

SPECIFICATION



Shenzhen Daxian Technology Co., Ltd.

Cosonic CE-2176N Left ear
Bluetooth headset antenna

Material Recognition Letter

Guest households	Cosonic	frequency band	2400MHz~2500MHz
Project name	CE-2176N	version	V7.9
Material No.	1E-2176N-108	color	Black
R F design	Peng.Hu	structure design	RuiBin.Zhou
Quality Manager	Jin.Yang	R & D director	Lei.Zhang
Date	2024-05-11		

client confirmation:

Whether the assembly meets your requirements: ☐OK ☐NG

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Change resume

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Index

I、 Project description.....	4
II、 BT antenna.....	4
1、 specifications.....	4
1.1 Electrical specification standard.....	5
1.2 Motherboard antenna end match:.....	5
1.3 Antenna composition.....	5
2、 The Equipment of Active Test.....	6
3、 test.....	7
3.1 The Test of standing Wave (VSWR).....	7
3.1.1 test connection.....	7
3.2 Measurement of Efficiency, Power (TRP) and Sensitivity (TIS).....	7
3.2.1 Test site.....	7
3.2.2 Test instrument.....	7
3.2.3 test data	7-8
4、 conclusion	8
5、 VSWR parameter diagram.....	9
6、 Antenna passive field patter.....	9-10
7、 Antenna Active Field Patterns.....	10-11
8、 Loading Notes:.....	12
III、 schedule drawing.....	13

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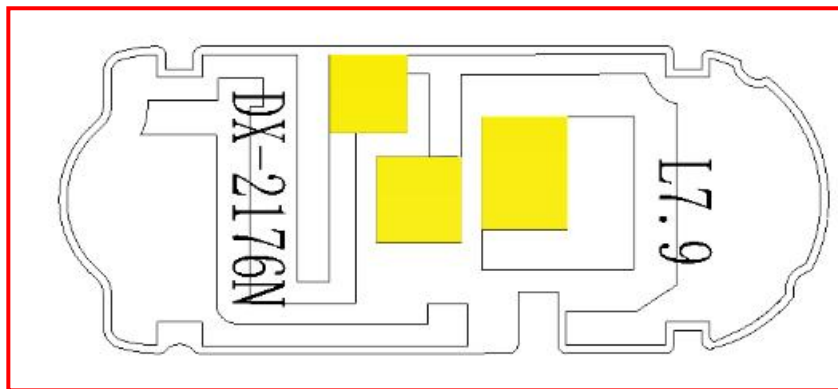
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I、Project description

Customer name:	Cosonic
Whole machine type:	Bluetooth headset
Antenna band:	2400 ~ 2500MHz
Antenna form:	FPC
Feed form:	flick a foot
Number of feed feet:	2 left and right ears
Hardware version:	motherboard:

II、BT antenna

This report provides a variety of measurements of the electrical performance of the CE-2176N antenna. Figure 1 shows the antenna designed by the display.



antenna appearing diagram
Figure 1

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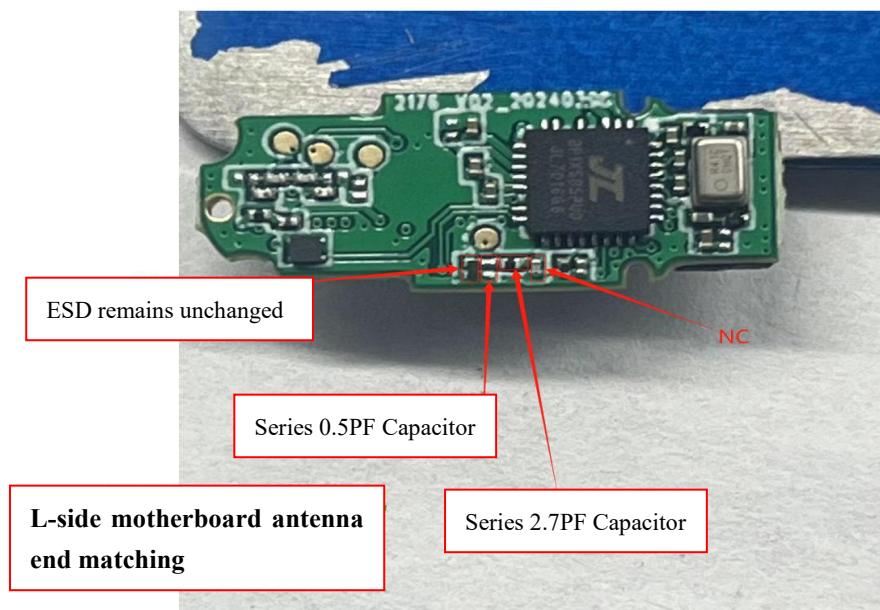
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1.1 Electrical specification standard

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
Left ear BT	2400 ~ 2500	≤ 3

1.2 Motherboard antenna end match:



1.3 Antenna composition

The antenna is mainly composed of FPC.

