

Shenzhen Hetuo Technology Co., LTD

Sample Approved Sheet

Hetuo (HT-ZC07-V4) Acknowledgment

Customer Name Shenzhen Zhenchen Electronic Technology Co.,

Client Type ZC07

Brand HT-ZC07-V4

Hetuo Judgment Audit Team

Formulate	Check	Ratify	Acknowledge the book completion time
Zhongxiaoming	Huxuewen	Daitingting	2023.01.09

Zhenchen (Client) Judgment Audit Team Acknowledgement Number

Proving time

acknowledge	check	ratify	Acknowledge the book completion time
<p>Project Review <input type="checkbox"/>Three acknowledgements<input type="checkbox"/>Specifications/drawings <input type="checkbox"/>examining report <input type="checkbox"/>Specimen PCS <input type="checkbox"/>Safety standard <input type="checkbox"/>HSF</p>			
Appraisal report	<input type="checkbox"/> Accept	<input type="checkbox"/> Conditional acceptance	<input type="checkbox"/> Refuse

Confidential Information

1. **Antenna picture** The report mainly provides the test status of the electrical properties parameters of **HT-ZC07-V4**. The **HT-ZC07-V4** antenna is a **BT** Band. The antenna Picture and assembly are shown below.



FPC Antenna picture & assembly picture

2. Antenna Test Equipment Introduction

Test of antenna input characteristics using Agilent E5071C and Agilent 5062A vector network analyzer; The radiation pattern of the antenna are tested using the Satimo starlab 3D near field Anechoic Chamber , and the instrument is used to agilent8960 E5515 and Agilent E4438C. The test coordinates of the darkroom are as follows:

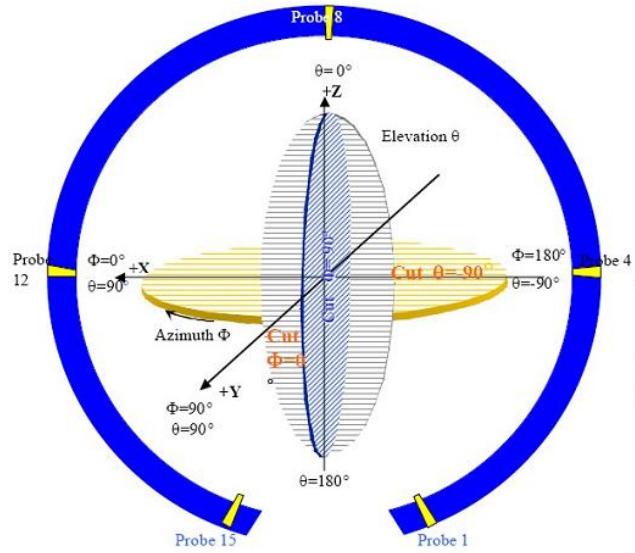
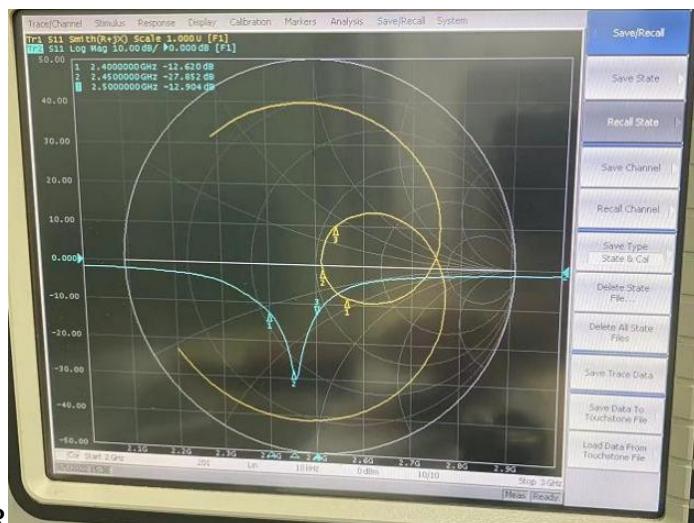


图 4 3D 微波暗室测试坐标系 (back view)

