

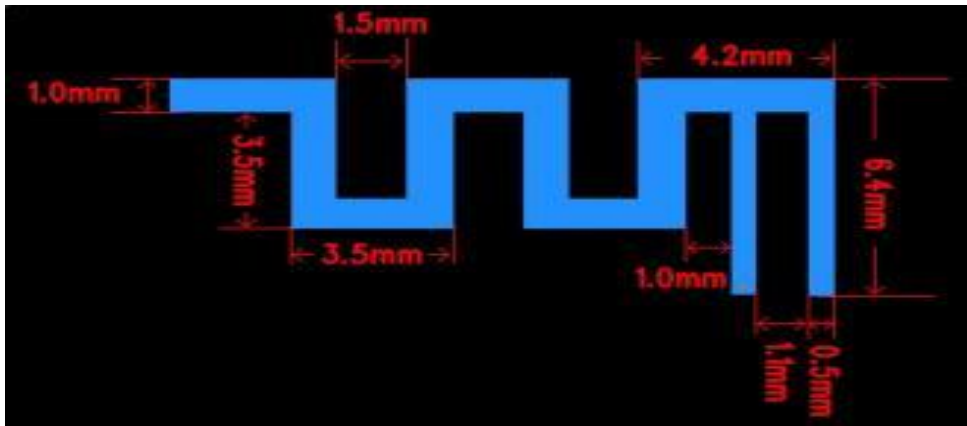
1.2 Testing Facility

name	model	equipment number	manufacturer	Date of calibration	Next cal- ibration date
OTA test macro	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

Relative humid- ity of ambient	23.7℃
temperature	58%RH
atmospheric pressure	100.14kPa

2. Photo of sample item



3. Sample test placement diagram

front view



3.Test Result

3.1 Test Basis

Object name	Parameter name	Method name	According to the standard number
Mobile communication antenna	antenna pattern	General technical specifications for mobile communication antennas	GB/T 9410-2008
	antenna gain		
	voltage standing-wave ratio		
	Circularity of direction diagram		
antenna	Gain and directionality	IEEE antenna test standard process	ANSI/IEEE Std 149-1979
	radiation efficiency		
	impedance		

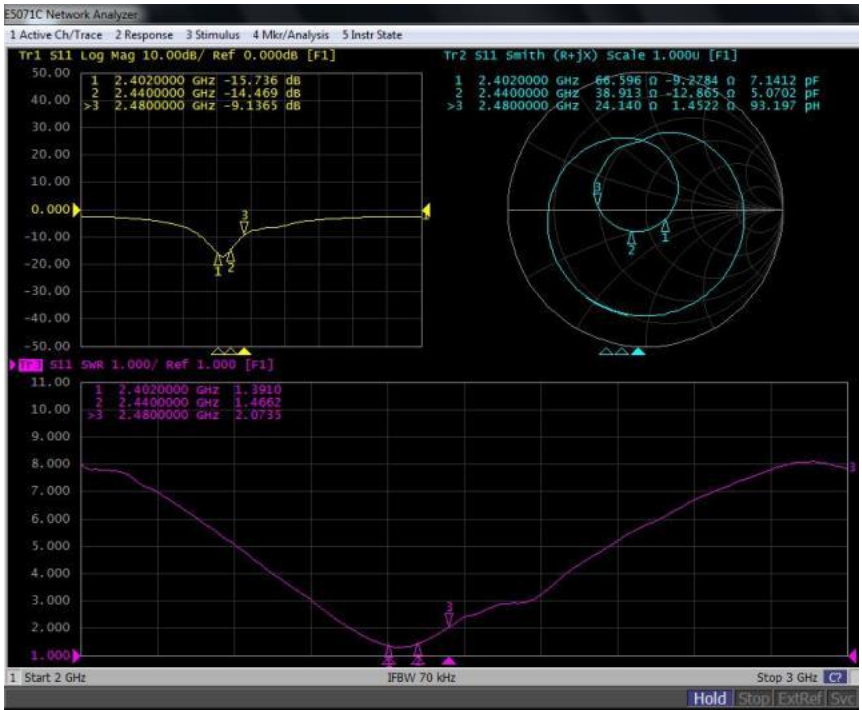
3.2 Test Uncertainty

Uncertainty is calculated based on ISO's "Guide to the Expression of Uncertainty in Measurement" (GUM), using a K=2 inclusion factor and a 95% confidence level to represent the extended uncertainty.

