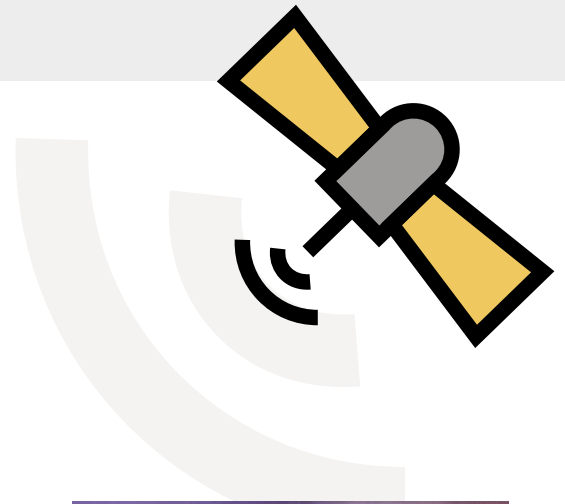


# Bullet™ GPS L1/L2 Antenna



## Dual Band (DB) GPS L1 & L2

The Protempis Bullet dual band GPS L1/L2 antenna is designed specifically to address the need of “critical infrastructure sectors” of the economy.

GNSS timing application will benefit from increased signal availability, L1/L2 redundancy and elimination of atmospheric effects using dual frequencies techniques.

## Put It Anywhere

The antenna is housed in weatherproof packaging designed to withstand exposure to shock, vibration, extreme temperatures, rain, snow and sunlight.

The dome is all plastic, and the threaded socket in the base of the antenna. The socket accepts either a 1”-14” straight thread (typical marine antenna mount) or a 3/4” pipe thread.

The F-type or TNC antenna connector is located inside the threaded socket, which allows the antenna cable to be routed inside a mounting pole and protects the cable connection.

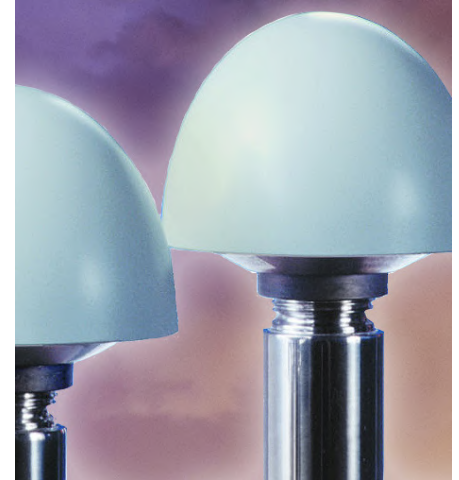
## Strong Performance

The Bullet dual band antenna is an active GPS L1 and L2 bands antenna with 35dB preamp (5V DC), 30dB preamp (3.3 VDC). The high-gain preamp allows the Bullet DB antenna to be used with up to 75 feet of RG-58 or RG-59 cable. The Bullet DB filtering improves impunity to other RF signals for reliable performance in hostile RF jamming environments.

## Proven Reliability

For over 20 years, Protempis has sold GPS antennas renowned for their survivability in tough environments. The Bullet dual band antenna is the fifth generation of the proven Bullet antenna family and offers all the reliability and performance benefits that are required for mission critical installations.

In unforgiving environments, an antenna failure could be disastrous. Don't risk it. Select a proven GNSS antenna – the Protempis Bullet DB antenna.



## Key Features

- Dual Frequency – GPS L1 and L2 bands
- Weatherproof housing
- Extended temperature range (-40°C / +85°C)
- High gain 35±3dB
- Filtering for RF Jamming environments
- Available in 3.3V (TNC) or 5V (TNC or F)
- RoHS-II Compliant



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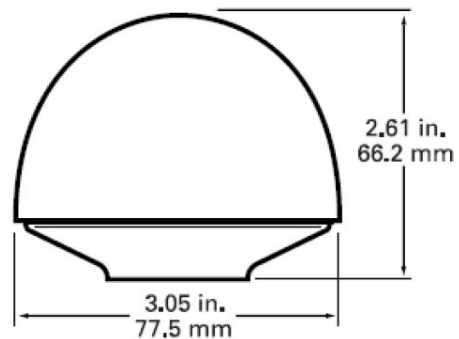
## Specification

Operating Temperature.....-40°C to +90°C  
 Storage Temperature.....-40°C to +90°C  
 Vibration.....10 – 200 Hz Log sweep  
 3g (Sweep time 30 minutes) 3 axes  
 Shock.....50g vertical, 30g all axes  
 Humidity Soak.....+60°C @ 95% RH, 96 hours  
 Corrosion Salt Resistant.....5% Salt spray tested, 96 hours

### PHYSICAL CHARACTERISTICS – 3.3V & 5V DC ANTENNAS

Dimensions.....3.05”D x 2.61” H (77.5mm x 66.2mm)  
 Weight.....7.0oz (200 grams)  
 Enclosure.....Off-white plastic  
 Connector.....F-type & TNC (5V) – TNC (3.3V only)  
 Mounting.....1” – 14” thread or 3/4” pipe thread

## Mechanical



## Connectors



Feature	3.3V	5.0V
Prime Power	3.3V DV (±10%)	5.0V DV (±10%)
Power Consumption	<20mA	<35mA
Gain	32dB @ 25°C	36dB ± 3dB
Output Impedance	50Ω	50Ω
Frequency	L1 1575.42 ± 3MHz L2 1227.60 ±3MHz	L1 1575.42 ± 3MHz L2 1227.60 ±3MHz
Polarization	RHCP	RHCP
VSWR	2.0 maximum	2.0 maximum
Axial ratio	<3dB	<3dB
Noise	3.3dB max (25°C ± 5°C)	3.3dB max (25°C ± 5°C)
Bandwidth (10dB RL)	L1: 30MHz (min) L2: 15MHz (min)	L1: 30MHz (min) L2: 15MHz (min)
Out of Band rejection	fo=1575.42 MHz fo ±50 MHz: 30 dB min fo ±100MHz: 40dB min fo=1227.60 MHz fo ±50 MHz: 30 dB min fo ±100MHz: 40dB min	fo=1575.42 MHz fo ±50 MHz: 30 dB min fo ±100MHz: 40dB min fo=1227.60 MHz fo ±50 MHz: 30 dB min fo ±100MHz: 40dB min
Blocking 1dB Compression Point	100MHz to 1.5GHz >+15dBm 1.5GHz to 1.575GHz Linear decrease from +15dBm to -40dBm over frequency range 1.575GHz to 1.65GHz Linear increase from -40dBm to +15dBm over frequency range 1.65GHz to 3GHz >+15dBm	
Azimuth coverage	360° (omni-directional)	360° (omni-directional)
Elevation coverage	0°-90° elevation (hemispherical)	0°-90° elevation (hemispherical)



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