Autonomous Robotics with ROS for mmWave Release Notes

Overview

This lab allows for the TI mmWave sensor to be used with popular mapping and navigation libraries in the Robot Operating System (ROS) environment, familiar to many robotics engineers. The lab uses the Octomap server and move_base libraries with TI's mmWave ROS Driver Package software interface to the TI mmWave sensor IWR6843ISK EVM or the IWR6843AOP EVM running the mmWave SDK out-of-box demo. With this TI driver and the software from the ROS community (ros.org) engineers may evaluate robot navigation and object avoidance quickly and easily.

Features

- Integrates the TI mmWave ROS driver into the ROS Turtlebot2 platform to allow the TI mmWave sensor IWR6843ISK EVM, or TI mmWave sensor IWR6843AOP EVM to be used as a 3-D sensor
- Demonstrates mapping using the the TI mmWave sensor with the ROS Octomap package
- Demonstrates navigation with collision-avoidance using the TI mmWave sensor with the ROS move_base package

New and Updated Features

The following is a list of changes present in this version of the driver compared to the previous release.

- Chirp profile config (.cfg) file name changed 'IWR6843ISK_3d_custom.cfg' to 'IWR6843ISK_3d.cfg'
- Chirp profile config (.cfg) added to support IWR6843AOP.
- Added note on editing configuration to Navigation Demo section of user's guide

Resolved Incident Reports

The following are Incident Reports resolved in this release:

- N/A

Known Limitations

The following are Known Limitations in this release:

- Currently supported/tested for IWR6843ISK ES2.0 EVM, IWR6843AOP ES2.0 EVM only
- The mmWave EVM must be flashed with:
    - The mmWave SDK version 3.4.0.2 out-of-box demo firmware for IWR6843ISK ES2.0
    - The mmWave SDK version 3.4.0.2 out-of-box demo firmware for IWR6843AOP ES2.0
- The fake_localization ROS navigation package is used to allow direct setting of the robot's initial pose (position/orientation) and goal pose. Therefore, the gmapping and amcl ROS navigation packages are not used.

Work Arounds for Major Known Issues

The following are workarounds for each known issue with a major severity that exists in this release:

- N/A

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- N/A