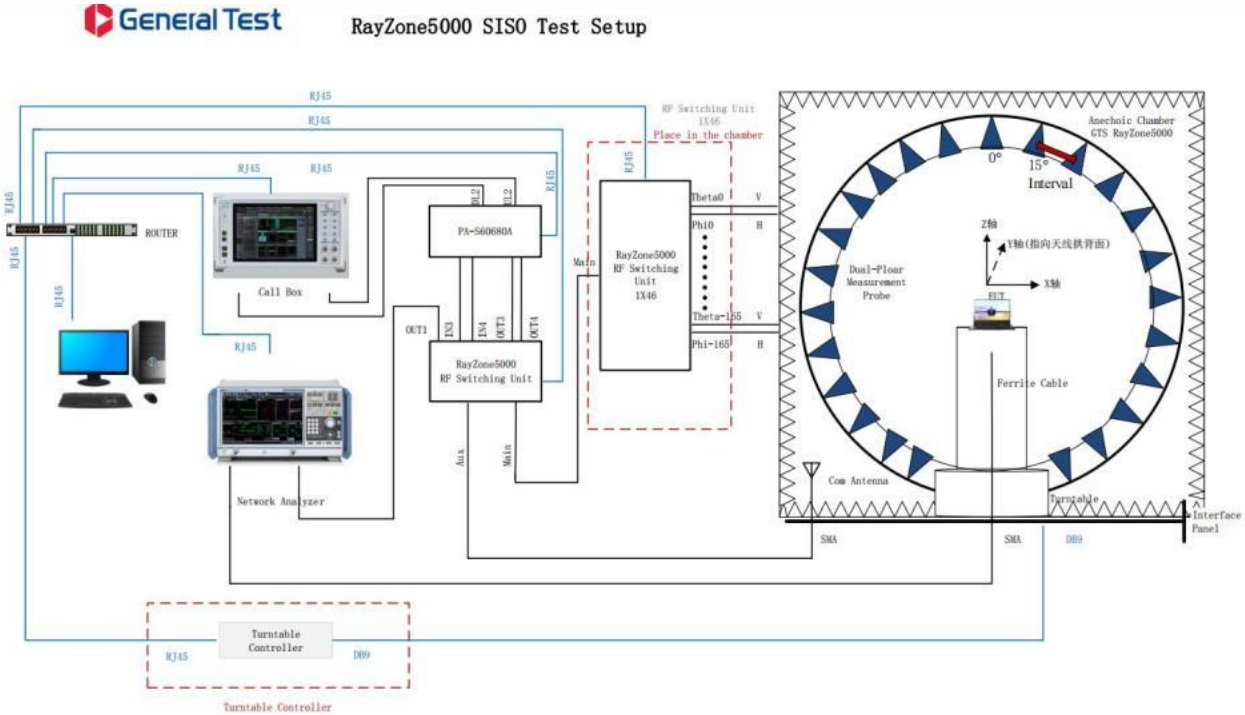
. Antenna report

1、Basic Information

1.1 Test principle



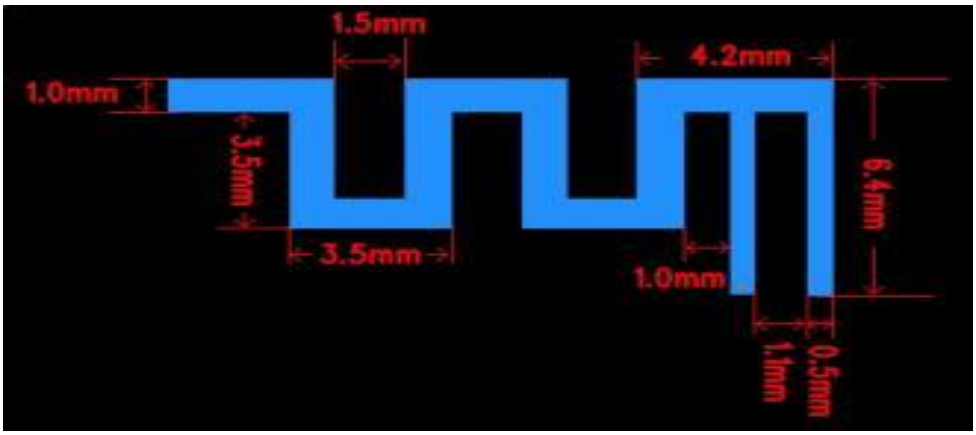
1.2 Test equipment

Name	Mode number	Equipment number	Manufacturer	Calibration date	
OTA Test system	RayZone-5000	RFI-LAB-RF-D00	GTS	2021.3.22	
Network analyzer	E5071C	RFI-LAB-RF-C02	KEYSIGHT	2022.5.13	
Network analyzer	E5071C	RFI-LAB-RF-D01	KEYSIGHT	2022.5.13	

