

Dongguan ZhongChi Electronic Technology Co.,Ltd Specification Acknowledgement

Customer: _____

Customer P/N: _____

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

Description _____ 2. 4G Antenna

ZhongchiChecked By:	Customer Approved By:

Product Number:ZCA2400-017W100-00X
Product Name: 2.4G Antenna

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Product Number:ZCA2400-017W100-00X
Product Name: 2.4G 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	2.5±0.5dBi
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

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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)

江阴希格诺通信科技有限公司

JiangYin XiGeNuo Communication Technology CO.,LID.

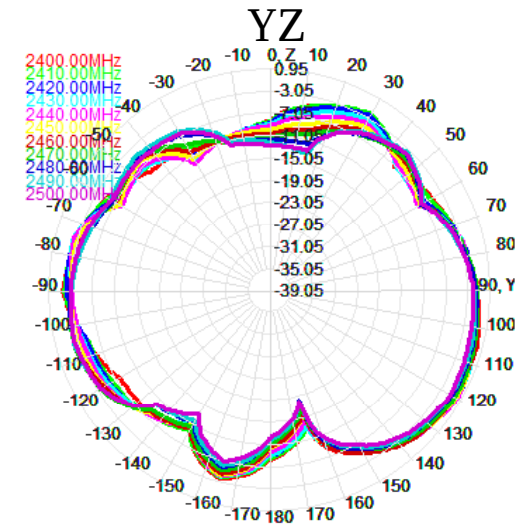
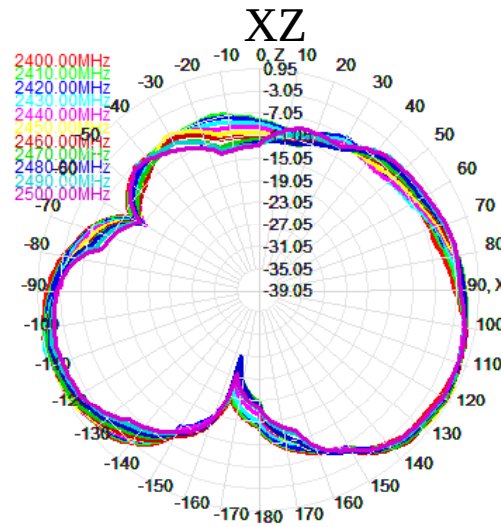
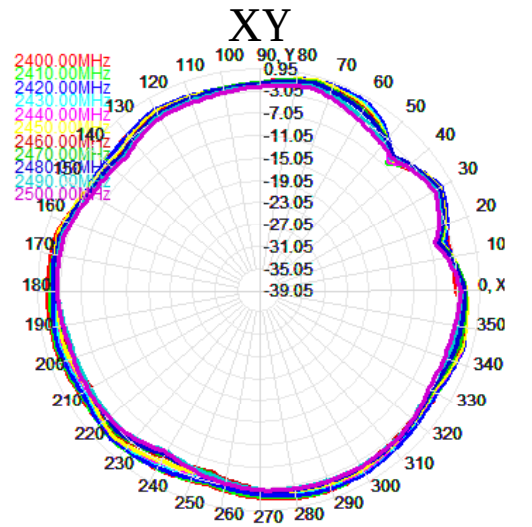
产品规格书Product Specification			
型号 Type	RF-1.13（双锡）	料号 P/N	XGN113/50-2001
结构图 Structure drawing			
结构特性 Structure characteristics			
结构 Structure	项目 Item	标准值 Standard value	
1. 内导体 Inner conductor	材料 Material	镀锡铜线 Tinned copper	
	组成:总根数/单根外径(mm) Makeup:total / O.D. of every	7/0.08(±0.005)	
	(绞合)标称外径(mm) (Intertwist)NOM. O.D. (mm)	0.24±0.01	
2. 绝缘层 Insulation	材料 Material	聚全氟乙丙烯 FEP	
	颜色 Color	Natural	
	标称外径Dia. (approx)	0.7±0.03	
3. 外导体 Outer conductor	材料 Material	镀锡铜线 Tinned copper	
	形式/Type	编织/Weaving	
	组成:总根数/单根外径(mm) Makeup:total / O.D. of every wire(mm)	16/4/0.05±0.005	
	标称外径Dia. (approx)	0.92±0.03	
	覆盖率(%)Coverage ratio(%)	90% ±5	
4. 护套层 Jacket	材料 Material	聚全氟乙丙烯FEP	
	颜色 Color	黑 Black	
	标称外径Dia. (approx)	1.13±0.05	
同心度（绝缘层和内导体） Concentricity (Inner conductor and Insulation)		≥90%	
电性能特性 Electrical characteristics			
特征阻抗Characteristic impedance (Ω)		50±2.0	
电压驻波比Standing wave ratio		≤1.4@0~8GHz	
最大工作频率Max. operating frequency (MHz)		8000	
耐电压 Dielectric strength between inner and outer conductor		AC 1000V for 1min	
电容Capacitance (pF/m)		98	
抗拉强度/Tensile strength(kgf/mm ²)		1.76	

