

			Document symbol.
<i>Sample acknowledgement</i>			
Supplier Name. Customer.	Dongguan Lingdu Electronic Technology Co.		
Customer Code.	Shenzhen Guangyuanfa Electronics Co. shenzhen guangyuanfa electric co., ltd		
Product Description.	1124-0005185-002	Supplier Code.	hs880c-max-wifi-v1.0 gyf 2022-11-11
Supplier acknowledges (stamp).	WiFi Antenna Coaxial Wire Length:175mm, Wire Diameter:1.13mm, Soldered Wire;Silk Screen:HS880C MAX-WiFi-V1.0 GYF, 2022-11-11	Matching model: MLR	HS880C-MAX
		Client acknowledges (stamp).	
Produced by: Guo Shaosen			
Audit: Zhou Xuefeng	Structure: Guo Shaosen		
	Date: 2023.02.19		

catalogs

1. Specification
 - 1.1 Electrical specifications
 - 1.2 Antenna frequency range
2. Matching circuit diagrams
3. Structural forms
 - 3.1 Antenna Composition
4. Test equipment
5. VSWR test connection
 - 5.1 Test connections
6. Testing
 - 6.1 Sites for testing
 - 6.2 Instrumentation for testing
 - 6.2 Data tested
7. Drawing specifications
 - 7.1 Drawings
 - 7.2 Sample size inspection
 - 7.3 Bill of Materials
8. Reliability Test
 - 8.1 Reliability test report
 - 8.2 Product storage instructions
9. operating temperature
10. Antenna Pictures

HS880C-MAX Antenna

1. Specification

1.1 Electrical specifications

This report provides the test status of the HS880C-MAX antenna for various electrical and structural performance parameters.

Specification	GYF number (punctuation)
WiFi antenna	hs880c-max-wifi-v1.0 gyf 2022-11-11

1.2 Antenna

Frequency

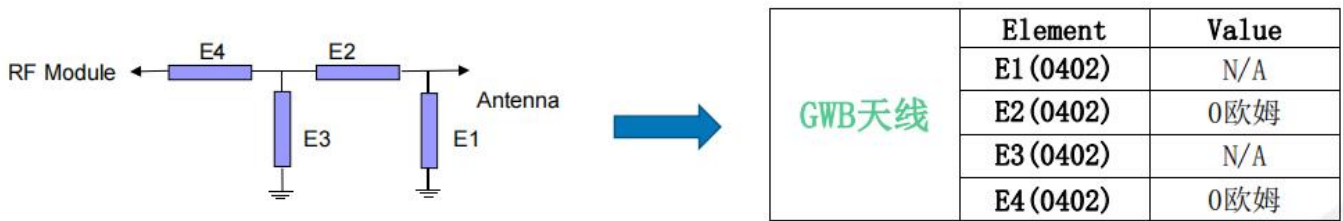
Range

The following table summarizes the electrical performance of GFD's designed and mass-produced antennas.

机型	HS880-MAX				
天线类型	WIFI				
频段及天线材质	主天线	频段		材质	
		2G	/		/
		3G	/		
	LTE	/			
	其他天线	分集	/		/
WIFI+GPS+BT		2.4G		FPC	
性能要求	按客户要求执行				

2. Matching Circuit Diagram

天线匹配无更改



3. Structure Form

3.1 Antenna Composition

The antenna consists mainly of flexible circuit board + coaxial cable.

4. Test equipment

测试设备说明

24探头微波暗室	CMW500	7*4*3M ETS微波暗室	Agilent 8960
Agilent E5071B	高低温试验箱	MT8820C	HP8753ES
测试系统 ETS 暗室 24探头OTA暗室	测试环境 温度: 22°C ± 3°C 湿度: 50% ± 15%	有源测试 支持2G/3G/4G 支持NB-IoT/CAT-M/BT/WIFI	无源测试 400MHz—6G

5. VSWR Test Connections

5.1 Test connections : The VSWR test setup is connected sequentially as follows: R&S ZVL Network Analyzer → Test Leads → Test Fixture.

