

**Series: SMD Helical Antenna**

**Description:** 860-930MHz Embedded Helical Antenna

**PART NUMBER: W3136**



**Features:**

- 860-930MHz
- Impedance 50 Ohm
- Plastic support helical antenna
- Length 29.5mm,
- Gain 2dBi
- SMD Mounting on PCB
- RoHS Compliant

**Applications:**

- 868MHz and 915MHz ISM Band Systems
- IoT systems
- Metering, Automation
- Security, surveillance
- Remote controls, toys

All dimensions are in mm / inches

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### ELECTRICAL SPECIFICATIONS

Antenna Type	Helical monopole
Frequency	860-930MHz
Nominal Impedance	50 Ω
VSWR	Max 2.5
Radiation Pattern	Omn
Gain	2 dBi
Efficiency	65%
Polarization	Linear
Power Withstanding	2W

### MECHANICAL SPECIFICATIONS

Overall Length	29.5mm
Weight	2.52g
Antenna Color / Material	White
Fix system	SMD+Glue
Recommended Glue	Resinlab EP1320LV Black
Solder Paste Thickness	Min 0.15mm
MSL	3

### ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40° C~+85° C
Storage Temperature	-40° C~+85° C
RoHS Compliant	Yes

### OTHER SPECIFICATIONS

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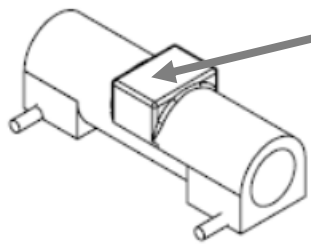
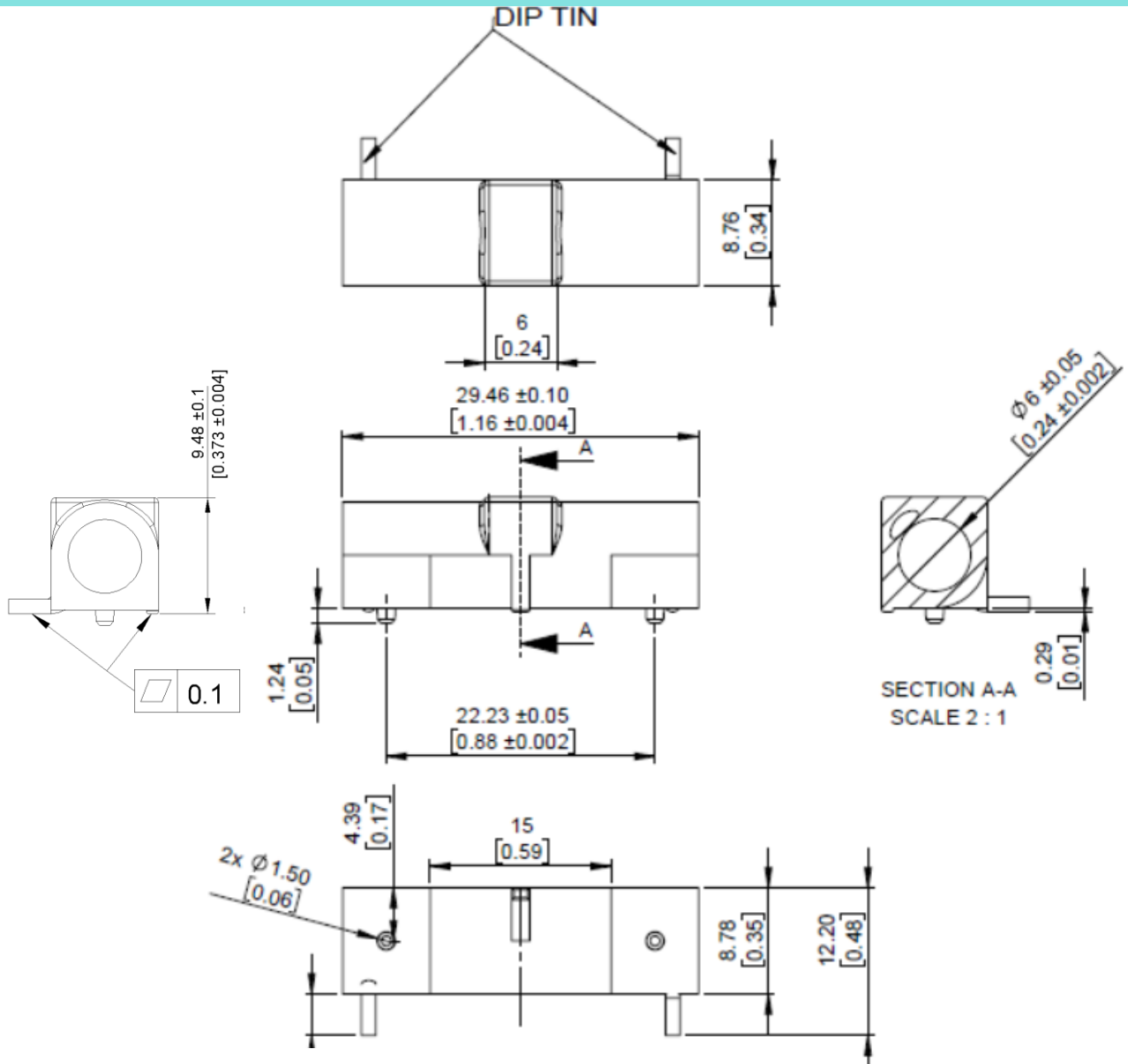
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**MECHANICAL DRAWING**



**Suction Pick Area**

Dimension Unit: mm[inch]

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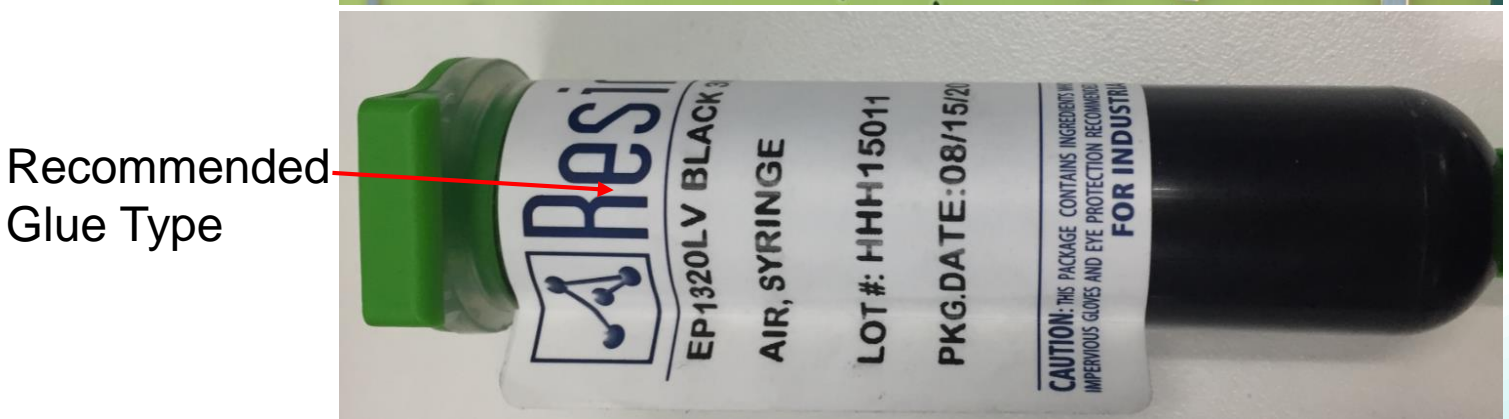
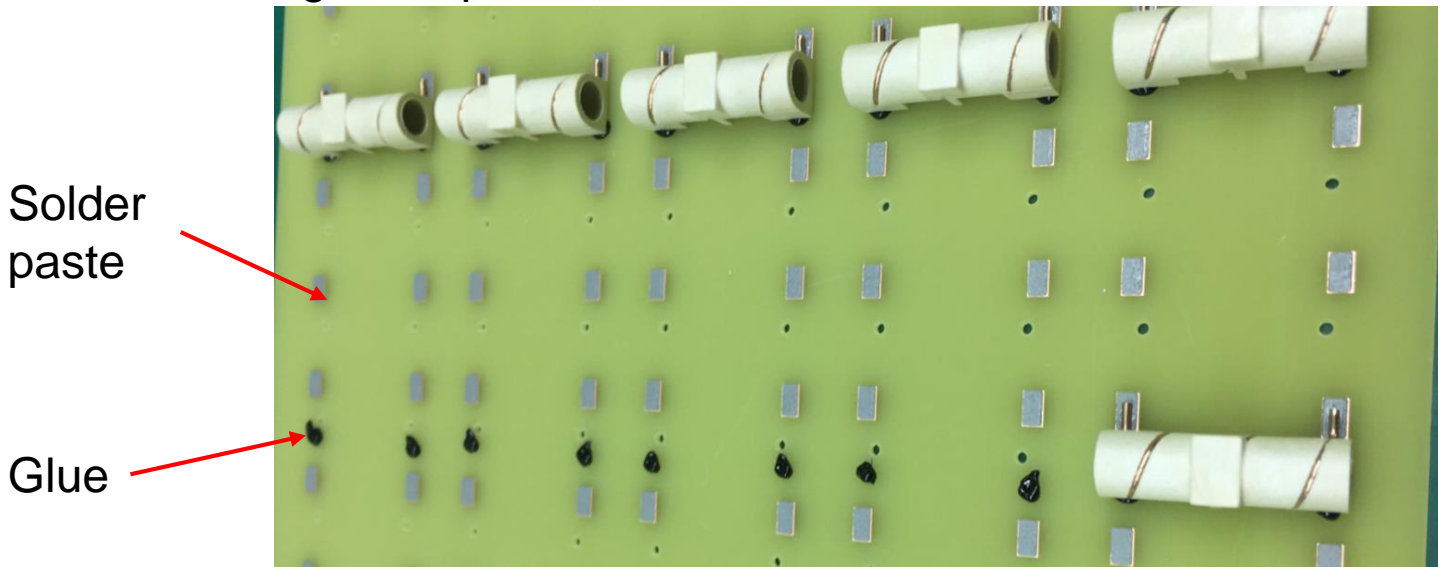
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### FIX SYSTEM RECOMMENDATION

