IQS7222A EV-kit User Guide

User guide for IQS7222A Evaluation kit



Copyright © Azoteq 2021
All Rights Reserved

Contents

Introduction

Setting up the IQS7222A EV-kit

Stamp Board and IQS7222A IC

Plug-in Boards
4.1 8-Button Board 6
4.2 Inductive Coil 8
4.3 Buttoned Slider Board 9

Copyright © Azoteq 2021
All Rights Reserved

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.

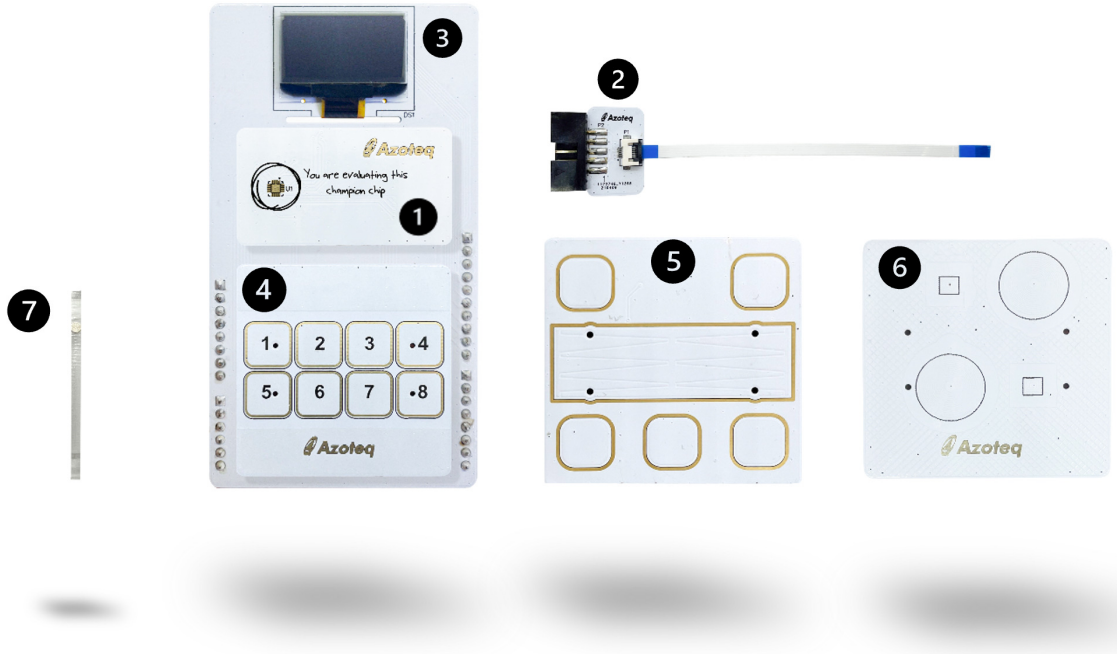


Figure 1.1: EV-kit Representation

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).

