



**中认信通**

CHINA CERTIFICATION ICT CO., LTD (DONGGUAN)

## ANTENNA TEST REPORT

**Manufacturer:** Zhejiang Yulu Electronic Technology Co., Ltd.

**Address:** No. 298, Weiye Road, Binjiang District, Hangzhou City,  
Zhejiang Province

**Product Name:** LED shuttle knob

**Product Model:** MR-E004

**Report Number:** 2403X39932E-RF-M1

**Date Of Issue:** 2024/12/5

**Reviewed:** Luke Yuan

**Title:** OTA Engineer

*Luke Yuan*

**Approved By:** Sun Zhong

**Title:** Manager

*Sun Zhong*

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**Test Facility**

The Test site used by China Certification ICT Co., Ltd (Dongguan) to collect test data is located on the No. 113, Pingkang Road, Dalang Town, Dongguan, Guangdong, China.

**Declarations**

China Certification ICT Co., Ltd (Dongguan) is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with a triangle symbol “▲”. Customer model name, addresses, names, trademarks etc. are not considered data.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

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Each test item follows the test standard(s) without deviation.

## CONTENTS

|                                        |           |
|----------------------------------------|-----------|
| <b>DOCUMENT REVISION HISTORY .....</b> | <b>4</b>  |
| <b>1.GENERAL INFORMATION .....</b>     | <b>5</b>  |
| <b>2.TEST CONFIGURATIONS .....</b>     | <b>6</b>  |
| 2.1 TEST ENVIRONMENT .....             | 6         |
| 2.2 TEST EQUIPMENT .....               | 6         |
| <b>3.TEST RESULTS .....</b>            | <b>7</b>  |
| 3.1 GAIN AND EFFICIENCY .....          | 7         |
| 3.2 RADIATION PATTERN .....            | 8         |
| <b>4.EUT PHOTOGRAPHS .....</b>         | <b>11</b> |
| <b>5.TEST SETUP PHOTOGRAPHS .....</b>  | <b>12</b> |

DOCUMENT REVISION HISTORY

| Revision Number | Report Number     | Description of Revision | Date of Revision |
|-----------------|-------------------|-------------------------|------------------|
| 1.0             | 2403X39932E-RF    | Original Report         | 2024/9/6         |
| 2.0             | 2403X39932E-RF-M1 | Amend section 4         | 2024/12/5        |

This report is to supersede the test report 2403X39932E-RF which issued on 2024/9/6.

1.GENERAL INFORMATION

|                       |                                     |
|-----------------------|-------------------------------------|
| Product Name:         | LED shuttle knob                    |
| Product Model:        | MR-E004                             |
| Antenna Type:         | PCB                                 |
| Test Items:           | Gain; Efficiency; Radiation Pattern |
| Test Frequency (MHz): | 2402/2440/2480                      |
| Serial Number:        | 2R38-1                              |
| EUT Received Date:    | 2024/9/4                            |
| EUT Received Status:  | Good                                |

2.TEST CONFIGURATIONS

2.1 Test Environment

|                            |           |
|----------------------------|-----------|
| Temperature (°C)           | 23.5      |
| Humidity (%RH)             | 64        |
| Atmospheric Pressure (kPa) | 100.4     |
| Tester                     | Luke Yuan |
| Test Date                  | 2024/9/5  |

2.2 Test Equipment

|                 |          |
|-----------------|----------|
| Test Instrument | R&S ZNB8 |
|-----------------|----------|

3.TEST RESULTS

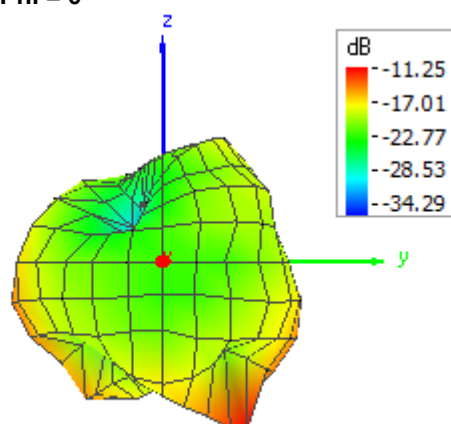
3.1 Gain and Efficiency

| Frequency (MHz) | Peak Gain (dBi) | Efficiency (%) |
|-----------------|-----------------|----------------|
| 2402.00         | -11.25          | 1.53           |
| 2440.00         | -9.51           | 1.92           |
| 2480.00         | -8.69           | 2.19           |

