

Antenna test report

Test Laboratory	Shenzhen Morlab Communications Technology Co., Ltd.
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Model	PCB Antenna

Manufacturer	EcoFlow Inc.
Address	RM 401, Plant #1, Runheng Industrial Zone, Fuyuanyi Road, Zhancheng Community, Fuhai Street, Bao'an District,Shenzhen City,Guangdong Province, P.R.China

1. Test procedures

Standards	Description of Test Item	Result
ANSI/ IEEE 149-2021	IEEE Recommended Practice for Antenna Measurements	Compliant

2. Test Items and Equipment

	Test items	Test equipment
S Parameter	1.Return Loss 2.VSWR	Network analyzer (Agilent E5071B)
The whole machine of Passive parameters	1.Frequency 2.Gain 3.Radiation Pattern	1.3D microwave darkroom (6m*6m*6m) 2.Network analyzer (Agilent E5071B)

3. Test Equipment

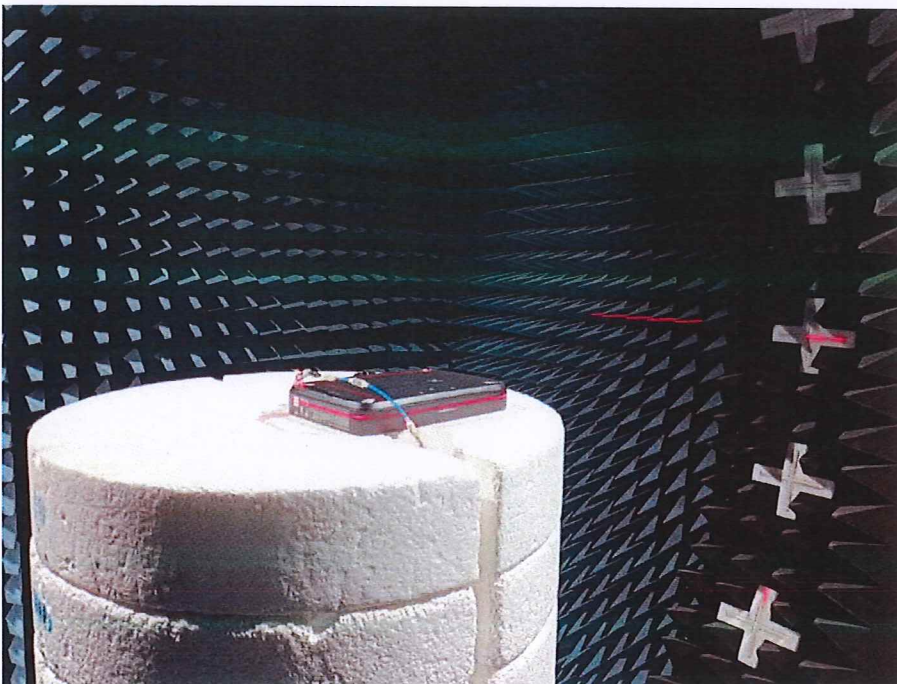
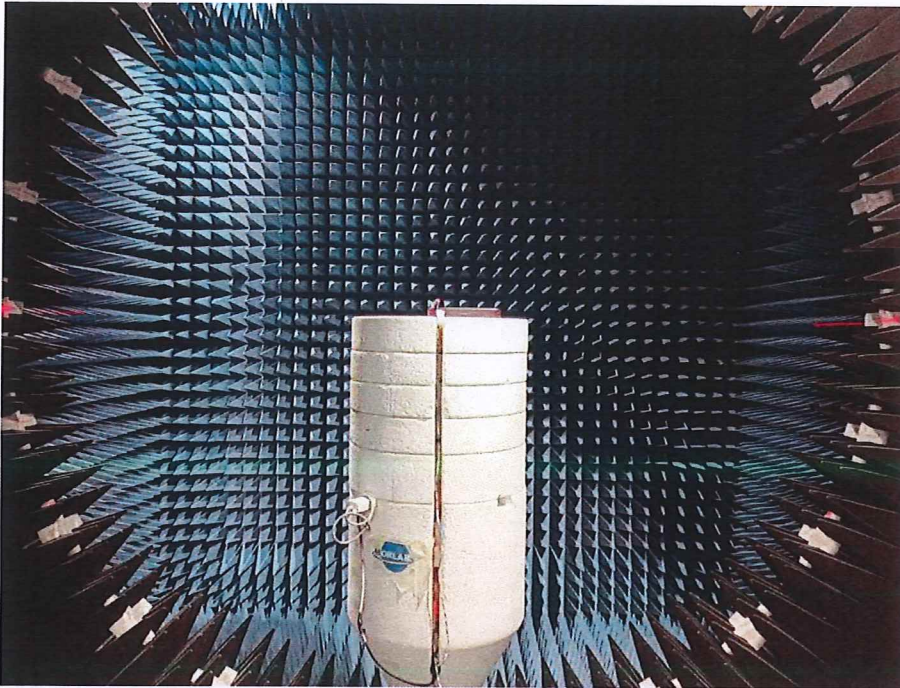
Equipement Name	Serial No.	Type	Manufacture	Cal.Date	Cal.Due Date
Network Analyzer	MY46110140	E5071C	Agilent	2024-05-30	2025-05-29
OTA Chamber	TJ2235-Q1793	AMS-8923-150	ETS	2022-11-30	2025-11-29
Antenna Measurement System	1685	EMQuest EMQ-100 V1.13 Build 21267	ETS	N/A	N/A

