



Shenzhen XINHENG YANG Technology Co., Ltd

# SPECIFICATION

Customer Name:

Product Model: DB325

Customer P/N :

XINHENG YANG P/N: WJ. 05. 0000015

SPECIFICATIONS: 433MHZ

Production date: 2024-12-13

Sample Version: R2

XINHENG YANG		
FICTION	DQE	R&D
Customer		
PUR	QC	R&D

Manufacturer: Shenzhen Xinhengyang Technology Co., LTD

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Network address: <https://www.xhy-2008.com>



Number	Effective date	Change record
R1	2024-11-26	Initial release
R2	2024-12-13	Spring change



# 1、The basic parameters

A. Electrical Characteristics	
Frequency	433MHZ
VSWR	433MHZ: <2.0
Avg Efficiency	433MHZ: >14%
Impedance	50 ± 25 Ohm
Polarization	Linear
Peak Gain	433MHZ: -1.38dBi
B. Material & Mechanical Characteristics	
Material of Radiator	spring      yellow
Cable Type	/
Connector Type	/
Dimension	/
C. Environmental	
Operation Temperature	- 20 °C ~ + 60 °C
Storage Temperature	- 30 °C ~ + 70 °C

## 2、Electrical Specification

Those specifications were specially defined for DB325 model.

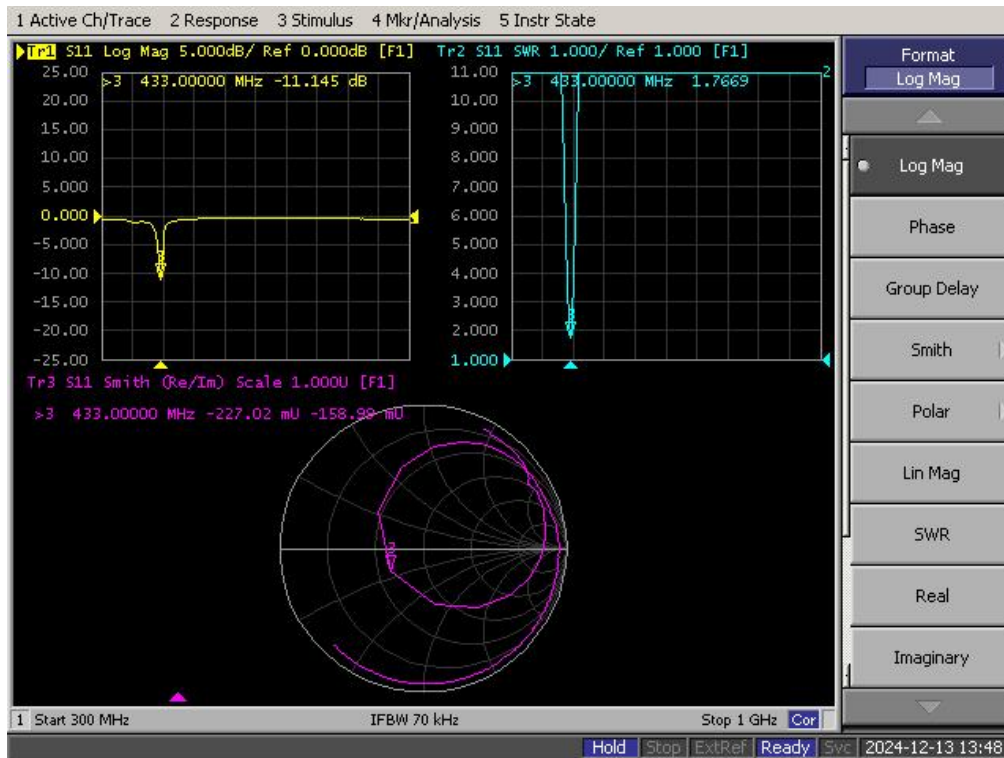
## 3、VSWR

### 1 Measuring Method

- 1.A 50  $\Omega$  coaxial cable is connected to the antenna. Then this cable is connected to a network analyzer to measure the VSWR
2. Keeping this jig away from metal at least 20cm

