



ANTENNA PERFORMANCE

# TEST REPORT

*of*

2.4GHz PCB ANTENNA

Trade Name: suicen

*prepared for*

Shenzhen Shuaixian (Suicen) Electronic Equipment Co., Ltd  
No.10 Lane 3 Longxing Road, Dakang Long Village, Henggang Town, Shenzhen, China.

*prepared by*  
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**Bluetooth**<sup>®</sup>

**CTIA** Authorized Test Lab

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## 1. General Information

### 1.1 Identification of the Responsible Testing Laboratory

Company Name: Shenzhen Morlab Communications Technology Co., Ltd.  
Department: Morlab Laboratory  
Address: 3/F, Electronic Testing Building, Shahe Road, Nanshan District, Shenzhen, 518055 P. R. China  
Responsible Test Lab Manager: Mr. Zeng De Xin  
Telephone: +86 755 86130268  
Facsimile: +86 755 86130218

### 1.2 Identification of the Responsible Testing Location

Name: Shenzhen Morlab Communications Technology Co., Ltd.  
Morlab Laboratory  
Address: 3/F, Electronic Testing Building, Shahe Road, Nanshan District, Shenzhen, 518055 P. R. China

### 1.3 Accreditation Certificate

Accredited Testing Laboratory: CNAS No. L3572 (Shenzhen Morlab Communications Technology Co., Ltd.)

### 1.4 List of Test Equipments

No.	Type	Specification
1	8960-5515C System Simulator	Manufacturer: Agilent
2	CMU 200 System Simulator	Manufacturer: R&S
3	E5071B Vector Network Analyzer	Manufacturer: Agilent
4	4*4*4 Full Anechoic Chamber	Manufacturer: Satimo
5	SG24 Multi-probe Antenna Measurement System	Manufacturer: Satimo



## 2. Technical Information

Note Provideby applicant.

### 2.1 Applicant Information

Company                   Avantree Technology Co., Ltd  
 Address                   The 4th Floor, Yuepeng Building, No.1019 Jiabin Rd, Luohu District,Shenzhen, China  
 Contact                   Shaoting.Liu  
 Telephone                0755-82681290  
 E-mail                    Shaoting.liu@avantronics.com

### 2.2 Antenna under Test (AUT) Description

BrandName:               suicen  
 TypeName:                Bluetooth Headset  
 Marking Name:           2.4GHz PCBANTENNA

#### 2.2.1 Photographsof the EUT

Please reference annex.B

#### 2.2.2 Identification of all used EUTs

The EUT Identity consists of numerical and letter characters (see the table below), the first five numerical characters indicates the Type of the EUT defined by Morlab, the next letter character indicates the test sample, and the following two numerical characters indicates the software version of the test sample.

EUT Identity	Memo
AUT01	The antenna which is inside the Bluetooth Headset

## 3. Test Results

### 3.1 Applied Reference Documents

Leading reference documents for testing

No.	Identity	Document Title
1	IEEE1491979	IEEE Standard Test Procedures for Antennas

