

Antenna Specification for Approval

Manufacturer: Shantou City Happy Cow Toys Industrial Co.,Ltd

Address: #7th Bldg, Chousha Company Yard, Lao shanfen road,
Chenghai district, Shantou city

● Specification Summary

A. Electrical Characteristics	
Frequency	2400MHz ~2500MHz
VSWR	< 2.1 dbi
Efficiency	>40%
Peak Gain	0.8 dbi
Impedance	50 Ohm
Polarization	Line
B. Material & Mechanical Characteristics	
Material of Radiator	Cu
Cable Type	/
Connector Type	/
Dimension	At Attachment
Heat-durability	280±5°C, 10sec.
C. Environmental Characteristics	
Operation Temperature	- 20 °C ~ + 80 °C
Storage Temperature	- 30 °C ~ + 85 °C

● Test Equipment & Conditions

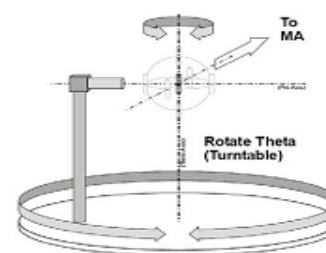
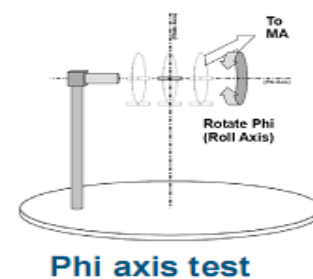
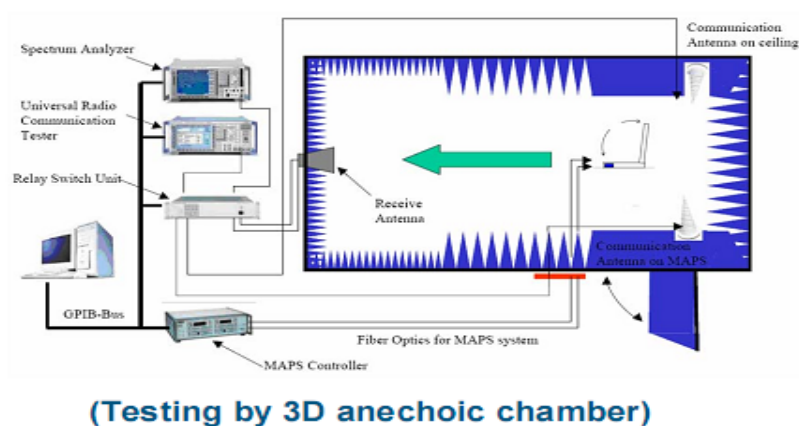
1. Network Analyzers :

