

TREK1000 Overview

The IC Evaluation Kit for Two-Way-Ranging (TWR) RTLS (Real Time Location Systems) enables users to evaluate the performance of DecaWave's DW1000 Ultra-Wideband (UWB) IC in RTLS application use cases based on various topologies.

The superior location and tracking accuracy of the DW1000 can be compared to other wireless technologies.

Customers of the TREK1000 receive access to all software source code which can be used as a starting point for developing their own products.



+ Software Source Code

Target Applications

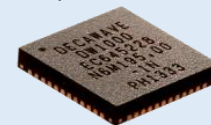
- Logistics, Asset-Tracking, Factory Automation
- Geo-Fencing, Safety & Security, Smart Homes
- Indoor Navigation, Robotics, Sports

TREK1000 Benefits & Advantages

- Quickly evaluate DecaWave's UWB technology, RTLS & multiple use cases with a single kit.
- X-Y location accuracy typically <20 cm
- Use the included TWR software to jump-start product development
- Leverage DW1000 IC's unique single-chip UWB features (low power, range, reliability, cost effective)
- Can be combined with an EVK1000
- Configurable to evaluate various RTLS use cases
- Dual Mode: low power or long range
- Supports channel 2 (4 GHz) or channel 5 (6.5 GHz)

DW1000 IC

- Single chip UWB wireless transceiver
- IEEE802.15.4-2011 UWB compliant
- Up to 6.8Mbits/s data rates
- Low power consumption
- Support high tag densities (short packet durations)
- Support long ranges (coherent receiver technologies)
- Reliable communications (immunity to multipath fading)
- Enables cost effective solutions (single-chip, 6mm x 6mm)



TREK1000 Product Description

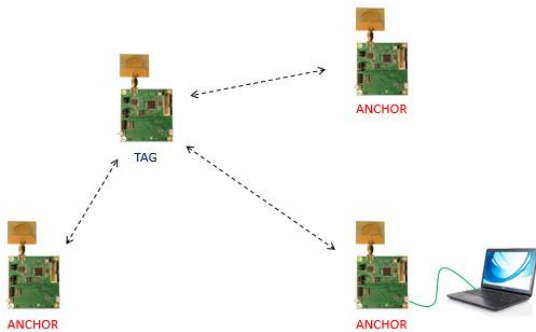
The Two-Way-Ranging RTLS IC Evaluation Kit* consists of 4 units, configurable as anchors or tags, PC application software and source code for RTLS result display and board software source code.

*Power supplies are not included.

Ordering Information

TREK1000 kits can be ordered from authorized distributors. See www.decawave.com for more information.

Application Use Cases



Tracking Systems

3 Anchors & 1 Tag (3D Trilateration)

Determine location of the tag relative to fixed anchors.

Example Applications:

Asset-Tracking (Healthcare, Farming, Logistics), Factory Automation

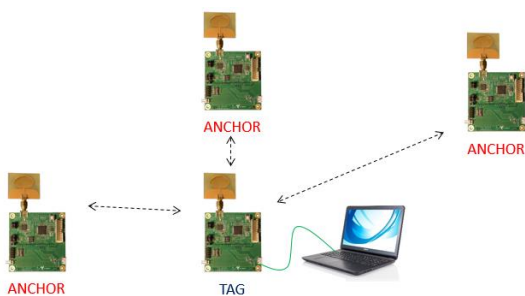
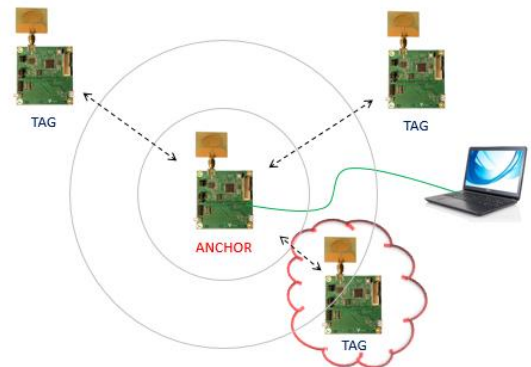
Geo-Fencing Systems

1 Anchor & 1, 2 or 3 Tags

Determine when tags enter or leave a specific perimeter/zone.

Example Applications:

Location-Based Payments, Personal Safety (Forklifts, Drilling Machines), Child-Monitoring, Secure-My-Valuables, Security



Indoor Navigation Systems

3 Anchors & 1 Mobile Tag (3D Trilateration)

Track the 2D or 3D location of the tag relative to fixed anchors.

Example Applications:

Robotics, Human Navigation

Expand the TREK1000 with an EVK1000

Customers of the EVK1000 can expand the system with a TREK1000 kit to support more anchors and tags. Please refer to the document "TREK1000 Expansion Options" for more information.

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The TREK1000, as supplied from DecaWave, has not been certified for use in any particular geographic region by any regulatory body governing radio emissions in such regions. The TREK1000 is supplied under the following conditions (i) the distribution and sale of the TREK1000 is intended solely for use in the development of devices which may be subject to regulations or other authority governing radio emissions. (ii) this TREK1000 may not be resold by users for any purpose. (iii) the TREK1000 as supplied by DecaWave may not be incorporated directly into user devices or products unless such products undergo the appropriate certification. (iv) operation of the TREK1000 in the development of future devices is at the discretion of the user and the user bears all responsibility for any compliance with regulations laid down by the authority governing radio emissions in the user's jurisdiction.

FCC NOTICE: This kit is designed to allow (i) product developers to evaluate electronic components, circuitry, or software associated with the kit to determine whether to incorporate such items in a finished product and (ii) software developers to write software applications for use with the end product. This kit is not a finished product and when assembled may not be resold or otherwise marketed unless all required FCC equipment authorizations are first obtained. Operation is subject to the conditions that this device not cause harmful interference to licensed radio stations and that this device accept harmful interference. Unless the assembled kit is designed to operate under Part 15, Part 18 or Part 95 of the FCC Rules, the operator of the kit must operate under the authority of an FCC license holder or must secure an experimental authorization under Part 5 of the FCC Rules.