Chip Antenna

For GPS/WIFI

MAN1624C32

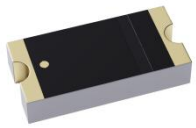
3.2x1.6x0.6 mm

MAN1624C32

Chip Antenna

Applications

1. 2.4 GHz WiFi device
2. Bluetooth gadget
3. Zigbee device
4. ISM band equipment
5. 1575.42MHz GPS device



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. MAN1624C32 Electrical Specification

PORT 1

Item	Min.	Type	Max.	Unit
Frequency Range	1560		1580	MHz
VSWR	1.0		2.5	:1
Efficiency	52		63	%
Peak Gain		1.6		dBi
Polarization		Linear		
Nominal Impedance		50		Ω

PORT 2

Item	Min.	Type	Max.	Unit
Frequency Range	2400		2500	MHz
VSWR	1.0		2.5	:1
Efficiency	64		75	%
Peak Gain		1.8		dBi
Polarization		Linear		
Nominal Impedance		50		Ω

• Ta: +25±5°C

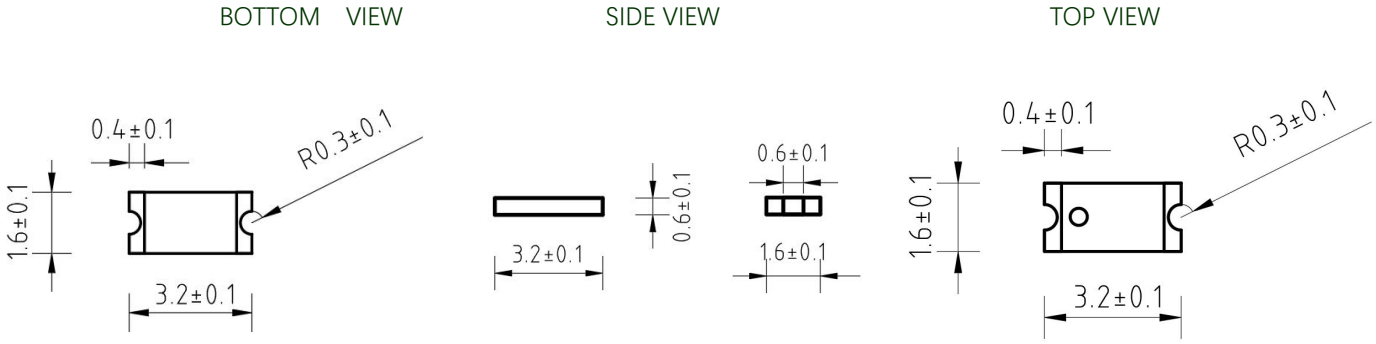
Mechanical Specification

Table 2. MAN1624C32 Mechanical Specification

Item	Min.	Type	Max.	Unit
Antenna Size		3.2*1.6* 0.6		Mm
Temperature	-40		+85	°C
Operating temperature	-40		+85	°C

Outline Drawing

Figure 1.MAN1624C32 View (Unit: mm)



Recommend PCB Layout

Figure 2. MAN1624C32 PCB Layout (Unit: mm)

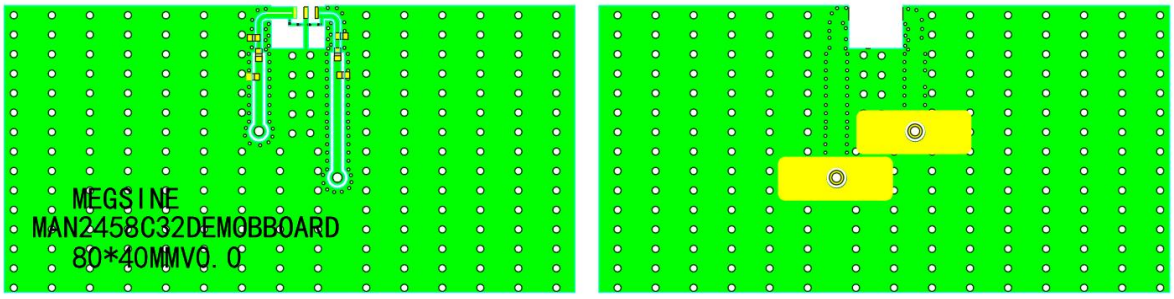


Figure 3. MAN1624C32 Antenna Layout (Unit: mm)

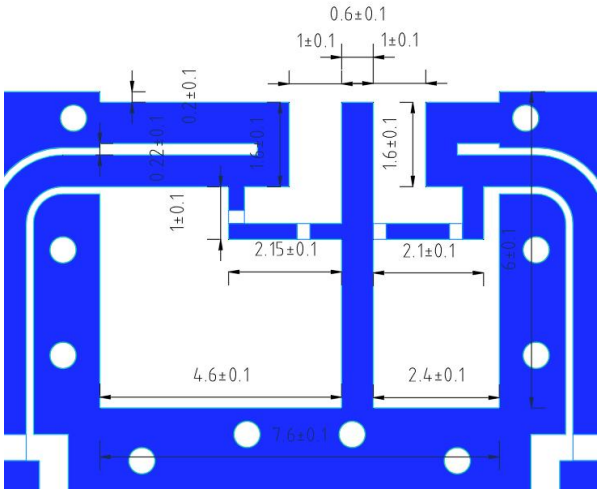


Figure 4. MAN1624C32 Match Circuit (Unit: mm)

