



Antenna Approval Sheet

For N33 Project

Customer	华芯智影	Project	N33
Band	WiFi 2.4GHZ		
ZC PN	HA010-CA-93		
Version	R:A	Data	2022-11-14

RF		ME	
Checked By			
Confirmed			
Cust Confirm			

地址
address

深圳市宝安区71区新政厂房一栋五楼
5th floor, New Deal Factory Building,
District 71, Bao 'an District, Shenzhen



1. Summary of the DUT



Antenna Picture



2. Electrical Specification:

Antenna types	Built-in wifi 2.4GHZ antenna
Frequency	2400-2500 MHz
Impedance	50 Ω
VSWR	< 2.0
Gain	2.4GHZ 2.8 dbi
Efficiency	>40 %
Antenna Material	FPC+同轴线
Connector Type	1.13 MHF-1-Plug



3. Test Condition

3.1	测试项目	测试设备和型号	备注
1.有源测试	1. TRP 2. TIS	1. 3D microwave darkroom (Satimo SG24) 2. Comprehensive test instrument (CMW500) 3. Agilent 8960 E5515C	
2.无源测试	1. Antenna Gain 2. S.W.R 3. Return Loss 4. Radiation Pattern	1. Network analyzer (R&S ZVL6) 2. Network analyzer (HP 8753D)	

3.2 Matching Circuit The matching circuit was Default

3.3 Antenna installation diagram:



4. RF Performance

4.1 Active test data

Item	Standard	Band	Channel	Frequency	最大功率	最小灵敏度	TRP	TIS
1	WIFI (AP)	WIFI_B (11M)	1	2412	21.42	-81.11	14.6	-80.41
2	WIFI (AP)	WIFI_B (11M)	6	2437	21.84	-78.9	14.45	-78.11
3	WIFI (AP)	WIFI_B (11M)	11	2462	20.09	-77.95	15.16	-78.33

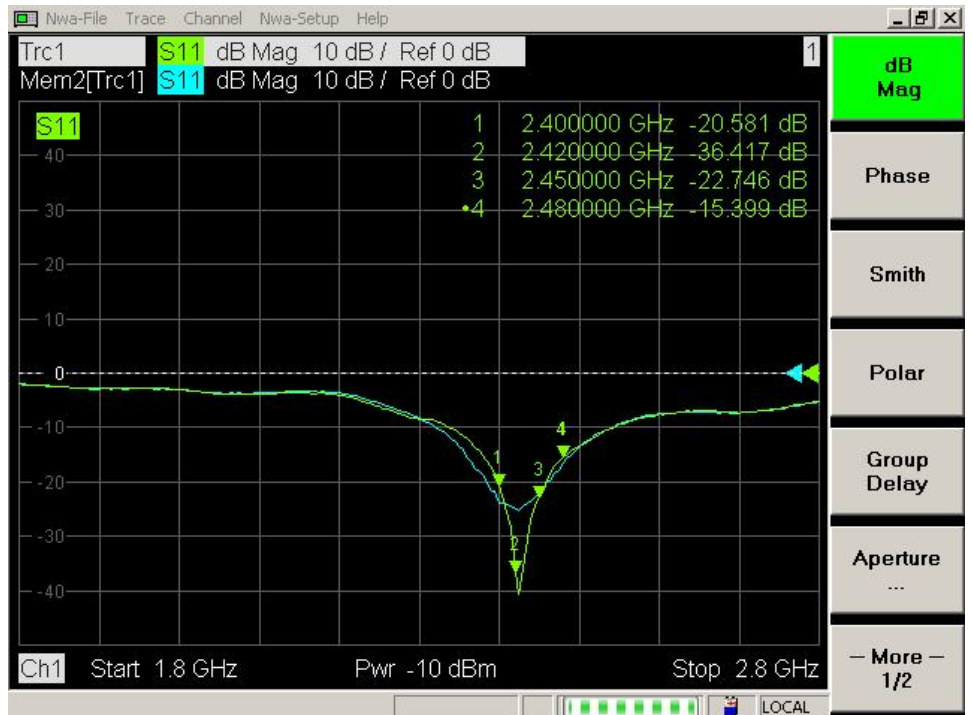
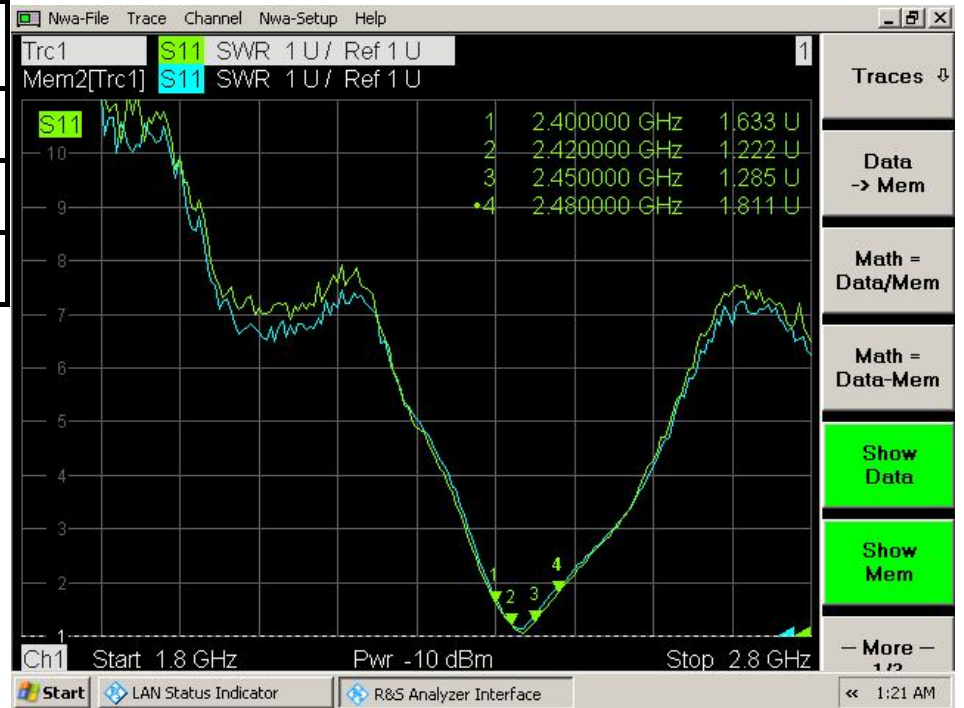


