IQ Switch[®] ProxFusion[®] Series



IQS7211A EV-kit User Guide

User guide for IQS7211A Evaluation kit







Contents

Introduction

Setting up the IQS7211A EV-kit

Stamp Board and IQS7211A IC

Plug-in Boards

| 4.1 | Rectangle Trackpad Board | 6 |
|-----|--------------------------|---|
| | Circle Trackpad Board | |
| | Flower Trackpad Board | |
| | | |

Reference Designs





1 Introduction

This user guide describes the operation of the IQS7211A Evaluation Kit. The EV-Kit consists of 5 parts:

- 1. Stamp board
- 2. Connector board
- 3. Base board
- 4. Rectangle trackpad
- 5. Circle trackpad
- 6. Flower trackpad

To visualize raw data from the EV-Kit, the stamp board can be interfaced to any personal computer with USB support, and IQS7211A software Graphical User Interface (GUI). The purpose of the IQS7211A EV-Kit is to help application and development engineers in evaluating the IQS7211A's capabilities.

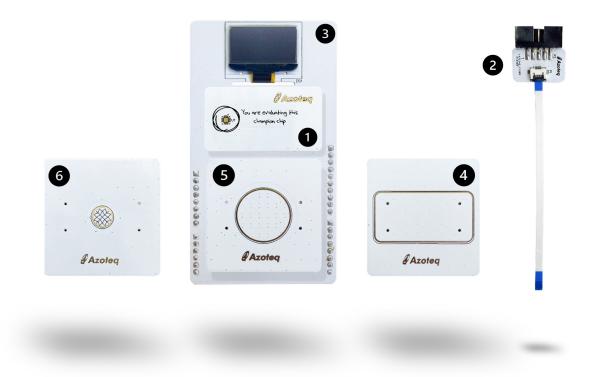


Figure 1.1: EV-kit Representation





2 Setting up the IQS7211A EV-kit

To interface the IQS7211A Evaluation Kit to a PC we advise using the CT210A (CT210A is sold with EV04 kit, but sold separately from EV02 kit).

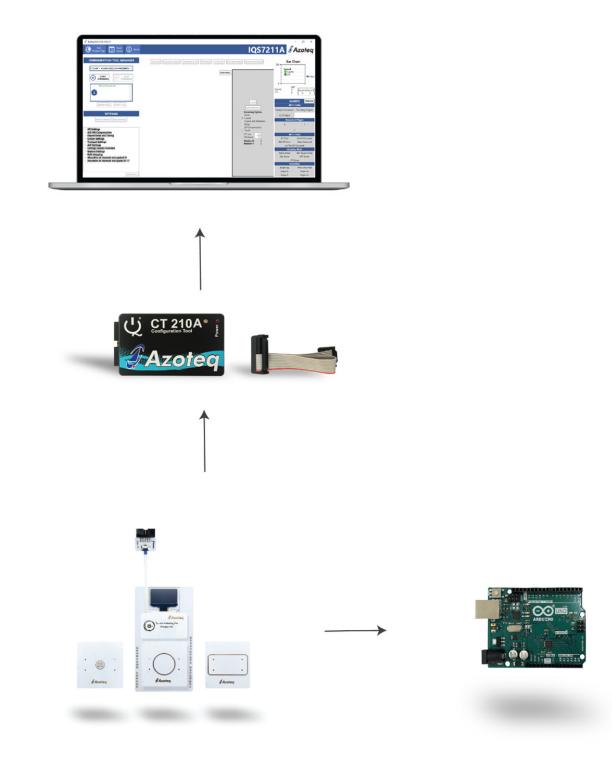


Figure 2.1: How to connect your EV-Kit to the computer





3 Stamp Board and IQS7211A IC



The IQS7211A IC is located on the stamp board. Run the IQS7211A GUI.

Figure 3.1: How to connect your EVKit to computer

To demonstrate the capabilities of the IQS7211A, we suggest evaluating with the supplied boards.

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





4 Plug-in Boards

4.1 Rectangle Trackpad Board

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

| Azoteq |
|--------|

Figure 4.1: Rectangle Trackpad

Now perform the following actions in the GUI.

- > Click the "Start Streaming" button.
- > Click on the "ACK RESET" button.
- > Browse to "IQS7211A_init_AZP1149A1_8x4_TP.h" and select "Open".
- > Click on the "TRACKPAD RE-ATI" button.

