

	Document number:
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## Sample acceptance letter

### Specification For Approval

Customer name: customer:	Dongguan Yuaoran Electronic Technology Co., Ltd.		
Name of supplier: Customer:	Shenzhen Guangyuanfa Electronics Co., Ltd.		
Customer Item:		Supplier Item:	GYF- doorbell IP10B-WIFI-1-V1.0
Product description:	<b>WIFI built-in FPC antenna is connected to 0.81 black line L = 60.0+2nd generation terminal.</b>	Matching model:	Doorbell IP10B
Supplier acknowledges (seals):		Customer acknowledges (seals):	
Peak Gain : 1.41dBi			
Production: Chen Weiyuan	Structure: Huang Wangchun		
Audit:	Date: February 28th, 2025		

Manufacturer : Shenzhen Guangyuanfa Electronics Co., LTD

Address: Floor 1-2, Building 2, Nanfengcheng Industrial Park, Chuangye Road, Shilongzai Village, Shiyuan Town, Baoan District  
 Add:Building 2, No.11, Chuangyan Road, Shilong Community, Shiyuan Road, Baoan District, Shenzhen  
 Tel: 0755-26702159                    Fax: 0755-26702585                    Website: <http://www.gyfgpsd.com/>



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## catalogue

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## 1. specifications

### 1.1 Electrical specification

This report mainly provides the test status of various electrical and structural performance parameters of the doorbell IP10B antenna.

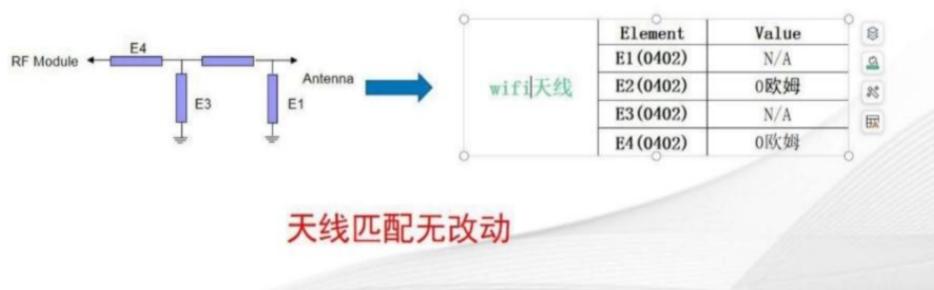
specifications and models	Guang yuan fa Liao Hao
WIFI antenna	GYF- doorbell IP10B-WIFI-1-V1.0

### 1.2 Antenna frequency range

The following table is the electrical performance index of Guangyuanfa design and mass production antenna.

机型	门铃IP10B		
天线类型	FPC		
频段及天线材质	主天线	频段	材质
		2G	/
		3G	/
	其他天线	LTE	/
		分集	/
		BT	2.4G BT
		GPS	/
性能要求	按客户要求执行		

## 2. Matching circuit diagram



### 3. structural style

#### 3.1 Antenna composition

The antenna is mainly composed of coaxial wires welded by flexible circuit printed board.

#### 4. testing equipment

##### 测试设备说明



### 5 . VSWR test connection

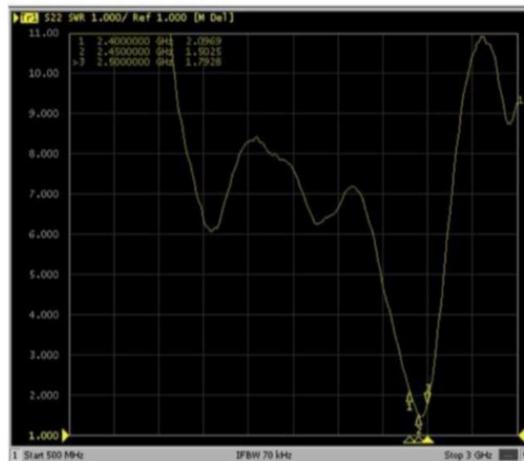
5. 1 Test connection: VSWR test device is connected in sequence as: R&SZ VL network analyzer → test line → test fixture.

#### 6. test

6.1 Test site: Guangyuan microwave darkroom. The test frequency range is 400 MHz-6 GHz, the dead zone range is 50cm Ruta, and the reflectivity is less than -50 dB.