频率 Frequency	标准值 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
可靠性 Dependability	
项目 Item	标准值 Standard value
最小折弯半径 Min.bending radius static (mm)	4
工作温度范围 Operating temperature (°C)	-55~+200
存储环境 Storage environment	温度: 30°C 以下; 湿度: 20%~65%
最佳保存周期 The best save cycle	6个月, 6个月以上锡效果变差, 请做上锡测试在生产, 但电性能不受影响, 夏季高温高湿环境开剥后需尽快流转
铁氟龙收缩 Teflon Shrink	绝缘层: $\leq 0.2\text{mm}$; 护套层: $\leq 0.3\text{mm}$
包 装 Packing	
标准单位包装长度为1000 米/盘, 每盘最多允许4 个接头, 接头最短长度10 米, 在搬运过程中不能损坏包装。 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.	
其他 Other	
特殊加工工艺, 请与供方协商后使用。 Special processing technology, please use after consultation with the supplier.	



2D Radiation Pattern

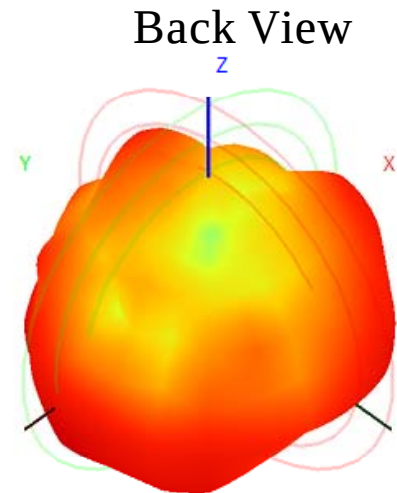
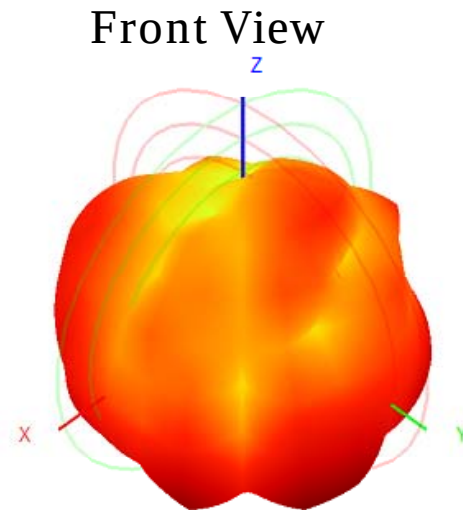
2G



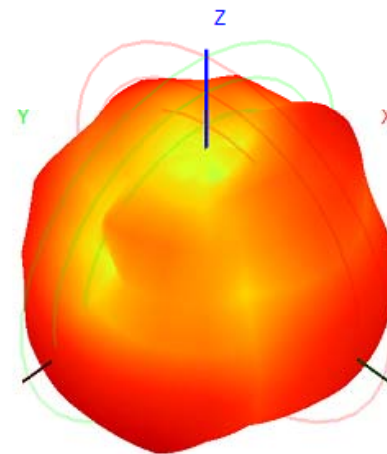
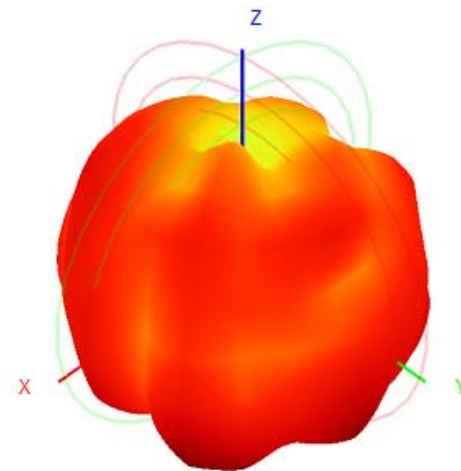
3D Radiation Pattern

