

MAN1624C32

GPS & 2.4GHz 3216 Chip Antenna



Applications

1. Smart Watch & wristband
2. Electrical Tag

Features

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



Description

The MAN1624C32 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 Port1

Item	Min.	Type.@25°C	Max.	Unit
Frequency Range	1570		1580	MHz
VSWR	1.0		2.5	:1
Efficiency		61		%
Peak Gain		1.29		dBi
Polarization		Linear		
Nominal Impedance		50		Ω

Table 2. MAN1624C32 Electrical Specification Port2

Item	Min.	Type.@25°C	Max.	Unit
Frequency Range	2400		2500	MHz
VSWR	1.0		2.5	:1
Efficiency		75		%
Peak Gain		1.59		dBi
Polarization		Linear		
Nominal Impedance		50		Ω

All Use For RF & Microwave

MAN1624C32

GPS & 2.4GHz 3216 Chip Antenna



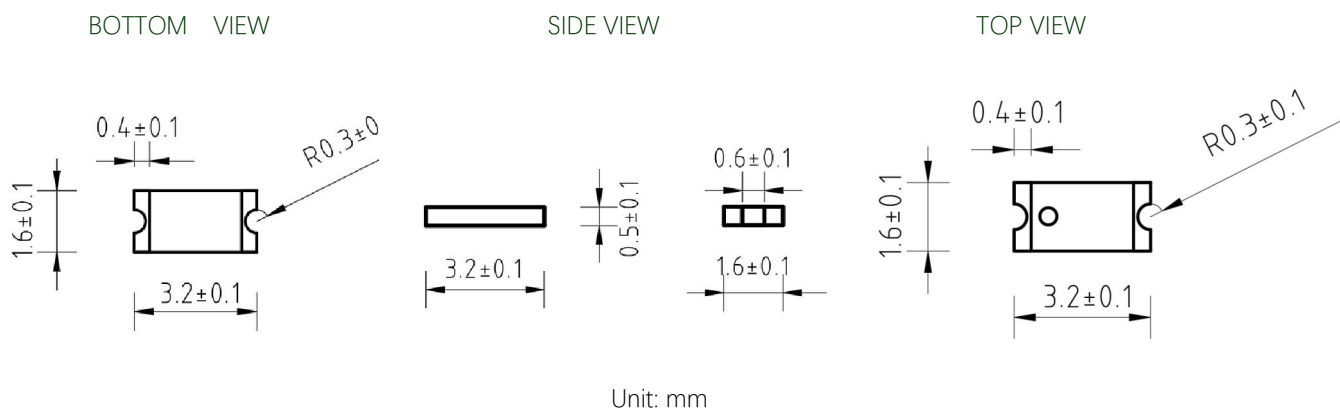
Mechanical Specifications

Table 3. MAN1624C32 Mechanical Specification

Item	Min.	Type.@25°C	Max.	Unit
Antenna Size		3.2*1.6* 0.5		Mm
Temperature	-40		+80	°C
Operating temperature	-40		+80	°C

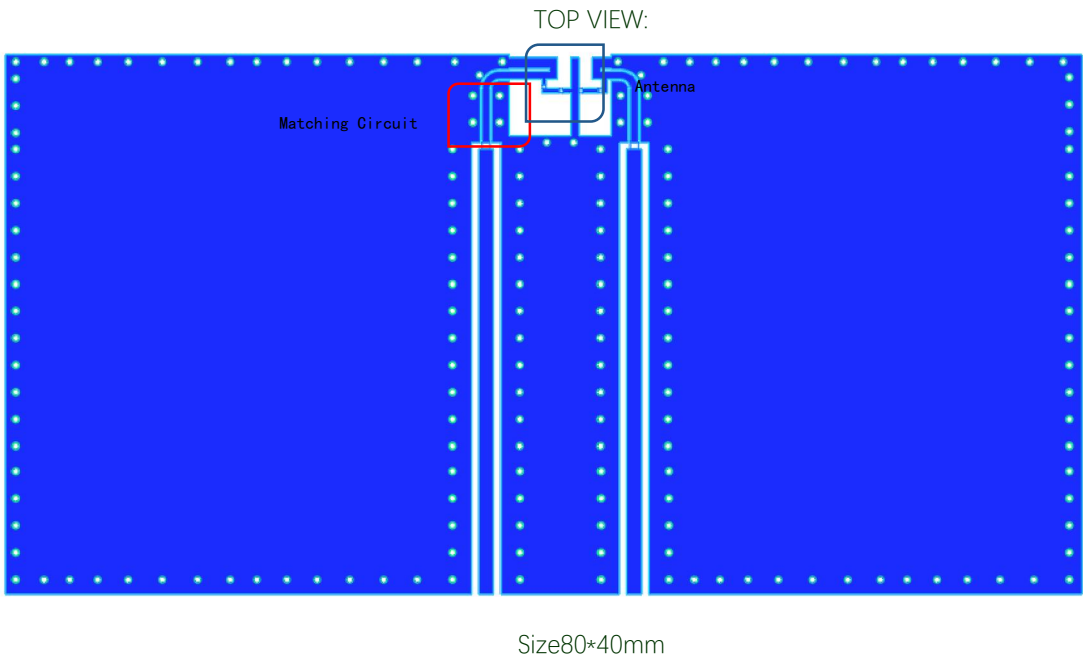
Outline Drawing

Figure 1. MAN1624C32 View (Unit: mm)



Recommend PCB Layout

Figure 2. MAN1624C32 PCB Layout (Unit: mm)



