Mobile Knowledge

MK UWB Kit RTLS

Featuring NXP Trimension™ SR150 / SR040

Learn how to implement your indoor RTLS solution based on UWB TDoA

UWB technology enables accurate and scalable real-time indoor position tracking.

Thanks to **Time Difference of Arrival (TDoA)** multilateration, UWB can be used to reliably compute the location of assets and people in indoor environments, in real-time and with centimetre-level accuracy using an infrastructure of fixed anchors.

Learn how **NXP's UWB Trimension™ technology can be used to implement UWB TDoA Real Time Location Systems (RTLS)**

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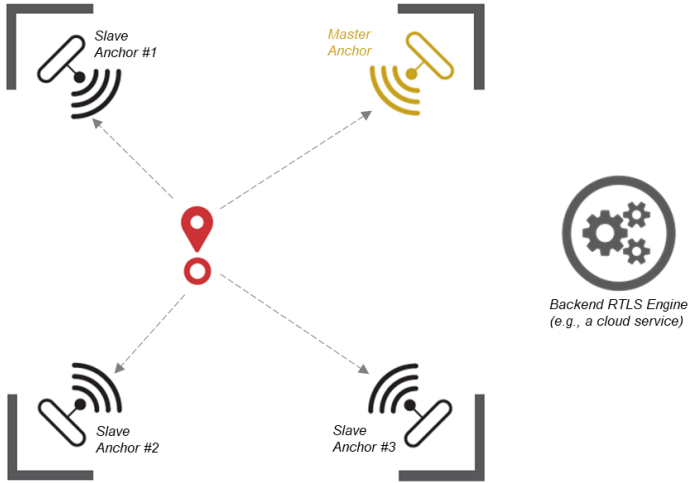
What is TDoA-based RTLS?



Uplink **TDoA (Time Difference of Arrival)** is a multilateration technique. It can be used to determine a device position by measuring the time it takes for a UWB signal to be received at several fixed anchor devices placed in the monitored environment.

A backend **RTLS engine** controls and configures the anchor infrastructure, collects the TDoA data and runs the multilateration algorithm that computes the position of tracked devices in real time.

The broadcasting nature of TDoA-based positioning makes it power-efficient and easily scalable to track tens of devices simultaneously.

MK UWB Kit RTLS

The **MK UWB Kit RTLS** is the **reference design** and **development platform** for **indoor UWB RTLS solutions based on TDoA** and **NXP's Trimension™ UWB IoT ICs**

Experience how to track one or more UWB-enabled tags using fixed anchor devices leveraging on TDoA-based real-time positioning. The MK UWB RTLS demo software allows you to experience first-hand the capabilities of the technology.

Kick-start the **design** of your own UWB RTLS solutions by leveraging on the hardware and software examples provided with the kit.

MK UWB Kit RTLS
What you'll find in the kit

MK UWB Kit RTLS

Featuring NXP Trimension™ SR150 / SR040

Learn how to implement your indoor RTLS solution based on UWB TDoA

(1)

Tag casing included

(2)

Anchor casing included

- **(1) 2 x UWB Tags SR040** featuring **NXP Trimension™ SR040**
  A casing for both tags is included
- **(2) 4 x MK UWB Anchors RTLS for easy wall or tripod* mounting** featuring **NXP Trimension™ SR150**
  A casing for the 4 anchors is included
  **Tripods are not included in the kit*

- **MK UWB Anchor RTLS** reference software source code and binaries required to run the UWB RTLS demo.
- **UWB Tag SR040** reference software source code and binaries required to run the UWB RTLS demo.
- **MK UWB RTLS** Android application to setup the UWB RTLS demo and visualize tags position in real-time on your smartphone.

- **Support documentation**
  - *MK UWB RTLS Kit User Manual*
  - *MK UWB RTLS Kit Quick Installation Guide*
  - *MK UWB Shield 2 User Guide*
  - *UWB Tag SR040 User Guide*
  - *UWB Tag SR040 Hardware Design Files*

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MK UWB Kit
RTLS
Hardware Content

MK UWB Kit RTLS
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UWB Tag SR040

*

Autonomous, battery-powered UWB device that features **NXP's UWB chipset Trimension™ SR040** and a BLE-enabled microcontroller, enabling all kinds of tracking and localization use cases, including UWB RTLS tracking using TDoA multilateration.

MK UWB Anchor RTLS

*

Flexible platform to develop customized UWB systems featuring **NXP's UWB chipset Trimension™ SR150**. It can be used as an RTLS anchor to track UWB devices. The ABS casing is ideal for tripod or wall mounting. Velcro strips on the side of the anchor allows for easy mounting of external power banks**.

** UWB Tag SR040 and MK UWB Anchor RTLS include a casing*

*** Power banks are not included in the kit.*

MK UWB Kit
RTLS
Software Content

MK UWB Kit RTLS

Featuring NXP Trimension™ SR150 / SR040

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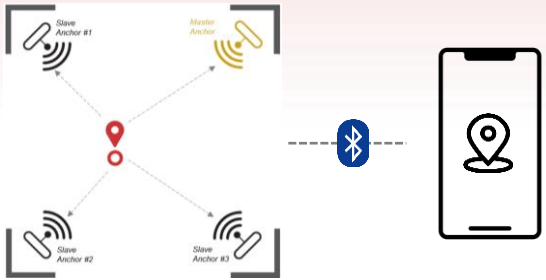
MK UWB RTLS Demo



The **MK UWB RTLS Demo** showcases how UWB technology can be used to implement an uplink TDoA-based RTLS solution:

- Track up to 4 UWB-enabled tags using an infrastructure of 4 fixed anchors
- Automatic setup of anchors and Real-time 2D tracking of tags position through the MK UWB RTLS Android application
- Several configurations and personalization options
- Step-by-step documentation and quick installation guide to position the hardware setup and run the demo.
- Source code of both firmware applications and Android application so you can kick-start the design of your own RTLS solution.

