

深圳市合拓科技有限公司

样品承认书

Sample Approved Sheet

合拓 (A9) 承认书

客户名称 深圳市中天电子开发有限公司

客户机型 A9

品 牌 合拓自产 HT-A9-V0

合拓 判定审核组

制订	审核	批准	承认书完成时间
钟晓鸣	吴寿平	戴庭庭	2024.11.11

中天（客户）判定审核组

承认书编号 _____ 承认书提供时间 _____

承认	审核	批准	承认日期

评审项目: 承认书 3 份 规格书/图纸 检测报告 样品 PCS 安规 HSF

评审结果: 接受 有条件接受 拒绝

Confidential Information

1. Antenna picture

The report mainly provides the test status of the electrical properties parameters of **HT-A9-V0**. The **HT-A9-V0** 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:

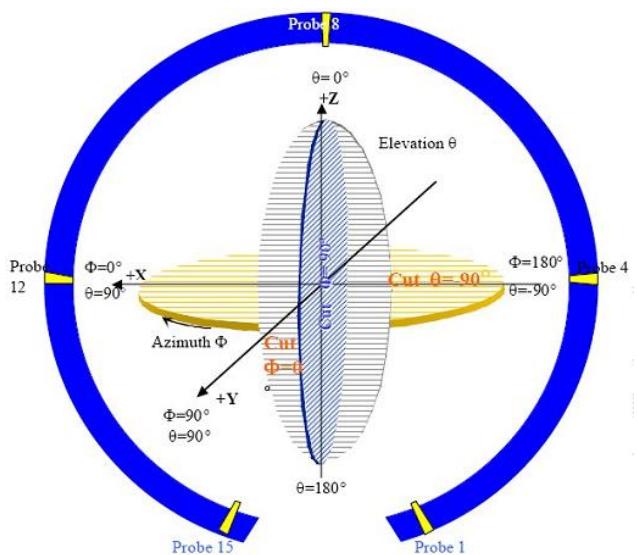


图 4 3D 微波暗室测试坐标系 (back view)

3. Electrical Specification

3-2 Passive S11 parameter

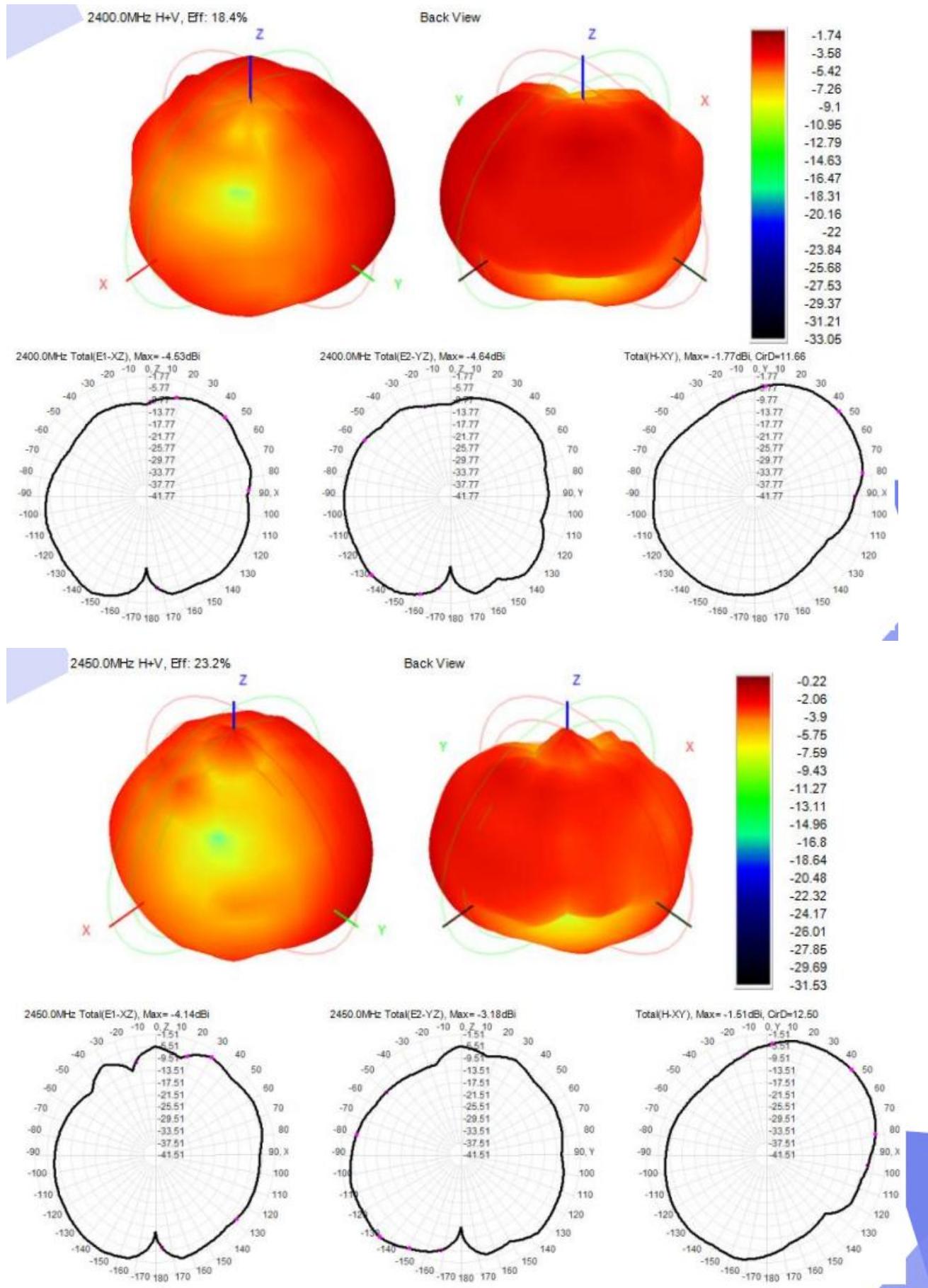
Measuring Method is a 50Ω coaxial cable is connected to the antenna. Then this cable is connected to a network analyzer to measure the S11 parameter, Keeping this fixture away from metal at least 20cm.

