

MAN2458C16

2.4&5.0 GHz Chip Antenna

MECSINE 兆讯

2.4&5.0 GHz Chip Antenna

For WiFi and Bluetooth

MAN2458C16

1.6x0.8x0.6 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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Applications

1. 2.4 GHz&5.0 GHz WiFi device
2. Bluetooth gadget
3. ISM band equipment

Features

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

Description

The MAN2458C16 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. MAN2458C16 Electrical Specification

Item	Low Fre	Type	High Fre	Unit
Frequency Range	2400-2500		5150-5850	MHz
VSWR	<3		<3	
Efficiency	63-79		64-81	%
Peak Gain	0.72		3.44	dBi
Polarization		Linear		
Nominal Impedance		50		Ω

- Ta: +25±5°C

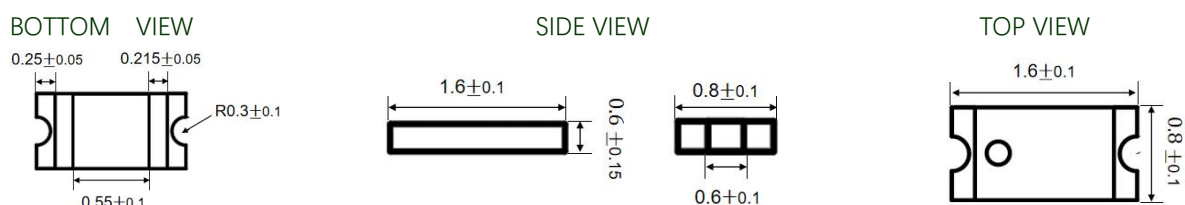
Mechanical Specifications

Table 2. MAN2458C16 Mechanical Specification

Item	Min.	Type	Max.	Unit
Antenna Size		1.6*0.8*0.6		Mm
Storage Temperature	-40		+85	°C
Operating temperature	-40		+85	°C

Outline Drawing

Figure 1. MAN2458C16 View (Unit: mm)



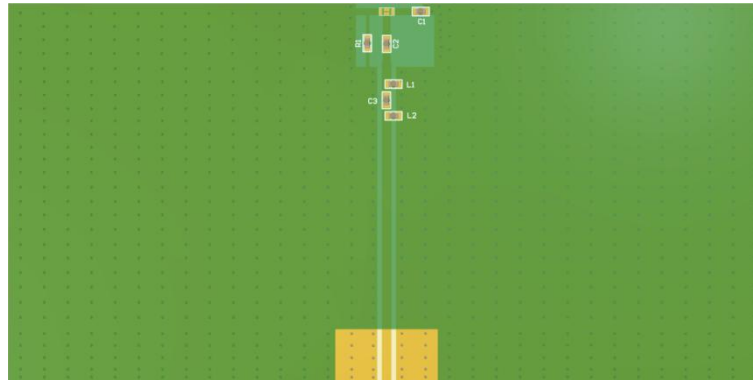
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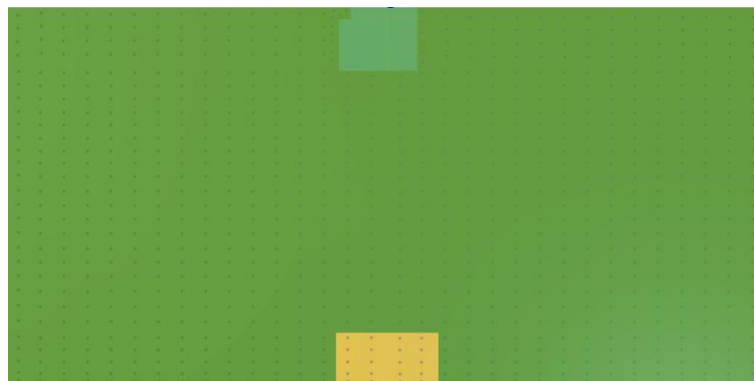
Recommend PCB Layout