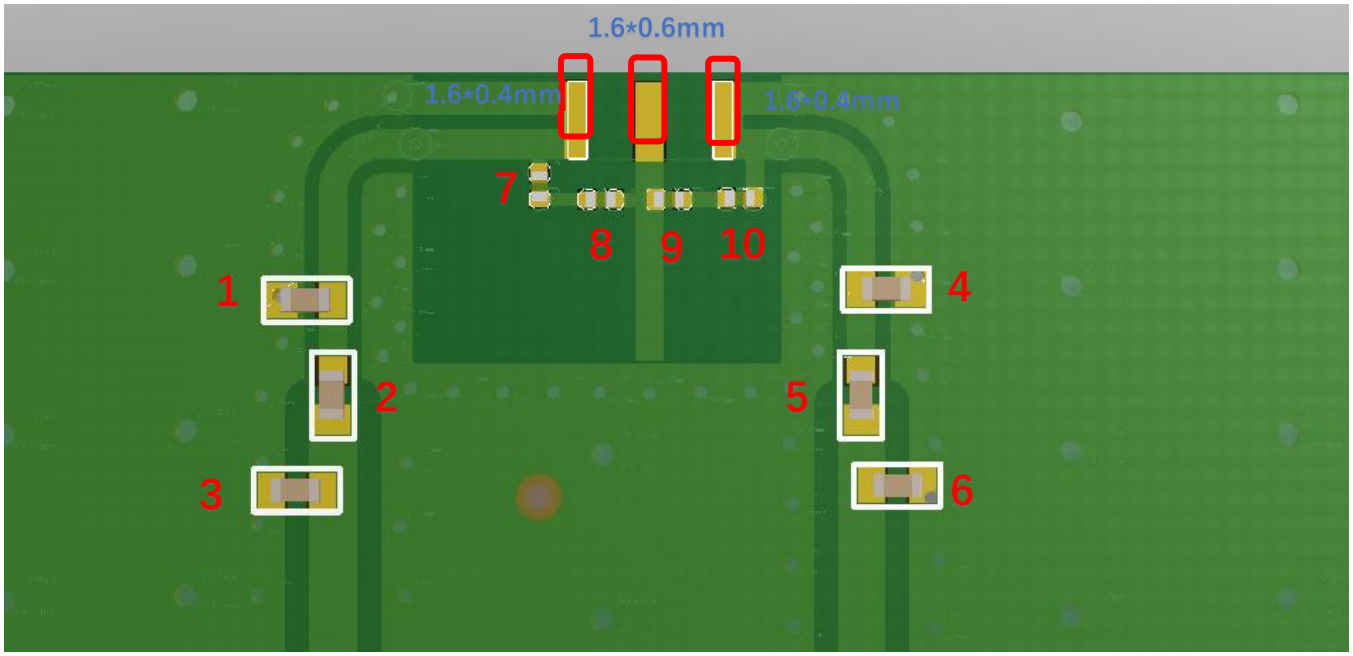


Table 3.MAN1624C32 Matching

Location	Description	Vendor
1	N/C	MURATA
2	2.7pf	MURATA
3	2.2nH	MURATA
4	N/C	MURATA
5	4.3pf	MURATA
6	N/C	MURATA
7	0Ω	MURATA
8	0.3pf	MURATA
9	1.0pf	MURATA
10	0.6pf	MURATA

