

MAN2458C50

WiFi Chip Antenna

MECSINE 兆讯

Chip Antenna

For WiFi

MAN2458C50

5x3.6x0.6 mm

All Use For RF & Microwave

Shenzhen Megsine technology co., ltd www.megsine.com sales@megsine.com may contain us for future information
Feb. 03, 2024

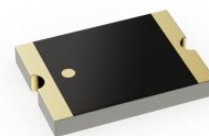
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WiFi Chip Antenna



Applications

1. 2.4 GHz&5.0 GHz WiFi device
2. Bluetooth gadget
3. Zigbee device
4. ISM band equipment
5. Small size



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. MAN2458C50 Electrical Specification

Item	Low Fre	Type	High Fre	Unit
Frequency Range	2400-2500		5150-5850	MHz
VSWR	<2.0		<2.0	
Efficiency	71-80		75-84	%
Peak Gain	1.21		3.40	dBi
Polarization		Linear		
Nominal Impedance		50		Ω

- Ta: +25±5°C

Mechanical Specification

Table 2. MAN2458C50 Mechanical Specification

Item	Min.	Type	Max.	Unit
Antenna Size		5.0*3.6*0.6		Mm
Temperature	-40		+85	°C
Operating temperature	-40		+85	°C

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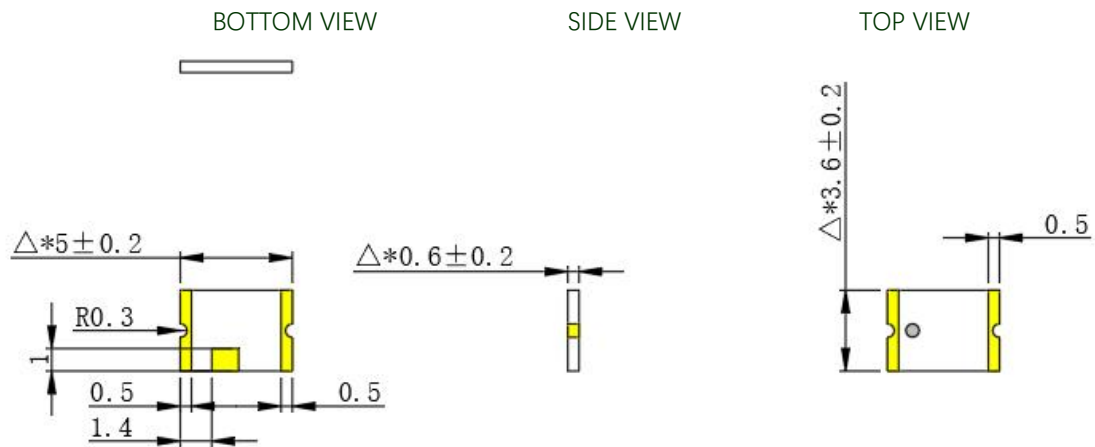
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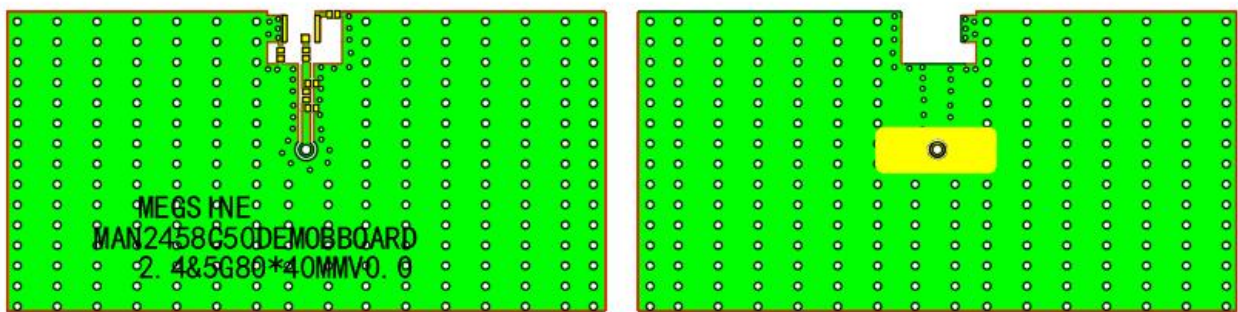
Outline Drawing

