

I-TOP DESIGN TECHNOLOGY CO., LTD

APPLICATION FOR APPROVAL

Customer Name	Honsenn Technology Co.,Ltd
Model Name.	BN951
Part NO.	FPC Antenna
Customer P/N.	
Environmental Requirement	RoHS
Description	BT-2400MHZ-2500MHZ/ ϕ 0.64MM/L=35MM
Publish Date	2025.08.20
Versions	V1.6
approval cause	New Product

Manufacturer sign

APPROVED BY	CHECKED BY	DRAWN BY

Customer sign

Structural Validation	Electronic Verification	Acoustic Validation	Engineering Verification	Quality Validation

I-TOP DESIGN TECHNOLOGY CO., LTD

Room 711, Building 2GaoxinqilIndustrail Park 2, Longchang Road,
Bao'an District, Shenzhen City, China

[TEL:13760173603](tel:13760173603)

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四、 The basic parameters

A. Electrical Characteristics	
Frequency	2400MHZ-2500MHZ
VSWR	< 3.0
Avg Efficiency	43%
Impedance	50 ± 25 Ohm
Polarization	Linear
Peak Gain	2.4GHZ:1.089dBi
B. Material & Mechanical Characteristics	
Material of Radiator	FPC black
Cable Type	Four
Connector Type	Φ0.64 L=35MM
Dimension	46.3MMx22.66MMx26.80MM
C. Environmental	
Operation Temperature	- 20 °C ~ + 60 °C
Storage Temperature	- 20 °C ~ + 60 °C

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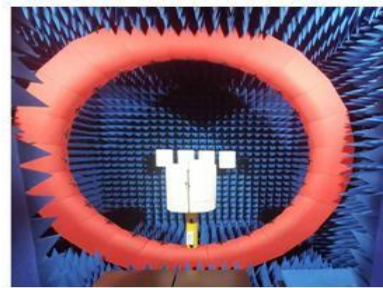
五、Introduction

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).



顶设科技 i-Top	BN951	 RoHS Compliant
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六、Test Report

Those specifications were specially defined for BN951 model.

1. Prototype position:



2. Environmental treatment:

The original assembly setup remains unchanged

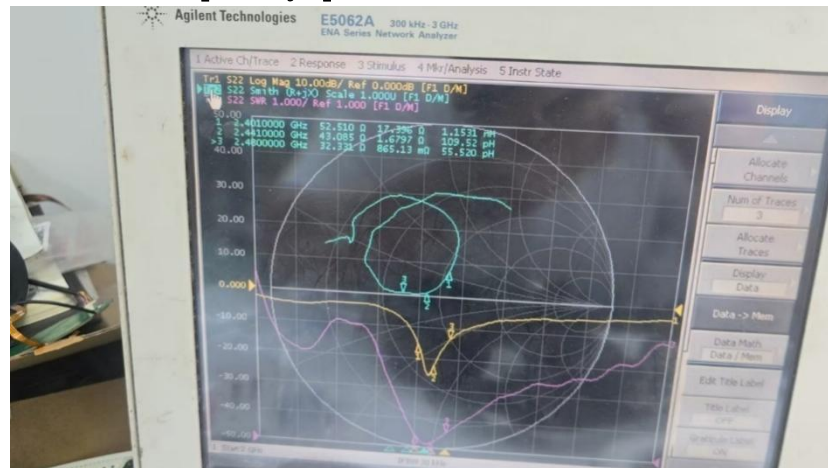
3. VSWR

1. Measuring Method

A 50 Ω coaxial cable is connected to the antenna. Then this cable is connected to a network analyzer to measure the VSWR.

