

# QM33120WDK1 Quick Start Guide

## Introduction

The Qorvo® QM33120WDK1 is a development kit to evaluate the capabilities of the low power low cost QM33110W and QM33120W UWB transceivers.

It includes two different shields (AoA and non-AoA) plugged over two Nordic nRF52840 DK evaluation boards.

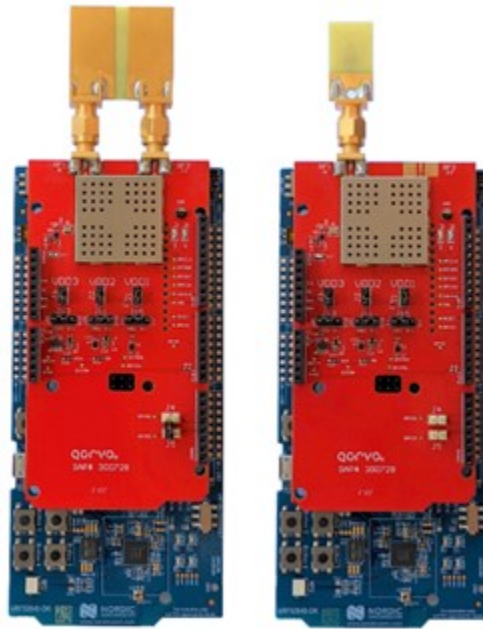


Fig. 1.1: QM33120WDK1 boards

## QM331x0WEVB boards

QM331x0WEVB boards, nRF52840 DK board and the antennas are shipped connected.

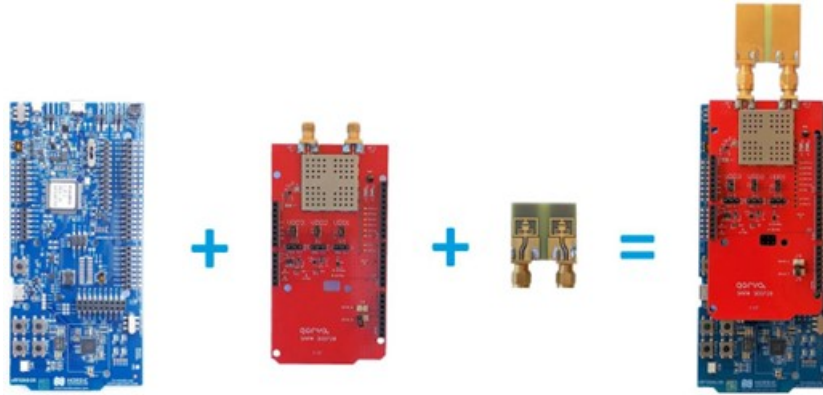


Fig. 1.2: QM331x0WEVB boards

## Nordic nRF52840 DK Boards

nRF52840 DK has two switches that define the power supply for the board.

When the kit is received, all switches are in the working position.

Please refer to QM33120WDK1 User Guide document for further information.

## QM33120WDK1 Setup

nRF52840 DK boards are shipped preprogrammed.

Connect both nRF52840 DK boards to a PC as below using the included USB cable and refer to the section QorvoOne GUI.

Make sure that the antennas face each other during the evaluation.



Fig. 1.3: QM33120WDK1 evaluation set-up

## Ranging and AoA Evaluation

Install QorvoOne GUI software included in the package and start the application.

The boards will be detected and displayed on the main screen.

For AoA evaluation, ensure that the QM33120WEVB (the one with the dual antenna) is configured as initiator.





Connected device	PDoA	Version	Initiator	Device Configuration
 ● <b>COM18</b> QM33110		0.0.3		<a href="#">Configure</a>
 ● <b>COM19</b> DW3110		0.0.3		<a href="#">Configure</a>

Fig. 1.4: QorvoOne GUI boards detection

Use **Configure** to setup the device parameters of each board.

×

**● Device Configuration COM18**

Responder

Type ⓘ	QM33110
ID ⓘ	DECA0304
Node ID ⓘ	0x0000
Firmware Version ⓘ	0.0.3
PDoA ⓘ	Not supported

Reset

Save

Fig. 1.5: QorvoOne GUI device configuration

Use **FiRa Configuration** to setup the ranging parameters.