Figure 1. MAN2458C50 View (Unit: mm)



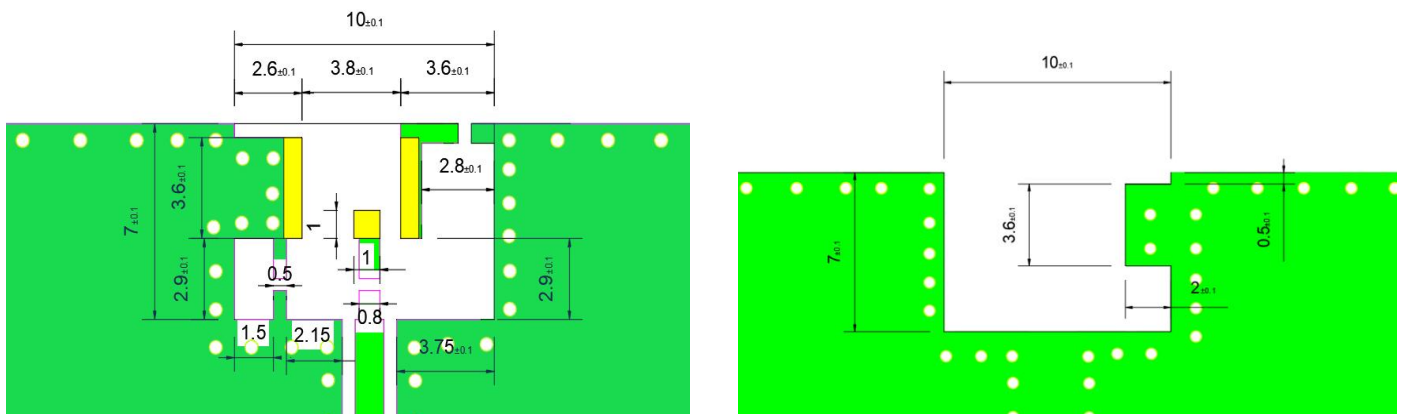
Recommend PCB Layout

Figure 2. MAN2458C50 PCB Layout (Unit: mm) TOP VIEW



Size 80*40mm

Figure 3. MAN2458C50 Antenna Layout (Unit: mm)



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Figure 4. MAN2458C50 Foot Print (Unit: mm)

