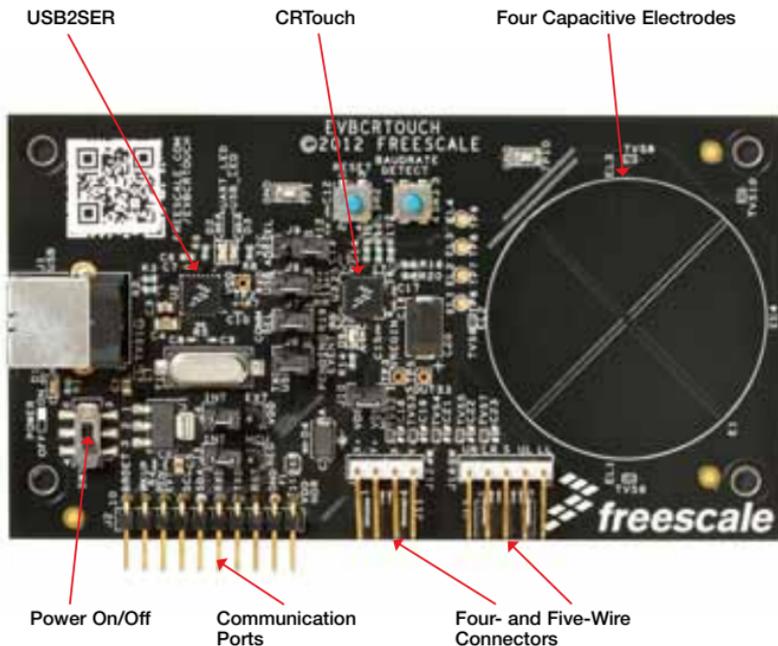# Quick Start Guide

EVBCRTOUCH

Xtrinsic CRTouch Capacitive and Resistive
Touch-Sensing Platform Evaluation Board

freescale™
Xtrinsic

Get to Know the EVBCRTOUCH Evaluation Board

USB2SER

CRTouch

Four Capacitive Electrodes

Power On/Off

Communication Ports

Four- and Five-Wire Connectors

Xtrinsic CRTouch EVBCRTOUCH

The Xtrinsic capacitive and resistive touch-sensing platform (CRTouch) enables resistive touch screens to handle two-touch gesture recognition and allows the addition of up to four capacitive electrodes to your system, all packaged on a 5 x 5 mm 32-pin QFN. It supports four- and five-wire touch screens and communicates over UART and I²C communication protocols. The implementation of these technologies enables the CRTouch to help reduce space, cut software development costs and speed time to market.

Features

- Standard X, Y resistive touch screen detection with optional calibration
- Pressure detection on four-wire resistive touch screens
- 16-sample FIFO with watermark to generate an asynchronous event
- Slide gesture detection for single touch
- Two-touch gesture detection for resistive four-wire screens
  - Zoom in/out
  - Rotate
- Four capacitive electrodes independent from touch screen may be configured as:
  - Keypad
  - Rotary
  - Slider

- I²C and UART communication
  - Two selectable I²C slave addresses
  - UART baud rate auto detection mechanism
- Event and touch indicators for main host processor
- Wake up by resistive touch, capacitive electrode touch, external pin and serial communications
- Normal run, sleep and shutdown modes for reduced power consumption
- Linux® and Android™ integration example code available

Step-by-Step Installation Instructions

In this quick start guide, you will learn how to set up the EVBCRTOUCH board.

1 Unpack and Verify Package Contents

Ensure the EVBCRTOUCH touch-sensing platform evaluation board package includes:

- Xtrinsic CRTouch board
- Resistive screen
- Quick start guide
- Four-wire cable extension
- USB cable
- Stylus

2 Install the GUI Setup Software

Go to **freescale.com/CRTouch** and download the latest GUI software version. Follow the on-screen instructions to install the communication driver for the tool. Check back occasionally for software updates.

3 Connect the USB Cable and the Resistive Screen

Connect your computer to the evaluation board via the included USB cable. Connect the resistive screen to the board. Power-up the board using the power switch.

