

# Antenna Test Report

|                  |                                                                                                                     |
|------------------|---------------------------------------------------------------------------------------------------------------------|
| Customer         | DNS                                                                                                                 |
| Project          | FM06 Bluetooth Antenna                                                                                              |
| Antenna Revision | A0                                                                                                                  |
| Prepared by      | Zhu Haokui                                                                                                          |
| Manufacturer     | Shenzhen Heyang Smart Card Technology Co., Ltd.                                                                     |
| Address          | 2nd Floor, Building B12,<br>Hezhou Hengfeng<br>Industrial City, Xixiang<br>Street, Baoan District,<br>Shenzhen City |
| Date:            | 2024/04/30                                                                                                          |

# **Purpose**

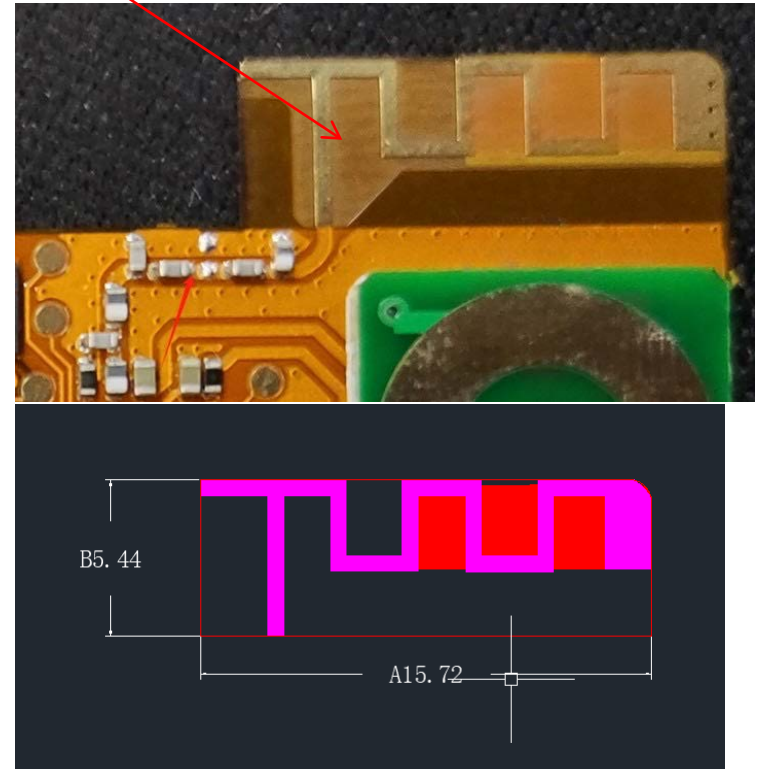
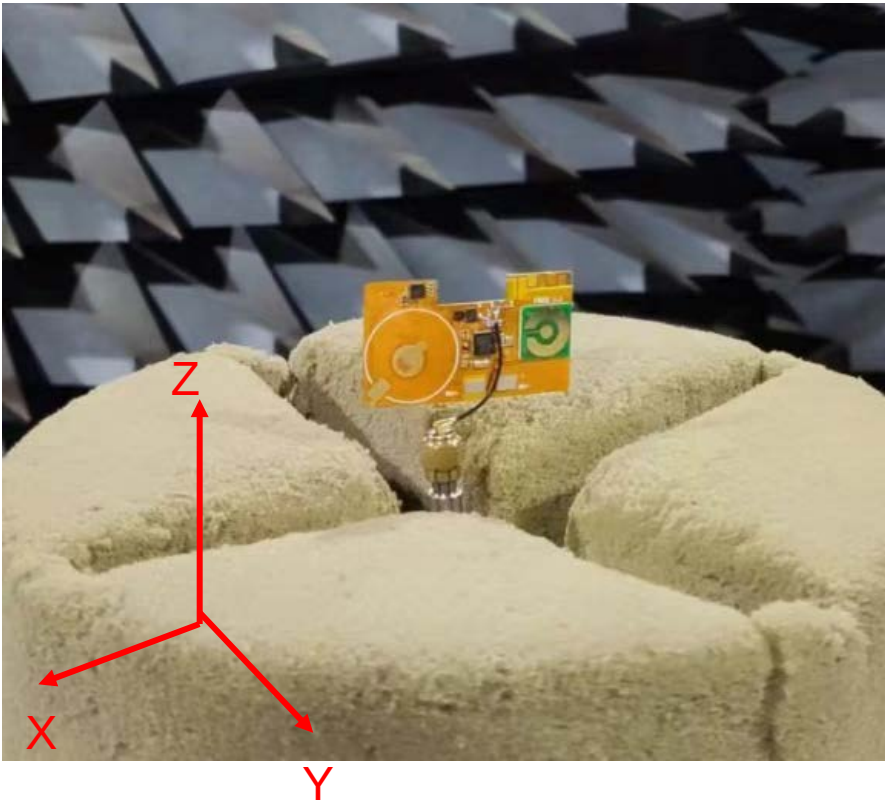
This report is to measure the performance of antenna for **FM06 Bluetooth Antenna**. The antenna operating frequency at **2400-2500MHz** All test data are showed as below.

