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Specifications

Specification

client's name:

CUSTOMER: Shenzhen Gongjin Electronics Co., Ltd.

Customer part number:

CUSTOMER P/N:

Customer product name:

DESCRIPTION:

JieLei material number:

JL P/N: C168-JL-6169

JieLei product name:

PART NOÿ NDS-5.8G antenna

Version:

Revision:

approve	Review	prepared by
Frank	Wensen	Sean
2022.06.02	2022.06.02	2022.06.02

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Version description

date	Approval	version	description
2022-06-02		V1.0 first version	

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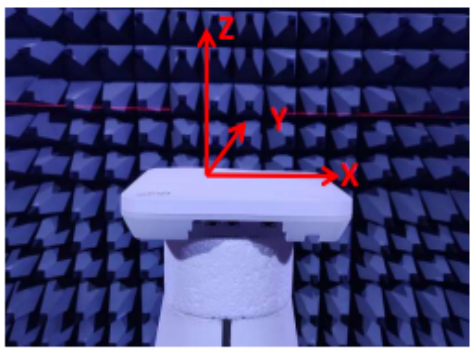
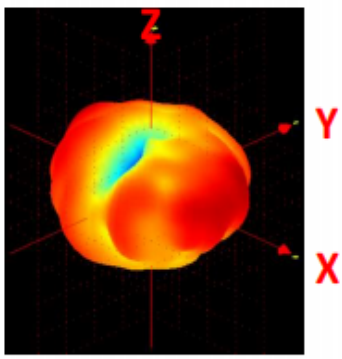
1. Product Performance

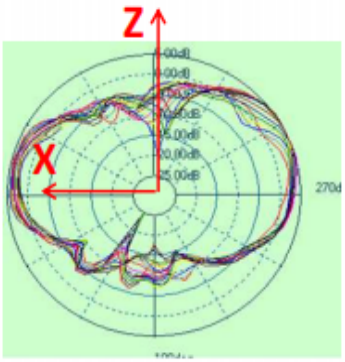
Electrical specifications/Electrical specifications	
Antenna type/Antenna type	5.8G antenna
Antenna number (see	0031071
drawing) Frequency range (MHz)/Frequency range(MHz)	5150~5850
Voltage standing wave ratio/VSWR	ÿ2.0@5150-5850MHz
input impedance (Ohm)/Impedance(Ohm)	50
Gain(dBi)/Peak Gain(dBi)	4.17@5150-5850MHz
Mechanical specifications/Mechanical specifications	
Antenna size (mm) /Dimensions(mm)	16.2*12.6*7
Connector Type/Connector Type	MHF RF Generation
Cable Type/Cable Type	1.13, L=163mm, black double tin wire
Operating Temperature (ÿ)/Operation Temperatureÿÿÿ	-40~70
Storage temperature (ÿ)/Storage Temperatureÿÿÿ	-20~85

2D/3D Radiation pattern 5G-ANT1

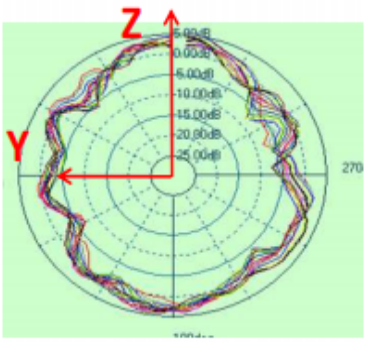
T&W



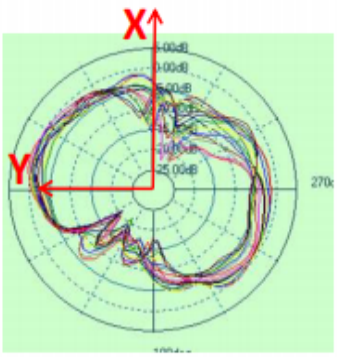




H（ Theta=90）



E1（Phi=0）



E2（Phi=90）

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2. Environmental Performance Test

