

Antenna test report

Test Laboratory	Shenzhen Morlab Communications Technology Co., Ltd.
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Contact:	EDWARD.LYU +86 755 36698555
Model	On-board Antenna

Manufacturer	Dongguan Youbi Electronics Co., LTD
Address	Building 79, New Sun Industrial City, Lincun Community, Tangxia Town, Dongguan City, Guangdong Province

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	2025.05.30	2026.05.29
OTA Chamber	TJ2235-Q1793	AMS-8923-150	ETS	2025-11-30	2028-11-29
Antenna Measurement System	1685	EMQuest EMQ-100 V1.13 Build 21267	ETS	N/A	N/A

4. Name of commercial test software

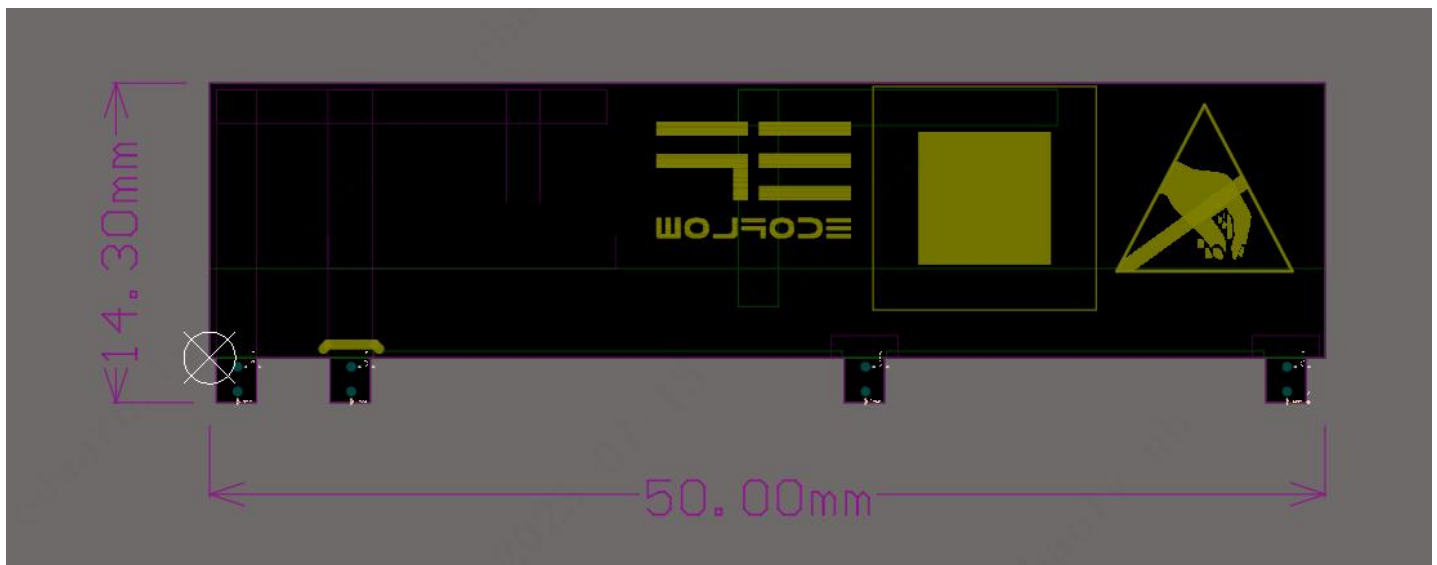
Software Name	Serial No.	Version	Manufacturer
Antenna Measurement System	1685	"EMQuest EMQ-100 V 1.13 Build 21267"	ETS

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 give the judgment result based on the 95%Confidence intervals.

