Inpixon nanoANQ Chirp
Chirp (CSS) Location-Sensing RTLS Anchor

Long-Range, Industrial-Grade Chirp RTLS Anchor

The Inpixon nanoANQ Chirp is a deployment-ready RTLS anchor built for long-range location tracking applications across indoor and outdoor environments. It leverages unique chirp RF technology to deliver long 500 m positioning range with 1-2 m location accuracy.

With industrial-grade performance, the Inpixon nanoANQ Chirp provides accurate and reliable positioning in large-scale deployments for many types of facilities – including harsh environments like factories and underground mines. This anchor can operate tracking, ranging, and two-way communication concurrently for versatility that supports a variety of location-aware use cases. With accurate time difference of arrival (TDoA) methodology and patented virtual anchor synchronization, Inpixon RTLS anchors work alongside our open and industry proven RTLS components to deliver unparalleled scalability for RTLS solutions that support many thousands of concurrently tracked tags and allow you to easily expand anchor deployments with no additional overhead.

Featuring a compact redesigned PCBA, integrated internal antennas and advanced anchor performance, the Inpixon nanoANQ Chirp helps you use real-time location to transform industrial operations and make them safer, more agile, and productive.

Inpixon nanoANQ Chirp Highlights:

- Deliver long-range, reliable real-time tracking and ranging applications through chirp technology
  - Typical Range: 300-500 m*
  - Accuracy: 1-2 m*
  - Frequency: ISM-band 2.4 GHz (2.4-2.4835)
- Experience Chirp's strong reliability and protection against interference for accurate, low-latency solutions that meet the demands of heavy-duty environments
  - Robust against RF interference, multipath fading, doppler effect and more
  - Two independent RF channels
- Operate tracking, ranging and two-way communication applications concurrently
- Compact form factor and internal antennas enable simplified installation
- Deploy highly scalable RTLS anchors to support real-time solutions for thousands of concurrently tracked tags and diverse location-aware needs
- Patented virtual anchor synchronization allows you to expand location infrastructure with zero communication overhead
- Configurable IP65 or non-IP rated anchor housing to meet varying deployment needs
- Dual Power Options: PoE or USB
- Compatible Software: Inpixon nanoLES location engine, deployed worldwide for 10+ years

*with optimal conditions and deployment

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Flexible, Long-Range Chirp Technology

The Inpixon nanoANQ Chirp anchor helps track assets, personnel and IoT devices with location ranges that can reach 500 meters, both in and outdoors - much longer than other common RF technologies. Chirp technology also delivers high 1-2 m location accuracy, very low latency, and strong resiliency against narrow and broad band disturbances, multipath fading, the doppler effect and more. This unique performance mix, that other technologies like Wi-Fi and BLE can't deliver, make the Inpixon nanoANQ Chirp ideal for powering various location-aware use cases across large facilities and able to operate reliably in some of the harshest industrial environments.

Simple Configuration and Management

The Inpixon nanoANQ Chirp is easy to install, maintain and can be configured remotely via a UDP connection. Configured through the Inpixon nanoANQ Configurator software tool, management and expansion of your RTLS infrastructure is made even more simple. The tool facilitates remote configurations and updates for all your deployed anchors with capabilities like real-time auto anchor discovery and streamlined anchor set up and firmware updates.

Industrial-Grade Scalability

Scale to expand location infrastructures with zero communication overhead. Patented virtual anchor synchronization and TDoA methodology offers above-industry scalability for applications that involve thousands of concurrently tracked assets. Chirp technology's long-range coverage typically requires less infrastructure than other common technologies, allowing for simple and more cost-effective deployments.

RF Output Power

The device's configurable RF power output provides a power amplifier that is adjustable from -17 to +20 dBm.

Two-Way Communication

Through its air interface, the Inpixon nanoANQ Chirp RTLS anchor supports bidirectional payload exchange to and from the location engine server and individual tags.

Power Supply

The Inpixon nanoANQ Chirp features two power supply options – Power-Over-Ethernet (PoE) and USB. The optional USB port can be used as an alternative power source. Both sources can be used to supply power and the PoE connector acts as a connection to the transport network and location server.

Compact Form Factor & Configurable IP65 Housing

The Inpixon nanoANQ Chirp delivers a compact and versatile form factor for simplified installations in different types of environments. Configurable to be either IP65 or non-IP rated, the anchor housing can adjust to the needs of your deployments. With its durable IP65 configuration, the housing protects against dust, moisture, and water in harsh industrial environments, and when installed as non-IP rated, reliably operates in less heavy-duty spaces like office settings.

Temperature Range

The Inpixon nanoANQ Chirp offers industrial-grade temperature protection from -40°C to 85 °C for use in extreme indoor and outdoor environments.

Shown with IP65 Configuration
Dimensions: 196.3 x 145.5 x 34.2 mm

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Ordering Information

Order No.	Description
PN03ANQCS	Inpixon nanoANQ Chirp V3: Chirp RTLS anchor for tracking applications with PoE including configurable IP65 housing, antenna and standard wall mounting Included: Inpixon nanoLES V3: Location engine and server software,. OS compatibility: Windows, Linux. Location technologies supported: Chirp, UWB
SRVIX01ANQ	Annual support and maintenance for Inpixon nanoANQ products, covers support for anchors, anchor firmware, and location engine; per year
Related Inpixon RTLS Products	
BN03ANQCS	Inpixon nanoANQ Chirp V3 PCB: Chirp anchor PCBA board with internal antenna and U. FL connectors
KNANQEV01CS	Inpixon Chirp RTLS Evaluation Kit: RTLS Evaluation Kit with 4 Chirp RTLS anchors +wall mounting kits, 3 Chirp RTLS tags. Software: Inpixon RTLS location engine + toolbox, step-by-step reference guide + professional support if needed, 5-Port PoE managed switch + Cat6 cables, 3 tag lanyards + 3 tag stands, rugged case for protection and storage of kit
PN01ASSTG	Inpixon Asset Tag: Miniaturized chirp IP65 tag for tracking of assets
MN03SWBLE	Inpixon Swarm Chirp V3: 2.4 GHz chirp radio module with castellated pin shape, acceleration sensor, temperature and VCC monitoring
KN03SWBLE	Inpixon Swarm Chirp V3 Dev Board: Developer board for Inpixon Swarm Chirp, including antenna

Specifications

Specifications	
Typical Range	300-500 m*
Typical Location Accuracy	1-2 m*
Signal Detection Rate	Up to 900 blinks/s
Number of RF Channels	2
Recommended Minimum RTLS Infrastructure	6 anchors
RF Technology	Chirp Spread Spectrum
Frequency Range	ISM band 2.4 GHz (2.4 – 2.4835 GHz)
RF Output Power	Configurable -17 to +20 dBm
Receive Sensitivity (80MHz/1µs)	-88 dBm
Transport Network	Ethernet 100 base TX
Power Supply	PoE (802.3af) - recommended, USB – optional**
IP Address	Automatic, DHCP
Operating Temperature Range	-40 to +85 °C
Dimensions	With IP65 Configuration: 196.3 x 145.5 x 34.2 mm With Non-IP Configuration: 196.3 x 118.3 x 34.2 mm
Weight	With IP65 Configuration: 365 g With Non-IP Configuration: 255 g

*With optimal conditions and deployment, dependent on topology and antenna
** USB requires 1 A min. and a cable ≤1m

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