

PD801 Project WIFI Antenna Material Approval Document

QG-MA013-2022-06

Material No.:	7908010001	Applicable Model:	PD801&101
Material Name:	PD801&101 WIFI Antenna	Supplier :	Hedianxun
Specification Description:	HDX-PD801-WIFI L100MM RoHS*Hedianxun		
Sample Submission Type:	☐ New Product ☐ Quality Improvement ☐ Cost Reduction ☐ Supplier Change ☐ Discontinued Substitute ☐ Others		
Pilot Production Result:	☐ Pass ☐ Not Required ☐ Not Arranged	Remarks:	Review:
ART Test Result:	☐ Pass ☐ Not Required ☐ Not Arranged	Remarks:	Date:
Test Record (Filled by R&D for items with critical numerical requirements)			
Critical Parameters / Standard Value		Sample Measured Value / Test Result	
Critical Dimensions			
Function			
Appearance			
Attached Documents Requirements			
① Standard Electronic Components: Provide samples, specification sheet, RoHS report, packaging requirements (for special components such as ESD / moisture-sensitive devices). ② Custom Electronic Components: On the basis of item ①, add reliability test report and QC engineering drawing (with key control points specified). ③ Structural Parts: Provide samples, drawings, critical dimension inspection report, appearance & reliability test report, material certificate, RoHS report, QC engineering drawing (with key control points specified), packaging instruction, factory inspection standard. ④ Packaging Materials: Refer to item ③. Notes: After signature and approval, submit three copies of component confirmation document, attachments and sealed samples to document control for filing. R&D DCC shall perform controlled distribution. Paperless approval is preferred for electronic components.			
Distribution List: ☒ R&D Department ☒ Supplier ☒ Factory Quality Department ☐ Others	Hardware: _____ Structure: _____ Packaging: _____ Project: _____ Judgement: ☐ Formal Approval(Passed) ☐ Conditional Approval (filled by R&D Director) Conditional-to-Formal Approval: R&D: _____ Quality: _____ Date: _____		
Remarks:			

WIFI Antenna Specification Document

Customer Name:PDS

Supplier	Shenzhen Hedianxun Technology Co., Ltd.
Project	PD801
Material Name	2.4G WIFI Antenna L=100MM
Material Specification	HDX-PD801-WIFI
Color	Black
Customer Code	7908010001

Sign-off Section:

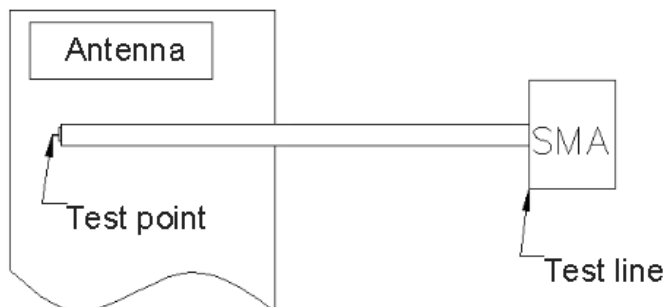
R&D	Structure: Zeng junwen	Approved by: Yang Yongkang
	RF: Zhang Yijun	
Customer Counter signature:		

Date of Issue: 2022.06.10

1. Passive Test Fixture

Purpose: To test the passive parameters of antenna as accurately as possible.

Fabrication Method: The mobile phone fixture adopts a 50-ohm coaxial cable. One end is connected to the test point behind the matching circuit of main board (front of RF test hole), and the other end is connected to SMA connector.



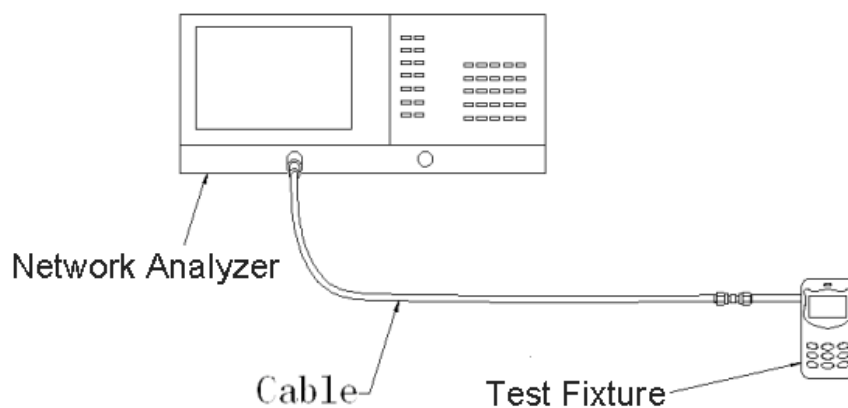
2. S11 Test

2.0 S11 Test Method

Test Equipment: Network Analyzer (Agilent 8753D)

Test Method: Lead out a 50-ohm cable from instrument port. Calibrate with calibration kit, then connect to SMA connector of mobile fixture. Record return loss and VSWR at corresponding frequency points.