Typical Performance

Figure 5. MAN1624C32 VSWR Port 1

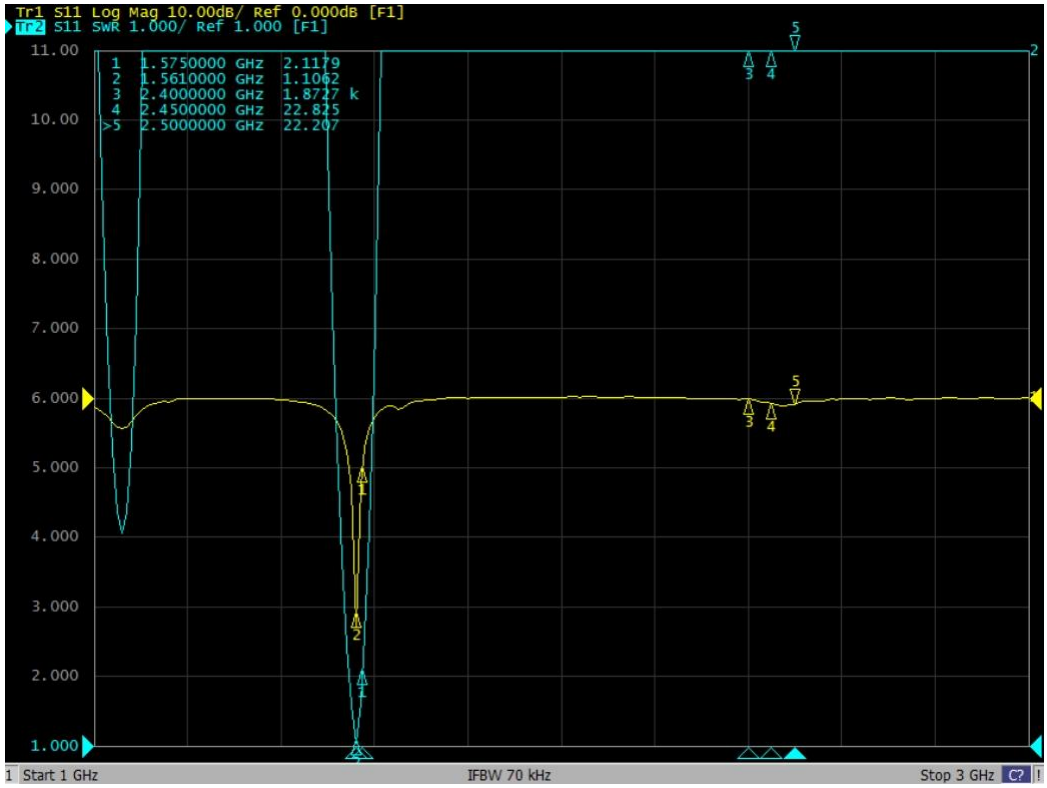


Figure 6. MAN1624C32 VSWR Port 2

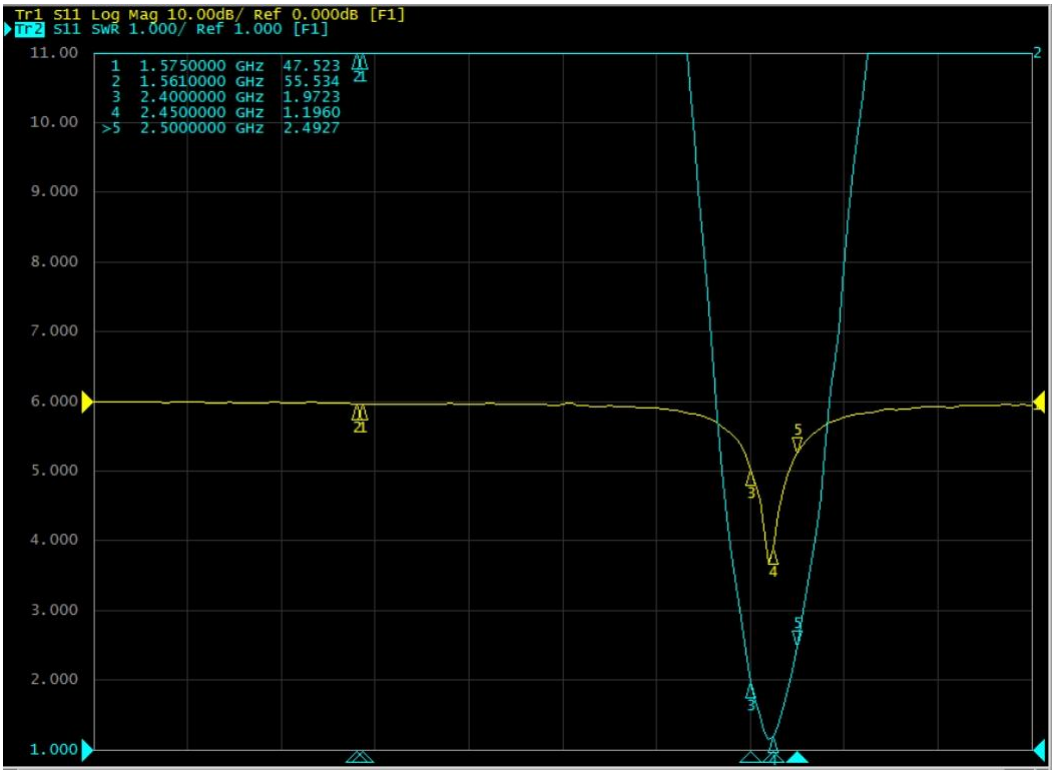
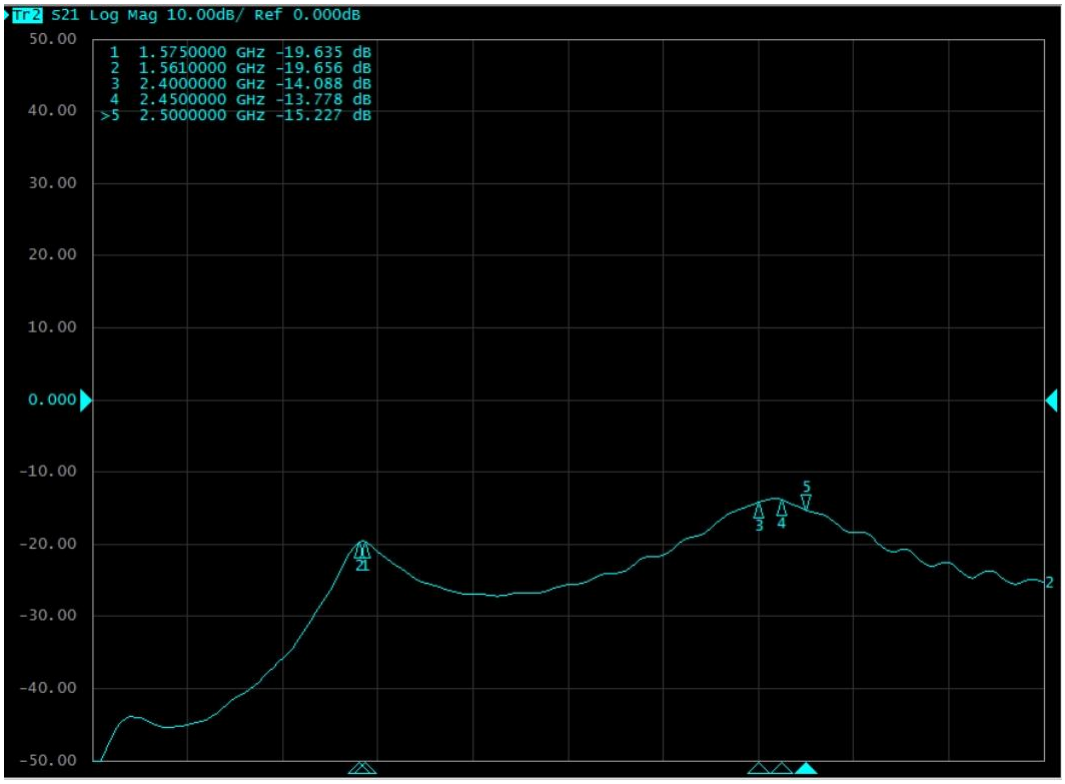