See figure 4.2 below for an example





| Veit Product Page 🖪 Reset 🛈 About | | | | | | | | | IQS72 | 11A Azote |
|--|-----|-------|--------------|-----|------------|--------|------|-----------|--|--|
| CONFIGURATION TOOL MANAGER | ACK | ALSAT | RACKIPAD RES | HED | CKPAD RE-A | ALP RE | SIED | HIDE PANE | FTWARE RESET ENTER EVENT MODE | 500 Bar Chart |
| PAUSE STOP Streaming STREAMING Settings read from device in All settings defined in H-file found. Settings read from device | 250 | 245 | 248 | 249 | 248 | 248 | 248 | 248 | CLEAR RETE MARPING Streaming Options None Counts Counts Counts | Counts: 420 LTA: 398 Counts: 201 2 |
| Settings read from device Lossing IMPORT H FILL EXPORT H FILL SETTINGS WRITE CHANGES READ SETTINGS | 249 | 249 | 249 | 248 | 250 | 250 | 249 | 248 | C Deltas ATI Compensation ✓ Touch XV Line 5 ▼ Relative X: 0 Relative Y: 0 | EVENTS VIEW INFO FLAGS Trackpad Movement Too Many Fin ALP Output Amount of Fingers |
| No Changes To Write ATI Settings ALP ATI Compensation Report Rates and Timing System Settings Trackpad Settings ALP Settings | 249 | 249 | 249 | 244 | 247 | 250 | 248 | 249 | Finger: 1 Line Color: X: 65535 | 0 1 2 INFO FLAGS ATI Error Re-ATI Occur ALP ATI Error Reset Occur ALP Re-ATI Occurred |
| Settings Version Numbers Gesture Settings RATx Mapping Allocation of channels into cycles 0-9 Allocation of channels into cycles 10-17 | 247 | 245 | 246 | 250 | 250 | 248 | 248 | 249 | Y: 65535 Touch 0 Strength: Area: 0 | Charging Mode Active Mode Idle-Touch M Idle Mode Idle-Touch UP1 Mode GESTURES Single Tap Press And H Single X: Single X: |

Figure 4.2: IQS7211A GUI Example: Rectangle Trackpad

The IQS7211A and Trackpad can now be evaluated by drawing lines on the trackpad and observing what happens in the GUI.

To the right side of the GUI we see the "EVENTS" section, the GESTURES are located here. Try and perform all 6 possible gestures as shown in this section.

To clear the lines drawn in the GUI, click on one of the channels displayed in the middle of the GUI.

After evaluation click on the "Stop Streaming" button.



4.2 Circle Trackpad Board

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



Figure 4.3: Circle Trackpad

Now perform the following actions in the GUI.

- > Click the "Start Streaming" button.
- > Click on the "ACK RESET" button.
- > Browse to "IQS7211A_init_AZP1148A1_6x5_TP.h" and select "Open".
- > Click on the "TRACKPAD RE-ATI" button.

See figure 4.4 below for an example





| Visit Product Page Reset (i) About | | | | | | | IQS72 | 11A Azote |
|--|--------|-------------|--------|--------------|------------|------------|--|---|
| CONFIGURATION TOOL MANAGER | ACKRES | ET TRACKPAC | RESERD | COPAD RE-ATI | ALP RESEED | ALP RE-ATT | OPTWARE RESET | 500 Bar Chart |
| PAUSE STOP STREAMING STREAMING Semigored IF Jie All settings defined in H-file All settings defined in H-file Induct set S | 0 | 295 | 298 | 300 | 298 | 0 | CLLAR RETX MAPPING Streaming Options None • Counts | Counts: 0 UTA: 0 Counts: 0 UTA: 0 Count A Count |
| Settings read from device V LOSGENE INFORT H FILE SETTINGS | 298 | 298 | 298 | 297 | 293 | 297 | Counts and Reference Deltas ATI Compensation V Touch XY Line Thickness: 5 V | EVENTS VIEWE INFO FLAGS Trackpad Movement Too Many Finge |
| WITE CHANGES READ SETTINGS No Changes To Write ATJ Settings ALP ATJ Compensation | 299 | 294 | 297 | 299 | 294 | 297 | Relative X: 0 Relative Y: 0 | ALP Output Amount of Fingers 0 1 2 |
| Report Rates and Timing System Settings Trackpad Settings ALP Settings Settings Version Numbers Gesture Settings | 299 | 299 | 298 | 298 | 295 | 297 | Color: X: 65535 Y: 65535 | INFO FLAGS ATI Error Re-ATI Occum ALP ATI Error Reset Occume ALP Re-ATI Occumed Charging Mode Active Mode Ide-Touch Mo |
| RxTx Mapping Allocation of channels into cycles 0-9 Allocation of channels into cycles 10-17 | 0 | 295 | 297 | 299 | 296 | 0 | Touch Strength: Area: 0 | Idle Mode LP1 Mode LP2 Mode GESTURES Single Tap Press And Ho Swice X - Single X+ |

Figure 4.4: IQS7211A GUI Example: Circle Trackpad

The IQS7211A and Trackpad can now be evaluated by drawing lines on the trackpad and observing what happens in the GUI.

To the right side of the GUI we see the "EVENTS" section, the GESTURES are located here. Try and perform all 6 possible gestures as shown in this section.

