## **Marine Small GPS Antenna**

**MODEL: MA-650PL** 

## High Gain gps antenna 3V:38db/5V:45db

Small size and ruggedness, demand of vehicle locating and car navigation GPS antenna that will sustain harsh environment.



- Low noise figure
- Fully weather proof.
- Ultra-high Sensitivity
- Compact construction
- Excellent temperature stability
- FB3A SUS L-Mounting 1"-14 UNS

The antenna system MA-650PL is the integration of the high performance GPS patch antenna and a low noise amplifier into state-of-the-art low a very low profile/extremely compact/fully waterproof antenna signal enclosure. When connected to a GPS receiver with +2.5~ 5.5V DC antenna powers it provides excellent signal amplification and out-band-rejection for that receiver.

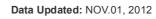
## Features:

GPS antenna with double threaded bolts and through holes for cable routing with course & fine treaded pitch locking for wing-nut fastener and lock-nut to prevent vibrations and un-authorize removal.

Specifications	
Antenna Element	
Center Frequency	1575.42 MHz +/-1.023 MHz
Polarization	R.H.C.P. (Right Handed Circular Polarization)
Absolute Gain @ Zenith	+5 dBi typical Based on 70×70mm ground plane
Gain @ 10° Elevation	-1 dBi typical
Axial Ratio	3 dB max.
Output VSWR	1.5:1 Typ.
Output Impedance	50 ohm
Low Noise Amplifier	
Center Frequency	1575.42 MHz +/- 1.023 MHz
Power Gain	38db(3V) / 45db(5V) (Without cable +25℃±10℃)
Bandwidth	10 MHz min.
Noise Figure	1.6 Typ.
Outer Band Attenuation	20 dB min. @ Fo +/-50 MHz
Supply Voltages	3.0~5.0V DC
Current Consumption	21mA@ 3.0V DC,25mA@ 5.0V DC

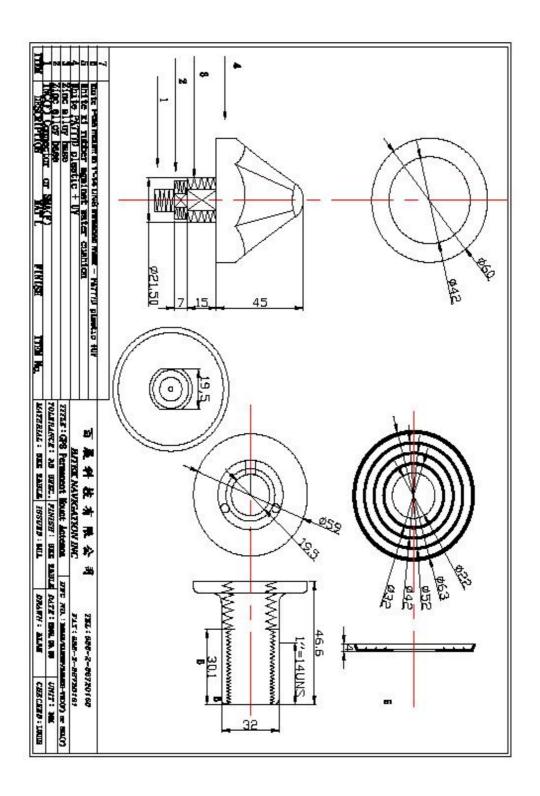
VSWR	1.5 max.	
Output Impedance	50 ohm	
Overall Performance: (antenna element, LNA & coax cable)		
Center Frequency	1575.42 MHz	
Gain	38db(3V) / 45db(5V) (Without cable +25℃±10℃)	
Noise Figure	2.0 max.	
Bandwidth	10 MHz min.	
Axial Ratio	3 dB max.	
VSWR	1.5 max.	
Output Impedance	50 ohm	
Environmental Conditions		
Operating Temperature	-30°C to +80°C	
Storage Temperature	-40°C to +100°C	
Relative Humidity	40% to 95% non-condensing	
Water Resistance	100% waterproof	
Physical Constructions		
Dimensions	Antenna: 60mm(Dia.) × 95mm(H)	
Weight	200 grams (without cable)	
Standard Mounting	Bulkhead mount with 0.8 inch threaded wing nut (standard accessory).	
Mounting Adapters	Pole mount to 1"-14 UNS threaded mast	
Base mounting	FB3A SUS L-MOUNTING 1"-14 UNS	
Cable & Connector		
RF Connector	SMA(F) or TNC(F)	
Cable Pulling strength	6 Kg @ 5sec. molded plastic on connector end for strain relief.	

 $*\ensuremath{\mathsf{This}}$  specification is subject to change without prior notice









## **Marine Antenna Base mounting**

**MODEL: FB-3A** 



1"-14 UNS threaded mast SUS304/C3604 Locks on the truck rear-view mirror or on iron stand or flagpole

