DreamLNK

SPECIFICATION

Shenzhen DreamLNK Technology Co., Ltd.
深圳市骏眸科技有限公司

Blade Shape Full Band 5G Antenna

Product Specification

Client Name		**Frequency Band**	400Mhz-6000Mhz
Product Name	**5G Antenna**	**Version**	V1.0
Customer's Part Number		**DreamLNK's Part Number**	DL-J023-5GW
RF Designer	Jason Wang	**RF Manager**	Knight Ai
Structural Designer		**Structural Design Manager**	
Technical Director	Fagan Xu	**Date**	2023-11-15

Approved By:

Whether the product meets your requirements? □ Yes □ No

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1. Product Introduction

This full bands blade shape 5G antenna is an external omnidirectional antenna, which can be mainly used for wireless router, or IoT gateway solutions. It is compatible with full band network equipment, such as LET/DUT/4G/5G/GSM/GPRS/NB IoT, with a frequency range from 400Mhz to 6000MHz.

Its waterproof ABS cover is made of high-grade shielding material, which is eco-friendly and durable; and its pure copper gold-plated SMA connectors are resistant to oxidation with stable transmission; while the inside part of the antenna is a precision circuit board, which has higher gain, better transmission efficiency, and stronger anti-interference ability.

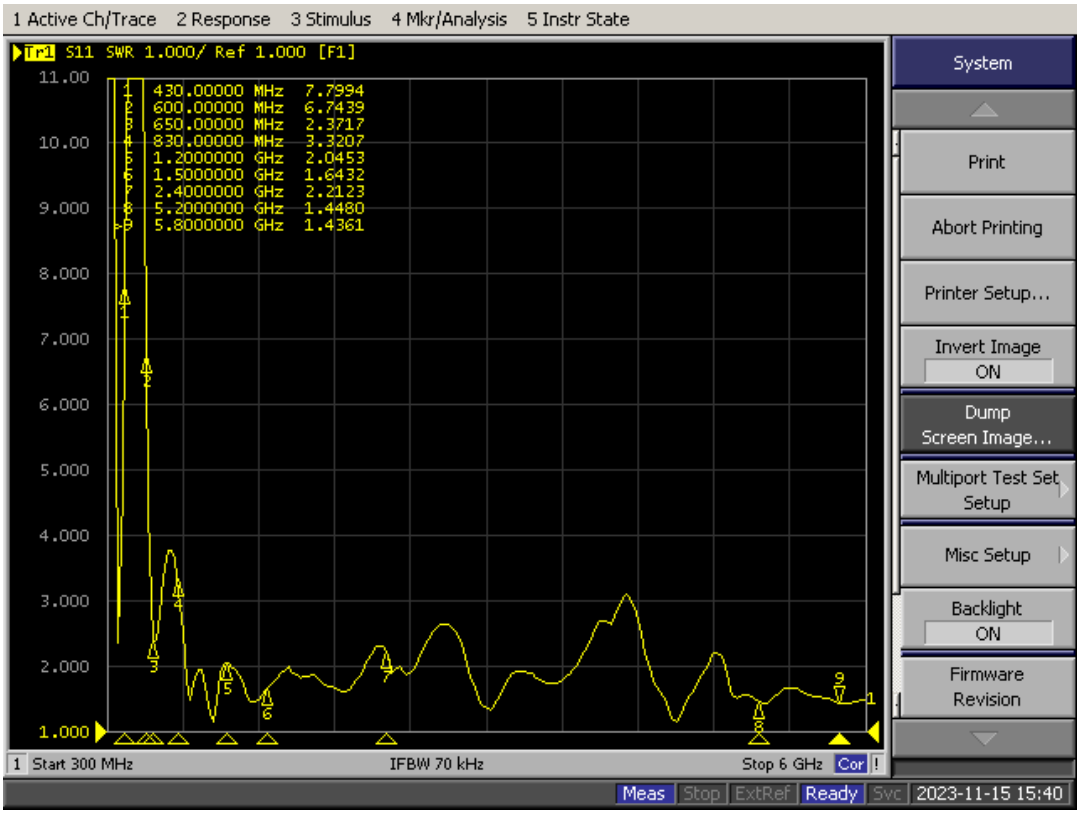
With all these above features, it can transmit/receive stable & strong signal, with high receiving sensitivity, strong wireless penetration ability, and wider coverage. It can be widely used for Smart Home, Power Monitoring, Network Communication, Vehicle Navigation, Rail Transit, Smart Traffic, Smart Power, Smart Vending Machines, Meteorological Monitoring, etc.

