

Antenna test report

PN: CA-C03

2.4 GHz -ANT

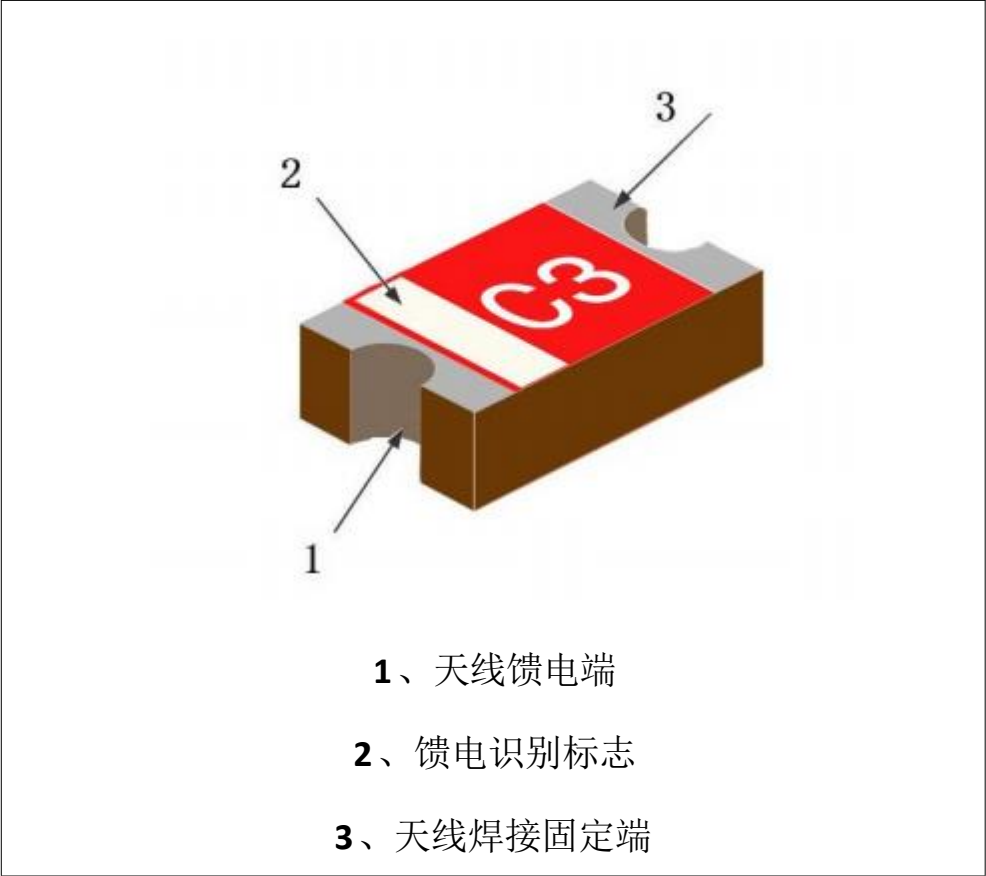
Features

- 1. Small size SMD patch antenna with the size of only 5.5 X 2.0 X 1.0 mm3.
- 2. Low energy loss, high antenna efficiency.
- 3. High stability under temperature and humidity changes.

Applications

- 1. 2.4GHz ISM band antenna application
- 2. Bluetooth, zigBee, wireless applications, smart home applications, etc.
- 3. WIFI (2.4G only)