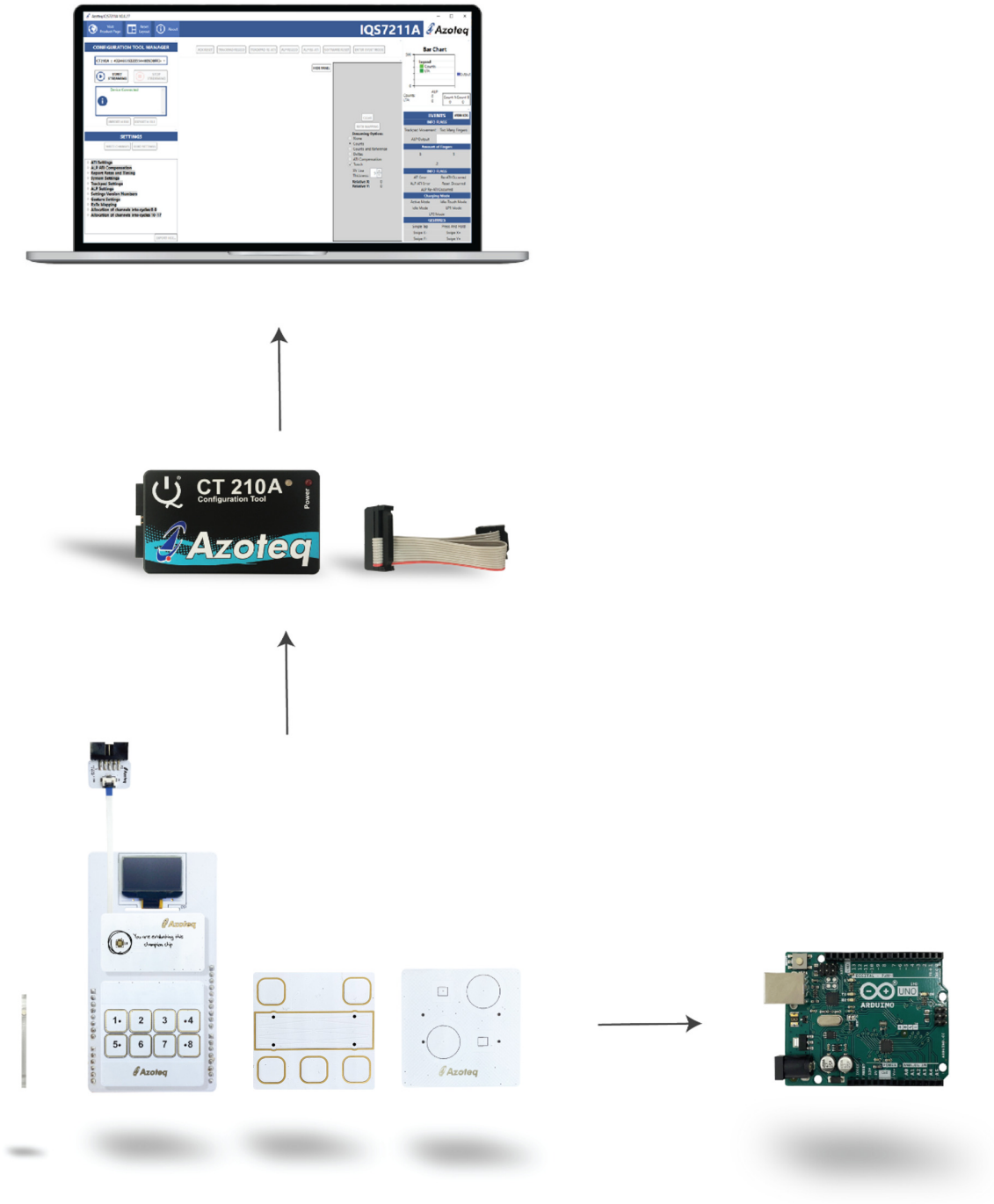


Figure 2.1: How to connect your EV-Kit to the computer

Copyright © Azoteq 2021
All Rights Reserved

3 Stamp Board and IQS7222A IC

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

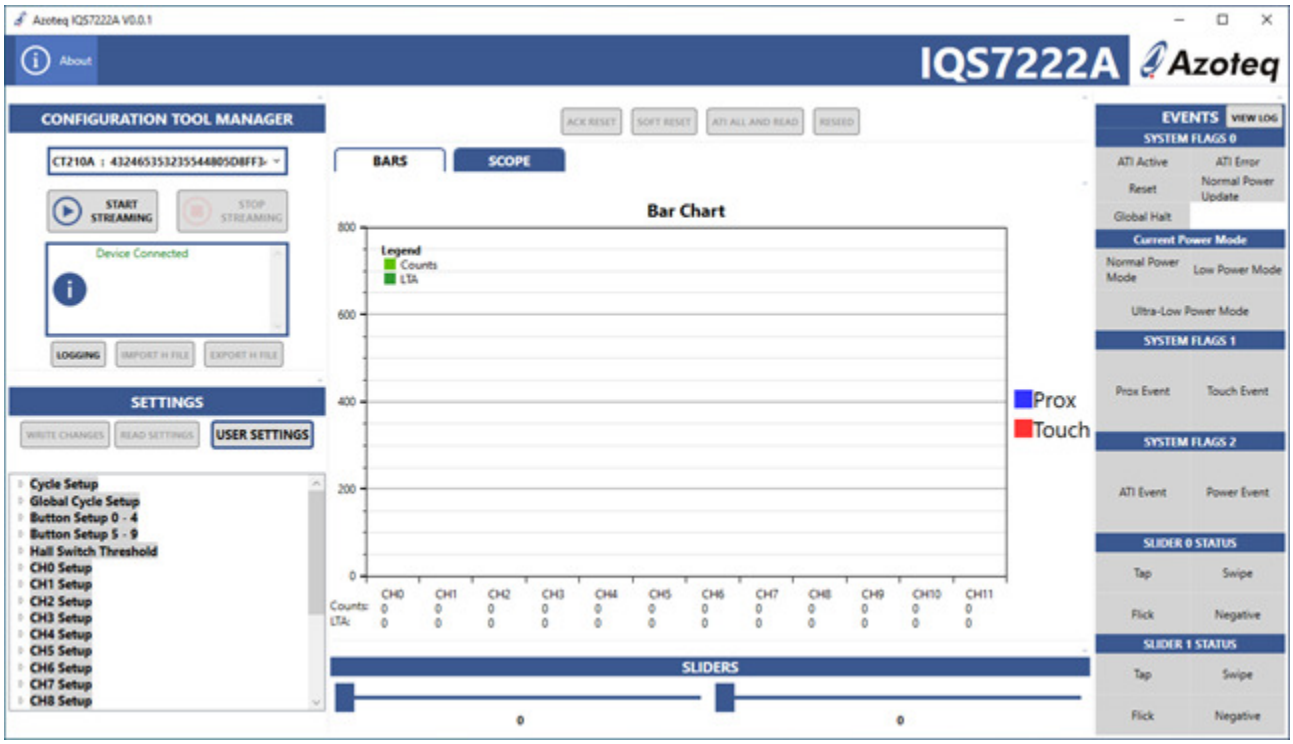


Figure 3.1: How to connect your EVKit to computer

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.

Copyright © Azoteq 2021
All Rights Reserved

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

Copyright © Azoteq 2021
All Rights Reserved



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.

Copyright © Azoteq 2021
All Rights Reserved

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

Copyright © Azoteq 2021
All Rights Reserved



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.

