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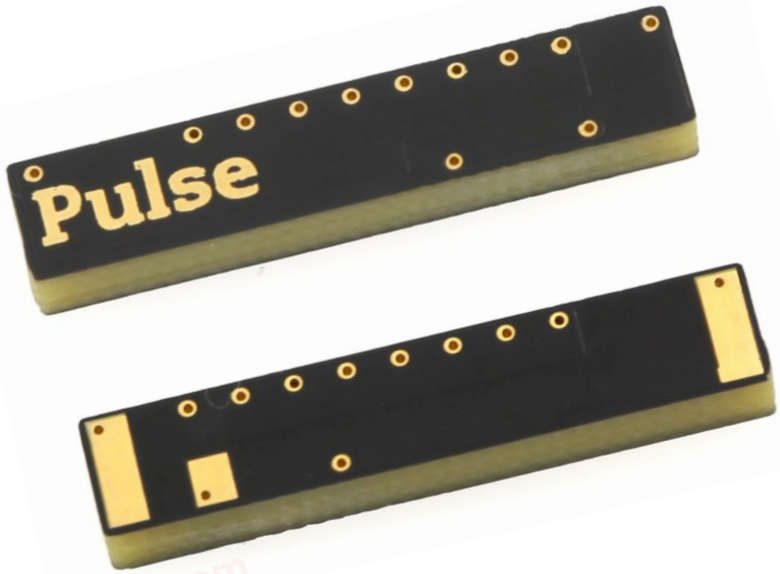
TECHNICAL DATA SHEET

Description: ISM 868/915MHz,2400-2483.5MHz SMD ANTENNA

Series: Domino

PART NUMBER: W3330



Features:

- Tri-Band ISM antenna
  - Port 1 LB 844-928MHz
  - Port 2 HB 2400-2483,5MHz
- Size 25.1x5x3mm
- Efficiency 60%
- Nominal impedance 50 Ω
- Fully SMD and Reflow/IR/Wave-soldering compatible
- Moisture Sensitivity Level MSL3

Applications:

- ISM Band radios
- Bluetooth, BLE, Zigbee, WiFi
- M2M, IoT

All dimensions are in mm / inches

Issue: 2045

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For more information:

Pulse Worldwide Headquarters
12220 World Trade Drive
San Diego, CA 92128
USA
Tel:1-858-674-8100

Pulse/Larsen Antennas
18110 SE 34th St Bldg 2 Suite 250
Vancouver, WA 98683
USA
Tel: 1-360-944-7551

Europe Headquarters
Pulse GmbH & Do, KG
Zeppelinstrasse 15
Herrenberg, Germany
Tel: 49 7032 7806 0

Pulse (Suzhou) Wireless Products Co, Inc.
99 Huo Ju Road(#29 Bldg,4th Phase
Suzhou New District
Jiangsu Province, Suzhou 215009 PR China
Tel: 86 512 6807 9998

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ELECTRICAL SPECIFICATIONS

Frequency	844-928/2400-2483.5 MHz
Nominal Impedance	50 Ω
VSWR	3:1
Return loss	-6 dB
Isolation P1-P2	>15 dB
Total Efficiency (844-928MHz)	60 %
Total Efficiency (2400-2483.5MHz)	60 %
Peak Gain (844-928MHz)	0.4 dBi
Peak Gain (2400-2483.5MHz)	2 dBi
Average Gain (844-928MHz)	-2.2 dBi
Average Gain (2400-2483.5MHz)	-2.2 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)	25.1 X 5 X 3 mm
Weight	1.5 g
Fixing system	SMD
MSL (Moisture Sensitivity 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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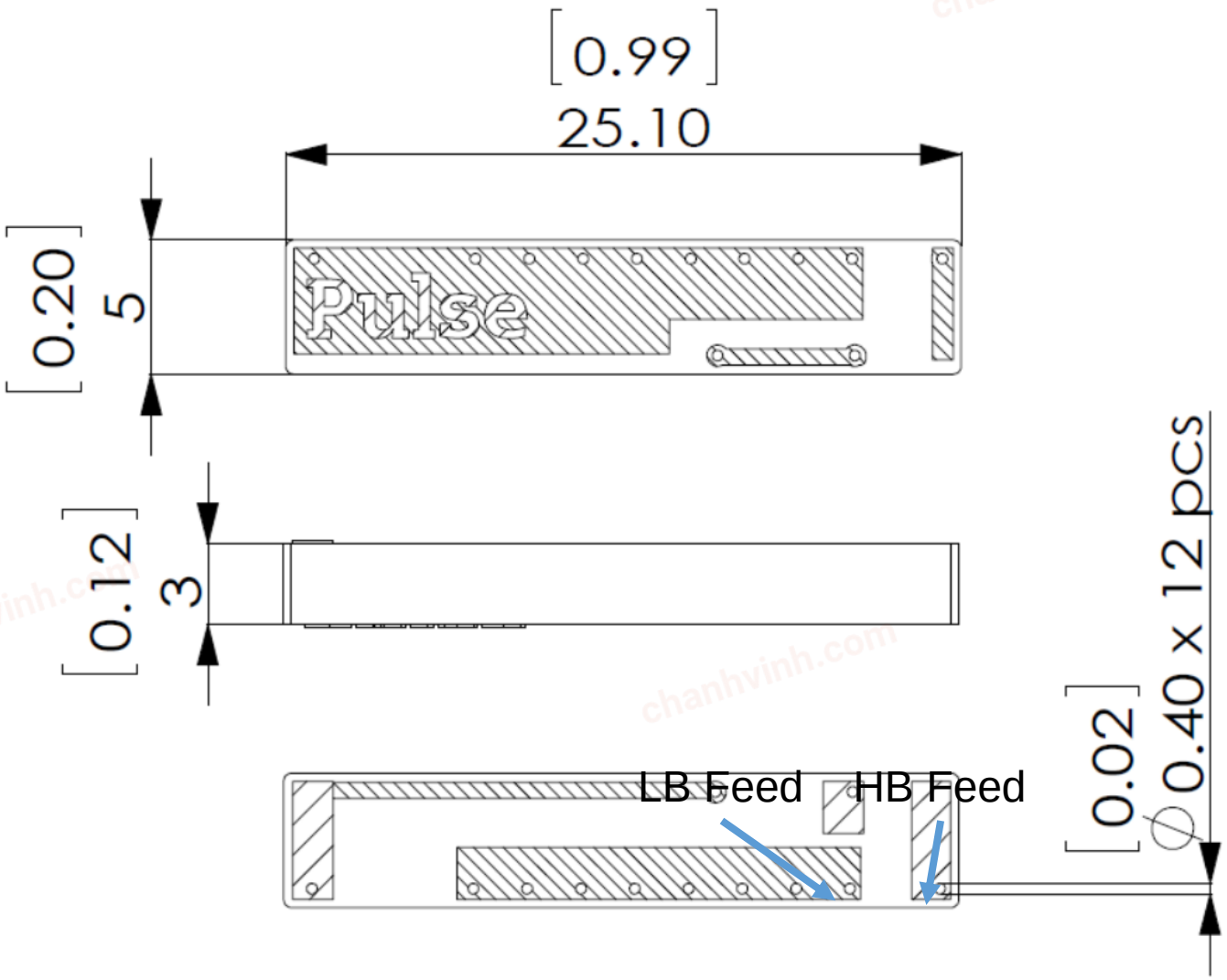
MECHANICAL DRAWING



