

Specification Acknowledgement

Manufacture: Dongguan ZhongChi Electronic Technologyco.Ltd

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Zhong Chi P/N: ZCA2400-017W100-00X

Description Buckle Antenna

ZhongchiChecked By:	Customer Approved By:

Product Number:ZCA2400-017W100-00X

Product Name: Buckle Antenna

Index:

- 1. Revision History / Page 3**
- 2. Specification / Page 4**
- 3. Characteristics and Reliability Test / Page 5**
- 4. Antenna - S Parameter Test Data / Page 6**
- 5. Antenna - Radiation Pattern Test Data / Page 7**
- 6. Mechanical and Packing Drawing / Page 8 ~ 9**

Product Number:ZCA2400-017W100-00X
Product Name: Buckle Antenna

1. Specification

Sample Photo	
A. Electrical Characteristics	
Frequency	2400-2500 MHz
V.S.W.R.	<= 1.92
ReTurnLoss(dB)	-10 dB Max
Antenna Gain	3.27dBi
Polarization	Linear, Vertical
Impedance	50 ohm Nominal
Admitted Power	2 W
Radiation	Omni-directional
B. Material & Mechanical Characteristics	
Material of Plastic	ABS / PC
Cable Type	O.D. 1.13 MM
Connector Type	Mini Connector Au Plated 1代
C. Environmental	
Operation Temperature	- 40 °C ~ + 80 °C
Storage Temperature	- 40 °C ~ + 80 °C

2. Characteristics and Reliability Test

Test Items		Test Condition and Procedure	Requirements
C1	V.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

Product Number:ZCA2400-017W100-00X

Product Name: 2.4G Antenna

M1	Vibration	MIL-STD-202G, 201A Amplitude: 0.03 inch (0.76mm); Freq: 10 to 55 Hz 3 directions; 2 hours for each direction	1. No Visual Damage 2. Frequency Tol.<= 5%
M2	Random Drop	Height: 1.5 Meter; 3 directions; 1 time for each direction	1. No parts separated 2. Frequency Tol.<= 5%
M3	Solderability	MIL-STD-202G, 210F, cond. A Solder iron: 350±10°C; Duration: 5 seconds	1. Mounted on PCB 2. No Visual Damage
M4	Terminal- Pull Test	MIL-STD-202G, 211A, cond. A Holding with individual specification; force applied to axis of terminal	1. Directive DUT specification 2. Frequency Tol.<= 5%
M5	Terminal- Torque Test	MIL-STD-202G, 211A, cond. E 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	MIL-STD-202G, 101E, cond. B 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	MIL-STD-202G, 103B, cond. B Temp: 40°C; RH: >= 95%; Time: 24 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E3	Thermal Shock	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.)	MIL-STD-202G, 108A, cond. A Temp: 80°C; Time: 48hours	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 2015/863(EU)

JiangYin XiGeNuo Communication Technology CO.,LID.

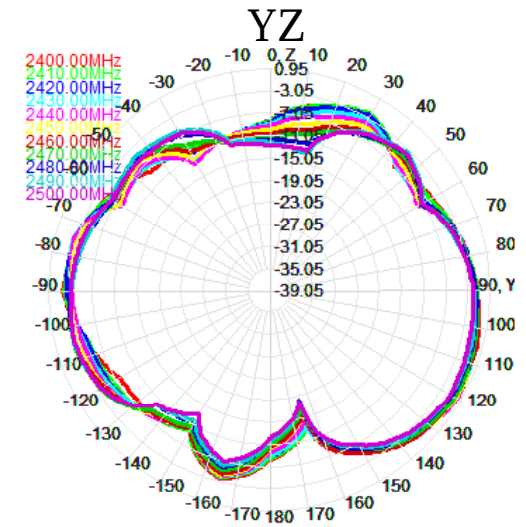
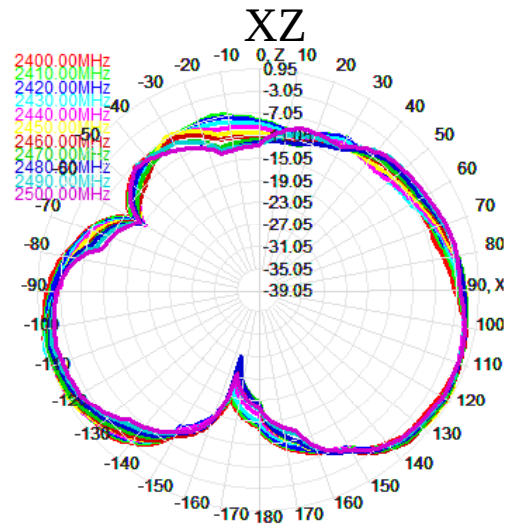
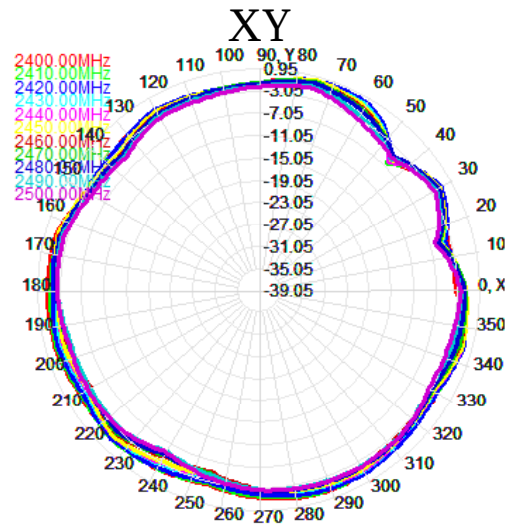
Product Specification			
Type	RF-1.13	P/N	XGN113/50-2001
Structure drawing			
Structure characteristics			
Structure	Item	Standard value	
1. Inner conductor	Material	Tinned copper	
	Makeup:total / O.D. of every	7/0.08(±0.005)	
	(Intertwist)NOM.O.D. (mm)	0.24±0.01	
2. Insulation	Material	FEP	
	Color	Natural	
	Dia. (approx)	0.7±0.03	
3. Outer conductor	Material	Tinned copper	
	Type	Weaving	
	Makeup:total / O.D. of every wire (mm)	16/4/0.05±0.005	
	Dia. (approx)	0.92±0.03	
	Coverage ratio (%)	90% ±5	
4. Jacket	Material	FEP	
	Color	Black	
	Dia. (approx)	1.13±0.05	
Concentricity (Inner conductor and Insulation)		≥90%	
Electrical characteristics			
Characteristic impedance (Ω)		50±2.0	
Standing wave ratio		≤1.4@0~8GHz	
Max.operating frequency (MHz)		8000	
Dielectric strength between inner and outer conductor		AC 1000V for 1min	
Capacitance (pF/m)		98	
Tensile strength (kgf/mm ²)		1.76	

