Lenze Technology Co.,LTD
Tel:+86 0755-82031775;25332530 Fax:+86 0755-82713604

26c newspaper west tower, 6008 shennan Avenue,Futian District, Shenzhen City, GuangdongProvince,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 , 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	-0.08dBi

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4 GENERAL TEST CONFIGURATIONS

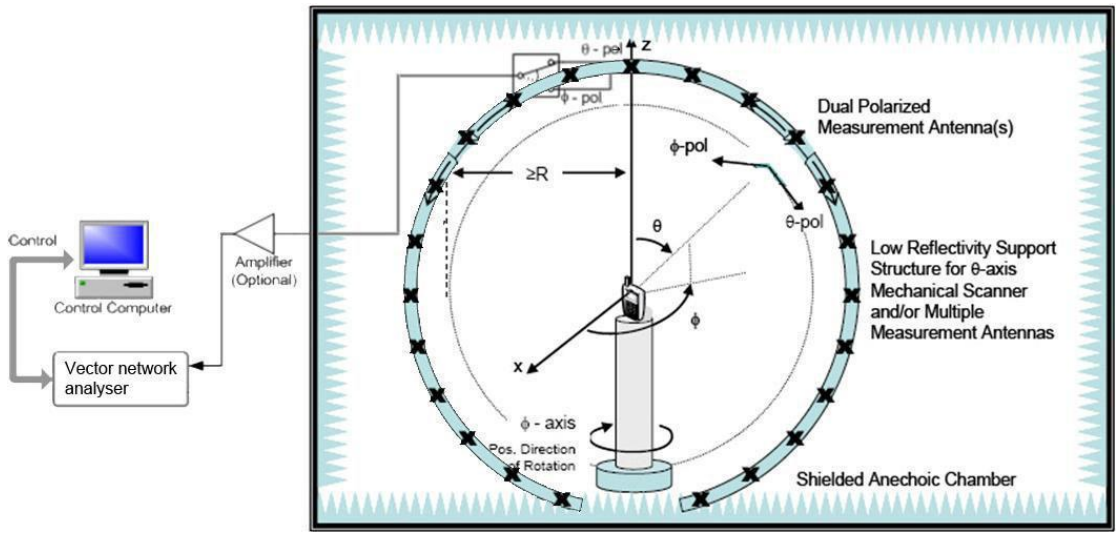
4.1 Test Condition

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

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 Chamber	SATIMO	5*5*5	N/A	2014.09.05	2015.09.04
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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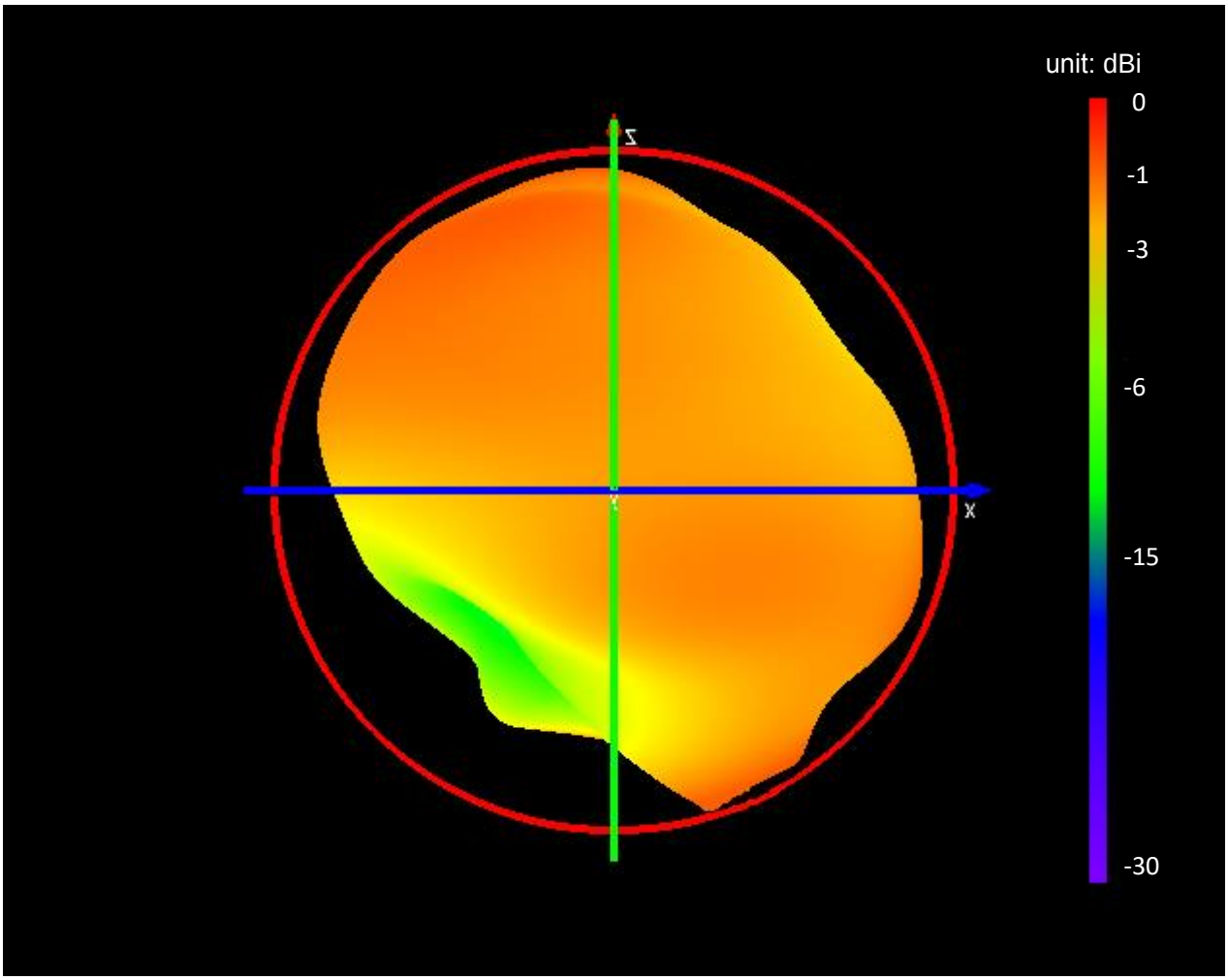
ANNEX A TEST RESULTS

