



Antenna Specification

Material Name: A2PRO Antenna

Sample Color: Black

Sample Type: FPC

Customer Model: Speedlight A2PRO

Manufacturer:SOUND AROUND INC.

Manufacturer add.:1600 63rd Street Brooklyn NY

11204 United States Of America

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1. Frequency band

Frequency	Frequency band
WIFI	2. 4GHz-2. 5GHz

2. Product illustration



Prototype drawing



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3. Electrical performance

3.1 Test Method Description and Data

Device Name	Purpose
Vector Network Analyzer	S11/Impedance/ Passive Test
Agilent 8960 SP6010 R&S CMU200	Testing of mobile communication devices for phones including GSM, GPRS, EDGE, CDMA2000, 1xEV-DO, TD-SCDMA, WCDMA, and HSDPA
R&S CMW500 MT8820C	Testing of mobile communication devices including TD-SCDMA, WCDMA, HSDPA, LTE, WIFI and GPS
Agilent E4438C	Test active GPS
MVG Chamber	Passive Test / OTA active Test / Efficiency/Gain

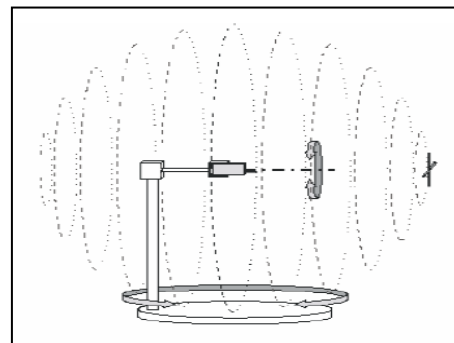
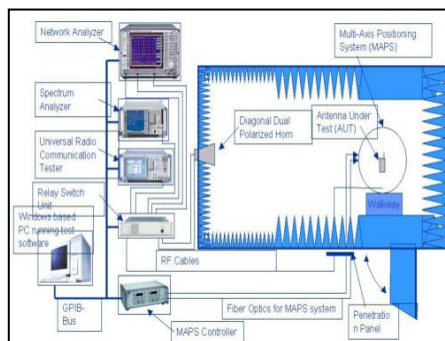
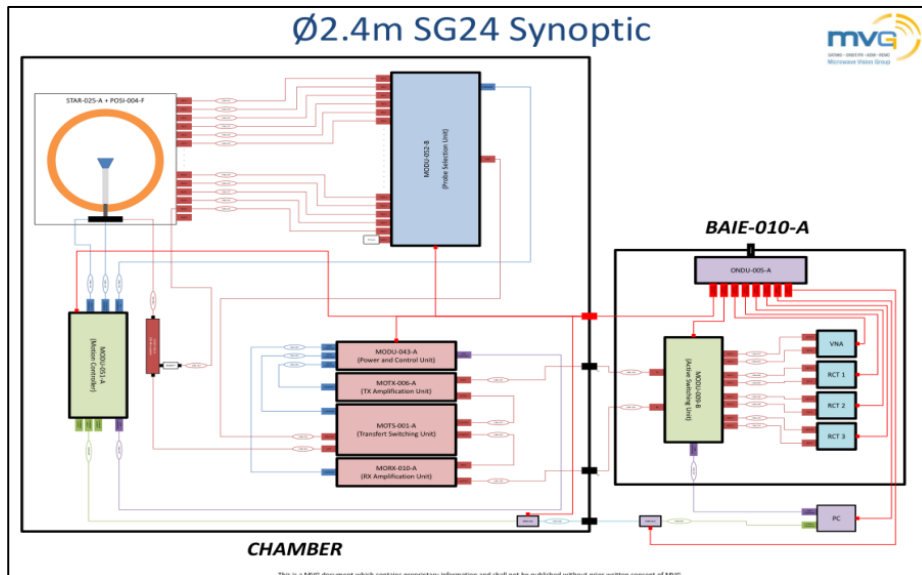
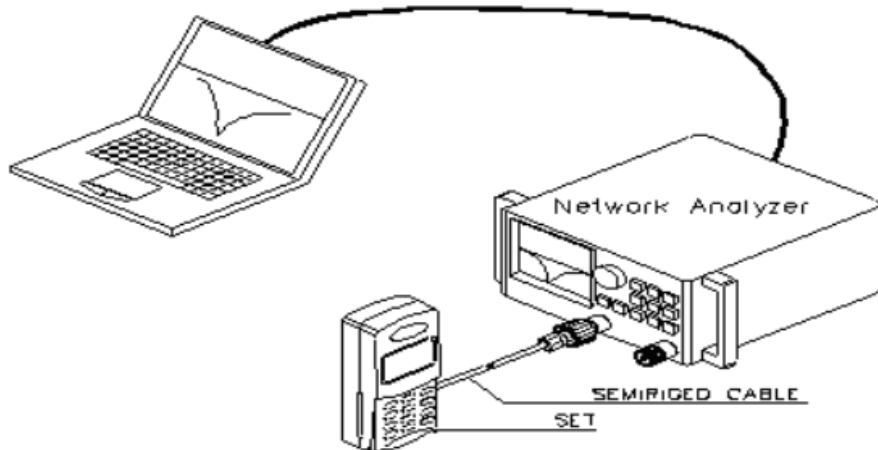
3.2 Passive Test Report