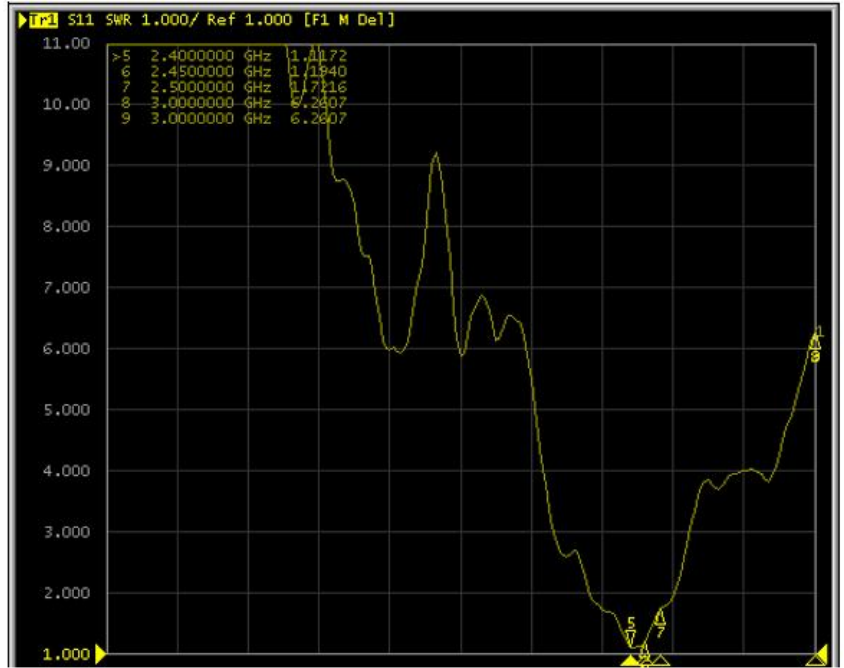
6. Testing

6.1 The test site : Guangyuanfa Microwave Darkroom . The frequency range of the test is 400MHz-6GHz, and the quiet zone range is 50cm circumference with reflectivity less than -50 dB.

6.2 Instruments tested: Agilent5071B, CMW500, Agilent8960 E5515C, standard horn antenna, 24-probe OTA microwave darkroom test system, printers and so on.

6.3 Data tested:

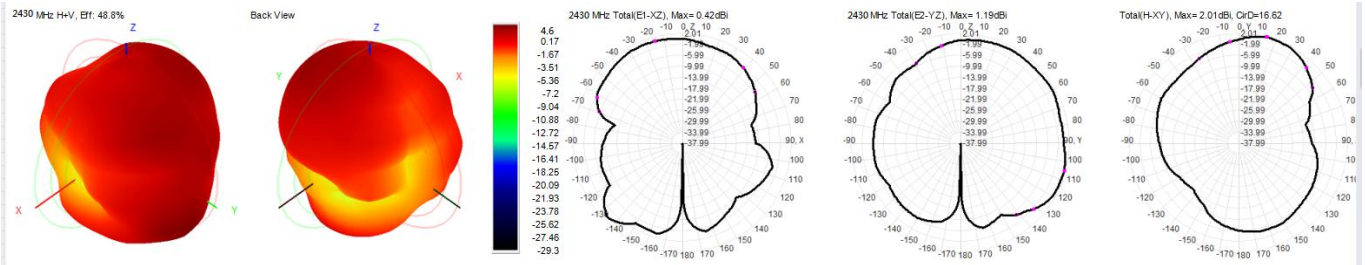
VSWR



效率增益

Frequency (MHz)	2400.0	2405.0	2410.0	2415.0	2420.0	2425.0	2430.0	2435.0	2440.0	2445.0
Gain (dBi)	3.94	4.07	4.22	4.31	4.41	4.52	4.60	4.57	4.50	4.45
Efficiency (%)	44.72	44.99	45.39	45.22	45.09	45.48	46.07	45.66	45.28	46.06

2450.0	2455.0	2460.0	2465.0	2470.0	2475.0	2480.0	2485.0	2490.0	2495.0	2500.0
4.30	4.19	4.13	4.07	3.94	3.80	3.69	3.62	3.58	3.49	3.44
46.22	45.91	45.86	46.15	45.88	45.09	44.34	43.98	44.02	43.43	42.55



