



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, L1PY, 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 (LVTTL, up to 4 Mbps)

2 Event markers

1 Configurable PPS out

PERFORMANCE

Time precision

xPPS out
xPPS out with AtomiChron
Event accuracy

5 ns
<1ns
<20 ns

Position accuracy

Standalone	Horizontal	Vertical
SBAS	1.2 m 0.6 m	1.9 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	1s

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
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



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