REPORT No.: SZ23050313E01

# TEST REPORT

| | | |
|---|---|---|
| **APPLICANT** | : | Pirnar d.o.o |
| **PRODUCT NAME** | : | SecuroSmart Fingerprint door unlock controller |
| **MODEL NAME** | : | SecuroSmart |
| **TRADE NAME** | : | Pirnar SmartLux |
| **BRAND NAME** | : | Pirnar |
| **STANDARD(S)** | : | IEEE Std 149-2021 |
| **RECEIPT DATE** | : | 2023-05-25 |
| **TEST DATE** | : | 2023-05-29 |
| **ISSUE DATE** | : | 2023-06-02 |

Edited by: Fang Jinshan(Rapporteur)

Approved by: Chi Shide(Supervisor)



MORLAB

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# DIRECTORY



| Change History | | |
|---|---|---|
| Version | Date | Reason for change |
| 1.0 | 2023-06-02 | First edition |

# 1.Technical Information

**Note:** Provide by applicant.

## 1.1. Applicant and Manufacturer Information

| | |
|---|---|
| **Applicant:** | Pirnar d.o.o |
| **Applicant Address:** | Bravnicarjeva ulica 20,1000 Ljubljana,Slovenia |
| **Manufacturer:** | N/A |
| **Manufacturer Address:** | N/A |

## 1.2. Equipment Under Test (EUT) Description

| | |
|---|---|
| **Wireless Type** | N/A |
| **Frequency** | 2400MHz-2500MHz |
| **IMEI** | N/A |
| **Sample No.** | 1# |

**Note:** The sample photos shall be provided separately in Annex C according to customer requirements.

# 2. Test Results

## 2.1. Applied Reference Documents

Leading reference documents for testing:

| No. | Identity | Document Title |
|---|---|---|
| 1 | IEEE Std 149-2021 | IEEE Recommended Practice for Antenna Measurements |

## 2.2. Test Conditions

Test Environment Conditions：

| | |
|---|---|
| Relative Humidity(%): | 25 - 75 |
| Temperature(°C): | 10 - 30 |

## 2.3. Measurement 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 give the judgment result based on the 95% Confidence intervals.