2. Parameters

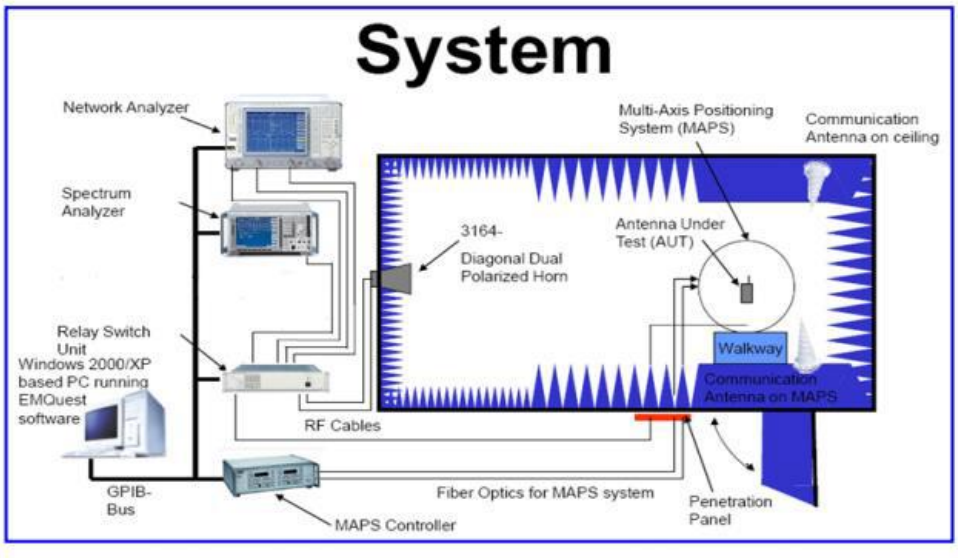
Test Parameters			
Product Name	**5G Blade Antenna**	**Model No**	DL-J023-5GW
Electrical Specifications			
Frequency Range	400-6000MHZ	**Polarization**	Linear, Vertical
Input Impedance	50 Ω	**Radiation direction**	Omni-directional
VSWR	≦ 2.0	**Power Capacity**	5W
Gain	5dBi (no-load gain)	**Continuity Test**	Path testing
Mechanical Specifications			
Dimensions	220*27.4*13.8mm	**Color**	White
Connector Type	SMA-J (as picture shown)	**Storage Temperature**	-40℃ ~ 70℃
Shell Material	ABS	**Working Temperature**	-35℃ ~ 75℃

3. Product Photo

4. S11 Data (Test Report)



Testing Principle:



Testing Equipment:

Network Analyzers: Agilent 8753D 5071B

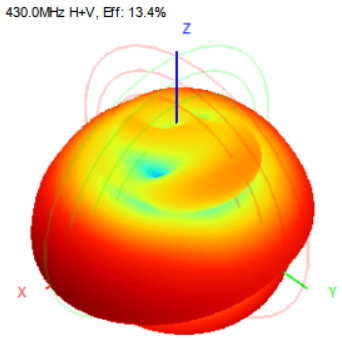
Communications Test Set: Agilent E5515C

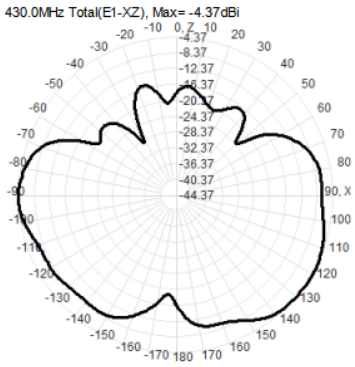
3D Chamber Test System

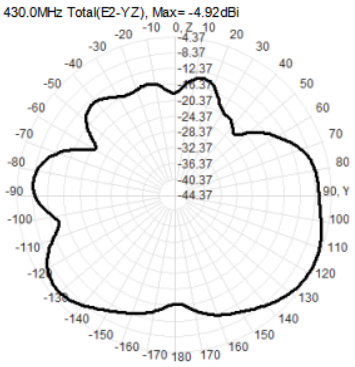
Antenna Efficiency & Gain

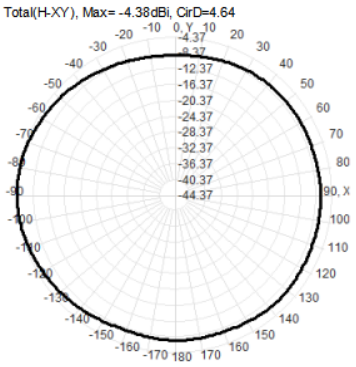
Frequency (MHz)	Efficiency (%)	Peak GAIN (dBi)
430	13.38	-4.11
600	15.67	-5.61
650	49.64	0.62
830	42.67	2.21
960	41.85	2.4
1700	60.97	1.45
2700	47.21	0.40
3300	56.92	2.90
3800	48.61	2.29
4400	22.40	-0.58
5000	51.45	4.41

