

深圳市华信科技有限公司

承认书

SPECIFICATION FOR APPROVAL

客 户：鑫创锦

Customer

项目名： 投影仪

Project

品 名：焊接式 硬板 WIFI 天线

Description

料 號： HX-PB4709A-10-285-A

Part Number

日 期： 2025 年 05 月 09 日

Date Year Month Day

承 认 人 簽 章

Signature

制定 Responsible	审核 Approve	客户确认 Confirm
黄志雄	程海耀 Contact: 13410001990	

UNLESS OTHER SPECIFIED TOLERANCES ON :

X=±1 X.X=±0.1 X.XX=±0.01

ANGLES=± HOLE DIA=±

SCALE :

UNIT : mm

DRAWN BY :

CHECKED BY :

DESIGNED BY :

APPROVED BY : 程海耀

TITLE : HX-PB4709A-10-285-A

Specification

DOCUMENT
NO.

PAGE REV.
P0

深圳市华信有限公司

THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF HUAXIN TECHNOLOGY CO.,LTD. AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION.

1. Electrical Specification :

Those specifications were specially defined for 鑫创锦 WIFI model, and all characteristics were measured under the model's handset testing jig .

1-1. Frequency Band:

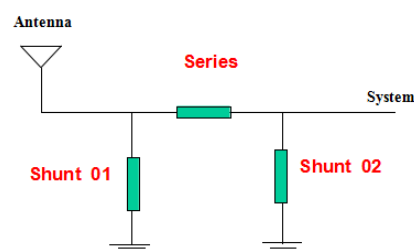
Frequency Band	MHz
Wi-Fi	2400-2500、5700-5800

1-2. Impedance

50 ohm nominal

1-3.Antenna Matching Network

Location	capacitor	Inductor
Shunt 01	N/A	N/A
Series	N/A	N/A
Shunt 02	N/A	N/A



2. VSWR

2-1 Measuring Method

1. A 50Ω 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.

2-2 Measurement frequency points and VSWR value

Frequency (MHz)	2400	2450	2500	5700	5800
VSWR	1.24	1.15	1.11	2.35	2.69



UNLESS OTHER SPECIFIED TOLERANCES ON :

X=±1 X.X=±0.1 X.XX=±0.01

ANGLES=± HOLE DIA=±

SCALE : UNIT : mm

DRAWN BY : CHECKED BY :

DESIGNED BY : APPROVED BY : 程海耀

TITLE : HX-PB4709A-10-285-A Specification

DOCUMENT NO. PAGE REV.
P0

深圳市华信有限公司

THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF HUAXIN TECHNOLOGY CO.,LTD. AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION.

3. Efficiency and Gain

- Measuring instruments: Microwave Anechoic Chamber, Agilent Vector Network Analyzer, Agilent spectrum analyzer, 8960 comprehensive tester, standard antenna.
- Microwave Anechoic Chamber description: This is the microwave anechoic chamber set up by our company in Shenzhen. This microwave anechoic chamber is part of a far-field measurement system, with the chamber dimensions being 5.0m x 3.0m x 3.0m, and the size of the quiet zone is 15cm x 15cm x 15cm.

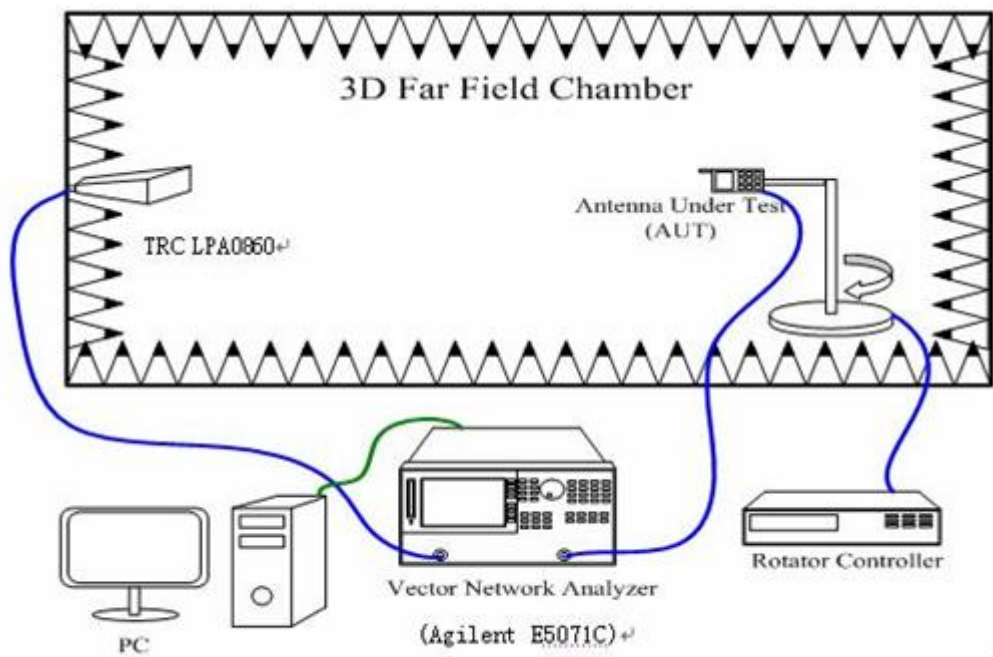


图. 1. 微波暗室内仪器设置

Fig. 1. Instrument setup inside the microwave anechoic chamber

Fig. 1is the connection diagram of the instrument setup and Vector Network Analyzer in the microwave anechoic chamber, the distance from the transmitting antenna (0.8-6.0GHZ for Gain Calibration) to the Antenna Under Test (AUT) is 3 meters. The AUT is placed on a rotator, and by controlling the angle of rotator, approximate and more accurate measurements can be made of the AUT.