Specific reference documents for testing

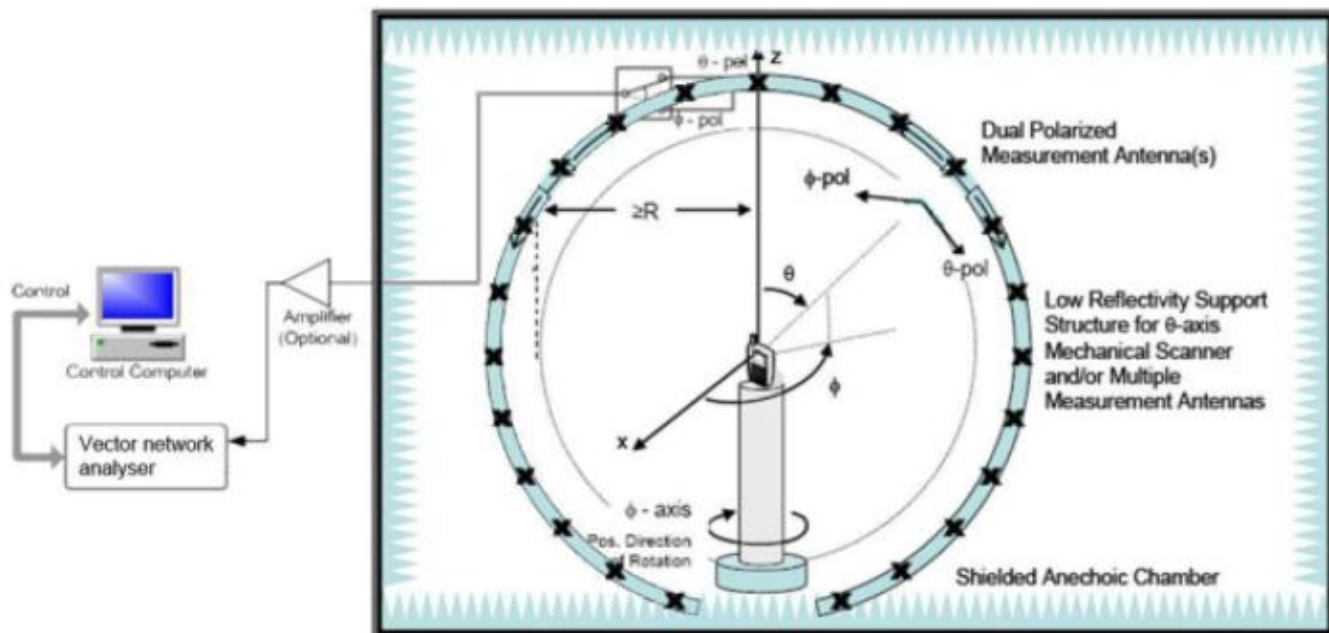
No.	Identity	Document Title
2	ETSI EN50383	Basic standard for the calculation and measurement of electromagnetic field strength and SAR related to human exposure from radio base stations and fixed terminal stations for GSM telecommunication systems (110 MHz-40 GHz).

### 3.2 Test Conditions

#### Test Environment Conditions

- 1 Temperature 20 °C
- 2 Relative Humidity 45%

#### Test Setup:



### 3.3 Test Results lists

#### 3.3.1 Gain and Efficiency

##### AUT01 Antenna

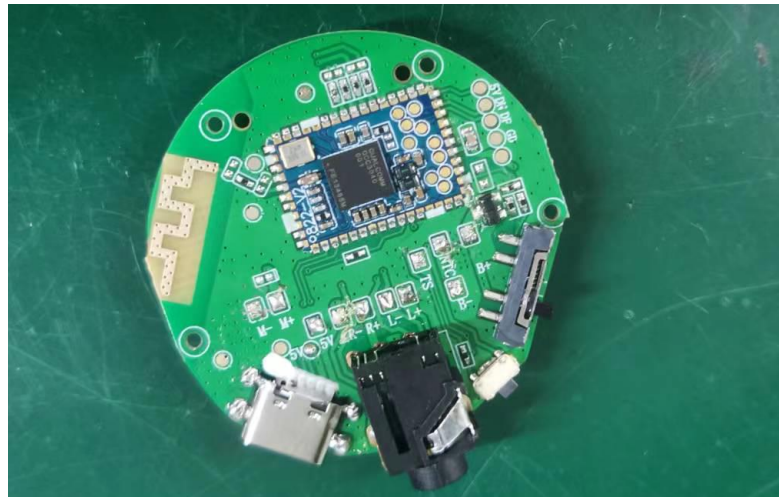
	Frequency		
Gain(dBi)	2402MHz	2441MHz	2480MHz
	3.06669	3.14031	3.48078
Efficiency(%)	2402MHz	2441MHz	2480MHz
	29.87	31.93	32.11

