

EcoFlow Inc.

TEST REPORT

SCOPE OF WORK

FCC TESTING—EF-TX-288P

REPORT NUMBER

250728023SZN-002

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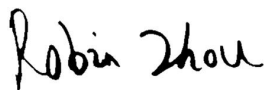


Intertek Report No.: 250728023SZN-002

EcoFlow Inc.Application
For
Certification**FCC ID: 2A2P9-EFTX288****EcoFlow TRAIL Plus 300 DC Portable Power Station (288Wh)****Model: EF-TX-288P****Brand Name: ECOFLOW; EF ECOFLOW****Bluetooth Transceiver**

Report No.: 250728023SZN-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 [10-1-24]

Prepared and Checked by:**Robin Zhou**
Senior Project Engineer**Approved by:**

Johnny Wang
Project Engineer
Date: 10 October 2025

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MEASUREMENT/TECHNICAL REPORT

This report concerns (check one) Original Grant ☒ Class II Change ☐

Equipment Type: DTS - Part 15 Digital Transmission Systems (Bluetooth transmitter portion)

Deferred grant requested per 47 CFR 0.457(d)(1)(ii)? Yes ☐ No ☒

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 ☒

If no, assumed Part 15, Subpart C for intentional radiator - the new 47 CFR [10-01-24] Edition] provision.

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1.0 Summary of Test results

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-TX-288P

FCC ID: 2A2P9-EFTX288

TEST ITEM	REFERENCE	RESULTS
Max. Output power	15.247(b)(3)	Pass
6 dB Bandwidth	15.247(a)(2)	Pass
Max. Power Density	15.247(e)	Pass
Out of Band Antenna Conducted Emission	15.247(d)	Pass
Radiated Emission in Restricted Bands	15.247(d), 15.209, FCC 15.205	Pass
AC Conducted Emission	15.207	Pass
Antenna Requirement	15.203	Pass (See Notes)

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 EcoFlow TRAIL Plus 300 DC Portable Power Station (288Wh), EF-TX-288P with Bluetooth function operating at 2402-2480MHz for LE, 40 channels with 2MHz channel spacing.

Ratings:

Lithium Battery Energy: 2000mAh, 14.4V/288Wh

Rated Capacity: 50Ah(DC 5V, 3A)

USB-C1/C2/C3 Input: DC 9V/12V/15V, 3A, DC 20/28V, 5A, 140W Max

Solar Input: DC 10-30V, 10A Max, 110W Max

USB-A1/A2 Output: DC 5V, 2.4A, 12W Max per port, 24W total

USB-C1/C2/C3 Output: DC 5V/9V/12V/15V, 3A, DC 20/28V, 5A, 140W Max

Car Outlet: DC 12V, 10A

Total Output Power: 300W Max

Type of Modulation: GFSK

Antenna Type: PCB Antenna

Antenna Gain: 4.3dBi (This information is provided by applicant, and the applicant is responsible for the authenticity of the provided information.)

Bluetooth Version: 5.3 BLE (Single Mode BLE only, support 1M and 2M)

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:

DTS- Part 15 Digital Transmission Systems (Bluetooth transmitter portion).

Remaining portions are subject to the following procedures:

1. Receiver portion of Bluetooth: exempt from technical requirement of this Part.
2. Other Digital Function: Subject to FCC Part 15B SDOC.

2.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.10-2020 + Cor.1-2023 and KDB 558074 D01 v05r02. 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.

2.4 Test Facility

The Semi-anechoic chamber and shielded room used to collect the radiated data and conducted data are Shenzhen NTEK Testing Technology Co., Ltd. and located at No. 24 Xinfu 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: CN1184).

3.0 System Test Configuration

3.1 Justification

For emissions testing, the equipment under test (EUT) setup to transmit continuously to simplify the measurement methodology.

The EUT can be powered by DC 14.4 V from battery, or 10V-30V from solar energy or USB-C1 DC 28V powered by adapter from AC mains 120V60Hz during the test. Only presents the worst data.

On Bluetooth LE mode, only one antenna is used, and all data rate were tested and only the worst case data is shown in the report.

For maximizing emissions, the EUT was rotated through 360°, the EUT was placed on the styrene turntable with 0.8m up to 1GHz and 1.5 m above 1GHz. The 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 three 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.

All readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance. Analyzer resolution is 100 kHz or greater for frequencies below 1000 MHz. The resolution is 1 MHz or greater for frequencies above 1000 MHz. The spurious emissions more than 20 dB below the permissible value are not reported.

The EUT and transmitting antenna was centered on the turntable.

Radiated emission measurement were performed 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 to 40 GHz, whichever is lower.

3.2 EUT Exercising Software

The EUT exercise program (provided by client) used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use. The worst case configuration is used in all specified testing.

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

The parameters of test software setting:

During the test, Channel and power controlling software provided by the applicant was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the application and is going to be fixed on the firmware of the end product.

3.3 Special Accessories

N/A.

3.4 Measurement Uncertainty

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

Measurement Uncertainty	Uncertainty
Conducted Emission Test	$\pm 2.80\text{dB}$
RF power, conducted, PSD	$\pm 0.16\text{dB}$
Spurious emissions, conducted	$\pm 0.21\text{dB}$
All emissions, radiated(30MHz~1GHz)	$\pm 2.64\text{dB}$
All emissions, radiated(1GHz~6GHz)	$\pm 2.40\text{dB}$
All emissions, radiated(>6GHz)	$\pm 2.52\text{dB}$
Temperature	$\pm 0.5^{\circ}\text{C}$
All emissions, radiated(9KHz~30MHz)	$\pm 6\text{dB}$
Occupied bandwidth	$\pm 4.7\text{dB}$

3.5 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.

3.6 Support Equipment List and Description

Description	Manufacturer	Remark
Adapter	Ugreen, CD333	Input: AC 100-240V, 50/60Hz, 4.2A Max. Output: USB-C1: DC 5V/9V/12V/15V, 3A, DC 20V/28V, 5A, 140W Max. USB-C2/C3: DC 5V/9V/12V/15V, 3A, DC 20V, 5A, 100W Max. USB-C4: DC 5V/9V/12V/15V, 3A / DC 20V, 2.25A, 45W Max. USB-A: DC 5V, 3A, DC 9V, 2A, DC 12V, 1.5A, DC 10V, 2.25A, 22.5W Max.
Adapter	Lenovo, LA140	Input: AC 100-130V, 50/60Hz, 2.5A Output: DC 5V/9V/12V/15V, 3A, DC 20V, 5A, 100W Max. Input: AC 200-240V, 50/60Hz, 2.5A Output: DC 5V/9V/12V/15V, 3A, DC 20V/28V, 5A, 140W Max.

Applicant: EcoFlow Inc.

Date of Test: 22 September 2025

Worst Case Model: EF-TX-288P

4.0 Measurement Results

4.1 Maximum Conducted Output Power at Antenna Terminals, FCC Rules 15.247(b)(3):

According to the KDB-558074 D01 v05r02 Sub clause 8.3.2.2 and ANSI C63.10-2020 + Cor.1-2023 Sub clause 11.9.2.2, when this option is exercised, the measured power is to be referenced to the OBW rather than the DTS bandwidth.

- a) Set the RBW $\geq$ DTS bandwidth.
- b) Set VBW $\geq 3 \times$ RBW.
- c) Set span $\geq 3 \times$ RBW
- d) Sweep time = auto couple.
- e) Detector = peak.
- f) Trace mode = max hold.
- g) Allow trace to fully stabilize.
- h) Use peak marker function to determine the peak amplitude level.

Antenna 4.3dBi, the maximum allowed transmitter output is 30dBm

LE (Antenna Gain = 4.3dBi) (GFSK, 1Mbps)		
Frequency (MHz)	Output in dBm (Peak Reading)	Output in mWatt
Low Channel: 2402	-1.7	0.6761
Middle Channel: 2440	-0.54	0.8831
High Channel: 2480	-0.02	0.9954

LE (Antenna Gain = 4.3dBi) (GFSK, 2Mbps)		
Frequency (MHz)	Output in dBm (Peak Reading)	Output in mWatt
Low Channel: 2402	-1.38	0.7278
Middle Channel: 2440	-0.53	0.8851
High Channel: 2480	0.19	1.0447

Cable loss: 1.5 dB External Attenuation: 0 dB

Cable loss, external attenuation has been included in OFFSET function

EUT max. output level = 0.19dBm

For RF Exposure, the information is saved with filename: RF exposure.pdf.

Applicant: EcoFlow Inc.

Date of Test: 22 September 2025

Worst Case Model: EF-TX-288P

4.2 Minimum 6 dB RF Bandwidth, FCC Rule 15.247(a) (2):

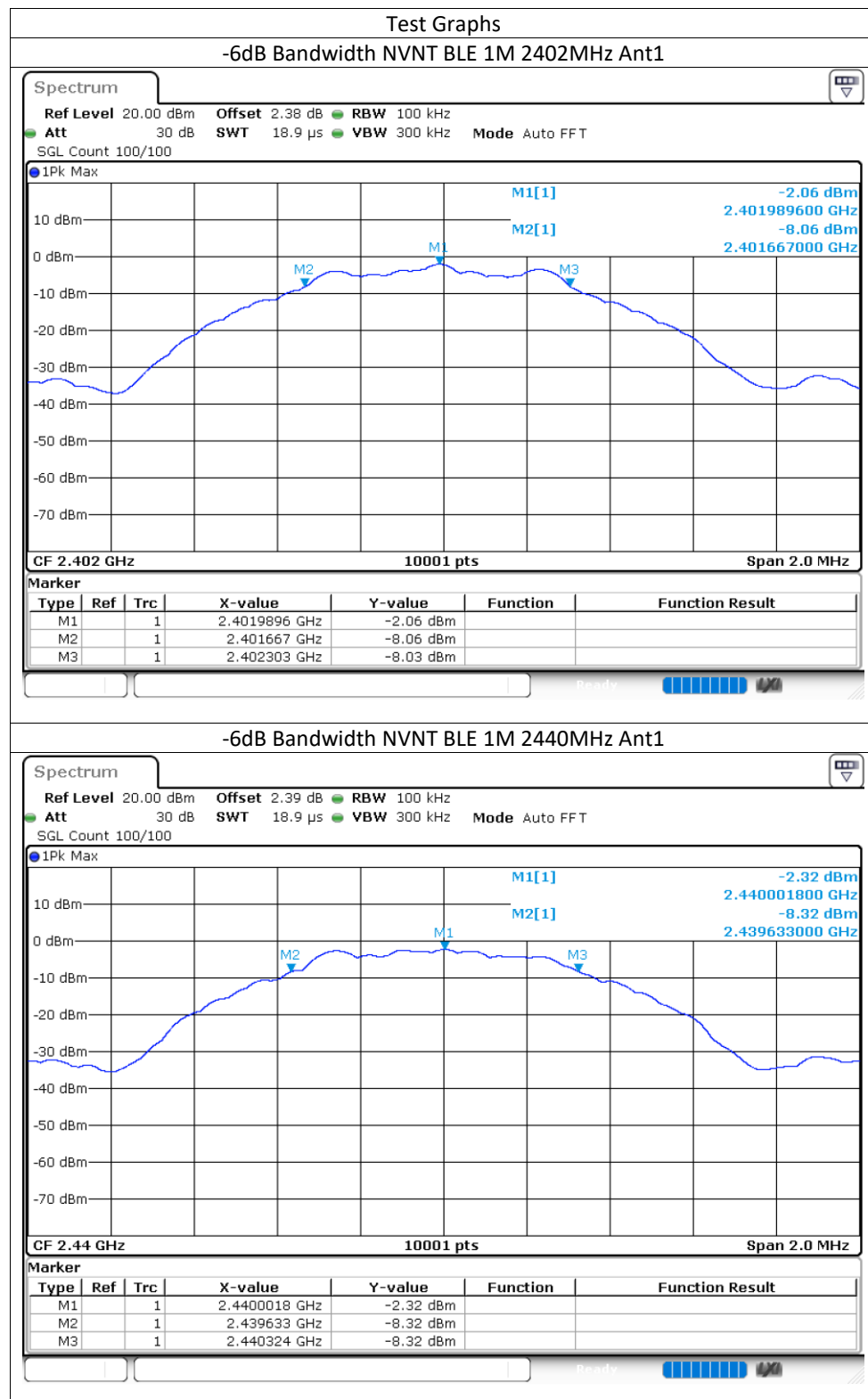
The antenna port of the EUT was connected to the input of a spectrum analyzer. Analyzer RES BW was set to 100 KHz according to FCC KDB 558074 D01 v05r02. For each RF output channel investigated, the spectrum analyzer center frequency was set to the channel carrier. A PEAK output reading was taken, a DISPLAY line was drawn 6 dB lower than PEAK level. The 6dB bandwidth was determined from where the channel output spectrum intersected the display line.