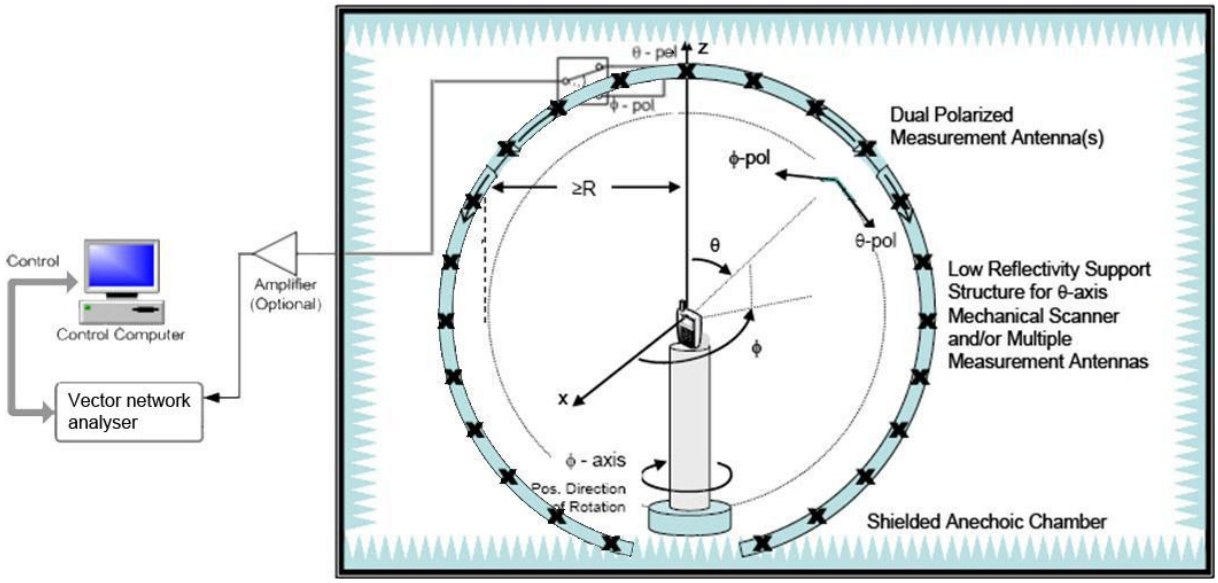
# 2.4. Test Results lists

## 2.4.1.Gain

| Frequency (MHz) | Gain(dBi) |
|---|---|
| 2400 | -0.12 |
| 2410 | 0.00 |
| 2420 | -0.35 |
| 2430 | -0.43 |
| 2440 | -0.84 |
| 2450 | -0.78 |
| 2460 | -1.21 |
| 2470 | -1.31 |
| 2480 | -1.31 |
| 2490 | -1.42 |
| 2500 | -1.18 |

