

TEST REPORT

Applicant: Ginlong Technologies Co., Ltd.
Address: No.57 Jintong Road, Binhai Industrial Park,
Xiangshan Ningbo, Zhejiang 315712 P.R.China
Equipment Type: hybrid inverter
Model Name: S6-ER1P11.4K04-NV-ND-H-US
Brand Name: N/A
Test Standard: IEEE Std 149-2021
Sample Arrival Date: Jul. 17, 2024
Test Date: Jul. 23, 2024
Date of Issue: Jul. 30, 2024

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Mai Jintian

Checked by: Xia Long

Approved by: Tolan Tu
(Testing Director)

Mai Jintian

Xia Long

Tolan Tu

| Revision History | | |
|-------------------------|----------------------|----------------------|
| Version | Issue Date | Revisions |
| <u>Rev. 01</u> | <u>Jul. 30, 2024</u> | <u>Initial Issue</u> |

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1 GENERAL INFORMATION

1.1 Test Laboratory

| | |
|--------------|--|
| Name | Shenzhen BALUN Technology Co., Ltd. |
| Address | Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China |
| Phone Number | +86 755 6685 0100 |

1.2 Test Location

| | |
|----------|---|
| Name | Shenzhen BALUN Technology Co., Ltd. |
| Location | <input checked="" type="checkbox"/> Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China |
| | <input type="checkbox"/> 1/F, Building B, Ganghongji High-tech Intelligent Industrial Park, No. 1008, Songbai Road, Yangguang Community, Xili Sub-district, Nanshan District, Shenzhen, Guangdong Province, P. R. China |

2 PRODUCT INFORMATION

2.1 Applicant Information

| | |
|----------------|---|
| Applicant | Ginlong Technologies Co., Ltd. |
| Address | No.57 Jintong Road, Binhai Industrial Park, Xiangshan Ningbo, Zhejiang 315712 P.R.China |
| Contact Person | Pan Ruyi |
| Email Address | ruyi.pan@ginlong.com |

2.2 Manufacturer Information

| | |
|--------------|-----|
| Manufacturer | N/A |
| Address | N/A |

2.3 General Description for Equipment under Test (EUT)

| | |
|-----------------------|---------------------------|
| EUT Name | hybrid inverter |
| Model Name Under Test | S6-ER1P11.4K04-NV-ND-H-US |
| Antenna Type | Rod Antenna |
| Dimensions | 100 mm |

2.4 Ancillary Equipment

Note: Not applicable.

3 SUMMARY OF TEST RESULTS

3.1 Test Standards

| No. | Identity | Document Title |
|-----|-------------------|--|
| 1 | IEEE Std 149-2021 | IEEE Standard Test Procedures for Antennas |

3.2 Test Verdict

| Report Section | Description | Remark |
|----------------|---------------------|--------|
| ANNEX A.1 | Gain and Efficiency | -- |
| ANNEX A.2 | VSWR | -- |
| ANNEX B | Radiation Pattern | -- |

3.3 Test Uncertainty

The uncertainty is calculated using the methods suggested in the "Guide to the Expression of Uncertainty in Measurement" (GUM) published by ISO.

| Item | Uncertainty |
|-----------|---------------------|
| VSWR(S11) | ± 0.61 |
| Gain | $\pm 1.92\text{dB}$ |

4 GENERAL TEST CONFIGURATIONS

4.1 Test Condition

| Environment Parameter | Selected Values During Tests | | | |
|---|------------------------------|-----------------|---------|-----------------------|
| | Ambient Pressure(KPa) | Temperature(°C) | Voltage | Relative Humidity (%) |
| Normal Temperature, Normal Voltage (NTNV) | 101 | 21.7 | N/A | 44 |

