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# 承认书

#### SPECIFICATION FOR APPROVAL

客户名称 Customer Name:	顶设
产品型号 Product Model:	HS156-R
客户料号 Customer P/N :	
鑫恒阳料号 X INHENGYANG P/N:	TX. 10. A00520005
产品规格 SPEC IFFCATIONS:	TWS
制作日期 Production date:	2024-6-22
封样版本 Samp le Version:	V1

鑫恒阳(XINHENGYANG)			
编制(FICTION)	制(FICTION) 结构(Structure) 研发(R&D)		
客户(Customer)			
采 购 (PUR)	品质(QC)	研发(R&D)	

Manufacturer: ShenZhenXinHengYangTechnologyco., Ltd

#### Address:

1st Floor, Building B, No. 7 Keji North 2nd Road, Nanshan District, Shenzhen

电 话: 0755-83600916 邮箱: gc@xhy-2008.com

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Number	Effective date	Change record
V1.0	2024-6-22	Initial release



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### — The basic parameters:

A. Electrical Characteristics			
Frequency	2400MHZ~2500MHZ		
VSWR	< 3		
Avg Efficiency	>26%		
Impedance	50 ± 25 Ohm		
Polarization	Linear		
Peak Gain	2.4G:0.97dBi		
B. Material & Mechanical Characteristics			
Material of Radiator	FPC black		
Cable Type	/		
Connector Type	/		
Dimension	/		
C. Environmental			
Operation Temperature	- 20 °C ~ + 60 °C		
<b>Storage Temperature</b>	- 30 °C ~ + 70 °C		



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### $\equiv$ 、 Electrical Specification:

Those specifications were specially defined for HS156-R model.

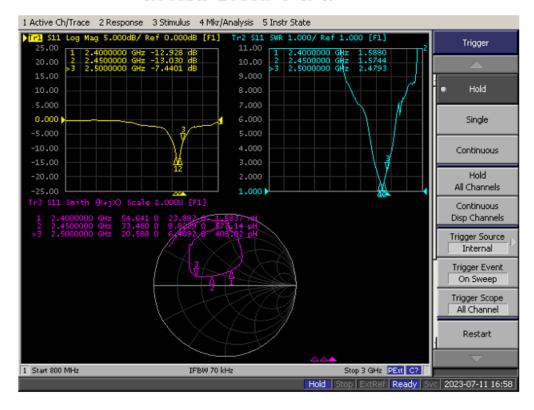
#### 三、VSWR

#### 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

#### Return Loss&VSWR-R





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#### 四、 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:  $400\,\text{MHz} \sim 6\,\text{GHz}$  ceiling reflected wave loss materials:  $400\,\text{MHz} \sim 6\,\text{GHz}$  is equal to or more than  $15\,\text{dB}$  (microwave absorbing material by composite wave absorbing materials, namely tapered containing carbon sponge suction wave material paste in ferrite)







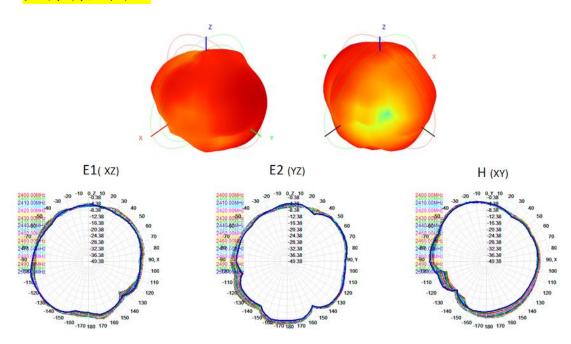




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### 五、Gain table of Antenna

### 无源场型图-R



#### 无源效率增益

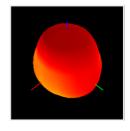
R			
Freq (MHz)	Effi (%)	Gain (dBi)	
2400	28.79	0.18	
2410	29.12	0.27	
2420	30.75	0.63	
2430	31.32	0.75	
2440	32.92	0.97	
2450	33.31	0.91	
2460	32.98	0.76	
2470	31.74	0.51	
2480	30.22	0.45	
2490	29.25	0.58	
2500	27.04	0.56	

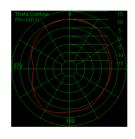


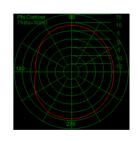
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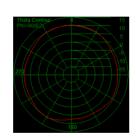
**TRP** 

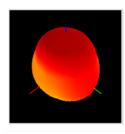
#### 有源自由空间场型图-R-ch0

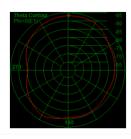




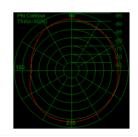


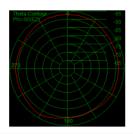




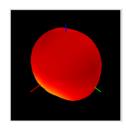


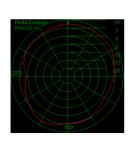
TIS

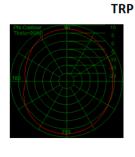


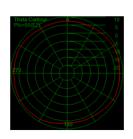


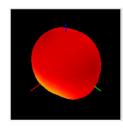
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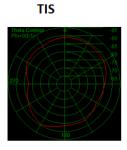


