

# SPECIFICATION

Daxian Communication Technology Limited



## Shenzhen Daxian Technology Co., Ltd.

lchse TU01 Right ear  
Bluetooth headset antenna

### Material Recognition Letter

Guest households	lchse	frequency band	2400MHz~2500MHz
Project name	TU01	version	V2.0
Material No.	2T-U01XX-096	color	Black
R F design	Lei.Zhang	structure design	Ye Zhi.Bi
Quality Manager	Ziyin.Hu	R & D director	Lei.Zhang
Date	2022-12-22		

client confirmation:

Whether the assembly meets your requirements: ☐OK ☐NG

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## Confidential requirement

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## — Project description

<b>Customer name:</b>	lchse
<b>Whole machine type:</b>	Bluetooth headset
<b>Antenna band:</b>	2400 ~ 2500MHz
<b>Antenna form:</b>	FPC
<b>Feed form:</b>	welding
<b>Number of feed feet:</b>	2 left and right ears
<b>Hardware version:</b>	<b>motherboard:</b>

## 一、BT antenna

This report provides a variety of measurements of the electrical performance of the TU01 Hantenna. Figure 1 shows the antenna designed by the display.



Whole machine appearance chart

antenna appearing diagram

Figure 1

### 1.1 Electrical specification standard

The frequency range of the antenna is 2400 ~ 2500 MHz. The following table indicates the electrical performance specifications of the antenna. The antenna is designed and manufactured by a large display.

Frequency Range	Frequency (MHz)	VSWR
Right ear BT	2400 ~ 2500	$\leq 2$

### 1.2 Antenna composition

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The antenna is mainly composed of FPC.

## 2、 The Equipment of Active Test

Satimo 3D Chamber  $6 \times 4 \times 4$  ( m )

Agilent 8960 E5515c

Network analyzer-R&S ZVL



**Figure 2**

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### 3 test

#### 3.1 The Test of standing Wave (VSWR)

**3.1.1 The Test of standing Wave (VSWR):** In turn, the connection of the VSWR testing device is as follows: RES ZVL Network Analyzer / testing Line / testing tool

**Actual measurement (with diagram)**

#### 3.2 Measurement of Efficiency, Power (TRP) and Sensitivity (TIS)

##### 3.2.1 Test site:

Large-scale microwave darkroom. The test frequency range is 400MHz / 6GHz, the static range is 50cm circumferential and the reflectivity is less than-50 dB..

##### 3.2.2 Test instrument:

Rs ZVL Network Analyzer, Agilent8960 E5515C, Standard Horn Antenna, French SATIMO-SG24SYSTEM system, Printer, etc.

**3.2.3 test data :** In microwave anechoic chambers, the power and sensitivity values measured are shown in the following table:

OTA free space active test:

BAND	CH	TRP (dBm)	TIS (dBm)
BT	0	5.23	-88.08
	37	6.76	-88.37
	78	7.33	-88.59

##### OTA head mold active test

BAND	CH	TRP (dBm)	TIS (dBm)
BT	0	-2.21	-81.02
	37	-1.08	-81.15
	78	-0.27	-81.16

Passive Test:

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	43.75	-3.59	1.56
2410	41.9	-3.78	1.23
2420	40.97	-3.88	1.39
2430	40.63	-3.91	1.34
2440	39.94	-3.99	1.27
2450	39.89	-3.99	1.39
2460	38.73	-4.12	1.44
2470	39.06	-4.08	1.45
2480	36.83	-4.34	1.29
2490	36.11	-4.42	1.11
2500	36.29	-4.4	1.16

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## 4、 conclusion:

This antenna is designed on the basis of the prototype provided by the customer, electrical parameters and structural performance have reached the technical requirements, please confirm!

