

ALLISCOM

GPS/GLONASS/BDS/Galileo Antenna

Data Sheet



Model No.	MBA20
Feature	High gain and wide beam width Pre-filtering LNA Lightning proof design Wide range voltage (DC 3.3 ~ 18V) L1, L2, L5, G1, G2, G3, B1, B2, B3, E1, E5a, E5b
Description	MBA20 receives GPS L1/L2/L5, BDS B1/B2/B3, Galileo E1/E5a/E5b, and GLONASS G1/G2/G3 frequencies, which used in the land survey, marine survey, channel survey, seismic monitoring, bridge survey, container operation, and agriculture applications ...etc. Customers can use the antenna for the multi-GNSS constellation applications.

1. Electrical Specifications

1.1 Electrical Data

Passive Antenna

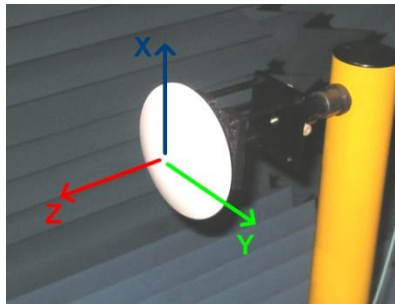
Frequency Range	GPS L1 & BDS B1 & GLONASS G1 & Galileo E1 : 1559MHz~1605MHz GPS L2,L5 & GLONASS G2, G3 & BDS B2,B3 & Galileo E5a,E5b : 1164MHz~1254MHz
Gain	elevation angle $90^{\circ} \leq 5\text{dBi}$ elevation angle $20^{\circ} \leq 0\text{dBi}$ elevation angle $10^{\circ} \leq -3\text{dBi}$
Axial Ratio	elevation angle $90^{\circ} \leq 3\text{dB}$ elevation angle $15^{\circ} \leq 5\text{dB}$
Polarization	RHCP
Front to back Power($\pm 60^{\circ}$)	$\leq 15\text{dB}$
Phase Center Error	$< 2.0\text{mm}$

LNA Module

VSWR	< 2.0
Module Gain	40 dB Min.
Noise Figure	< 2.0
Output Impedance	50Ω
Operation Voltage	DC 3.3 ~ 18V
Current	$< 45\text{mA}$

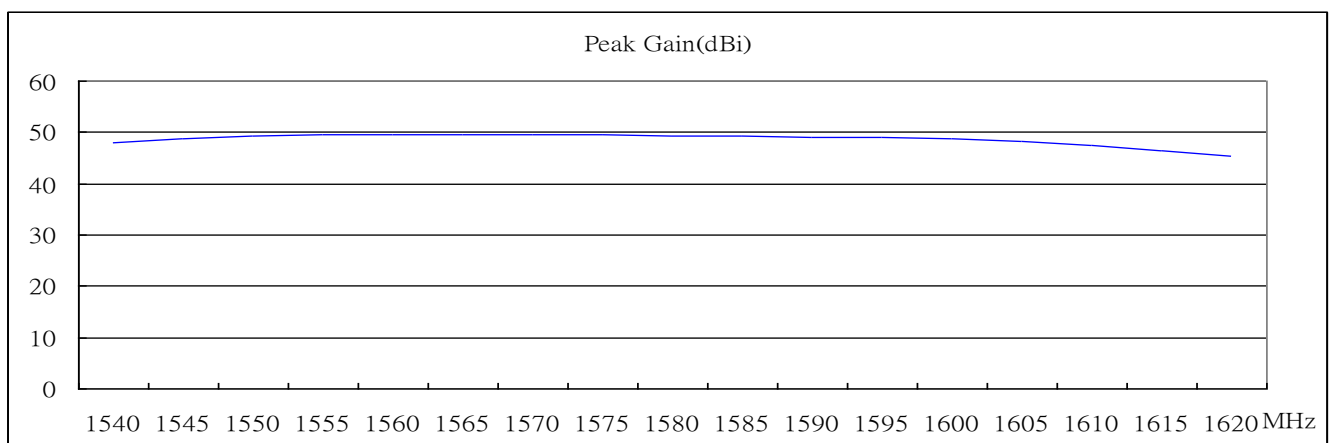
* Specifications subject to change without notice.

