OtoSphere OEM
DATASHEET

infiniDome
NAVIGATION RESILIENCY

Features

- Null steering technology in tiny form factor
- Single, retrofit, board-level solution
- Size / Weight: 40.3 x 65.2 x 12.3mm / 35g
- Nominal power consumption <1W
- -40°C to +85°C
- Protected frequency: GPS L1 (C/A Code)
- Passthrough frequencies: GPS L2 & Glonass G1
- Minimal latency: 100ns ± 15ns (constant)

OtoSphere OEM: Industry's Most Disruptive GPS Anti-Jammer

How does it work?

The Vulnerability of GNSS is well understood. The satellites orbit at 20,000 KM altitude and emit a signal which is incredibly weak when received by GNSS receivers (~-125dBm). It is a simple matter to overpower this signal with a simple jammer bought online to block it completely.

The Null Steering Algorithm was originally developed for military applications to protect wireless signals. OtoSphere OEM adds our own sophisticated algorithms and proprietary RFIC to detect suspicious signals, combines antenna patterns, creates and dynamically steers a null in the direction of the hostile signal.

Seamless Integration on existing PCB externally connected to your antenna input the OtoSphere OEM can work with any two off-the-shelf active 26dB antennas. For an even tighter integration, circuit-level antennas could be used and bring the entire solution to under 100g.

OtoSphere OEM is Retrofit and Standalone The OEM is compatible with most GNSS receivers and off-the-shelf antennas. Since it does not include the receiver and antennas, it could be added to almost any system as a retrofit upgrade.

Jamming Detection is available from an LED on the OtoSphere OEM itself or via an external connection that can be integrated into any computer system.
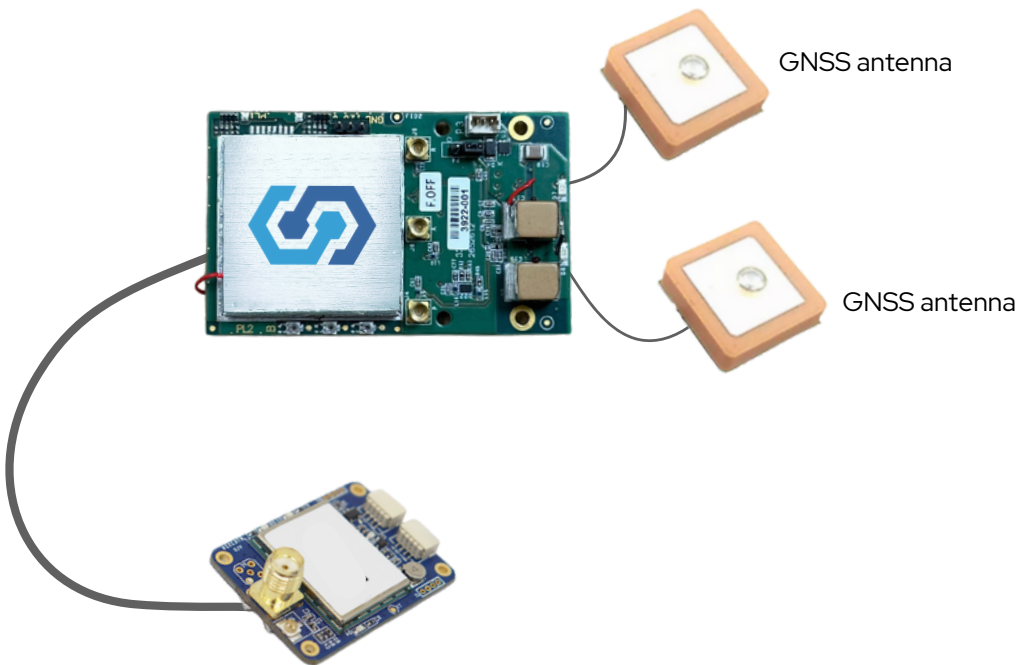
OtoSphere OEM is a small-sized, light weight addon board that could be retrofitted inside almost any civil platform, side-by-side to the controller. It provides protection against GPS jamming, ensuring continuity of autonomous navigation and operation during jamming conditions. No other solution that offers such protection is as small, light, affordable, or as easily installed as OtoSphere OEM.

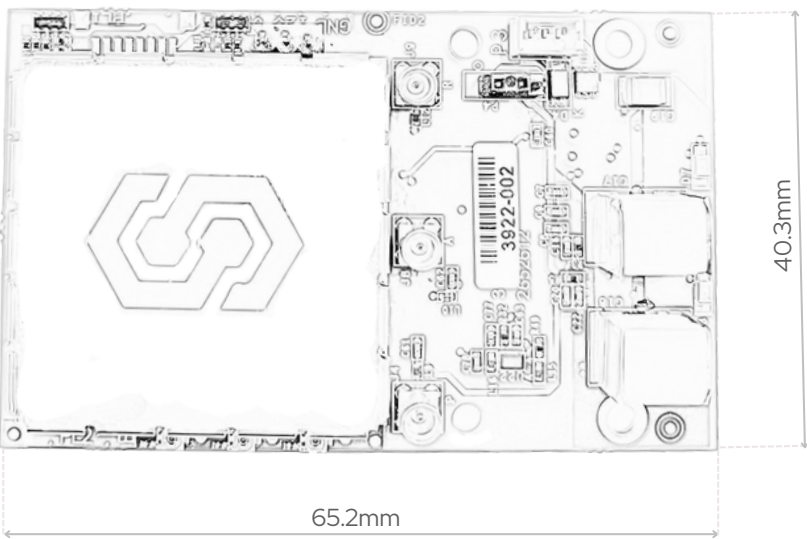**Small • Simple • Flexible • Retrofit**

OtoSphere OEM
DATASHEET

System Diagram

GNSS antenna

GNSS antenna

Product Dimensions

40.3mm

65.2mm

Product Specifications

Physical

Enclosure	40.3mm x 65.2mm x 1 2.3mm
Weight	35g

Environmental

Operating Temperature Range	-40°C to +85°C

RF Interfaces

Antenna Connectors (P/A)	50Ω MMCX 2.75 – 3.3VDC, designed for 26dB ±2dB gain
Receiver Connector (R)	50Ω MMCX requires 3.7 – 32VDC <1W

Performance

Protected Signal	1575.42 MHz (GPS L1 C/A Code)
Passthrough additional 2 GNSS signals	GPS L2 / L5 / Glonass G1
Latency	100ns ±15ns (fixed)
Compression Point	25dBm
Insertion Loss	±2dB

Safety & Compliance

FCC Compliant
CE Compliant
RoHS Compliant

Optional Connection Description

Red Wire	3.7 – 32VDC <1W
Black Wire	GND
Brown & White	Open drain interference detection

Ordering Information

OtoSphere – 01 – X X

Protected frequency:
1 – GPS L1

Passthrough frequency (optional):
0 - null
2 – GPS L2
3 – GPS L5
4 – GLONASS G1