Fix system

1. SMD process
2. Solder paste thickness: minimum 0.15mm
3. Glue is required, Recommended Glue: Resinlab EP1320LV Black, usage and position see below recommended area.



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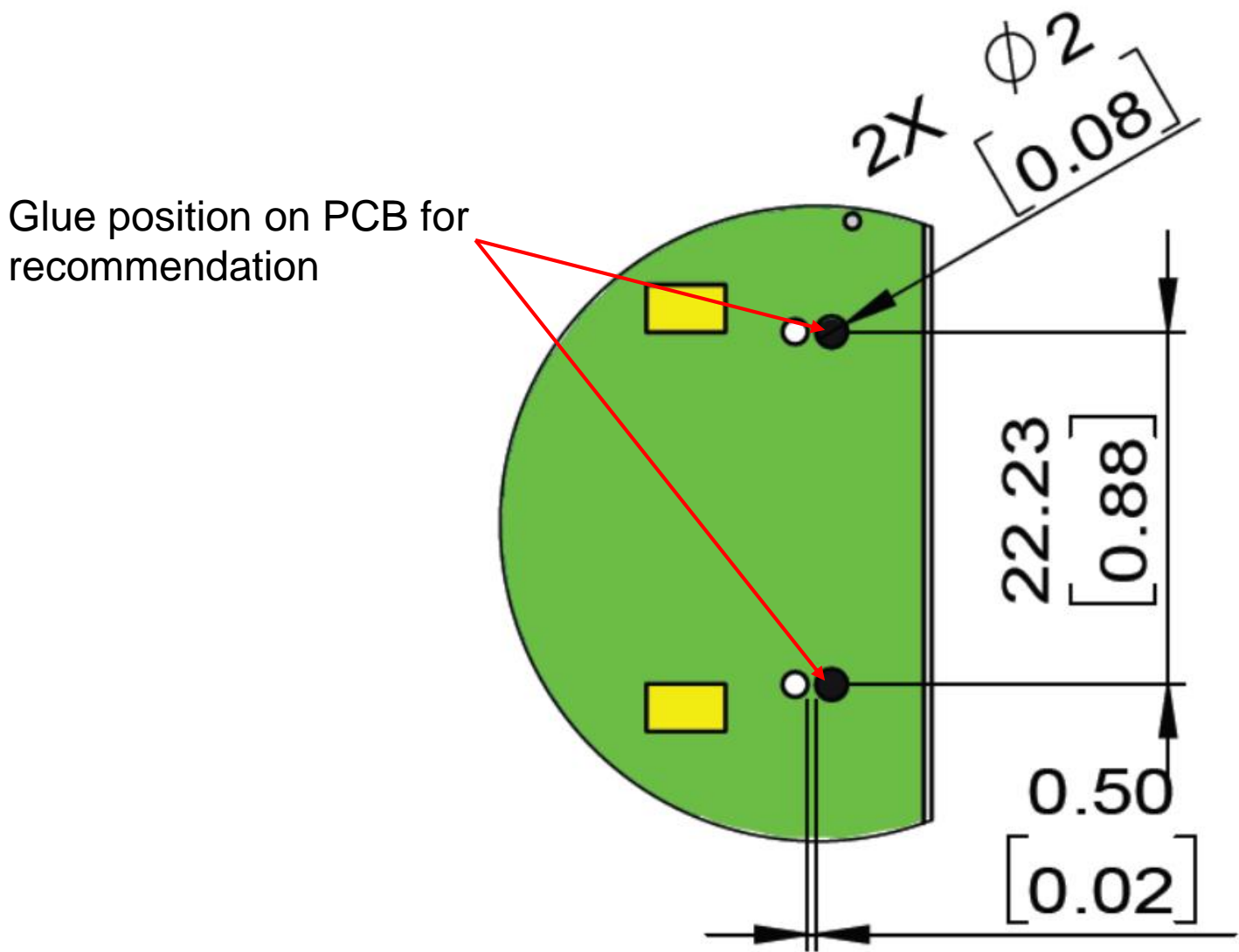
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**FIX SYSTEM RECOMMENDATION**

Fix system

1. Glue position on PCB for recommendation



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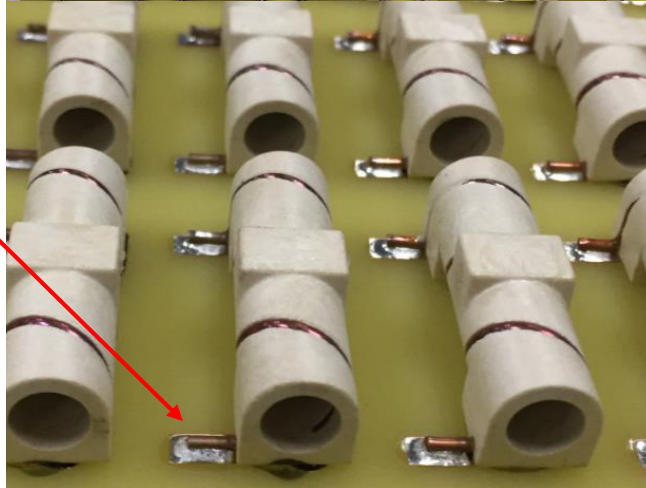
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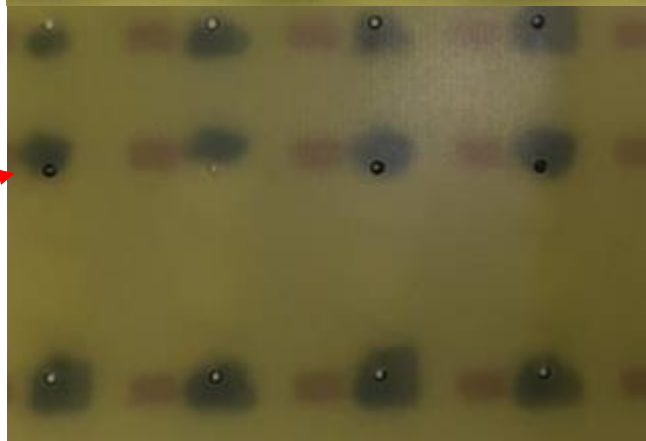
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**FIX SYSTEM RECOMMENDATION**

