IQS7222A EV-kit User Guide

User guide for IQS7222A Evaluation kit

Contents

1 Introduction

This user guide describes the operation of the IQS7222A Evaluation Kit. The EV-Kit consists of 6 parts:

1. Stamp board
2. Connector board
3. Base board
4. 8 button board
5. Buttoned slider
6. Inductive coil
7. Perspex with magnet

To visualize raw data from the EV-Kit, the stamp board can be interfaced to any personal computer with USB support, and IQS7222A software Graphical User Interface (GUI). The purpose of the IQS7222A EV-Kit is to help application and development engineers in evaluating the IQS7222A's capabilities.

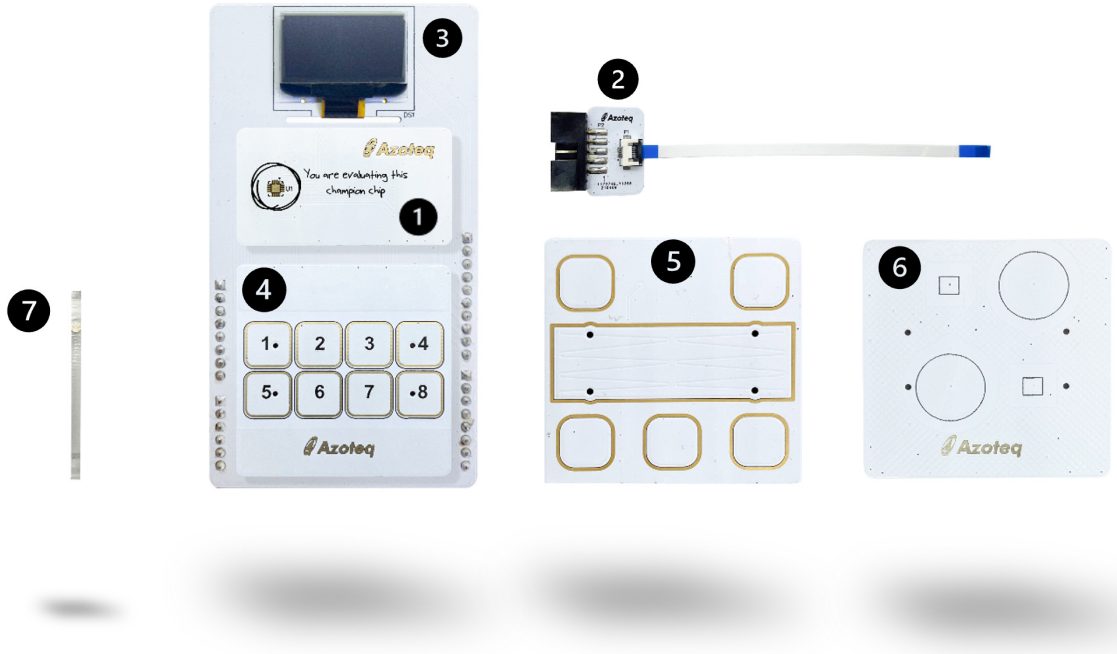

Figure 1.1: EV-kit Representation

2 Setting up the IQS7222A EV-kit

To interface the IQS7222A Evaluation Kit to a PC we advise using the CT210A (CT210A is sold with EV04 kit, but sold separately from EV02 kit).

