

Shenzhen Fengruixiang Intelligent Technology Co., Ltd.

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Acknowledgement
Sampe Approval Drawing

client			
CUSTOMER			
date	2023. 07. 23		
Date			
product model	5dB, long 195 mm, separate antenna		
Product Type			
P / N	N95		
Part No			
Manufacturer Confirmation Field			
engineering ENGINEER	QA QC	vocation al work SALES	
Customer Confirmation Field			
Engineering ENGINEER	QA QC	Produce MANUFACTORY	Purchase PURCHASING

1. Product Overview

The 5dBi separative antenna is a dual-frequency separative antenna designed based on the dipole antenna principle, featuring high gain, excellent efficiency, omnidirectional radiation, and superior port matching. When deployed in wireless terminal devices, it provides extensive coverage and reliable communication performance.

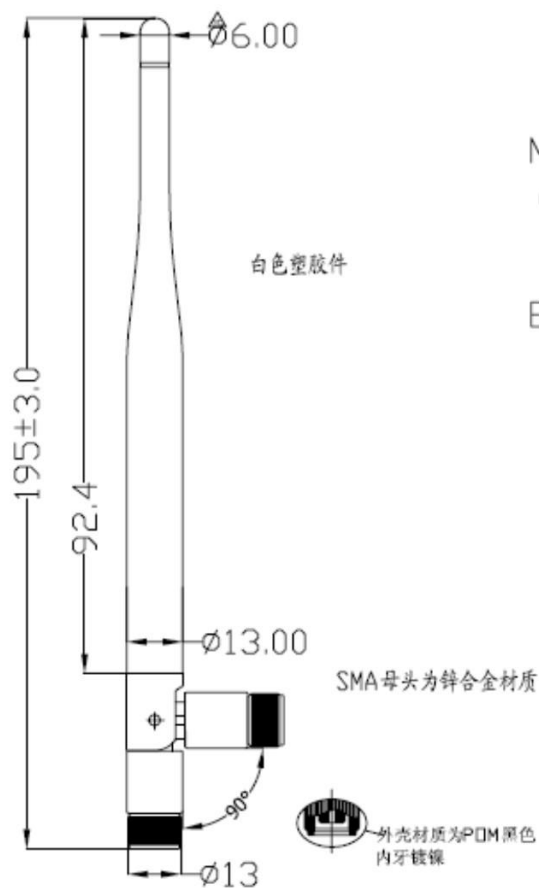
2. Application Area

- u Vehicle-mounted DVDs, remote-controlled smart toy cars, etc.;
- u Network cameras, set-top boxes, etc.;
- u Consumer electronic devices or smart home appliances (e.g., TVs, DVD players, Blu-ray players);

3. Key Property

It meets conventional antenna performance requirements and achieves near omnidirectional coverage.
The average gain is sufficiently high, reducing coverage blind spots.
The excellent port matching significantly enhances the efficiency of signal transmission and reception.

4. Conventional Structural Dimensions



U Electrical Parameters

Frequency range	2.4~5.8GHz
Characteristic impedance	50 Ω
Voltage standing-wave ratio	$\leq 2:1$
Gain	5.0dB
Power capacity	2W
Polarization Form	Horizontal
Radiation direction	Omnidirectional

u Mechanical Parameters

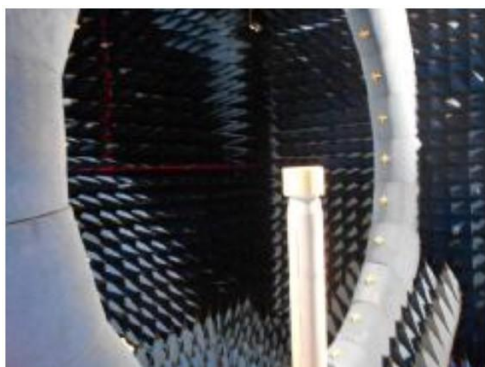
Length	$195 \pm 3\text{mm}$
Cables in the same vehicle	RG-178