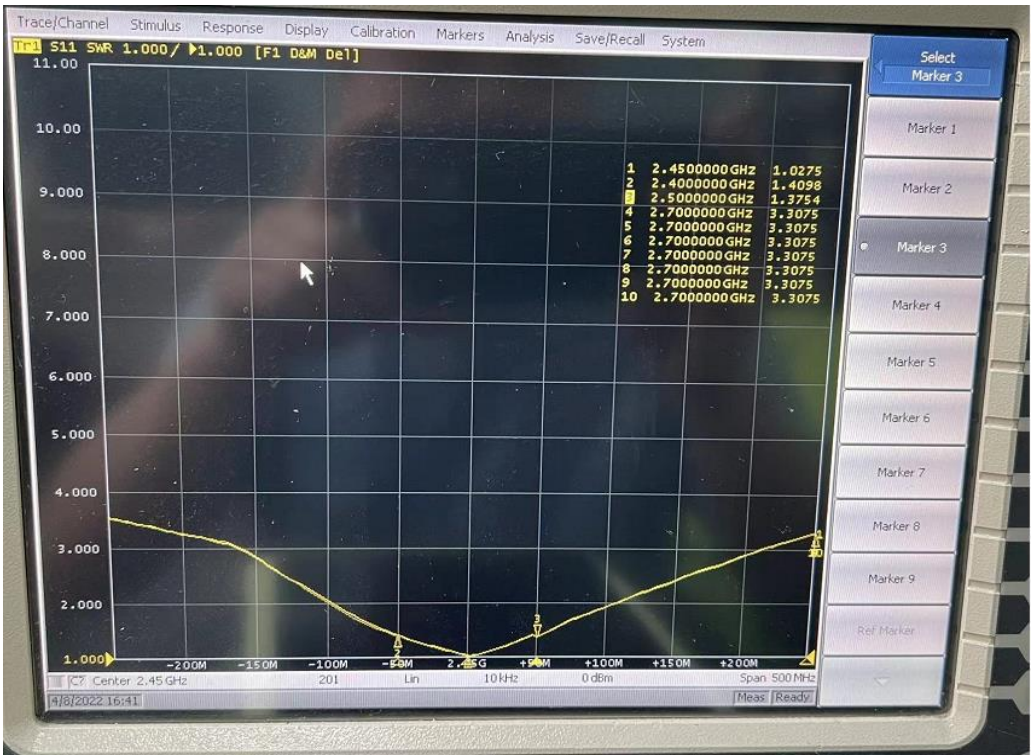
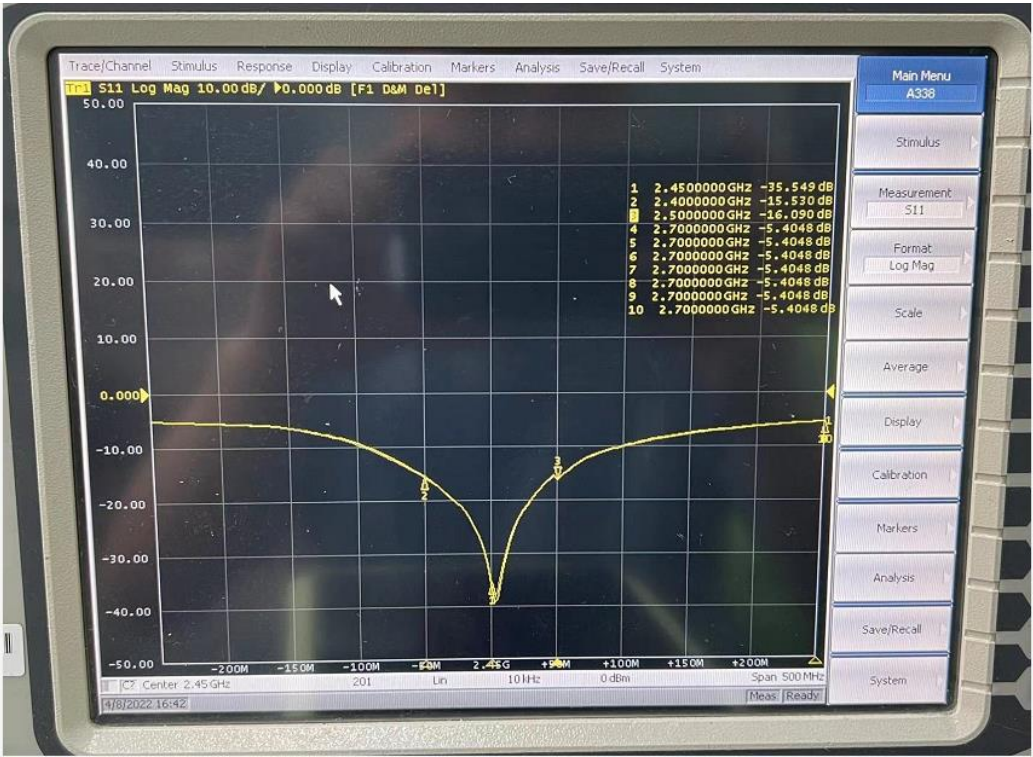
The test schematic diagram is as follows:



