.
Date of Test: 26 March 2025 Model: EF-GC-H-45
Worst Case Operating Mode: BT Link Worst Case Test Voltage: DC 21.6V by battery

ANT Polarity: Horizontal

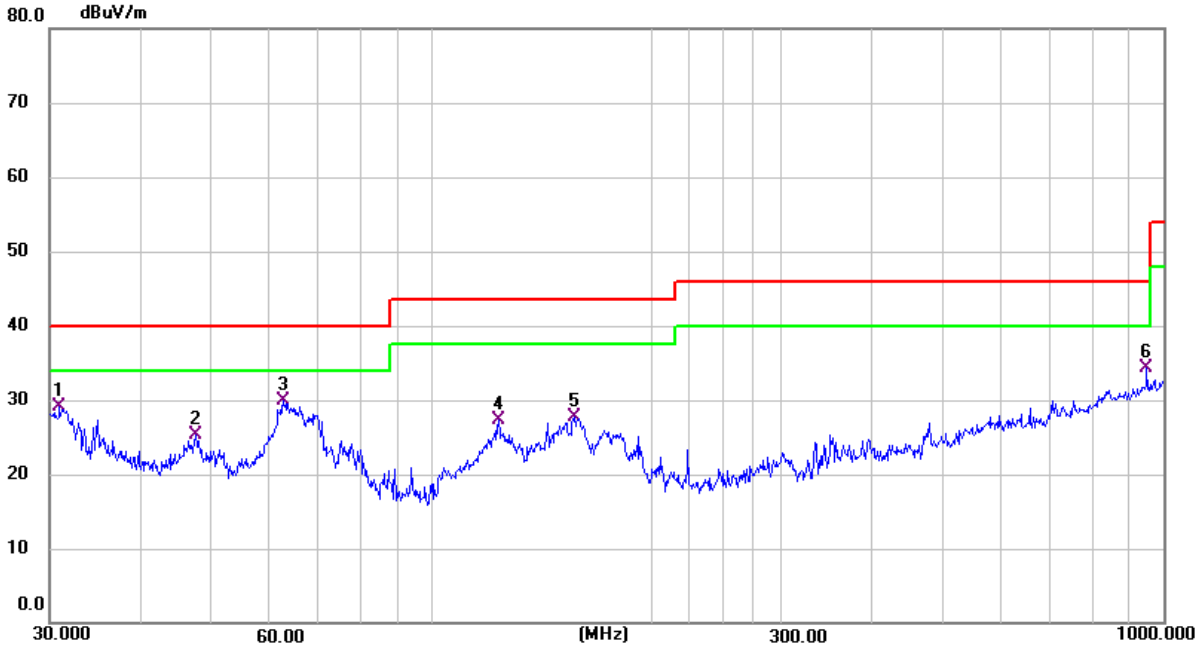


Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
68.6310	12.49	17.10	29.59	40.00	-10.41	QP
78.1388	13.25	14.67	27.92	40.00	-12.08	QP
143.8294	16.23	14.24	30.47	43.50	-13.03	QP
155.9100	16.51	14.89	31.40	43.50	-12.10	QP
191.7450	12.38	16.72	29.10	43.50	-14.40	QP
223.7333	6.71	18.86	25.57	46.00	-20.43	QP

Remark:
1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)
2. Level (dBµV/m) = Factor (dB/m) + Reading (dBµV)
3. Margin (dB) = Limit (dBµV/m) – Level (dBµV/m)

Applicant: EcoFlow Inc.
Date of Test: 26 March 2025 Model: EF-GC-H-45
Worst Case Operating Mode: BT Link Worst Case Test Voltage: DC 21.6V by battery

ANT Polarity: Vertical

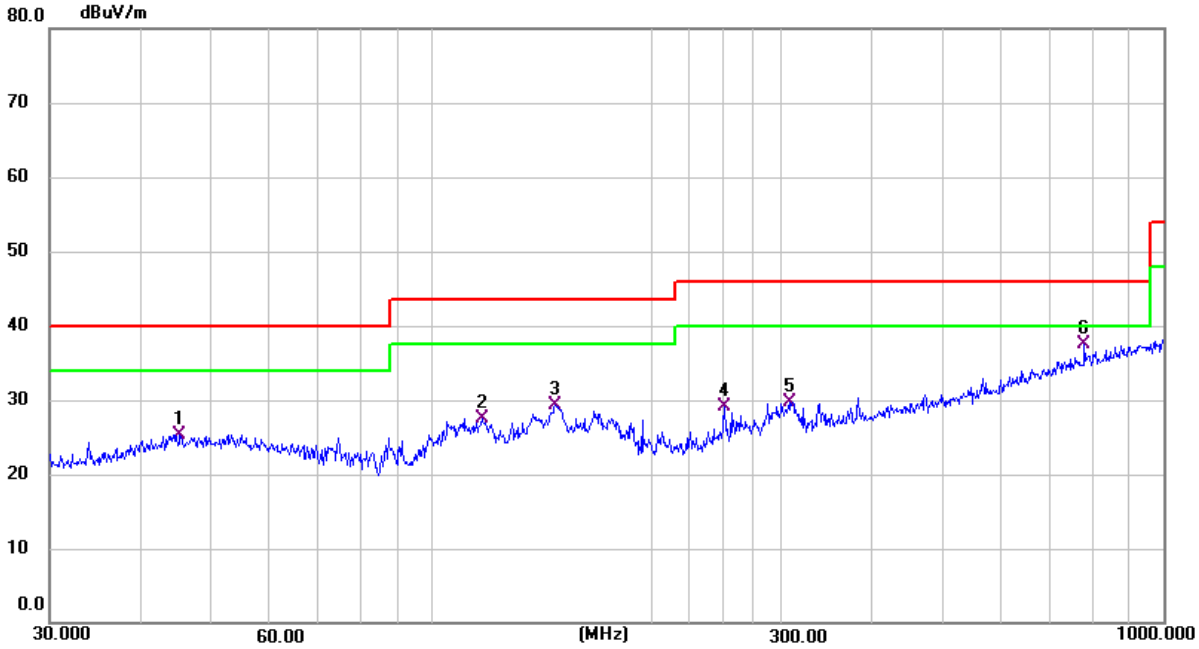


Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
30.9618	11.69	17.38	29.07	40.00	-10.93	QP
47.4917	5.69	19.64	25.33	40.00	-14.67	QP
62.6506	11.34	18.55	29.89	40.00	-10.11	QP
123.2654	11.31	15.96	27.27	43.50	-16.23	QP
156.4577	12.95	14.82	27.77	43.50	-15.73	QP
948.7610	3.49	30.90	34.39	46.00	-11.61	QP

Remark:
1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)
2. Level (dBµV/m) = Factor (dB/m) + Reading (dBµV)
3. Margin (dB) = Limit (dBµV/m) – Level (dBµV/m)

Applicant: EcoFlow Inc.
Date of Test: 26 March 2025 Model: EF-GC-H-55
Worst Case Operating Mode: BT Link Worst Case Test Voltage: DC 21.6V by battery

ANT Polarity: Horizontal

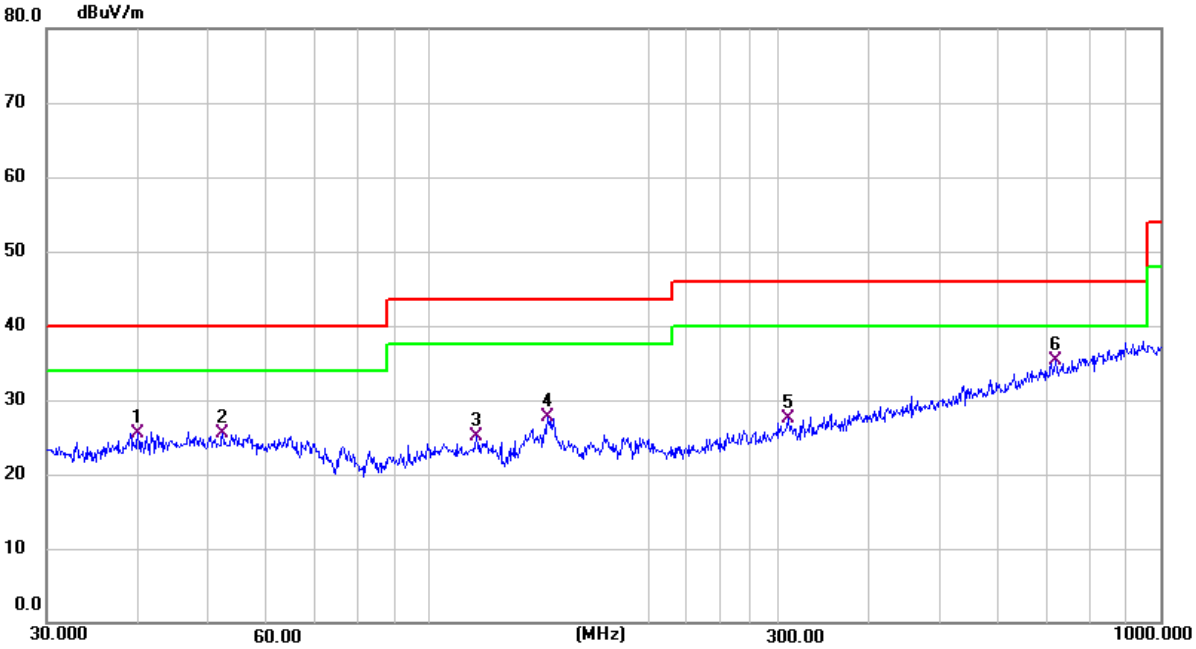


Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
45.2165	5.85	19.50	25.35	40.00	-14.65	QP
116.9492	11.00	16.55	27.55	43.50	-15.95	QP
147.4036	14.76	14.59	29.35	43.50	-14.15	QP
251.1802	9.67	19.45	29.12	46.00	-16.88	QP
308.9125	9.05	20.64	29.69	46.00	-16.31	QP
779.6067	8.01	29.42	37.43	46.00	-8.57	QP

Remark:
1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)
2. Level (dBµV/m) = Factor (dB/m) + Reading (dBµV)
3. Margin (dB) = Limit (dBµV/m) – Level (dBµV/m)

Applicant: EcoFlow Inc.
Date of Test: 26 March 2025 Model: EF-GC-H-55
Worst Case Operating Mode: BT Link Worst Case Test Voltage: DC 21.6V by battery

ANT Polarity: Vertical



Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
39.9941	6.92	18.63	25.55	40.00	-14.45	QP
52.2077	6.07	19.49	25.56	40.00	-14.44	QP
116.1320	8.16	16.88	25.04	43.50	-18.46	QP
145.3505	13.23	14.49	27.72	43.50	-15.78	QP
309.9977	6.80	20.66	27.46	46.00	-18.54	QP
719.1992	6.54	28.83	35.37	46.00	-10.63	QP

Remark:
1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)
2. Level (dBµV/m) = Factor (dB/m) + Reading (dBµV)
3. Margin (dB) = Limit (dBµV/m) – Level (dBµV/m)

4.1.4 Transmitter Spurious Emissions (Radiated)

Worst Case Radiated Emission
at
7440.000 MHz

For electronic filing, the worst case radiated emission configuration photograph is saved with filename: radiated photos. pdf.

