

Description: 868MHz PCB SMT Antenna

## Series: Domino

PART NUMBER: W3329

### **Features:**

- 868MHz ISM antenna
- Size 21.85 x 5 x 3 mm
- Efficiency 60%
- Nominal impedance 50  $\Omega$
- Fully SMD and Reflow/IR/Wave- soldering compatible

## **Applications:**

- 868MHz radios
- M2M
- IoT
- SigFox
- LoRa

All dimensions are in mm / inches

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### **ELECTRICAL SPECIFICATIONS**

Frequency	868 MHz
Nominal Impedance	50Ω
Return loss	-10 dB
Total Efficiency	60 %
Peak Gain	0.17 dBi
Maximum power input	5 W

(\*) All RF parameters measured on Pulse reference test PCB



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### MECHANICAL SPECIFICATIONS

Color	Black
Size(L X W X T)	21.85 x 5 x 3 mm
Weight	1.3 g
Fixing system	SMD
MSL level	3

ENVIRONMENTAL SPECIFICATIONS		
Operating temperature	-40/+85 ° C	
Temperature	-40/+85 ° C	
Humidity	93% RH @ 30° C 24 hours	
Drop test	1 m	



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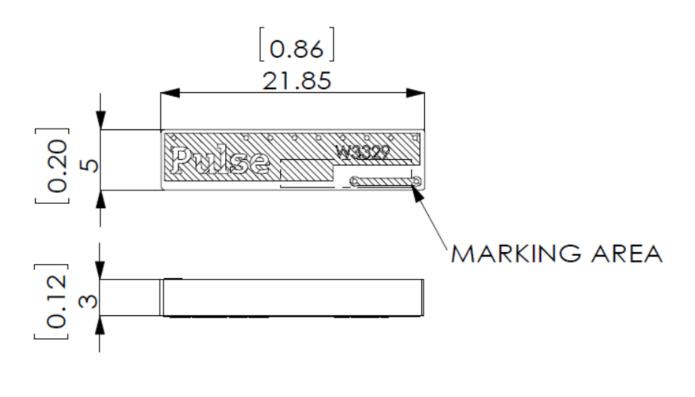


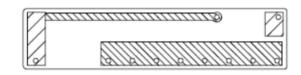
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### **MECHANICAL DRAWING**





# **DIMENSION UNIT IS [INCH]MM**

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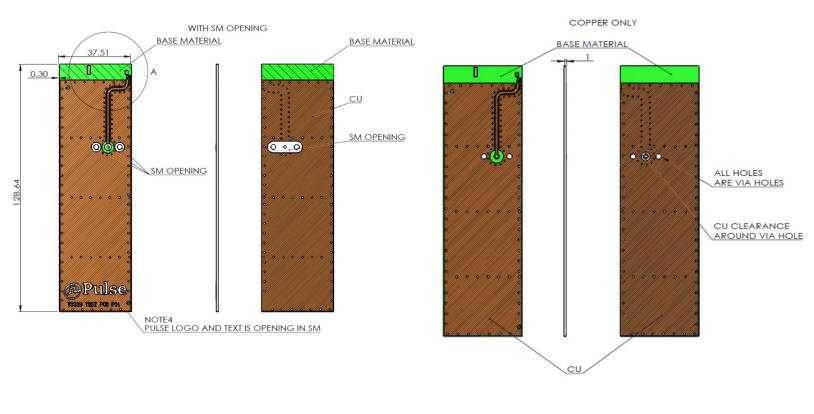
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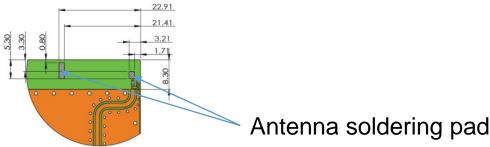
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**TEST SETUP** 

# Pulse reference test PCB for W3329 antenna





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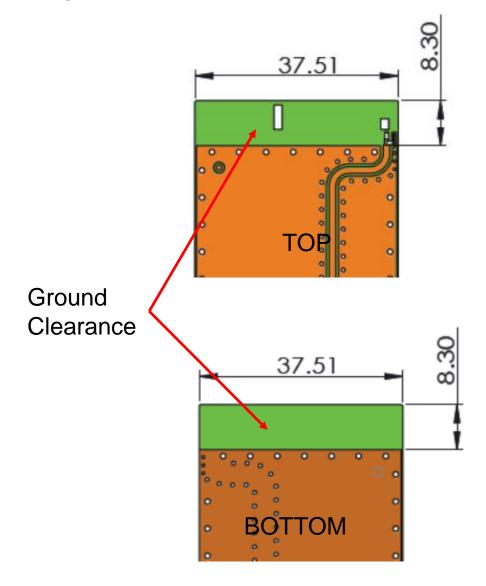
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### **TEST SETUP**