2G

2400 MHz



2500 MHz



Results Summary

VSWR

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

Results Summary

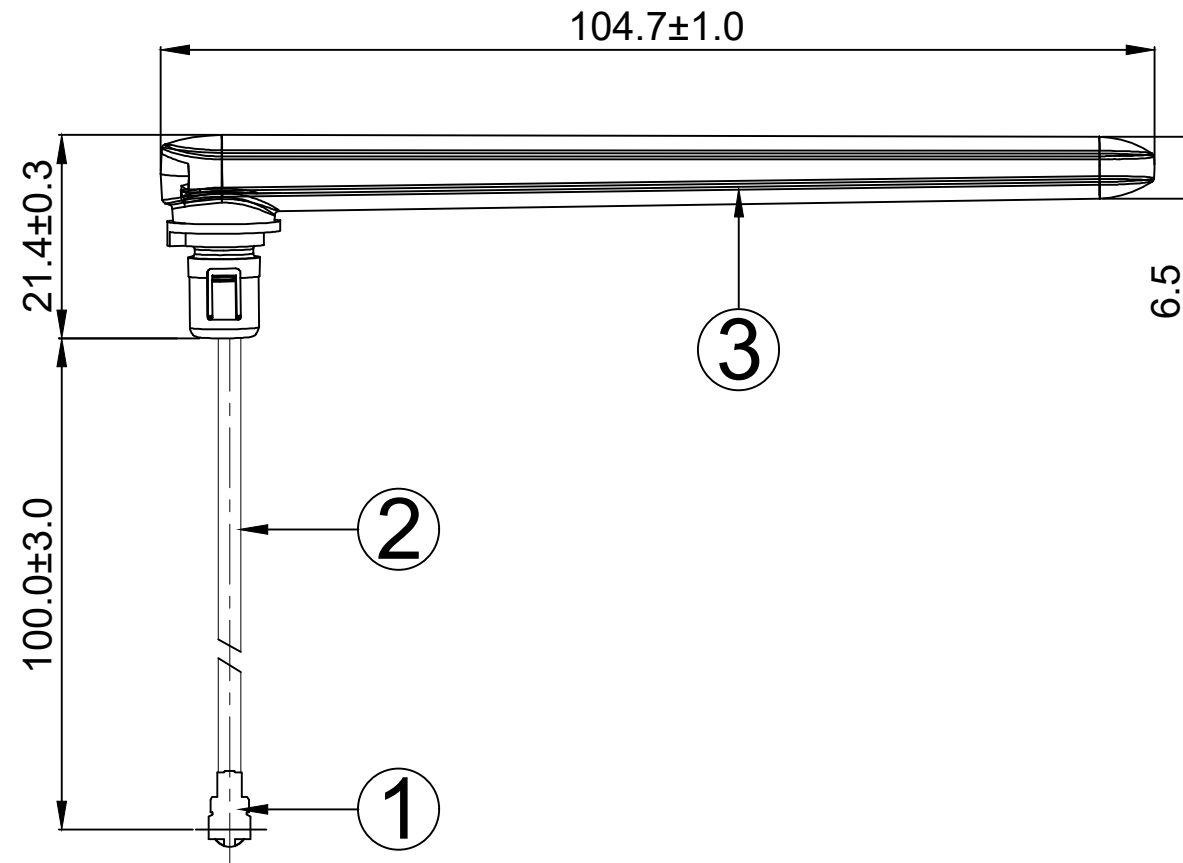
2G Antennas

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



3	2.4G 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

 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		Tolerance	
		Huang Wang Chun		X.X ±0.50	
				X.XX±0.15	
				X° ±3°	
			UNITS: mm		
			SCALE: 1/1		
			REVISION: A		