## Annex B Photographs

### 1. Testing environment



### 2. EUT

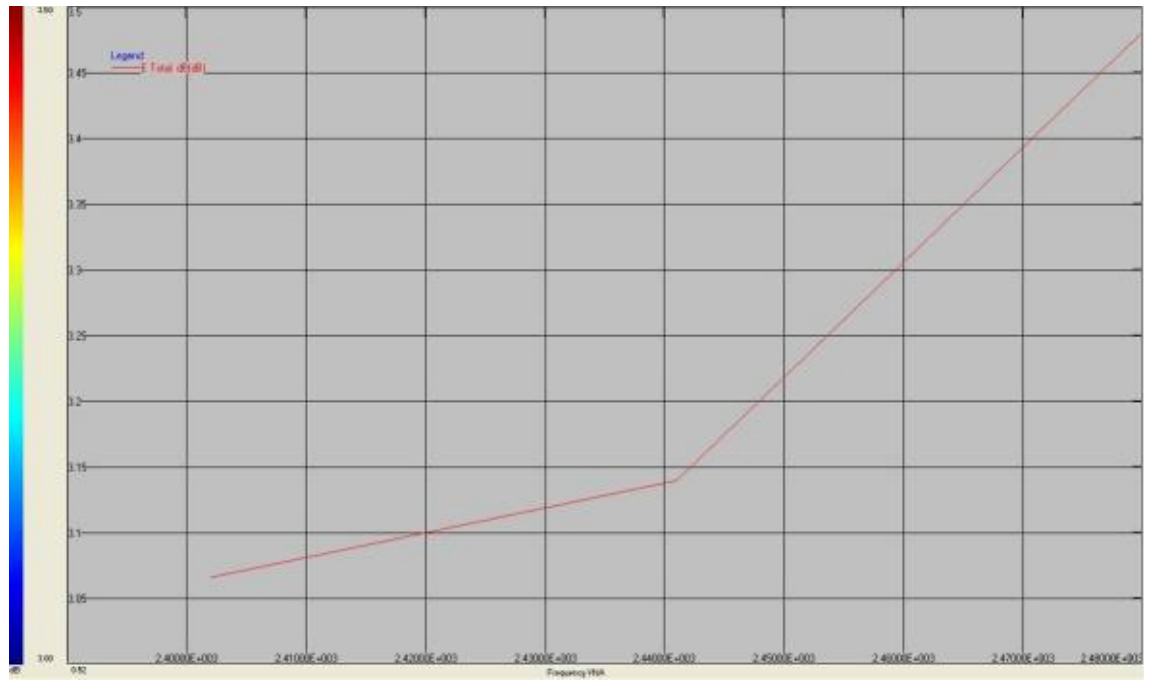




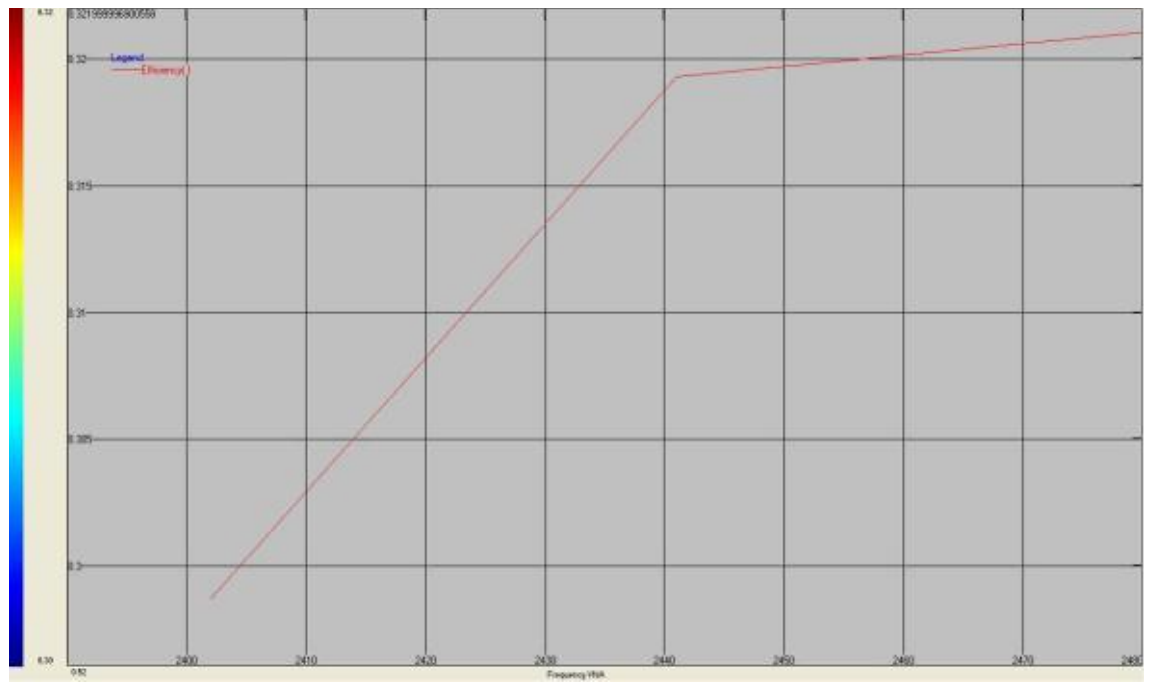