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MK UWB Kit RTLS
Out-of-the-box experience

MK UWB Kit RTLS
Featuring NXP Trimension™ SR150 / SR040
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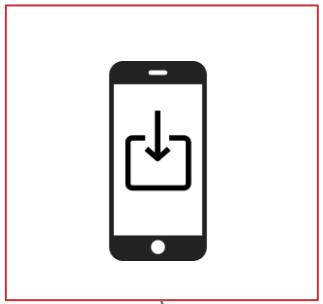
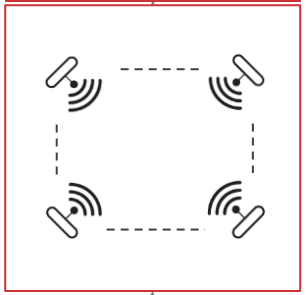


Install the MK UWB RTLS Android application in your smartphone



Position the 4 anchors in the room using tripods or wall mounting supports*

Power up anchors** and tags and setup the system through the MK UWB RTLS application

Track tags in real-time through the MK UWB RTLS Android application

Approximately 1h to setup the demo

** Tripods / wall mount supports are not included in the kit*
*** Using either power banks or external power supply. Power banks are not included in the kit*

Mobile Knowledge

MK UWB Kit RTLS
Ordering details

MK UWB Kit RTLS
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Evaluate how NXP's UWB Trimension™ technology can be used to implement **UWB TDoA Real Time Location Systems (RTLS)**

2.600€

Additional Components

Contact us to purchase any additional component

Additional **MK UWB Anchor RTLS with casing**……	**430€**
Additional **MK UWB Anchor RTLS without casing**……	**335€**
Additional **UWB Module** (SR150 or SR040)……	**50€**
Additional **UWB Tag SR040 with casing**……	**215€**
Additional **UWB Tag SR040 without casing**….	**180€**

Order the **MK UWB RTLS Kit** at MobileKnowledge's website :

https://www.themobileknowledge.com/product/mk-uwb-kit-rtls/

Want to do more ?

The **MK UWB Kit SR150/SR040** is the most comprehensive **reference design** and **development platform** for UWB-based IoT solutions.

Leverage on UWB technology advanced functionalities and benefit from **NXP Trimension™ SR150 and Trimension™ SR040 UWB IC** capabilities.

Experience UWB technology with ready-to-run **demonstration apps, Arduino-connected development boards** and **software libraries** to start prototyping and developing your own UWB applications with minimum effort.

Leverage on our powerful software tools such as the **MK UWB Toolbox Android** application to develop innovative mobile applications, the **MK UWB PC Shell** application to obtain ranging information on any host computer, the **MK UWB Library** which provides a simple but powerful API for your IoT embedded solution and out-of-the-box support for **NXP QN9090 and Nordic nRF 52840 MCUs**.

Visit our website for further information:
https://www.themobileknowledge.com/product/mk-uwb-kit-sr150-sr040/

Or contact us:
contact@themobileknowledge.com

Want to do more ?

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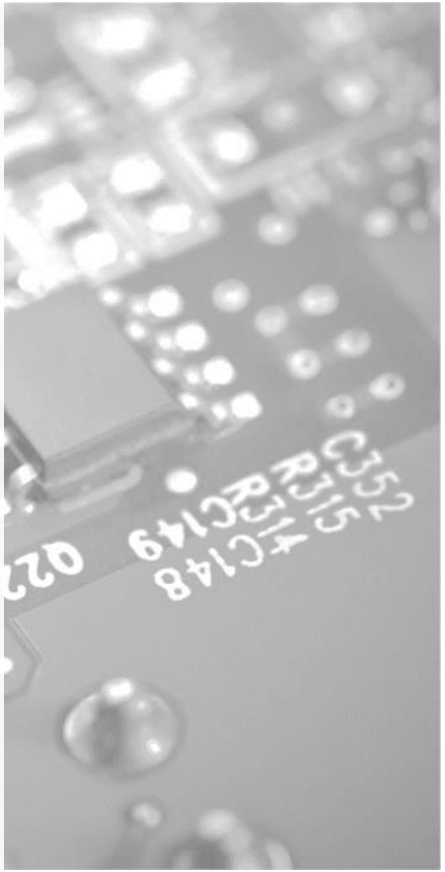
Long-standing expertise in UWB technology to help you reduce your time to market and focus on your own UWB solution development

- **Development of customized UWB use cases:** Embedded software development, mobile application software development, back-end integration, system integration,…
- **UWB technology consulting and support services:** Guidance on use case definition and system integration, system architecture, software requirements, Q&A resolution, FIRA related process and use cases,…
- **Design and development of customized antenna board** based on customer requirements and constraints in order to optimize ranging and AoA measurements
- **Porting of MK UWB SDK** into a customer platform, enabling MK UWB SDK software tools and functionalities on any customer platform that meets the SDK requirements
- **Licensing of MK UWB Library**, for an easy integration of UWB technology while accelerating the time to market



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