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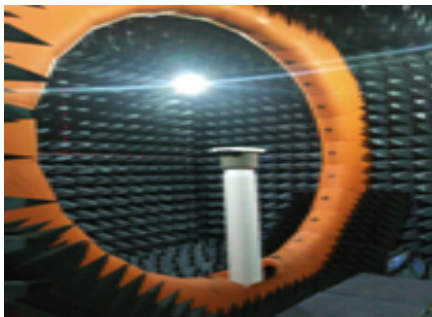
# 1.Product Overview & Dimension

Antenna

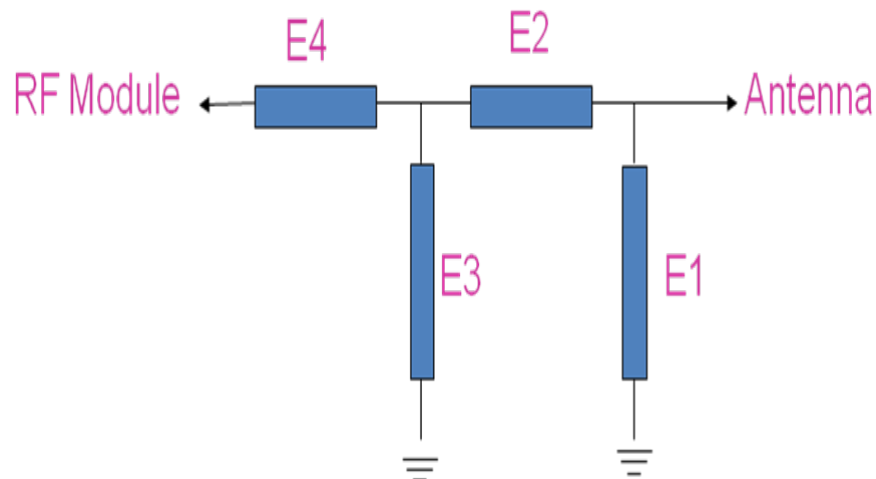


## 2. Test System

| Sequence Number   | Test Item         | equipment                                                       |
|-------------------|-------------------|-----------------------------------------------------------------|
| S parameter       | VSWR              | Agilent 5071C & Agilent 5062A                                   |
| OTA Test          | TRP&TIS           | Agilent 8960 E5515C& Agilent 4438C&CMW500 &CMW270<br>ETS&SATIMO |
| Gain & Efficiency | Gain & Efficiency | ETS&SATIMO<br>Agilent 5071C                                     |



