

FCC Test Report

For

Shenzhen EcoFlow Technology Limited

Ecoflow solar panel

Model No.: EF-Flex-100, EF-Flex-85

Prepared For : Shenzhen EcoFlow Technology Limited
Address : Room 607, Block G3, TCL Science Park International E city, Nanshan District, Shenzhen, China

Prepared By : Shenzhen Anbotech Compliance Laboratory Limited
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Date of Report : Dec. 24, 2018

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TEST REPORT

Applicant : Shenzhen EcoFlow Technology Limited

Manufacturer : Shenzhen EcoFlow Technology Limited

Product Name : Ecoflow solar panel

Model No. : EF-Flex-100, EF-Flex-85

Trade Mark : N.A.

Rating(s) : DC 18.2V, 5.5A

Test Standard(s) : FCC Rules and Regulations Part 15 Subpart B: 2018**Test Method(s) : ANSI C63.4-2014**

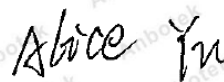
The device described above is tested by Shenzhen Anbotech Compliance Laboratory Limited To determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart B Class B limits both radiated and conducted emissions. The measurement results are contained in this test report and Shenzhen Anbotech Compliance Laboratory Limited Is assumed full responsibility for the accuracy and completeness of these measurements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Shenzhen Anbotech Compliance Laboratory Limited

Date of Test:

Dec. 19~24, 2018

Prepared By:



(Engineer / Alice Yu)

Reviewer:



(Supervisor / Well Wang)

Approved & Authorized Signer:



(Manager / Sally Zhang)

1. General Information

1.1. Client Information

Applicant	:	Shenzhen EcoFlow Technology Limited
Address	:	Room 607, Block G3, TCL Science Park International E city, Nanshan District, Shenzhen, China
Manufacturer	:	Shenzhen EcoFlow Technology Limited
Address	:	Room 607, Block G3, TCL Science Park International E city, Nanshan District, Shenzhen, China
Factory	:	Shenzhen EcoFlow Technology Limited
Address	:	Room 607, Block G3, TCL Science Park International E city, Nanshan District, Shenzhen, China

1.2. Description of Device (EUT)

Product Name	:	Ecoflow solar panel
Model No.	:	EF-Flex-100, EF-Flex-85 (Note: All samples are the same except the model number & appearance, so we prepare "EF-Flex-100" for test only.)
Trade Mark	:	N.A.
Test Power Supply	:	DC 18.2V
Test Sample No.	:	S1
Product Description	:	Adapter: N/A

Remark: (1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
(2) Once the new report takes into force, the original report withdraw
(3) This report is based on original report SZAIE181218003-01.
(4) Both reports are the same except updated the Product Name.

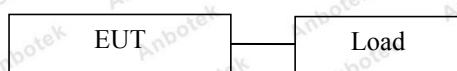
1.3. Auxiliary Equipment Used During Test

N/A	:	
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1.4. Description of Test Mode

Pretest Mode	Description
Mode 1	On

For Mode 1 Block Diagram of Test Setup



1.5. Test Summary

Test Items	Test Mode	Status
Power Line Conducted Emission Test (150KHz To 30MHz)	/	N
Radiated Emission Test (30MHz To 1000MHz)	Mode 1	P
P) Indicates "PASS". N) Indicates "Not applicable".		

1.6. Test Equipment List

Radiated Emission Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	Nov. 05, 2018	1 Year
2.	Pre-amplifier	Schwarzbeck	BBV-9745	9745-075	Nov. 05, 2018	1 Year
3.	Bilog Broadband Antenna	SCHWARZBECK	VULB 9163	01109	Nov. 05, 2018	1 Year
4.	Software Name EZ-EMC	Ferrari Technology	EMEC-3A1	N/A	N/A	N/A

1.7. Measurement Uncertainty

Radiation Uncertainty	:	Ur = 3.9 dB (Horizontal)
		Ur = 3.8 dB (Vertical)
Conduction Uncertainty	:	Uc = 3.4 dB
Disturbance Uncertainty	:	Ud = 3.4 dB

1.8. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.: 184111

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No. 184111, July 31, 2017.

ISED-Registration No.: 8058A-1

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (ISED) Innovation, Science and Economic Development Canada. The acceptance letter from the ISED is maintained in our files. Registration 8058A-1, June 13, 2016.