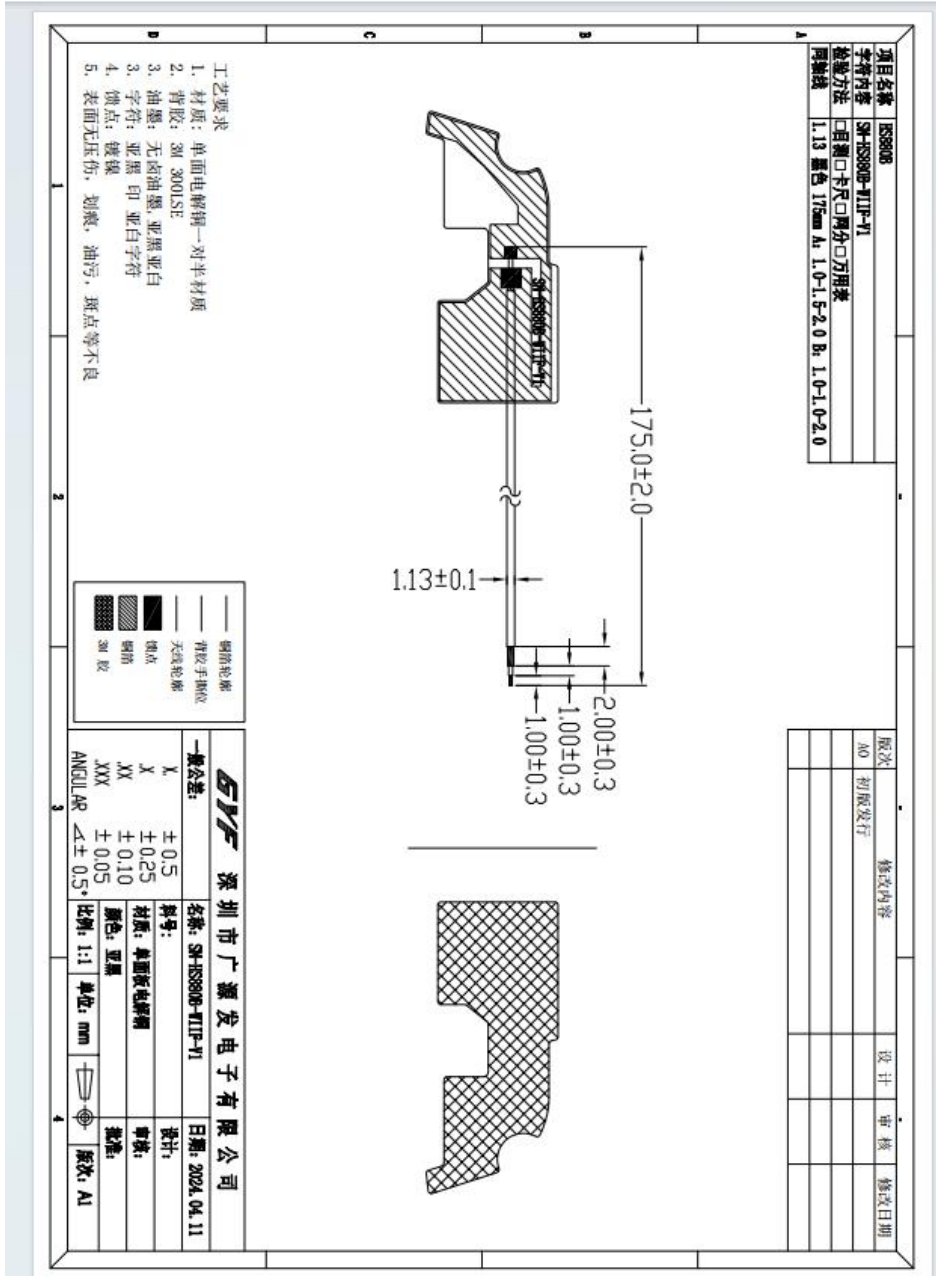
天线实测 (测试机器无电池)

手机型号: OPPO Find x3
下载75M视频, 用时25秒;
平均3.0M/s



7. Drawing specifications

7.1 Drawing



7.2 Sample size inspection

Project name	HS880C-MAX	Finished material number	hs880c-max-wifi-v1.0 gyf 2022-11-11	dates	2024.02.19			
item (of program)	norm	real time data					judgme nt	note
		1	2	3	4	5		

Shenzhen Guangyuanfa Electronics Co.