Figure 7. MAN1624C32 Port 1&Port 2 S21



Radiation Pattern & Efficiency & Peak Gain

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

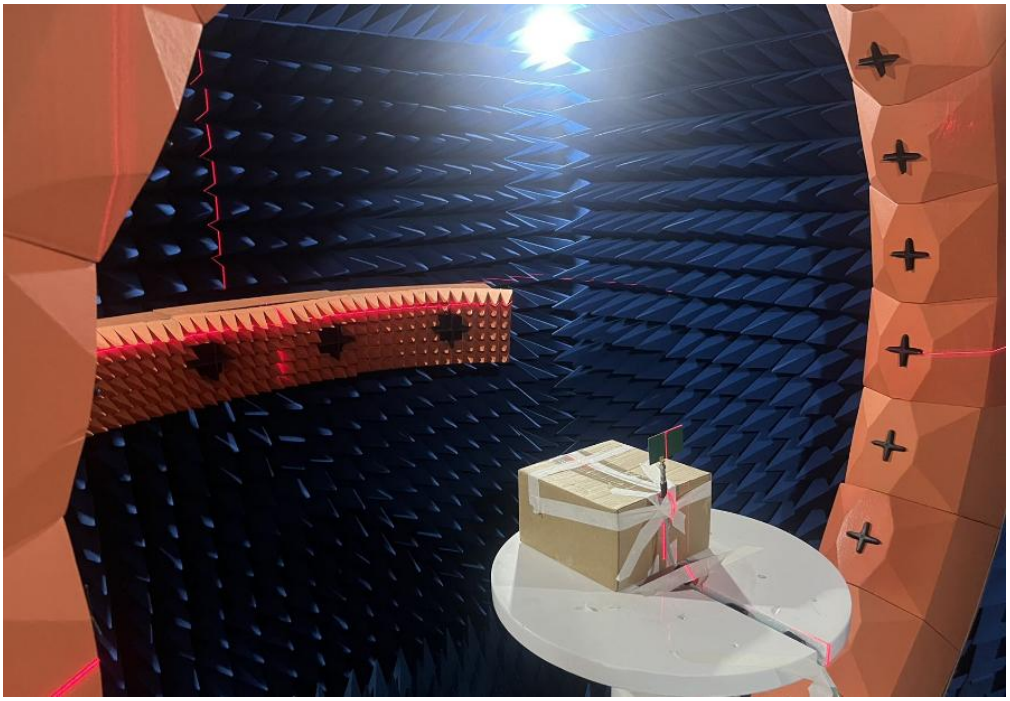


Table 4. MAN1624C32 Total Efficiency&Peak Gain Port 1

Item (MHz)	Efficiency (%)	Peak Gain (dBi)	Avg gain (dB)	Item (MHz)	Efficiency (%)	Peak Gain (dBi)	Avg gain (dB)
1560	63	1.47	-2.01	1571	59	1.49	-2.27
1561	63	1.56	-1.99	1572	59	1.44	-2.32
1562	63	1.61	-1.99	1573	58	1.36	-2.39
1563	63	1.62	-2.01	1574	56	1.26	-2.48
1564	62	1.59	-2.05	1575	55	1.16	-2.57
1565	61	1.52	-2.10	1576	54	1.09	-2.65
1566	60	1.47	-2.15	1577	54	1.04	-2.71
1567	60	1.44	-2.20	1578	53	0.97	-2.76
1568	60	1.46	-2.22	1579	53	0.96	-2.79
1569	60	1.48	-2.23	1580	52	0.94	-2.83
1570	60	1.51	-2.24				

Table 5. MAN1624C32 Total Efficiency&Peak Gain Port 2

Item (MHz)	Efficiency (%)	Peak Gain (dBi)	Avg gain (dB)
2400	67.61	0.76	-1.7
2410	69.34	0.95	-1.59
2420	72.95	1.47	-1.37
2430	73.62	1.33	-1.33
2440	73.96	1.49	-1.31
2450	75.86	1.59	-1.2
2460	73.12	1.26	-1.48
2470	71.28	1.43	-1.35
2480	68.71	1.84	-1.63
2490	69.66	1.72	-1.57
2500	64.42	0.55	-1.91