Solder effect



Back view of glue area



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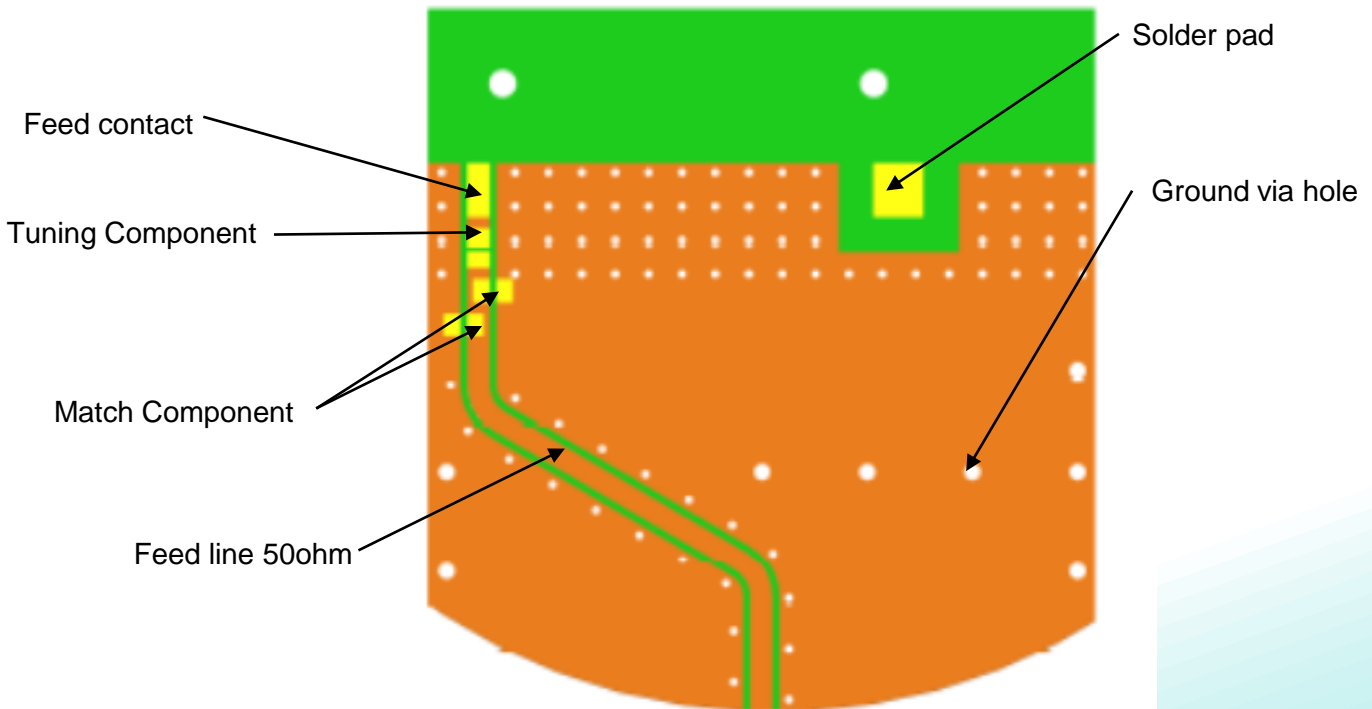
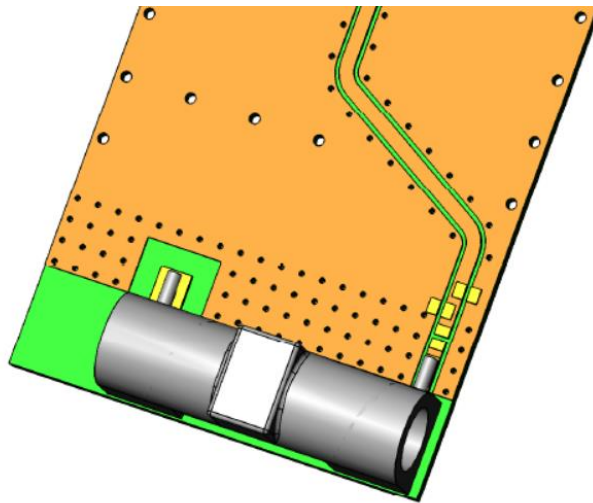
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TEST SETUP

PWB Layout for W3136 SMD Helical Antenna



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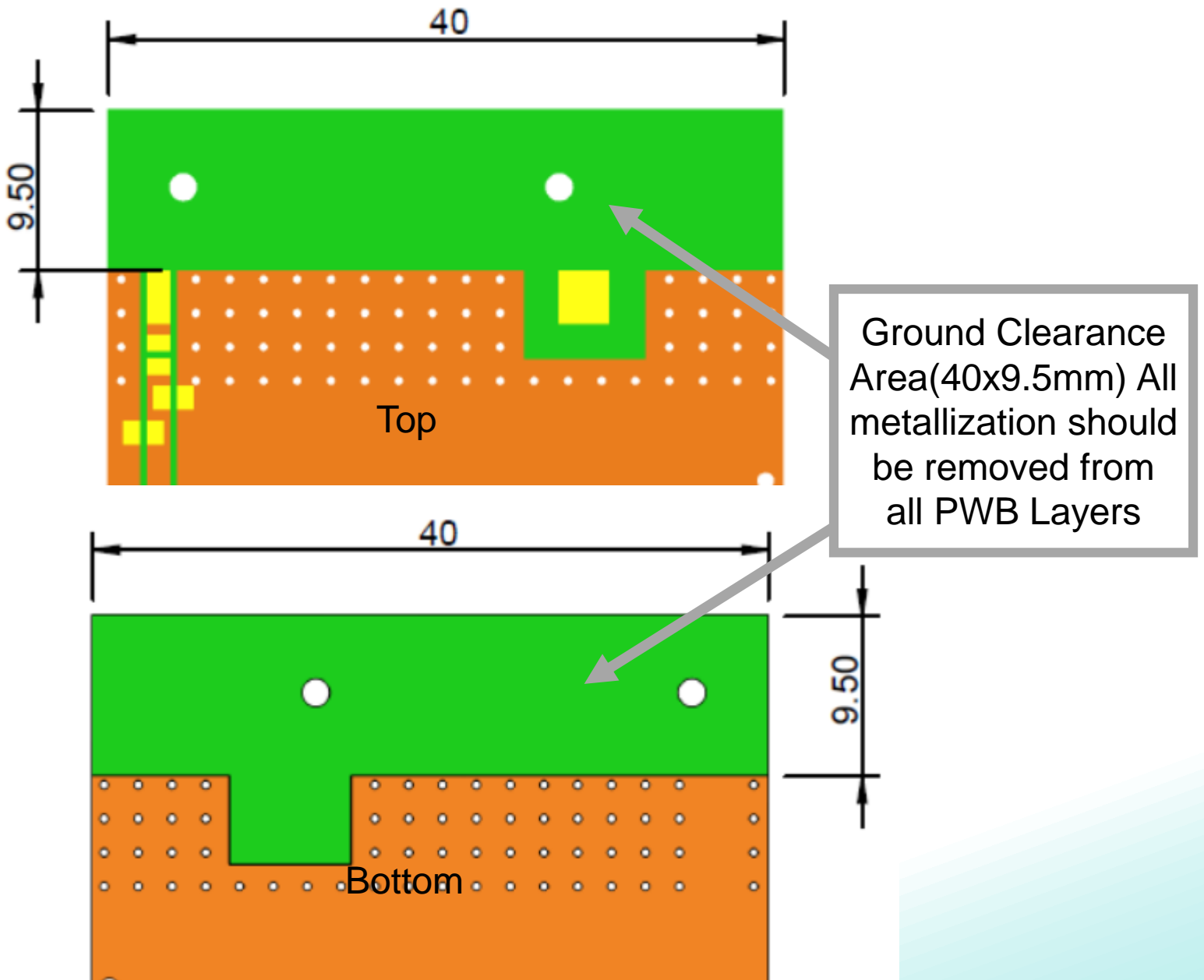
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**TEST SETUP**

