

Antenna Testing Report

Product Name: SWY51

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Issued by: Guangdong Transtek Medical Electronics Co., Ltd

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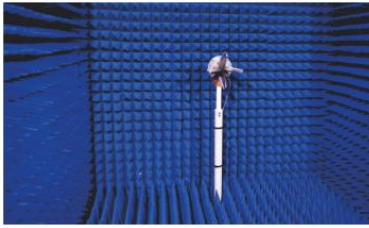
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1. General Information

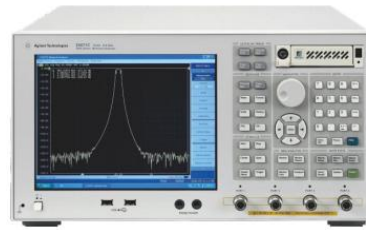
1. 1 General information of testing institutions

Name	Shenzhen DBT Communication Device Co., Ltd
Address	Rm505, 8th building, Yungu 2nd period, pingshan No.1 Road, Xili Town,Nanshan District, ShenZhen , China
Tel	0755-83763273
E-mail	Dbt_yang@163.com
Equipment	1. RayZone 1800 2. Keysight E5071C

1.2 Test equipment



Satimo



E5071C



Cmw500



8960

Model No.	Manufacturer	Calibration date	Next calibration date
Satimo	RFI-LAB-RF-A00	2024.4.9	2025.4.8
Cmw500	ROHDE&SCHWAR	2024.4.9	2025.4.8
8960	Agilent	2024.4.9	2025.4.8
E5071C	Agilent	2024.4.9	2025.4.8

1.3 Test environment

Temperature	25. 0°C
Humidity	59%RH
Pressure	100.12kPa

2. Sample Information

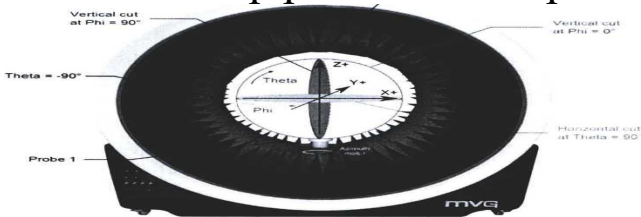
2.1 Description of EUT(S)

Product Name	2.4 GHz Antenna
Antenna Size	14.5*6mm
Antenna Type	PCB
Test Item	VSWR; Gain; Efficiency; Radiation pattern
Frequency Range	2402-2480MHz
Received Date	2024.12.20
Test Date	2024.12.20

2.2 EUT appearance



2.3 DUT setup photo of free space OTA testing



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3. Test Results

3.1 Test standard

Name	Parameter	Method	Standard no.
Mobile Communication antenna	VSWR	Generic specification for antennas used in the mobile communications	GB/T 9410-2008
	Antenna gain		
	Radiation pattern		
Antenna	Radiation efficiency	IEEE Standard Test Procedures for Antennas	ANSI/IEEE Std 149-1979

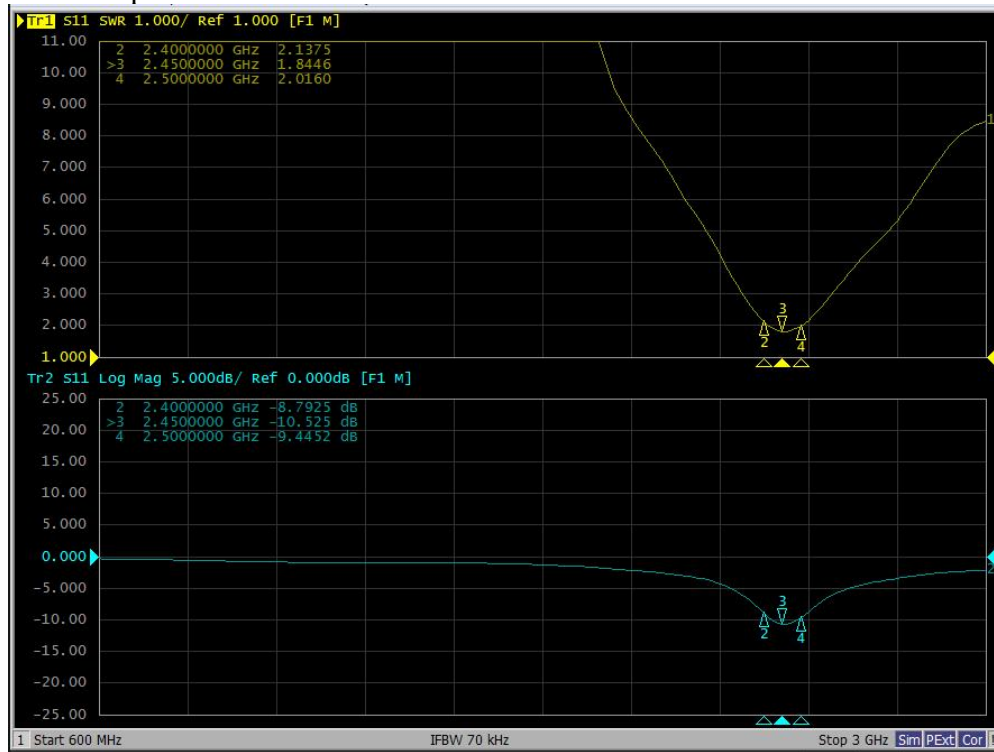
3.2 Test uncertainty

The uncertainty was calculated on the basis of the GUM published by ISO, using the inclusion factor of K=2 and the 95% confidence level to express the extended uncertainty.

Item	Uncertainty
VSWR	± 0.3
Antenna gain	+ 1dB
Radiation efficiency	$\pm 10\%$

3.3 Test data

3.3.1 S11 parameters



3.3.2 VSWR

Frequency/MHz	2400	2450	2500
VSWR	2.1375	1.8446	2.016

3.3.3 Typical free space efficiency and gain

Frequency MHz	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Peak Gain dBi	0.36	-0.14	0.28	-0.24	0.35	0.24	-0.14	-0.9	-0.26	-0.77	-0.2
Efficiency %	35.79	29.08	31.23	27.25	31.95	29	26.83	22.86	26.81	25.01	27.01

3.3.5 Typical free space radiation pattern