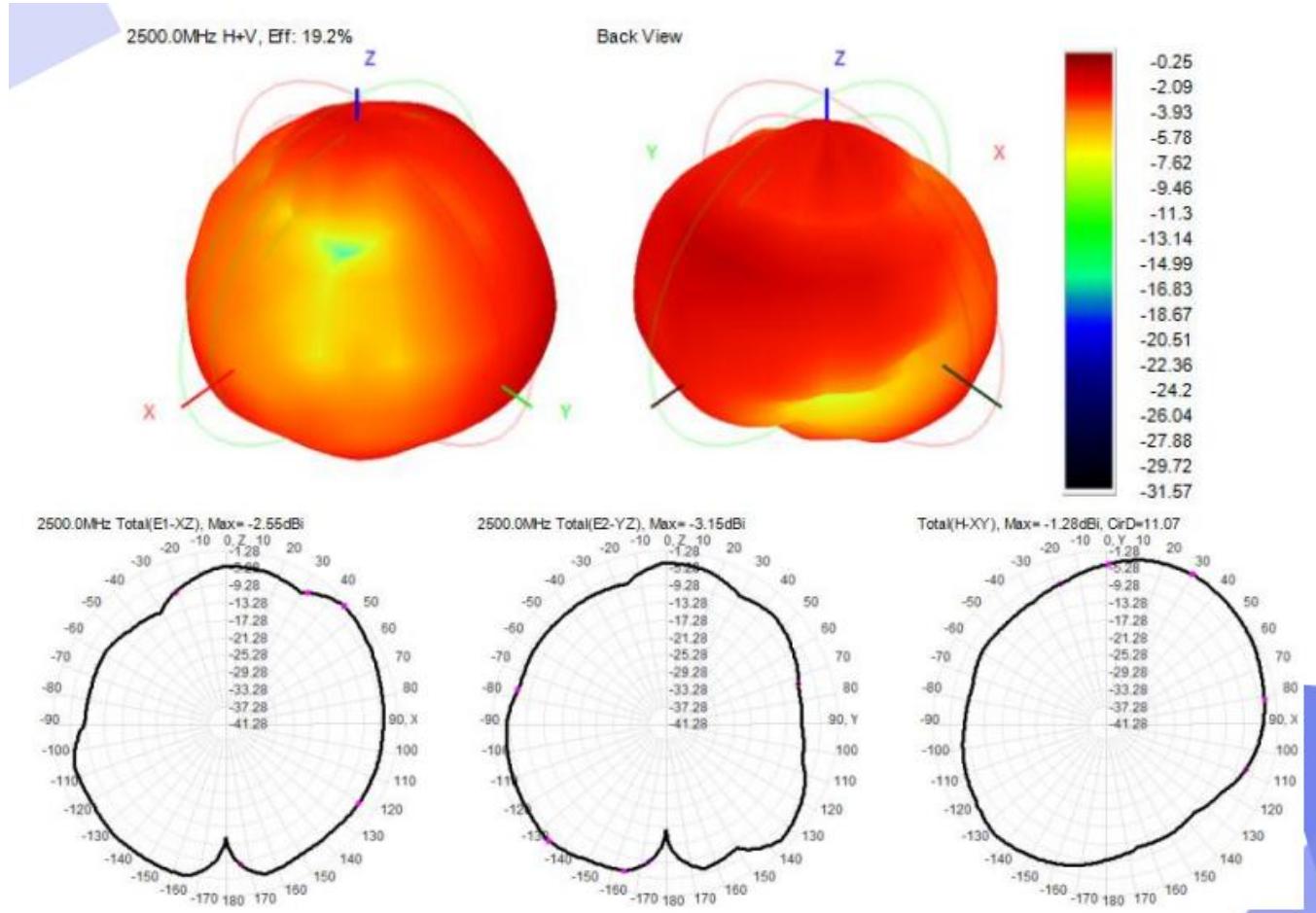
VSWR



Frequency (MHz)	Efficiency (%)	Peak GAIN (dBi)
2400	18.39	0.74
2410	19.58	0.30
2420	20.40	0.50
2430	21.58	0.97
2440	22.11	0.55
2450	23.21	0.22
2460	23.88	0.36
2470	22.14	0.29
2480	20.58	0.34
2490	19.41	0.63
2500	19.21	0.25

Confidential Information





4. Mechanical Specification:

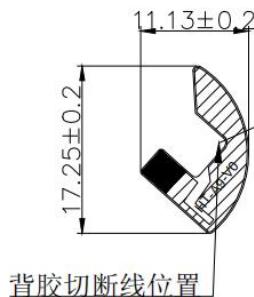
Mechanical Configuration (Unit: mm)

The appearance of the antenna is according to drawing Figure 10

报价	FOR QUOTATION
开模	FOR TOOLING
A 检测	FOR EVALUATION
出图	APPROVED DWG
参考	REFERENCE

看到的 ○ 全部打通孔

MODIFICATION			
VER	DESCRIPTION	DATE	ENGINEER



背胶切断线位置

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FPC铺铜走线部分, 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, 接触点需做镀金工艺)
5. 请使用PI 1对半基材, 电解铜; 表面黑色油墨 丝印白色丝印字符
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, 铜箔光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;

用1对半基材

深圳市合拓科技有限公司										Drawn
										Designed
										Checked
