

MAN2450L42

2.4 GHz Chip Antenna

MECSINE 兆讯

2.4 GHz Chip Antenna
For WiFi and Bluetooth

MAN2450L42

4x1.6x1 mm

All Use For RF & Microwave

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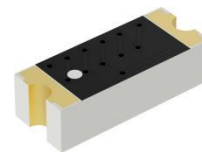
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Applications

1. 2.4 GHz WiFi device
2. Bluetooth gadget
3. Zigbee device
4. ISM band equipment



Features

1. Compact size
2. Omni-directional radiation
3. Tape & reel automatic mounting
4. Reflow process compatible
5. RoHS compliance (Pb-Free)

Description

The antenna is designed for superior performance, and can be widely used for wireless applications. We provide comprehensive antenna design support such as simulation, testing and manufacturing for custom antenna solutions to meet your specific application needs.

Electrical Specification

Table 1. MAN2450L42 Electrical Specification

Item	Min.	Type	Max.	Unit
Frequency Range	2400		2500	MHz
VSWR	1.2		2	
Efficiency	51		54	%
Peak Gain	0.40		1.07	dBi
Polarization		Linear		
Nominal Impedance		50		Ω

• Ta: +25±5°C

Mechanical Specification

Table 2. MAN2450L42 Mechanical Specification

Item	Min.	Type	Max.	Unit
Antenna Size		4*1.6* 1		Mm
Storage Temperature	-40		+125	°C
Operating temperature	-40		+125	°C

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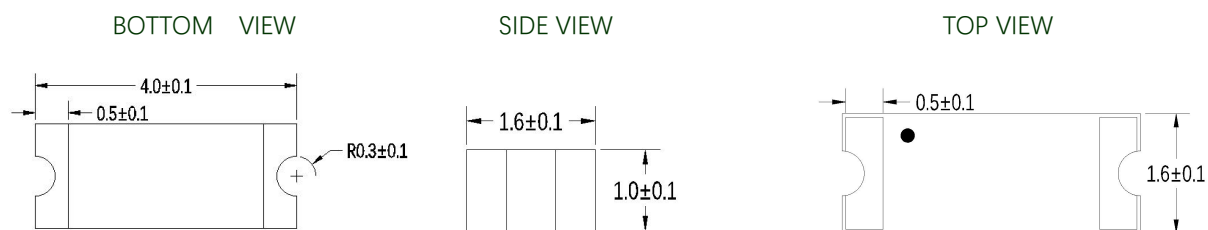
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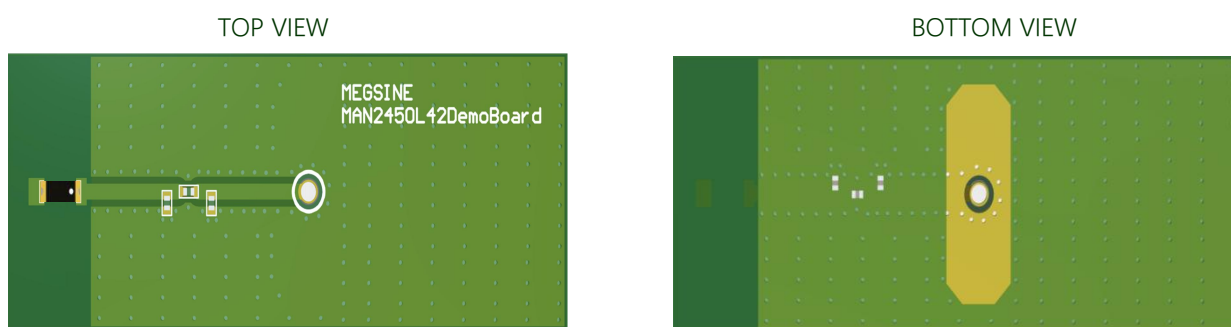
Outline Drawing

Figure 1. MAN2450L42 View (Unit: mm)