Copyright © Azoteq 2021
All Rights Reserved



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

Copyright © Azoteq 2021
All Rights Reserved

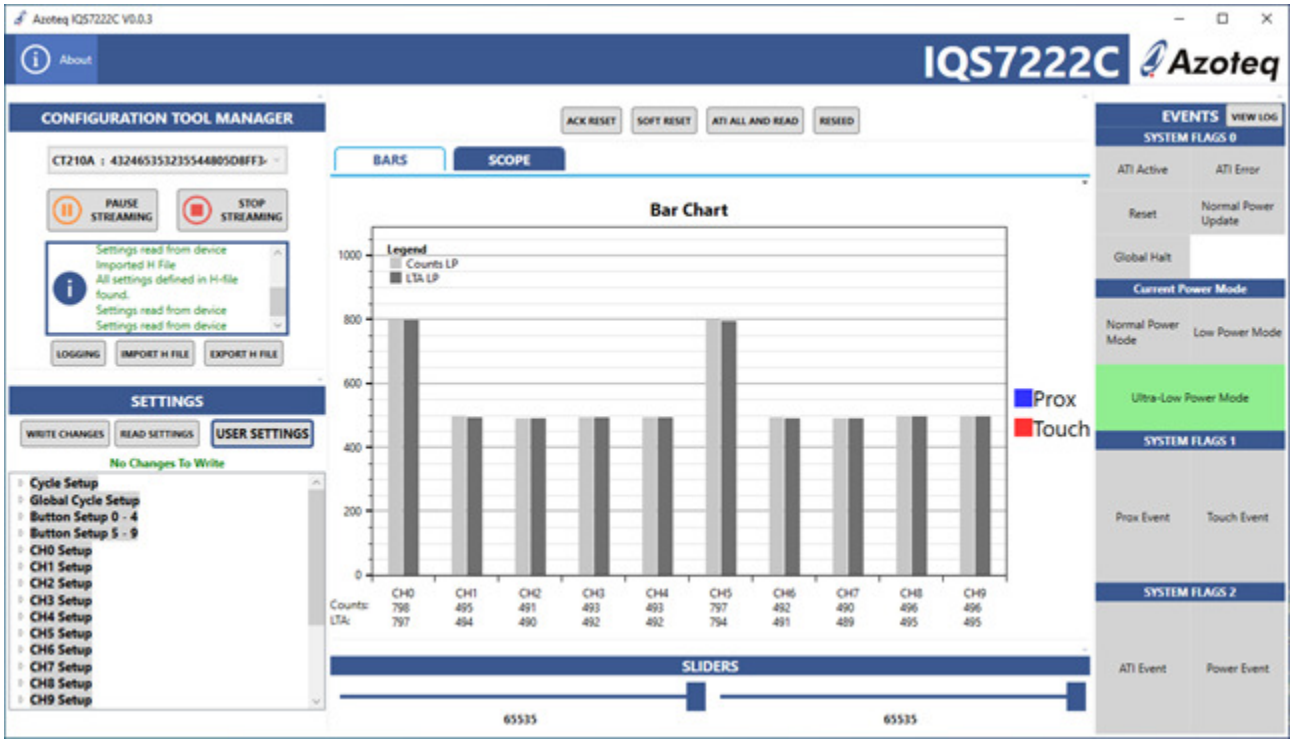


Figure 4.6: IQS7222A GUI Example: Buttoned Slider

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.

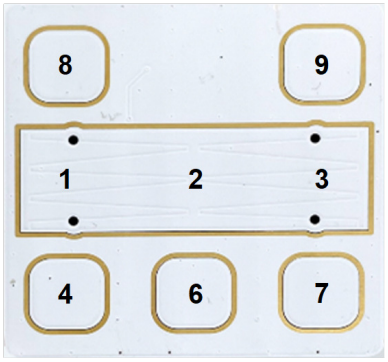


Figure 4.7: Buttoned Slider Channel Assignment

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

Copyright © Azoteq 2021
All Rights Reserved

Contact Information

	USA	Asia	South Africa
Physical Address	11940 Jollyville Rd Suite 120-S Austin TX–78759 USA	Room501A, Block A T-Share International Centre Taoyuan Road Nanshan District Shenzhen Guangdong Province PRC	1 Bergsig Avenue Paarl 7646 South Africa South Africa
Postal Address	11940 Jollyville Rd Suite 120-S Austin TX–78759 USA	Room501A, Block A T-Share International Centre Taoyuan Road Nanshan District Shenzhen Guangdong Province PRC	PO Box 3534 Paarl 7620 South Africa South Africa
Tel	+1 512 538 1995	+86 755 8303 5294 ext 808	+27 21 863 0033
Email	info@azoteq.com	info@azoteq.com	info@azoteq.com

Visit www.azoteq.com
for a list of distributors and worldwide representation.

Patents as listed on www.azoteq.com/patents-trademarks/ may relate to the device or usage of the device

Azoteq®, Crystal Driver®, IQ Switch®, ProxSense®, ProxFusion®, LightSense™, SwipeSwitch™, and the logo are trademarks of Azoteq.

The information in this Datasheet is believed to be accurate at the time of publication. Azoteq uses reasonable effort to maintain the information up-to-date and accurate, but does not warrant the accuracy, completeness or reliability of the information contained herein. All content and information are provided on an "as is" basis only, without any representations or warranties, express or implied, of any kind, including representations about the suitability of these products or information for any purpose. Azoteq disclaims all warranties and conditions with regard to these products and information, including but not limited to all implied warranties and conditions of merchantability, fitness for a particular purpose, title and non-infringement of any third party intellectual property rights. Azoteq assumes no liability for any damages or injury arising from any use of the information or the product or caused by, without limitation, failure of performance, error, omission, interruption, defect, delay in operation or transmission, even if Azoteq has been advised of the possibility of such damages. The applications mentioned herein are used solely for the purpose of illustration and Azoteq makes no warranty or representation that such applications will be suitable without further modification, nor recommends the use of its products for application that may present a risk to human life due to malfunction or otherwise. Azoteq products are not authorized for use as critical components in life support devices or systems. No licenses to patents are granted, implicitly, express or implied, by estoppel or otherwise, under any intellectual property rights. In the event that any of the abovementioned limitations or exclusions does not apply, it is agreed that Azoteq's total liability for all losses, damages and causes of action (in contract, tort (including without limitation, negligence) or otherwise) will not exceed the amount already paid by the customer for the products. Azoteq reserves the right to alter its products, to make corrections, deletions, modifications, enhancements, improvements and other changes to the content and information, its products, programs and services at any time or to move or discontinue any contents, products, programs or services without prior notification. For the most up-to-date information and binding Terms and Conditions please refer to www.azoteq.com.