

R811 Project Antenna Specification

Customer Name: 360

Customer Name: R811 (Base Station)

Product Name: External Antenna

Product Specifications: See BOM for details


Material code: external antenna: 231100291;

Steel sheet: 231100278 (Kaimujin)

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Serial Number	Version	Status	Start and end date	Responsible Person	Page Number	Remarks
1	First Edition	First Edition	2023-11-13	Zhong Qihong	10	

Signed by the Supplier:

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Development Design Engineer/Date	SQE Engineer/Date	Purchaser/Date	Development Manager Approval/Date

1. Overview

1.1 Scope of Application

This requirement specifies the antenna technical requirements and material requirements specifications for the R811 product. This requirement applies to the selection, testing and acceptance of the R811 antenna.

1.2 basic project information

Antenna Name:	R811 Base
Antenna frequency:	WIFI:2.4G-2.5G
Antenna Type:	External antenna

2. Technical index requirements

2.1 Test Items and Equipment Introduction

List	Test Item	Equipment
Active Test	TRP,TIS	Comprehensive tester, microwave darkroom

2.2 Active Reports

2.2.1 Test description

Test tools: Agilent8960 comprehensive tester, R & SCMW500, all-electric wave far-field ETS darkroom, high-precision positioning system and its controller and computer with automatic test program.

Test environment: the temperature is $22\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$, and the humidity is $50\% \pm 15\%$.

Test method: Place the DUT on the center of the turntable on the H plane and fix it on the same horizontal line as the center of the horn antenna.

The positioning system enables the DUT to rotate on the entire spherical surface to meet the high-precision three-dimensional positioning. Each RF instrument, turntable controller and with automatic test software The PC communicates via the GPIB interface.

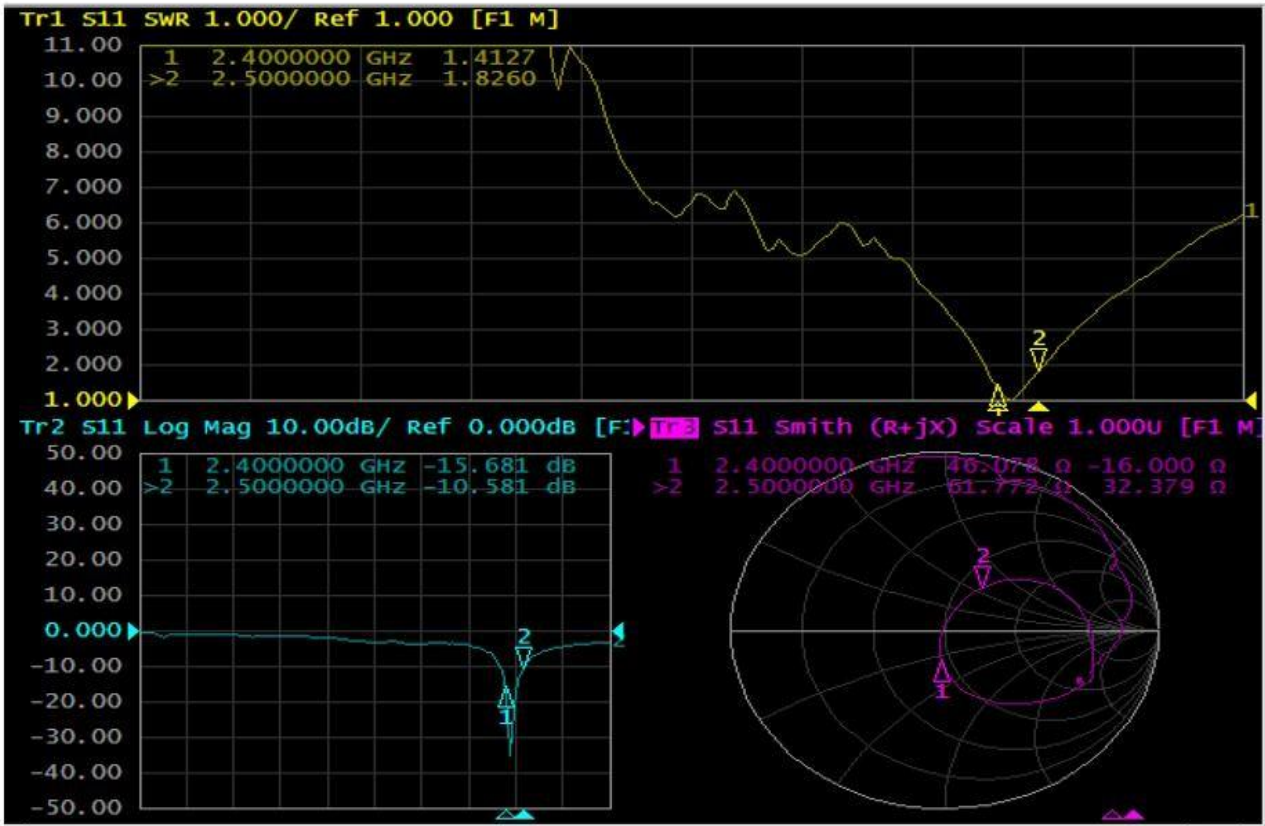
2.2.2WIFI Antenna Active Parameters-Base Station Project

