

Antenna Test Report

APPLICANT : Ecoflow Inc.

MANUFACTURER : Ecoflow Inc.

EQUIPMENT : Antenna on PCB

MODEL NAME : PD303

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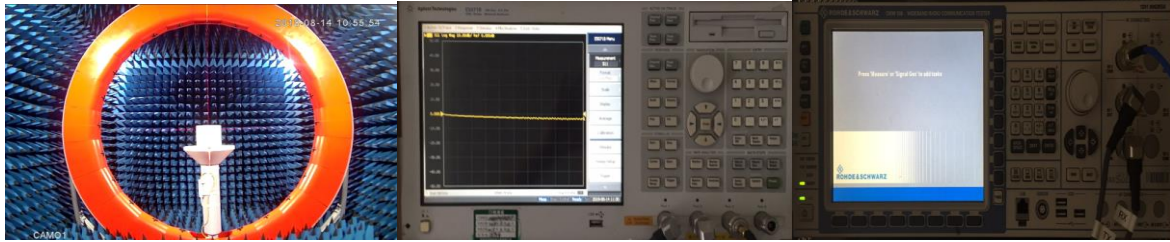
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1. Electrical Specification

Characteristics	Specifications	Unit
Outline Dimensions	46*46*17 L=500	mm
Frequency	2400-2500	MHz
Impedance	50	Ω
VSWR	< 2	
Polarization	Linear Polarization	
Gain	≤ 6.04	dBi
Efficiency	>50	%
Connector Type	1.37PE-IPEX1	
Operating temperature	-40℃~+85℃	
Storage Temp	-40℃~+85℃	

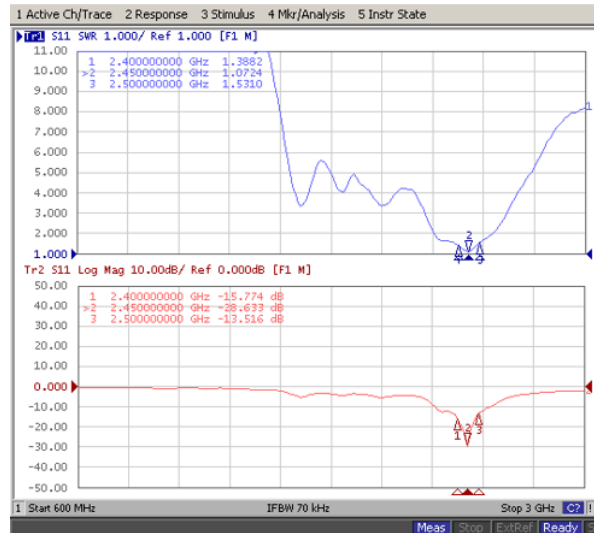
2. Test Items and Equipment

	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)
The whole machine of Active parameters	1.TRP 2.TIS	1.3D microwave darkroom (6m*6m*6m) 2.Comprehensive test instrument (CMW500)



3. S Parameter

Frequency (MHz)	Return Loss (dB)	VSWR
2400	-15.77	1.38
2450	-28.63	1.07
2500	-13.51	1.53

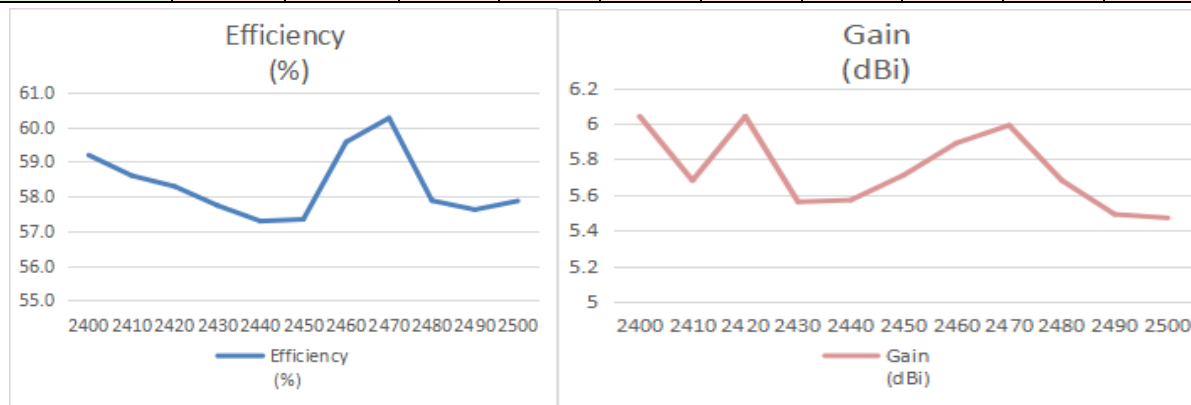


* Voltage Standing Wave Ratio(VSWR)