Figure 2. MAN2458C16 PCB Layout (Unit: mm) TOP VIEW



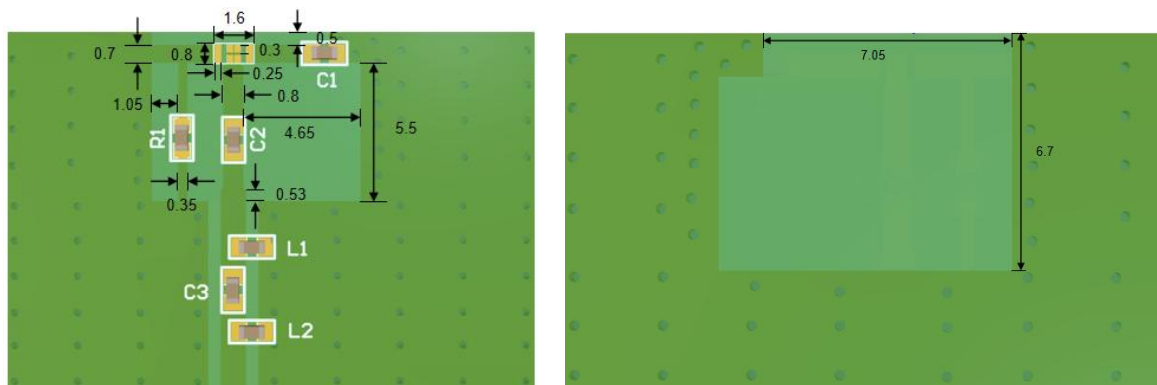
Size 80*40mm

Figure 3. MAN2458C16 PCB Layout (Unit: mm) BOTTOM VIEW



Size 80*40mm

Figure 4. MAN2458C16 PCB Antenna Layout (Unit: mm)



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Figure 5. MAN2458C16 Matching Circuit (Unit: mm)

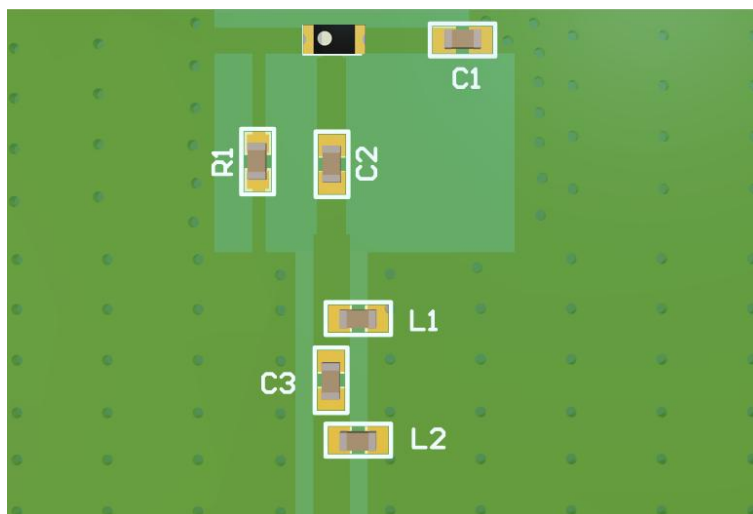
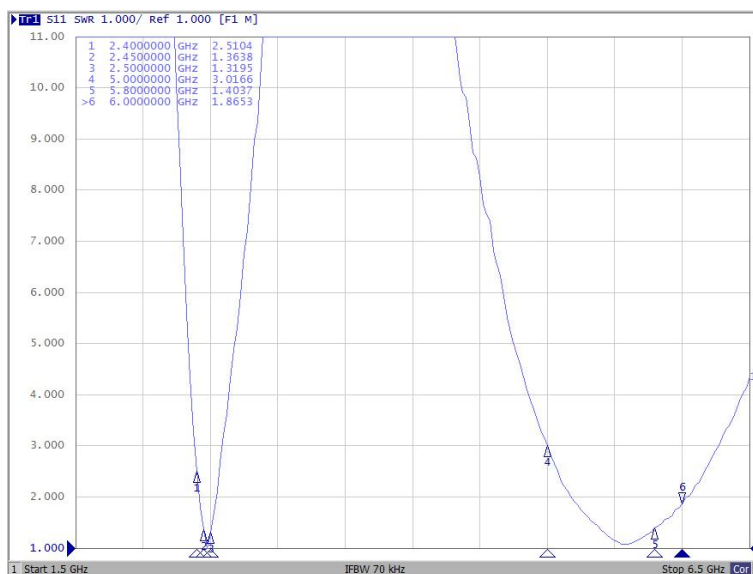


Table 3. MAN2458C16 MAN2458C16 Matching

Location	Description	Vendor
C1	1.8pf	MURATA
C2	0.5pf	MURATA
C3	1pf	MURATA
L1	N/C	MURATA
L2	N/C	N/C
R1	0Ω	N/C