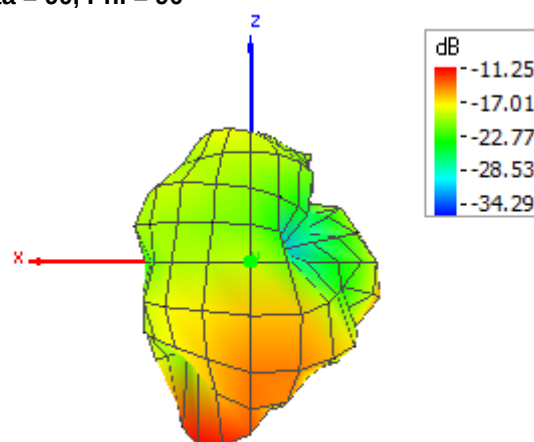
### 3.2 Radiation Pattern

#### 2402 MHz 3D

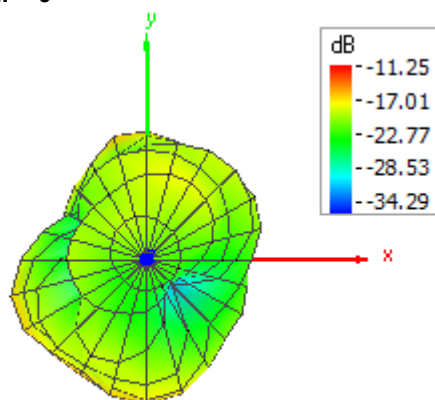
Theta = 90, Phi = 0



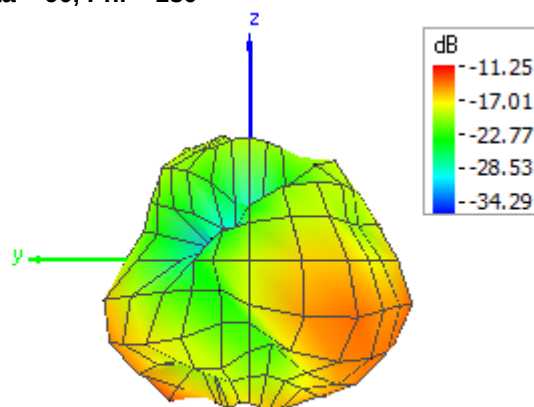
Theta = 90, Phi = 90



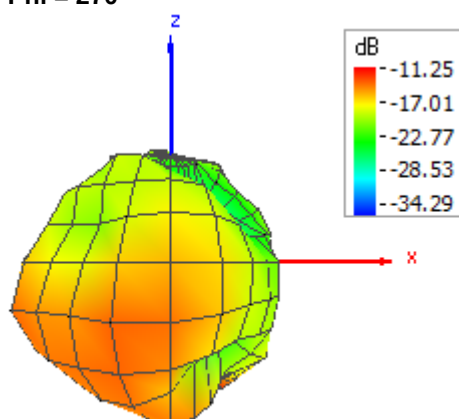
Theta = 0, Phi = 0



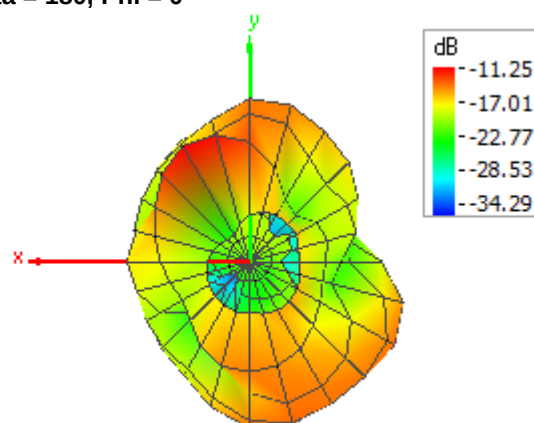
Theta = 90, Phi = 180



Theta = 90, Phi = 270



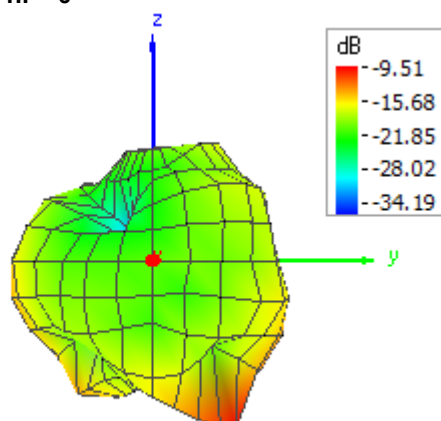
Theta = 180, Phi = 0



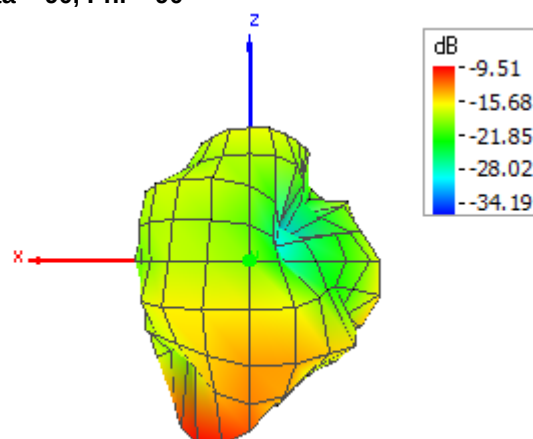


