GPSdome: Industry's Only Non-ITAR GPS Anti-Jammer

GPSdome is a small-sized, add-on device that provides protection against GPS jamming, ensuring continuity of autonomous navigation and operation during jamming conditions. No other solution that offers such protection is as small, light, affordable or as easily installed as GPSdome.

Features

- Null steering technology
- Small form factor: 70 x 48 x 24mm, 150 g
- Minimal power consumption: <0.8W
- IP67, -40°C to +85°C
- Protected frequency: GPS L1 (C/A Code)
- **Passthrough frequencies: GPS L2 & Glonass R1**
- Latency: 100ns ± 15ns (fixed)
- Insertion loss: ±2dB

How GPSdome Works

The Vulnerability of GNSS is well known. Orbiting at 20,000km, the GNSS satellites emit a signal which is incredibly weak when received by GNSS receivers (~-125dBm). To jam or spoof this signal all one must do is overpower it, either with a simple jammer bought online which blocks it completely or with a spoofer, a slightly more sophisticated signal which can trick it with erroneous data.

The Null Steering Algorithm was originally developed for military applications to protect wireless signals. GPSdome adds our own sophisticated algorithms and proprietary RFIC to detect suspicious signals, combine antenna patterns and precisely target a null in the direction of the hostile signal.

Installation Couldn't Be Easier. After mounting the 2 antennas on a flat, sky-facing base with at least 10cm separation (optimally > 25cm), connect antennas to GPSdome, connect it to the antenna input on your GNSS receiver, feed it with power and you're set to go.

GPSdome is Completely Standalone. GPSdome is compatible with any GNSS receiver on the market and compatible with any off-the-shelf GNSS antenna. GPSdome does not include the GNSS receiver or the antennas.
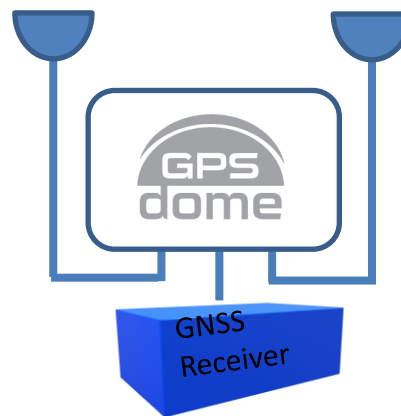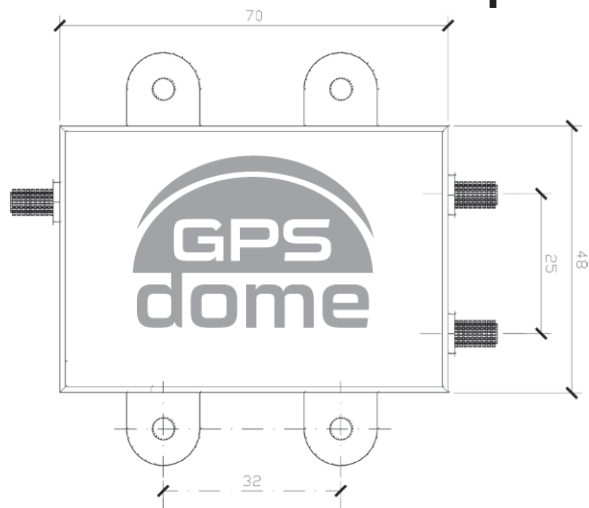
Jamming / Spoofing Detection is available from an LED on the GPSdome itself or via an external wire that could be integrated into any system computer. An optional CommModule could be added to enable attack alerts to be sent to infiniDome's GPS Cyber Security Cloud.

InfiniDome
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Specification Summary
Dimensions

GNSS Receiver

Physical

Enclosure	70 x 48 x 24mm (excluding mounting lugs)
Weight	150g
Mounting	4 x M3 bolts (not supplied)

Environmental

Operating Temperature Range	-40°C to 85°C
Waterproof Rating	IP67

RF Interfaces

Antenna Connectors (P/A)	50Ω SMA 2.75VDC designed for 26dB ±2dB gain
Receiver Connector (R)	50Ω SMA Requires *3.3VDC – 32VDC 0.75W *not for EPS option

Performance

Protected Signal	1575.42 MHz (GPS L1 C/A Code)
Passthrough additional 2 GNSS signals	GPS L2 & Glonass R1
Latency	100ns ±15ns (fixed)
Compression Point	25 dBm
Insertion Loss	±2dB

Safety & Compliance

R&TTE 1999/5/EC : EN60950-1, EN301 489-1, EN301 489-3, EN300 440-2	
RoHS compliant	CE Compliant (PPS Version)
WEEE registration number WEE/GK2929WW	

EPS Product Wire Connection Description

Red Wire	3.3VDC – 32VDC
Black Wire	GND
Brown & White	Dry contact NO interference indication

Ordering Information

Product Name	Product Number	Description
GPSdome V1.03-EPS	1036	GPS L1 Protection, R1 & L2 Passthrough. External Power & Interference Indication Over 3 Wire Cable. Loss Compensation.
GPSdome V1.03-PPS	1037	GPS L1 Protection, R1 & L2 Passthrough. Phantom Power Supply Over (R) RF connector. Loss Compensation.

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