



Shenzhen Shuodian Electronic Technology Co.,Ltd
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Gauge book

for

A31-6162 2.4-5.8G WIFI FPC antenna

Customer item

Material number of our company
SD-2-80MM

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Shenzhen Shuodian Electronic Technology Co.,Ltd

catalogue

Specification Book 1

Shenzhen Shuedian Electronic Technology Co., Ltd.

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1. Both parties confirm that

1.1 Customer Confirmation Signature

Customer:

Customer department/position	Confirming signature	Confirmation date
Hardware/RF		
structure		

project manager		
Business/procurement		
check		

1.2 Signature of Lot-point Science and Technology Confirmation

Department/position	Confirming signature	Confirmation date
Antenna engineer		
construction engineer		
project manager		
QA		
check		

2. General matters

2.1 Scope of application

A31 2.4G-5.8G WIFI antenna

2.2 Use temperature range

The temperature range of this product is -20 ~ +65°C

2.3 Storage temperature range

This product is stored at -30 ~ +75°C

3. General product specifications

NO .	ITEM S	DETAILS
one	type	A31-6162
2	frequency band	2400-2500MHZ 5100-5900MHZ
three	VSWR	≤2.5
four	impedance	50Ω
five	Antenna type	dipole
six	Antenna	FPC+1.13 coaxial line

	realization form	
seven	Antenna picture	

4. Product specification details

4.1 product structure parameters

4.11 Product Material Composition:

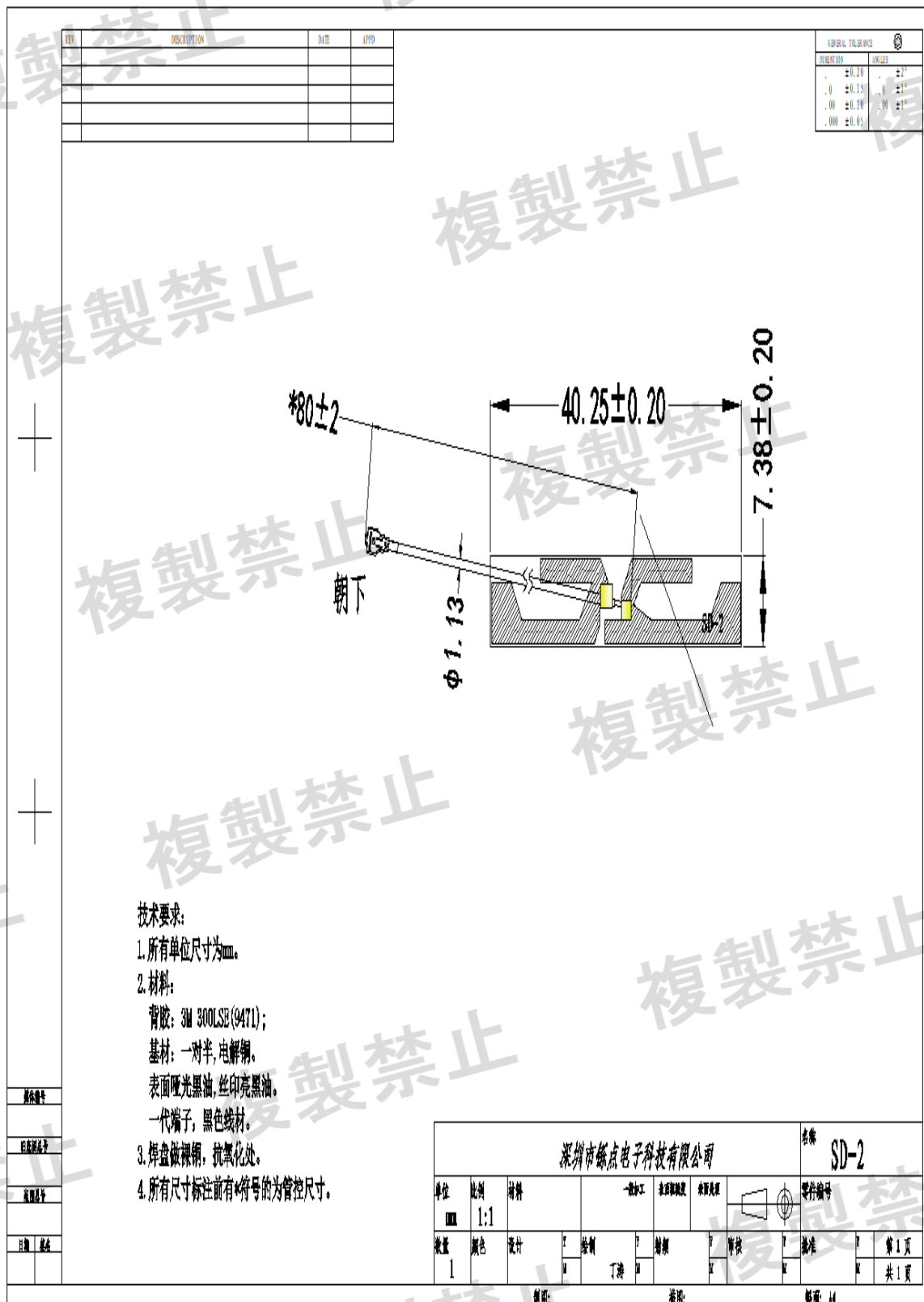
serial number	material	Specification (MM)
one	FPC	40.25*7.38 black
2	coaxial-line	First-generation terminal 1.13 total length 80MM black

