Kinghelm®

Specification

Customer P/N：

Specification：Antenna,4dBi@4G External Antenna, 50ohm, N Head Male Male Pin, Gray Fiberglass Antenna

Description: 4G Antenna

Supplier: Shenzhen Kinghelm Electronics Co., Ltd

Producer：Shenzhen Kinghelm Electronics Co., Ltd

Remark： Please return one specification or one copy of it with your chop and signature of approval and retain the others for your record.In the even to fan order being placed for this part number before the chop and signed with specification (or copy) is returned and without special explanation,it will be assumed that full approval have been given.

Checked/ Date	Auditor/ Date	Approved/ Date
Zhang Bingxiang 2023.02.27	Wu Qianjin 2023.02.27	Luo Daxun 2023.02.27

Content

1. Product Image

2. Electrical Parameters

Frequncy	700~960MHz&1710~2690MHz
Impedance	50Ω
S.W.R	≤3.5
Antenna Gain	4dBi±0.5@2.4GHz
Polarization	Vertical Polarized
Return Loss	-6dB MAX

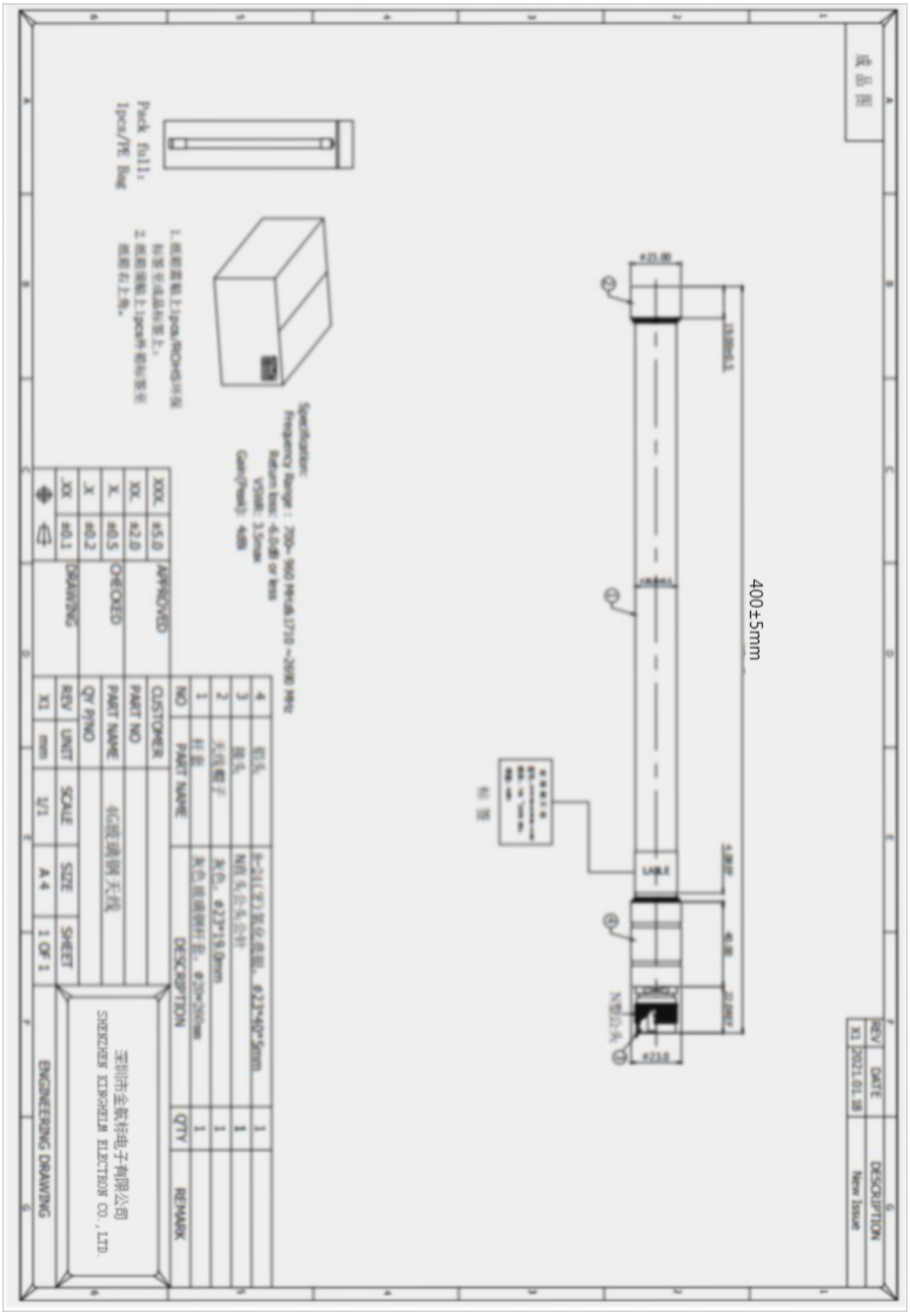
3. Mechanical Parameters

Antenna Colour	Gray
RF Cable Model	RG141,Black
Connect Type	N-head

4. Operating/Storage Temperature

Operating Temperature	- 40~85°C
Storage Temperature	- 40~80°C

5. Structural Drawings



6. Environmental and Reliability Tests

6.1 Environmental Tests

High And Low Temperature And Humidity Test Report						
Pilot Project	High Temperature, Low Temperature, Constant Humidity Test					
Test Sample Name	Fiberglass Reinforced Plastic Antenna		Test Date	2023.01.15		
Laboratory /Testing Equipment	Constant Temperature And Humidity Test Chamber Network Analyzer		Number Of Tests	5 PCS		
Inspection Standards	1. Metal surface plating without peeling, cracks, wrinkles and other defects; non-metallic parts can not have discoloration, rupture, deformation, degumming and other defects. 2. The electrical test meets the design requirements; the voltage VSWR test is qualified.					
