

Tag Evaluation Platform - TEP

Introduction

Nanotron's Tag Evaluation Platform (TEP) is a smartphone size shaped evaluation platform to cut down the time to market for Location-Aware IoT solutions provided by nanotron.

The TEP is a tool that helps to evaluate which RF-Technology supports the application best. The TEP imitates the role of a tag that is attached to an asset, person or vehicle. Tags are mostly battery powered devices that can be tracked with wireless position estimates through nanotron anchor infrastructure. Nanotron showcases with the TEP a Tag realization using the tag-ready location modules swarm bee LE and swarm bee ER by adding an antenna, a battery and a housing. With two complementing RF-based location technologies the TEP supports evaluating both application requirements: long ranges up to 300m and cm accuracy. Nanotron's integrated Location-Aware IoT sensors operate at 2.4 GHz (Chirp) and 6.5 GHz (UWB). Nanotron's RTLS location information for both RF technologies is transmitted together with sensor data like motion and temperature changes within the same packet.

Key Features

With a slim housing and its 980 mAh Battery provides an operation time of more than 5 days if both integrated RF-technologies transmit nanotron's standardized location blinks with an update rate of 400ms.

A LED indicates the charging process in red while the completed charging process is signaled in green when connected via any USB charging source.

The TEP can be easily configured over the air by using the Node Configuration Device (NCD).



Figure 1 Smartphone sized TEP with clip for lanyard and an USB-Plug to disable the platform.

Chirp (CSS)	Chirp Spread Spectrum
Frequency Range	ISM 2.4-2.4835 GHz
Transmission Mode	80 MHz, 1 Mbps
RF output power	-20 to +18.5 dBm ± 2 dBm
RF sensitivity @ 80/1 mode	-89 dBm typ.

UWB	Ultra-Wide Band
Frequency (UWB)	6.4896 GHz Bandwidth 500 MHz
RF output power	- 14 to -10 dBm
Transmit power density	< -36.8 dBm / MHz
RF sensitivity @ 6.8 Mbps	-86 dBm typ.

General	
Battery capacity	980 mAh
Operating temperature range	-30°C to +85°C
Size	114 x 62 x 12 mm
Weight	74 g

Application

To enable location data and sensor information processing it needs a gateway infrastructure composed by nanotron's nanoANQ EA and/or nanoANQ EA ER. Nanotron's real-time location engine nanoLES 3 processes both RF technologies and provides access to the calculated location information over the exact same interfaces.

The TEP provides concurrent tracking, ranging and data communication with one common short signal as integral part of all nanotron's IoT (building) Blocks. Customers can evaluate and demonstrate different types of combinable solutions like collision avoidance (CAS), safety zones and real-time tracking.

The TEP delivers best results in conjunction with nanotron's RTLS Integration Kits.

Ordering Information

Order No.	Description
DNTEP01N	Tag Evaluation Platform (TEP) for RTLS Demonstration purposes. Including stop plug, USB charging cable and lanyard
KNRINT02EAEM	RTLS Chirp Integration Kit with 8 x nanoANQ EA including housing and antennas and standard wall mounting
KN01ANQEMER	RTLS UWB Integration Kit with 8 x nanoANQ EA ER including housing and antennas and standard wall mounting
KNRINT01	RTLS Chirp Integration Kit with 8 x nanoANQ V2 including antennas
SN03SWAT	<i>swarm</i> Node Configuration Device (NCD) – software tool to configure <i>swarm</i> nodes over the air (requires a <i>swarm</i> bee module or a DK+ Board connected to a PC)

About nanotron

Nanotron 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).

Nanotron Technologies GmbH is a wholly owned subsidiary of Sensera Limited (ASX: SE1), an IoT solution provider that delivers sensor-based products transforming real-time data into meaningful information, action and value.

Visit www.nanotron.com or for more information on nanotron's complete line of products and tools or write to us at nanotron Technologies GmbH, Alt-Moabit 60, 10555 Berlin, Germany.

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