

## Approval Sheet

**Customer :** \_\_\_\_\_

**ZC.P/N :** ZCD0868-10W13008NM  
\_\_\_\_\_

**Description :** Lora Fiberglass Antenna  
\_\_\_\_\_  
\_\_\_\_\_

<b>Checked By</b>		
<b>Audit</b>	<b>Producer</b>	<b>Date</b>
KUI LIU	ZLB	2021.04.13

<b>Customer signature</b>		
<b>Quality</b>	<b>Engineer</b>	<b>Purchasing</b>

**Product Number: ZCD0868-10W13008NM**  
**Product Name:Lora Fiberglass Antenna**

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**Product Number: ZCD0868-10W13008NM**

**Product Name:Lora Fiberglass Antenna**


### **1. Revision History**

<b>Revision</b>	<b>Date</b>	<b>Change Notification</b>	<b>Description</b>
1.0	2021.04.13	初版	

**Product Number: ZCD0868-10W13008NM**

**Product Name: Lora Fiberglass Antenna**

## 2. Specification

Sample Photo	
	
A. Electrical Characteristics	
Frequency	858~878 MHz
V.S.W.R.	$\leq 2.0$ @ 858~878 MHz
Antenna Gain	8.0 +/- 0.8 dBi @ 858~878MHz
Efficiency(%)	$\geq 60$ % @ 858~878MHz
Radiation Pattern	Omni-Directional
Polarization	Linear polarization/Vertical
Impedance	50 Ohm
B. Material & Mechanical Characteristics	
Material of Radiator	CU
Material of Plastic	FRP (white light)
Cable Type	RG-141 50 $\Omega$
Connector Type	N-J Double tooth connector
C. Environmental	
Operation Temperature	- 40 °C ~ + 65 °C
Storage Temperature	- 40 °C ~ + 65 °C
Antenna Color Storage life	< 2 year

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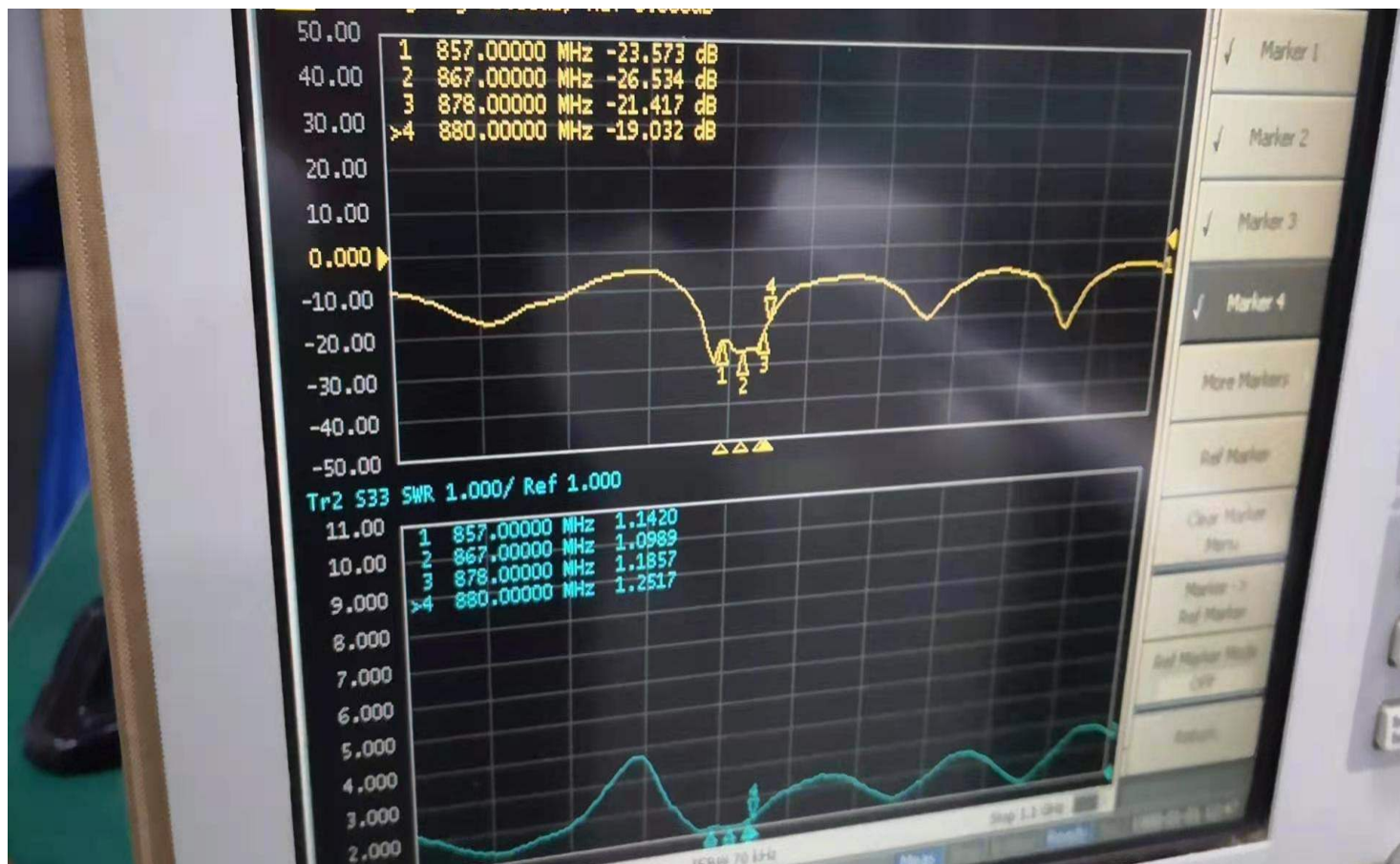
### 3. Characteristics and Reliability Test