结构structure



尺寸size

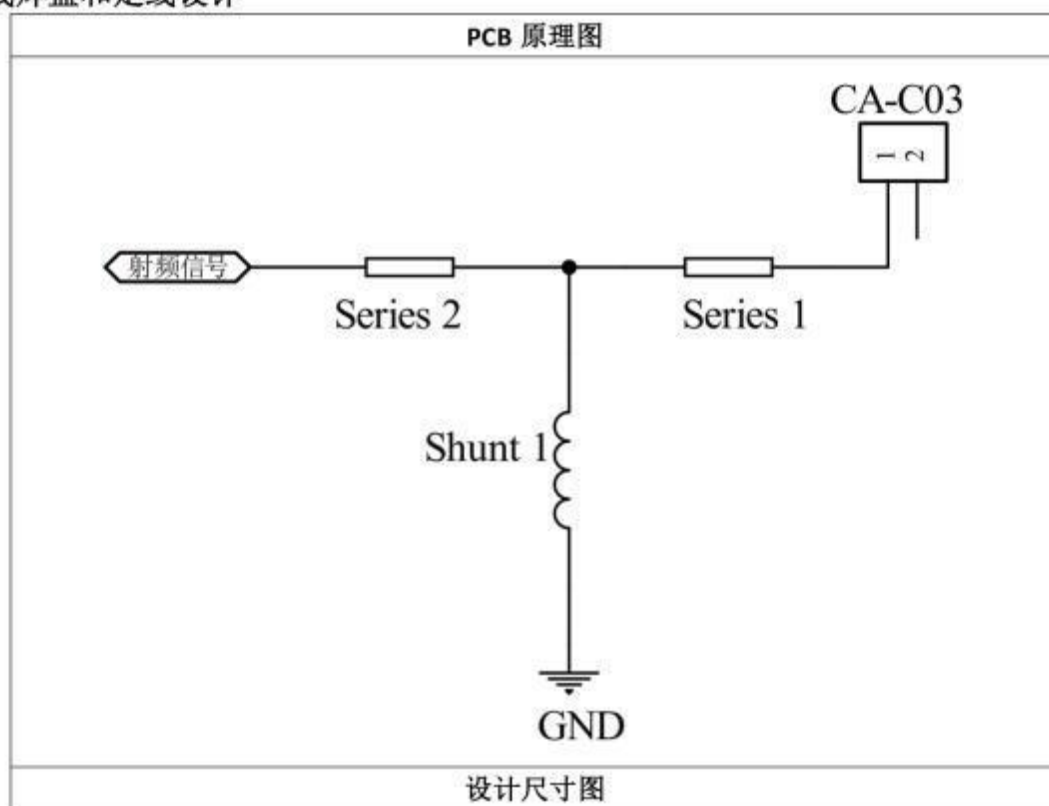
三视图	符号	尺寸(mm)
	L	5.5 ±0.2
	w	2.0 ±0.1
	T	1.0 ±0.1
	a	0.5 ±0.1