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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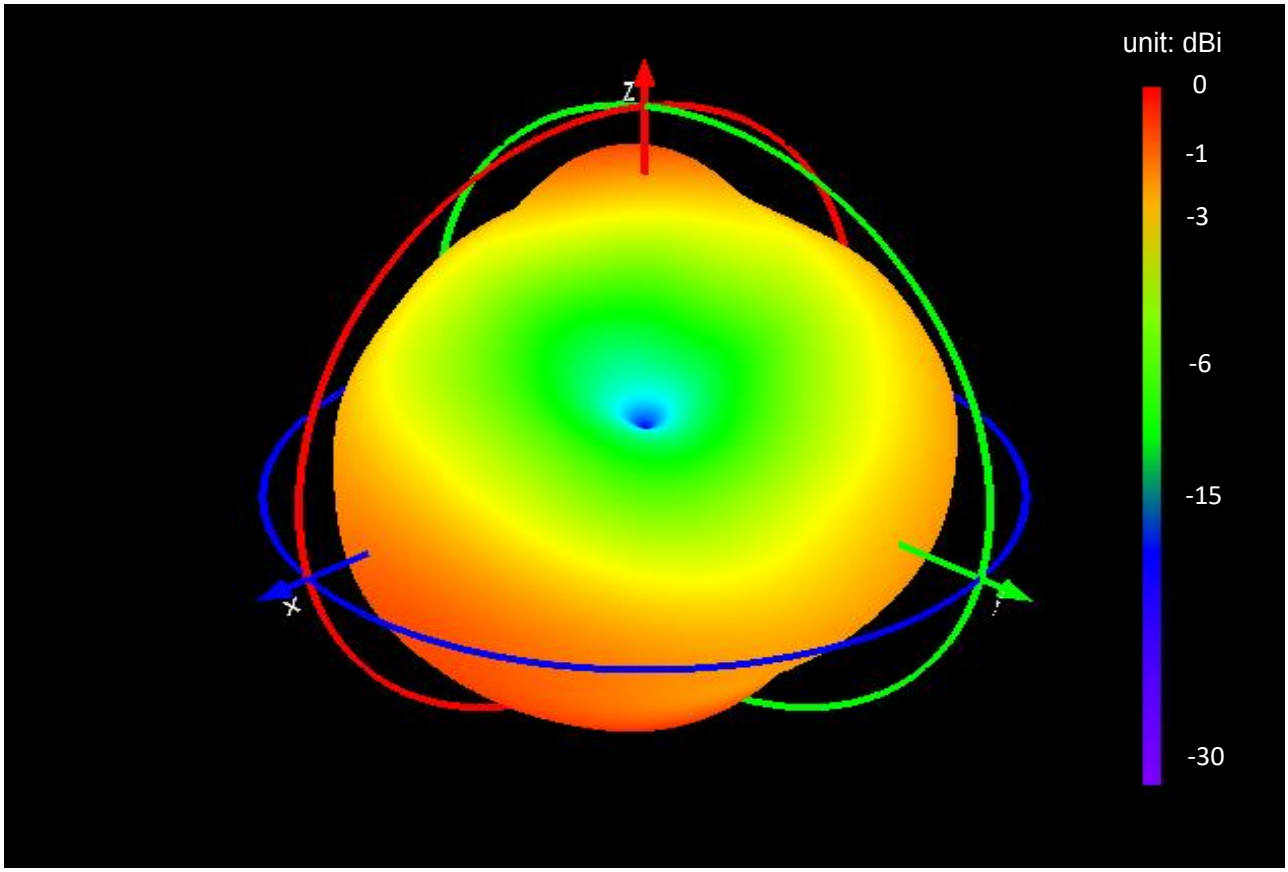
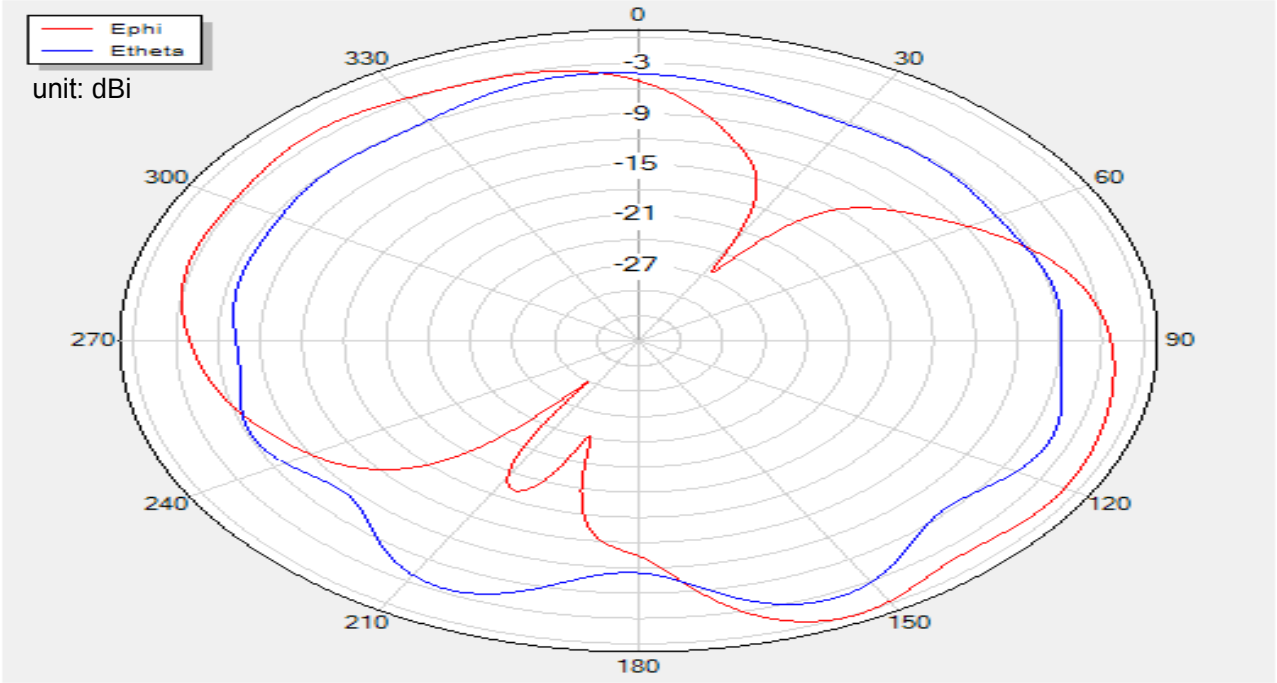