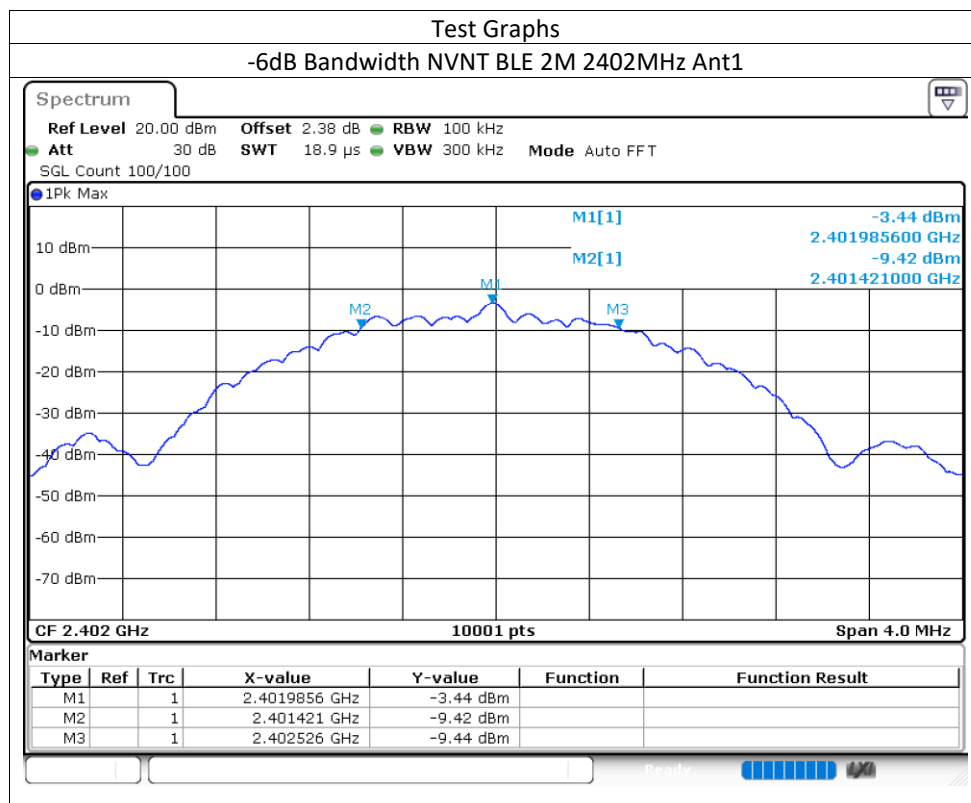
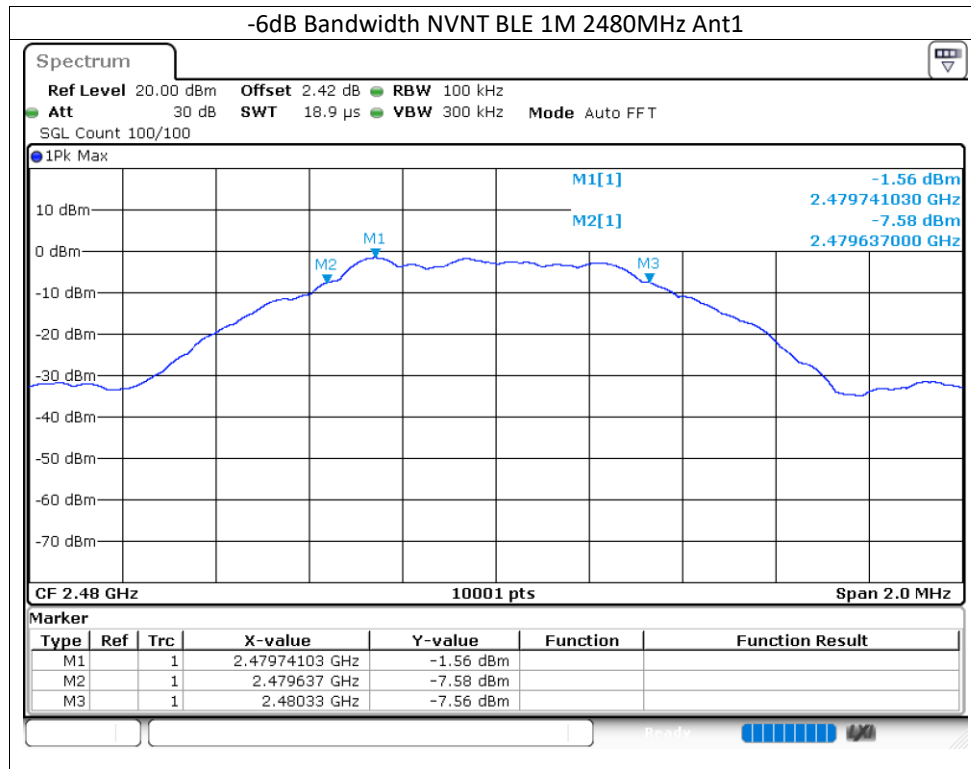
Limit: The 6 dB Bandwidth is at least 500 kHz.

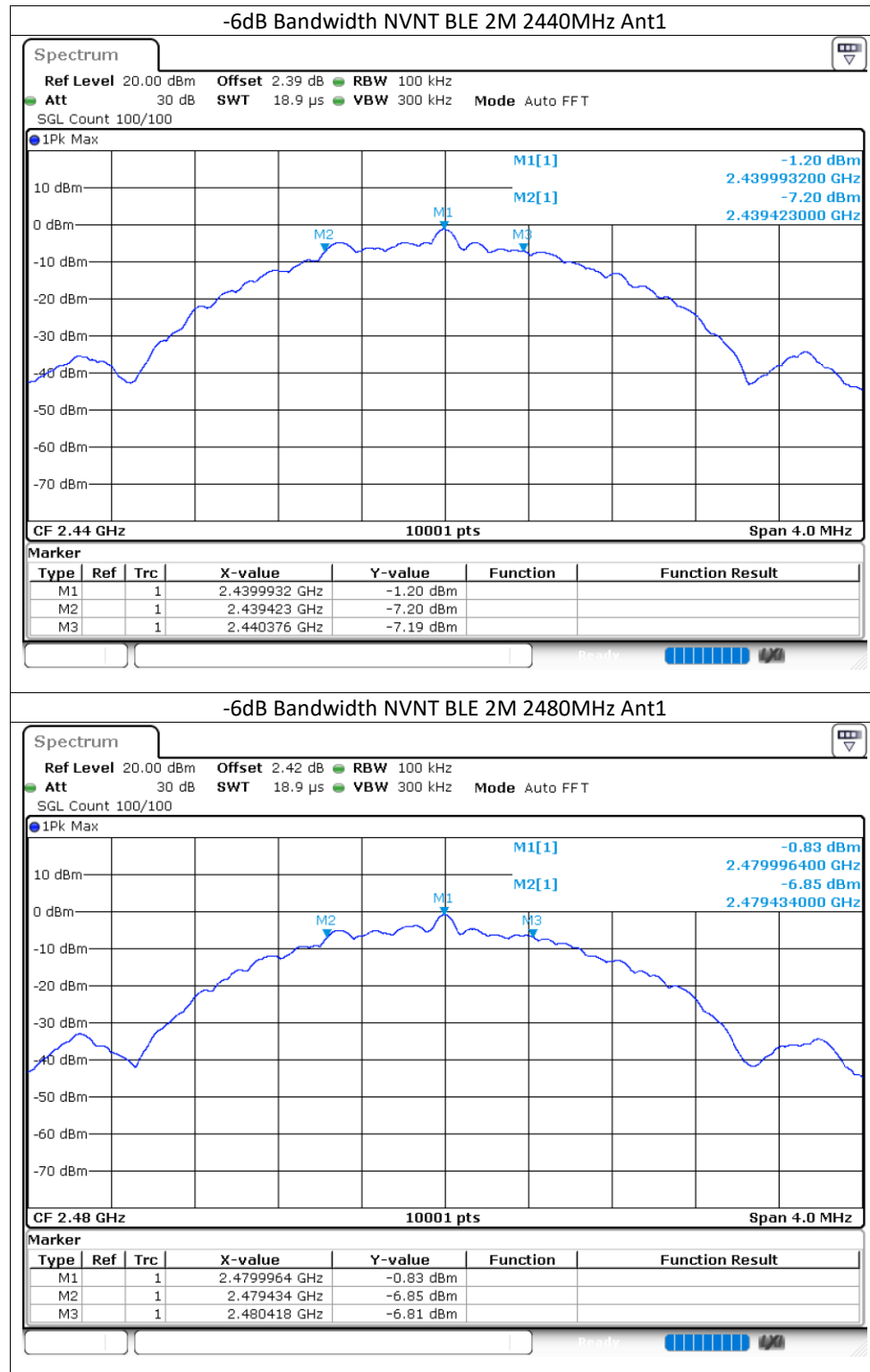
LE (GFSK, 1Mbps)	
Frequency (MHz)	6 dB Bandwidth (MHz)
2402	0.636
2440	0.691
2480	0.693

LE (GFSK, 2Mbps)	
Frequency (MHz)	6 dB Bandwidth (MHz)
2402	1.105
2440	0.952
2480	0.984

The test plots are attached as below.







Applicant: EcoFlow Inc.

Date of Test: 22 September 2025

Worst Case Model: EF-TX-288P

4.3 Maximum Power Density Reading, FCC Rule 15.247(e):

According to the KDB 558074 D01 v05r02 Subclause 8.4 and ANSI C63.10-2020 + Cor.1-2023 Subclause 11.10.3, such specifications require that the same method as used to determine the conducted output power shall also be used to determine the power spectral density. The test method of power spectral density as below:

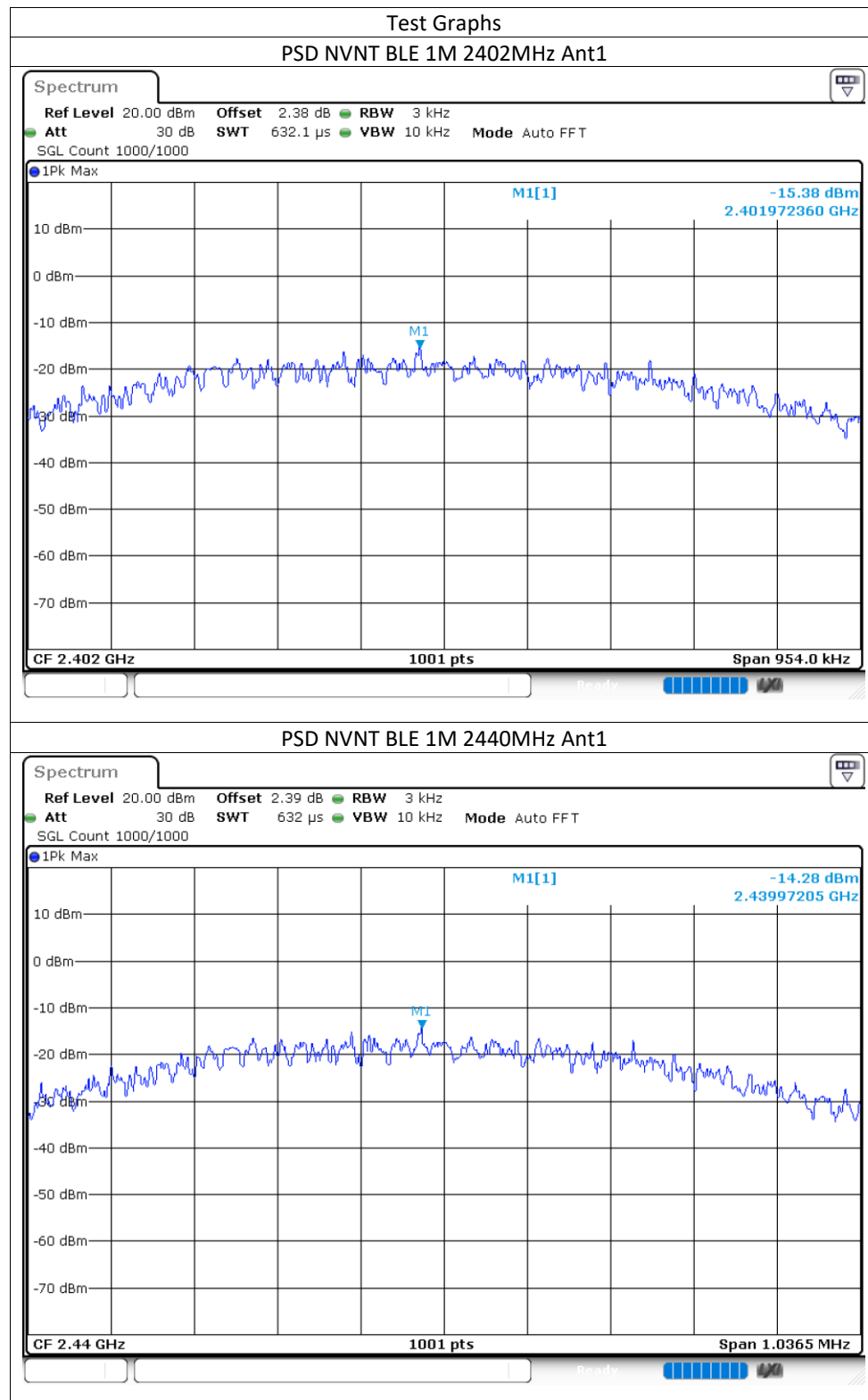
- a) Set instrument center frequency to DTS channel center frequency.
- b) Set span to at least 1.5 times the OBW.
- c) Set RBW to: $3\text{kHz} \leq \text{RBW} \leq 100\text{kHz}$.
- d) Set VBW $\geq 3 \times \text{RBW}$.
- e) Detector = Peak.
- f) Ensure that the number of measurement points in the sweep $\geq 2 \times \text{span}/\text{RBW}$.
- g) Sweep time = auto couple.
- h) Trace mode = max hold.
- i) Use the peak marker function to determine the maximum amplitude level.
- j) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat (note that this may require zooming in on the emission of interest and reducing the span in order to meet the minimum measurement point requirement as the RBW is reduced).

