GNSS Chip Antenna

For L1/B1/E1/G1

MAN1567C103

10.2x3.1x4 mm

MAN1567C103

GNSS Chip Antenna

Applications

1. Satellite communication
2. Navigation and position
3. For L1, B1, E1, G1



Features

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

Description

The MAN1567C103 is designed for GNSS Antenna. 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. MAN1567C103 Electrical Specification

Item	Min.	Type	Max.	Unit
Frequency Range	1559		1605	MHz
VSWR	1.1		2	
Efficiency	63		80	%
Peak Gain		2.42		dBi
Polarization		Linear		
Nominal Impedance		50		Ω

• Ta: +25±5°C

Mechanical Specification

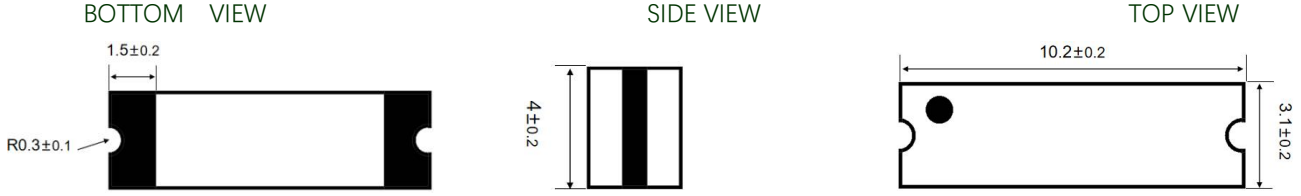
Table 2. MAN1567C103 Mechanical Specification

Item	Min.	Type	Max.	Unit
Antenna Size		10.2*3.1* 4		Mm
Temperature	-40		+85	°C
Operating temperature	-40		+85	°C

• Ta: +25±5°C

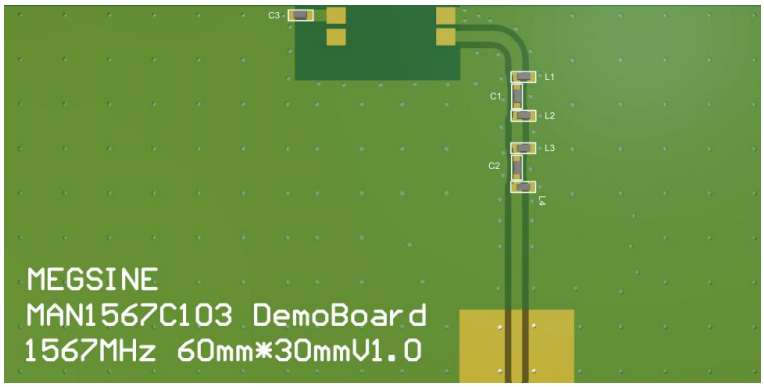
Outline Drawing

Figure 1. MAN1567C103 View (Unit: mm)



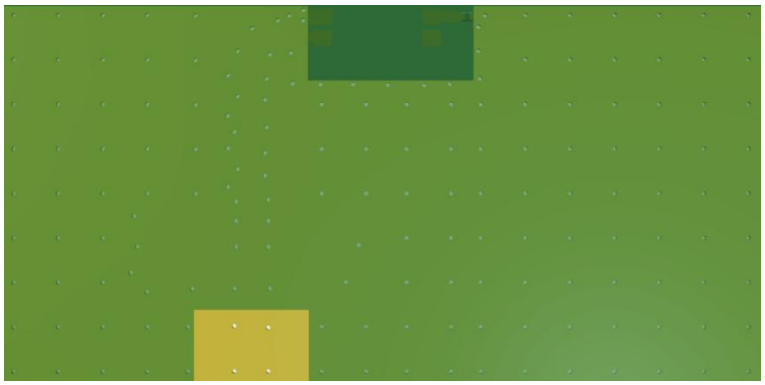
Recommend PCB Layout

Figure 2. MAN1567C103 PCB Layout (Unit: mm) TOP VIEW:



Size 60*30mm

Figure 3. MAN1567C103 PCB Layout (Unit: mm) BOTTOM VIEW:



Size 60*30mm

Figure 4. MAN1567C103 PCB Antenna Layout (Unit: mm)

