

# 产品规格承认书

德威玛天线实验室

深圳研发中心

移动通信终端天线

客户名称: Shenzhen Radiomaster Co., Ltd

产品名称: 2.4G External antenna

物料编码: XD-FL-00309

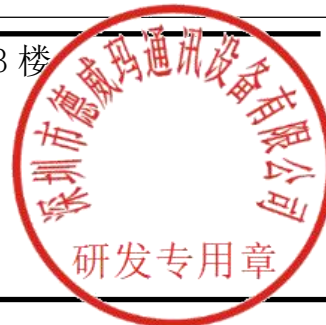
Contractor				日期: 2023 年 12 月 04 日
RF	structure	review	quality	
陈显叶	段燕林	余奇学	高春彦	

客户方			日期: 年 月 日
结论	确认人	审核人	

地址: 深圳市宝安创业二路 23 区友谊大厦一栋 3 楼

(地铁洪浪北 B 出口平安银行后面)

电话: 13603094246



## 1. Purpose

Standardize the product specifications and test methods of mobile communication terminal antennas produced by Shenzhen Deweima Communication Equipment Co., Ltd. to avoid errors caused by differences in test conditions and methods.

## 2. Overview of product categories and product models

### 2.1 category

This mobile communication terminal antenna is **External antenna**

### 2.2 Product model overview

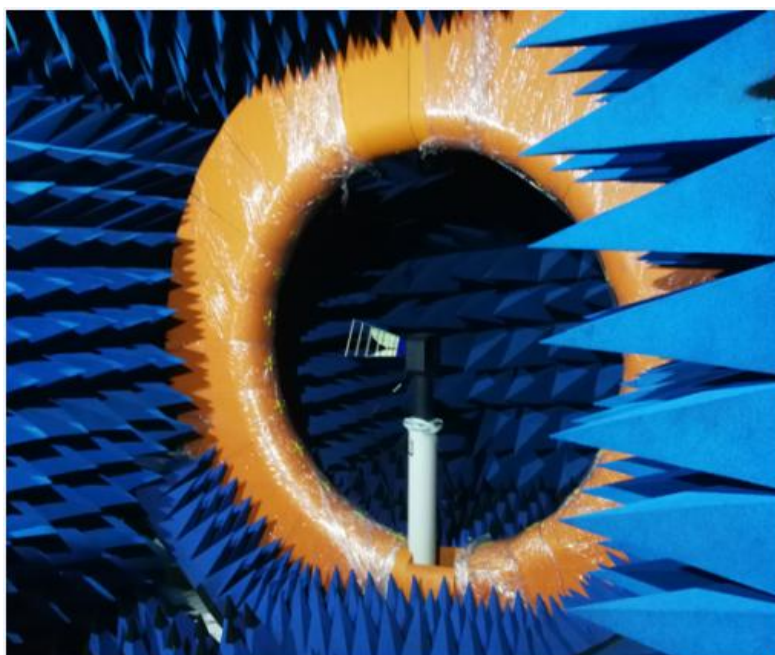
This report mainly outlines the electrical results of the antennas designed for the 2.4G antenna project. The designed frequency band of this antenna is: 2400-2500MHz frequency band.

## 3. Technical indicators and equipment

### 3.1 Technical indicators

Product electrical performance indicators	
Operating frequency range	2400-2500MHz
standing wave ratio	2400-2500MHz<2
Antenna gain	2400-2500MHz: $2 \pm 1$ dBi
Antenna efficiency	2400-2500MHz>55%
impedance	50 ohm
产品环境说明	
Operating temperature	- 30°C ~ + 85 °C
stored temperature	- 30°C ~ + 85 °C

