



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

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MORLAB

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DIRECTORY

1. Technical Information	3
1.1. Applicant and Manufacturer Information	3
1.2. Equipment Under Test (EUT) Description	3
2. Test Results	4
2.1. Applied Reference Documents	4
2.2. Test Conditions	4
2.3. Measurement Uncertainty	4
2.4. Test Results lists	5
Annex A Test Setup Photos	6
Annex B Figures	7
1. 2D Radiation Pattern	7
2. 3D Radiation Pattern	8
Annex C EUT Photos	10
Annex D General Information	13
1.1 Identification of the Responsible Testing Laboratory	13
1.2 Identification of the Responsible Testing Location	13
1.3 Test Equipments Utilized	13

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

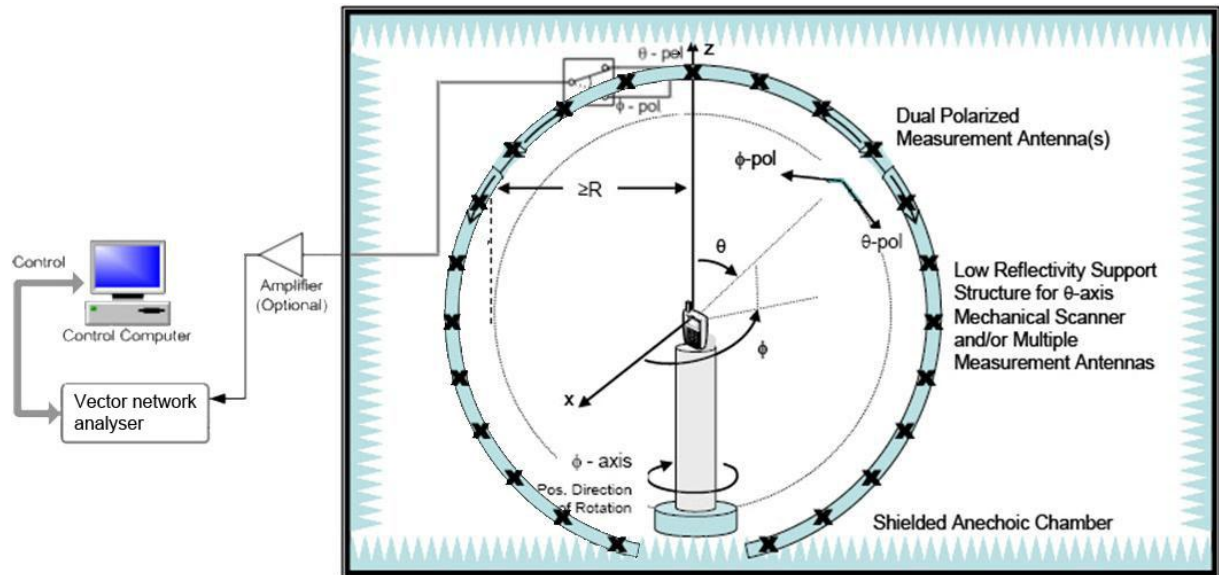
2.4.1. Gain

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



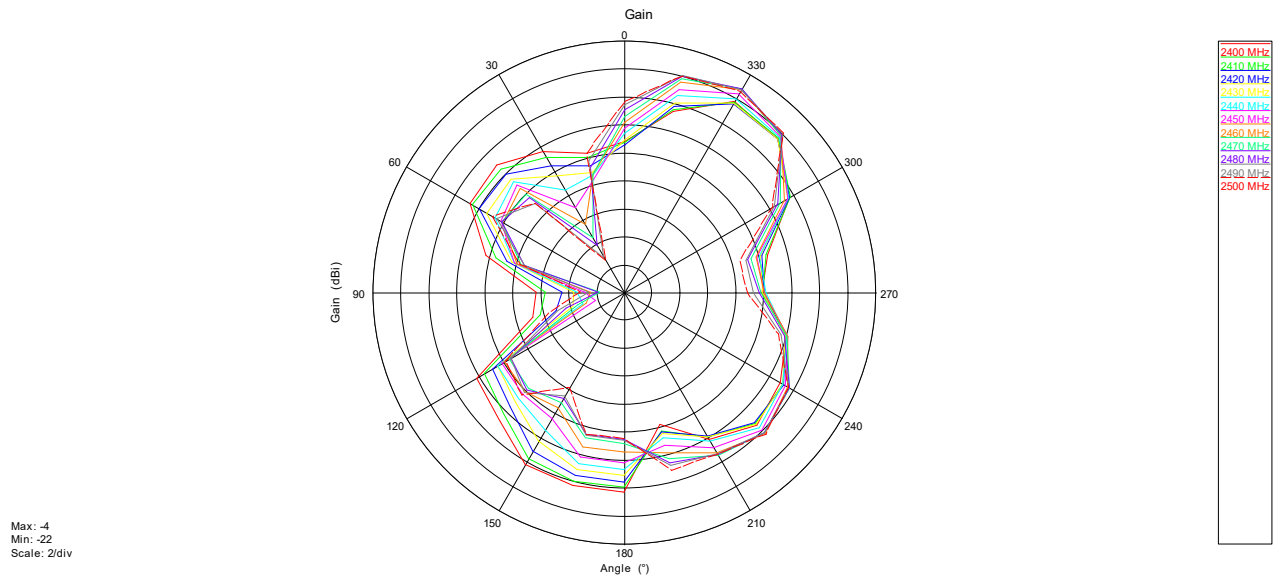
Annex A Test Setup Photos



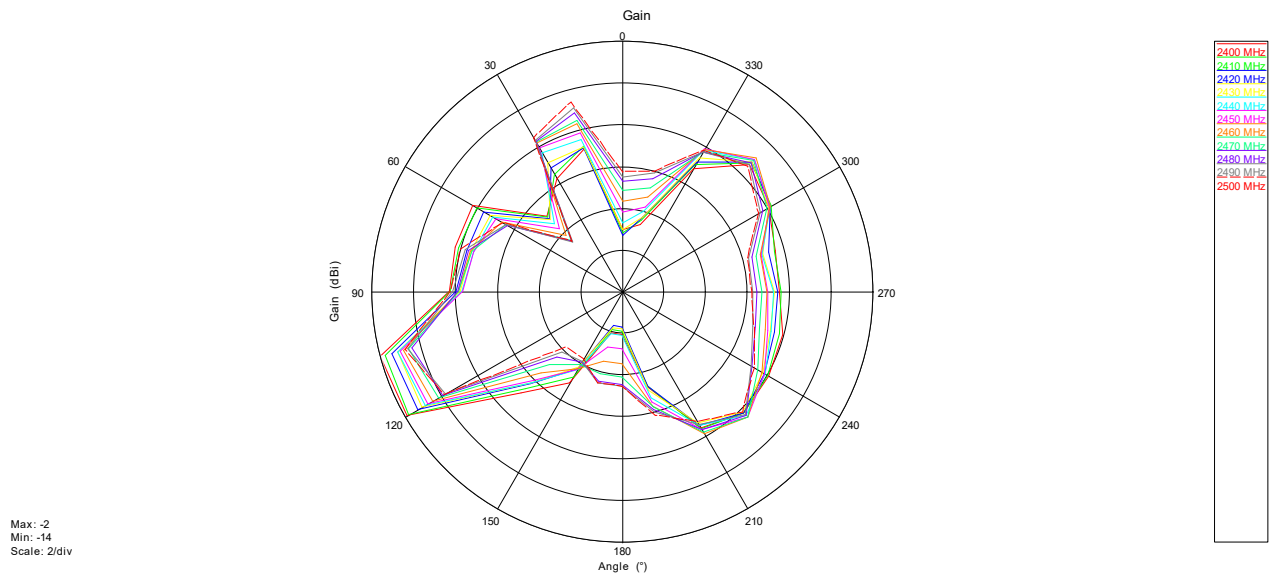


Annex B Figures

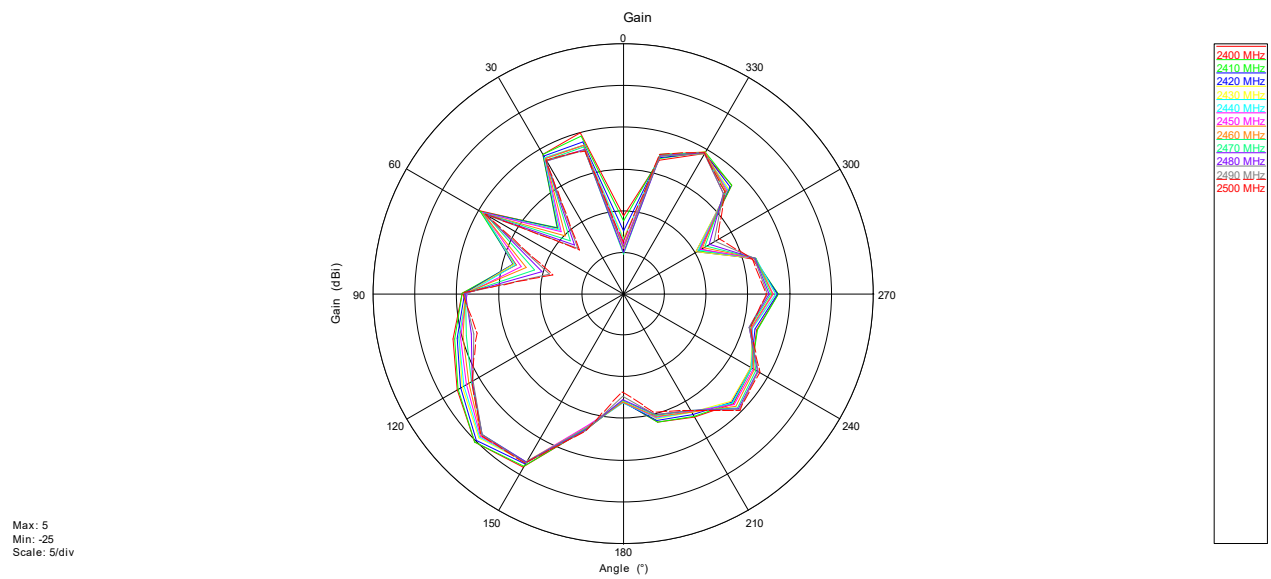
1. 2D Radiation Pattern



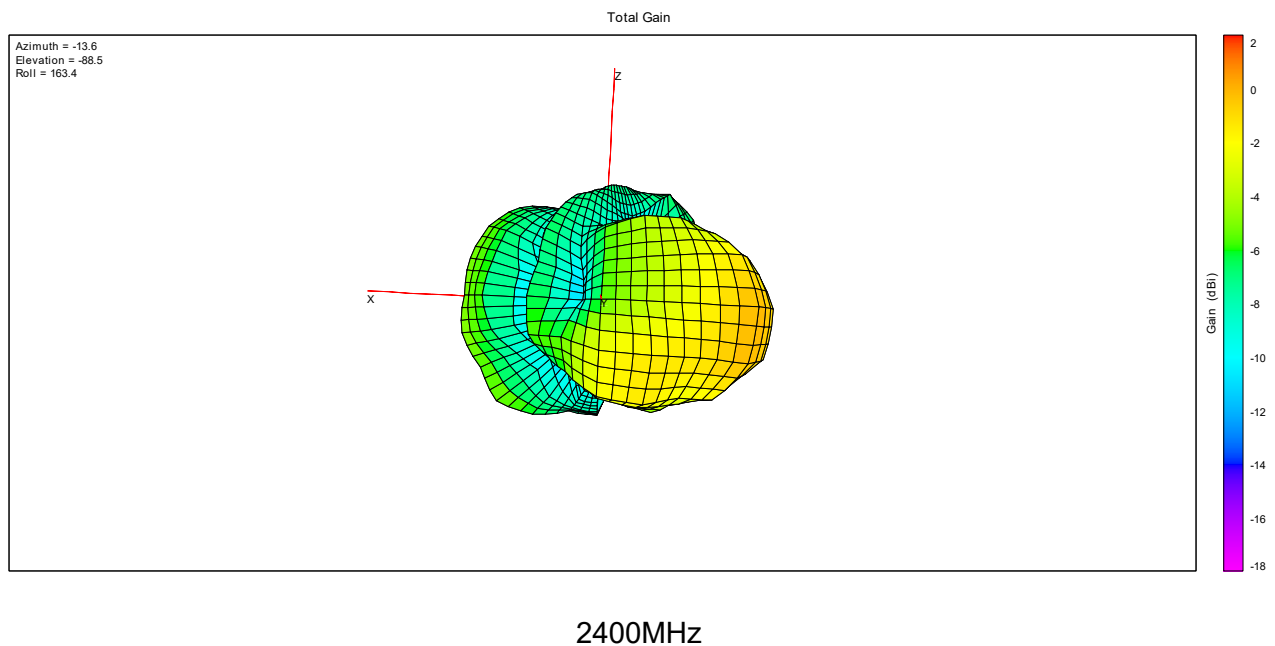
Phi=0°

