



Shenzhen Shuodian Electronic Technology Co.,Ltd

Page number 1-11

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# SPECIFICATION

for

**Metal Bluetooth Antenna**

**Weihang Era Technology (Shenzhen) Co., Ltd**

**Customer No.**

**E.**

**Product No.**

RFECA3216A1T

Author: XiaofengZeng      Review: Liming

Release Date: 2022.11.23

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# Contents

<b><u>SPECIFICATION.....</u></b>	<b><u>1</u></b>
<b><u>SHENZHEN SHUODIAN ELECTRONIC TECHNOLOGY CO., LTD.....</u></b>	<b><u>1</u></b>
<b><u>CONTENTS .....</u></b>	<b><u>2</u></b>
<b><u>1. BILATERAL CONFIRMATION PAGE.....</u></b>	<b><u>3</u></b>
<b><u>2. GENERAL .....</u></b>	<b><u>4</u></b>
<b><u>3. GENERAL PRODUCT SPECIFICATIONS .....</u></b>	<b><u>4</u></b>
<b><u>4. SPECIFICATION DETIALS .....</u></b>	<b><u>5</u></b>
<b><u>4.1 MECHANICAL PROPERTIES .....</u></b>	<b><u>5</u></b>
<b><u>4.2 ELECTRIC PERFORMANCE .....</u></b>	<b><u>6</u></b>
<b><u>5. PRODUCT PACKAGING .....</u></b>	<b><u>10</u></b>
<b><u>6. DOCUMENT RESUME .....</u></b>	<b><u>10</u></b>
<b><u>7.AFFIX: .....</u></b>	<b><u>11</u></b>
<b><u>7.1 TESTING PRINCIPLE: THE OTA TEST SYSTEM.....</u></b>	<b><u>11</u></b>



## **1. Bilateral Confirmation page**

### **1.1 Customer signature**

**Customer: Woan Technology (Shenzhen) Co., Ltd**

Seapartment/post	Sign	Date
Hardware Engineer/RD		
Mechanical/MD		
Project Manager/PM		
Commercial/Puchasing		
Checker		

### **1.2 Signature of ShuoDian Technology company**

Seapartment/post	Sign	Date
Antenna Engineer/RD		
Mechanical/MD		
Project Manager/PM		
QA		
Checker		



## 2. General

### 2.1 Scope of application

This specification is only applicable to MP3 Bluetooth Antenna of WeiHang Era.

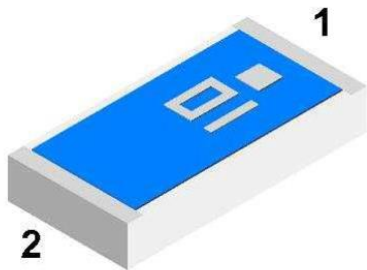
### 2.2 Operating temperature range

Temperature range of this product: -20 ~ +65 °C

### 2.3 Storage temperature range:

This product is stored at - 30 ~ + 75 °C

## 3. General product specifications

NO.	ITEMS	DETAILS
1	Type	MP3
2	Operating Frequency Band	2.4~2.5GHz
3	VSWR	≤2.0
4	Gain	1.61dBi
5	Radiation Efficiency	≥40%
6	Impedance	50Ω
7	Antenna Type	Ceramic antenna
8	Antenna composition	Ceramic antenna
9	Entity Picture	



## 4. Specification Detials

### 4.1 Mechanical Properties

#### 4.11 Product Composition:

No.	Material	Size (MM)
1	Ceramics	3.2x1.6x0.6mm
2		

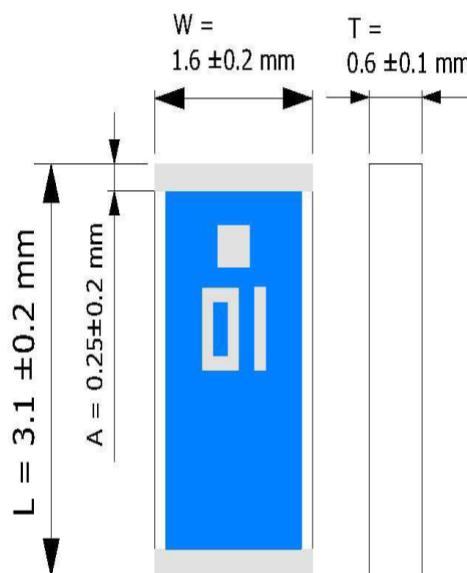
#### 4.12 Apperance

Good appearance without scars 、 dirt、 protuberances, etc.