1	12.95	12.93	12.91	12.85	12.99	12.95	OK	
2	29.56	29.53	29.48	29.51	29.59	29.46	OK	
3	175.0	175.03	175.09	175.10	175.12	175.10	OK	
4	1.13	1.13	1.15	1.17	1.09	1.16	OK	
5	2.00	2.01	2.08	2.12	2.03	2.01	OK	
6	1.00	1.05	1.03	1.16	1.09	1.02	OK	
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								

7.3 Bill of Materials

bill of materials

Project name	HS880C-MAX	Finished material number	hs880c-max-wifi-v1.0 gyf 2022-11-11	dates	2024.02.19
bill of materials	form	material (that sth is made of)	norm	dosage	

Shenzhen Guangyuanfa Electronics Co.

1	fpc antenna	two-to-five	12.95*29.56mm	1
3	coax	copper (chemistry)	1.13 Black 175mm	1
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

8. Reliability Test

8.1 Reliability test report

Project name	HS880C-MAX	Finished material number	hs880c-max-wifi-v1.0 gyf 2022-11-11	dates	2024.02.19
--------------	------------	--------------------------	--	-------	------------

Shenzhen Guangyuanfa Electronics Co.

Number of tests	15pcs	Starting time	November 6, 09:15	Completion time	November 8, 11:25
Test items	test standard	Test Number of	Test results	note	
Salt spray corrosion test	<p>(1) Test temperature: Salt water test $35^{\circ}\text{C} \pm 2^{\circ}\text{C}$; Pressure drum $47^{\circ}\text{C} \pm 1^{\circ}\text{C}$.</p> <p>(2) test conditions / methods: brine concentration of 5% or more, solution PH value: 6.5 ~ 7.2, air pressure: 1.0 ~ 1.2kg / c m², test time according to product requirements to set the test time</p> <p>(3) Test completion: 2 hours after the observation of the product surface surface oxidation discoloration, plating off phenomenon.</p>	5pcs	OK	Test Time 48H	
Low Temperature Testing	<p>(1) Temperature: -30°C (-25°C - pilot stage)</p> <p>(2) test time: 20 hours / packaging conditions: not packaged</p> <p>(3) The product under test is placed in the high and low temperature test box without power on, adjust the box temperature to 25°C humidity 65% insulation for 1 hour, within 1 hour to cool down to -30°C, the humidity is closed, insulation for 20 hours, warming up for 1 hour to room temperature, 2 hours after the performance test.</p> <p>Appearance and structure: the antenna appearance surface without defects, and the antenna should not be deformed, warped and damaged, and the performance is normal, VSWR should not exceed 10% of the product standard.</p>	5pcs	OK	Test Time 20H	
High Temperature Testing	<p>(1) Temperature: $+70^{\circ}\text{C}$ ($+65^{\circ}\text{C}$ - pilot phase) Humidity 85% (80% - pilot phase)</p> <p>(2) test time: 20 hours / packaging conditions: not packaged</p> <p>(3) The product under test is placed in the high and low temperature test chamber without power on, adjust the temperature in the chamber to 25°C humidity 65% insulation for 1 hour,</p>	5pcs	OK		

	<p>after 1 hour to warm up to +70 °C, humidity 85% insulation for 20 hours, cool down the temperature temperature for 1 hour to the room temperature, 2 hours after the performance test.</p> <p>Appearance and structure: the antenna appearance surface without defects, and the antenna should not be deformed, warping and damage, and normal performance, VSWR should not exceed 10% of the product standard.</p>			
--	--	--	--	--

8.2 Product storage instructions

1. The exposed part of the gold finger conductor needs to be treated with surface plating (rust prevention), such as gold plating/chemical gold, OSP, tin plating, etc. The storage environment needs to avoid corrosive gases.
2. The antenna temperature should be controlled 21-38°C, humidity should be controlled 50-70%. Too high temperature will make the 3M adhesive melt, resulting in antenna viscosity deterioration.
3. **It is recommended that if the initial bonding temperature is lower than 10 °C, it is not suitable for bonding, so then the adhesive is too hard and can not be firmly bonded to the object; however, if it has been bonded, the adhesive holding power at low temperatures is equally satisfactory.**
3. Under the condition of 21°C and 50% relative humidity, the shelf life is 24 months from the date of production in the original packaging state.

9. Operating temperature

character radical	temp
FPC body	-50~280°C
3m adhesive (already attached to the machine)	-30-80° C

10. Antenna picture



WiFi天线位置，天线露铜区域需要放足够高的导电泡棉和屏铁框接触。

