SMD Antenna
2.4GHz LDS Monopole Antenna

SWA434D

Features & Applications:

- *Bluetooth devices*
- *Headsets*
- *Notebooks and netbooks*
- *Smart Phones*
- *Tablet PCs*
- *2.4GHz WiFi devices*
- *Wireless LAN (WLAN)*
- *IEEE 802.11b/g/n devices*
- *Tape&Reel packed*
- *Reflow soldering compatible*

ELECTRICAL SPECIFICATIONS @ 25°C

General Specifications 1)

Antenna Type	Nominal Impedance	Polarization	Frequency	Return loss	Efficiency	VSWR	Gain
Monopole	50Ω	Linear	2400~2483.5 MHz	< -5	> 45%	< 3	2.0 to 3.2 dBi

MECHANICAL SPECIFICATIONS

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Dimension (Length x Width x Height)	Material	Color	Antenna Type	Mounting Style	MSL	Weight
3mm x 3mm x 4mm	LCP	Black	LDS	SMT	1	0.04g

ENVIRONMENTAL SPECIFICATIONS

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

Notes:

1) Tested on 40x100mm evaluation board, matching circuit 4.3nH shunt inductor

Mechanical Drawing

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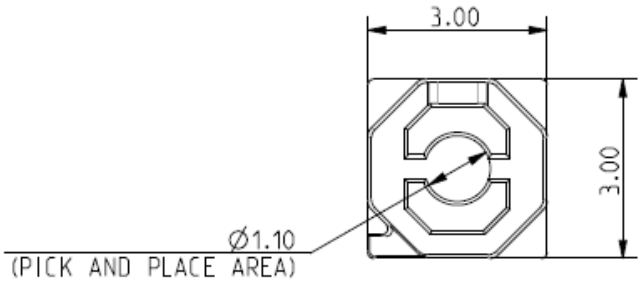
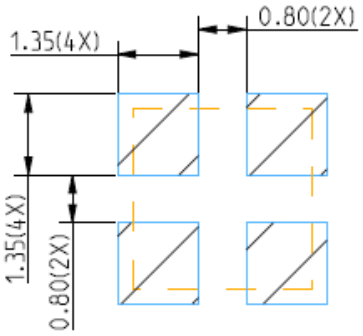
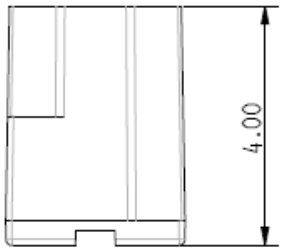
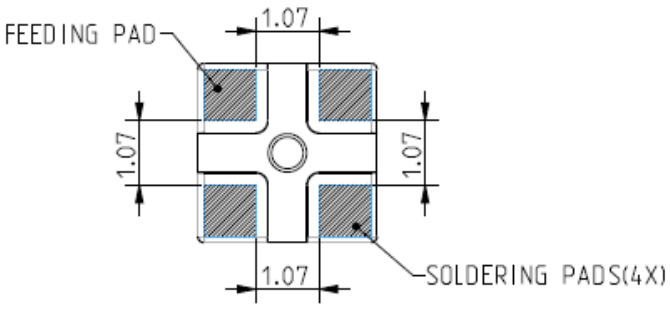
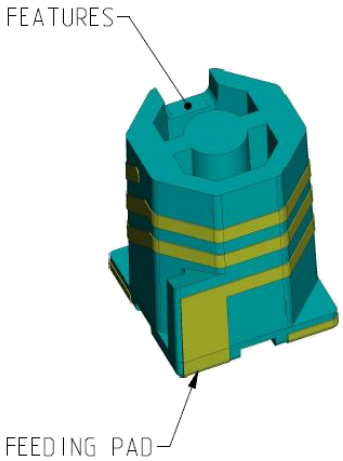




RECOMMENDED PCB LAYOUT







3D VIEW

Dimensions: mm

Recommendation for Reflow Soldering Process

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Printing stencil thickness 0.15 to 0.25 mm is recommended for solder paste. The maximum soldering temperature should not exceed 250°C.
The temperature profile recommendations for reflow solder process are presented in Figure 1 and 2. The reflow profile presented in Figure 2 describes maximum reflow temperatures.

