



LAB Vehicle Occupancy Detection – Release Notes

Overview

The Vehicle Occupancy Detection Demo uses mmWave technology to detect small motion characteristics of a life form.

Features

The Vehicle Occupancy Detection Demo generates a range azimuth heatmap that is displayed using a matlab GUI. Zones of interest (to be identified as occupied or not) are defined, and algorithms examine the heatmap to provide frame by frame occupancy decisions.

Requirements

- Devices:
 - AWR6843ISK EVM
 - AWR1843Boost EVM
 - AWR1642Boost EVM
- Matlab Runtime Library – R2017a (9.2)
- mmWave SDK v. 3.4.0.3+

Changes from last release (3.1.0)

- Algorithmic changes:
 - Changed feature detection to perform 5x5 heatmap averages instead of full zone averages. This gives a more accurate estimate of hotspot power, is not affected by zone size, and provides coordinates of the hotspot center.
 - Heatmap smoothing. This feature compares the current frame's heatmap to the previous frame. Any cell in the current frame less than the previous frame's cell times a threshold is set to that value.
 - Demo now passes the range/azimuth heatmap indexes of the 5x5 centers out to the GUI. This is the center position of the detected occupant power. The GUI displays it as an "*" in each zone showing a detection.

- Improved the calibration process to reduce the number of data collections needed (from 10 to 5 for the 4 zone case).
- Support for 8 zones, up from 6. The new VOD car display uses 6 primary plus 2 secondary zones to create a 5 zone (2 front, 3 back) configuration.
- Other changes:
 - Replaced the tabular display and replaced it with the car graphic.
 - Add a CPD display with corresponding chirp profiles.
 - Removed two unused fields from the output header, so it is now 32 bytes.

Resolved Incident Reports

Table 1 provides information on IR resolutions incorporated into this release.

Table 1 Resolved IRs for this Release

IR Parent/ Child Number	Severity Level	IR Description
n/a	n/a	n/a

Known Issues

Table 2 provides information on IRs that are known issues for this release.

Table 2 Known Issue IRs for this Release

IR Parent/ Child Number	Severity Level	IR Description
n/a	n/a	n/a

Work Arounds for Major Known Issues

Following are workarounds for each known issue with a major severity that exists in this release.

- n/a

Limitations

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

- n/a