4.2 Test Equipment List

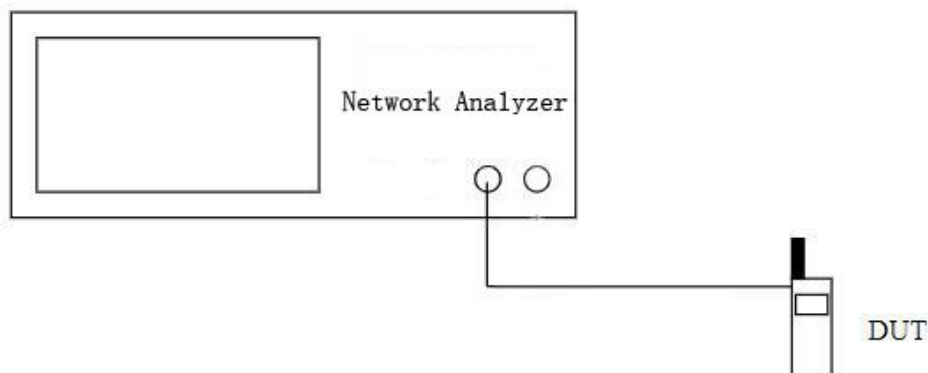
| Description | Manufacturer | Model | Serial No. | Cal. Date | Cal. Due |
|---|--------------|--------|--------------|------------|------------|
| SG24 Multi-probe Antenna Measurement System | SATIMO | SG24-L | 1101855-0001 | 2021.11.12 | 2024.11.11 |
| Vector Network Analyzer | Agilent | E5071B | MY42404001 | 2024.01.16 | 2025.01.15 |
| Description | Manufacturer | Name | | Version | |
| Test Software | MVG | SPM | | V 1.8 | |

4.3 Test Setup

4.3.1 Antenna gain, efficiency and radiation pattern test setup



4.3.2 S11 parameter test setup



4.4 Test Frequencies

| | |
|------------------|---|
| Test Frequencies | 2400MHz, 2410MHz, 2420MHz, 2430MHz, 2440MHz, 2450MHz, 2460MHz, 2470MHz, 2480MHz, 2490MHz, 2500MHz |
|------------------|---|

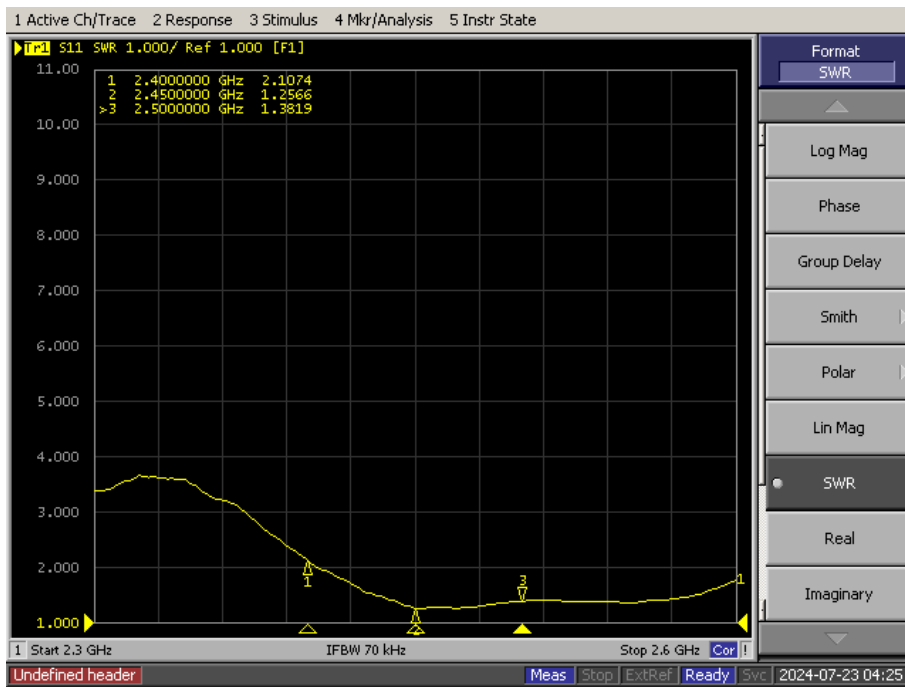
ANNEX A TEST RESULTS

A.1 Gain and Efficiency

| Frequency | Gain (dBi) | Efficiency (%) |
|-----------|-------------|----------------|
| 2400MHz | 3.21 | 71 |
| 2410MHz | 3.32 | 73 |
| 2420MHz | 3.34 | 75 |
| 2430MHz | 3.48 | 78 |
| 2440MHz | 3.55 | 79 |
| 2450MHz | 3.43 | 79 |
| 2460MHz | 3.33 | 79 |
| 2470MHz | 3.42 | 81 |
| 2480MHz | 3.44 | 82 |
| 2490MHz | 3.12 | 79 |
| 2500MHz | 3.11 | 78 |