Figure 1 - Minimum temperature profile 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 30 sec
5	Peak temperature in reflow	230°C for 10 seconds
6	Temperature gradient in cooling	Max -5°C/s

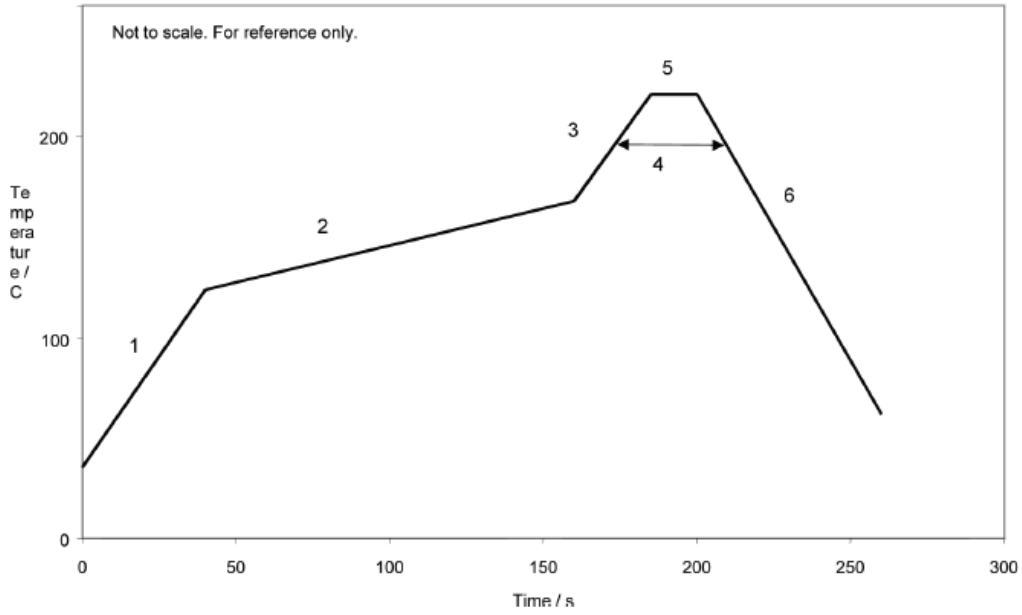
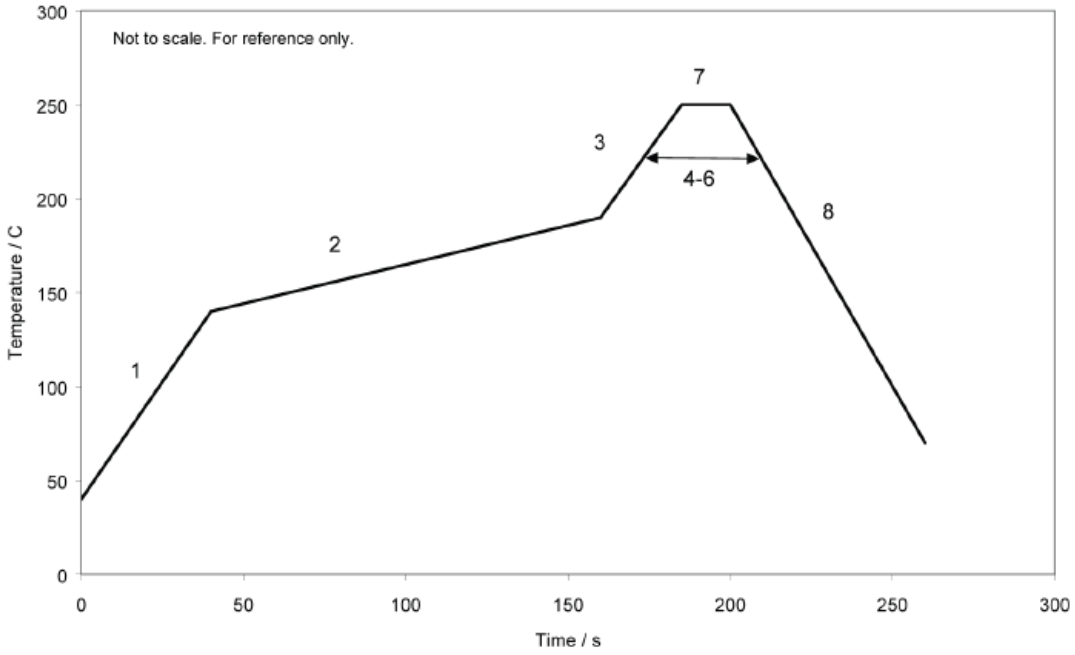


