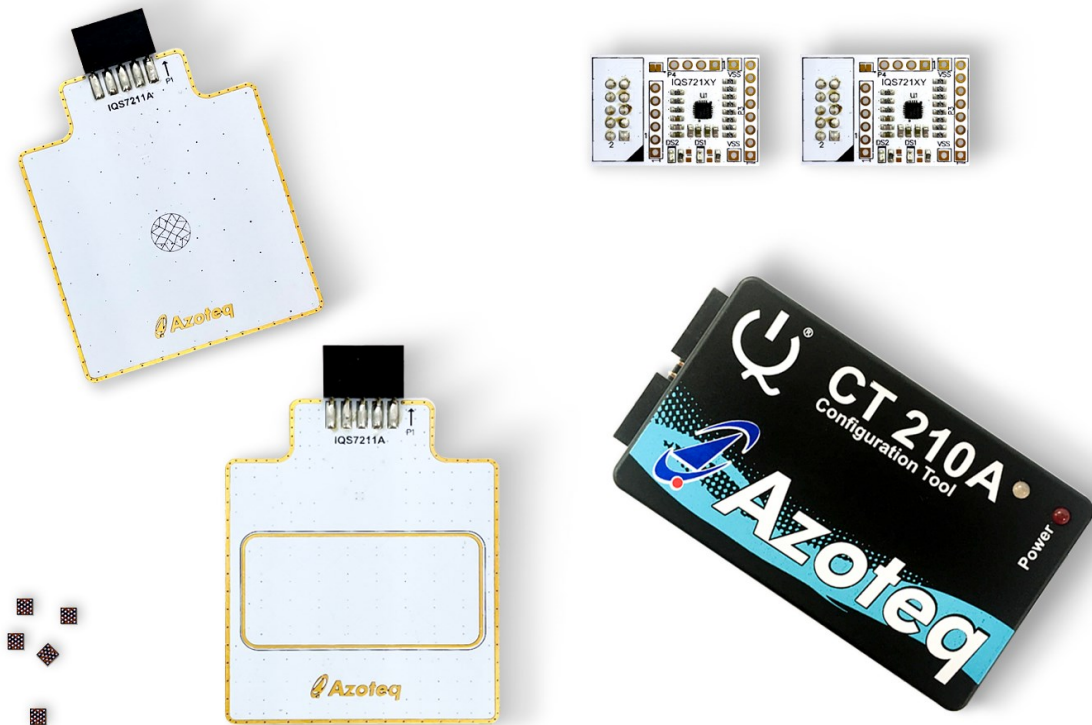




## IQS7211AEV02A USER GUIDE

IQ Switch® - ProxFusion® Series





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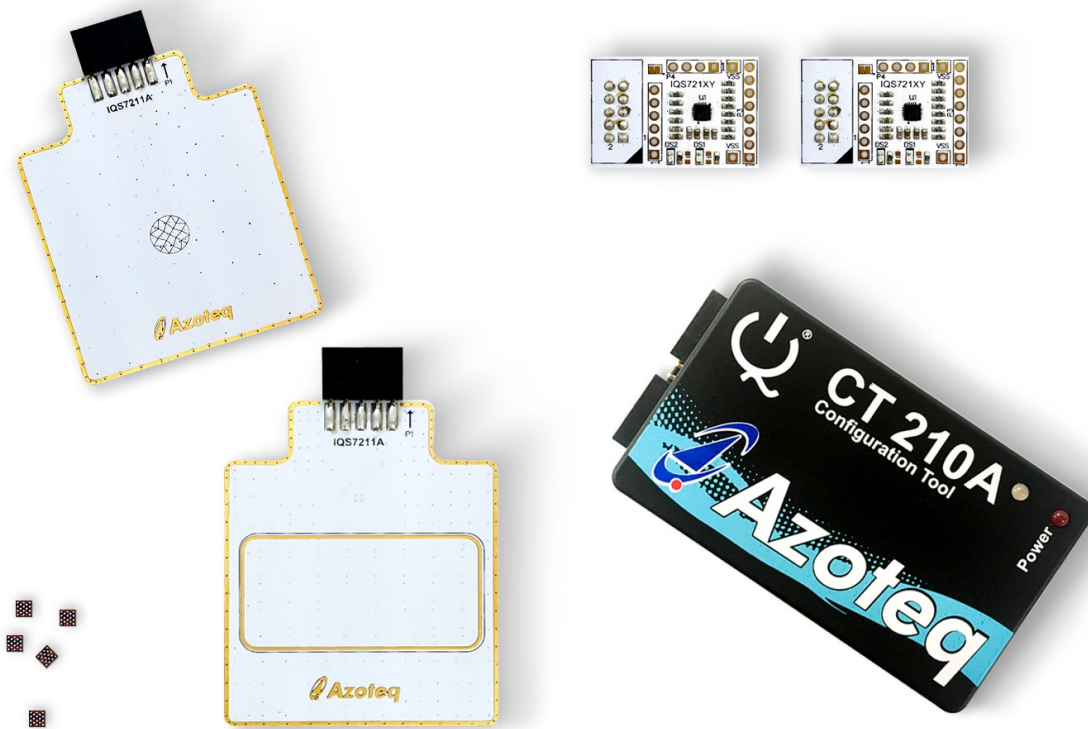


## 1 Introduction

This user guide describes the operation of the IQS7211AEV02A Evaluation Kit. The EV-Kit consists of five parts:

- IQS7211A Rectangle Trackpad x 1
- IQS7211A Flower Trackpad x 1
- CT210A x 1
- IQS7211A Stamp x 2
- IQS721XY IC x 5

To visualise raw data from the EV-Kit, the Trackpad board can be interfaced to any personal computer with USB support, along with the CT210A and the relevant IQS7211A software Graphical User Interface (GUI) available to download from the Azoteq website. The purpose of the IQS7211AEV02A EV-Kit is to help application and development engineers in evaluating this IC's capabilities. A picture of the evaluation kit is shown below.





## 2 Stamps

To interface the IQS7211A Stamp to a PC we advise using the CT210A. This EV Kit can be setup with the following steps:

- Download & Install GUI from Azoteq website
- Plug the stamp board into the CT210A as shown below





- Connect the CT210A to the PC with a USB cable (use USB data cable only)
- Run the IQS7211A GUI (latest version available from the www.azoteq.com website)
- Click “Start Streaming” button
- GUI should look as follow.

The screenshot displays the Azoteq IQS7211A V0.0.32 GUI. The interface includes a top navigation bar with 'Visit Product Page', 'Reset Layout', and 'About' buttons. Below this is a 'CONFIGURATION TOOL MANAGER' section with a device ID dropdown and 'PAUSE STREAMING' and 'STOP STREAMING' buttons. A central data grid shows a 6x5 matrix of numerical values. To the right of the grid are 'STREAMING OPTIONS' and 'RXTX MAPPING' controls. On the far right, there is a 'Bar Chart' showing 'Counts' and 'LTA' data, and several status panels including 'EVENTS', 'INFO FLAGS', 'Amount of Fingers', 'Charging Mode', and 'GESTURES'.

1049	930	1061	839	1078	603
1008	787	1018	503	1019	297
801	298	542	563	298	807
1032	987	1046	941	1065	820
1033	984	1045	949	1067	867