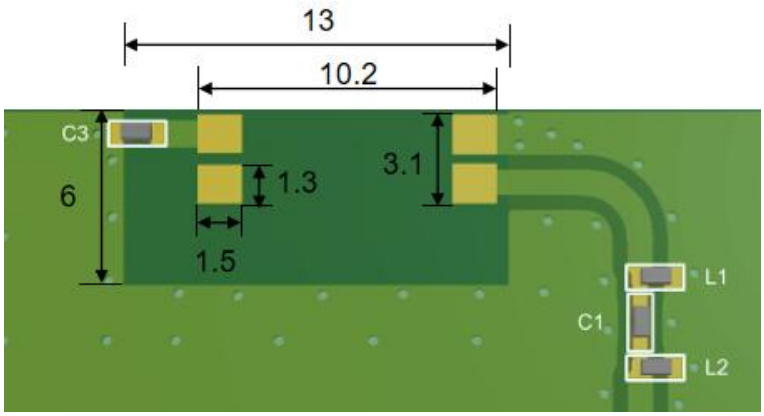


Figure 5. MAN1567C103 Matching Circuit (Unit: mm)

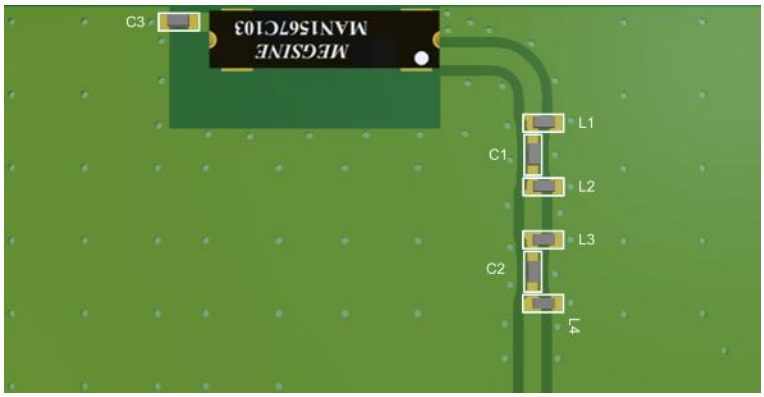


Table 3. MAN1567C103 Matching

Location	Description	Vendor
C1	1.6pf	MURATA
C2	0Ω	MURATA
C3	3pf	MURATA
L1	1.8pf	MURATA
L2	N/C	N/C
L3	N/C	N/C
L4	N/C	N/C

Typical Performance

Figure 6. MAN1567C103 VSWR

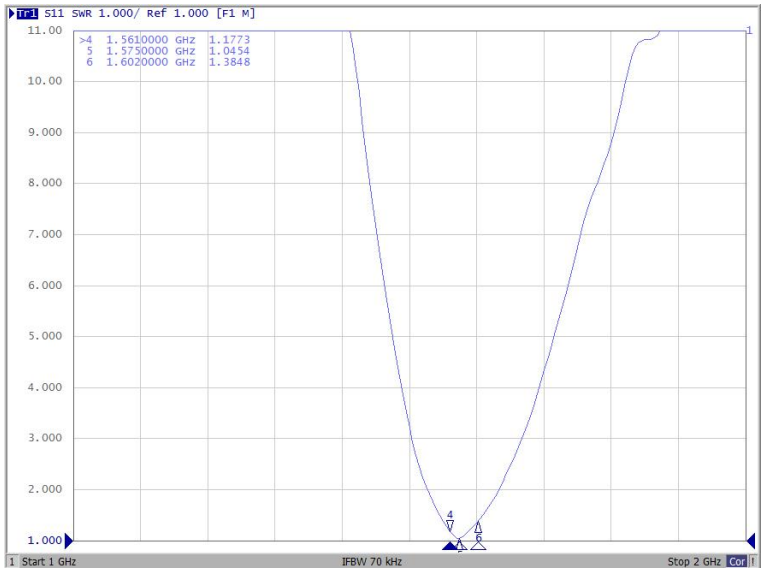
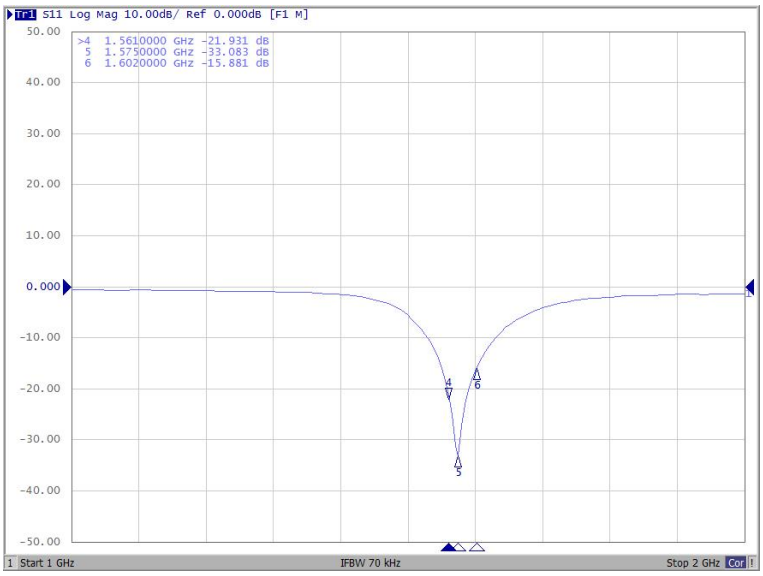


