

OTA TEST REPORT

Report Reference No.: CTL1904108091-002

Compiled by:
(position+printed name+signature)

Happy Guo
(File administrators)

Happy Guo

Tested by:
(position+printed name+signature)

Nice Nong
(Test Engineer)

Nice Nong

Approved by:
(position+printed name+signature)

Ivan Xie
(Manager)

Ivan Xie

Product Name.....: 2.4GHz PCB Antenna

Model/Type reference: BL2.4GPCBAntenna-A

Trade Mark: BELON

Applicant's name: Shenzhen BELON SOLUTIONS Co., Ltd.

Address of applicant: Langshan Road, North District, High-tech Park, Nanshan District,
Shenzhen Room 1206-07, Scientific Research Building, Tsinghua
Information Harbor, China

Test Firm: Shenzhen CTL Testing Technology Co., Ltd.

Address of Test Firm: Floor 1-A, Baisha Technology Park, No.3011, Shahexi Road,
Nanshan District, Shenzhen, China 518055

Test specification

Reference Standard: IEEE149-1979

TRF Originator: Shenzhen CTL Testing Technology Co., Ltd.

Master TRF: Dated 2011-01

Date of receipt of test item: Apr. 10, 2019

Date of sampling: Apr. 10, 2019

Date of Test Date: Apr. 10, 2019–Apr. 12, 2019

Data of Issue: Apr. 12, 2019

Result: Pass

Shenzhen CTL Testing Technology Co., Ltd. All rights reserved.

This publication may be reproduced in whole or in part for non-commercial purposes as long as the Shenzhen CTL Testing Technology Co., Ltd. is acknowledged as copyright owner and source of the material. Shenzhen CTL Testing Technology Co., Ltd. takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.

TEST REPORT

Test Report No. :	CTL1904108091-O02	Apr. 12, 2019
		Date of issue

Equipment under Test : 2.4GHz PCB Antenna

Model /Type : BL2.4GPCBAntenna-A

Applicant : **Shenzhen BELON SOLUTIONS Co., Ltd.**

Address : Langshan Road, North District, High-tech Park,
Nanshan District, Shenzhen Room 1206-07, Scientific
Research Building, Tsinghua Information Harbor,
China

Manufacturer : **Shenzhen BELON SOLUTIONS Co., Ltd.**

Address : Langshan Road, North District, High-tech Park,
Nanshan District, Shenzhen Room 1206-07, Scientific
Research Building, Tsinghua Information Harbor,
China

Test result	Pass *
--------------------	---------------

* In the configuration tested, the EUT complied with the standards specified page 5.

The test results presented in this report relate only to the object tested.

This report shall not be reproduced, except in full, without the written approval of the issuing testing laboratory.

Contents

- 1 **SUMMAR OF TEST RESULTS..... 5**
 - 1.1 EQUIPMENT UNDER TEST5
 - 1.2 TEST METHOD.....5
 - 1.3 TEST SETUP.....5
 - 1.4 TEST CONDITIONS5
 - 1.5 TEST EQUIPMENT LIST.....5
 - 1.6 TEST UNCERTAINTY5
- 2 **TEST ITEM AND RESULTS..... 6**
 - 2.1 1#.....6
- 3 **TEST SETUP PHOTOS OF THE EUT 7**
- 4 **PHOTOS OF THE EUT..... 9**

1 SUMMAR OF TEST RESULTS

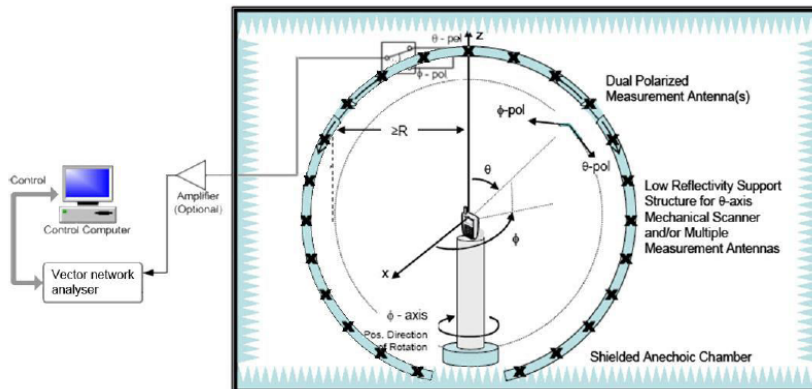
1.1 Equipment under Test

No.	EUT status
1#	intact

1.2 Test method

1. Test 5 antennas under Standard IEEE149-1979 and record the test results(first test results).

1.3 Test Setup



1.4 Test Conditions

For twice test conditions, please see the table below:

Test No.	Test date	Ambient Pressure(KPa)	Temperature($^{\circ}$ C)	Relative Humidity(%)
1	2019.04.10	100-102	19-25	45-60

1.5 Test Equipment List

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Vector Network Analyzer	Agilent	E5071C	MY46103472	2018.1.25	2019.1.25
5*5*5 Full Anechoic Chamber	SATIMO	5*5*5	CN-1307-555	2018.09.28	2019.09.28
SG24 Multi-probe Antenna Measurement System	SATIMO	SG24-L	1101855-0001	2018.12.4	2019.12.4

1.6 Test Uncertainty

Item	Uncertainty
Gain	1.03dB

2 TEST ITEM AND RESULTS

2.1 1#

First Test results:

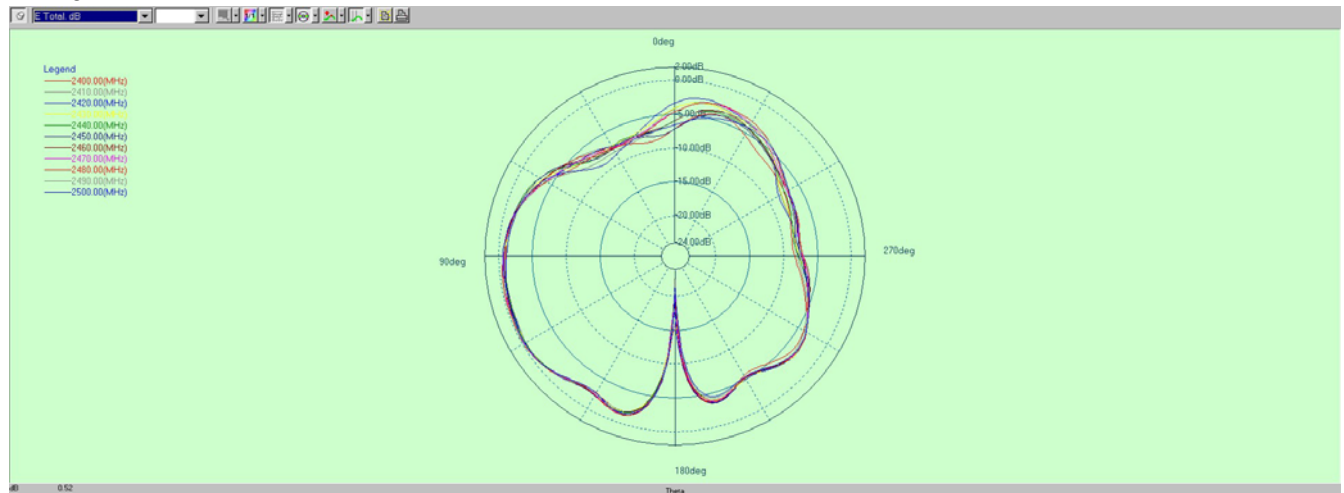
2.4GHz

Gain and Efficiency

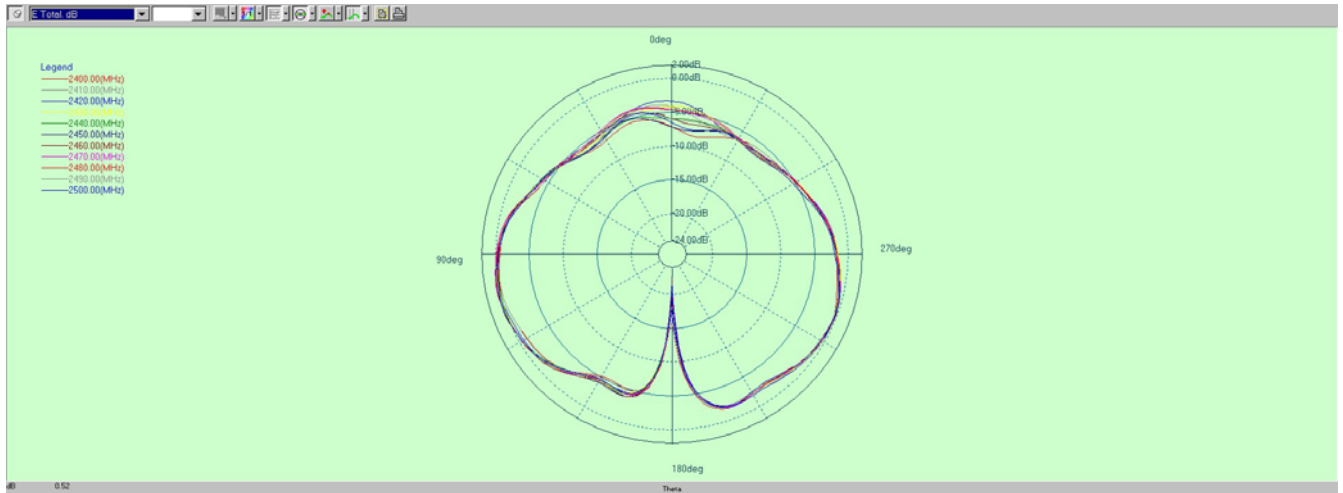
EUT NO	2#	
Frequency	E Total. dB(dBi)	Efficiency()
2400MHz	0.61	49%
2410MHz	0.54	50%
2420MHz	0.59	52%
2430MHz	0.62	52%
2440MHz	0.60	51%
2450MHz	0.66	52%
2460MHz	0.85	53%
2470MHz	0.99	53%
2480MHz	1.03	53%
2490MHz	0.88	51%
2500MHz	0.78	51%