### 2 Measurement frequency points and VSWR value

433MHZ



## 4、 Anechoic chamber

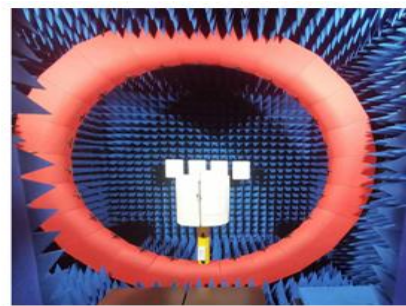
### Introduction:

Microwave darkroom and no reflection chamber, absorbing short wave darkroom dark room. Microwave darkroom by electromagnetic shielding room, filtering and isolation, grounding device, the ventilation duct, indoor distribution system, monitoring system, ceiling wave material part. It is based on the wave absorbing material as the lining of the shield room, it can absorb the most of the electromagnetic energy into the six wall is a better simulation of the free space conditions.

The main working principle of microwave anechoic chamber is according to the electromagnetic wave in the medium from the low magnetic guide magnetic direction of propagation rules, absorbing materials to guide the electromagnetic wave using high permeability, through resonance, a substantial absorption of electromagnetic wave radiation energy, by coupling the electromagnetic energy into heat energy.

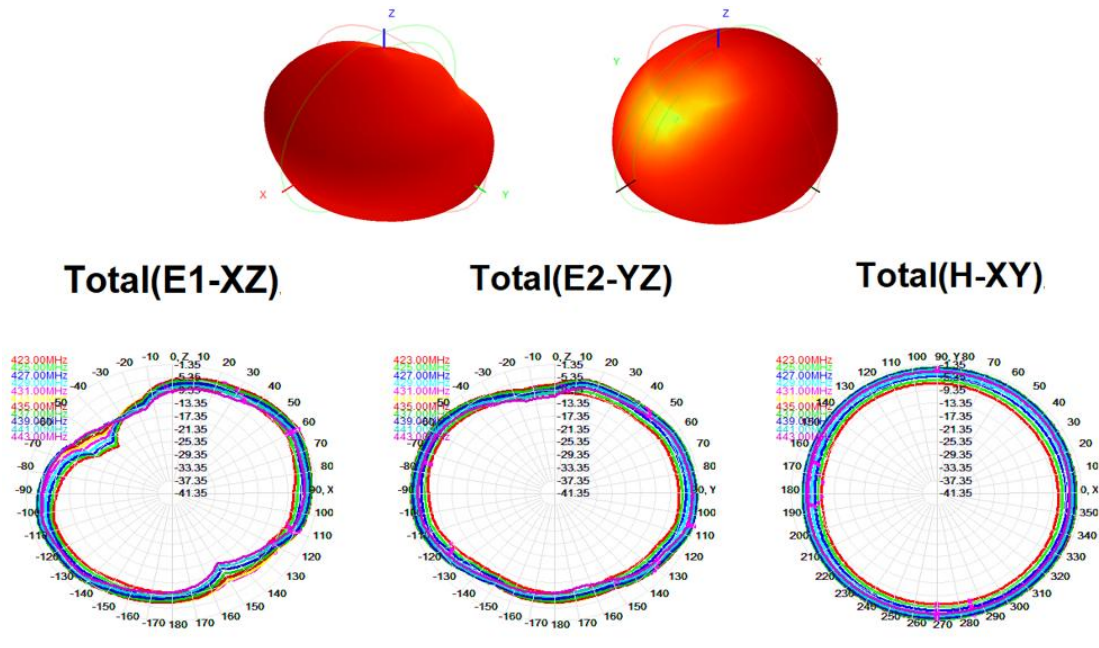
### main performance :