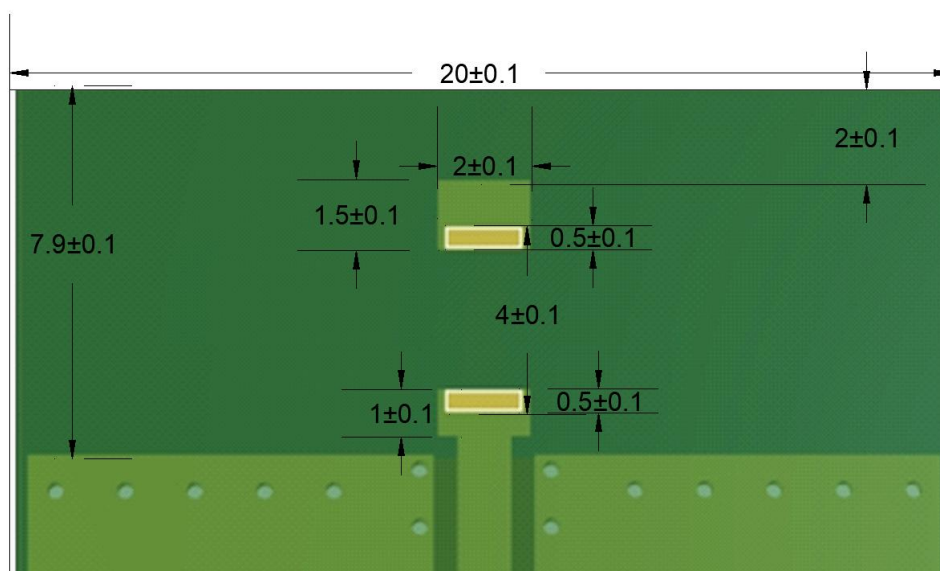
Recommend PCB Layout

Figure 2. MAN2450L42 PCB Layout (Unit: mm)



Size 53*20mm

Figure 3. MAN2450L42 Antenna Layout (Unit: mm)



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Figure 4. MAN2450L42 Matching Circuit (Unit: mm)

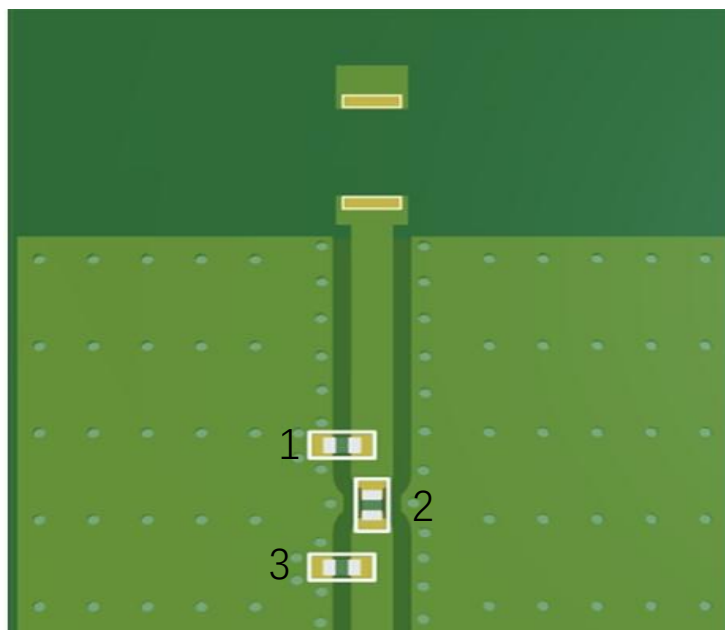
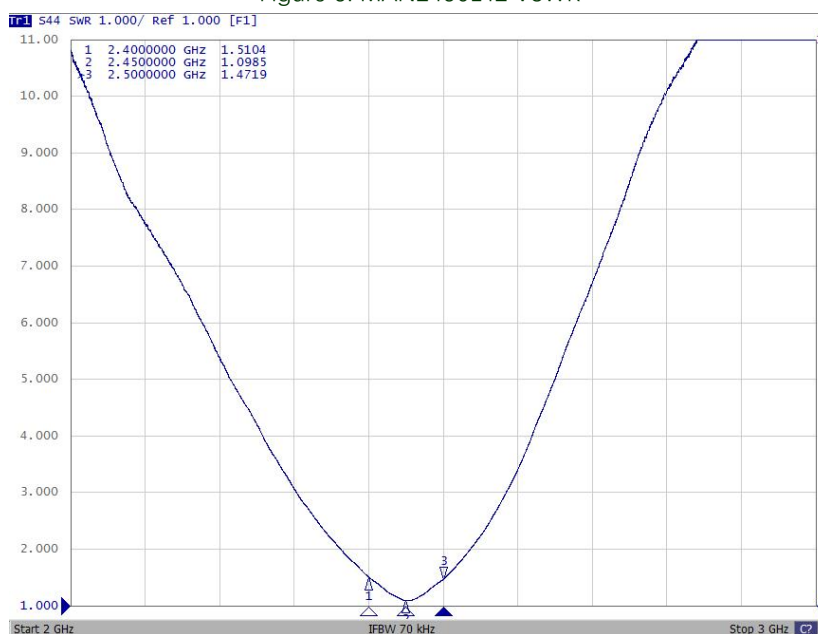


