Testing Report

Customer Name: Shenzhen SIPO Technology Development Co.,Ltd.

Product Name: Bluetooth Keyboard

Sample Model: SP779BT

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

Issue Date: 2022.5.23

Engineer: Amanda	Date: 2022.5.19
Auditor: Eason	Date: 2022.5.23
Approver: Aaron	Date: 2022.5.23

Version

Version No.	Date	Description	Formulate	Approval
A0	2022.5.20	For the first time, formulate	Amanda	Eason

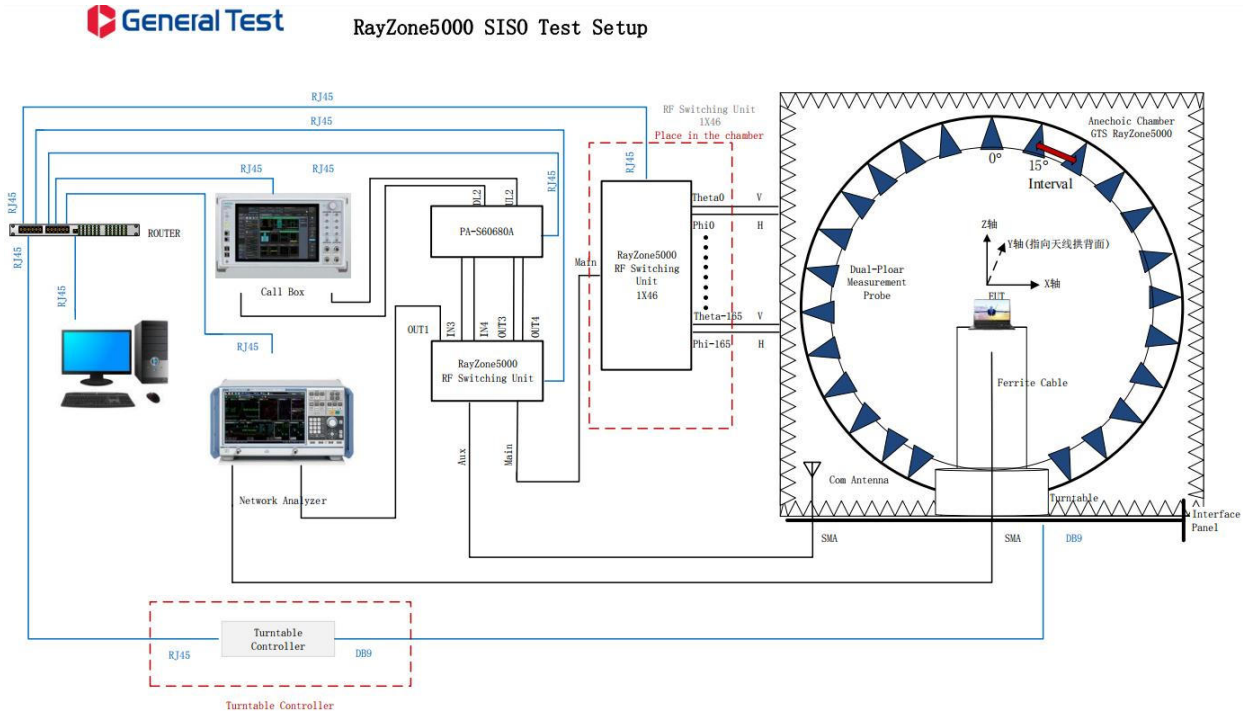
Contents

1.General Information

1.1 General information of testing institutions

Name	Shenzhen RFI-LAB Communication Technology Co., Ltd.
Address	10/F A, Lingyun Bld, Liufang Road, Baoan District, Shenzhen
Tel	13682621346
E-mail	dengyt@tech-now.com
Equipment	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
OTA Test System	RayZone-5000	RFI-LAB-RF-D00	GTS	2021.3.15	2023.3.14
Network Analyzer	E5071C	RFI-LAB-RF-D01	KEYSIGHT	2022.5.13	2023.5.12

