

Material acknowledgement

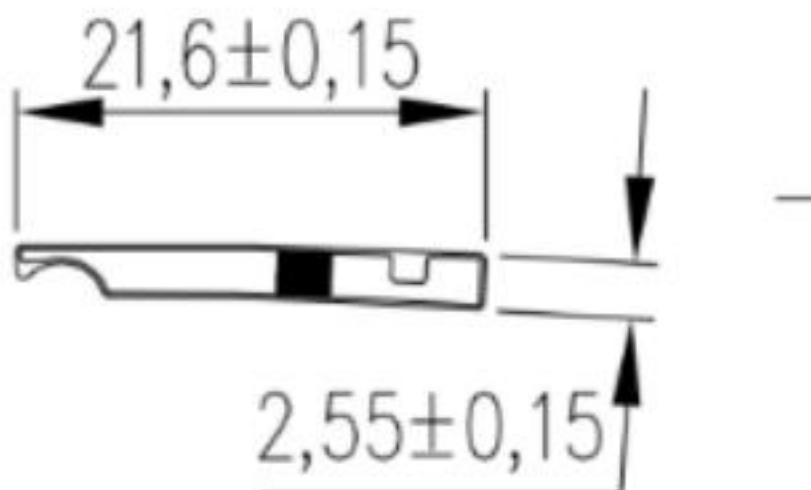
product description	Manufacturer: Shenzhen Yusheng Communication Equipment Co., Ltd Project model:CWS07G Item name: FPC antenna Specifications / Colors: Material code: Sample delivery date: year, month, day Version number: Note: (this cover requires supplier seal) Antenna manufactureraddress: 407-411, 4th Floor, Building 2, South Taiyun ChuangguPark, southeastof the intersection of GuangmingAvenue and DongchangRoad, GuangmingDistrict, Shenzhen				
	☐ sample ☐ Manufacturing flow chart / 2D diagram ☐ Electrical and Mechanical Property Description (Specification) ☐ Full-size measurement report ☐ CPK report ☐ QC schedule drawing		☐ Reliability test report ☐ packaging information ☐ List of raw materials / RoHS & REACH & HF Report ☐ Bill of Materials, MSDS ☐ Environmental material questionnaire		
Supplier audit	Formulation: review: approval: (All of the above require manual signature, and printing is not allowed)				
The above is filled by the supplier, the following is filled by Xiao Che Technology					
discriminate	Confirmation of the person	Confirm content	Confirm the results	Signature of confirmation	Confirmation date
Technical confirmation	ID	☐ Appearance ☐ color ☐ process ☐ material			
	structure	☐ Material ☐ dimension (including the key control dimension annotation) ☐ Specification and technical requirements ☐ adaptation verification			
	hardware	☐ Specification and technical requirements (including electrical performance parameters) ☐ Adaptation to verify the effect			
	quality	☐ RoHS materials ☐ Non-RoHS materials ☐ meet the requirements of REACH ☐ Compliance with halogen free requirements ☐ other environmental requirements			

		test standard confirmation ☐ appearance ☐ normative dimension ☐ reliability confirmation			
Final confirmation	project	☐ Acknowledge the integrity of the document ☐ dimension dimensions ☐ Appearance ☐ Electrical performance parameter ☐ function ☐ effect			
condition of recognition:	☐ formal admission ☐ Limited recognition (Limited _____ PCS) ☐ disallow				
Distribution Department:	☐ Supplier ☐ Factory IQC ☐ Quality ☐ Project ☐ After-sales ☐ Customer ☐ Other _____				

Antenna type: FPC antenna

Antenna material: Copper foil

Antenna size:: 21.6mm*2.55mm



Catalogue

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1. Overview

1.1 Scope of application

This requirement specifies the antenna technical requirements and material requirements for CWS07G products.
This requirement applies to the selection, testing and acceptance of CWS07G antennas.