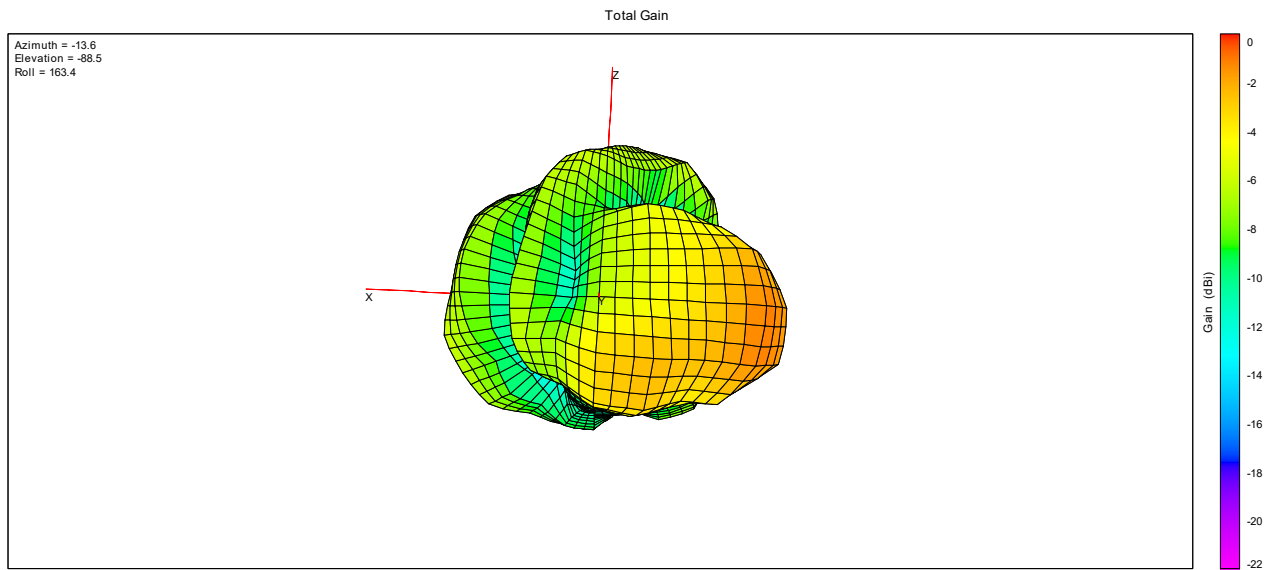


Phi=90°

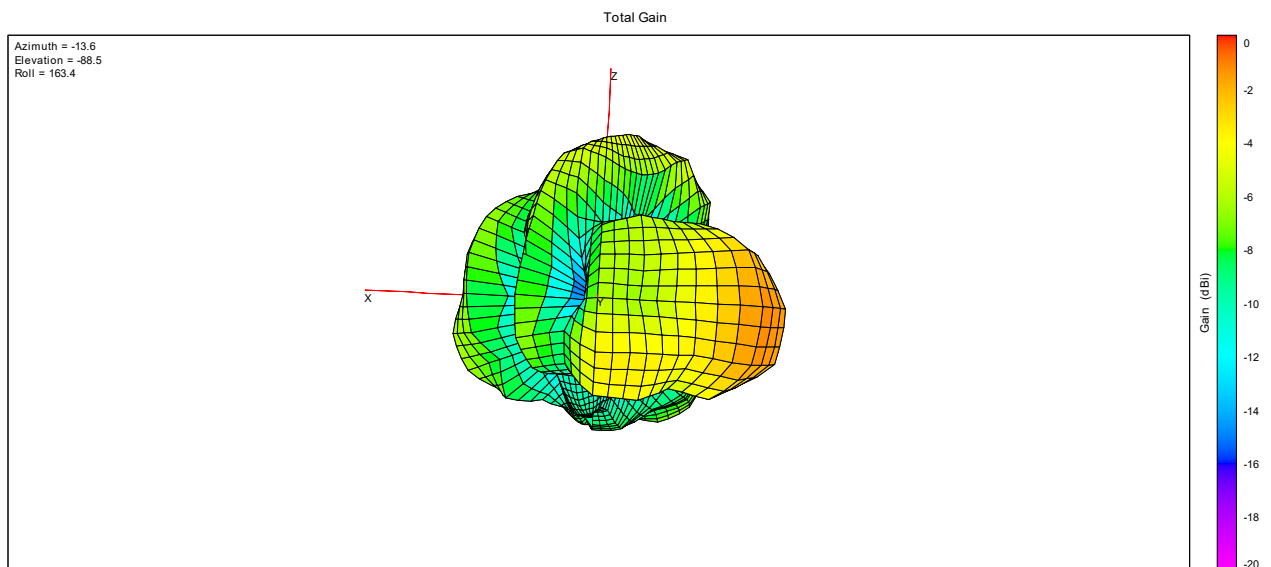


2. 3D Radiation Pattern





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
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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.	Equipment 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

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