The data on the following page lists the significant emission frequencies, the limit and the margin of compliance. Numbers with a minus sign are below the limit.

Judgement: Passed by 3.52 dB

TEST PERSONNEL:

Sign on file

Robin Zhou, Senior Project Engineer
Typed/Printed Name

16 April 2025
Date

Applicant: EcoFlow Inc.
Date of Test: 16 April 2025 Worst Case Model: EF-GC-H-55
Worst Case Operating Mode: Transmitting Worst Case Test Voltage: DC 21.6V by battery

Table 1

BLE 1M:

Radiated Emissions

(2402MHz)

Polarization	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
Horizontal	2402.000	96.35	-19.21	77.14	114.00	-36.86	peak
Horizontal	4804.000	65.63	-13.02	52.61	74.00	-21.39	peak
Horizontal	7206.000	52.82	-8.07	44.75	74.00	-29.25	peak
Horizontal	9608.000	48.28	-5.18	43.10	74.00	-30.90	peak
Horizontal	12010.000	46.72	-0.77	45.95	74.00	-28.05	peak

Polarization	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
Horizontal	2402.000	95.35	-19.21	76.14	94.00	-17.86	AVG
Horizontal	4804.000	63.44	-13.02	50.42	54.00	-3.58	AVG
Horizontal	7206.000	49.92	-8.07	41.85	54.00	-12.15	AVG
Horizontal	9608.000	42.38	-5.18	37.20	54.00	-16.80	AVG
Horizontal	12010.000	40.07	-0.77	39.30	54.00	-14.70	AVG

Notes:
1. Peak detector is used for the emission measurement (RBW=1MHz / VBW=3MHz for Peak value, and RBW=1MHz / VBW=10Hz for Average value; RBW=3MHz is used for fundamental emission measurement).

2. All measurements were made at 3 meter. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna is used for the emission over 1000MHz.

BLE 1M:

Radiated Emissions

(2402MHz)

Polarization	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
Horizontal	2402.000	96.37	-19.21	77.16	114.00	-36.84	peak
Horizontal	4804.000	65.90	-13.02	52.88	74.00	-21.12	peak
Horizontal	7206.000	59.27	-8.07	51.20	74.00	-22.80	peak
Horizontal	9608.000	57.39	-5.18	52.21	74.00	-21.79	peak
Horizontal	12010.000	50.77	-0.77	50.00	74.00	-24.00	peak

Polarization	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
Horizontal	2402.000	94.66	-19.21	75.45	94.00	-18.55	AVG
Horizontal	4804.000	62.33	-13.02	49.31	54.00	-4.69	AVG
Horizontal	7206.000	54.78	-8.07	46.71	54.00	-7.29	AVG
Horizontal	9608.000	53.97	-5.18	48.79	54.00	-5.21	AVG
Horizontal	12010.000	45.30	-0.77	44.53	54.00	-9.47	AVG

Notes:
1. Peak detector is used for the emission measurement (RBW=1MHz / VBW=3MHz for Peak value, and RBW=1MHz / VBW=10Hz for Average value; RBW=3MHz is used for fundamental emission measurement).

2. All measurements were made at 3 meter. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna is used for the emission over 1000MHz.

Applicant: EcoFlow Inc.
Date of Test: 16 April 2025
Worst Case Operating Mode: Transmitting
Worst Case Model: EF-GC-H-55
Worst Case Test Voltage: DC 21.6V by battery

Table 2

BLE 1M:

Radiated Emissions

(2440MHz)

Polarization	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
Horizontal	2440.000	96.54	-19.04	77.50	114.00	-36.50	peak
Horizontal	4880.000	65.75	-13.23	52.52	74.00	-21.48	peak
Horizontal	7320.000	59.39	-8.11	51.28	74.00	-22.72	peak
Horizontal	9760.000	59.48	-5.61	53.87	74.00	-20.13	peak
Horizontal	12200.000	50.96	-1.51	49.45	74.00	-24.55	peak

Polarization	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
Horizontal	2440.000	95.60	-19.04	76.56	94.00	-17.44	AVG
Horizontal	4880.000	63.67	-13.23	50.44	54.00	-3.56	AVG
Horizontal	7320.000	57.92	-8.11	49.81	54.00	-4.19	AVG
Horizontal	9760.000	55.38	-5.61	49.77	54.00	-4.23	AVG
Horizontal	12200.000	46.95	-1.51	45.44	54.00	-8.56	AVG

Notes:
1. Peak detector is used for the emission measurement (RBW=1MHz / VBW=3MHz for Peak value, and RBW=1MHz / VBW=10Hz for Average value; RBW=3MHz is used for fundamental emission measurement).

2. All measurements were made at 3 meter. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna is used for the emission over 1000MHz.

BLE 2M:

Radiated Emissions

(2440MHz)

Polarization	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
Horizontal	2440.000	96.58	-19.04	77.54	114.00	-36.46	peak
Horizontal	4880.000	63.94	-13.23	50.71	74.00	-23.29	peak
Horizontal	7320.000	63.86	-8.11	55.75	74.00	-18.25	peak
Horizontal	9760.000	59.49	-5.61	53.88	74.00	-20.12	peak
Horizontal	12200.000	50.84	-1.51	49.33	74.00	-24.67	peak

Polarization	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
Horizontal	2440.000	94.65	-19.04	75.61	94.00	-18.39	AVG
Horizontal	4880.000	61.75	-13.23	48.52	54.00	-5.48	AVG
Horizontal	7320.000	55.88	-8.11	47.77	54.00	-6.23	AVG
Horizontal	9760.000	54.25	-5.61	48.64	54.00	-5.36	AVG
Horizontal	12200.000	44.56	-1.51	43.05	54.00	-10.95	AVG

Notes:
1. Peak detector is used for the emission measurement (RBW=1MHz / VBW=3MHz for Peak value, and RBW=1MHz / VBW=10Hz for Average value; RBW=3MHz is used for fundamental emission measurement).

2. All measurements were made at 3 meter. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna is used for the emission over 1000MHz.

Applicant: EcoFlow Inc.
Date of Test: 16 April 2025
Worst Case Operating Mode: Transmitting
Worst Case Model: EF-GC-H-55
Worst Case Test Voltage: DC 21.6V by battery

Table 3

BLE 1M:

Radiated Emissions

(2480MHz)

Polarization	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
Horizontal	2480.000	96.19	-18.45	77.74	114.00	-36.26	peak
Horizontal	4960.000	64.29	-12.07	52.22	74.00	-21.78	peak
Horizontal	7440.000	60.82	-8.54	52.28	74.00	-21.72	peak
Horizontal	9920.000	55.19	-5.21	49.98	74.00	-24.02	peak
Horizontal	12400.000	49.56	-1.60	47.96	74.00	-26.04	peak

Polarization	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
Horizontal	2480.000	95.45	-18.45	77.00	94.00	-17.00	AVG
Horizontal	4960.000	61.58	-12.07	49.51	54.00	-4.49	AVG
Horizontal	7440.000	59.02	-8.54	50.48	54.00	-3.52	AVG
Horizontal	9920.000	49.29	-5.21	44.08	54.00	-9.92	AVG
Horizontal	12400.000	44.90	-1.60	43.30	54.00	-10.70	AVG

Notes:
1. Peak detector is used for the emission measurement (RBW=1MHz / VBW=3MHz for Peak value, and RBW=1MHz / VBW=10Hz for Average value; RBW=3MHz is used for fundamental emission measurement).

2. All measurements were made at 3 meter. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna is used for the emission over 1000MHz.

BLE 2M:

Radiated Emissions

(2480MHz)

Polarization	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
Vertical	2480.000	96.01	-18.45	77.56	114.00	-36.44	peak
Vertical	4960.000	58.67	-12.07	46.60	74.00	-27.40	peak
Vertical	7440.000	50.62	-8.54	42.08	74.00	-31.92	peak
Vertical	9920.000	49.19	-5.21	43.98	74.00	-30.02	peak
Vertical	12400.000	46.78	-1.60	45.18	74.00	-28.82	peak

Polarization	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
Vertical	2480.000	94.24	-18.45	75.79	94.00	-18.21	AVG
Vertical	4960.000	54.29	-12.07	42.22	54.00	-11.78	AVG
Vertical	7440.000	44.84	-8.54	36.30	54.00	-17.70	AVG
Vertical	9920.000	42.66	-5.21	37.45	54.00	-16.55	AVG
Vertical	12400.000	38.45	-1.60	36.85	54.00	-17.15	AVG

Notes:
1. Peak detector is used for the emission measurement (RBW=1MHz / VBW=3MHz for Peak value, and RBW=1MHz / VBW=10Hz for Average value; RBW=3MHz is used for fundamental emission measurement).

