QM33120WDK2
All-in-one Ultra-Wideband Development Kit
Product Brief

Product Overview

The Qorvo® UDK (UWB Development Kit) QM33120WDK2 is an all-in-one ready-to-use kit for Ultra-Wideband product development and **demonstrations**.

The kit provides a wide range of evaluations and demonstrations of the Ultra-Wideband technology:
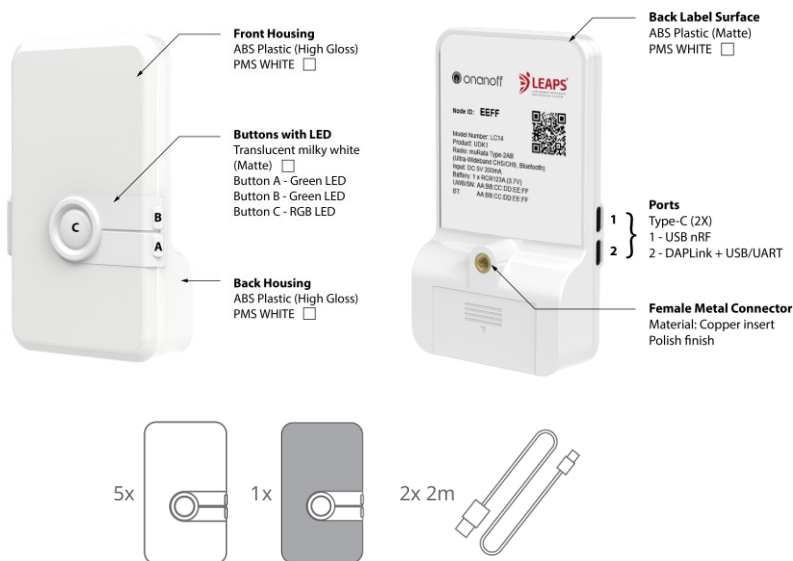
- Nearby Interaction demo with an iPhone®
- FiRa™ compatible Two-Way Ranging with Angle-of-Arrival capabilities
- Infrastructure-less proximity between the tags
- Advanced navigation and tracking RTLS (Real-Time Location System) demonstrations using DL-TDoA (Downlink TDoA), UL-TDoA (Uplink TDoA) and TWR (Two-Way Ranging) techniques
- Uplink and Downlink data telemetry.

The kit allows:

- Development of custom stack using an open-source SDK and built-in debugger on the UDK devices.
- Quick demo setup and visualization using iOS and Android applications.
- A wide range of options and tools for configuration, visualization using smartphone and desktop.
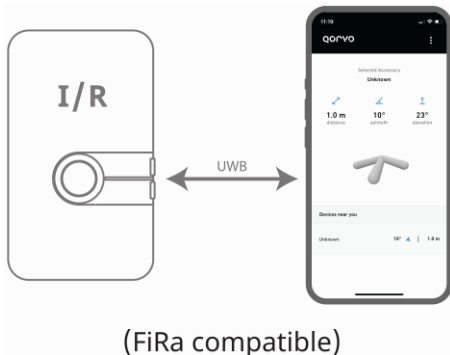

Device Overview

Kit Content

- **Qorvo QM33120W** UWB supporting channel 5 and 9 together with **Qorvo Low Noise Amplifier QM14068 (LNA) and Power Amplifier QM14070 (PA)** to provide exceptional UWB range (up to 150 m point to point with Europe limit settings).

- **5 devices with integrated non-AoA UWB antenna** (white enclosure) and **1 device with AoA UWB antenna** (grey enclosure). Bluetooth chip antenna is integrated on all devices.

- Based on Murata 2AB SIP (QM33120W UWB IC, nRF52840 MCU with Bluetooth, LIS2DW accelerometer, crystals and internal power regulators).

- The UWB IC is FiRa PHY and MAC compatible. Interoperable with the Apple U1 chip and Android FiRa compatible smart devices.

- Backward compatibility with DW1000 IEEE802.15.4a UWB IC on channel 5.

- 2 USB C ports integrate a DAPLink programmer with Virtual COM and a USB device interface for data communication.

- RGB LEDs, 2x GREEN LEDs, a front button, 2 side buttons, a buzzer, a haptic motor, NFC tag antenna connector and extra GPIOs for connection with external sensors or IOs.

- Power options using a single RCR123A 3.7 V rechargeable battery (not included).

- 2 USB C cables.

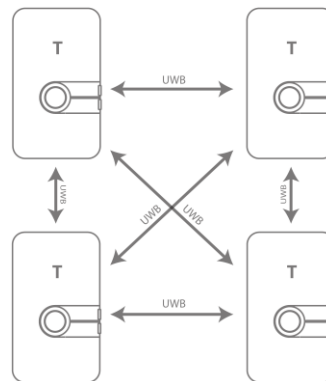- Based on FCC, ETSI and Japan certified module.