Typical Performance

Figure 6. MAN2458C16 VSWR



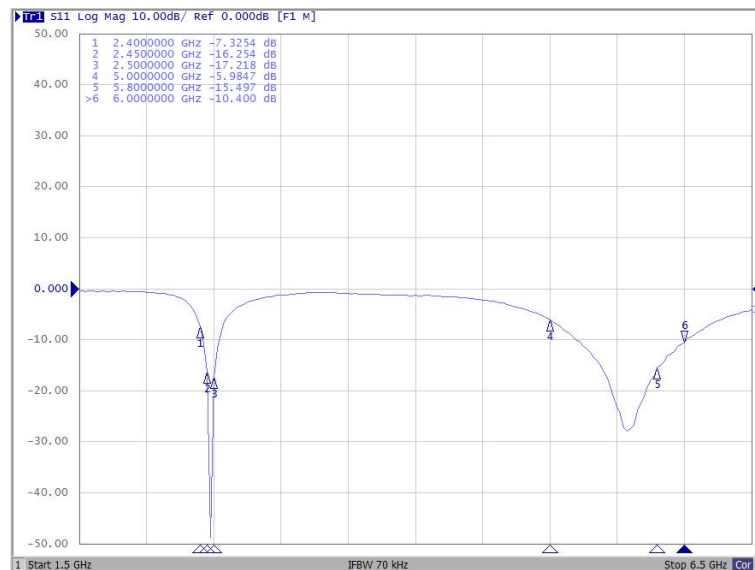
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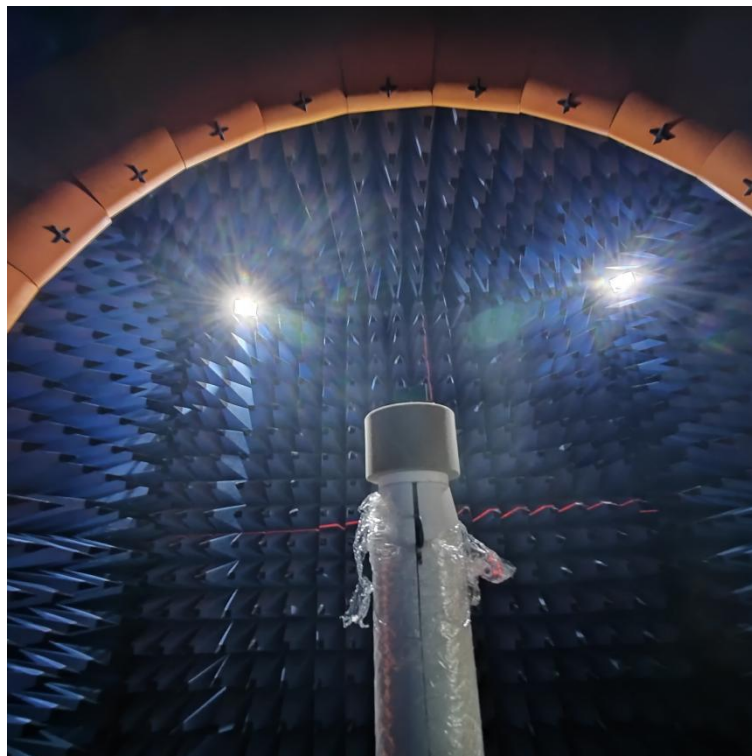
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Figure 7. MAN2458C16 Return Loss



Radiation Pattern & Efficiency & Peak Gain

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



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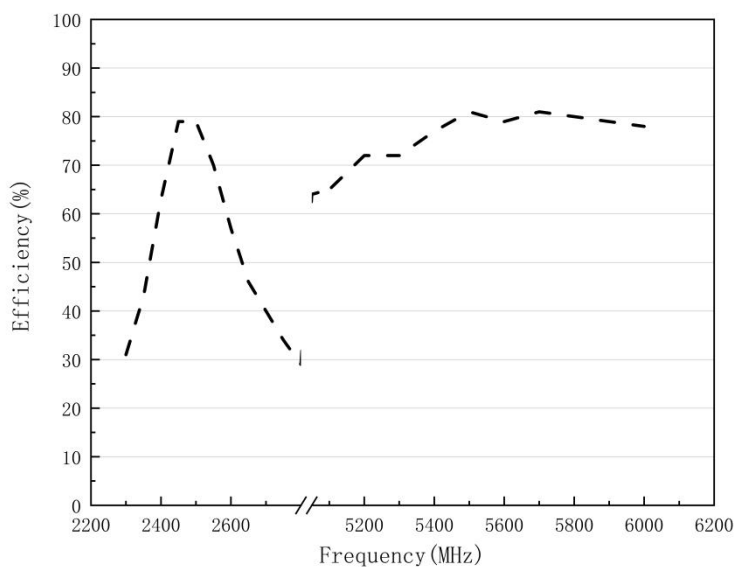


