



# Quick Start Guide

AcceleKube Demo:  
Xtrinsic MMA9559L Motion-Sensing Platform



# The MMA9559L AcceleKube Demo

## (MMA9559LKUBE)

Used in smartphones, PC tablets, laptops and other mobile devices, Freescale's MMA9559L intelligent motion-sensing platform is an industry first—with integration of an MEMS accelerometer, 32-bit embedded ColdFire microcontroller, 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 AcceleKube 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 AcceleKube prevents it from waking up when it is being shipped or stored. To begin, switch to the “on” position.

The AcceleKube 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 AcceleKube 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	AcceleKube is moving
●● Slow blinking	AcceleKube is resting
● Solid red	Low-g freefall
● Solid green	Sustained acceleration greater than TBDg 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-Pass Filter



For more information, visit [freescale.com/AccelerKube](http://freescale.com/AccelerKube)

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