4.2 Passive parameters

Freq. (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Gain (dBi)	1.67	1.8	2.13	2.56	2.53	2.85	2.88	2.45	1.99	1.98	1.95

4.3 S Parameter

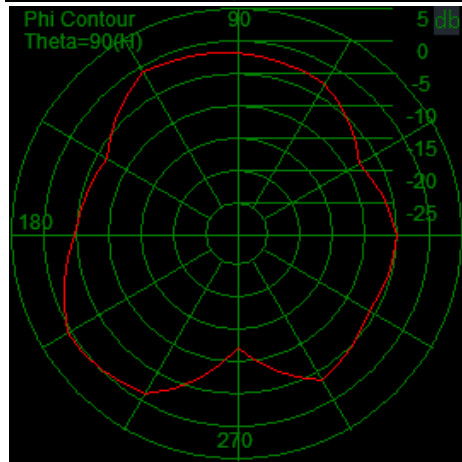
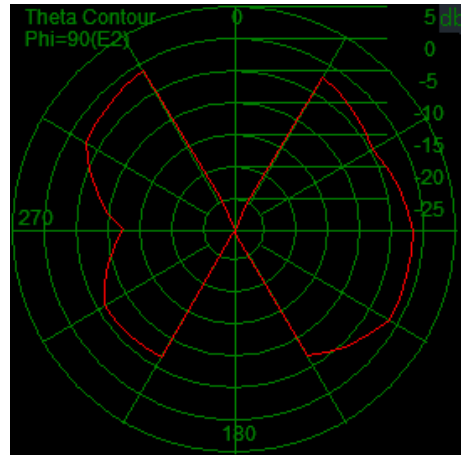
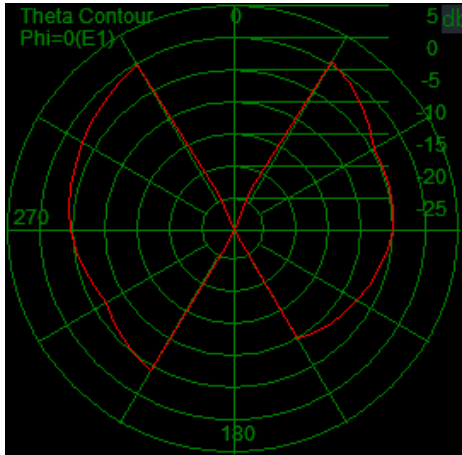
Frequency (MHz)	Return Loss (dB)	VSWR
2400	-20.58	1.63
2450	-22.74	1.28
2480	-15.39	1.81



