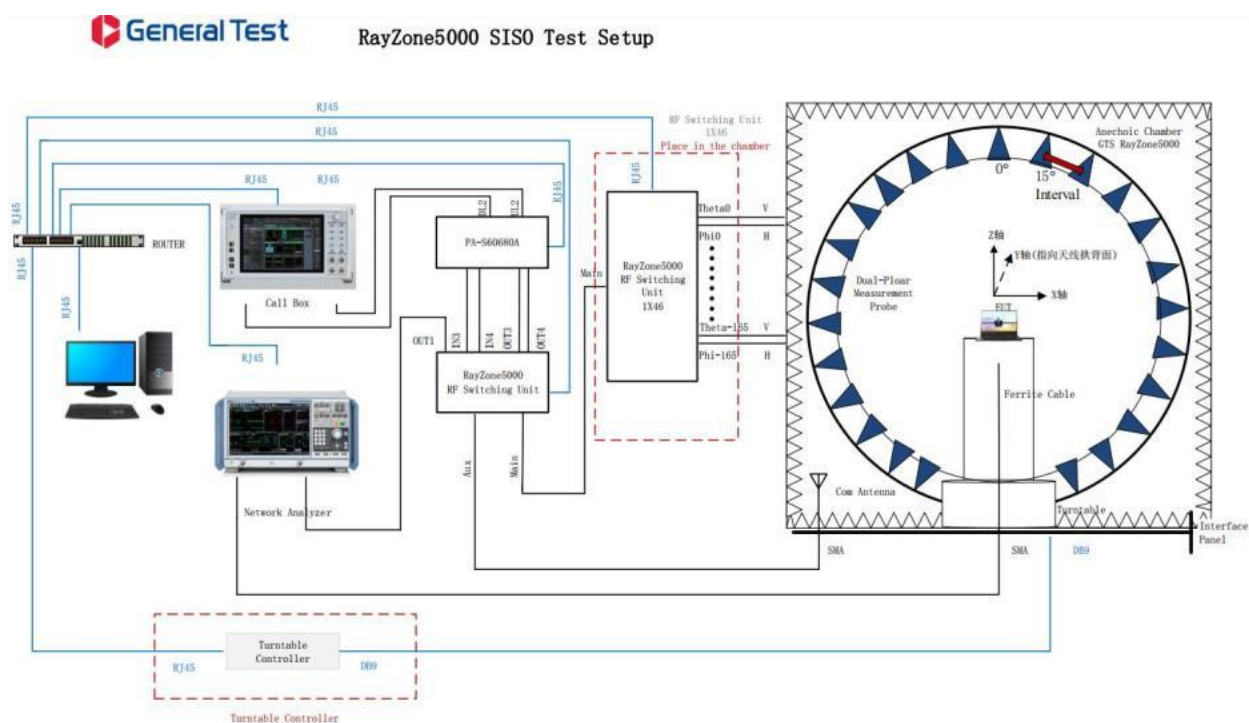


Antenna report

1、 essential information

1.1 test philosophy



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1.2 test equipment

Name	model	equipment number	manufacturer	calibration date	next calibration date
OTA test system	RayZone-5000	RFI-LAB-RF-D00	GTS	2021.3.22	2023.3.21
network analyzer	E5071C	RFI-LAB-RF-C02	KEYSIGHT	2022.5.13	2023.5.12
network analyzer	E5071C	RFI-LAB-RF-D01	KEYSIGHT	2022.5.13	2023.5.12

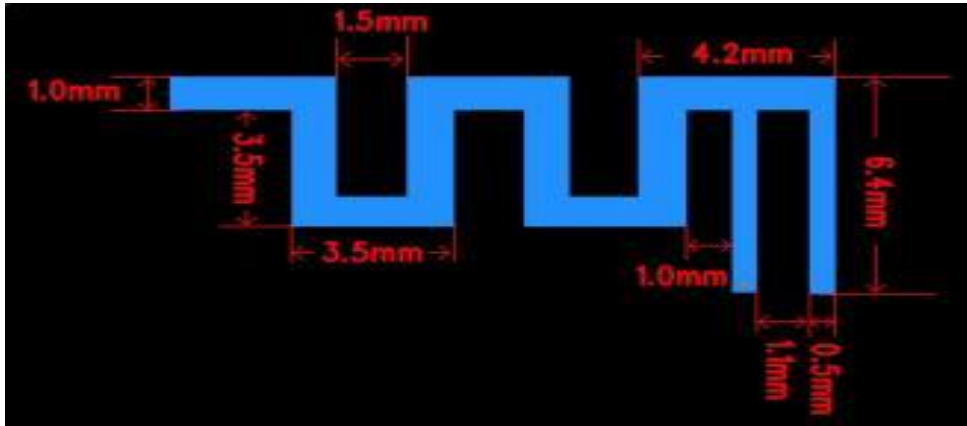
1.3 testing environment

environment temperature	23.7°C
relative humidity	58%RH
atmospheric pressure	100.14kPa

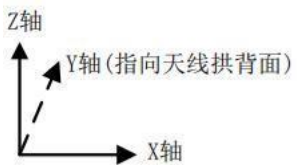
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2. Sample drawing



3. Sample layout diagram



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3.test result

3.1detection principle

name	named parameter	Method name	By standard number
Mobile communication antenna	radiation pattern	General technical specification for mobile communication antennas	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
	radiant efficiency		
	impedance		

3.2Test uncertainty

the calculation of Uncertainty is based on the "Guide to the Expression of Uncertainty in Measurement" (GUM) published by ISO, which uses K=2 inclusion factor and 95% confidence level to represent extended uncertainty.

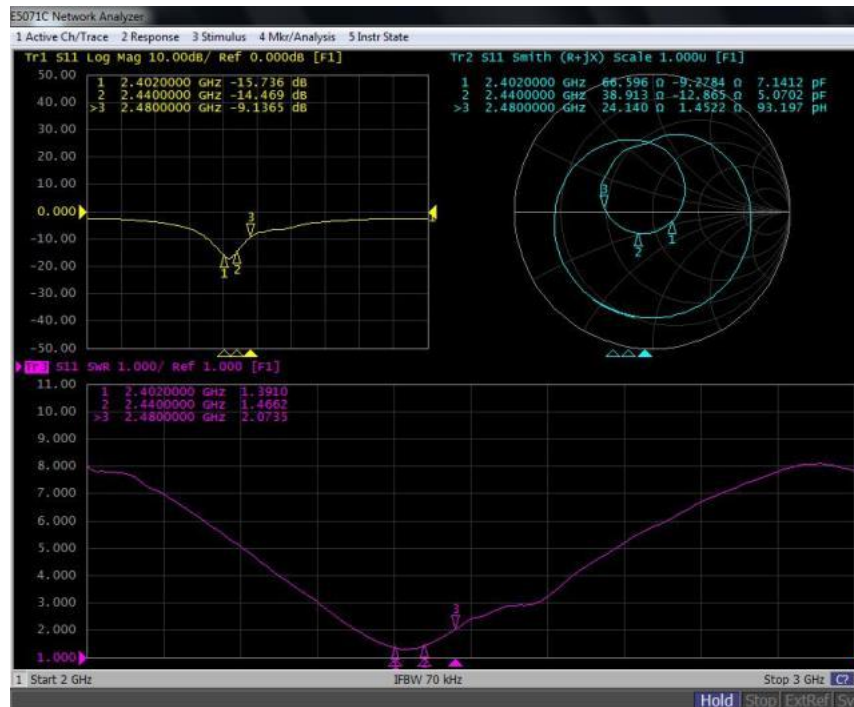
project	uncertainty
standing-wave ratio (SWR)	± 0.3
Gain, efficiency	$\pm 0.72\text{dB}$