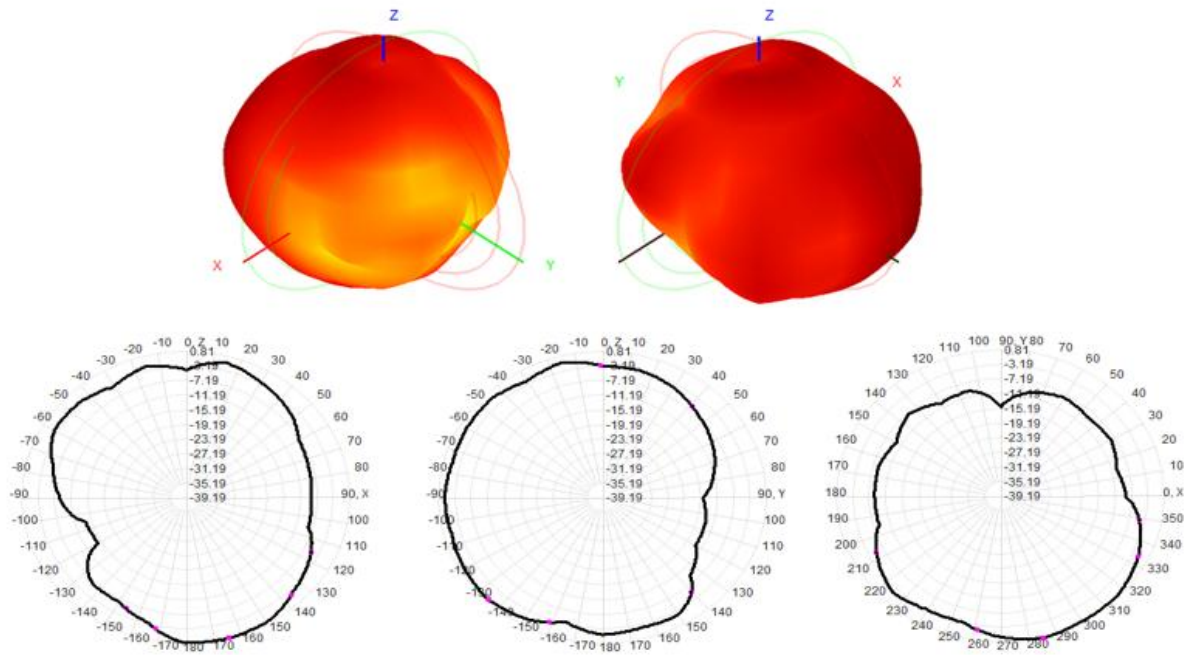
Keeping this jig away from metal at least 20cm

2. Measurement frequency points and VSWR value



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3. 2D/3D field pattern diagram



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4. Passive efficiency & Gain

FreQ. (MHz)	Effi (%)	Gain (dBi)
2400	36.12295532	0.805643916
2410	38.84408188	0.702736735
2420	40.15368271	0.606468081
2430	43.35533142	0.92718488
2440	40.70147705	0.813032269
2450	41.01776886	1.089431763
2460	39.5674057	1.069943309
2470	36.33068466	0.804429591
2480	36.34988785	0.863277912
2490	34.9199295	0.691857755
2500	32.52656174	0.320160687