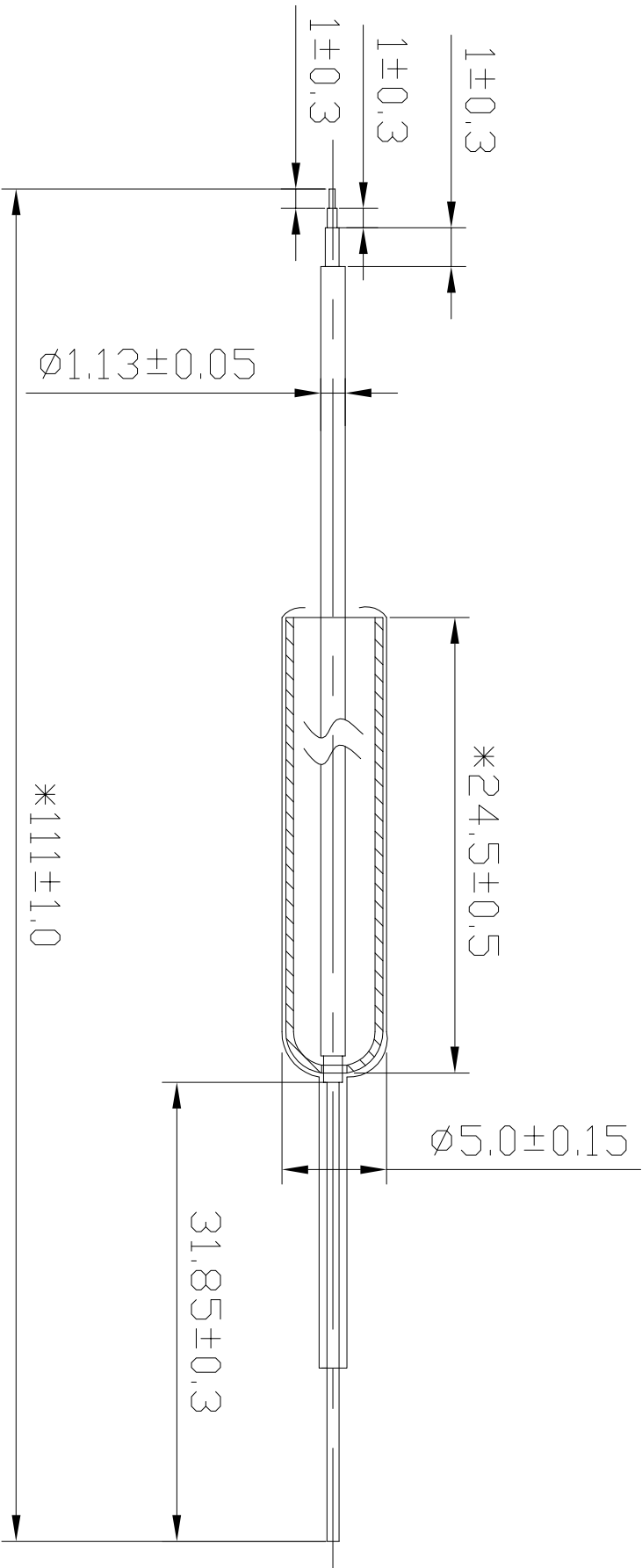
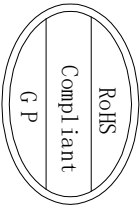
Agilent 8753D 5071B

Communications Test Set:

Agilent E5515C CMW500

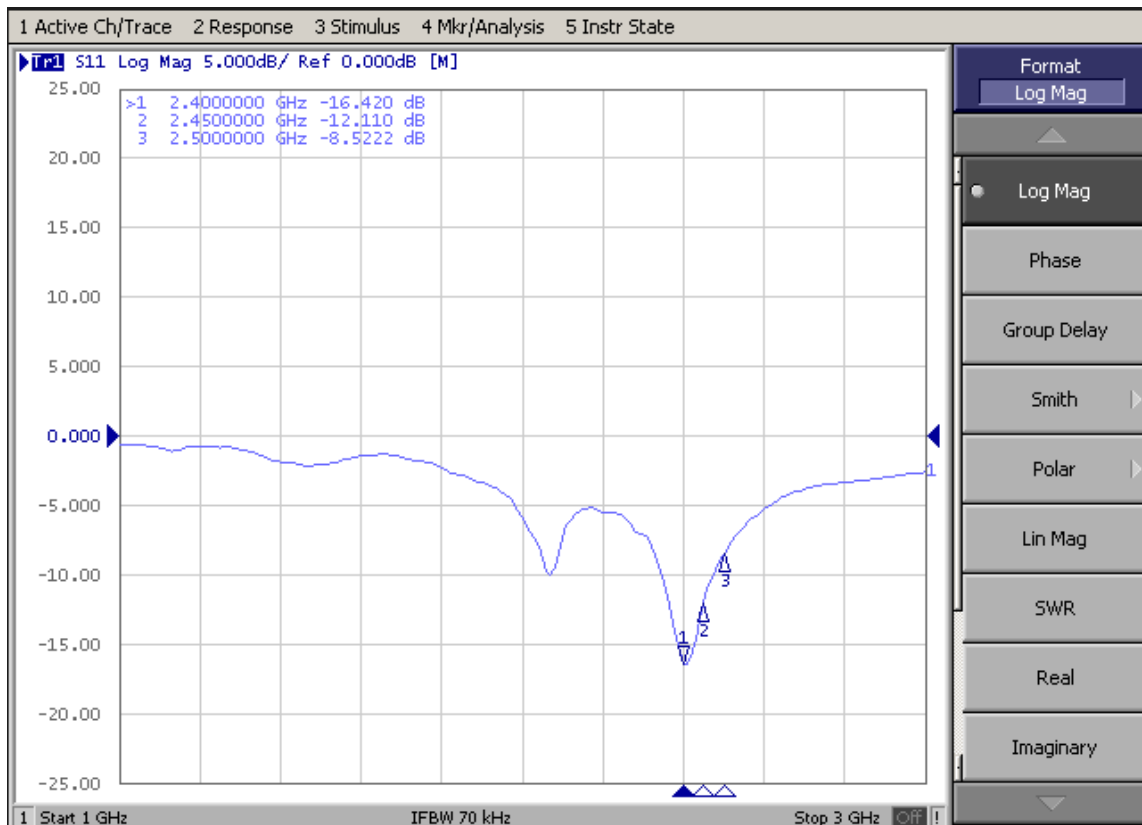
2. 3D Chamber Test System



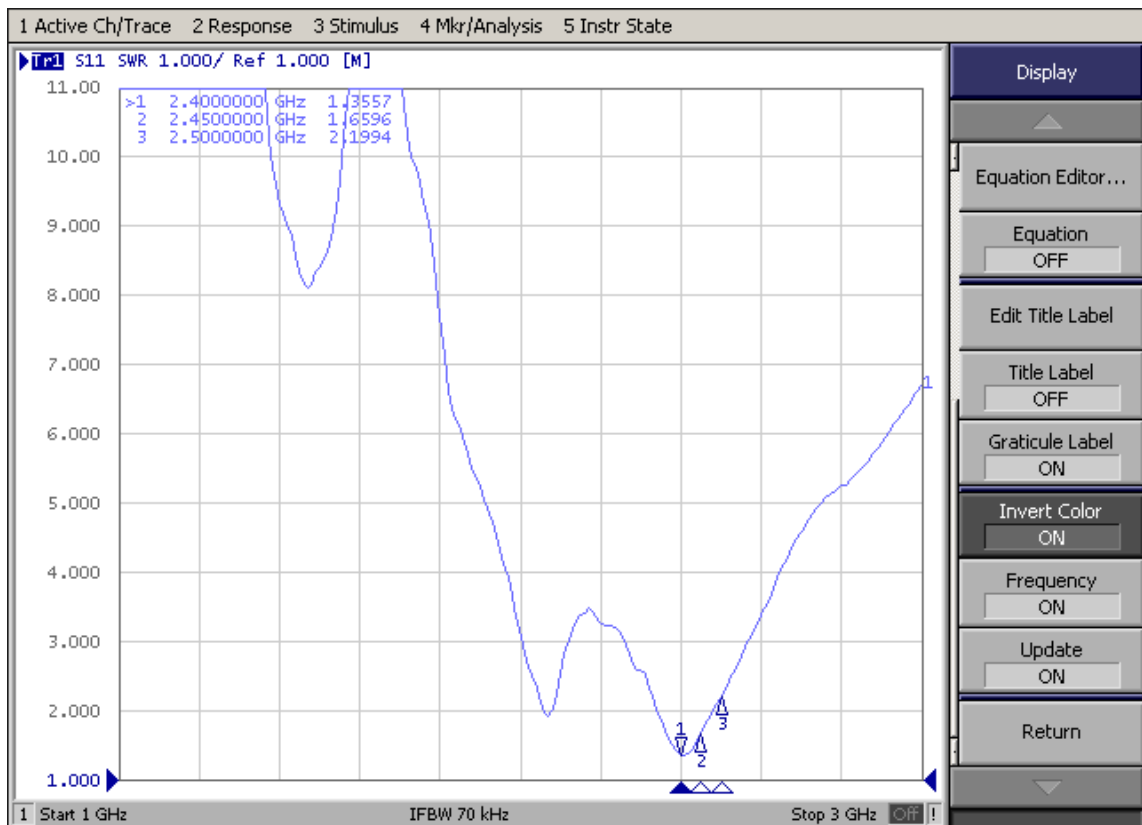


										SHEN ZHEN SKYLink CO., LTD																																																																					
D										Third Angle					Project					Date					2025-02-21																																																						
					0~10					± 0.05					○					0.02					Part Name																																																						
					10~18					± 0.10					◎					Ø.03					Part No.					F15B, C113, 111B, 123185, 111, W																																																	
					18~30					± 0.12					┘					0.02					Material																																																						
A					New drawing															30~40					± 0.15										0.04																																												
																				40~					± 0.20					Angle					$\pm 0.5^{\circ}$																																												
Rev					Description					Date					Remark					Location										DWG No.										Approved by					Unit					mm					Scale					1:1					Rev					A									
1										2										3										4										5										6										7										8									