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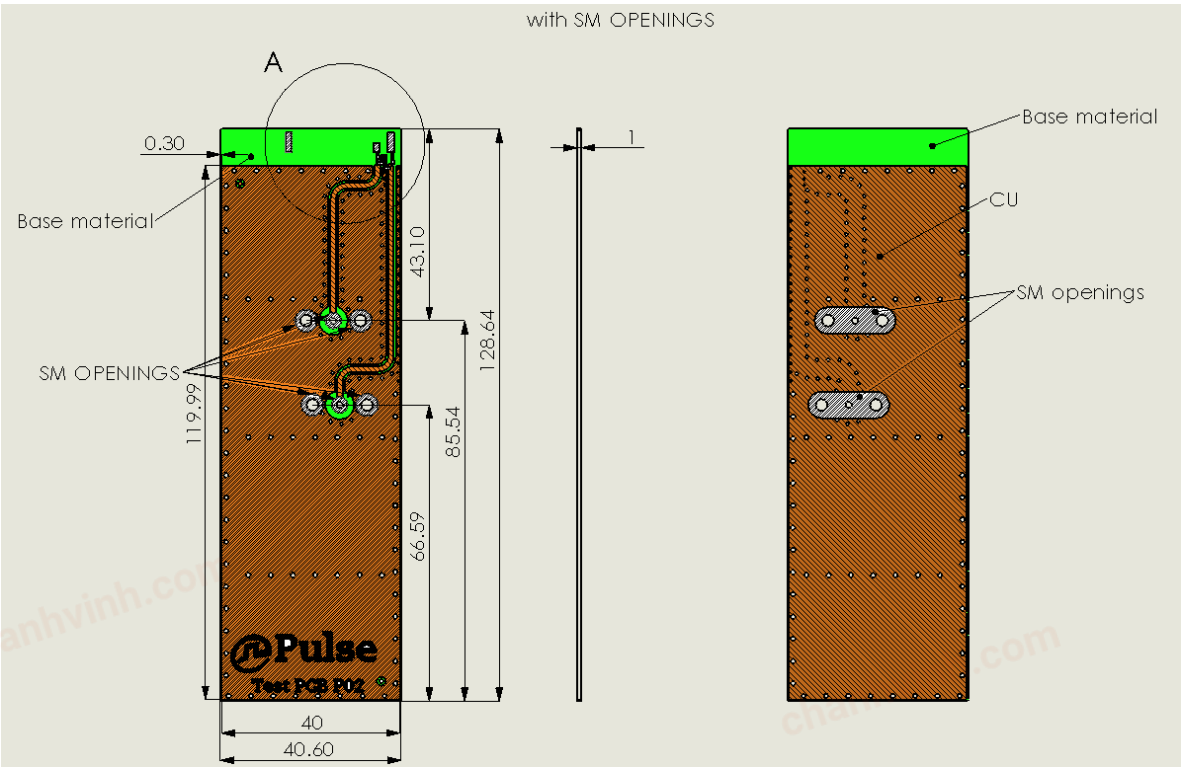
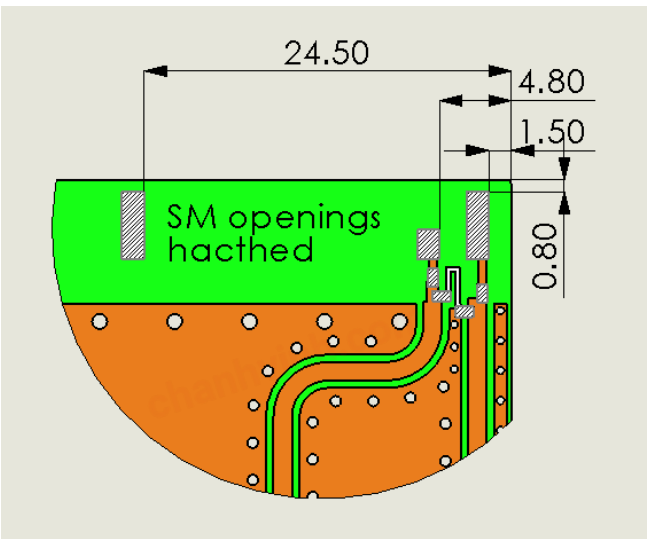
OTHER SPECIFICATIONS