3.2 e q u i p m e n t



24-probe microwave chamber



R&S CMW500

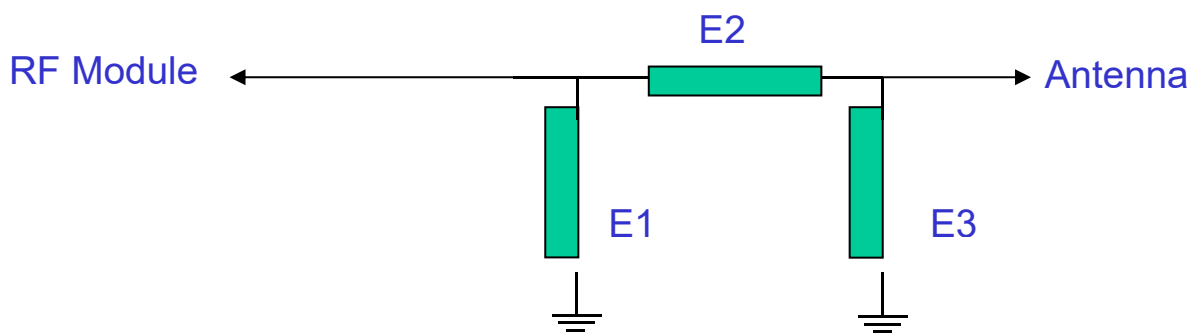


Agilent E4405B 频谱仪



Agilent Technologies E5071B

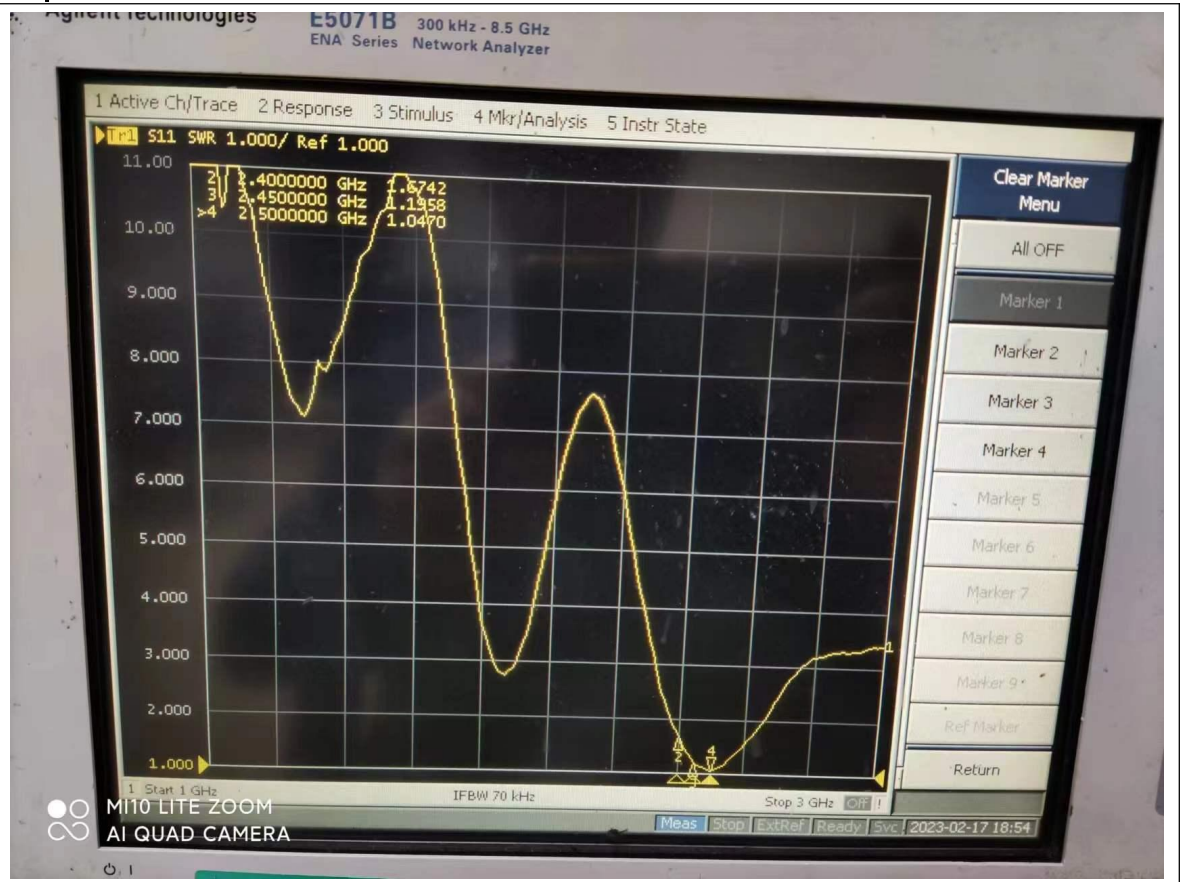
4. Matching circuit description:



Element	Value	Vender
E1(0402)		
E2(0402)		
E3(0402)		

5. Antenna electrical performance parameters (standing wave ratio, gain, efficiency, pattern)

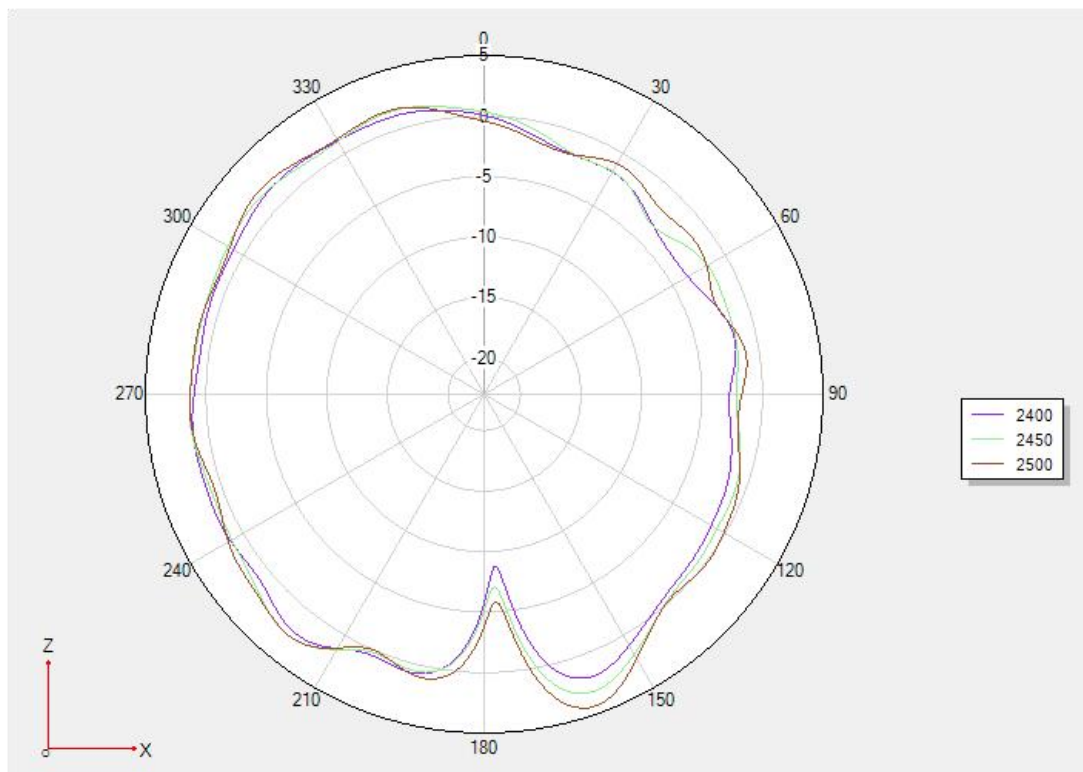
驻波比  
(VSWR)