◆ Return Loss



◆ VSWR

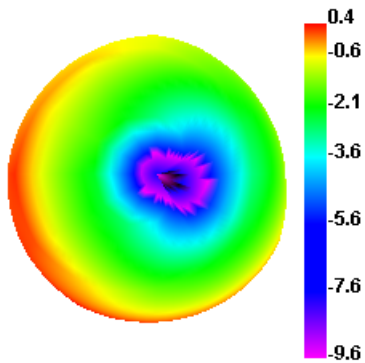


◆ Gain & Efficiency

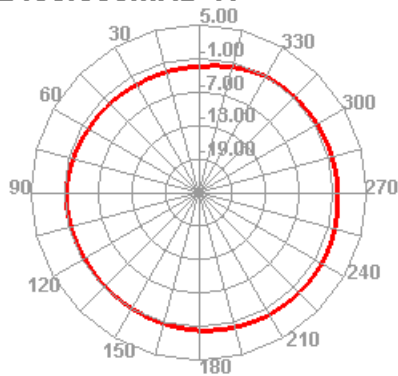
Freq (MHz)	Effi (%)	Gain (dBi)
2400	57.17	0.4
2410	54.27	0.36
2420	57.37	0.78
2430	54.63	0.73
2440	51.34	0.49
2450	45.47	-0.16
2460	44.84	-0.44
2470	46.45	-0.31
2480	48.17	0.16
2490	50.77	0.63
2500	47.29	0.35