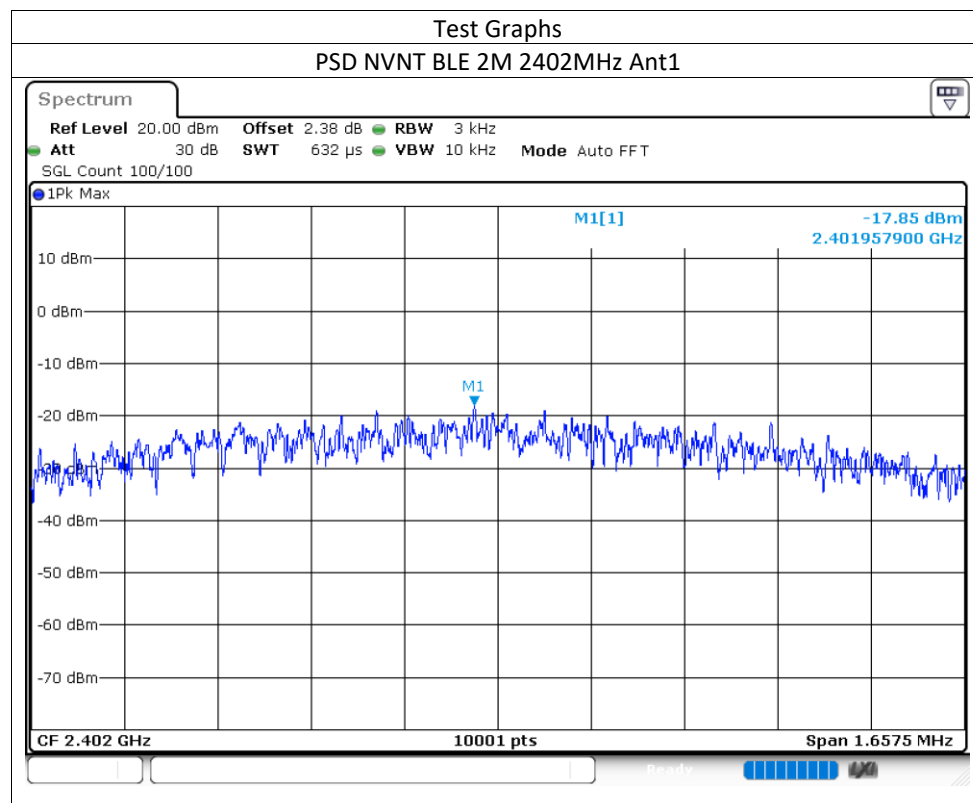
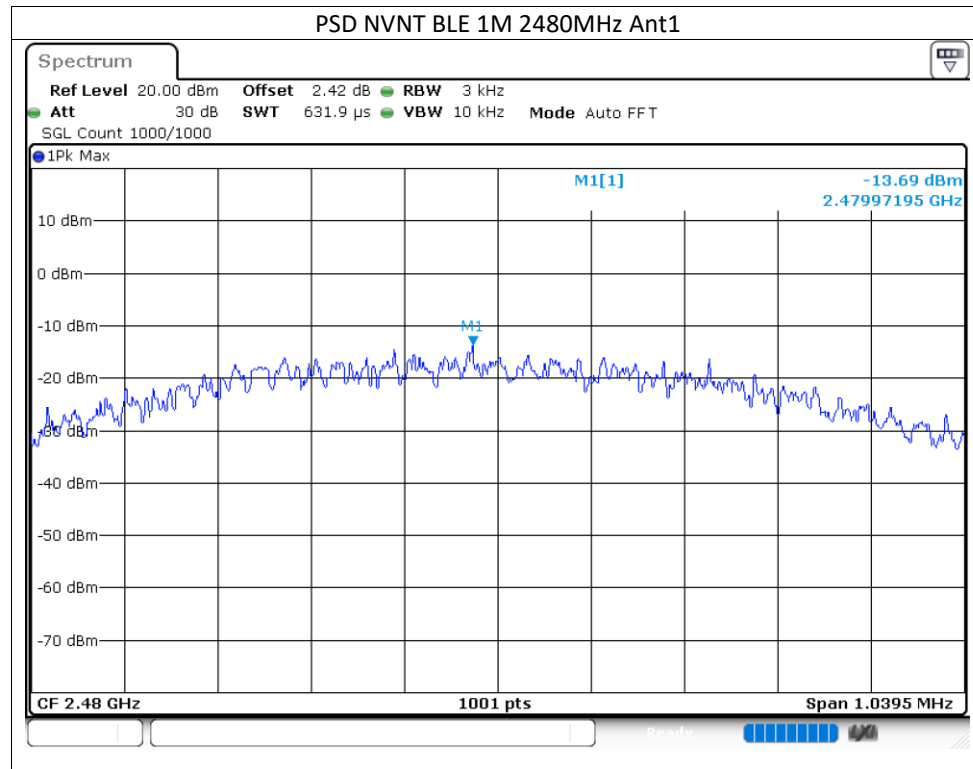
Limit: The Power Density does not exceed 8dBm/3 kHz.

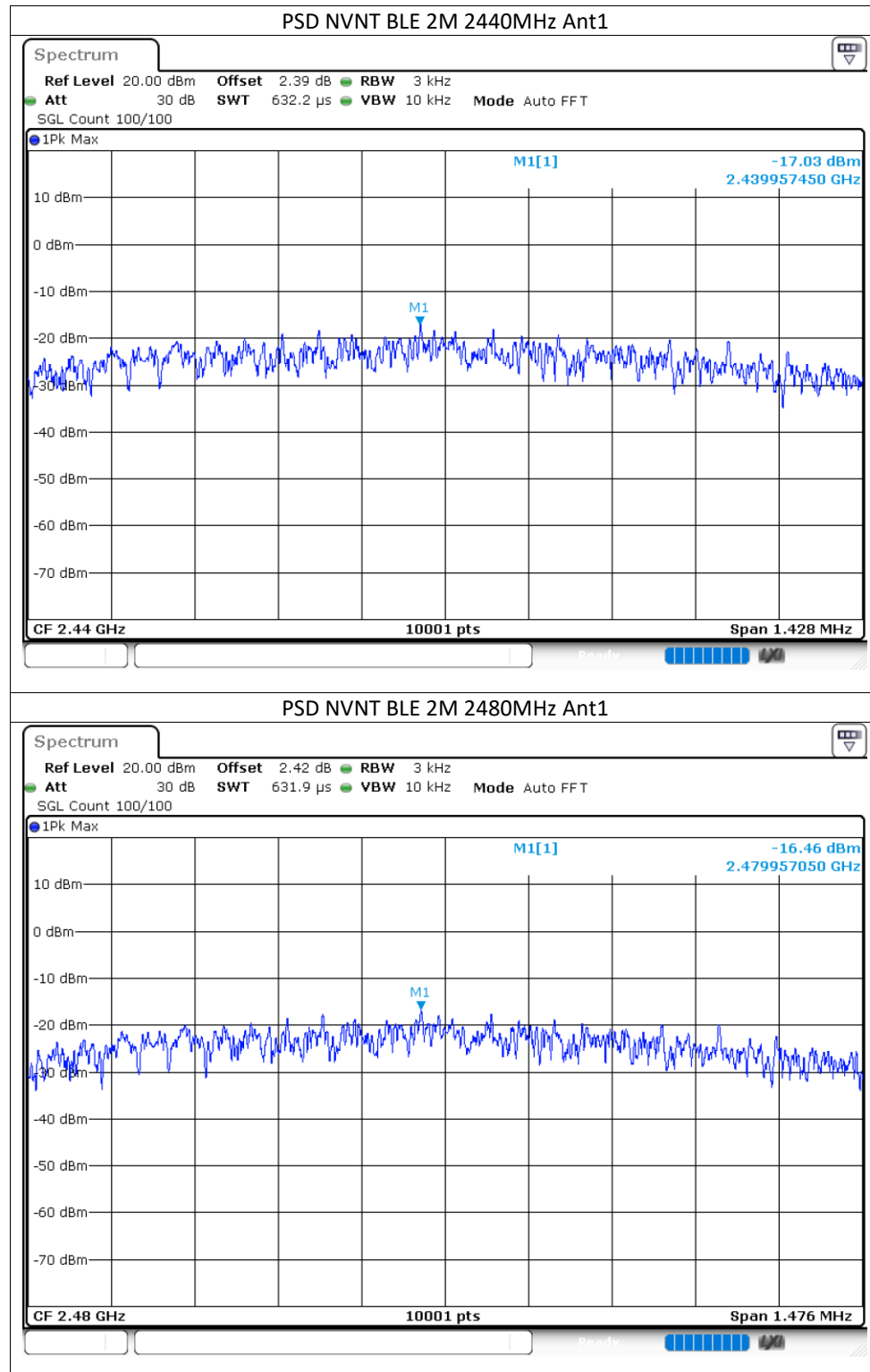
LE (GFSK, 1Mbps)	
Frequency (MHz)	Power Density with RBW 3kHz
2402	-15.38
2440	-14.28
2480	-13.69

LE (GFSK, 2Mbps)	
Frequency (MHz)	Power Density with RBW 3kHz
2402	-17.85
2440	-17.03
2480	-16.46

The test plots are attached as below.







Applicant: EcoFlow Inc.

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Worst Case Model: EF-TX-288P

4.4 Out of Band Conducted Emissions, FCC Rule 15.247(d)

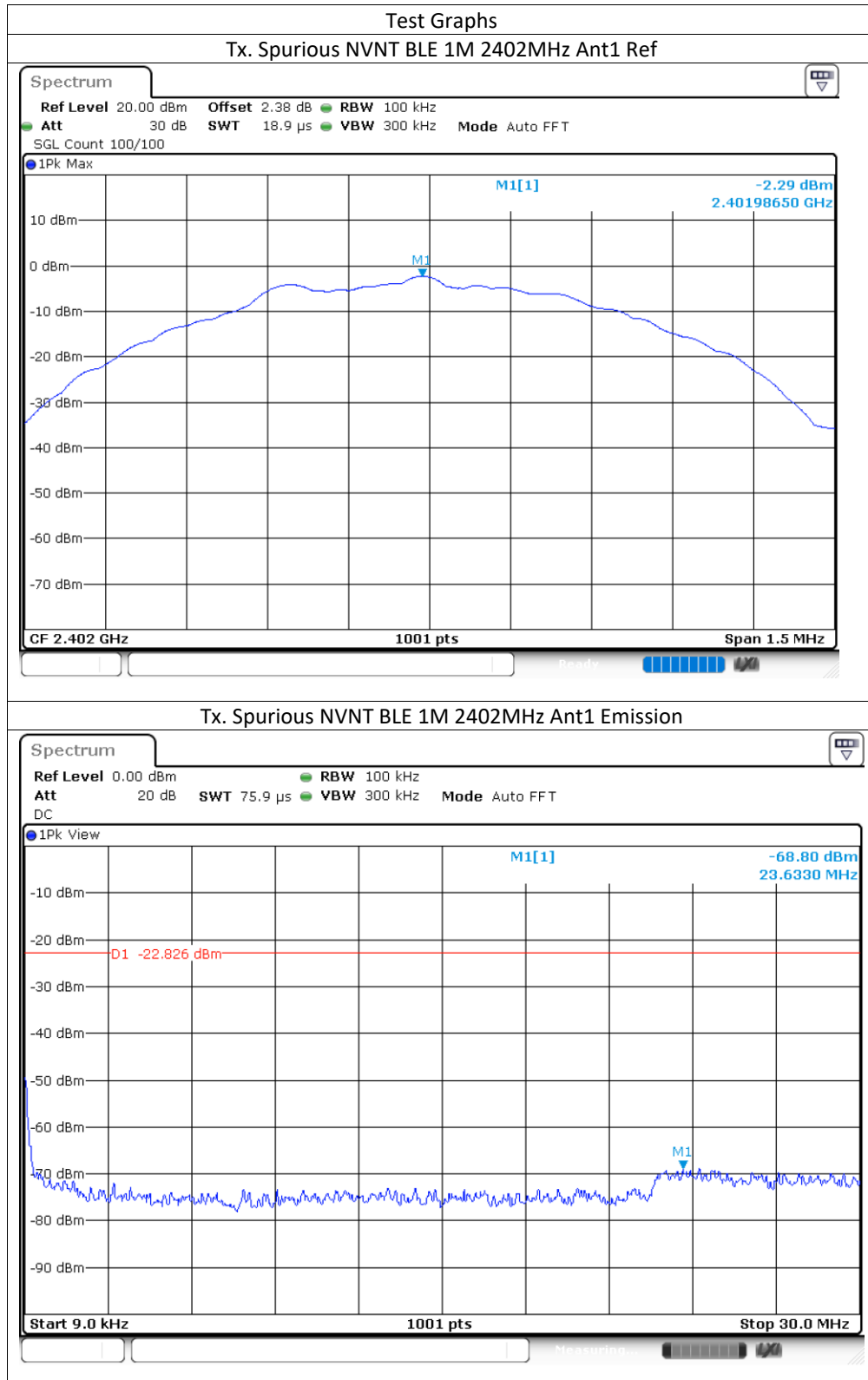
in any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30dB instead of 20dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

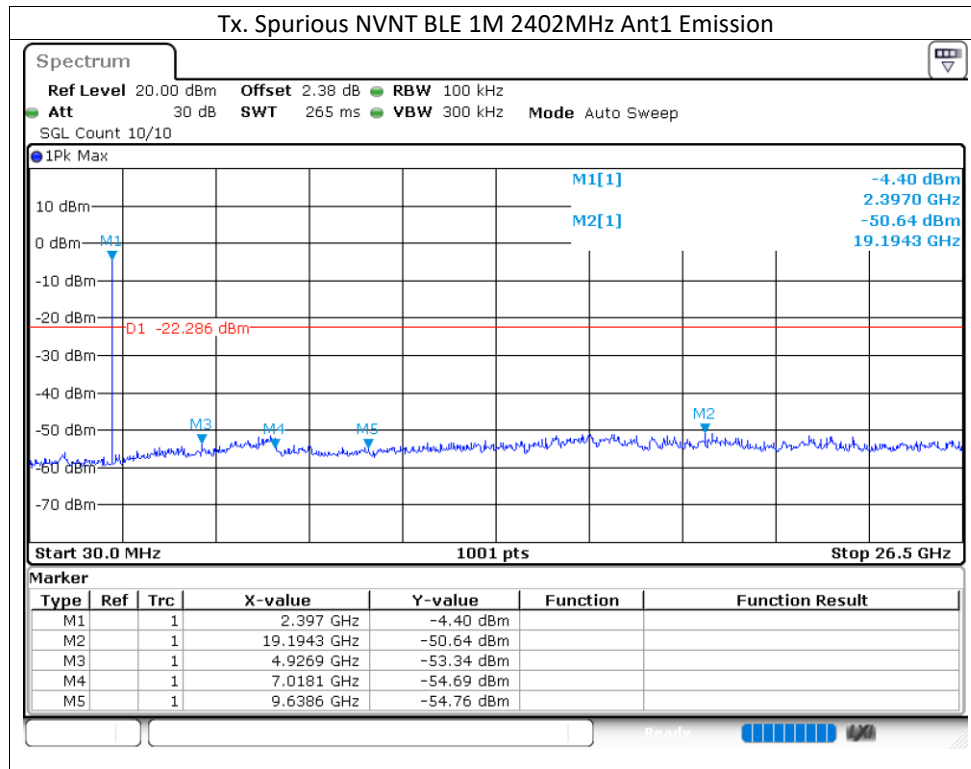
All other types of emissions from the EUT shall meet the general limits for radiated frequencies outside the passband.