### 3. Antenna Matching Network

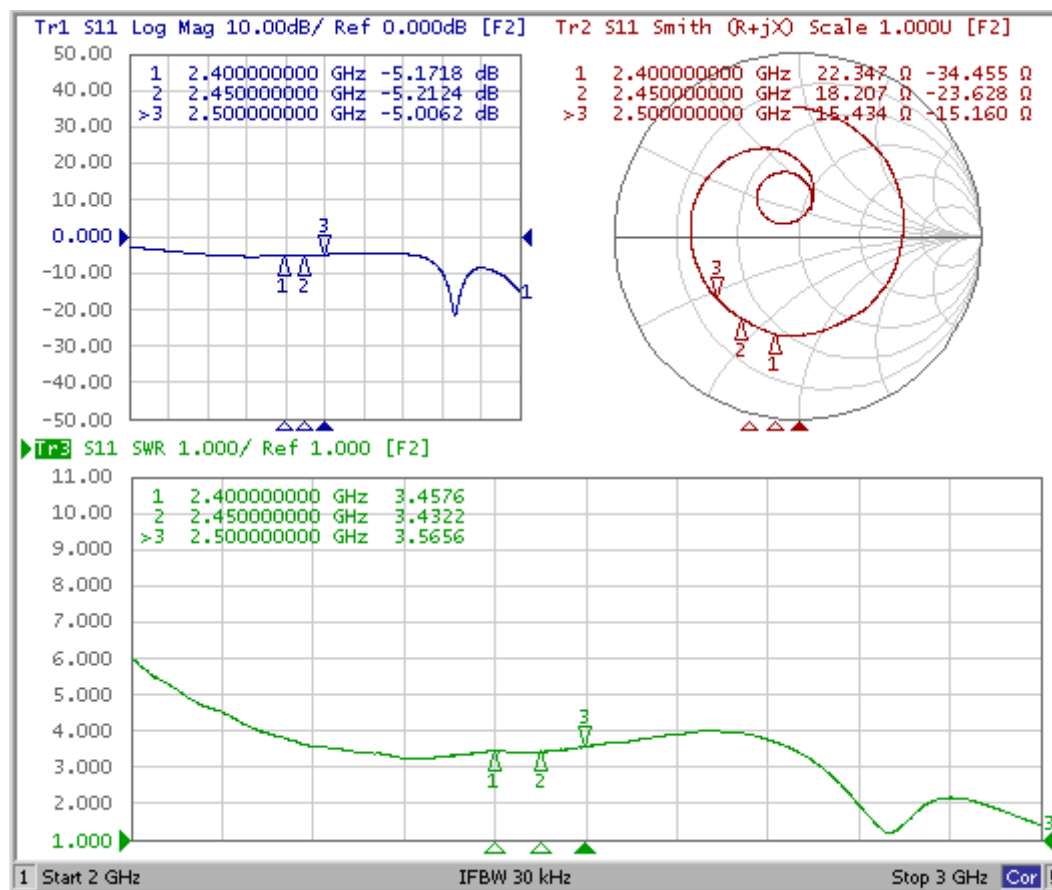


| Element | Value |
|---------|-------|
| E1      | N/A   |
| E2      | N/A   |
| E3      | N/A   |
| E4      | N/A   |

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## 4. Test Result

### 4.1 S11 Parameter-VSWR



| Frequency | 2400 | 2450 | 2500 |
|-----------|------|------|------|
| VSWR      | 3.45 | 3.43 | 3.56 |