## 5、 Attachment chart

### 5.1 VSWR parameter diagram

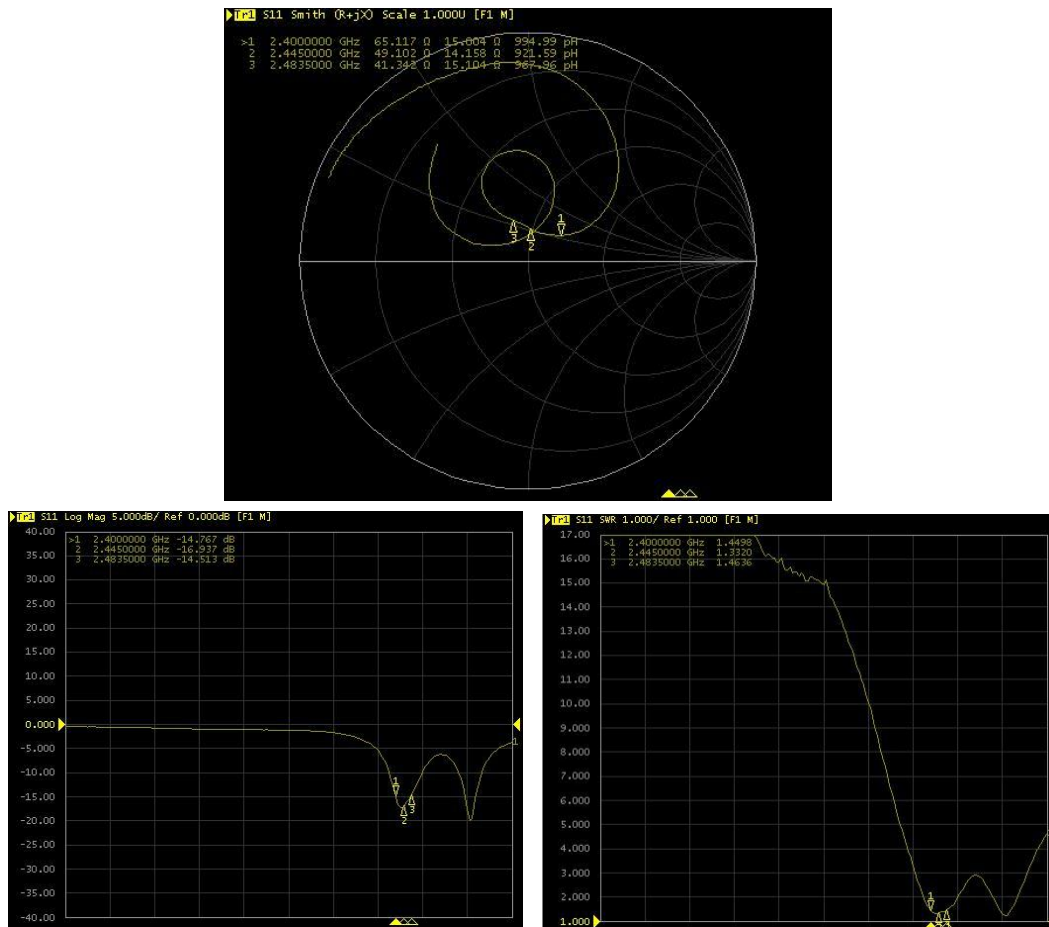


Figure 3

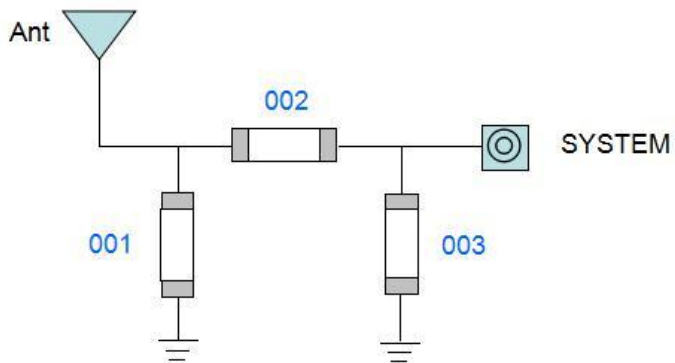
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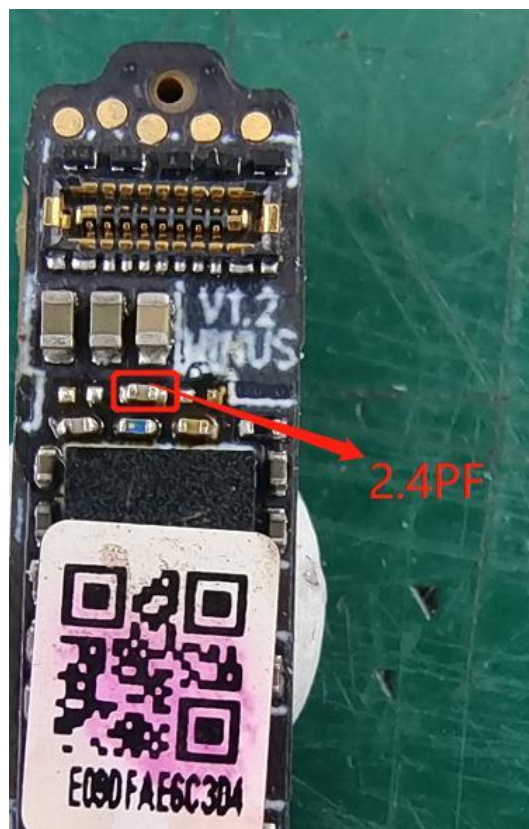
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## 5.2 Matching circuit