4.12 Appearance

The product has a good appearance, and there are no scars, sweat marks, protrusions and other defects that seriously affect the appearance.

4.13 Structural dimensions

Product drawings:



4. 2 Product electrical performance test data

4.2.1 Test environment and instruments and equipment

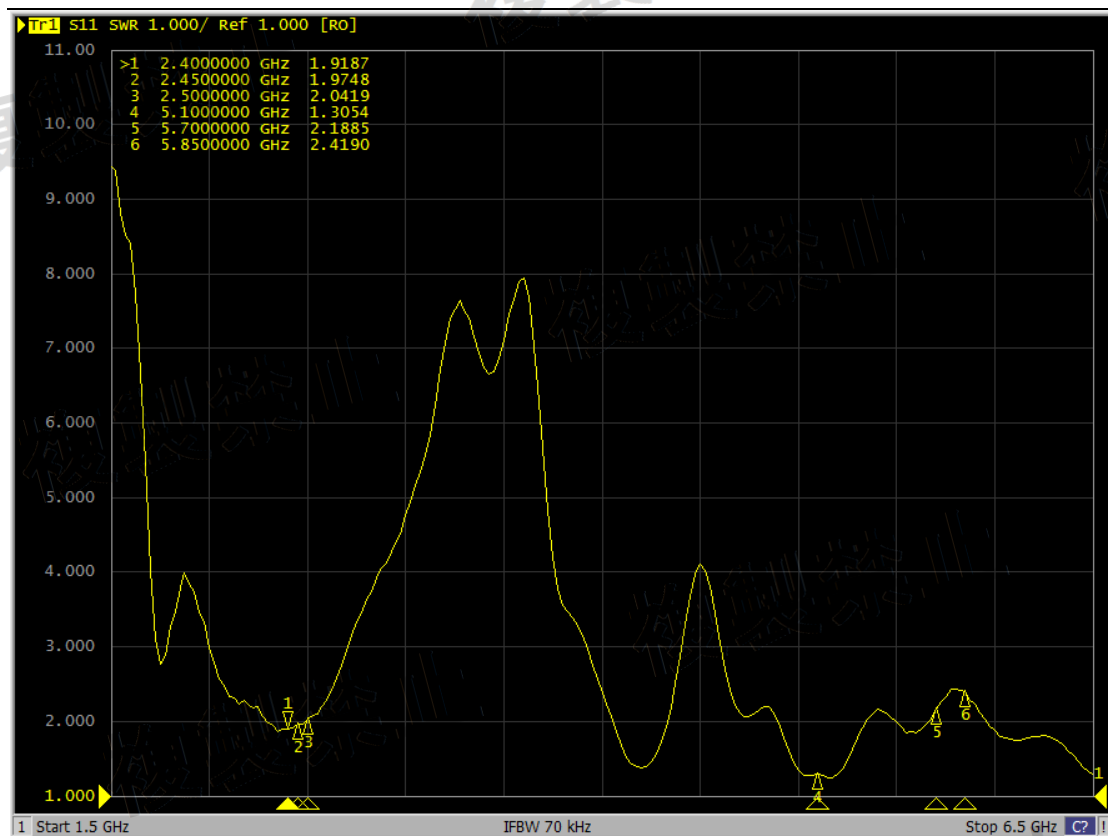
Test environment: Temperature: 10°C-+30°C Relative humidity: ≤80%(+40°C) Atmospheric pressure: 750mmkg ±30mmkg	Test equipment: network analyzer KEYSIGHT E5071C Multi-probe microwave darkroom
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4.22.1 Product electrical performance test data:

S11 diagram of antenna:

Marker(MH Z)	2400	2450	two thousan d and five hundre d	5100	5700	5850
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4.22.2

Gain efficiency of antenna:

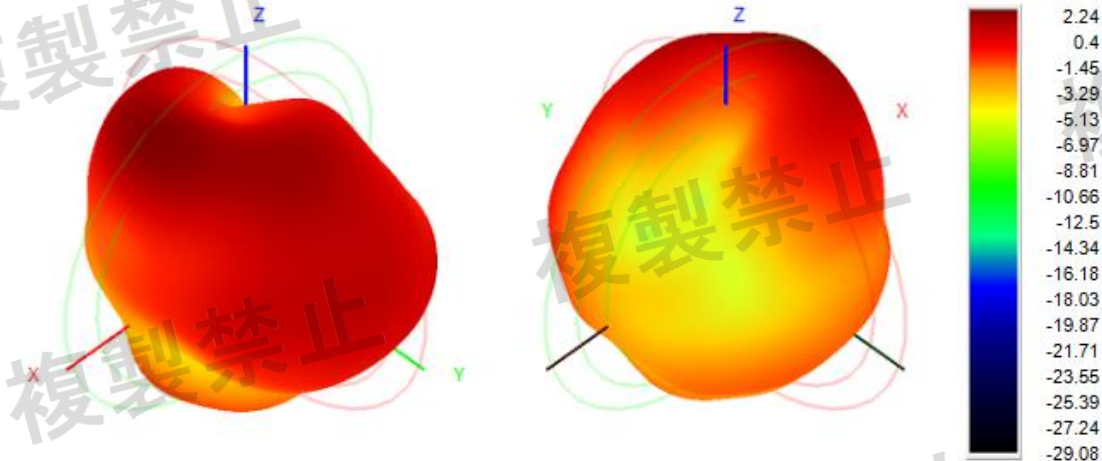
Marker (MHz)	2400	2450	two thousand and five hundred	5700	5750	5800	5850
Gain (dBi)	0.98	2.24	1.13	1.86	1.71	1.81	1.89
Efficiency (%)	41.00	44.33	42.84	49.90	47.38	47.04	47.31

