

MAN2458C50

2.4 & 5.8 GHz 5036 Chip Antenna



Applications

1. 2.4 & 5.8GHz WiFi, Zigbee, Bluetooth device
2. ISM band equipment



Features

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

Description

The MAN2458C50 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. MAN2458C50 Electrical Specification

Item	Min.	Type.@25°C	Max.	Unit
Frequency Range	2400-2500		5150-5850	MHz
VSWR	< 2.0		< 2.0	:1
Efficiency	85		79	%
Peak Gain	1.65		5	dB
Polarization		Linear		
Nominal Impedance		50		Ω

Mechanical Specifications

Table 2. MAN2458C50 Mechanical Specification

Item	Min.	Type.@25°C	Max.	Unit
Antenna Size		5.0*3.6* 0.5		Mm
Temperature	-40		+80	°C
Operating temperature	-40		+80	°C

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MAN2458C50

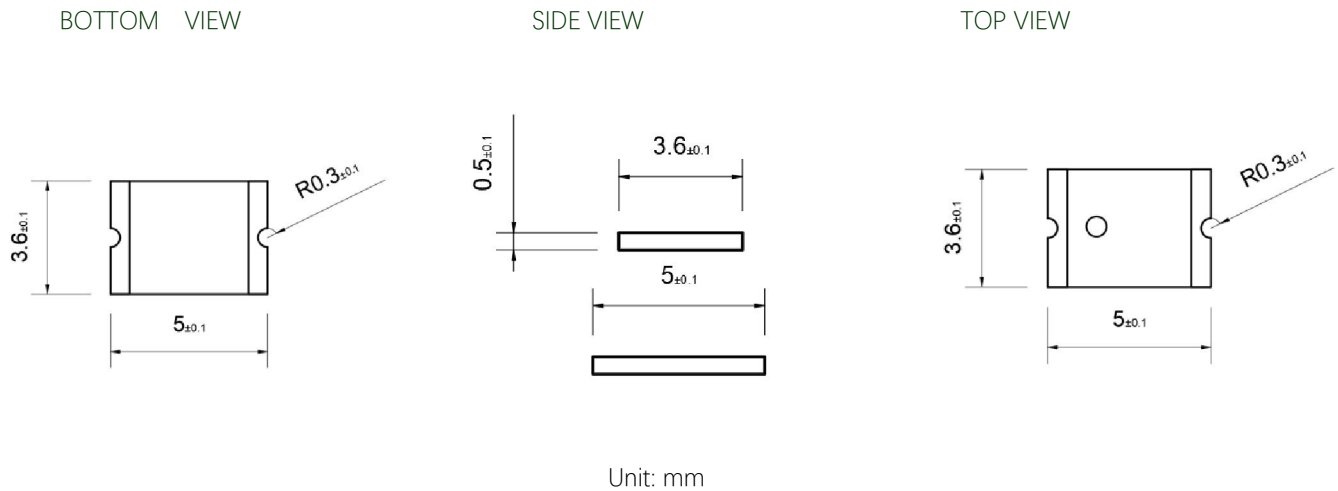
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Outline Drawing