PWB ground clearance area (Top):37.5x8.3mm PWB ground clearance area (Bottom):37.5x8.3mm



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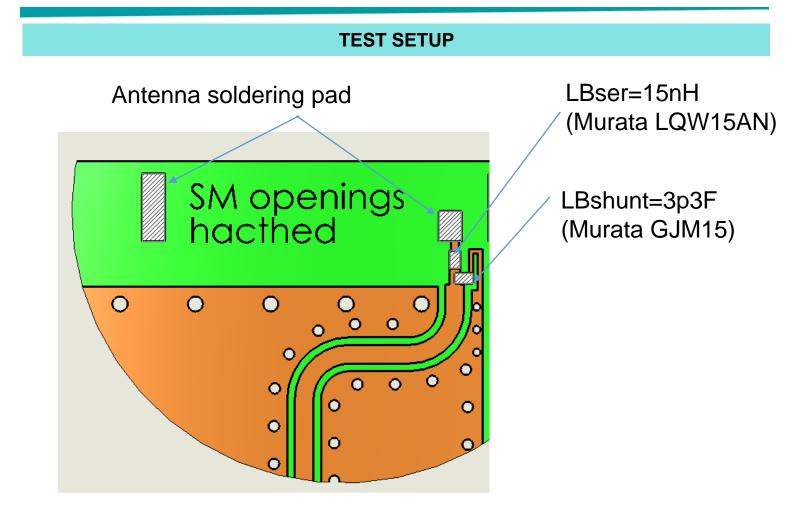
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Recommended test board PCB layout for electrical characteristic measurement. Substrate material FR4, thickness 1mm

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### **TEST SETUP**

## **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

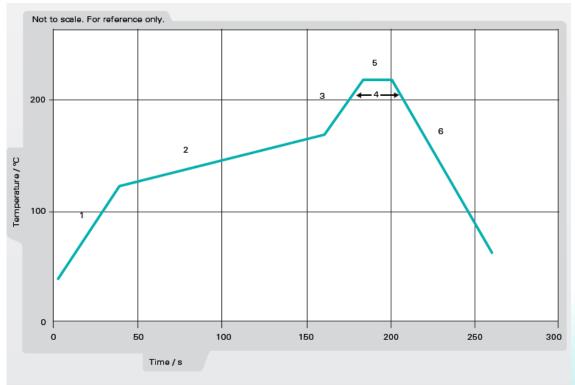


Figure 1. Minimum temperature profile recommendation for reflow soldering process

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### TEST SETUP

	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	260 °C for 5 seconds
8	Temperature gradient in cooling	Max -5 °C/s

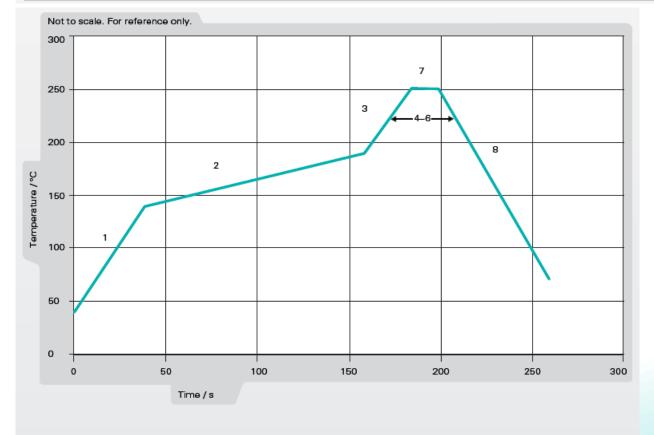


Figure 2. Maximum temperature profile recommendation for reflow soldering process

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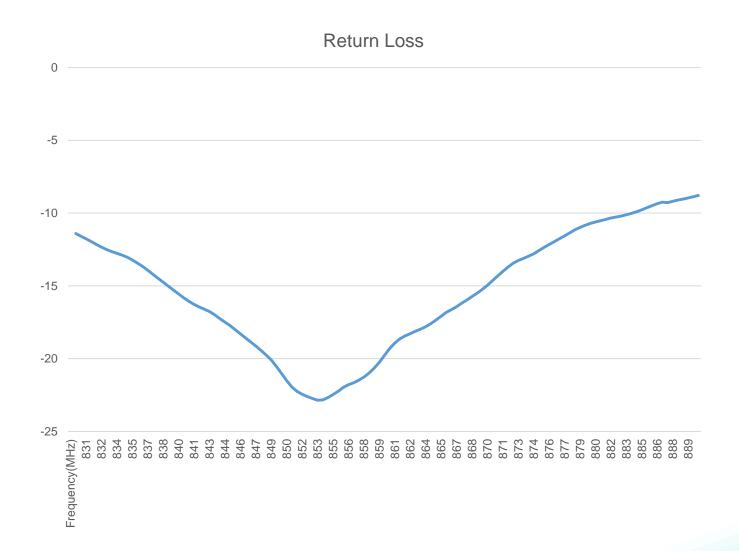
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## **CHARTS**