Test Location

Shenzhen Anbotek Compliance Laboratory Limited.

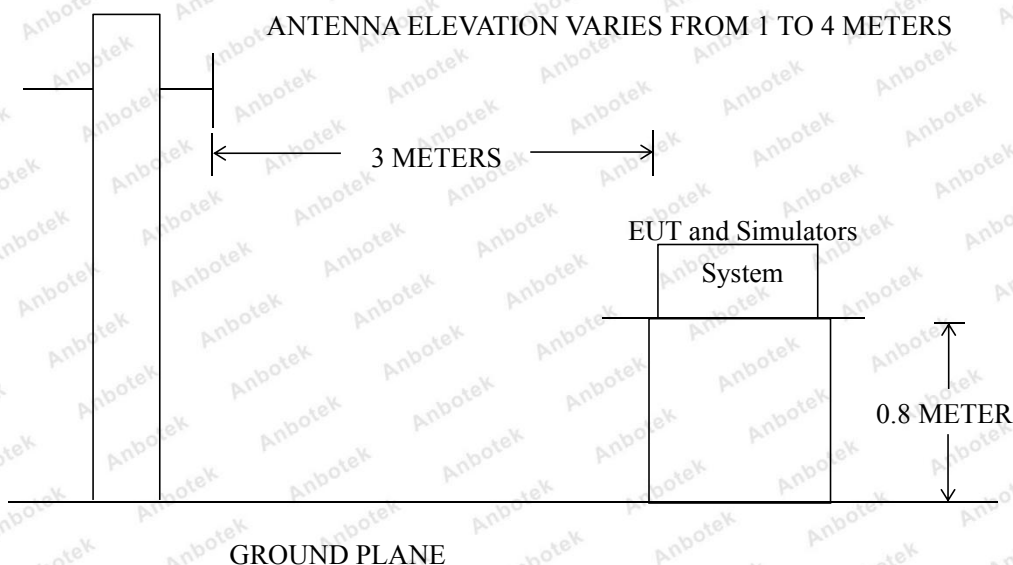
1/F, Building D, Sogood Science and Technology Park, Sanwei community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.518102

2. Radiated Emission Test

2.1. Test Standard and Limit

Test Standard	FCC Part 15 Subpart B			
Radiated Emission Test Limit (Subpart B Class B)				
Test Limit	Frequency (MHz)	DISTANCE (Meters)	FIELD STRENGTHS LIMIT	
			μV/m	(dBμV/m)
	30 ~ 88	3	100	40
	88 ~ 216	3	150	43.5
	216 ~ 960	3	200	46
	960 ~ 1000	3	500	54
Remark: (1) Emission level (dB)μV = 20 log Emission level μV/m (2) The smaller limit shall apply at the cross point between two frequency bands. (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system. (4) 3M Limit=10M Limit+k k=20log(D1/D2)=10 3M Limit=10M Limit +10 (D1= 10M D2=3M)				

2.2. Test Setup



2.3. EUT Configuration on Measurement

The following equipments are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

2.4. Operating Condition of EUT

2.4.1. Setup the EUT as shown in Section 2.2.

2.4.2. Turn on the power of all equipments.

2.4.3. Let the EUT work in test mode and measure it.

2.5. Test Procedure

EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (Trilog Broadband Antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2014 on radiated emission measurement.

The bandwidth of the EMI test receiver (ESCI) is set at 120kHz.

The frequency range from 30MHz to 1000MHz is checked.