Place the AUT on the rotator and measure the 360-degree field strength data in all its planes (ZY plane and ZX plane). Then replace the AUT with a standard dipole antenna and measure its 360-degree field strength data to obtain the standard value of the conversion gain. By using the conversion formula in equation 1, the gain value and radiation pattern of the AUT can be obtained.

UNLESS OTHER SPECIFIED TOLERANCES ON : X=±1 X.X=±0.1 X.XX=±0.01 ANGLES=± HOLE DIA=±		深 圳 市 华 信 有 限 公 司	
SCALE :	UNIT : mm	THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF HUAXIN TECHNOLOGY CO.,LTD. AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION.	
DRAWN BY :	CHECKED BY :		
DESIGNED BY :	APPROVED BY : 程海耀		
TITLE : HX-PB4709A-10-285-A Specification		DOCUMENT NO.	PAGE REV. P0
		PAGE 3	OF 6

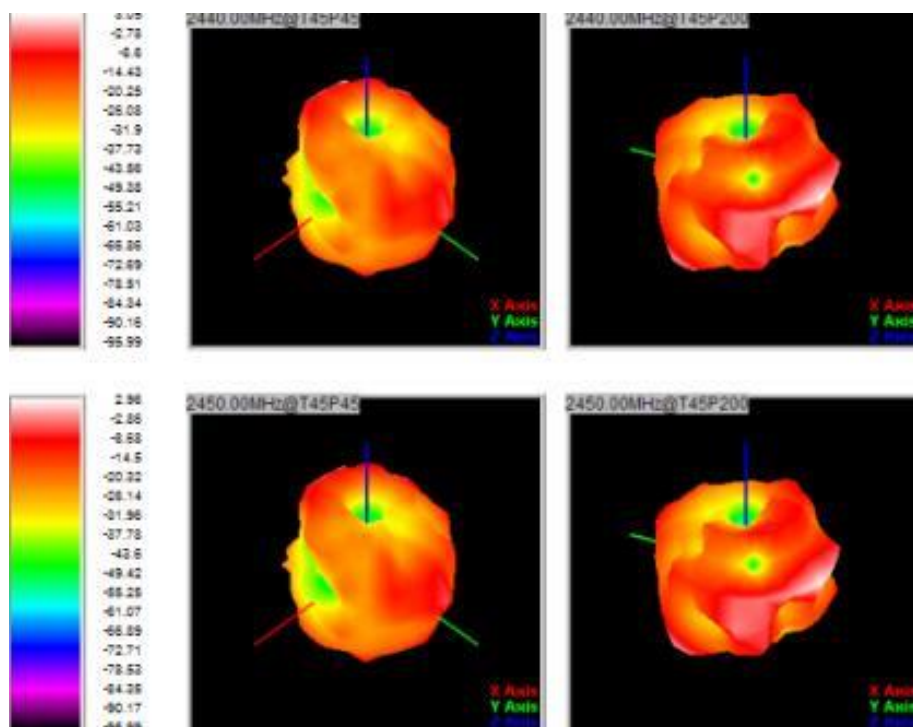
3-1 Measuring Method

1. Using a low loss coaxial cable to link a standard handset jig,
2. Fixed this handset jig on chamber's rotator plane,
3. Linking jig into network analyzer port and using a probing horn antenna to collect data,
4. Using another standard gain horn antenna to calibrated those data.

3-2 Efficiency and Gain Value

Frequency (MHz)	Efficiency (%)	Average GAIN (dB)	Peak GAIN (dBi)
2400	62.1	-3.46	3.1
2450	61.8	-3.27	3.3
2490	59.3	-3.19	3.4
5700	55.7	-3.03	3.3
5800	55.2	-3.01	3.3