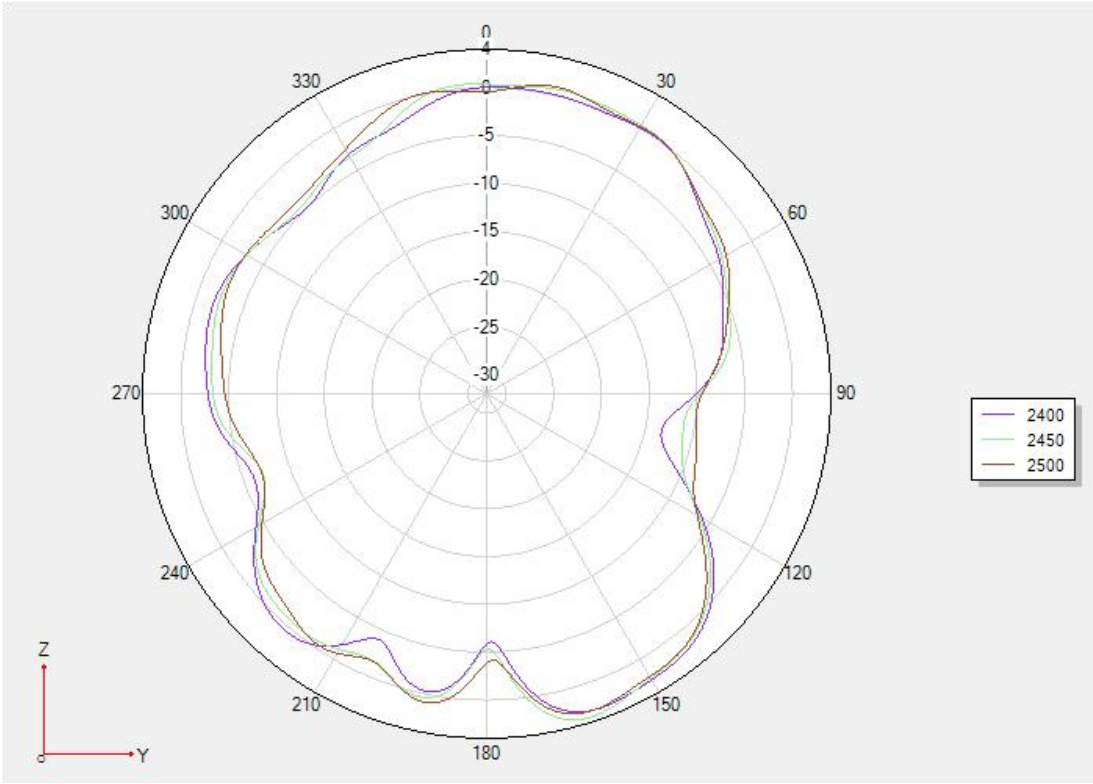
### Antenna gain, efficiency

Frequency/Mhz	Efficiency / dB	Efficiency / %	MaxGain/dBi
2400	-1.24	57.16	1.53
2410	-1.3	55.13	1.31
2420	-0.97	59.98	1.28
2430	-0.81	62.99	1.37
2440	-0.89	61.47	1.96
2450	-0.73	64.53	1.71
2460	-0.64	66.3	1.49
2470	-0.77	63.75	1.74
2480	-0.64	66.3	1.58
2490	-0.47	69.74	2.02
2500	-0.67	65.7	1.74

