

# Specification

Specification:

Antenna, 2.0dBi@470~510MHz, 50ohm,N Straight Connector, Male Connector, Grey Fiberglass LoRa Antenna

Description : LORA Aantenna

Supplier : Kinghelm

Producer : Kinghelm

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 event of an 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

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## 1.Product Image



## 2.Electrical Parameters

Frequency	470~510MHz
Impedance	50Ω
S.W.R.	≤2.5
Antenna Gain	2.0dBi±0.5
Polarization	Vertical Polarization
Return Loss	-9.2dB MAX

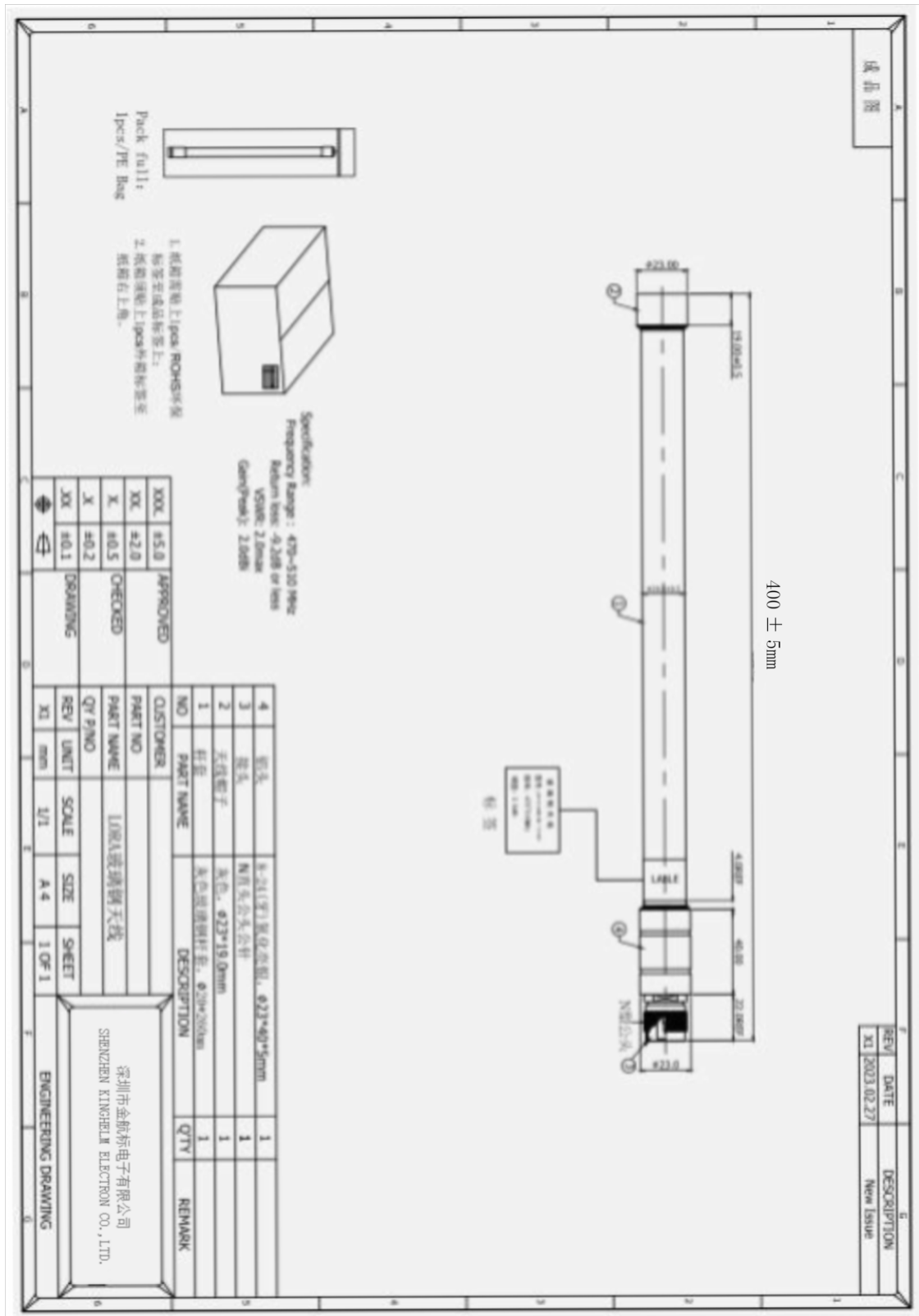
## 3.Mechanical Parameters

Antenna Colour	Grey
RF Cable Model	RG 141,Black
Connect Type	N Connector

## 4.Operating/Storage Temperature

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

## 5. Structural Drawing



## 6.Environmental And Reliability Testing

### 6.1 Environmental Testing

Temperature Humidity Test Report						
Test Item	High Temperature, Low Temperature, Constant Humidity Test					
Test Sample Name	FRP Antenna	Test Date	2023.01.15			
Test Equipment	Environmental Chamber with Network Analyzer	Number of Tests	5 PCS			
Inspection Criteria	1.Metal surface coating shall be free from defects such as peeling, cracks, wrinkles, etc. Non-metallic parts shall not exhibit discoloration, cracking, deformation, delamination, etc. 2.Electrical tests shall meet design requirements. VSWR tests shall pass.					
Test Name	Test Item	Requests	Test Methods	Practical Test Data	Results	
					Samples	Results
High Temperature Test	Temperature(°C)	+60±3	Performed according to the methods specified in Chapter 9 of GB2423.1-89	+65	1	Qualified