Figure 9. MAN1624C32 Total Efficiency Port 1

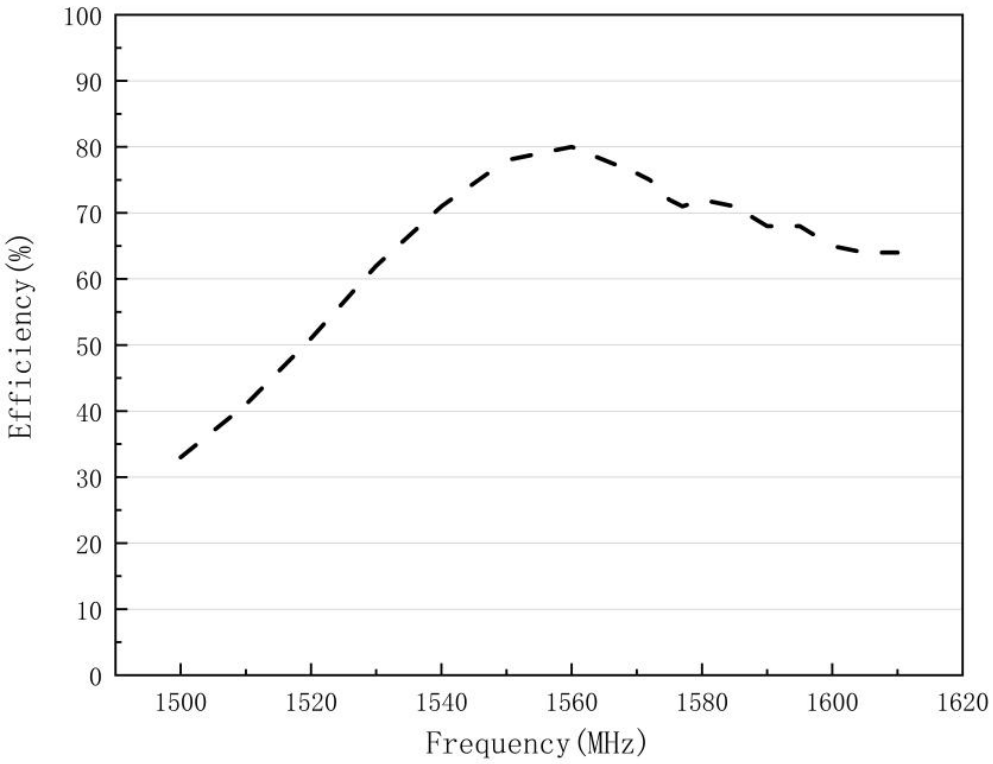


Figure 10. MAN1624C32 Peak Gain Port 1

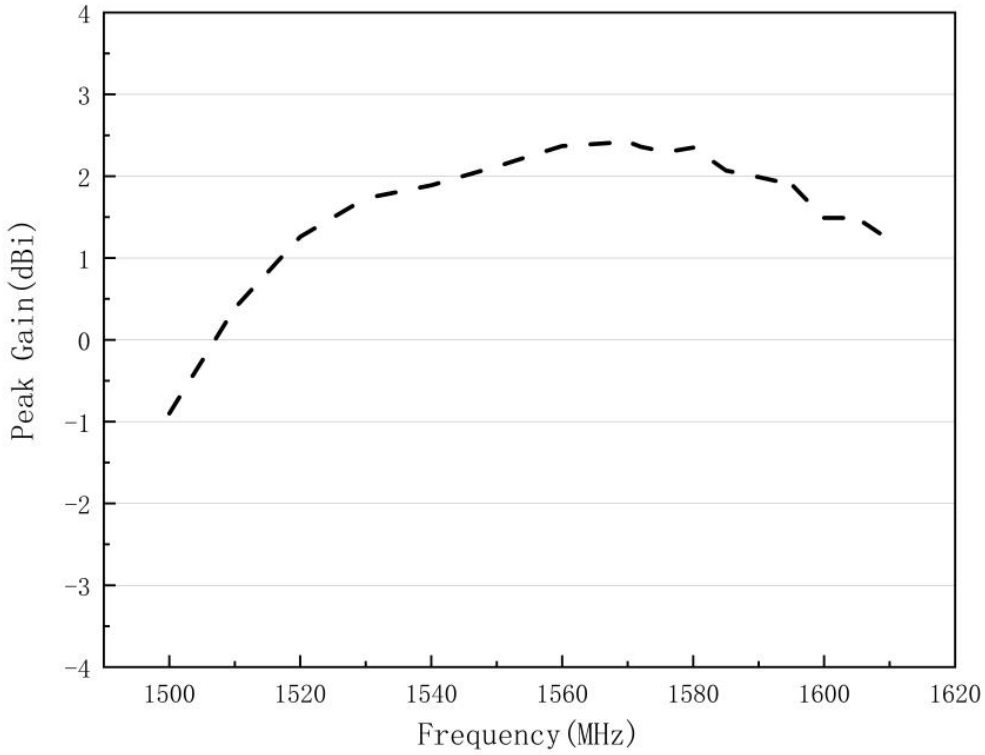