Table 3. MAN2450L42 Matching

Location	Description	Vendor
1	N/C	N/C
2	0Ω	MURATA
3	N/C	N/C

Typical Performance

Figure 5. MAN2450L42 VSWR



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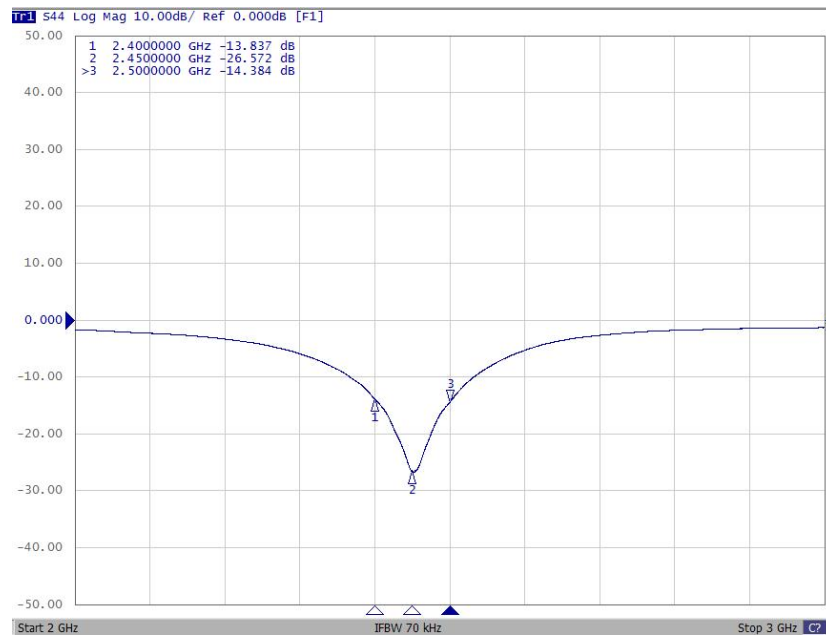
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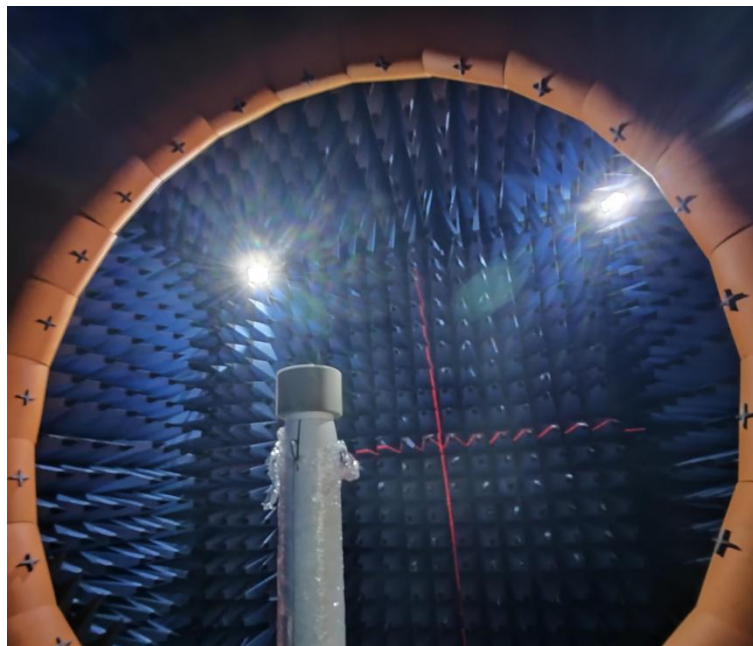
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Figure 6. MAN2450L42 Return Loss



