

# 深圳市合拓科技有限公司

## 样品承认书

Sample Approved Sheet

### 合拓 (EF906) 承认书

客户名称: 深圳市芯中芯科技有限公司

客户料号: 1010205011

客户规格: PCB/FPC/HT-EF906-L-V3/两层沉金/黑色/30.06\*13.76\*0.1mm/合拓

原厂料号: 20230323001

品 牌 : 合拓自产 HT-EF906-L-V3

包装方式: 1.纸箱

丝印说明:

合拓科技 判定审核组

| 制订  | 审核  | 批准  | 承认书完成时间    |
|-----|-----|-----|------------|
| 钟晓鸣 | 胡雪文 | 戴庭庭 | 2023.03.01 |

芯中芯 (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

## 1. Antenna picture

The report mainly provides the test status of the electrical properties parameters of HT-EF906-L-V3. The HT-EF906-L-V3 antenna is a BT Band. The antenna Picture and assembly are shown below.

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LDS 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:

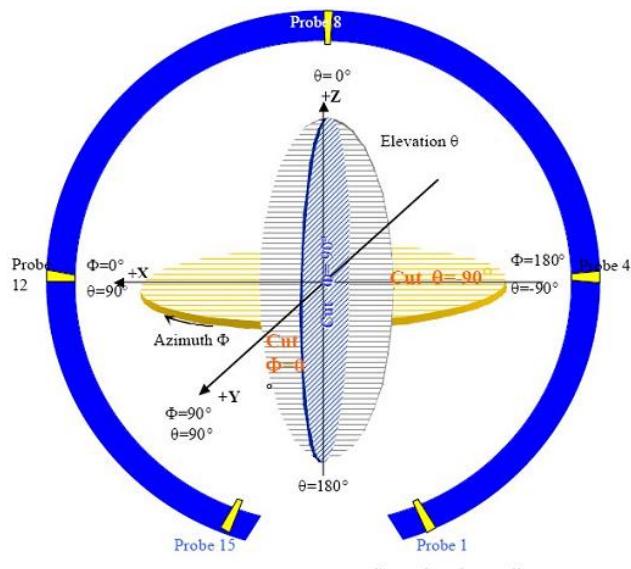


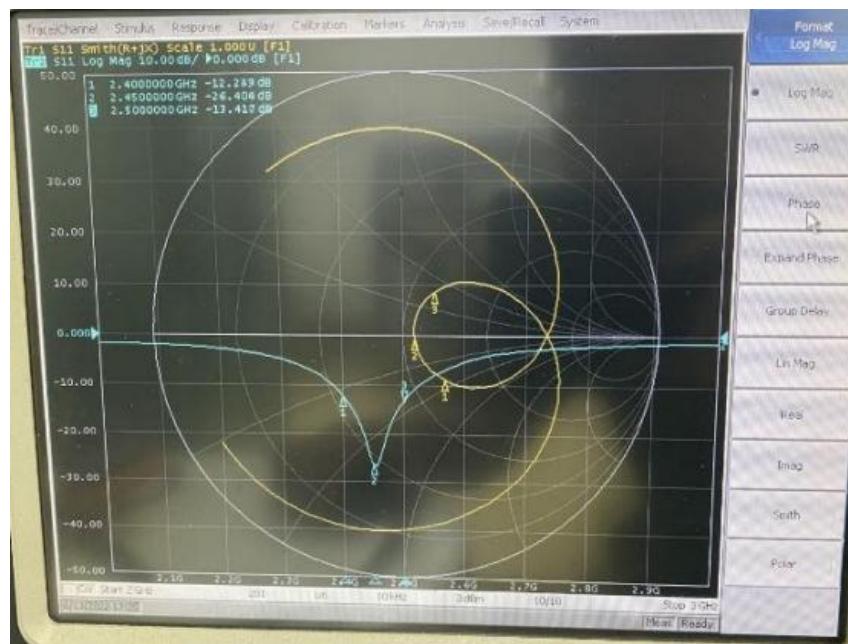
图 4 3D 微波暗室测试坐标系 (back view)

## 3. Electrical Specification

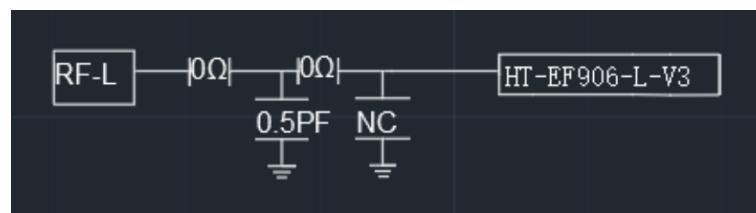
### 3-2 Passive S11 parameter

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.

