



深圳市鑫恒阳科技有限公司

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# 承 认 书

## SPECIFICATION FOR APPROVAL

客户名称 Customer Name: Safemo Pte. Ltd.

产品型号 Product Model: BX1

客户料号 Customer P/N :

鑫恒阳料号 XINHENGYANG P/N: R-L: CP. 04. A0086000201

产品规格 SPECIFICATIONS:      Fre. : 2400MHZ-2500MHZ

制作日期 Production date: 2023. 10. 31



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## 一、 Basic parameters

A. Electrical Characteristics	
<b>Frequency</b>	<b>2400MHZ-2500MHZ</b>
<b>VSWR</b>	<b>&lt; 2.0</b>
<b>Avg Efficiency</b>	<b>&gt;50%</b>
<b>Impedance</b>	<b>50 ± 25 Ohm</b>
<b>Polarization</b>	<b>Linear</b>
<b>Peak Gain</b>	<b>2.4G:3.11dBi</b>
B. Material & Mechanical Characteristics	
<b>Material of Radiator</b>	<b>FPC White</b>
<b>Cable Type</b>	<b>Φ 1.13mm L-R=135mm Grey</b>
<b>Connector Type</b>	<b>一代端子</b>
<b>Dimension</b>	<b>53.83±0.2mm*17.41±0.2mm</b>
C. Environmental	
<b>Operation Temperature</b>	<b>- 20 °C ~ + 60 °C</b>
<b>Storage Temperature</b>	<b>- 30 °C ~ + 70 °C</b>



## 二、 Electrical specifications

Those specifications were specially defined for BX1 model.

## 三、 VSWR

### 1 Measurement methods

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 Measure frequency points and standing wave ratio





## 四、 Darkroom introduction

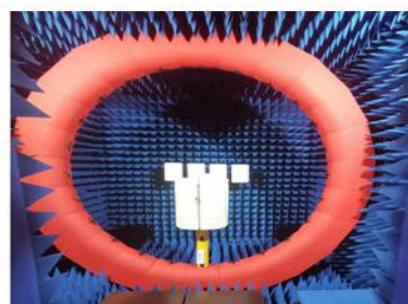
### Introduction:

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 :

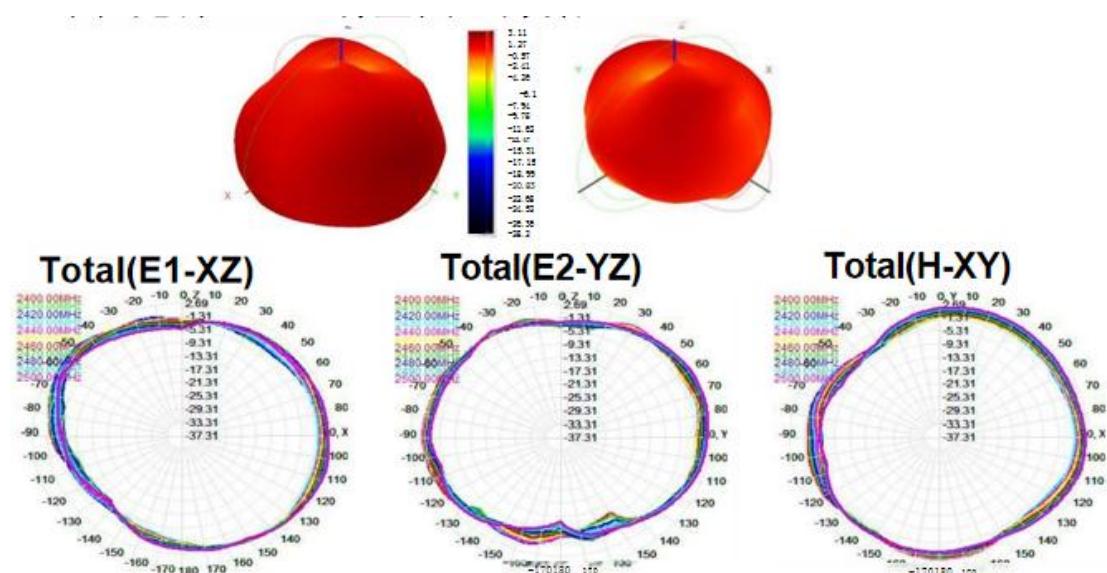
Frequency range:400MHz ~ 6GHz ceiling reflected wave loss materials: 400MHz ~ 6GHz is equal to or more than 15dB (microwave absorbing material by composite wave absorbing materials, namely tapered containing carbon sponge suction wave material paste in ferrite)