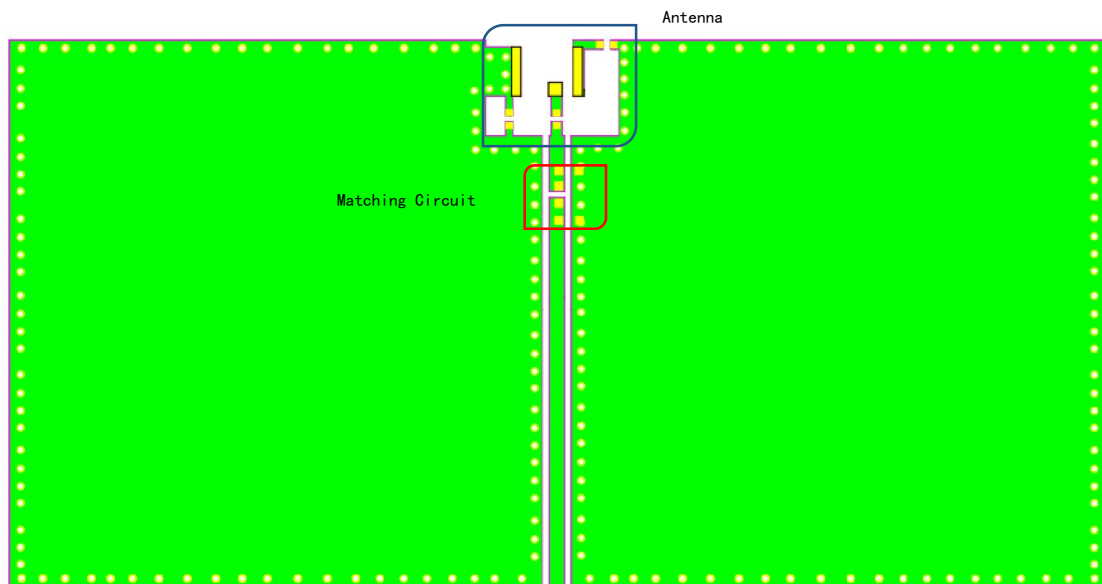
Figure 1. MAN2458C50 View (Unit: mm)



Recommend PCB Layout

Figure 2. MAN2458C50 PCB Layout (Unit: mm)

TOP VIEW:



Size 80*40mm

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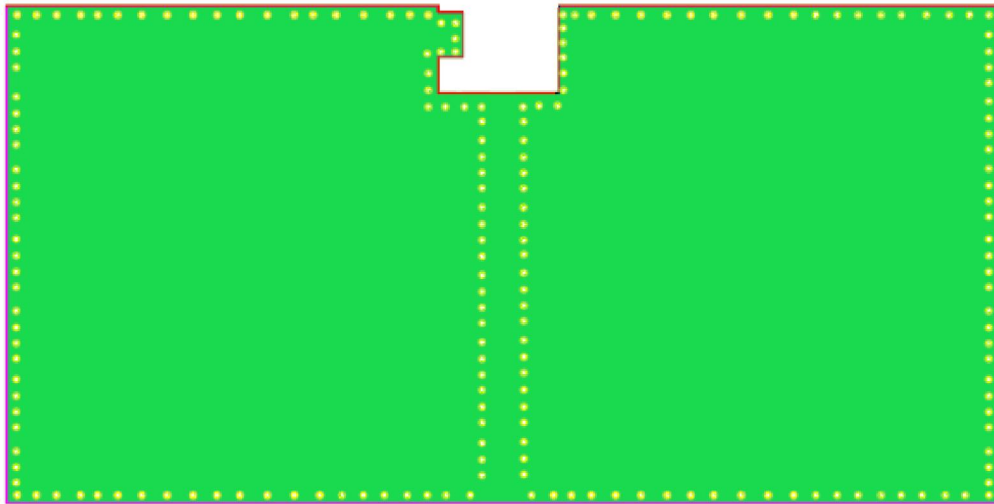
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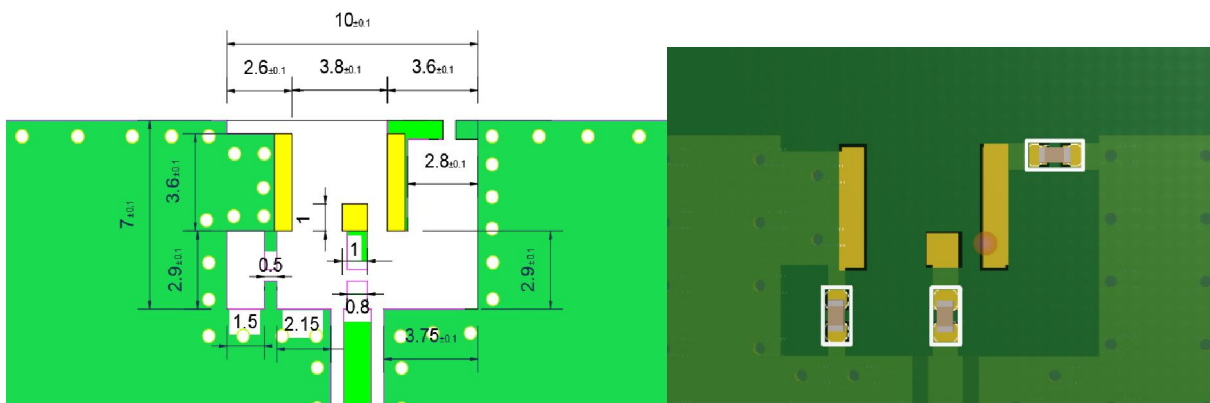
Figure 3. MAN2458C50 PCB Layout (Unit: mm)