1.2 Basic information of the project

Antenna name:	<u>CWS07G</u>
Antenna band:	BT
Antenna material:	FPC

2. Technical index requirements

2.1 Introduction of test items and equipment

inventory	test item	equipment
Active testing	TRP,TIS	Comprehensive test instrument, microwave anechoic chamber

2.2 Active reporting

2.2.1 Test description

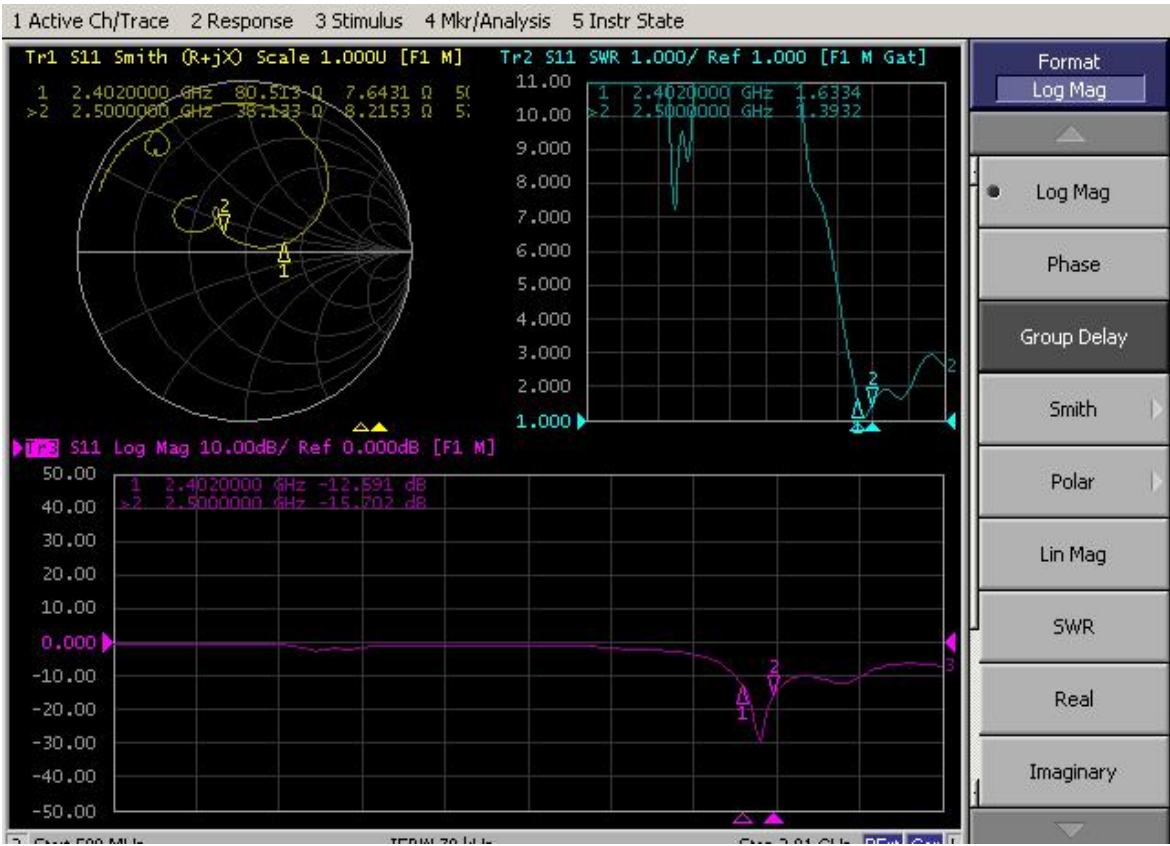
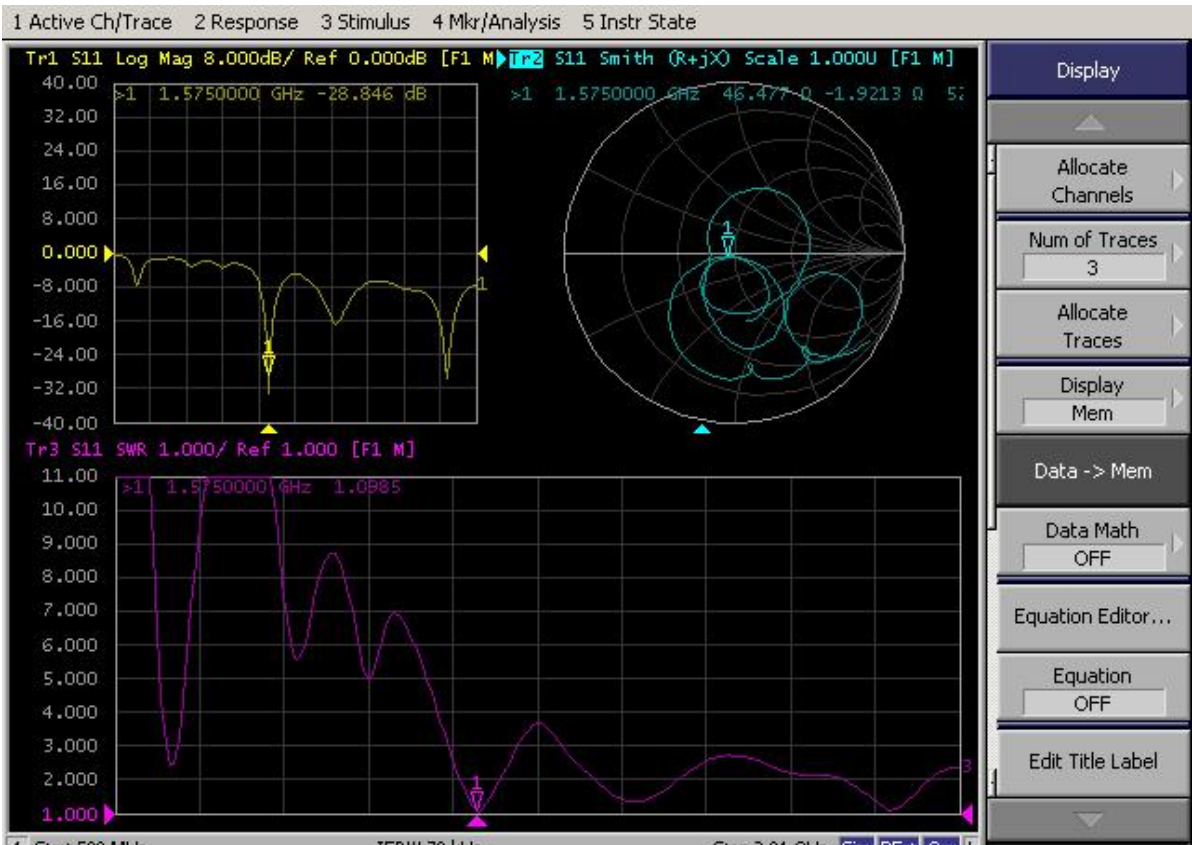
Test tools: Agilent8960 comprehensive tester, R&SCMW500, full wave far field ETS anechoic chamber, high precision positioning system and its controller, and computer with automatic test program