Figure 2 - Maximum temperature profile recommendation for reflow soldering process

	Method of heat transfer	Controlled hot air convection
1	Average temperature gradient in preheating	**≤2°C/s**
2	Soak time	1-2 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
7	Peak temperature in reflow	250°C
8	Temperature gradient in cooling	Max-5°C/s



Test Setup

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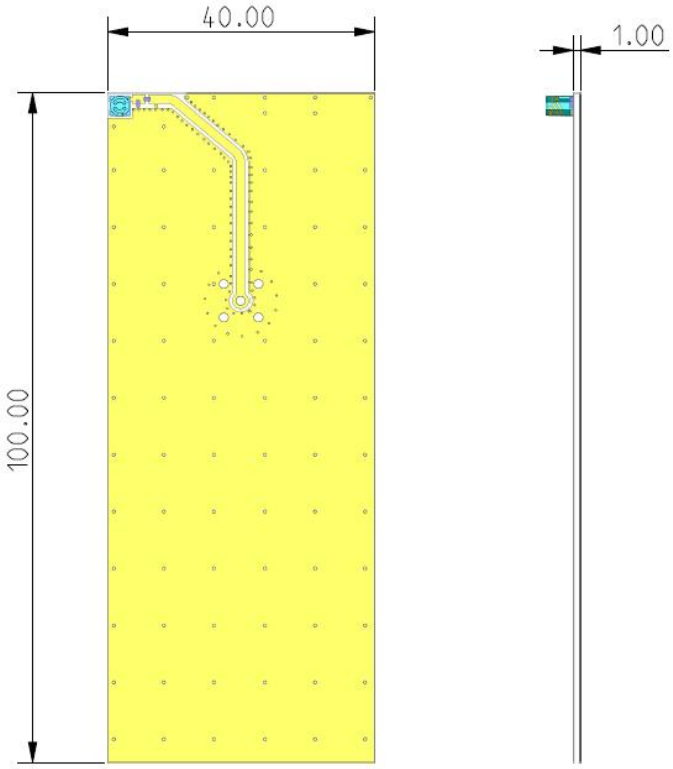
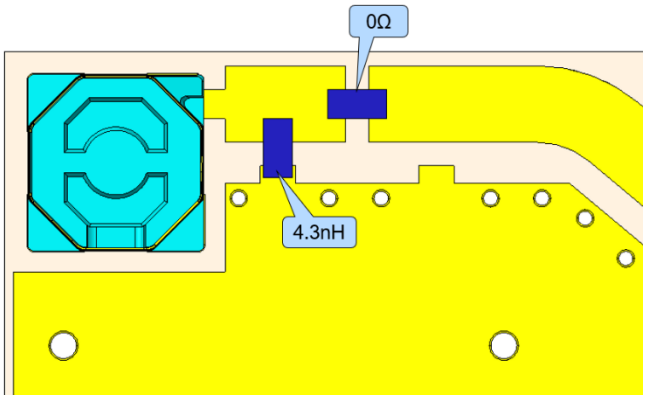
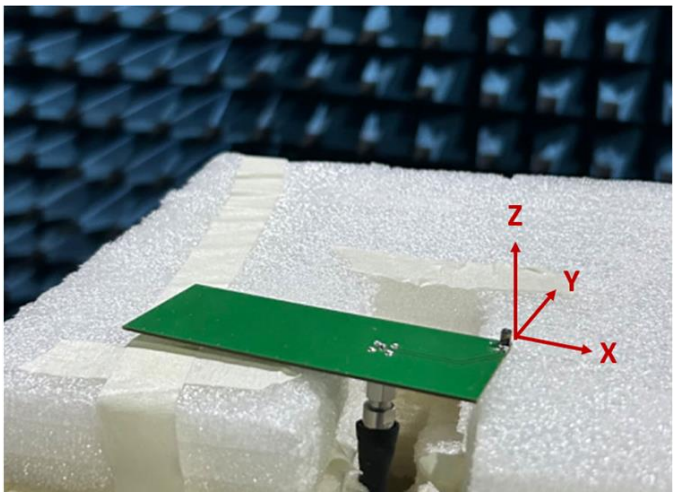
Pulse reference test PCB for SWA434D antenna







