

# Testing Report

Customer Name: Shenzhen Svakom Technology Co., Ltd

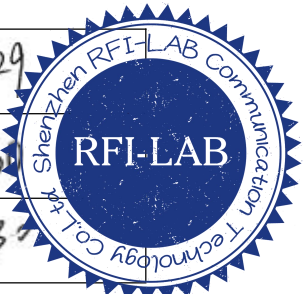
Product Name: Alex Neo 2

Sample Model: S63E

Reference Standard: *GB/T 9410-2008; ANSI/IEEE Std 149-1979*

Issue Date: 2022.11.30

Engineer: <i>Jeremy</i>	Date: <i>2022.11.29</i>
Auditor: <i>Eason</i>	Date: <i>2022.11.30</i>
Approver: <i>Aaron</i>	Date: <i>2022.11.30</i>

A circular blue seal with a serrated edge. The outer ring contains the text "Shenzhen RFI-LAB Communication Technology Co., Ltd" in white. The center of the seal is dark blue with "RFI-LAB" written in white.

### Version

Version No.	Date	Description	Formulate	Approval
A0	2022.11.30	For the first time, formulate	Jeremy	Eason

### Contents

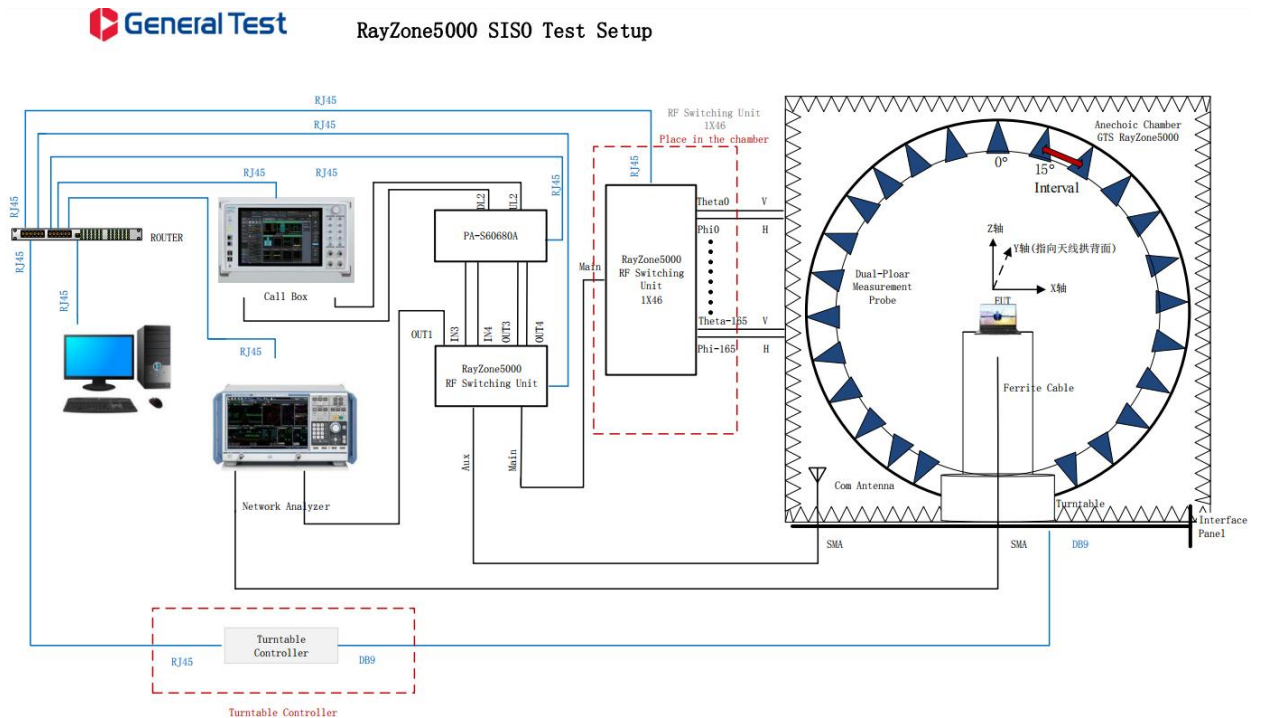
- 1.General Information ..... 3
  - 1.1 General information of testing institutions ..... 3
  - 1.2 Testing principle ..... 3
  - 1.3 Test equipment ..... 4
  - 1.4 Test environment ..... 4
  - 1.5 Statement ..... 4
- 2.Sample Information ..... 5
  - 2.1 Client information ..... 5
  - 2.2 Description of EUT(S) ..... 5
  - 2.3 EUT appearance ..... 6
  - 2.4 EUT setup photo of free space OTA testing ..... 6
- 3.Test Results ..... 7
  - 3.1 Test standard ..... 7
  - 3.2 Test uncertainty ..... 7
  - 3.3 Test data ..... 8
    - 3.3.1 Typical free space efficiency and gain ..... 8
    - 3.3.2 Typical free space radiation pattern ..... 8
  - (The following is blank) ..... 10