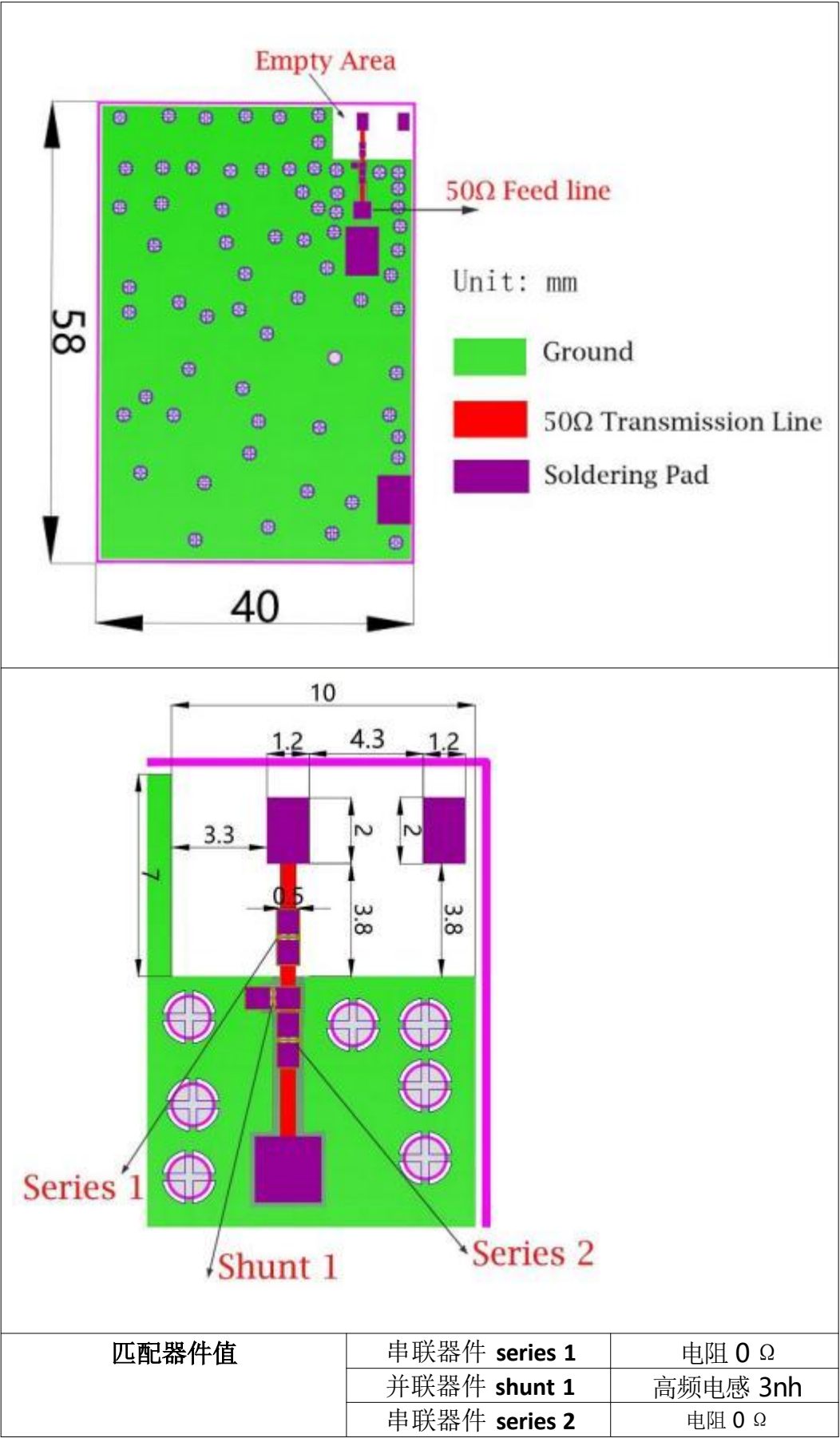
电气特性

CA-C03	Specification
工作频率范围 Working Frequency	2.4G-2.5G
带宽 Band Width	>100MHz
阻抗 Impedance	50 Ω
增益 Gain(dBi)	2.0(peak)
驻波比 VSWR	<2
工作温度 Operation Temperature	-40℃~+95℃
可承受功率 Power Capacity	3W