Frequency	Standard value (dB/1m)
1GHz	≤ 2.23
2GHz	≤ 3.15
3GHz	≤ 3.96
4GHz	≤ 4.6
5GHz	≤ 5.15
6GHz	≤ 5.7
7GHz	≤ 6.42
8GHz	≤ 7.05
Dependability	
Item	Standard value
Min.bending radius static (mm)	4
Operating temperature (℃)	-55~+200
Storage environment	Temperature: below 30 ℃; Humidity: 20%~65%
The best save cycle	6 months
Teflon Shrink	$\leq 0.2\text{mm}$ $\leq 0.3\text{mm}$
Packing	
Standard unit for the 1000m/reel length of packaging, each set up to allow 5 joints, the joint shortest length of 10m, The finished cable shall be packed not be damaged during transportation.	
Other	
Special processing technology, please use after consultation with the supplier.	



2D Radiation Pattern

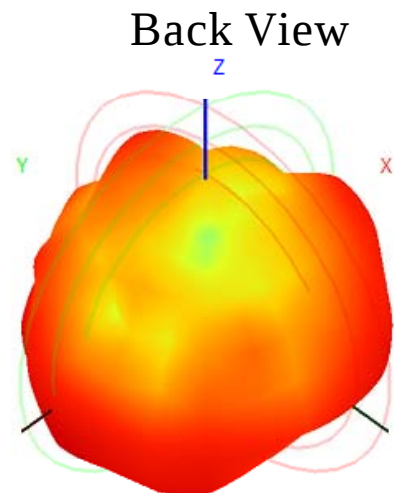
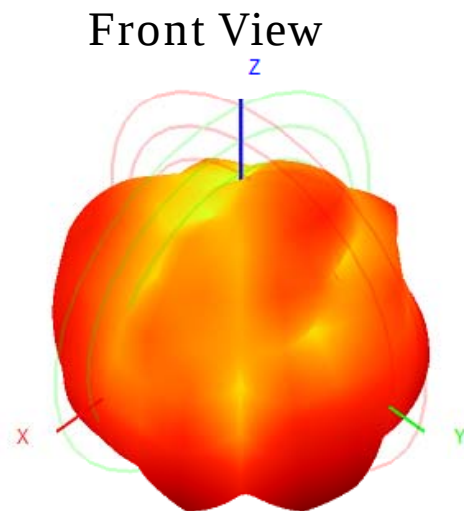
2G



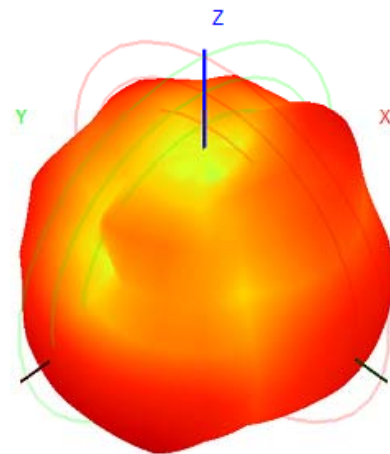
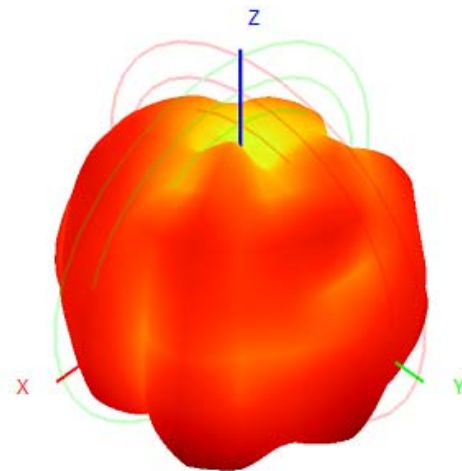
3D Radiation Pattern