Figure 11. MAN1624C32 Total Efficiency Port 2

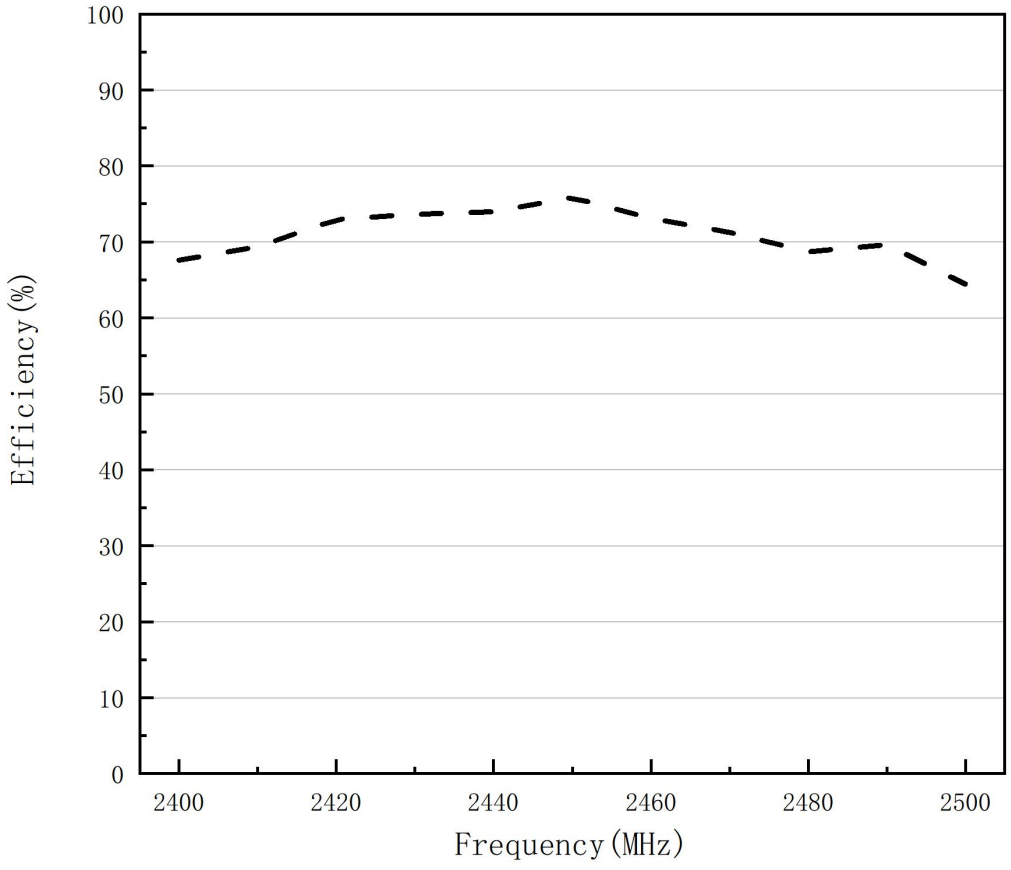


Figure 12. MAN1624C32 Peak Gain Port 2