## 4   Run the GUI Software and Verify Communication

Open and run the GUI software. From the port settings window, select the COM port assigned to the evaluation board on your computer. Press the resistive screen and then click on the Read button. If the X and Y coordinates registers are updated in the CRTOUCH Settings window, you are ready to use the EVBCRTOUCH evaluation board.

EVBCRTOUCH Jumper Options

The following is a list of all jumper options. The default installed jumper settings are shown in blue.

Jumper	Option	Settings	Description
J3	INT REG-CRT REG Power Supply Selector	1-2	CRT REG. Supplied from an internal 3.3V regulator from the CRTouch
		2-3	INT REG. Supplied from on-board 3.3V regulator from the USB
J4	INT VDD-EXT VDD VDD Supply Selector	1-2	EXT VDD. Supply the EVB from an external power supply
		2-3	INT VDD. Supply the EVB from the selection on J3
J6	TXD USB CRTouch Transmission	On (short)	CRTOUCH Tx signal connected to USB2SER
		Off	CRTOUCH Tx signal disconnected from USB2SER
J7	COMM SEL Communication Selector	On (short)	UART communication
		Off	I²C communication
J8	RXD USB CRTouch Reception	On (short)	CRTOUCH Rx signal connected to USB2SER
		Off	CRTOUCH Rx signal disconnected from USB2SER
J9	I²C ADRSEL I²C Address Selector	On (short)	I²C address 0x49
		Off	I²C address 0x4B
J10	VDD-VDD CRT CRTouch Power Connection	On (short)	Supply 3.3V to CRTouch
		Off	Isolate CRTouch from power

I²C ADRSEL

RXD USB

COMM SEL

INT VDD-EXT VDD

VDD-VDD CRT

INT REG-CRT REG   TXD USB
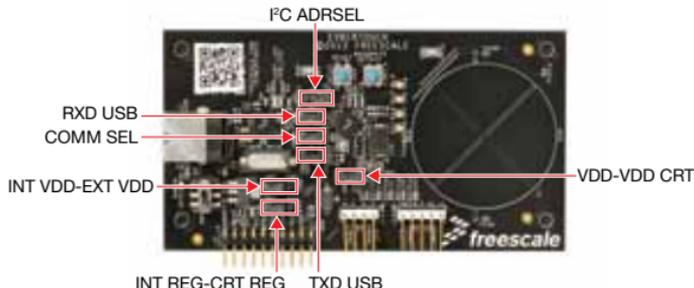
EVBCRTOUCH Switch/Button Options

The following is a list of the switch/button options on the evaluation board.

Switch	Option	Description
SW1	Power On/Off	On/Off switch
SW2	Reset	Reset signal
SW3	Baud Rate Detect	UART baud rate auto detection. Configure a new baud rate, from 9600 bps to 115200 bps.
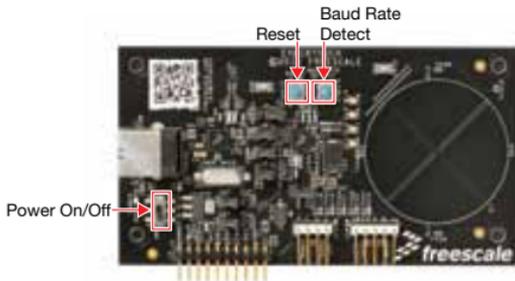
System Requirements

USB-to-Serial Driver
The USB-to-Serial driver must be installed before using the GUI.
Go to **freescale.com/usb2ser** to download this driver.

.NET Framework 4.0 or Up
.NET Framework version 4.0 or greater must be installed before running the application.
Go to **microsoft.com/download/en/details.aspx?id=17851** to download the .NET Framework version 4.0.

Support

Visit **freescale.com/support** for a list of phone numbers within your region.

Warranty

Visit **freescale.com/warranty** for complete warranty information.

For more information about this and other Ready Play solutions, please visit freescale.com/ReadyPlay and freescale.com/CRTouch