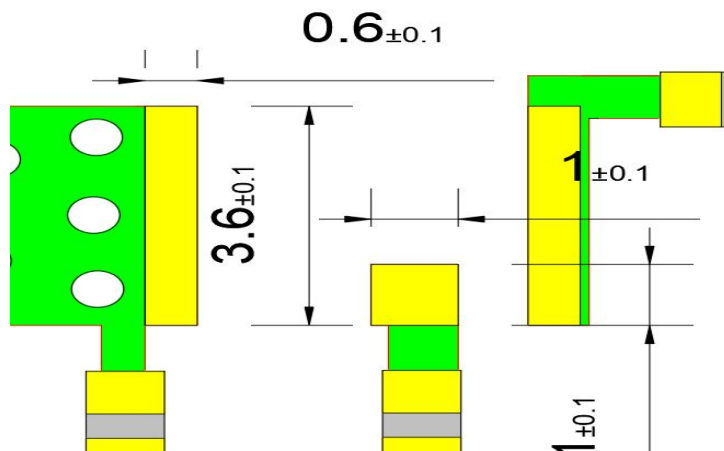


Figure 5. MAN2458C50 Matching Circuit

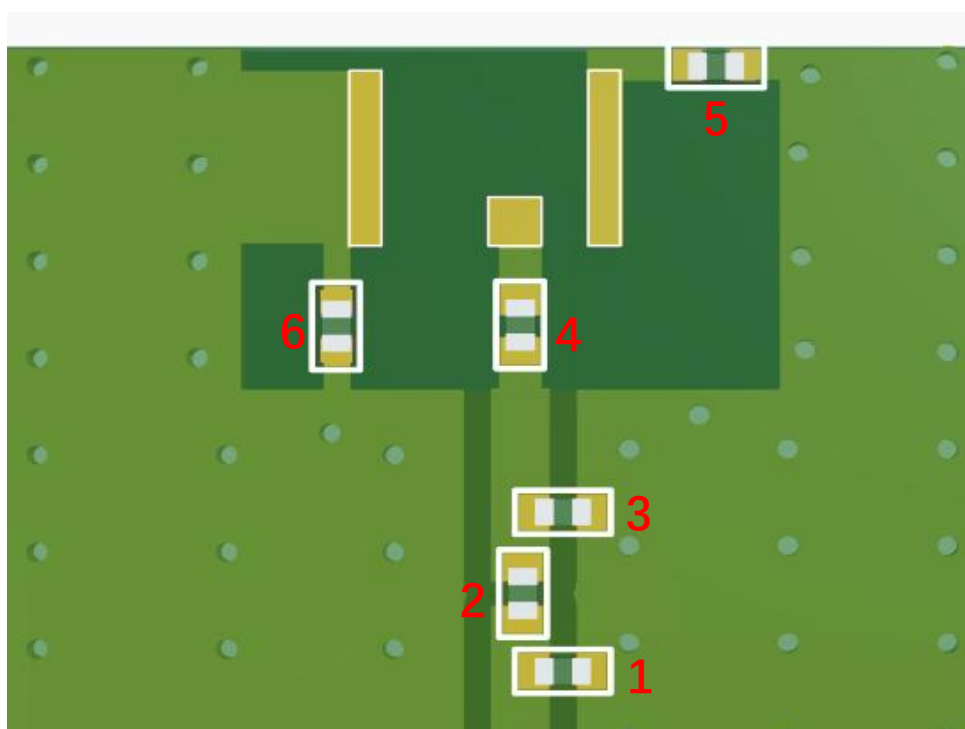


Table 3.MAN2458C50 Matching

Location	Description	Vendor
1	\	MURATA
2	1.8pF	MURATA
3	1.8pF	MURATA
4	0.3	MURATA
5	3pF	MURATA
6	1.8pF	MURATA

