RTLS Evaluation Kit

High throughput location solutions

The Evaluation Kit

Nanotron has simplified the evaluation and integration of Real Time Location Systems (RTLS) with its new Evaluation Kit. Nanotron's Evaluation Kit is available in two RF variants to cover both requirements, long range with Chirp and cm-accuracy with UWB. The Kit consists of four RTLS anchors, three according Development Kits (DK+) and nanoLES, the location server software. The included RTLS-Tools and wireless OTA Configurator add a convenient setup, maintenance and evaluation process. The Kit demonstrates nanotron's RTLS performance and provides customers a platform to develop their own location solutions. The DK+ boards provide an easy method to develop custom tag solutions.

Figure 1: RTLS Edge Anchors available in two variants, nanoANQ EA (Chirp) and nanoANQ EA ER (UWB)

RTLS Edge Anchors (EA)

RTLS Edge Anchors (Chirp or UWB) as shown in Figure 1 are infrastructure devices to read tag blinks and exchange payload while providing a fixed reference point. They are used to locate a tag (like the included DK+) position within a network of anchors. Through the wireless interface all these anchors support bidirectional data exchange with the tags. These anchors support nanotron's patented virtual anchor synchronization, unlocking unparalleled deployment scalability.

RTLS Tags

RTLS tags like nanotron's available Tag Evaluation Platform (TEP) are wireless devices sending blinks to the anchors of the network in order to define their position. Through their air interface, the tags support bidirectional payload exchange with the *nanoLES* Location Server. The OTA Configurator allows to configure many tags at the same time over the air.

Custom Tags

Customized tags (Chirp or UWB) are also possible by purchasing the optional *swarm* bee modules as well as more Development Kits (DK+), which automatically appear as tags on the RTLS Evaluation Kit. The *swarm* bee modules also integrate a 3D acceleration sensor that transmits movement data to the nanoLES server allowing to apply additional filtering. The DK+ just requires power for operation as a tag.

Location Software - *nanoLES*

nanoLES is nanotron's location engine software for both Chirp and UWB.
nanoLES ingests the complete location and sensor data-stream in real-time and is directly connected to the edge anchors and calculates native TDoA-based positions of tags via precise time of arrival stamps (ToA) from the anchors. Its proven scalability qualifies nanoLES for industrial applications requiring longer range and cm-level positioning accuracy for up to thousands of IoT devices.

Figure 2: swarm bee DK+ Boards in three variants: DK+ LE V2 or V3 (Chirp) and DK+ ER (UWB)

Ordering Information

Chirp

Order No.	Description
KNANQEV01CS	RTLS Evaluation Kit nanoANQ EA 4 x nanoANQ EA, 3 x swarm bee LE V2 DK+, nanoLES, RTLS Tools, OTA Configurator
BN02SWBLP	swarm bee LE v2 DK + Board incl. antenna
BN03SWBLP	swarm bee LE v3 DK + Board incl. antenna
MN02SWBLE	swarm bee LE V2 Module - 2.4 GHz Chirp Radio
MN03SWBLE	swarm bee LE V3 Module - 2.4 GHz Chirp Radio

UWB

Order No.	Description
KN01ANQEMER	RTLS Evaluation Kit nanoANQ EA ER 4 x nanoANQ EA ER, 3 x swarm bee ER DK+, nanoLES, RTLS Tools, OTA Configurator
BN01SWEBEP	swarm bee ER DK + Board incl. antenna
MN01SWBER	swarm bee ER Module - UWB Radio Module

Accessories

Order No.	Description
DNTEP01N	Tag Evaluation Platform (TEP) for RTLS Demonstration purposes. Supporting Chirp and/or UWB. Including stop plug, USB and charging cable.
PSMB01WHN	Extra adjustable wall holder (standard)
PSMB01IHN	I-beam holder
PSMB01PCN	Pipe clamp
PSMB01ABN	Angle bracket

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About nanotron, An Inpixon Company
Nanotron Technologies GmbH, an Inpixon company (Nasdaq: INPX) is a leading provider of electronic location awareness solutions. If knowing what, where and when is mission-critical to your business, rely on nanotron with Location Running.
Nanotron's solutions deliver precise position data augmented by context information in real-time. Location Running means, reliably offering improved safety and increased productivity, 24 hours a day, 7 days per week: Location-Awareness for the Internet of Things (IoT).

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