u Operating/Storage Temperature

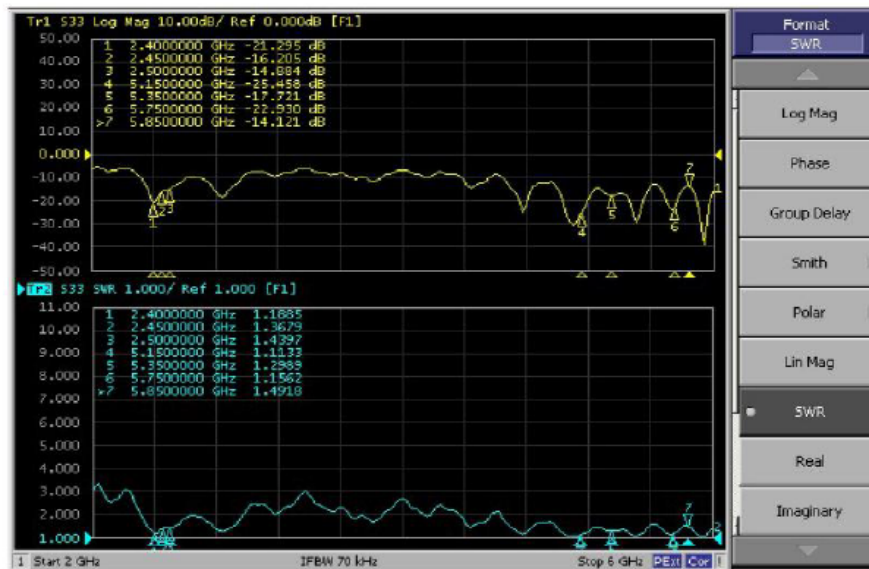
Working temperature	$-30^{\circ}\text{C} \sim 65^{\circ}\text{C}$
Storage temperature	$-30^{\circ}\text{C} \sim 75^{\circ}\text{C}$

u testing facility

SATIMO58SG



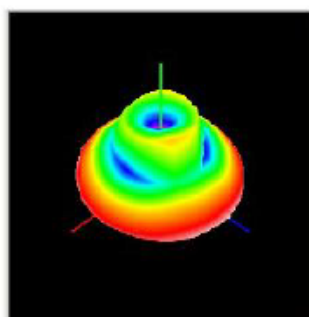
5. Product Property



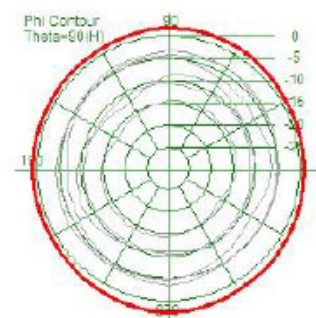
Benefits and Gains

Frequency (MHz)	X-Z plane		Y-Z plane		X-Y plane		E-total (dBi)	Efficiency (%)
	Peak Gain	Average Gain	Peak Gain	Average Gain	Peak Gain	Average Gain		
2400	3.11	-2.54	3.40	-5.05	2.62	2.45	4.65	71%
2450	3.20	-2.21	3.13	-5.19	2.70	2.36	4.85	70%
2500	3.32	-2.91	3.30	-4.88	2.63	2.56	5.00	72%