To clear the lines drawn in the GUI, click on one of the channels displayed in the middle of the GUI.

After evaluation click on the "Stop Streaming" button.



4.3 Flower Trackpad Board

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



Figure 4.5: Flower Trackpad

Now perform the following actions in the GUI.

- > Click the "Start Streaming" button.
- > Click on the "ACK RESET" button.
- > Browse to "IQS7211A_init_AZP1147A2_3x3_TP.h" and select "Open".
- > Click on the "TRACKPAD RE-ATI" button.

See figure 4.6 below for an example





| Yest Product Page III Reset (1) About | | | | IQS72 | 11A Azote |
|--|-------------------|-----------------------|-------------------------|---|---|
| CONFIGURATION TOOL MANAGER | ACK RESET TRACKPA | RESED TRACKPAD RE-ATI | ALP RESEED ALP RE-ATT S | OPTWARE RESET ENTER EVENT MODE | 500 Bar Chart |
| PAUSE STREAMING STREAMING STREAMING STREAMING Streaming All settings defined in IK-file All settings read from device Settings Settings Settings Settings Settings | 444 | 455 | 458 | CLEAR RTTX MAPPING Streaming Options None Counts Counts and Reference Deltas ATI Compensation V Touch | Counts: 391 LTA: 391 EVENTS WKW INFO FLAGS |
| SETTINGS WRITE CHANGES No Changes To Write ATT Settings ALP ATT Compensation Report Rates and Timing System Settings | 453 | 456 | 456 | XY Une Thickness: 3 ♥ Relative X: 0 Finger: 1 Line Color: ♥ | Trackpad Movement Too Many Fing ALP Output Amount of Fingers 0 1 2 INFO FLAGS ATI Error Re-ATI Occum |
| system settings Trackpad Settings ALP Settings Settings Version Numbers Gesture Settings RxTx Mapping Allocation of channels into cycles 0-9 Allocation of channels into cycles 10-17 | 444 | 447 | 447 | X: 65535 Y: 65535 Touch Strength: Area: 0 | ALP ATI Error Reset Occurre ALP Re-ATI Occurred Charging Mode Active Mode Idle-Touch Mo Idle Mode Idle-Touch Mo Idle Mode UP1 Mode GISTURIS |
| DPORT HDX. | | | | | Single Tap Press And Ho Swipe X- Swipe X+ Swipe Y+ Swipe Y- |

Figure 4.6: IQS7211A GUI Example: Circle Trackpad

The IQS7211A and Trackpad can now be evaluated by drawing lines on the trackpad and observing what happens in the GUI.

To the right side of the GUI we see the "EVENTS" section, the GESTURES are located here. Try and perform all 6 possible gestures as shown in this section.

To clear the lines drawn in the GUI, click on one of the channels displayed in the middle of the GUI.

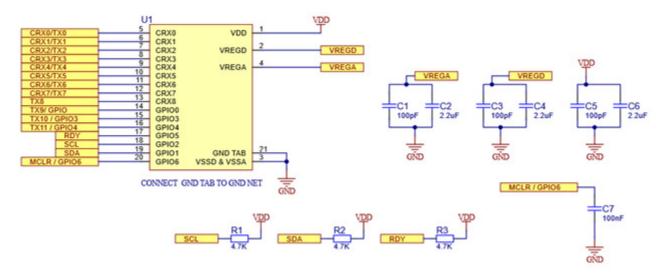
After evaluation click on the "Stop Streaming" button.



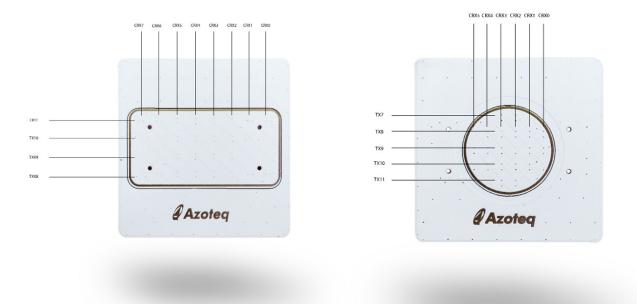
IQ Switch[®] ProxFusion[®] Series



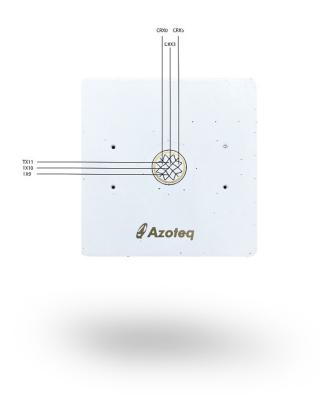
5 Reference Designs













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[®], LightSenseTM, SwipeSwitchTM, and the ^Q 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.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Azoteq: IQS7211AEV02-S IQS7211AEV04-S