BOTTOM VIEW



Size80*40mm

Figure 4. MAN2458C50 Antenna Layout (Unit: mm)



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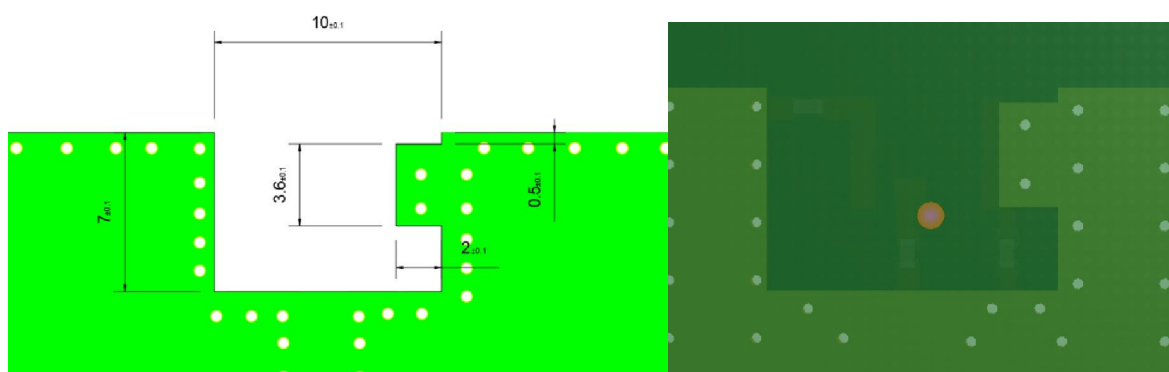
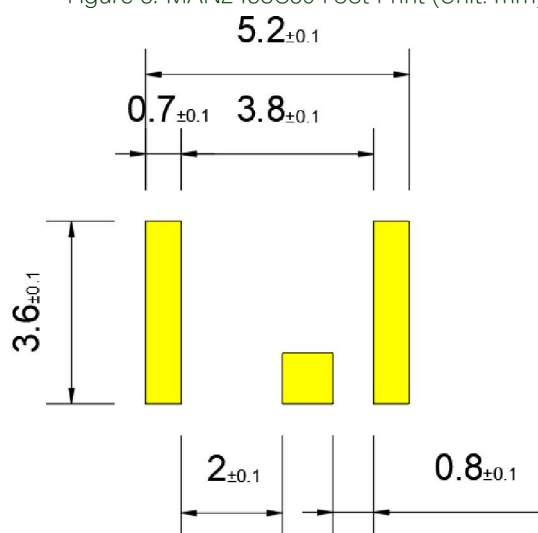
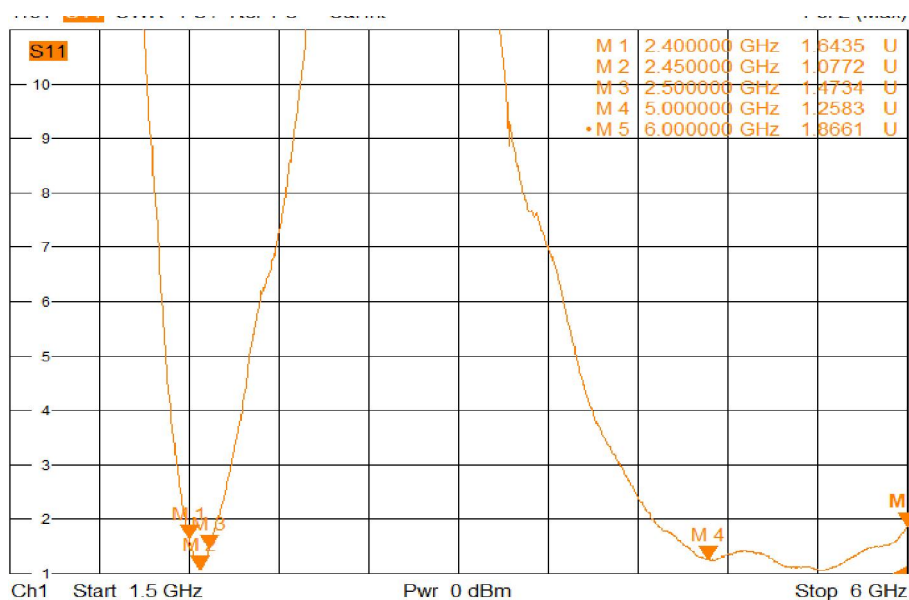