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Typical Performance

Figure 6. MAN2458C50 VSWR

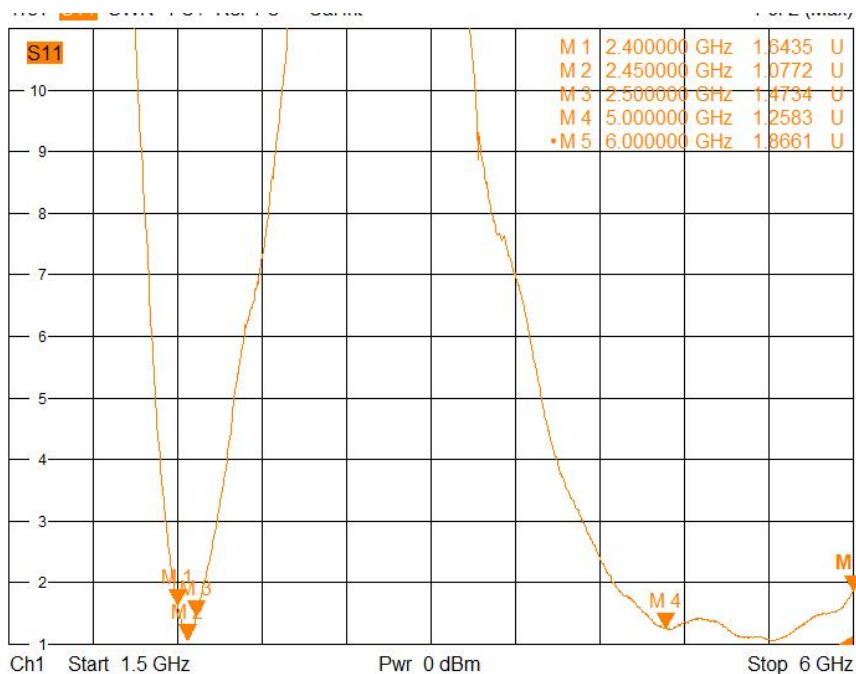
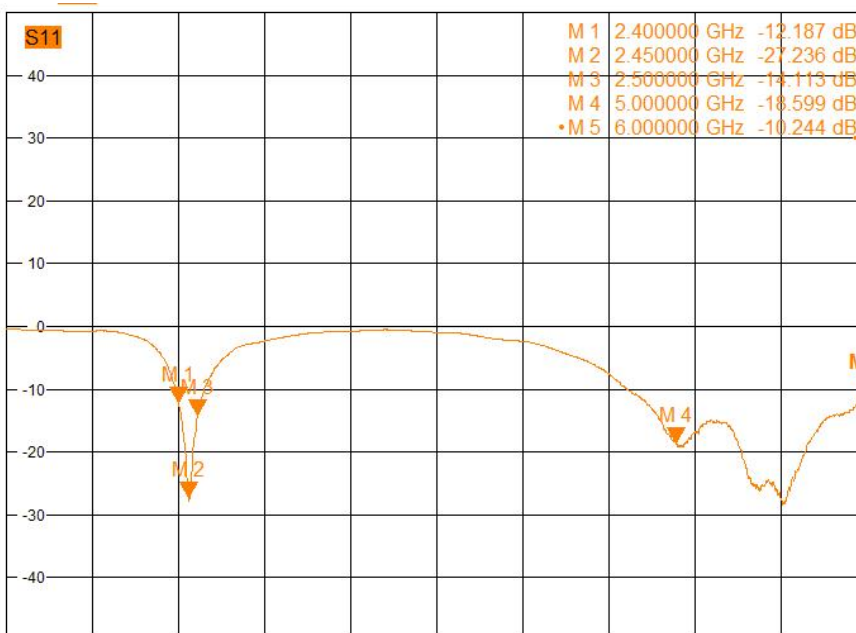


Figure 7. MAN2458C50 Return Loss



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Radiation Pattern & Efficiency & Peak Gain