NO Item	Item Test Condition	Test Condition	Specification requirementsRequirement 1.	in conclusion
1	Exterior Appearance	Visual inspectionVisual by eye Light:ÿ1.0 Lighting Lamp:200~300Lx Visual distance Space:0.3~0.6m	There should be no obvious scars, dents, cracks or deformation on the surface of plastic parts that would affect use. Plastic part: smooth and flat surface without discolor, broken, crack distortion defects is acceptable 2. The surface of metal parts has no obvious mechanical damage and other defects. Metal part: No obvious mechanical damage and other defects on the surface 3. The surface of the circuit board (or flexible circuit board) has no dirt, damage, oxidation, no obvious mechanical damage and other defects, and the silk screen is clear. PCB (or FPCB): The surface is free of dirt, damage, oxidation, no obvious mechanical damage and other defects, screen printing clear. 4. The surface of the conductors is clean and has no defects such as damage. Wire:clearing surface without discolor,broken defects.	ÿPass ÿ Unsatisfied/Fail ÿ Not applicable/NA
2	Terminal fixing force /Terminal Retention Force	Fix the connector or load cell and apply the specified pulling force in the direction of the connector axis at a speed not greater than 25mm/min. Apply axial pull out force at the speed rate of not more 25mm/min on the pin assembled in the housing.	12NMIN _	ÿPass ÿ Unsatisfied/Fail ÿ Not applicable/NA
3	Welding fixation force /Solder Retention Force	Apply axial pull out force at the speed rate of not more 25mm/min on the pin assembled in the housing. Refer to GB-T2423.17	10NMIN _	ÿPass ÿ Unsatisfied/Fail ÿ Not applicable/NA
4	Salt spray resistance test /Salt spray test	specification, 5% sodium chloride (NaCl) solution; pH value 6.5-7.2; temperature 35ÿ, test time 48H. Refer to GB-T2423.17, NACL	After drying at room temperature, check the appearance. There is no obvious corrosion or other abnormal phenomena on the surface of the sample or as required by the drawing specifications. After drying at room temperature, check appearance, the sample surface has no obvious corrosion and other abnormal phenomena or	ÿPass ÿ Unsatisfied/Fail ÿ Not applicable/NA

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		solution with 5% concentration, pH 6.5-7.2, temperature 35 ÿ, test time 48 hours.	according to the drawing specifications.	
5	High temperature test /High temperature test	Refer to GB-T2423.2 specification, temperature 70ÿ, test time 28 hours. Refer to GB-T2423.2, the temperature is 70 ÿ and the time is 28 hours.	After drying at room temperature, check the appearance to see if the sample has no deformation. Peeling, cracks, wrinkles, discoloration, fish scales. After drying at room temperature, check appearance, samples without deformation, stripping, cracks, wrinkles, different color, fish scale lines.	ÿPass ÿUnqualified/Fail ÿNot applicable/NA
6	Low temperature test /Low temperature test	Refer to GB-T2423.1 specification, temperature -40ÿ, test time 28 hours. Refer to GB-T2423.1, the temperature is-40 ÿ for 28 hours.	After drying at room temperature, check the appearance to see if the sample has no deformation. Peeling, cracks, wrinkles, discoloration, fish scales. After drying at room temperature, check appearance, samples without deformation, stripping, cracks, wrinkles, different color, fish scale lines.	ÿPass ÿUnqualified/Fail ÿNot applicable/NA
7	High temperature and high humidity measurement Try/High temperature and high humidity test	Refer to GB-T2423.3 specification, temperature 70ÿ, humidity 95%, test time 16 hours. Refer to GB-T2423.3 specification, temperature 70ÿ, humidity 95% , time 16H.	After drying at room temperature, check the appearance to see if the sample has no deformation. Peeling, cracks, wrinkles, discoloration, fish scales. After drying at room temperature, check appearance, samples without deformation, stripping, cracks, wrinkles, different color, fish scale lines.	ÿPass ÿUnqualified/Fail ÿNot applicable/NA
8	Temperature shock test try /Temperature shock test	Refer to GB-T2423.3 specification, temperature -30ÿ, 1 hour, temperature 75ÿ, 1 hour, 22 cycles in total. Refer to GB-T2423.3 specification, temperature-30 ÿ, 1 hour, temperature 75ÿ, 1 hour, total 22 cycles.	After drying at room temperature, check the appearance to see if the sample has no deformation. Peeling, cracks, wrinkles, discoloration, fish scales. After drying at room temperature, check appearance, samples without deformation, stripping, cracks, wrinkles, different color, fish scale lines.	ÿPass ÿUnqualified/Fail ÿNot applicable/NA
9	Drop test /Drop test	One corner, three sides, six sides 1M high altitude Free fall. One corner, three edges, six sides, free fall at an altitude of 1M.	The electrical and mechanical properties are normal. Electrical and mechanical properties are normal.	ÿPass ÿUnqualified/Fail ÿNot applicable/NA
10	Simulated transportation vibration move	Tested according to ISTA standards. Testing according to ISTA standards	The electrical and mechanical properties are normal. Electrical and mechanical properties are normal.	ÿPass ÿUnqualified/Fail ÿNot applicable/NA