Test equipment: Network analyzer

Test method: Connect a 50-ohm CABLE cable from the instrument's test port. After calibration with a calibration piece, connect the SMA connector of the mobile phone fixture. Record the data such as the return loss or standing wave ratio corresponding to the relevant frequency points.

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3.3 Active Test Report

TRP/TIS

Test equipment: Comprehensive tester, network analyzer, full-wave far-field ETS, French MVG SG24LT (Satmio) near-field 3D microwave chamber, high-precision positioning system and its controller, and computer test environment with automatic test program: Temperature 22°C

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$\pm 3^{\circ}\text{C}$, humidity 60% $\pm 15\%$ Test method: Using the test method and calculation of the EST or Satimo 24LT system software TRP. During the TRP test, the DUT (Device Under Test) is in the maximum transmission power state. Select three channels (high, medium, and low) for testing. The position of the DUT is controlled by the positioning system. Measure the effective radiation power (EIRP) at each point in the three-dimensional space with a step size of 15 degrees. Calculate the average value on the spherical surface by integration. The calculation formula is as follows:

$$TRP \cong \frac{\pi}{2NM} \sum_{i=1}^{N-1} \sum_{j=0}^{M-1} [EiRP_{\theta}(\theta_i, \phi_j) + EiRP(\theta_i, \phi_j)] \sin(\theta_i)$$

During the TIS test, the DUT is in the maximum transmission power state. Three channels (high, medium, and low) are selected for the test. By controlling the position of the DUT and taking a 30-degree step size, the receiving sensitivity at each point in the three-dimensional space is measured. The average value on the spherical surface is calculated through integration. The calculation formula is as follows:

$$TIS \cong \frac{2NM}{\pi \sum_{i=1}^{N-1} \sum_{j=0}^{M-1} \left[\frac{1}{EIS_{\theta}(\theta_i, \phi_j)} + \frac{1}{EIS_{\phi}(\theta_i, \phi_j)} \right] \sin(\theta_i)}$$

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3.4 Active OTA TRP/TIS data

Note: There may be some variations in the OTA data due to differences in machine assembly.

Frequency (MHz)	Gain (dBi)
2400.00	-2.37
2410.00	-2.66
2420.00	-2.79
2430.00	-2.79
2440.00	-2.48
2450.00	-1.26
2460.00	-2.75
2470.00	-2.82
2480.00	-2.04
2490.00	-2.22
2500.00	-1.56