4. Name of commercial test software

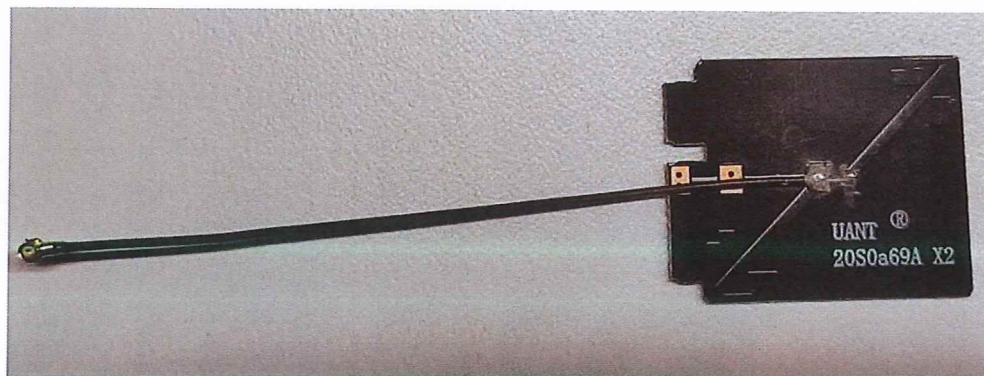
Software Name	Serial No.	Version	Manufacturer
Antenna Measurement System	1685	"EMQuest EMQ-100 V 1.13 Build 21267"	ETS

5. The uncertainty is calculated using the methods suggested in the "Guide to the Expression of Uncertainty in Measurement" (GUM) published by ISO. When the test result is a critical value, we will use the measurement uncertainty to give the judgment result based on the 95% Confidence intervals.

6. DUT Setup Photo



PCB Antenna Physical Size (unit: mm)



7. Antenna Electrical Specification

FREQ	2.4~2.5GHz
GAIN	1.6dBi
VSWR	<2
IMPEDANCE	50 ohm
POLARIZATION	LINEAR
Type:	PCB Antenna
MANUFACTURE	EcoFlow