1.3 Test environment

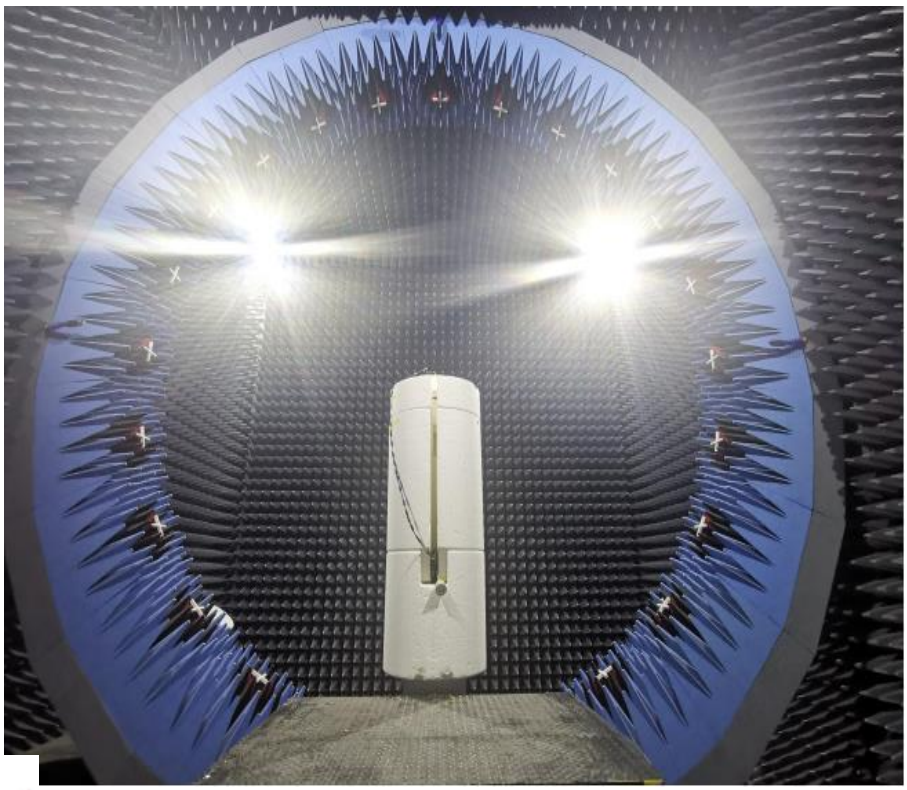
Ambient temperature	23.7℃
Relative humidity	58%RH
Atmospheric pressure	100.14kPa

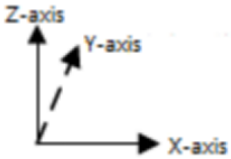
2.Sample Drawing



3.Sample Layout Diagram

主视图





3.Test Result

3.1 Detection basis

Object name	Parameter name	Method name	Bv standard number
Mobile communication antenna	Radiation pattern	Generic specification for antennas used in the mobile communications	GB/T 9410-2008
	Antenna gain		
	Voltage standing wave ratio		
	Roundness of the directional graph		
Antenna	Gain and directivity	IEEE Standard procedure for antenna testing	ANSI/IEEE Std 149-1979
	Radiation efficiency		
	Impedance		

