

# Marine Small GPS Antenna

**MODEL: MA-650P**

**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

The antenna system **MA-650P** 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-authorized removal.

Specifications	
<b>Antenna Element</b>	
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 70x70mm ground plane
Gain @ 10° Elevation	-1 dBi typical
Axial Ratio	3 dB max.
Output VSWR	1.5:1 Typ.
Output Impedance	50 ohm
<b>Low Noise Amplifier</b>	
Center Frequency	1575.42 MHz +/- 1.023 MHz
Power Gain	38db(3V) / 45db(5V) (Without cable +25°C±10°C)
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
<b>Overall Performance: (antenna element, LNA &amp; coax cable)</b>	
Center Frequency	1575.42 MHz
Gain	38db(3V) / 45db(5V) (Without cable +25°C±10°C)
Noise Figure	2.0 max.
Bandwidth	10 MHz min.
Axial Ratio	3 dB max.
VSWR	1.5 max.
Output Impedance	50 ohm
<b>Environmental Conditions</b>	
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
<b>Physical Constructions</b>	
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	FB1 1"-14 UNS
<b>Cable &amp; Connector</b>	
RF Connector	SMA(F) or TNC(F)
Cable Pulling strength	6 Kg @ 5sec. molded plastic on connector end for strain relief.

\* This specification is subject to change without prior notice

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