2. All measurements were made at 3 meter. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna is used for the emission over 1000MHz.

4.2 Conducted Emission Configuration Photograph

For electronic filing, the worst case radiated emission configuration photographs are saved with filename: conducted photos.pdf.

4.2.1 Conducted Emission

Worst Case Conducted Configuration
at
2.2260MHz

Judgement: Passed by 5.90dB margin

TEST PERSONNEL:

Sign on file

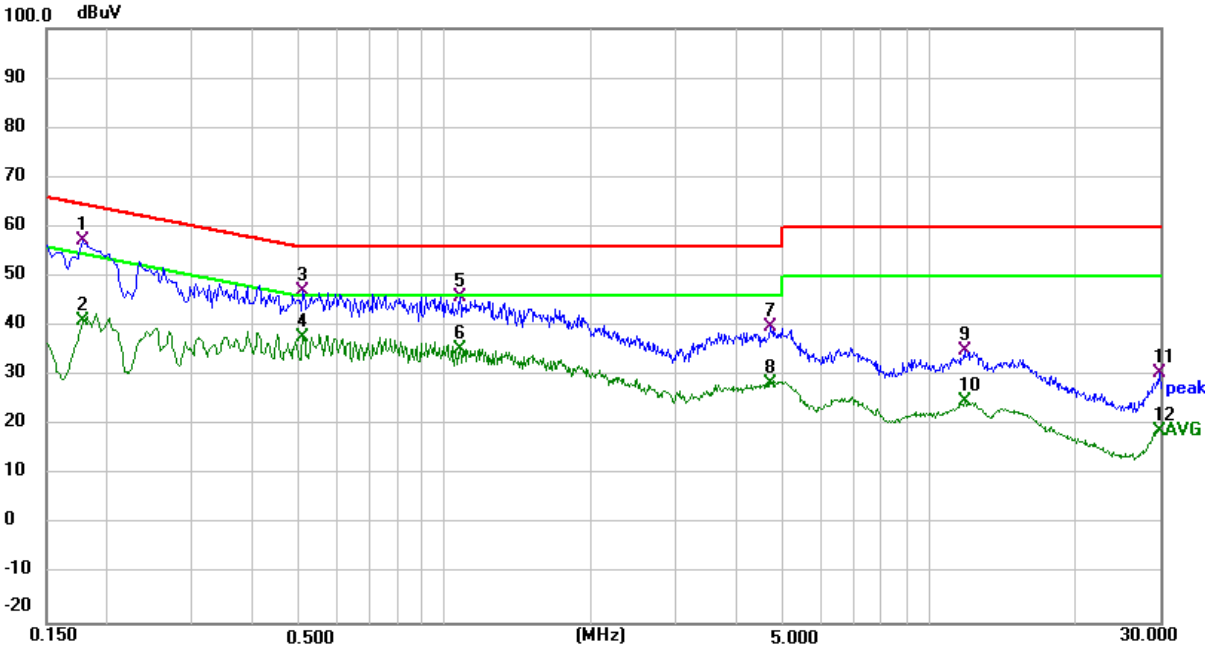
Robin Zhou, Senior Project Engineer
Typed/Printed Name

26 March 2025
Date

Applicant: EcoFlow Inc.
Date of Test: 26 March 2025 Model: EF-GC-H-35
Worst Case Operating Mode: BT Link
Worst Case Test Voltage: DC 14.5V by Adapter from AC mains 120V60Hz
Phase: Live

Graphic / Data Table

Conducted Emissions
Pursuant to FCC 15.207: Emissions Requirement



Limit and Margin QP

Frequency (MHz)	Reading (dBµV)	Factor (dB)	Level (dBµV)	Limit (dBµV)	Margin (dB)	Detector
0.1780	47.29	9.95	57.24	64.58	-7.34	QP
0.5100	36.49	10.64	47.13	56.00	-8.87	QP
1.0740	33.93	11.79	45.72	56.00	-10.28	QP
4.7180	30.09	9.72	39.81	56.00	-16.19	QP
11.8420	25.36	9.80	35.16	60.00	-24.84	QP
29.8820	20.45	10.10	30.55	60.00	-29.45	QP

Limit and Margin AV

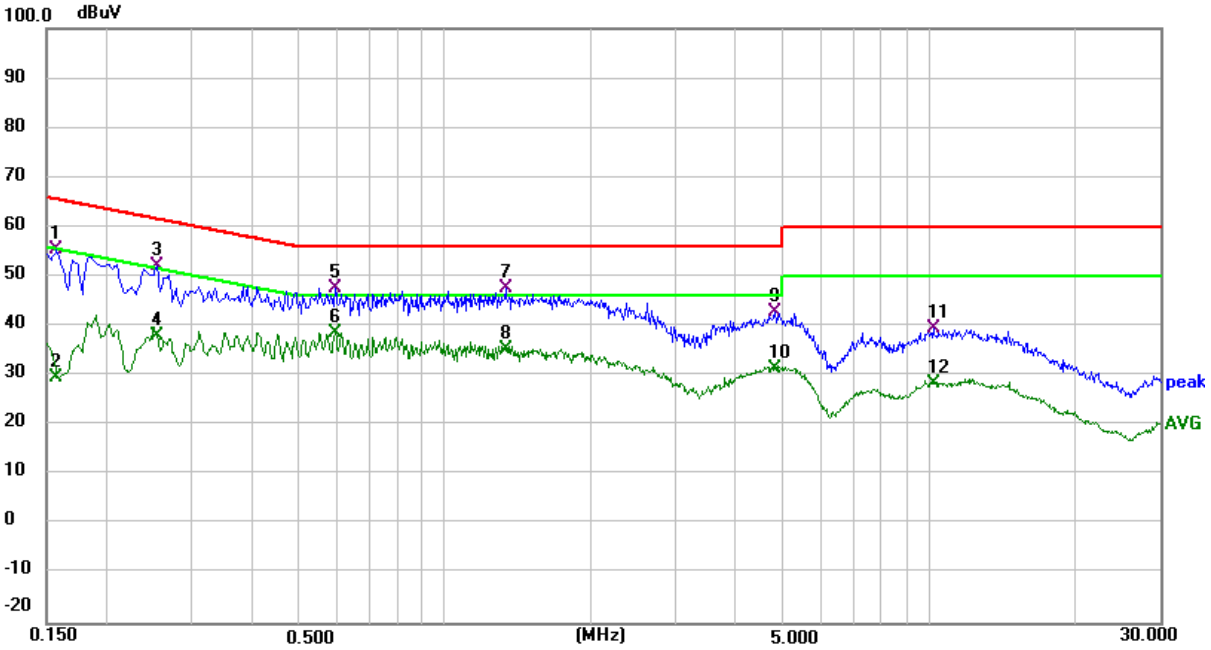
Frequency (MHz)	Reading (dBµV)	Factor (dB)	Level (dBµV)	Limit (dBµV)	Margin (dB)	Detector
0.1780	31.01	9.95	40.96	54.58	-13.62	AVG
0.5100	27.14	10.64	37.78	46.00	-8.22	AVG
1.0740	23.69	11.79	35.48	46.00	-10.52	AVG
4.7180	18.60	9.72	28.32	46.00	-17.68	AVG
11.8420	15.09	9.80	24.89	50.00	-25.11	AVG
29.8820	8.61	10.10	18.71	50.00	-31.29	AVG

Remark:
1. Factor (dB) = LISN Factor (dB) + Cable Loss (dB)
2. Margin (dB) = Limit (dBµV) – Level (dBµV)

Applicant: EcoFlow Inc.
Date of Test: 26 March 2025 Model: EF-GC-H-35
Worst Case Operating Mode: BT Link
Worst Case Test Voltage: DC 14.5V by Adapter from AC mains 120V60Hz
Phase: Neutral

Graphic / Data Table

Conducted Emissions
Pursuant to FCC 15.207: Emissions Requirement



Limit and Margin QP

Frequency (MHz)	Reading (dBµV)	Factor (dB)	Level (dBµV)	Limit (dBµV)	Margin (dB)	Detector
0.1580	45.31	10.03	55.34	65.57	-10.23	QP
0.2540	41.87	10.21	52.08	61.63	-9.55	QP
0.5940	36.67	10.89	47.56	56.00	-8.44	QP
1.3340	35.22	12.40	47.62	56.00	-8.38	QP
4.7980	33.17	9.78	42.95	56.00	-13.05	QP
10.2220	29.64	9.84	39.48	60.00	-20.52	QP