**2440 MHz 3D**

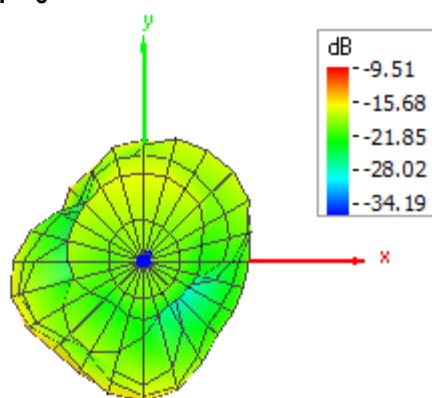
Theta = 90, Phi = 0



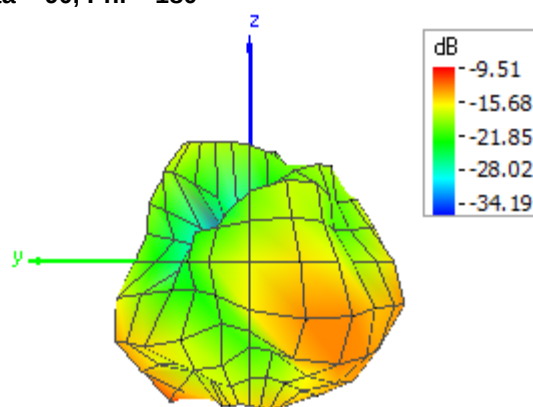
Theta = 90, Phi = 90



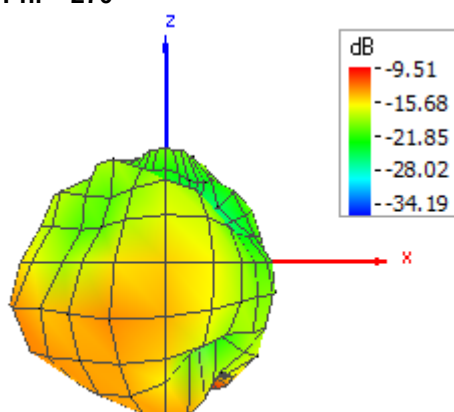
Theta = 0, Phi = 0



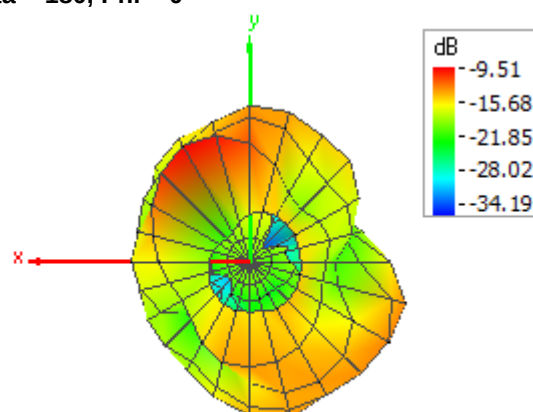
Theta = 90, Phi = 180



Theta = 90, Phi = 270

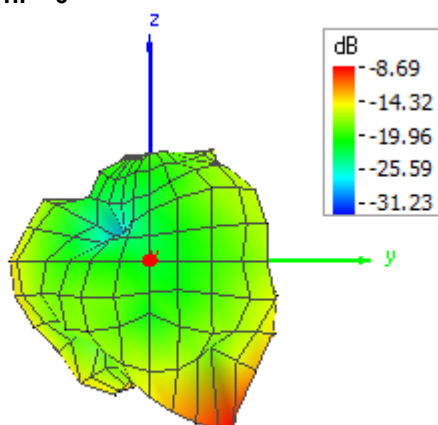


Theta = 180, Phi = 0

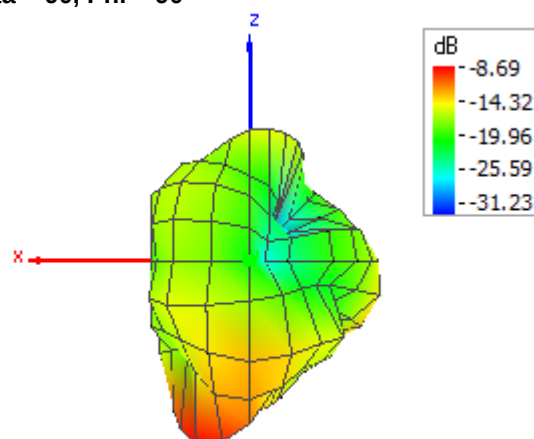


**2480 MHz 3D**

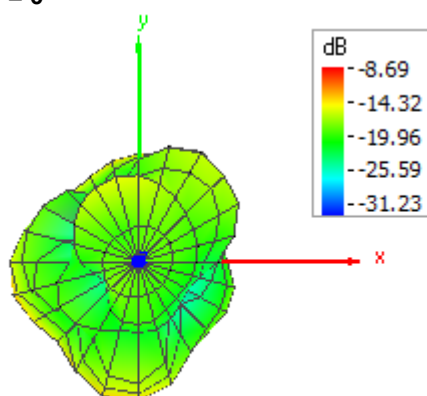