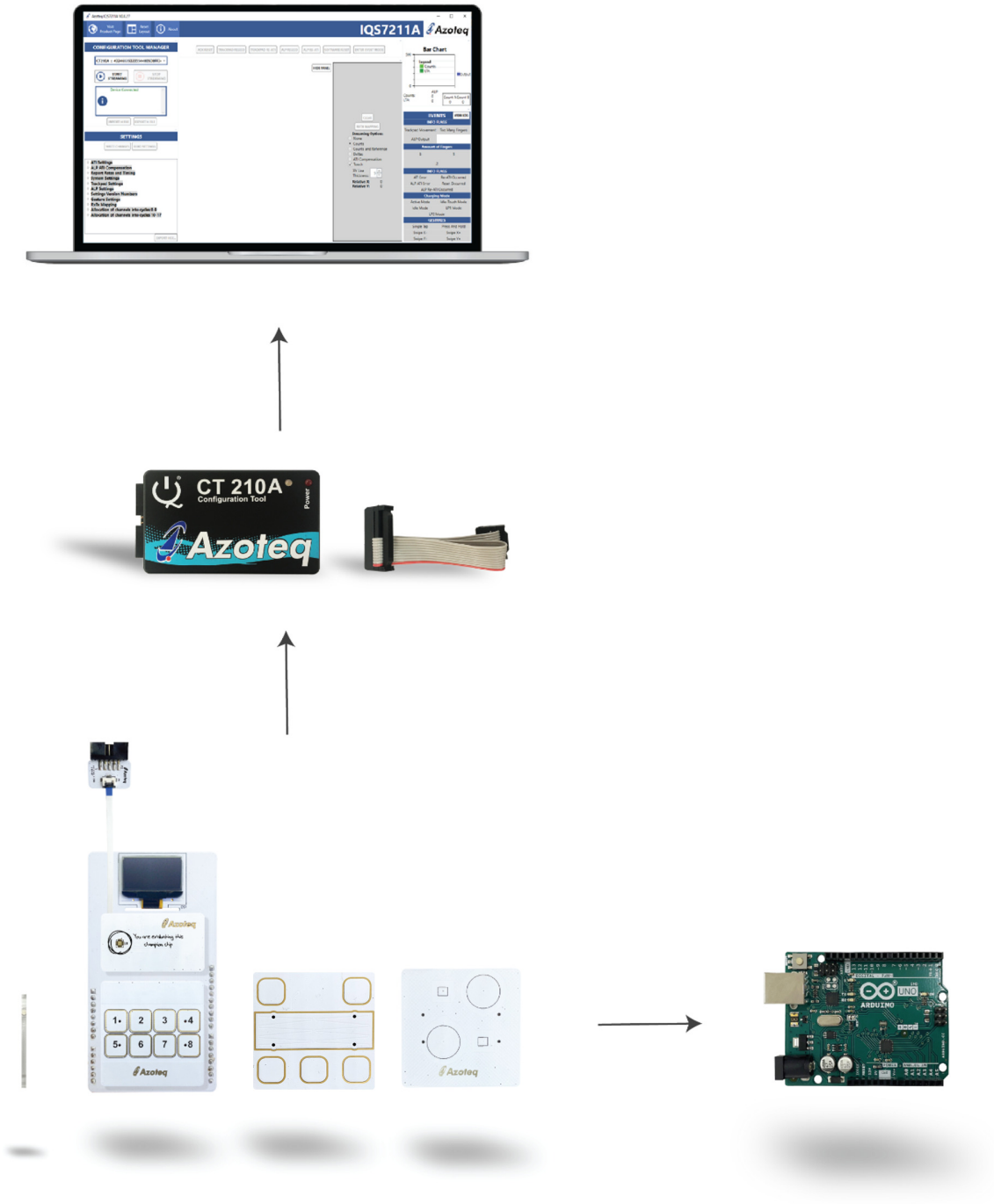

Figure 2.1: How to connect your EV-Kit to the computer

3 Stamp Board and IQS7222A IC

The IQS7222A IC is located on the stamp board. Run the IQS7222A GUI.