All Use For RF & Microwave

MAN1624C32

GPS & 2.4GHz 3216 Chip Antenna



Figure 3. MAN1624C32 PCB Layout (Unit: mm)

BOTTOM VIEW

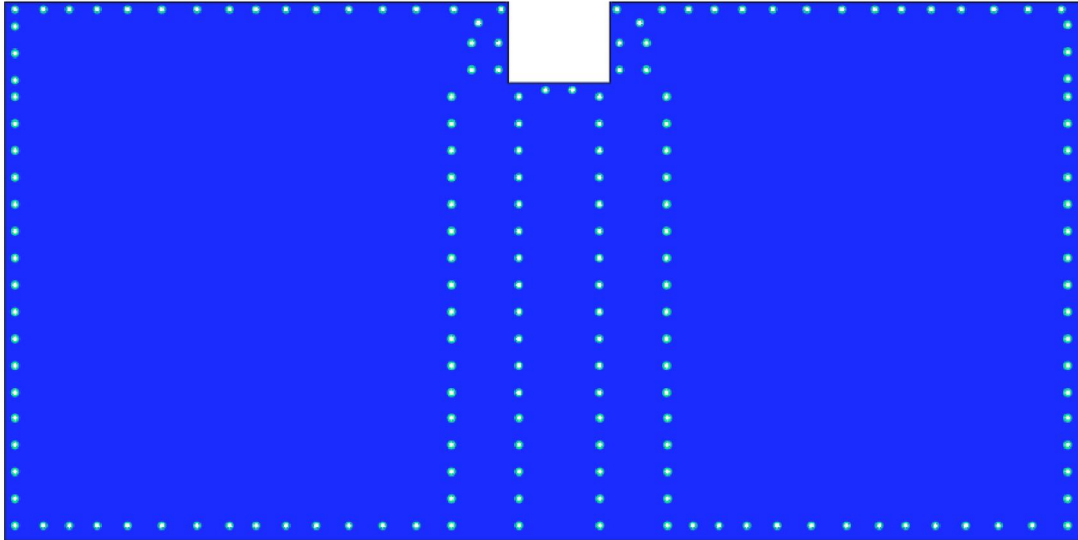


Figure 4. MAN1624C32 Antenna Layout (Unit: mm)

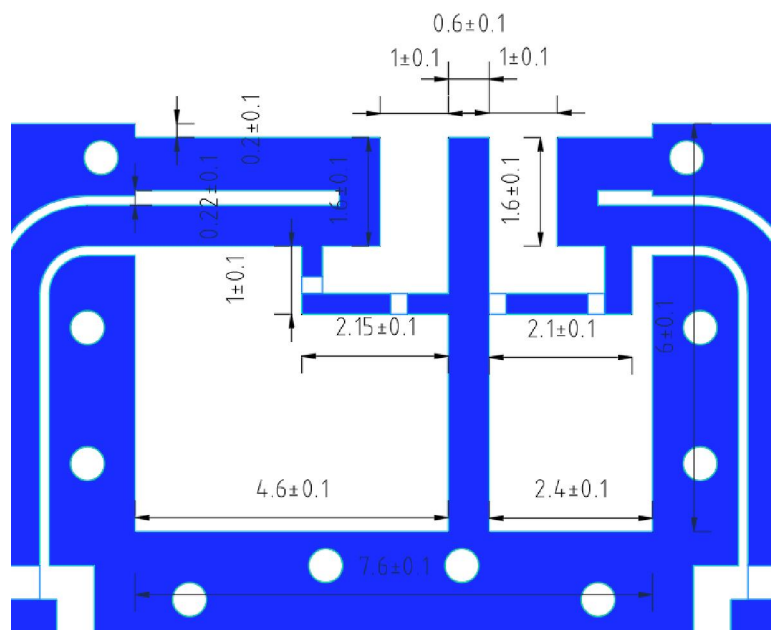


Figure 5. MAN1575&2450C32 Match Circuit (Unit: mm)

All Use For RF & Microwave

Shenzhen Megsine technology co., ltd www.megsine.com sales@megsine.com You may contact us for future information