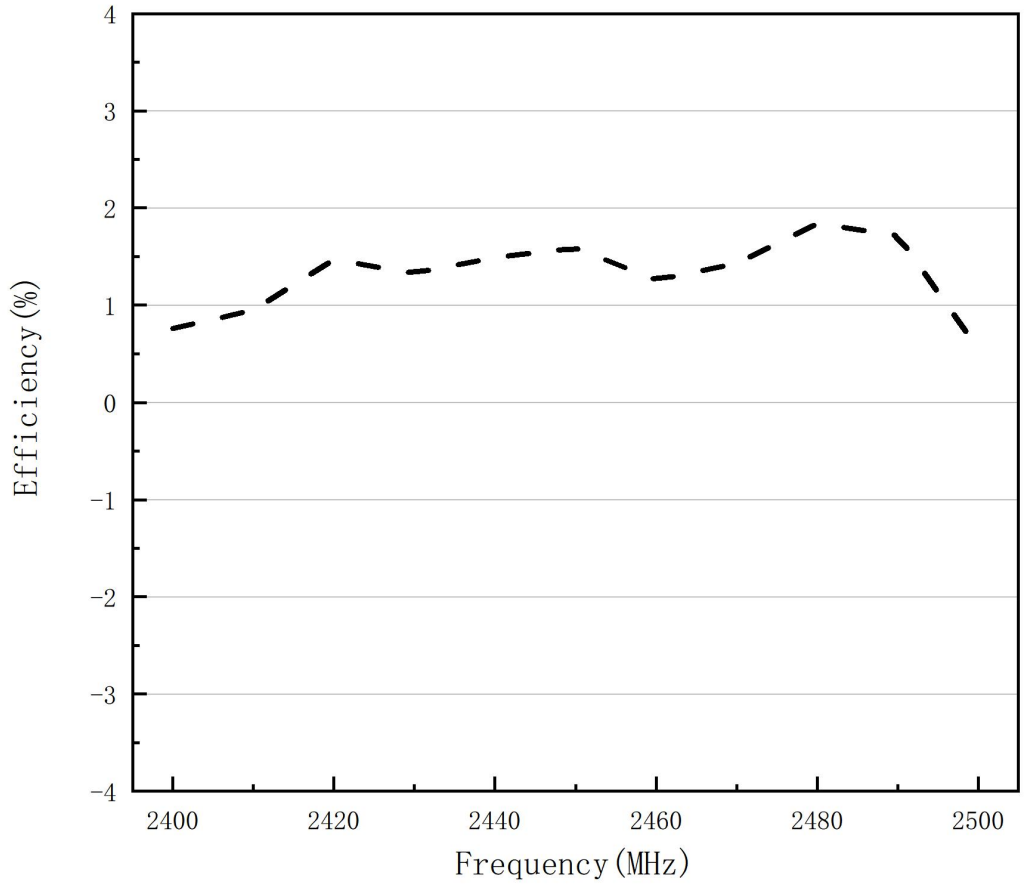


Figure 13. Radiation Pattern Port1

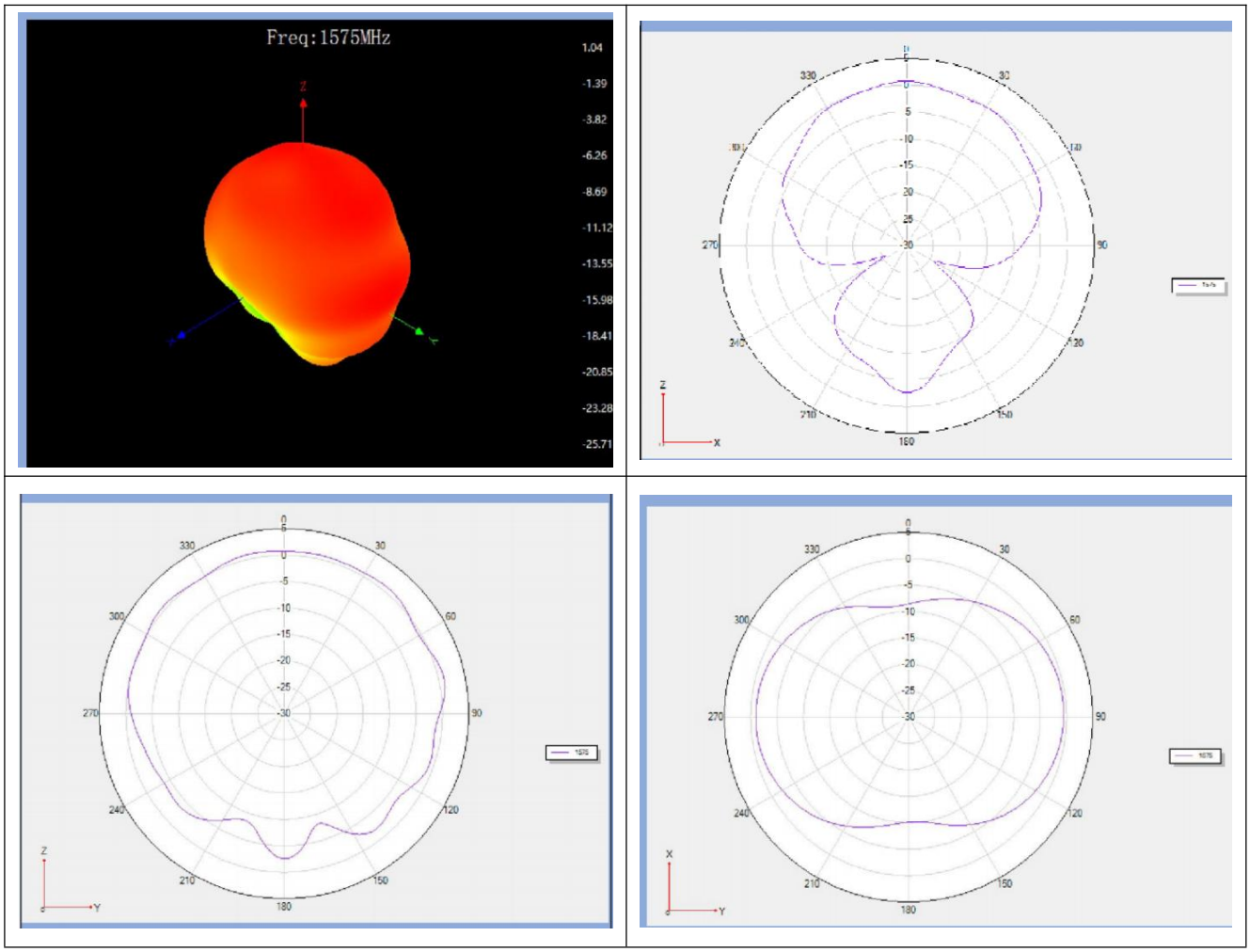
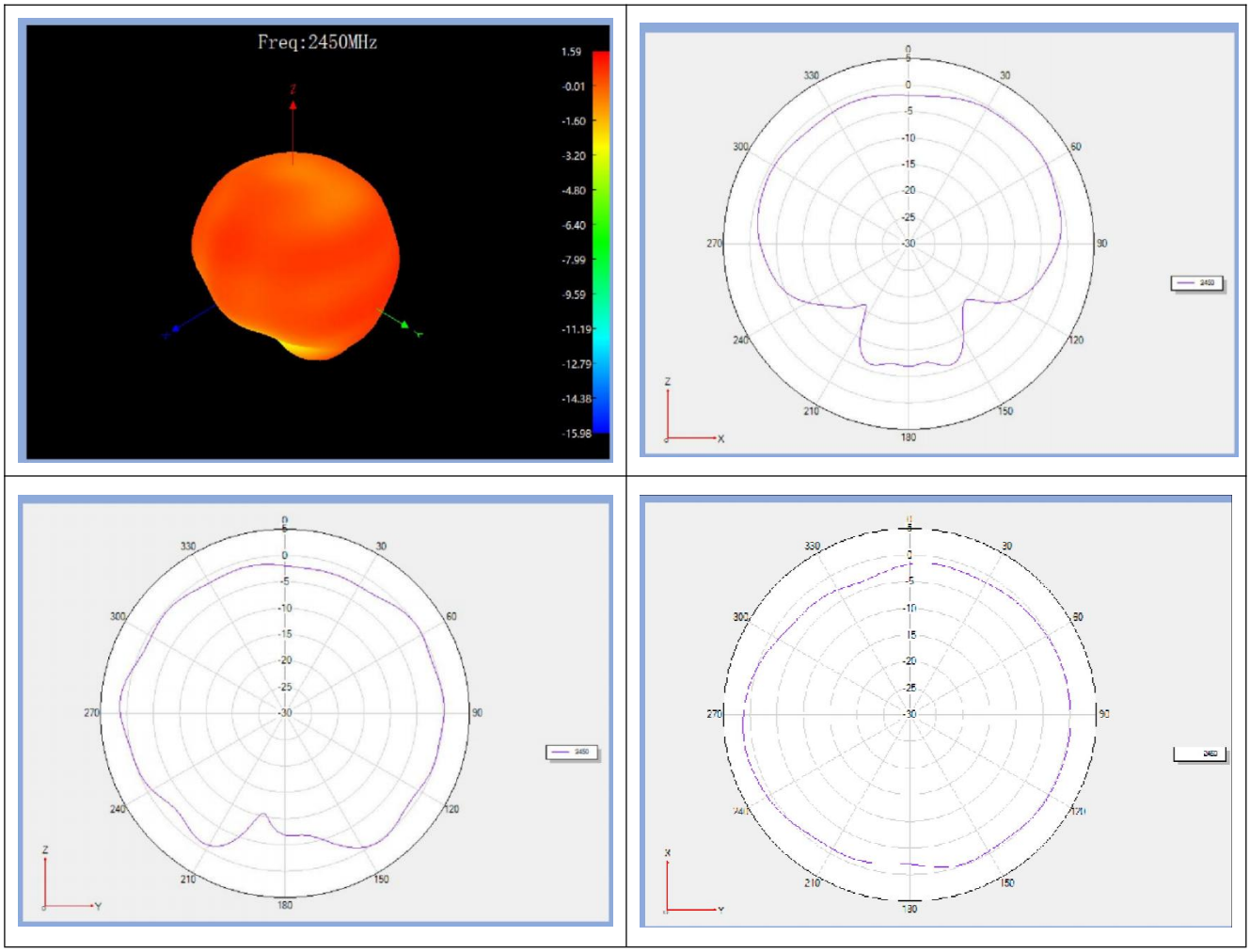