#### 4.13 Antenna Picture and Structure Dimension

Refer to product drawings:

**Product drawings:**





## 4.2 Electric Performance

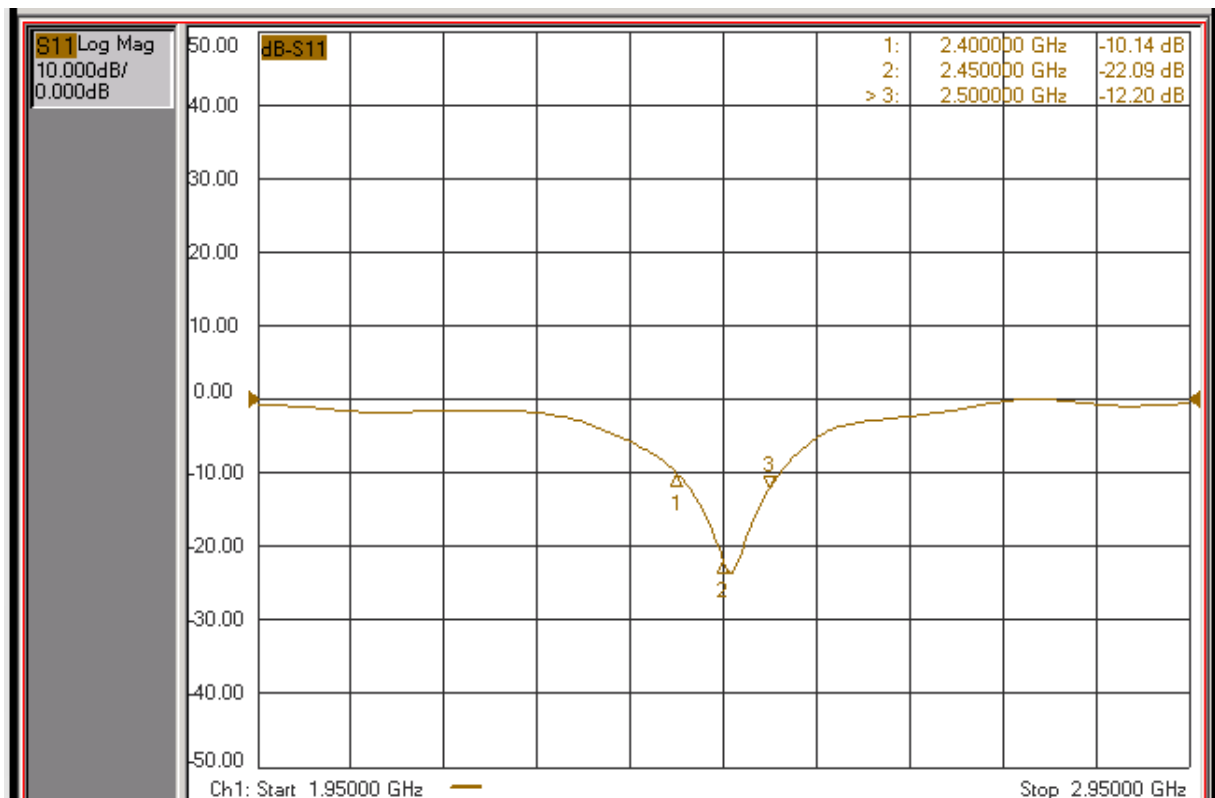
### 4.21 Test condition

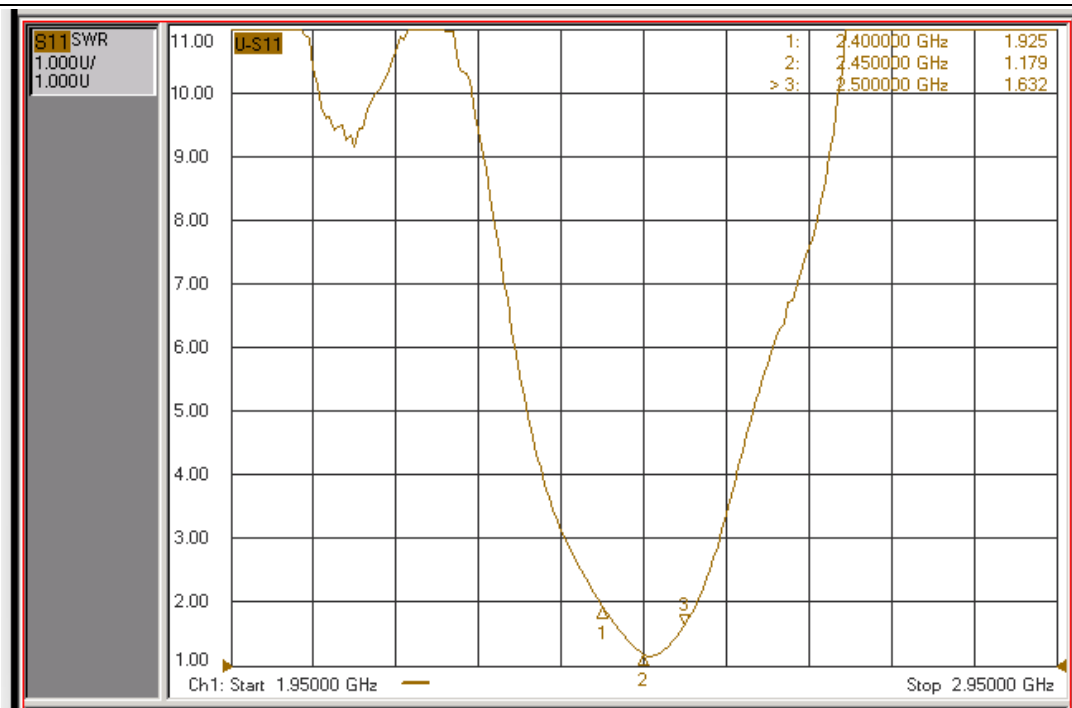
Environment:	Equipment:
Temperature: 10℃——+30℃	Network Analyzer: Agilent E8358A
Humidity: ≤80% (+40℃)	Anechior Chamber: ETS
Atmospher: 750mmkg±30mmkg	

### 4.22 Test Data for Electrical Performance:

#### 4.22.1 S11 of the Antenna:

Marker	2400MHz	2450MHz	2500MHz
Returnloss	-10.14	-22.09	-12.20
VSWR	1.92	1.18	1.63

