Quick Start Guide

Accelerometer Cube Demo:
Xtrinsic MMA9559L Motion-Sensing Platform

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Xtrinsic

The MMA9559L Accelerometer Cube Demo

(MMA9559LKUBE)

Used in smartphones, PC tablets, laptops and other mobile devices, our MMA9559L intelligent motion-sensing platform is an industry first—with integration of an MEMS accelerometer, 32-bit embedded ColdFire MCU, flash memory and a dedicated architecture to manage other sensors.

With such an intelligent device, we found a way to demonstrate the MMA9559L features within the accelerometer cube demo. Some of the MMA9559L intelligent platform features demonstrated include wake, sleep, motion recognition and orientation detection.

Getting Started

The on/off switch on the side of the accelerometer cube demo prevents it from waking up when it is being shipped or stored. To begin, switch to the "on" position.

The accelerometer cube demo blinks different colors and at various rates depending on its motion and orientation. It wakes-up with a freefall event or a 6-axis roll event.

To conserve power, the accelerometer cube demo will return to a low-power sleep mode after having been on for 180 seconds or if it is at rest for 15 seconds.

LED Color/Activity Indications

LED Colors	Orientation
🔴 Blink red	-X axis accelerations
🔵🟢 Blink blue/green	+X axis accelerations
🟢 Blink green	-Y axis accelerations
🔴🔵 Blink red/blue	+Y axis accelerations
🔵 Blink blue	-Z axis accelerations
🟢🔴 Blink green/red	+Z axis accelerations

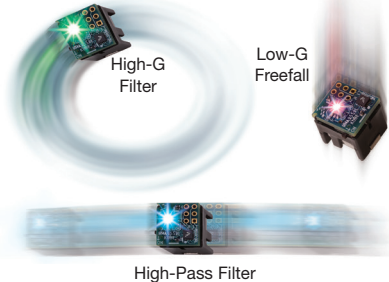| LED Activity	Motion
••• Fast blinking	Accelerometer cube demo is moving
• • Slow blinking	Accelerometer cube demo is resting
🔴 Solid red	Low-g freefall
🟢 Solid green	Sustained acceleration greater than 1.25g high-g filter
🔵 Solid blue	Shake: High pass filter (high rate of change of motion)

LEDs Blinking

x = 1g

z = 1g

y = 1g

x = -1g

z = -1g

y = -1g

LEDs Solid

High-G Filter

Low-G Freefall

High-Pass Filter

For more information, visit
freescale.com/sensingplatform

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