Figure 5. MAN2458C50 Foot Print (Unit: mm)



Typical Performance

Figure 6. MAN2458C50 VSWR



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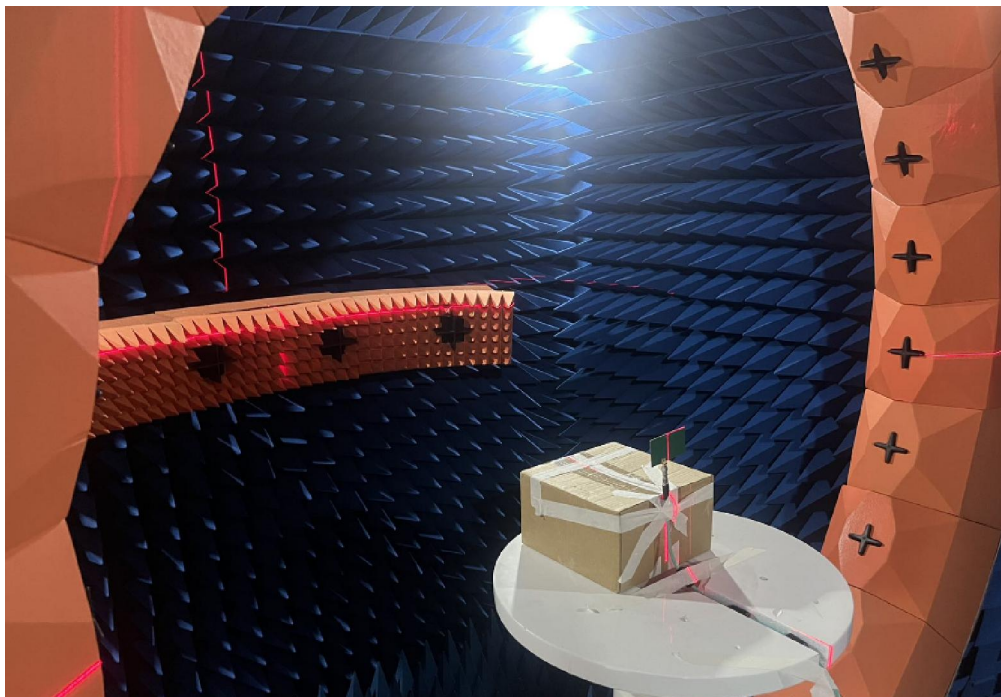
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Figure 7. MAN2458C50 Return Loss