Radiation Pattern

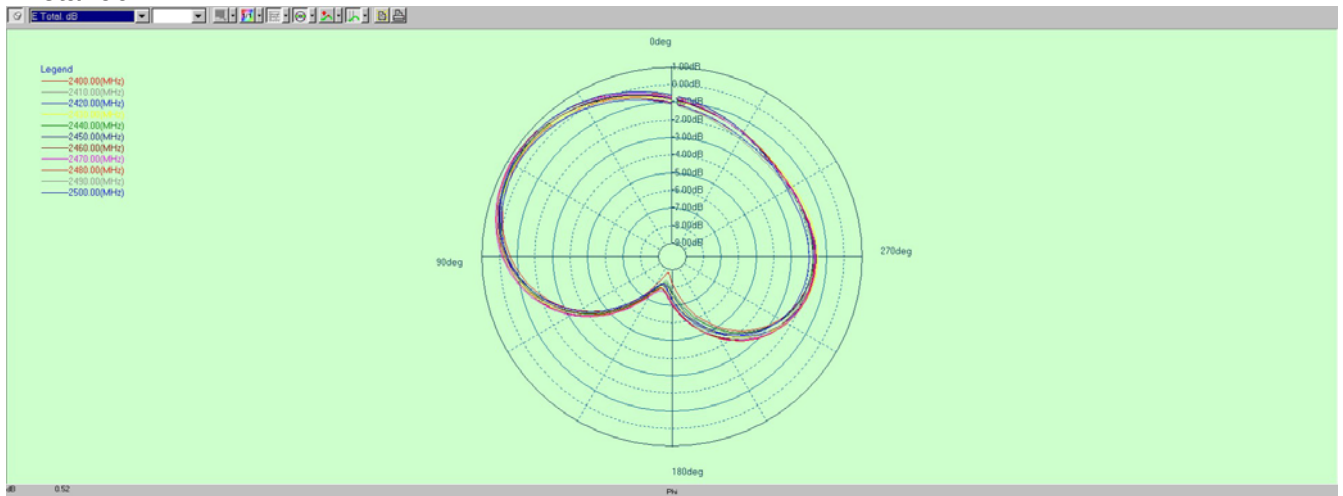
Phi=0



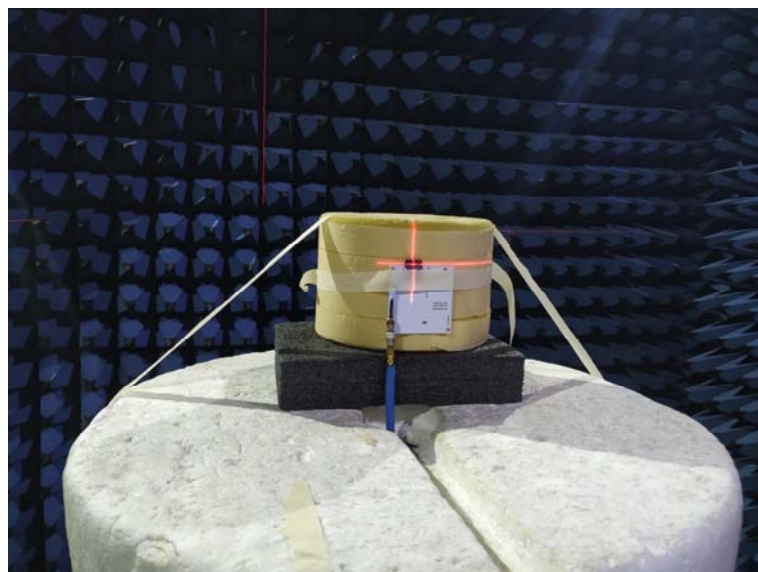
Phi=90

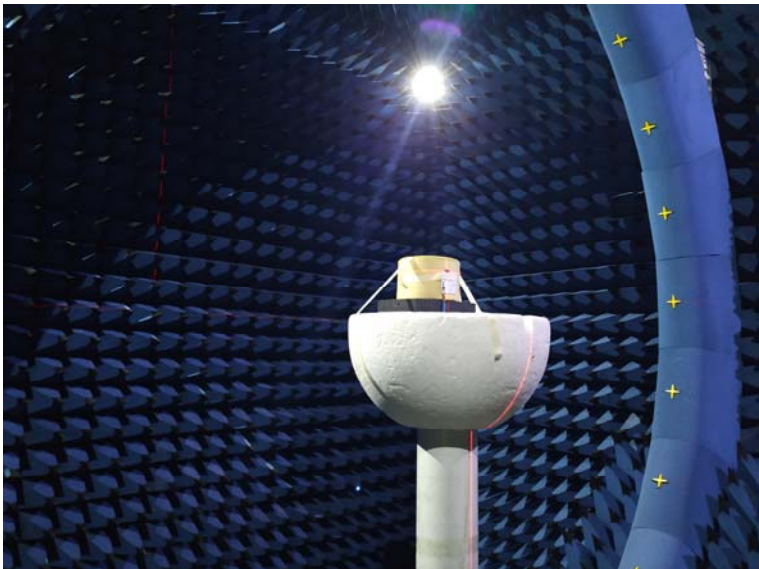