Theta = 90, Phi = 0



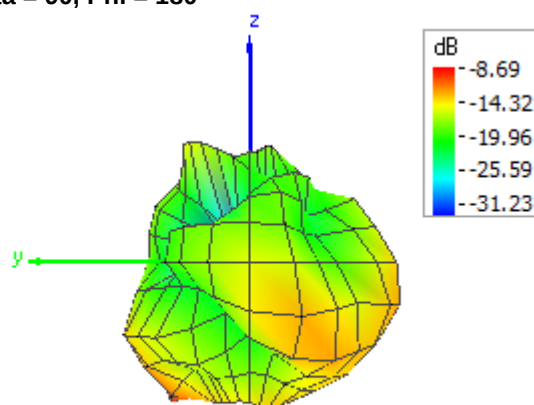
Theta = 90, Phi = 90



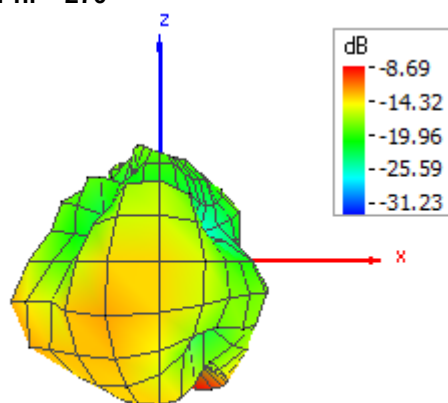
Theta = 0, Phi = 0



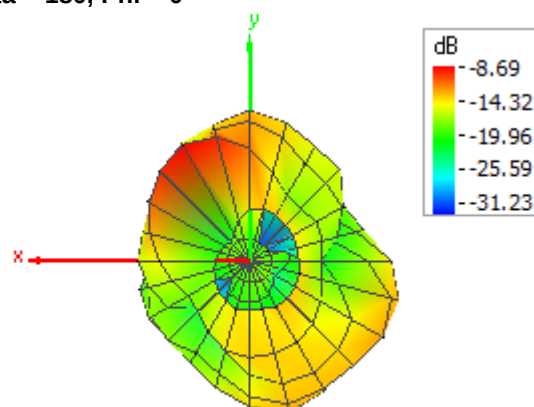
Theta = 90, Phi = 180



Theta = 90, Phi = 270

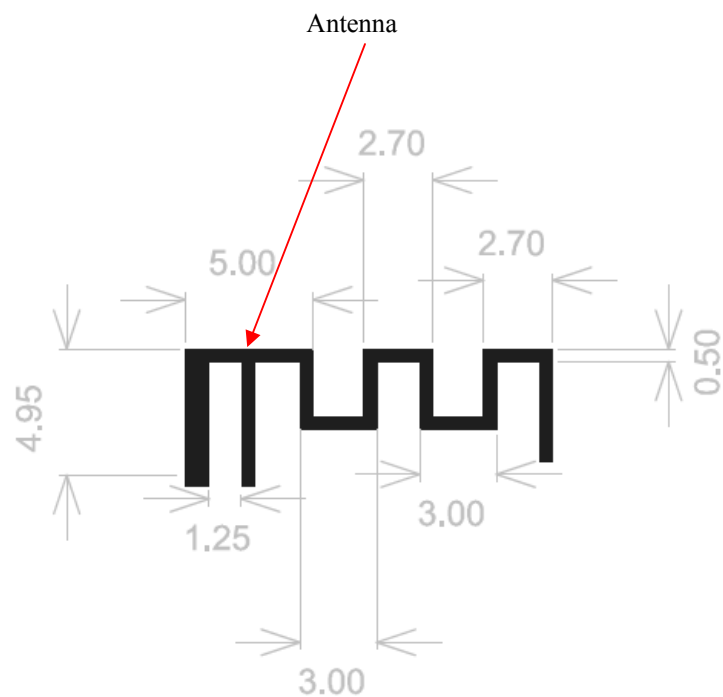


Theta = 180, Phi = 0



#### 4.EUT PHOTOGRAPHS

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## 5.TEST SETUP PHOTOGRAPHS



===== END OF REPORT =====