

STL Satellite Time & Location Service

Powerful, secure, resilient GPS/GNSS backup solution



- Works indoors
- Mounts right near your server rack ... no rooftop antenna needed
- 1000x stronger than GPS
- Delivers timing even in GPS-denied environments
- Encrypted signal resists jamming and spoofing
- Incredibly accurate ... +/- 500 ns to UTC
- Specifically designed for timing applications

Problem

You have a datacenter with limited rooftop access, making it difficult to deploy a traditional outdoor antenna.

You have a critical application that requires GPS backup. You cannot afford the risk of a system failure due to intentional or unintentional interruption of GPS service.

Solution

STL (Satellite, Time & Location) is a revolutionary source for precision time broadcast from the Iridium® satellites constellation. Orolia has partnered with Satelles to integrate this signal into the SecureSync platform, providing a secure and accurate timing reference that can augment or take the place of GPS in RF denied environments. STL works indoors using a small patch antenna that mounts right near your server rack – no rooftop antenna needed. The STL signal can extend deep into buildings where GPS signals are too weak to reach. As a bonus – because the signal is encrypted and uses a license key specific to each receiver, it is almost impossible to spoof. When used in tandem with GPS and other GNSS signals, STL provides a powerful, resilient backup for critical timing applications.

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The Only Global, Encrypted Signal Reference Commercially Available Today



Signal Comparison to GPS

	GNSS	STL
Timing accuracy	-20 ns	-200 ns
Anti-jam	Low signal level – easily jammed	30-40 dB stronger signal – difficult to jam
Anti-spoof	Encrypted signals for military users only	Encrypted signal available to all users
Coverage	Global precision degrades at poles	Global coverage increases at poles
Indoor operation	Very limited	Widely available

STL Antenna Specifications

- Active magnet mount Iridium® antenna
- Custom high gain, 5 dBic dual-feed patch
- Axial ratio < 2 dB over full bandwidth
- 15 KV ESD circuit protection
- IP67 weather proof housing
- Robust industrial grade enclosure
- RoHS compliant, ideal for harsh environments
- Magnet or screw mount
- Antenna gain (dBic,100mm ground plane) 4.5

Electrical

- Frequency bandwidth 1615 to 1626.5 MHz
- Polarization RHCP
- LNA Gain 26 dB (min)
- Input voltage 2.5-12 VDC
- Current 19 mA
- Cross polarization rejection typically 20 dB
- VSR (at antenna) < 1.5:1 typ
- ESD circuit protection 15 KV air discharge
- Noise figure 1 dB typ

Mechanical

- Size 57 mm dia. X 15 mm H

Cable

- 96" cable standard

Physical/Environmental

- Weight: 160 g
- Enclosure: Radome: ASA plastic, Base: Zamak white metal
- Attachment method: Magnet
- Oper Temp. Range -40 to +85 °C
- IP67 and RoHS compliant
- Shock: Vertical axis: 50 G, other axes: 30 G
- Vibration: 3 axis, sweep = 15 min, 10 to 200 Hz sweep: 3G

How to Order

STL is available as an annual or multi-year subscription service. Choose the STL option card or order it already integrated into a SecureSync.

1204-3E STL option card

The STL card adds the ability to use encrypted satellite signals as an input reference. Such satellite signals are suitable for use indoors.



Specifications

	Input
Quantity	1
Connector	SMA
Maintenance Port	RJ45
Supplied with Iridium indoor antenna with 96" cable	

Ordering Information

1204-3E: STL signals module

STL-SS-1Y: STL annual subscription service

Ancillary kit available for already-fielded unit. Multi-year subscriptions are also available. Contact your Orolia salesperson for details.