Test	WIFI (B模11M)			WIFI (G模54M)		
Result	1	7	13	1	7	13
TRP (dBm)	17.22	17.43	17.55	16.28	16.35	16.48
TIS (dBm)	-82.45	-83.13	-83.29	-72.68	-72.52	-72.41

Test	WIFI (N模MCS7)		
Result	1	7	13
TRP (dBm)	15.52	15.63	15.71
TIS (dBm)	-68.13	-68.85	-69.02



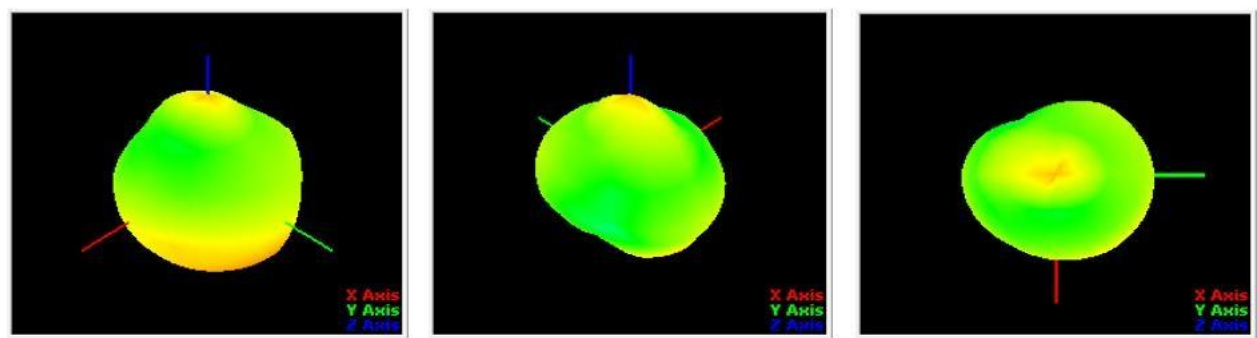
2.2.3 External PCB 2.4GWIFI (Drawing LOGMAG + VSWR + SMITH)



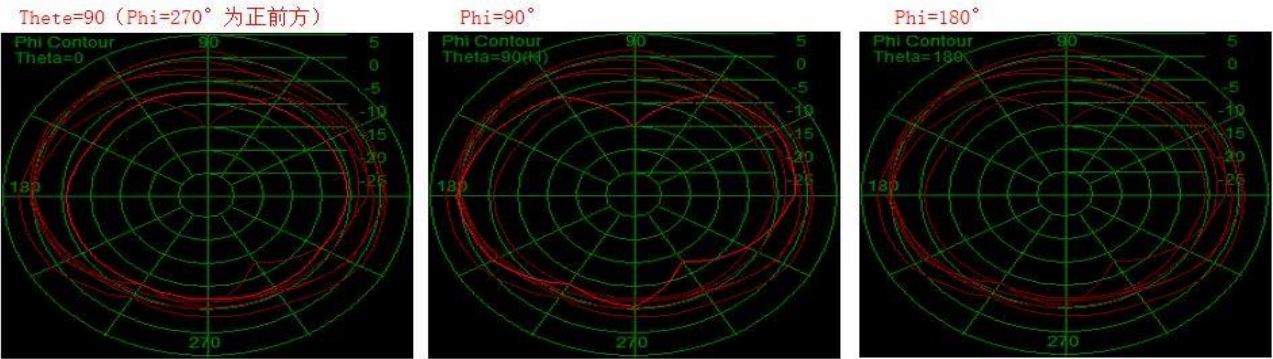
2.2.4 WIFI Antenna efficiency and gain

Passive Test For 2400MHz~2500MHz				
Freq	Effi	Effi	Gain	
(MHz)	(%)	(dB)	(dBi)	
2400	44.8 percent	-3.65	1.56	
2410	45.5 percent	-3.48	1.57	
2420	46.8 percent	-3.29	1.66	
2430	47.5 percent	-3.18	1.65	
2440	49.2 percent	-3.13	1.70	
2450	52.5 percent	-2.77	1.88	
2460	50.1 percent	-2.86	1.73	
2470	48.8 percent	-3.42	1.70	
2480	48.0 percent	-3.22	1.66	
2490	46.8 percent	-3.23	1.63	
2500	45.1 percent	-3.33	1.59	