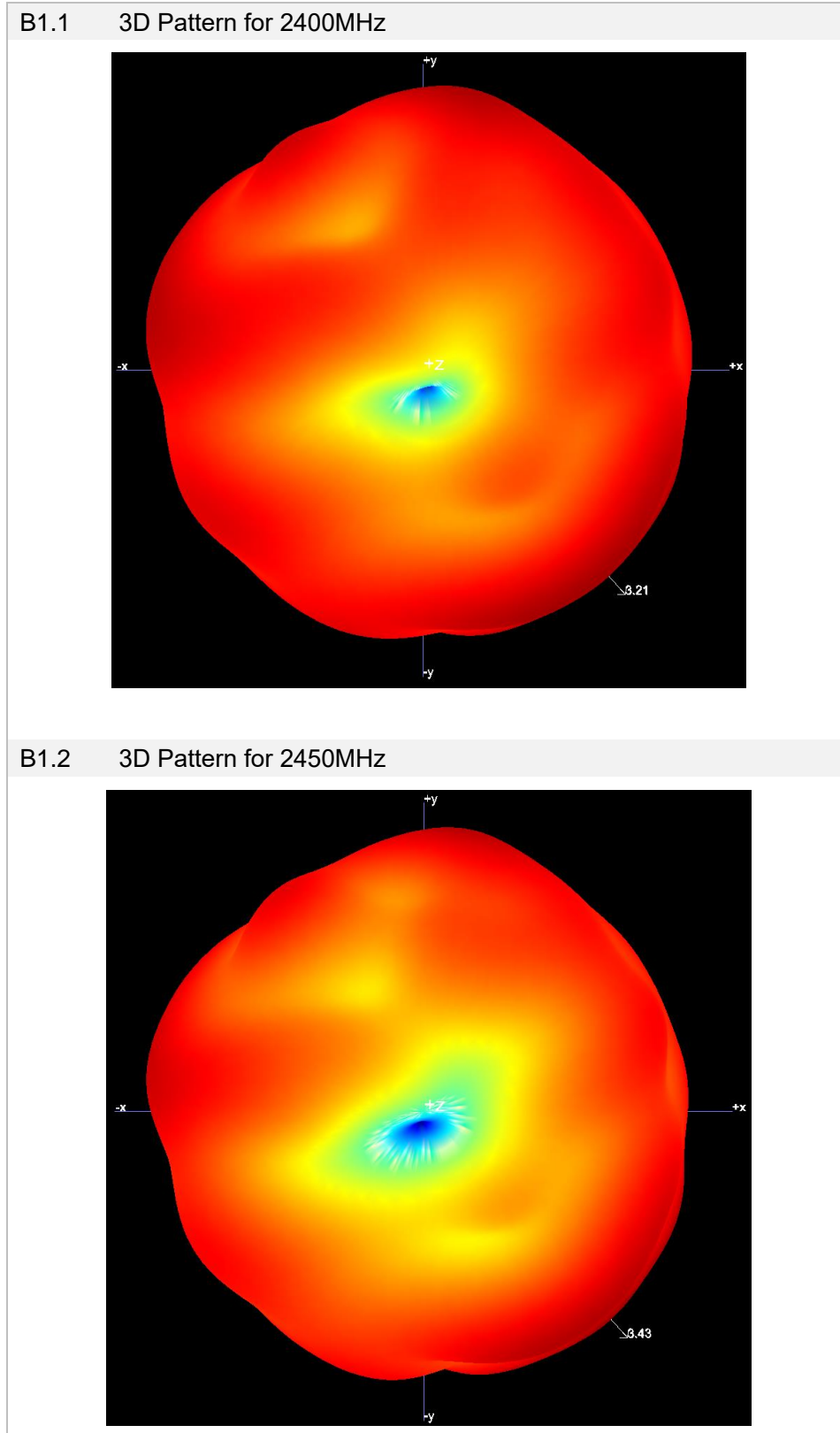
A.2 VSWR

| Frequency | VSWR |
|-----------|------|
| 2400MHz | 2.11 |
| 2450MHz | 1.26 |
| 2500MHz | 1.38 |