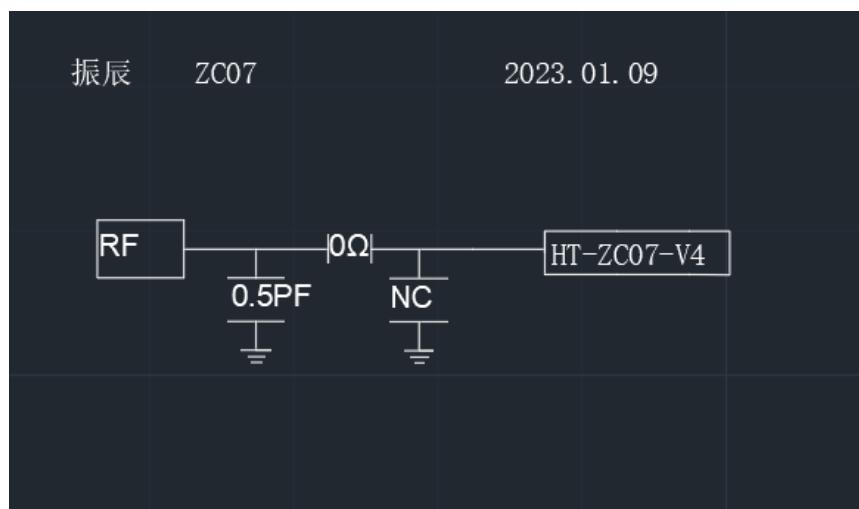
3. Electrical Specification 3-2 Passive S11 parameter

Measuring Method is a 50Ω coaxial cable is connected to the antenna. Then this cable is connected to a network analyzer to measure the S11 parameter, Keeping this fixture away from metal at least 20cm.



VSWR

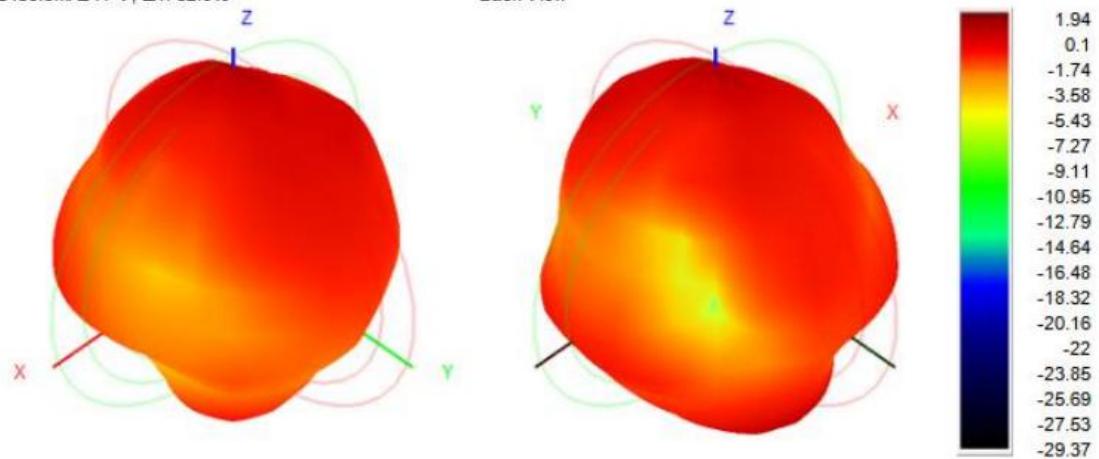
3-3 Antenna Matching Network



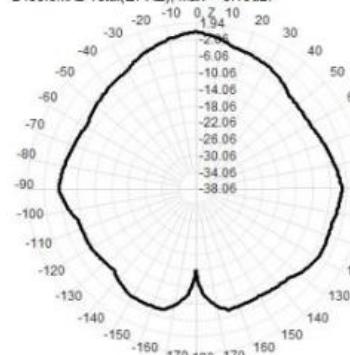
Frequency (MHz)	Efficiency (%)	Peak GAIN (dBi)
2400	28.59	1.27
2410	29.70	1.29
2420	30.72	1.40
2430	32.38	1.70
2440	32.84	1.71
2450	32.75	1.94
2460	33.77	2.22
2470	33.37	2.30
2480	32.76	2.50
2490	31.96	2.44
2500	29.78	2.10