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

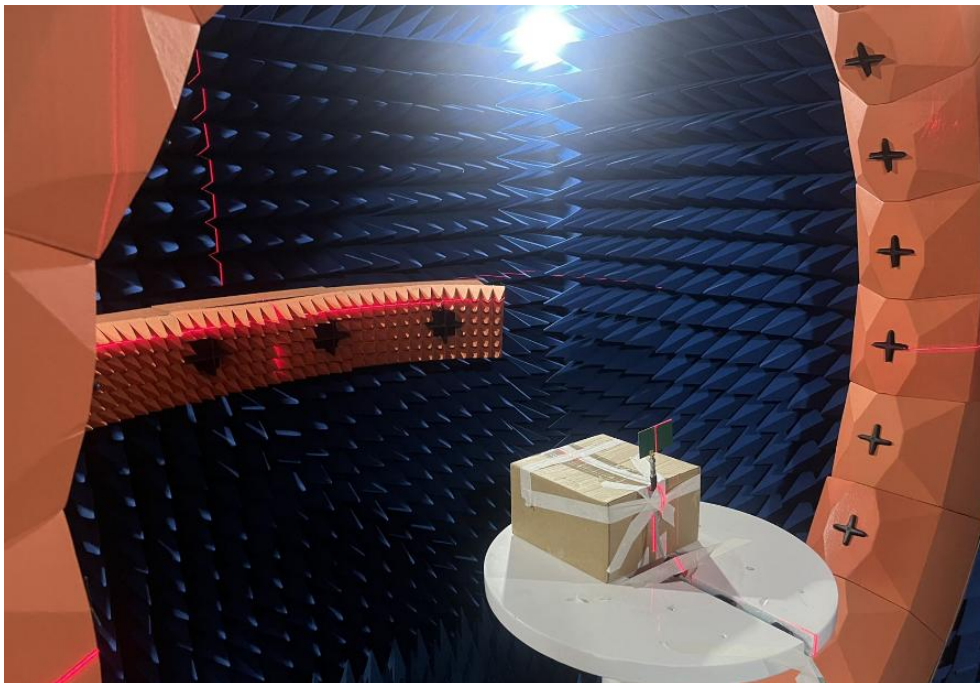


Table 4. MAN2458C50 Total Efficiency&Peak Gain

Item (MHz)	Efficiency (%)	Peak Gain (dBi)	Item (MHz)	Efficiency (%)	Peak Gain (dBi)
2400	71	0.41	5000	78	2.59
2410	73	0.56	5100	80	2.73
2420	76	0.64	5200	82	3.07
2430	78	0.69	5300	80	3.33