## VSWR



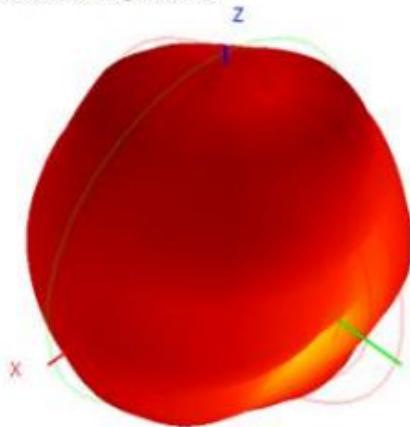
### 3-3 Antenna Matching Network



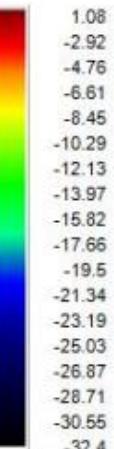
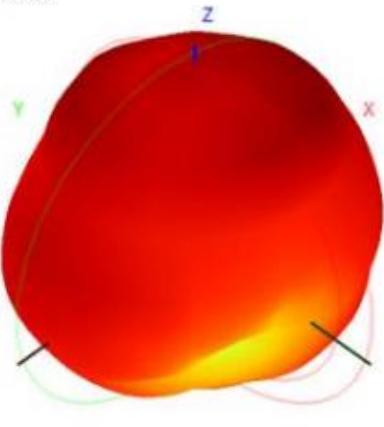
| Frequency (MHz) | Efficiency (%) | Peak GAIN (dBi) |
|-----------------|----------------|-----------------|
| 2400            | 25.87          | 1.08            |
| 2410            | 27.61          | 0.88            |
| 2420            | 28.32          | 0.59            |
| 2430            | 29.67          | 0.38            |
| 2440            | 31.92          | 0.47            |
| 2450            | 32.37          | 1.26            |
| 2460            | 30.91          | 1.42            |
| 2470            | 29.45          | 1.11            |
| 2480            | 28.49          | 1.34            |
| 2490            | 27.18          | 0.78            |
| 2500            | 26.41          | 1.38            |

## 2D&3D BT-ANT

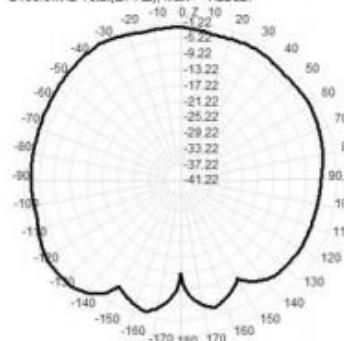
2400.0MHz H+V, Eff: 25.9%



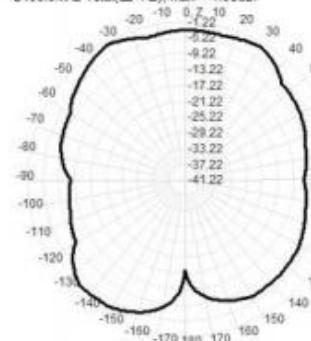
Back View



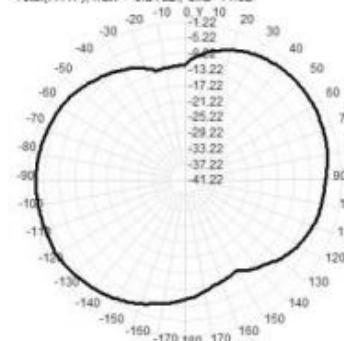
2400.0MHz Total(E1-XZ), Max= -1.22dBi



2400.0MHz Total(E2-YZ), Max= -1.83dBi

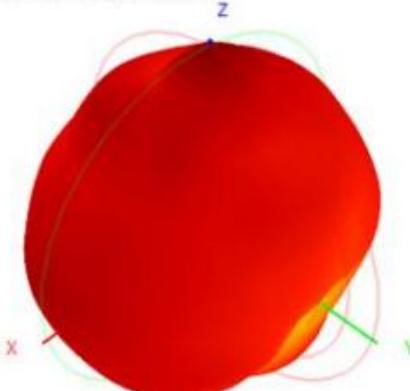


Total(H-XY), Max= -3.21dBi, CirD=11.52

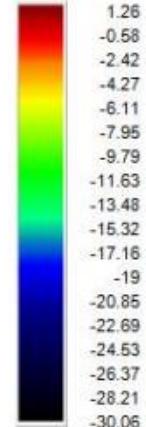
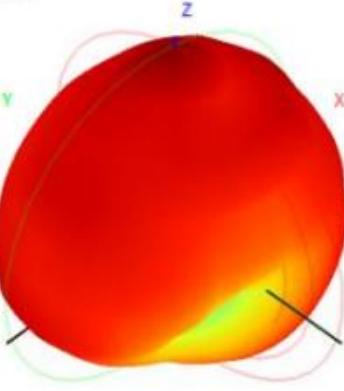