Dimensions: mm

Charts- Antenna Return Loss & VSWR

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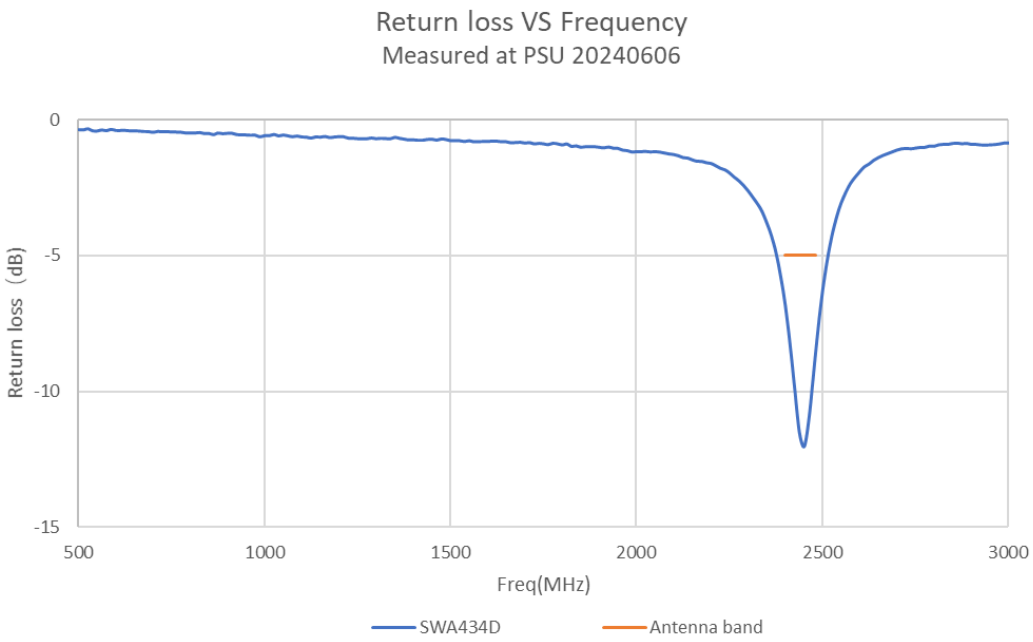