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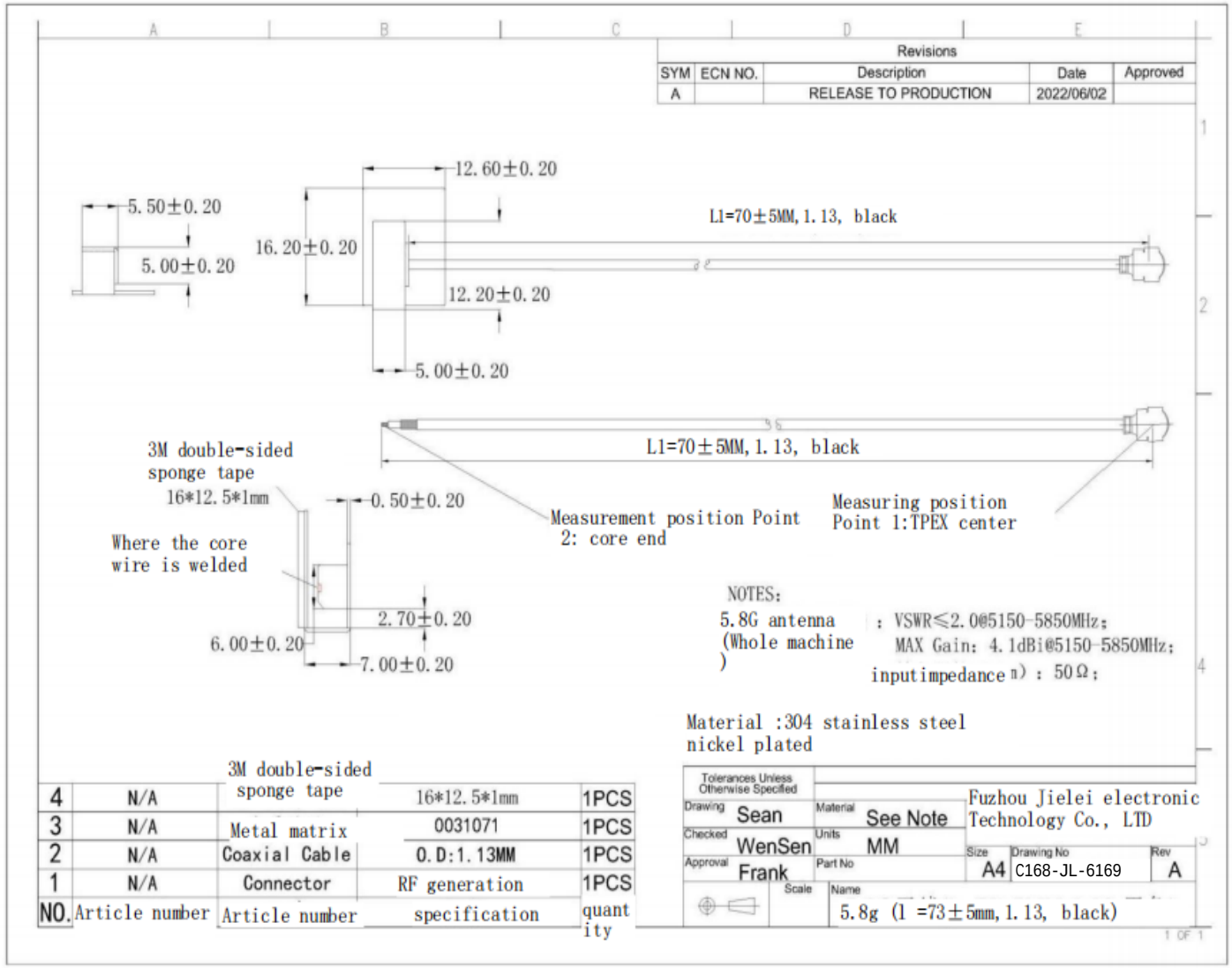
3. Mechanical Dimension Drawing



