
SPECIFICATION

Customer Name: HaiLi

Product Model: HL-RCU02

Customer P/N :

XINHENG YANG P/N: WJ. 05. 0000032

SPECIFICATIONS: 433MHZ

Production date: 2026. 05. 21

Sample Version: R1

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

Manufacturer: Shenzhen Hopestar Technology Co., LTD

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Network address: <https://www.hope-star.net>

One、 The basic parameters

A. Electrical Characteristics	
Frequency	433MHZ
VSWR	433MHZ: <2.0
Avg Efficiency	433MHZ: >5%
Impedance	50 $\pm$ 25 Ohm
Polarization	Linear
Peak Gain	433MHZ: -3.14dBi
B. Material & Mechanical Characteristics	
Material of Radiator	spring yellow
Cable Type	plug-in
Connector Type	/
Dimension	spring yellow
C. Environmental	
Operation Temperature	- 20 °C ~ + 60 °C
Storage Temperature	- 30 °C ~ + 70 °C

Two、 Electrical Specification

Those specifications were specially defined for HL-RCU02 model.

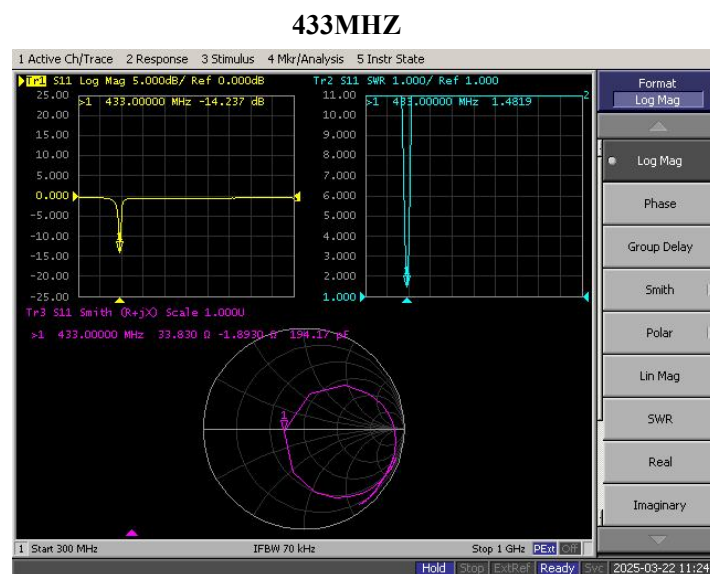
Three、 VSWR

1 Measuring Method

1.A 50 Ω 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



Four、 Anechoic chamber

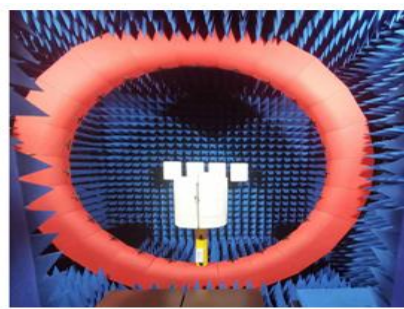
Introduction:

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.

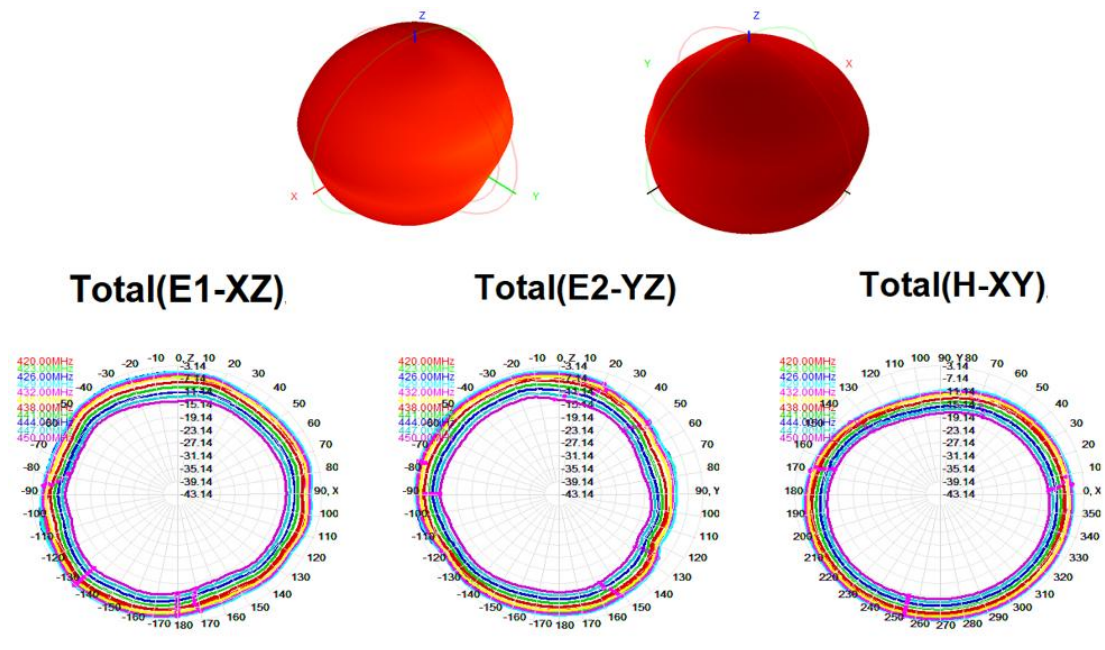
main performance :