Ju 09, 2022

MAN1624C32

GPS & 2.4GHz 3216 Chip Antenna

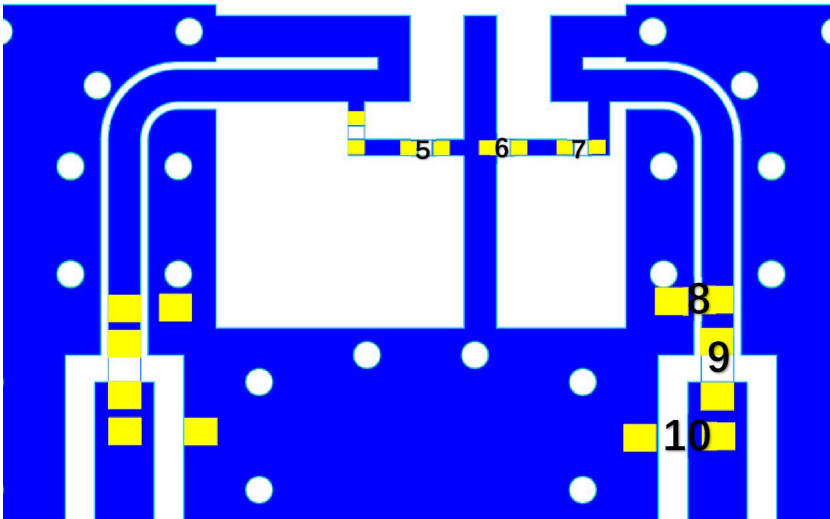
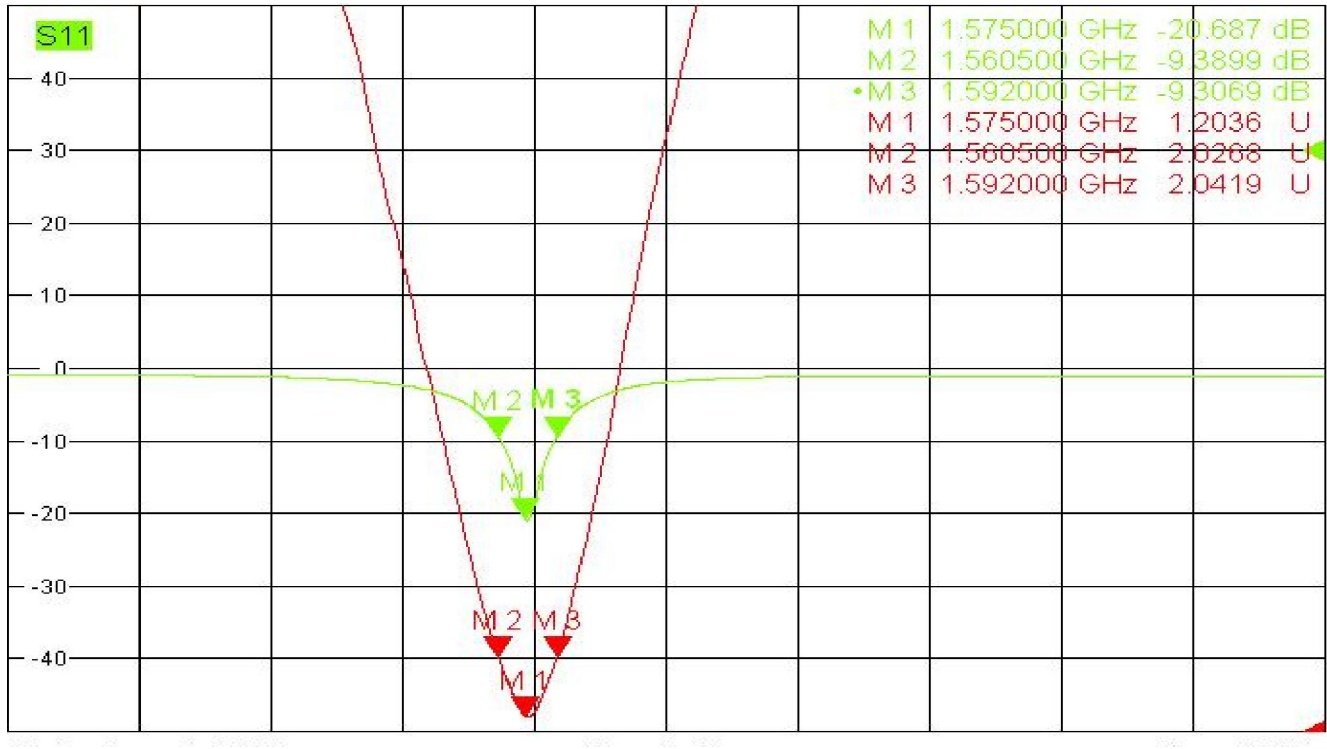


Table 4. MAN1575&2450C32 Match Circuit

Location	1	2	3	4	5	6	7	8	9	10
Description	N/C	2.4pf	1.1nH	0.3pf	0Ω	0Ω	0.3pf	0.3pf	0Ω	N/C
Vendor	-	MURATA	MURATA	MURATA	-	-	MURATA	MURATA	-	-