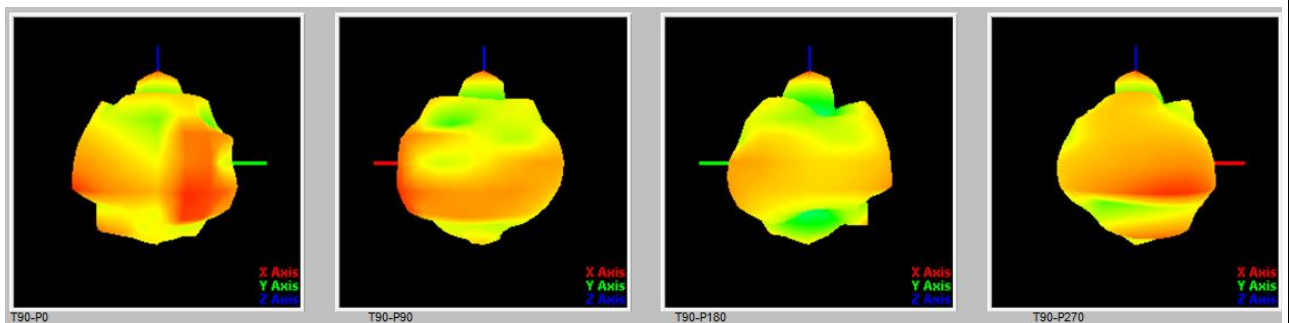


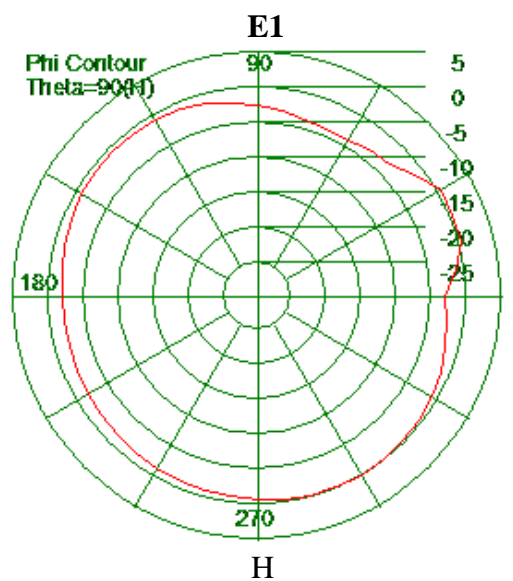
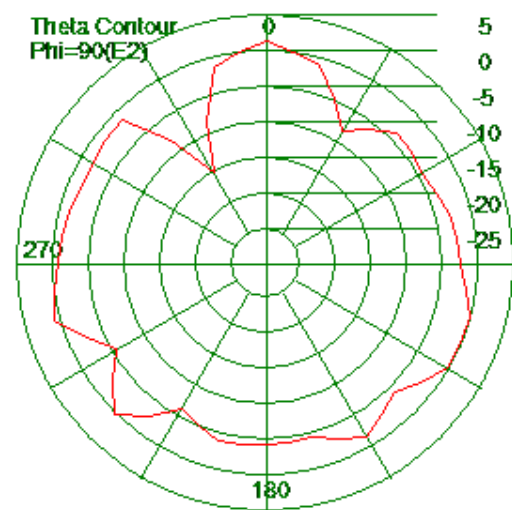
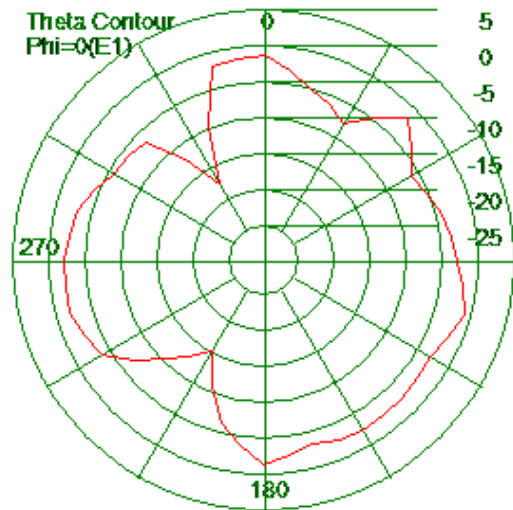
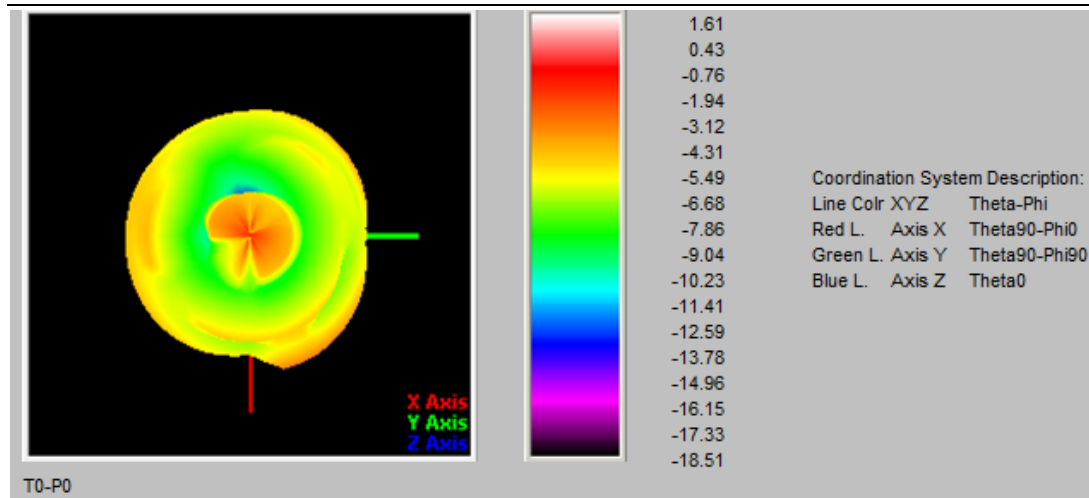


4. 22. 2 Passive gain& efficiency:

Freq. (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Gain (dBi)	1.6	1.59	1.61	1.56	1.30	1.58	1.43	1.28	1.34	1.10	0.77
Efficiency (%)	56.3	55.4	55.3	53.3	50.3	53.5	46.8	45.2	45.4	45.2	42.2

4. 22. 3 Radiation Pattern at 2420MHz









### 4.3 Test standard

Name	Parameer	Method	Standard No.
Mobile communication antenna	Antenna gain	Generic specification for Antenna used in the mobile communication	GB/T 9410-2008
	Radiation pattern		
Antenna	Radiation efficiency	IEEE Standard Test Procedures for Antenna	ANSI/IEEE Std 149-1979
	Gain and dircetivity		

### 4.4 Test uncertainty

The uncertainty was calculated on the basis of the GUM by ISO. Using the inclusion factor of  $K=2$  and the 95% confidence level to express the extended incertainty.