Limit and Margin AV

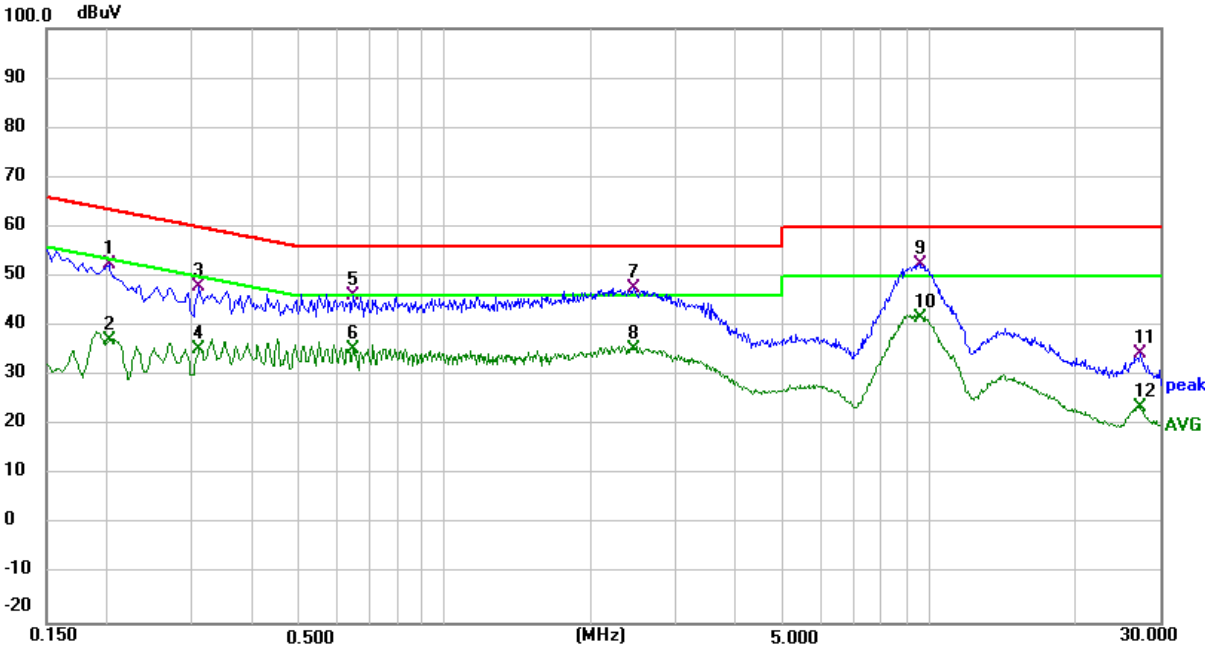
Frequency (MHz)	Reading (dBµV)	Factor (dB)	Level (dBµV)	Limit (dBµV)	Margin (dB)	Detector
0.1580	19.53	10.03	29.56	55.57	-26.01	AVG
0.2540	27.97	10.21	38.18	51.63	-13.45	AVG
0.5940	27.62	10.89	38.51	46.00	-7.49	AVG
1.3340	22.91	12.40	35.31	46.00	-10.69	AVG
4.7980	21.53	9.78	31.31	46.00	-14.69	AVG
10.2220	18.73	9.84	28.57	50.00	-21.43	AVG

Remark:
1. Factor (dB) = LISN Factor (dB) + Cable Loss (dB)
2. Margin (dB) = Limit (dBµV) – Level (dBµV)

Applicant: EcoFlow Inc.
Date of Test: 26 March 2025 Model: EF-GC-H-45
Worst Case Operating Mode: BT Link
Worst Case Test Voltage: DC 14.5V by Adapter from AC mains 120V60Hz
Phase: Live

Graphic / Data Table

Conducted Emissions
Pursuant to FCC 15.207: Emissions Requirement



Limit and Margin QP

Frequency (MHz)	Reading (dBµV)	Factor (dB)	Level (dBµV)	Limit (dBµV)	Margin (dB)	Detector
0.2020	42.44	9.99	52.43	63.53	-11.10	QP
0.3100	37.81	10.21	48.02	59.97	-11.95	QP
0.6460	35.08	10.93	46.01	56.00	-9.99	QP
2.4500	38.02	9.68	47.70	56.00	-8.30	QP
9.5740	42.77	9.78	52.55	60.00	-7.45	QP
27.3060	24.44	10.03	34.47	60.00	-25.53	QP

Limit and Margin AV

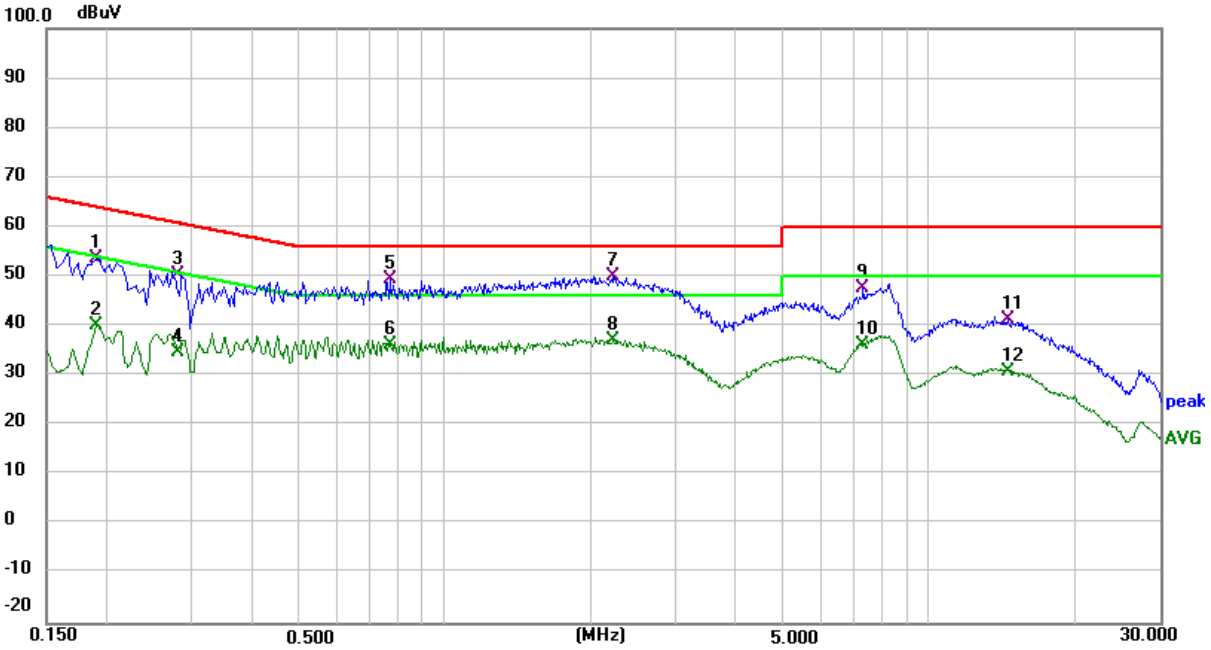
Frequency (MHz)	Reading (dBµV)	Factor (dB)	Level (dBµV)	Limit (dBµV)	Margin (dB)	Detector
0.2020	27.21	9.99	37.20	53.53	-16.33	AVG
0.3100	25.17	10.21	35.38	49.97	-14.59	AVG
0.6460	24.34	10.93	35.27	46.00	-10.73	AVG
2.4500	25.79	9.68	35.47	46.00	-10.53	AVG
9.5740	32.02	9.78	41.80	50.00	-8.20	AVG
27.3060	13.54	10.03	23.57	50.00	-26.43	AVG

Remark:
1. Factor (dB) = LISN Factor (dB) + Cable Loss (dB)
2. Margin (dB) = Limit (dBµV) – Level (dBµV)

Applicant: EcoFlow Inc.
Date of Test: 26 March 2025 Model: EF-GC-H-45
Worst Case Operating Mode: BT Link
Worst Case Test Voltage: DC 14.5V by Adapter from AC mains 120V60Hz
Phase: Neutral

Graphic / Data Table

Conducted Emissions
Pursuant to FCC 15.207: Emissions Requirement



Limit and Margin QP

Frequency (MHz)	Reading (dBµV)	Factor (dB)	Level (dBµV)	Limit (dBµV)	Margin (dB)	Detector
0.1900	43.43	10.09	53.52	64.04	-10.52	QP
0.2819	40.03	10.26	50.29	60.76	-10.47	QP
0.7700	38.20	11.27	49.47	56.00	-6.53	QP
2.2260	40.36	9.74	50.10	56.00	-5.90	QP
7.3020	37.95	9.81	47.76	60.00	-12.24	QP
14.5380	31.59	9.88	41.47	60.00	-18.53	QP

Limit and Margin AV

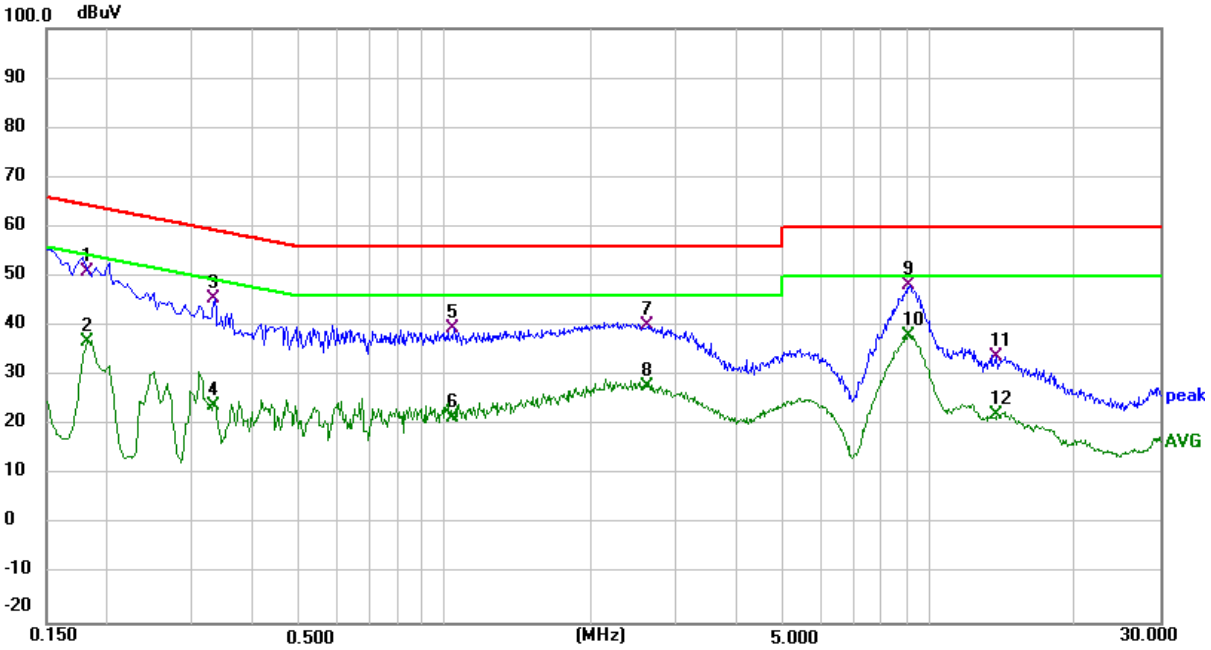
Frequency (MHz)	Reading (dBµV)	Factor (dB)	Level (dBµV)	Limit (dBµV)	Margin (dB)	Detector
0.1900	30.19	10.09	40.28	54.04	-13.76	AVG
0.2819	24.53	10.26	34.79	50.76	-15.97	AVG
0.7700	25.02	11.27	36.29	46.00	-9.71	AVG
2.2260	27.32	9.74	37.06	46.00	-8.94	AVG
7.3020	26.56	9.81	36.37	50.00	-13.63	AVG
14.5380	20.87	9.88	30.75	50.00	-19.25	AVG