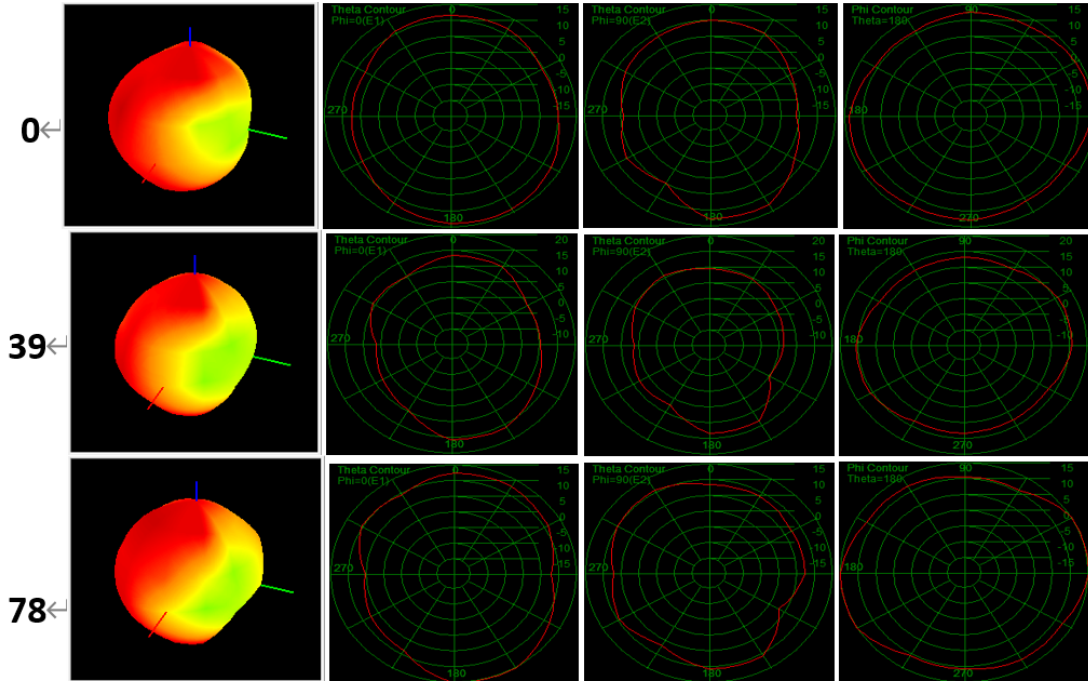
5. OTA active

Free space			Head model space		
Channel	TRP (dBm)	TIS (dBm)	Channel	TRP (dBm)	TIS (dBm)
0	9.18	-95.1	0	8.40	-93.97
39	10.13	-91.83	39	8.89	-90.49
78	9.57	-92.45	78	8.67	-91.41

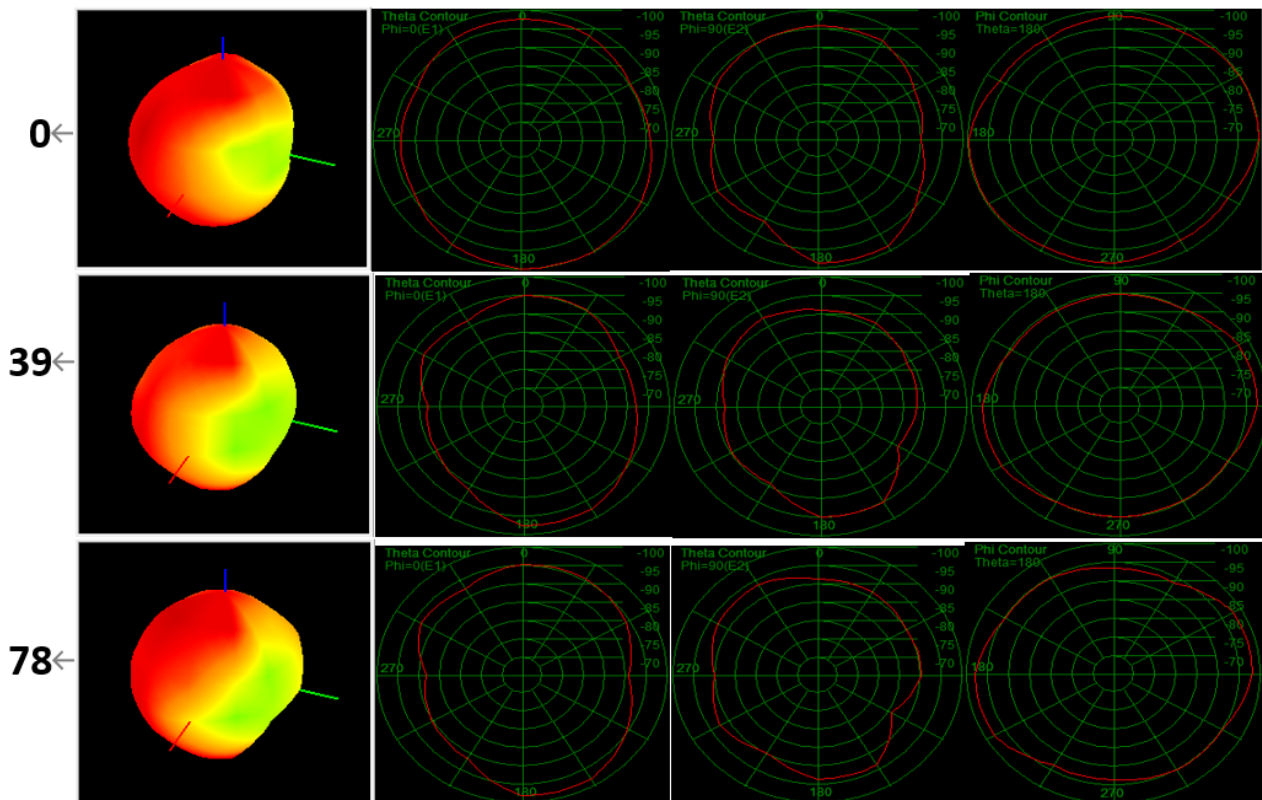
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6. Active 3D&2D field pattern diagrams

