



## IQS231EV02 Quick start guide

Single Channel Capacitive Proximity/Touch/SAR Controller with movement detection

The IQS231ProxSense® IC is a self-capacitance controller designed for SAR applications where a reliable proximity detection function is required along with human and inanimate object distinction. The IQS231 uses quick release and movement detection to achieve this. The IQS231 operates standalone or I<sup>2</sup>C can be configured via OTP (One Time Programmable) bits.

### 1 Reference design and pin layout



Figure 1.1 IQS231EV02

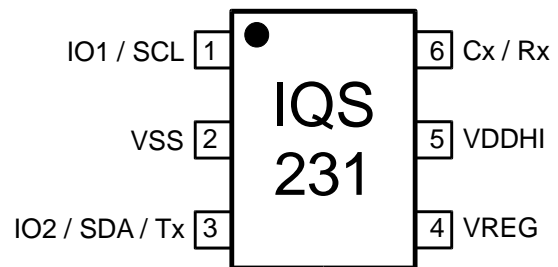


Figure 1.2 TSOT23-6 Pin layout

Table 1.1 Multifunction pin descriptions

IQS231 in TSOT23-6			
Pin	Name	Type	Function
1	PRIMARY I/O	Digital Input/Output	Multifunction <b>IO1 / SCL</b> (I <sup>2</sup> C Clock signal)
2	VSS	Signal GND	
3	SECONDARY I/O / Tx	Digital Input/Output	Multifunction <b>IO2 / SDA</b> (I <sup>2</sup> C Data output) / Tx
4	VREG	Regulator output	Requires external capacitor
5	VDDHI	Supply Input	Supply:1.75V – 3.6V
6	Cx	Sense electrode	Connect to conductive area intended for sensor

Table 1.2 Pin-out description

Multifunction pin name	Multifunction pin option
IO1	Proximity output / Proximity output with heartbeat
IO2	Sensitivity input / Synchronization input / Movement output / Touch output