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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 Active Test:

L (left ear)Free Space			
BAND	CH	TRP	TIS
BT	0	1.97	-86.82
	39	2.67	-87.36
	78	2.51	-87.55

L(left ear)head Mold			
BAND	CH	TRP	TIS
BT	0	-2.63	-81.93
	39	-2.08	-82.2
	78	-1.82	-82.37

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Passive Test: L-side-freedom efficiency

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	18.69	-7.64	-1.2
2410	18.82	-7.6	-1.05
2420	18.96	-7.55	-1.1
2430	18.98	-7.55	-1.14
2440	19.12	-7.5	-0.95
2450	19.44	-7.4	-0.66
2460	19.71	-7.32	-0.61
2470	19.9	-7.27	-0.54
2480	20.05	-6.23	-0.52
2490	20.34	-6.14	-0.38
2500	20.47	-6.11	-0.2

L-side-head mold efficiency:

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	5.34	-12.76	-8.08
2410	5.47	-12.6	-7.81
2420	5.57	-12.48	-7.83
2430	5.65	-12.38	-7.75
2440	5.75	-12.25	-7.37
2450	5.95	-12.03	-6.88
2460	6.11	-11.86	-6.65
2470	6.26	-11.71	-6.47
2480	6.42	-11.54	-6.32
2490	6.62	-11.35	-6.13
2500	6.78	-11.21	-5.77

4、 conclusion:

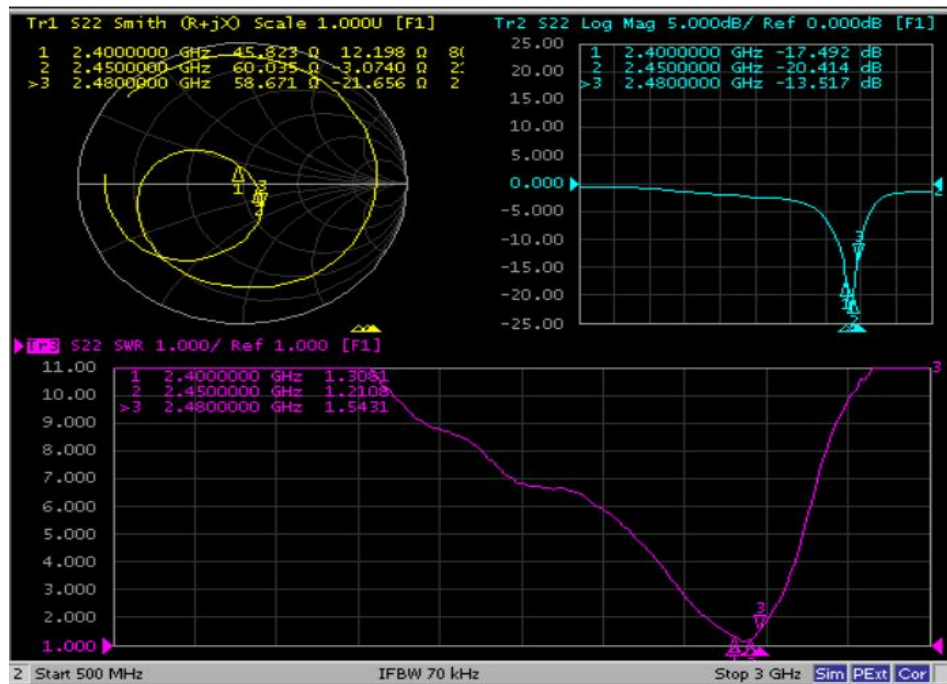
This antenna is designed on the basis of the prototype provided by the customer, electrical parameters and structural performance have reached the technical requirements, please confirm!

