

Sample Approved Sheet

Hetuo（BS510AE-L） Acknowledgment

Customer Name Jinshang Technology (Shenzhen) Co., Ltd

Client Type BS510AE

Brand BS510AE-V5.1 L-V1.0

Hetuo Judgment Audit Team

Formulate	Check	Ratify	Acknowledge the book completion time
Zhang ji	Huxuewen	Daitingting	2024.4.22

（Client） Judgment Audit Team

Acknowledgement Number Proving time

acknowledge	check	ratify	Acknowledge the book completion time

Project Review ☐Three acknowledgements☐Specifications/drawings

☐examining report ☐Specimen PCS ☐Safety standard ☐HSF

Appraisal report☐Accept ☐Conditional acceptance ☐Refuse

1. Antenna picture

The report mainly provides the test status of the electrical properties parameters **BS510AE**. The **BS510AE** antenna is a **2.4-2.5GHz** Band . The antenna Picture and assembly are shown below.



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:

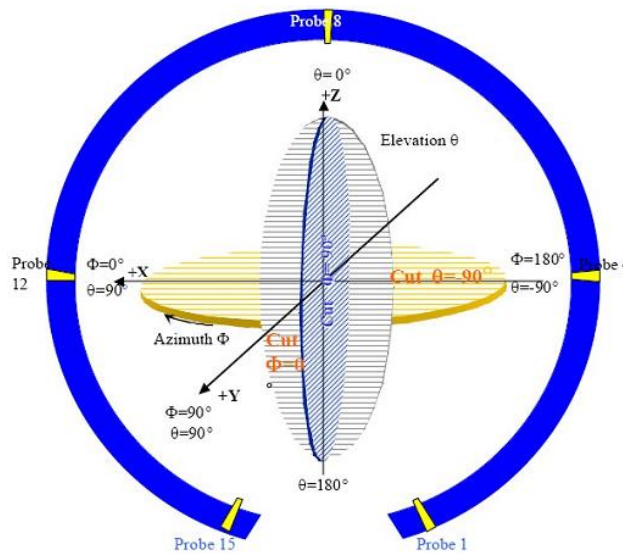


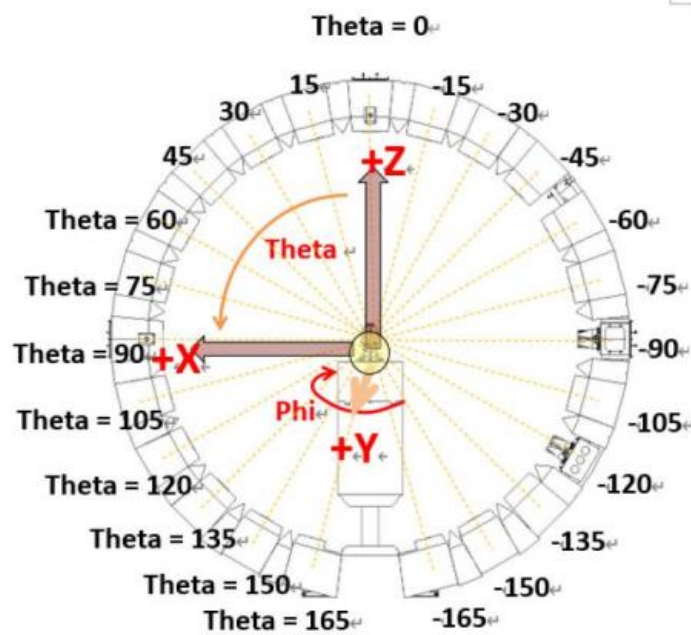
图 4 3D 微波暗室测试坐标系 (back view)