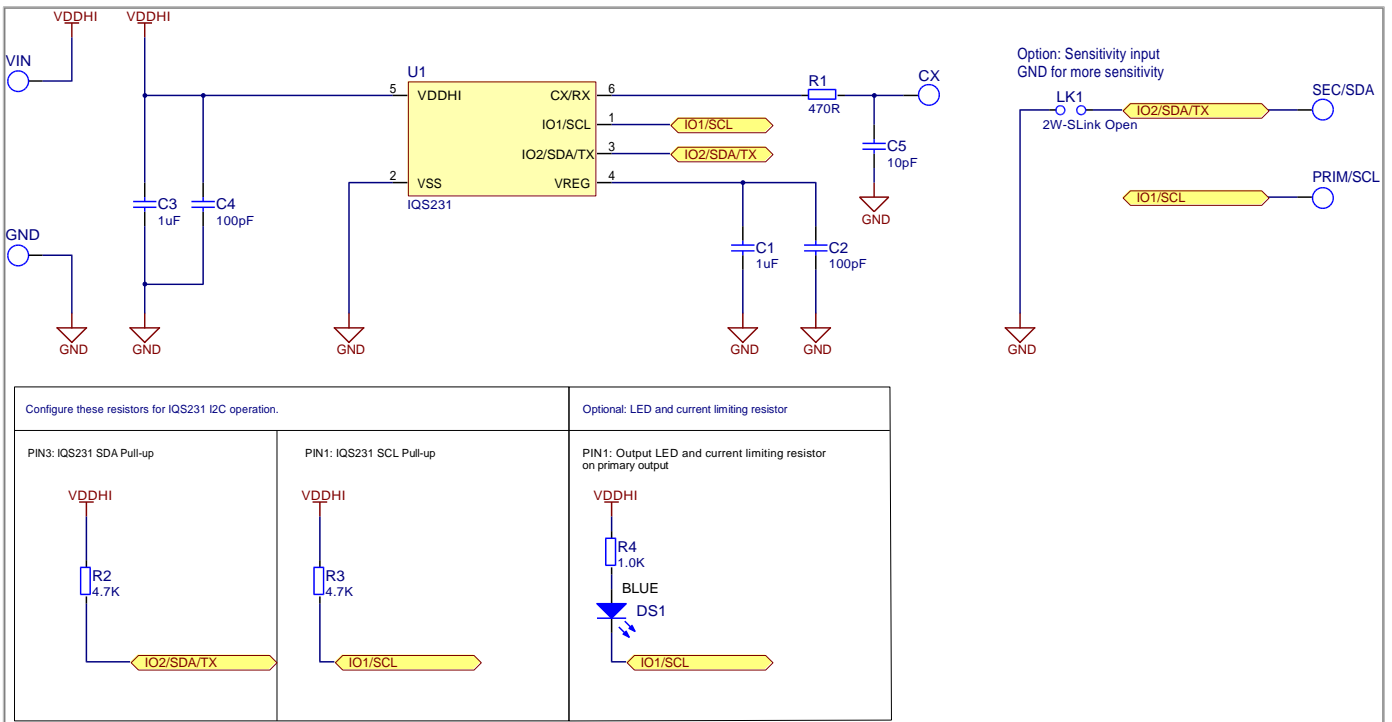


Figure 1.3 Reference design

## 2 Default UI

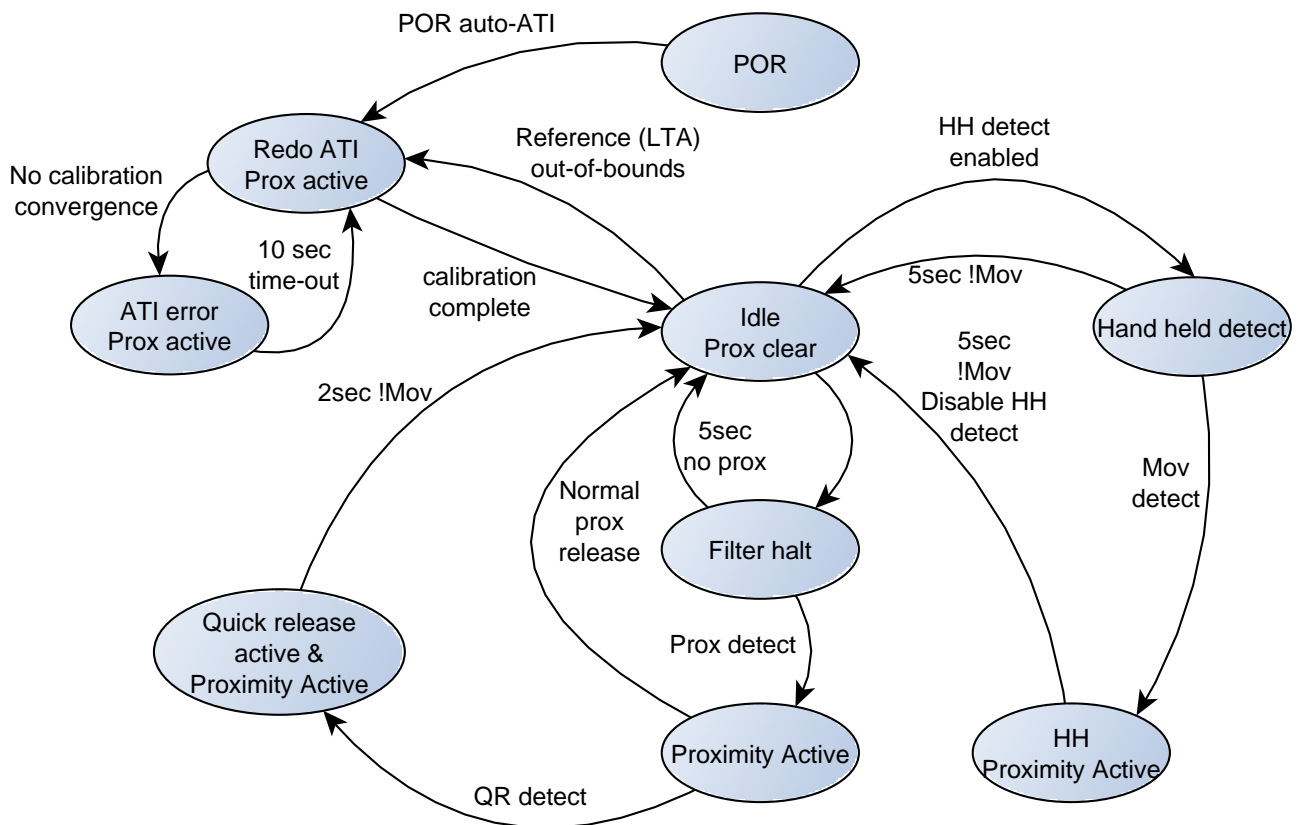


Figure 2.1 Proximity UI no movement

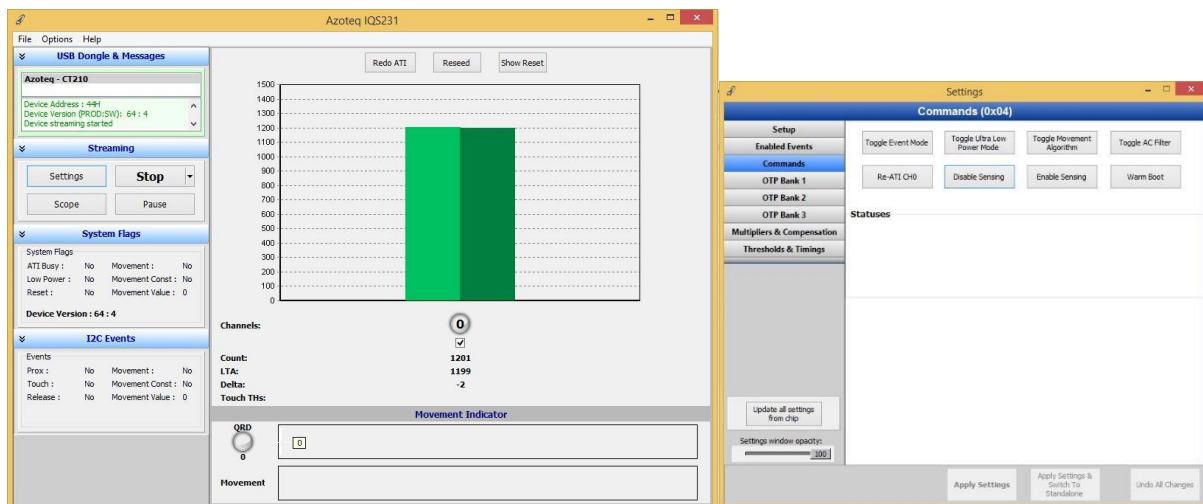


Figure 2.2 IQS231 GUI

Different UI's can be selected in the IQS231 GUI and can then be selected to run in standalone mode.

The GUI is available for download from the Software & Tools section of [azoteq.com](http://azoteq.com) and the [CT210](#) (sold separately) is used in conjunction with the GUI to select the different UI's and settings.

Using [USBProg](#) the IQS231 can be configured in different variations. Please note when settings are programmed it is permanent.