PWB ground clearance area (Top): 40x9.5mm

PWB ground clearance area (Bottom): 40x9.5mm



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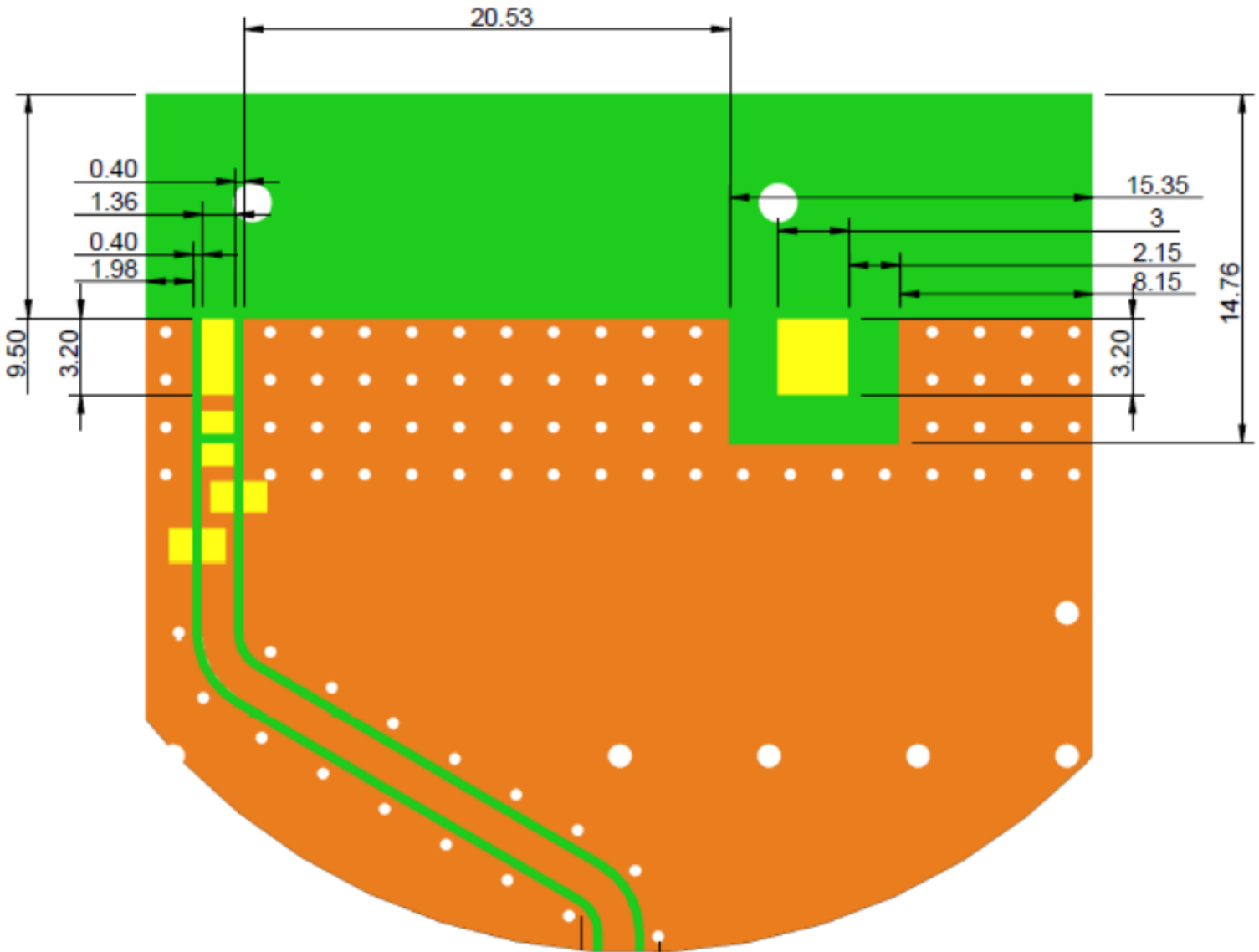
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TEST SETUP

PWB Pad dimension in top copper



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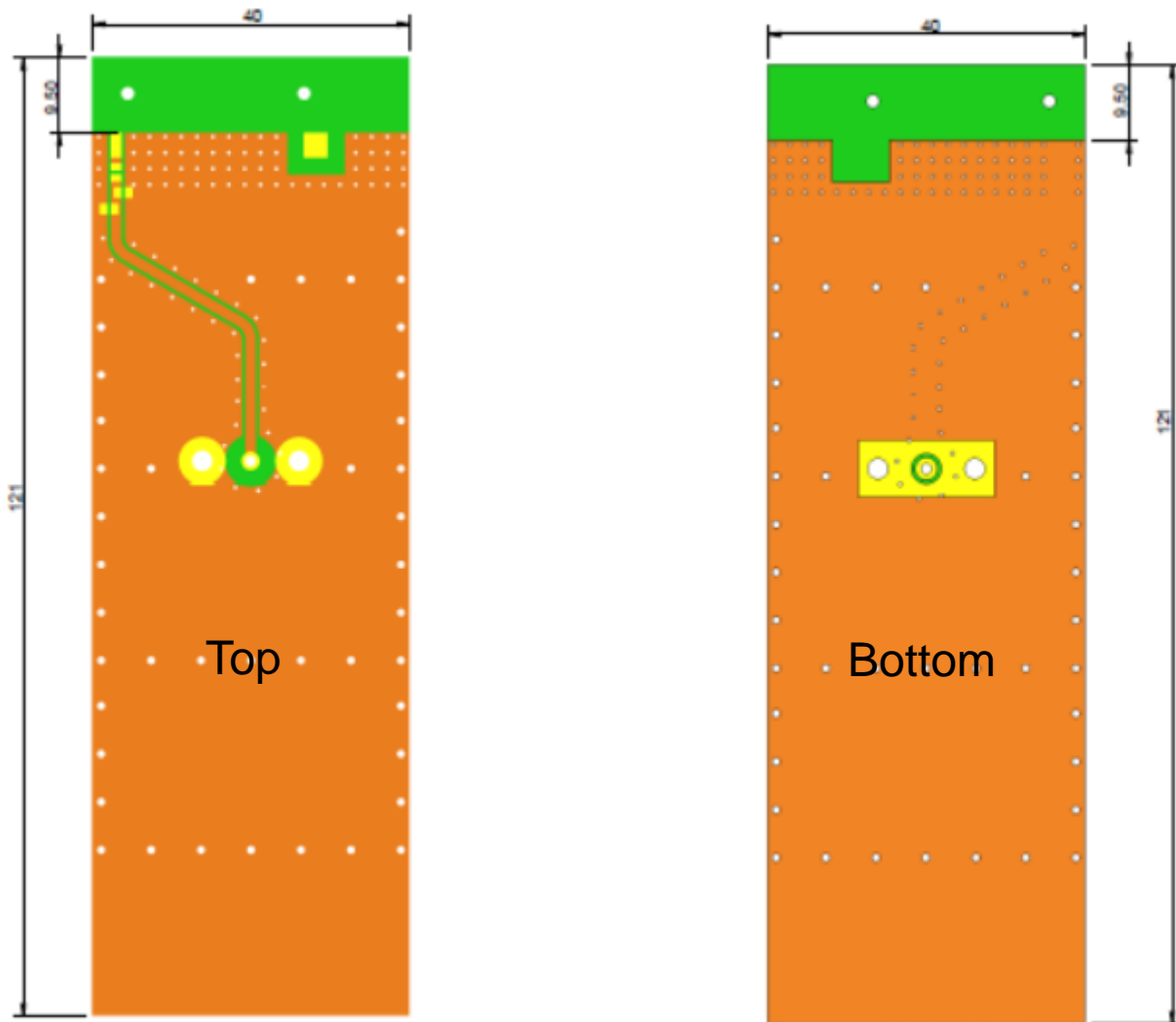
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**TEST SETUP**

PWB Layout, Pulse PWB size:121x40mm, Thickness 1.0mm, other size boards can be used depending on customer size.