1.4 Test environment

Temperature	24.5℃
Humidity	58%RH
Pressure	100.05kPa

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

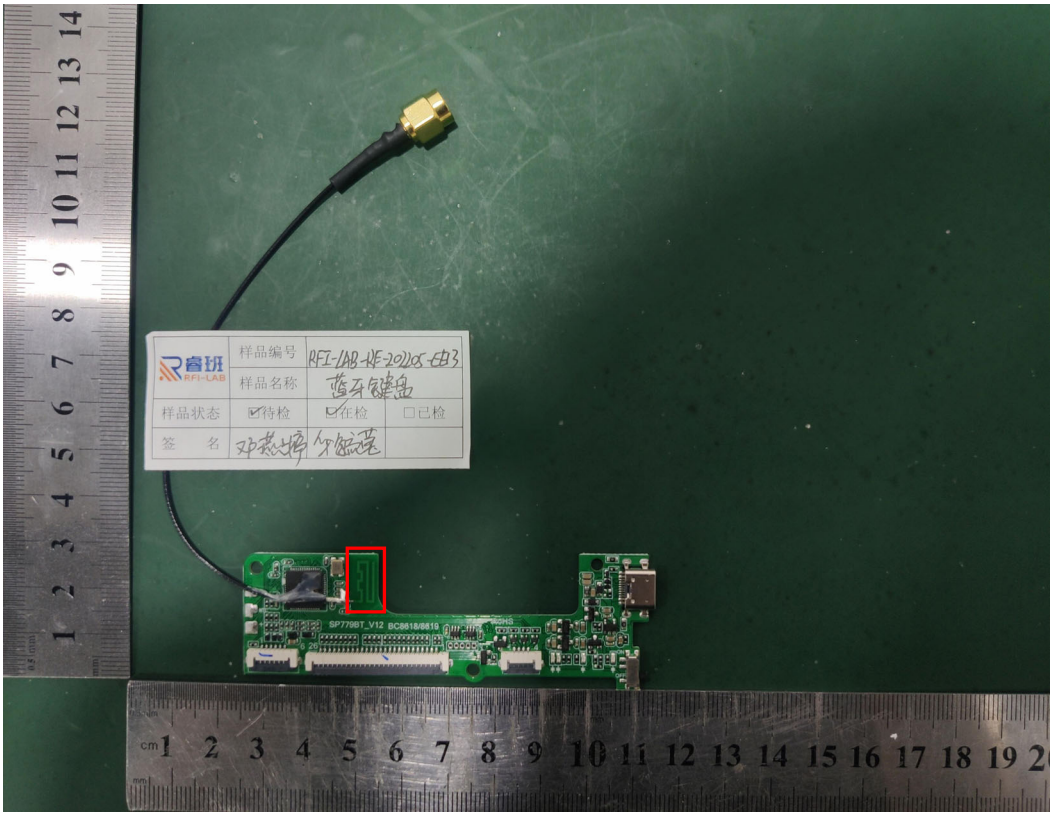
2.1 Client information

Name	Shenzhen SIPO Technology Development Co.,Ltd.
Address	1001, floor 10, building C6, Hengfeng Industrial City, Hezhou community, Bao'an District, Shenzhen
Contacts	Roger Zhang
Tel	15014046643
E-mail	rdm@sipodev.com