Confidential Information

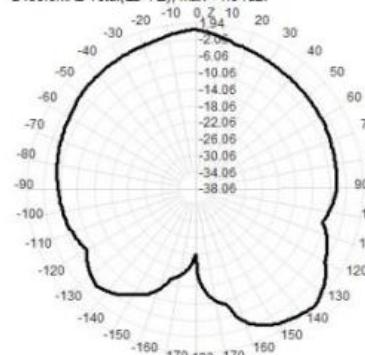
2450.0MHz H+V, Eff: 32.8%



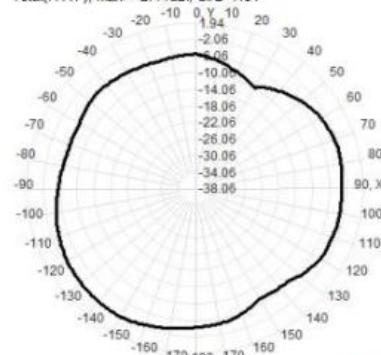
2450.0MHz Total(E1-XZ), Max= -0.18dBi



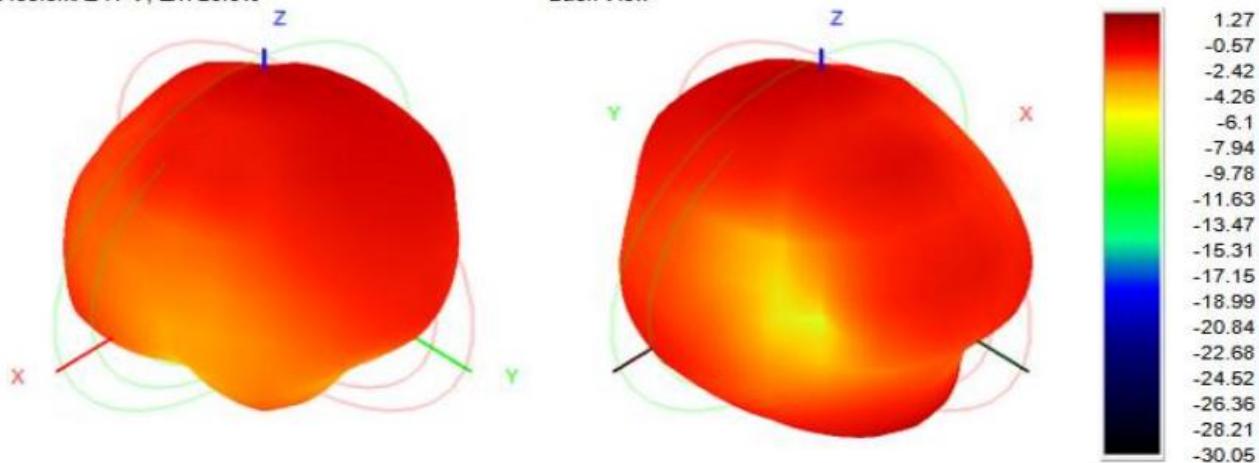
2450.0MHz Total(E2-YZ), Max= 1.94dBi



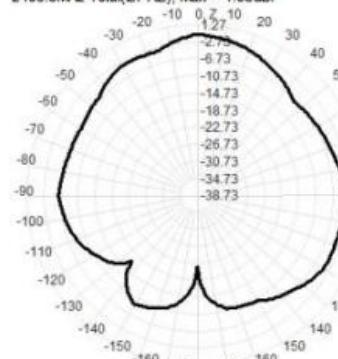
Total(H-XY), Max= -2.44dBi, CirD=7.51