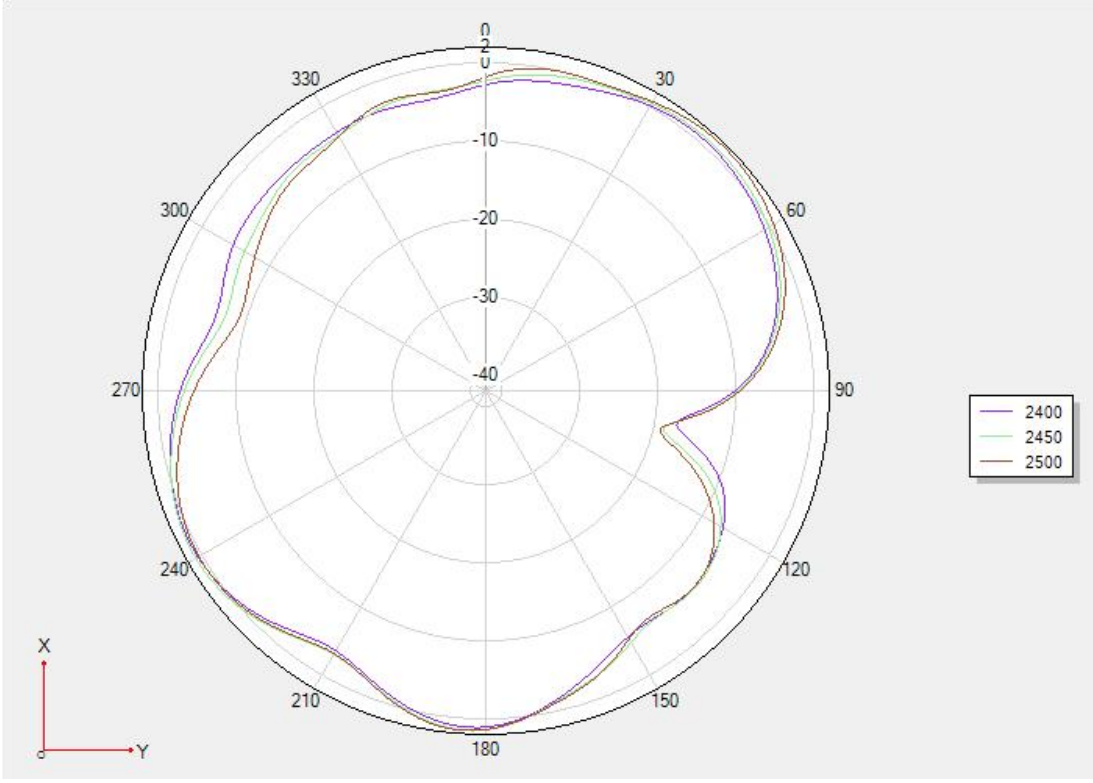
2D

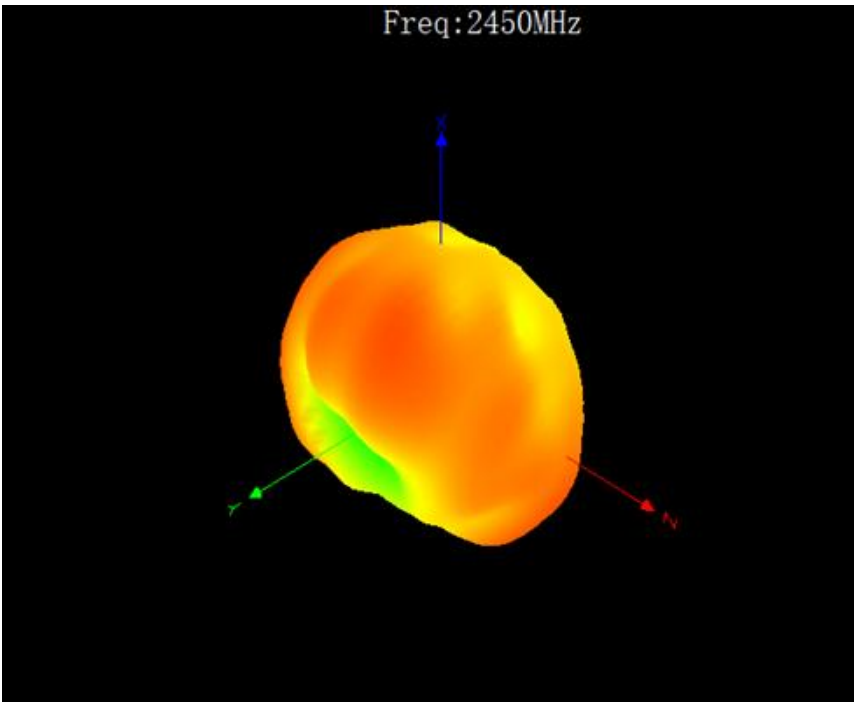
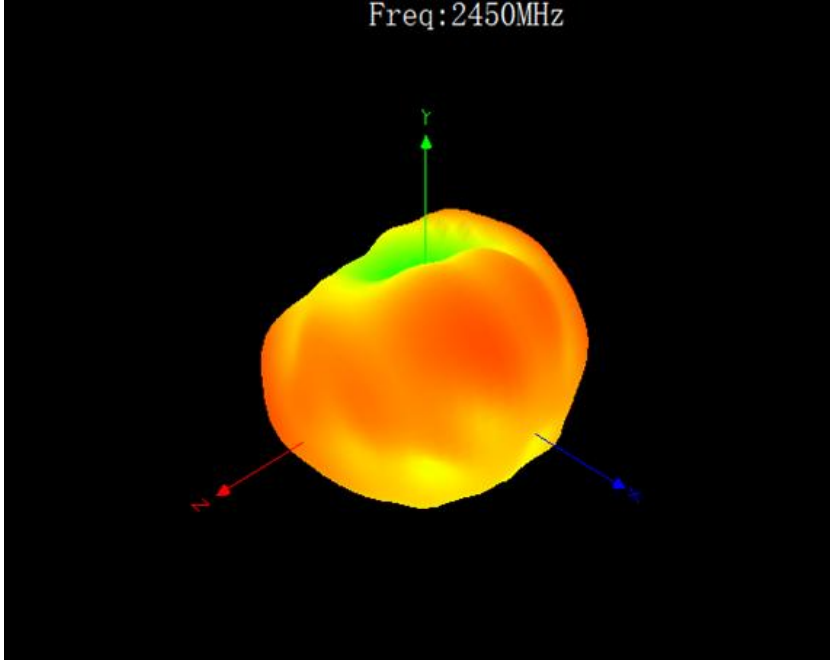