Radiation Pattern & Efficiency & Peak Gain

Figure 8. The Gain pattern is measured in FAR-field chamber



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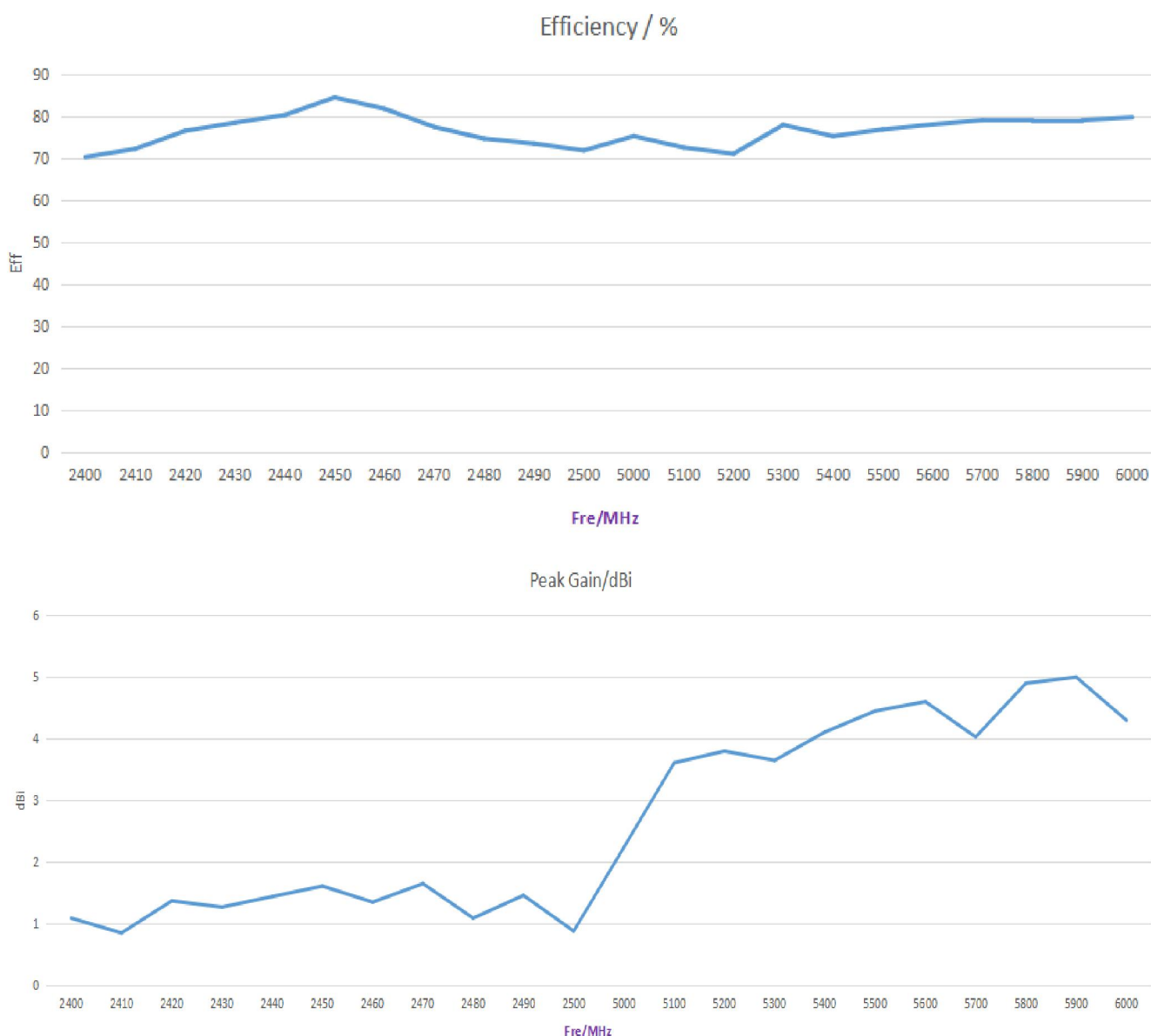
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Table 3. MAN2458C50 Radiation Efficiency&Peak Gain