Test environment: temperature $22^{\circ}\text{C}\pm 3^{\circ}\text{C}$, humidity $50\%\pm 15\%$

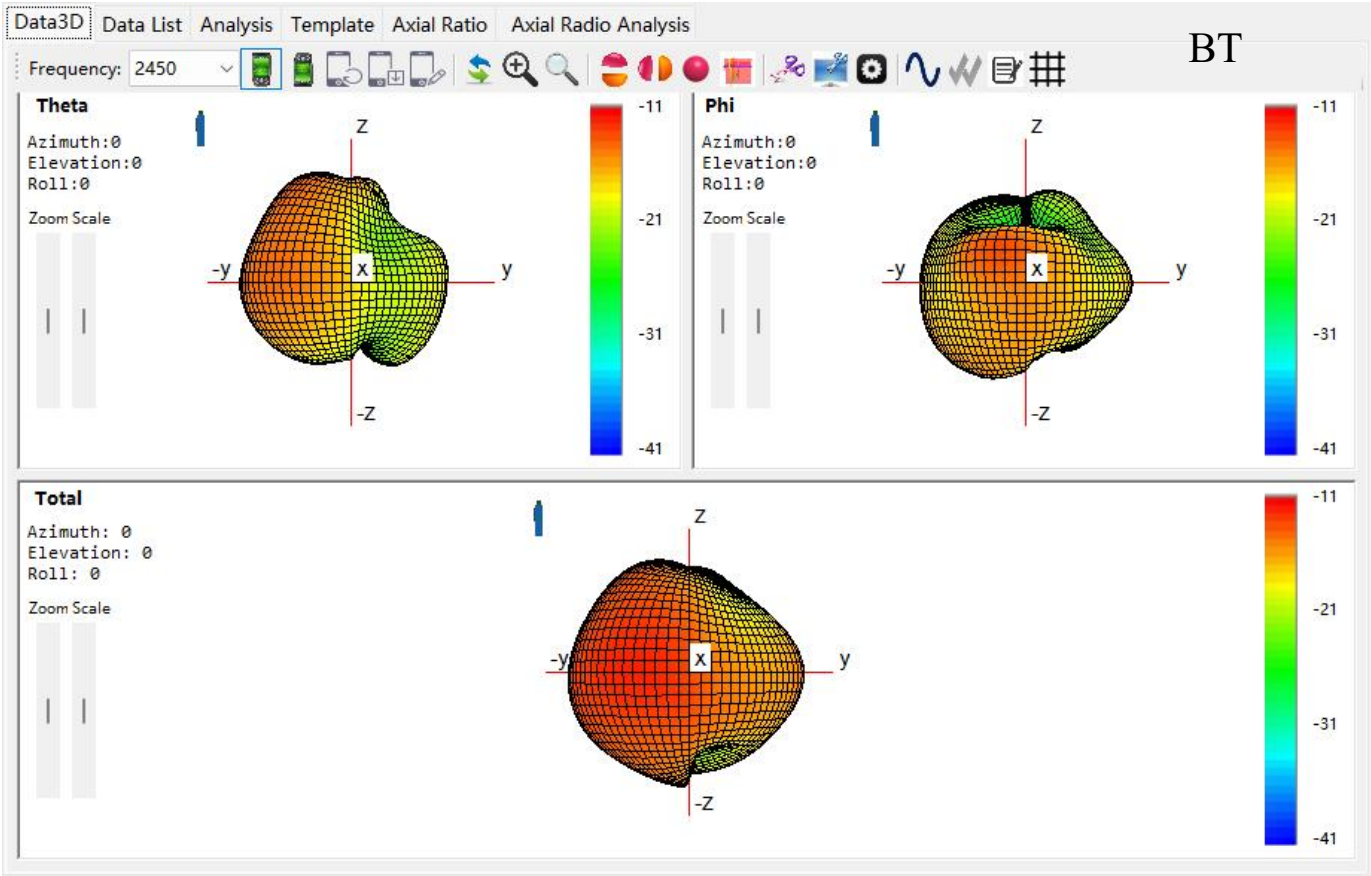
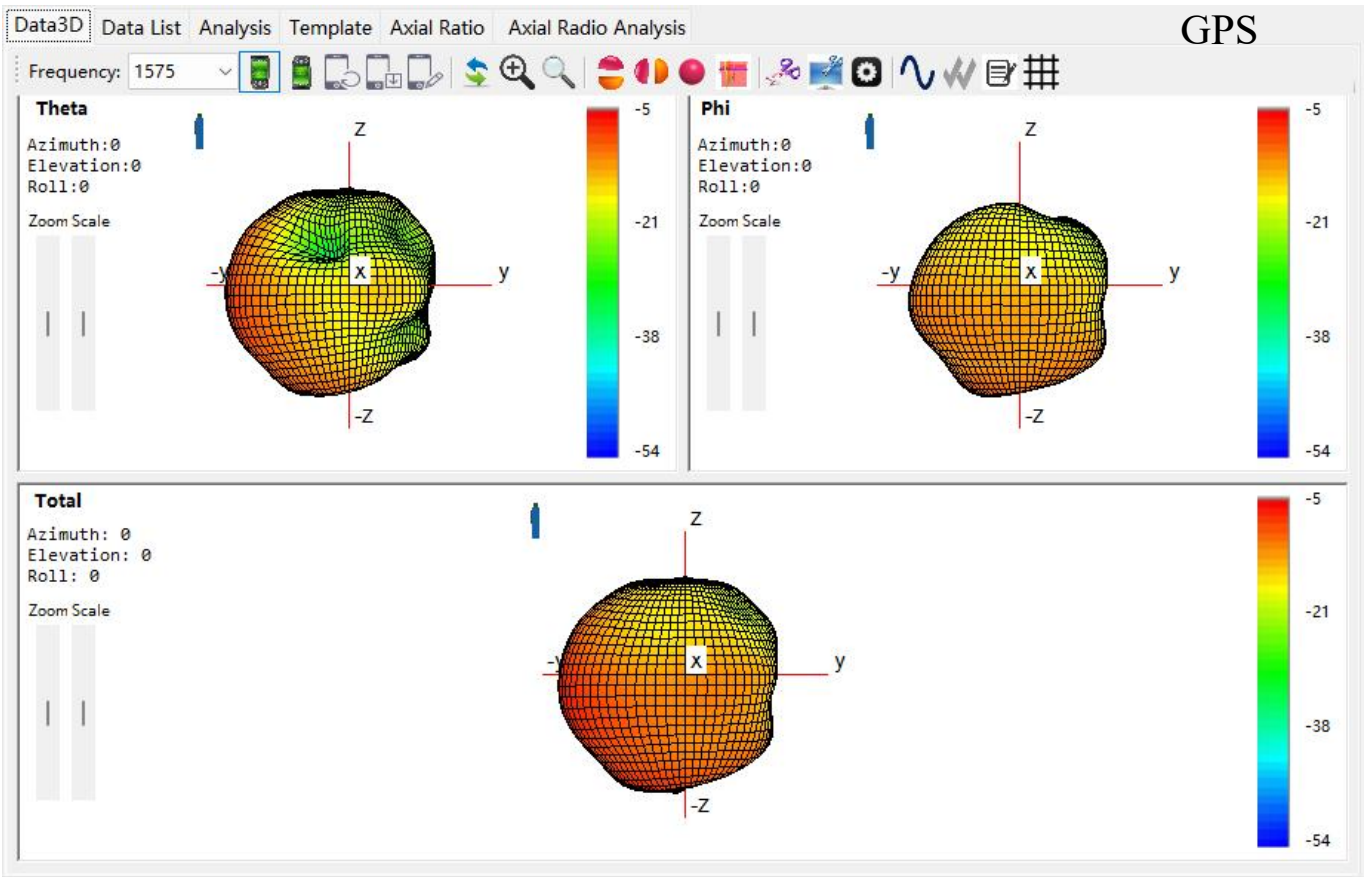
Test method: The DUT is placed at the center of the turntable in H plane and fixed, and the center of the speaker antenna is on the same horizontal line.