## Annex C RAW Data and Figures

### I. AUT radiation pattern

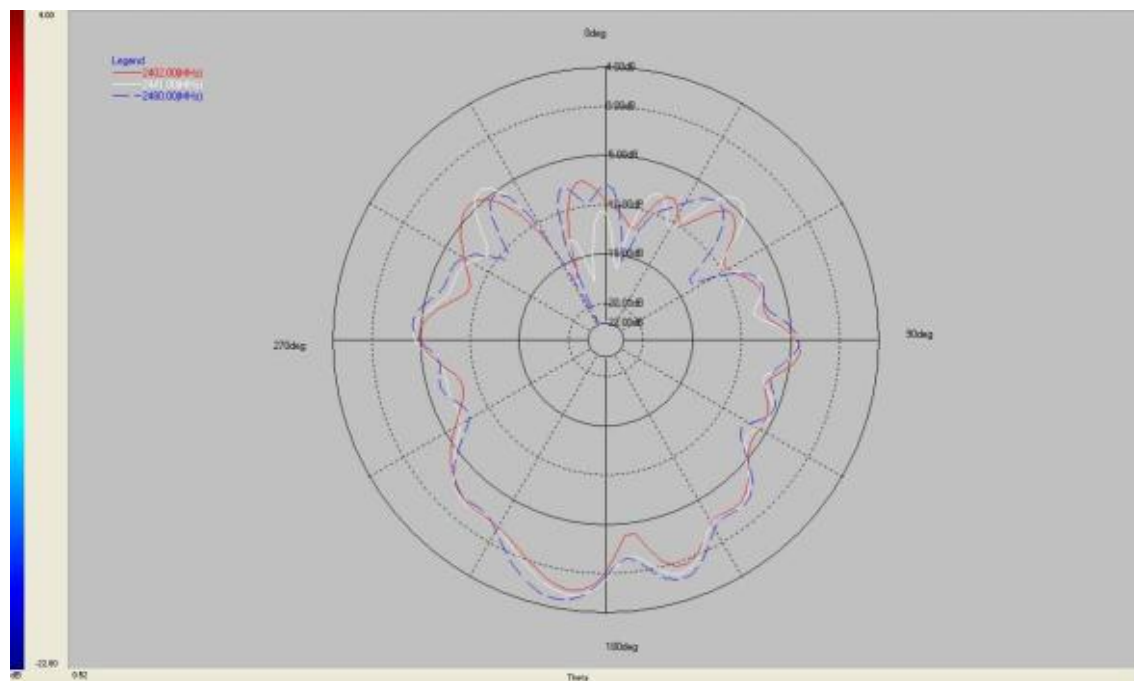
#### 1. Gain



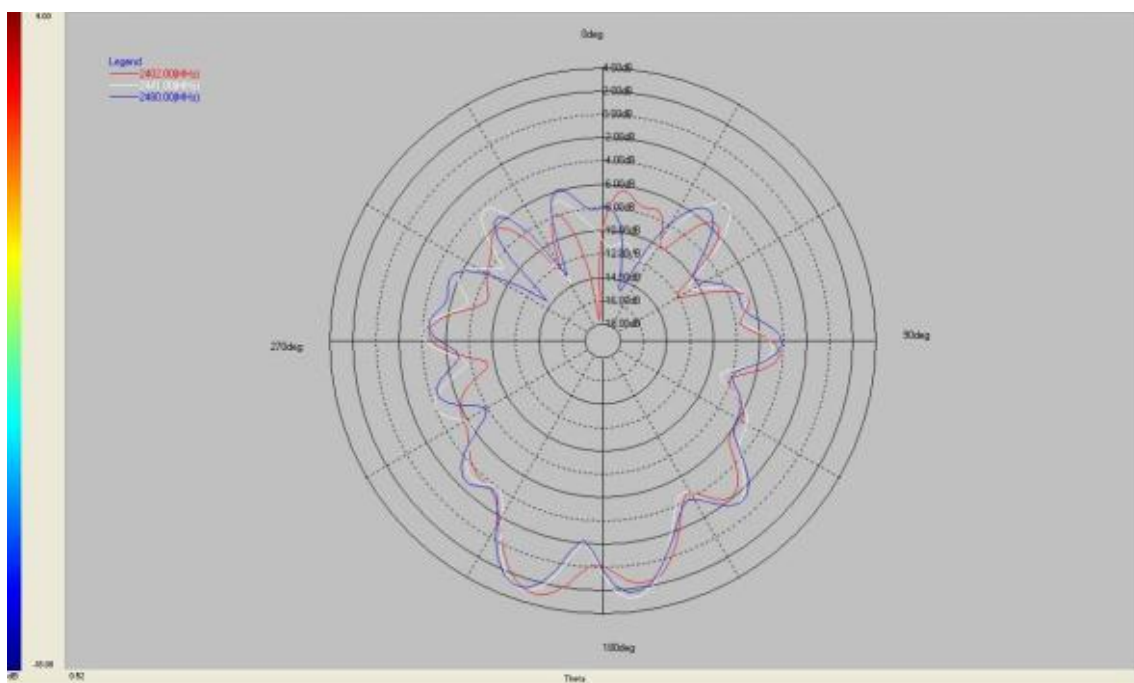