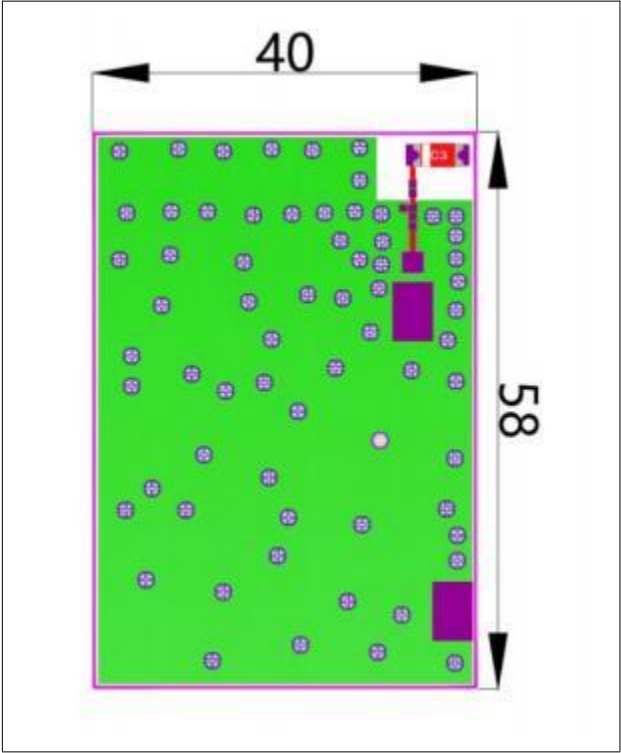
天线 2.4G 工作频率需要通过阻抗匹配器件调试来实现。

天线焊盘和走线设计