Pulse reference test PCB for W3330 antenna





All dimensions are in mm

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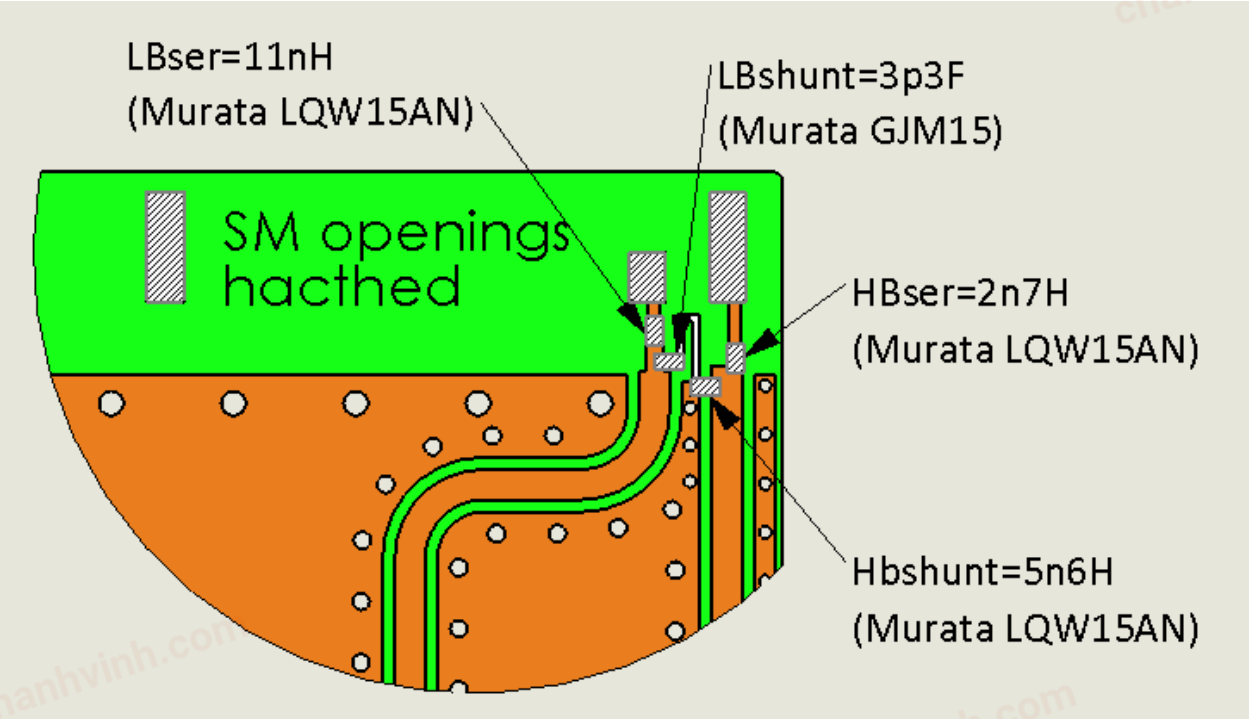

Recommended test board PCB layout for electrical characteristic measurement. Substrate material FR4, thickness 1mm

All dimensions are in mm

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OTHER SPECIFICATIONS

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

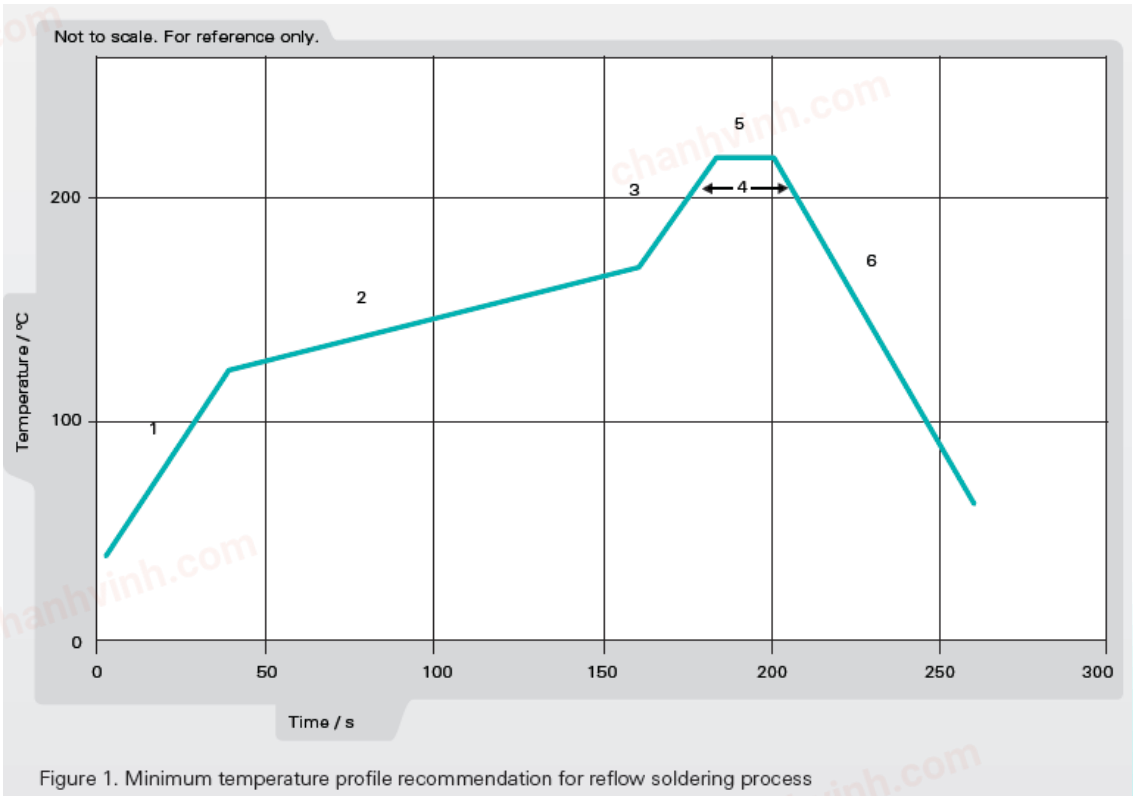

Figure 1. Minimum temperature profile recommendation for reflow soldering process