6. DUT Setup Photo

Please refer to Appendix

7. PCB Antenna Physical Size (unit: mm)



8. Antenna Electrical Specification

On-board Antenna	
Freq	2.4~2.483GHz
Gain	0.63dBi
VSWR	<2
Impedance	50 ohm
Polarization	Linear
Type of Antenna	PCB Antenna
Outline Dimensions	45mm*15mm*2mm
Manufacture	EcoFlow
Efficiency	≥37.41%
Connector Type	Microstrip lines
Operating Temperature	-40°C~+85°C
Storage Temp	-40°C~+85°C

9. 2.4G Antenna Type & Gain

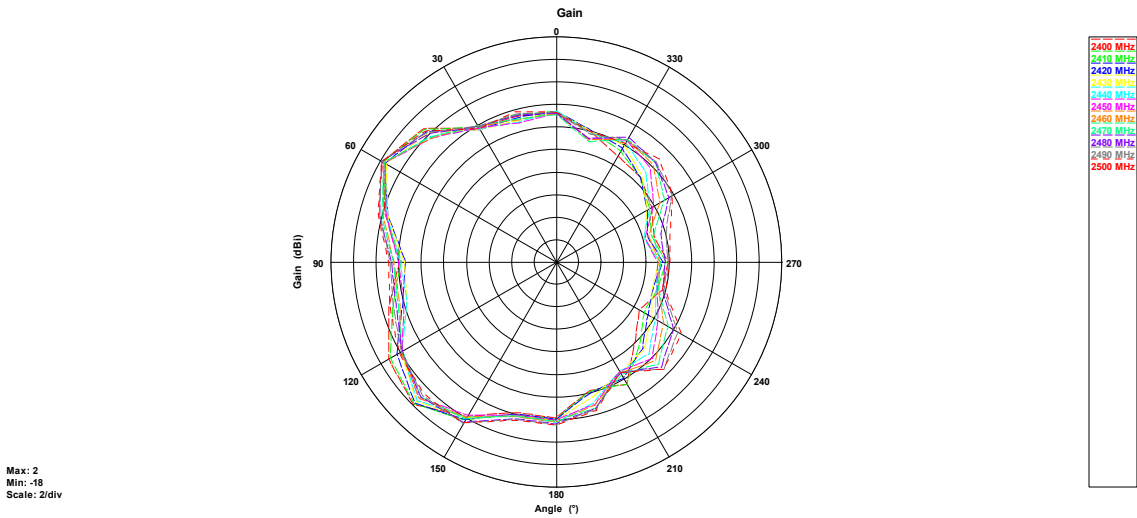
Type: PCB Antenna

On-board Antenna		
Frequency	Gain(dBi)	efficiency
2400	39.44	0.63
2410	39.71	0.50
2420	38.15	-0.01
2430	37.41	-0.12
2440	38.11	-0.02
2450	38.37	0.10
2460	39.81	0.05
2470	40.08	0.06
2480	41.64	-0.05
2490	42.55	-0.07