Test schematic diagram

2.1 S11 Parameters for WIFI Antenna

Frequency(MHz)	2400	2450	2500
Return Loss(dB)	-15	-35	-16
VSWR	1.40	1.0	1.37



3. Anechoic Chamber Test

3.1 Test Equipment

Test System: ETS Shielded Anechoic Chamber

Test Environment: Temperature $22^{\circ}\text{C}\pm 3^{\circ}\text{C}$, Humidity $50\%\pm 15\%$

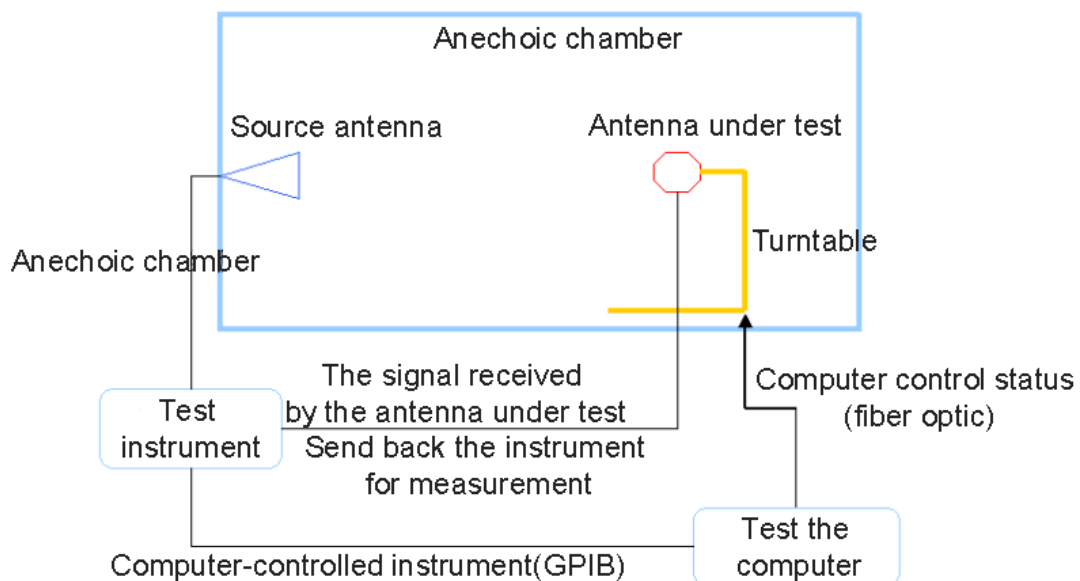
Test equipment:

- Passive test instrument: Network Analyzer Agilent E5071B
- Active test instrument: Comprehensive Tester CMW500

3.2 Test Method

The test system consists of anechoic chamber, turntable, source antenna, test instruments and control PC. The control PC is the system master controller. During measurement, PC rotates turntable to required angle, triggers instruments for space attenuation measurement. Raw data is collected, compensated and corrected to get final test results.

