



SPECIFICATIONS FOR APPROVAL

Antenna Name: WiFi Antenna

Product Name: MM305 WiFi Antenna

Test Date: 2024-08-15

Issued Date: 2024-09-03

Tester by: Edward.Lyu

1.Product Specification

Electrical Characteristics	
Test Laboratory	Shenzhen Morlab Communications Technology Co., Ltd.
Address	FL.1-3, Building A, FeiYang Science Park, No.8 LongChang Road, Block67, BaoAn District, ShenZhen , GuangDong Province, P. R. China
Manufacturer	EcoFlow Technology Inc
Address	Building B1, Chuangzhi Yuncheng, NanShan District, ShenZhen , GuangDong Province, P. R. China
Model	PCB On-board Antenna
Antenna Type	PCB Antenna
Frequency	2400MHz ~2483 MHz 5100MHz ~5850 MHz
VSWR	<2
Efficiency	>35%
Impedance	50Ohm
Polarization	Linear
Gain(2.4GHz)	3.49dBi
Gain(5GHz)	3.5dBi

2.Test procedures

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

3. Test Equipment & Conditions

3.1 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)

3.2 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

3.3 Name of commercial test software

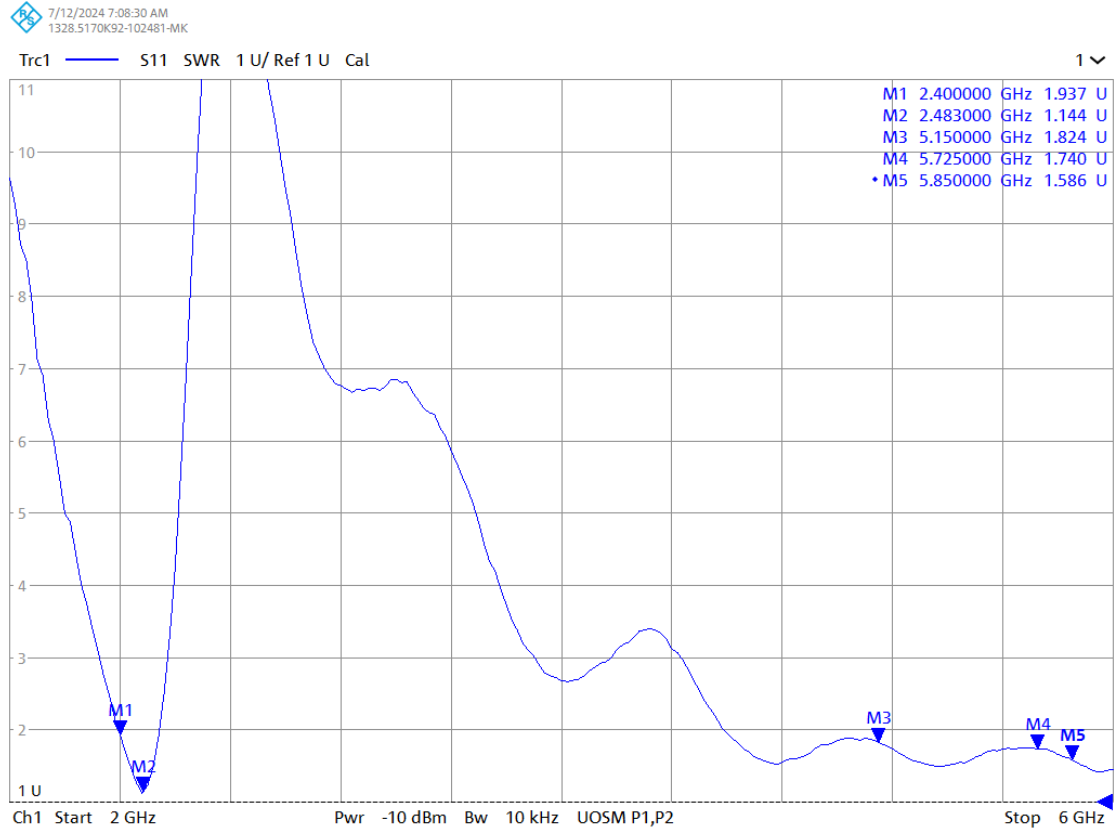
Software Name	Serial No.	Version	Manufacturer
Antenna Measurement System	1685	"EMQuest EMQ-100 V 1.13 Build 21267"	ETS

4. Uncertainty

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.

5. Test Report

5.1 Voltage Standing Wave Ratio(VSWR).



5.2 Efficient and gain.

passive

2# (MM305)		
Frequency (MHz)	Efficiency (%)	Gain (dBi)
2400	50.15	3.49
2420	46.71	2.94
2440	43.98	2.72
2460	42.35	2.47
2480	38.05	1.79
2500	34.06	1.07
5150	39.43	2.77
5175	40.55	2.92
5200	39.49	2.63
5225	38.79	2.60
5250	45.78	3.50
5400	50.24	3.34
5425	48.56	2.94
5450	48.86	2.76

5475	50.93	3.03
5500	51.82	3.30
5525	47.71	2.85
5550	47.33	3.08
5575	48.18	3.25
5600	48.38	3.25
5625	45.31	2.92
5650	46.04	3.04
5675	48.26	3.10
5700	49.83	3.19
5725	46.33	2.96
5750	47.98	3.19
5775	49.17	3.19
5800	44.97	2.74
5825	43.16	2.67
5850	42.20	2.75

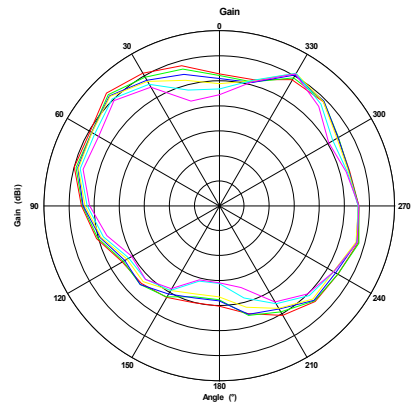
active

2.4G WIFI	MM305			
		Band	Rate	TRP
802.11b		1	11M	17.58
		6		17.75
		11		17.43
5.8G WIFI	802.11n	36	HT20_MCS0	15.09
		149		14.57
		165		14.04

5.3 RADIATION PATTERN

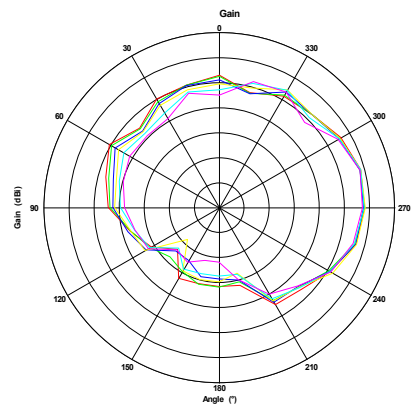
2.4G

Max: 5
Min: -30
Scale: 5div



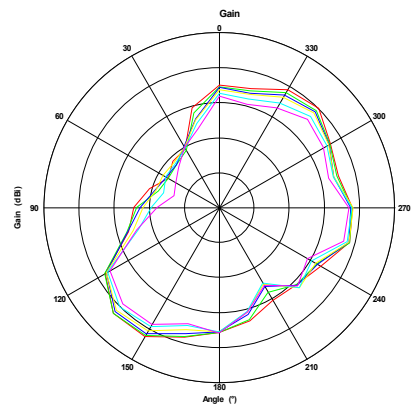
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Max: 5
Min: -30
Scale: 5div



Phi=90deg

Max: 5
Min: -30
Scale: 5div

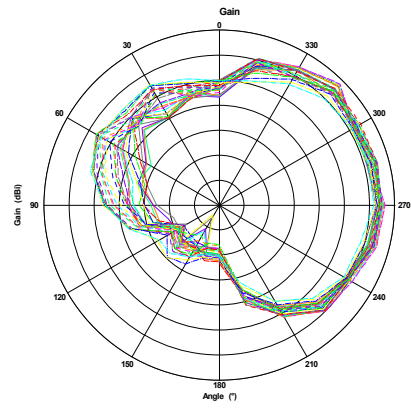


Theta=90deg

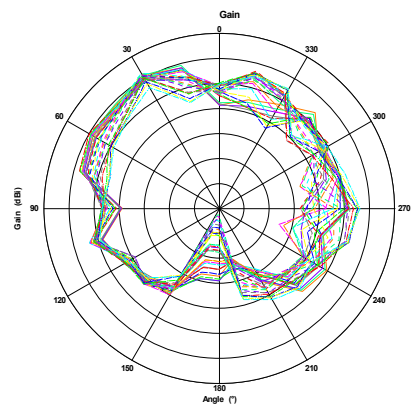
5G

Phi=0deg

Max: 5
Min: -30
Scale: 5/div

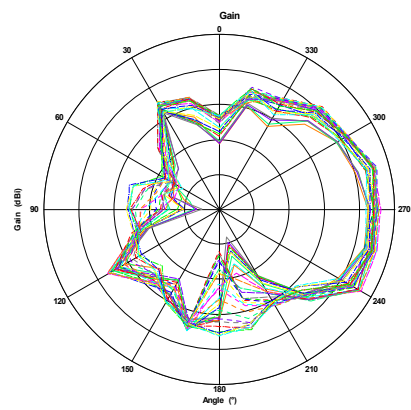


Max: 5
Min: -30
Scale: 5/div



Phi=90deg

Max: 5
Min: -30
Scale: 5/div



Theta=90deg

6. Product Drawing & Structures

Please refer to antenna photo .

7. DUT Setup Photo

Please refer to antenna photo