LAB Occupancy and Vital Signs Detection – Release Notes

Overview

This lab demonstrates the use of mmWave technology to accurately detect slow motion characteristic of a life form and measure driver vital signs such as heart rate and breathing rate.

Features

The Occupancy and Vital Signs Detection Demo generates an angular heatmap that is displayed using a MATLAB GUI. Two zones of interest are defined, and algorithms examine the heatmap to provide frame by frame occupancy decisions. Each zone of interest is identified as occupied or not along with a breathing and heart rate if the zone is occupied by a person.

Requirements

- Supports mmWave SDK 3.2.0.4
- Supports AWR1642BOOST EVM (ES 2.0 device)
- MATLAB Runtime Library – R2017a (9.2)

New and Updated Features

n/a

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.

- The heart-rate value might jump during measurements. This can be due to several reasons (e.g. noise, alignment issues, interference from other objects, breathing harmonics overlapping with the heart rate frequency etc.). If the subject stays stationary, the heart-rate values ultimately should converge to the correct value

- One reason the heart rate might display a wrong value is the presence of breathing harmonic overlapping the heart-rate spectrum region i.e. [0.8 – 2.0] Hz. In the current demo the 2nd breathing harmonic is cancelled. For example if the person has a breathing rate of 26 bpm and the heart rate happens to be ~ 52 bpm it will be discarded as the algorithm will interpret this as a breathing harmonic rather than a correct heart-rate

Installation Instructions

- Refer to User Guide