Typical Performance

Figure6. MAN1624C32 Port 1 VSWR



All Use For RF & Microwave

MAN1624C32

GPS & 2.4GHz 3216 Chip Antenna

MECSINE 兆讯

Figure 7. MAN1624C32 Port 2 VSWR

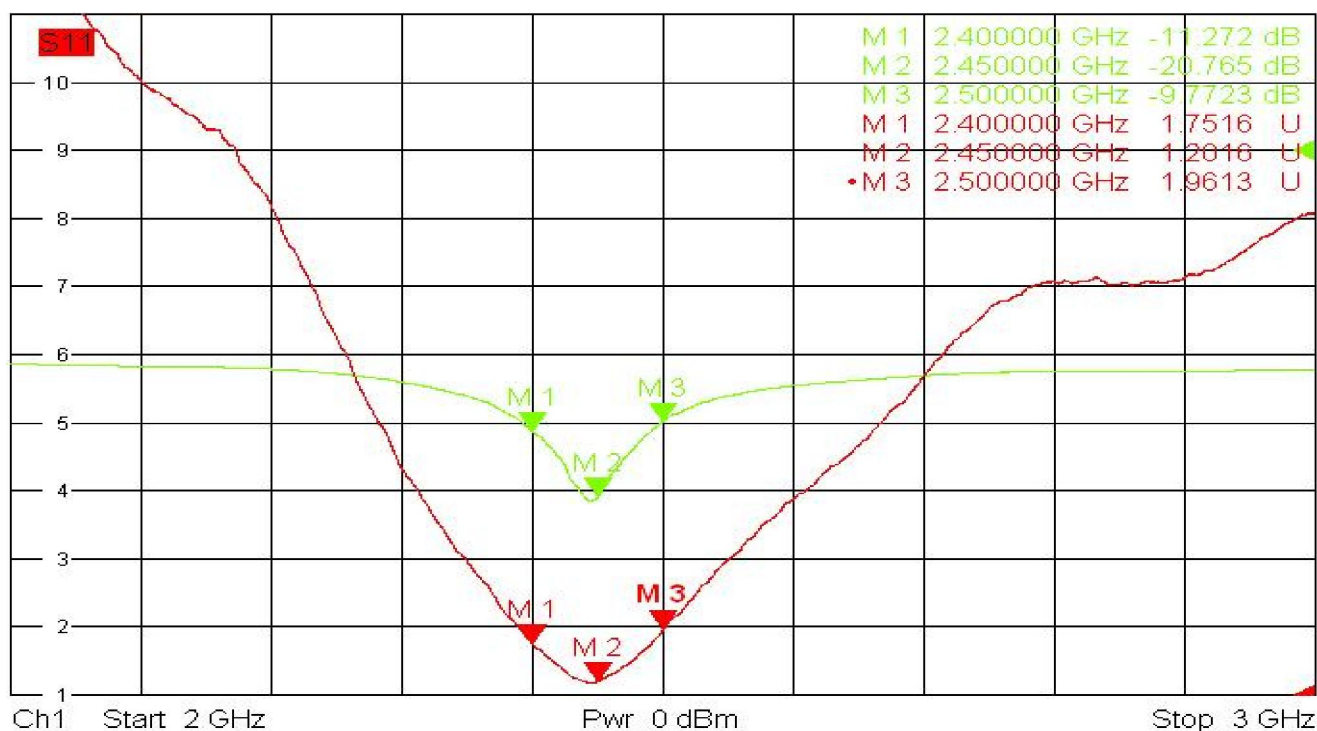
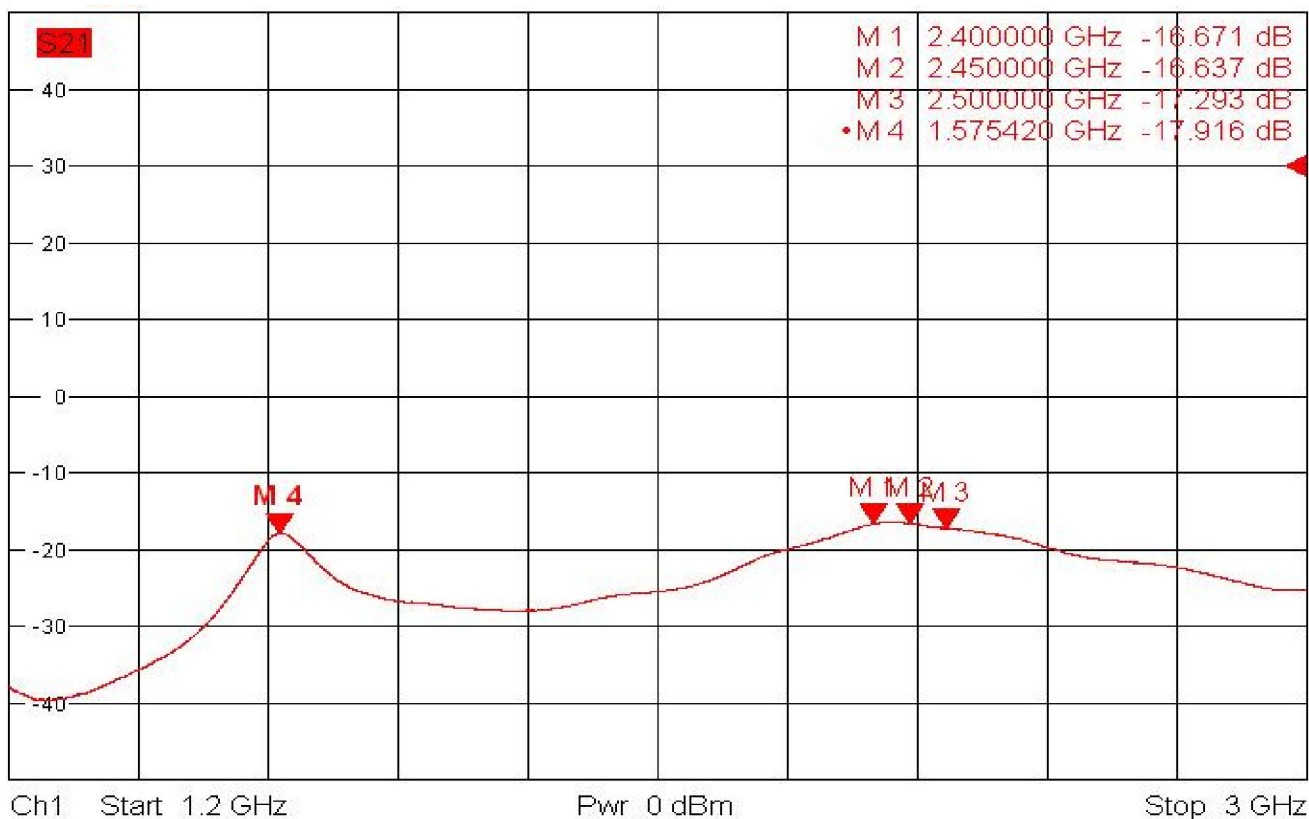


Figure 8. MAN1624C32 S21 (Port1 & Port2)



All Use For RF & Microwave

Shenzhen Megsine technology co., ltd www.megsine.com sales@megsine.com You may contact us for future information

