



IRIDIUM PNT

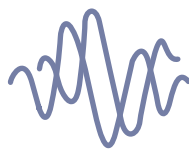
LEO-POWERED POSITIONING, NAVIGATION & TIMING

GPS and GNSS signals are essential, but they are also vulnerable to jamming, spoofing, and signal loss indoors or in dense urban areas. Iridium PNT is a global, low-Earth orbit positioning, navigation, and timing solution built on Iridium's crosslinked constellation of 66 satellites, delivering a signal up to 1,000 times stronger than GPS. Accurate to within 30 metres stand-alone, it penetrates indoors and into dense urban canyons where GPS often fails, and its built-in signal authentication features make it exceptionally resistant to spoofing and jamming. Enabled by the compact Iridium PNT ASIC, the solution integrates into new or existing GPS/GNSS hardware with minimal design changes, giving critical systems a reliable, always-on backup.

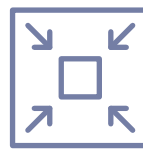
FEATURES



Independent LEO PNT
Source



GNSS
Resilience



Compact
ASIC Design



Indoor & Urban
Penetration



Signal
Authentication



24/7
Availability

SPECIFICATIONS

NETWORK Constellation: 66 crosslinked LEO satellites Orbital Altitude: 485 miles Network Type: Low-Earth Orbit (LEO), L-band Availability: 24/7 global coverage	UTC TRACEABILITY Traceable to UTC (USNO) & UTC (NIST)	IRIDIUM PNT ASIC 68-pin QFN package Dimensions: 8 × 8 × 0.85 mm Operating Temp: -20°C to +70°C Storage Temp: -55°C to +150°C Antenna: Iridium-compatible Frequency: 1616–1626.5 MHz RF Impedance: 50 Ω
SIGNAL POWER 30 dB 1000X stronger than GPS L1 C/A	TIMING STABILITY ITU-T G.8272 PRTC-A compliant <50 ns (OCXO), 1-sigma <25 ns (Rubidium), 1-sigma	EVALUATION KIT (EVK) Contents: Hardware, software & accessories Architecture: Standalone or hybrid (Iridium + GNSS) Use: For validation, prototyping & integration
SECURITY Built-in Signal Authentication	TIMING ACCURACY Within 9 nanoseconds of UTC(NIST) after 69 days (TDEV)	
CLOCK STRATUM LEVEL Stratum 0 Time Source Supports Stratum 1 PTP Grandmaster / PRS	LOCATION ACCURACY (STATIC POSITION) Horizontal: 10 m (1-sigma) Vertical: 10 m (1-sigma)	

USE CASES

CRITICAL INFRASTRUCTURE

Energy grids, data centres, and 5G networks depend on precise, synchronised timing to operate safely. When GPS signals are jammed, spoofed, or blocked by dense urban structures, Iridium PNT gives operators a resilient backup source of timing and location data, keeping critical systems running without interruption.

TRANSPORTATION

Rail networks using Positive Train Control depend on continuous GPS data to monitor train location, speed, and direction, and to prevent collisions. Iridium PNT gives transportation operators a dependable alternative when GPS signals are degraded or unavailable, supporting safer and more reliable operations.

MARITIME

GPS spoofing can send counterfeit positioning data to vessels, pushing them off course and into dangerous waters. Iridium PNT gives mariners an authenticated, jam-resistant signal that is difficult to counterfeit, providing trusted location data even under deliberate interference.

HARDWARE OPTIONS

ROCKFLEET ASSURED
RockFLEET Assured is a marine-grade A-PNT system that helps vessel operators compare GNSS position data with an independent position source based on Iridium PNT. It gives bridge crews and shore teams clearer visibility of vessel position, integrity events and GNSS disruption.



ALTM-T
Alternative Location and Timing Module-T (ALTM-T) delivers reliable, continuous access to assured positioning, navigation, and timing (APNT) information. NAL Technologies’ ALTM-T is ideal for applications demanding precise positioning, navigation, timing, and redundancy with other sources of APNT.