Figure 7. MAN1567C103 Return Loss



Radiation Pattern & Efficiency & Peak Gain

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

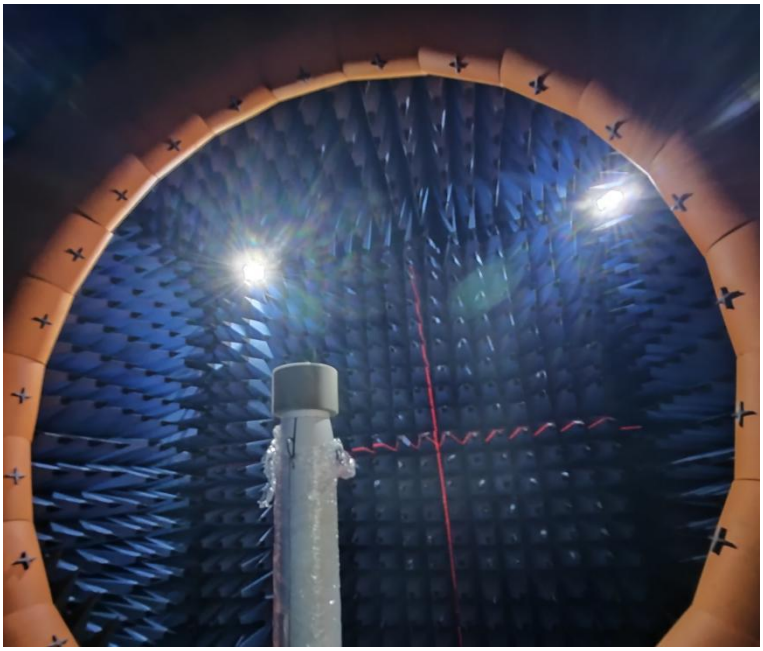


Table 4. MAN1567C103 Total Efficiency&Peak Gain

Item（MHz）	Efficiency (%)	Peak Gain (dBi)	Avg gain (dB)
1500	33%	-0.90	-4.78
1510	41%	0.39	-3.87
1520	51%	1.26	-2.95
1530	62%	1.73	-2.11
1540	71%	1.89	-1.49
1550	78%	2.12	-1.09
1560	80%	2.37	-0.98
1570	76%	2.42	-1.19
1572	75%	2.36	-1.21
1575	72%	2.31	-1.42
1577	71%	2.31	-1.46
1580	72%	2.35	-1.41
1585	71%	2.07	-1.66
1590	68%	1.99	-1.65
1595	68%	1.90	-1.69
1600	65%	1.49	-1.85
1605	64%	1.49	-1.95
1610	64%	1.22	-1.95