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OTHER SPECIFICATIONS

	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

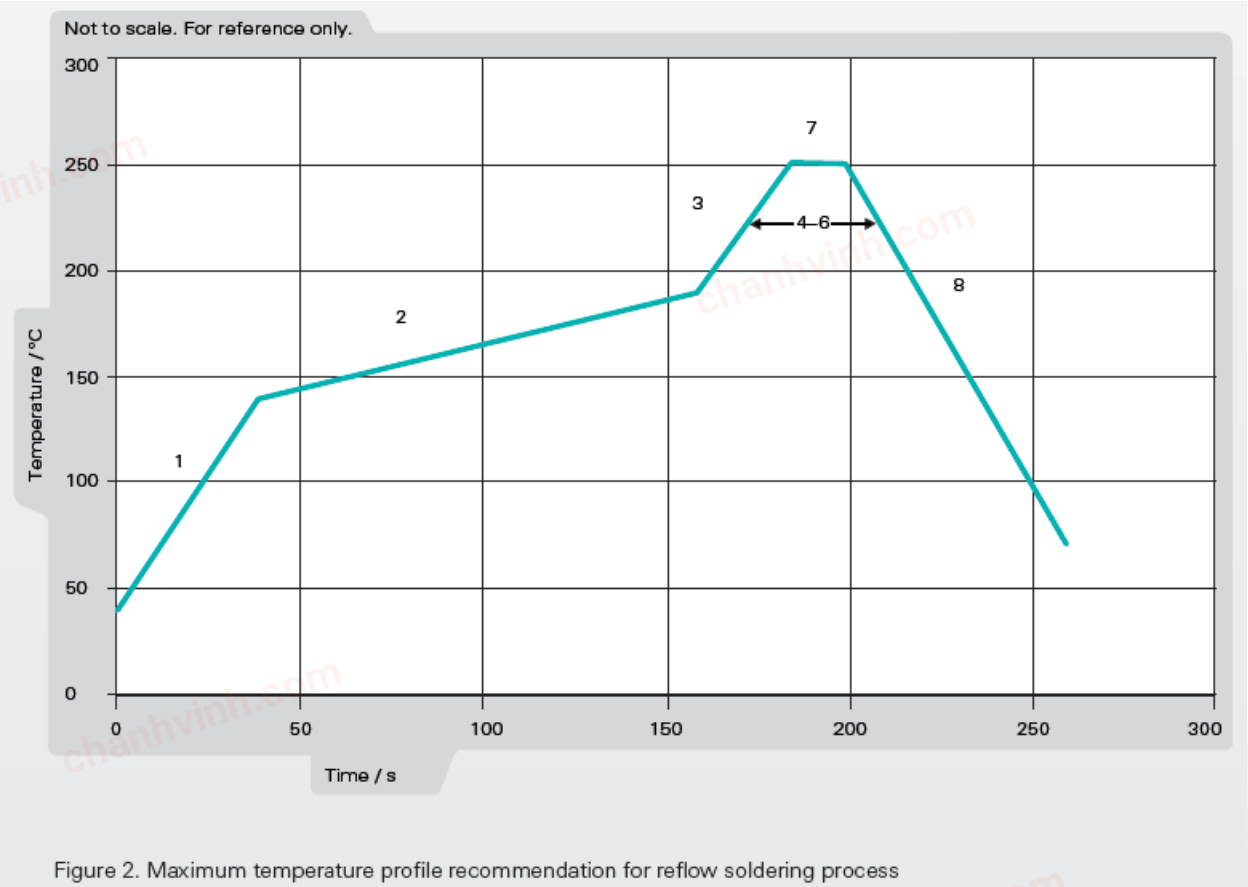

Figure 2. Maximum temperature profile recommendation for reflow soldering process

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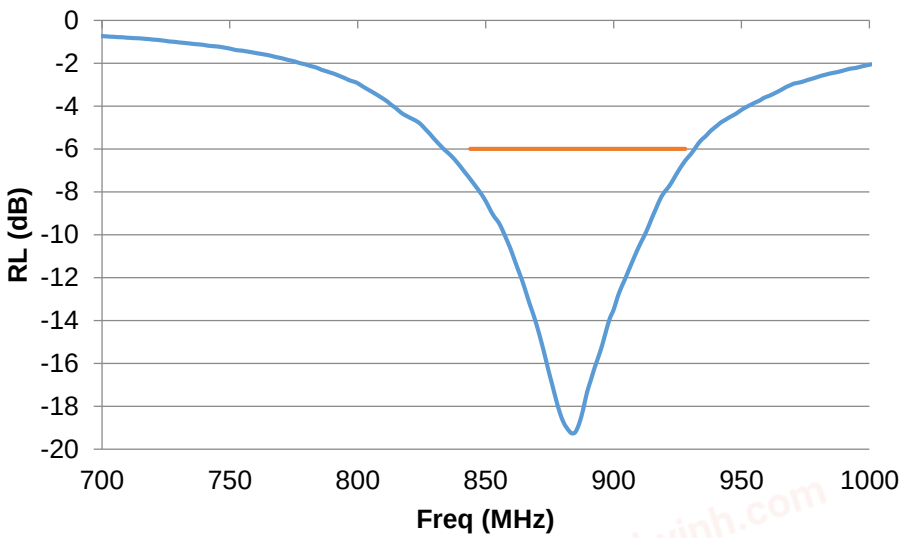
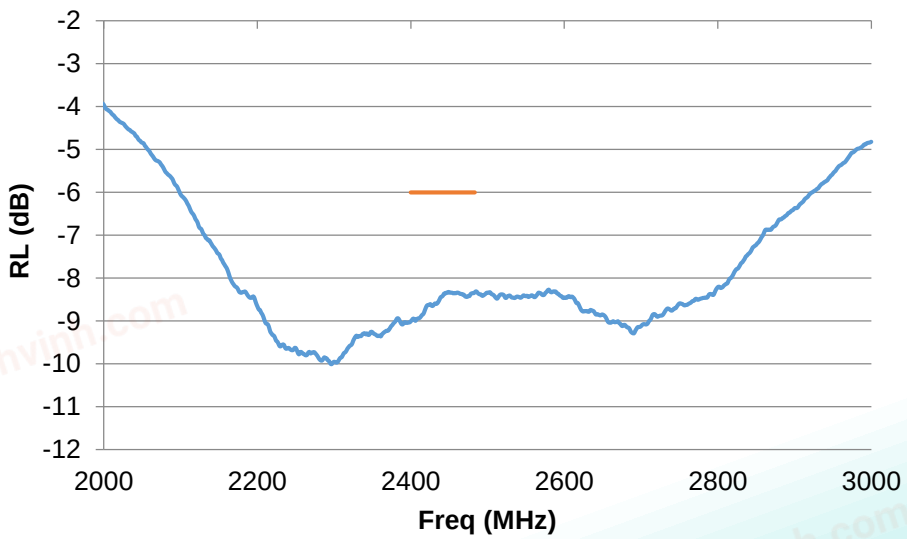
CHARTS