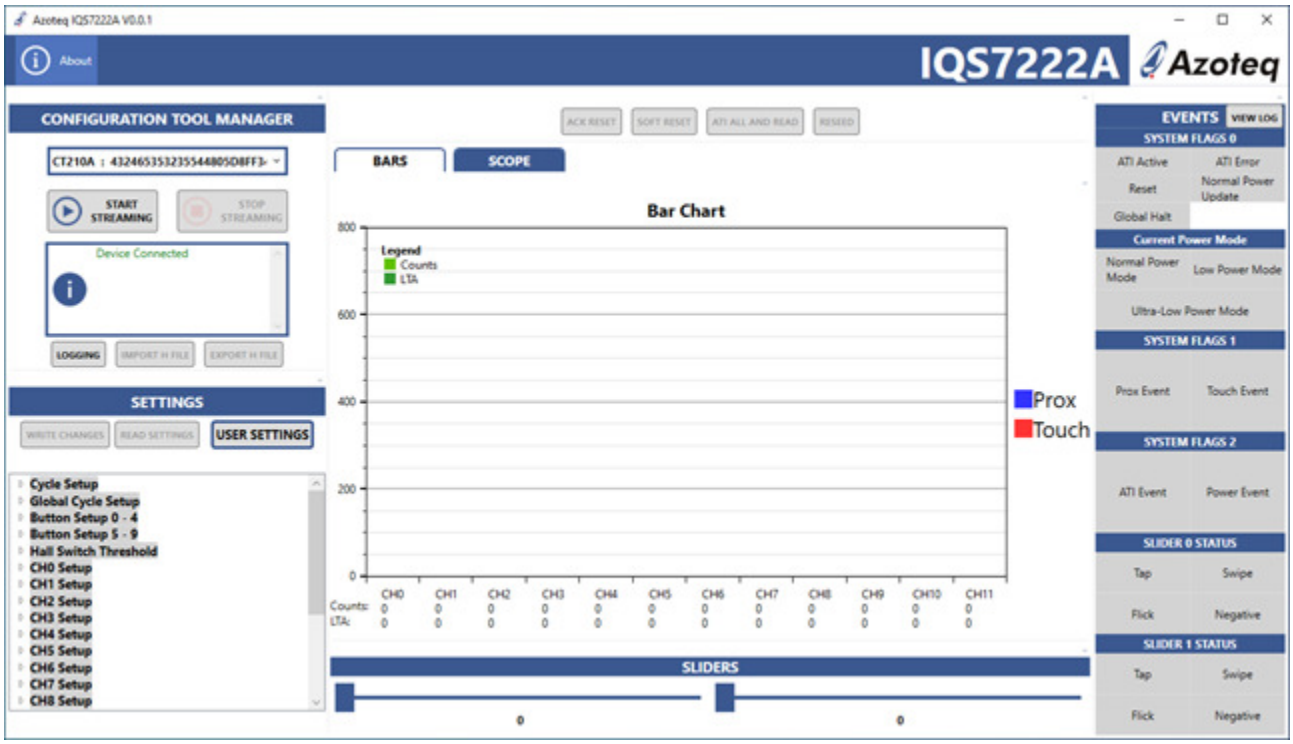

Figure 3.1: How to connect your EVKit to computer

To demonstrate the capabilities of the IQS7222A, we suggest evaluating with the supplied boards.

After this evaluation, the user may want to develop their own boards.

4 Plug-in Boards

4.1 8-Button Board

Plug this board into the base board at the PLUGIN marked area.

Figure 4.1: 8 Button Board

Now perform the following actions in the GUI.

- Click the "Start Streaming" button.
- Click on the "ACK RESET" button.
- Open "User Settings" and navigate to "Demo Settings".
- Select the image displaying the buttoned slider
- Click on the "ATI ALL AND READ" button.

See figure 4.2 below for an example

Figure 4.2: IQS7222A GUI Example: 8 Button Board

CH0 gives distributed data for CH1 to CH4 and CH5 gives distributed data for CH6 to CH9.

The numbers on the board correlate to the numbers in the GUI with the following table:

Table 4.1: Channel Numbers with Corresponding Buttons

Button no	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Channel no	CH6	CH2	CH7	CH4	CH9	CH8	CH1	CH3

Move the slider with magnet on to above the IQS7222A IC. CH10 shows the Hall-effect of the magnet.

Evaluate the performance of the IC.

After evaluation click the "Stop Streaming" button.

4.2 Inductive Coil

Plug this board into the base board at the PLUGIN marked area.

Figure 4.3: Inductive Coil

Now perform the following actions in the GUI.

- Click the "Start Streaming" button.
- Click on the "ACK RESET" button.
- Open "User Settings" and navigate to "Demo Settings".
- Select the image displaying the buttoned slider
- Click on the "ATI ALL AND READ" button.

See figure 4.4 below for an example

Figure 4.4: IQS7222A GUI Example: Coil Board

CH0 is connected to the small coil at the left top of the plugin.

CH1 is connected to the small coil at the right bottom of the plugin.

CH5 is connected to the big coil at the right top of the plugin.

CH6 is connected to the big coil at the left bottom of the plugin.

To evaluate this plugin, bring a piece of conductive material close to a coil. The counts value should move upwards.

A ferrite material will have the opposite effect. Bring the ferrite close to a coil and the counts value will move downwards.

Move the slider with magnet on to above the IQS7222A IC. CH10 shows the Hall-effect of the magnet.

Evaluate the performance of the IC.

After evaluation click "Stop Streaming" button.

4.3 Buttoned Slider Board

Plug this board into the base board at the PLUGIN marked area.

Figure 4.5: Buttoned Slider

Now perform the following actions in the GUI.