3. Electrical Specification

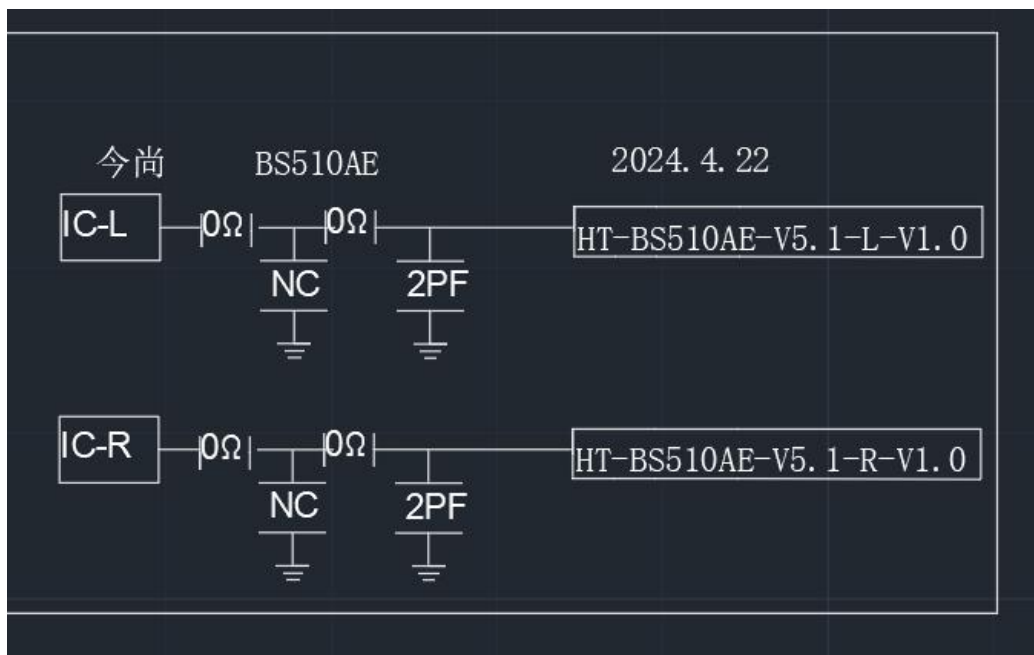
3-2 Passive S11 parameter

Measuring Method is a $50\ \Omega$ 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.

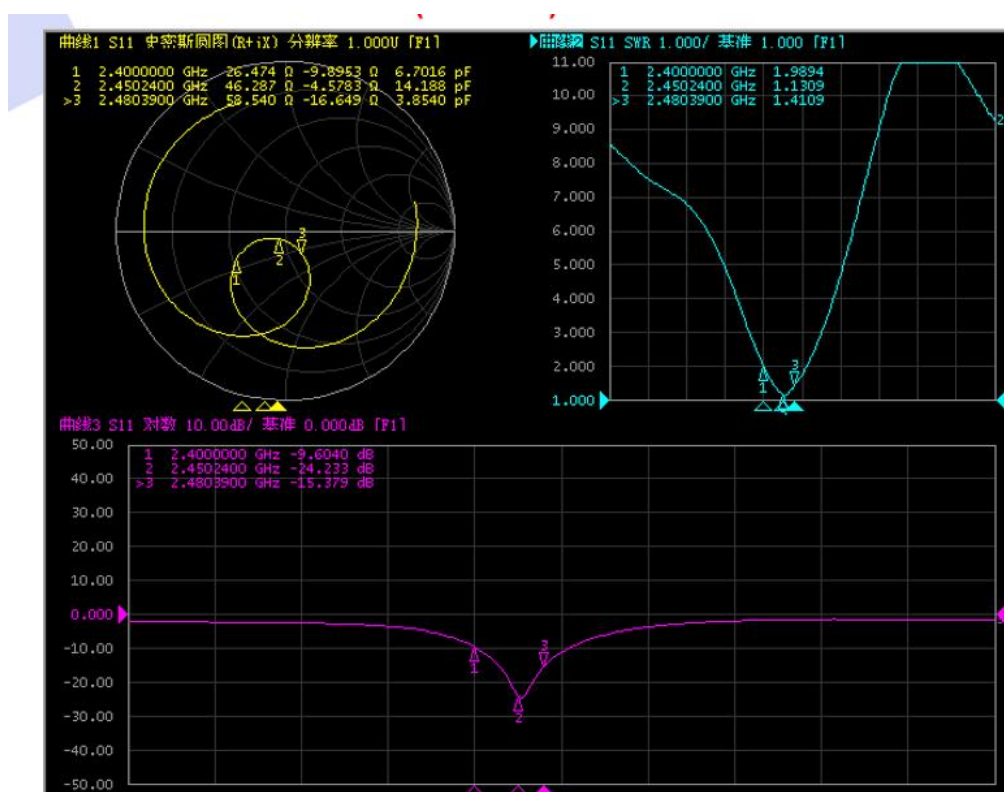
Sample status & coordinates



VSWR



S11--(BT ANT)