# 1. General Information

## 1.1 General information of testing institutions

<b>Name</b>	Shenzhen RFI-LAB Communication Technology Co., Ltd.
<b>Address</b>	10/F A, Lingyun Bld, Liufang Rd, Baoan District, SZ
<b>Tel</b>	13682621346
<b>E-mail</b>	rfi-lab@tech-now.com
<b>Equipment</b>	All the equipment used in the report is fixed in Zone B, West Side of 1/F, Building 1, Tingwei Industrial Park, No.6 Liufang Road, Bao 'an District, Shenzhen

## 1.2 Testing principle



### 1.3 Test equipment

Equipment	Model No.	Serial No.	Manufacturer	Calibration date	Next calibration date
16 probe microwave chamber	3*3*2.5	RFI-LAB-RF-A00	SUNYIELD	2021.3.15	2023.3.14
Network Analyzer	E5071C	RFI-LAB-RF-A02	Agilent	2022.5.13	2023.5.12

### 1.4 Test environment

Temperature	23.3°C
Humidity	59%RH
Pressure	100.11kPa

### 1.5 Statement

- (1) The test results in the report are only applicable to the tested samples and the tested samples work under the environment described in the report.
- (2) Only Shenzhen RFI-LAB Communication Technology Co., Ltd. have the right to modify the report, and the modification information shall be annotated in the revision form.
- (3) Any objection to this report shall be raised within 30 days after formal confirmation of the report.
- (4) This report is invalid if there is any evidence that the sample information provided is falsified.
- (5) The report is invalid without the signature of the auditor and approver.

## 2. Sample Information

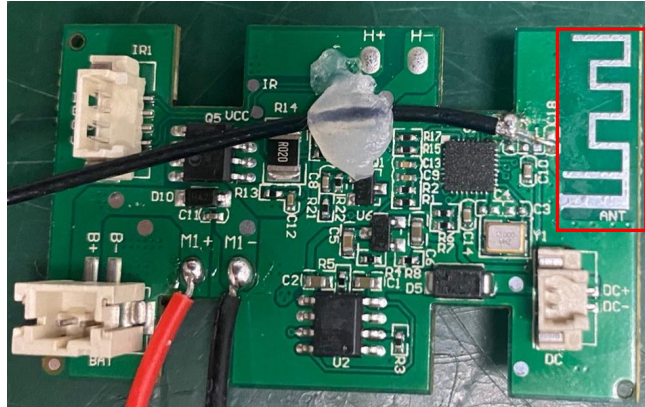
### 2.1 Client information

<b>Name</b>	Shenzhen Svakom Technology Co., Ltd
<b>Address</b>	Zone B, 2nd floor, building h, gangzhilong business center, Qinglong Road, Longhua street, Longhua New District, Shenzhen
<b>Contacts</b>	/
<b>Tel</b>	/
<b>E-mail</b>	/
<b>Manufacturer</b>	Dongguan Qianhe Electronic Tehnology Co., Ltd.