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)



Five、Gain table of Antenna

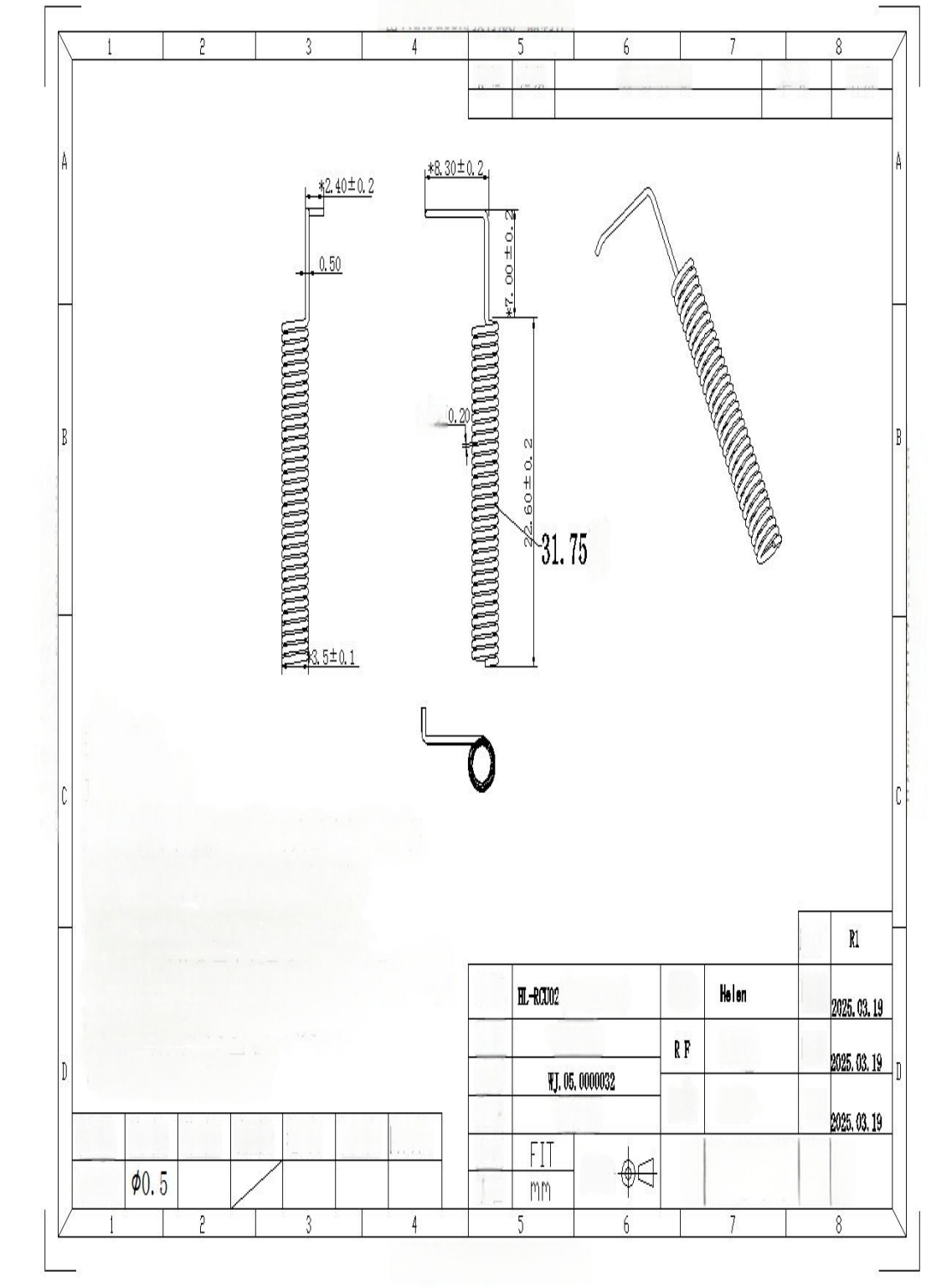
Passive field pattern:



Passive efficiency gain:

420MHZ-450MHZ			
Frequency (MHz)	Efficiency (dBi)	Gain (dBi)	Efficiency (%)
420	-7.41	-4.35	18.14
423	-6.48	-3.71	22.47
426	-6.05	-3.35	24.81
429	-5.89	-3.14	25.74
432	-6.47	-3.41	22.57
435	-7.31	-4.25	18.59
438	-8.54	-5.41	13.98
441	-9.79	-6.63	10.50
444	-10.96	-7.86	12.02
447	-12.09	-9.07	9.17
450	-13.15	-10.22	7.84

Six、Antenna Dimensions



Seven、 ROHS

Antenna WJ.05.0000032 meets RoHS requirements.

Eight、 Product packaging 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*****