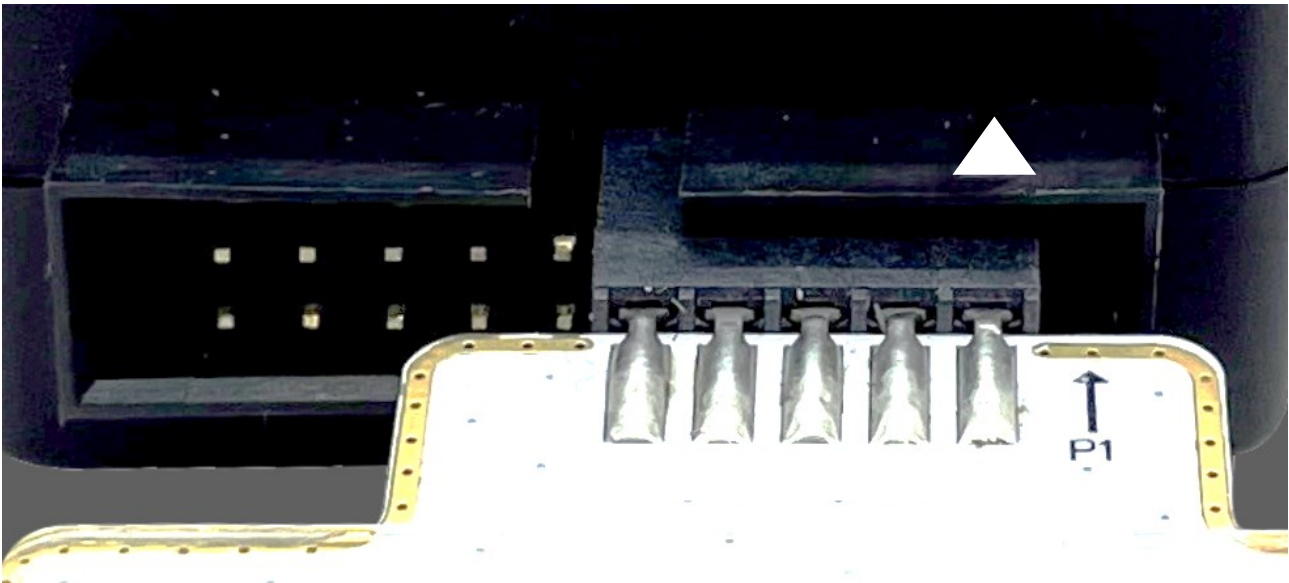


### 3 Trackpad Careful Consideration

Please note following picture when Flower Trackpad and Rectangle Trackpad modules are plugged into the CT210A.

Take care in ensuring pin alignment is correct as shown in picture below.

The pin on the right must line up directly below the black triangle (shown below as white triangle to clearly indicate) on the CT210A.





## 4 Setting up for the IQS7211A Rectangle Trackpad

To interface the IQS7211A Rectangle Trackpad to a PC we advise using the CT210A. This EV Kit can be setup with the following steps:

- Download GUI and Header files from Azoteq website
  - azoteq\_iqs7211a\_setup.zip
  - iqs7211a\_header\_files.zip
- Install GUI on PC
- Unzip iqs7211a\_header\_files.zip file to obtain header files
- Plug the Trackpad into the CT210A (Please ensure pin 1 from Trackpad module line-up with black triangle as shown earlier)
- Connect the CT210A to the PC with a USB cable (use USB data cable only)
- Run the IQS7211A GUI (latest version available from the www.azoteq.com website)
- Click “Start Streaming” button
- Click “IMPORT H FILE”
- Browse to “IQS7211A\_Rectangle\_Trackpad.h” file and click Open
- Click “ACK RESET”
- Click “TRACKPAD RE-ATI”
- GUI should look as follow.

