



REPORT No.: SZ23030483E01

TEST REPORT

APPLICANT : Qingdao Magene Intelligence Technology Co.,Ltd.

PRODUCT NAME : PCB Antenna

MODEL NAME : E100100214

TRADE NAME : N/A

BRAND NAME : N/A

STANDARD(S) : IEEE Std 149-2021

RECEIPT DATE : 2023-03-31

TEST DATE : 2023-04-04

ISSUE DATE : 2023-04-07



Edited by:

ke zhi qing

Ke Zhiqing(Rapporteur)

Approved by:

Chi Shide

Chi Shide(Supervisor)

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MORLAB

Shenzhen Morlab Communications Technology Co., Ltd., FL.1-3, Building A,
FeiYang Science Park, No.8 LongChang Road, Block67, BaoAn District,
ShenZhen, GuangDong Province, P. R. China

Tel: 86-755-36698555

Http://www.morlab.cn

Fax: 86-755-36698525

E-mail: service@morlab.cn





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Change History		
Version	Date	Reason for change
1.0	2023-04-07	First edition

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:	+10 °C to +30 °C

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.

Item	Measurement Uncertainty(dB)
Gain	±0.5
VSWR	±0.2
Measurement Uncertainty(95% Confidence Interval) K=2	

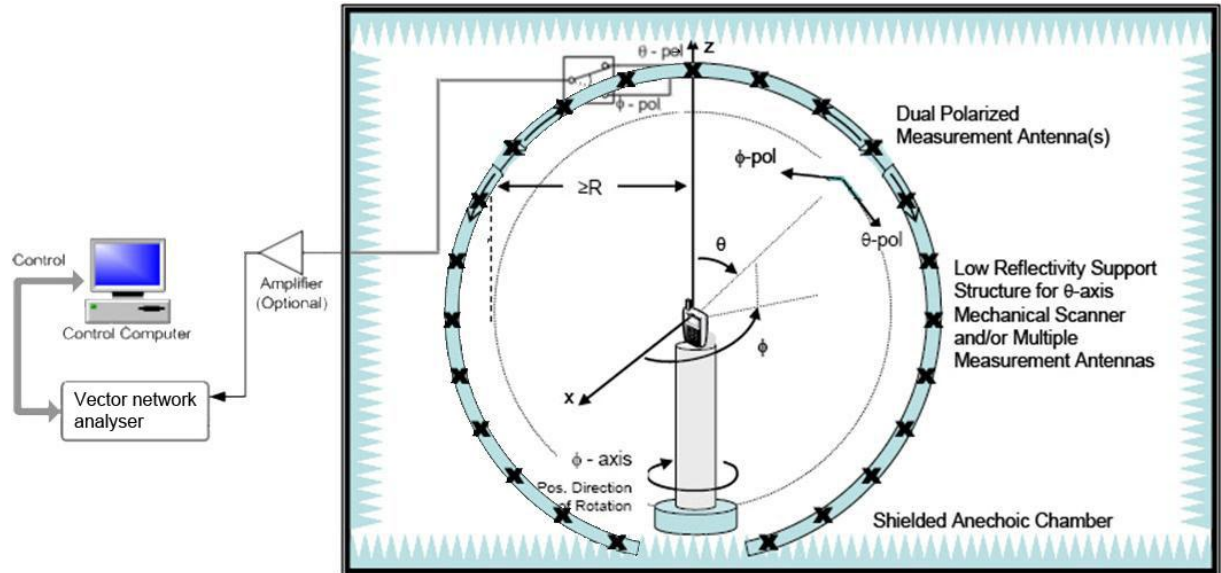


2.4. Test Results lists

2.4.1. Gain

Frequency	Gain(dBi)
2400MHz	-1.23
2410MHz	-0.98
2420MHz	-0.81
2430MHz	-0.68
2440MHz	-0.65
2450MHz	-0.53
2460MHz	-0.66
2470MHz	-0.63
2480MHz	-0.45
2490MHz	-0.57
2500MHz	-0.45