3-3 Antenna Matching Network

Gain&Efficiency-----BT-ANT

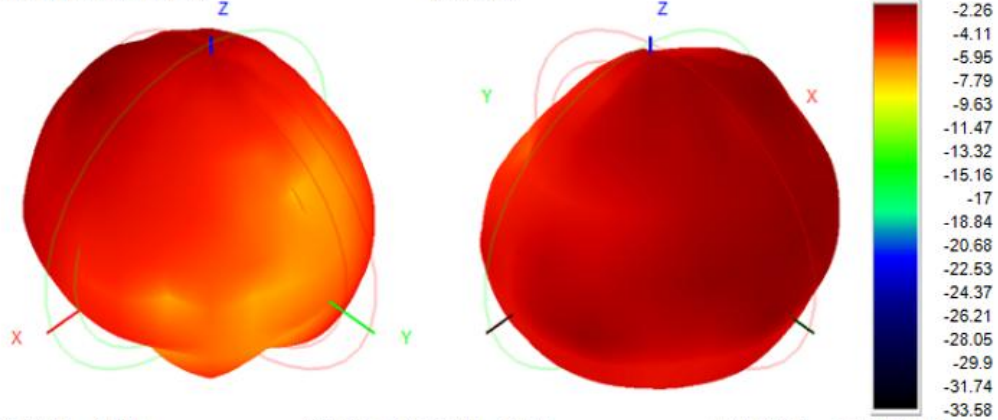
Gain & Efficiency—BT- ANT(L)

Frequency (MHz)	Efficiency (%)	Peak GAIN (dBi)
2400	22.51	-2.26
2410	24.90	0.28
2420	26.79	0.32
2430	29.40	0.48
2440	30.32	0.58
2450	31.15	-0.48
2460	29.86	0.38
2470	29.30	0.42
2480	25.82	0.52
2490	25.62	0.37
2500	23.17	-2.13

