



Tools for Sensor Applications

## Sensor Toolbox

Unified hardware, software and accessories  
for sensor applications

### Target Applications

- Altimeters
- Barometry (portable and desktop)
- Blood pressure monitors
- Dialysis and drug delivery systems
- Gaming controllers
- GPS navigation devices
- Hard disk drives (HDD)
- Health care devices
- Heating, ventilation and air conditioning
- Home appliances
- Home entertainment
- Hospital beds and air mattresses
- Industrial control
- Liquid-level measurement
- Mobile phones
- Patient monitoring systems
- Personal computer peripherals
- Portable media devices
- Remote monitoring devices
- Robotics
- Sports diagnostic systems
- Toys
- Weather stations

### Overview

Freescal's Sensor Toolbox offers a customizable selection of sensor development tools, accessories and software from Freescal's portfolio of acceleration, magnetic, pressure and touch sensors. Sensors enrich designs with a broad range of capabilities in detecting real-world conditions.

### Unified Architecture

The Sensor Toolbox contains a distributed array of tools that provide hardware, software and accessories in a common friendly platform. All sensor evaluation kits are USB-enabled plug-and-play devices. The GUI interface uses a single software install that reduces complexity and improves reliability through periodic software updates. Complimentary software algorithms as well as demo, evaluation and tutorial modes through the GUI interface are available at [freescal.com/sensortoolbox](http://freescal.com/sensortoolbox).

### Enablement

The Sensor Toolbox was developed to help customers achieve quick time to market with Freescal's sensor products. It provides development ease with a unified set of development software, hardware (including interchangeable daughter cards), documentation and accessories

for Freescal acceleration, magnetic, pressure and touch sensors. The Sensor Toolbox also includes complimentary sensor algorithms to help developers get the most from the Freescal sensor functions such as orientation, shake, tap, freefall, motion, tilt, positioning, shock or vibration with inertial sensors, PSI conversion for gauge pressure and altimetry for absolute pressure with pressure sensors, water level monitoring, switch replacement and touch pad implementations with touch sensors. In addition, the magnetic sensors can work in conjunction with Freescal's accelerometers for accurate compass heading information.

### Enrichment

The Sensor Toolbox expands the customer's design possibilities with ease of use and full capabilities. With a demo, evaluation and tutorial mode contained in the GUI interface, running the Sensor Toolbox couldn't be easier.

### Key Features

- Multiple toolsets that work on a unified platform
- Complimentary software installer
- Demo, evaluation and tutorial modes included in the GUI demo
- Newer tools will continue to be introduced and added to the Sensor Toolbox



## Benefits

- Demonstrates each sensor type (acceleration, pressure, touch) on a common platform
- Customizable plug-and-play
- Single software install reduces complexity and improves reliability
- Consistent sensor platform
- Demonstrates end application capabilities

## Freescal: A Leader in Sensing Solutions

Expanding on its more than 30-year heritage of sensor innovation, Freescale's Xtrinsic sensing solutions are designed with the right combination of high-performance sensing capability, processing capacity and customizable software to help deliver smart, differentiated sensing solutions. With Xtrinsic sensors, our vision is to offer a diverse and differentiated product portfolio to meet the expanding needs of the automotive, consumer and industrial segments.



## Development Tools

Sensor Family	Kit Number	Board Type	Description
Accelerometer	LFSTBBAT3	Accelerometer power board	3V battery board
	LFSTBBAT9	Accelerometer power board	9V battery board
	LFSTBUSB	Accelerometer interface board	USB communication
	LFSTBEB845x	Accelerometer development boards	MMA8451Q, MMA8452Q, MMA8453Q accelerometers
	RDMMA845x	LFSTBEB845x, LFSTBUSB	The RDMMA845x bundled kit includes all three MMA845xQ accelerometer development boards as well as the accelerometer USB board
	LFSTBEB8450	Accelerometer development board	MMA8450Q accelerometer
	RD3924MMA8450Q	LFSTBEB8450, LFSTBUSB	Contains the USB communication board and accelerometer development board for evaluating the embedded MMA8450Q functionality
	LFSTBEB7660	Accelerometer development board	MMA7660FC accelerometer
	LFSTBEB7455	Accelerometer development board	MMA7455L accelerometer
Magnetometer	LFSTBEB7361LC	Accelerometer development board	MMA7361LC accelerometer
	LFSTBEB3110	Magnetometer + accelerometer development board	MAG3110, MMA8451Q
	RD4247MAG3110	LFSTBEB3110, LFSTBUSB	The RD4247MAG3110 bundled kit includes the MAG3110 magnetometer + MMA8451Q accelerometer populated on the same development board as well as an interface and USB board
Pressure	KITSTBMPL3115A2	Pressure sensor development board	MPL3115A2 pressure sensor
	DEMOSTBMPL3115A2	MPL3115A2 pressure sensor development board Sensor interface board LFSTUSB communication board	MPL3115A2 pressure sensor
	KITMPXV5004DPEVB	Pressure sensor development board	MPXV5004DP pressure sensor
	KITPRESSURE1EVB	Pressure sensor interface board	USB communication
	KITMPXA6115AEVB	Pressure sensor development board	MPXA6115AC6U pressure sensor
	KITMPL115A1EVB	Pressure Sensor Development Board	MPL115A1 Pressure Sensor
Touch	KITMPR121EVM	Touch sensor kit	MPR121 touch sensor
	KITMPR03xEVM	Touch sensor kit	MPR03x touch sensors
Starter Kit	KITSTARTER1EVM	LFSTBEB7660, LFSTBUSB, KITMPXV5004DPEVB, KITPRESSURE1EVB, KITMPR03xEVM	Subset of the latest acceleration, pressure and touch sensor development tools
Second Edition Starter Kit	KITSTARTER2EVM	KITMPR121EVM, LFSTBEB845x, LFSTBUSB, KITMPL115A1EVB, KITPRESSURE1EVB	
Starter Kit Development Boards Only	KITSTBLITE2EVM	KITMPR121EVM, LFSTBEB845x, KITMPL115A1EVB	
SENSORS_TOOLBOX_INSTALLER			GUI software

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



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Document Number: SENSORTOOLBOXFS REV 5