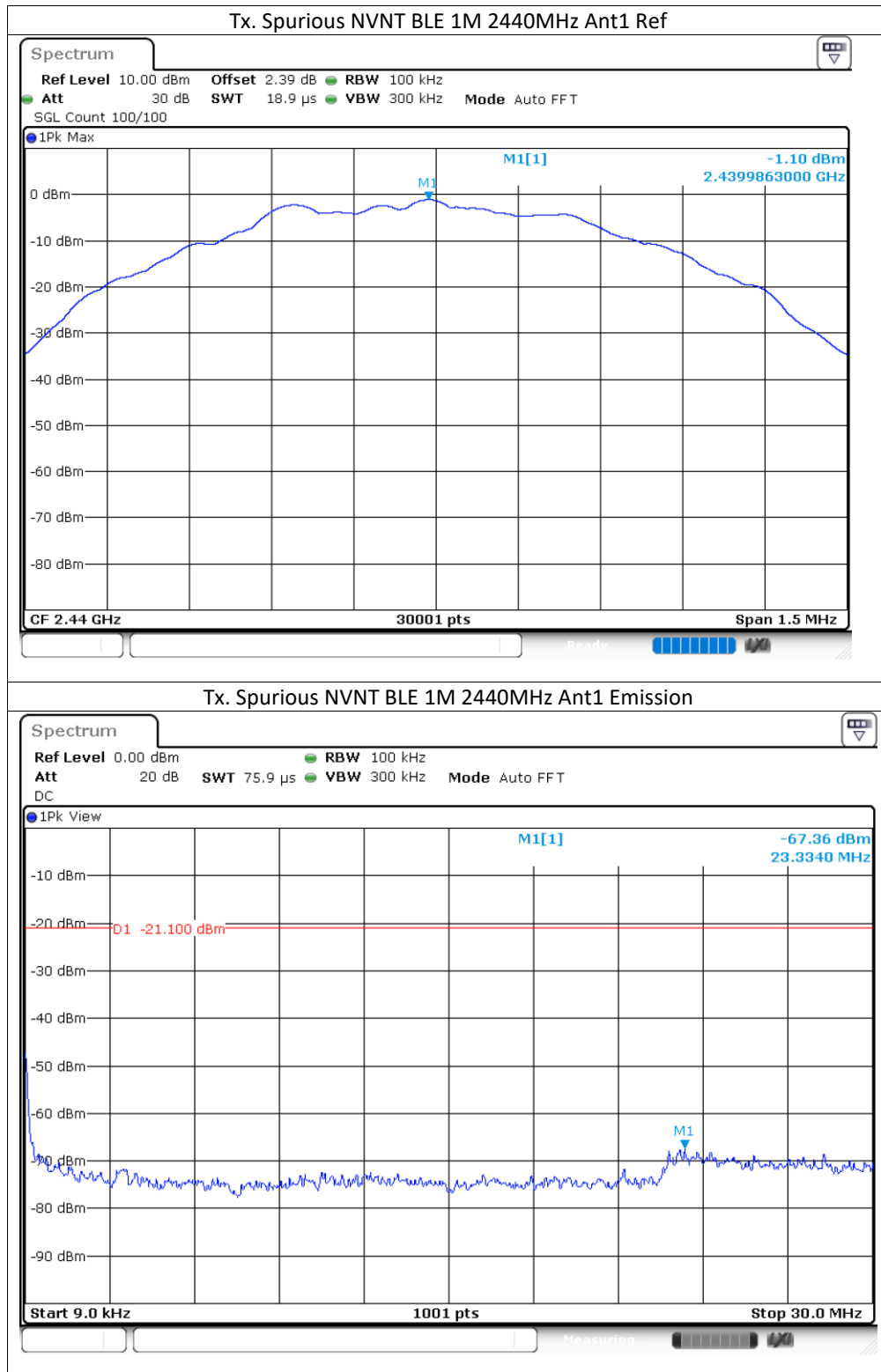
The test plots showed all spurious emission up to the tenth harmonic were measured and they were found to be at least 20dB below the highest level of the desired power in the passband.

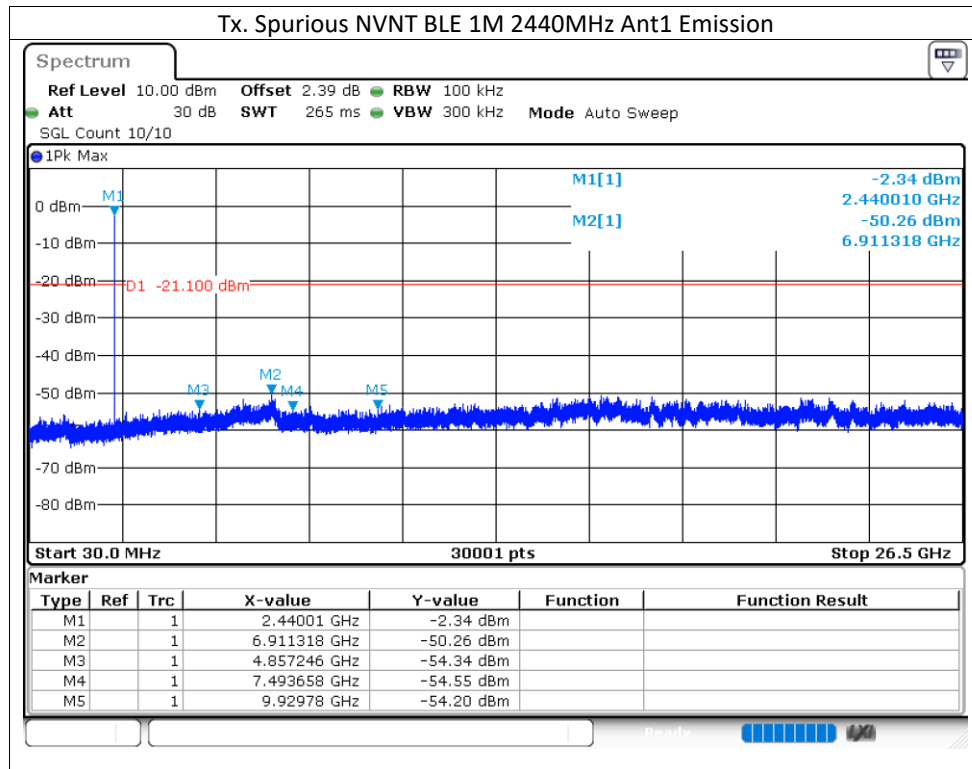
The test plots are attached as below.