1.2 Antenna measurement (Voltage: 5V; 10cm RG316 cable)

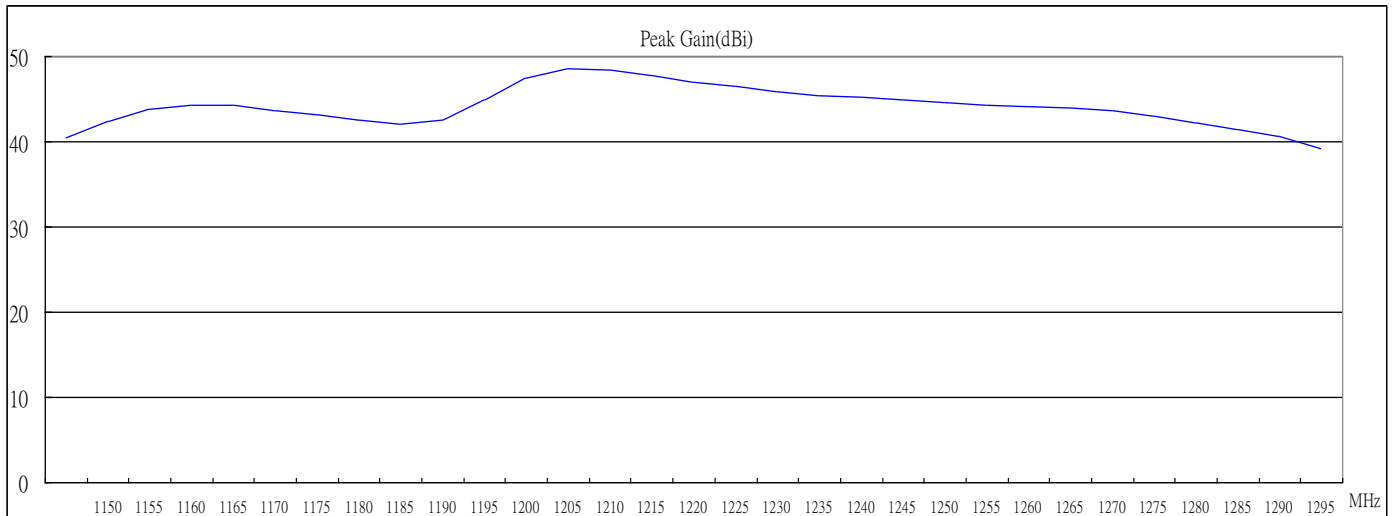


● Peak Gain

GPS L1 & BDS B1 & GLONASS G1 & Galileo E1

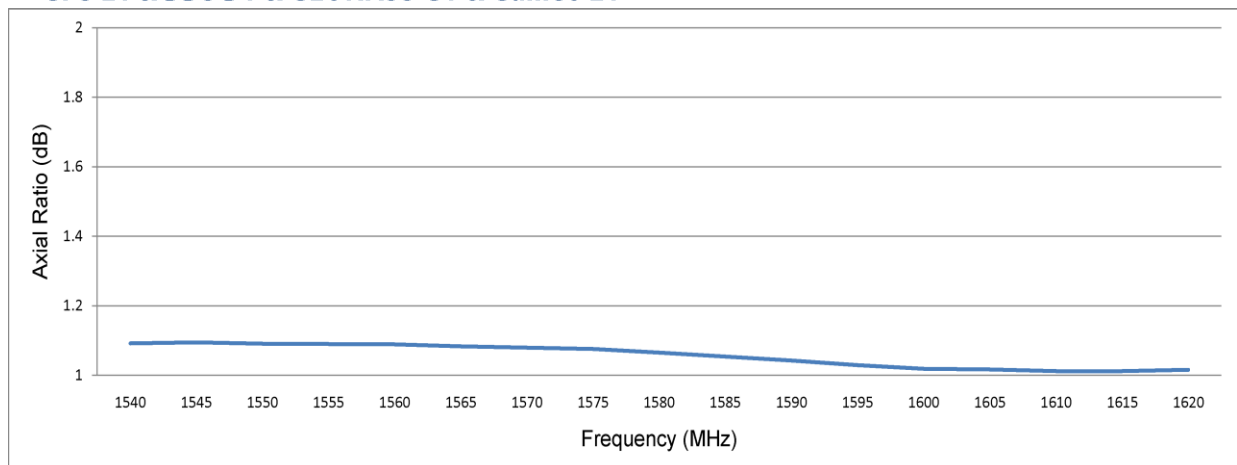


GPS L2,L5 & GLONASS G2,G3 & BDS B2,B3 & Galileo E5a,E5b