- Click the "Start Streaming" button.
- Click on the "ACK RESET" button.
- Click on the "ATI ALL AND READ" button.

See figure 4.6 below for an example

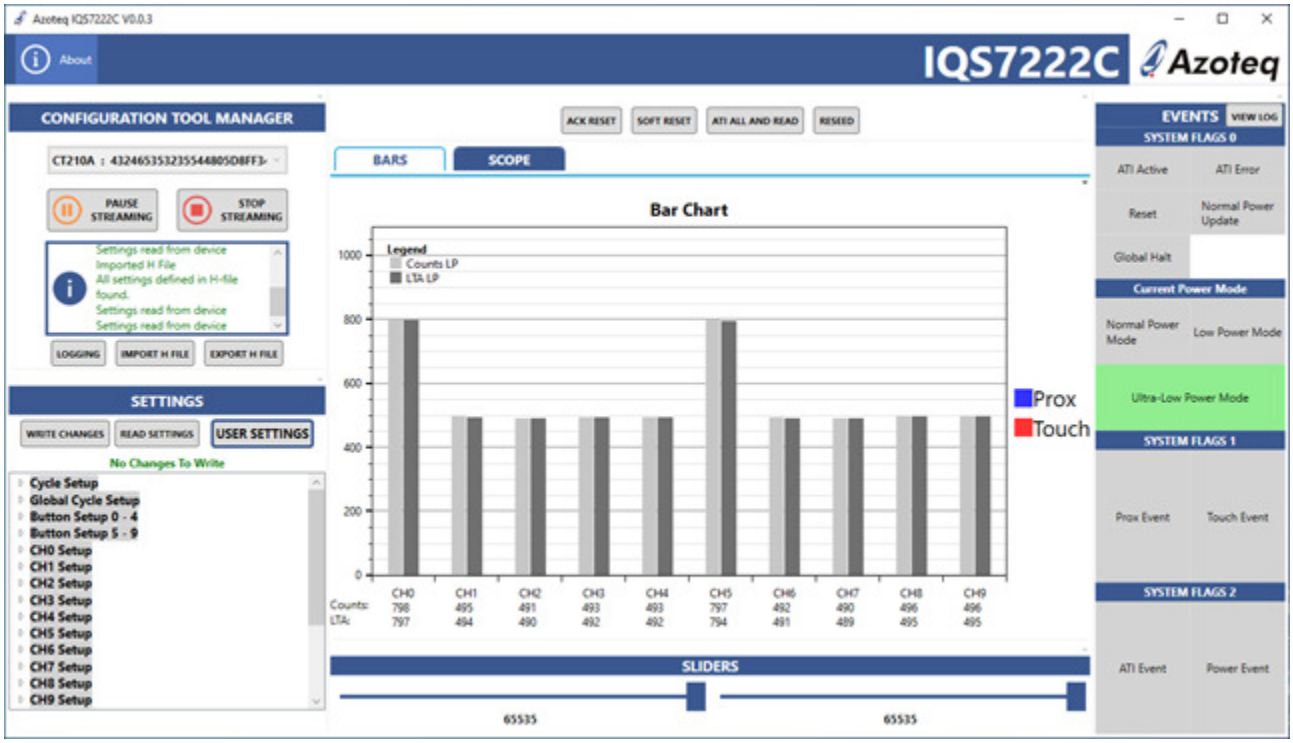

Figure 4.6: IQS7222A GUI Example: Buttoned Slider

The slider elements and buttons, as numbered in figure 4.7 are assigned to the channels as shown in table 4.2 below.

CH0 gives distributed data for CH1 to CH4 and CH5 gives distributed data for CH6 to CH9.

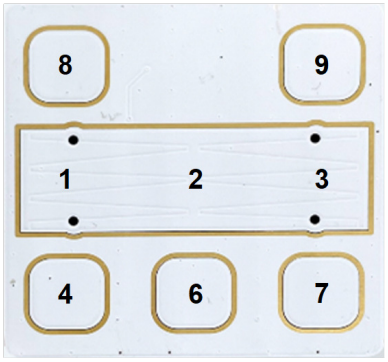

Figure 4.7: Buttoned Slider Channel Assignment

Table 4.2: Buttoned Slider Channel Assignment

Button/Slider Element no	1	2	3	4	6	7	8	9
Channel no	CH1	CH2	CH3	CH4	CH6	CH7	CH8	CH9

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