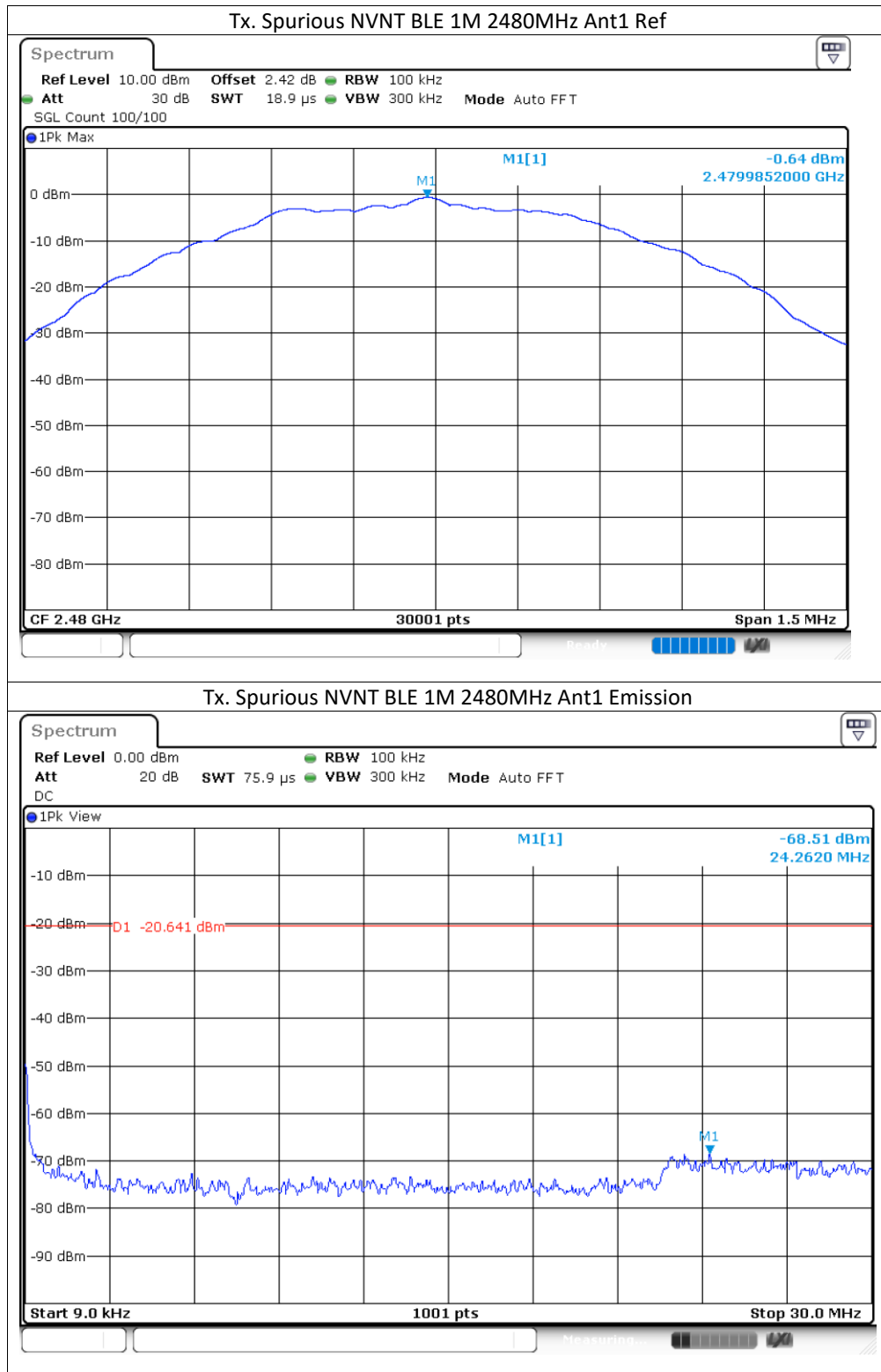
1Mbps

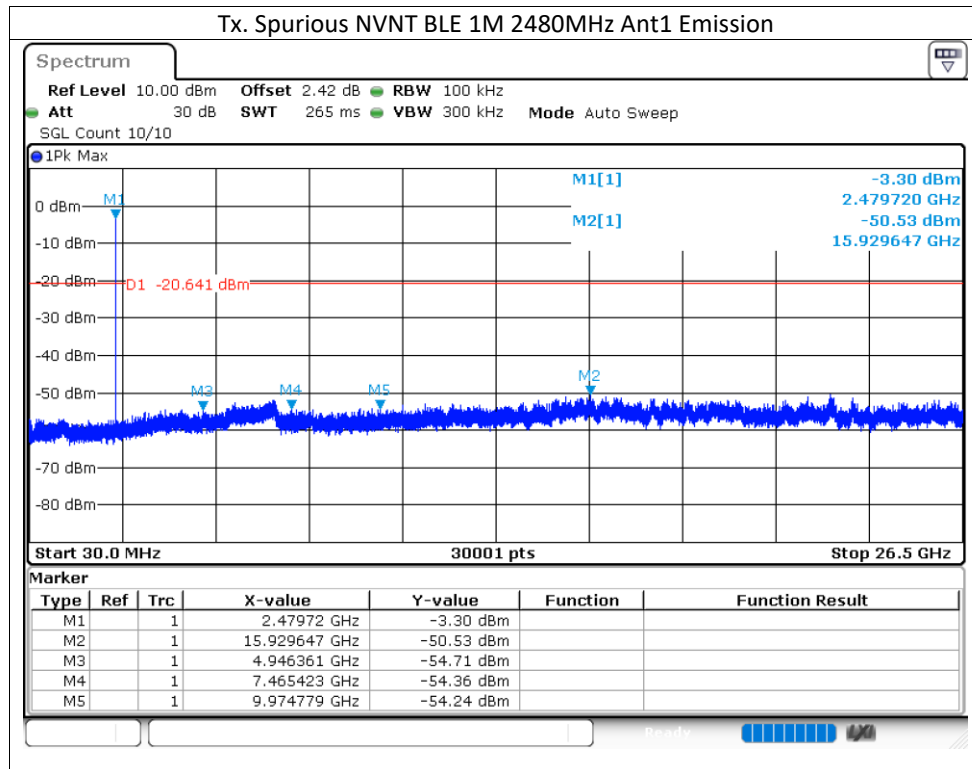


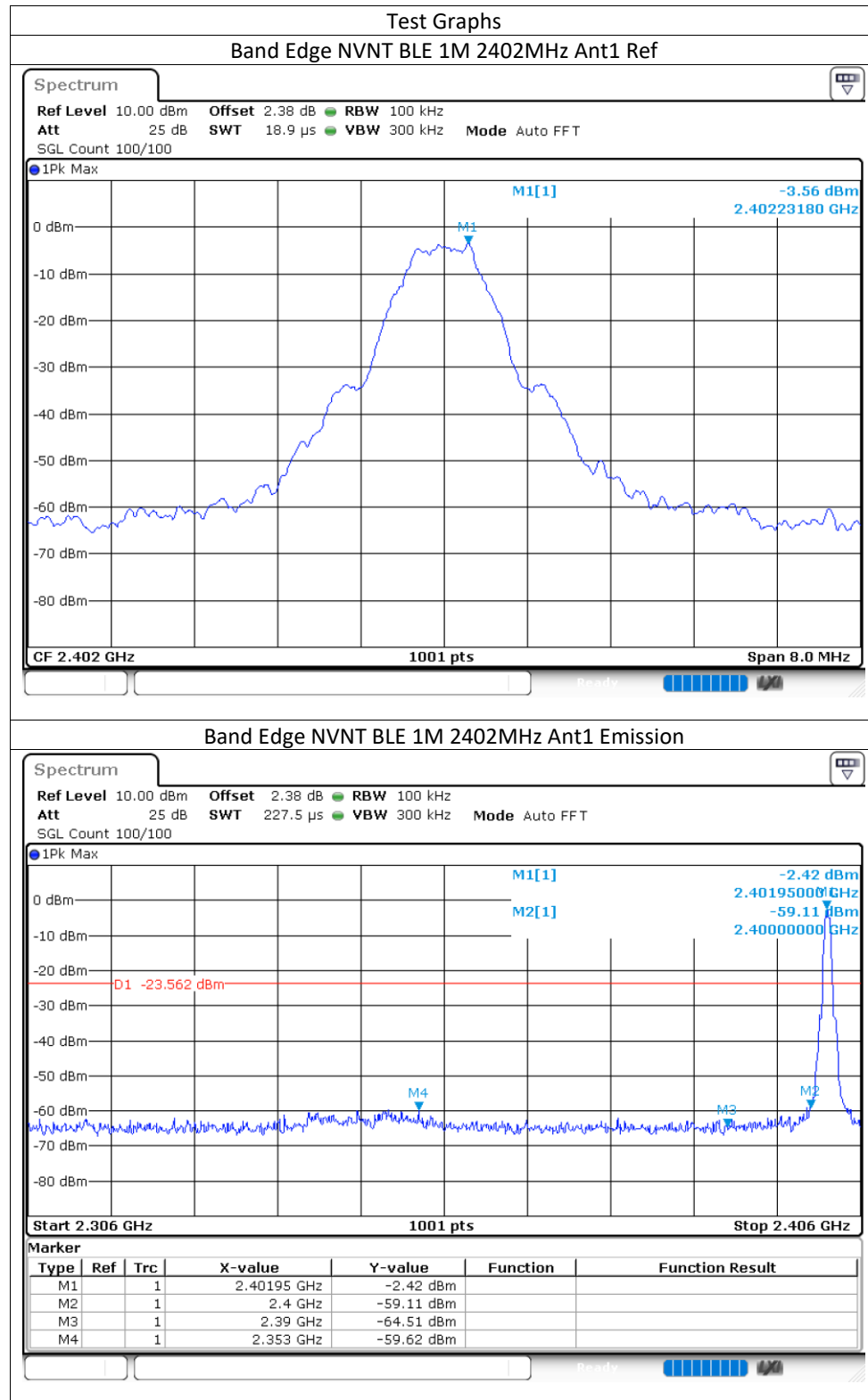


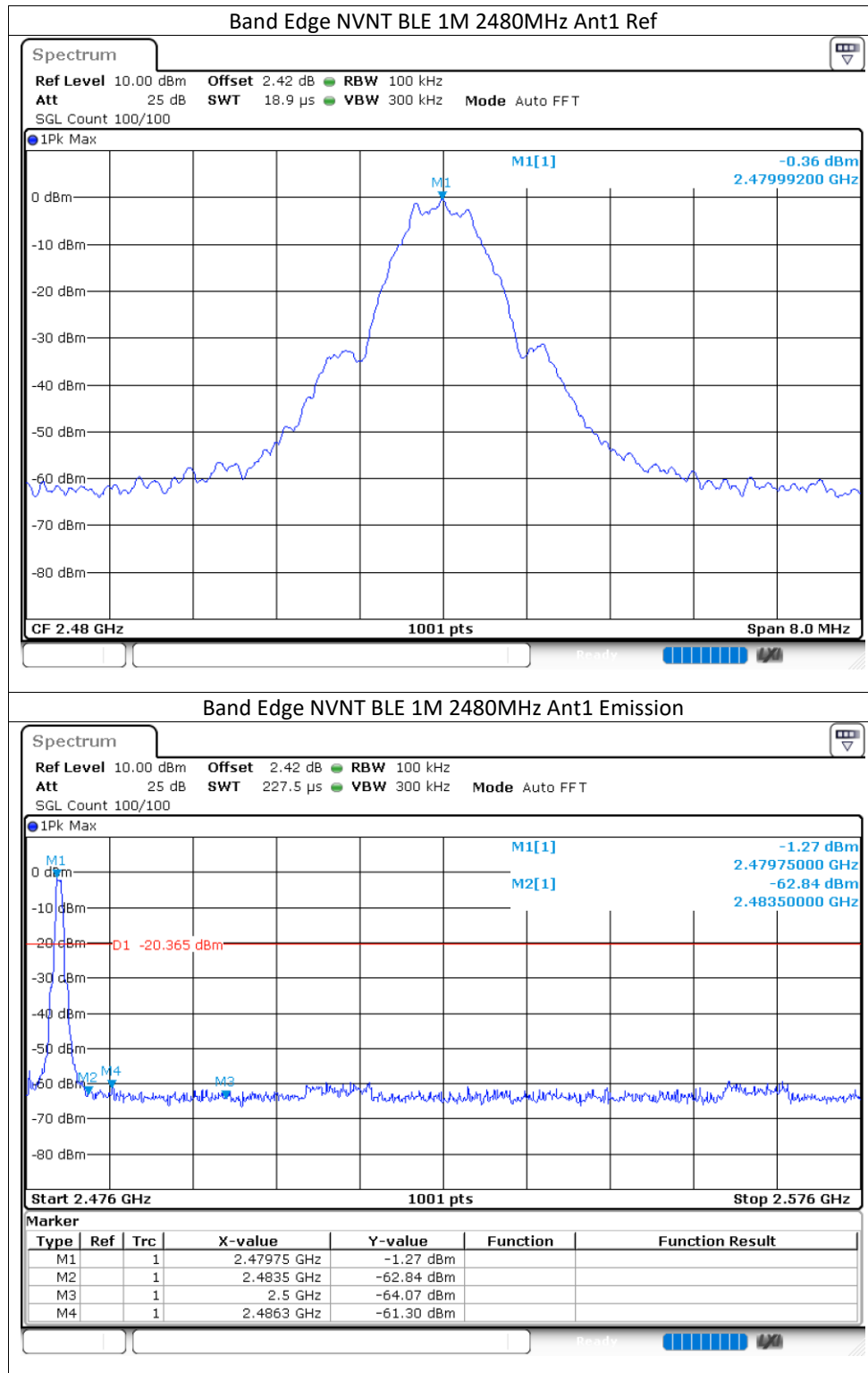




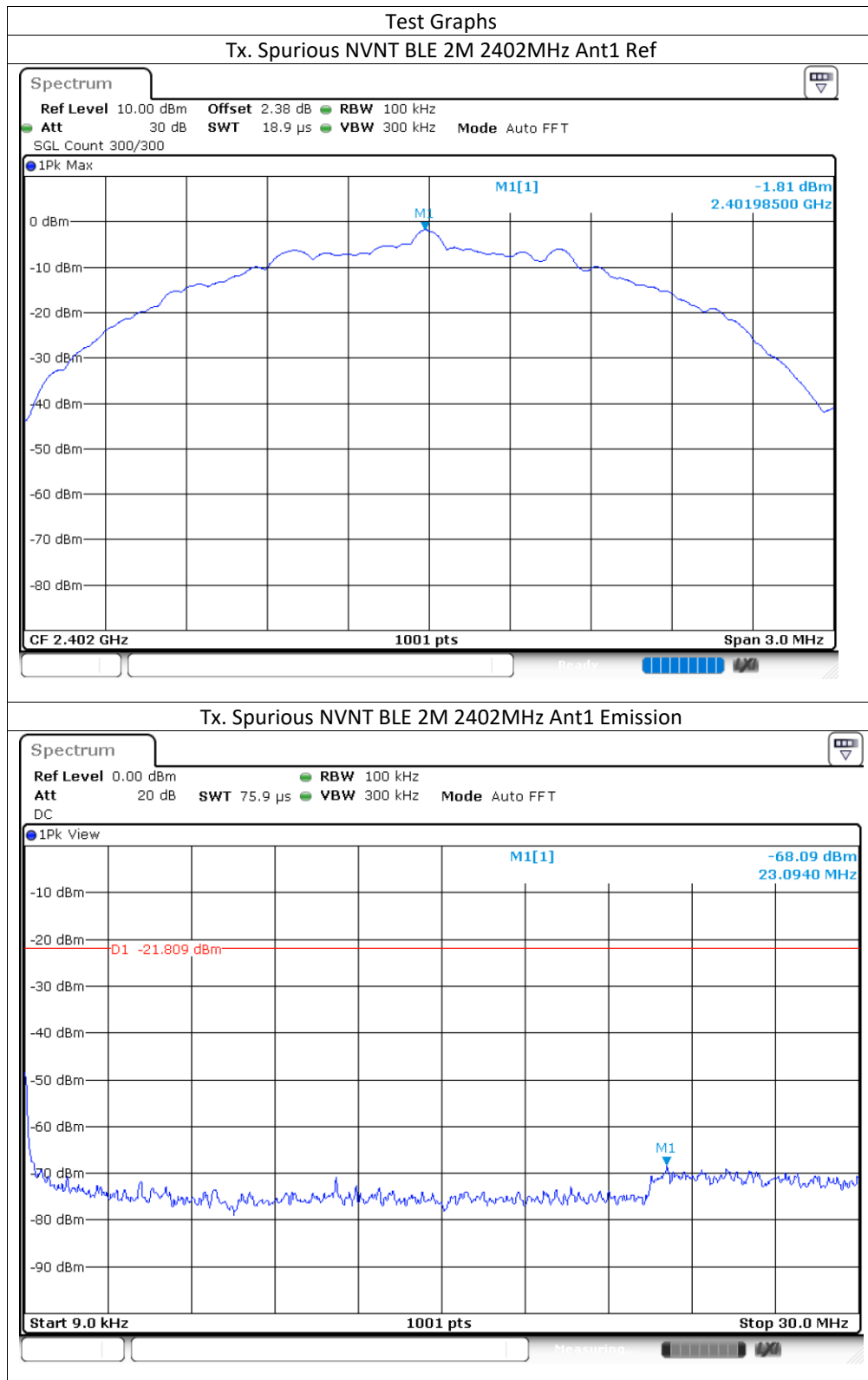


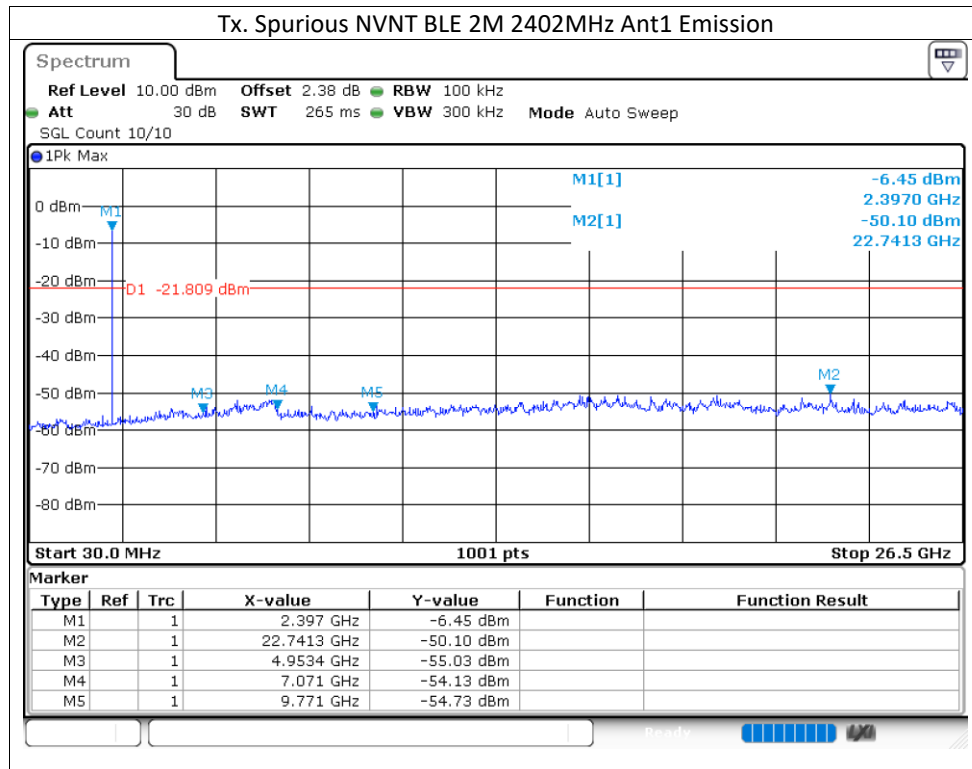