The test schematic diagram is as follows:



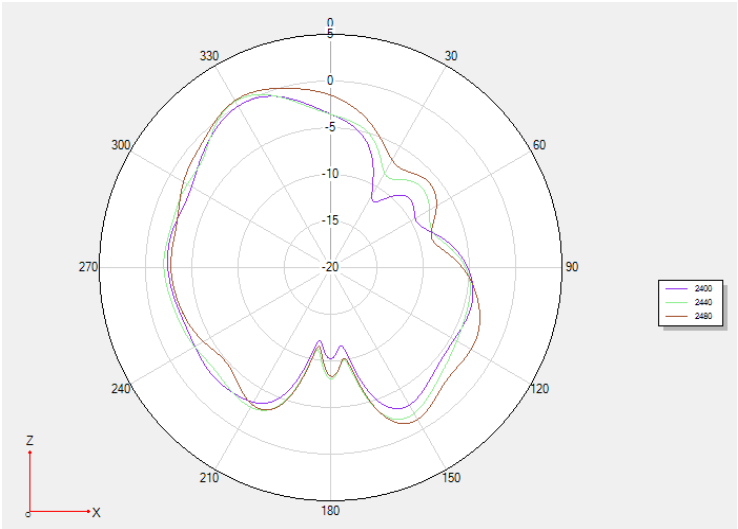
4. Antenna Test Report (WIFI Active OTA Data)

WiFi	11B	Channel	TRP	TIS
	2.4G	1	9.46	-86.93
		6	7.74	-84.87
		11	7.59	-85.42

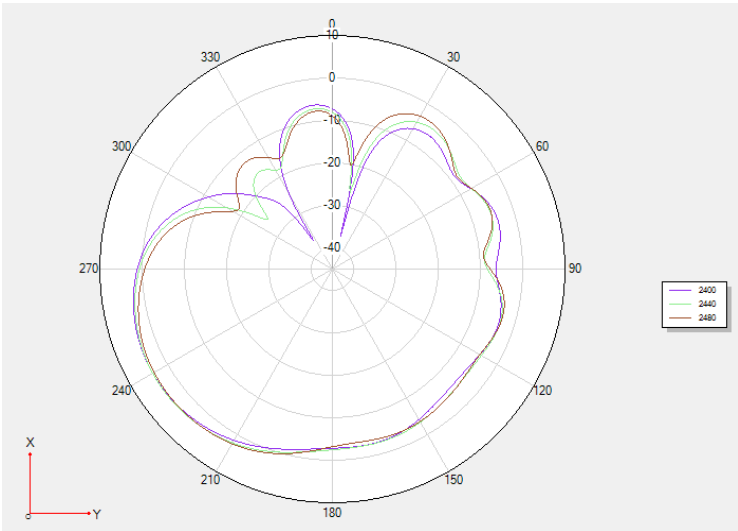
OTA Passive Data

Frequency ID	Frequency (MHz)	Efficiency (dBi)	Gain (dBi)	Efficiency (%)
1	2400.0	-3.78	3.00	41.87
2	2410.0	-3.87	3.15	41.00
3	2420.0	-3.60	3.27	43.67
4	2430.0	-3.72	3.43	42.45
5	2440.0	-3.39	3.56	45.80
6	2450.0	-3.84	3.25	41.28
7	2460.0	-3.34	3.68	46.31
8	2470.0	-3.57	3.51	43.96
9	2480.0	-3.68	3.28	42.85
10	2490.0	-3.25	3.73	47.27
11	2500.0	-3.65	3.20	43.16