2440	79	0.78	5400	83	3.30
2450	80	0.81	5500	84	3.40
2460	80	0.94	5600	79	3.25
2470	80	1.13	5700	80	3.23
2480	80	1.21	5800	79	2.98
2490	79	1.17	5900	75	2.77
2500	78	0.99	6000	75	2.77

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Figure 9. MAN2458C50 Total Efficiency

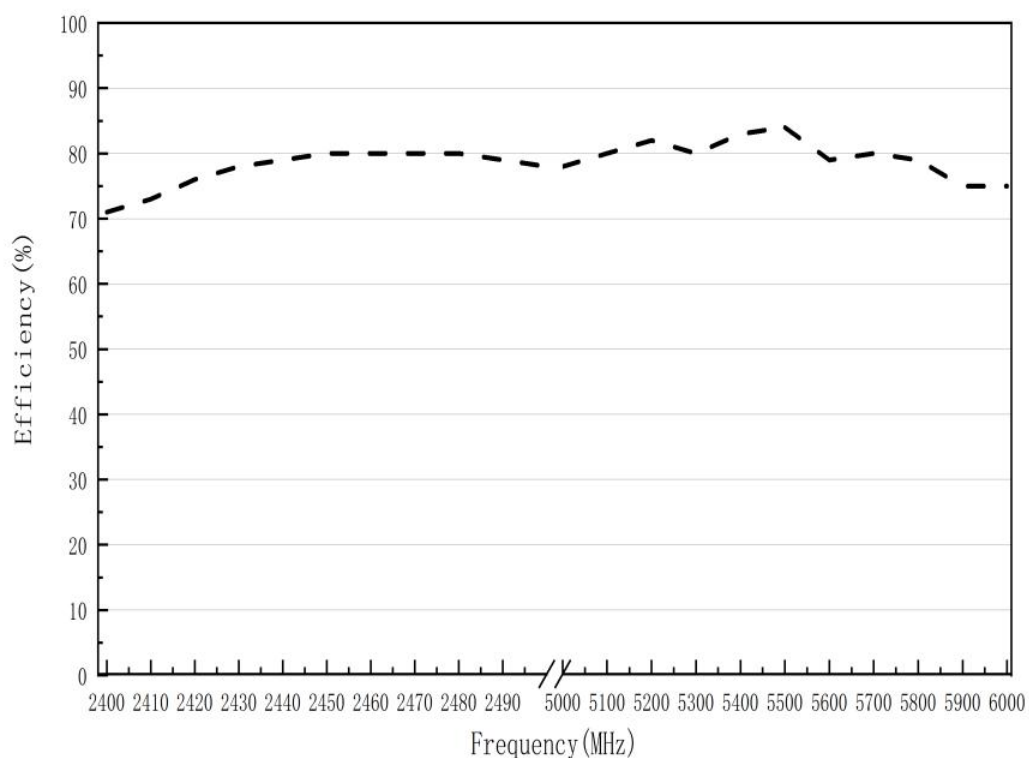
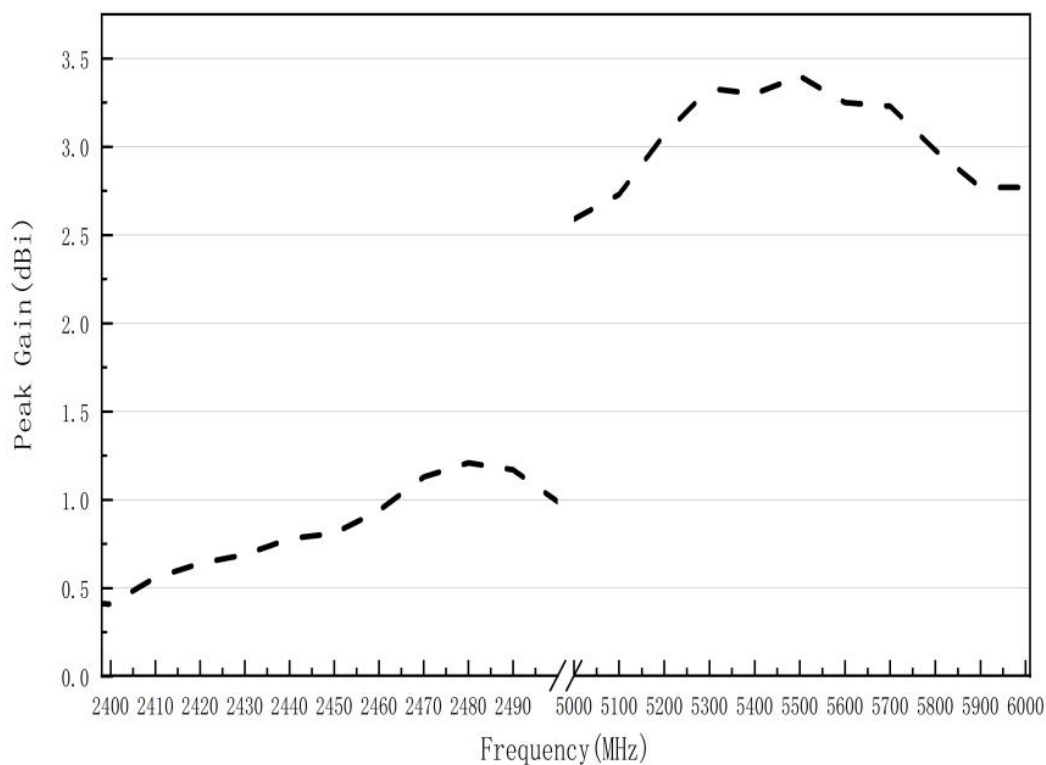