Item	Uncertainty
Antenna gain	$\pm 1\text{dB}$
Radiation efficiency	$\pm 10\%$

### 4.5 Statement

- (1) The test results in the report are only applicable to the tested samples and the tested samples work under the environment described in the report.
- (2) Only Shenzhen Shuodian electronic technology co., Ltd. Have the right to modify the report and the modification information shall be annotated in the revision form.
- (3) Any objection to this report shall be raised within 30 days after formal confirmation of the report.
- (4) This report is invalid if there is any evidence that the sample information provided is falsified.
- (5) The report is invalid without the signature of the auditor and approver.



## 5. Product Packaging

Manner of packing:

Packed in self sealed bags, 200 pcs each.

## 6. Document Resume

Document No.	Ver.1
Release Date	2022/11/23
Author	XiofengZeng
Review	LiMing

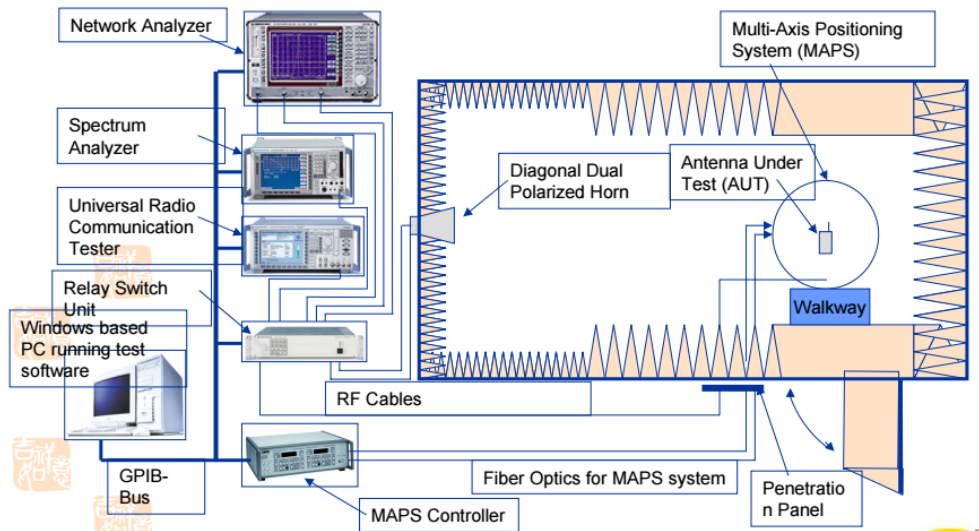
### Revised History

Date	Version	Revised Record
2022/11/22	1.00	New Project

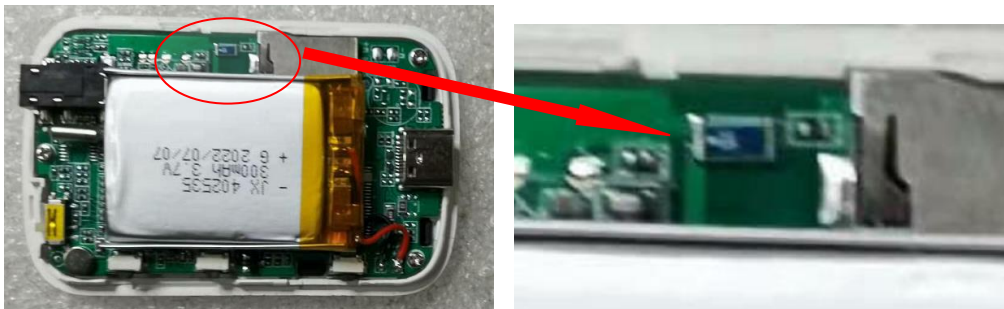


7.Affix:

7.1 Testing principle: The OTA TEST SYSTEM



7.2 DUT appearance



7.3 DUT setup photo of free space OTA testing