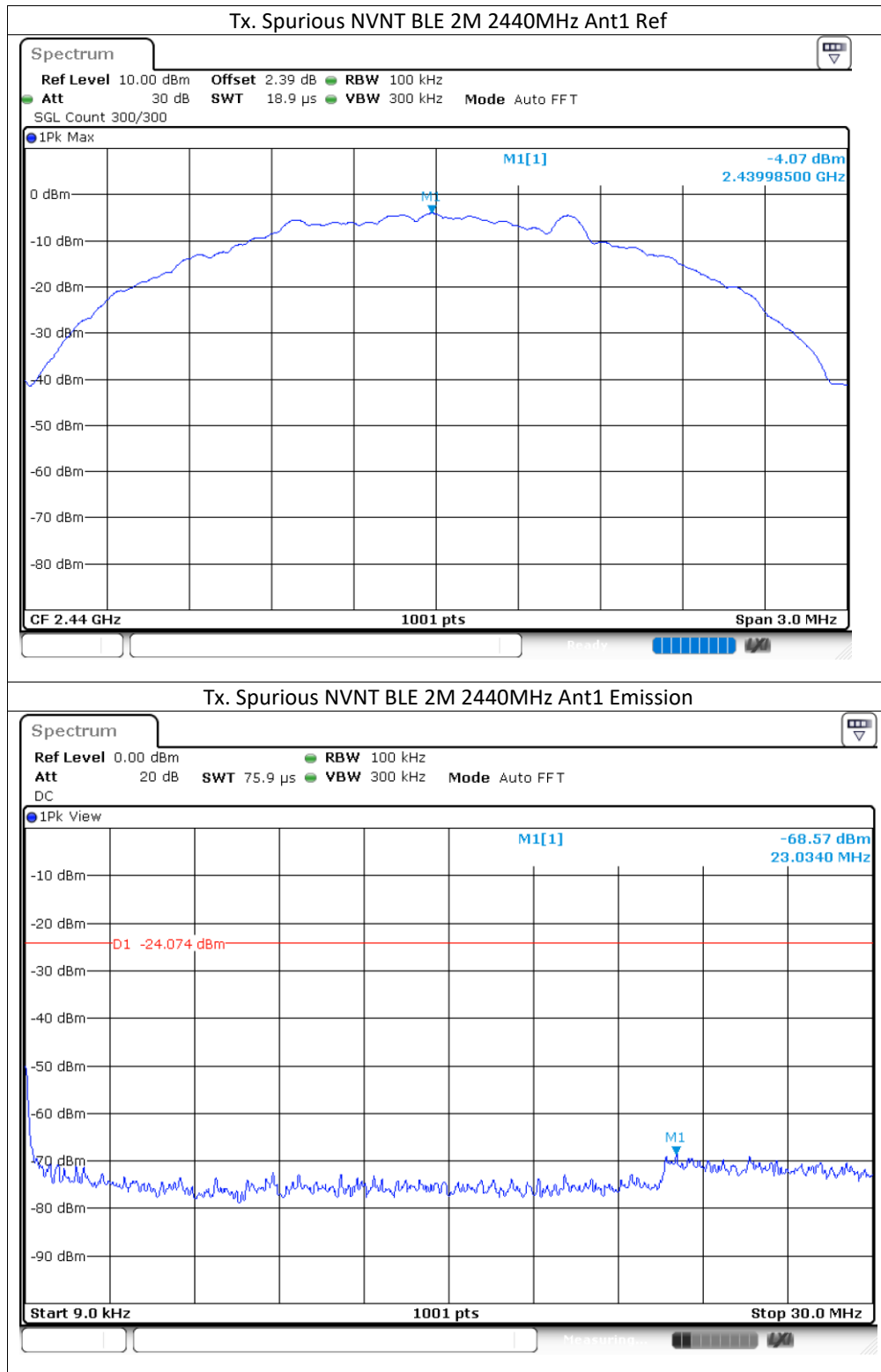


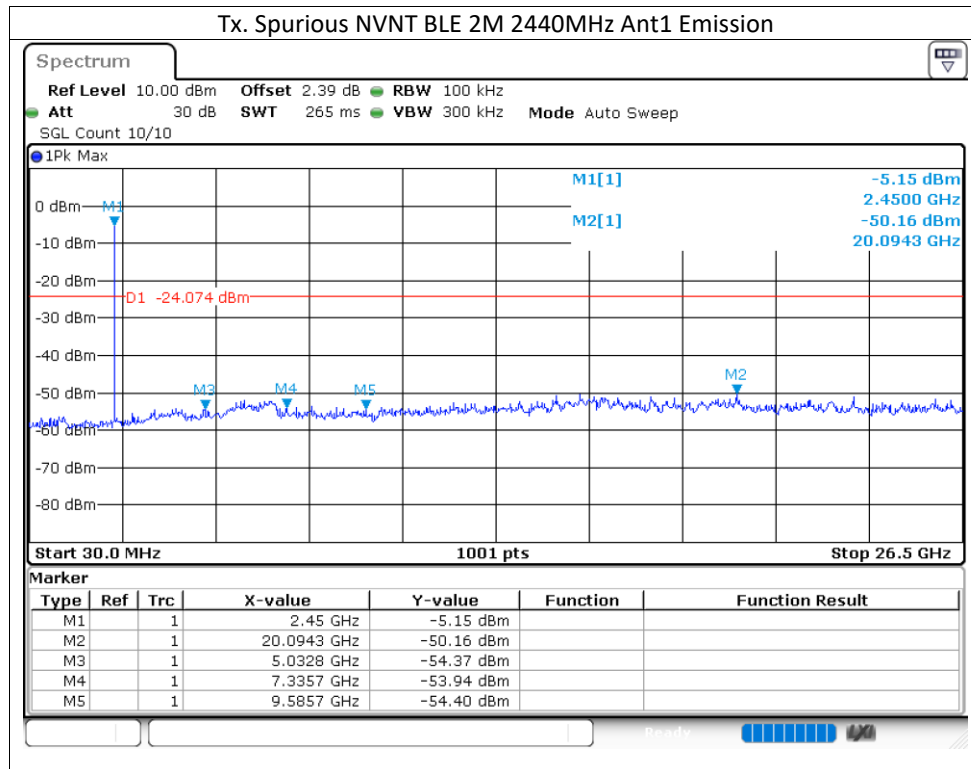


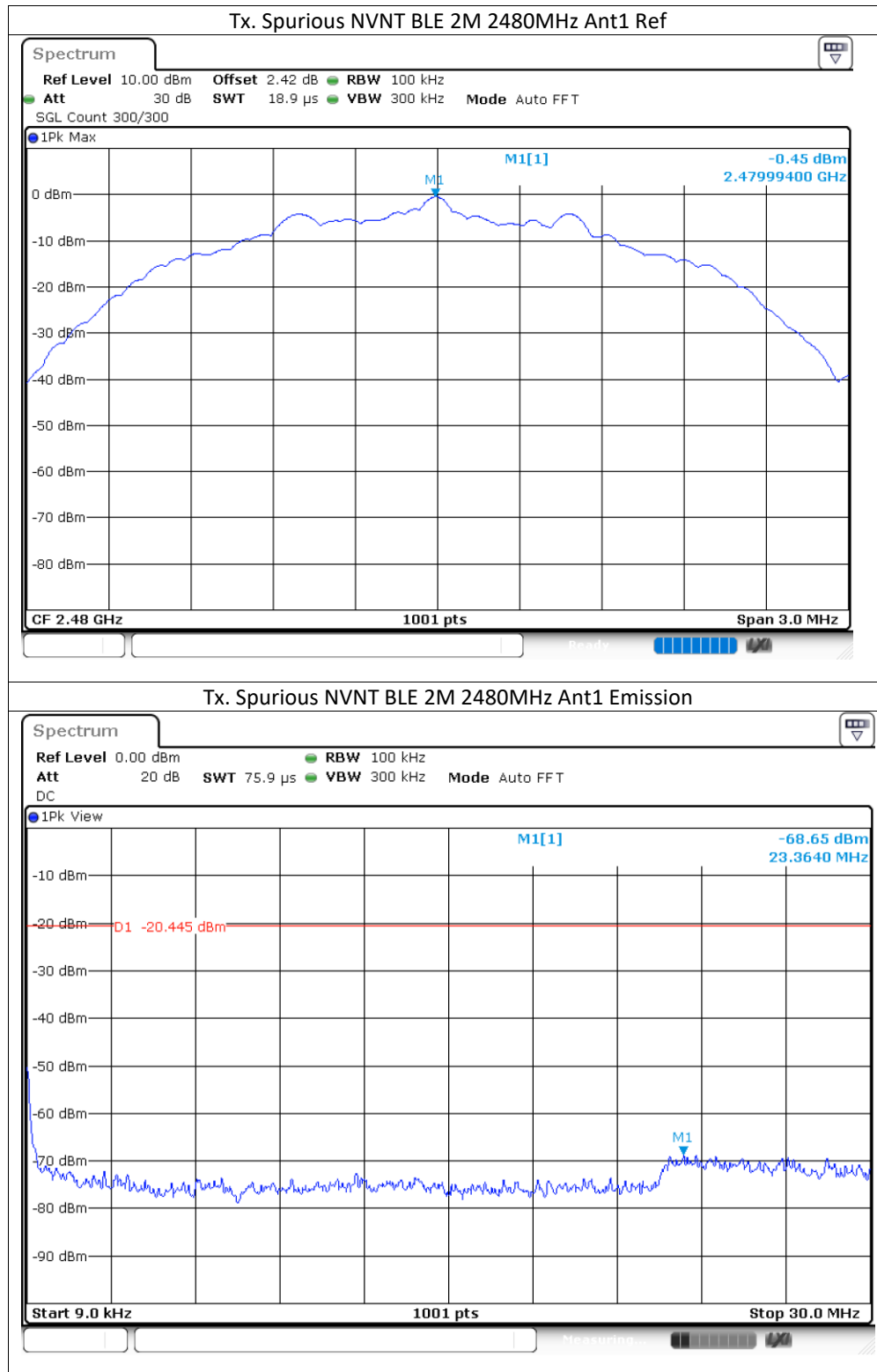
2Mbps

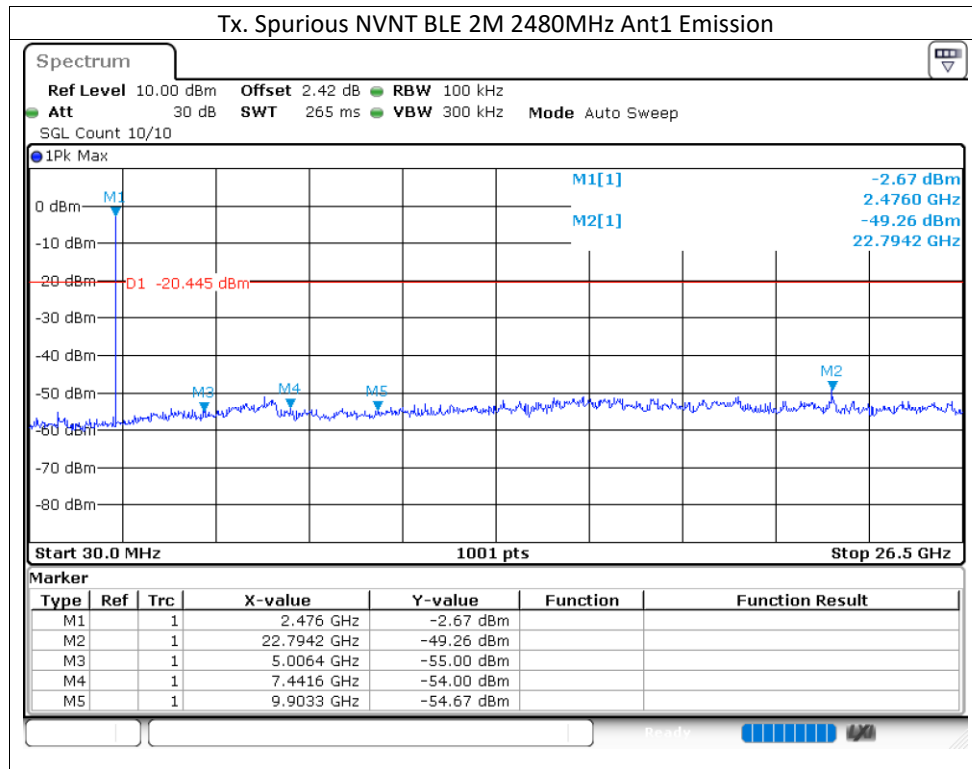


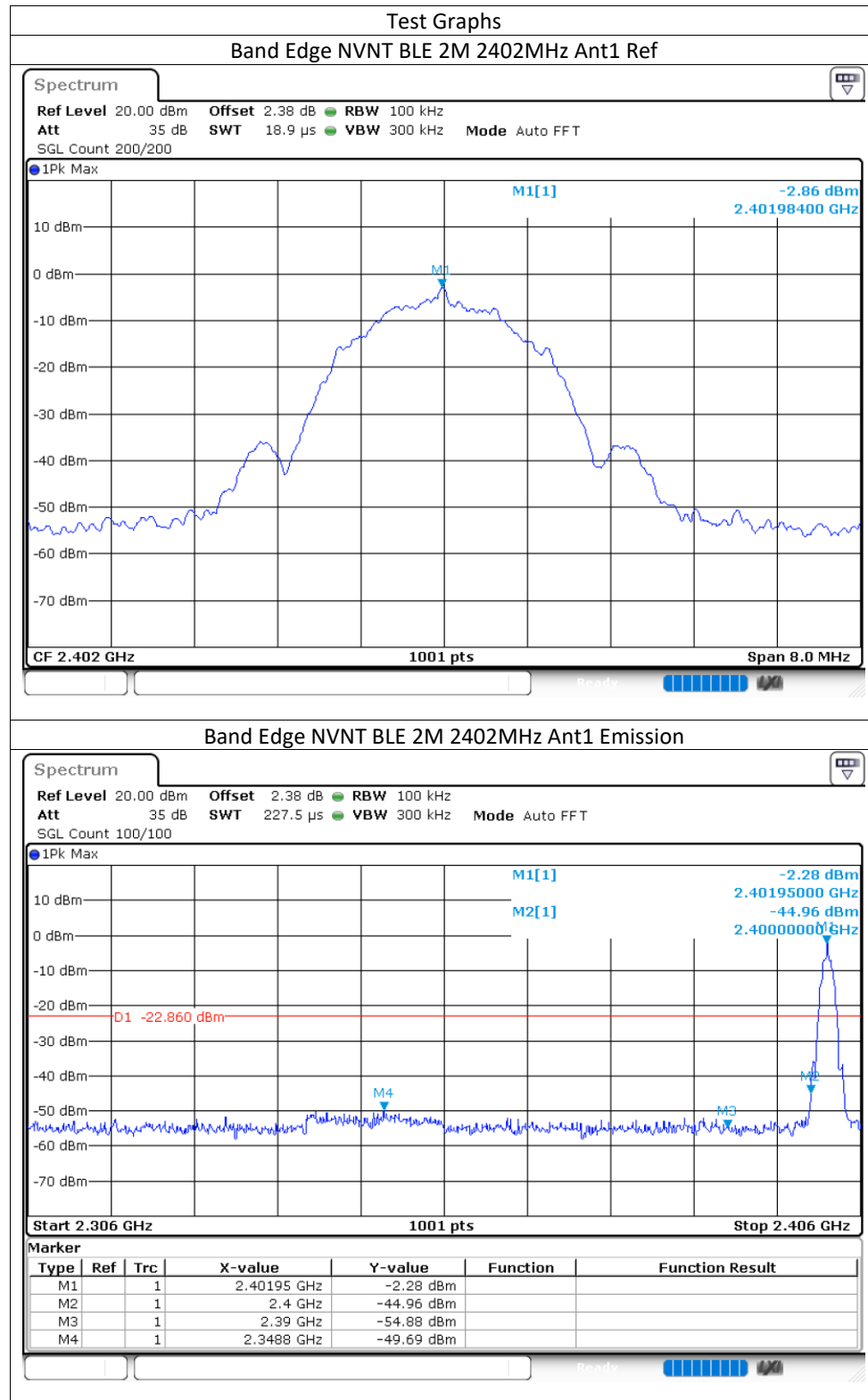


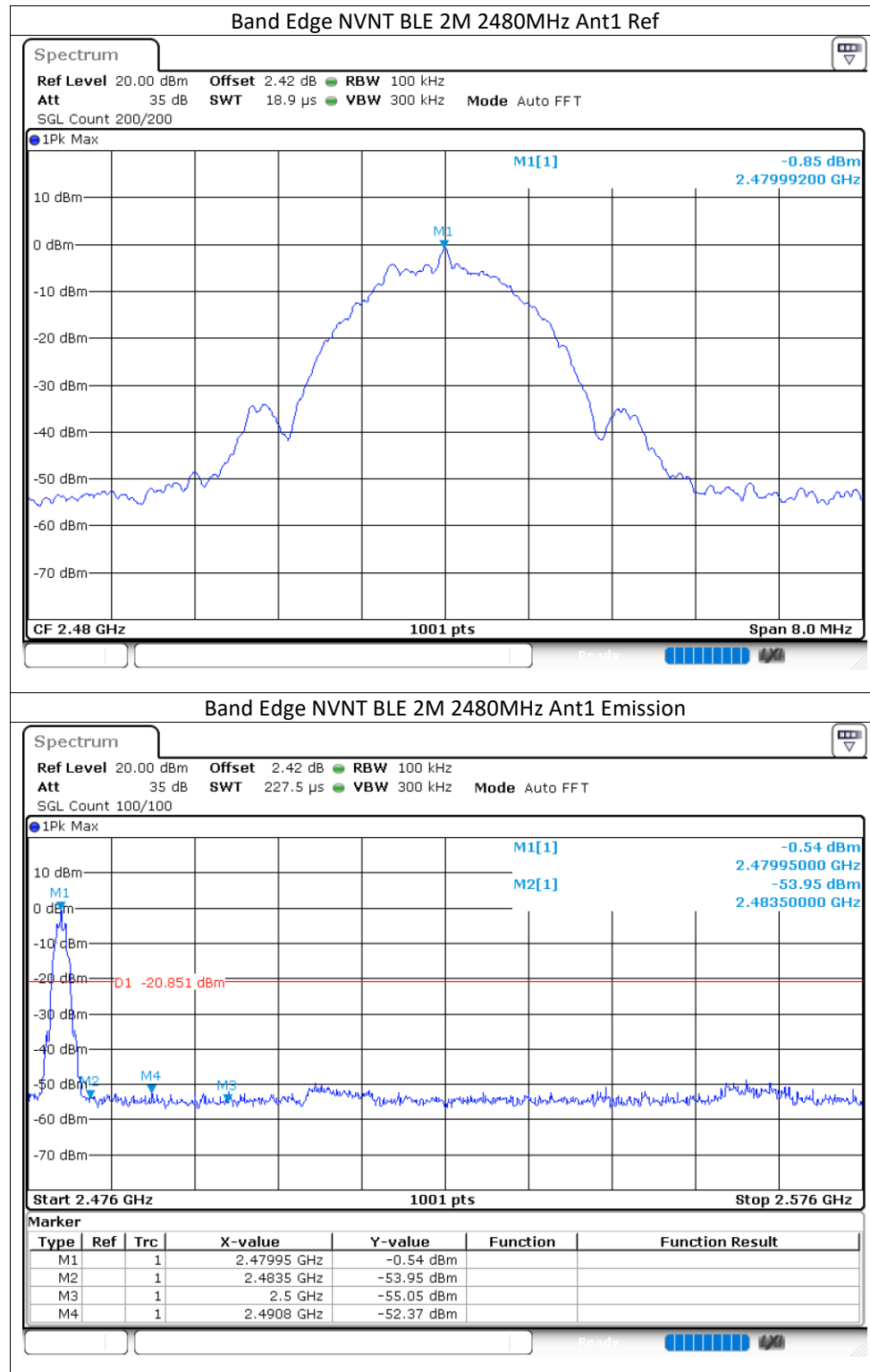












Applicant: EcoFlow Inc.