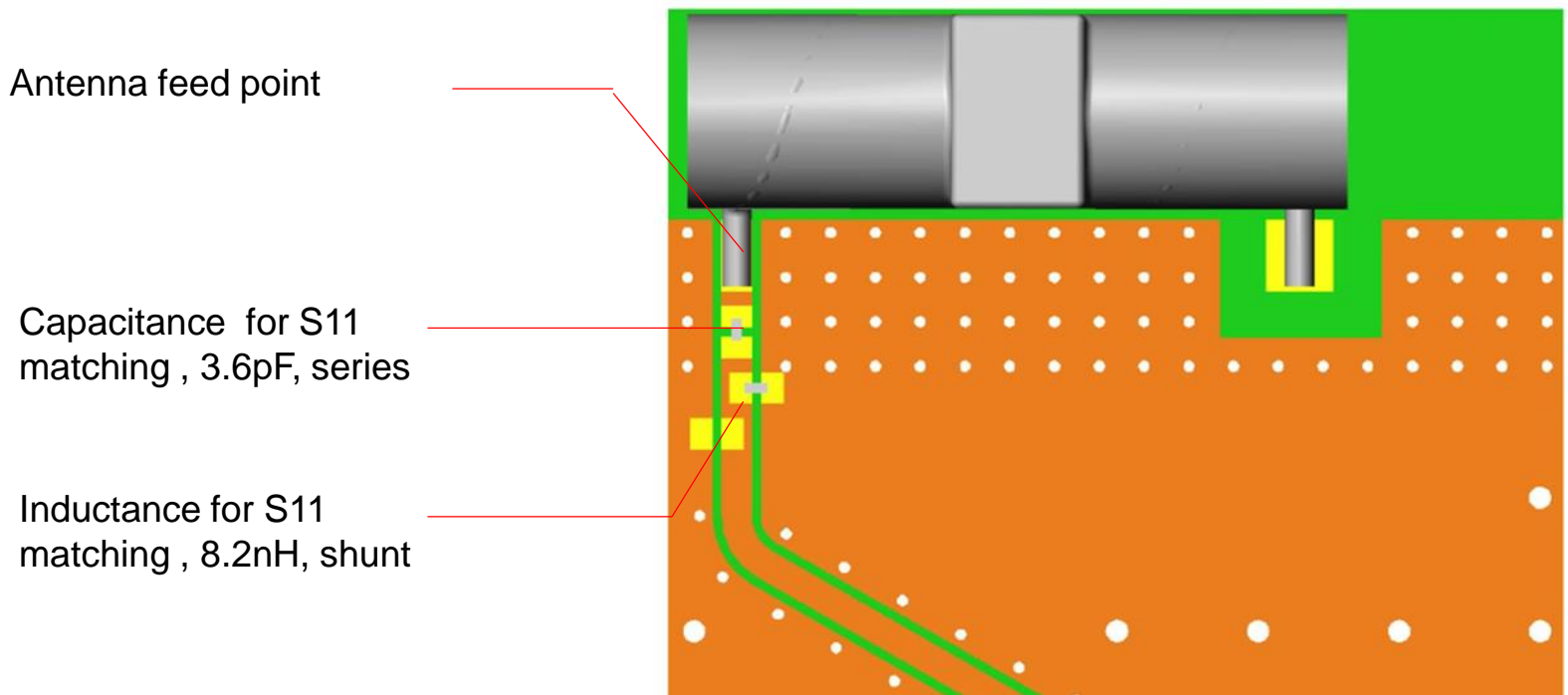
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**TEST SETUP**

PWB Layout, Pulse PWB size:121x40mm, Thickness 1.0mm, other size boards can be used depending on customer size.



Note : Exact matching and tuning components value depend on application , board size ,cover etc.

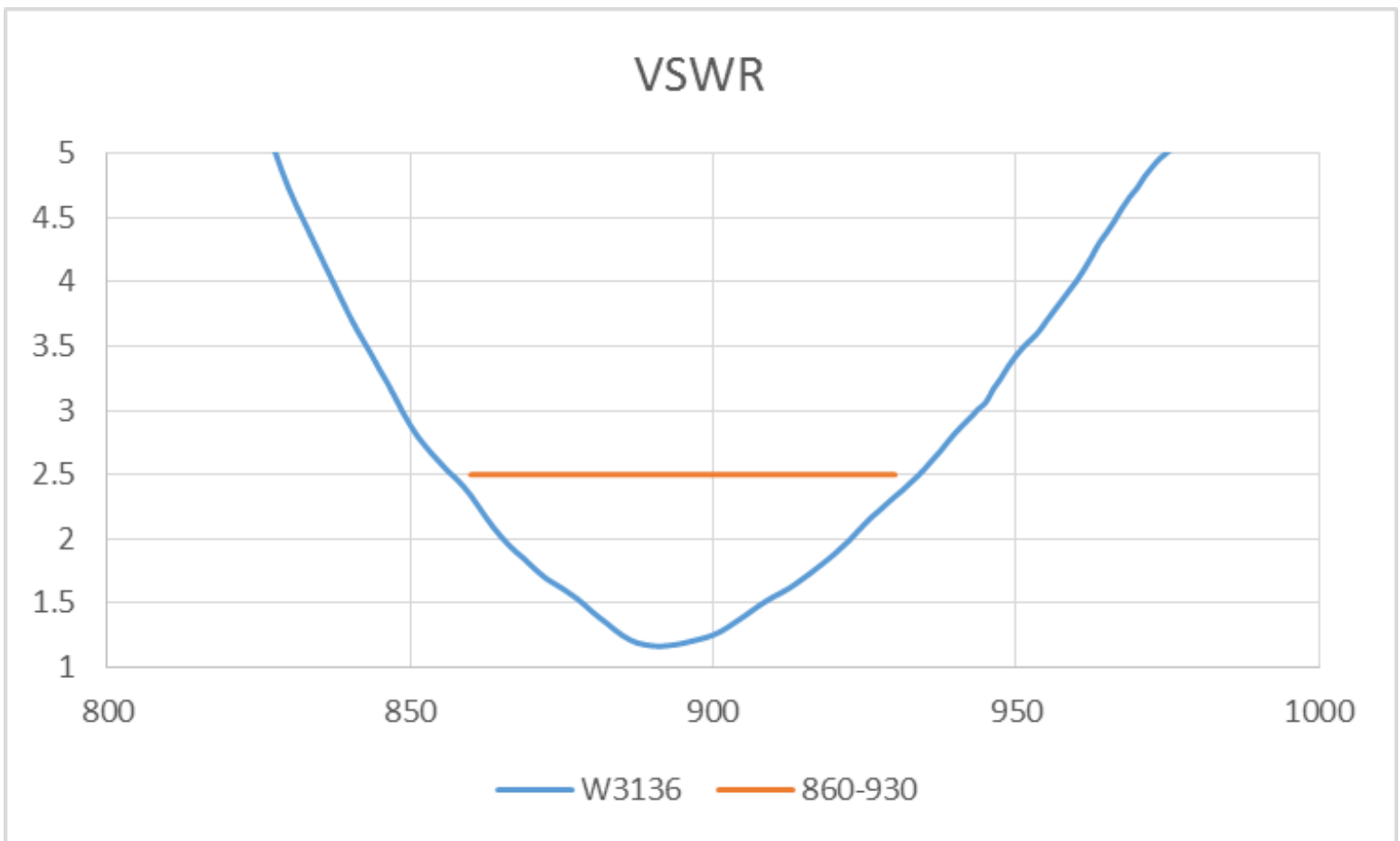
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CHARTS