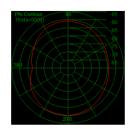


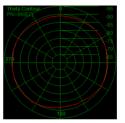








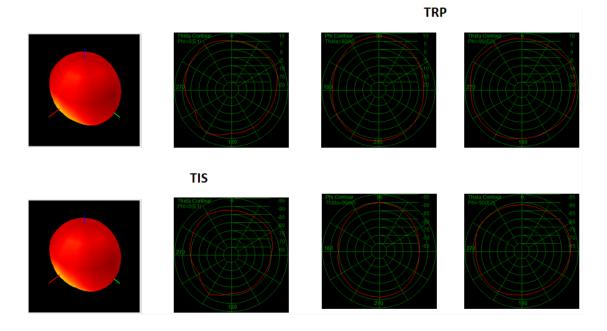




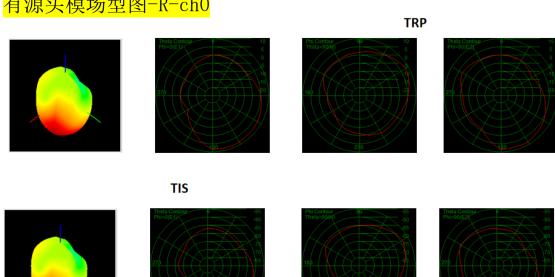


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#### 有源自由空间场型图-R-ch78



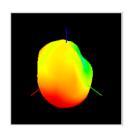
#### 有源头模场型图-R-ch0



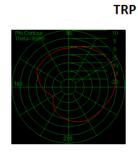


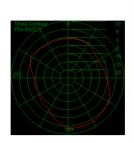
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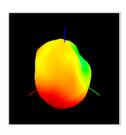
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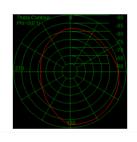


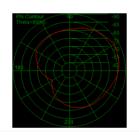
TIS

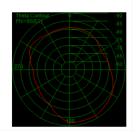




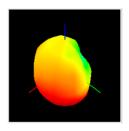


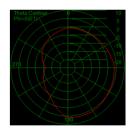


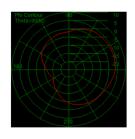




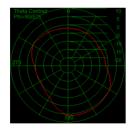
有源头模场型图-R-ch78

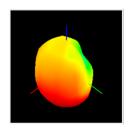


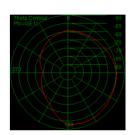




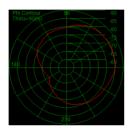
TRP

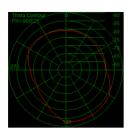






TIS







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OTA 有源

R				
	自由空间		头模	
BAND	TRP (dBm)	TIS (dBm)	TRP (dBm)	TIS (dBm)
0	7.77	-90.53	2.65	-85.72
39	6.61	-88.19	0.81	-82.31
78	5.95	-87.87	0.33	-81.62





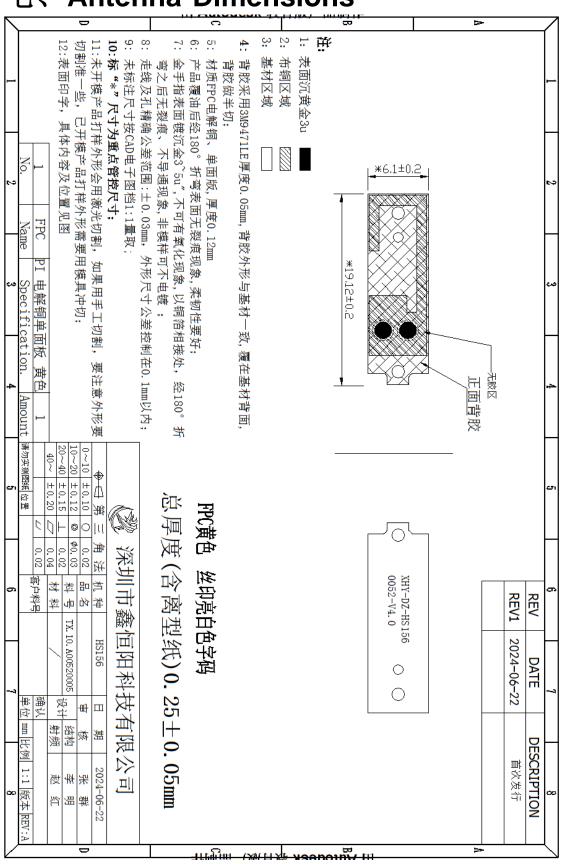
### 六 Machine Picture:





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### 七、Antenna Dimensions



#### 八、ROHS:

Antenna TX. 10. A00520005 meets RoHS requirements.

### 九、 Product packaging instructions:

A. packing should meet the moisture proof, 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.