2402MHZ

1D Radiation Pattern

PHI =0

Phi=0 freq=2402MHz



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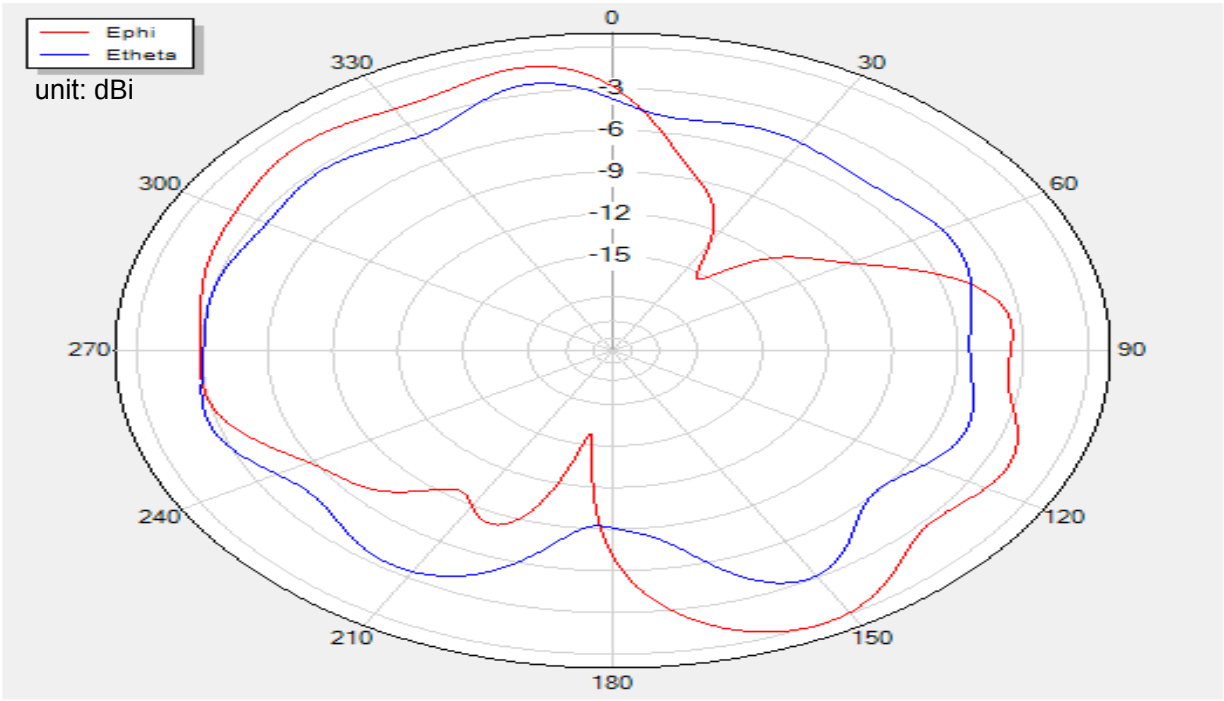
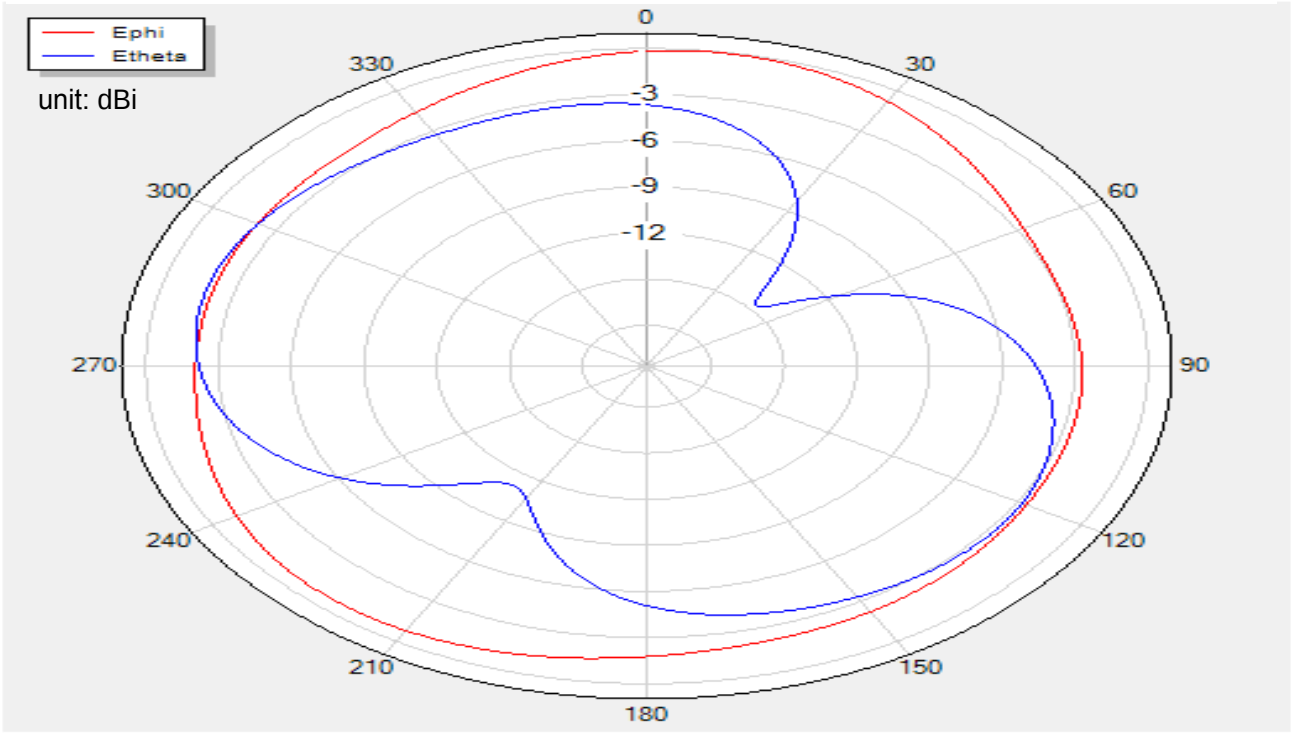
PHI =90