Ju 09, 2022

MAN1624C32

GPS & 2.4GHz 3216 Chip Antenna

MECSINE 兆讯

Radiation Pattern& Efficiency&Peak Gain

Figure 9. The Gain pattern is measured in FAR-field chamber

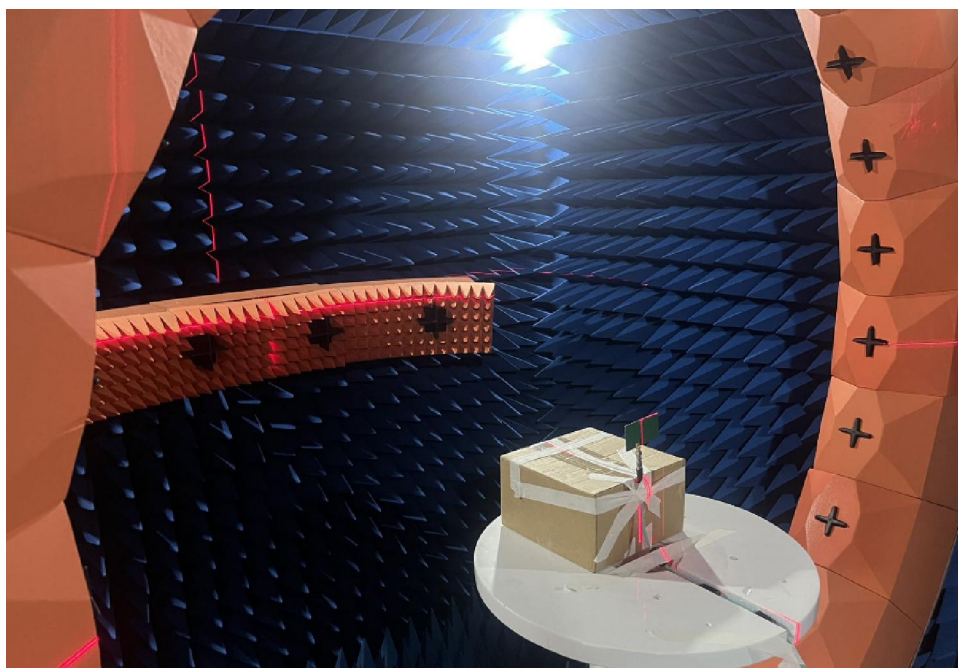
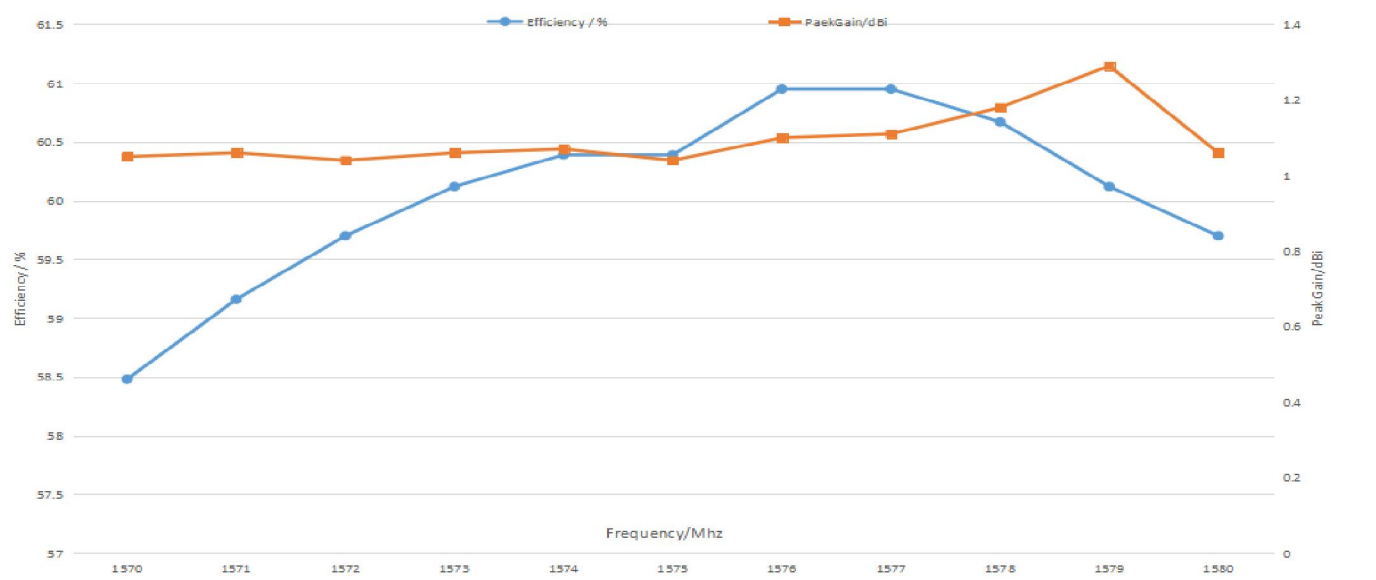


Table 3. MAN1624C32 Radiation Efficiency&Peak Gain Port1

Frequency(MHz)	1570	1571	1572	1573	1574	1575	1576	1577	1578	1579	1580
Efficiency(%)	58.48	59.16	59.7	60.12	60.39	60.39	60.95	60.95	60.67	60.12	59.7
Peak Gain (dB)	1.05	1.06	1.04	1.06	1.07	1.04	1.1	1.11	1.18	1.29	1.06
Avg. gain(dB)	-2.33	-2.28	-2.24	-2.21	-2.19	-2.19	-2.15	-2.15	-2.17	-2.21	-2.24