Return Loss(RL) $RL = 20 \cdot \log_{10}[(VSWR+1)/(VSWR-1)]$

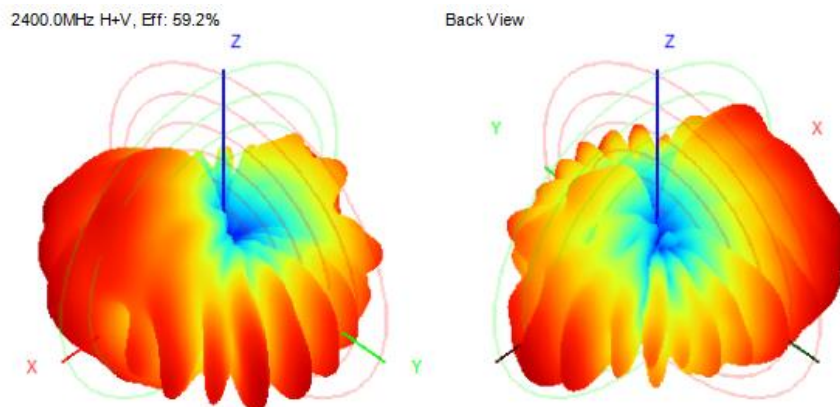
4. Efficiency and Gain

Frequency (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Efficiency (%)	59.19	58.60	58.29	57.74	57.29	57.34	59.57	60.26	57.88	57.62	57.87
Gain (dBi)	6.04	5.68	6.04	5.56	5.57	5.71	5.89	5.99	5.68	5.49	5.47