# **Return Loss**



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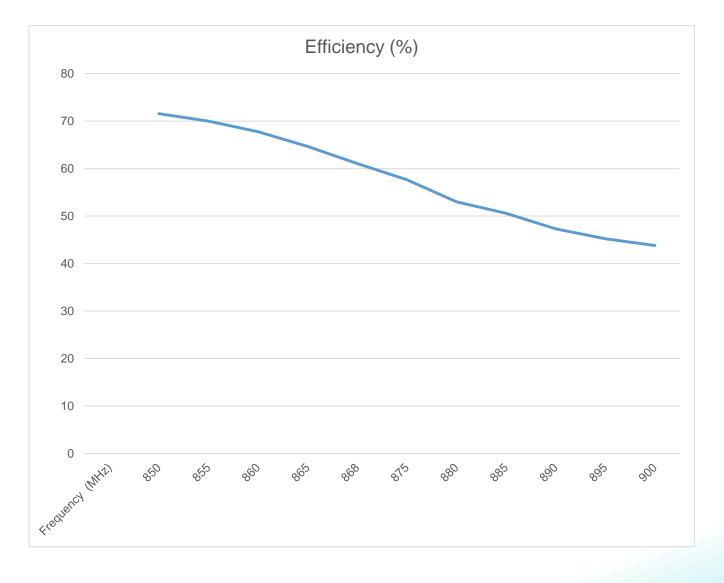
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### CHARTS

# Efficiency(%)



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### CHARTS

# Peak Gain(dBi)



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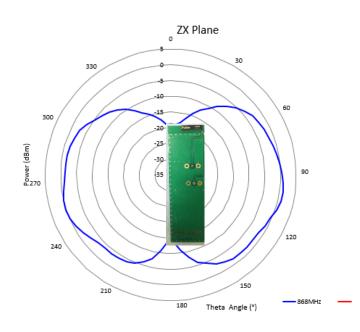
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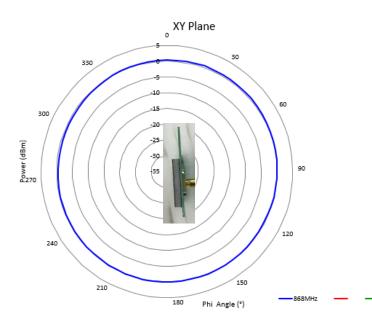
### CHARTS

# Free Space Radiation Pattern

**Elevation Plane** 

# Horizontal Plane





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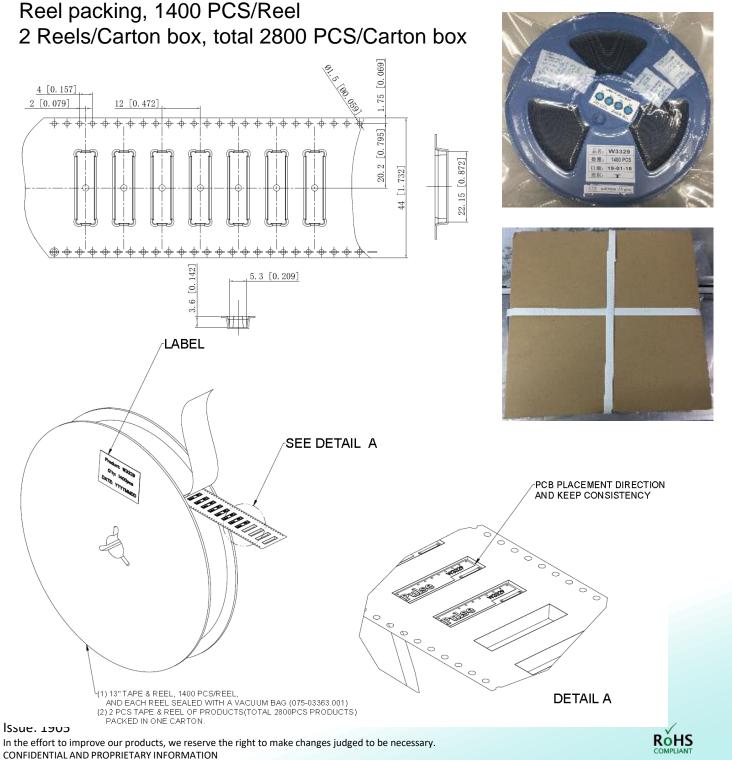


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