	Temperature				2	Qualified
	Stabilisation Time of Test Specimen(h)				3	Qualified
	Duration of Test(h)				4	Qualified
	Recovery Time(h)				5	Qualified
Low Temperature Test	Temperature(°C)	-40±3	Performed according to the methods specified in Chapter 8 of GB2423.1-89	-40	1	Qualified
	Temperature				2	Qualified
	Stabilisation Time of Test Specimen(h)				3	Qualified
	Duration of Test(h)				4	Qualified
	Recovery Time(h)				5	Qualified
Constant Damp Heat Test	Temperature (°C)	+40±2	Conducted in accordance with the methods specified in Chapter 5 of GB2423.3-93	+42	1	Qualified
	Relative Humidity (%)				2	Qualified
	Duration of Test (h)				3	Qualified
	Recovery Time (h)				4	Qualified
					5	Qualified

## 6.2 Salt Fog Test

Salt Spray Test Report				
Test Item	Salt Spray Test			
Test Sample Name	FRP Antenna	Test Date	2023.01.15	
Test Equipment	Salt Spray Corrosion Test Chamber	Number of Tests	5 PCS	
Test Methods	Place the test panels into the pre-conditioned salt spray corrosion test chamber for continuous spray testing			
Salt Solution Concentration	52g/L	Salt Solution pH: 6.5-7.2	Test Duration: 24 hours	
Practical Test Data	55g/L	Salt Solution pH: 6.8	Test Duration: 26 hours	
Test Standard	<p>Conducted according to GB/T10125 "Artificial Atmosphere Corrosion Testing Methods - Salt Spray Tests";</p> <p>Results evaluated according to GB/T6461-2002 "Classification of Corrosion Resistance of Metals and Alloys Subjected to Humidity Cabinet Tests.</p>			
Results				
Number	Corrosion Resistance Grade	Practical Test Data	Results	Remarks
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