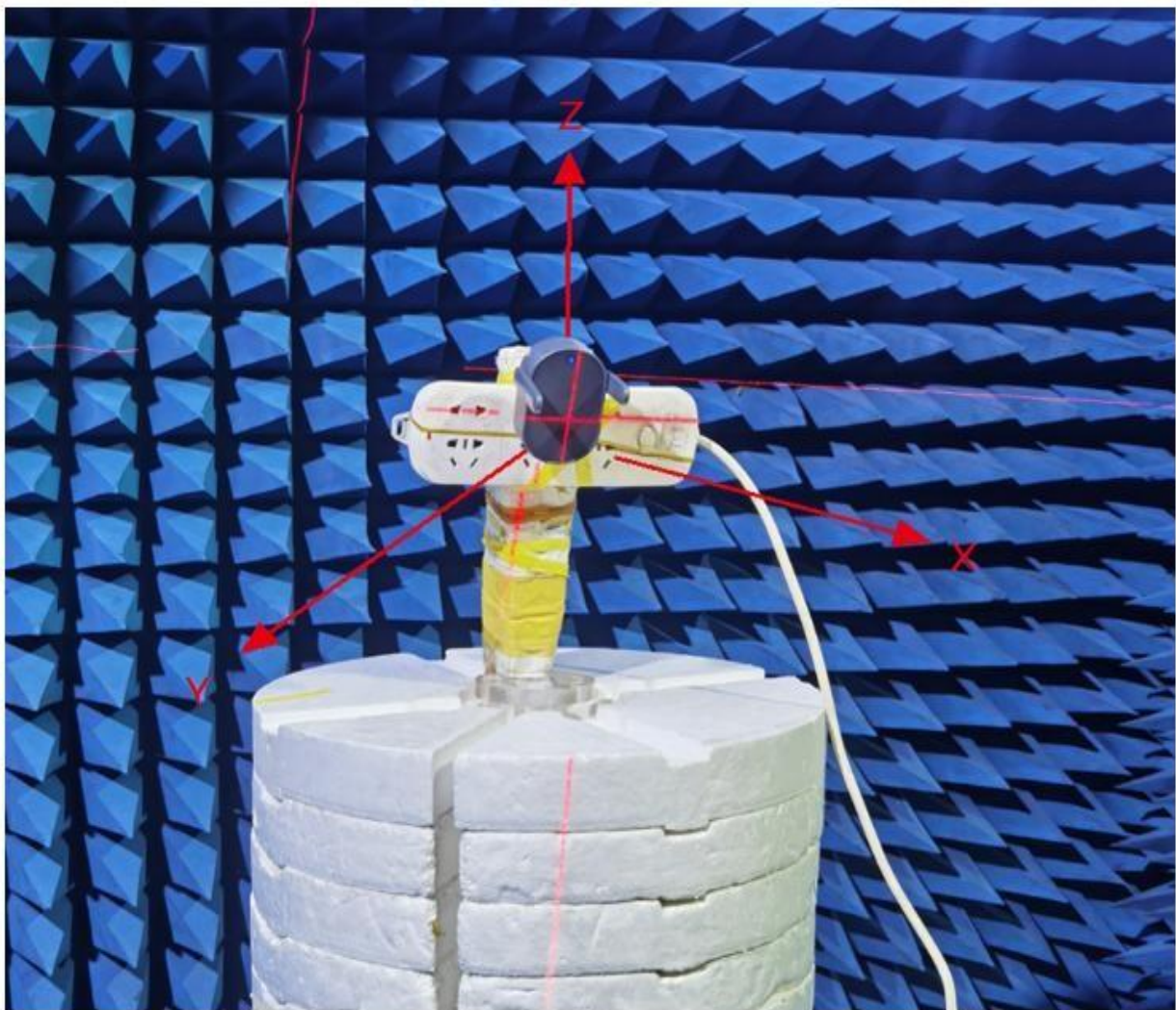
2.2.5 External PCB 2.4GWIFI-Apple Figure



2.2.6 External PCB 2.4GWIFI-Directional diagram



2.3.0 Test picture



3. Structural drawings