Applications

- Indoor Navigation
- Asset & People Tracking
- Patient Tracking
- Foot Traffic and Shopping Behaviour Analytics
- Point and Trigger Controller Application
- Presence-Based Device Activation
- Residential Access Control
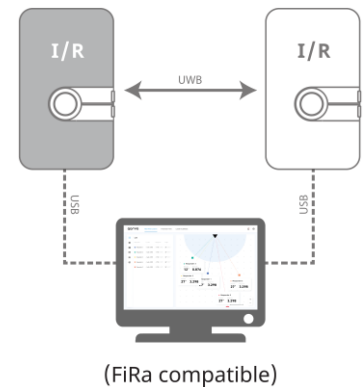- And many others!
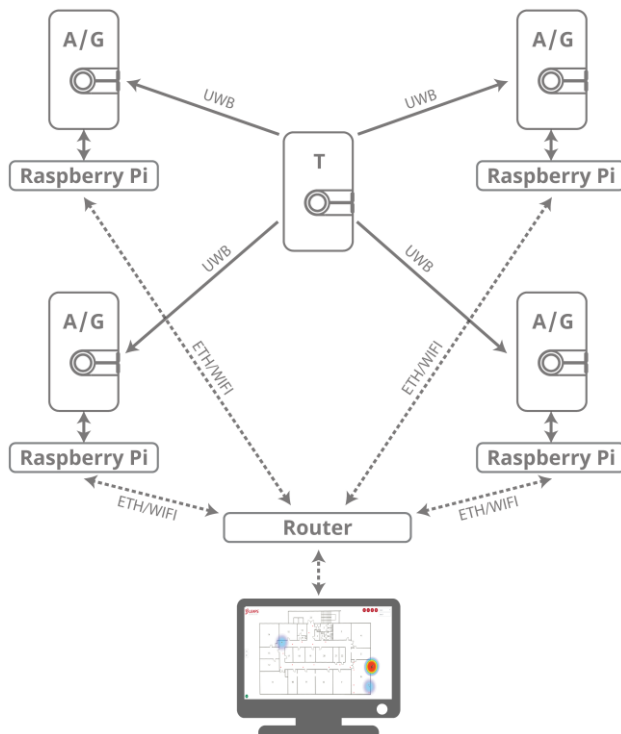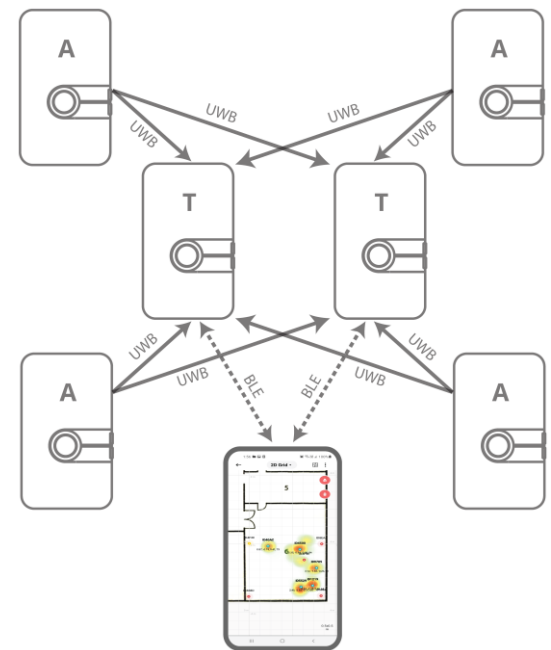
Evaluations & Demonstrations

(FiRa compatible)

Nearby Interaction Demo with an iPhone

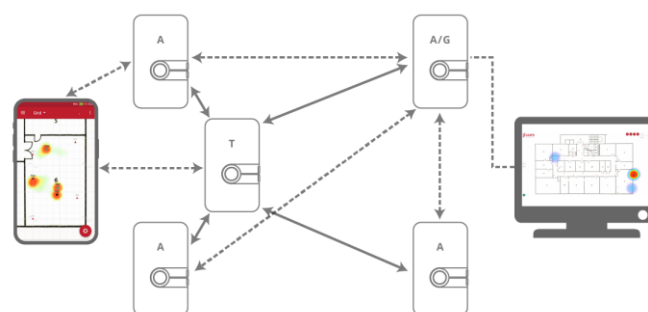**Infrastructure-less Proximity Demo**

(FiRa compatible)

Locate Device using Angle-of-Arrival (AoA) Demo

Uplink TDoA RTLS Demo

Downlink TDoA RTLS Demo

TWR RTLS and Data Telemetry Demo

Ordering Information

Part Number	Description
QM33120WDK2	UWB Kit (6 devices)

Related Products

Part Number	Description
QM33120W	UWB Transceiver
QM14068	Low Noise Amplifier
QM14070	Power Amplifier

Contact Information

For the latest specifications, additional product information, worldwide sales and distribution locations:

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Revision History

Revision	Description
A	Released version.

Important Notice