2.2 Description of EUT(S)

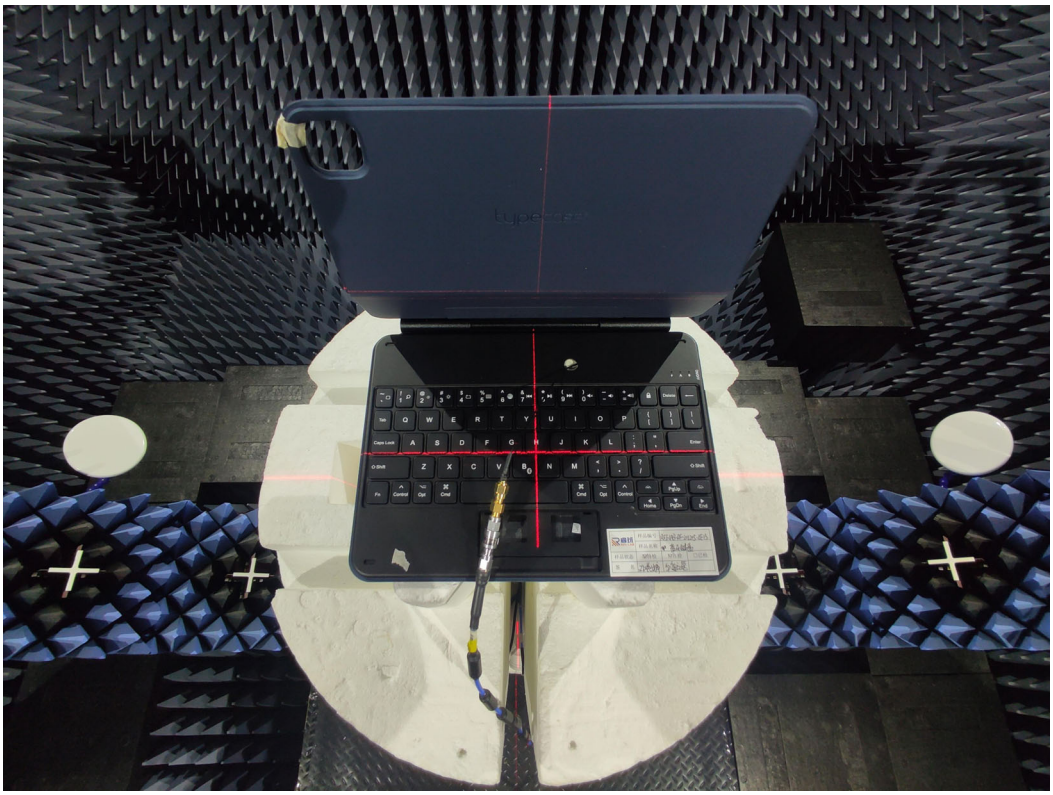
Product Name	Bluetooth Keyboard
Sample Model	SP779BT
Size	/
Serial No.	/
Test Item	VSWR; Gain; Efficiency; Radiation pattern
Frequency Range	2400MHz-2500MHz
Received Date	2022.5.19
Test Date	2022.5.19
Remark	/