The positioning system enables the DUT to rotate on the whole sphere to meet the requirements of high-precision three-dimensional positioning. Each RF instrument, turntable controller and PC with automatic test software communicate through the GPIB interface.

2.2.2 Passive diagram



2.2.3 Passive direction pattern/field pattern

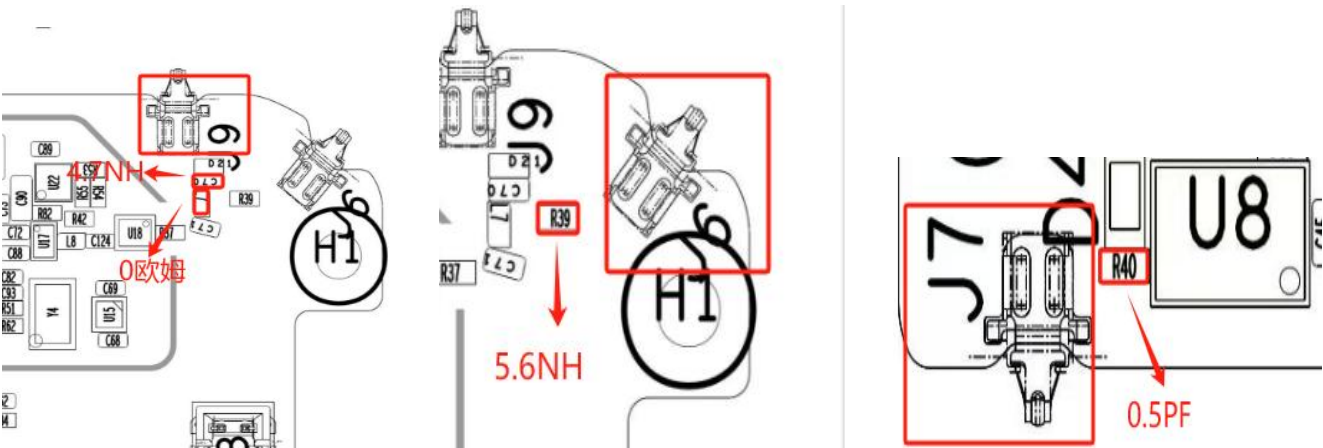


2.2.4Antenna efficiency parameter test situation (ARM)

GSP ARM	frequency point	productiveness %	productiveness db	gain
	1550	5%	-12.7	-9.3
	1555	6%	-11.9	-8.9
	1560	6%	-12.0	-8.7
	1565	6%	-12.3	-8.7
	1570	6%	-12.0	-8.6
	1575	6%	-11.9	-8.3
	1580	6%	-11.9	-8.4
	1585	6%	-11.9	-8.6
	1590	6%	-11.9	-8.7