## 五、Antenna performance

2400MHZ-2500MHZ-R



Passive efficiency gain

WIFI-R		
Freq (MHz)	Effi (%)	Gain(dBi)
2400	63.34	2.24
2410	61.61	2.28
2420	62.75	2.52
2430	62.2	2.54
2440	64.94	2.65
2450	64.39	2.69
2460	64.99	2.55
2470	64.61	2.3
2480	65.84	2.14
2490	67.83	2.75
2500	70.79	3.11



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OTA active

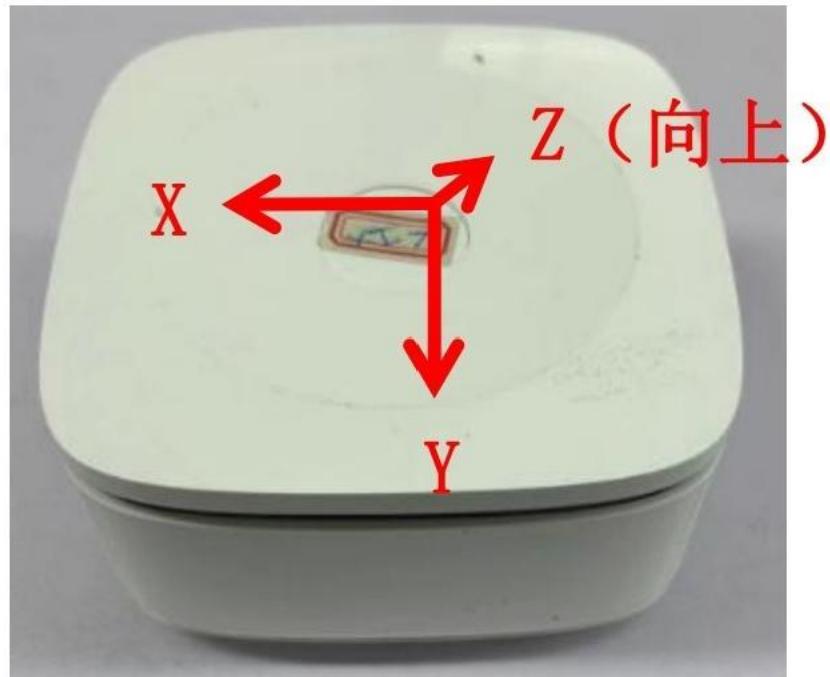
B模 (11MBPS)		
CH	TRP (dBm)	TIS (dBm)
1	19.12	-87.76
3	19.25	-89.64
5	19.88	-89.74
6	19.99	-87.56
7	19.33	-90.87
9	19.88	-90.94
11	20.15	-91.03
13	20.07	-89.42



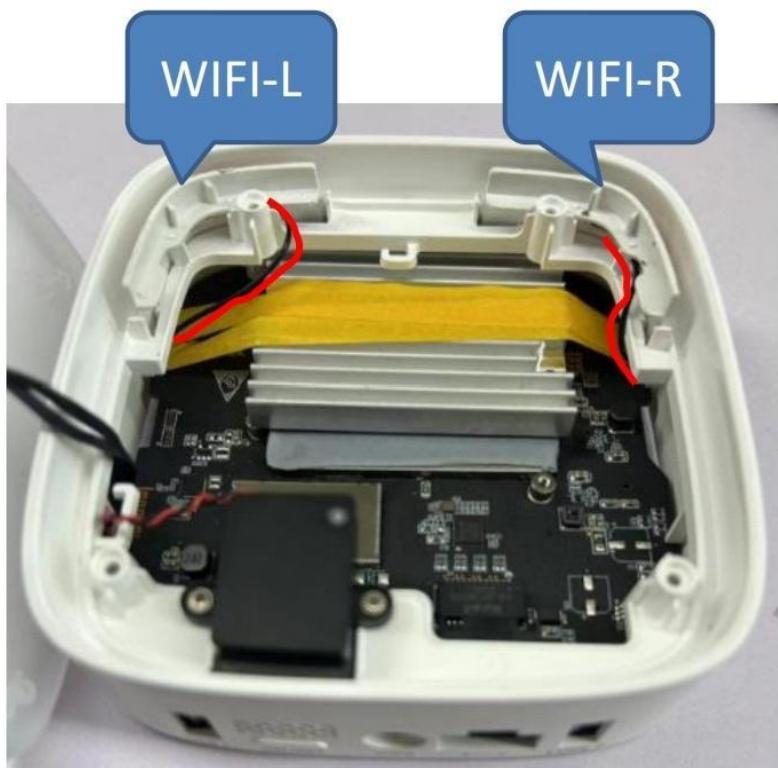
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## 六、Machine pictures