Figure 10. MAN1624C32 Radiation Efficiency&Peak Gain Port1



All Use For RF & Microwave

Shenzhen Megsine technology co., ltd www.megsine.com sales@megsine.com You may contact us for future information

Ju 09, 2022

MAN1624C32

GPS & 2.4GHz 3216 Chip Antenna

MECSINE 兆讯

Figure 11. Radiation Pattern Port1

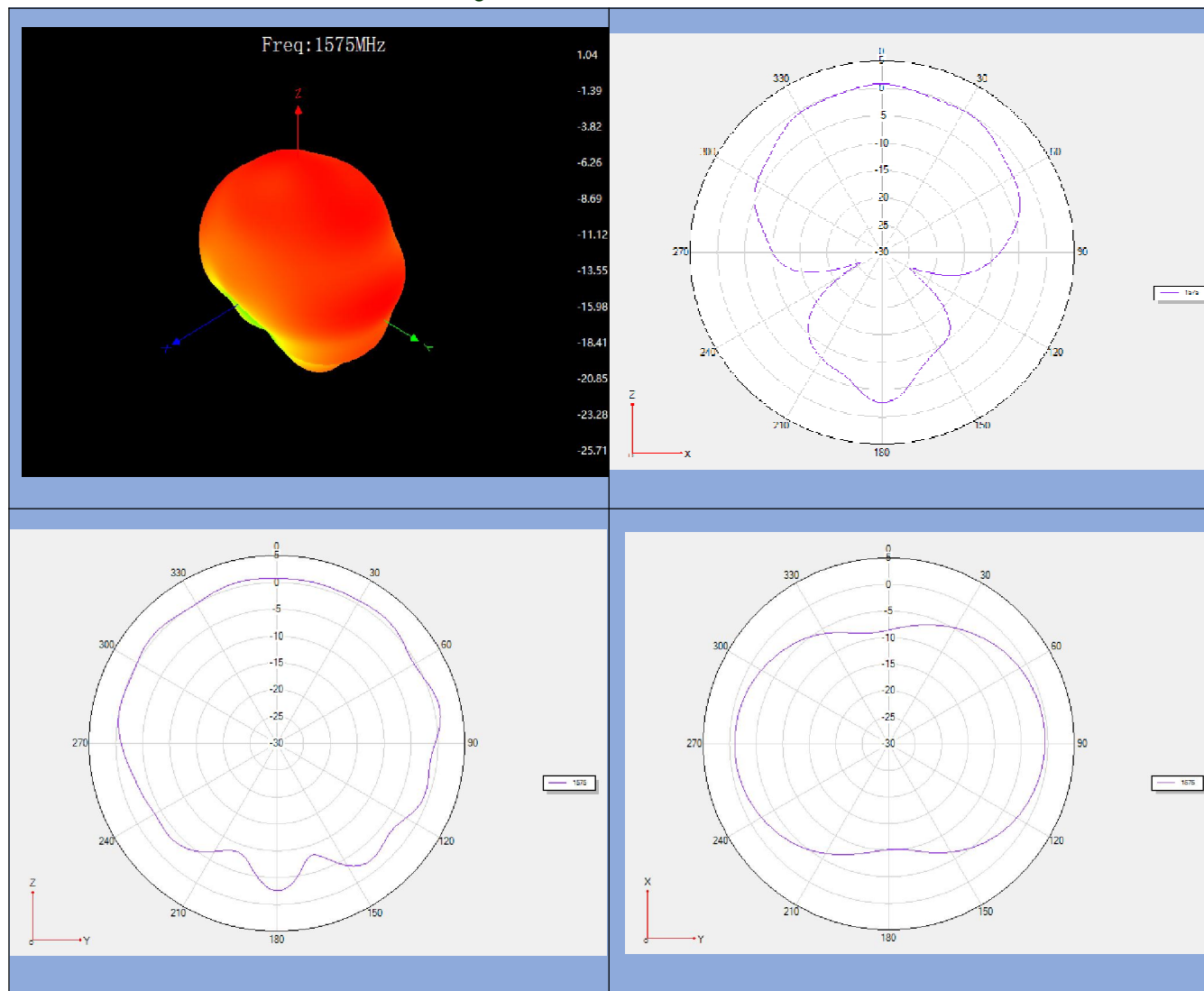


Table 4. MAN1624C32 Radiation Efficiency&Peak Gain Port2

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

All Use For RF & Microwave

Shenzhen Megsine technology co., ltd www.megsine.com sales@megsine.com You may contact us for future information