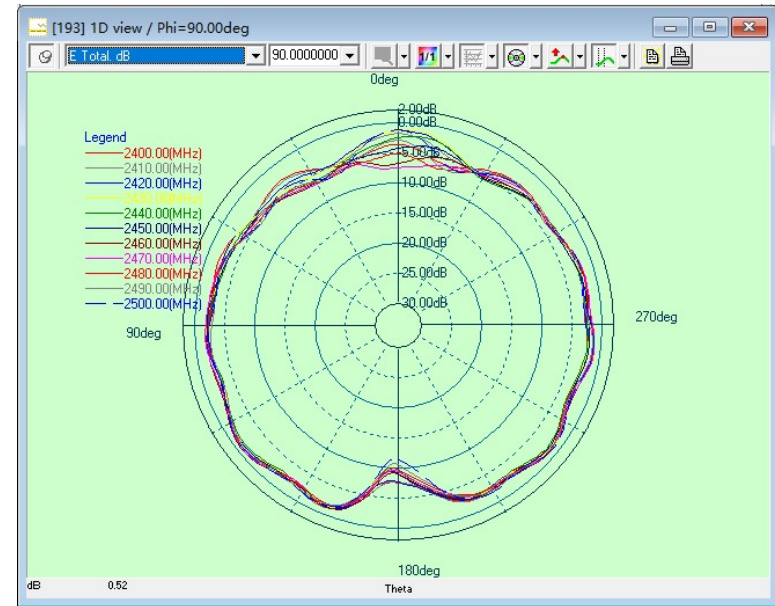
## 4. Test Result

### 4.2 Gain & Efficiency

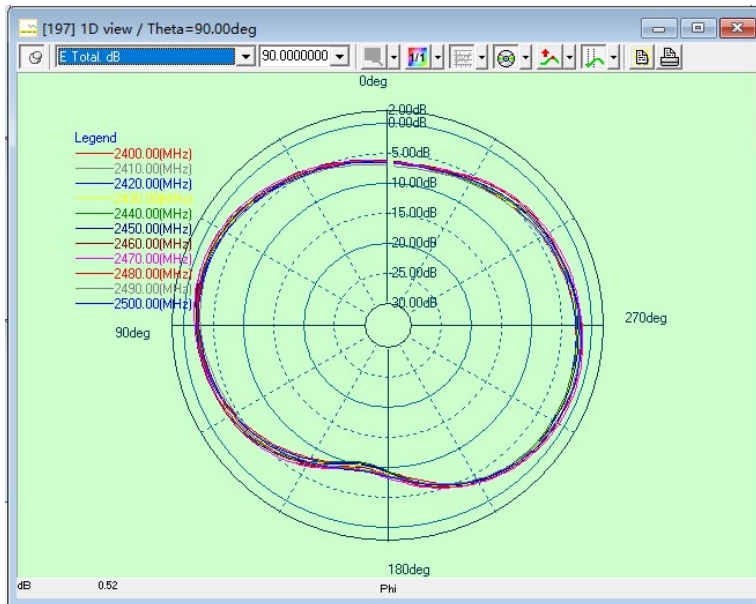
| Frequency<br>(MHz) | Efficiency<br>(%) | Peak GAIN<br>(dBi) |
|--------------------|-------------------|--------------------|
| 2400               | 39.2%             | -0.18              |
| 2410               | 39.5%             | 0.10               |
| 2420               | 40.2%             | 0.20               |
| 2430               | 39.2%             | -0.15              |
| 2440               | 36.9%             | -0.46              |
| 2450               | 37.7%             | -0.15              |
| 2460               | 40.6%             | 0.08               |
| 2470               | 39.7%             | -0.13              |
| 2480               | 38.2%             | 0.20               |
| 2490               | 37.8%             | 0.53               |
| 2500               | 40.3%             | 0.73               |

## 4. Test Result

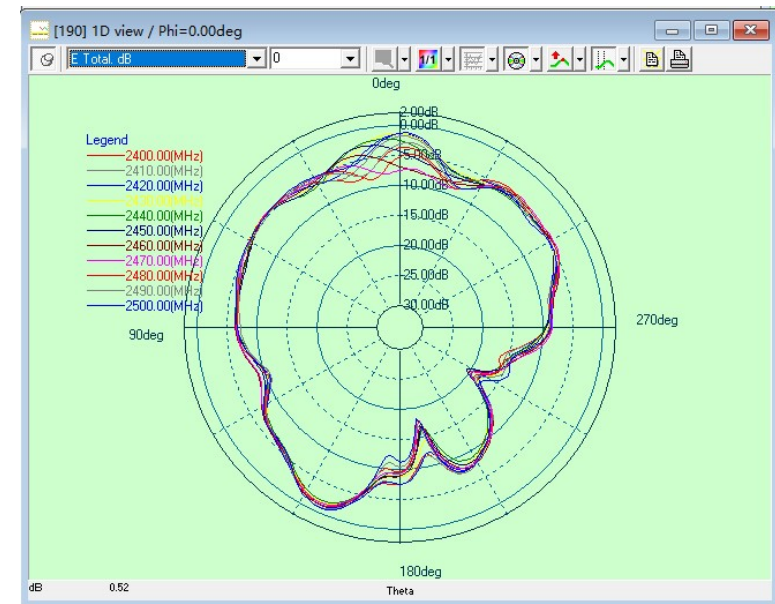
### 4.3 2D Pattern



Z-X



X-Y



Z-Y

*Thank you !*