3-3 3D Pattern



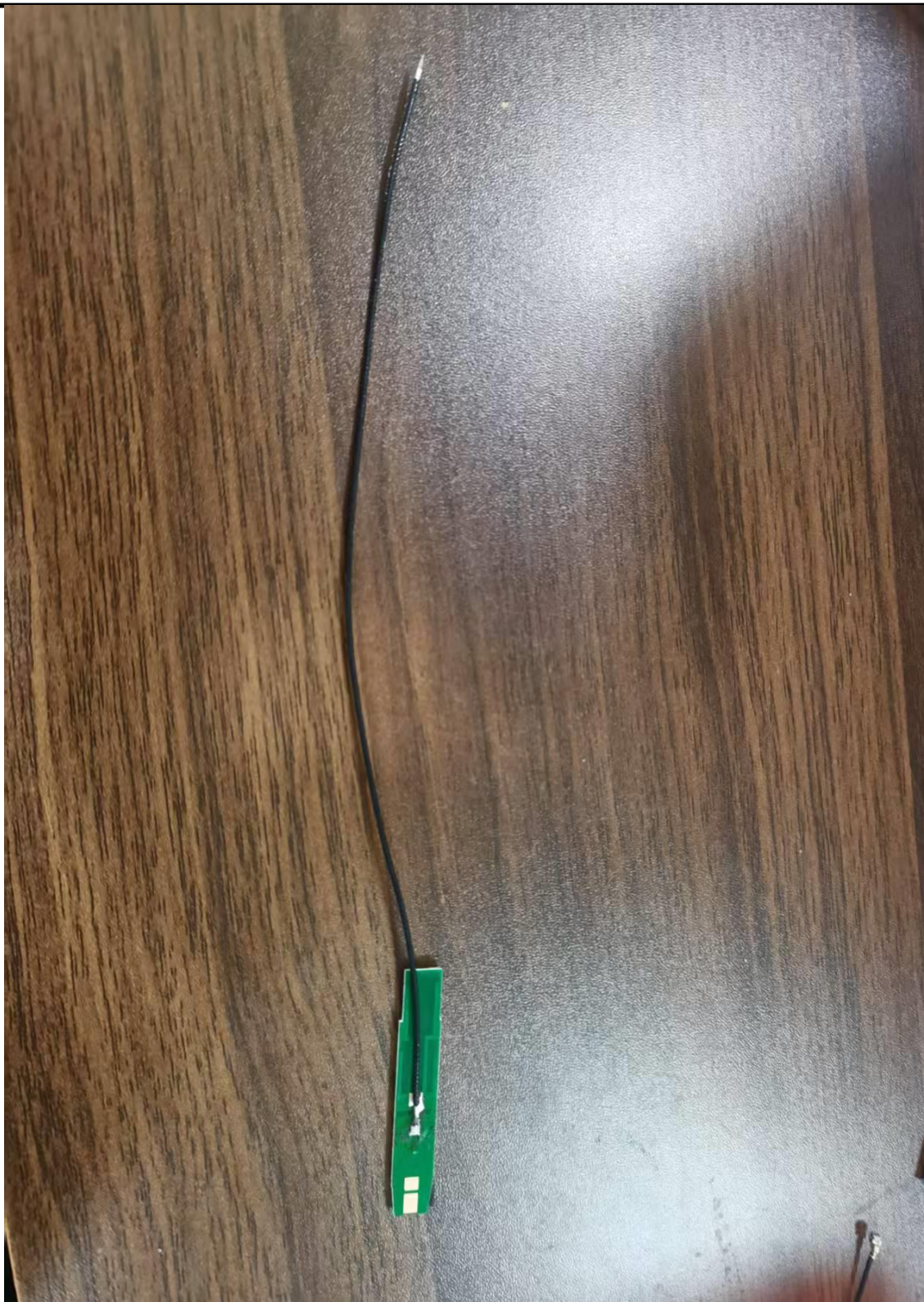
UNLESS OTHER SPECIFIED TOLERANCES ON : X=±1 X.X=±0.1 X.XX=±0.01 ANGLES=± HOLE DIA=±		深 圳 市 华 信 有 限 公 司	
SCALE :	UNIT : mm	THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF HUAXIN TECHNOLOGY CO.,LTD. AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION.	
DRAWN BY :	CHECKED BY :		
DESIGNED BY :	APPROVED BY : 程海耀		
TITLE : HX-PB4709A-10-285-A Specification		DOCUMENT NO.	PAGE REV. P0
		PAGE 4 OF 6	

4. Mechanical Specification:

Mechanical Configuration (Unit: mm)

The appearance of the antenna is according to drawing Figure 4-1

UNLESS OTHER SPECIFIED TOLERANCES ON : X=±1 X.X=±0.1 X.XX=±0.01 ANGLES=± HOLE DIA=±		深 圳 市 华 信 有 限 公 司	
SCALE :	UNIT : mm	THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF HUAXIN TECHNOLOGY CO.,LTD. AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION.	
DRAWN BY :	CHECKED BY :		
DESIGNED BY :	APPROVED BY : 程海耀		
TITLE : HX-PB4709A-10-285-A Specification		DOCUMENT NO.	PAGE REV. P0
		PAGE 5 OF 6	



UNLESS OTHER SPECIFIED TOLERANCES ON : X=±1 X.X=±0.1 X.XX=±0.01 ANGLES=± HOLE DIA=±		深圳市华信有限公司	
SCALE :	UNIT : mm	THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF HUAXIN TECHNOLOGY CO.,LTD. AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION.	
DRAWN BY :	CHECKED BY :		
DESIGNED BY :	APPROVED BY : 程海耀		
TITLE : HX-PB4709A-10-285-A Specification		DOCUMENT NO.	PAGE REV. P0
		PAGE 6	OF 6