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3.3 test data

3.3.1 Network analyzer test



3.3.2 standing wave-ratio swr

frequency/MHz	2402	2440	2480
Voltage standing wave ratio	1.3910	1.4662	2.0735

3.3.3 Gain and efficiency

frequency/MHz	2402	2410	2420	2430	2440	2450	2460	2470	2480
maximum 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

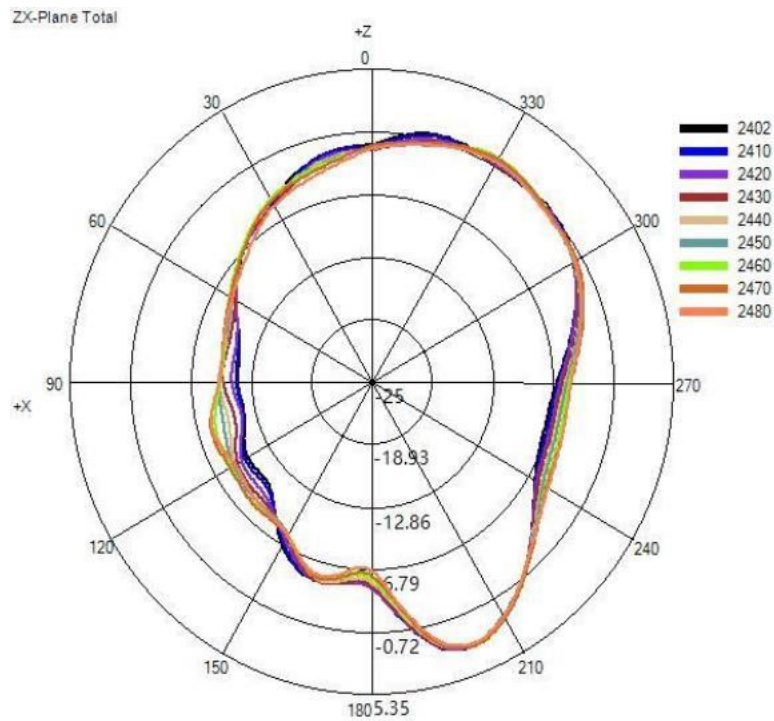
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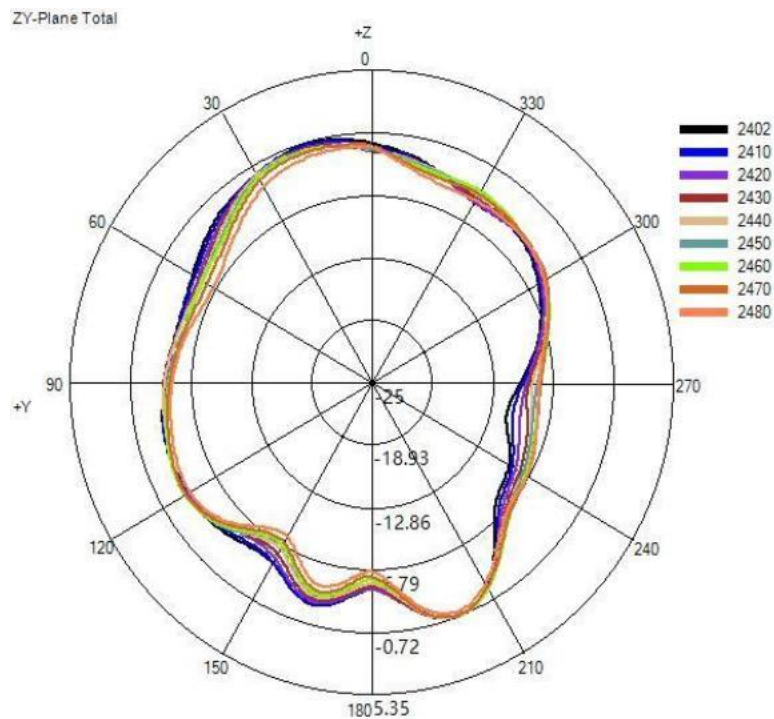
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3.3.5directional diagram