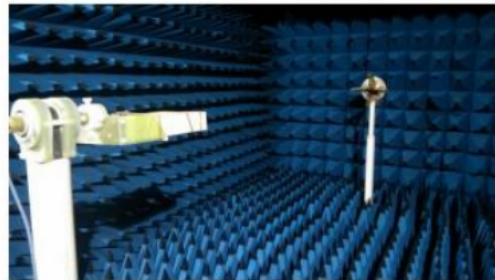
Agilent E5071C Network Analyze



HP 8594E Spectrum Analyzer



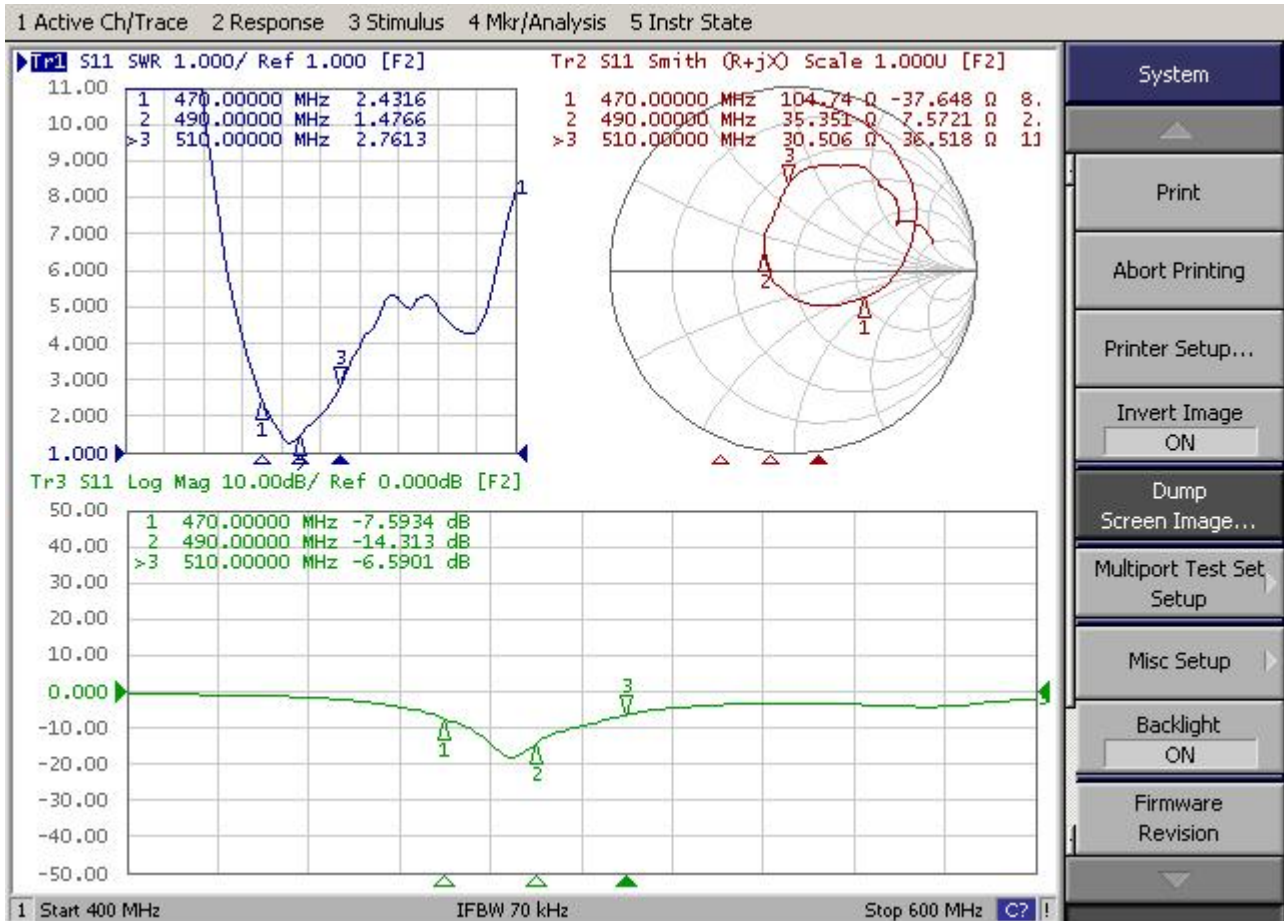
CMW-500



Anechoic Chamber

## 8 . Test Parameters

### 8.1 V.S.W.R & Return Loss



System

Print

Abort Printing

Printer Setup...

Invert Image  
ON

Dump  
Screen Image...

Multiport Test Set  
Setup

Misc Setup

Backlight  
ON

Firmware  
Revision