### 2.2 Description of EUT(S)

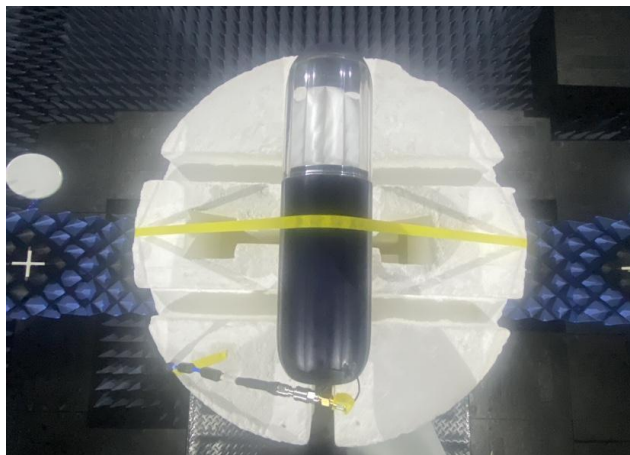
<b>Product Name</b>	Alex Neo 2
<b>Sample Model</b>	S63E
<b>Size</b>	/
<b>Serial No.</b>	/
<b>Test Item</b>	Antenna gain; Radiation pattern and efficiency
<b>Frequency Range</b>	2400MHz-2500MHz
<b>Received Date</b>	2022.11.28
<b>Test Date</b>	2022.11.29
<b>Remark</b>	The length of the RF cable is 70 mm