Figure 10. MAN2458C50 Peak Gain

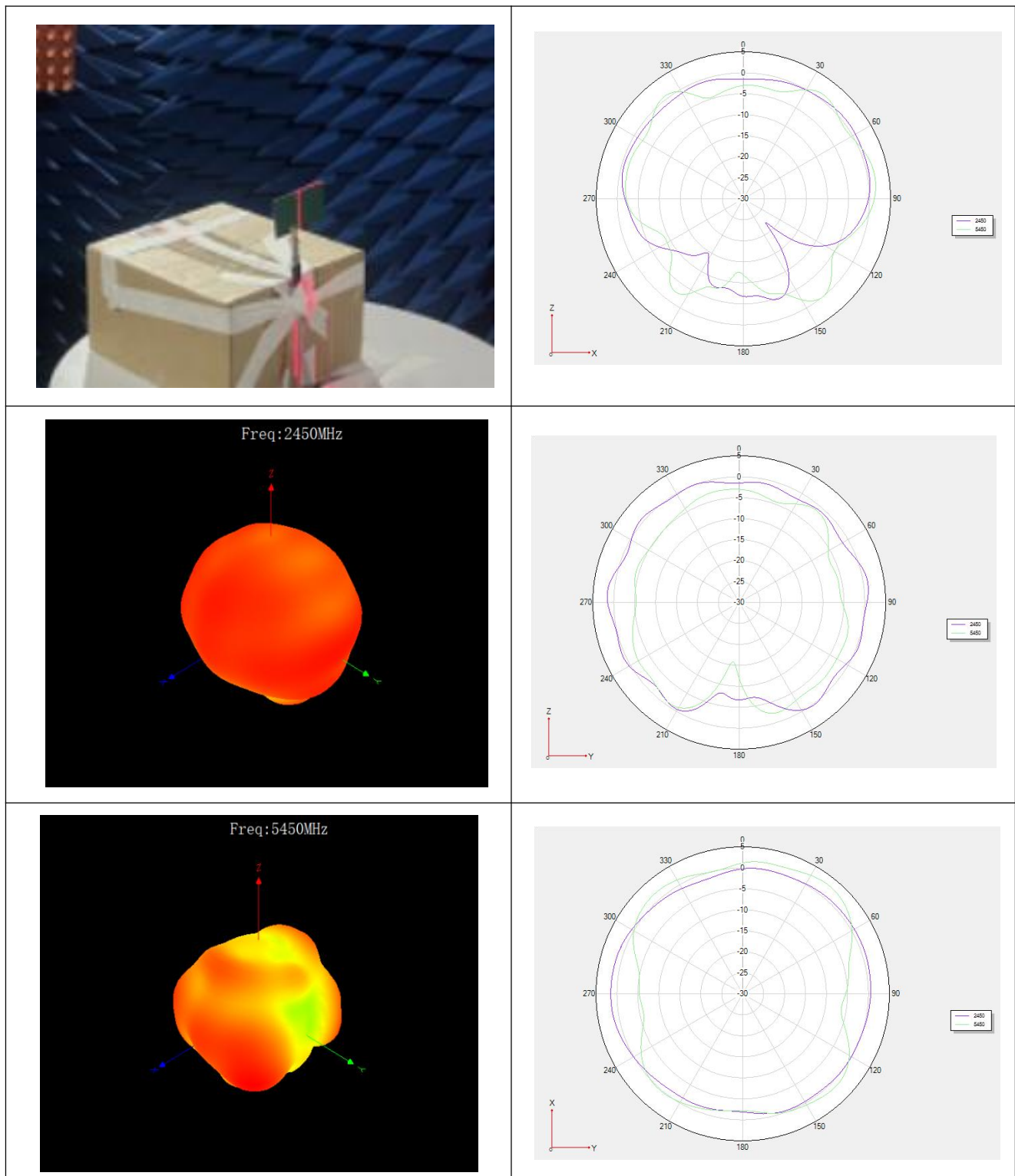


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Figure 11. Radiation Pattern



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The Efficiency for Different Location

Figure 12. MAN2458C50

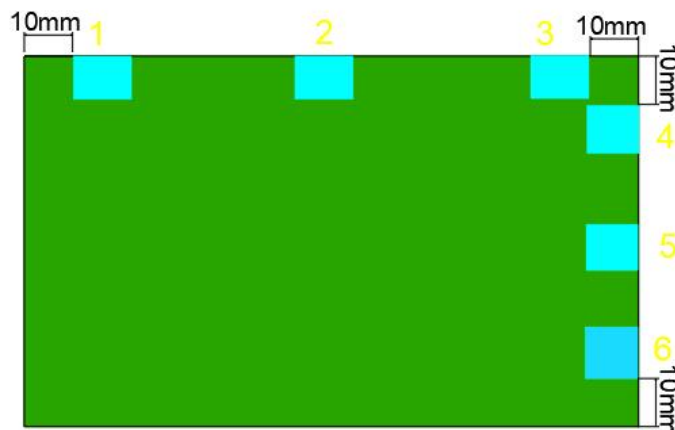
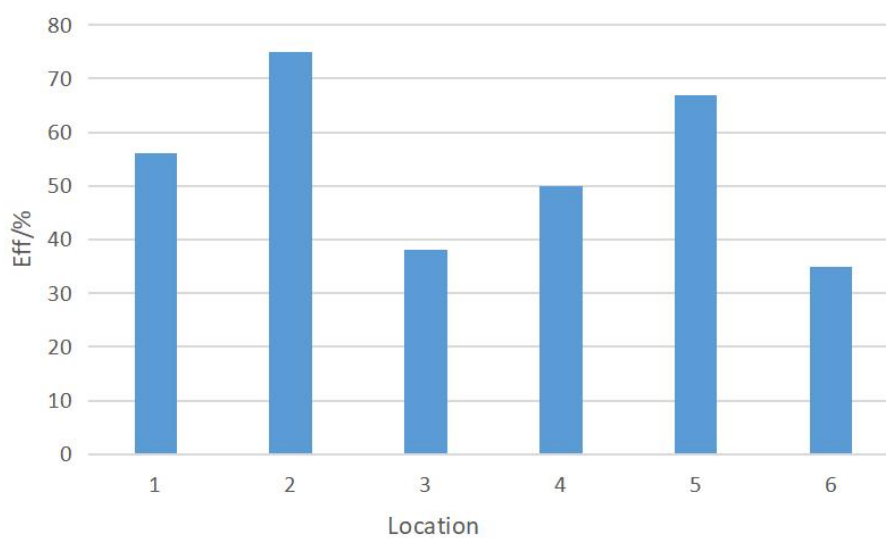