4.22.3 Radiation pattern of antenna:

2450 MHz:

2450.0MHz H+V, Eff: 34.3%

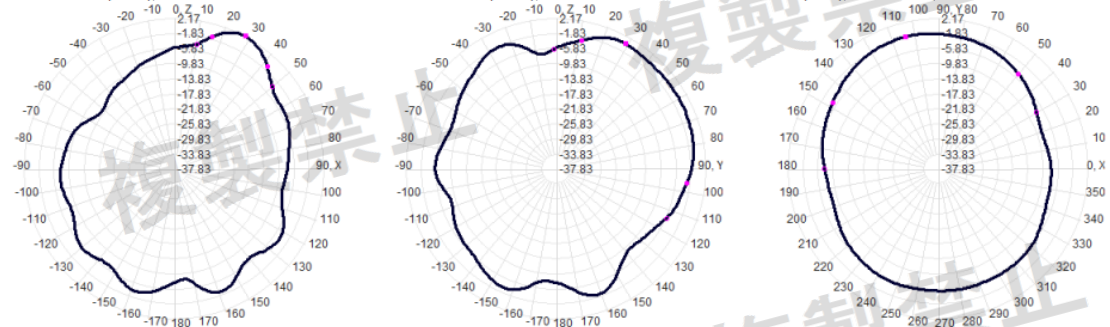
Back View



2450.0MHz Total(E1-XZ), Max= 2.17dBi

2450.0MHz Total(E2-YZ), Max= 0.19dBi

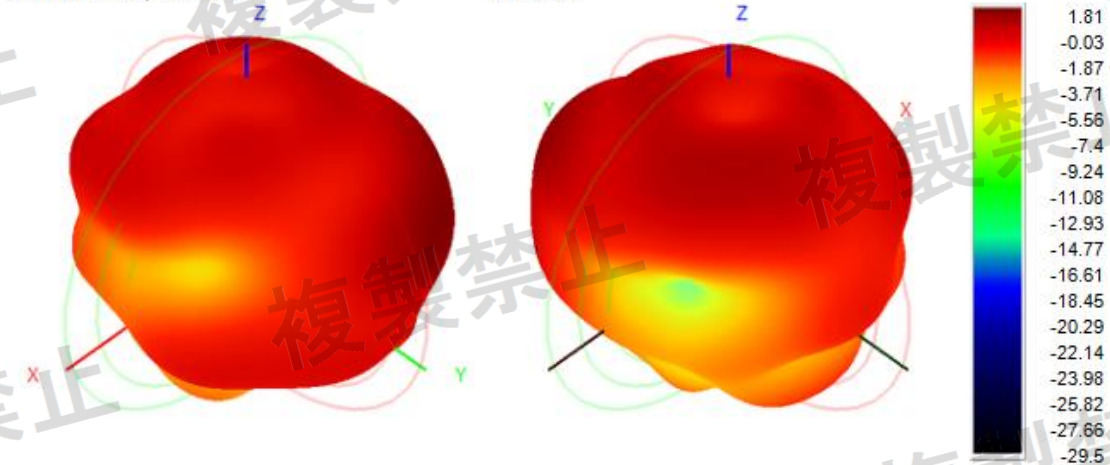
Total(H-XY), Max= -1.63dBi, CirD=7.08



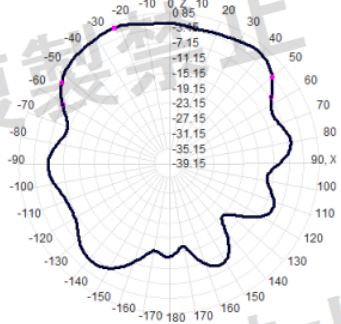
5800 MHz:

5800.0MHz H+V, Eff: 37.0%

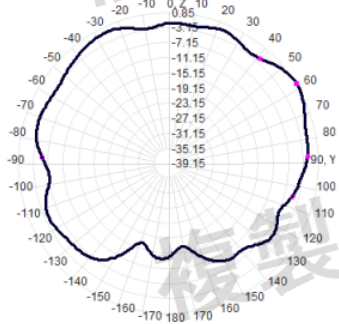
Back View



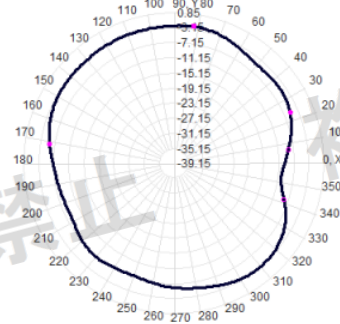
5800.0MHz Total(E1-XZ), Max=-0.39dBi



5800.0MHz Total(E2-YZ), Max= 0.85dBi



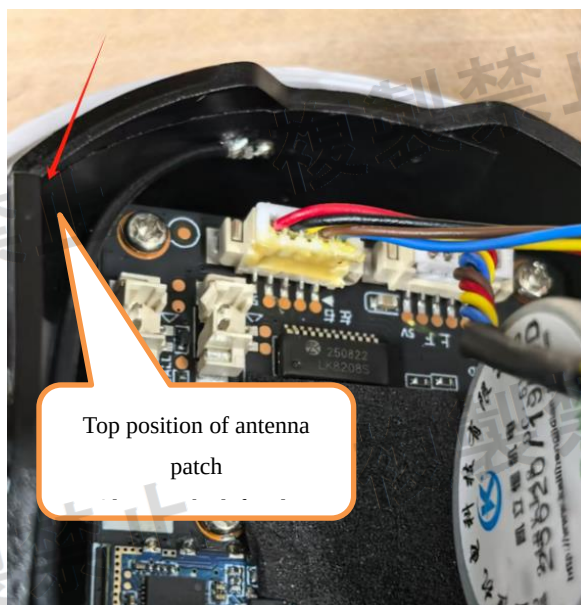
Total(H-XY), Max=-2.52dBi, CirD=8.03



4.22.4 antenna active data sheet:

Protocol mode	Bandwidth rate	channel	TRP	TIS	remarks
802.11b 2.4G	11M	one	17.43	-80.75	
		six	16.68	-76.31	
		11	16.4	-77.52	
802.11g 2.4G	54M	one	15.35	-70.11	
		six	14.46	-66.23	
		11	13.99	-68.2	
802.11n 2.4G	MSC7	one	15.37	-68.14	
		six	14.51	-64.92	
		11	14	-66.82	
802.11a 5.8G	54M	149	12.29	-73.24	
		157	12.12	-72.54	
		165	12.88	-73.3	

4.22.5 Antenna position





5. Product packaging method

Packing method:
Self-sealed bag, 200PCS each.

6. Document resume

File number Document No.	
date Release Date	2025/7/16

authorized strength Author	Hungjie
check Review	WH

List of previous documents

Revised History

Date	Version	Revised Record
2025/7/16	1.00	New Project