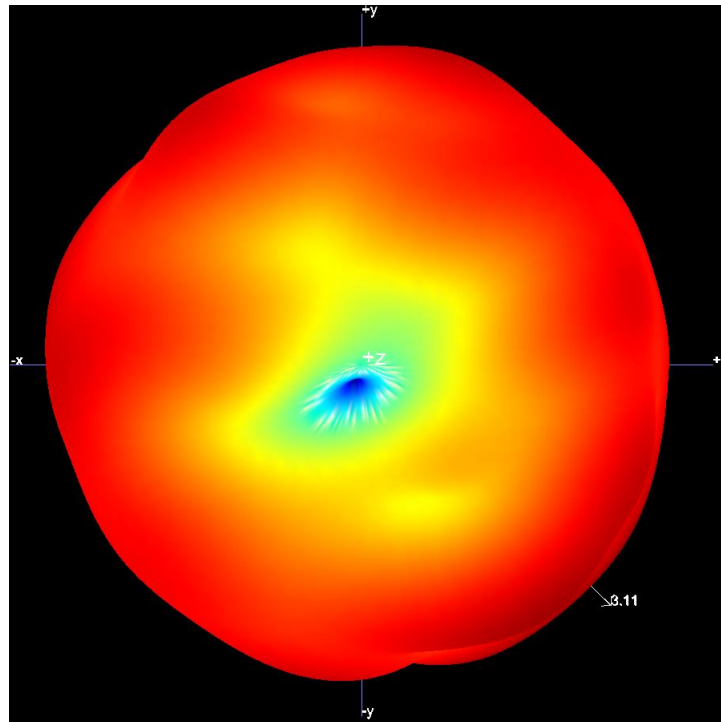


ANNEX B RADIATION PATTERN

B.1 3D Pattern

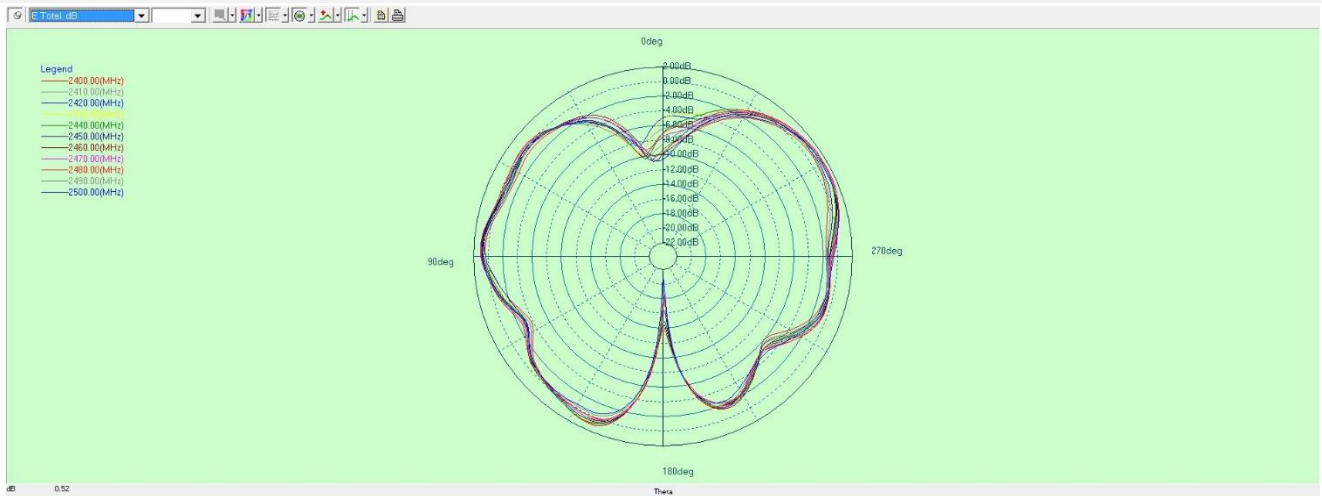


B1.3 3D Pattern for 2500MHz

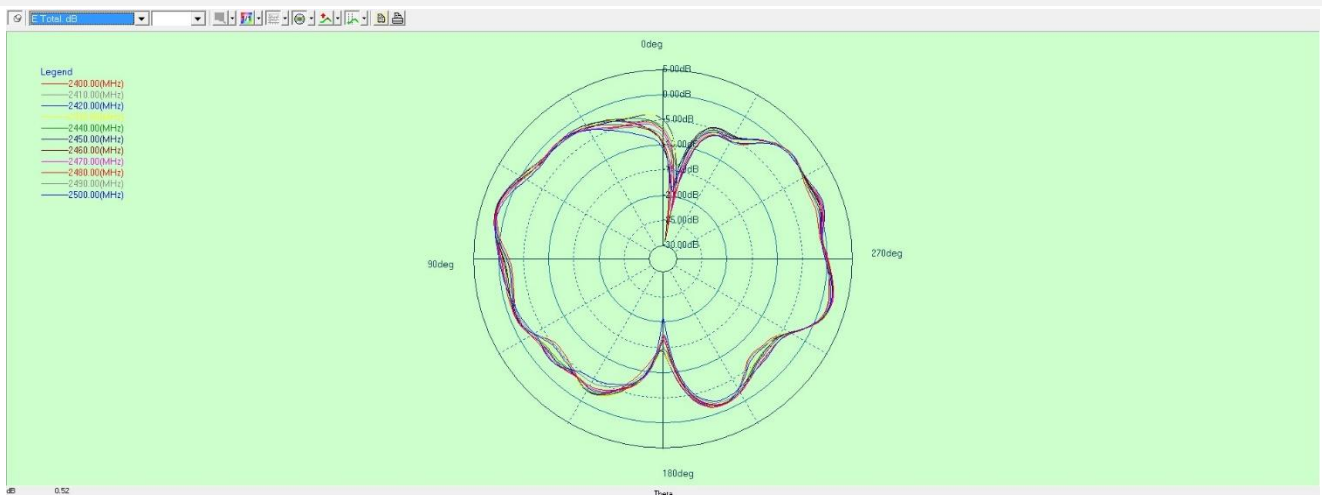


B.2 1D Radiation Pattern

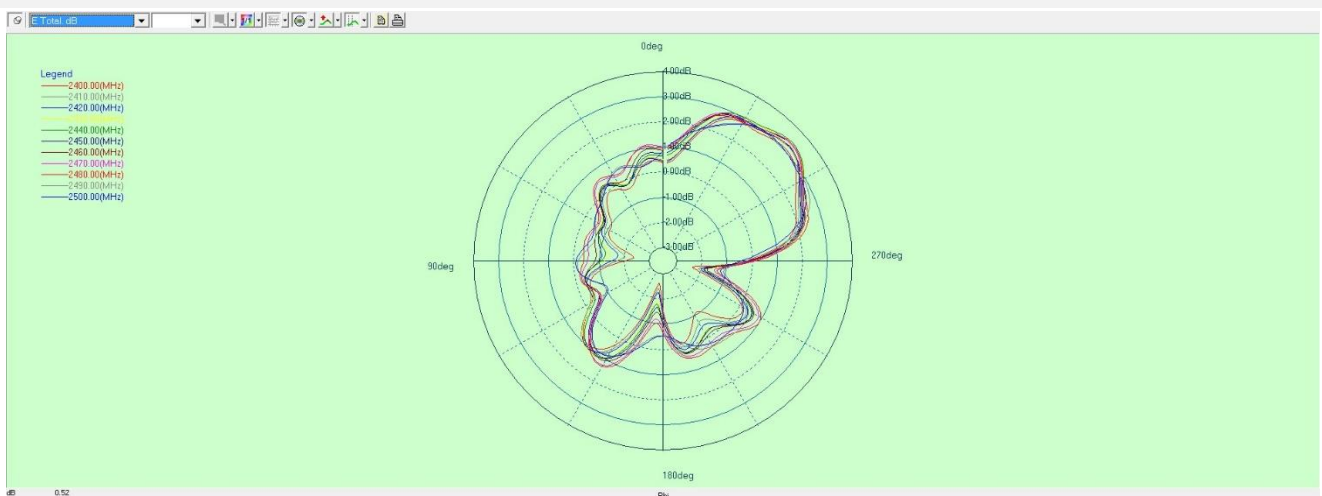
B2.1 PHI=0



B2.2 PHI=90



B2.3 THETA=90



ANNEX C TEST SETUP PHOTOS

Please refer the document “BL-SZ2470834-AO.PDF”.

ANNEX D EUT PHOTO

Please refer the document “BL-SZ2470834-AA.PDF”.

Statement

1. The laboratory guarantees the scientificity, accuracy and impartiality of the test, and is responsible for all the information in the report, except the information provided by the customer. The customer is responsible for the impact of the information provided on the validity of the results.
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--END OF REPORT--