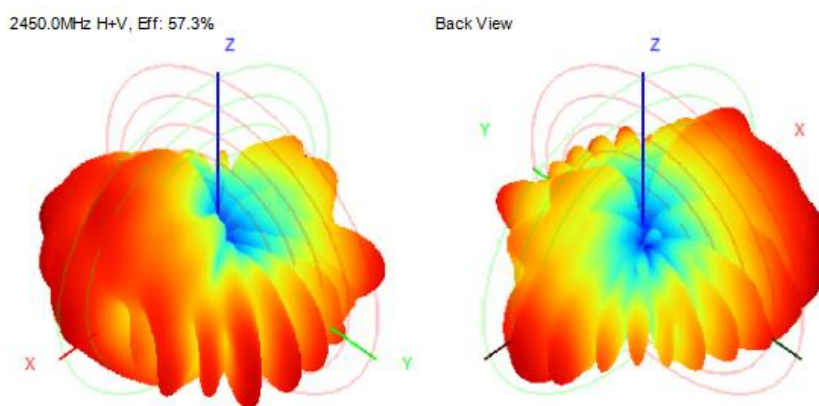


5. Radiation Pattern

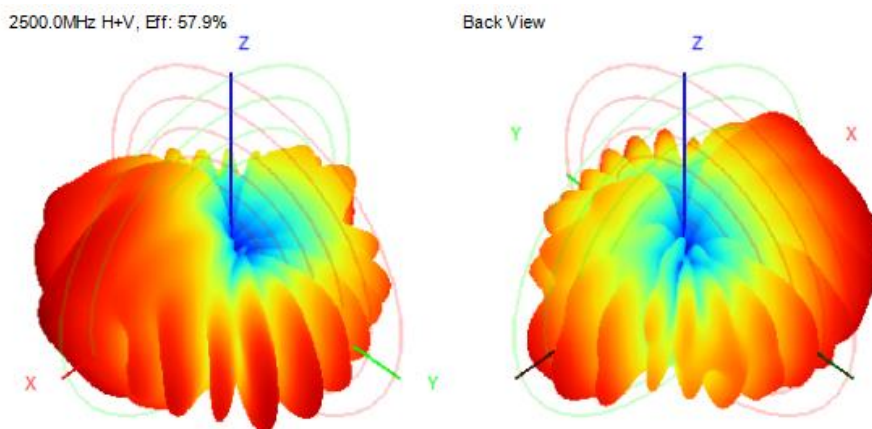
3-1 Antenna 3D Radiation Pattern



2400MHz

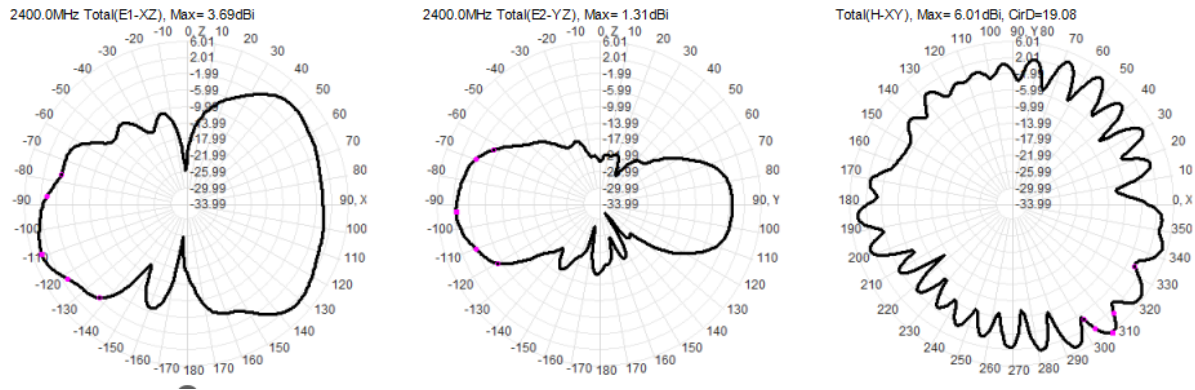


2450MHz

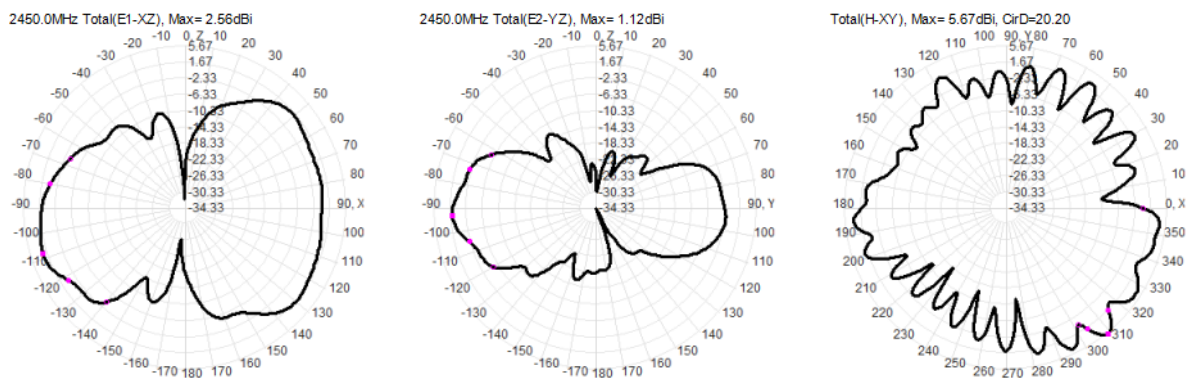


2500MHz

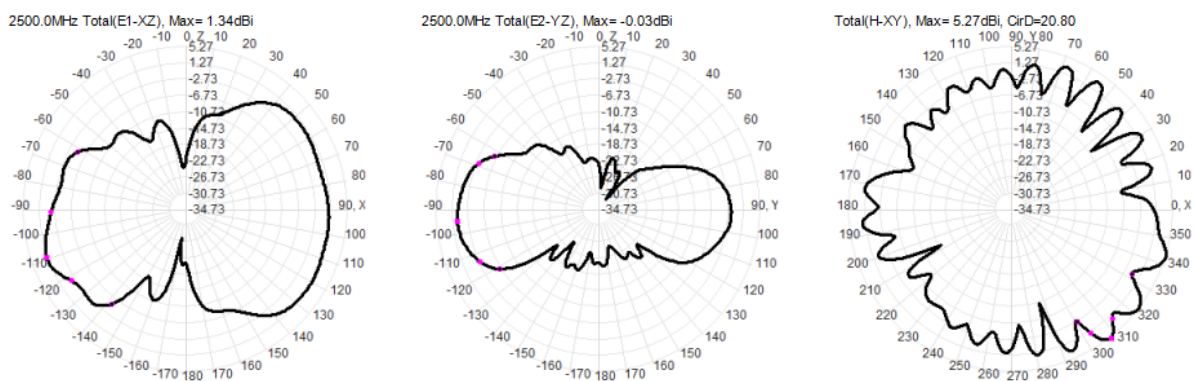
3-2 Antenna 2D Radiation Pattern