Test Items		Test Condition and Procedure	Requirements
C1	S.W.R.	Set DUT on Network Analyzer; make individual calibration to test	Directive DUT specification
C2	Antenna Gain	Set DUT on Antenna Chamber; make individual calibration to test	Directive DUT specification
M1	Vibration	GB / T2423 . 48-1997 Amplitude: 0.03 inch (1.5mm); Freq: 20 to 80 to 20 Hz 3 directions; 2 hours for each direction	1. No Visual Damage 2. Frequency Tol.<= 5%
M2	Random Drop	GB / T2423.8-1995 Height: 1.0 Meter; 3 directions; 1 time for each direction	1. No parts separated 2. Frequency Tol.<= 5%
M3	Solderability	GB 2423 . 28- 82 Solder iron: 260±5°C; Duration: 5 seconds	1. Mounted on PCB 2. No Visual Damage
M4	Terminal-Pull Test	Holding with individual specification; force applied to axis of terminal	1. Directive DUT specification 2. Frequency Tol.<= 5%
M5	Terminal-Torque Test	Holding with individual specification; applied clockwise and counterclockwise to the axis of terminal	1. Directive DUT specification 2. Frequency Tol.<= 5%
M6	Dimension	Inspection of dimension, color, material, package, surface process	Directive DUT specification
E1	Salt Spray	GB / T 2423 . 17- 93 Temp: 35°C; RH: >= 95%; NaCl solution: >= 5%; Time: 24 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E2	Humidity	GB / T 2423 . 4 - 93 Temp: 80°C / 12 H; -40°C / 12H RH: >= 90%; Time: 24 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E3	Thermal Shock	GB / T 2423 . 22 - 87 1 Cycle: - 40°C (30 minutes) to + 80°C (30 minutes) Cycles: 24	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E4	Life (High Temp.)	GB /T 2423 . 2 - 89 Temp: 80°C; Time: 24 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
R1	RoHS	With Reference to IEC 62321:2008 with flow chart	Directive RoHS 2011/65/EU
R2	PFOS	With Reference to USA EPA 3540C:1996 by LC/MS	Directive RoHS 2006/122/EC
R3	PFOA	With Reference to USA EPA 3540C:1996 by LC/MS	Directive RoHS 2006/122/EC

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#### 4. Antenna - S Parameter Test Data



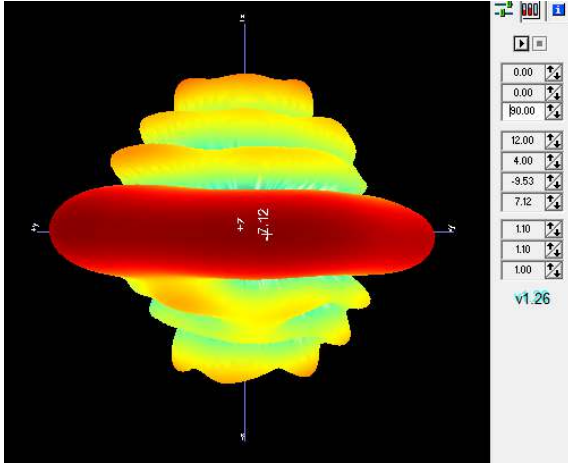
频率	增益 (dBi)	效率
858MHz	7.48	70.28%
859MHz	7.50	69.91%
860MHz	7.50	69.06%
861MHz	7.49	68.30%
862MHz	7.48	67.47%
863MHz	7.48	66.90%
864MHz	7.51	66.83%
865MHz	7.55	67.03%
866MHz	7.61	66.19%
867MHz	7.70	67.14%
868MHz	7.83	68.67%
869MHz	7.98	70.46%
870MHz	8.11	72.24%
871MHz	8.23	73.80%
872MHz	8.32	74.94%
873MHz	8.37	75.45%
874MHz	8.35	74.92%
875MHz	8.27	73.47%
876MHz	8.16	70.78%
877MHz	8.04	68.71%
878MHz	7.93	67.00%