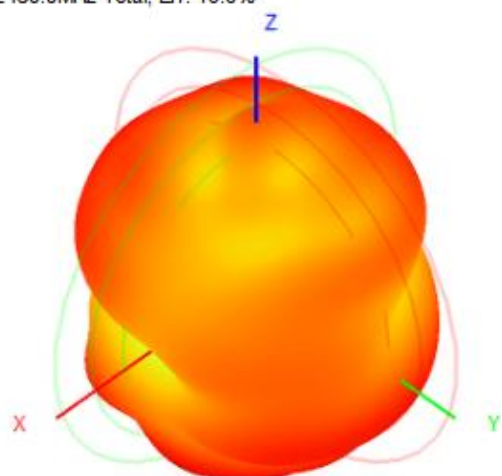
4. 3D test image



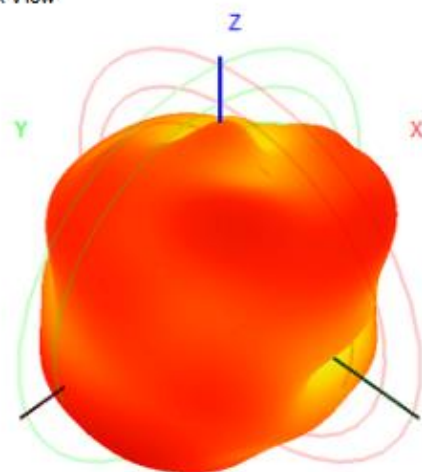
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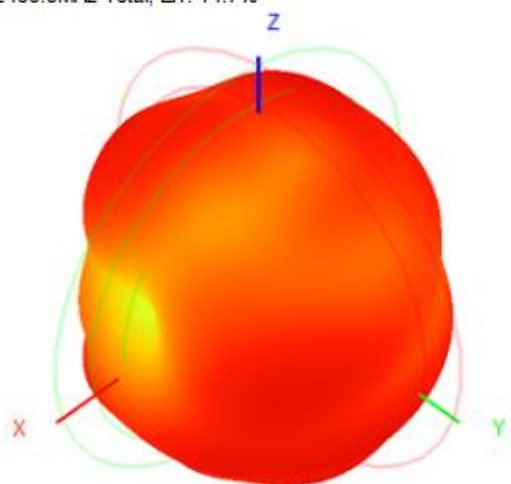
2450.0MHz Total, Eff: 18.0%