project	Uncerta-
standing-wave ratio	inty ±0. 3
Gain, efficiency	±0.72dB

3.3test data

3.3.1 Network analyzer test



3.3.2standing-wave ratio

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

3.3.3 Gain and efficiency

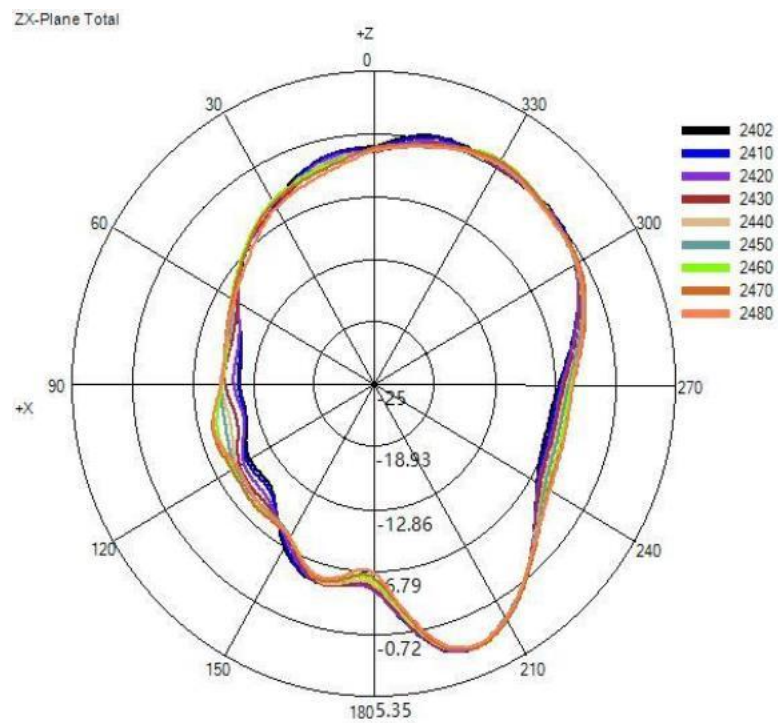
frequency /MHz	2402	2410	2420	2430	2440	2450	2460	2470	2480
maximum gain /dBi	2.85	2.88	2.79	2.77	2.69	2.52	2.46	2.41	2.03
productiveness / %	44.98	45.34	44.93	45.74	46.00	45.14	45.56	44.49	40.81

3.3.4 Circularity of Direction Dia-gram

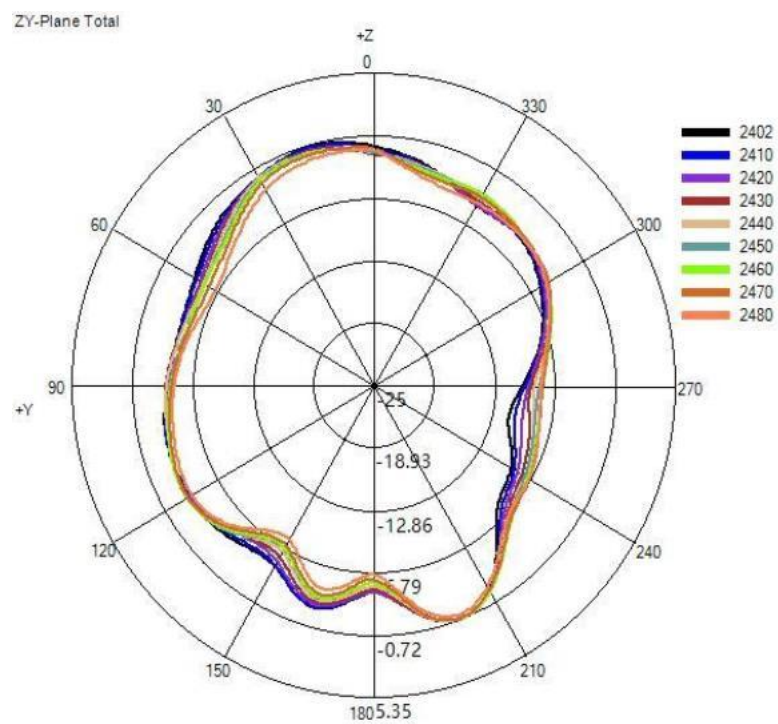
Frequency / MHz	2402	2410	2420	2430	2440	2450	2460	2470	2480	
H Theta=90/dB	14.22	14.43	14.31	13.68	13.38	13.30	13.18	13.31	13.58	