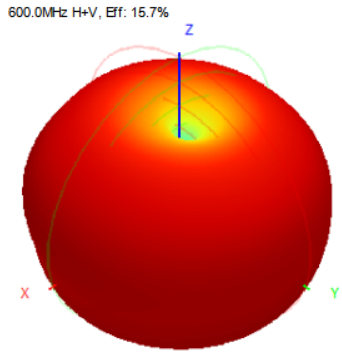
2D&3D Radiation Pattern

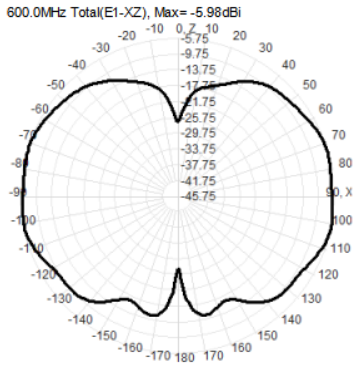


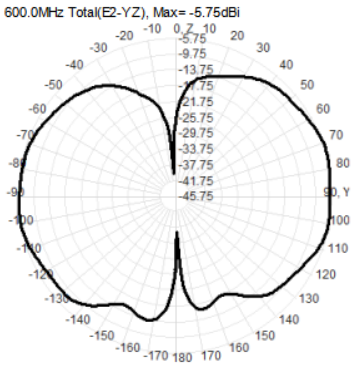


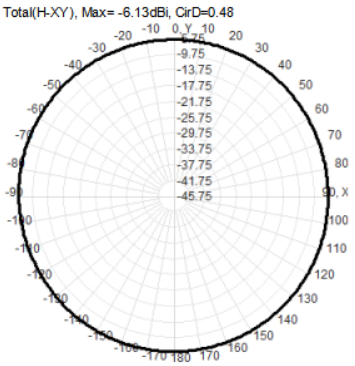


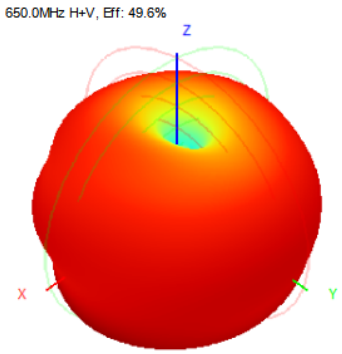


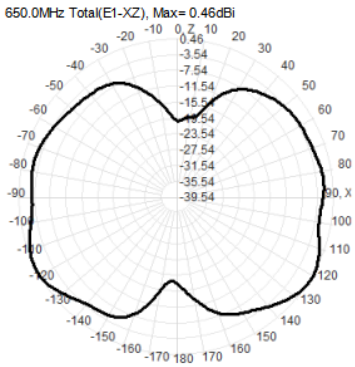


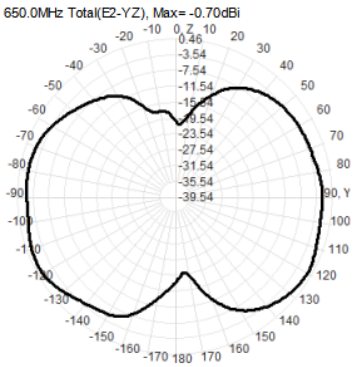


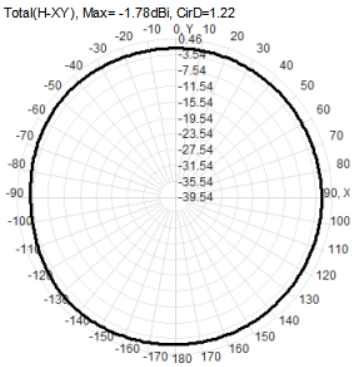


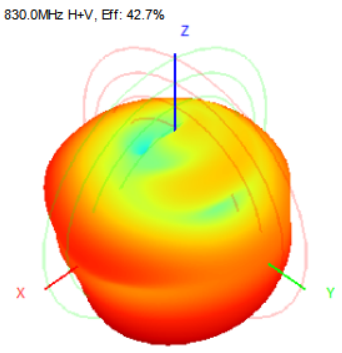


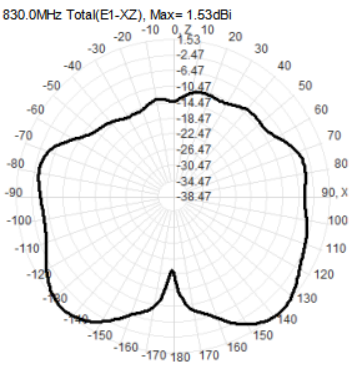


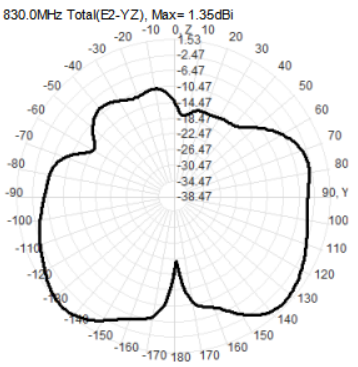


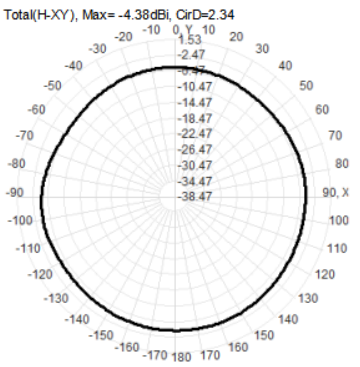




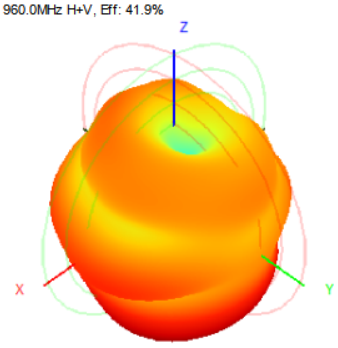




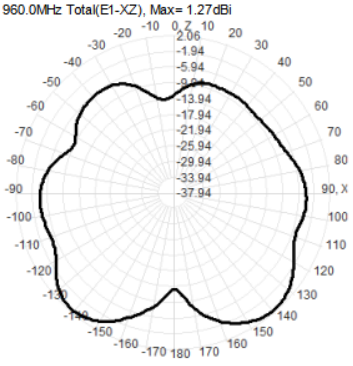




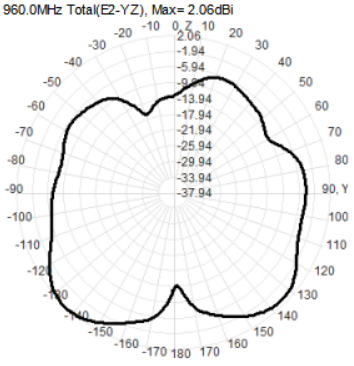
960.0MHz H+V, Eff: 41.9%



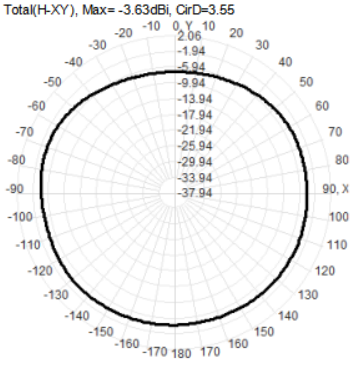
960.0MHz Total(E1-XZ), Max= 1.27dBi



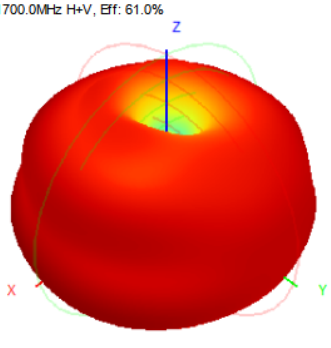
960.0MHz Total(E2-YZ), Max= 2.06dBi