Radiation Pattern & Efficiency & Peak Gain

Figure 7. The Gain pattern is measured in FAR-field chamber



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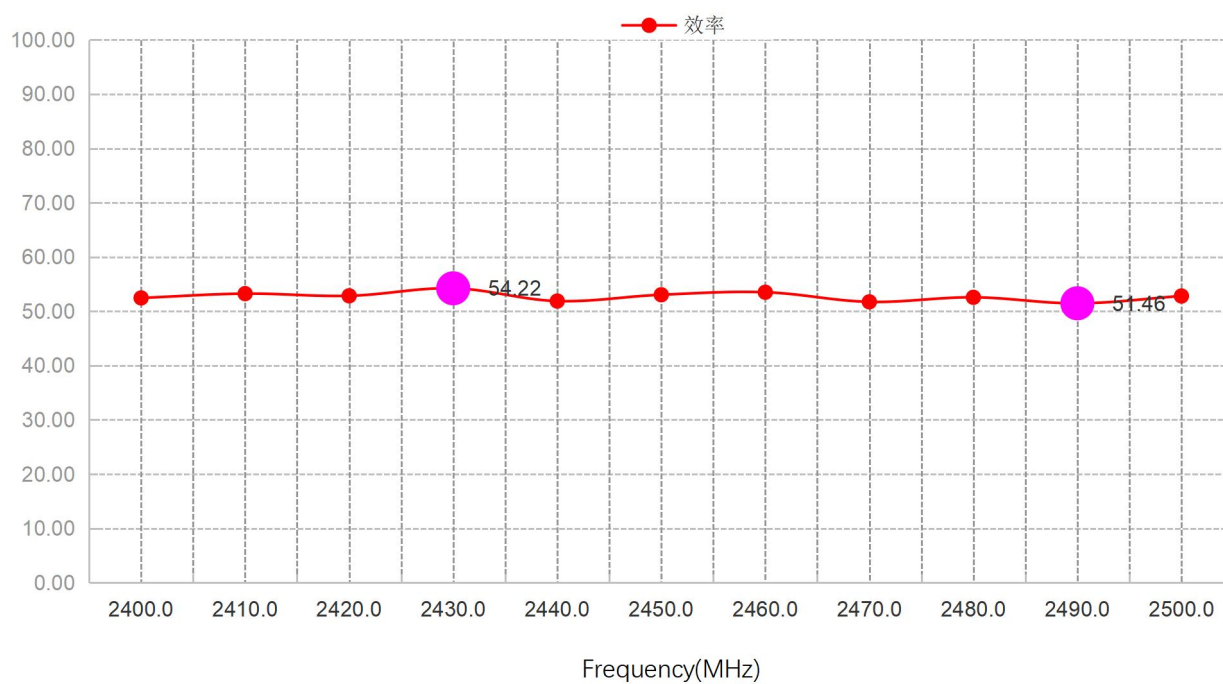
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Table 4. MAN2450L42 Total Efficiency&Peak Gain

Item (MHz)	Efficiency (%)	Peak Gain (dBi)
2400	52.45	0.63
2410	53.24	0.71
2420	52.84	0.67
2430	54.22	0.74
2440	51.88	0.40
2450	53.04	0.60
2460	53.50	0.76
2470	51.73	0.64
2480	52.56	0.89
2490	51.46	0.88
2500	52.80	1.07

Figure 8. MAN2450L42 Total Efficiency



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Figure 9. MAN2450L42 Peak Gain