Free space TRP

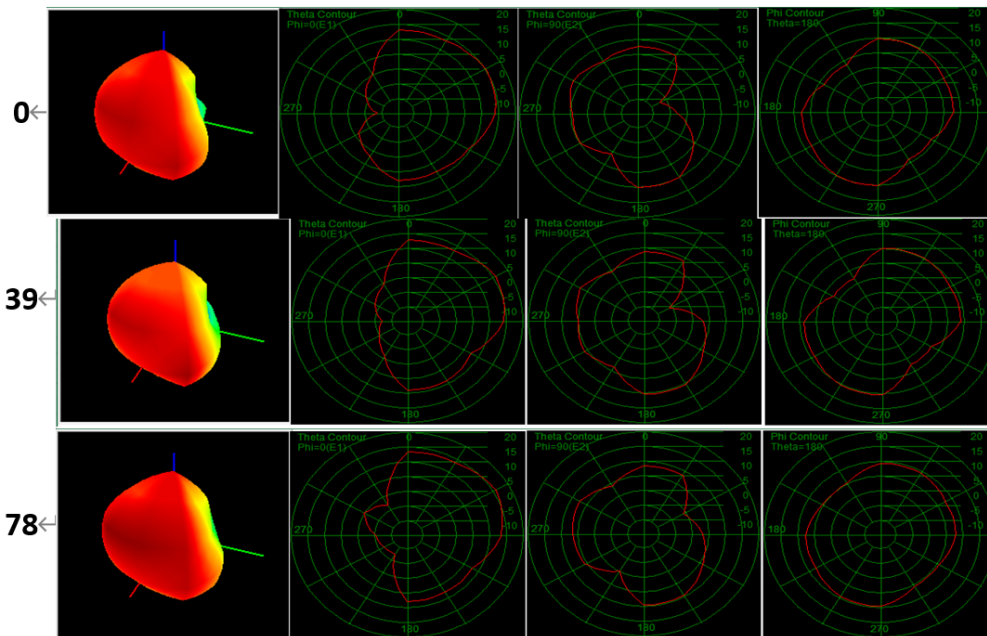


Free space TIS

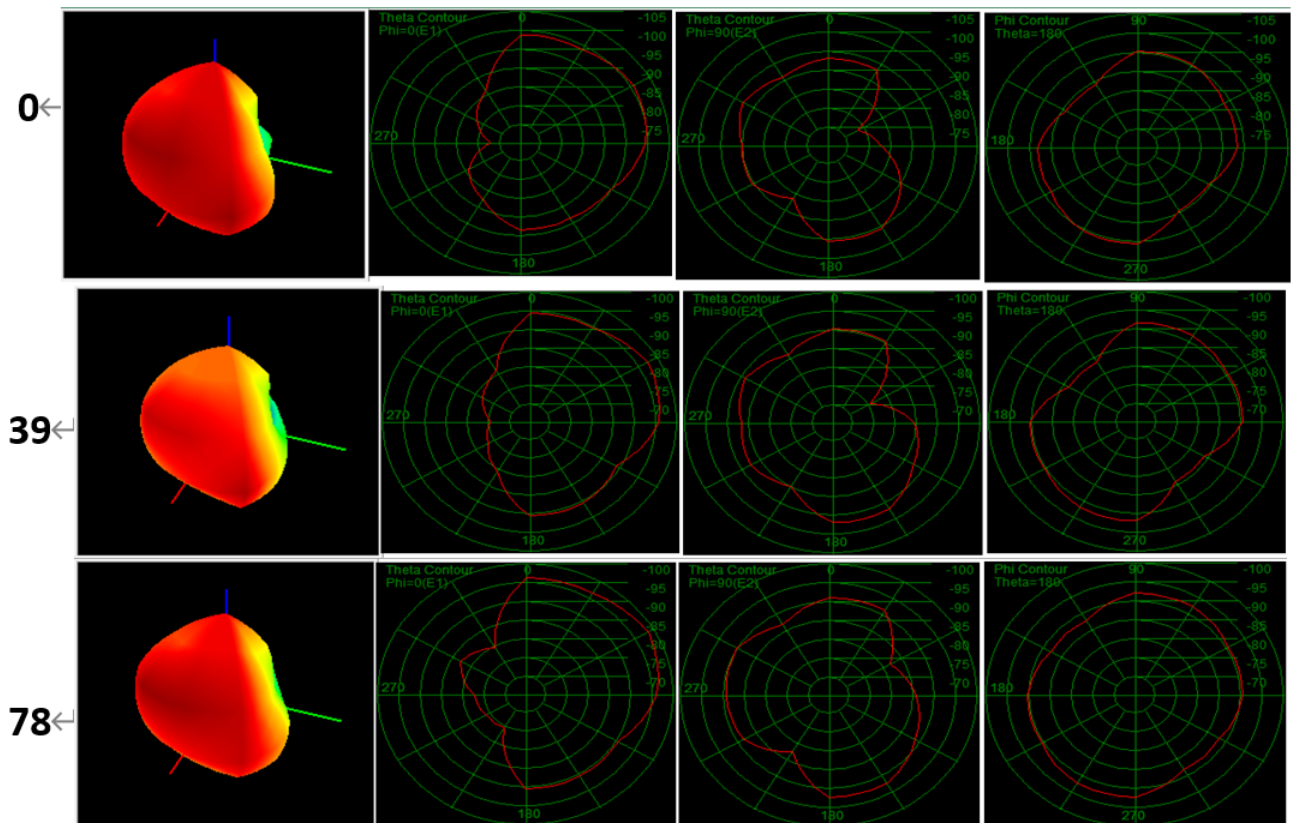


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Head model space-TRP

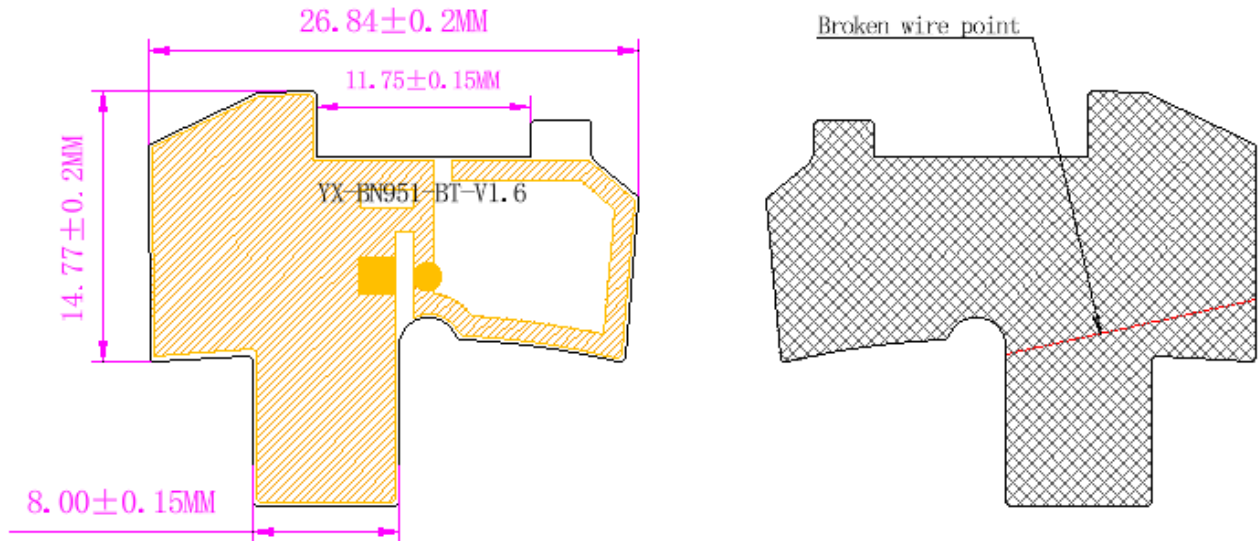


Head model space-TIS



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七、Product Drawing



八、RoHS

Antenna BN951 meets RoHS requirements See electronic file for details.

九、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*****