#### 2. Efficiency



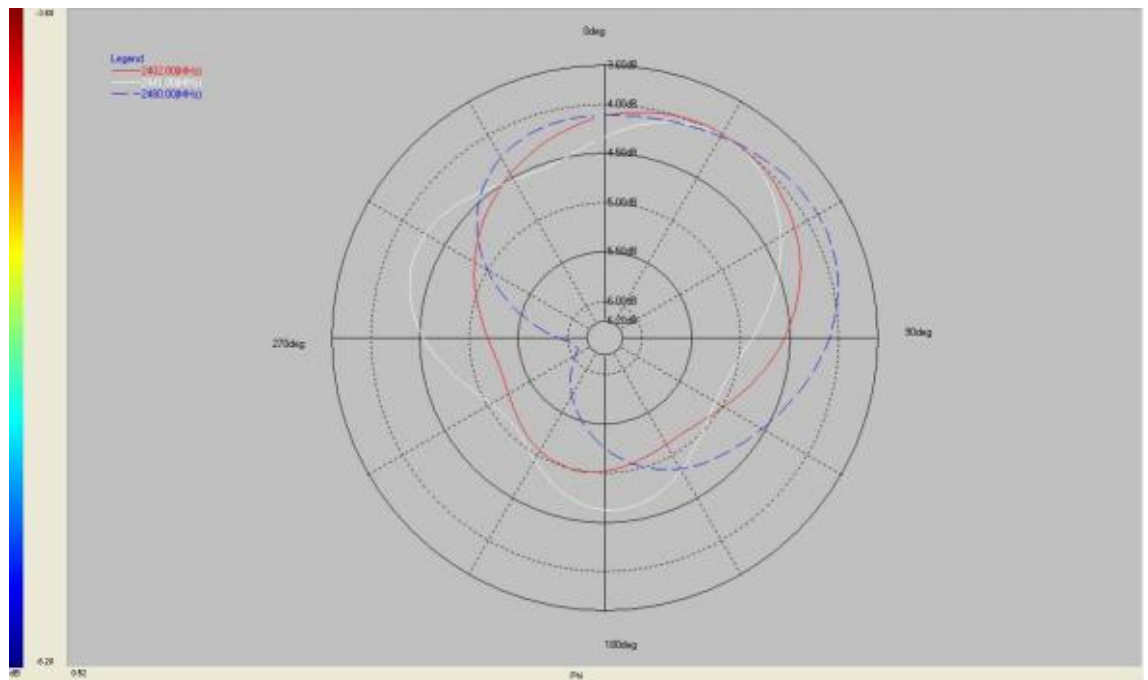
### 3. $\Phi=0^\circ$



### 4. $\Phi=90^\circ$



5. Theta=90



### Antenna Dimension