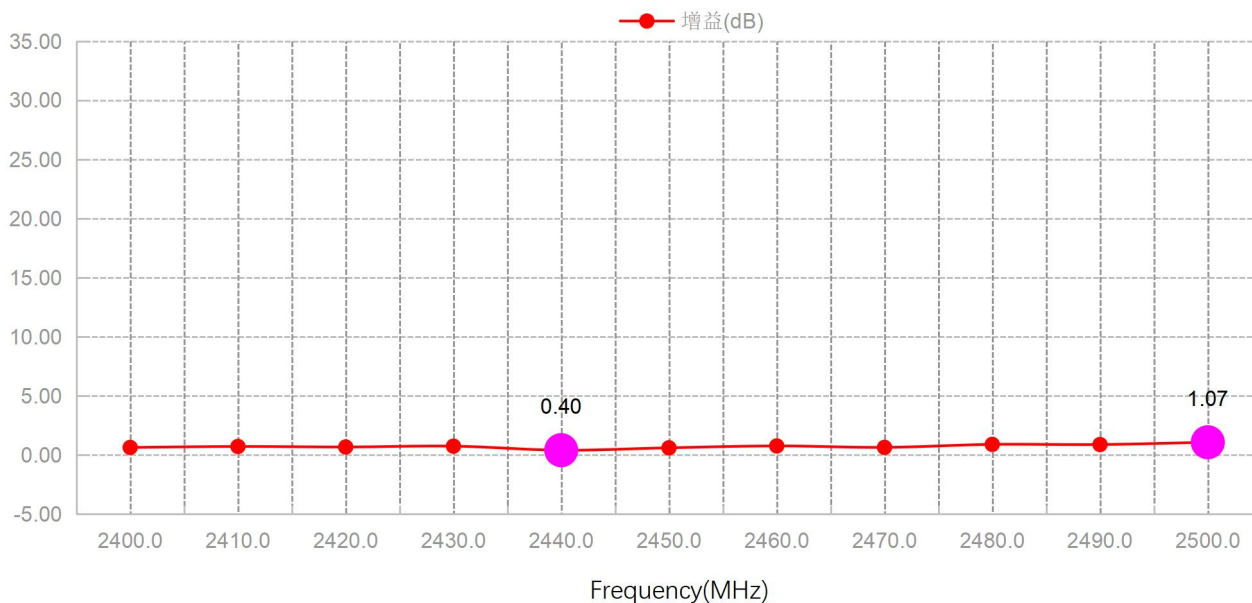
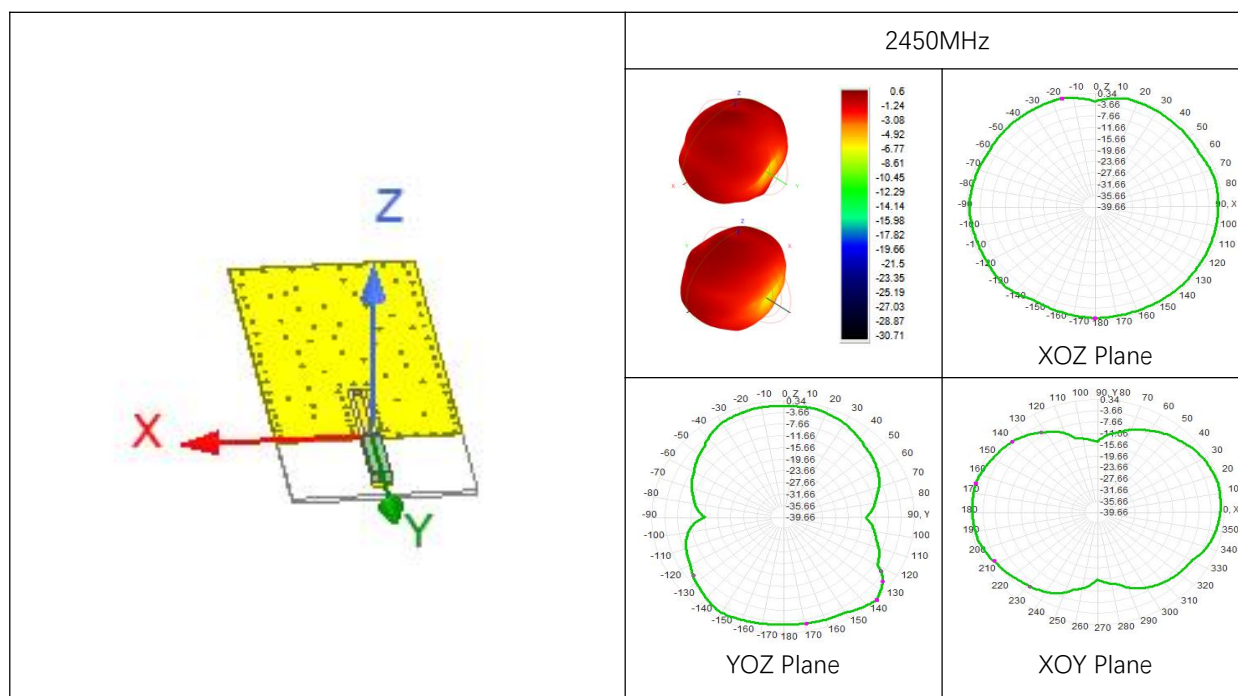


Figure 10. Radiation Pattern



*Antenna performance will also change in different environments, it is recommended to consult the relevant technical personnel before use to confirm the layout to ensure good performance.