Table 4. MAN2458C16 Total Efficiency&Peak Gain

Item (MHz)	Efficiency (%)	Peak Gain (dBi)	Avg gain (dB)	Item (MHz)	Efficiency (%)	Peak Gain (dBi)	Avg gain (dB)
2300	31	-2.92	-5.07	5050	64	1.296	-1.969
2350	43	-1.71	-3.64	5100	65	1.725	-1.854
2400	63	-0.05	-1.99	5200	72	2.121	-1.429
2450	79	0.72	-1.04	5300	72	2.572	-1.407
2500	79	0.72	-1.01	5400	77	3.003	-1.126
2550	70	0.17	-1.51	5500	81	3.177	-0.893
2600	57	-0.56	-2.41	5600	79	3.443	-1.002
2650	46	-1.57	-3.41	5700	81	3.275	-0.925
2700	40	-2.29	-4.02	5800	80	3.370	-0.968
2750	34	-2.84	-4.73	5900	79	3.318	-1.022
2800	29	-3.46	-5.34	6000	78	3.197	-1.085

*Antenna performance can also vary across different demo boards and in different environments. It is recommended to consult the relevant technical personnel to confirm the layout before use to ensure optimal performance.

Figure 9. MAN2458C16 Total Efficiency



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Figure 10. MAN2458C16 Peak Gain

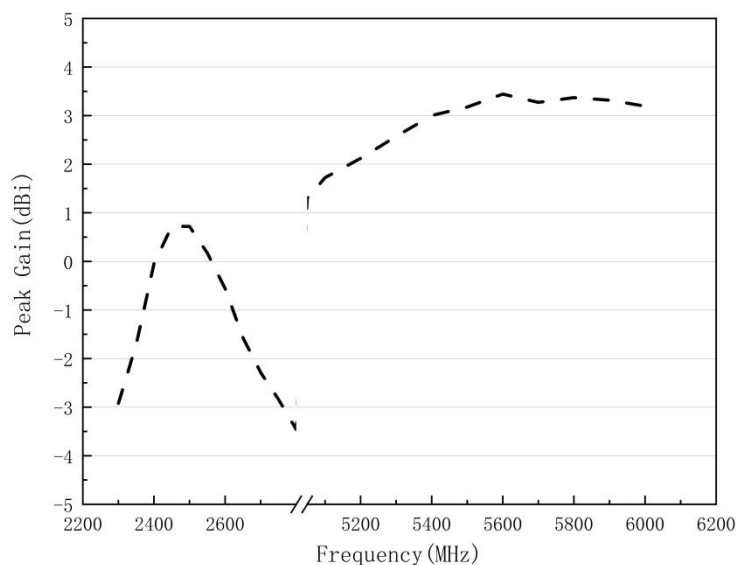
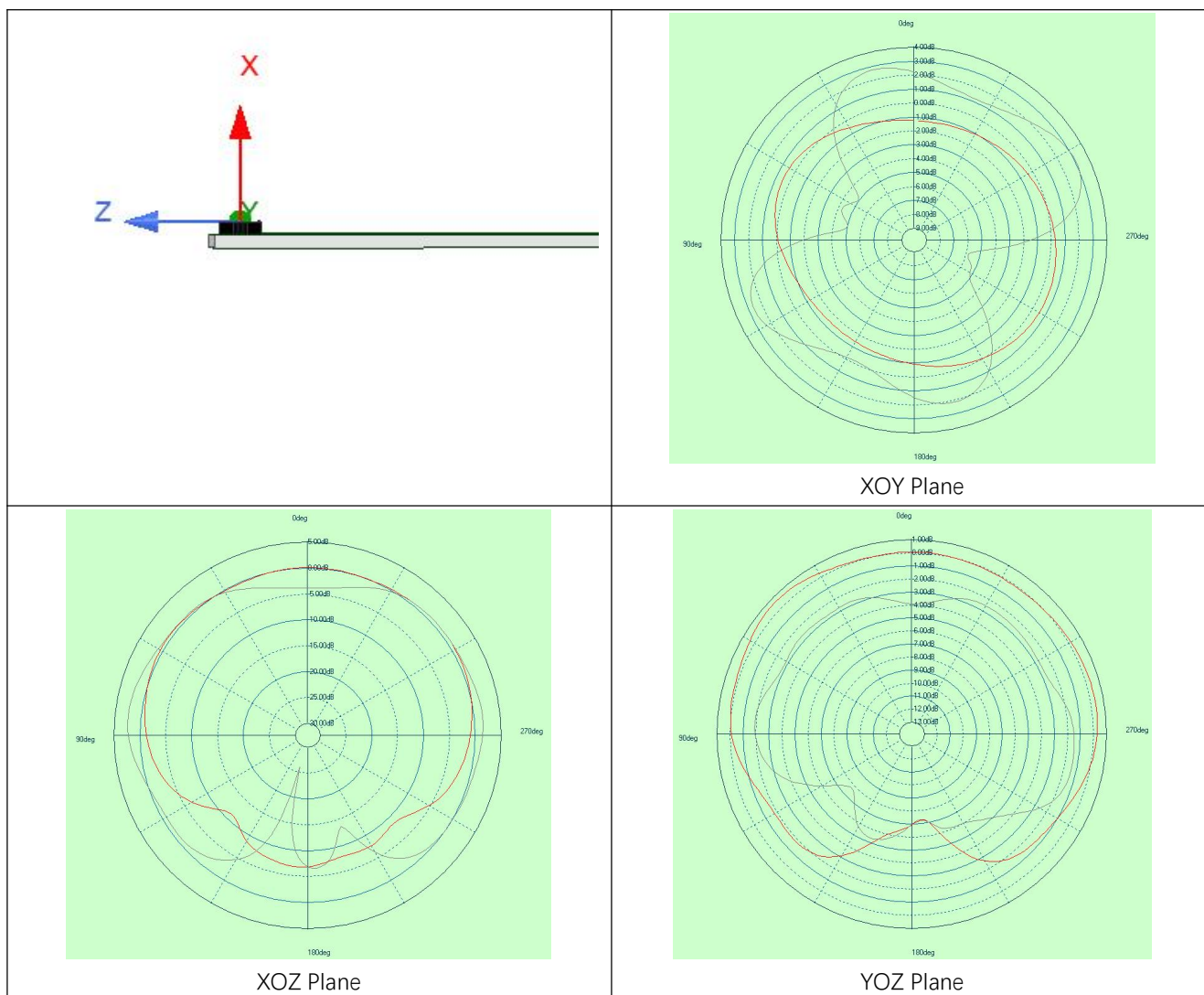