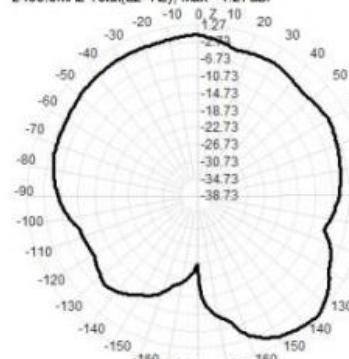
2400.0MHz H+V, Eff: 28.6%



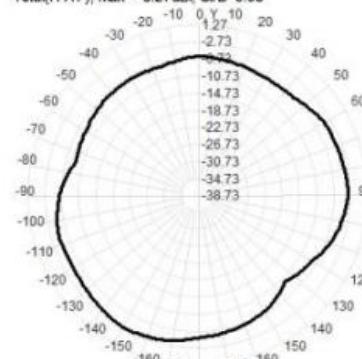
2400.0MHz Total(E1-XZ), Max= -1.05dBi

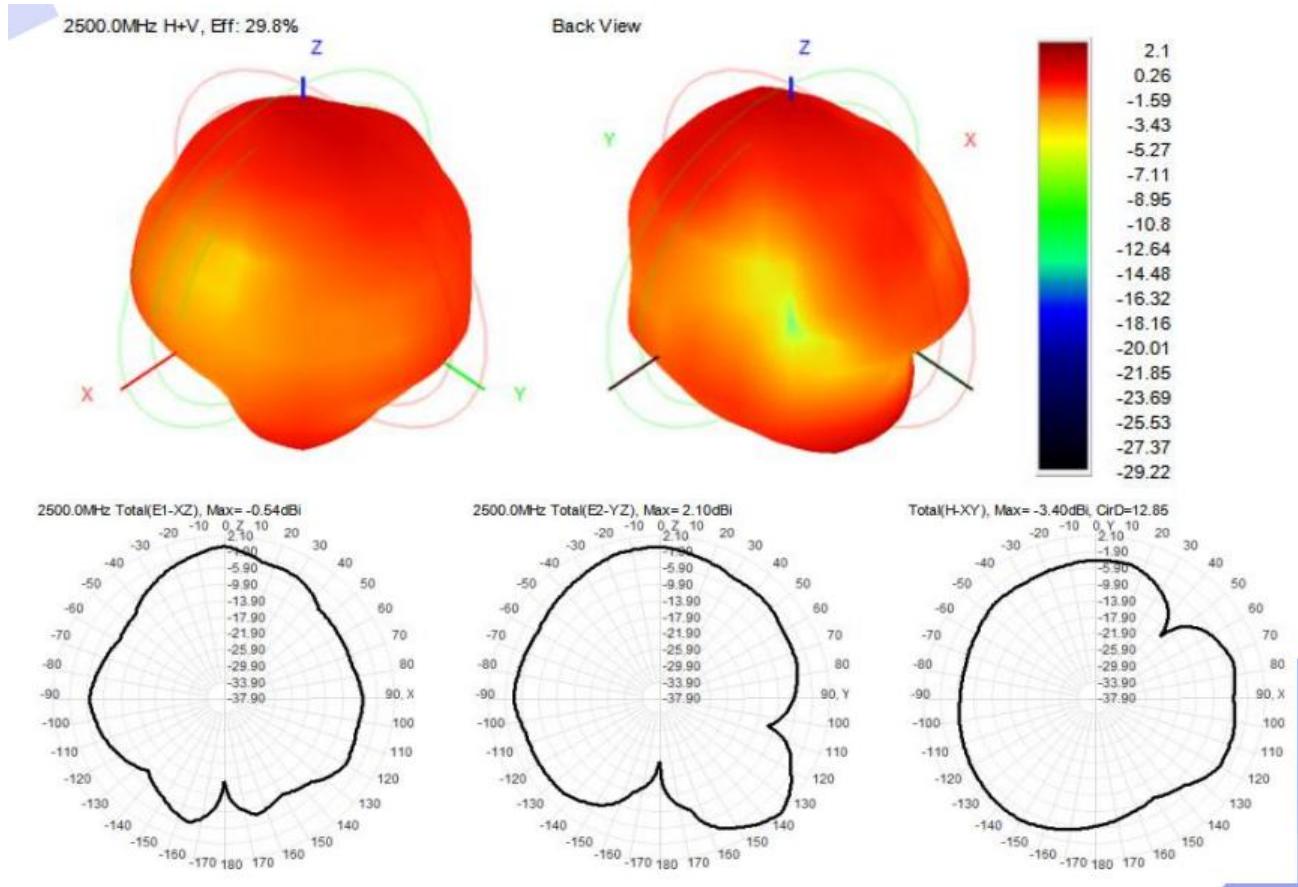


2400.0MHz Total(E2-YZ), Max= 1.27dBi



Total(H-XY), Max= -3.27dBi, CirD=6.85





4. Mechanical Specification:

Mechanical Configuration (Unit: mm)