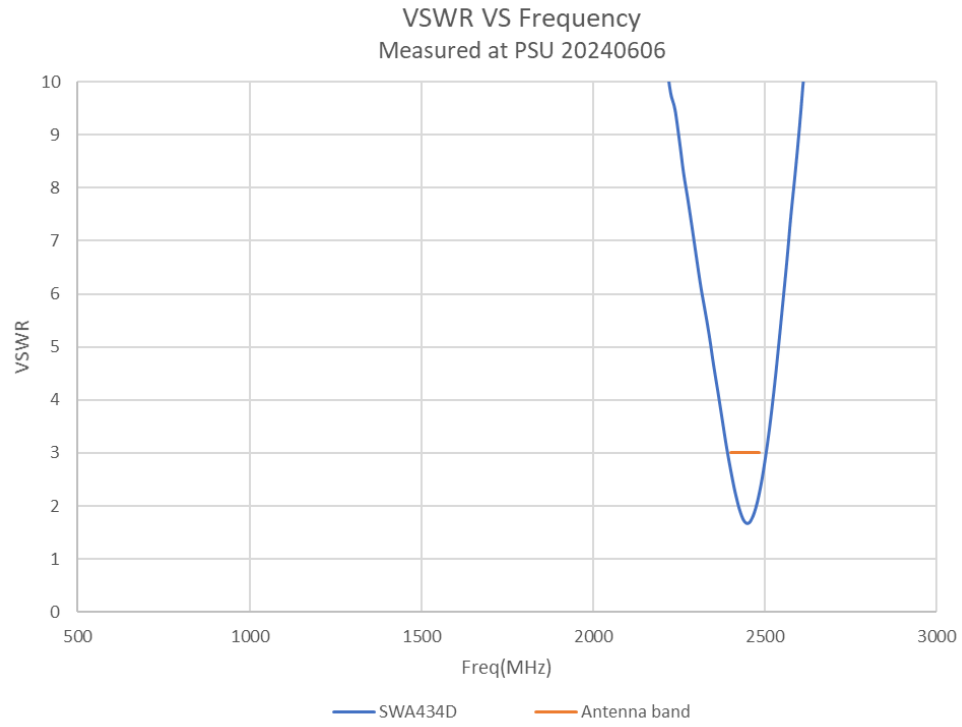

Charts- Efficiency & Peak Gain

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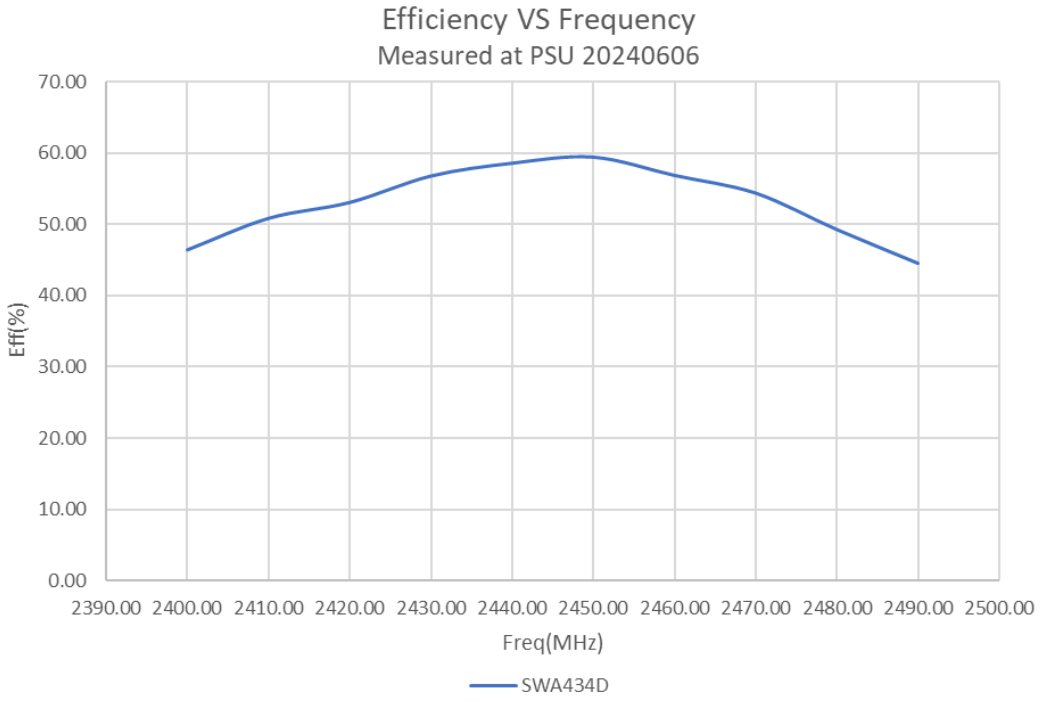