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Packaging and Ordering Information

Figure 11. Packaging Information

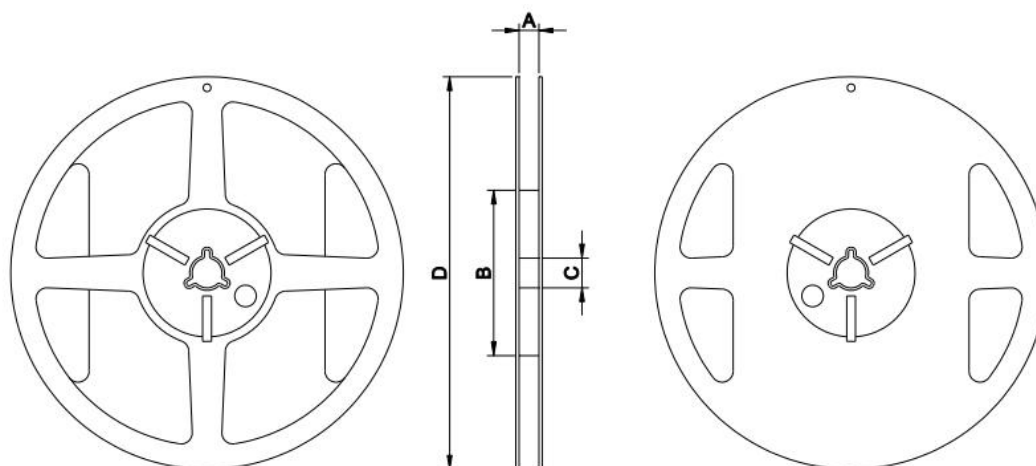
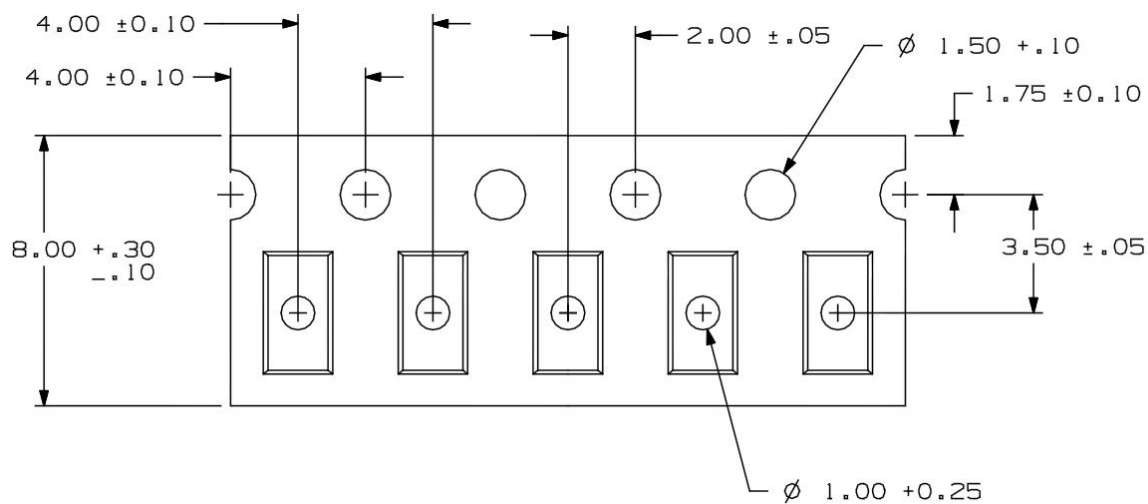


Table 5. Packaging and Shipping

Device	Packaging	Reel	Shipping
MAN2450L42	SMD	7"	3000/Reel

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Revision	Description	Date
Rev0	Preliminary	2025/6/20

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