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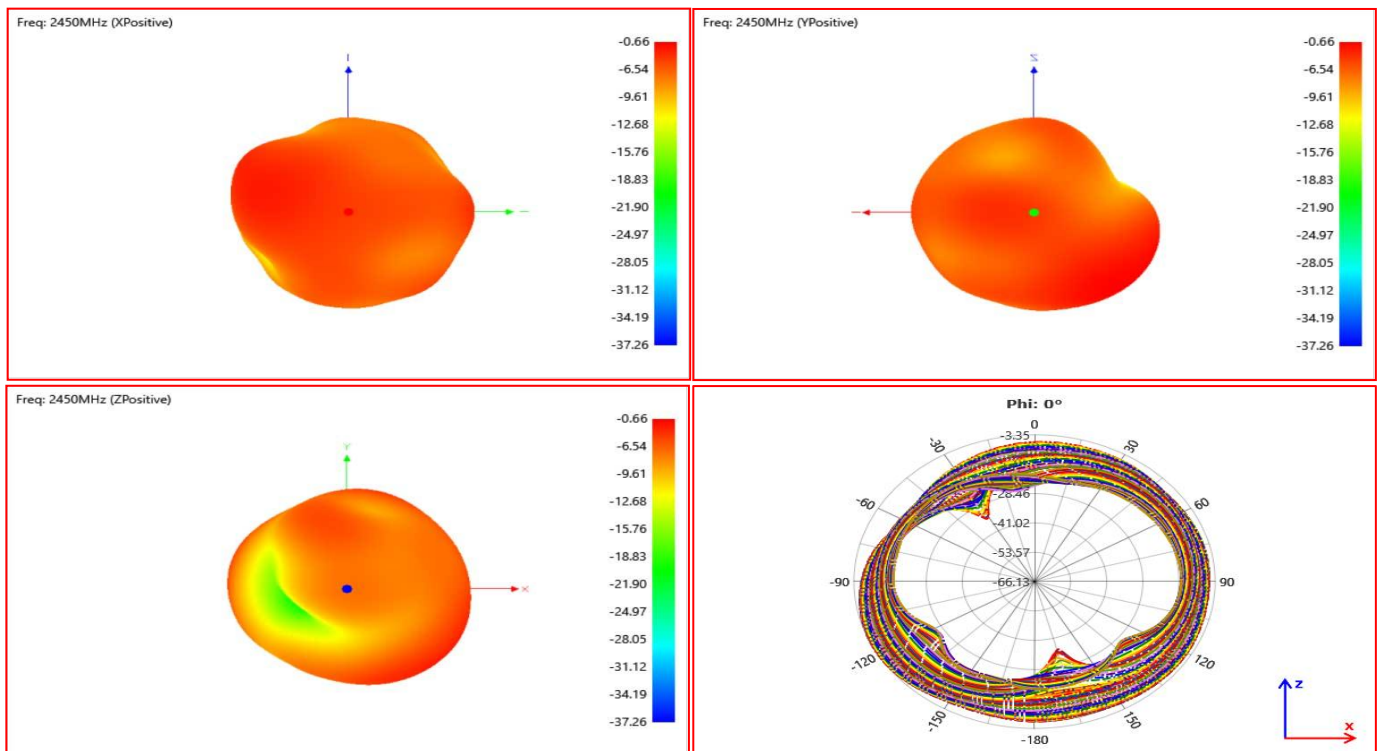
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5、 VSWR parameter diagram-left ear



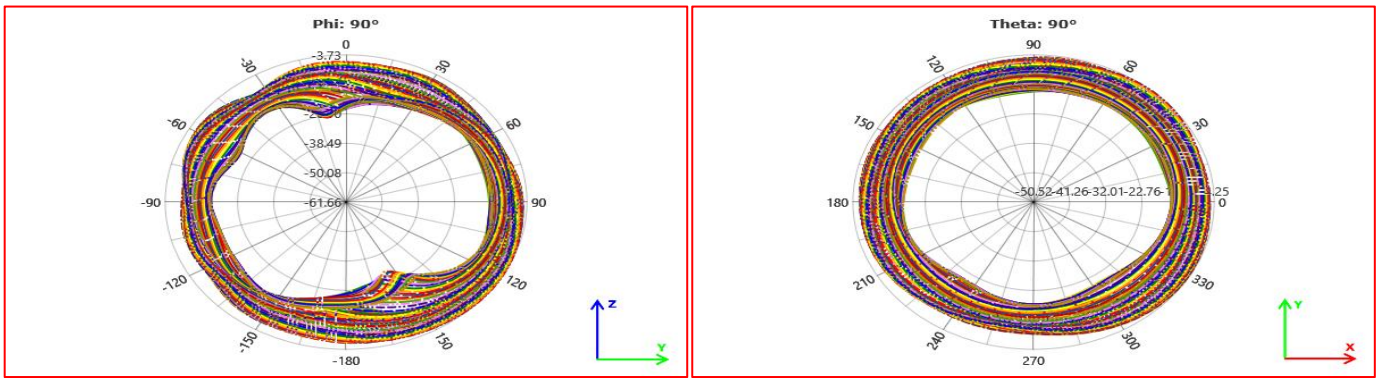
6、 Antenna passive field pattern:



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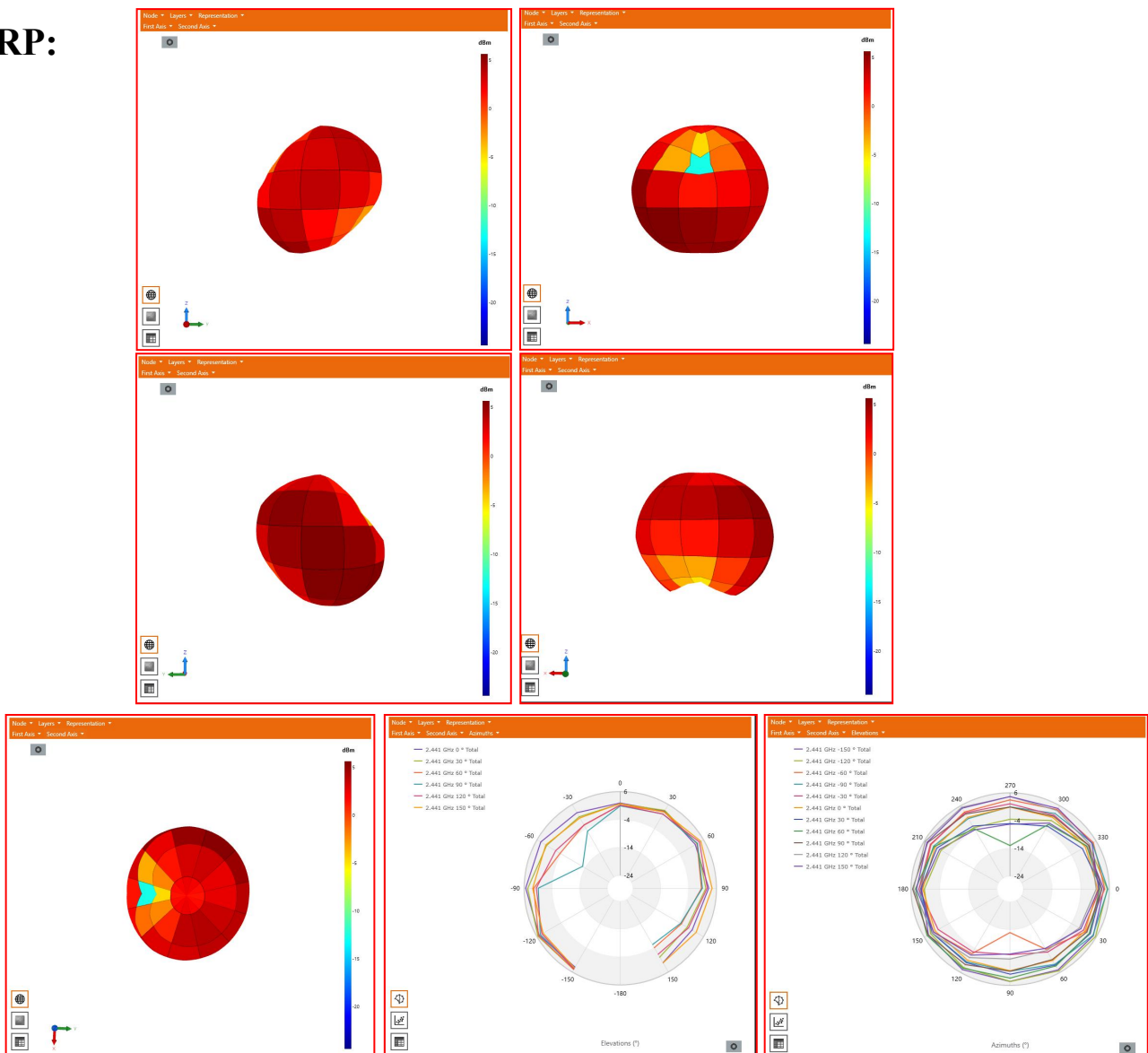
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7、Antenna Active Field Patterns:

TRP:

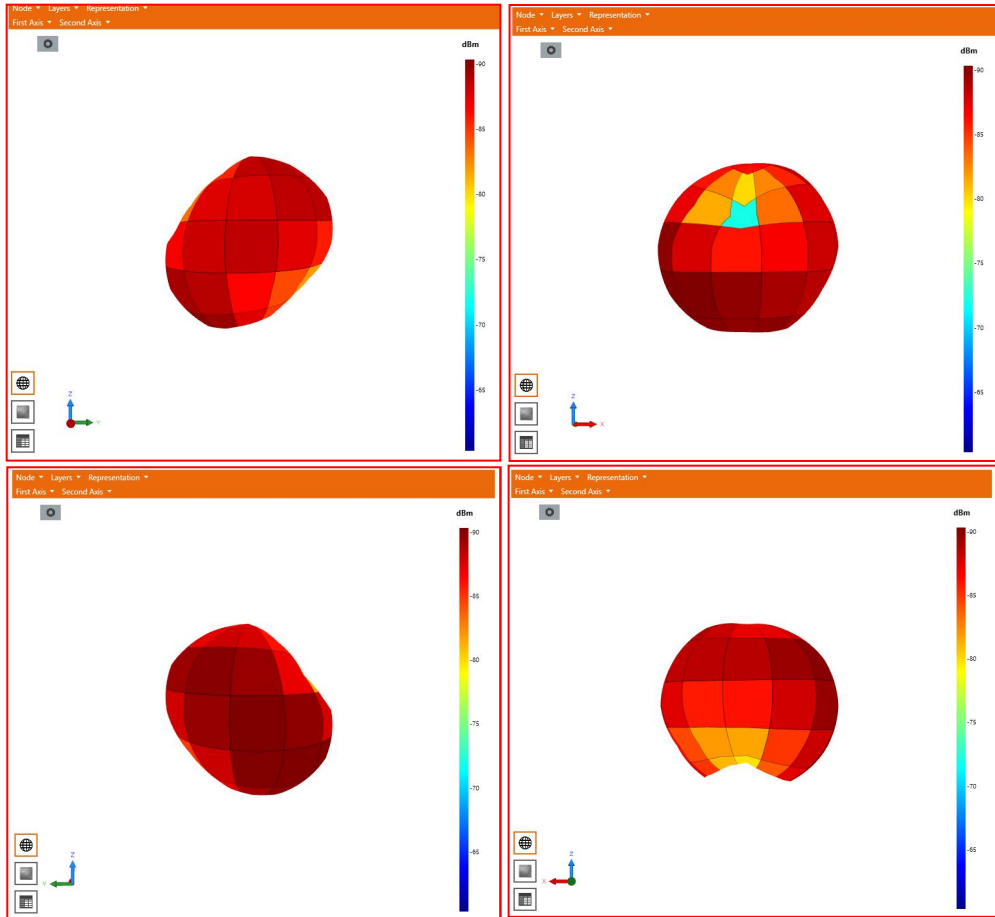


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TIS:

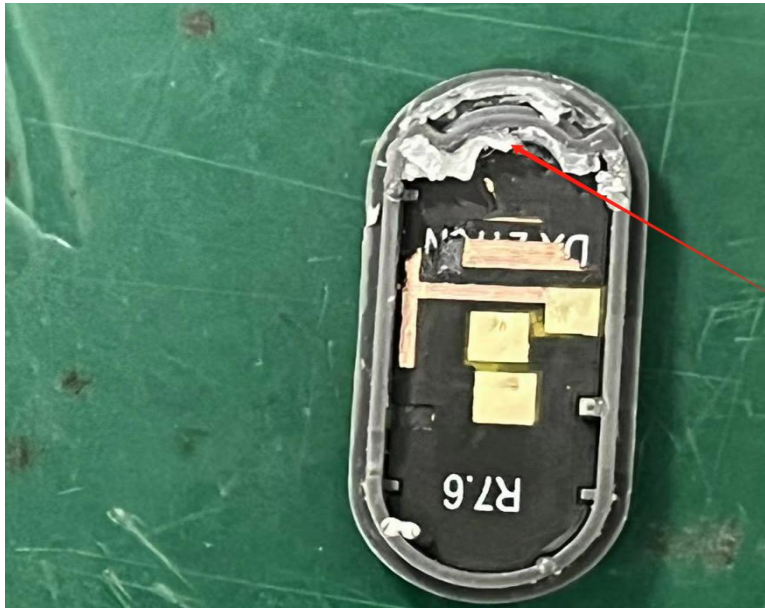


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8、Loading Notes:



Reference picture: need to reduce the control of the amount of glue, can not let the glue directly overflow to the top of the FPC antenna.

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Machine model		CE-2176N		Product Color		black		date		2024/05/11	
Project Code		1E-2176N-108		Mold surface treatment		NA		MD		RUIBIN ZHOU	
Part Name		BT antenna-L		unit		mm		scale		1:1	
Part Number		1E-2176N-108-1		Third perspective		check		RF		PENG HU	
material		Electrolytic copper PI		Third perspective		check		RF		XIHUAN WU	
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