Free space measurements on Pulse reference test PCB

Low Band Return Loss in free space, dB



High Band Return Loss in free space, dB



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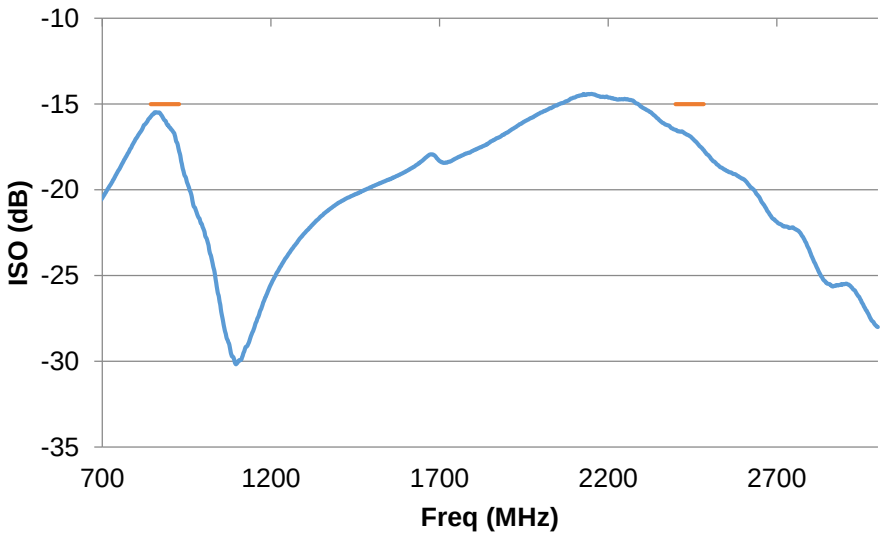
CHARTS

Isolation between low band port and high band port



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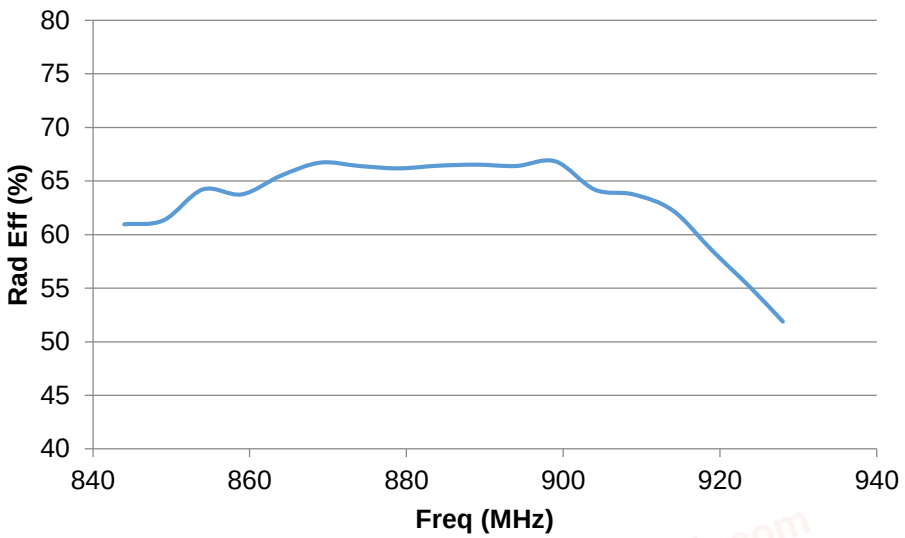
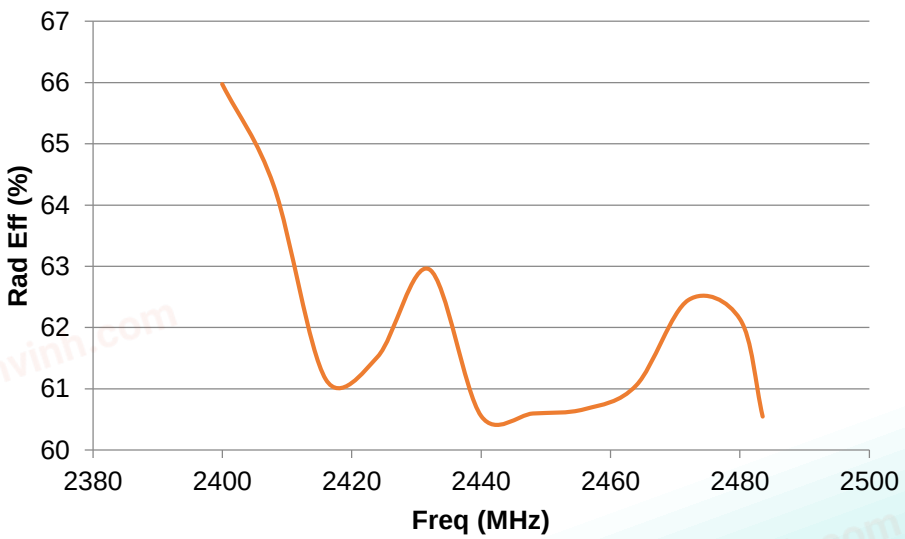
CHARTS

Radiation Efficiency in free space - Low band (%)



Radiation Efficiency in free space - High band (%)



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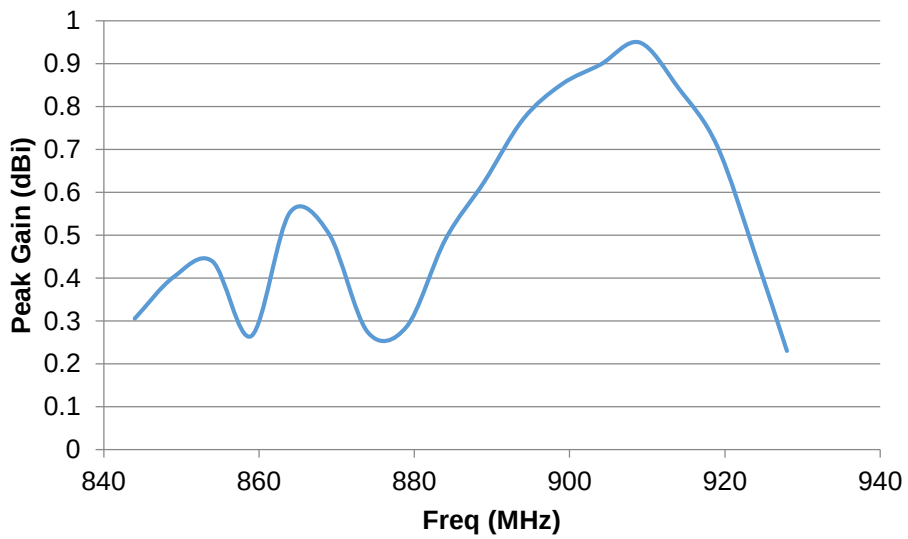
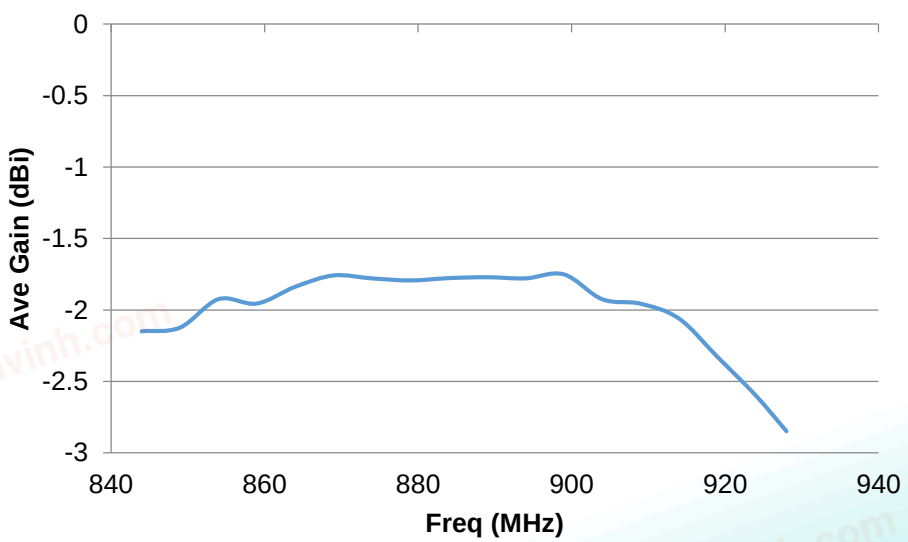
Peak gain - Low band (dBi)