◆ Radiation Pattern

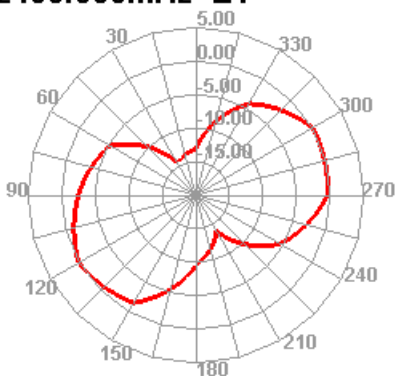
2400.000MHz



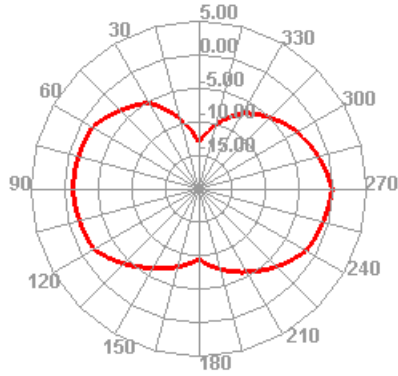
2400.000MHz H



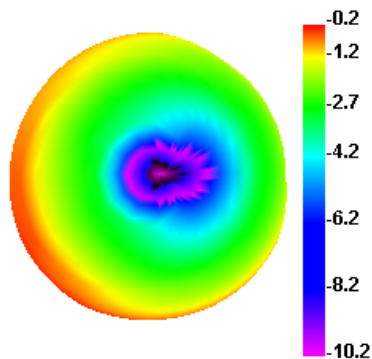
2400.000MHz E1



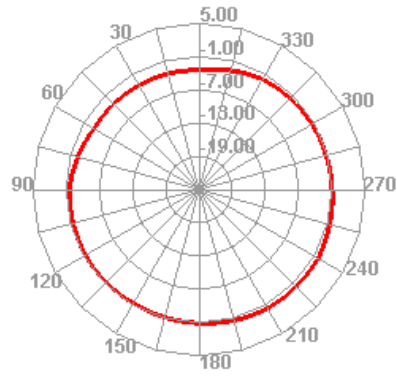
2400.000MHz E2



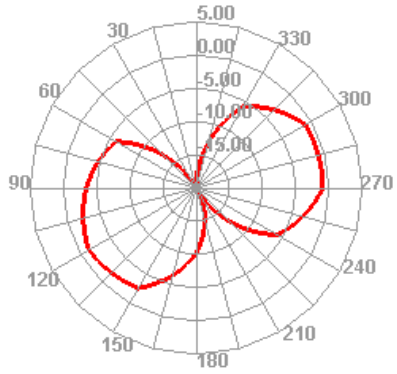
2450.000MHz



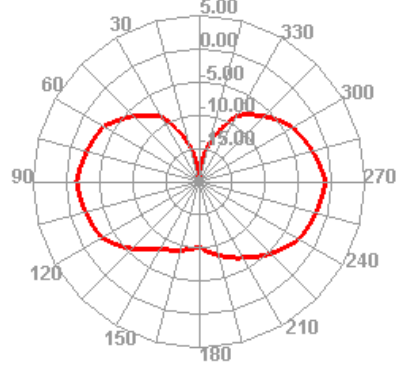
2450.000MHz H



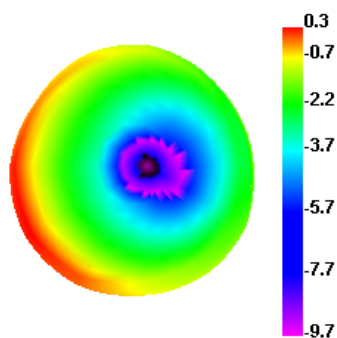
2450.000MHz E1



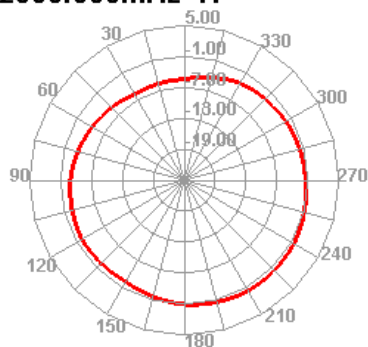
2450.000MHz E2



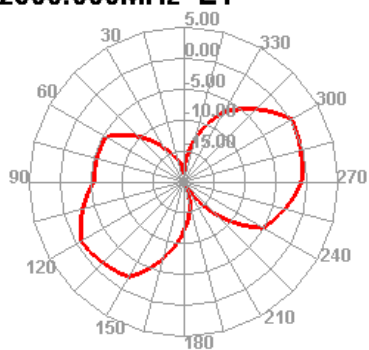
2500.000MHz



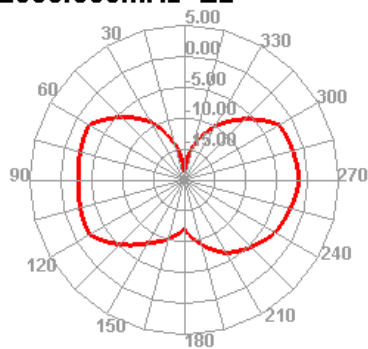
2500.000MHz H



2500.000MHz E1



2500.000MHz E2



◆ Reliability Test

Test Item		Test condition	Equipment	Specification	Result
1	Low Temp. Storage Test	Temperature: -30℃, Time:48hrs Test condition: Placing antenna in a Low/High Temperature Chamber, keep the temp is 25℃ and humidity is 65% for one hour, then step-down the temp. to -30℃ in one hour, store antenna for 44 hours; step-up temp to 25℃,test antenna after 2 hours.	Temp.&Humi. Tester	No material deformation is allowed. Electronic Performance is ok .	PASS
2	High Temp./High Humid Storage Test	Temperature: 85℃ Humidity: 85% RH Time:48hrs Test condition: Placing antenna in a Low/High Temperature Chamber, keep the temp is 25℃ and humidity is 65% for one hour, then step-up the temp. to 80℃ and the humidity up to 85% in one hour, store antenna for 44 hours; step-down temp to 25℃,test antenna after 2 hours.	Temp.&Humi. Tester	No material deformation is allowed. Electronic Performance is ok .	PASS
3	Salt-Spray 6 pray Test	Placing antenna in the Salt-Spray Tester ,set the test condition , Temp: $35 \pm 2^{\circ}\text{C}$ Humidity: 85% NaCl salt spray :$5 \pm 1\%$.PH value :6.5~7.2 Test time:24hours	Salt-Spray Tester	No color change No appear rusting	PASS