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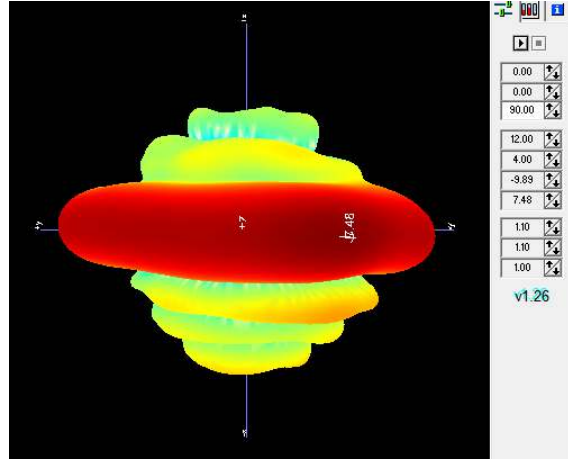
Product Name:Lora Fiberglass Antenna

### 5. Antenna - Radiation Pattern Test Data

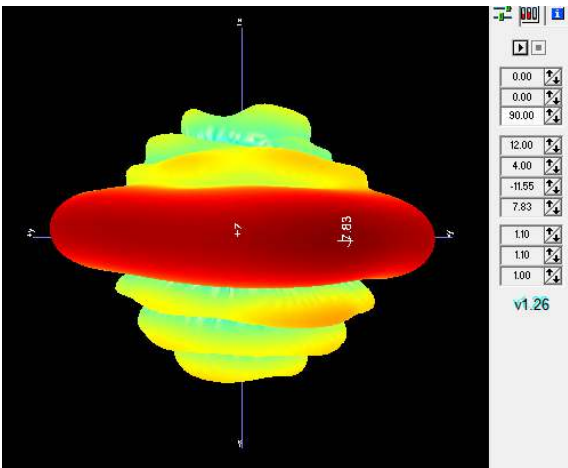
See attached files



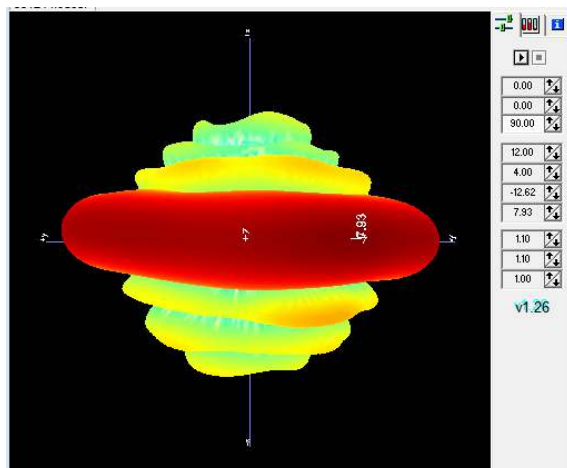
857Mhz