2.3 EUT appearance

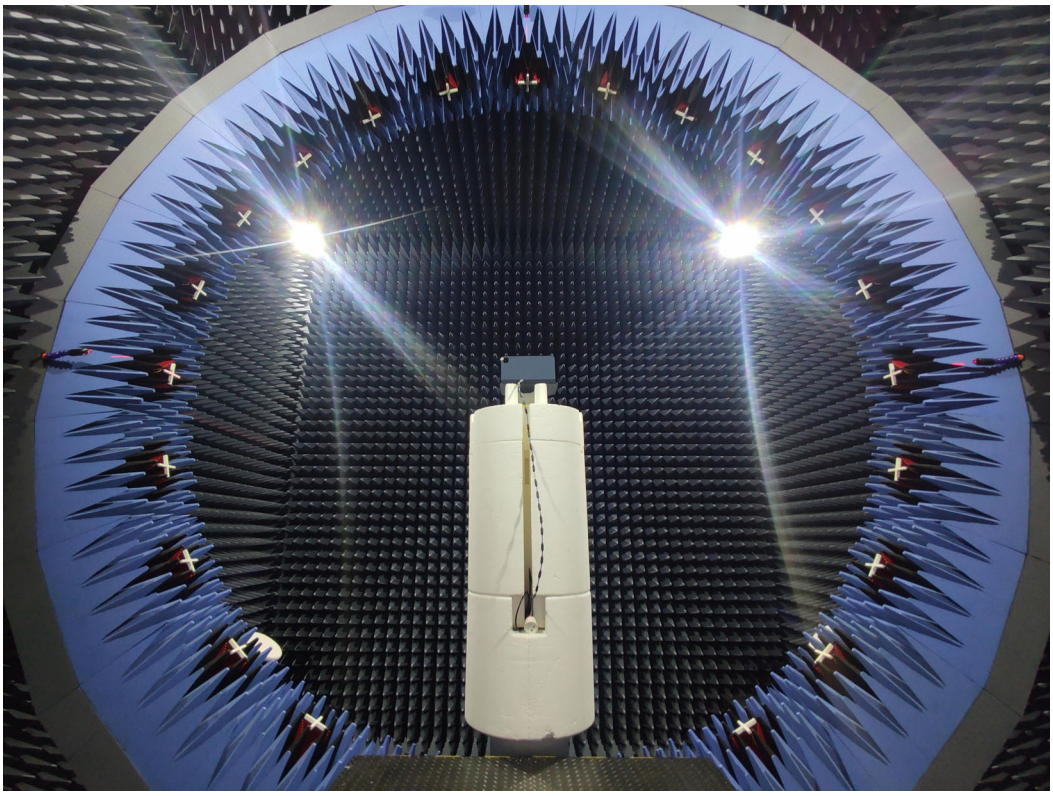


2.4 DUT setup photo of free space OTA testing

Planform



Front view



3.Test Results

3.1 Test standard

Name	Parameter	Method	Standard no.
Mobile communication antenna	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*
	Gain and directivity		

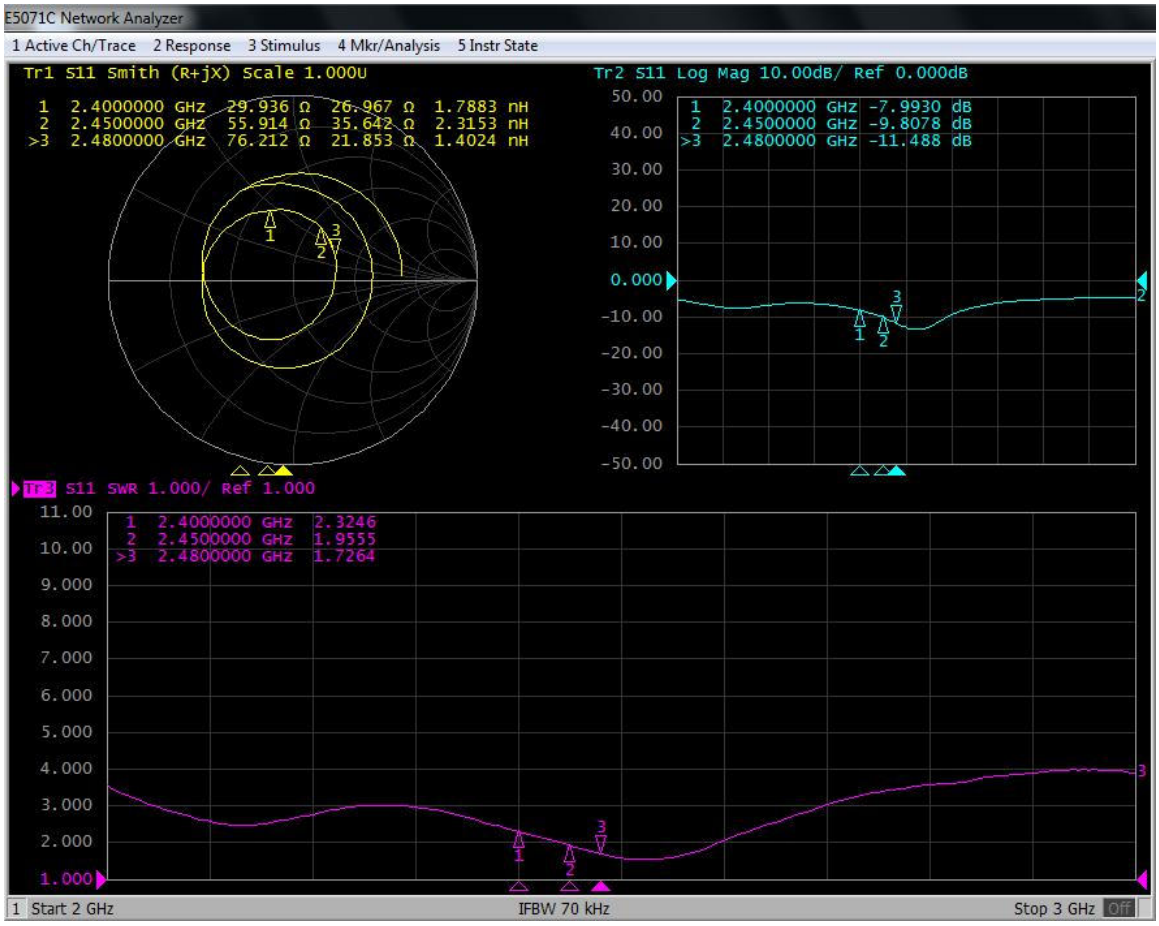
3.2 Test uncertainty

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
VSWR	±0.3
Antenna gain	±0.72dB
Radiation efficiency	±0.72dB