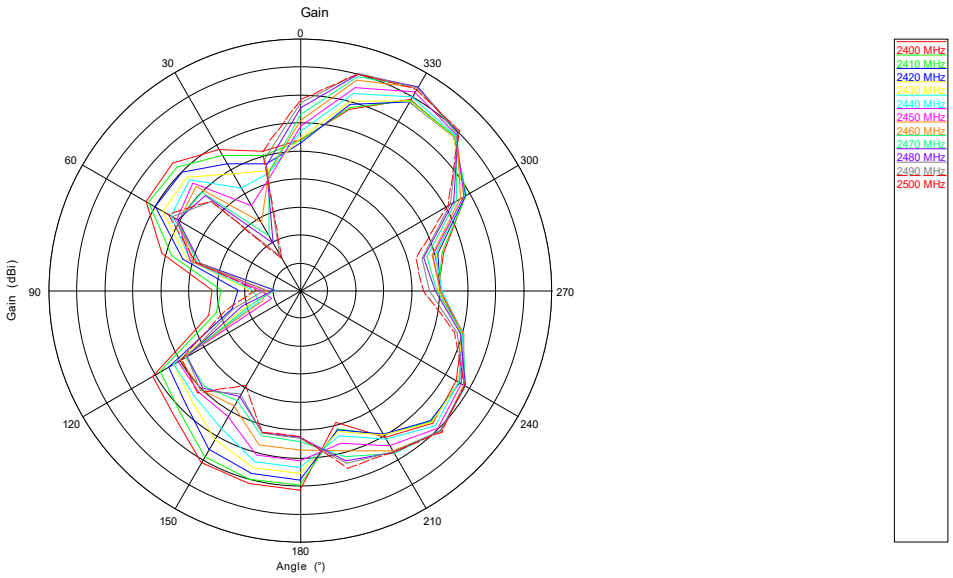
## 2.4.2.Antenna Photo

# Annex A Test Setup Photos



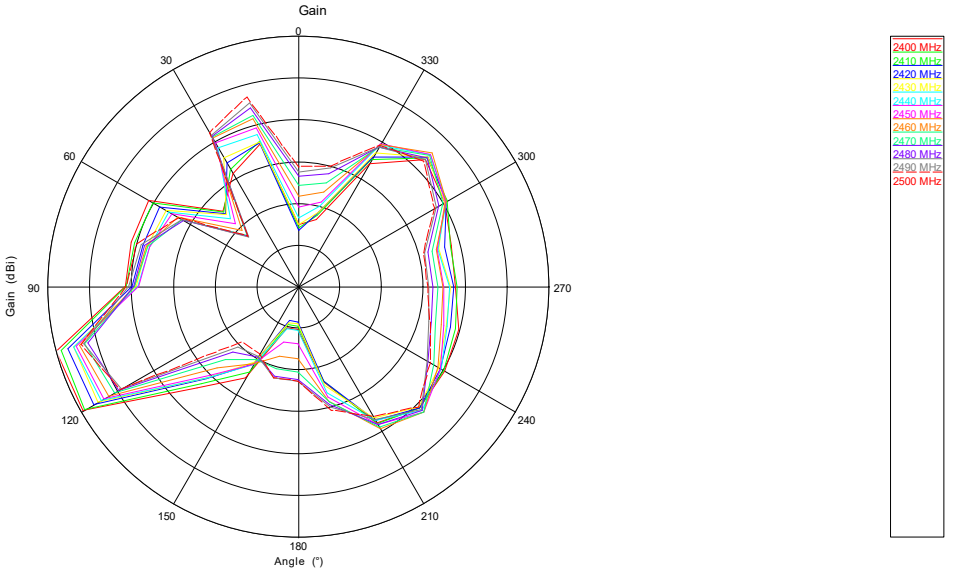
# Annex B Figures

## 1. 2D Radiation Pattern



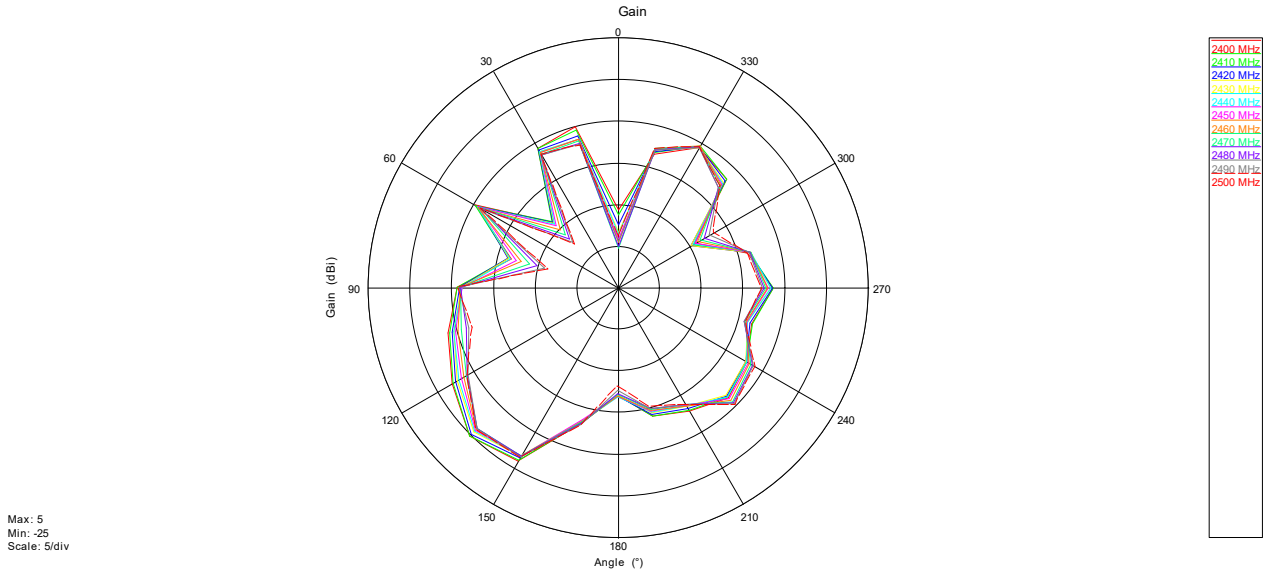

Max: -4
Min: -22
Scale: 2/div

Phi=0°



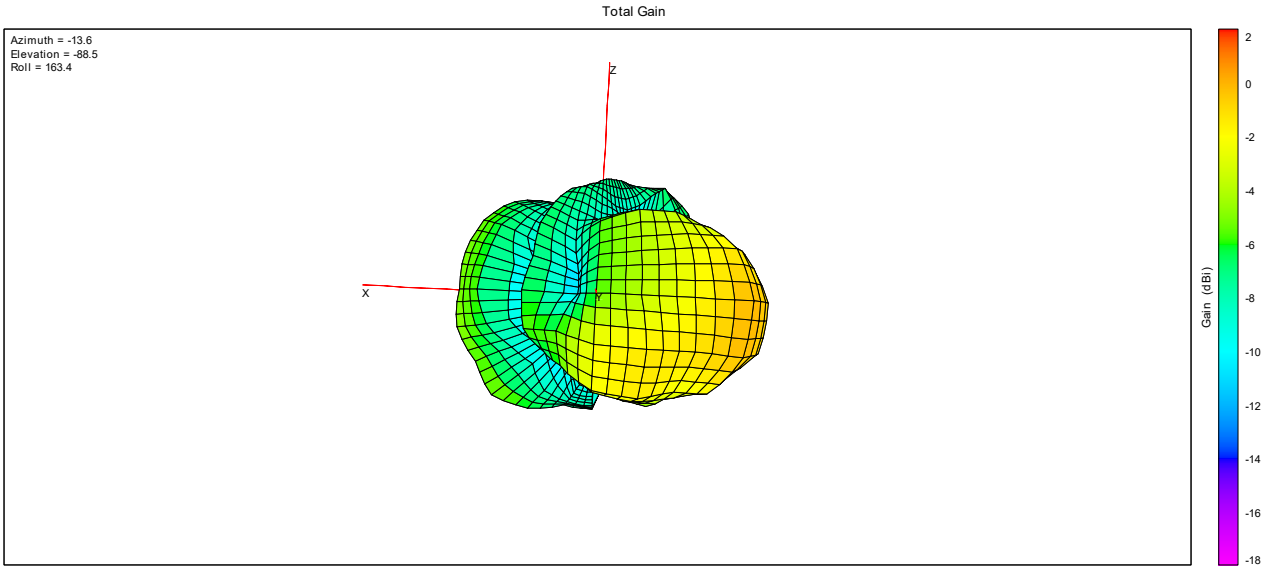

Max: -2
Min: -14
Scale: 2/div

Phi=90°

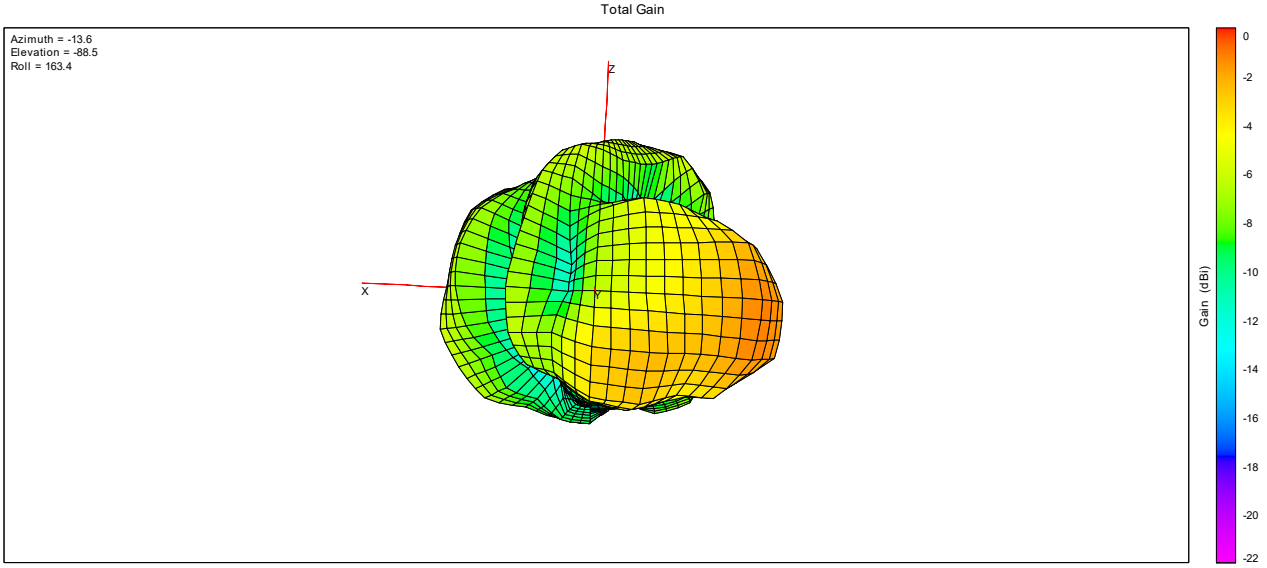



Theta=90°

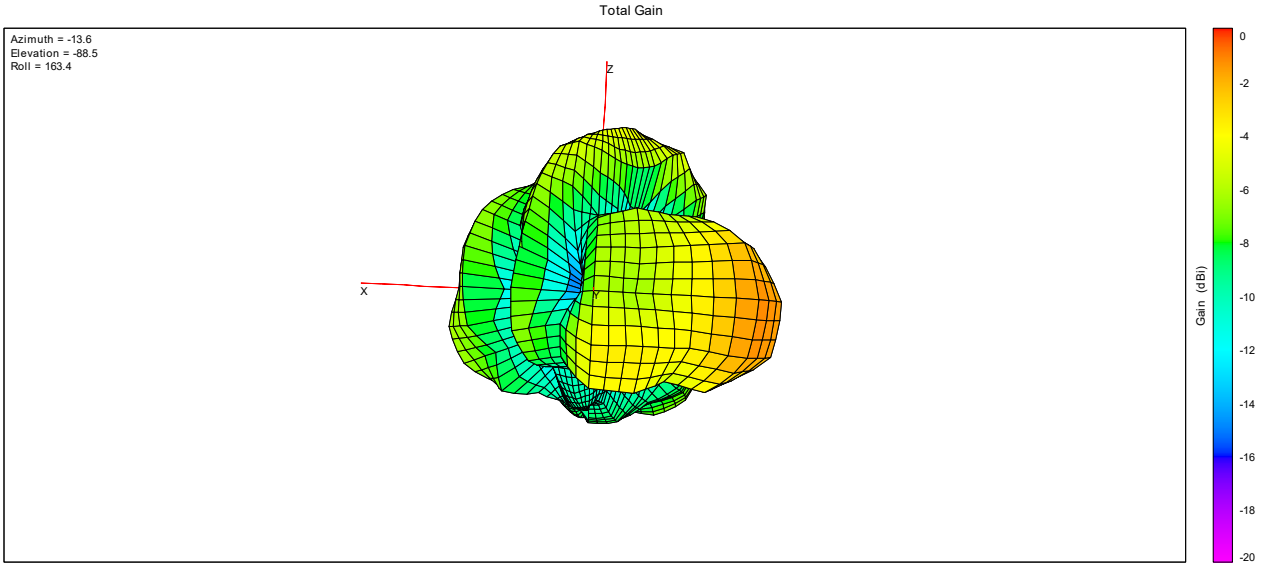
## 2. 3D Radiation Pattern




2400MHz




2450MHz




2500MHz

# Annex D General Information

## 1.1 Identification of the Responsible Testing Laboratory

| | |
|---|---|
| Laboratory Name: | Shenzhen Morlab Communications Technology Co., Ltd. |
| Laboratory Address: | FL.1-3, Building A, FeiYang Science Park, No.8 LongChang Road, Block67, BaoAn District, ShenZhen , GuangDong Province, P. R. China |
| Telephone: | +86 755 36698555 |
| Facsimile: | +86 755 36698525 |

## 1.2 Identification of the Responsible Testing Location

| | |
|---|---|
| Name: | 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 |

## 1.3 Test Equipments Utilized

| No. | Equipement Name | Serial No. | Type | Manufacturer | Cal.Date | Cal.Due Date |
|---|---|---|---|---|---|---|
| 1 | Network Analyzer | MY46110140 | E5071C | Agilent | 2022.07.04 | 2023.07.03 |
| 2 | OTA Chamber | TJ2235-Q1793 | AMS-8923 -150 | ETS | 2022.11.30 | 2025.11.29 |
| 3 | Antenna Measurement System | 1685 | EMQuest EMQ-100 V 1.13 Build 21267 | ETS | N/A | N/A |

END OF REPORT