Ju 09, 2022

MAN1624C32

GPS & 2.4GHz 3216 Chip Antenna

MECSINE 兆讯

Figure 12. MAN1624C32 Radiation Efficiency&Peak Gain Port2

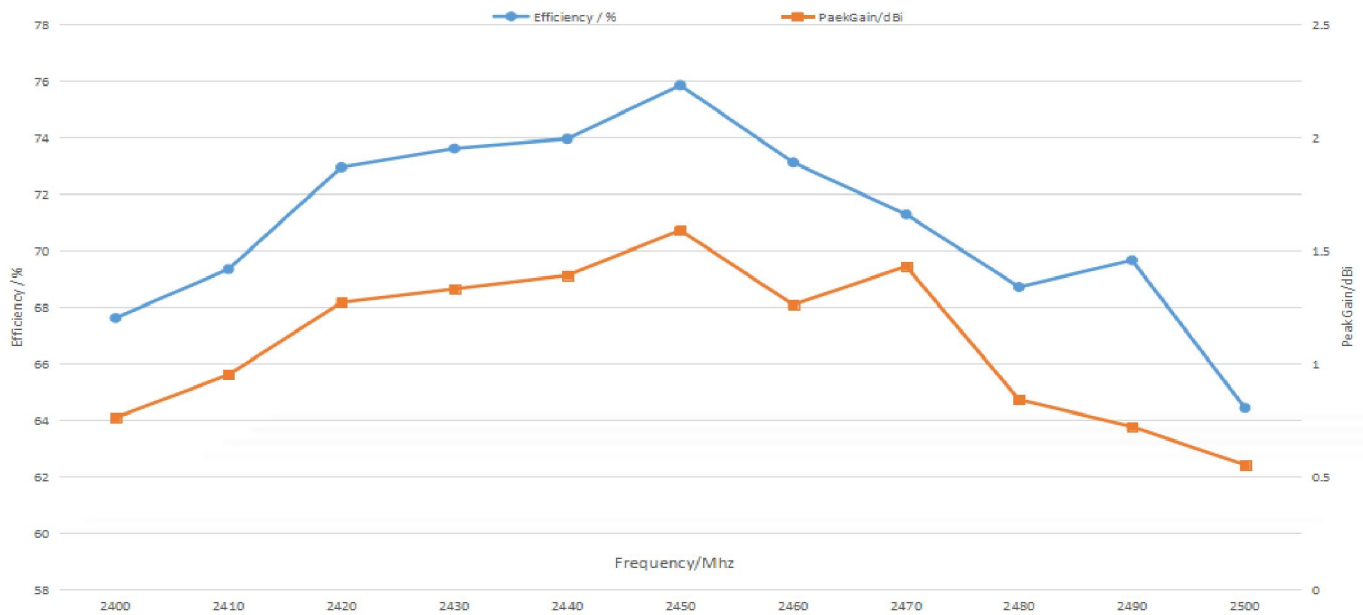
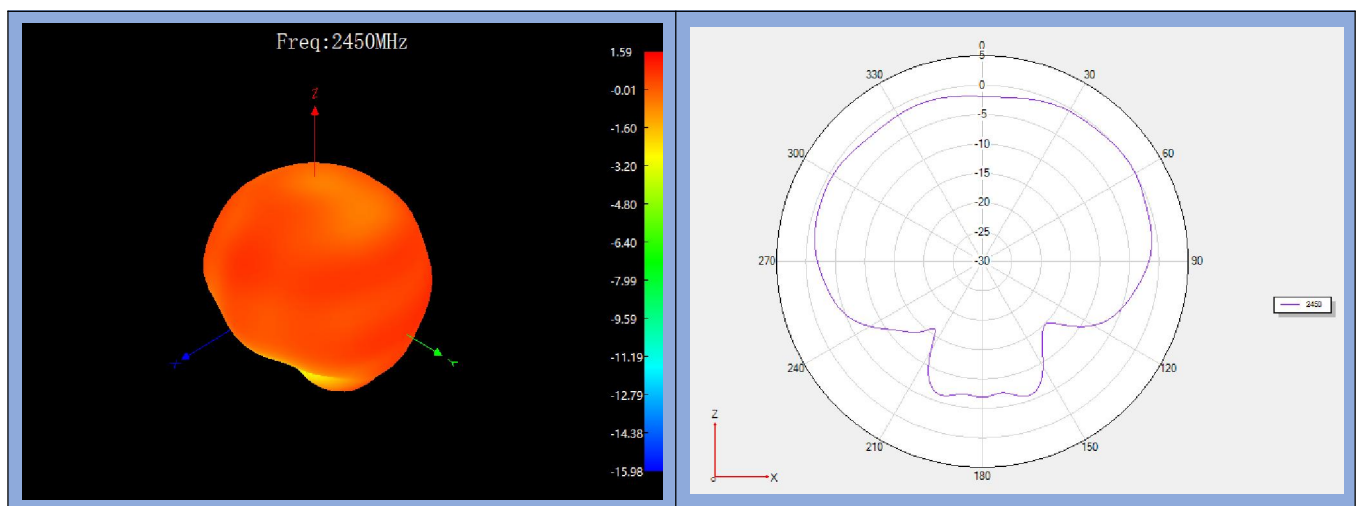