										Approved
										Part NAME: HT-240820003-A9
										DATE:
										Version
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INTERFACES:										Material:
M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	(SHEET NO. 1 OF 1)
C30	C40	C50	C60	C70	C80	C90	C100	C110	C120	REV. NO. 00
D30	D40	D50	D60	D70	D80	D90	D100	D110	D120	DATE: 2024.08.20
E30	E40	E50	E60	E70	E80	E90	E100	E110	E120	DESIGNER: HT
F30	F40	F50	F60	F70	F80	F90	F100	F110	F120	REVIEWER: HT
G30	G40	G50	G60	G70	G80	G90	G100	G110	G120	APPROVER: HT
H30	H40	H50	H60	H70	H80	H90	H100	H110	H120	DATE: 2024.08.20
I30	I40	I50	I60	I70	I80	I90	I100	I110	I120	DESIGNER: HT
J30	J40	J50	J60	J70	J80	J90	J100	J110	J120	REVIEWER: HT
K30	K40	K50	K60	K70	K80	K90	K100	K110	K120	APPROVER: HT
L30	L40	L50	L60	L70	L80	L90	L100	L110	L120	DATE: 2024.08.20
SCALE: 1:1 UNITS: MM USED IN: SWING-MATE-ANT-FPC-INSTANT										SHEET 1 OF 1
DRAWING NO: B0016-ANT-FPC-INSTANT DATE: 2024.08.20										2024.08.20