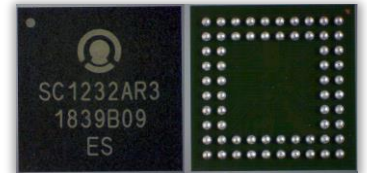


SC1232AR3

All-in-one Radar Sensor for Motion, Presence & Distance Detection

Overview

Easy-to-use, all-in-one 24GHz radar sensor enables entry motion and distance detection without the need for external MCU.



Top view Bottom view

SC1232AR3

Features

- **Easy to use**

- Reduction of BOM using an "all-in-one" radar sensor package
- Built-in autonomous entry motion and distance detection function with I2C/SPI connection for setting configurations and data acquisition

- **Wide detection area**

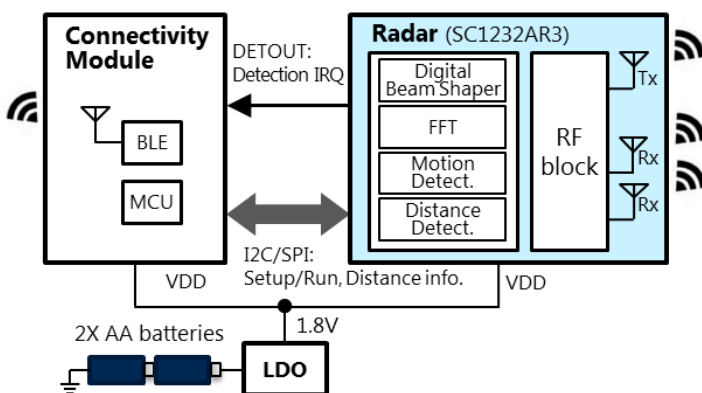
- Preferable detection area: 8m^(*2) in front direction
- 120deg / 95deg selectable FOV^{(*1)(*2)} with Digital beam shaper

- **Suited for battery operation**

- Consumes 0.5mW average operating power for human detection applications^(*3)
- MCU goes to sleep until object detection

Example System Configuration

Applications



Smart Home



Security/Surveillance



Smart Devices



Home Appliances

(*1): Half distance angle

(*2): Detection area depends on environmental condition

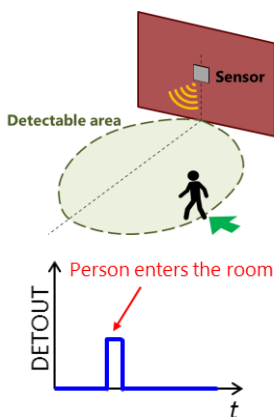
(*3): in case of 0.1% duty cycle operation in Motion Detection mode

Reference Descriptions

Frequency range	24.06 - 24.24GHz
Size, Package	Size: 9mm x 9mm x 1.18mm, BGA package, 0.8mm pitch, 64 pin
Supply voltage	1.8V
Power consumption	Average 0.5mW ^(*3)
Operating package top temperature	-40 to 105°C
Output power	Tx EIRP (typ) 4.0dBm
Detection area	Preferable detection area: 8m ^(*2) in front direction 120/95° selectable FOV ^{(*1) (*2)}
Sensor output	Motion Detection result, Presence Detection result, Distance Detection result

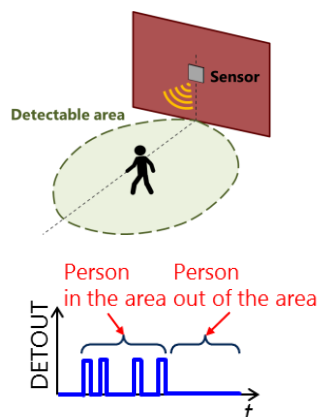
Example use case

1. Motion Detection

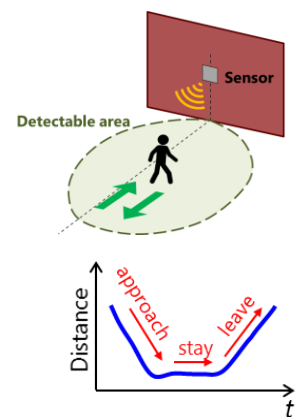


Internal processing engine calculates & outputs **Motion Detection** (Entry Motion / Presence Detection) result through **DETOUT**

2. Presence Detection



3. Distance Detection



Internal processing engine calculates & outputs **Distance** to the moving objects through **I2C** or **SPI**

Deliverables of the Evaluation kit

- SC1232AR3 evaluation kit hardware with USB cable (A to micro-B)
- Sensor library / Evaluation software (GUI)
- Related documents
 - Evaluation software (GUI) operation manual
 - API specification of control API
 - Application note (Sensor setting parameters / Sample C source for API)

Already available