3.3.5 Directional Diagram

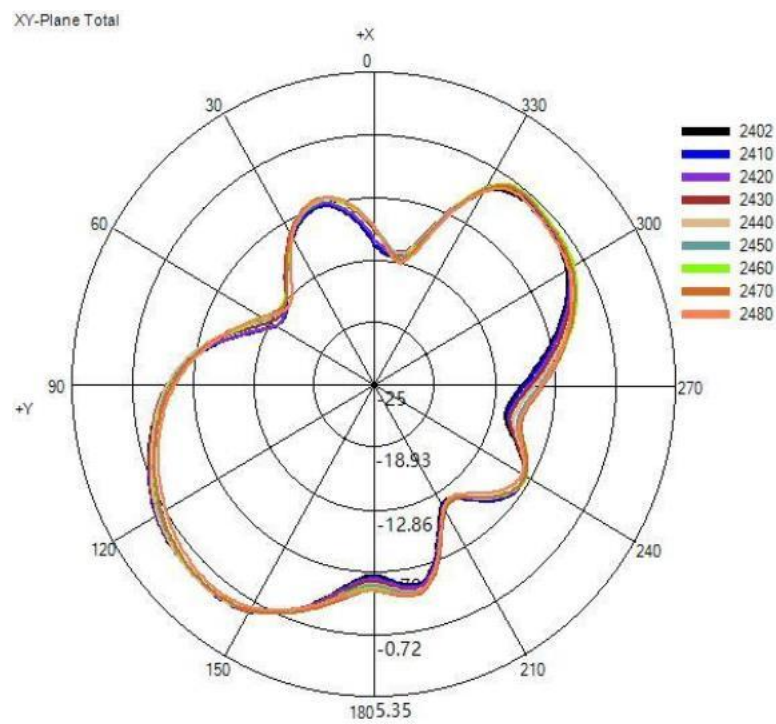
(1) X - Z plane (unit: dBi):



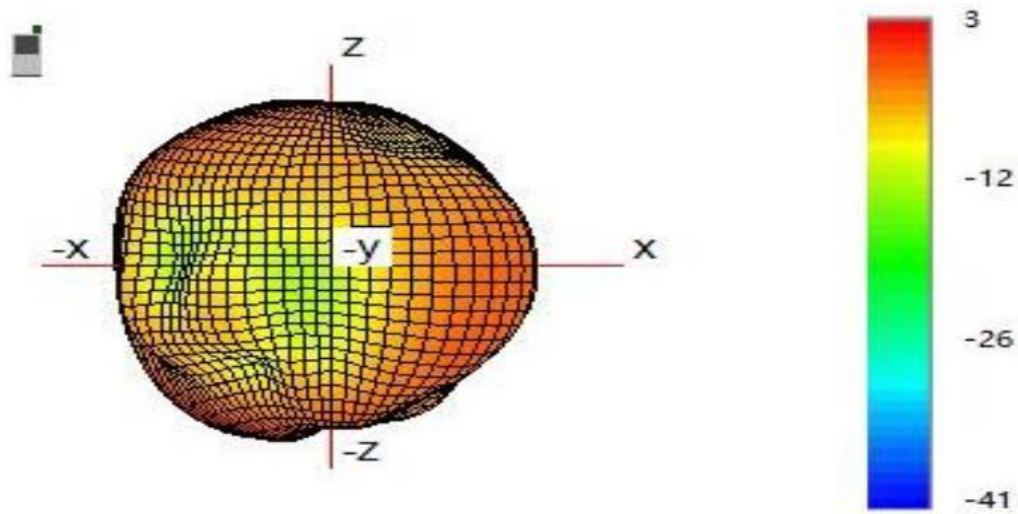
(2) Y - Z plane (unit:dBi):



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



(4) 3D Direction Chart of 2410MHz (unit: DBi):



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