BT ARM	frequency point	productiveness %	productiveness db	gain
	2400	4.8%	-13.2	-12.6
	2410	4.9%	-13.1	-12.4
	2420	5.2%	-12.8	-12.1
	2430	5.3%	-12.8	-11.8
	2440	5.2%	-12.8	-11.5
	2450	5.4%	-12.7	-11.3
	2460	5.1%	-12.9	-11.1
	2470	5.0%	-13.0	-12.7
	2480	4.8%	-13.2	-12.6
	2490	4.7%	-13.3	-13.1
	2500	4.6%	-13.4	-13.4

2.2.5 GPS matching

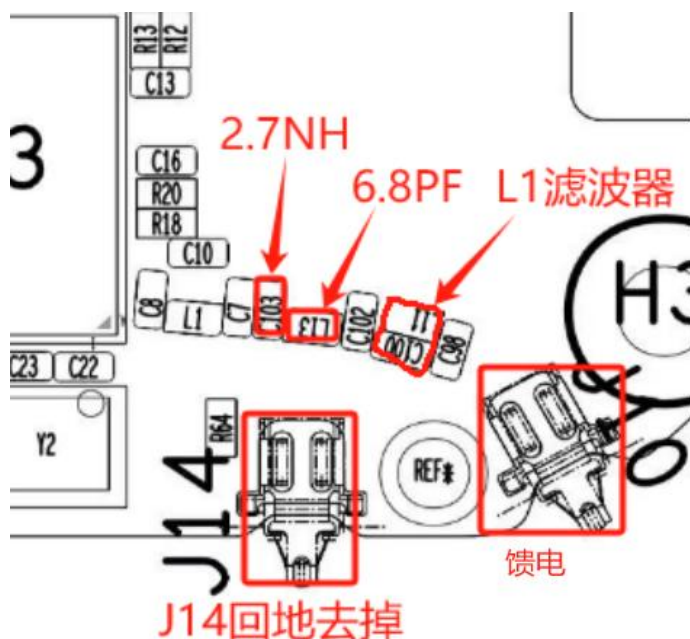


GPS main road matching
The shrapnel uses the J9 feed
point
C70 is 4.7NH/L and 7 is 0 ohm

Back to the drawing board
The shrapnel uses J6 return feet /
R39 to attach 5.6NH

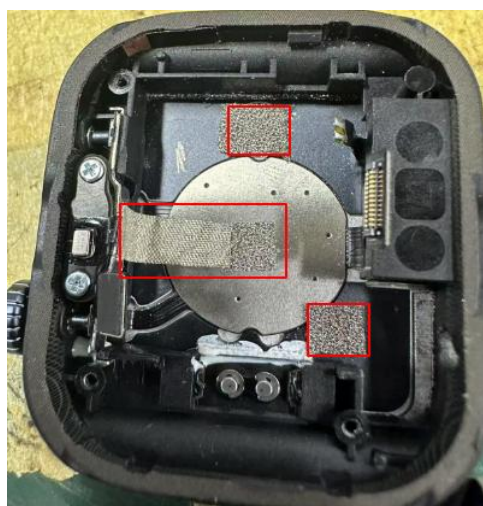
Back to the drawing board
The shrapnel uses J7 return feet /
R40 to attach 0.5PF

2.2.6 BT matching



The shrapnel is powered by J10
Filter-L11 is 3NH and C100 is 3.6PF
L13 is attached to 6.8PF
L103 is posted at 2.7NH

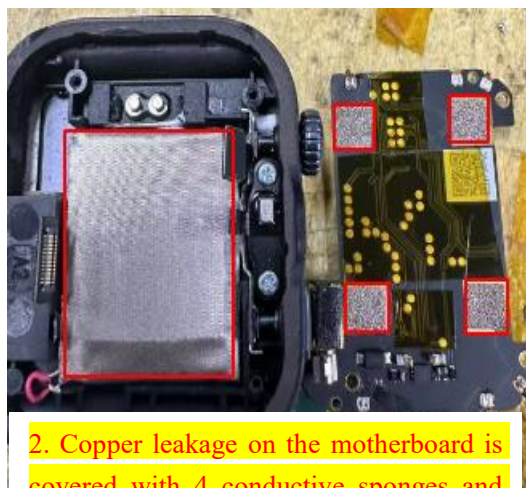
2.2.7 Environmental treatment



1. The bottom shell is grounded with conductive sponge by laser engraving at two places

The key steel plate and the heart rate board are attached with conductive cloth

The heart rate plate is attached to the conductive sponge and grounded to the battery