Figure 13. Radiation Pattern Port2



All Use For RF & Microwave

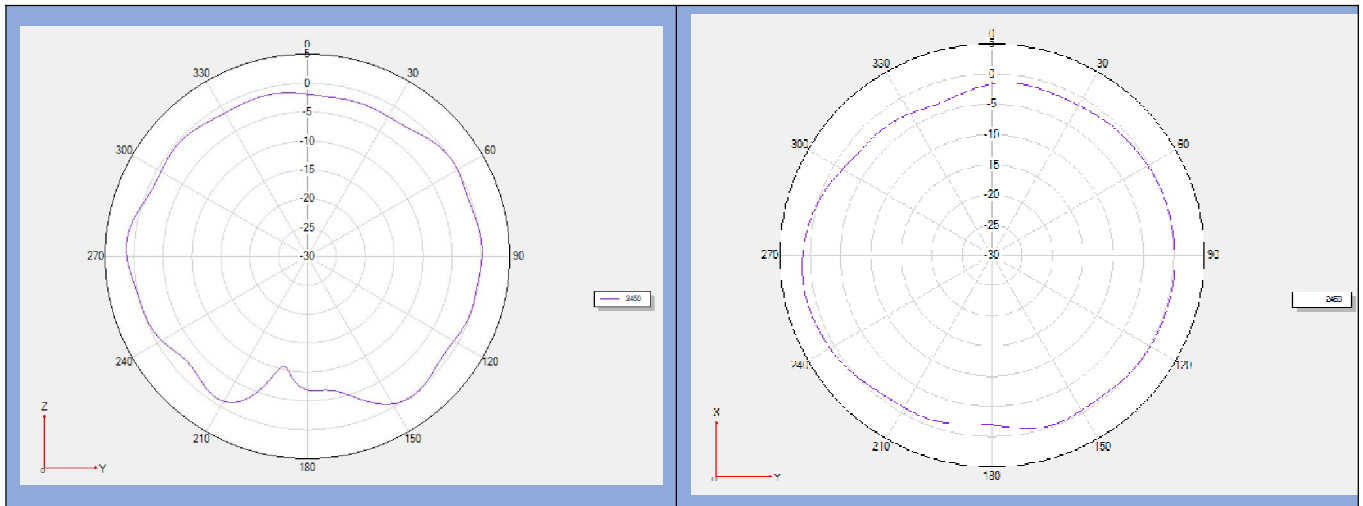
Shenzhen Megsine technology co., ltd www.megsine.com sales@megsine.com You may contact us for future information

Ju 09, 2022

MAN1624C32

GPS & 2.4GHz 3216 Chip Antenna

MECSINE 兆讯



*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.

All Use For RF & Microwave

Shenzhen Megsine technology co., ltd www.megsine.com sales@megsine.com You may contact us for future information

Ju 09, 2022

MAN1624C32

GPS & 2.4GHz 3216 Chip Antenna



Packaging and Ordering Information

Figure 14. Packaging Information

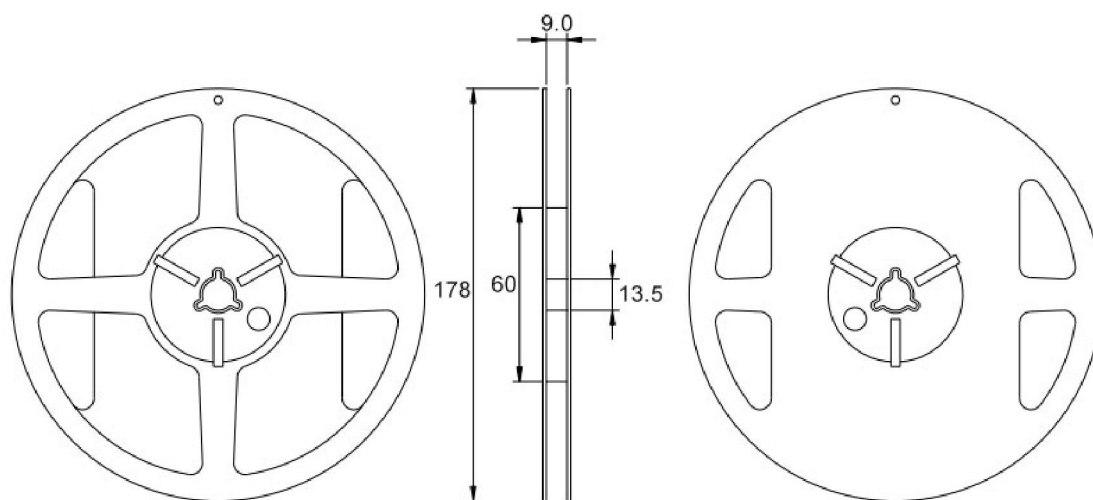
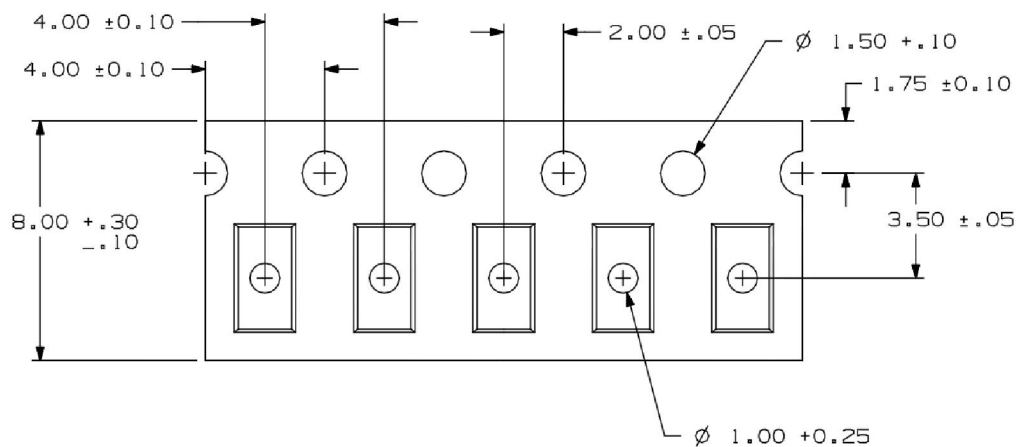


Table5. Packaging and Shipping

Device	Packaging	Reel	Shipping
MANC162432	SMD	7"	3000/Reel

All Use For RF & Microwave

Shenzhen Megsine technology co., ltd www.megsine.com sales@megsine.com You may contact us for future information

Ju 09, 2022

MAN1624C32

GPS & 2.4GHz 3216 Chip Antenna



Revision	Description	Date
Rev0	Preliminary	2023/3/7

All Use For RF & Microwave