Element		
E001	NC	NC
E002	2.4PF	2.4PF
E003	NC	NC



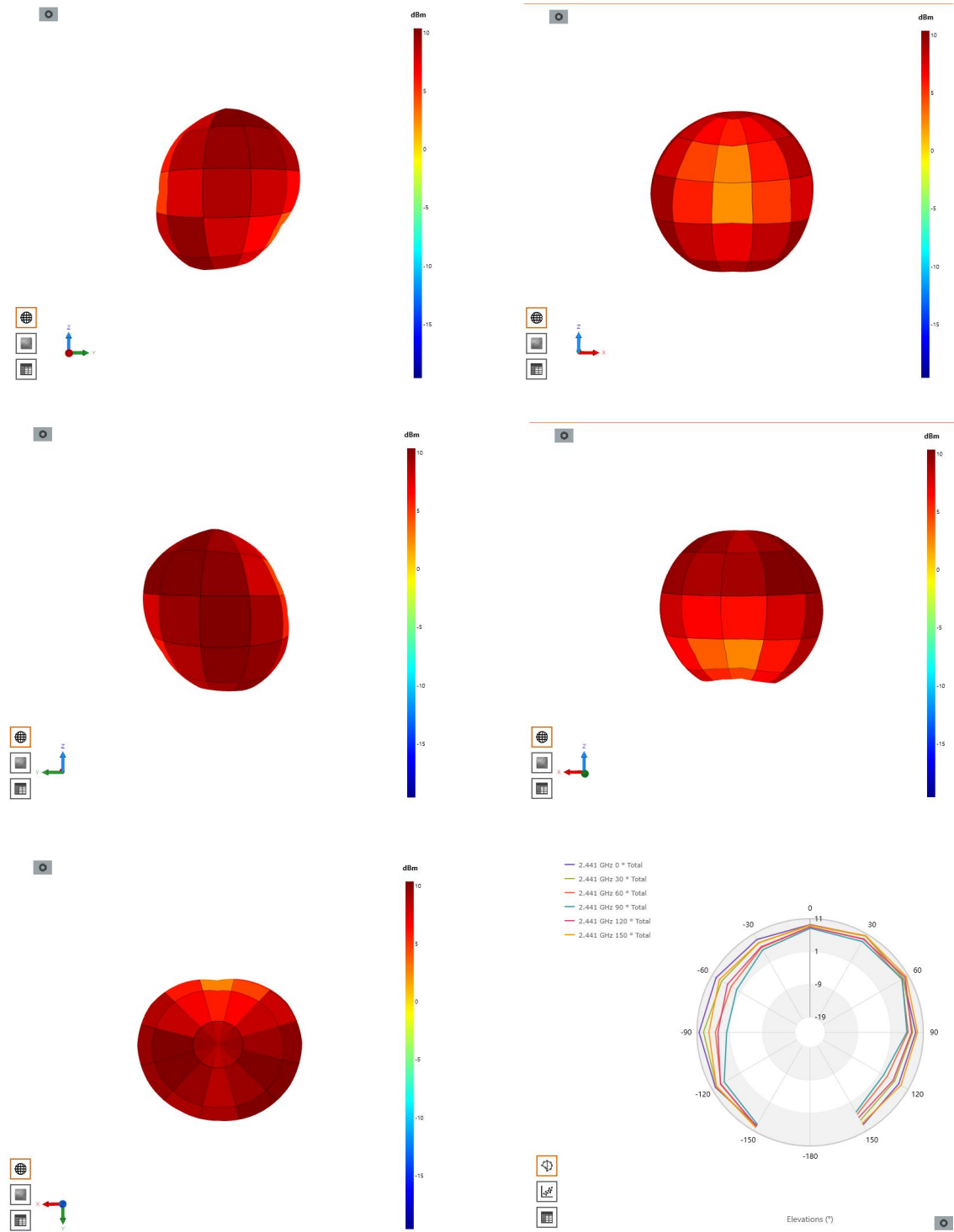
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## 6、Passive field pattern-R:



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## 7、Environmental treatment



As shown on the left, the battery QR code direction toward the motherboard Put in, the battery line negative electrode is fixed around the battery Next to the bottom (the left and right ears are shared);

如左图示，电池二维码方向朝主板摆放，电池线负极固定环绕在电池底部旁边（左右耳共用）；



The positive and negative electrodes of the battery line go from bottom as shown on the left Welding, placing (left and right ears shared);

电池线正负极如左图所示 从下往上焊接、摆放（左右耳共用）；



The battery line is welded as shown in the left picture, with the positive ear of the battery facing the top of the front chamber, parallel to the nozzle of the earphone spout,

焊接好电池与喇叭后，使用双面胶将排线固定在电池侧面，

Battery positive wire 10mm

电池正极线 10mm

Battery negative wire 25mm

电池池负极线 25mm

The horn line is 10mm long.

(Left and right ears are shared)

喇叭线长 10mm。（左右耳共用）

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A	B	C	D
1	2	3	4
A	B	C	D

A	B	C	D
1	2	3	4
A	B	C	D