Phi=90 freq=2402MHz



THETA = 90

Theta=90 freq=2402MHz



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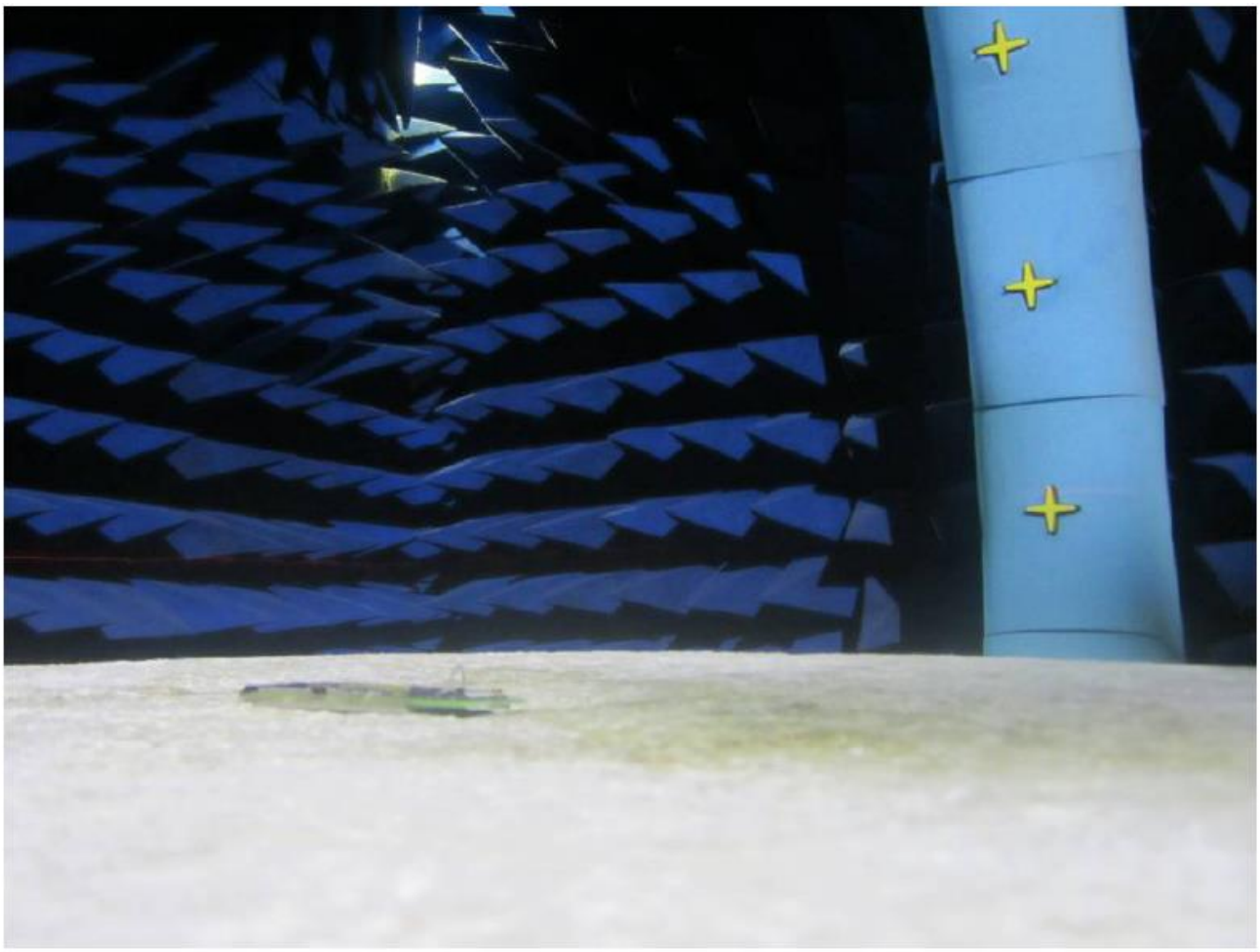
ANNEX C TEST SETUP PHOTO



ANNEX D EUT PHOTO

Antenna shape