



## Xtragen XT-GNSS-T

### Compact Multi-Frequency GNSS Timing Receiver Board

Xtragen XT-GNSS-T BOARD is a compact, multi-band GNSS timing receiver built for critical infrastructure requiring high security and precision. It supports all major satellite constellations and includes AIM+ technology for anti-jamming, anti-spoofing, and interference mitigation. With low power consumption and multiple interfaces, it delivers sub-nanosecond timing accuracy and enhanced resilience, especially with optional AtomiChron services.

#### KEY FEATURES

- Accurate and resilient with dedicated timing features
- All-in-view satellite tracking: multi-constellation, multi-frequency
- Dedicated inputs for clock and frequency synchronisation
- OSNMA and 4 constellation NMA support
- Highly secure against jamming and spoofing with AIM+ unique interference mitigation technology combined with Fugro AtomiChron services
- Industry-leading ultra-low power consumption
- Easy-to-integrate

#### BENEFITS

##### Top performance without compromises

Xtragen XT-GNSS-T BOARD combines compact size with powerful performance, delivering precise time and frequency synchronization even under GNSS jamming or spoofing. Its all-constellation, multi-frequency support and AIM+ technology ensure unmatched resilience.

##### More compact than ever

Sized at just 76.9 x 47.5 mm, Xtragen XT-GNSS-T BOARD delivers exceptional performance in an ultra-compact form factor.

##### Meant for automated assembly

The Xtragen XT-GNSS-T BOARD is built for high-volume automated assembly with minimal extra components. It comes with full interface documentation and the RxTools software suite for easy configuration, data logging, and analysis.

##### Advanced technologies inside

- **AIM+** the most advanced anti-jamming, anti-spoofing on-board interference mitigation technology on the market (narrow and wide band, chirp jammers).
- **LOCK+** for robust tracking despite mechanical shocks and vibrations.
- **APME+** multipath mitigation to distinguish direct signals from those reflected off nearby structures.
- **IONO+** provides advanced protection against ionospheric disturbance

## FEATURES

### GNSS signals

448 hardware channels for simultaneous tracking of all visible supported satellite signals:

- GPS: L1C/A, L1P, L2C, L2P, L5
- GLONASS: L1CA, L2CA, L3 CDMA
- BeiDou: B1I, B1C, B2a, B2b, B2I, B3
- Galileo: E1, E5a, E5b, E5 AltBoc, E6
- QZSS: L1C/A, L1 C/B, L2C, L5
- Navic: L5
- SBAS: Egnos, WAAS, GAGAN, MSAS, SDCM (L1, L5)
- On module L-band

### GNSS+ Patented technologies

- **AIM+** industry leading anti-jamming, anti-spoofing interference monitoring & mitigation technology
- **IONO+** advanced scintillation mitigation
- **APME+** a posteriori multipath estimator for code and phase multipath mitigation
- **LOCK+** superior tracking robustness under heavy mechanical shocks or vibrations
- **RAIM+** receiver autonomous integrity monitoring

#### OSNMA Support

4 constellations NMA Support

5 constellations position engine

T-RAIM Support

### Protocols

Septentrio Binary Format (SBF)

NMEA 0183, v2.3, v3.03, V4.0 NTP & PTP

### Interfaces

Wi-Fi 802.11b/g/n

Bluetooth v4.2 BR/EDR

USB Type - C

SIM Card - 4G VoLTE (Optional)

RS232 (Optional)

RJ45 (Optional)

2 UART (LVTTTL, up to 4 Mbps)

2 Event markers

1 Configurable PPS out

## PERFORMANCE

### Time precision

xPPS out	5 ns
xPPS out with AtomiChron	<1ns
Event accuracy	<20 ns

### Position accuracy

	Horizontal	Vertical
Standalone	1.2 m	1.9m
SBAS	0.6 m	0.8 m

### Velocity accuracy

3 cm/s

### Maximum update rate

Position	10 Hz
----------	-------

### Latency

<10 ms

### Time to first fix

Cold start	< 45 s
Warm start	< 20 s
Re-acquisition	1 s

### Tracking performance (C/N0 threshold)

Tracking	20 dB-Hz
Acquisition	33 dB-Hz

### Firmware

Free product lifetime upgrades

## PHYSICAL AND ENVIRONMENTAL

### Package

Type	SMT solderable land grid array
Size	76.9 x 47.5 mm / 3.02 x 1.87 inches

### Electrical

Antenna pre-amplification range	15-50 dB
Antenna bias voltage	3.0-5.5 V
	Build-in current limit (150 mA)
Input voltage	3.3 VDC
Power consumption	0.6 W typ
	1.1 W max

### Environmental

Operating temp	-40 to 85° C
	-40 to 185° F
Storage temp	-55 to 85° C
	-67 to 185° F
Humidity	5% - 95% (non-condensing)
Vibration	MIL-STD-810G

### Certification

RoHS, WEEE, ISO 9001-2015



**Xtragen Technologies Private Limited**

Enabling connectivity between Technology & People



#201, Building No. 44, 80 Ft Road, Royal Lake Front Residency, JP Nagar Phase 8, Bangalore - 560076

Contact No: +91 6361549010

Email: sales@xtragen.in

Website: www.xtragen.in



www.xtragen.in