Test Name	Pilot Project	Request	Test Methods	Actual Test Data	Results	
					Samples	Results
High Temperature Test	Temperature (°C) Test Sample Temperature Stabilization Time (h) Test Duration (h) Recovery Time (h)	+85 1 12 1	According to the methods stipulated in Chapter 9 of GB2423.1-89	+85 1.2 2.3 1	1	Qualified
					2	Qualified
					3	Qualified
					4	Qualified
					5	Qualified
Low Temperature Test	Temperature (°C) Test Sample Temperature Tstabilization Time (h) Test Duration (h) Recovery Time (h)	- 40±3 1 2 1	According to the methods stipulated in Chapter 8 GB2423.1-89	- 40 1.2 2.4 1.1	1	Qualified
					2	Qualified
					3	Qualified
					4	Qualified
					5	Qualified
Constant Damp Heat Test	Temperature (°C) Relative Humidity (%) Test Duration (h) Recovery Time (h)	+40±2 90-95 21 1	In accordance with the methods stipulated in Chapter 5 of GB2423.3-93	- 42 92 22 1.1	1	Qualified
					2	Qualified
					3	Qualified
					4	Qualified
					5	Qualified

6.2 Salt Spray Tests

Salt Spray Test Report				
Pilot Project	Salt Spray Tests			
Test Sample Name	Fiberglass Reinforced Plastic Antenna		Test Date	2023.01.15
Equipment Name	Salt Spray Corrosion Chamber		Number Of Tests	5 PCS
Test Methods	Put the test specimen into the modulated salt solution test box, salt spray corrosion chamber for continuous spray test			
Salt Solution Concentration	52g/L	Salt Solution pH：6.5-7.2		Test Cycle:24h
Actual Test Data	55g/L	Salt Solution pH：6.8		Test Cycle:26h
Test Standards	The test is conducted in accordance with GB/T10125, Artificial Atmosphere Corrosion Test, Salt Spray Test; The results are rated in accordance with GB/T6461-2002 "metal and other inorganic coverings on metal substrates are specimens and specimens after corrosion test".			