Remark:
1. Factor (dB) = LISN Factor (dB) + Cable Loss (dB)
2. Margin (dB) = Limit (dBµV) – Level (dBµV)

Applicant: EcoFlow Inc.
Date of Test: 26 March 2025 Model: EF-GC-H-55
Worst Case Operating Mode: BT Link
Worst Case Test Voltage: DC 14.5V by Adapter from AC mains 120V60Hz
Phase: Live

Graphic / Data Table

Conducted Emissions
Pursuant to FCC 15.207: Emissions Requirement



Limit and Margin QP

Frequency (MHz)	Reading (dBµV)	Factor (dB)	Level (dBµV)	Limit (dBµV)	Margin (dB)	Detector
0.1825	40.92	9.95	50.87	64.37	-13.50	QP
0.3321	35.35	10.25	45.60	59.40	-13.80	QP
1.0380	27.90	11.73	39.63	56.00	-16.37	QP
2.6220	30.44	9.70	40.14	56.00	-15.86	QP
9.0780	38.35	9.77	48.12	60.00	-11.88	QP
13.7140	24.10	9.81	33.91	60.00	-26.09	QP

Limit and Margin AV

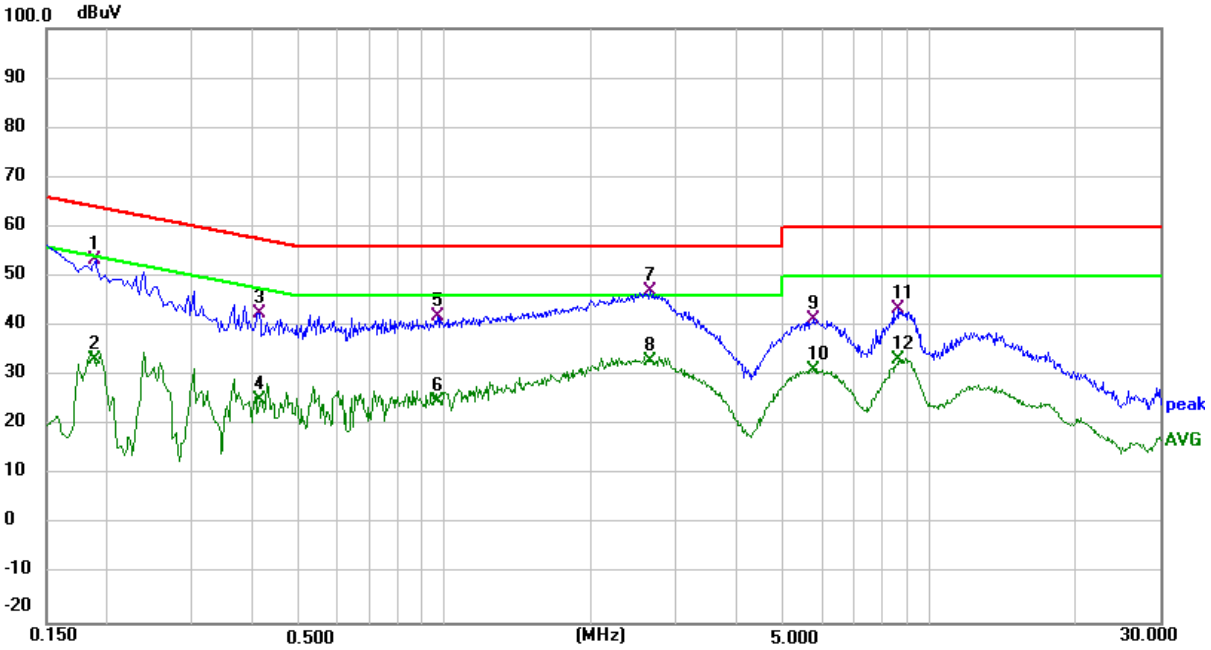
Frequency (MHz)	Reading (dBµV)	Factor (dB)	Level (dBµV)	Limit (dBµV)	Margin (dB)	Detector
0.1825	26.91	9.95	36.86	54.37	-17.51	AVG
0.3321	13.83	10.25	24.08	49.40	-25.32	AVG
1.0380	9.73	11.73	21.46	46.00	-24.54	AVG
2.6220	18.09	9.70	27.79	46.00	-18.21	AVG
9.0780	28.32	9.77	38.09	50.00	-11.91	AVG
13.7140	12.47	9.81	22.28	50.00	-27.72	AVG

Remark:
1. Factor (dB) = LISN Factor (dB) + Cable Loss (dB)
2. Margin (dB) = Limit (dBµV) – Level (dBµV)

Applicant: EcoFlow Inc.
Date of Test: 26 March 2025 Model: EF-GC-H-55
Worst Case Operating Mode: BT Link
Worst Case Test Voltage: DC 14.5V by Adapter from AC mains 120V60Hz
Phase: Neutral

Graphic / Data Table

Conducted Emissions
Pursuant to FCC 15.207: Emissions Requirement



Limit and Margin QP

Frequency (MHz)	Reading (dBµV)	Factor (dB)	Level (dBµV)	Limit (dBµV)	Margin (dB)	Detector
0.1884	43.32	10.09	53.41	64.11	-10.70	QP
0.4140	32.16	10.52	42.68	57.57	-14.89	QP
0.9660	30.33	11.68	42.01	56.00	-13.99	QP
2.6540	37.32	9.76	47.08	56.00	-8.92	QP
5.7819	31.46	9.80	41.26	60.00	-18.74	QP
8.6660	33.54	9.83	43.37	60.00	-16.63	QP

Limit and Margin AV

Frequency (MHz)	Reading (dBµV)	Factor (dB)	Level (dBµV)	Limit (dBµV)	Margin (dB)	Detector
0.1884	23.22	10.09	33.31	54.11	-20.80	AVG
0.4140	14.51	10.52	25.03	47.57	-22.54	AVG
0.9660	13.04	11.68	24.72	46.00	-21.28	AVG
2.6540	23.32	9.76	33.08	46.00	-12.92	AVG
5.7819	21.22	9.80	31.02	50.00	-18.98	AVG
8.6660	23.39	9.83	33.22	50.00	-16.78	AVG

Remark:
1. Factor (dB) = LISN Factor (dB) + Cable Loss (dB)
2. Margin (dB) = Limit (dBµV) – Level (dBµV)

5.0 Equipment Photographs

For electronic filing, the photographs of the tested EUT are saved with filename: external photos.pdf & internal photos.pdf.

6.0 Product Labelling

For electronic filing, the FCC ID label artwork and the label location are saved with filename: label.pdf.

7.0 Technical Specifications

For electronic filing, the block diagram and schematics of the tested EUT are saved with filename: block.pdf and circuit.pdf respectively.

8.0 Instruction Manual

For electronic filing, a preliminary copy of the Instruction Manual is saved with filename: manual.pdf.

This manual will be provided to the end-user with each unit sold/leased in the United States.

9.0 Miscellaneous Information

This miscellaneous information includes details of the measured bandedge, 20dB Bandwidth, the test procedure and calculation of factor such as pulse desensitization.

9.1 Bandedge Plot

The test plots are attached as below. From the below plots, the field strength of any emissions outside of the specified frequency band are attenuated to the general radiated emission limits in section 15.209. It fulfils the requirement of 15.249(d).

Peak Measurement

Bandedge compliance is determined by applying marker-delta method, i.e (Bandedge Plot).

(i) Lowest frequency channel (2402MHz- BLE 1M):

Peak Resultant field strength = Fundamental emissions (peak value) – delta from the bandedge plot

= 77.14 dBµV/m-47.09 dB
= 30.05 dBµV/m

Average Resultant field strength = Fundamental emissions (average value) – delta from the bandedge plot

= 76.14 dBµV/m-47.09 dB
= 29.05 dBµV/m

(ii) Highest frequency channel (2480MHz-BLE 1M):

Peak Resultant field strength = Fundamental emissions (peak value) – delta from the bandedge plot

= 77.74 dBµV/m-62.58 dB
= 15.16 dBµV/m

Average Resultant field strength = Fundamental emissions (average value) – delta from the bandedge plot

= 77.00 dBµV/m-62.58 dB
= 14.42 dBµV/m

(i) Lowest frequency channel (2402MHz-BLE 2M):

Peak Resultant field strength = Fundamental emissions (peak value) – delta from the bandedge plot

= 77.16 dBµV/m-32.5 dB
= 44.66 dBµV/m

Average Resultant field strength = Fundamental emissions (average value) – delta from the bandedge plot

= 75.45 dBµV/m-32.5 dB
= 42.95 dBµV/m

(ii) Highest frequency channel (2480MHz-BLE 2M):

Peak Resultant field strength = Fundamental emissions (peak value) – delta from the bandedge plot