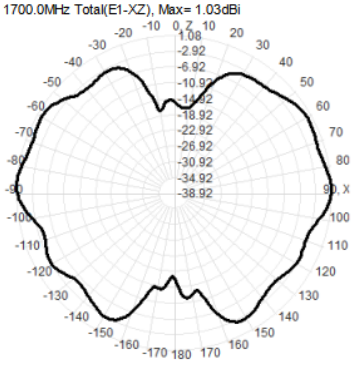
Total(H-XY), Max= -3.63dBi, CirD=3.55



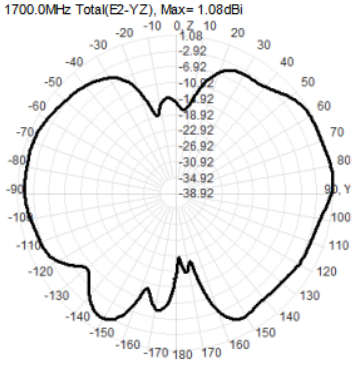
1700.0MHz H+V, Eff: 61.0%



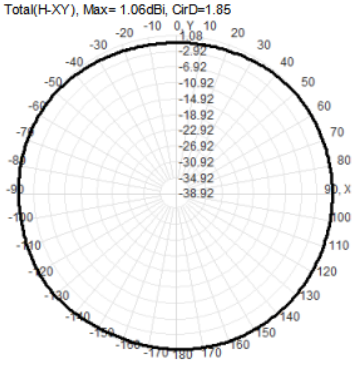
1700.0MHz Total(E1-XZ), Max= 1.03dBi



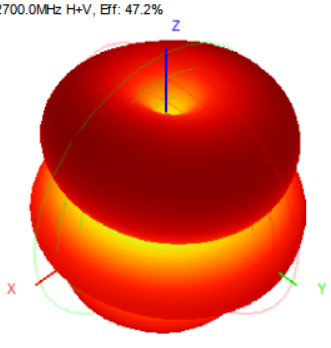
1700.0MHz Total(E2-YZ), Max= 1.08dBi



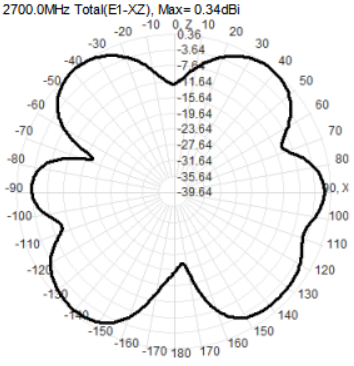
Total(H-XY), Max= 1.06dBi, CirD=1.85



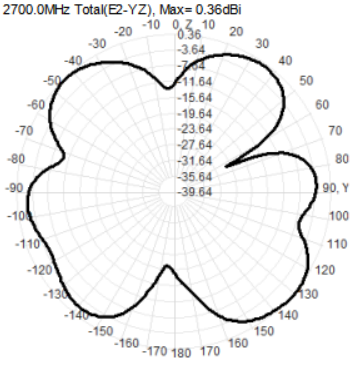
2700.0MHz H+V, Eff: 47.2%



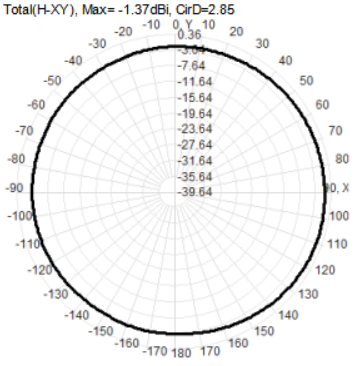
2700.0MHz Total(E1-XZ), Max= 0.34dBi



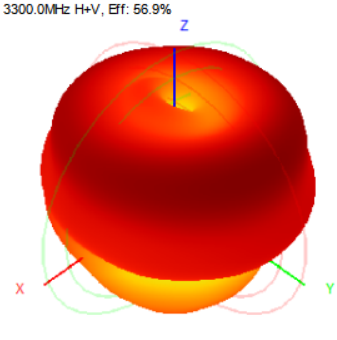
2700.0MHz Total(E2-YZ), Max= 0.36dBi



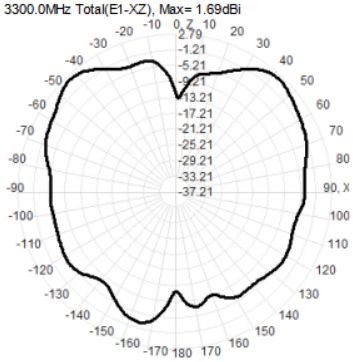
Total(H-XY), Max= -1.37dBi, CirD=2.85



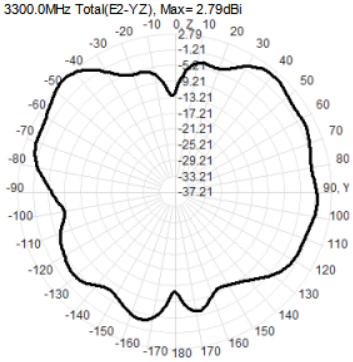
3300.0MHz H+V, Eff: 56.9%



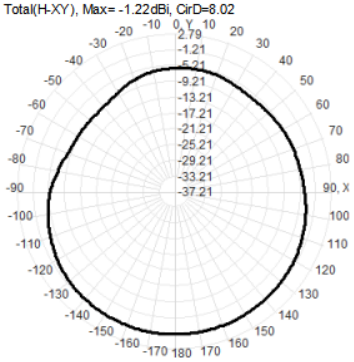
3300.0MHz Total(E1-XZ), Max= 1.69dBi

