

Building 1202B, Building C 6, Hengfeng industrial city, Hezhou, xixiang, Baoan District, Shenzhen City

Ningyi (GA1013) Acknowledgment

Brand HT-WIFI-GA1013

Formulate	Check	Ratify	Acknowledge the book completion time
ZhongXiaoMing	HuangZhiLing	Daitingting	2025.2.25

acknowledge	check	ratify	Acknowledge the book completion time

Appraisal report ☐ Accept ☐ Conditional acceptance ☐ Refuse

Confidential Information

Items	Date	Version	The revised notes	Notes
1	2025. 2. 25	A0	For the first time	
2				

1. Antenna picture

The report mainly provides the test status of the electrical properties parameters of **HT-WIFI-GA1013**. The **HT-WIFI-GA1013** antenna is a **2.4~2.5GHz** Band . The antenna Picture and assembly are shown below.



Antenna picture & assembly picture

2. Antenna Test Equipment Introduction

Test of antenna input characteristics using Agilent E5071C and Agilent 5062A vector network analyzer; The radiation pattern of the antenna are tested using the Satimo starlab 3D near field Anechoic Chamber , and the instrument is used to agilent8960 E5515 and Agilent E4438C. The test coordinates of the darkroom are as follows:

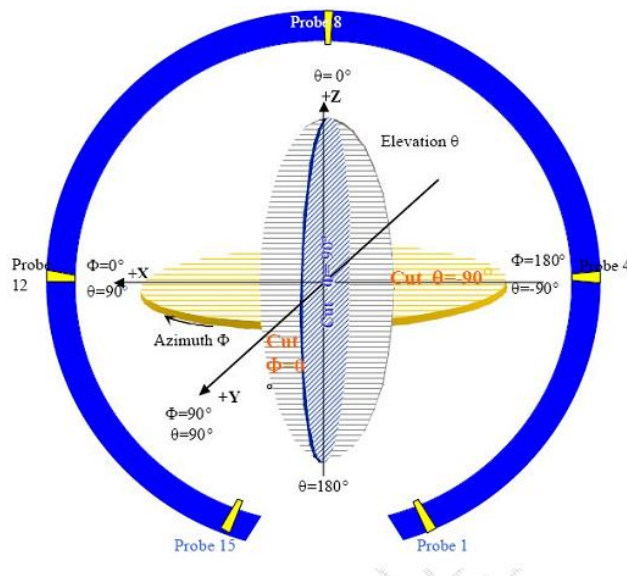


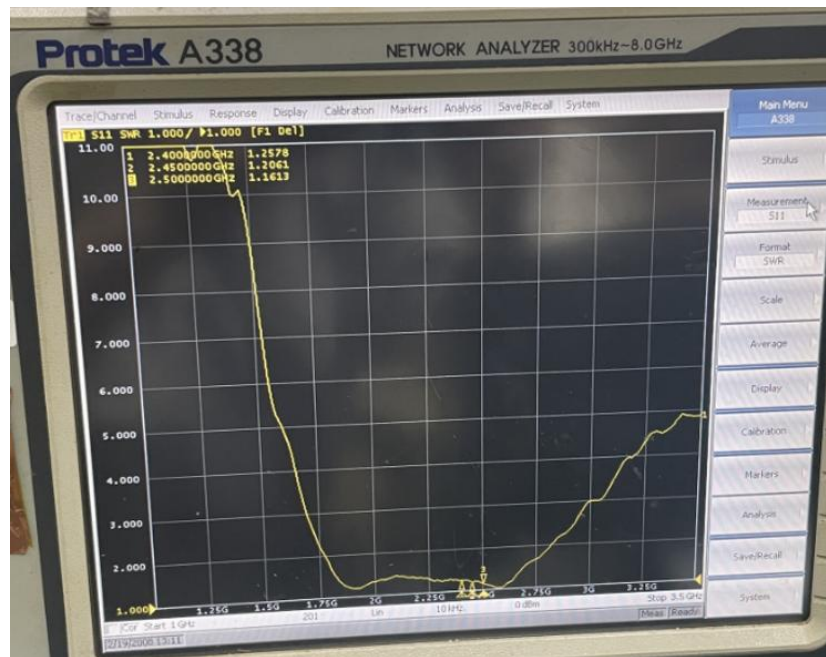
Figure 4 3D microwave anechoic chamber test coordinate system (back view)

3. Electrical Specification

3-2 Passive S11 parameter

Measuring Method is a 50 Ω coaxial cable is connected to the antenna. Then this cable is connected to a network analyzer to measure the S11 parameter, Keeping this fixture away from metal at least 20cm.

