

深圳市安威无线科技有限公司

规格书

APPROVAL SHEET

客户 Customer	哦步街科技	规格型号 Specs	3Plus F4
安威料号 Part Number	AW006-3Plus F4-021-A0	频 段 Frequency Band	2400~2500MHZ
结 构 Structure	覃云林	设 计 Design	宋兵伟
日 期 Date	2024/12/23	签字日期 Signing Date	

客户确认 Customer confirmation:

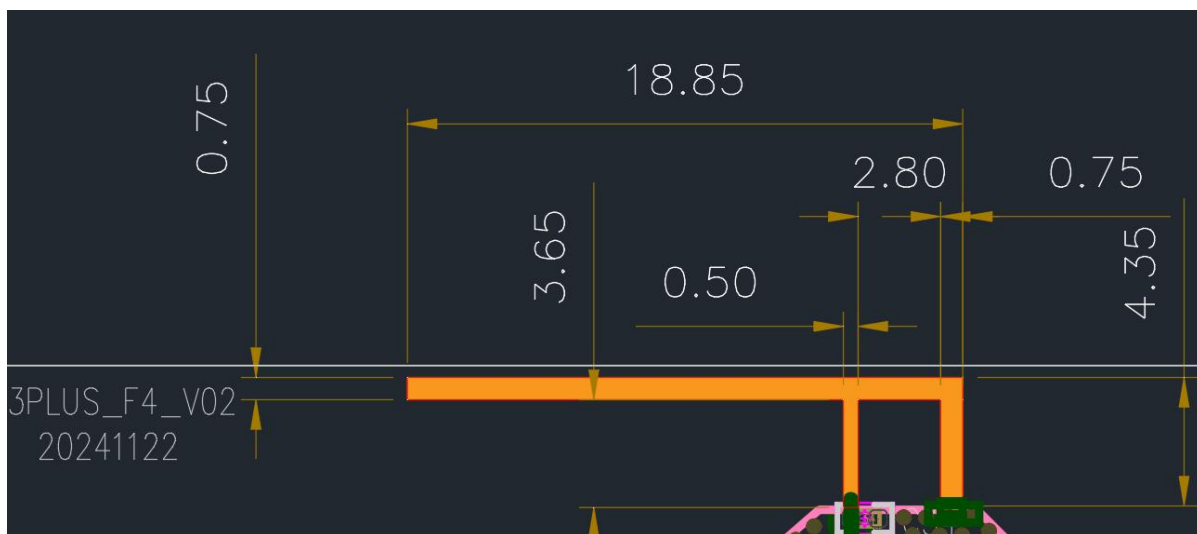
携手共进 共创未来

Join hands to create the future

参数规格 Parameter specifications

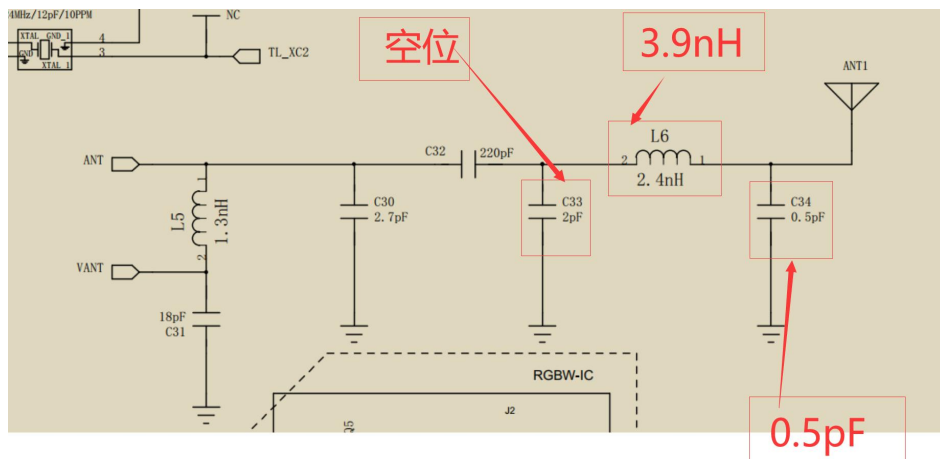
项目名(Project Name)	荧光棒 3Plus F4
天线类型(Antenna Type)	PCB 板载天线
天线形式(Antenna Form)	全向 Omnidirectional
驻波比(V.S.W.R)	≤ 2.4
天线增益(Antenna gain)	-0.21dBi
天线效率(Efficiency)	39%
存储环境范围(Storage Temp)	-40~+85℃
工作环境(Operating Temp)	-40~+85℃

天线尺寸 Antenna size



二、天线匹配和无源测试 Antenna matching and passive testing

1.匹配参数调试 Match parameter debugging:



C33:NC L6:3.9nH C34:0.5pF (其他不变 Other unchanged)

2.测试的设置 Test Settings

VSWR 测试装置依次的连接为 VSWR testing device:

E5071B 网络分析仪 → 50 欧姆的同轴 Cable → 110mm 长的铜管 Copper tube → 测试治具 Fixture

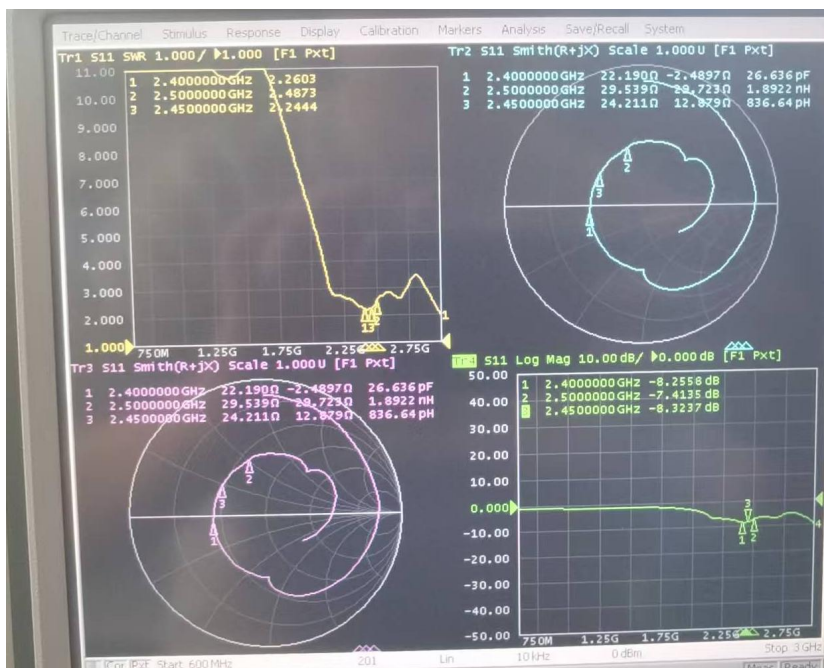
测试治具的处理 Test fixture Processing:

从 PCB 上天线 50 欧姆测试点处用一根硬质电缆引出 SMA-J 接头，与套有扼流圈的铜管连接，再依次连接其他装置。Use a hard cable to lead out the SMA-J connector from the 50 ohm test point of the antenna on the PCB, connect it to a copper tube with a choke coil, and then connect other devices in sequence.

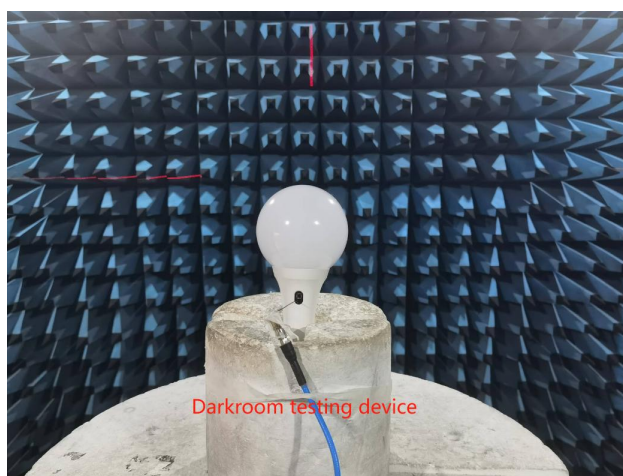
3.测试结果 Test Result

3.1 下表所示为 板载天线驻波比数值。测试所得的 VSWR，相关波形图如附件所示

The table below shows the standing wave ratio values of the onboard antenna. The VSWR obtained from the test is shown in the attached waveform diagram.



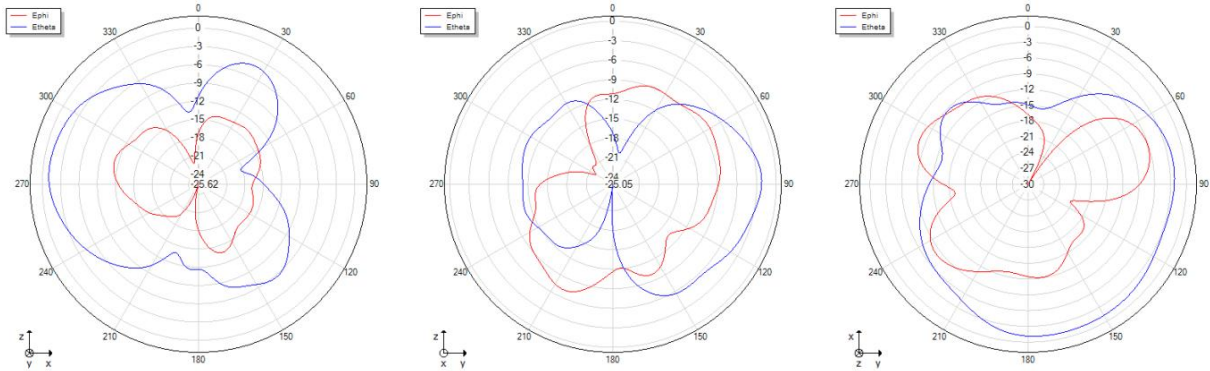
3.2 无源效率测试 Passive efficiency test



Frequency ID	1	2	3	4	5	6
Frequency (MHz)	2400	2405	2425	2450	2485	2500
Gain (dBi)	-1.23	-1.39	-0.58	-0.85	-0.21	-0.54
Efficiency (%)	27.30	26.93	30.00	25.76	28.65	29.01

3.3 2D 方向图和 3D 苹果图

2D Radiation Pattern



3D Radiation Pattern