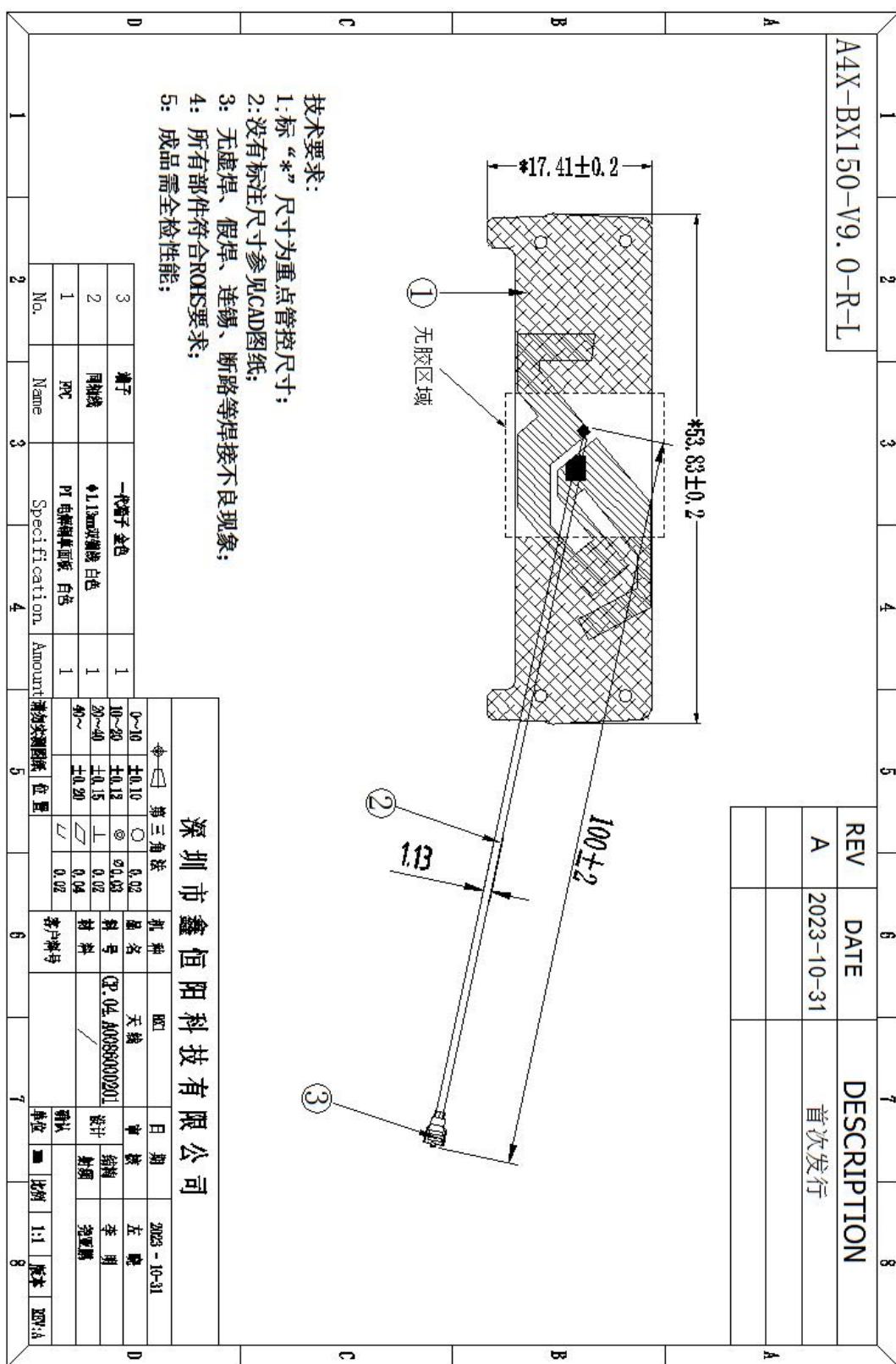


## 七，Antenna assembly drawing





## 八、Antenna drawing size





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## 九、 ROHS

Antenna CP. 04. A0086000201 meets RoHS requirements.

## 十、 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\*\*\*\*\*