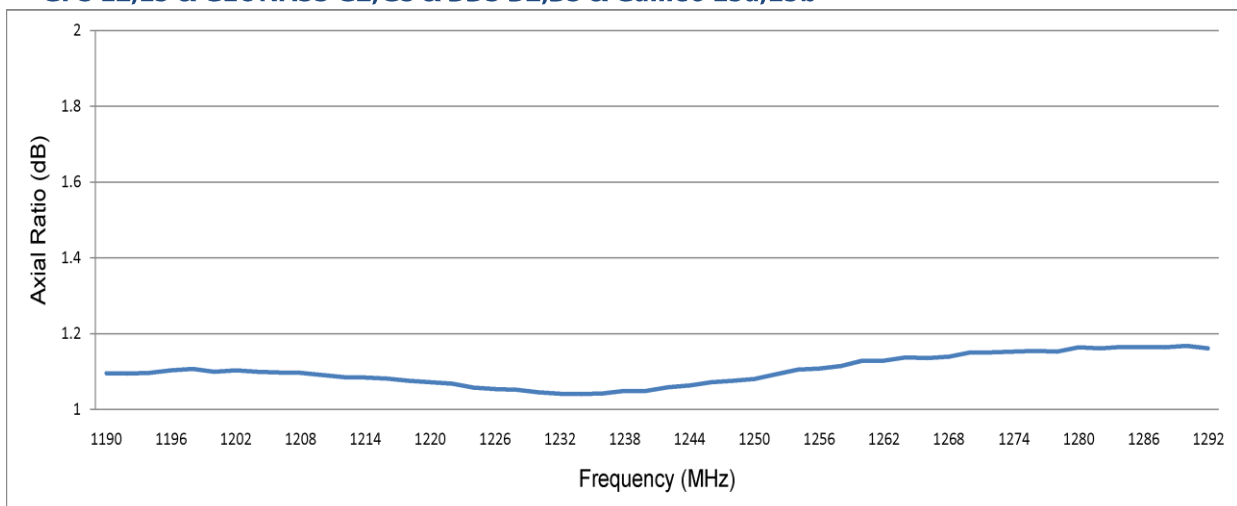


● Axial Ratio

GPS L1 & BDS B1 & GLONASS G1 & Galileo E1

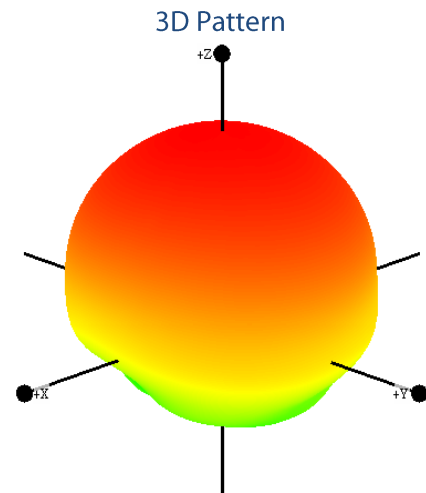
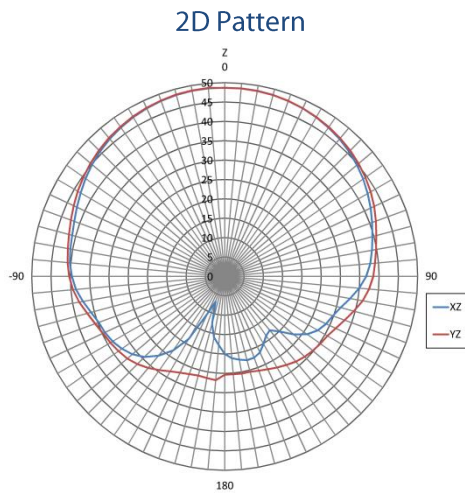


GPS L2,L5 & GLONASS G2,G3 & BDS B2,B3 & Galileo E5a,E5b