Measured on the 121x40mm test board with tuning and matching circuit



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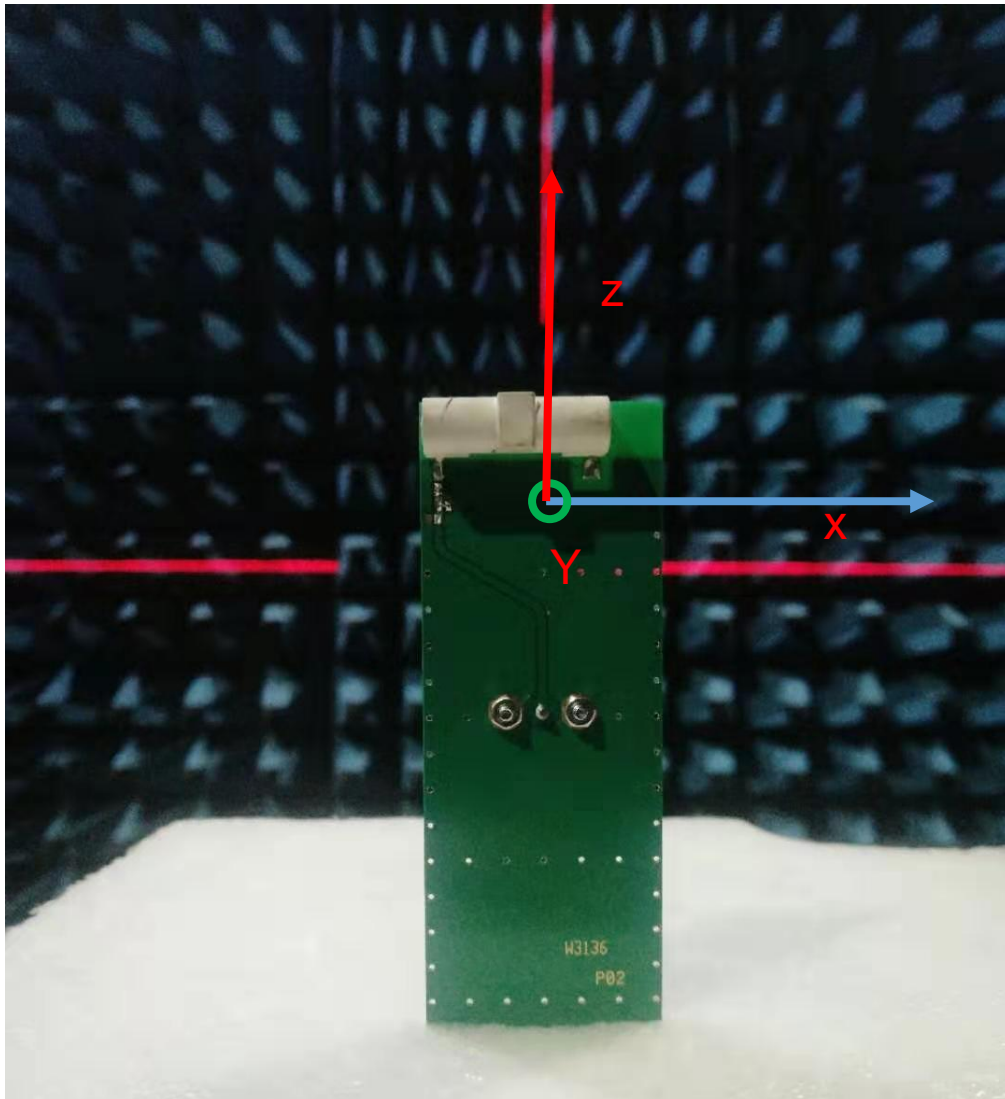
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### TEST SETUP

Measured on the 121x40mm test board with tuning and matching circuit.

Test in PSU China Chamber.



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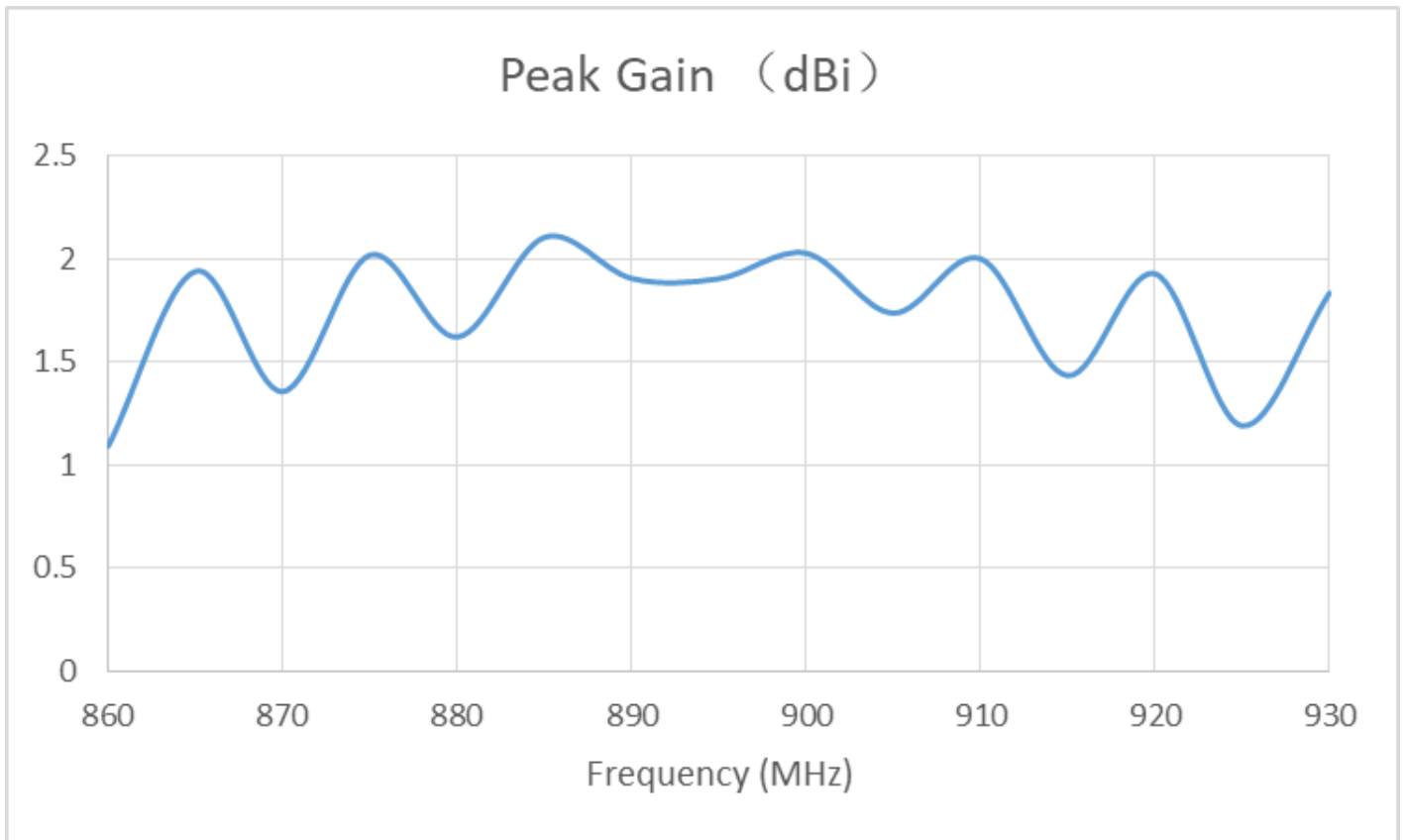
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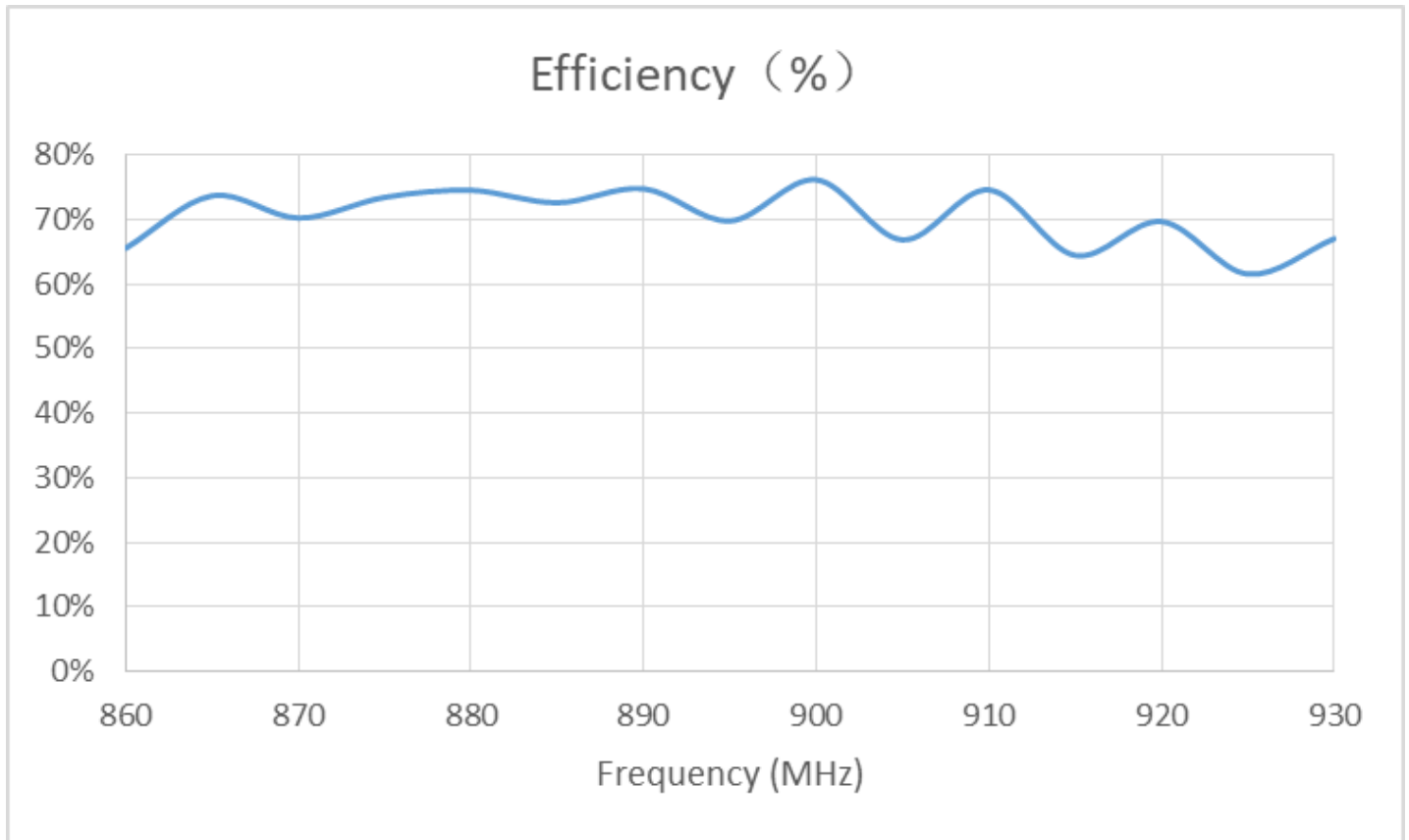
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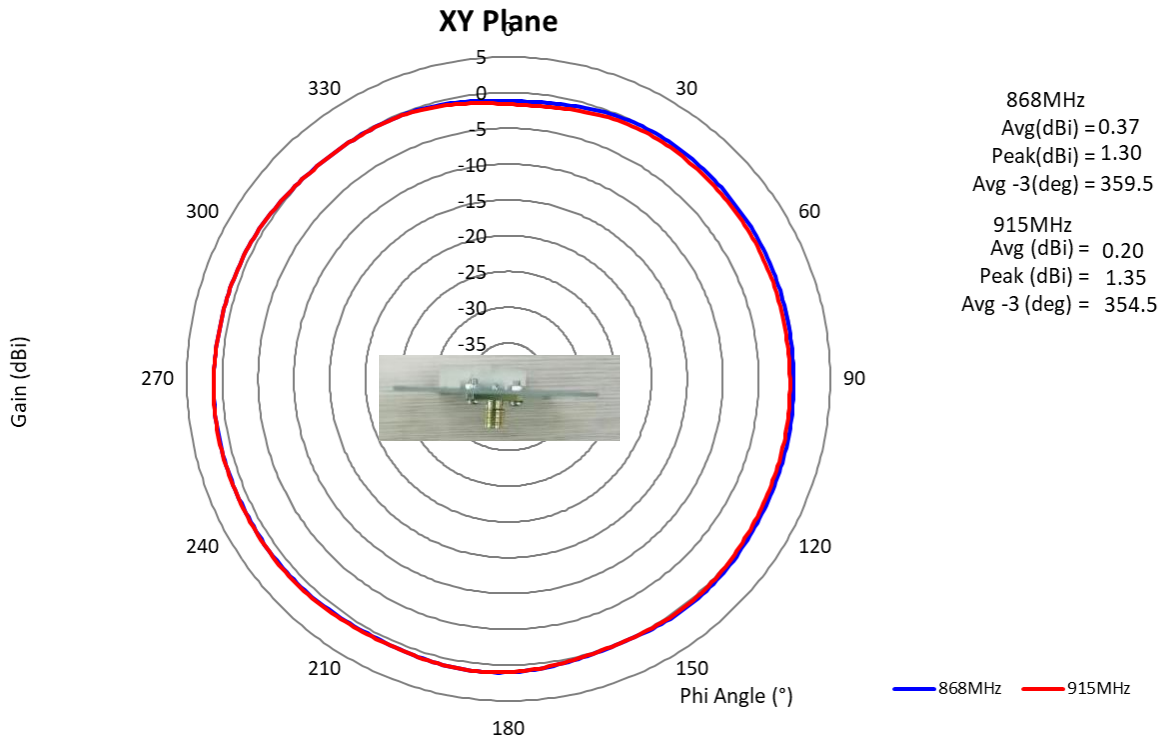
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CHARTS