= 77.56 dBµV/m-59.59 dB
= 17.97 dBµV/m

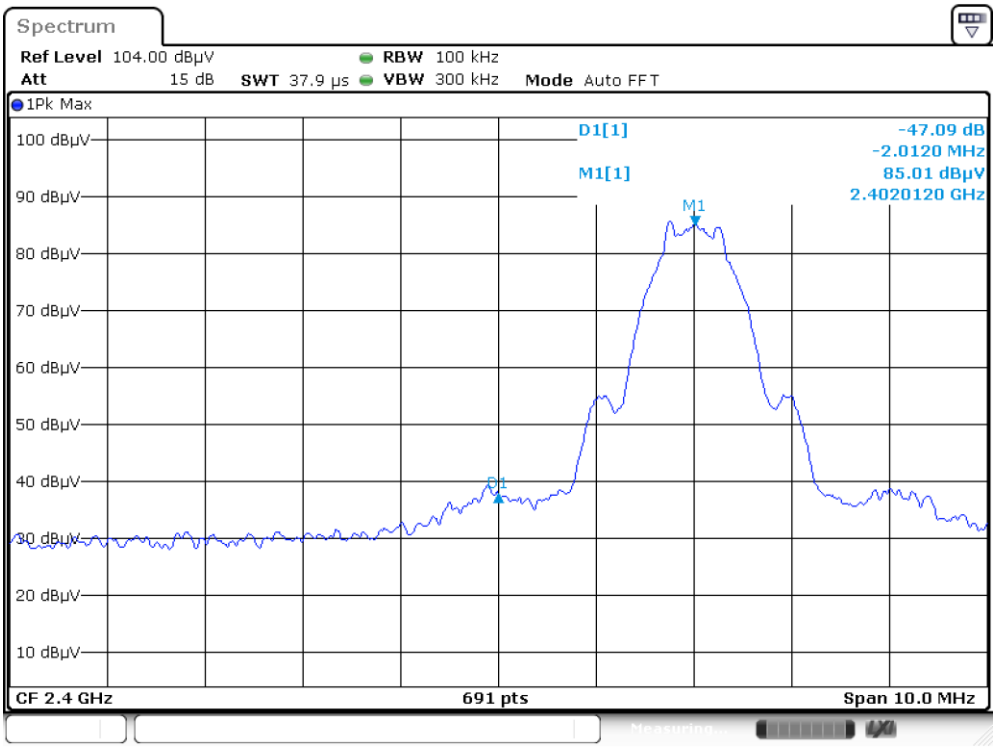
Average Resultant field strength = Fundamental emissions (average value) – delta from the bandedge plot

= 75.79 dBµV/m-59.59 dB
= 16.2 dBµV/m

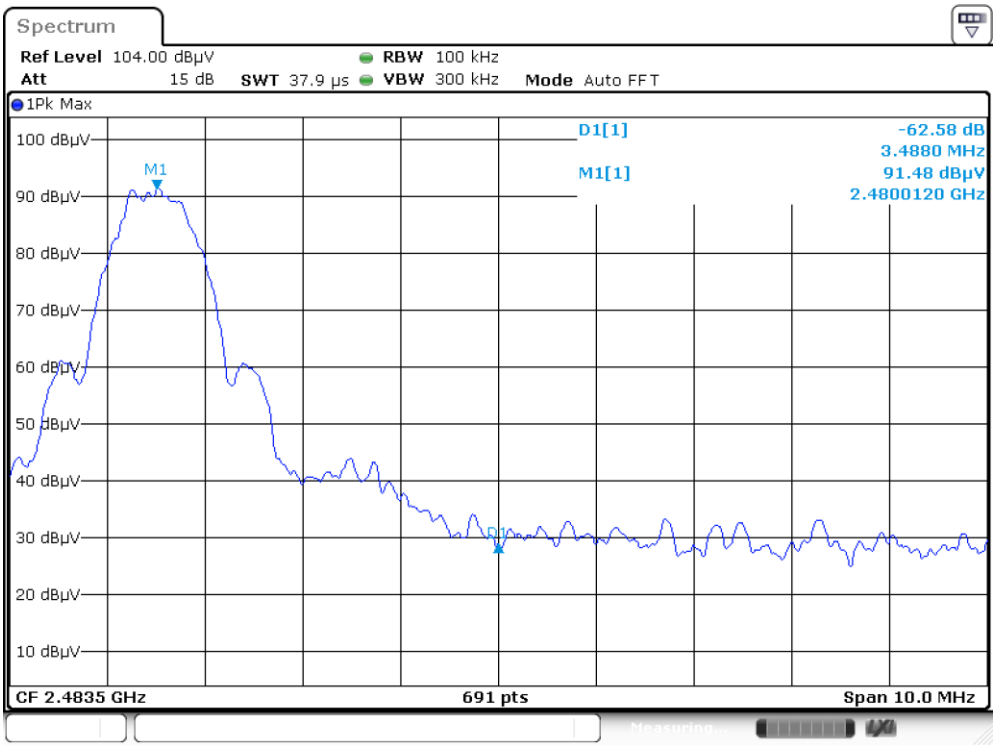
The resultant field strength meets the general radiated emission limit in section 15.209, which does not exceed 74dBµv/m (Peak Limit) and 54dBµv/m (Average Limit).