Figure 9. MAN1567C103 Total Efficiency

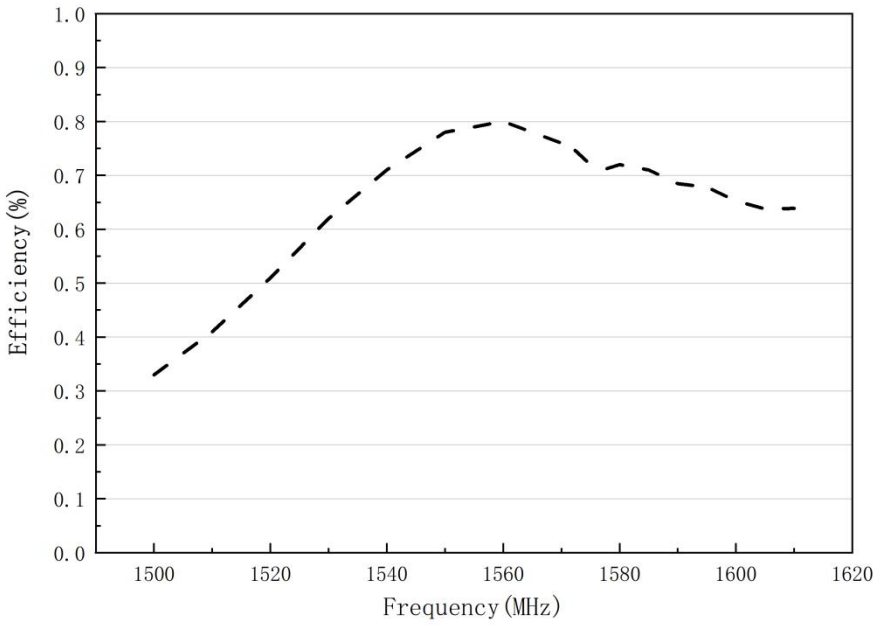
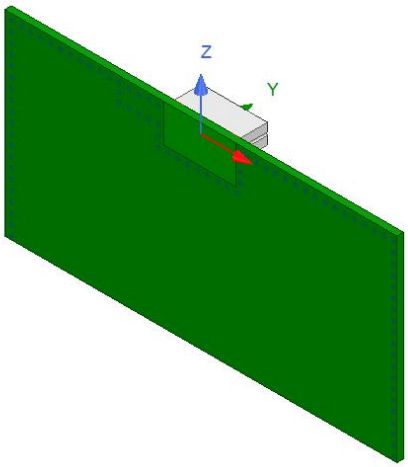
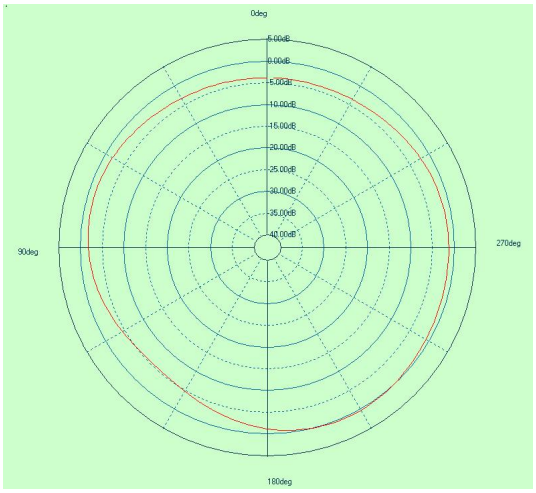
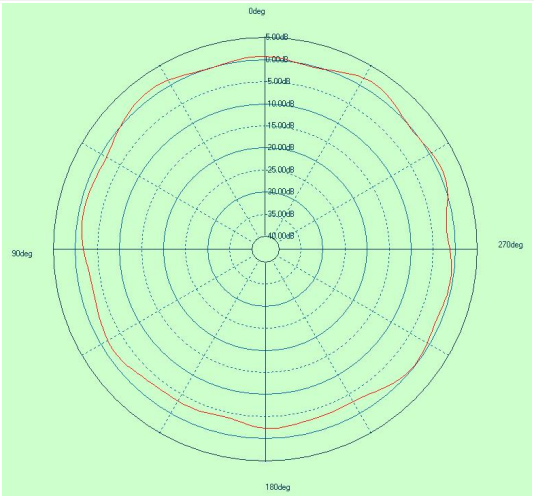