Typical radiation pattern in free space



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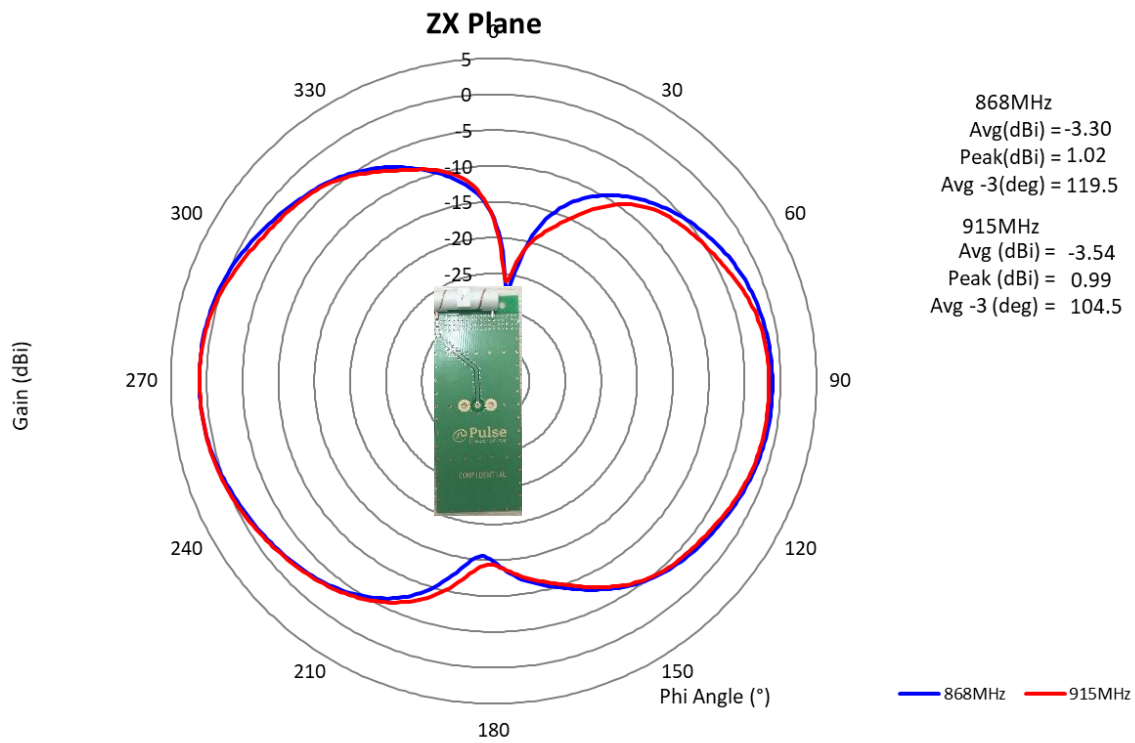
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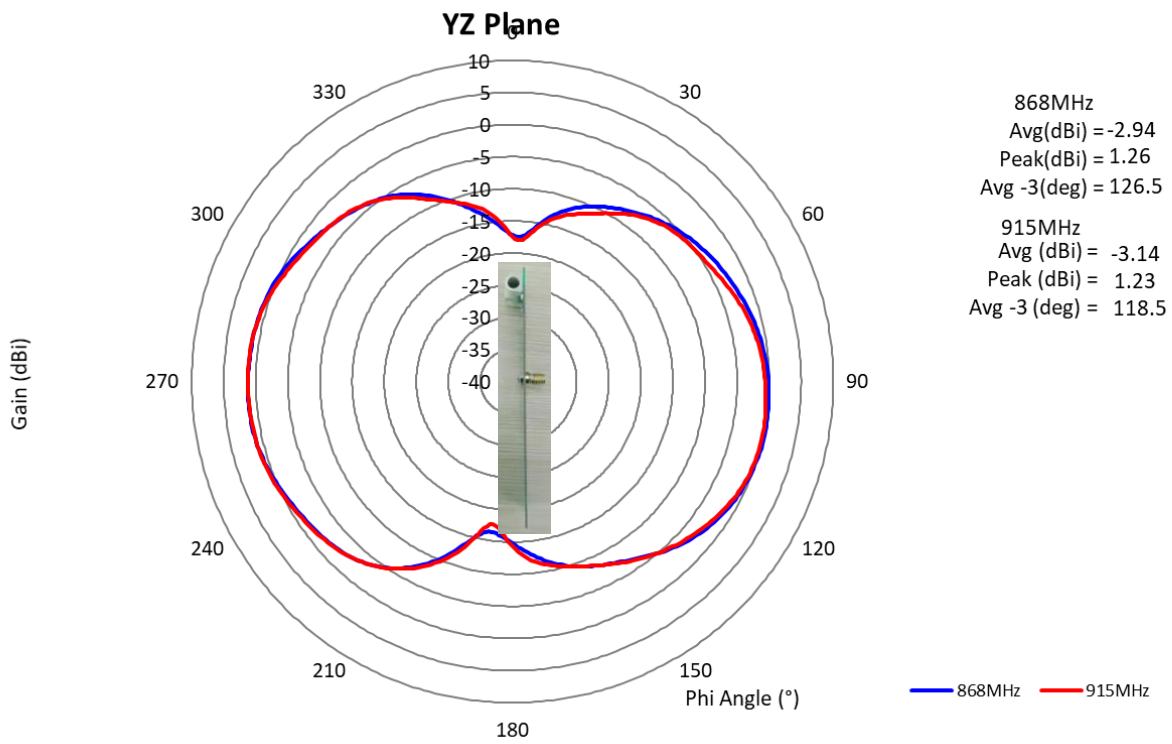
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**Recommendation for reflow soldering process**