BLE 1M

Lowest frequency Channel

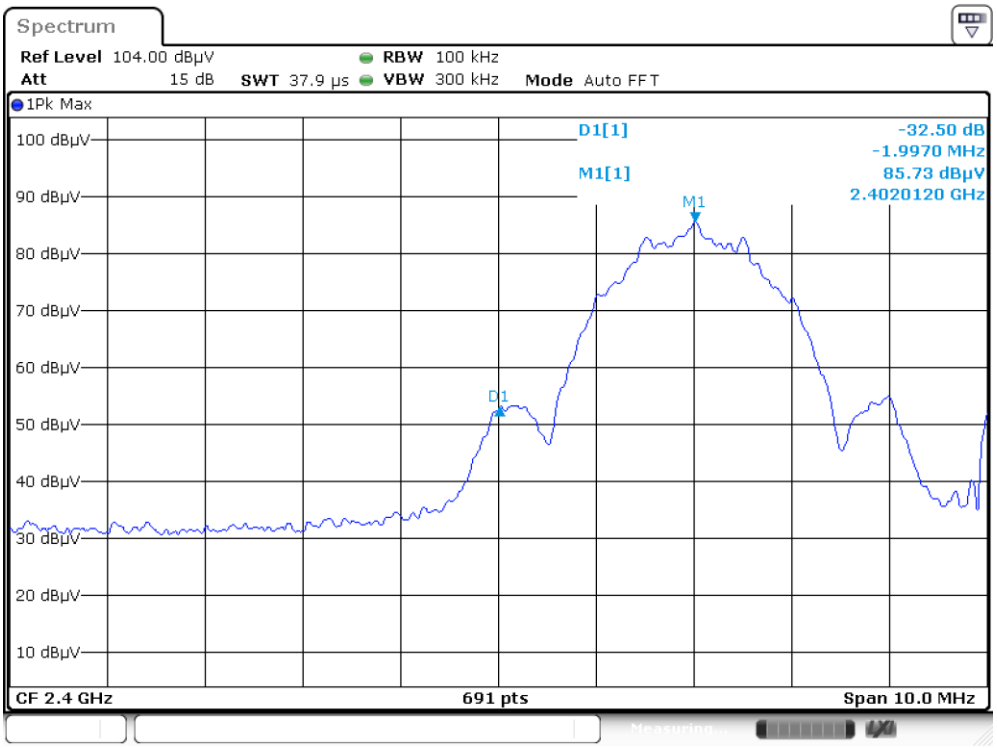


Highest frequency Channel

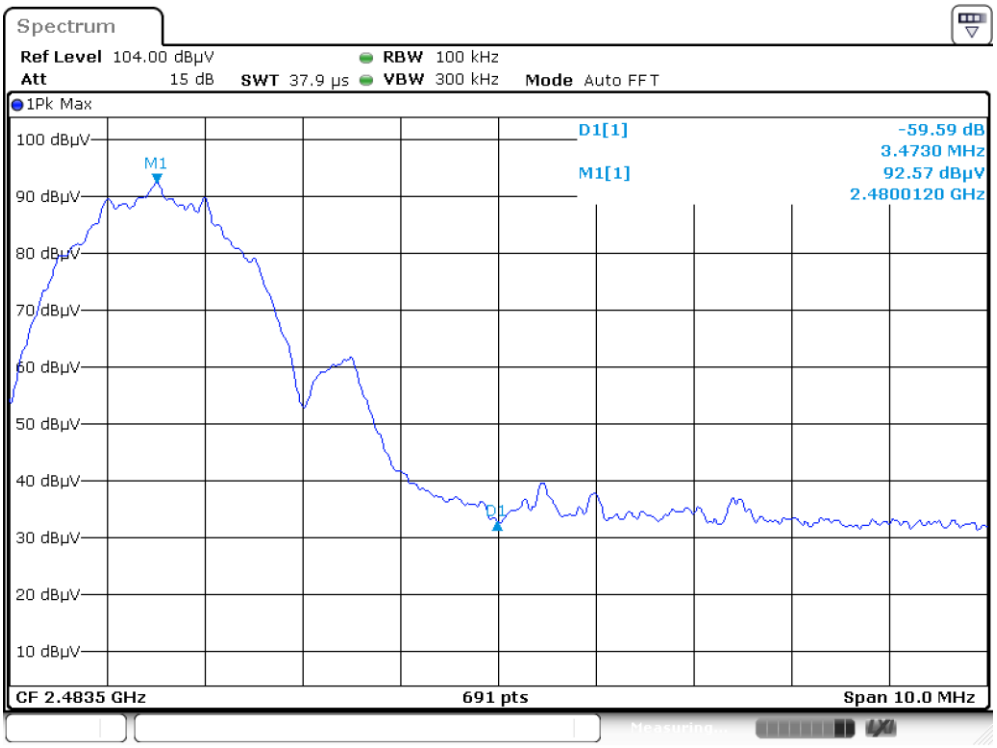


BLE 2M

Lowest frequency Channel



Highest frequency Channel



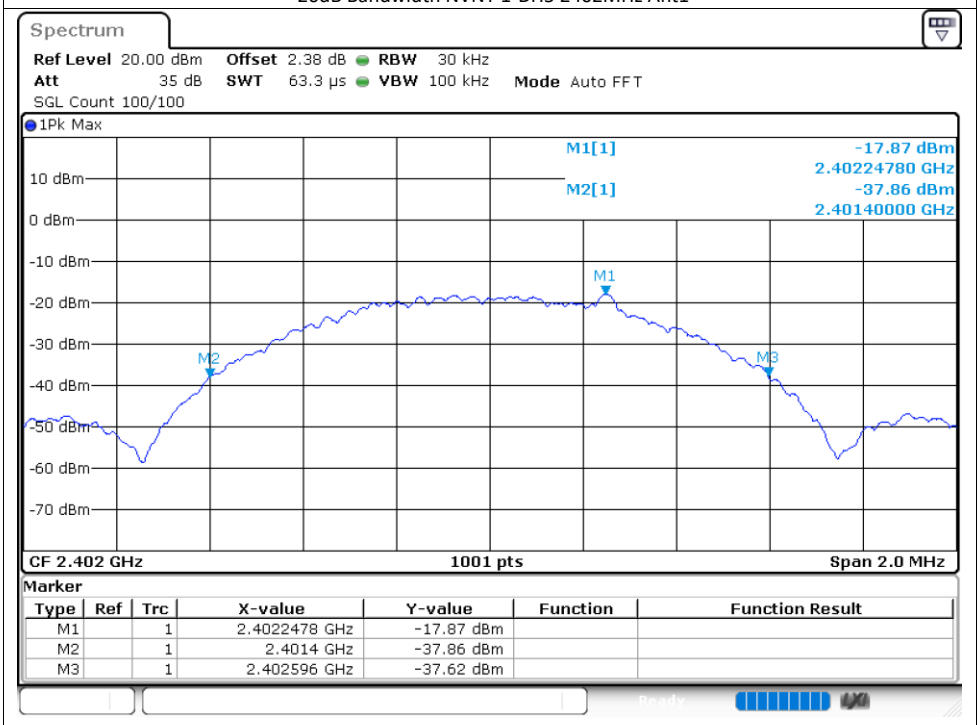
9.2 20dB bandwidth

Pursuant to FCC part 15 Section 15.215(c), the 20dB bandwidth of the emission was contained within the frequency band designated (mentioned as above) which the EUT operated. The effects, if any, from frequency sweeping, frequency hopping, other modulation techniques and frequency stability over excepted variations in temperature and supply voltage were considered. The test plots are reported as below.

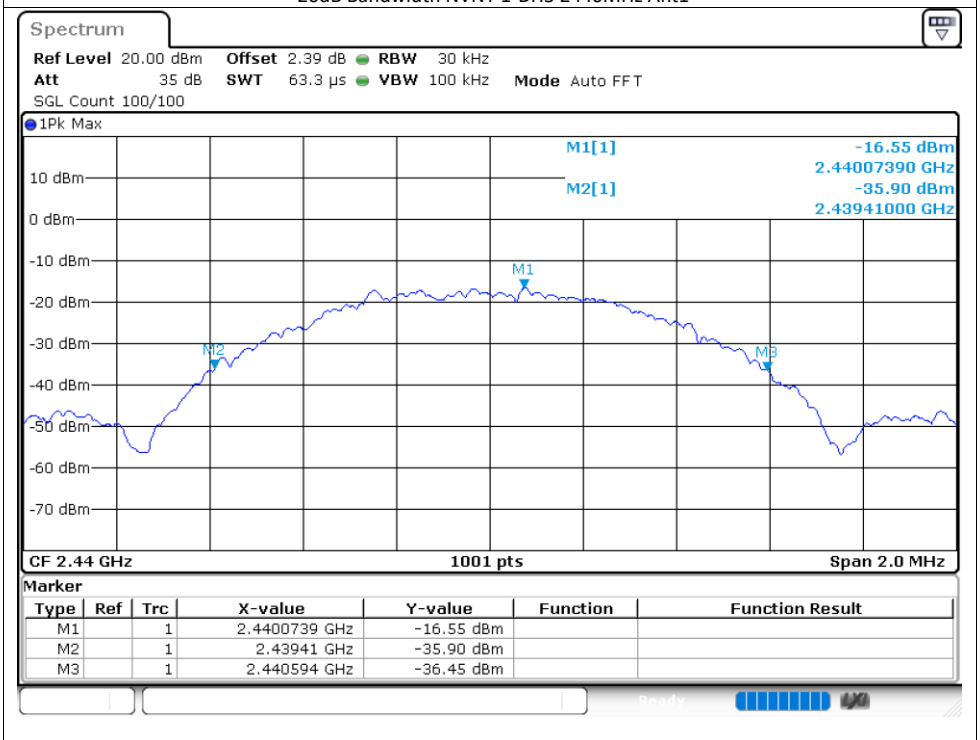
BLE 1M:

Test Graphs

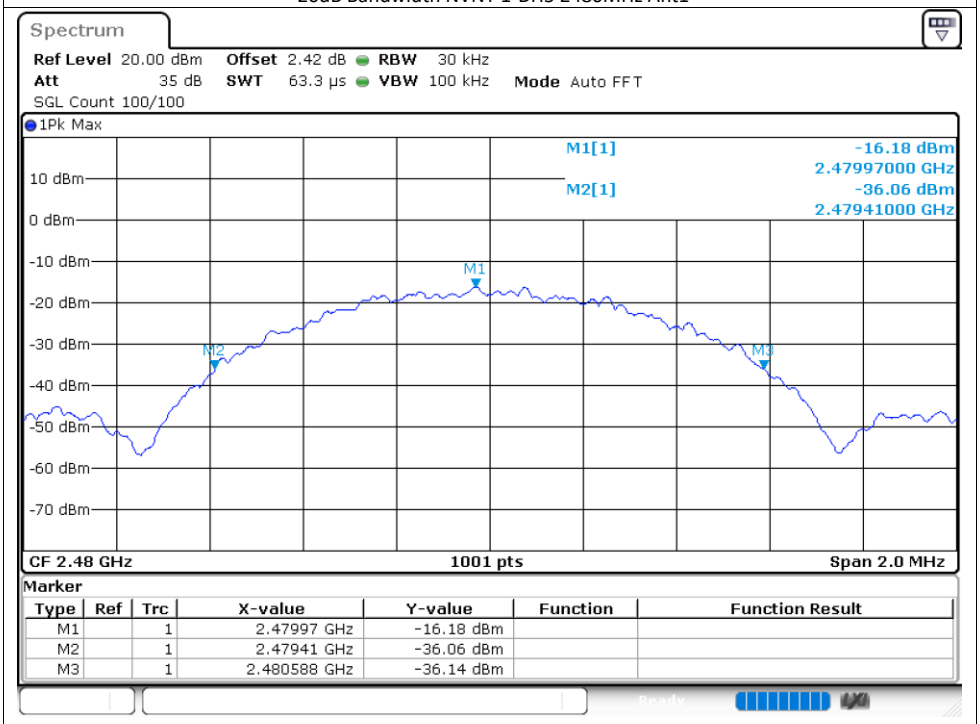
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 1-DH5 2440MHz Ant1



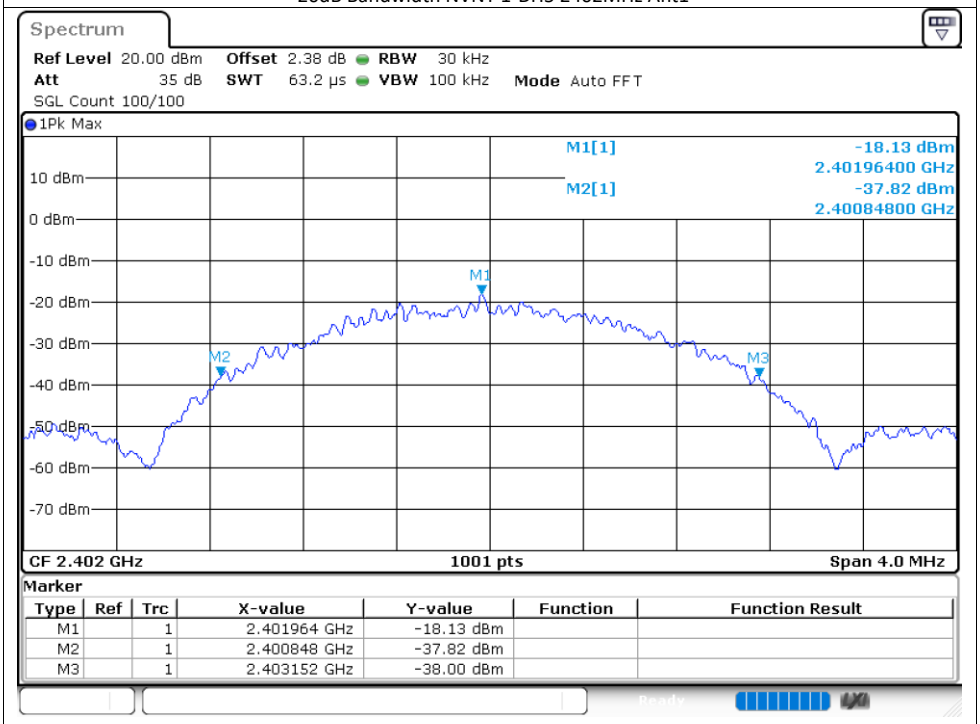
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