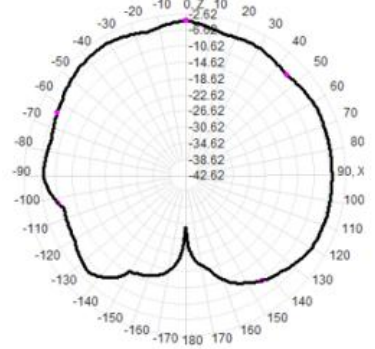
2D&3D BT- ANT

2400.0MHz H+V, Eff: 22.5%

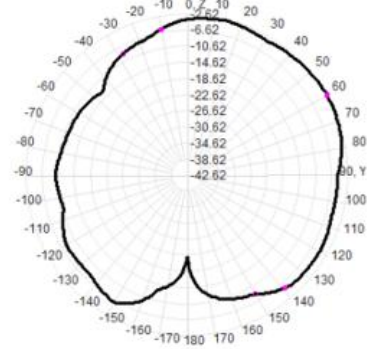
Back View



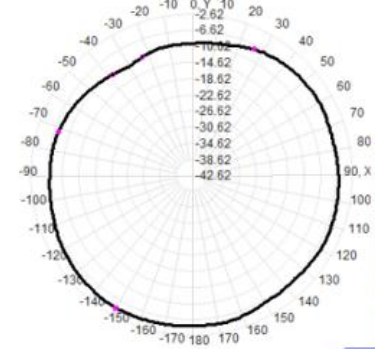
2400.0MHz Total(E1-XZ), Max=-4.31dBi



2400.0MHz Total(E2-YZ), Max=-2.62dBi



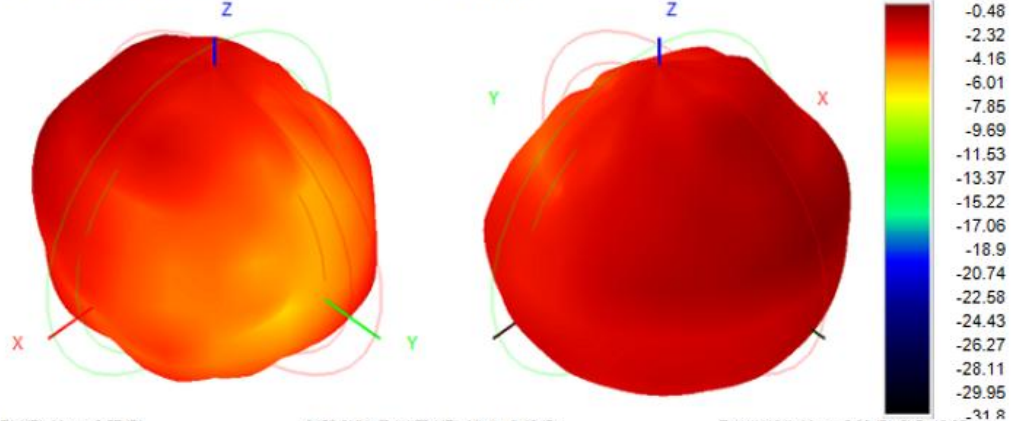
Total(H-XY), Max=-4.83dBi, CirD=6.76



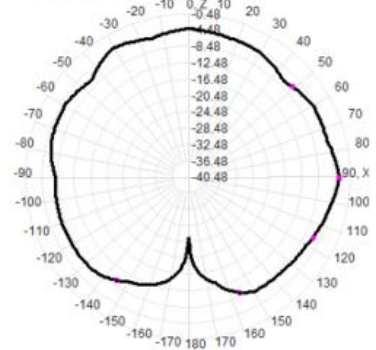
2D&3D BT- ANT

2450.0MHz H+V, Eff: 31.2%

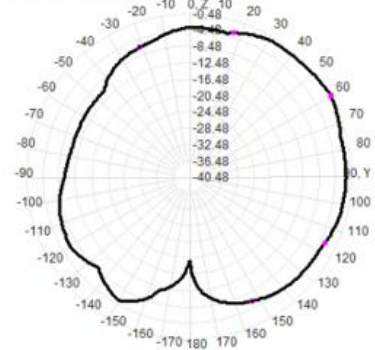
Back View



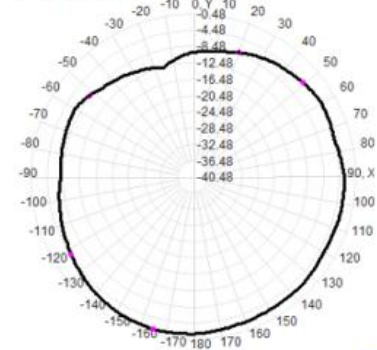
2450.0MHz Total(E1-XZ), Max=-3.57dBi

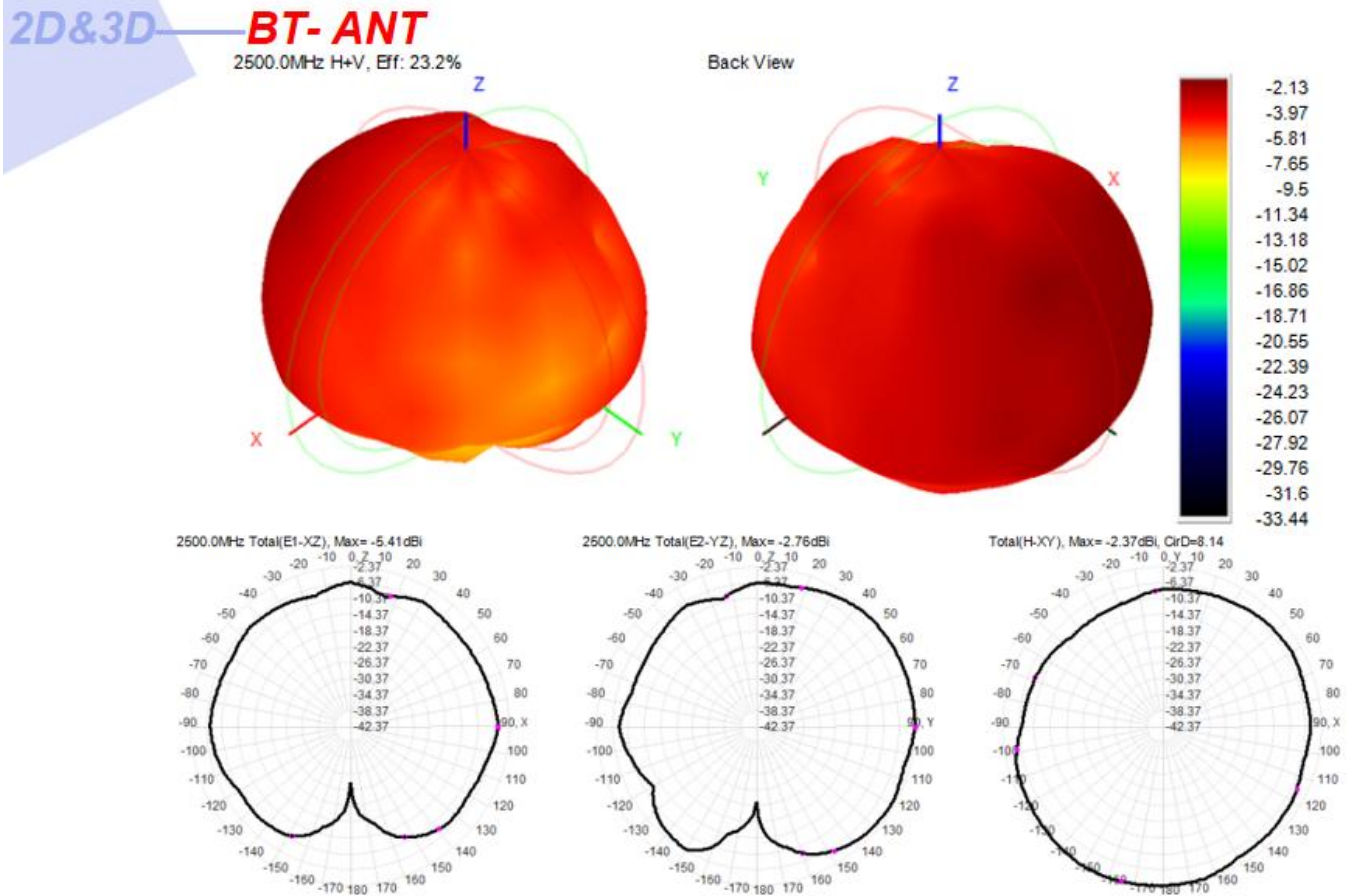


2450.0MHz Total(E2-YZ), Max=-0.48dBi



Total(H-XY), Max=-2.00dBi, CirD=10.65





OTA DATA(L)--free space

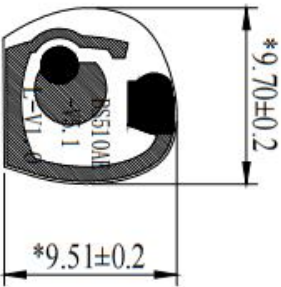
Test Equipment:	R&S CMW500			
Test Condition:				
Band	Wireless Protocol	Channel	TRP(dBm)	TIS(dBm)