Figure 10. Radiation Pattern

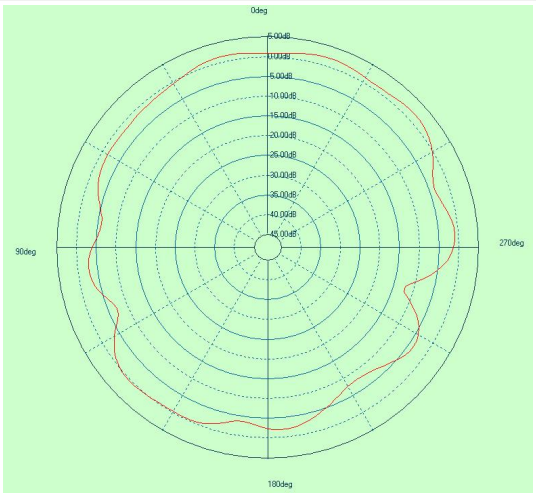




1575 MHz XOY Plane



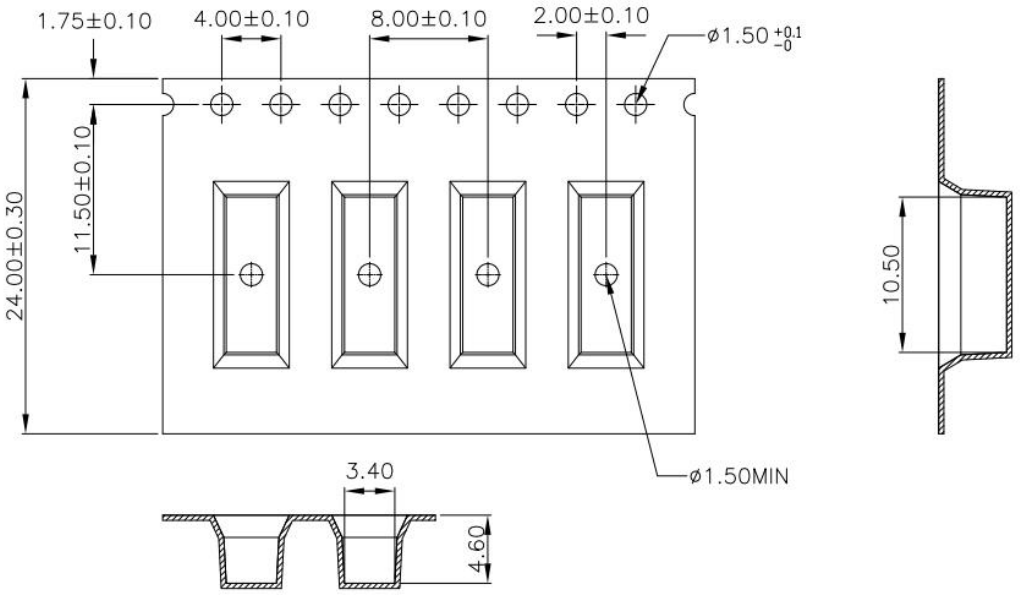
1575 MHz XOZ Plane

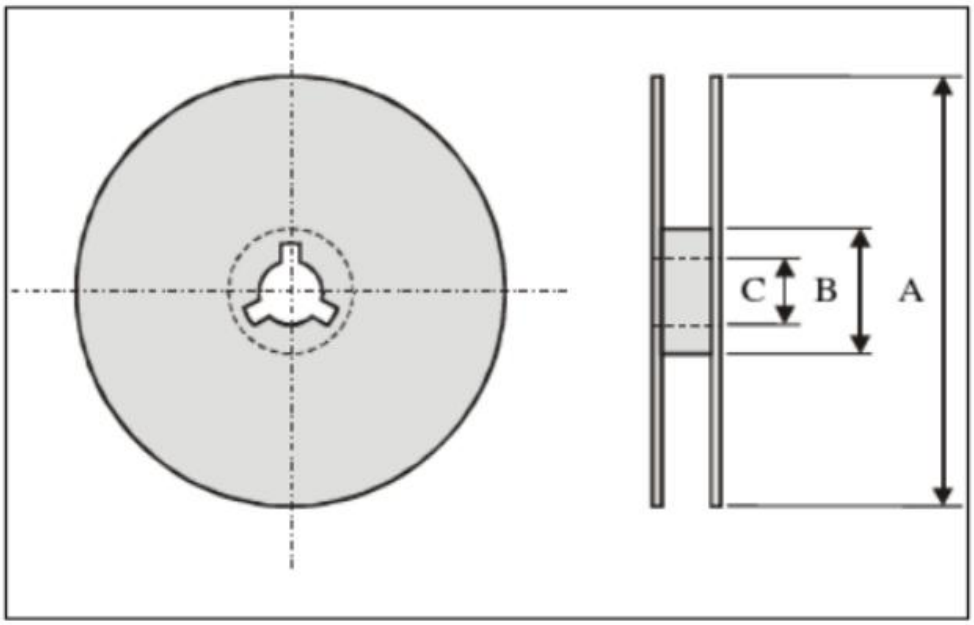


1575 MHz YOZ Plane

Packaging and Ordering Information

Figure 11. Packaging Information





Index	A	B	C
Dimension(mm)	**330**	**100**	**13.5**

Table 5. Packaging and Shipping

Device	Packaging	Reel	Shipping
MAN1567C103	SMD	13"	1000/Reel

Revison	Description	Date
Rev0	Preliminary	2024/12/25