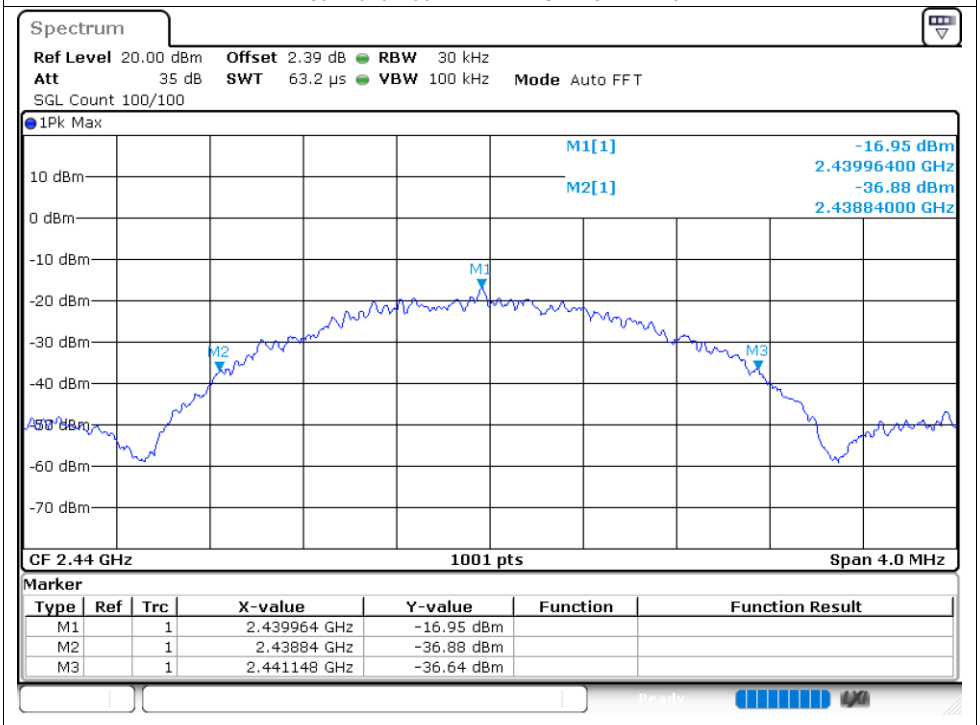
BLE 2M:

Test Graphs

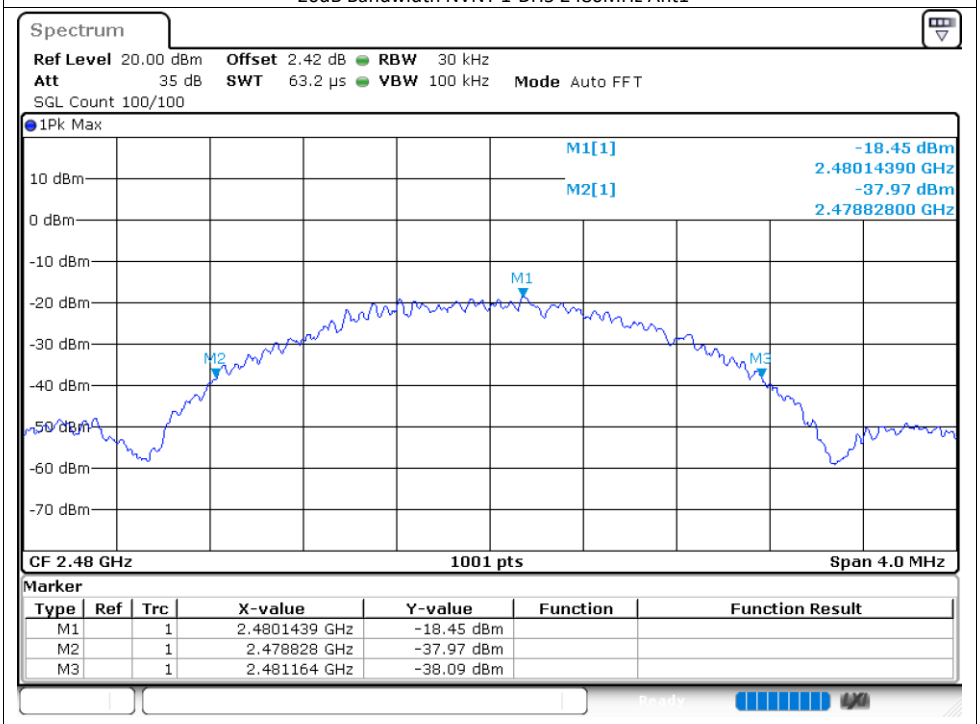
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 1-DH5 2440MHz Ant1



-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



9.3 Discussion of Pulse Desensitization

Pulse desensitivity is not applicable for this device since the transmitter transmits the RF signal continuously.

9.4 Transmitter Duty Cycle Calculation, FCC Rule 15.35(b, c)

The EUT antenna output port was connected to the input of the spectrum analyzer. The analyzer center frequency was set to EUT RF channel carrier. The SWEP function on the analyzer was set to ZERO SPAN. The Transmitter ON time was determined from the resultant time-amplitude display:

	See attached spectrum analyzer chart (s) for Transmitter timing
	See Transmitter timing diagram provided by manufacturer
x	Not applicable, duty cycle was not used.

9.5 Emissions Test Procedures

The following is a description of the test procedure used by Shenzhen NTEK Testing Technology Co., Ltd. in the measurements of transmitters operating under Part 15, Subpart C rules.

The test set-up and procedures described below are designed to meet the requirements of ANSI C63.10 - 2013.

The transmitting equipment under test (EUT) is placed on a styrene turntable which is four feet in diameter and approximately 0.8 meter up to 1GHz and 1.5 meter above 1GHz in height above the ground plane. During the radiated emissions test, the turntable is rotated and any cables leaving the EUT are manipulated to find the configuration resulting in maximum emissions. The EUT is adjust through all three orthogonal axes to obtain maximum emission levels. The antenna height and polarization are varied during the testing to search for maximum signal levels.

Detector function for radiated emissions is in peak mode. Average readings, when required, are taken by measuring the duty cycle of the equipment under test and subtracting the corresponding amount in dB from the measured peak readings. A detailed description for the calculation of the average factor can be found in section 9.4.

The frequency range scanned is from the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or 40 GHz, whichever is lower.

Detector function for conducted emissions is in QP & AV mode and IFBW setting is 9 kHz from the frequency band 150 kHz to 30MHz.

9.5 Emissions Test Procedures (cont'd)

The EUT is warmed up for 15 minutes prior to the test.

AC power to the unit is varied from 85% to 115% nominal and variation in the fundamental emission field strength is recorded. If battery powered, a new, fully charged battery is used.

Conducted measurements are made as described in ANSI C63.10 - 2013.

The IF bandwidth used for measurement of radiated signal strength was 10 kHz for emission below 30 MHz and 120 kHz for emission from 30 MHz to 1000 MHz. Where pulsed transmissions of short enough pulse duration warrant, a greater bandwidth is selected according to the recommendations of Hewlett Packard Application Note 150-2. Above 1000 MHz, a resolution bandwidth of 1 MHz is used (RBW 3MHz used for fundamental emission).

Transmitter measurements are normally conducted at a measurement distance of three meters. However, to assure low enough noise floor in the restricted bands and above 1 GHz, signals are acquired at a distance of one meter or less. All measurements are extrapolated to three meters using inverse scaling, but those measurements taken at a closer distance are so marked.

10.0 Test Equipment List

Radiation& Conducted Test equipment

Equip No.	Description	Manufacturer	Model No.	Cal. Date	Due Date
LES-411-C	3m AnechoicChamber	N/A	9*6*6	2024/6/18	2027/6/17
LES-342-C	EMI Test Receiver	R&S	ESPI3	2024/5/15	2025/5/14
LES-398-C	Log-Periodic Antenna	SCHWARZBECK	VULB 9162	2024/5/18	2025/5/17
LES-345-C	Cable	Talent Microwave	A81-NMNM-8.5M	2024/4/26	2027/4/25
LES-351-C	Cable	Talent Microwave	A81-NMNM-2M	2024/4/26	2027/4/25
LES-039-C	Pre-Amplifier	EMC	EMC051835SE	2024/4/25	2025/4/24
LES-332-C	Broadband Horn Antenna	SCHWARZBECK	BBHA 9120 D	2024/5/18	2027/5/17
LES-046-C	Spectrum Analyzer	Agilent	E4440A	45408	45772
LES-063-C	Filter	TRILTHIC	2400MHz	45408	46502
LES-236-C	Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	45424	46518
LES-235-C	Cable	Keysight	A40-KMKM-8M	45408	46502
LES-234-C	Cable	Keysight	A40-2/92M2/92M-2M	45408	46502
LES-332-C	Broadband Horn Antenna	SCHWARZBECK	BBHA 9120 D	45430	46524
LES-175-C	Spectrum Analyzer	R&S	FSV40	45407	45771

LES-045-C	MXG Vector Signal Generator	Agilent	N5182A	45407	45771
LES-486-C	Wideband Radio Communication Tester Specifications	R&S	CMW500	45764	46128
LES-037-C	USB RF Power Sensor	DARE	RPR3006W	45407	45771
LES-448-C	Filter	COM-MW	k6-2496-2690-10s60100-004	45659	46753

Note:
We will use the temporary antenna connector (soldered on the PCB board) When conducted test
And this temporary antenna connector is listed within the instrument list

AC Conduction Test equipment

Equip No.	Description	Manufacturer	Model No.	Cal. Date	Due Date
LES-021-C	Single Phase LISN	R&S	ENV216	2024/4/25	2025/4/24
LES-008-C	Single Phase LISN	R&S	ENV216	2024/4/25	2027/4/24
LES-076-C	Low Frequency Cable	N/A	R-03	2024/4/25	2027/4/24
LES-075-C	50Ω Coaxial Switch	Anritsu	MP59B	2024/4/26	2027/4/25
LES-001-C	EMI Test Receiver	R&S	ESCI	2024/4/26	2025/4/25

********** End of Report**********