The appearance of the antenna is according to drawing Figure 8

FOR DESIGNER	83
FOR INSPECTOR	
FOR EVALUATION	
APPENDIX	
REFERENCE	

FOR DESIGNER	1
FOR INSPECTOR	
FOR EVALUATION	
APPENDIX	
REFERENCE	

FOR DESIGNER	2
FOR INSPECTOR	
FOR EVALUATION	
APPENDIX	
REFERENCE	

FOR DESIGNER	3
FOR INSPECTOR	
FOR EVALUATION	
APPENDIX	
REFERENCE	

FOR DESIGNER	4
FOR INSPECTOR	
FOR EVALUATION	
APPENDIX	
REFERENCE	

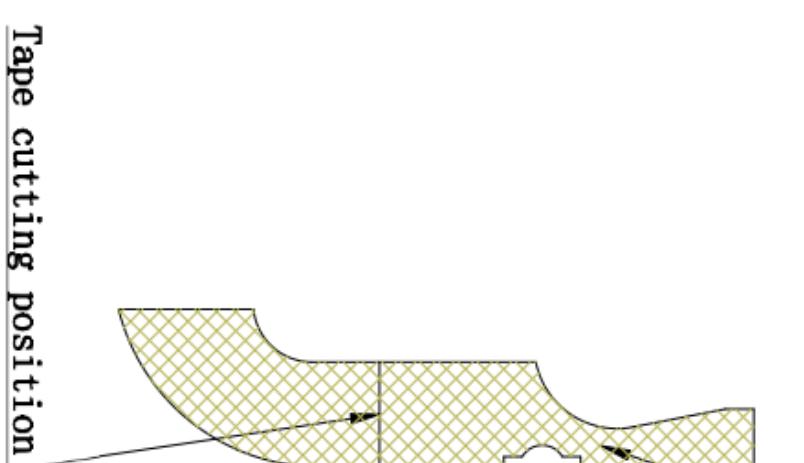
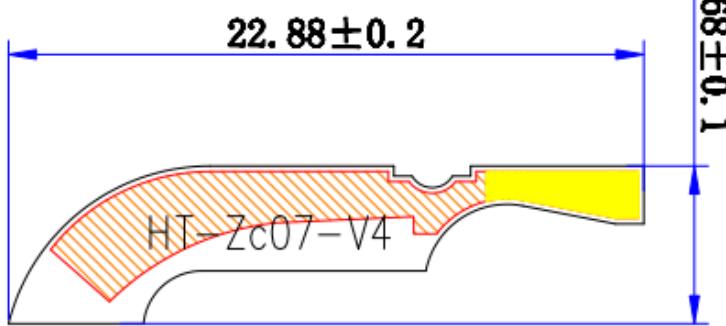
FOR DESIGNER	5
FOR INSPECTOR	
FOR EVALUATION	
APPENDIX	
REFERENCE	

FOR DESIGNER	6
FOR INSPECTOR	
FOR EVALUATION	
APPENDIX	
REFERENCE	

Technical requirements:

1. It shall comply with EU RoHS and REACH, see the appendix for details;
2. Single machine consumption: 1 PCS
3. For the part of FPC copper wiring on surface A, surface B represents 3M 9448A T=0.1mm
4. The total thickness of FPC is 0.11~0.15 mm (excluding the adhesive backed release paper, and the contact point needs to be subject to the 3 mil gilding process
5. Please use P11 to 1 material, electrolytic copper; Screen printed white characters with black ink on the surface
6. The ink does not contain carbon or metal particles, and the surface is UV resistant and UV resistant;
7. High temperature oxidation resistance: after 40 minutes at 200 ° C, a small amount of oxidation points are allowed on the smooth surface of copper foil, Within each 300mm * 300mm area, the number of oxidation points shall not exceed 2, which shall be made into a whole row and cannot be single;

Tape cutting position



Glue surface area

SHEN ZHEN HETUO TECHNOLOGY Co., LTD											
DRAWN BY [Signature]											
DESIGNED BY [Signature]											
CHECKED BY [Signature]											
APPROVED BY [Signature]											
PART NAME: HT-20230109001-ZC07											
TOLERANCES: ±0.1mm											
MATERIAL: HT-Zc07-V4											
TREATMENT: A4											
CUSTOMER REV: ZC07											
SCALE: 1:1											
UNITS: MM											
USED IN: SHEET 1 OF 1											
DATE: 08/09/2023	DRAWING NO: 08230109001-ZC07										
DESIGNING NAME: HETUO-ANT-FPC-INSTANT	REV: 0										