Average gain - Low band (dBi)



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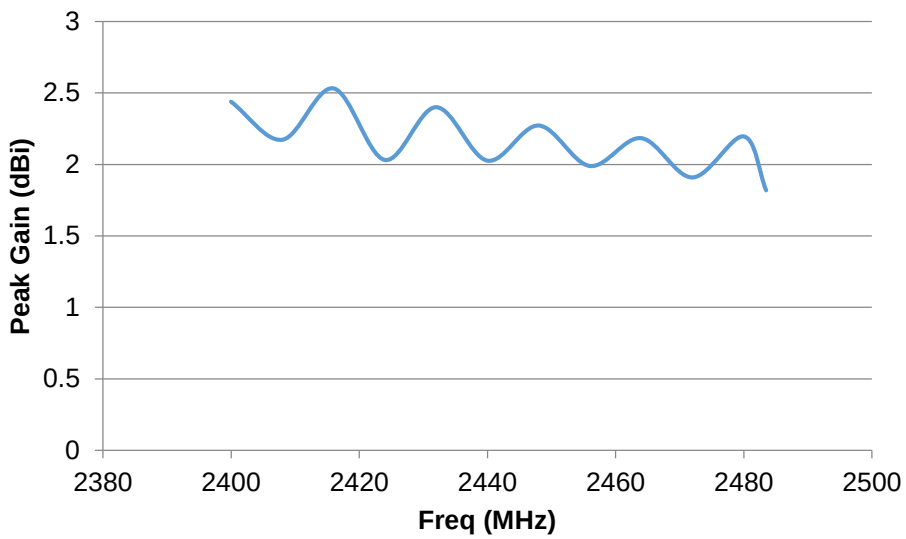
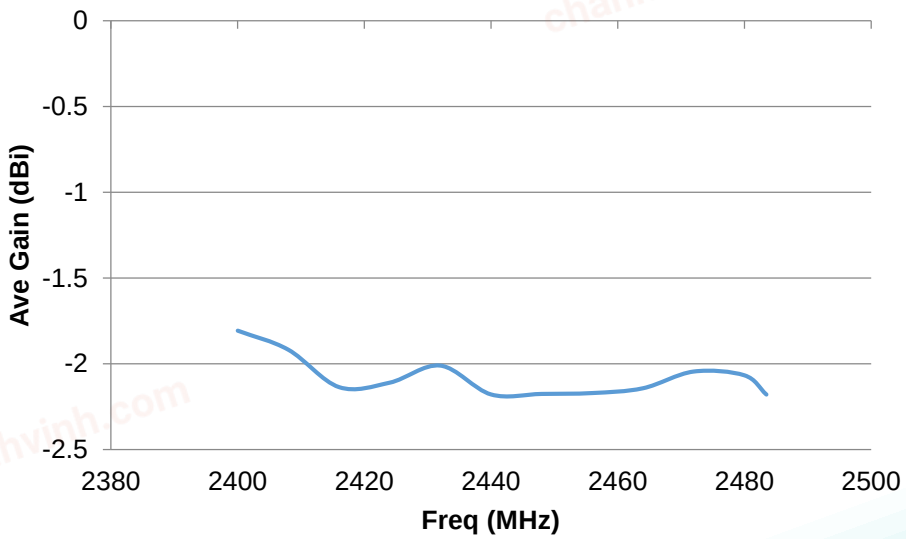


Average gain - High band (dBi)



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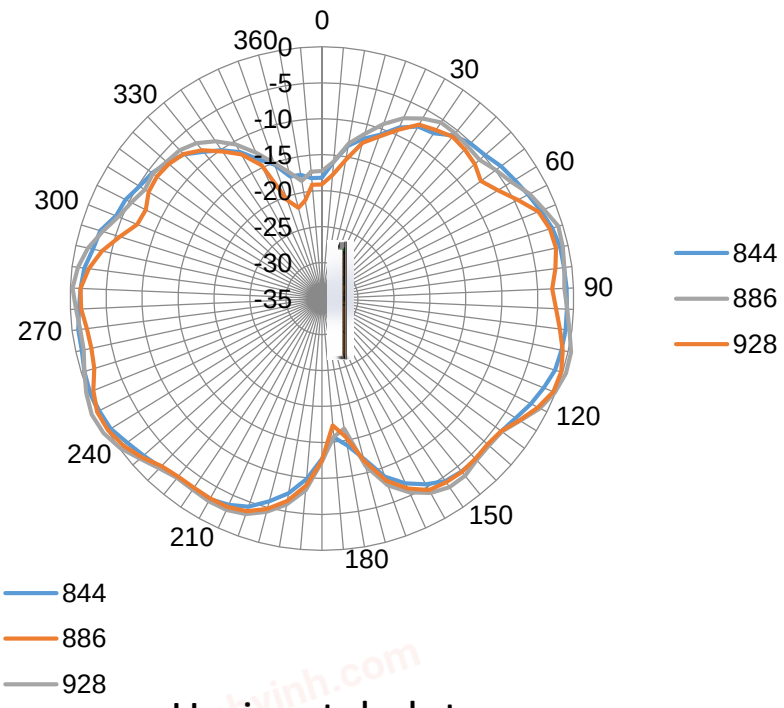
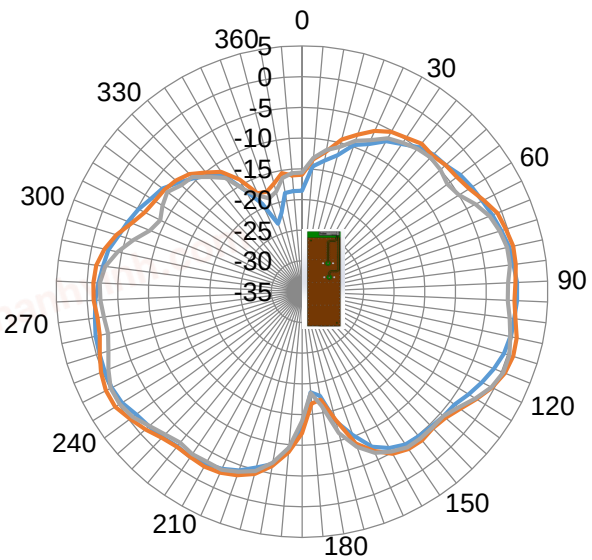
CHARTS 844-928MHz