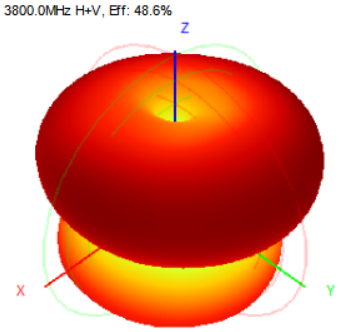


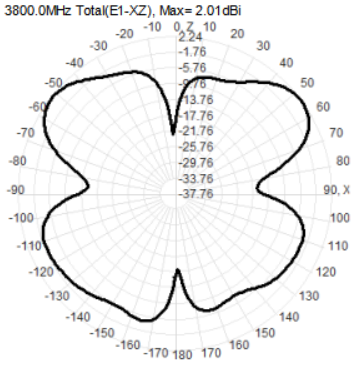
3300.0MHz Total(E2-YZ), Max= 2.79dBi

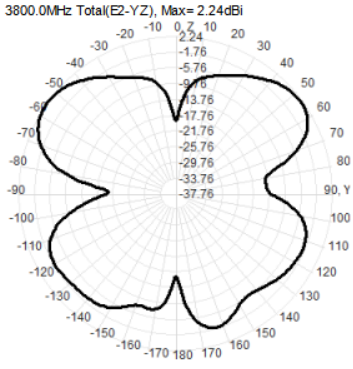


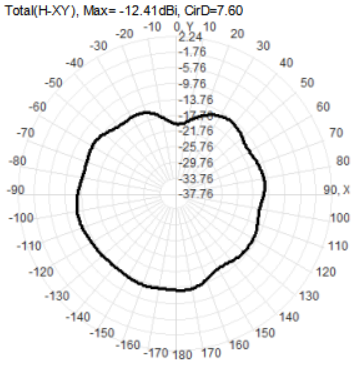
Total(H-XY), Max= -1.22dBi, CirD=8.02

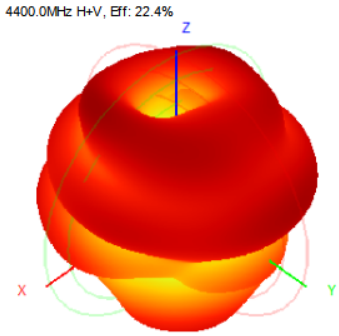


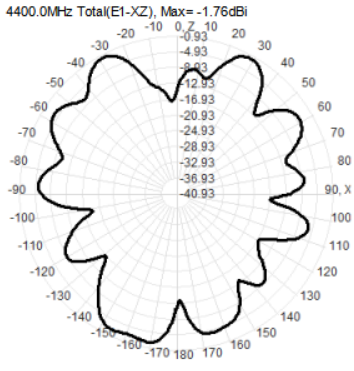

3800.0MHz H+V, Eff: 48.6%
Z
X
Y

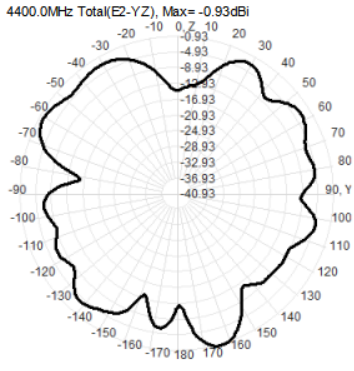

3800.0MHz Total(E1-XZ), Max= 2.01dBi

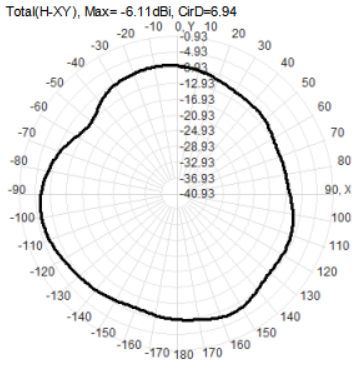

3800.0MHz Total(E2-YZ), Max= 2.24dBi

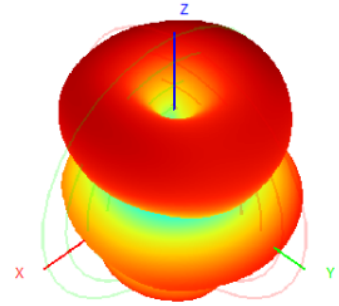

Total(H-XY), Max= -12.41dBi, CirD=7.60

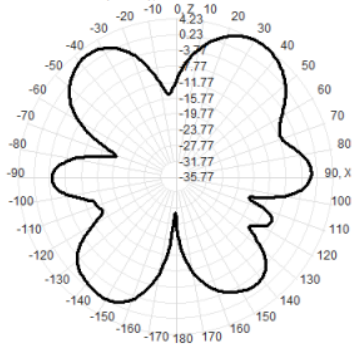

4400.0MHz H+V, Eff: 22.4%
Z
X
Y

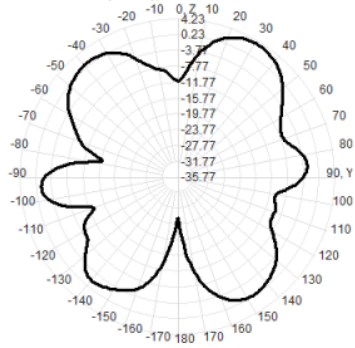

4400.0MHz Total(E1-XZ), Max= -1.76dBi

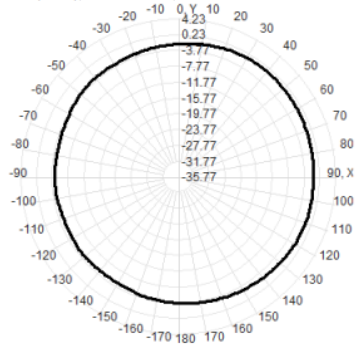

4400.0MHz Total(E2-YZ), Max= -0.93dBi


Total(H-XY), Max= -6.11dBi, CirD=6.94