2G

2400 MHz



2500 MHz



Results Summary

VSWR

Frequency (MHz)	2G
2400	1.8
2450	1.2
2500	1.1

Results Summary

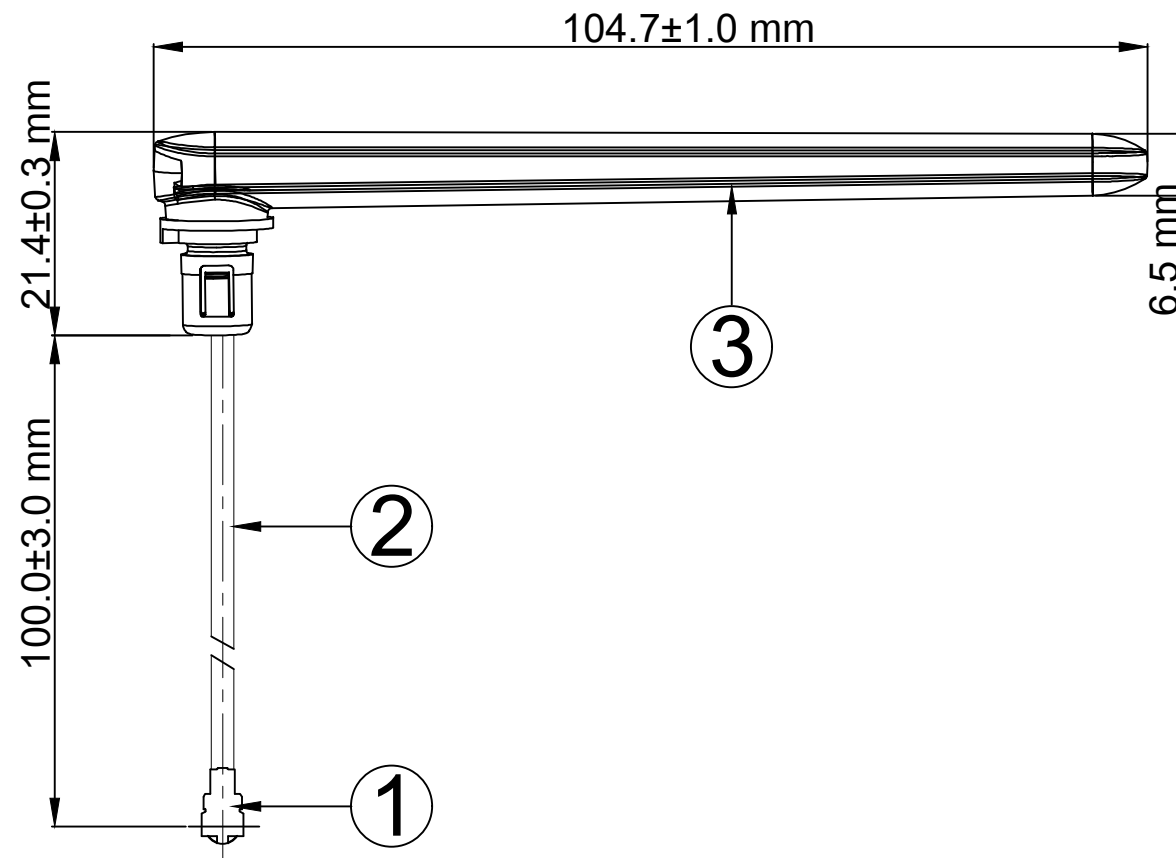
2G Antennas

Frequency (MHz)	Peak gain(dBi)	Efficiency (%)
2400	3.27	48.54
2410	3.02	48.46
2420	2.84	47.58
2430	2.86	45.75
2440	2.88	44.86
2450	2.93	44.71
2460	2.61	43.39
2470	2.40	42.42
2480	2.06	39.98
2490	1.75	38.13
2500	1.40	36.13

RoHS
Compatible

CUSTOMER	
PART NO	

REV.	DESCRIPTION	DATE
△	Initial release	2024-01-22



 Dongguan Zhongchi Electronic Technology Co., Ltd. Tel: 0769-81238620 Fax: 0769-81238620			
PART NAME: 2.4G Antenna L=100.0mm			
PART NO.: ZCA2400-017W100-00X			DATE: 2024-01-22
APPROVED BY	CHECKED BY	DESIGNED BY	
		Huang Wang Chun	UNITS: mm
			SCALE: 1/1
			REVISION: A
			Tolerance
			X.X ±0.50
			X.XX±0.15
			X° ±3°

3	Antenna	104.7*21.4*6.5MM White			1
2	Coaxial Cable	O.D. 1.13 MM Black	O.D. 1.13		1
1	Mini Connector	Au Plated 1代	Cu		1
NO	PART NAME	DESCRIPTION	Material	Part Number	Q.TY