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4.5 Out of Band Radiated Emissions (for emissions in 4.4 above that are less than 20dB below carrier), FCC Rule 15.247(d):

For out of band emissions that are close to or that exceed the 20dB attenuation requirement described in the specification, radiated measurements were performed at a 3m separation distance to determine whether these emissions complied with the general radiated emission requirement.

☒ Not required, since all emissions are more than 20dB below fundamental

☐ See attached data sheet

Applicant: EcoFlow Inc.

Date of Test: 22 September 2025

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4.6 Transmitter Radiated Emissions in Restricted Bands, FCC Rule 15.35(b) (c):

Data is included 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. All measurements were performed with peak detection unless otherwise specified.

The data on the following pages list the significant emission frequencies, the limit and the margin of compliance.

Applicant: EcoFlow Inc.

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Worst Case Model: EF-TX-288P

4.7 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.

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

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/m
- AG = Amplifier Gain in dB
- PD = Pulse Desensitization in dB

In the radiated emission table which follows, the reading shown on the data table may reflect the preamplifier gain. An example of the calculations, where the reading does not reflect the preamplifier gain, follows:

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

Example

Assume a receiver reading of 62.0 dB μ V is obtained. The antenna factor of 7.4 dB/m and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted. The pulse desensitization factor of the spectrum analyzer was 0 dB. The net field strength for comparison to the appropriate emission limit is 42 dB μ V/m. This value in dB μ V/m was converted to its corresponding level in μ V/m.

$$\begin{aligned} RA &= 62.0 \text{ dB}\mu\text{V} \\ AF &= 7.4 \text{ dB/m} \\ CF &= 1.6 \text{ dB} \\ AG &= 29.0 \text{ dB} \\ PD &= 0 \text{ dB} \\ FS &= 62 + 7.4 + 1.6 - 29 + 0 = 42 \text{ dB}\mu\text{V/m} \end{aligned}$$

$$\text{Level in mV/m} = \text{Common Antilogarithm} [(42 \text{ dB}\mu\text{V/m})/20] = 125.9 \mu\text{V/m}$$

Applicant: EcoFlow Inc.

Date of Test: 22 September 2025

Worst Case Model: EF-TX-288P

4.8 Radiated Spurious Emission

Worst Case Radiated Spurious Emission
at 2483.500MHz
is passed by 4.69dB margin.

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

Radiated Emissions (9kHz to 30MHz)

Note: The low frequency, which started from 9kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

Applicant: EcoFlow Inc.

Date of Test: 22 September 2025

Worst Case Operating Mode:

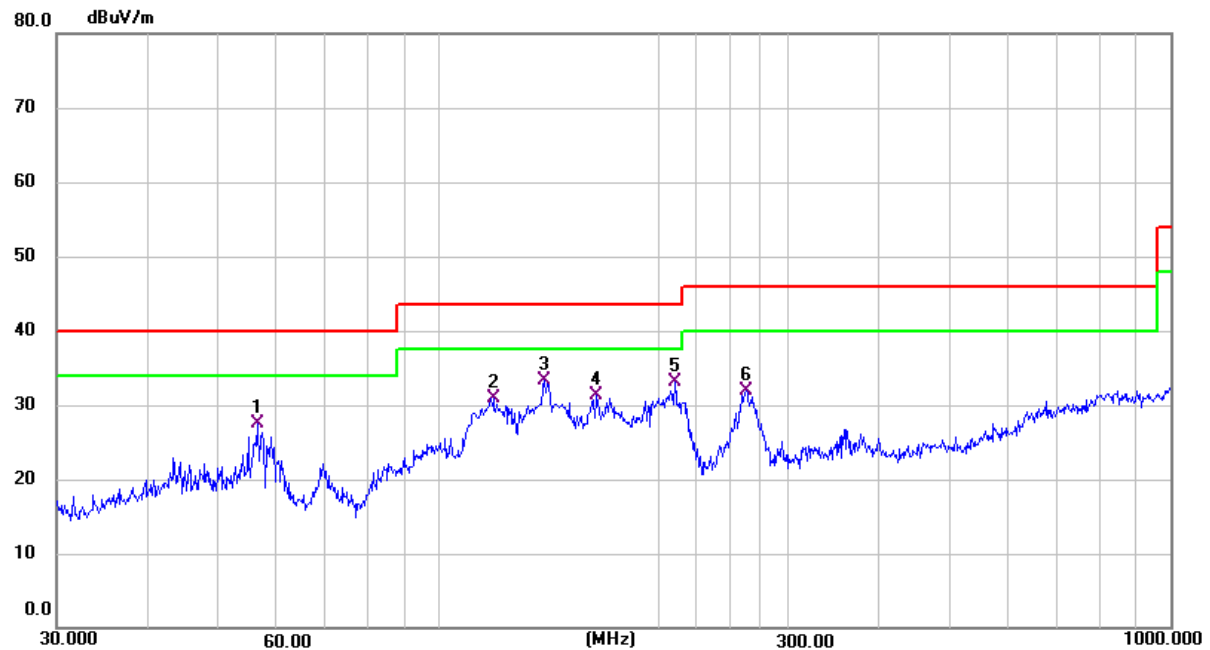
Worst Case Test Voltage: DC 14.4 V

Model: EF-TX-288P

Transmitting (LE 1Mbps Low Channel 2402MHz)

Radiated Emissions (30MHz to 1GHz)

ANT Polarity: Horizontal



Limit and Margin

No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	56.3948	8.14	19.31	27.45	40.00	-12.55	QP
2	118.6013	14.70	16.20	30.90	43.50	-12.60	QP
3	139.3611	18.79	14.46	33.25	43.50	-10.25	QP
4	164.3301	16.27	14.99	31.26	43.50	-12.24	QP
5	210.0481	15.68	17.48	33.16	43.50	-10.34	QP
6	262.8955	12.61	19.37	31.98	46.00	-14.02	QP

Remark:

- Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)
- Level (dBμV/m) = Factor (dB/m) + Reading (dBμV)
- Margin (dB) = Limit (dBμV/m) – Level (dBμV/m)

Applicant: EcoFlow Inc.

Date of Test: 22 September 2025

Worst Case Operating Mode:

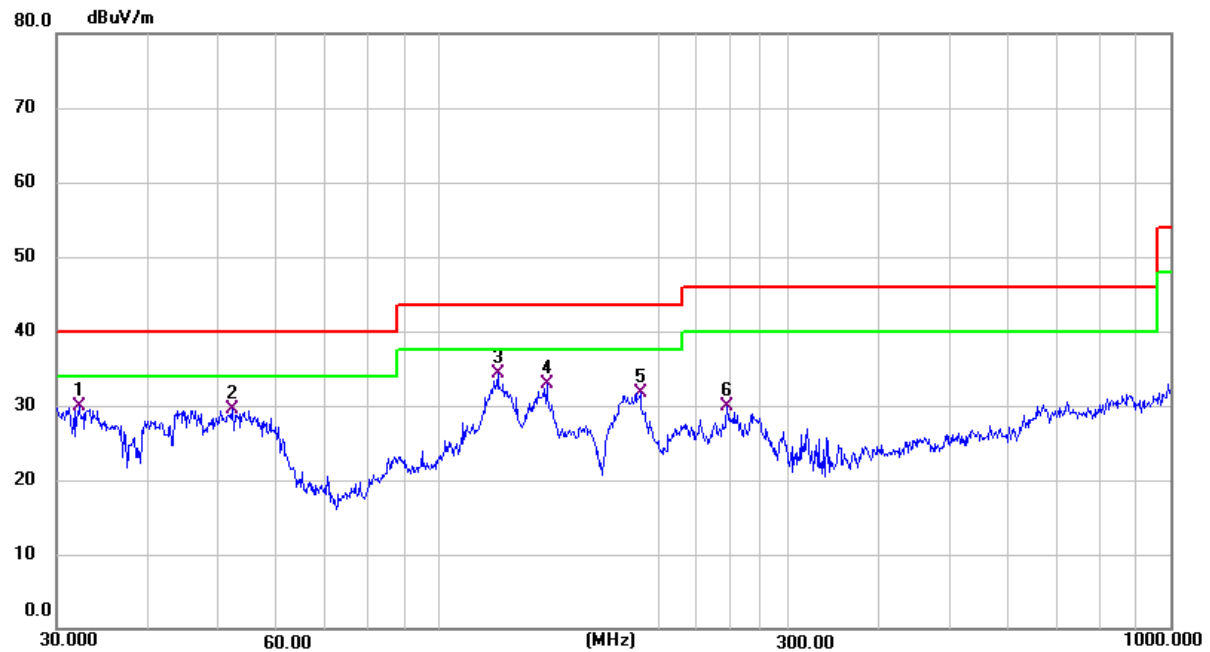
Worst Case Test Voltage: DC 14.4 V

Model: EF-TX-288P

Transmitting (LE 1Mbps Low Channel 2402MHz)

Radiated Emissions (30MHz to 1GHz)

ANT Polarity: Vertical



Limit and Margin

No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	32.1794	13.04	16.87	29.91	40.00	-10.09	QP
2	52.2078	9.64	19.92	29.56	40.00	-10.44	QP
3	120.2766	18.26	16.01	34.27	43.50	-9.23	QP
4	140.3420	18.52	14.45	32.97	43.50	-10.53	QP
5	188.4125	15.02	16.67	31.69	43.50	-11.81	QP
6	247.6818	10.99	18.88	29.87	46.00	-16.13	QP

Remark:

- Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)
- Level (dBμV/m) = Factor (dB/m) + Reading (dBμV)
- Margin (dB) = Limit (dBμV/m) – Level (dBμV/m)

Applicant: EcoFlow Inc.

Date of Test: 22 September 2025

Worst Case Operating Mode:

Worst Case Test Voltage: DC 14.4 V

Worst Case Model: EF-TX-288P

Transmitting (LE 1Mbps-Low Channel 2402MHz)

Radiated Emissions (Above 1GHz)

Polarization	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
Horizontal	2390.000	56.67	-1.31	55.36	74.00	-18.64	peak
Horizontal	4804.000	52.98	-7.02	45.96	74.00	-28.04	peak
Horizontal	7206.000	51.55	-2.07	49.48	74.00	-24.52	peak
Horizontal	9608.000	51.76	0.82	52.58	74.00	-21.42	peak

Polarization	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
Horizontal	2390.000	46.46	-1.31	45.15	54.00	-8.85	AVG
Horizontal	4804.000	47.59	-7.02	40.57	54.00	-13.43	AVG
Horizontal	7206.000	43.64	-2.07	41.57	54.00	-12.43	AVG
Horizontal	9608.000	43.77	0.82	44.59	54.00	-9.41	AVG

- NOTES:
1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.
 2. All measurements were made at 3 meters. Radiated 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 radiated 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 used for the emission over 1000MHz.

Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

Applicant: EcoFlow Inc.

Date of Test: 22 September 2025

Worst Case Model: EF-TX-288P

Worst Case Operating Mode:

Transmitting (LE 1Mbps-Middle Channel 2440MHz)

Worst Case Test Voltage: DC 14.4 V

Radiated Emissions (Above 1GHz)

Polarization	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
Horizontal	4880.000	55.36	-7.23	48.13	74.00	-25.87	peak
Horizontal	7320.000	51.17	-2.11	49.06	74.00	-24.94	peak
Horizontal	9760.000	51.75	0.39	52.14	74.00	-21.86	peak

Polarization	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
Horizontal	4880.000	49.47	-7.23	42.24	54.00	-11.76	AVG
Horizontal	7320.000	43.48	-2.11	41.37	54.00	-12.63	AVG
Horizontal	9760.000	44.38	0.39	44.77	54.00	-9.23	AVG

- NOTES:
1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.
 2. All measurements were made at 3 meters. Radiated 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 radiated 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 used for the emission over 1000MHz.

Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

Applicant: EcoFlow Inc.

Date of Test: 22 September 2025

Worst Case Operating Mode:

Worst Case Test Voltage: DC 14.4 V

Worst Case Model: EF-TX-288P

Transmitting (LE 1Mbps-High Channel 2480MHz)

Radiated Emissions (Above 1GHz)

Polarization	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
Horizontal	2483.500	58.17	-0.38	57.79	74.00	-16.21	peak
Horizontal	4960.000	54.66	-6.07	48.59	74.00	-25.41	peak
Horizontal	7440.000	51.57	-2.54	49.03	74.00	-24.97	peak
Horizontal	9920.000	52.09	0.79	52.88	74.00	-21.12	peak

Polarization	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
Horizontal	2483.500	49.56	-0.38	49.18	54.00	-4.82	AVG
Horizontal	4960.000	50.91	-6.07	44.84	54.00	-9.16	AVG
Horizontal	7440.000	44.11	-2.54	41.57	54.00	-12.43	AVG
Horizontal	9920.000	44.53	0.79	45.32	54.00	-8.68	AVG

- NOTES:
1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.
 2. All measurements were made at 3 meters. Radiated 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 radiated 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 used for the emission over 1000MHz.

Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

Applicant: EcoFlow Inc.