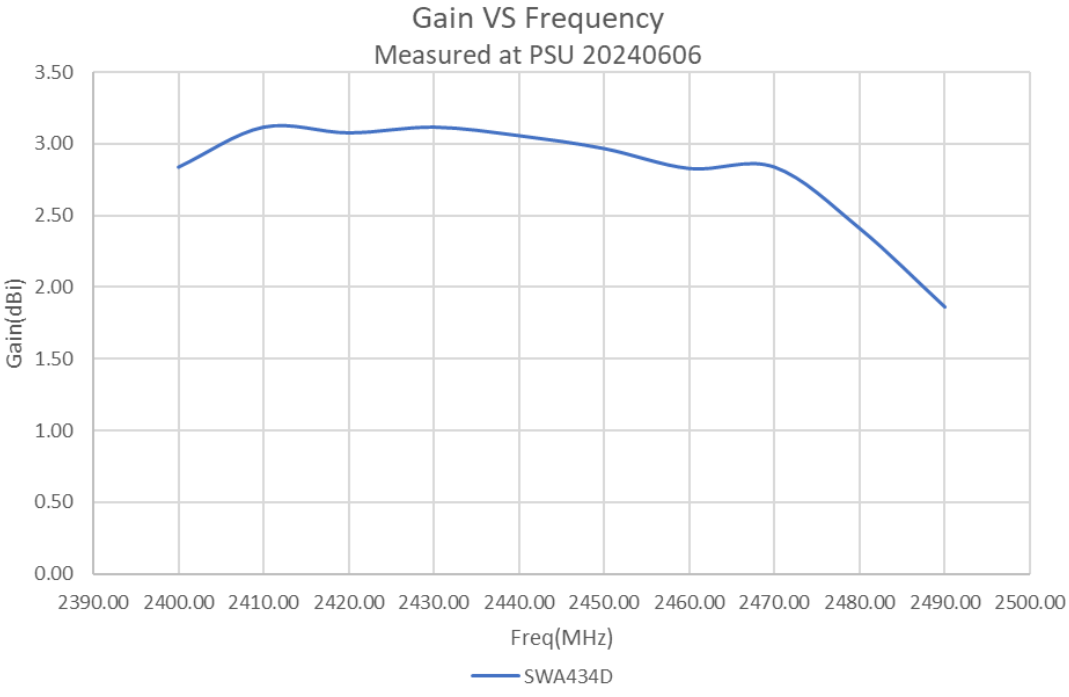

Charts – Antenna Radiation Gain Pattern

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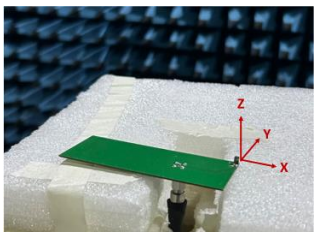