Figure 14. Radiation Pattern Port2



Packaging and Ordering Information

Figure 15. Packaging Information

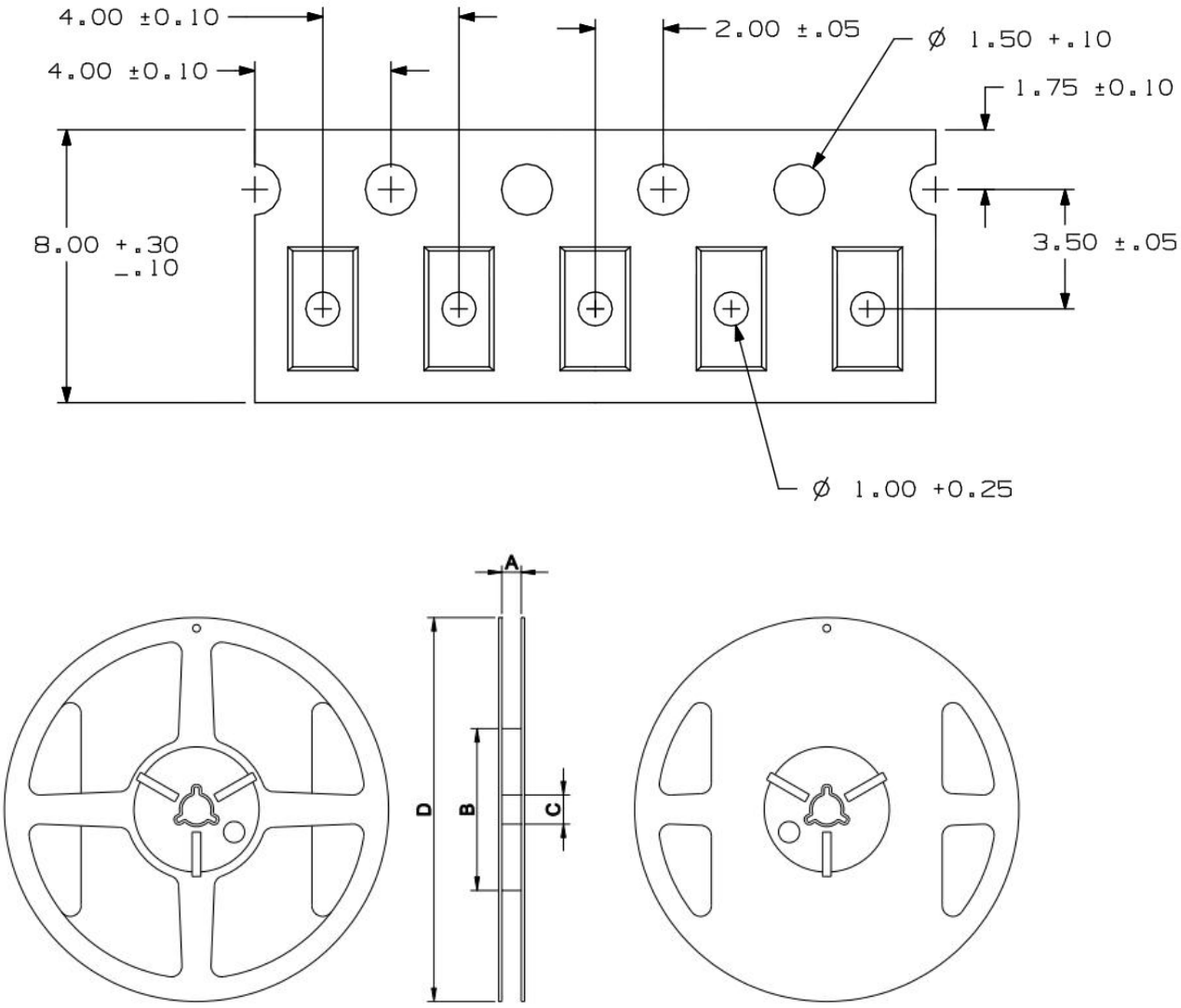


Table 6. Packaging and Shipping

Device	Packaging	Reel	Shipping
MAN1624C32	SMD	7”	3000/Reel

Revision	Description	Date
Rev0	Preliminary	2023/6/7
Rev1	formality	2023/7/4
Rev	formality	2024/3/14