Frequency range:400MHz ~ 6GHz ceiling reflected wave loss materials: 400MHz ~ 6GHz is equal to or more than 15dB (microwave absorbing material by composite wave absorbing materials, namely tapered containing carbon sponge suction wave material paste in ferrite)



## 5、Gain table of Antenna

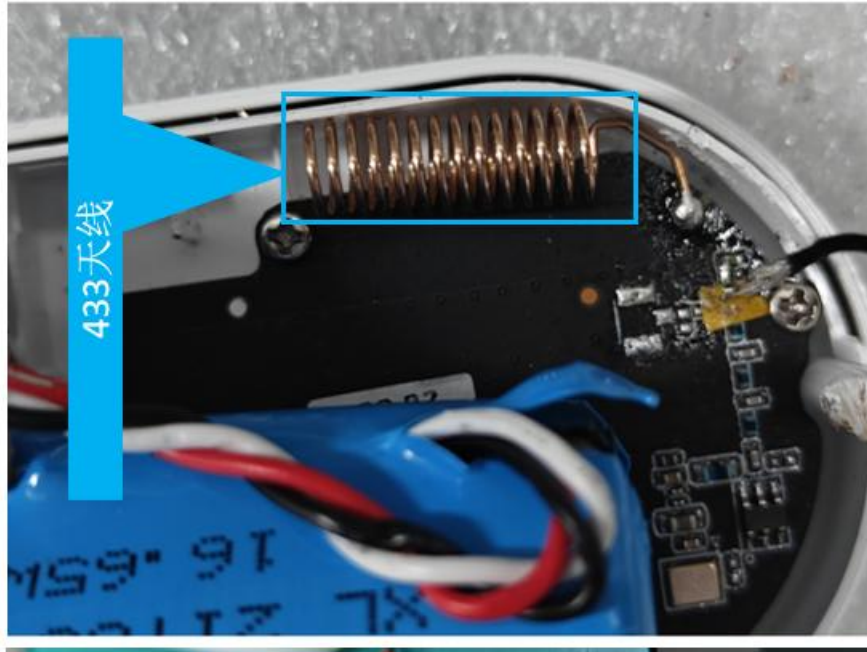
### Passive field pattern-425MHZ-435MHZ



### Passive efficiency gain

423MHZ-443MHZ			
Frequency (MHz)	Efficiency (dBi)	Gain (dBi)	Efficiency (%)
423	-8.46	-4.83	14.25
425	-7.68	-4.28	17.07
427	-6.80	-3.41	20.90
429	-6.00	-2.67	25.10
431	-5.26	-2.08	29.80
433	-4.55	-1.38	35.06
435	-4.27	-1.35	37.43
437	-4.38	-1.40	36.49
439	-4.82	-1.99	32.95
441	-5.43	-2.49	28.65
443	-6.13	-3.16	24.37

## 6、Antenna assembly drawing



## 7、Machine picture



## 8, Machine motherboard picture



## 9、Antenna drawing size

由 Autodesk 教育版产品制作				5				6				7				8																																			
标记				处数				更改内容				签名				日期																																			
<p>技术要求:</p> <ol style="list-style-type: none"><li>1. 弹簧磷青铜</li><li>2. 带*号尺寸与带公差尺寸为重点管控尺寸;</li><li>3. 产品表面干净, 无油污, 脏污等;</li><li>4. 产品无压痕, 断裂, 变形等不良;</li><li>5. 产品需遵从我司内部及我司客户的产品要求;</li><li>6. 其他未标注尺寸以3D图档为准;</li><li>7. 产品需符合Rohs要求</li></ol>																																																			
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## 10、 ROHS

Antenna WJ. 05. 0000015 meets RoHS requirements.

## 11、 Product packing instructions

A. packing should meet the moistureproof, vibration, pressure and mildew proof, etc.

B. the smallest packing unit logo must have the manufacturer trademarks, product model, name, code and quantity.

C. in the attached packing list, certificate of approval, and the factory inspection report.

\*\*\*\*\*END\*\*\*\*\*