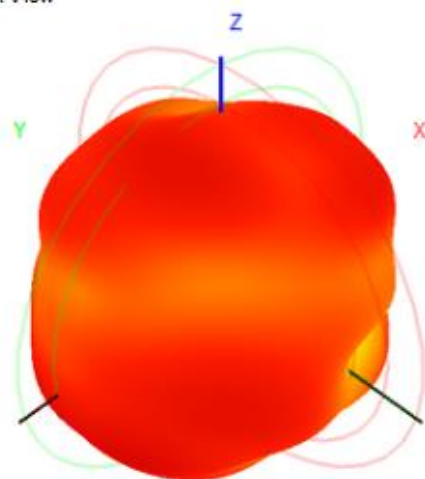
Back View



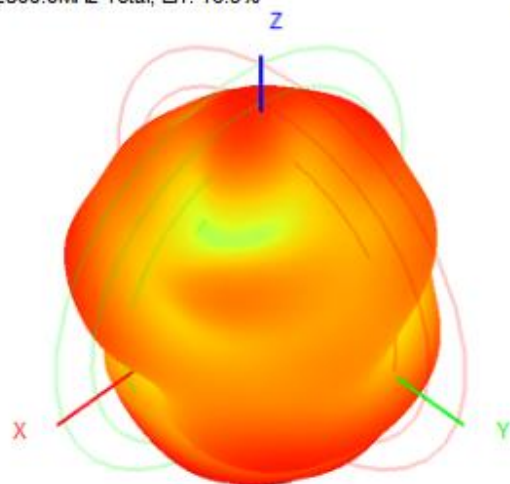
2400.0MHz Total, Eff: 14.7%



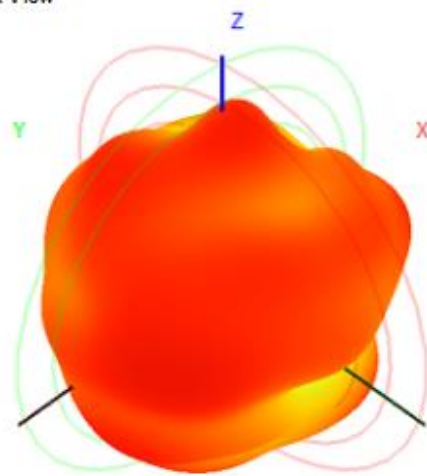
Back View



2500.0MHz Total, Eff: 16.9%

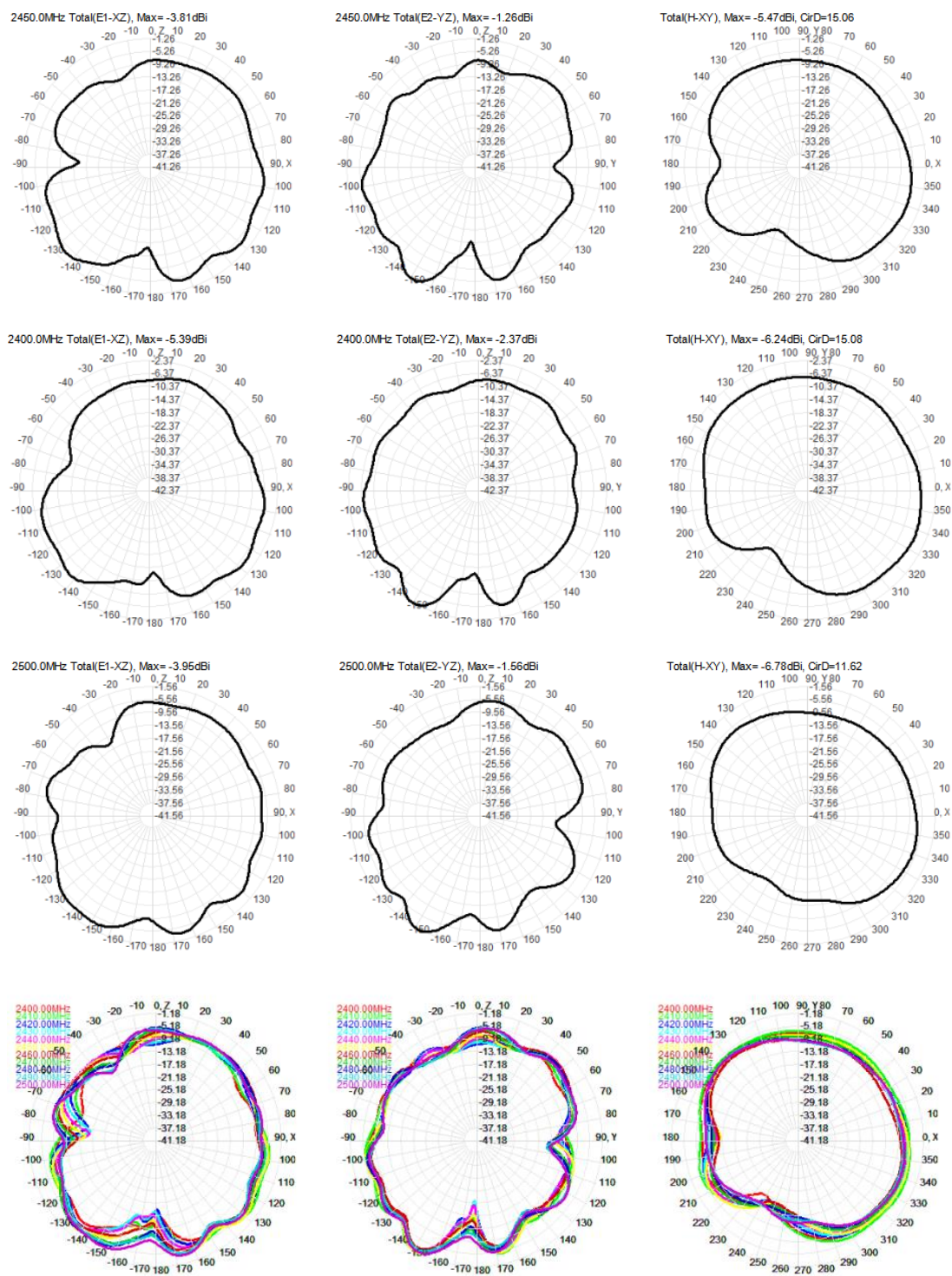


Back View

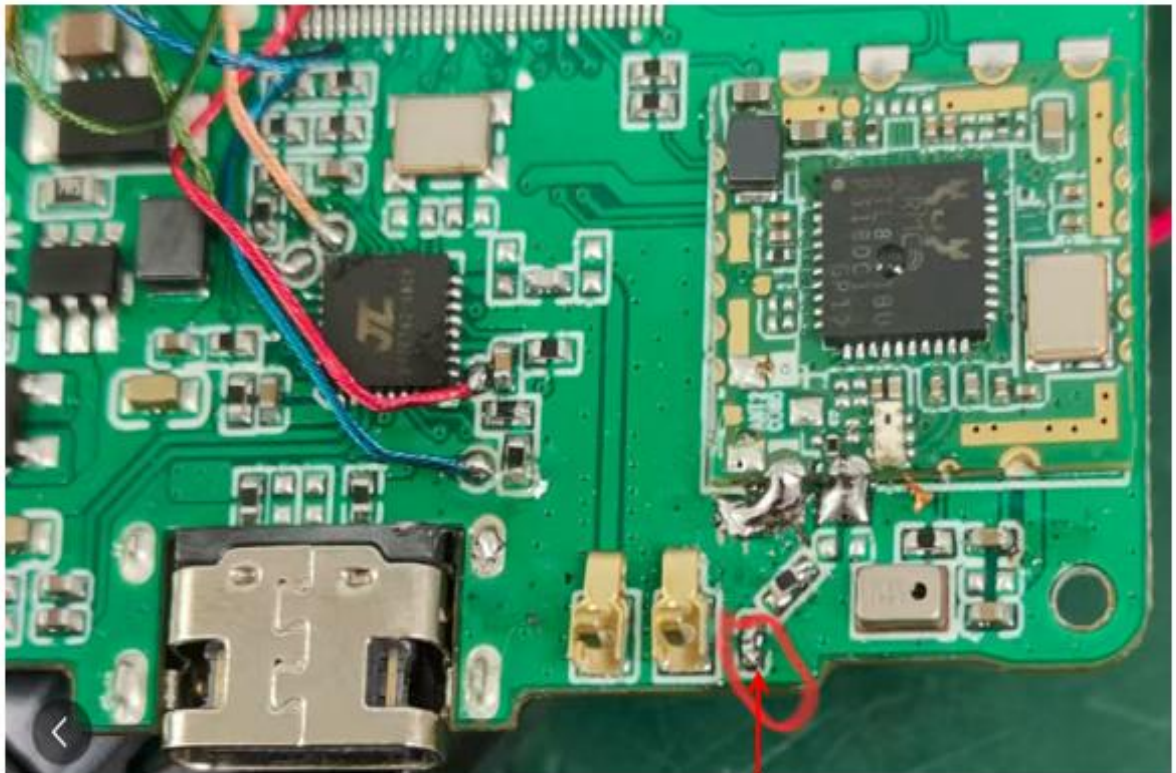


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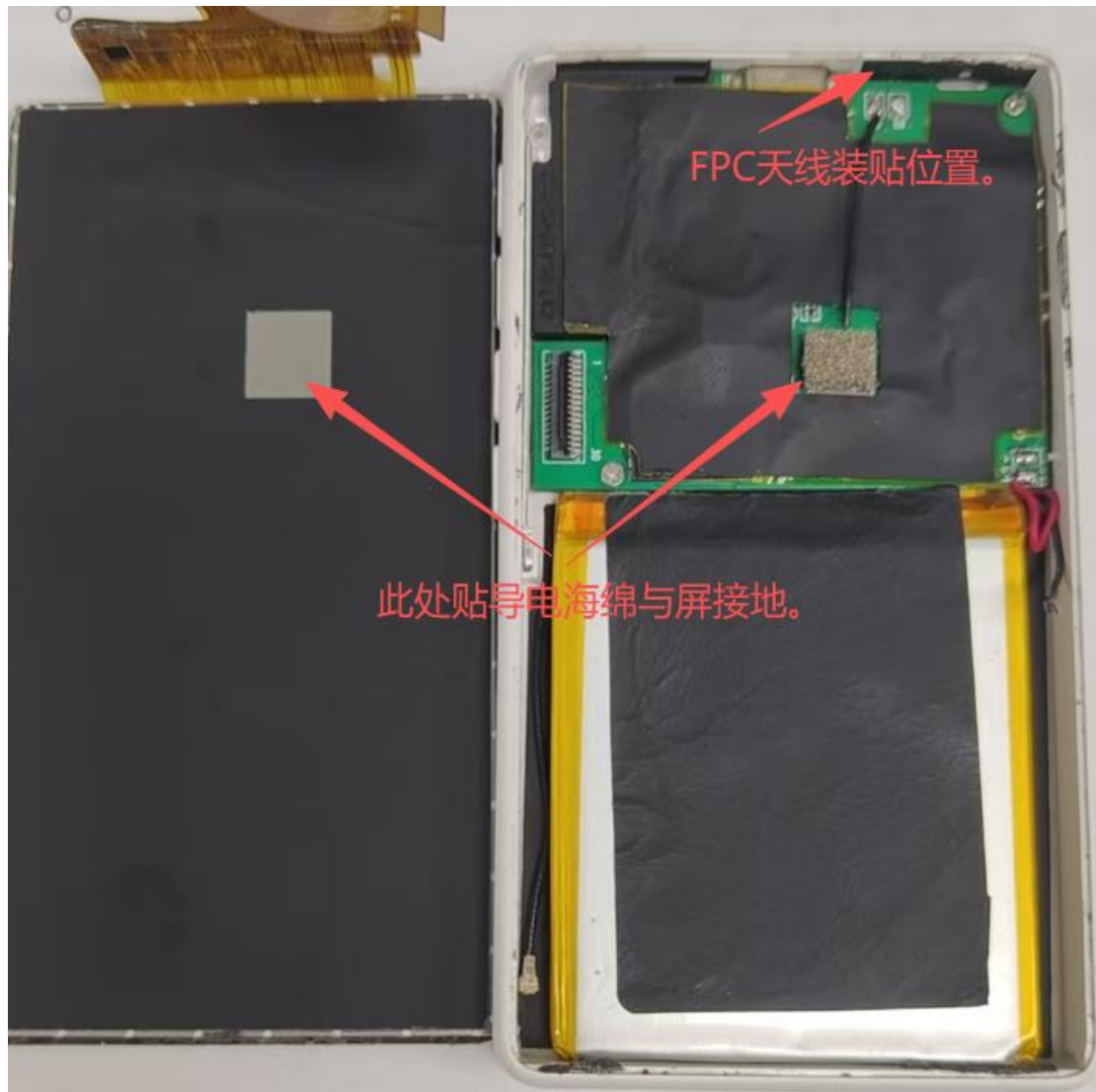


5. Matching Circuit Description



8.2nH

6. Antenna mounting



7. Structural drawing

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日期

标注

签名

修改内容

13.20±0.10

17.80±0.10

XYM-1101

定位孔打穿

焊接区域

表面镀金

手撕位

产品外形

拒造区不用背胶

技术要求

1. 材质FR6(单面板, 黑色, 正面覆黑膜, 电解铜 半对半), T<0.125mm;
反面背胶类型: 3M 9471(粘性需过热冲击试验);
2. 标“*”号为重点管控尺寸, 未注公差按图框中自由公差管控;
未注尺寸以菲林片检验为准(电性能需测试OK);
3. 镀金厚度为2μm, 不可有镀金后易断裂及脱落;
导电不良, 电路部分断裂等不良;
4. FR6表面油墨需均匀, 不可有污染物, 擦伤, 黑点, 起皱, 镀金不良等现象;
5. 产品符合ROHS标准

第三视角

0~3° ±0.05

3~30° ±0.08

30~50° ±0.10

50~60° ±0.12

角度 ±1°

项目名称

ASPBO

FR6天线

材料

FR(深膜亚胶)一薄半

日期

2025-09-20

设计

Yang

审核

UD

RF

Long

单位

mm

比例

FIT

版本

T.A

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