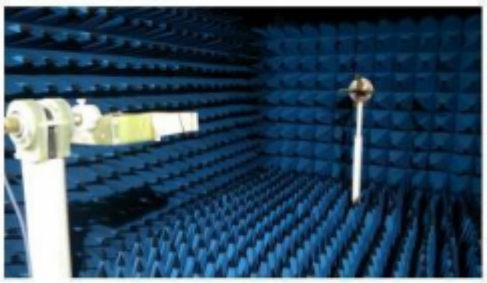
Test Results				
S/N	Corrosion Resistance Grade	Practical Test Data	Assessment Results	Remark
1	Rp/Ra=10/10vsB	Rp/Ra=10/10vsB	Qualified	
2	Rp/Ra=10/10vsB	Rp/Ra=10/10vsB	Qualified	
3	Rp/Ra=10/10vsB	Rp/Ra=10/10vsB	Qualified	
4	Rp/Ra=10/10vsB	Rp/Ra=10/10vsB	Qualified	
5	Rp/Ra=10/10vsB	Rp/Ra=10/10vsB	Qualified	

7. Test Equipment

Agilent Technologies Inc.
E5071C Network Analyzers

HP 8594E Spectrum Analyzers

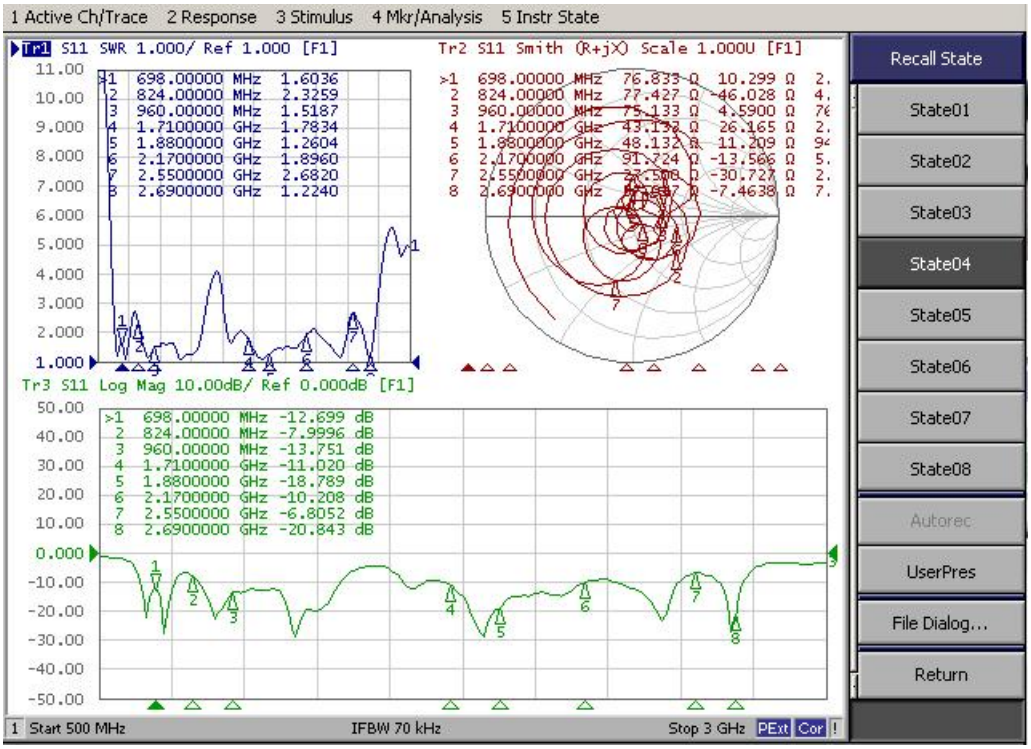
CMW-500



Microwave Darkroom

8. Test Parameters

8.1 V.S.W.R & Return Loss



8.2 Gain & Efficiency

FEITUKEJI														
Frequency ID	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
Frequency (MHz)	**820.0**	**880.0**	**960.0**	**1710.0**	**1890.0**	**1910.0**	**1990.0**	**2170.0**	**2300.0**	**2400.0**	**2500.0**	**2600.0**	**2680.0**	**2700.0**
Efficiency (dBi)	**-6.67**	**-5.67**	**-3.72**	**-2.37**	**-2.77**	**-2.62**	**-2.93**	**-2.48**	**-3.39**	**-2.65**	**-2.29**	**-2.96**	**-3.11**	**-3.10**
Gain (dBi)	-2.87	-2.14	0.85	3.70	3.34	3.80	3.39	3.46	0.70	1.93	1.98	1.02	0.34	0.08
Efficiency (%)	**34.50**	**36.09**	**42.48**	**57.96**	**52.88**	**54.74**	**50.92**	**56.49**	**45.79**	**54.32**	**59.01**	**50.63**	**48.92**	**48.94**

8.3 Field Diagram