Frequency(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Efficiency(%)	70.31	72.28	76.56	78.52	80.35	84.53	81.85	77.5	74.72	73.54	71.9
Peak Gain (dB)	1.09	0.85	1.37	1.27	1.44	1.61	1.35	1.65	1.09	1.46	0.88
Frequency(MHz)	5000	5100	5200	5300	5400	5500	5600	5700	5800	5900	6000
Efficiency(%)	75.31	72.6	71.1	77.98	75.31	76.9	78.1	79.13	78.92	79.13	79.8
Peak Gain (dB)	2.24	3.61	3.8	3.65	4.11	4.45	4.6	4.03	4.9	5.0	4.3



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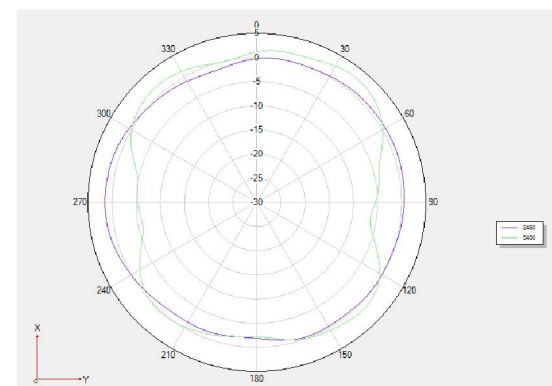
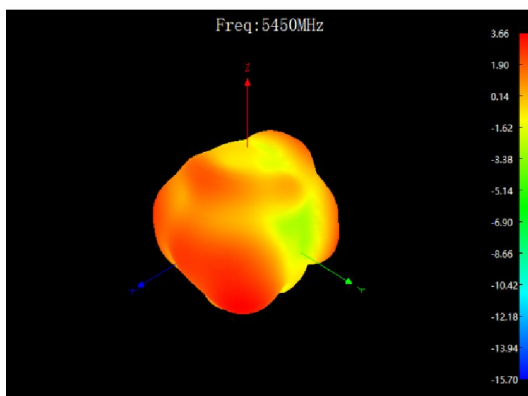
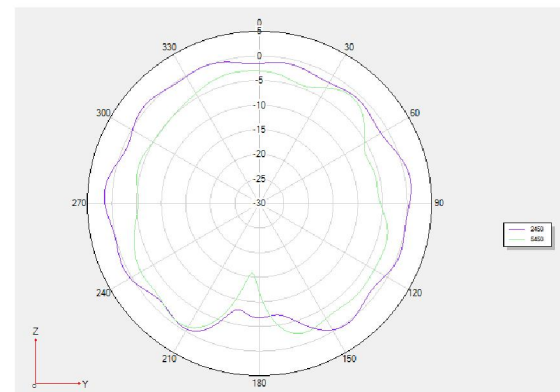
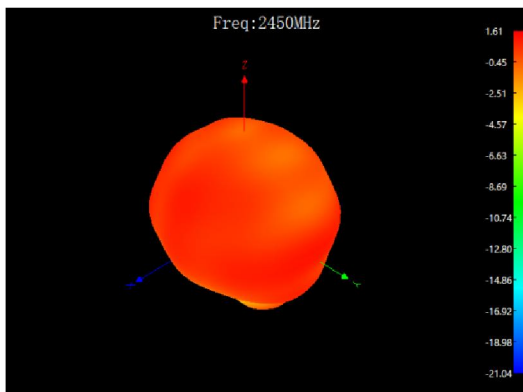
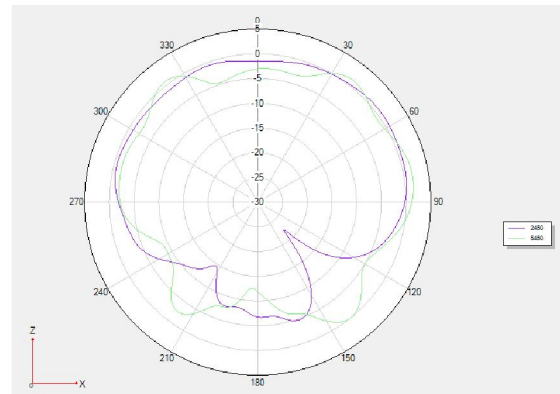
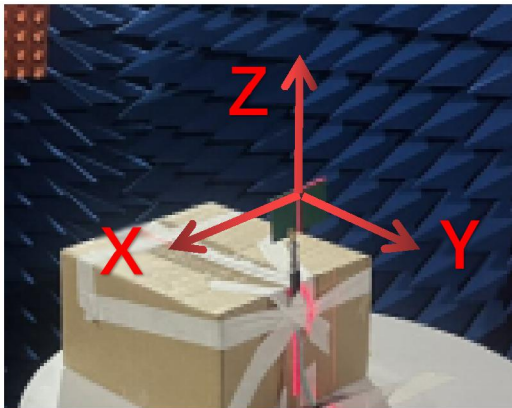
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Figure 9. Radiation Pattern