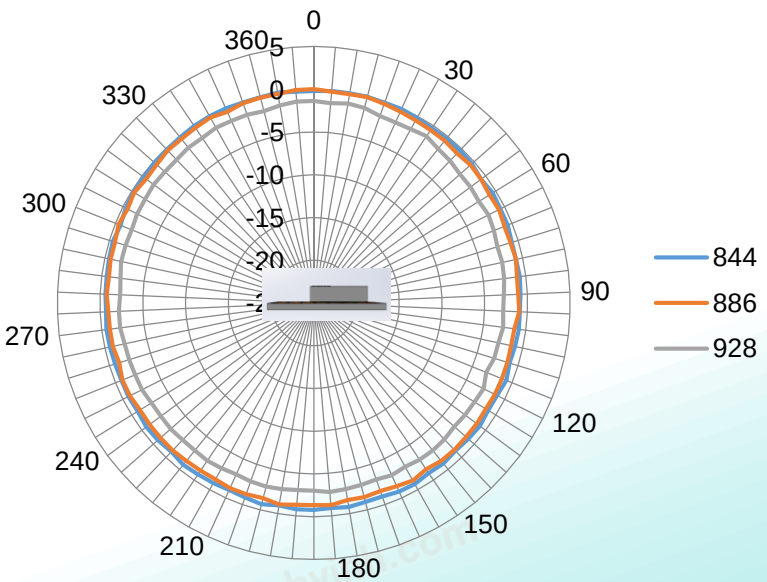
Vertical plot, side view



Vertical plot, front view



Horizontal plot



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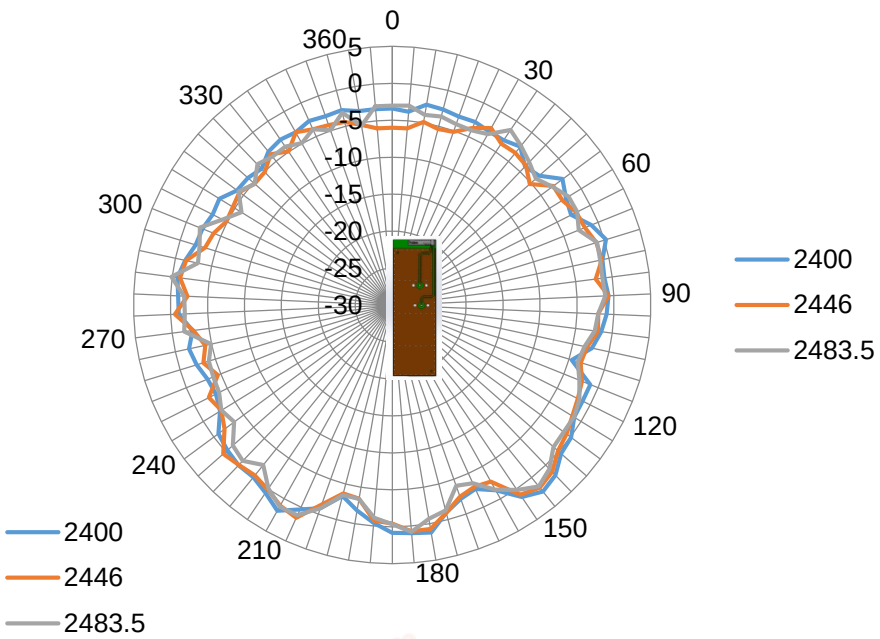
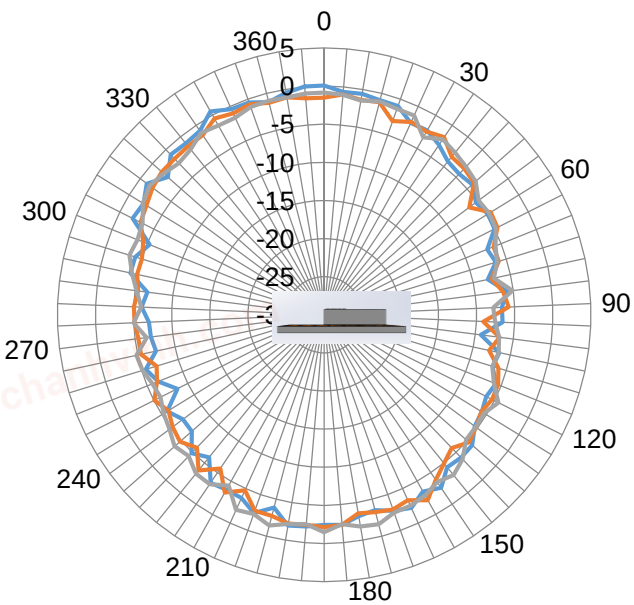
CHARTS 2400-2483.5MHz