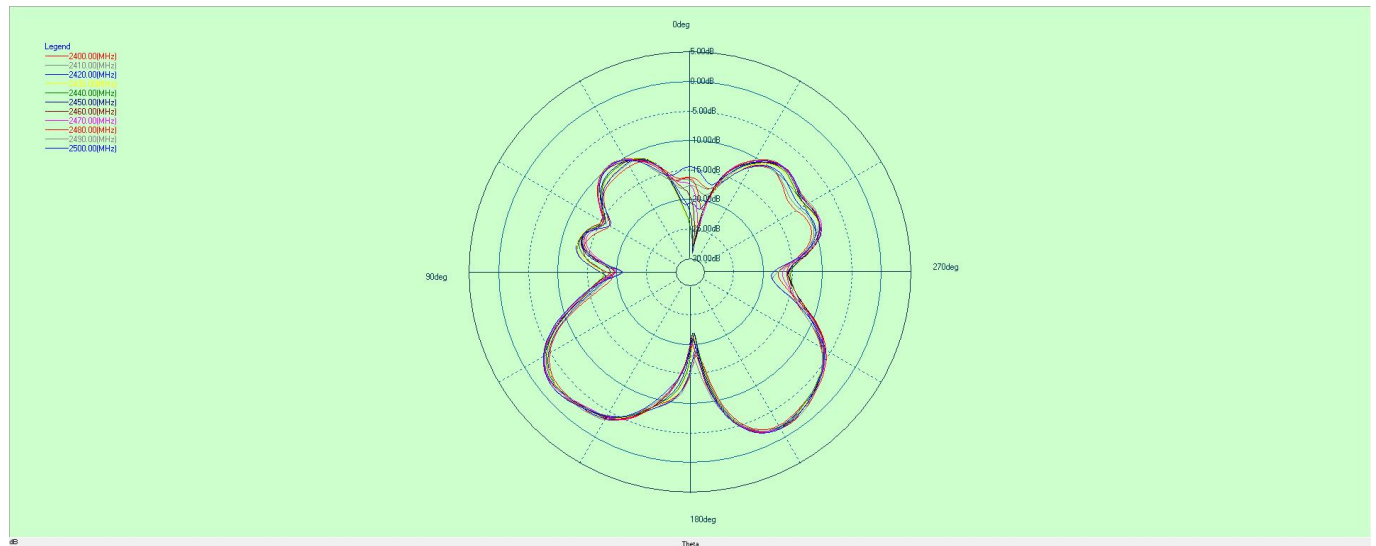
Annex A Test Setup Photos



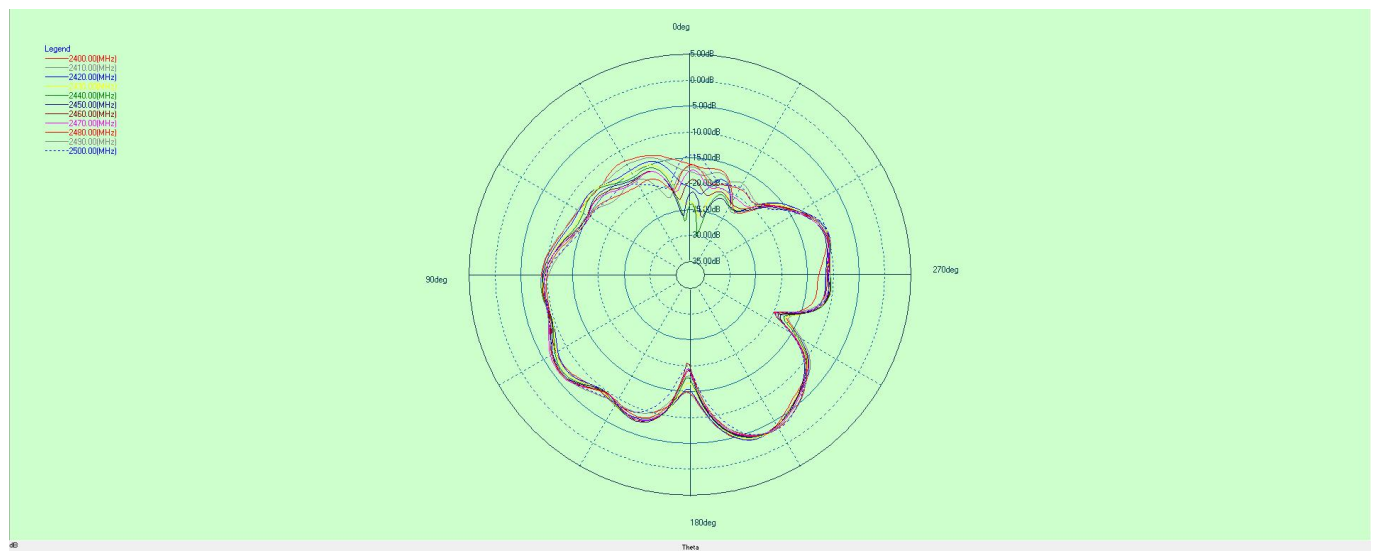
Annex B Figures

1. 2D Radiation Pattern

Phi=0°

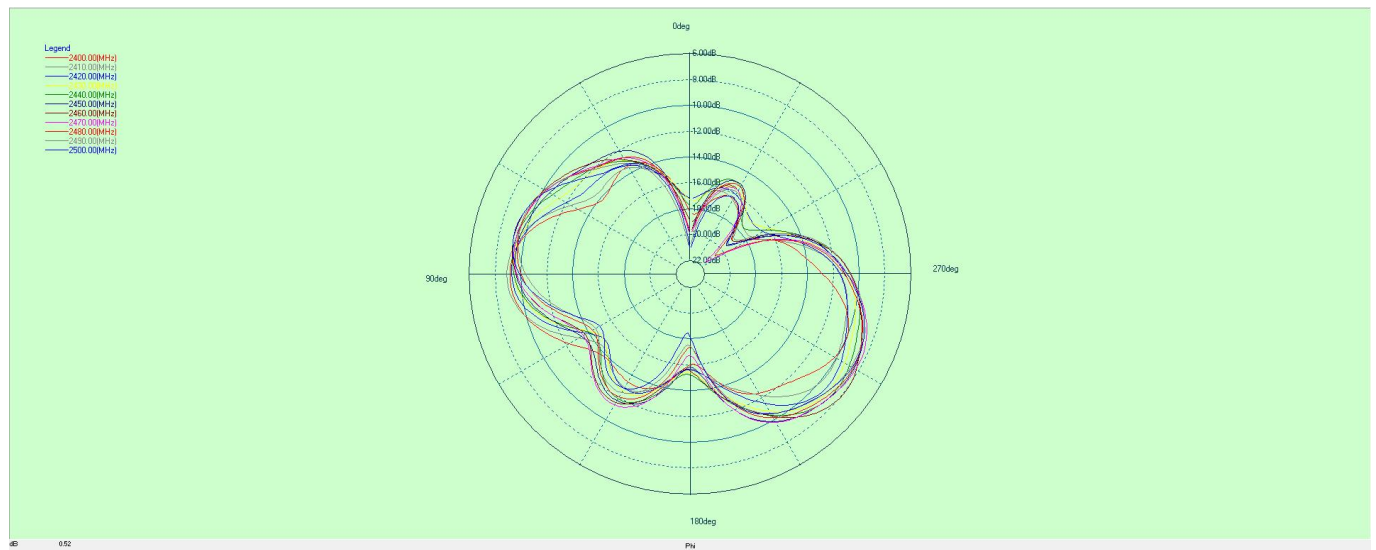


Phi=90°

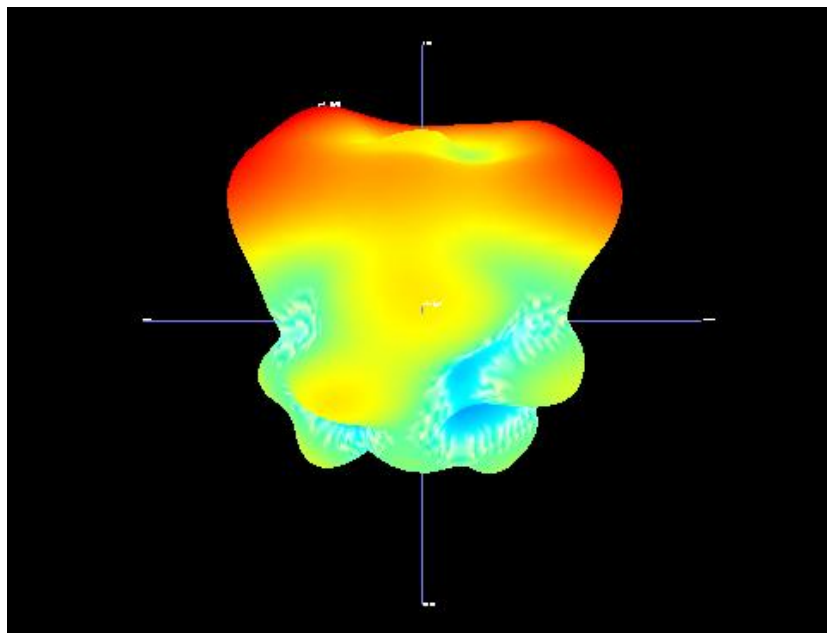




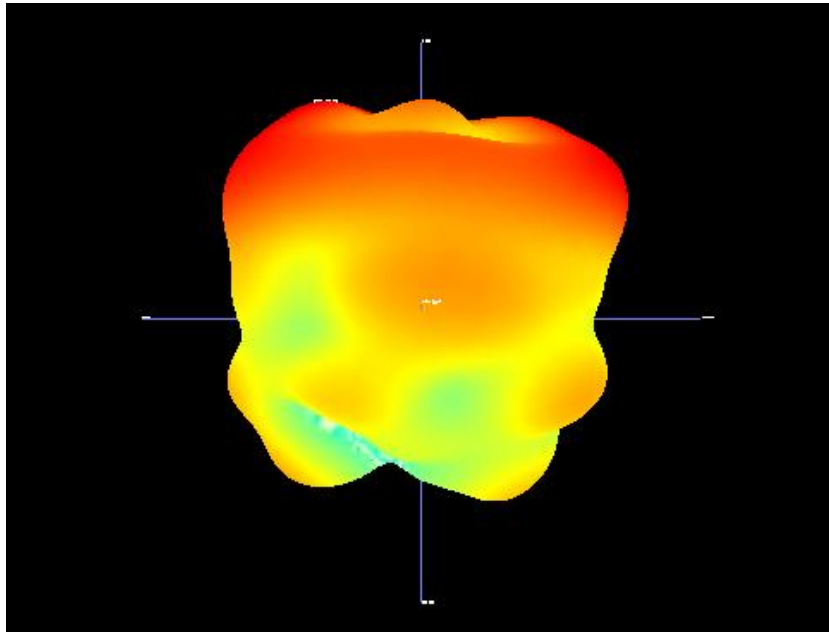
Theta=90°



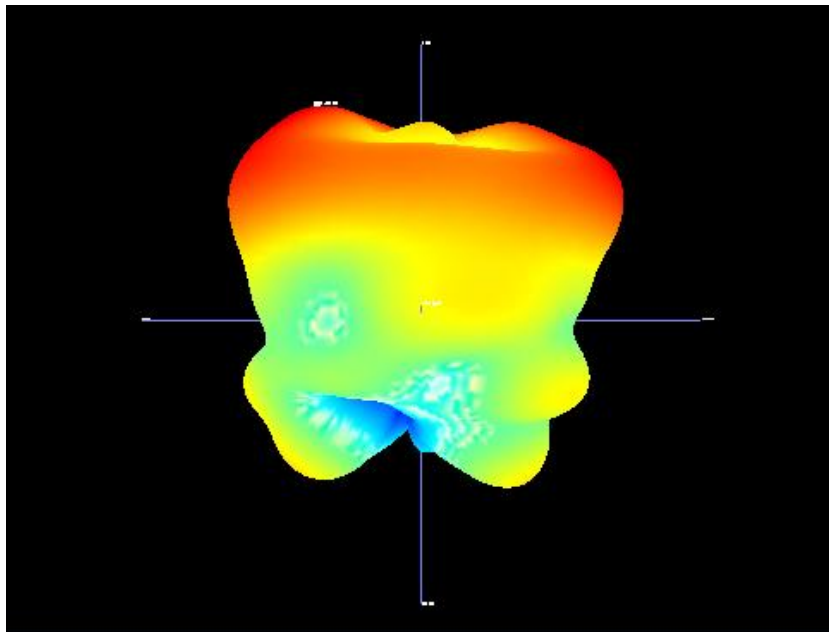
2. 3D Radiation Pattern



2400MHz



2440MHz



2480MHz



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.	Equipment Name	Serial NO.	Type	Manufacturer	Cal.Date	Cal.Due Date
1	Vector Network Analyzer	MY46214666	E5071C	Agilent	2023.02.09	2024.02.08
2	OTA Chamber	N/A	SG24	Satimo	2021.01.12	2024.01.11
3	SatEnv	N/A	2.0.1.5 build 12	Satimo	N/A	N/A
4	SPM	N/A	1.11	Satimo	N/A	N/A

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