### FiRa Configuration

Initiator and Responder

RFRAME config ⓘ

SP3

Session ID ⓘ

1

TWR scheme ⓘ

DS-TWR-deferred

Vupper64 ⓘ

0x0807060504030201

Mode ⓘ

One-to-Many

Round hopping ⓘ



PRF ⓘ

BPRF

Report phase ⓘ



Channel ⓘ

9

SFD ⓘ

4Z

Preamble code ⓘ

9

Block duration (ms) ⓘ

200

Slot duration (RSTU) ⓘ

2400

Ranging round slots ⓘ

25

Reset

Save

Fig. 1.6: QorvoOne GUI FiRa configuration

Press Save and Start the ranging experience.

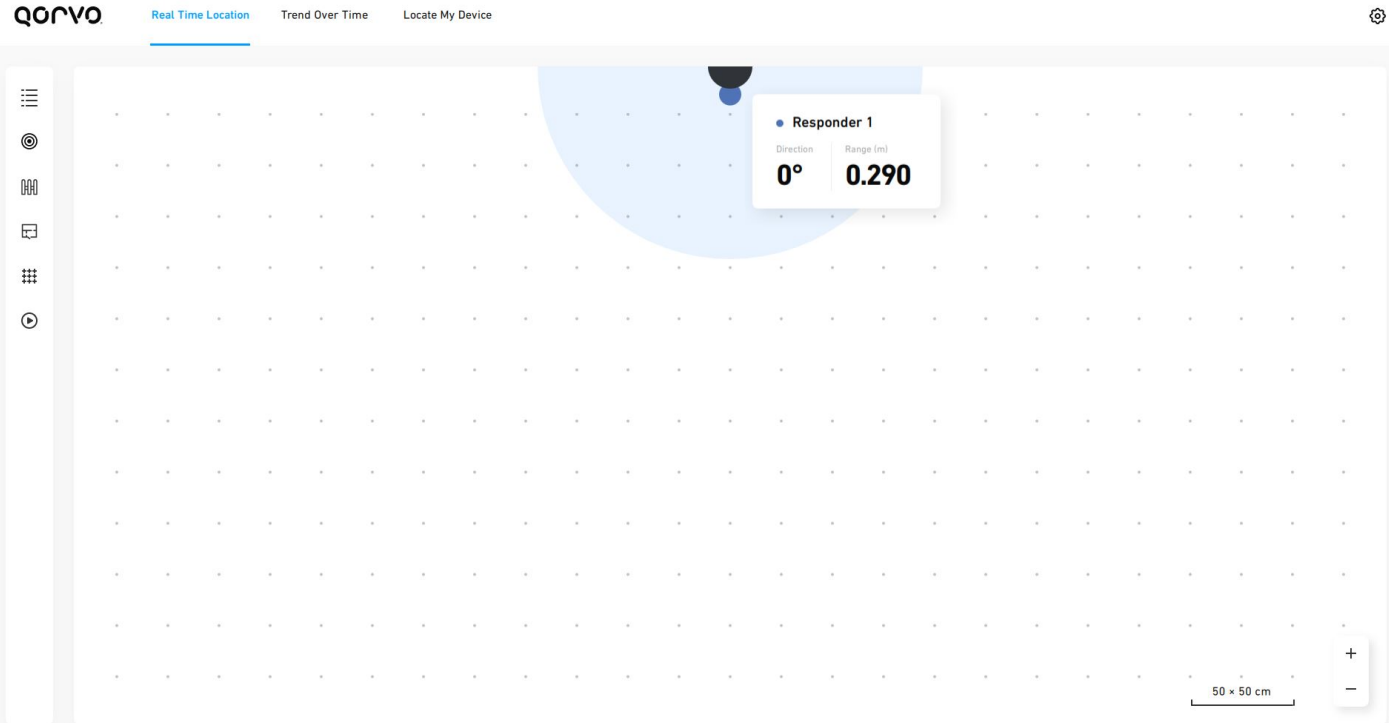


Fig. 1.7: QorvoOne GUI Real Time Location

## Revision History

Version	Date	Comment
1	2022-09-27	Initial release