Theta=90

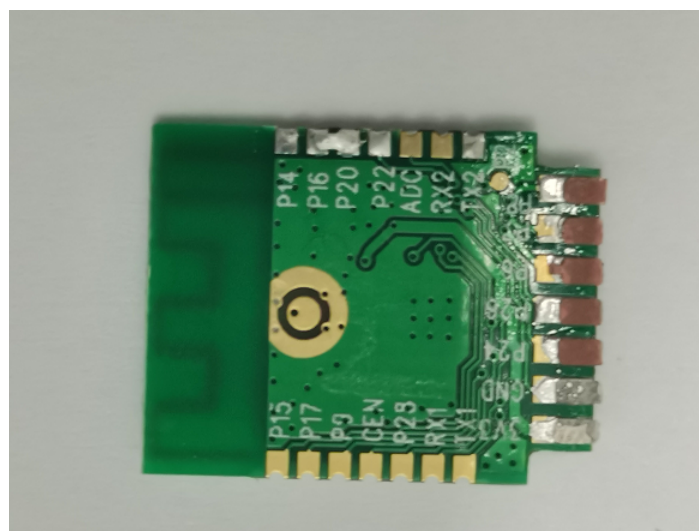


3 Test Setup Photos of the EUT





4 Photos of the EUT



***** End of Report *****