Figure 11. Radiation Pattern



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Packaging and Ordering Information

Figure 12. Packaging Information

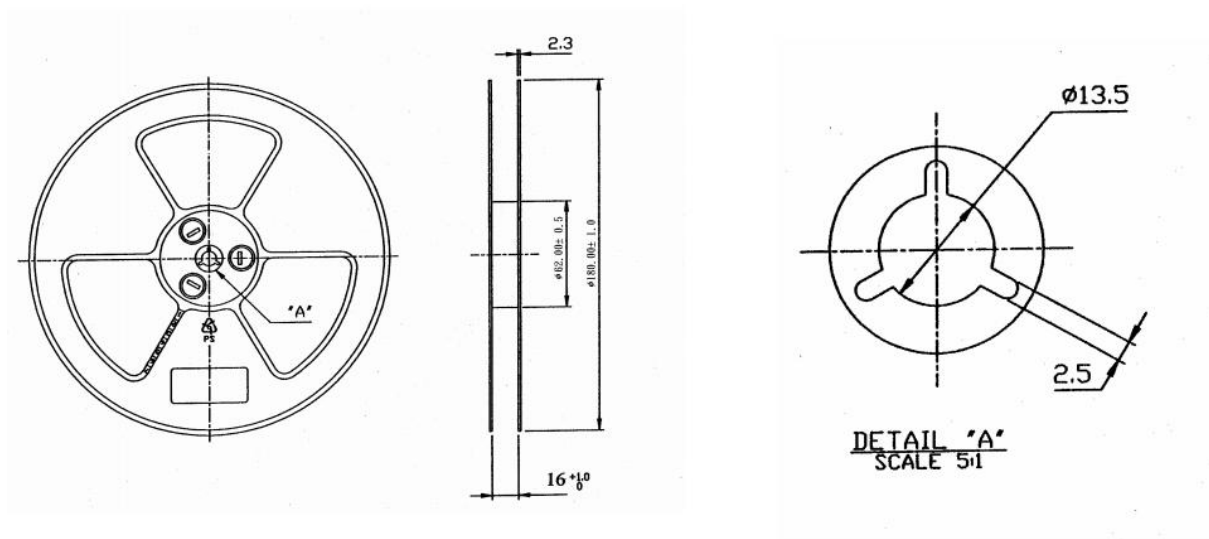


Table 5. Packaging and Shipping

Device	Packaging	Reel	Shipping
MAN2458C16	SMD	7"	5000/Reel

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Revision	Description	Date
Rev0	Preliminary	2024/12/25

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