Date of Test: 22 September 2025

Worst Case Operating Mode:

Worst Case Test Voltage: DC 14.4 V

Worst Case Model: EF-TX-288P

Transmitting (LE 2Mbps-Low Channel 2402MHz)

Radiated Emissions (Above 1GHz)

Polarization	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
Horizontal	2390.000	56.11	-1.31	54.80	74.00	-19.20	peak
Horizontal	4804.000	52.80	-7.02	45.78	74.00	-28.22	peak
Horizontal	7206.000	51.47	-2.07	49.40	74.00	-24.60	peak
Horizontal	9608.000	52.01	0.82	52.83	74.00	-21.17	peak

Polarization	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
Horizontal	2390.000	46.57	-1.31	45.26	54.00	-8.74	AVG
Horizontal	4804.000	46.24	-7.02	39.22	54.00	-14.78	AVG
Horizontal	7206.000	44.04	-2.07	41.97	54.00	-12.03	AVG
Horizontal	9608.000	44.52	0.82	45.34	54.00	-8.66	AVG

- NOTES:
1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.
 2. All measurements were made at 3 meters. Radiated 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 radiated 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 used for the emission over 1000MHz.

Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

Applicant: EcoFlow Inc.

Date of Test: 22 September 2025

Worst Case Model: EF-TX-288P

Worst Case Operating Mode:

Transmitting (LE 2Mbps-Middle Channel 2440MHz)

Worst Case Test Voltage: DC 14.4 V

Radiated Emissions (Above 1GHz)

Polarization	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
Horizontal	4880.000	54.21	-7.23	46.98	74.00	-27.02	peak
Horizontal	7320.000	51.66	-2.11	49.55	74.00	-24.45	peak
Horizontal	9760.000	51.83	0.39	52.22	74.00	-21.78	peak

Polarization	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
Horizontal	4880.000	47.14	-7.23	39.91	54.00	-14.09	AVG
Horizontal	7320.000	43.47	-2.11	41.36	54.00	-12.64	AVG
Horizontal	9760.000	44.55	0.39	44.94	54.00	-9.06	AVG

- NOTES:
1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.
 2. All measurements were made at 3 meters. Radiated 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 radiated 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 used for the emission over 1000MHz.

Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

Applicant: EcoFlow Inc.

Date of Test: 22 September 2025

Worst Case Operating Mode:

Worst Case Test Voltage: DC 14.4 V

Worst Case Model: EF-TX-288P

Transmitting (LE 2Mbps-High Channel 2480MHz)

Radiated Emissions (Above 1GHz)

Polarization	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
Horizontal	2483.500	58.01	-0.38	57.63	74.00	-16.37	peak
Horizontal	4960.000	54.65	-6.07	48.58	74.00	-25.42	peak
Horizontal	7440.000	52.25	-2.54	49.71	74.00	-24.29	peak
Horizontal	9920.000	51.90	0.79	52.69	74.00	-21.31	peak

Polarization	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
Horizontal	2483.500	49.69	-0.38	49.31	54.00	-4.69	AVG
Horizontal	4960.000	49.37	-6.07	43.30	54.00	-10.70	AVG
Horizontal	7440.000	44.03	-2.54	41.49	54.00	-12.51	AVG
Horizontal	9920.000	44.33	0.79	45.12	54.00	-8.88	AVG

- NOTES:
1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.
 2. All measurements were made at 3 meters. Radiated 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 radiated 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 used for the emission over 1000MHz.

Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

Applicant: EcoFlow Inc.

Date of Test: 22 September 2025

Worst Case Model: EF-TX-288P

4.9 Conducted Emission

Worst Case Conducted Emission (LE 1Mbps))
at 0.158MHz
is passed by 8.08dB margin.

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

Applicant: EcoFlow Inc.

Date of Test: 10 October 2025

Model: EF-TX-288P

Worst Case Test Voltage: AC 120V60Hz

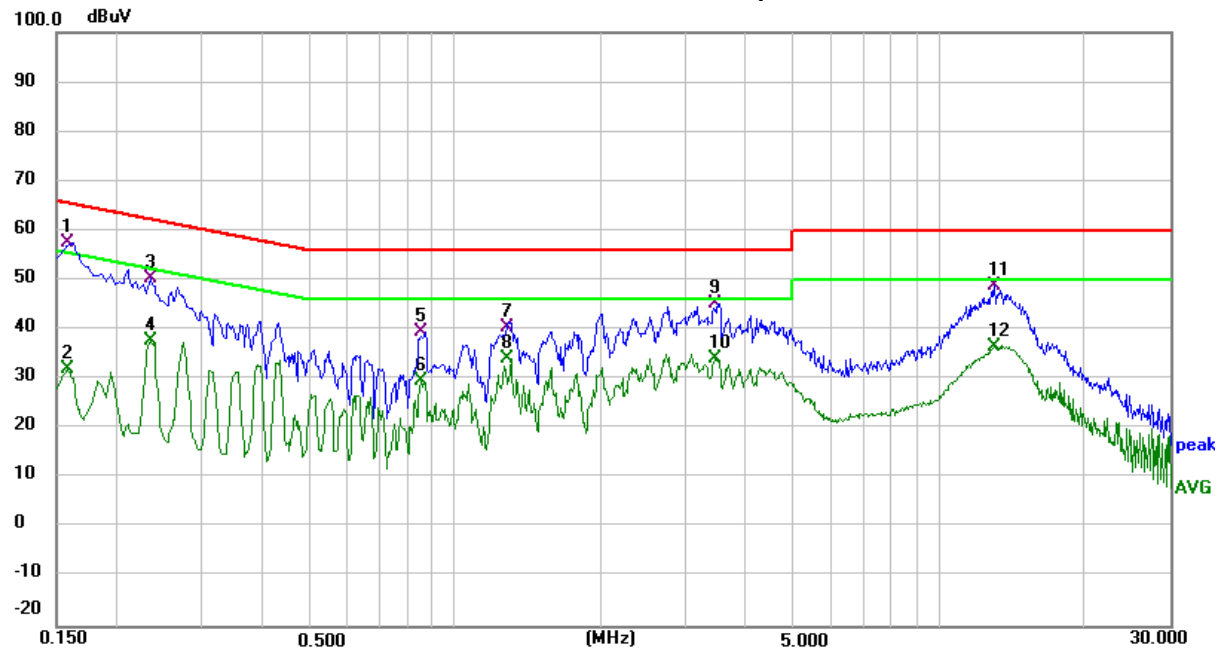
Worst Case Operating Mode: Transmitting (LE 1Mbps-Low Channel 2402MHz)

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
0.1580	47.53	9.96	57.49	65.57	-8.08	QP
0.2340	40.31	10.11	50.42	62.31	-11.89	QP
0.8500	28.07	11.38	39.45	56.00	-16.55	QP
1.2860	28.05	12.28	40.33	56.00	-15.67	QP
3.4420	35.61	9.73	45.34	56.00	-10.66	QP
13.0460	38.81	9.92	48.73	60.00	-11.27	QP

Limit and Margin AV

Frequency (MHz)	Reading (dBμV)	Factor (dB)	Level (dBμV)	Limit (dBμV)	Margin (dB)	Detector
0.1580	22.04	9.96	32.00	55.57	-23.57	AVG
0.2340	27.79	10.11	37.90	52.31	-14.41	AVG
0.8500	18.26	11.38	29.64	46.00	-16.36	AVG
1.2860	21.82	12.28	34.10	46.00	-11.90	AVG
3.4420	24.57	9.73	34.30	46.00	-11.70	AVG
13.0460	26.68	9.92	36.60	50.00	-13.40	AVG

Remark:

1. Factor (dB) = LISN Factor (dB) + Cable Loss (dB)

2. Margin (dB) = Limit (dBμV) – Level (dBμV)

Applicant: EcoFlow Inc.

Date of Test: 10 October 2025

Model: EF-TX-288P

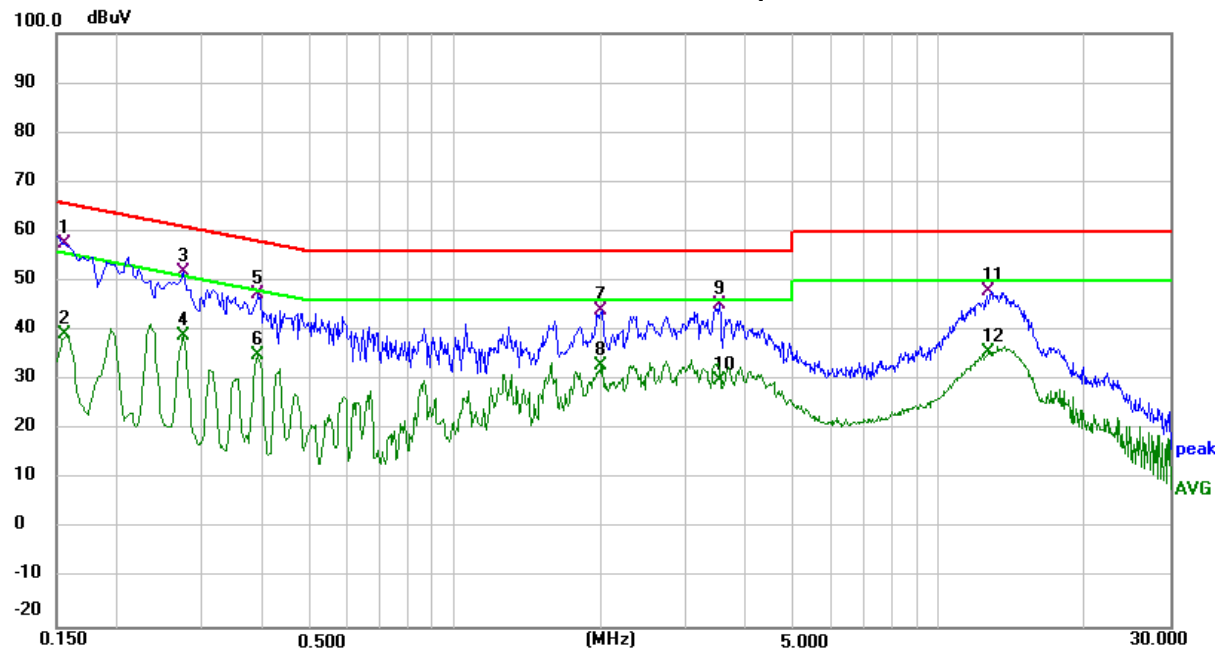
Worst Case Test Voltage: AC 120V60Hz

Worst Case Operating Mode: Transmitting (LE 1Mbps-Low Channel 2402MHz)

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
0.1556	47.55	9.94	57.49	65.70	-8.21	QP
0.2740	41.74	10.17	51.91	61.00	-9.09	QP
0.3899	36.79	10.42	47.21	58.07	-10.86	QP
2.0100	30.38	13.71	44.09	56.00	-11.91	QP
3.5220	35.57	9.72	45.29	56.00	-10.71	QP
12.7100	37.93	9.92	47.85	60.00	-12.15	QP

Limit and Margin AV

Frequency (MHz)	Reading (dBμV)	Factor (dB)	Level (dBμV)	Limit (dBμV)	Margin (dB)	Detector
0.1556	29.26	9.94	39.20	55.70	-16.50	AVG
0.2740	28.78	10.17	38.95	51.00	-12.05	AVG
0.3899	24.68	10.42	35.10	48.07	-12.97	AVG
2.0100	19.39	13.71	33.10	46.00	-12.90	AVG
3.5220	20.30	9.72	30.02	46.00	-15.98	AVG
12.7100	25.66	9.92	35.58	50.00	-14.42	AVG

Remark:

1. Factor (dB) = LISN Factor (dB) + Cable Loss (dB)

2. Margin (dB) = Limit (dBμV) – Level (dBμV)

Applicant: EcoFlow Inc.

Date of Test: 22 September 2025

Worst Case Model: EF-TX-288P

4.10 Radiated Emissions from Digital Section of Transceiver, FCC Ref: 15.109

- ☐ Not required - No digital part
- ☐ Test results are attached
- ☒ Included in the separated report.

Applicant: EcoFlow Inc.

Date of Test: 22 September 2025

Worst Case Model: EF-TX-288P

4.11 Transmitter Duty Cycle Calculation and Measurements, 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.

5.0 Equipment Photographs

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

6.0 Product Labeling

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

7.0 Technical Specifications

For electronic filing, the block diagram and circuit diagram 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 Confidentiality Request

For electronic filing, the confidentiality request of the tested EUT is saved with filename: request.pdf.

10.0 Discussion of Pulse Desensitization

The determination of pulse desensitivity was made in accordance with Hewlett Packard Application Note 150-2, *Spectrum Analysis ... Pulsed RF*.

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

11.0 Test Equipment List

Radiated Emissions & RF Conducted Test equipment

Equip No.	Description	Manufacturer	Model No.	Cal. Date	Due Date
LES-411-C	3m Anechoic Chamber	N/A	9*6*6	2024/6/18	2027/6/17
LES-342-C	EMI Test Receiver	R&S	ESPI3	2025/7/23	2026/7/22
LES-398-C	Log-Periodic Antenna	SCHWARZBECK	VULB 9162	2025/4/29	2026/4/28
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	2025/4/17	2026/4/16
LES-332-C	Broadband Horn Antenna	SCHWARZBECK	BBHA 9120 D	2024/5/18	2027/5/17
LES-046-C	Spectrum Analyzer	Agilent	E4440A	2025/4/24	2026/4/23
LES-063-C	Filter	TRILTHIC	2400MHz	2024/4/26	2027/4/25
LES-236-C	Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	2024/5/12	2027/5/11
LES-235-C	Cable	Keysight	A40-KMKM-8M	2024/4/26	2027/4/25
LES-234-C	Cable	Keysight	A40-2/92M2/92M-2M	2024/4/26	2027/4/25
LES-332-C	Broadband Horn Antenna	SCHWARZBECK	BBHA 9120 D	2024/5/18	2027/5/17
LES-175-C	Spectrum Analyzer	R&S	FSV40	2025/4/17	2026/4/16
LES-045-C	MXG Vector Signal Generator	Agilent	N5182A	2025/4/17	2026/4/16
LES-486-C	Wideband Radio Communication Tester Specifications	R&S	CMW500	2025/5/6	2026/5/5
LES-037-C	USB RF Power Sensor	DARE	RPR3006W	2025/4/17	2026/4/16
LES-448-C	Filter	COM-MW	k6-2496-2690-10s60100-004	2025/1/2	2028/1/1

AC Conducted Test equipment

Equip No.	Description	Manufacturer	Model No.	Cal. Date	Due Date
LES-021-C	Single Phase LISN	R&S	ENV216	2025/4/17	2026/4/16
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	2025/4/17	2026/4/16

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