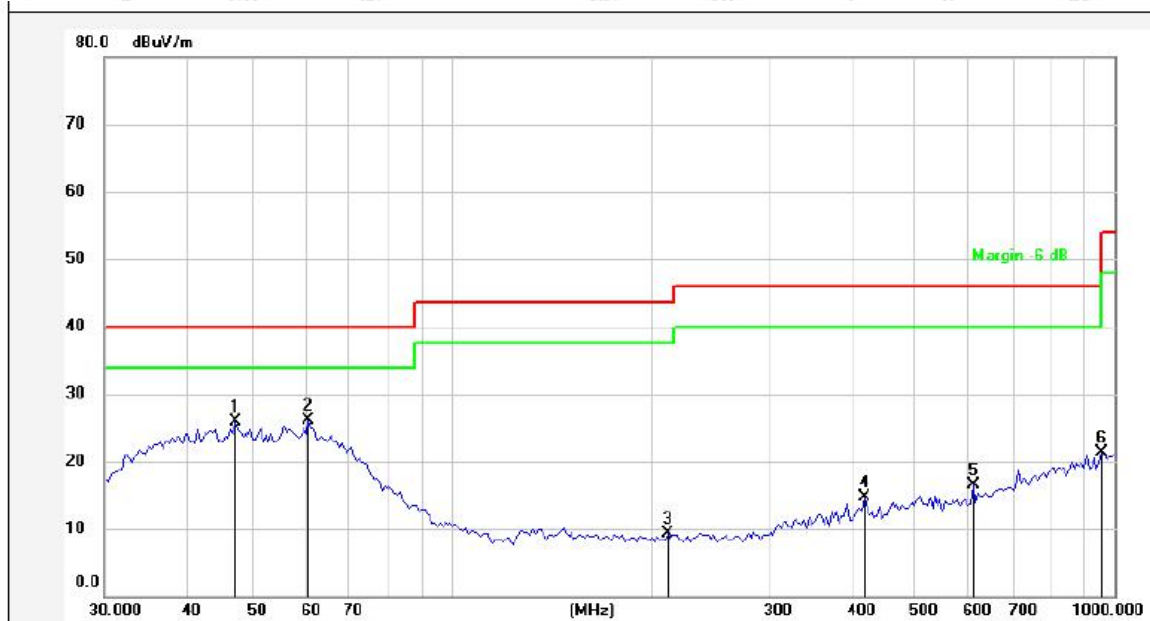
The test results are listed in Section 2.6.

2.6. Test Results

PASS

The test curves are shown in the following pages.

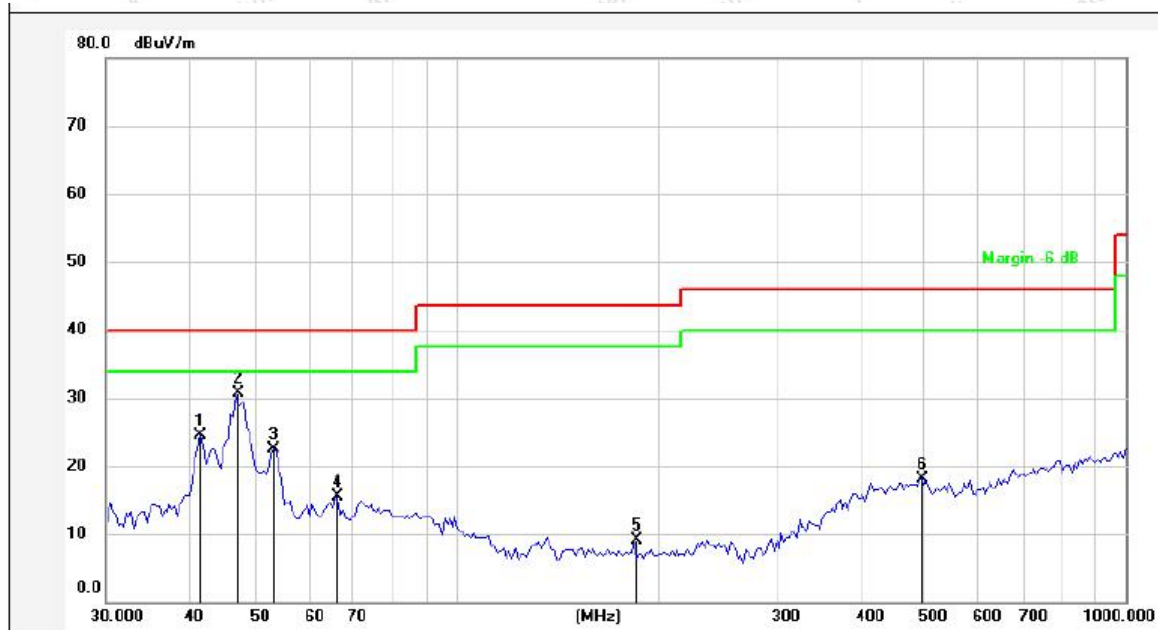
Test item: Radiation Test **Polarization:** Horizontal
Standard: (RE)FCC Part 15 Subpart B **Power Source:** DC 18.2V
Distance: 3m **Temp.(°C)/Hum.(%RH):** 23.6(°C)/57%RH