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产品规格 Product Type	RF113/50 双锡线
结构图 Structure Drawing	

结构特性 Structure Characteristics

结构 Structure	项目 Item	标准值 Standard Value
内导体 Inner Conductor	材质 Material	镀锡铜线 Tinned Copper Wire
	结构 Construction(mm)	7/0.08
	标称外径 Nom.Dia(mm)	0.24±0.02
绝缘层 Insulation	材质 Material	聚全氟乙丙烯 FEP
	标称外径 Nom.Dia(mm)	0.70±0.02
外导体 Outer Conductor	材质 Material	镀锡铜线 Tinned Copper Wire 16*4/0.05
	标称外径 Nom.Dia(mm)	0.92±0.05
	编织覆盖率 Coverage Ratio(%)	90±5
护套 Jacket	材质 Material	聚全氟乙丙烯 FEP
	标称外径 Nom.Dia(mm)	1.13±0.05

电气性能 Electrical Characteristics

项目 Item	标准值 Standard Value	项目 Item	频率 Frequency	标准值 Standard Value
阻抗 Impedanc (Ω)	50±2	衰减 Attenuation@20℃ (dB/m)	1GHz	2.20
电容 Capacitance(pF/m)	98		2GHz	3.10
速率 Velocity(%)	70		3GHz	3.80
驻波比 VSWR	≤1.30@DC-6GHz		4GHz	4.40
最大工作电压 Max.Operating Voltage(V)	1000		5GHz	4.90
最大工作频率 Max.Operating Frequency(GHz)	6		6GHz	5.40

可靠性 Dependability

最小弯曲半径(单次)Min.Bending Radius/Single	mm	5
最小弯曲半径 (重复) Min.Bending Radius/Repeated	mm	10
工作温度范围 Operating Temperature	℃	-55-+200

包装 Packing

包装方式 Packing Mode	纸盘 Papery Reel
包装长度 The Length of Each Reel(m)	1000
每盘段数 The Joints of Each Reel	≤5
最小段长 Min. Segment Length(m)	≥10

使用提示 Trips for Use

存储环境 Storage Environment	Temperature: below 30° C, humidity :20-65%
最佳保存周期 The Best Save Cycle	After 2 months, the tinning effect becomes worse after 2 months
加工温度 Processing Temperature	It can withstand the high temperature of 260° C for a short time
铁氟龙收缩 Teflon Shrink	Inherent properties of the material, insulation below 0.2mm, sheath below 0.3mm
护套窜动 Jacket Taaverse	the processing length (sheath residual length) is less than 5CM