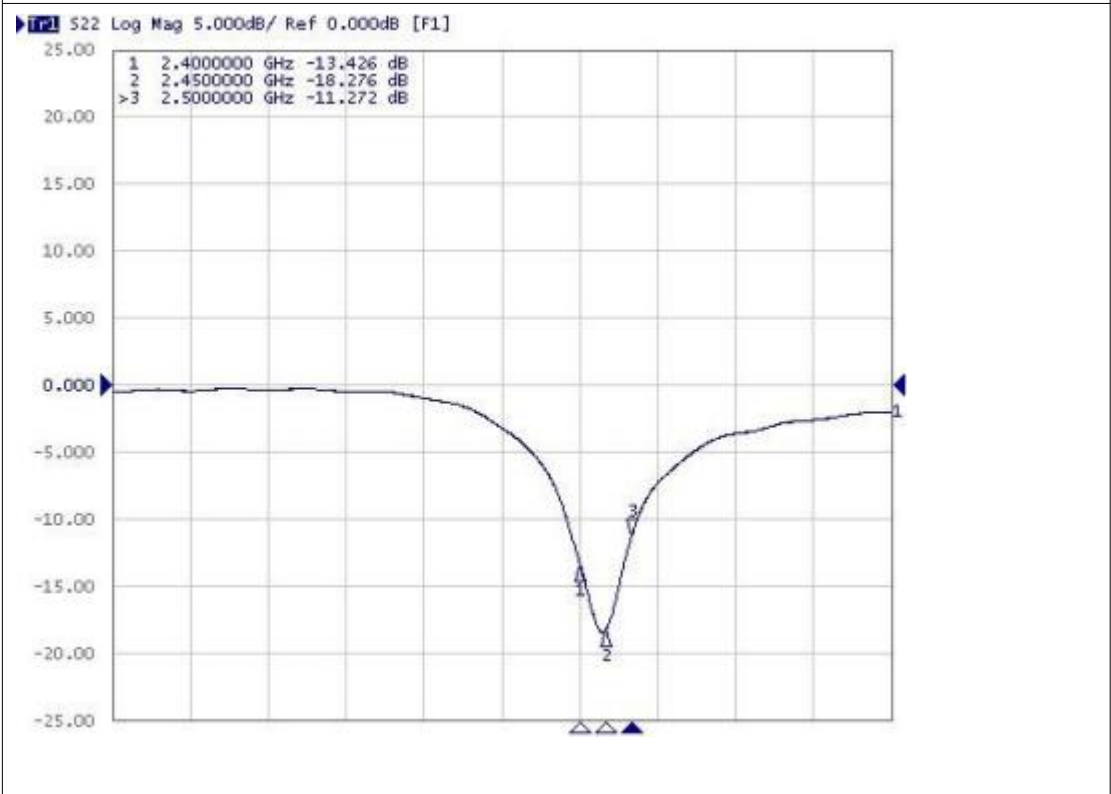




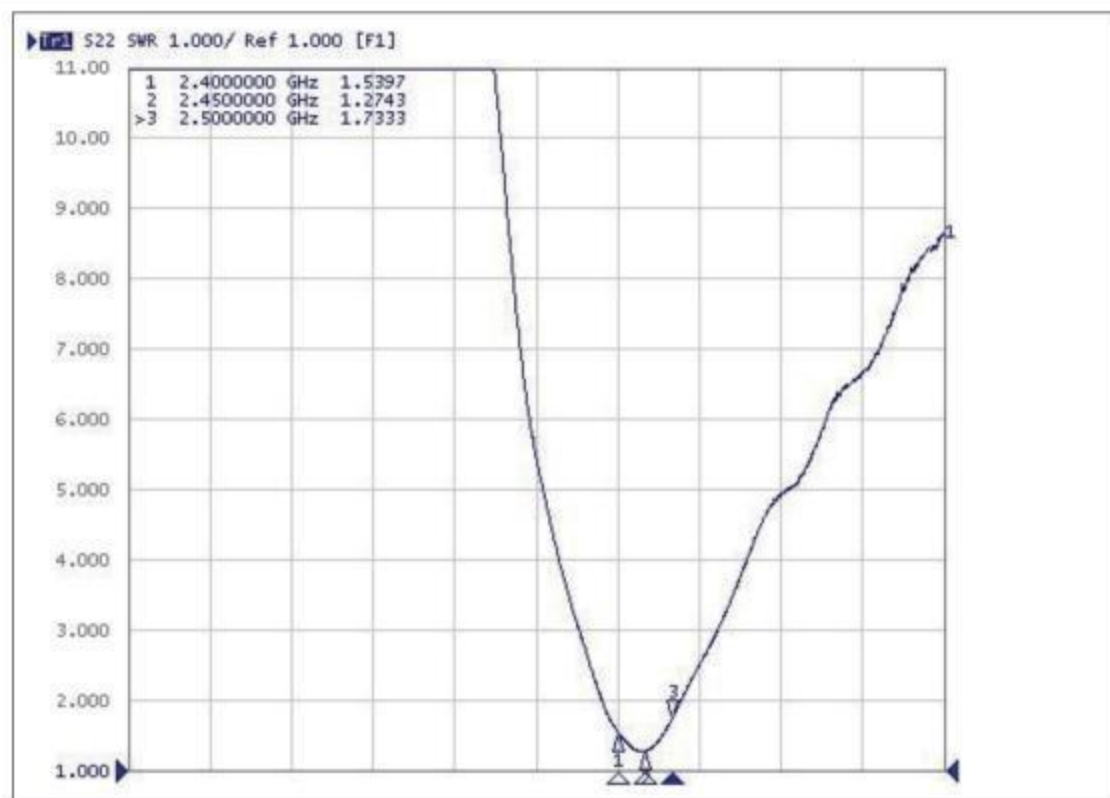
测试板上天线测试 (板厚 1.0mm)