2D

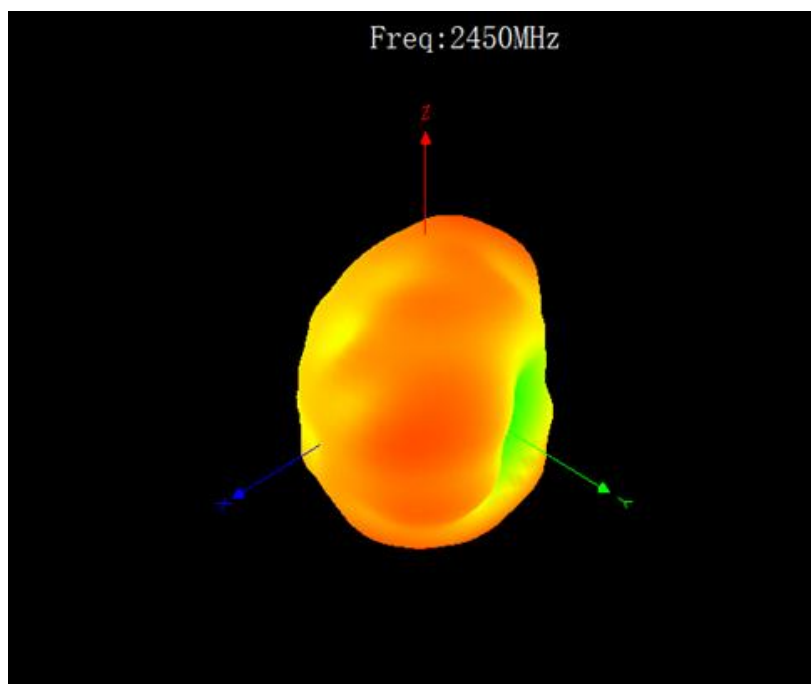


2D



<p>3D 方向图 (3D Pattern)</p>	 <p>Freq:2450MHz</p> <p>A 3D radiation pattern plot showing a main lobe oriented vertically. The plot is color-coded from green (low gain) to red (high gain). Three coordinate axes are shown: a blue vertical axis pointing upwards, a red horizontal axis pointing to the right, and a green axis pointing towards the bottom-left. The text 'Freq:2450MHz' is displayed at the top of the plot area.</p>
<p>3D 方向图 (3D Pattern)</p>	 <p>Freq:2450MHz</p> <p>A 3D radiation pattern plot showing a main lobe oriented horizontally. The plot is color-coded from green (low gain) to red (high gain). Three coordinate axes are shown: a green vertical axis pointing upwards, a red horizontal axis pointing to the left, and a blue axis pointing towards the bottom-right. The text 'Freq:2450MHz' is displayed at the top of the plot area.</p>

3D 方向图  
(3D  
Pattern)





6. Product Structure:

