# Lenze Technology Co.,LTD

Tel:+86 0755-82031775;25332530 Fax:+86 0755-82713604

26c newspaper west tower, 6008 shennan Avenue, Futian District, Shenzhen City, Guangdong Province, China

#### 1 GENERAL INFORMATION

#### 1.1 Test Environment Condition

Ambient Temperature	19 to 25 ℃	
Ambient Relative Humidity	45 to 55 %	
Ambient Pressure	N/A (Not applicable)	

#### 1.2 Announce

- (1) The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.
- (2) The test report is invalid if there is any evidence and/or falsification.
- (3) The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein.
- (4) This document may not be altered or revised in any way unless done so and all revisions are duly noted in the revisions section.
- (5) Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.

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### **2 PRODUCT INFORMATION**

### 2.1 Applicant

Applicant	Lenze Technology Co.,LTD			
Address	d.c., 26c newspaper west tower, 6008 shennan Avenue, Futian District			
Contact Person	Tony			
Telephone Number	+86 0755-82031775;25332530			
Fax Number	+86 0755-82713604			
E-mail Address	info@lenzetech.com			

#### 2.2 Manufacturer

Manufacturer	Lenze Technology Co.,LTD		
Address	d.c., 26c newspaper west tower, 6008 shennan Avenue, Futian District,		
Address	Shenzhen City, Guangdong Province, China		
Contact Person	N/A		
Telephone Number	N/A		
Fax Number	N/A		
E-mail Address	N/A		

# 2.3 General Description for Equipment under Test (EUT)

EUT Type	Bluetooth Antenna	
Model Name	PCB Antenna	
Antenna Type	PCB Antenna	
Hardware Version	N/A	
Serial Number	N/A	
Dimensions	N/A	

#### 2.4 Technical Information

Frequency Range	2400MHz~ 2500MHz
Test Frequencies	2402MHz, 2441MHz, 2480MHz

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### 3 SUMMARY OF TEST RESULTS

#### 3.1 Test Standards

No.	Identity	Document Title
1	IEEE149-1979	IEEE Standard Test Procedures for Antennas

#### 3.2 Test Verdict

Report Section	Description	Remark
ANNEX A.1	Gain And Efficiency	-
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)	0.4
Gain	<b>-0.08dB</b> i

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### **GENERAL TEST CONFIGURATIONS**

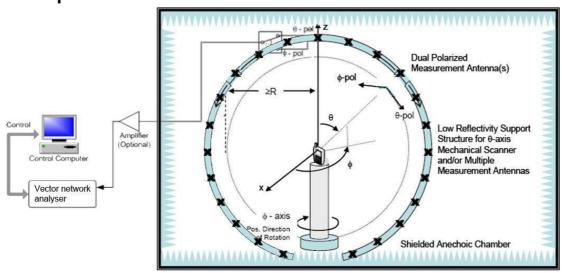
#### **4.1 Test Condition**

Environment Parameter	Selected Values During Tests			
Liviloiiiieiit i arailletei	Temperature Voltage Relative			
Normal Temperature,				
Normal Voltage	25°C	N/A	51%	
(NTNV)				

# 4.2 Test Equipment List

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Vector Network Analyzer	Agilent	E5071C	MY46103472	2014.09.07	2015.09.06
5*5*5 Full Anechoic	SATIMO	5*5*5	N/A	2014.09.05	2015.09.04
Chamber SG24 Multi-probe					
Antenna Measurement System	SATIMO	SG24-L	1101855-0001	2014.10.25	2015.10.24

# 4.3 Test Setup



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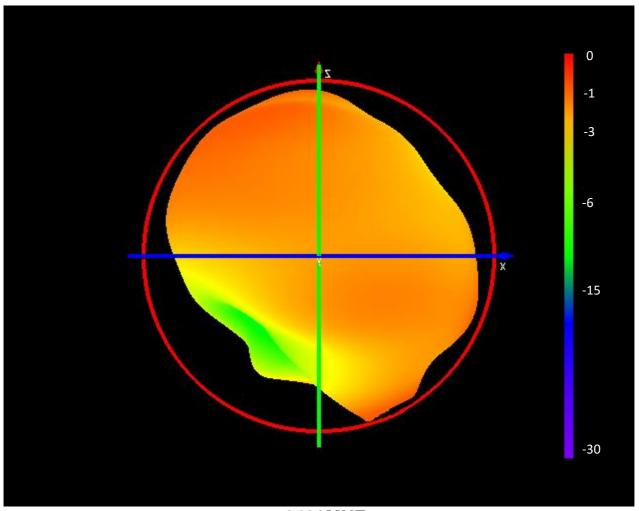
# **ANNEX A TEST RESULTS**

# A.1 Gain and Efficiency

Frequency	Gain (dBi)	Efficiency (%)
2402MHz	-0.08	0.99
2441MHz	-0.21	1.06
2480MHz	-0.18	1.12

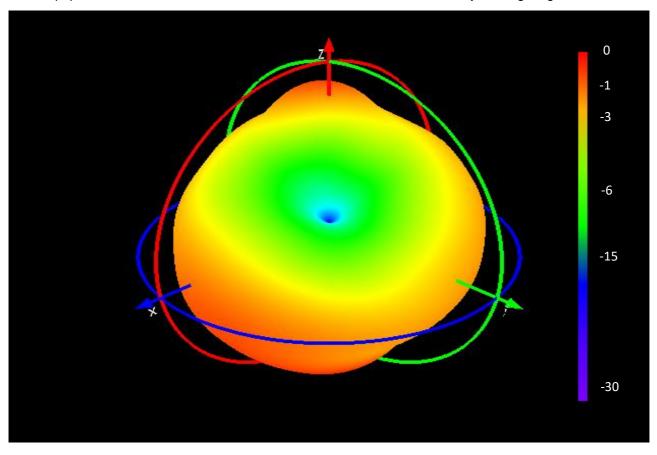
# **ANNEX B RADIATION PATTERN**

#### 3DPattern



2402MHZ

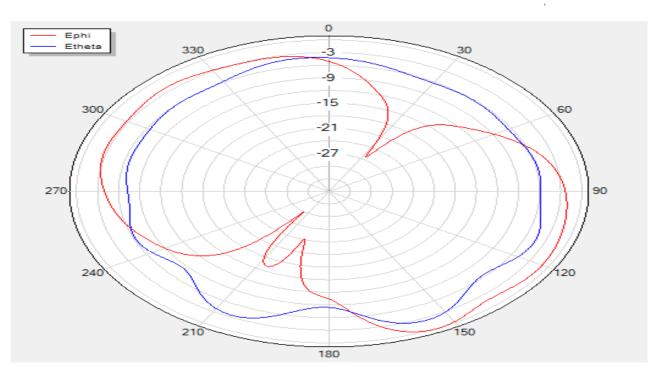
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2402MHZ

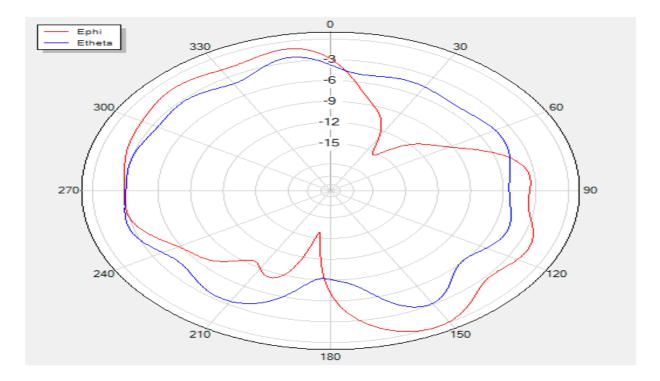
## **1D Radiation Pattern PHI =0**

# Phi=0 freq=2402MHz

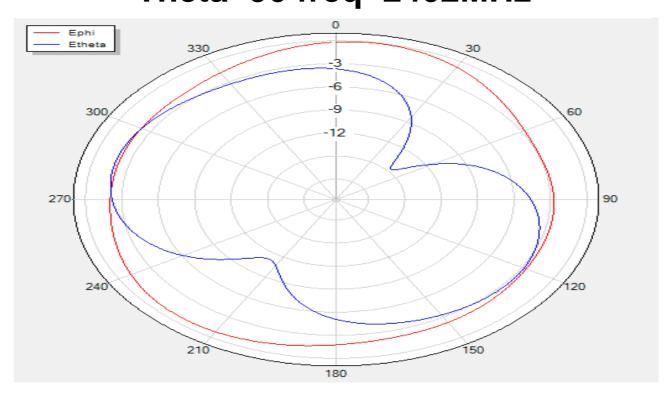


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**PHI =90** Phi=90 freq=2402MHz

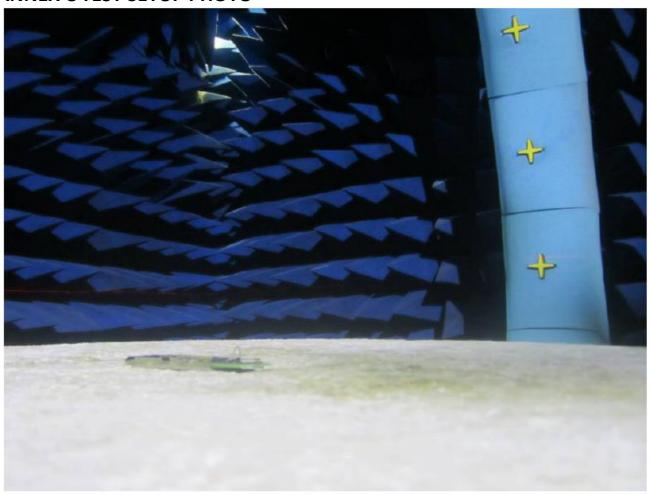


THETA = 90Theta=90 freq=2402MHz



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#### **ANNEX C TEST SETUP PHOTO**



### **ANNEX D EUT PHOTO**

# Antenna shape