天线 S11 特性

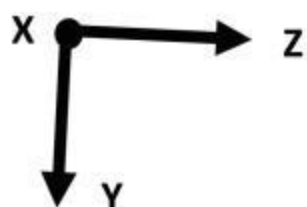
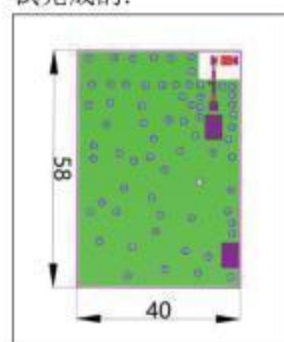


天线 VSWR 特性

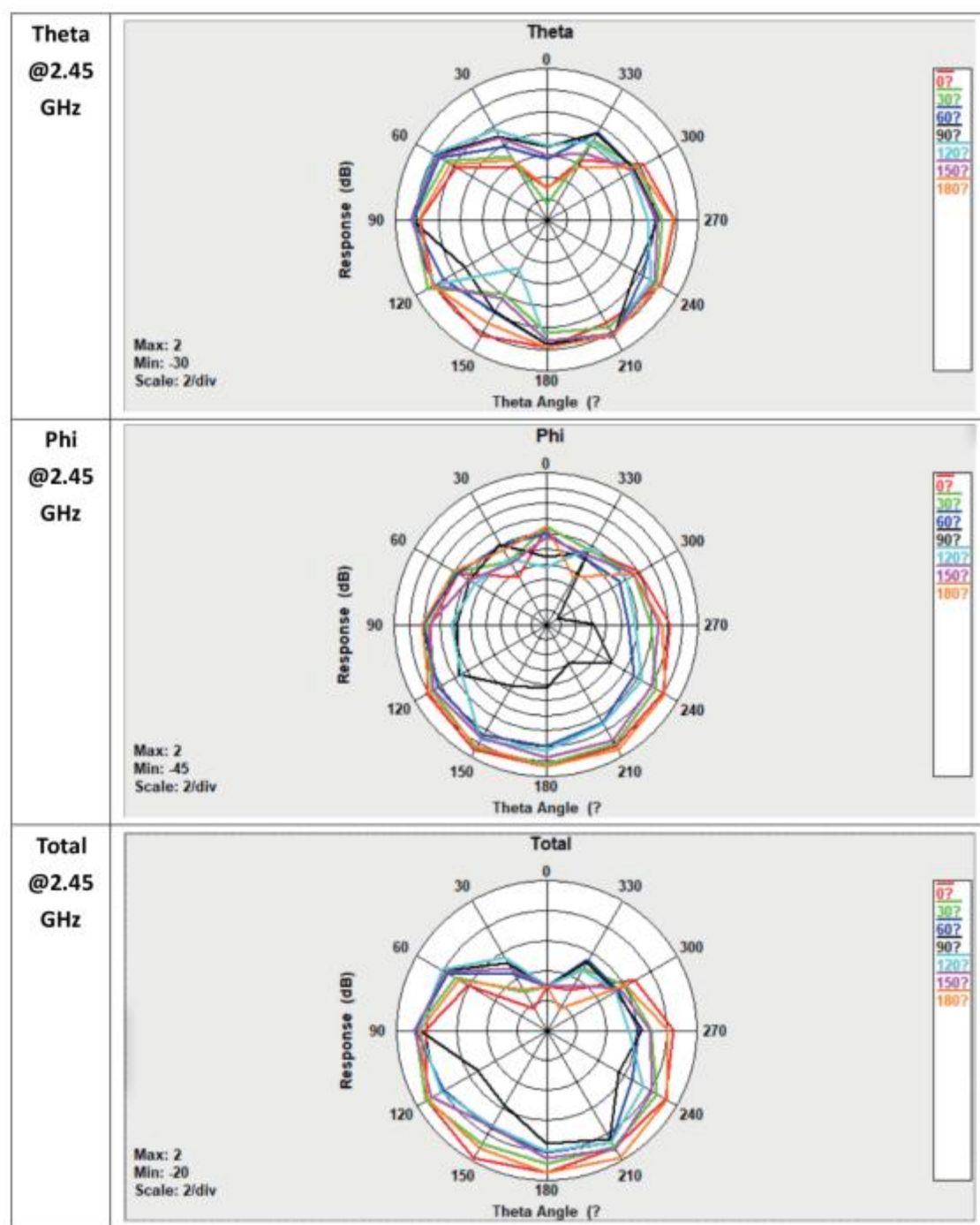


效率和辐射图

效率、辐射图、增益等性能是基于测试板设计得到的。CA-C03 天线的规格特性测试数据是基于测试 PCB 板尺寸以及下图所示的测试方向所得到的。以下数据是在 ETS 3D 微波暗室测试完成的。

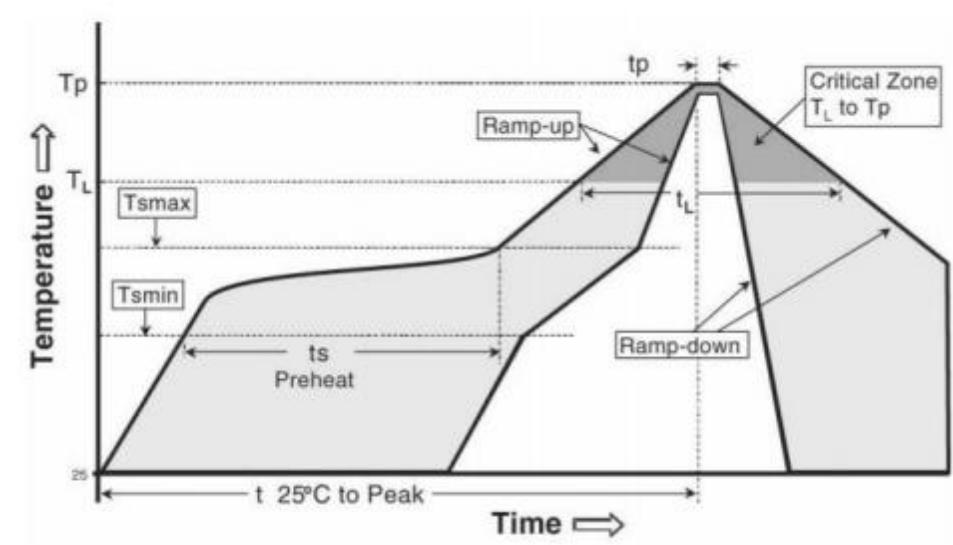


增益和效率	带宽 2.4G-2.5GHz
峰值增益 Peak Gain	2dBi
带内平均增益 Average Gain across the band	1.5dBi
带内增益范围 Gain Range across the band	1.8dBi~1.9dBi
峰值效率 Peak Efficiency	81.7%
带内平均效率 Average Efficiency across the band	80.2%
带内效率范围 Efficiency Range across the band	78.6%~81.7%