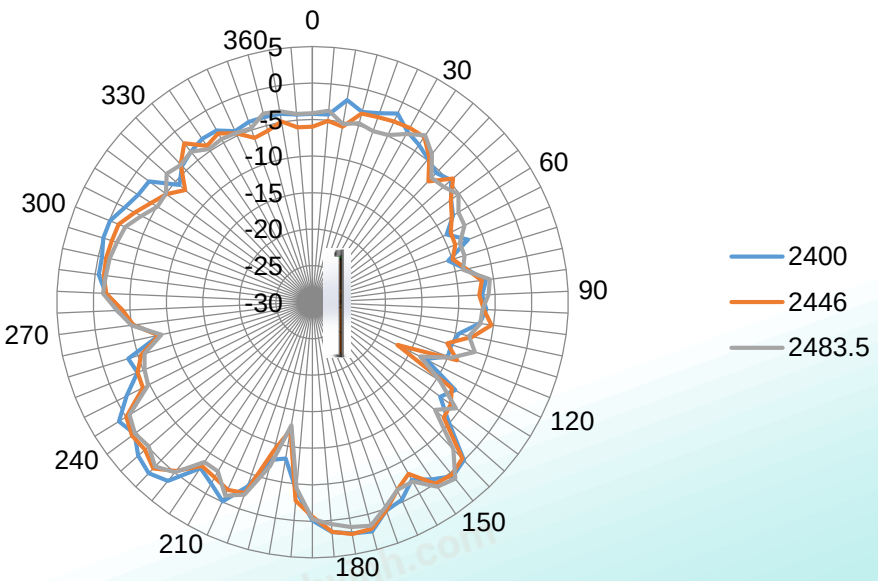
Vertical plot, front view



Horizontal plot



Vertical plot, side view



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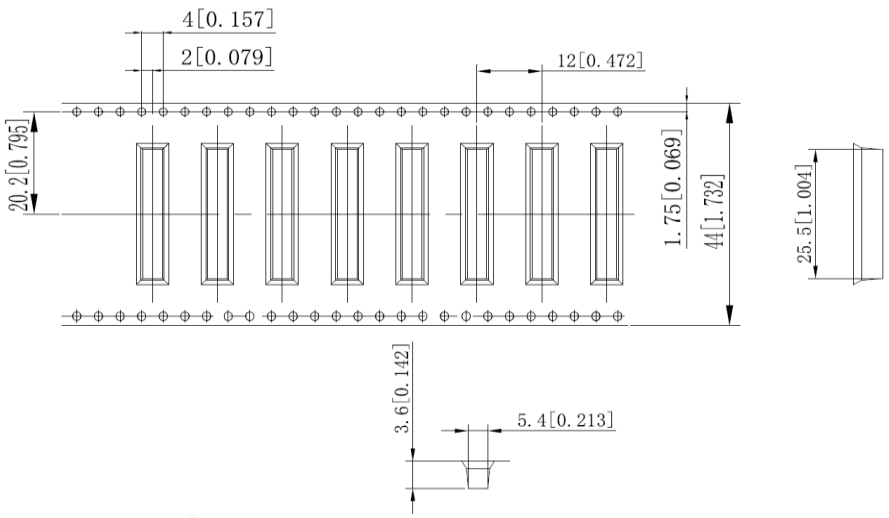
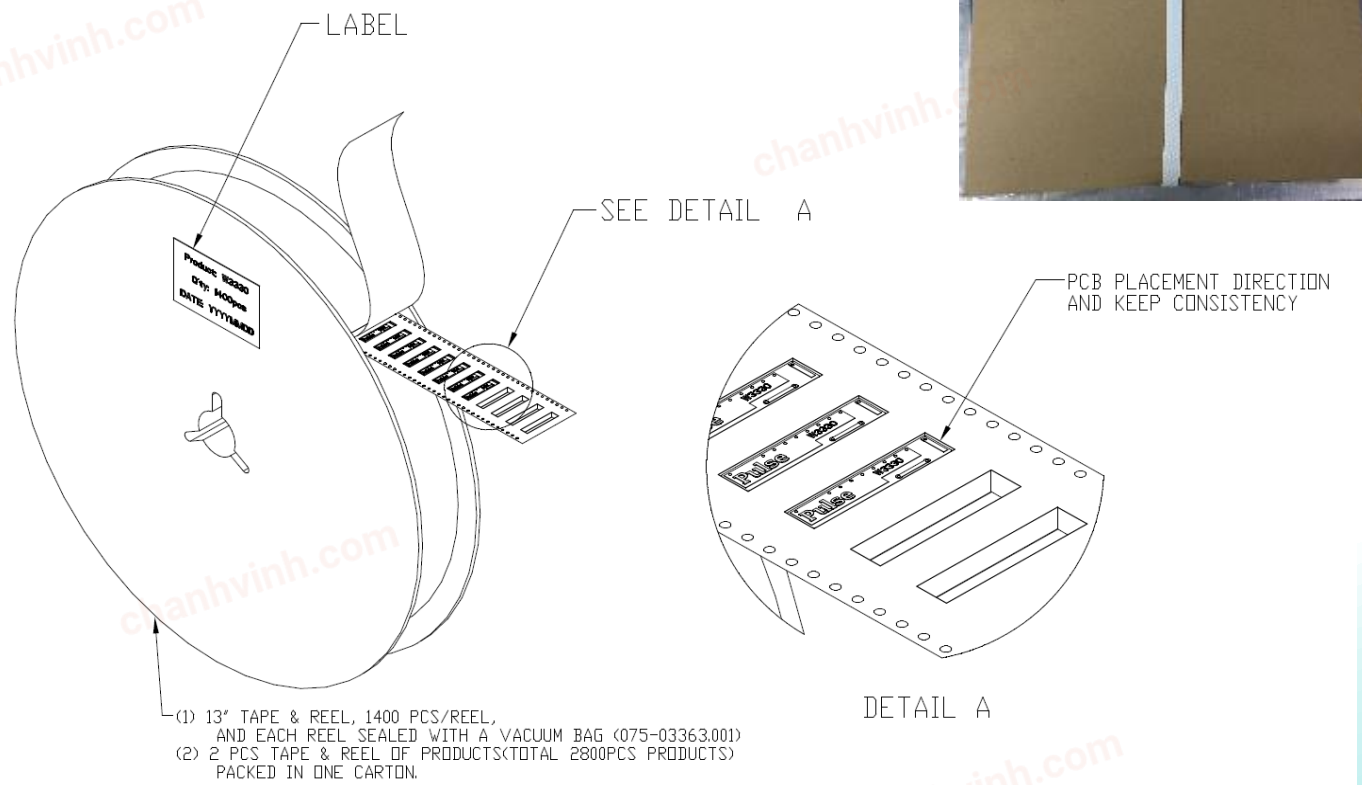
PACKAGING

Reel packing, 1400 PCS/Reel
2 Reels/Carton box, total 2800 PCS/Carton box









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