Table 5. MAN2458C50 Radiation Efficiency With Different Layout



*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.

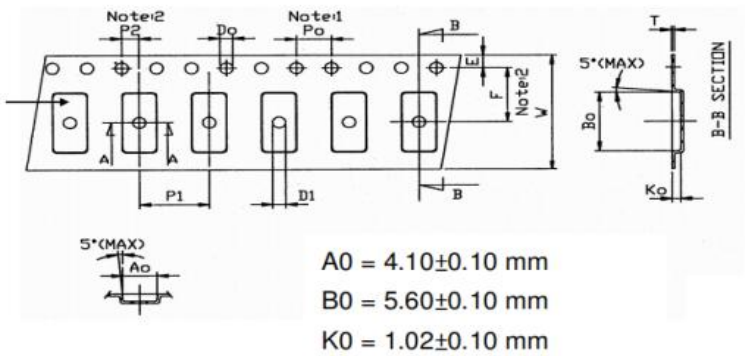
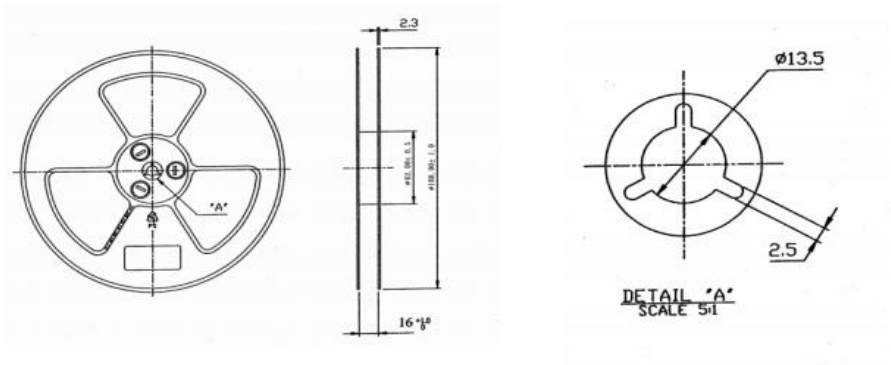
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Packaging and Ordering Information

Figure 13. Packaging Information



(Unit: mm)

Symbol	Spec.
Po	4.00±0.1
P1	8.00±0.1
P2	2.00±0.05
Do	1.55±0.05
D1	1.50(MIN)
E	1.75±0.1
F	5.50±0.05
10Po	40.00±0.2
W	12.00±0.1
T	0.25±0.05

Table 6. Packaging and Shipping

Device	Packaging	Reel	Shipping
MAN2458C50	SMD	7"	1500/Reel

MAN2458C50

WiFi Chip Antenna



Revision	Description	Date
Rev0	Preliminary	2023/9/5

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