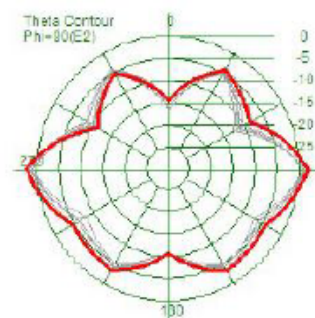
directional diagram



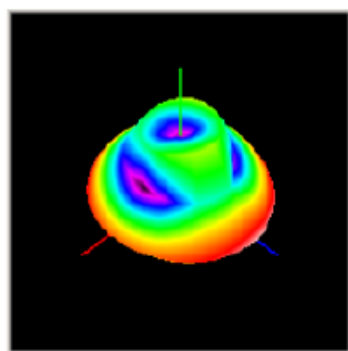
2.4GHz



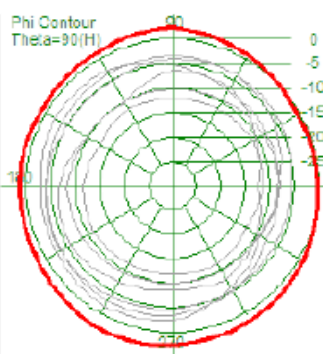
Gain: 4.82dBi



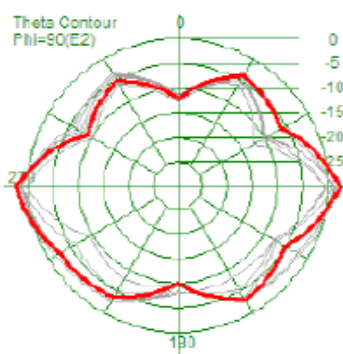
Efficiency:70.15%



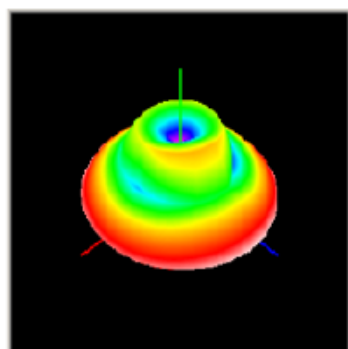
2.45GHz



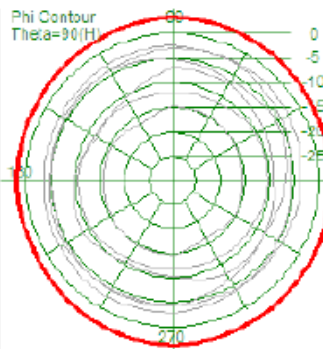
Gain: 4.84dBi



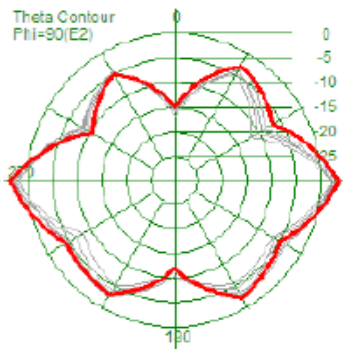
Efficiency: 73.23%



2.5GHz

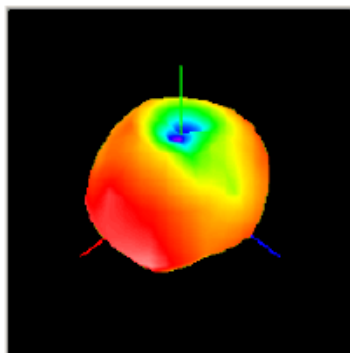


Gain: 4.99dBi

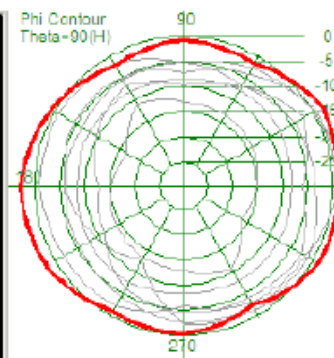


Efficiency: 74.09%

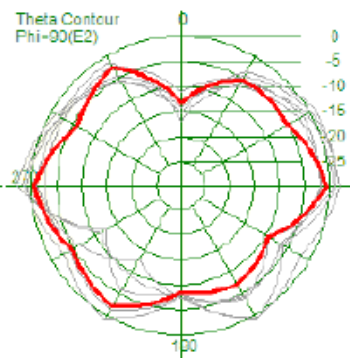
Fred (MHz)	Effi (%)	Effi (%)	Gain (dBi)
4900	60.30	-0.78	4.70
5000	60.53	-0.44	4.26
5100	60.61	-0.25	5.00
5200	60.27	-0.69	4.17
5300	60.49	-0.35	4.89
5400	60.96	-0.35	4.55
5500	60.30	-0.75	4.87
5600	60.73	-0.58	4.81
5700	60.76	0.16	4.11
5800	60.21	-0.63	5.00
5900	60.47	-0.28	4.59