Printing stencil thickness 0,15 - 0,25 mm is recommended for the solder paste. The maximum soldering temperature should not exceed 260°C. The temperature profile recommendations for reflow soldering process is presented in the Figures 1 and 2. The reflow profile

presented in figure 1 describes minimum reflow temperatures. The reflow profile presented in figure 2 describes maximum reflow temperatures. located at the center of the coverage area.

	Method of heat transfer	Controlled hot air convection
1	Average temperature gradient in preheating	2.5 °C/s
2	Soak time	2-3 minutes
3	Max temperature gradient in reflow	3 °C/s
4	Time above 217 °C	Max 30 sec
5	Peak temperature in reflow	230 °C for 10 seconds
6	Temperature gradient in cooling	Max -5 °C/s

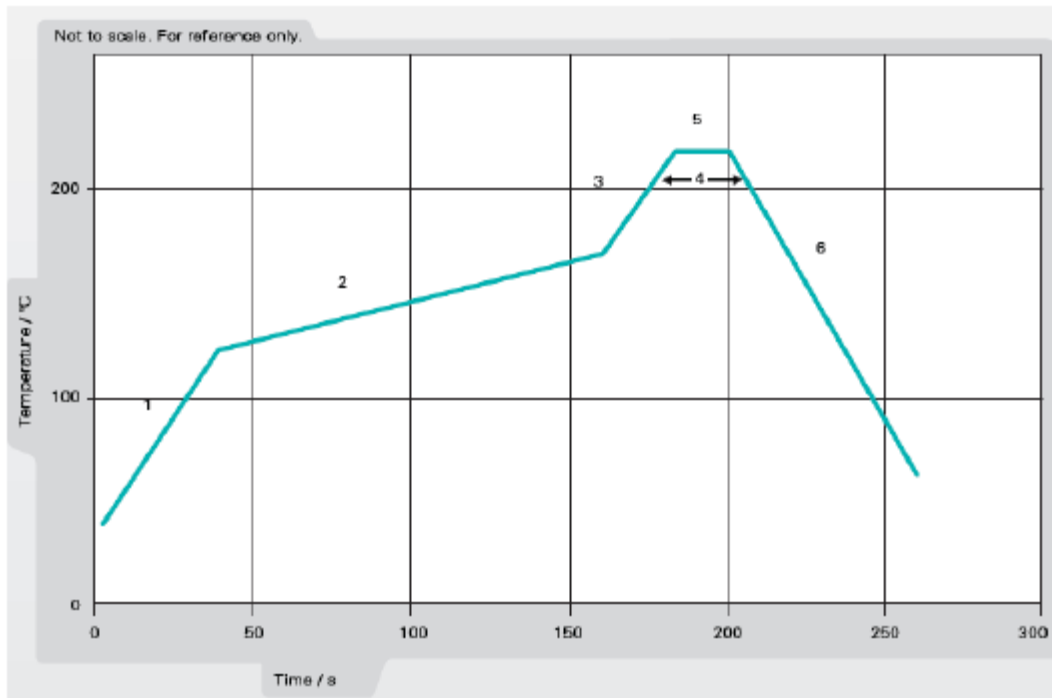
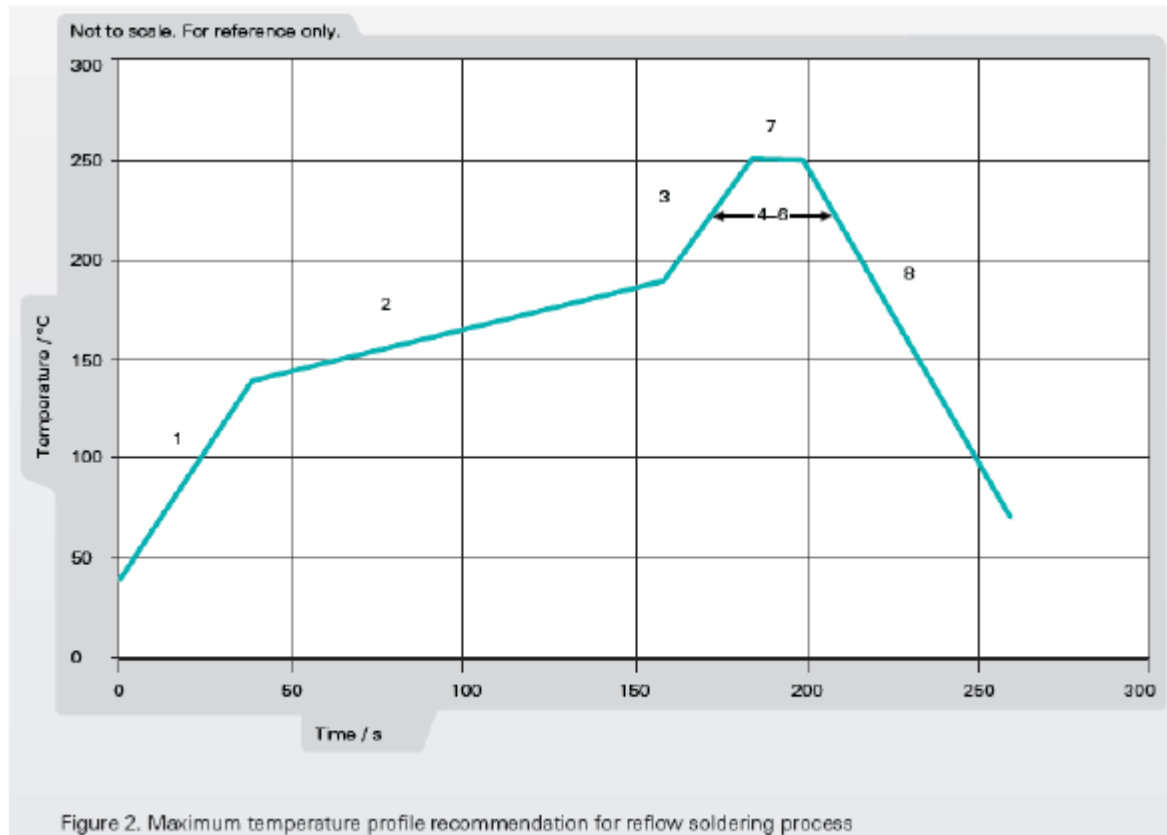


Figure 1. Minimum temperature profile recommendation for reflow soldering process

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**Recommendation for reflow soldering process**

	Method of heat transfer	Controlled hot air convection
1	Average temperature gradient in preheating	2.5 °C/s
2	Soak time	2-3 minutes
3	Max temperature gradient in reflow	3 °C/s
4	Time above 217 °C	Max 60 sec
5	Time above 230 °C	Max 50 sec
6	Time above 250 °C	Max 10 sec
7	Peak temperature in reflow	250 °C for 5 seconds
8	Temperature gradient in cooling	Max -5 °C/s



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- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
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- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

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