2. Copper leakage on the motherboard is covered with 4 conductive sponges and battery grounding/battery conductive cloth wrapping



3. The display screen is made of conductive cloth, and the main board components are insulated with insulating glue

2.2.8Whole machine CN value test



3. Bill Of Material



Shenzhen Yusheng Communication Equipment Co,LTD

604050 (CWS07G) BOM

edition: R:A

client: 604

Type of aircraft: 604050

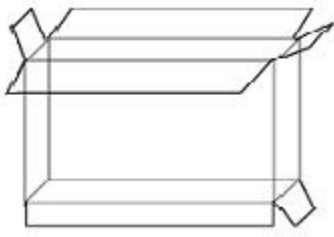
Set a date: 20250524

Item numb	* Material code	* Material	Material class	*Machine type	Specifiation and model	colour	*unit.	dosage	remark
1	604050-IA-RA	BT-FPC		CWS07G	BT-FPC white Electrolytic copper (half to half) gilt 21.60*2.55*0.12MM	white	PCS	1	
1.1	604050-IA-01-RB	BT-FPC		CWS07G	BT-FPC white Electrolytic copper (half to half) gilt 21.60*2.55*0.12MM	white	PCS	1	
verify: examine: manufacture: BYZ									

4. 2D drawings

1		2		3		4		5		6		7		8	
A															
由本公司制作															
skills requirement:															
1. PFC substrate specifications:		PI substrate:		Electrolytic copper (half to half)											
		Electrolytic copper:		0.5oz (ED)											
		Double-sided tape:		3M-9471LSE											
2. Electroplating specifications:		Nickel plated:		3*8mm											
		Surface ink color:		White											
3. Surface ink requirements:		Printing font color:		Bright black											
		Printing font height:		According to drawings											
4. Reliability requirements:		1. Reliability test: salt spray test\rubber friction test\alcohol resistance test\100 grid test. 2. The front ink, the surface of the ink is required to be folded in half without cracking, scratching, etc.													
5. Tolerance requirements:		1. Shape tolerance ± 0.10 ; 2. Copper foil circuit tolerance ± 0.05 ; 3. The position of the copper foil to the shape is ± 0.15 ; 4. Hole-to-hole position tolerance ± 0.10 ; hole-to-shape position tolerance ± 0.15 ; 5. The size tolerance of gold finger is ± 0.20 . 6. For other unmarked dimensions, refer to 2D drawings.													
6. Key control size:		The dimensions marked with numbers are regarded as important dimensions, and the others refer to 2D drawings													
7. Environmental requirements:		Parts meet ROHS2.0/REACH/CP environmental protection requirements													
8. Packaging requirements:		Packed in PE bags, the quantity of each bag is 100PCS, there is a mark on the outside of the bag													
DATE		Modify the content		Version		Revise									
1		2		3		4									
Shenzhen Yu Sheng Communication Equipment Co., Ltd.															
		0~10		± 0.10				Model		CMS07G		DATE		20250618	
		10~20		± 0.12				Name		BT-FPC		Design		JTB	
		20~40		± 0.15				Part NO		604050-1A		Review		MD JTB	
		40~50		± 0.20				Material quality		Electrolytic copper (half to half)		confirm		RF CMH	
		位置						Weld surface treatment				UNIT		mm	
		6		7		8		Appearance treatment				mm proportion		FIT	
		5		6		7		8		R. A					
D															

5. Packaging diagram

Packaging method diagram		
product name	FPC antenna	
Project model	<u>CWS07G</u>	
Details of packing	Carton size 1: 270*260*200MM Carton size 2: 260*200*200MM Carton size 3: Depending on the quantity/volume of orders	
	Packaging method	It depends on the project
	Total number of boxes packed	Pack according to order quantity
labeling requirement	Tag size 1: General 100 by 100mm Tag size 2: At the customer's request	
matters need attention		
1. Due to the limitation of order quantity, the packing method of each material is selected according to the total quantity of the order or the actual volume of the box		
2. Storage temperature: room temperature		
3. Storage conditions: store in a cool and dry place		