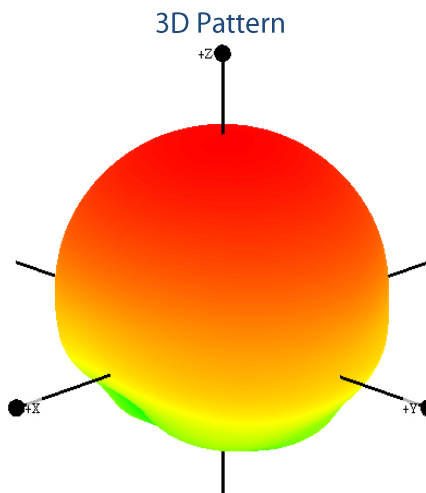
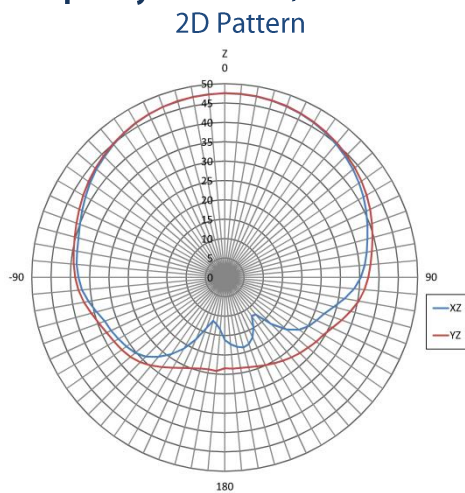


● RHCP Radiation Pattern

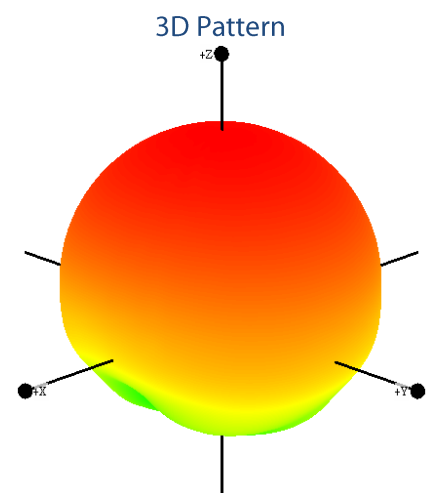
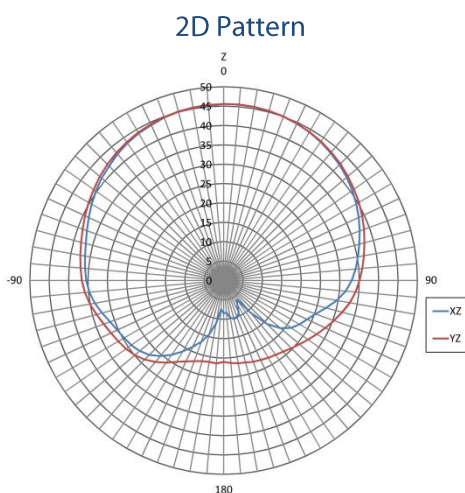
Frequency=1207MHz; Gain=48.8dBic.