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The Efficiency for Different Location

Figure 10. MAN5450C50

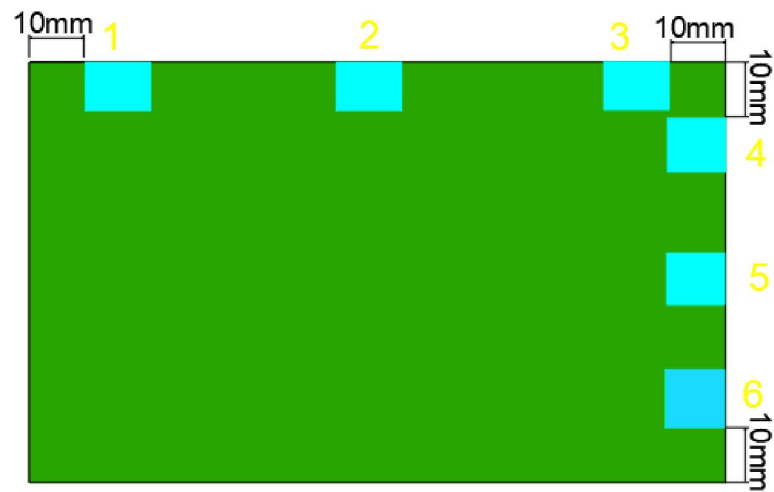
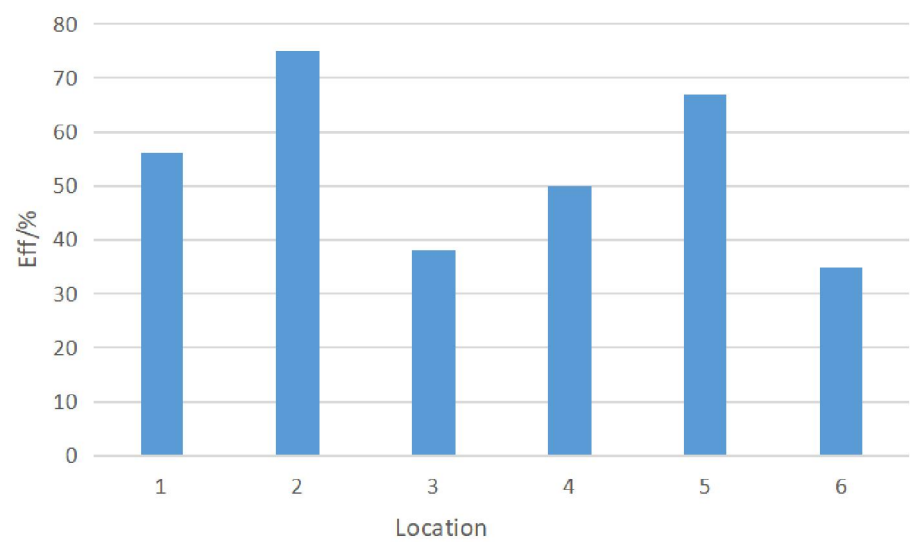