3.3 Test data

3.3.1 VSWR



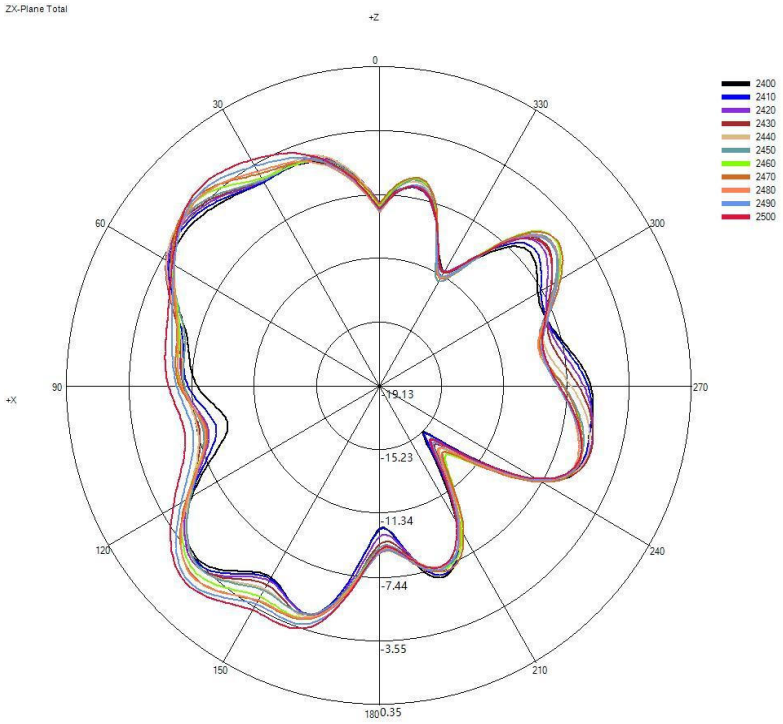
Frequency/MHz	2400	2450	2480
VSWR	2.3246	1.9555	1.7264

3.3.2 Typical free space efficiency and gain

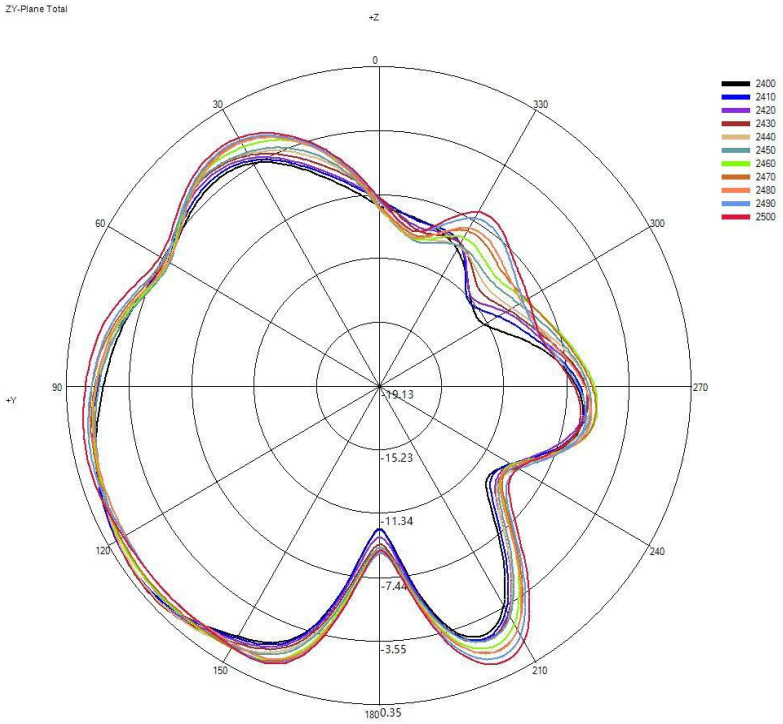
Frequency/MHz	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Peak Gain/dBi	-0.29	-0.21	-0.17	-0.08	-0.06	-0.19	-0.04	0.04	-0.10	0.04	0.08
Efficiency/%	27.29	28.26	29.10	29.91	30.22	29.68	31.01	31.73	30.28	31.44	32.33