6.2 Tested instruments: Agilent5071B, CMW500, Agilent8960 E5515C, standard horn antenna, 24-probe OTA microwave darkroom test system, printer, etc.

### 6.3 Passive test standing wave of 4G antenna



### 6.4 WIFI antenna active data

Frequency (MHz)	Efficiency (dBi)	Gain (dBi)	Efficiency (%)
2400.0	-4.26	0.72	37.53
2410.0	-4.21	0.79	37.95
2420.0	-3.92	1.10	40.56
2430.0	-3.88	0.55	40.94
2440.0	-3.67	0.75	42.96
2450.0	-3.69	0.83	42.72
2460.0	-3.59	1.05	43.74
2470.0	-3.57	1.15	43.92
2480.0	-3.65	1.13	43.20
2490.0	-3.70	1.21	42.63
2500.0	-4.01	1.41	39.71



## 7.3 Bill Of Material

 Bill Of  
 Material

Project name	Doorbell IP10B	Finished item number	GYF- doorbell IP10B-WIFI-1-V1.0	date	2025-2-28
Bill Of Material	category	texture of wood	specifications		dosage
one	Fpc antenna	One and a half.	35.0*6.3		one
2	coaxial-line	0.81 black	60+ generation terminal		one

## 8. reliability testing

Project name	Doorbell IP10B-FPC	Finished item number	GYF- doorbell IP10B-WIFI-1-V1.0	date	2025-2-28
Test quantity	15pcs	start time	2025.2.25 09:15	finish time	2025.2.27 11:25

test item	testing nominati ve	Test quantity	test result	rem arks
Salt spray corrosion test	(1) Test temperature: salt water test 35°C 2°C; Pressure barrel 47°C 1°C (2) Test conditions/methods: salt water concentration is above 5%, solution PH is 6.5~7.2, air pressure is 1.0 ~ 1.2 kg/cm <sup>2</sup> , and test time is set according to product requirements. (3) Test finished: after 2 hours, observe the product surface. Surface oxidation discoloration, coating shedding phenomenon	5pcs	OK	Test time 48H
Low tempe	(1) Temperature:-30°C (-25°C-pilot stage) (2) Test time: 20 hours/packing condition: no packing. (3) The product to be tested is placed in the high and low temperature test box without turning on the machine. After the temperature in the box is adjusted to 25°C and the	5pcs	OK	



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humidity test	humidity is 65% for 1 hour, the temperature is reduced to -30°C within 1 hour, and the humidity is turned off. <del>Performing high temperature for 20 hours, the temperature for 1 hour and cooling temperature</del> Perform performance test after 2 hours. Appearance and structure: the appearance and surface of the antenna shall be free from defects, and the antenna shall not be deformed, warped and damaged, and its performance shall be normal, and the standing wave ratio shall not exceed 10% specified in the product standard.			Test time is 20H.
High temperature test	(1) Temperature: +70°C (+65°C-pilot stage) and humidity 85% (80%-pilot stage) (2) Test time: 20 hours/packing condition: not included.	5pcs	<b>OK</b>	

install (3) The product to be tested is placed in a high and low temperature test box without turning on the machine, and the temperature is controlled. Keeping the temperature for 20 hours, cooling the temperature for 1 hour, and then cooling to normal temperature; Perform performance test after 2 hours. Appearance and structure: the appearance and surface of the antenna shall be free from defects, and the antenna shall not be deformed or damaged.				
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#### 8.1 Reliability test report

#### 8.2 Product storage instructions

1. The exposed part of the gold finger conductor needs surface plating (anti-rust) treatment, such as gold plating, OSP, tin plating, etc., and the storage environment needs to avoid corrosive gases.
2. The antenna temperature needs to be controlled at 21-38°C, and the humidity needs to be controlled at 50-70%. If the temperature is too high, the 3M glue will melt, which will make the antenna sticky.
3. It is suggested that if the initial bonding temperature is lower than 10°C, it is not suitable for bonding, so the adhesive is too hard to be firmly bonded to the object. However, if it has been bonded, the adhesion at low temperature is also satisfactory.
4. Under the condition of 21°C and 50% relative humidity, the shelf life of the original packaging is 24 months from the date of production.

#### 9. Working temperature

components	temperature
Coaxial wire rod	-40~80°C
FPC body	-50~280°C
3m glue (pasted to the machine)	-30-80°C