860Mhz



868Mhz

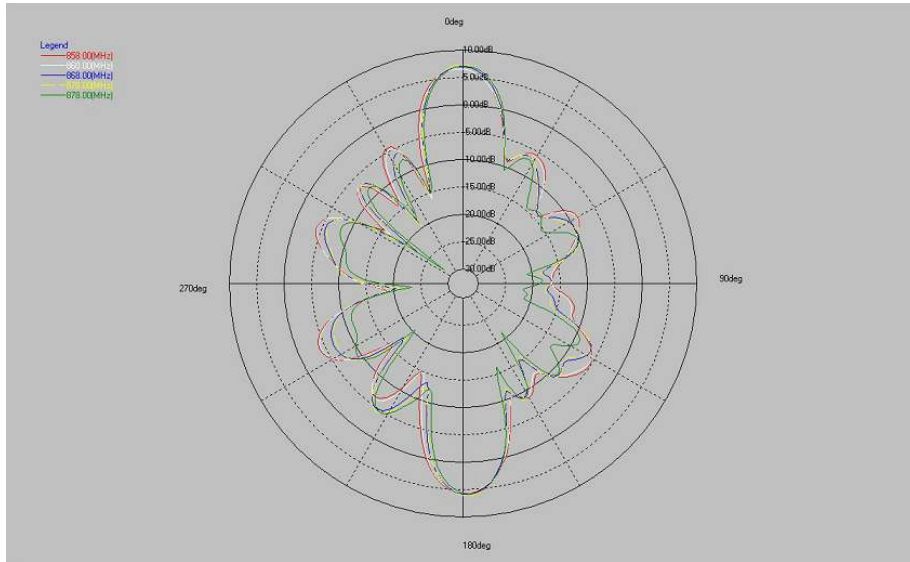


878Mhz

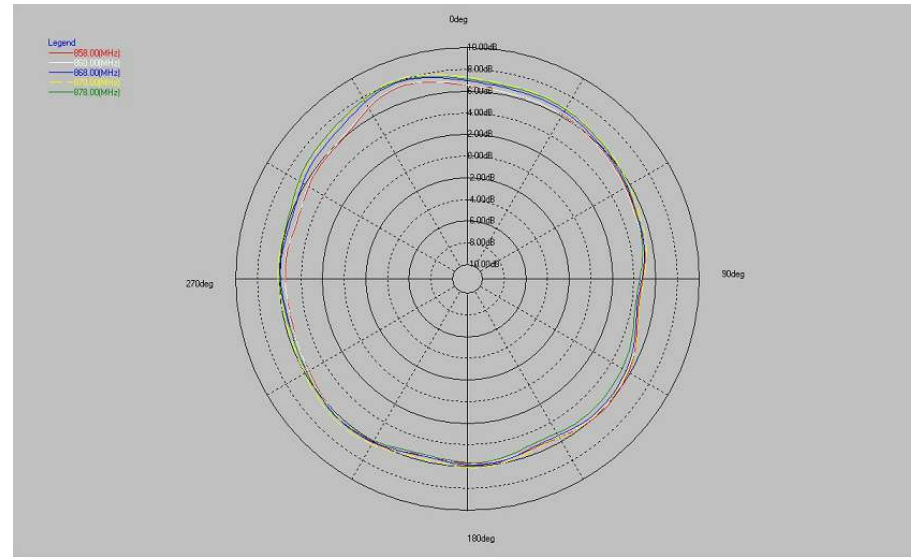
7. Mechanical Drawing  
See attached files

## 7. Material Description

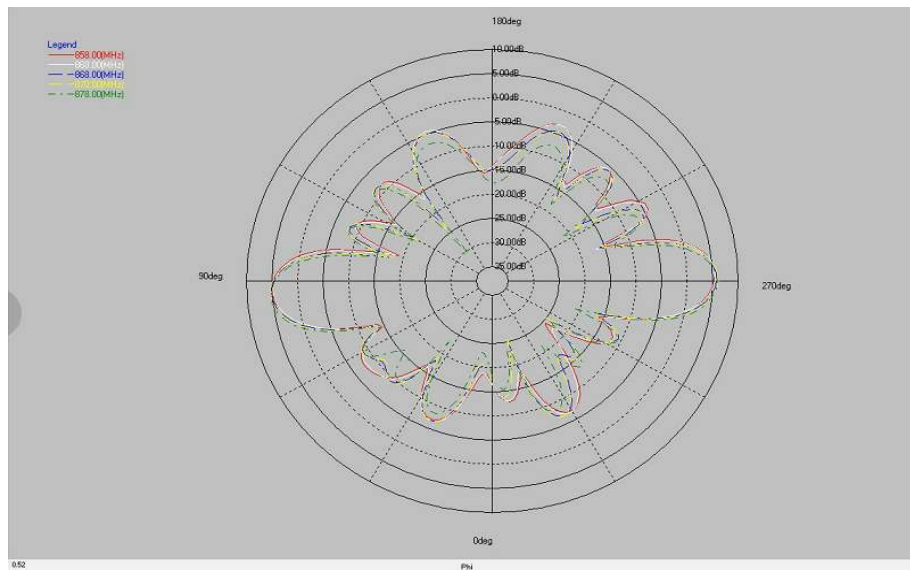
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**PIN=0**



