

TI mmWave ROS Driver Release Notes

Overview

The TI mmWave ROS driver integrates the mmWave out-of-box demo with Robot OS (ROS) in Linux. It sets up a ROS service as an interface to configure the mmWave Evaluation Module and publishes a ROS PointCloud2 message with the objects detected when the sensor is activated.

Features

- Compatible with TI mmWave SDK v3.5 out-of-box demo when using IWR6843AOPEVM
- Compatible with TI mmWave SDK v3.5 out-of-box demo when using IWR6843 ES2.0 EVM
- Offers the out-of-box demo Command Line Interface (CLI) as a ROS Service
- Reads Radar data from the mmWave EVM and publishes it as a ROS PointCloud2 Message
- Outputs the {X,Y,Z} coordinate and intensity (snr) of each detected point in the ROS PointCloud2 Message
- {X,Y,Z} coordinates use the ROS standard coordinate system where X=forward, Y=left, Z=up (see <http://www.ros.org/reps/rep-0103.html> (<http://www.ros.org/reps/rep-0103.html>) for more details)

Limitations

The following is a list of known limitations for this release that were known at the time of release.

- Currently tested for the IWR6843 EVM and IWR6843AOPEVM only
- The mmWave EVM must be configured to only send the "detected objects" data. The other possible output data types such as "log magnitude range", "noise profile", heat maps, etc. are not currently supported by the ROS driver. Also, the Doppler/velocity field is not currently output in the ROS PointCloud2 Message.

Changes in Version 2.1

The following is a list of changes compared to the previous release.

- Added command 'calibData 0 0 0' to all cfg files to support TI mmWave SDK 3.5
- Changed instructions to download source from git.ti.com

Changes in Version 2.0

The following is a list of changes compared to the previous release.

- Added support for multiple devices running and displaying pointcloud on same RVIZ visualizer
- Launch file for multiple devices included
- Source code was updated, update sourced from https://github.com/radar-lab/ti_mmwave_rospkg (https://github.com/radar-lab/ti_mmwave_rospkg)

Changes in Version 1.8

The following is a list of changes compared to the previous release.

- Note on editing the cfg file added to FAQ section

Changes in Version 1.7

The following is a list of changes compared to the previous release.

- Driver source code modified to work with out-of-box demo from TI mmWave SDK 3.2.0.6 (IWR6843AOPEVM only) and TI mmWave SDK 3.3.0.1 (IWR6843 ES2 only and IWR1843)
- Chirp profile config (.cfg) file added for IWR1843 was added
- Launch file added for IWR1843

Changes in Version 1.6

The following is a list of changes compared to the previous release.

- Driver source code modified to work with out-of-box demo from TI mmWave SDK 3.2.0.6 (IWR6843AOPEVM only) and TI mmWave SDK 3.2.0.4 (IWR6843 ES1.0 EVM only)
- Chirp profile config (.cfg) file added for IWR6843AOPEVM
- Launch file added for IWR6843AOPEVM

Changes in Version 1.5

The following is a list of changes compared to the previous release.

- Driver source code modified to work with out-of-box demo from TI mmWave SDK 2.1.0.4 (xWR1443 ES3.0 EVM or xWR1642 ES2.0 EVM only), TI mmWave SDK 3.0.0.8 (IWR6843 ES1.0 EVM only)
- Chirp profile config (.cfg) file added for IWR6843 EVM

Changes in Version 1.4

The following is a list of changes compared to the previous release.

- xWR1642 chirp profile config (.cfg) files modified to work with out-of-box demo from TI mmWave SDK 2.0.0.4 (requires xWR1642 ES2.0 EVM)

Changes in Version 1.3

The following is a list of changes compared to the previous release.

- Chirp profile config (.cfg) files modified to work with out-of-box demo from TI mmWave SDK 1.2.0.5

Changes in Version 1.2.1

The following is a list of changes compared to the previous release.

- Fixed syntax error in mmWave_nodelets.xml file in driver package which caused driver to fail with newer releases of ROS Kinetic distribution

Changes in Version 1.2

The following is a list of changes compared to the previous release.

- Chirp profile config (.cfg) files modified to work with out-of-box demo from TI mmWave SDK 1.1.0.2
- Driver source code modified to be compatible with output data format used in out-of-box demo from TI mmWave SDK 1.1.0.2