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	47.3253	41.59	-15.71	25.88	40.00	-14.12	peak			
2	61.0245	42.81	-16.62	26.19	40.00	-13.81	peak			
3	211.8976	29.95	-20.68	9.27	43.50	-34.23	peak			
4	419.8435	28.91	-14.30	14.61	46.00	-31.39	peak			
5	612.0642	29.17	-12.61	16.56	46.00	-29.44	peak			
6	957.1147	28.08	-6.82	21.26	46.00	-24.74	peak			

Note: Result=Reading+Factor Over Limit=Result-Limit

Test item: Radiation Test **Polarization:** Vertical
Standard: (RE)FCC Part 15 Subpart B **Power Source:** DC 18.2V
Distance: 3m **Temp.(°C)/Hum.(%RH):** 23.6(°C)/57%RH



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	41.4942	39.12	-14.52	24.60	40.00	-15.40	peak			
2	46.9125	45.29	-14.68	30.61	40.00	-9.39	peak			
3	53.5052	37.44	-14.94	22.50	40.00	-17.50	peak			
4	66.6156	33.30	-17.73	15.57	40.00	-24.43	peak			
5	184.1667	26.15	-17.04	9.11	43.50	-34.39	peak			
6	491.6059	31.45	-13.28	18.17	46.00	-27.83	peak			

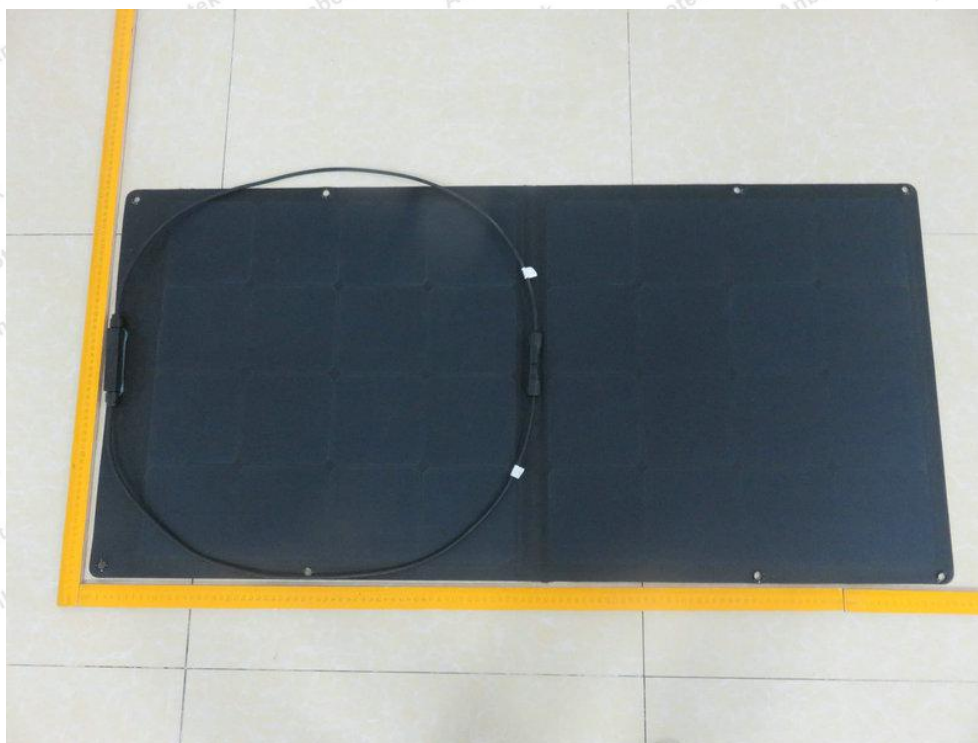
Note: Result=Reading+Factor Over Limit=Result-Limit

APPENDIX I-- TEST SETUP PHOTOGRAPH

Photo of Radiated Emission Test



APPENDIX II -- EXTERNAL PHOTOGRAPH



----- End of Report -----