## 2.3 EUT appearance

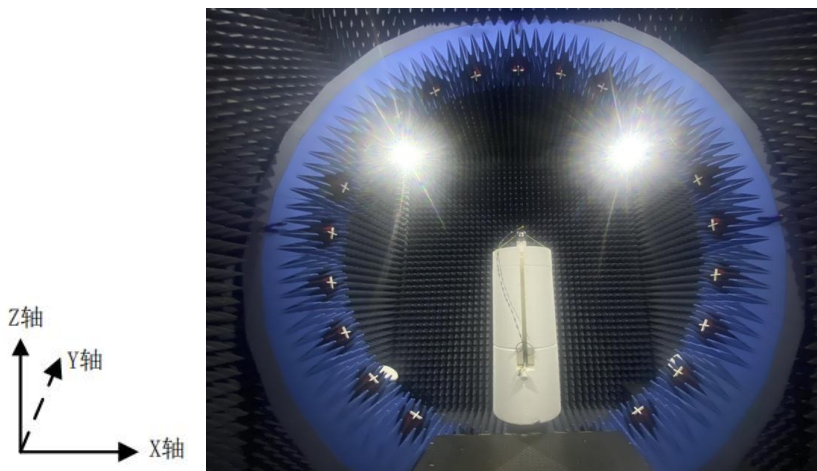


## 2.4 EUT setup photo of free space OTA testing

Planform



Front view



## 3. Test Results

### 3.1 Test standard

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

### 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
Antenna gain	$\pm 1\text{dB}$
Radiation efficiency	$\pm 10\%$

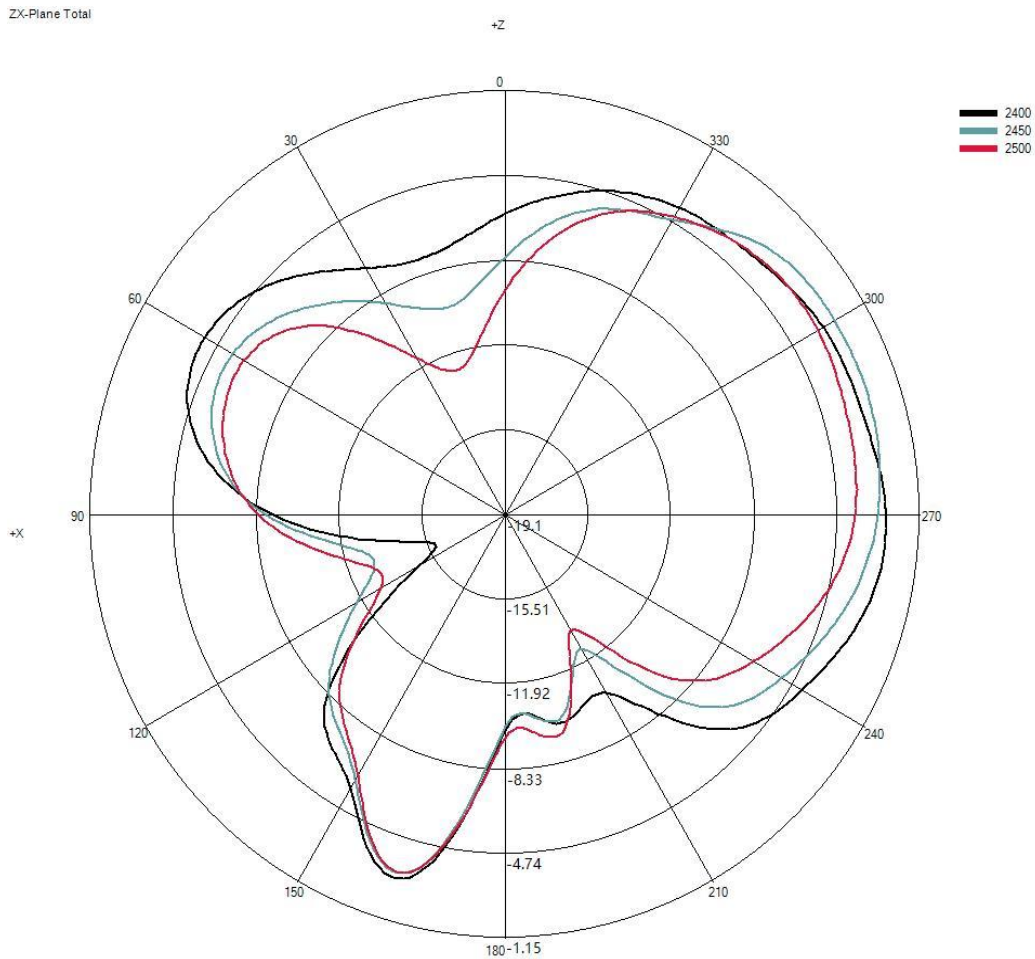
### 3.3 Test data

#### 3.3.1 Typical free space efficiency and gain

Frequency/MHz	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Peak Gain/dBi	-1.23	-1.55	-1.76	-1.98	-2.03	-1.84	-2.09	-2.30	-2.42	-2.60	-2.60
Efficiency/%	29.01	27.83	26.80	25.38	24.97	25.72	24.82	24.11	23.87	23.14	22.28

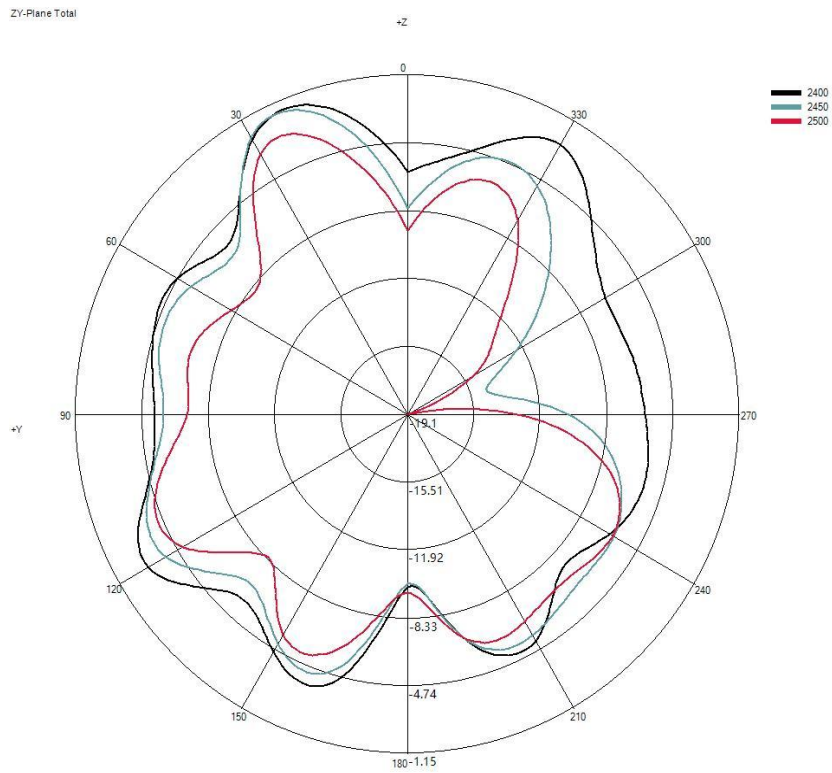
#### 3.3.2 Typical free space radiation pattern

(1) X-Z Plane:

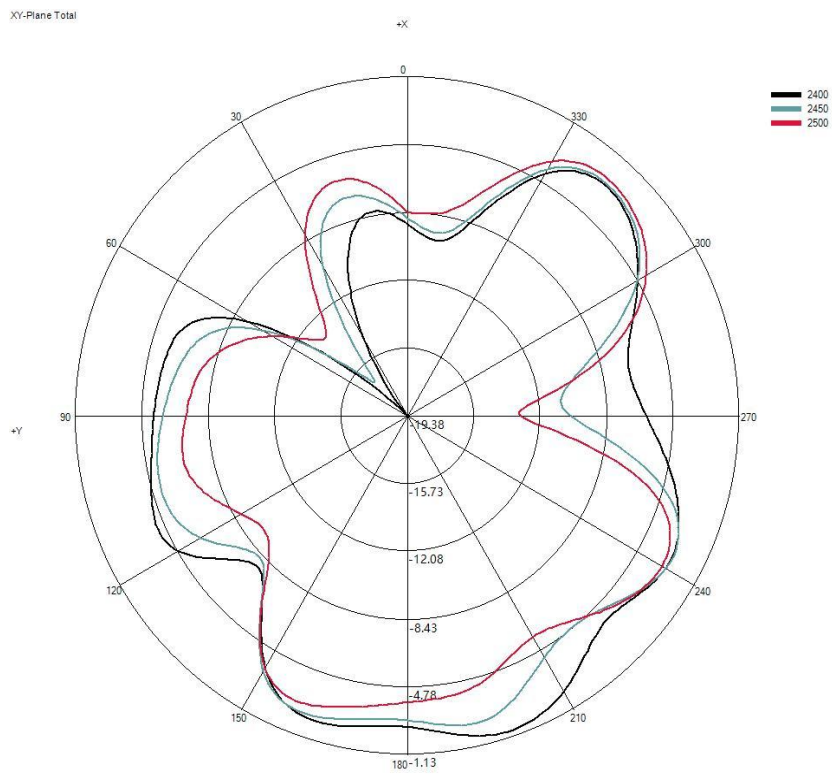




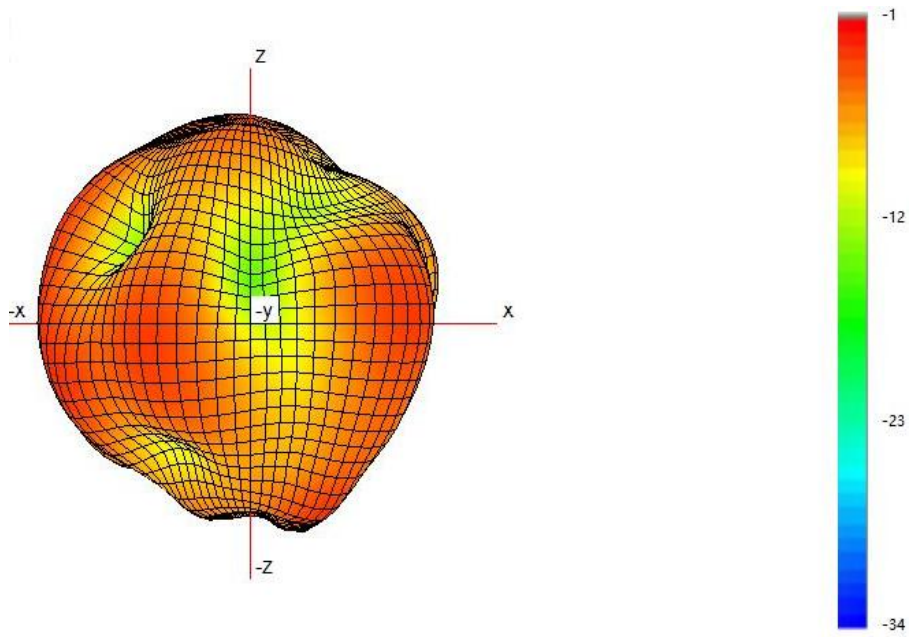
(2) Y-Z Plane:



(3) X-Y Plane:



(4) Typical Free Space 3D Radiation Pattern at 2.45GHz:



-----  
**End**

**(The following is blank)**