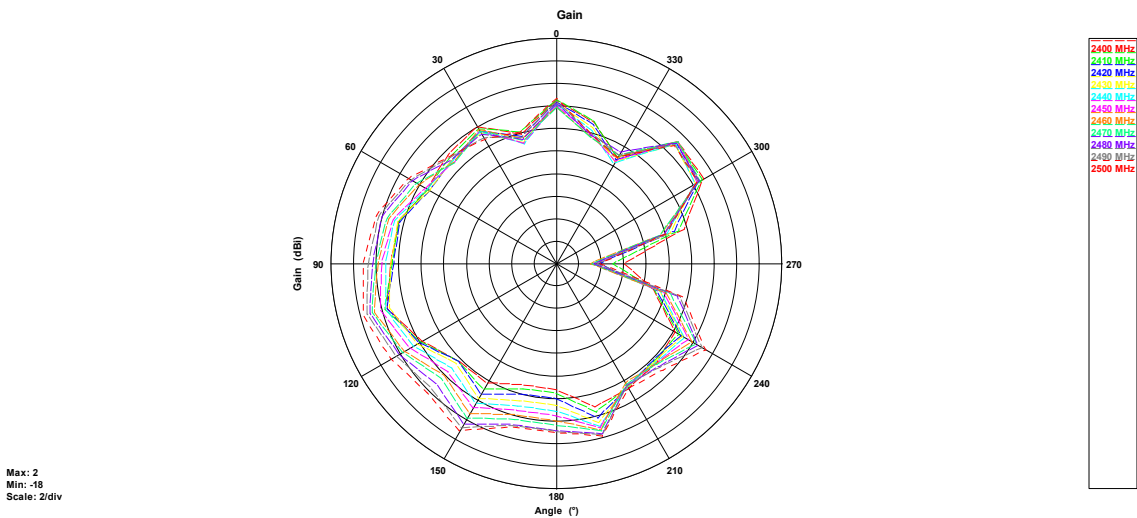
10. Pattern and Gain

On-board Antenna

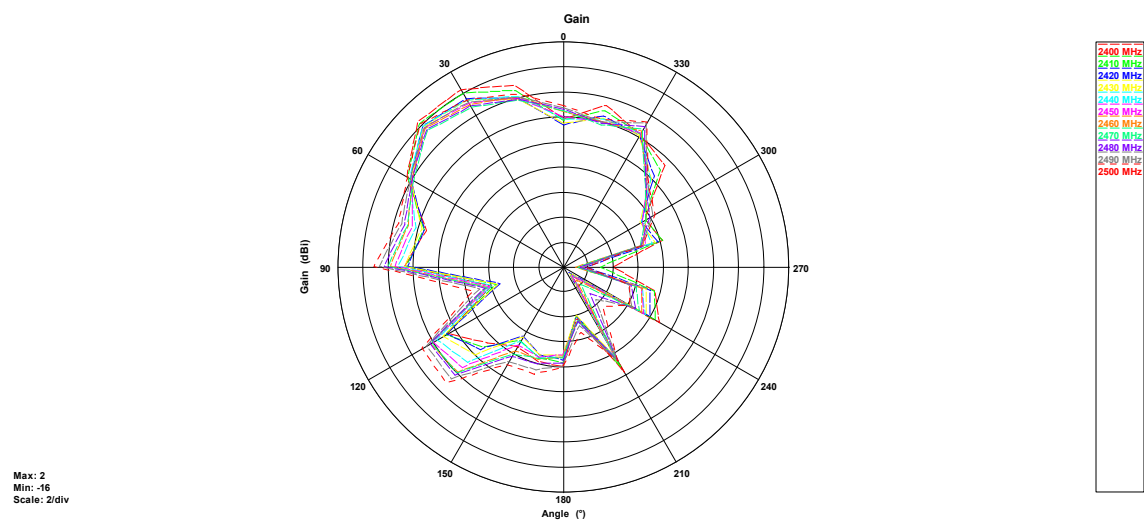
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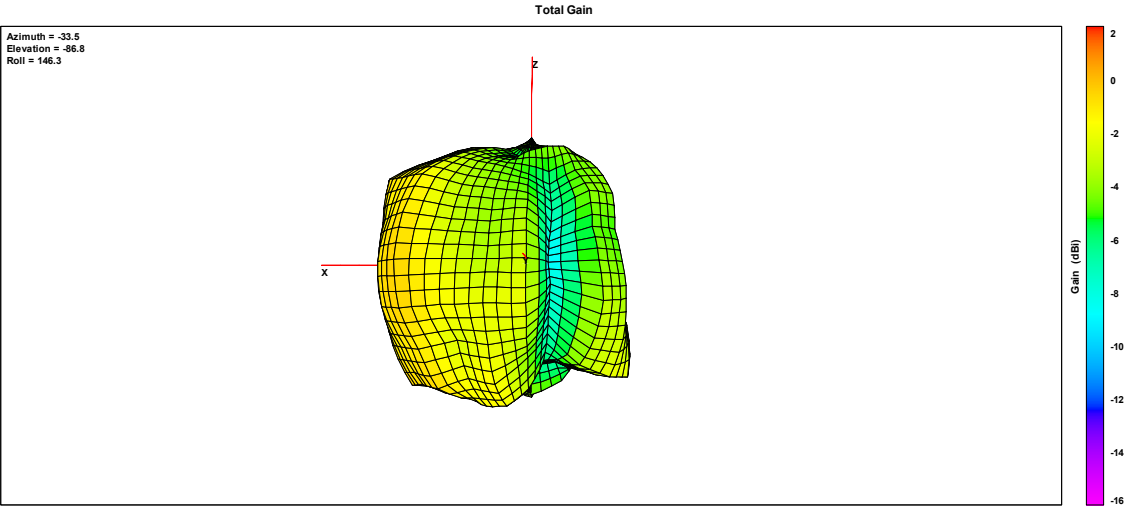
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THETA=90DEG



3D PATTERN 2450MHz



Tester by: EDWARD.LYU