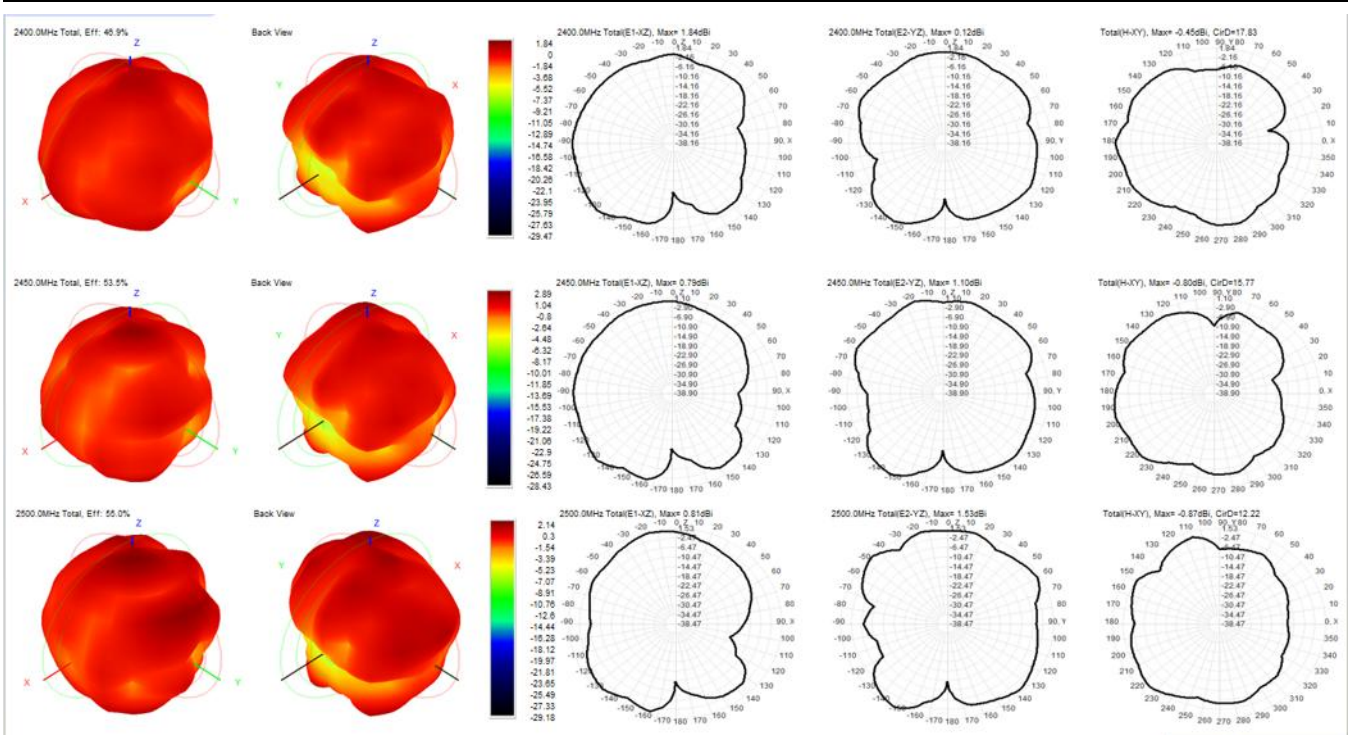
VSWR



3-3 Antenna Matching Network

Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Efficiency (dBi)	-3.29	-3.12	-3.09	-2.95	-2.86	-2.72	-2.62	-2.63	-2.77	-2.66	-2.59
Gain (dBi)	1.84	1.74	1.96	2.31	2.59	2.89	3.03	2.90	2.48	2.25	2.14
Efficiency (%)	46.89	48.76	49.10	50.64	51.75	53.49	54.69	54.56	52.87	54.15	55.02
Directivity (dB)	5.13	4.86	5.05	5.26	5.46	5.60	5.65	5.53	5.25	4.92	4.73
Peak Gain Position (Theta)	135.00	135.00	135.00	135.00	135.00	135.00	135.00	135.00	135.00	135.00	135.00
Peak Gain Position (Phi)	0.00	0.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	45.00
Efficiency ThetaPol (%)	19.60	20.66	20.97	21.76	22.49	23.24	23.66	23.72	23.32	24.45	25.52
Efficiency PhiPol (%)	27.29	28.10	28.13	28.88	29.26	30.25	31.04	30.84	29.55	29.70	29.50
Upper Hem. Efficiency (%)	22.76	23.89	24.53	25.21	25.77	26.37	27.06	27.02	26.73	27.20	27.44
Lower Hem. Efficiency (%)	24.13	24.86	24.56	25.44	25.98	27.11	27.63	27.54	26.14	26.95	27.58

Confidential Information



		Old version (original) Android 14			Android 15		External antenna
		CH	TRP	TIS	TRP	TIS	TIS
802.11 (WIFI 2.4G)	B(11M)	L	13.6	-81.2	17.6	-72.3	-73.3
		M	13.25	-82.3	18.2	-71.9	-72.8
		H	12.79	-81.63	18.3	-78.6	-79.6
	G(54M)	L	12.37	-71.9	13.3	-66.3	-67.2
		M	12.25	-72.23	13.6	-65.6	-66
		H	11.62	-71.37	13.5	-70.6	-71
	N(CS7)	L	11.8	-70.5	12.9	-64.3	-64.5
		M	11.64	-70.6	13.1	-62.2	-62.8
		H	10.92	-69.8	12.2	-65.8	-66.3

4. Mechanical Specification:

Mechanical Configuration (Unit: mm)

The appearance of the antenna is according to drawing Figure 8