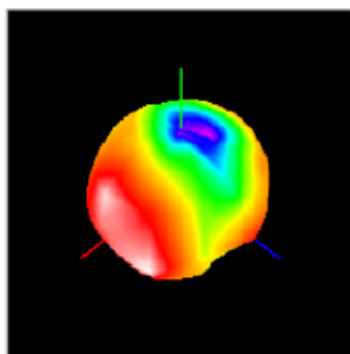
5.15GHz



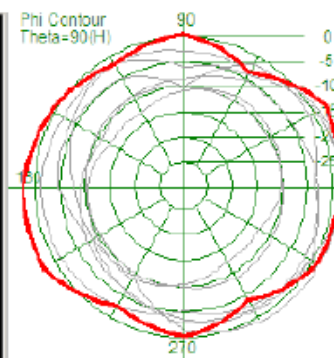
Gain: 5.00dBi



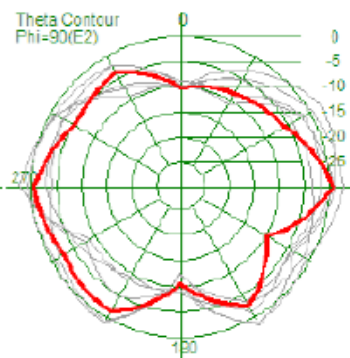
Efficiency: 70.86%



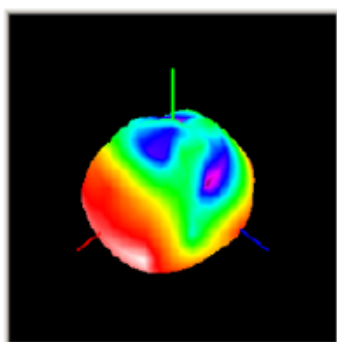
5.35GHz



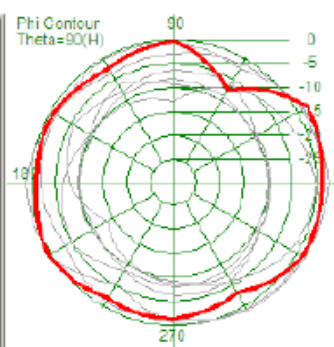
Gain: 4.95dBi



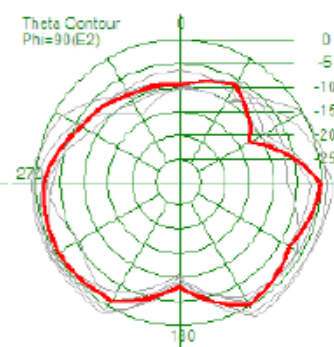
Efficiency: 70.49%



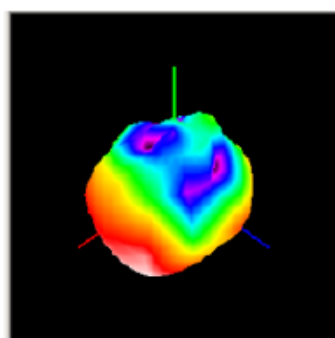
5.75GHz



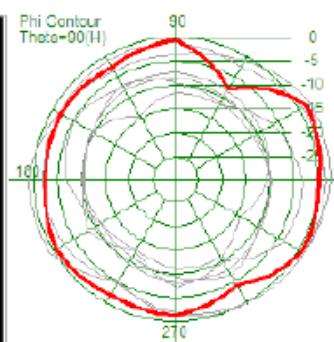
Gain: 4.93dBi



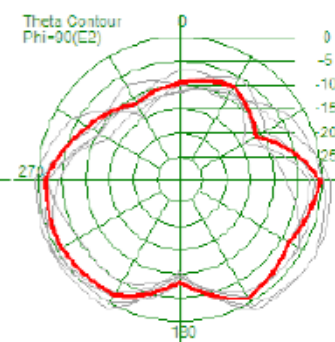
Efficiency: 71.61%



5.825GHz



Gain: 5.01dBi



Efficiency: 72.37%