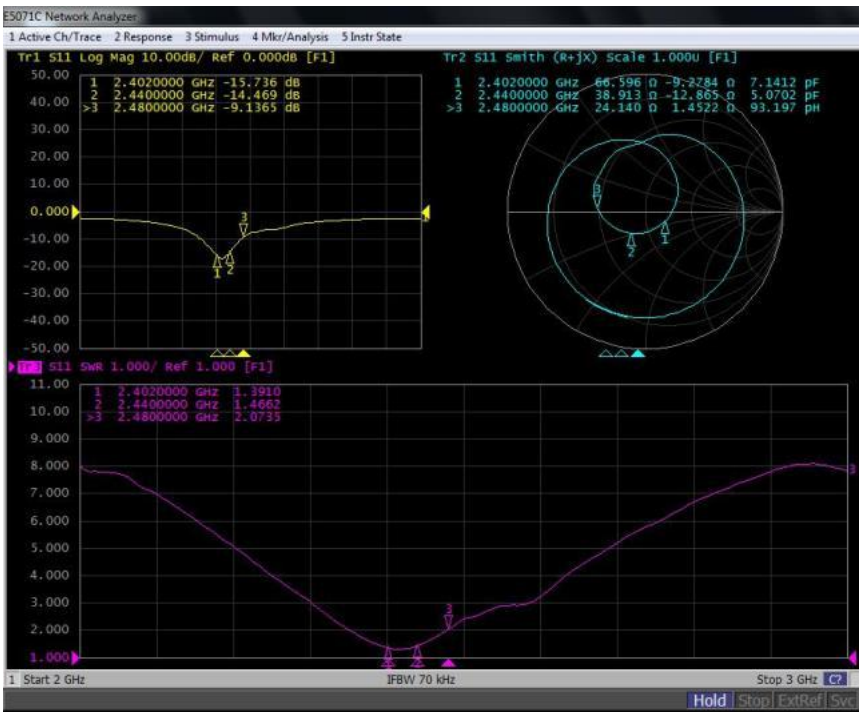
3.2 Test uncertainty

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 Network analyzer test



3.3.2 Standing-wave ratio

Frequency/MHz	2402	2440	2480
VSWR	1.3910	1.4662	2.0735

3.3.3 Gain and efficiency

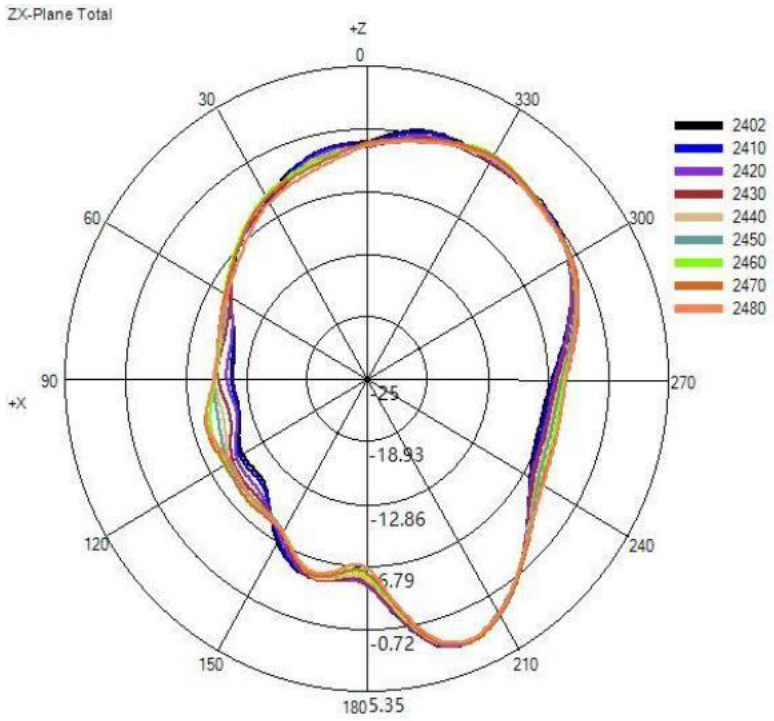
Frequency/MHz	2402	2410	2420	2430	2440	2450	2460	2470	2480
Peak Gain/dBi	2.85	2.88	2.79	2.77	2.69	2.52	2.46	2.41	2.03
Efficiency/%	44.98	45.34	44.93	45.74	46.00	45.14	45.56	44.49	40.81

3.3.4 Roundness of the directional graph

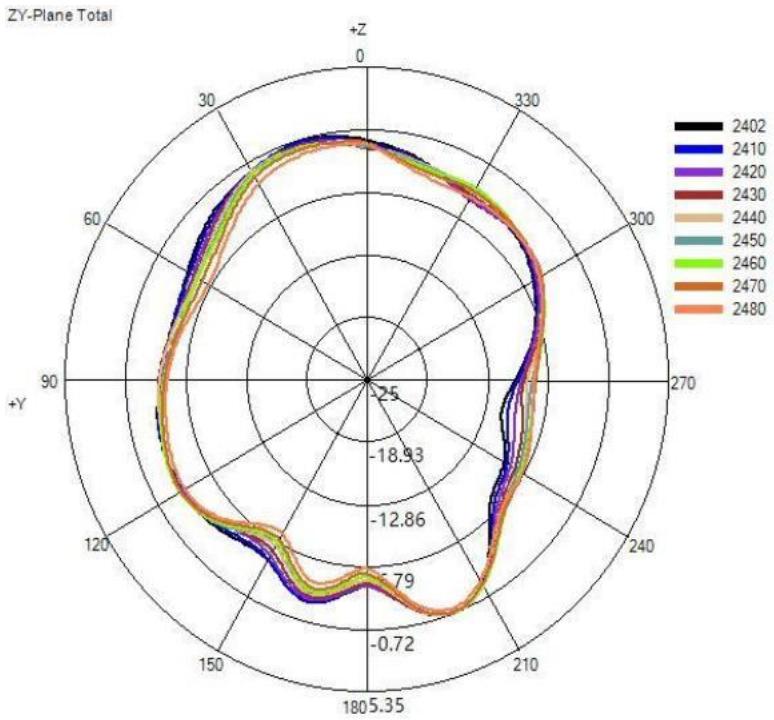
Frequency/MHz	2402	2410	2420	2430	2440	2450	2460	2470	2480
H Theta=90/dB	14.22	14.43	14.31	13.68	13.38	13.30	13.18	13.31	13.58