**PIN=90**



**THETA=90**

## 6. Mechanical Drawing

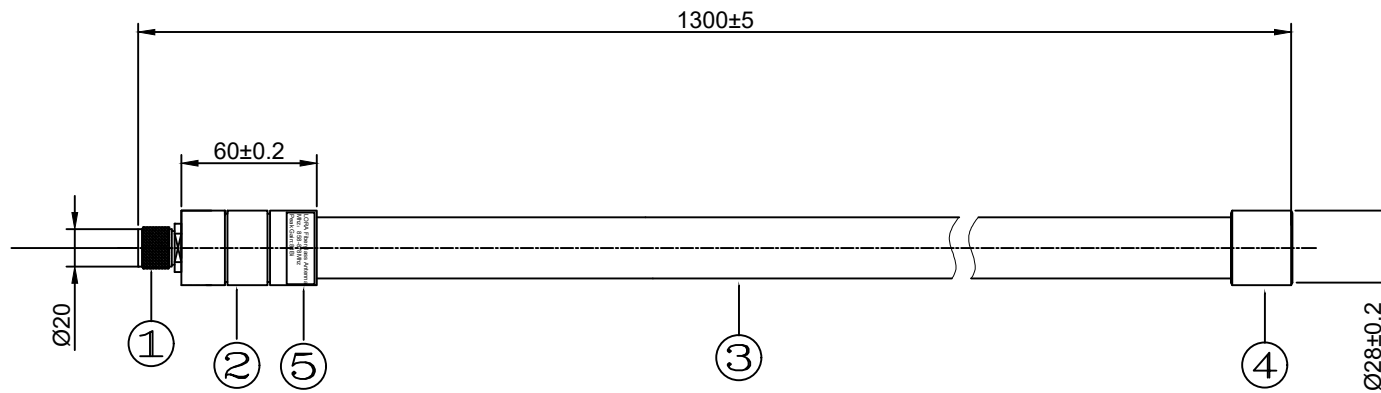
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# RoHS

## Compatible

SIGN	DATE	DESCRIPTION	APPROVER
△			
△			
△			



**Note:**

1. Mark \* is important dimension; "CpK" identify for process control (CpK ≥ 1.33).
2. Tolerance: Unmarked tolerance refer to the standard tolerance please.

No.	Part Number	Description	Material	Finish	Q'ty
5		Stickers			
4	R-HG02-02	Cover	Plastic	ABS	1
3	HG02-20308	Glass Fiber Tube	Glass Fiber	L=Ø25*1260mm	1
2	HG02-01B	Al Sleeve	A Alloyl	Ø29*60mm	1
1	R-00N-FN8	N Jack	Cu	Nickel Plated	1



Dongguan Zhongchi Electronics Co. Ltd.

TITLE: 858-878Mhz					
PART NO.: ZCD0868-10W13008NM			CUSTOMER P/N: /		
APP BY	CHK BY	RF BY	DES BY	Tolerance	
JANUS		JINF	ZLB	UNITS: mm	
2021/04/13		2021/04/12	2021/04/12	SCALE: 1/1	
				REVISION: A	
				X.X	±0.5
				X.XX	±0.2
				X°	±1

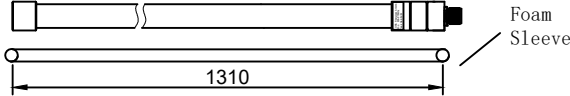
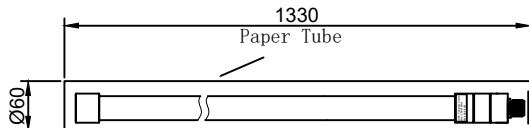
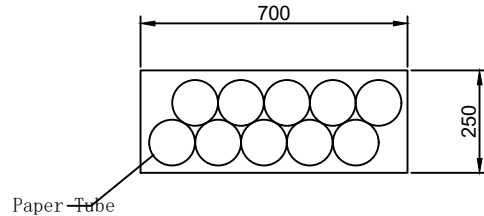
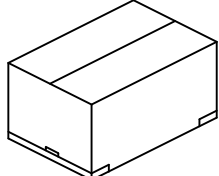
# 產品包裝規範

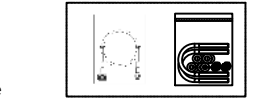
## PACKING CRITERION

★★★★☆

Date: 2021.04.20

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Part Number : ZCD0868-10W13008NM	Revision : A
Name: Lora Fiberglass Antenna	Customer : ALL
<p>1 . Assembly fitting</p>  <p>2 . Antenna feeding tube</p>  <p>3.Encasement</p>  <p>(This is the side wheat. CARTON Length of1500mm) 30PCS/CARTON</p> <p>4.Seal the box</p> <p>Glue Paper Seal for outer box</p>  <p style="text-align: right;">UNITS: mm</p>	



U-shaped holder, 1mr200 wire transfer, the bubble bag wrapped and then loaded into the carton

APPROVED BY: \_\_\_\_\_ CHECKED BY: \_\_\_\_\_ DESIDNED BY: HC