PATHPARTNER

DecaWave: UWB-IOT tools Infrastructure

RIOT-DW1000 Release Notes

RIOT-DW1000 Version: 01.00.04

Date: 16-Jun-17

1. Important Note

This release is targeted for Nordic NRF52840 platform.

2. INTRODUCTION

This release notes provides important information that will assist you in using the RIOT-DW1000 software package. This document provides the product information and known issues that are specific to the RIOT-DW1000 software package.

3. New in this Release

Added support for Multi-Threaded Application on Nordic Platform

4. Installation and Usage

Installation and Usage of the RIOT-DW1000 package is detailed in PP_DecaWave_RIOT_DW1000_UserGuide

5. Upgrade and Compatibility Information

None

6. Dependencies

This release requires following tools/packages to be installed

RIOT-DW1000 Package: Version 01.00.04

Ubuntu OS: Version 14.04 LTS

GCC ARM Embedded tool chain: Version 6.3.1 20170215

Open On-Chip Debugger: Version 0.10.0+dev-00092-g77189db

Pyterm Terminal

7. Platforms Supported

Nordic NRF52840, STM32 Nucleo-F401RE

8. Applications Supported

DecaRange RTLS ARM Application

Deca Multi-Threaded Application – Supported only for Nordic NRF52840

9. What is Supported

BSP for Decawave on RIOT

DecaRange RTLS ARM Application for Mode 1, Mode 2, Mode3 and Mode 4 Configuration for Tracking, Navigation and Geo-Fencing Use Case Scenario

Deca Multi-Threaded Application for Mode 1, Mode 2, Mode3 and Mode 4 Configuration for Tracking, Navigation and Geo-Fencing Use Case Scenario

Note:

Logs will be printed on PyTerm Terminal

10. TREK 1000 Features

Supported Use cases:

Tracking, Navigation and Geo-Fencing: Configuration for Mode 1/2/3/4

11. Known Issues

Tracking Use case

Observed Anchor to anchor bias corrected range(ma), Tag to anchor bias corrected range(mc) and Tag to anchor raw range(mr) range deviation is between 25-40 cm instead of 15cm for all modes randomly.

Navigation Use case

Observed that T0 to A0, A1, A2 Range info is detected as 0 randomly

Geo-Fencing Use case

Log Pattern is not proper as expected: A0:T0, A0:T1, A0:T0 & A0:T2 instead of A0:T0, A0:T1, A0:T2 for all modes. In case of Mode 3, this is observed occasionally

12. Known Limitations

Due to EVB 1000 Hardware constraints with External Microcontroller

- Range Distance Estimation is displayed on PyTerm Terminal
- Selection of Mode(Mode-1/2/3/4), UNIT(Tag/Anchor) and UNIT ID (0 to 2) is configured in Deca Multi-Threaded Application and DecaRange RTLS ARM Application based on User Input
- On Anchors, Thread Switching will not happen for Deca Multi-Threaded Application as DecaRange RTLS ARM Application being a high priority thread never goes to sleep state.

13. Validation Information

This release is validated only on Nordic NRF52840 Platform.