Table 4. MAN5450C50 Radiation Efficiency With Different Layout



*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

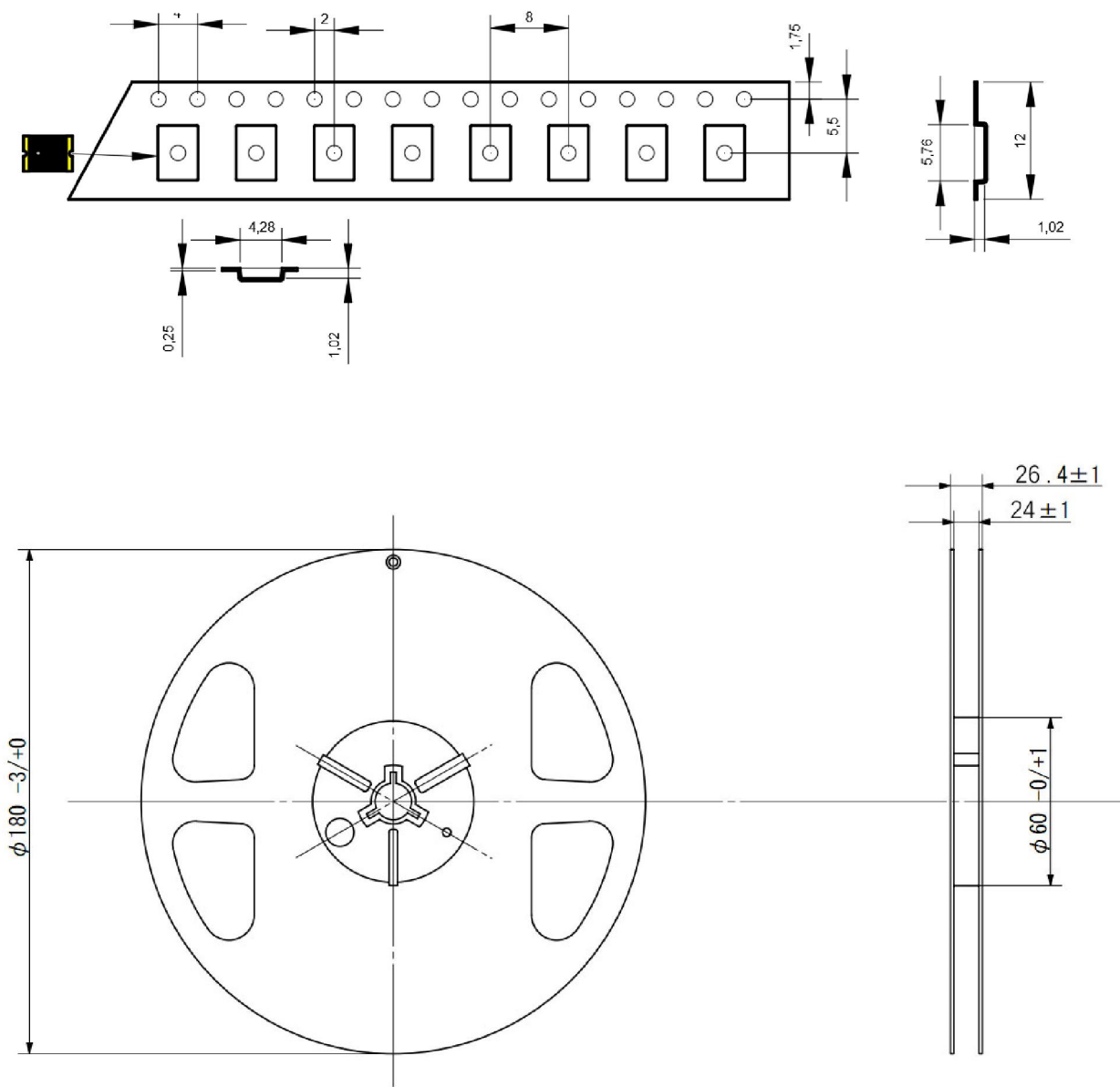


Table5. Packaging and Shipping

Device	Packaging	Reel	Shipping
MAN2458C50	SMD	7"	3000/Reel

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Revision	Description	Date
Rev0	Preliminary	2023/3/7

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