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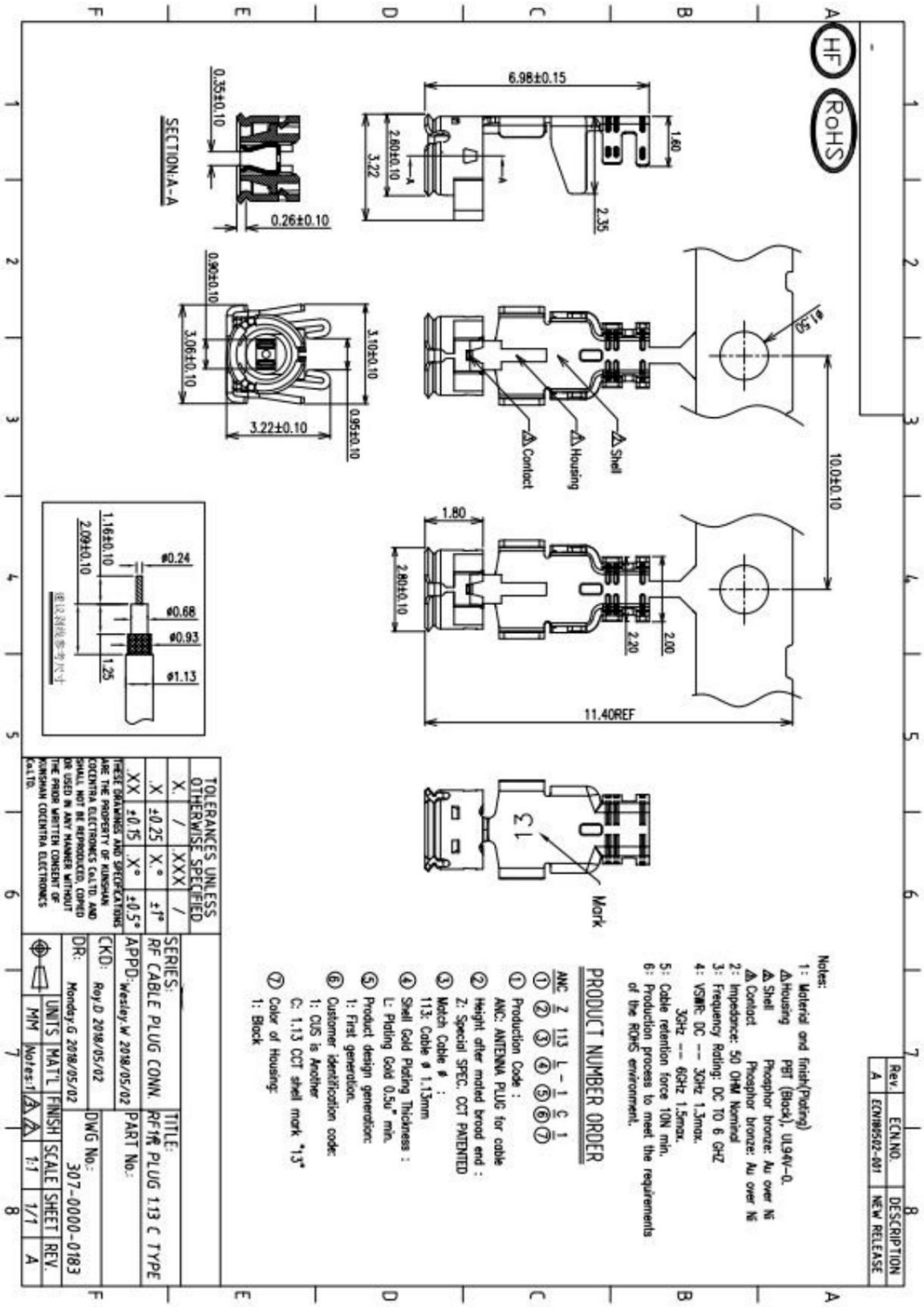

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4. BOM

List of key raw materials for the built-in antenna

serial number	Key raw material	Raw material material	Type of raw material	Full name of manufacturer	CQC and UL certification number	remark
1	Wire rod	Ditin copper	1.13		\	
2	metal	Nickel-plated iron	spcc	JY	\	
3	terminal	copper	C5191	CM	\	

Note:
1) Fill in "NA" for raw materials that do not contain;
2) If there are multiple suppliers of raw materials, they need to be reported, and only 2 suppliers can be reported (and changes are not allowed within 2 years).
3) It is necessary to ensure that the antennas supplied in bulk are consistent with the requirements of the sample and the acknowledgement letter, and the raw material specifications must meet the above requirements.