Frequency=1227MHz; Gain=47.5dBic.

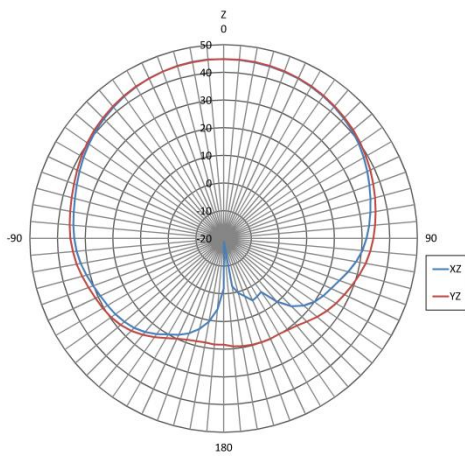


Frequency=1246MHz; Gain=45.6dBic.

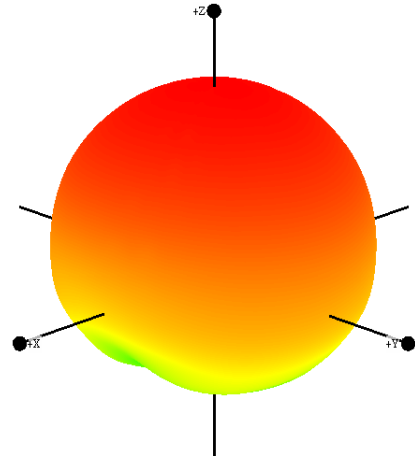


Frequency=1268MHz; Gain=44.9dBic.

2D Pattern

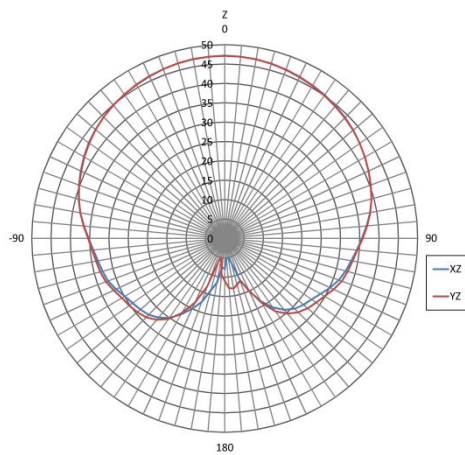


3D Pattern

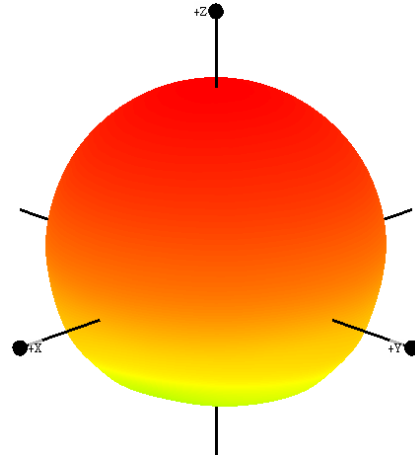


Frequency=1561MHz; Gain=47.1dBic.

2D Pattern

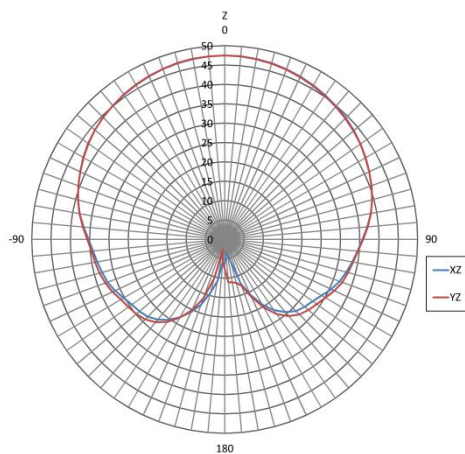


3D Pattern

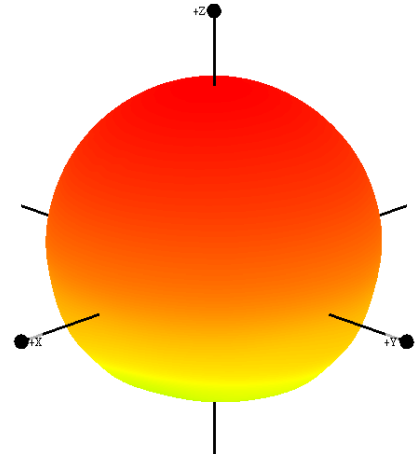


Frequency=1575MHz; Gain=47.5dBic.