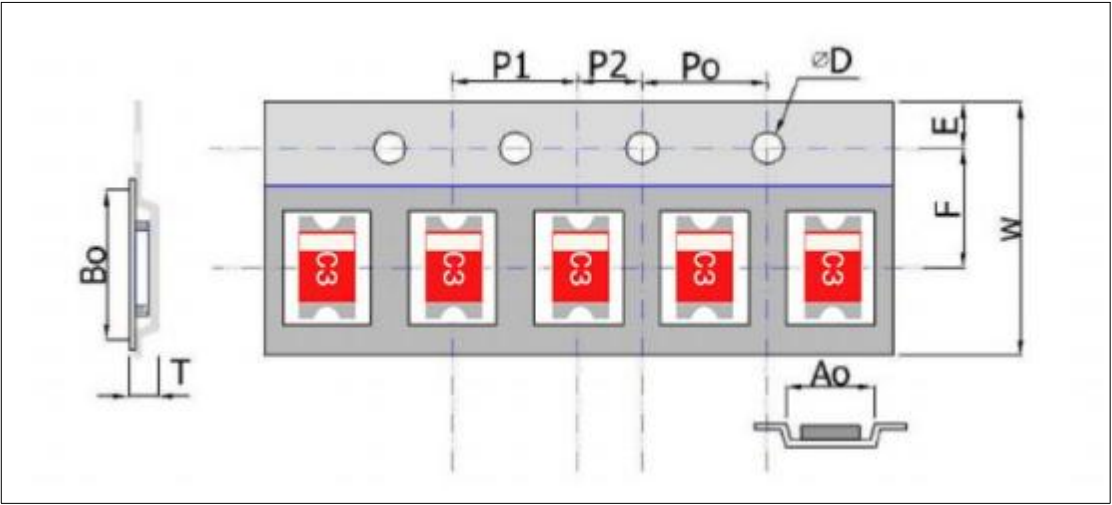
焊接条件

可靠无损的典型焊接规范如下图所示：



Phase	Profile features	Pb-Free assembly (SnAgCu)
RAMP-UP	Avg. Ramp-up Rate (T _{smax} to T _p)	3 °C / second (max.)
PREHEAT	- Temperature Min (T_{smin}) - Temperature Max (T_{smax}) - Time (t_{smin} to t_{smax})	150 °C 200 °C 60-180 seconds
REFLOW	- Temperature (T_L) - Total Time above T_L (t_L)	217 °C 60-150 seconds
PEAK	- Temperature (T_p) - Time (t_p)	260 °C 20-40 seconds
RAMP-DOWN	Rate	6 °C/second max
Time from 25 °C to Peak Temperature		8 minutes max

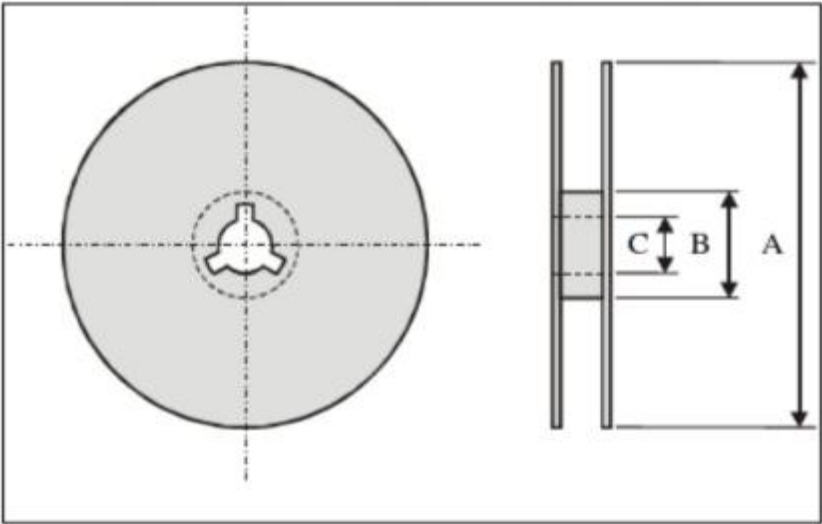
包装



塑胶载带规格 (单位:mm)

Index	Ao	Bo	ΦD	T	w
Dimension (mm)	3.0 ± 0.1	6.0 ± 0.1	1.55 ± 0.05	1.6 ± 0.1	16 ± 0.2
Index	E	F	Po	P1	P2
Dimension (mm)	1.75 ± 0.1	7.0 ± 0.1	4.0 ± 0.1	4.0 ± 0.1	2.0 ± 0.1

卷盘尺寸



Index	A	B	C
Dimension(mm)	330	100	13.5

标准数量： 3000 PCS/盘.

Storage environment

The following conditions should be met when storing the product: Temperature: -10℃~+40℃

Humidity: 30% to 70% relative humidity

The product should not be placed in a location that is exposed to corrosive gases such as sulfur. Chlorine or acid may cause oxidation of the product electrodes, resulting in poor weldability.

The product should be placed in a tool box and avoid moisture and dust. The product should be stored in a warehouse and avoid heat, vibration, and direct sunlight. The product should be stored in a closed condition.