BT		0	-0.52	-83.03
		39	0.3	-84.19
		78	-0.36	-84.58

4. Mechanical Specification:

Mechanical Configuration (Unit: mm)

The appearance of the antenna is according to drawing Figure 7

报价	FOR QUATION	MODIFICATION	
开模	FOR TOOLING	DESCRIPTION	DATE
检测	FOR EVALUATION	NO	ENGINEER
出图	FOR EVALUATION	V1	24.2.28
参考	REFERENCE		24.3.7



■ 焊盘区域 ■ 焊点区域 □ 基材区域 ■ 背胶区域

技术要求

- 1.需符合欧盟RoHS,REACH, 具体详见附录;
- 2.单机用量: 1 PCS
- 3.A面PC铜箔走线部分, B面代表 3M 9471 胶纸部分;
- 4.FPC总厚度为0.11~0.15mm(不包括背胶离型纸, 接触点需做沉金工艺
- 5.请使用P11对半基材, 电解铜, 表面黑色油墨 丝印白色字符
- 6.油墨不含碳或金属粒子, 表面UV耐磨康紫外线;
- 7.高温抗氧化性: 200°C、40分钟后, 铜箔表面允许有少量氧化点, 每300mm*300mm面积内, 氧化点个数不超过2个, 做成整排, 不可单个;

深圳市合拓科技有限公司		Drawn	
DESIGNED		Designed	
CHECKED		Checked	
APPROVED		Approved	
PART NAME:		HT-20240422001-L	
Customer Rev:		BSS10AE-V5.1 L-V1.0	
SIZE		A4	
SHEET		1 OF 1	
DATE		20230423	