

RE Partner Solution

Fall Detection



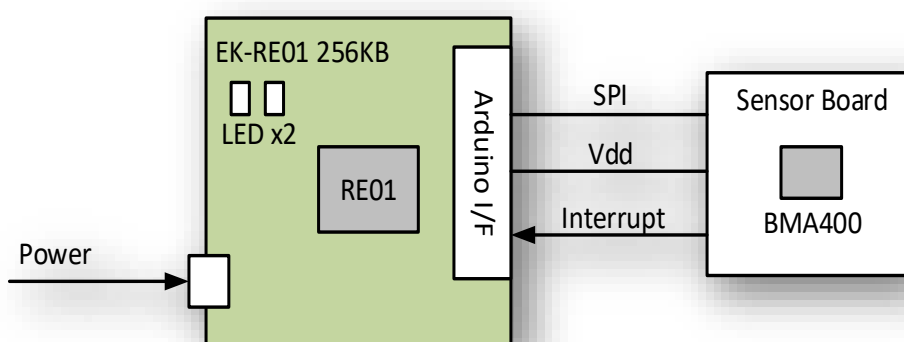
Solution Summary

Fall detection solution to identify fall events from other daily activities such as walking, running, sitting, and climbing stairs. The system comprised of [Renesas RE Family's ultra-low current consumption MCU](#) and 3-axis accelerometer; MCU receives real-time accelerometer data during the fall and runs the algorithm to identify the fall.

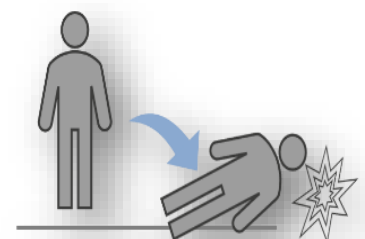
Features/Benefits

- Fall detection can be configured for Object fall or Human fall
- RE MCU will operate in 3 different power modes to minimize the current consumption
- RE MCU stays in minimum power standby mode with 0.5uA current consumption for most of the time, when there is no activities(Human/Object movements)
- After wakeup from standby mode, Fall detection algorithm runs to read and analyze the accelerometer sensor data to detect the free fall
- Algorithm will capture 600 samples of accelerometer values in iteration.
- To increase the accuracy, fall detection algorithm uses both LFT and UFT comparison.

Diagrams/Graphics



Block Diagram



Human Fall Detection

Target Markets and Applications

- Trackers
- Healthcare
- Wearable

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