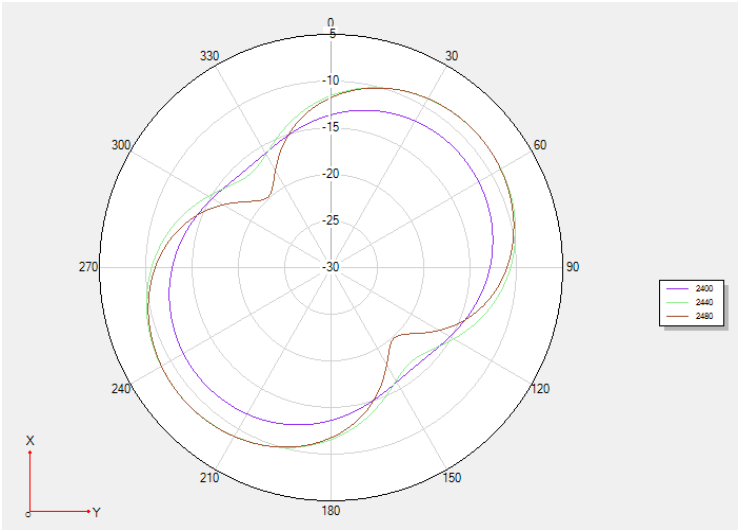
Theta 0 2D



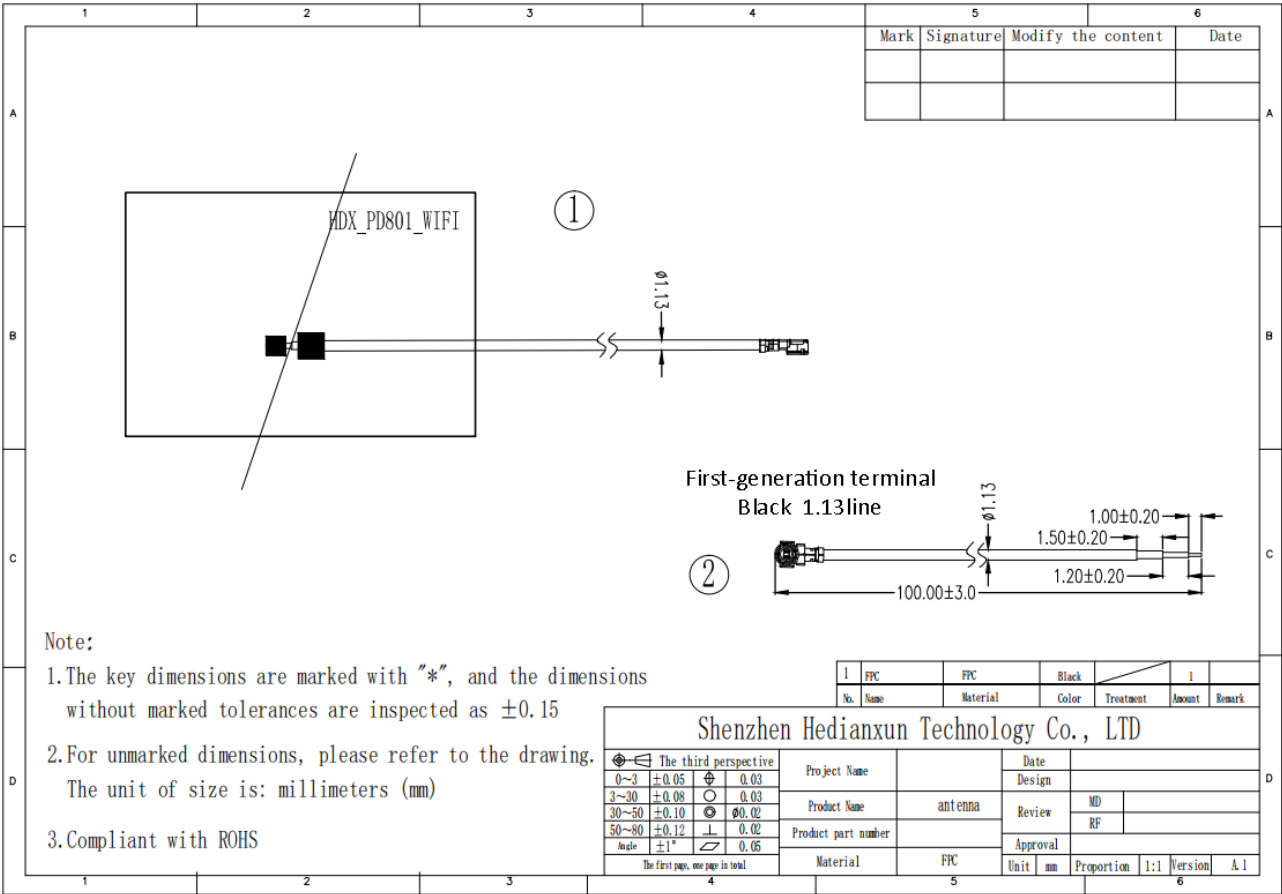
Theta 90 2D



Theta 180 2D



5、WIFI Antenna Drawing & Dimensions



6、Antenna Assembly Position