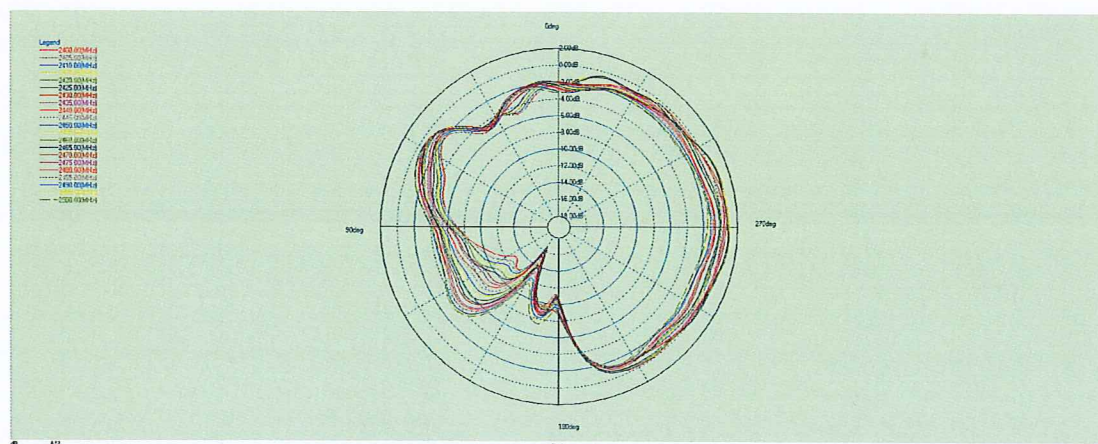
8. Gain and efficiency

WIFI		
Frequency	Gain(dBi)	efficiency
2400MHz	1.38	46.03%
2405MHz	1.46	46.28%
2410MHz	1.50	46.65%
2415MHz	1.55	46.87%
2420MHz	1.60	46.71%
2425MHz	1.31	46.53%
2430MHz	1.10	46.10%
2435MHz	0.99	46.04%
2440MHz	0.82	46.06%
2445MHz	0.85	46.70%
2450MHz	0.79	46.84%
2455MHz	0.94	47.70%
2460MHz	1.06	48.38%
2465MHz	1.16	48.37%
2470MHz	0.90	48.79%
2475MHz	0.93	50.31%
2480MHz	0.92	49.63%
2485MHz	0.87	49.41%
2490MHz	0.97	50.25%
2495MHz	1.04	49.82%
2500MHz	1.06	49.60%

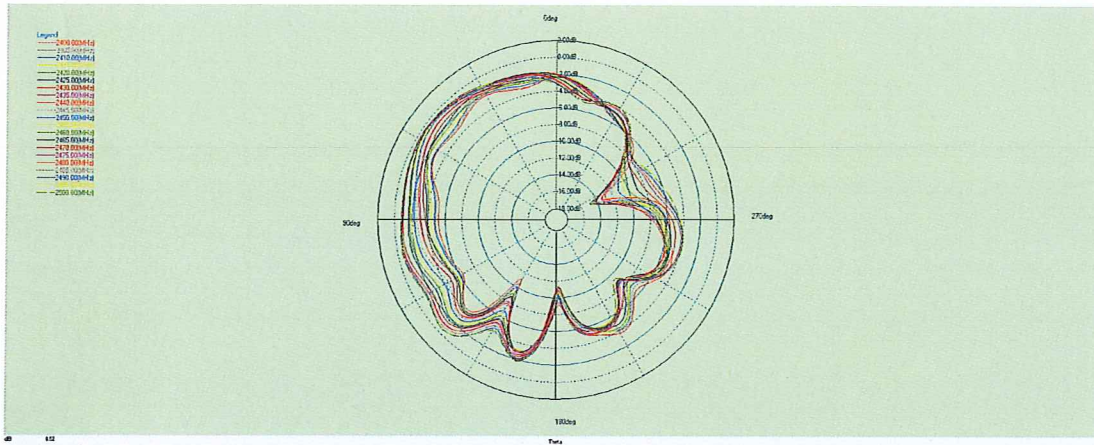
9. Pattern and Gain

On-board Antenna

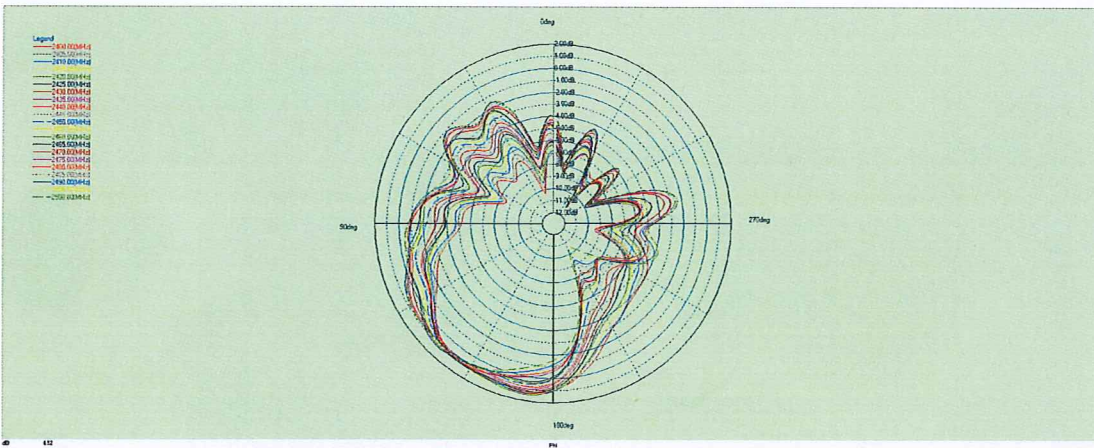
PHI=0DEG



PHI=90DEG



THETA=90DEG



Tester by: *Devyn Denny*