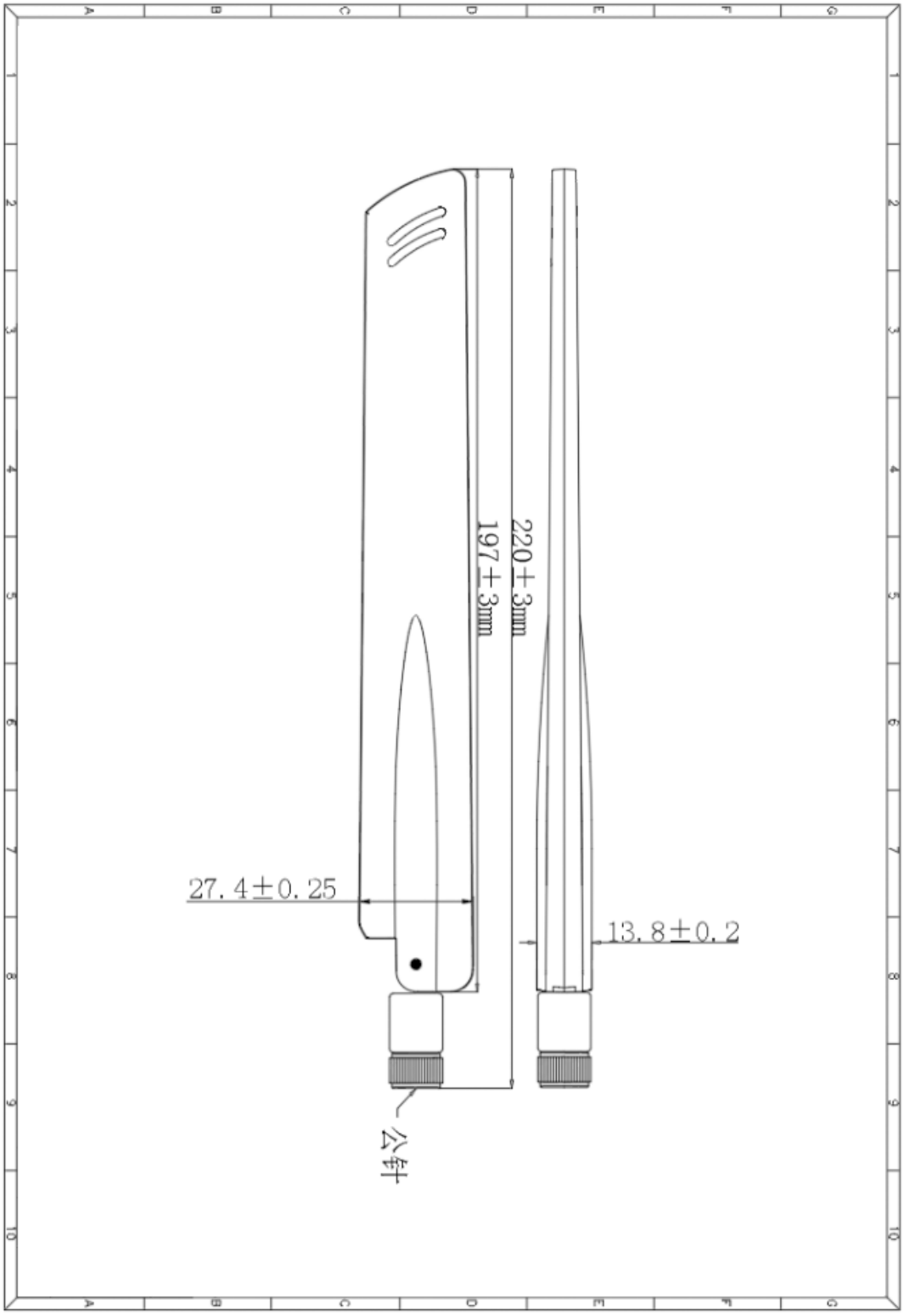

5000.0MHz H+V, Eff: 51.5%
Z
X
Y


5000.0MHz Total(E1-XZ), Max= 4.23dBi


5000.0MHz Total(E2-YZ), Max= 3.40dBi


Total(H-XY), Max= -0.94dBi, CirD=4.03

5. Structure diagram



Structure diagram

6. Environmental reliability experiment report

Item	Test condition	Specification
Storage environment	Tested temperature, humidity and air pressure as following without specifying: 1. The temperature is -30 ℃ ～ + 80 ℃ 2. Relative humidity is 45% -85% 3. The air pressure is 86kpa-106kpa	The electrical mechanical performance is normal
High and low temperature test	Perform 5 cycles between 70 ℃ and 40 ℃, then check the appearance quality, under normal conditions 1-2H	The size should meet the requirements for mechanical and electrical performance
Resistant to constant heat and humidity	Test Relative humidity: 95 ± 3%, Test temperature: 40 ℃. After continuous 2H running, take out the sample, and measure its electrical properties within 5 minutes, put the sample in a normal condition for another 1-2H, check the appearance quality	The size should meet the standard, and meet for mechanical and electrical performance
Vibration test	Vibration frequency range 10-55HZ, displacement amplitude: 0.35MM, acceleration amplitude: 50.0M / S, frequency of sweeping cycle: 30 times	Normal electrical and mechanical performance
Drop test	1M high-altitude free fall 3 times, in the direction of mutually perpendicular axes	Normal electrical and mechanical performance

7. Contact us

Shenzhen DreamLnk Technology Co., Ltd

★ Data collection, Smart home, Internet of Things applications, Wireless remote-control technology, Remote active RFID, Antennas ★

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