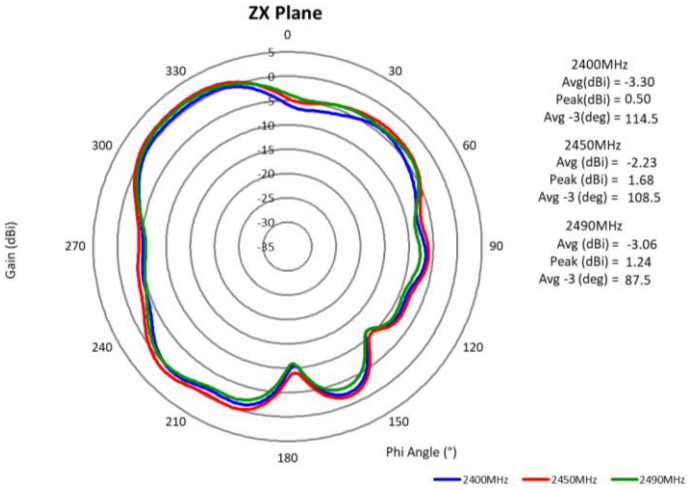

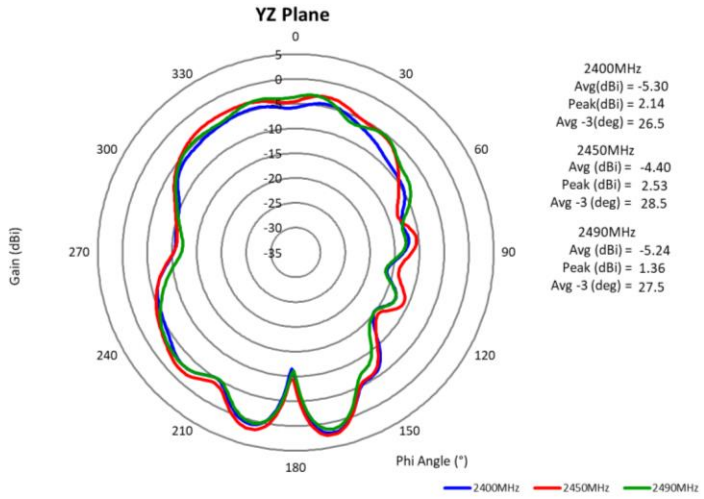

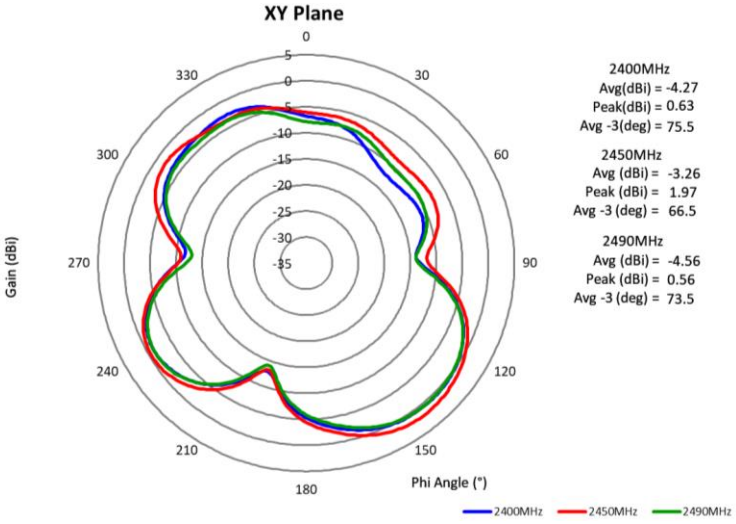

PCB Length Effect

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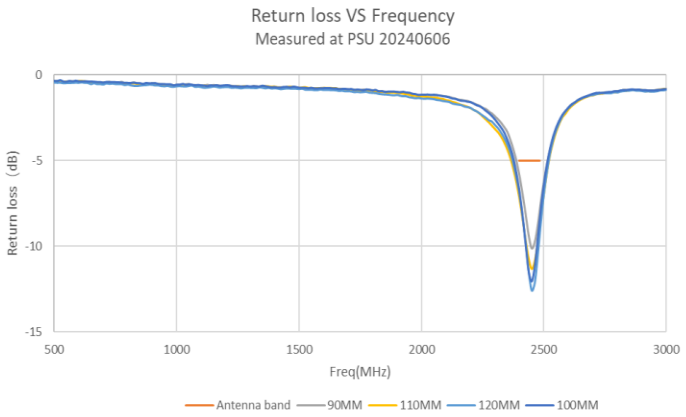