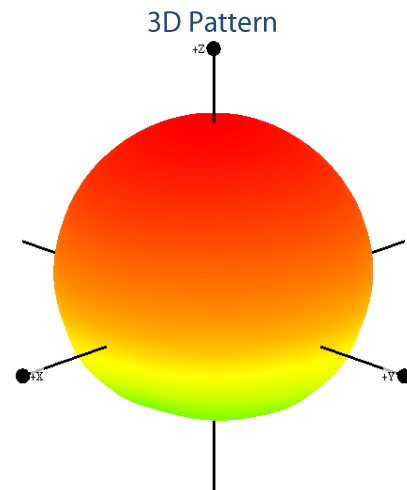
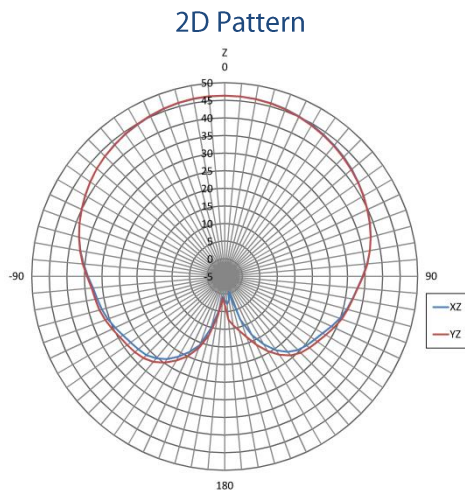
2D Pattern



3D Pattern



Frequency=1602MHz; Gain=46.3dBic.



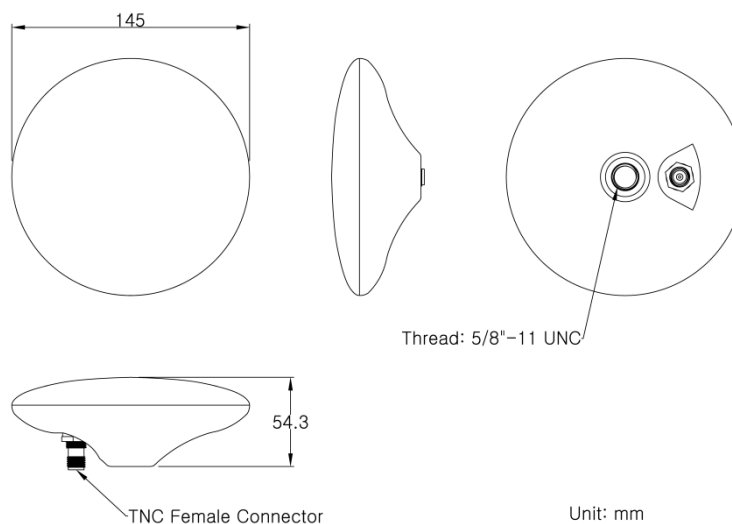
2. Mechanical Specifications

2.1 Mechanical Data

Weight	395 grams max.
Housing Material	ASA
Dimension	Ø145×54.3 mm
Mounting	Screw Mounting (5/8"-11 UNC)
Connector	TNC Female

* Specifications subject to change without notice.

2.2 Dimensions



3. Environmental Specifications

Working Temperature	-45°C < T < +85°C
Storage Temperature	-55°C < T < +85°C
Humidity	95%
Weatherproof	IP67

* Specifications subject to change without notice.