## 2D&3D BT-ANT

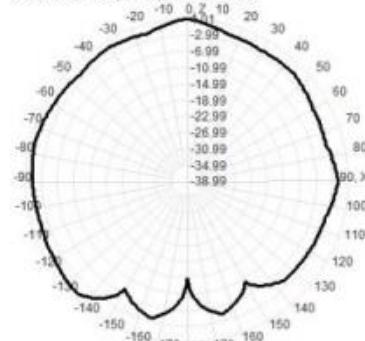
2450.0MHz H+V, Eff: 32.4%



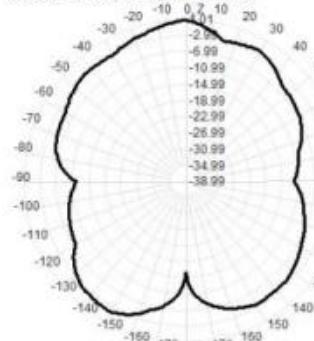
Back View



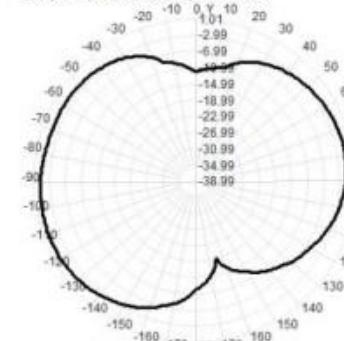
2450.0MHz Total(E1-XZ), Max= 1.01dBi



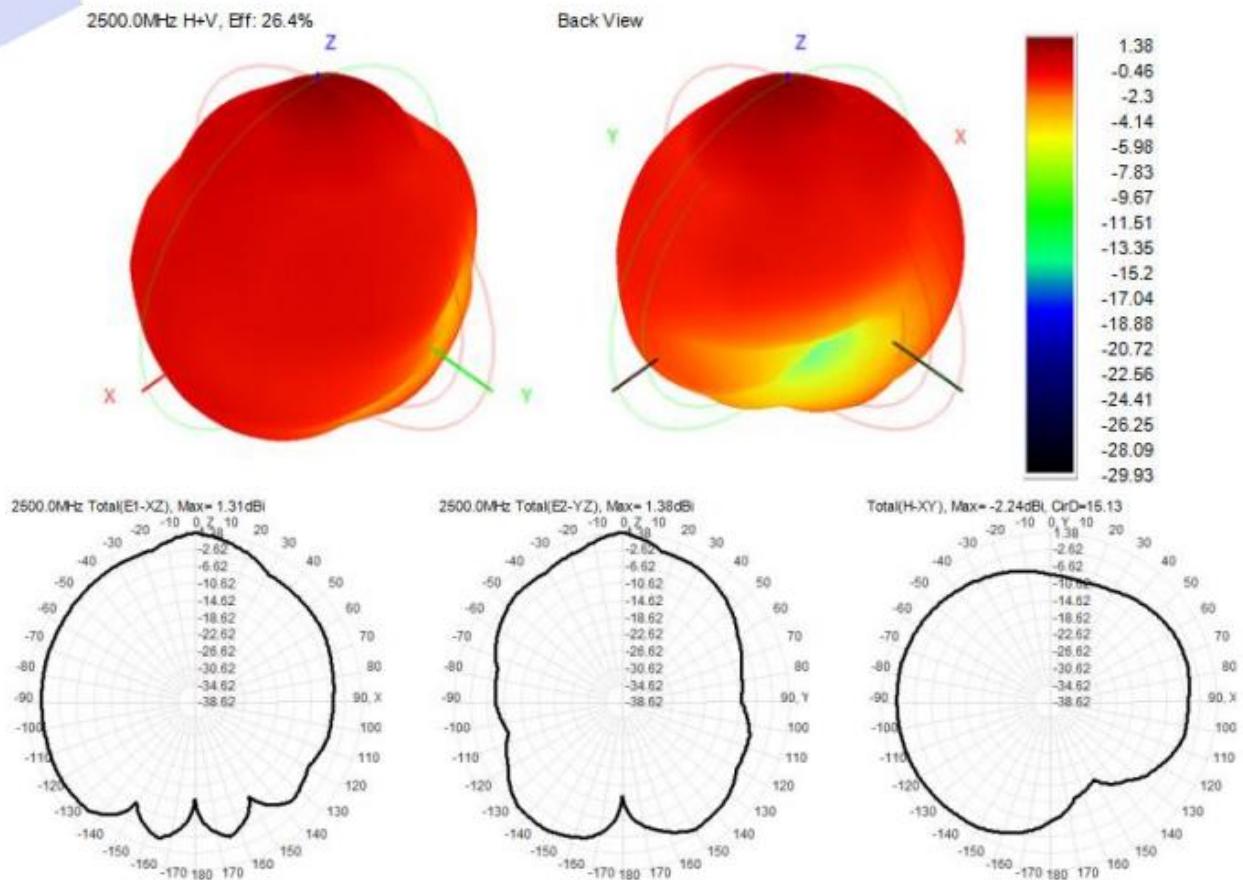
2450.0MHz Total(E2-YZ), Max= 0.76dBi



Total(H-XY), Max= -0.55dBi, CirD=18.83



## 2D&3D BT- ANT



## 4. Mechanical Specification:

Mechanical Configuration (Unit: mm)

The appearance of the antenna is according to drawing Figure 8