(1) X-Z(unit: dBi):



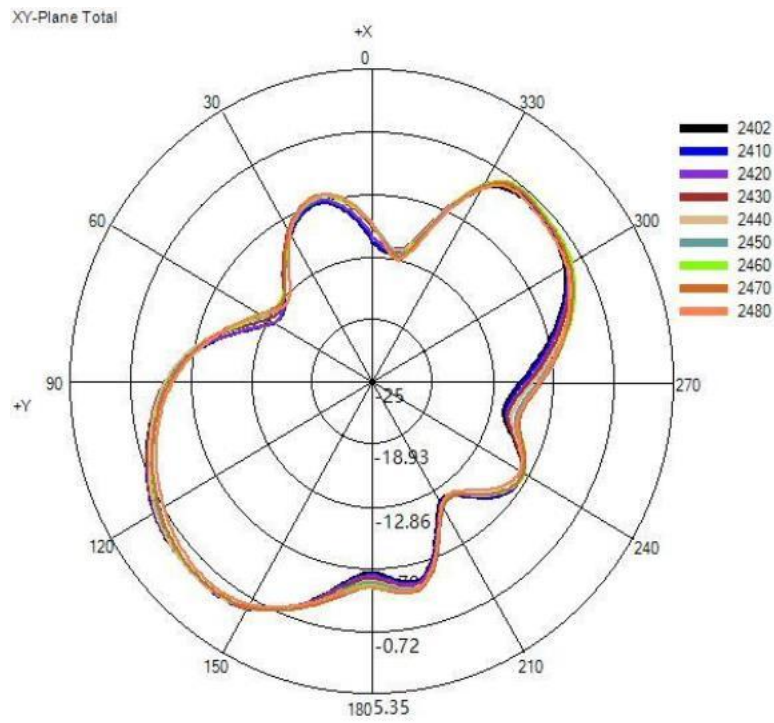
(2) Y-Z(unit: dBi):



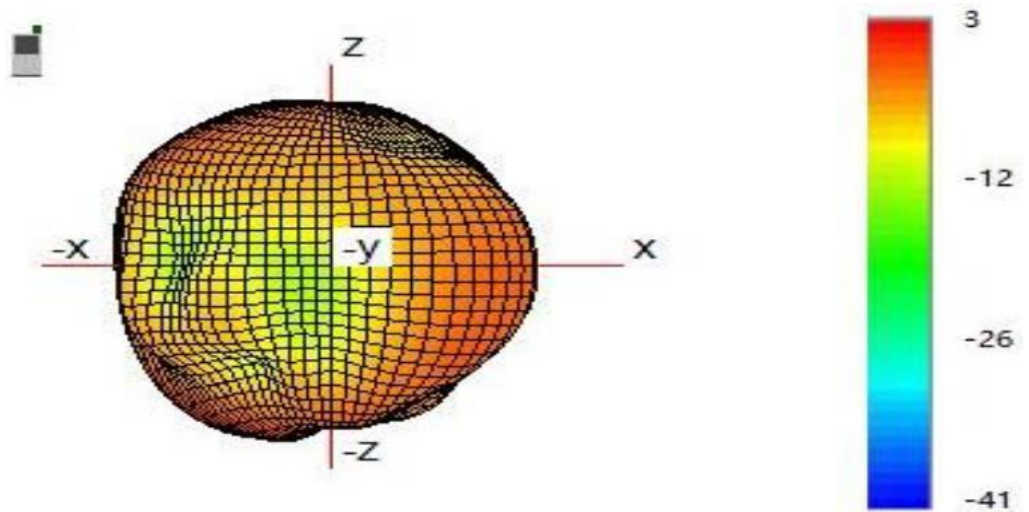
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(3) X-Y(unit: dBi):



(4) 2410MHz 3Ddirectional diagram(unit: dBi):



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