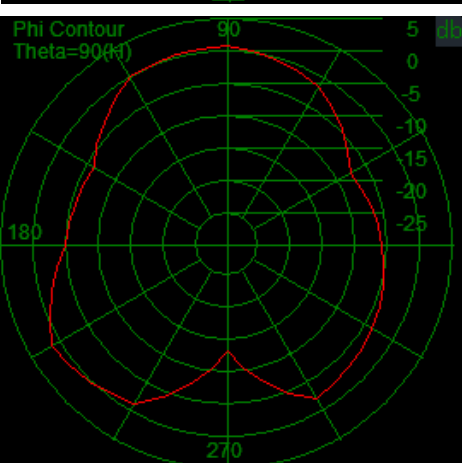
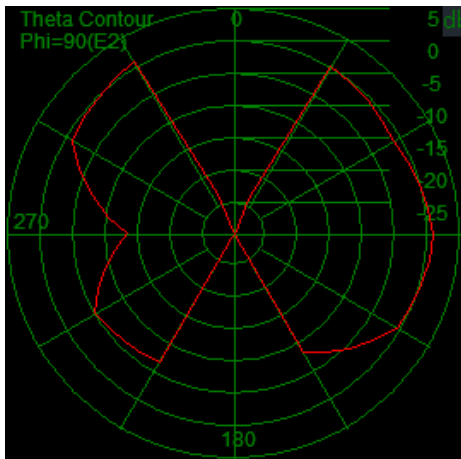
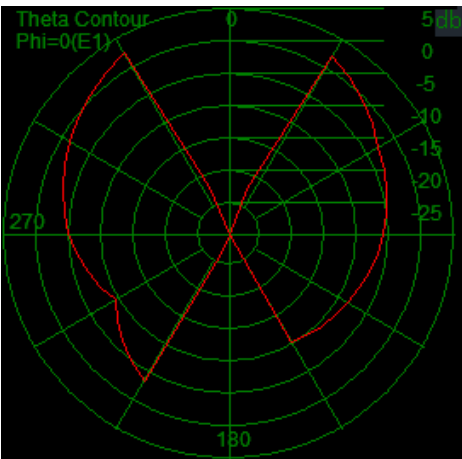