3.3.3 Typical free space radiation pattern

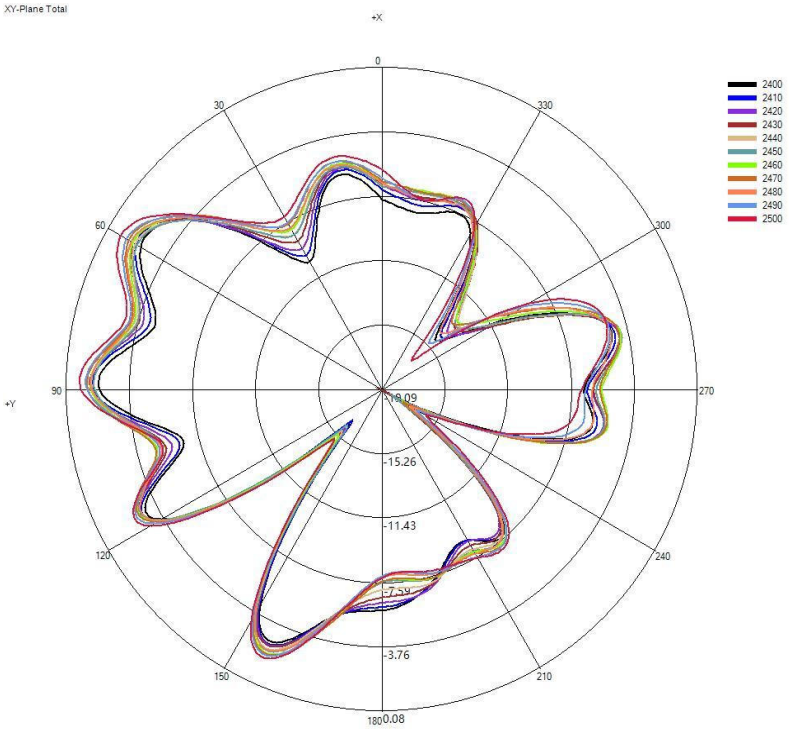
(1) X-Z Plane:



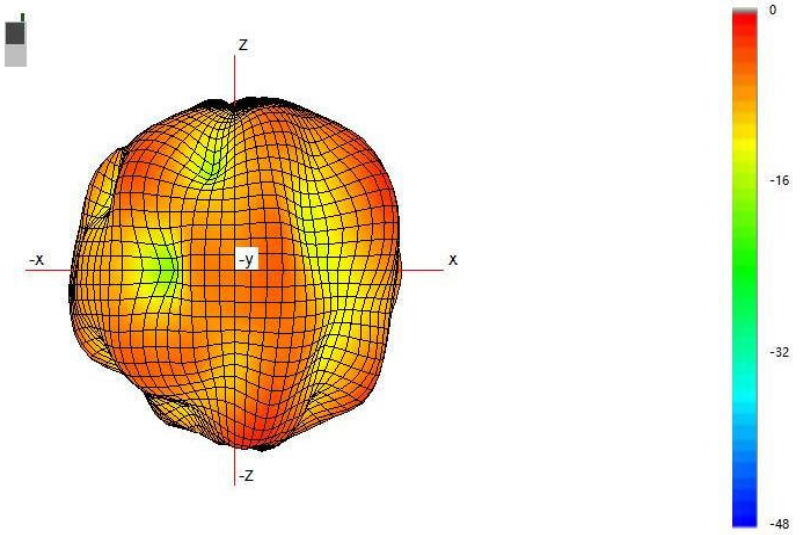
(2) Y-Z Plane:



(3) X-Y Plane:



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



----------End----------

（The following is blank）

SP800BT_ ANTENNA

1.Antenna Type : SPANT-BT-003

2.Antenna Gain : 0.08dBi

3.Antenna Direction : Horizontal