3.3.5 Directional diagram

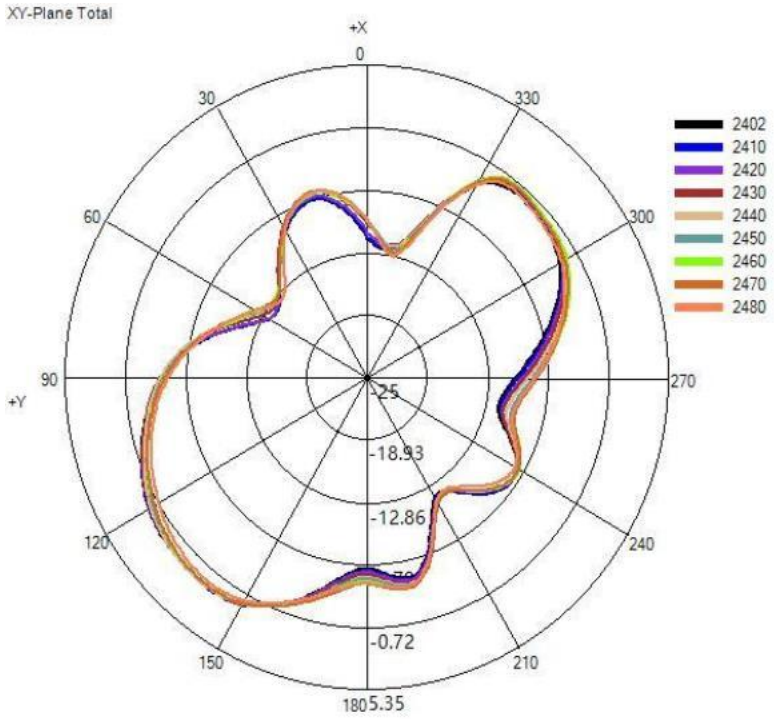
(1) X-Z Plane (Unit：dBi)：



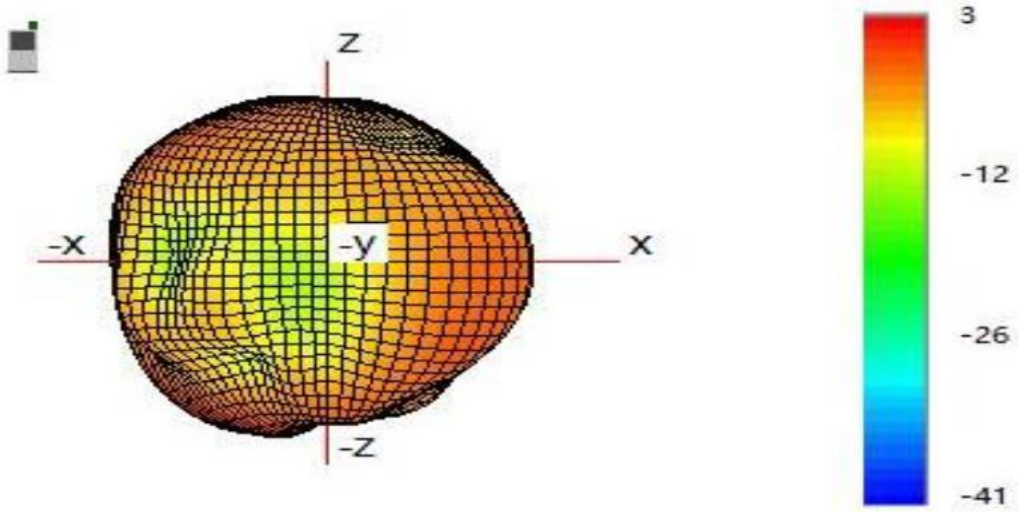
(2) Y-Z Plane (Unit：dBi)：



(3) X-Y Plane (Unit：dBi)：



(4) 2410MHz 3D direction map (Unit：dBi)



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