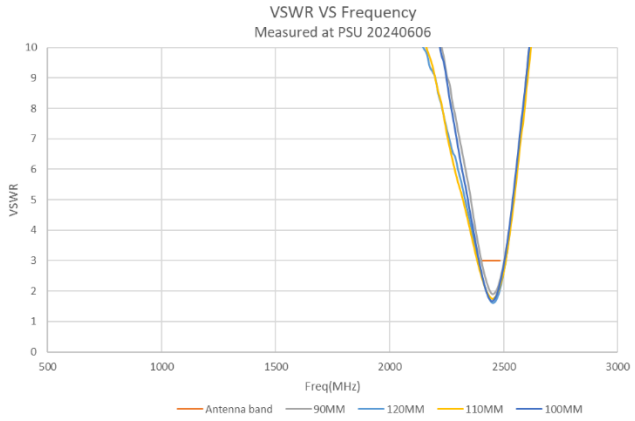

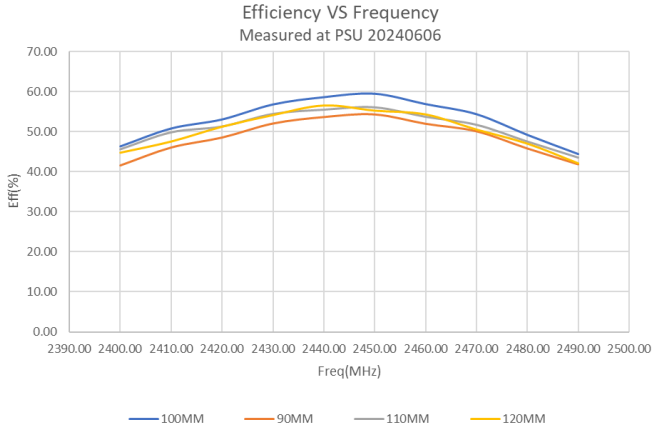

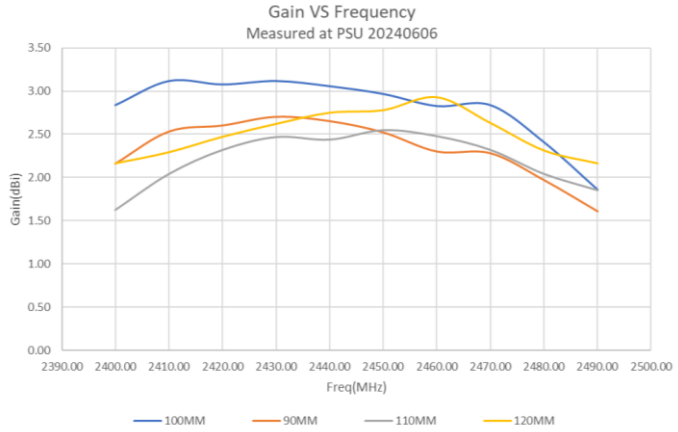

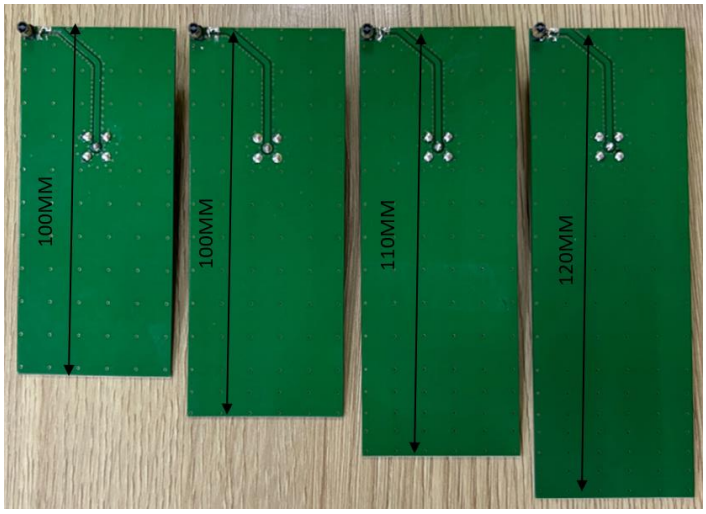

Packaging

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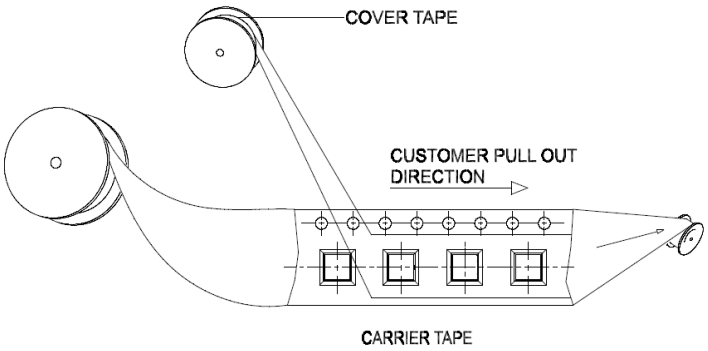
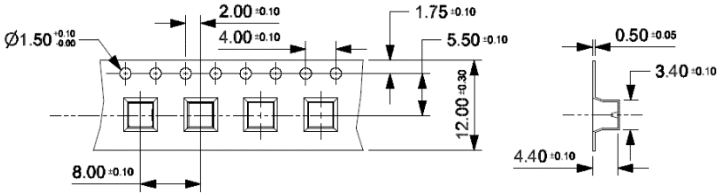
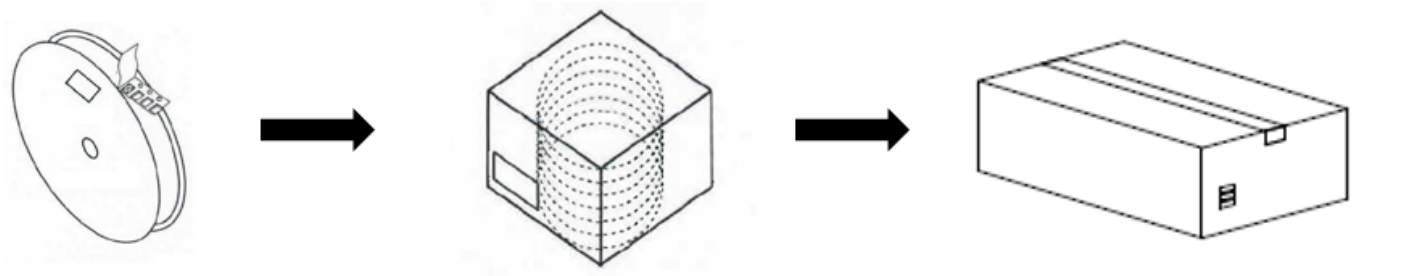
1. Reel & tape packing
2. 500pcs/reel → 6 reels/inner box → 2 inner boxes/package box
3. Total 6000pcs for one package, package box size: 390mm*215mm*165mm







500pcs / reel
(Reel size:Ø178mm*19mm)

6 reels / inner box
(Inner box size:205mm*187mm*128mm)

2 inner boxes/ package box
(Package box size:390mm*215mm*165mm)