4.4 Radiation Pattern

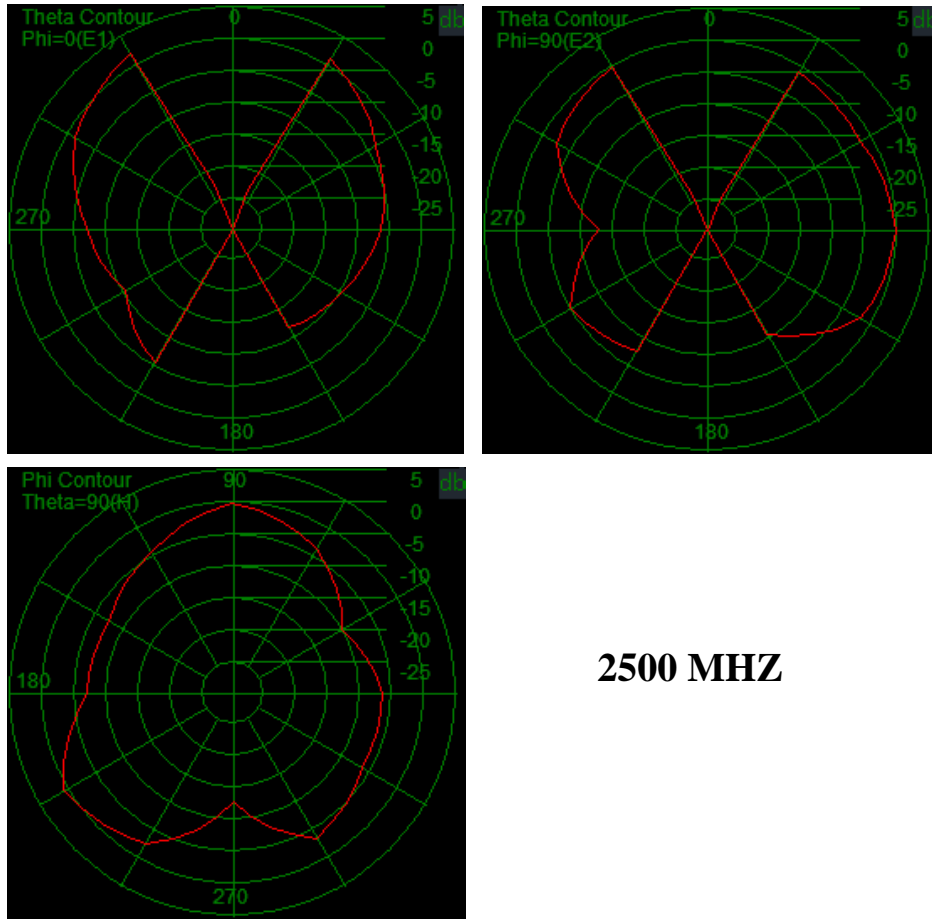
4.4.1 Antenna 2D Radiation Pattern



2400MHZ

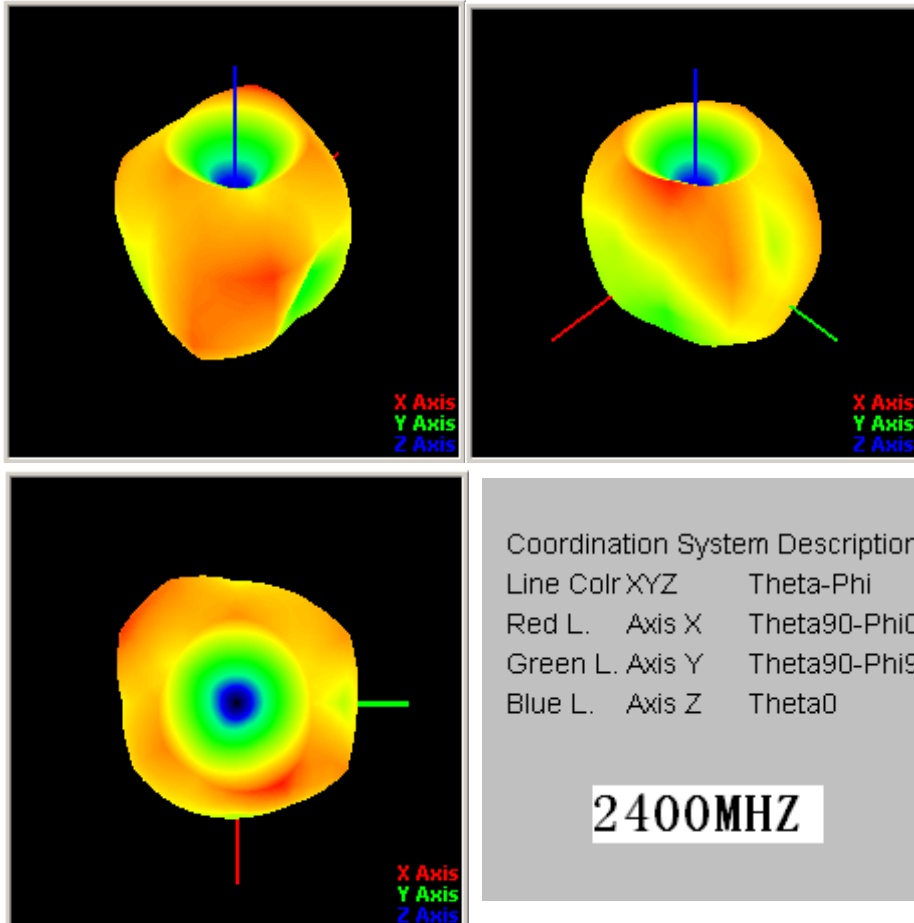


2460MHZ

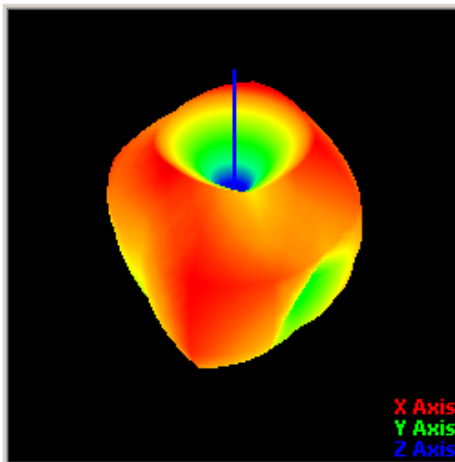
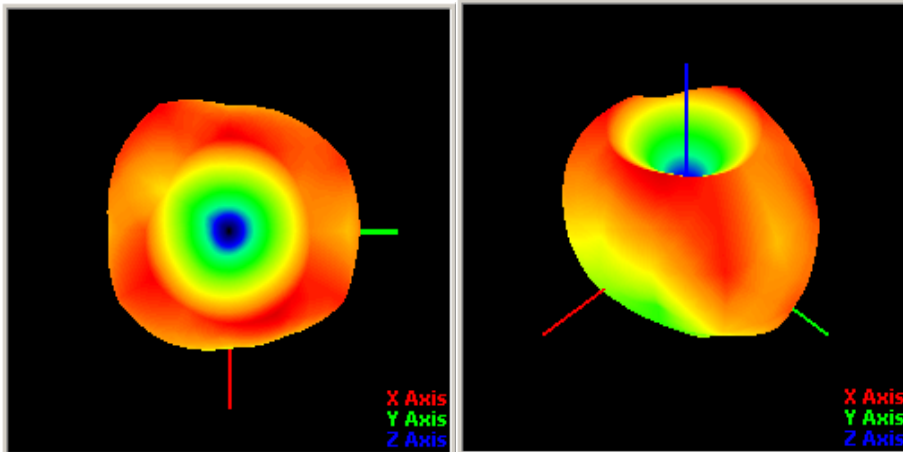


2500 MHZ

4.4.2 Antenna 3D Radiation Pattern

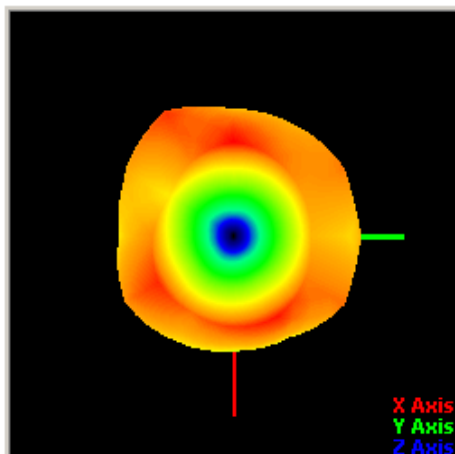
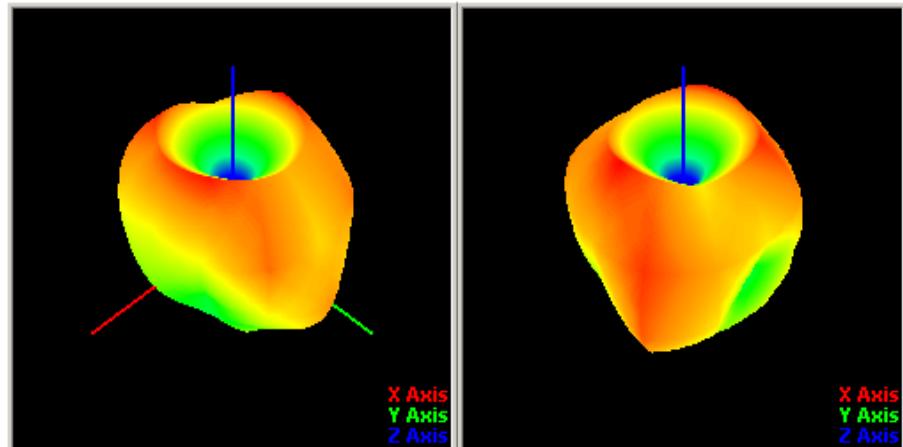


2400MHZ



Coordination System Description:
Line Colr XYZ Theta-Phi
Red L. Axis X Theta90-Phi0
Green L. Axis Y Theta90-Phi90
Blue L. Axis Z Theta0

2460MHZ



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Line Colr XYZ Theta-Phi
Red L. Axis X Theta90-Phi0
Green L. Axis Y Theta90-Phi90
Blue L. Axis Z Theta0

2500MHZ



5. ME Drawing for the antenna