2400MHz



2450MHz

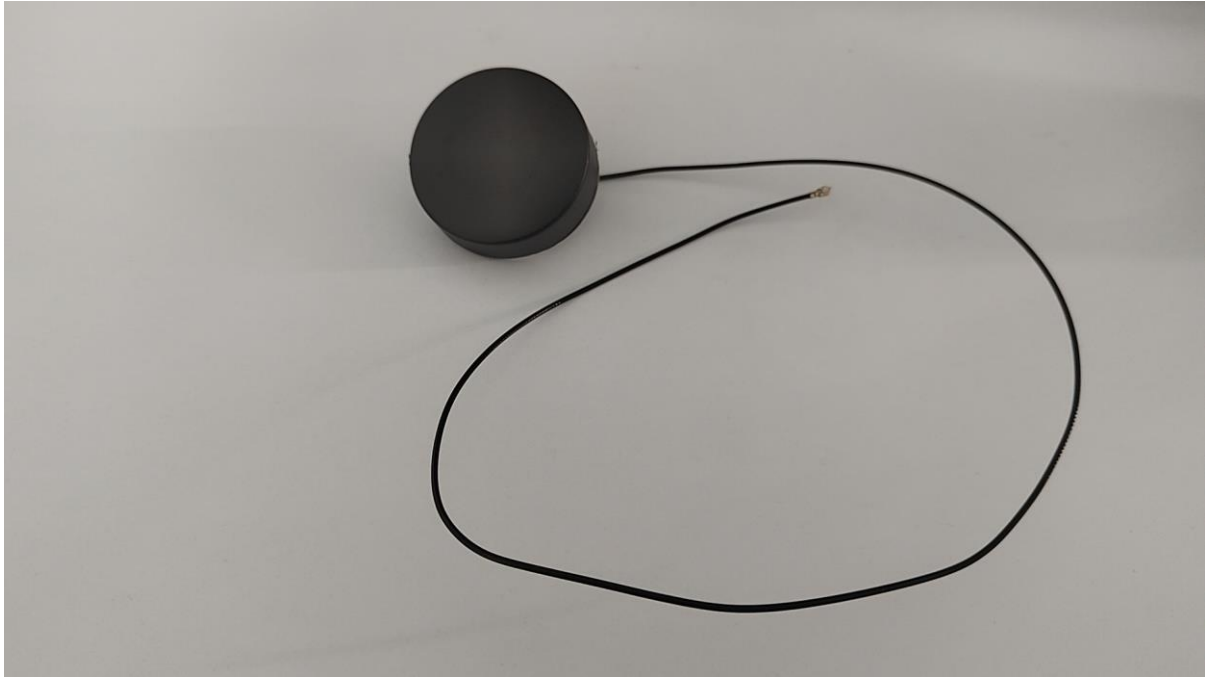


2500MHz

6. WIFI Antenna(3D Free Space)

Mode	TestCase	Channel	DateRate (Mbps)	TestResults (dBm)
IEEE802.11b	TRP	1	11	15.75
		7		17.12
		13		16.07
	TIS	1	11	-88.58
		7		-85.79
		13		-86.20

7. Antenna image



8. Mechanical Specification