The screenshot displays the Azoteq IQS7211A V0.0.32 GUI. The interface is divided into several sections:

- Configuration Tool Manager:** Includes a dropdown for CT210A (432465353235544805D8FF3), buttons for PAUSE STREAMING and STOP STREAMING, and a status message: "Settings read from device Imported H File All settings defined in H-file found. Settings read from device Settings read from device".
- Settings:** Includes buttons for WRITE CHANGES and READ SETTINGS, and a list of settings categories: ATI Settings, ALP ATI Compensation, Report Rates and Timing, System Settings, Trackpad Settings, ALP Settings, Settings Version Numbers, Gesture Settings, RxTx Mapping, Allocation of channels into cycles 0-9, and Allocation of channels into cycles 10-17.
- Main Data Grid:** A 4x8 grid of numerical values. The first row contains: 249, 247, 247, 249, 247, 249, 249, 249. The second row contains: 250, 249, 250, 248, 248, 249, 249, 248. The third row contains: 248, 249, 248, 247, 249, 249, 247, 249. The fourth row contains: 250, 248, 249, 248, 250, 249, 248, 249.
- Right Panel:** Includes a CLEAR button, RXTX MAPPING options (None, Counts, Counts and Reference, Delts, ATI Compensation, Touch), XY Line Thickness (5), Relative X (0), and Relative Y (0). Below this is a "Finger: 1" section with Line Color (blue), X (65535), Y (65535), Touch Strength (0), and Area (0).
- Bar Chart:** Titled "Bar Chart", showing counts for ALP (4085) and LTA (396). A legend indicates Counts (green) and LTA (blue). The chart shows two bars: a green bar for Counts and a blue bar for LTA.
- Events and Info Flags:** Includes an EVENTS VIEW LOG section with INFO FLAGS (Trackpad Movement, Too Many Fingers), ALP Output (0, 1), Amount of Fingers (2), and INFO FLAGS (ATI Error, Re-ATI Occurred, ALP ATI Error, Reset Occurred, ALP Re-ATI Occurred). Below this is a Charging Mode section (Active Mode, Idle-Touch Mode, Idle Mode, LP1 Mode, LP2 Mode) and a Gestures section (Single Tap, Press And Hold, Swipe X-, Swipe X+, Swipe Y-, Swipe Y-).

Trackpad is now active to be evaluated.



## 5 Setting up for the IQS7211A Flower Trackpad

To interface the IQS7211A Flower Trackpad to a PC we advise using the CT210A. This EV Kit can be setup with the following steps:

- Download GUI and Header files from Azoteq website
  - azoteq\_iqs7211a\_setup.zip
  - iqs7211a\_header\_files.zip
- Install GUI on PC
- Unzip iqs7211a\_header\_files.zip file to obtain header files
- Plug the Trackpad into the CT210A (Please ensure pin 1 from Trackpad module line-up with black triangle as shown earlier)
- Connect the CT210A to the PC with a USB cable (use USB data cable only)
- Run the IQS7211A GUI (latest version available from the [www.azoteq.com](http://www.azoteq.com) website)
- Click “Start Streaming” button
- Click “IMPORT H FILE”
- Browse to “IQS7211A\_Flower\_Trackpad.h” file and click Open
- Click “ACK RESET”
- Click “TRACKPAD RE-ATI”
- GUI should look as follow.

The screenshot displays the Azoteq IQS7211A V0.0.32 GUI. The main window is titled "IQS7211A Azoteq". On the left, there is a "CONFIGURATION TOOL MANAGER" with a "CT210A" ID and "PAUSE STREAMING" / "STOP STREAMING" buttons. Below it is a "SETTINGS" section with "WRITE CHANGES" and "READ SETTINGS" buttons. The central area shows a 3x3 grid of touch counts: 297, 297, 297 in the top row; 295, 298, 295 in the middle row; and 298, 296, 298 in the bottom row. To the right of the grid is a "RXTX MAPPING" section with "Streaming Options" (None, Counts, Counts and Reference, Deltas, ATI Compensation, Touch) and "XY Line Thickness" set to 5. Below that is a "Finger: 1" section showing "Line Color" (blue), "X: 65535", "Y: 65535", "Touch Strength: 0", and "Area: 0". On the far right, there is a "Bar Chart" with "Counts" and "LTA" series, and an "EVENTS INFO FLAGS" section showing "Trackpad Movement" and "Too Many Fingers".

Trackpad is now active to be evaluated.





## 6 Reference Designs

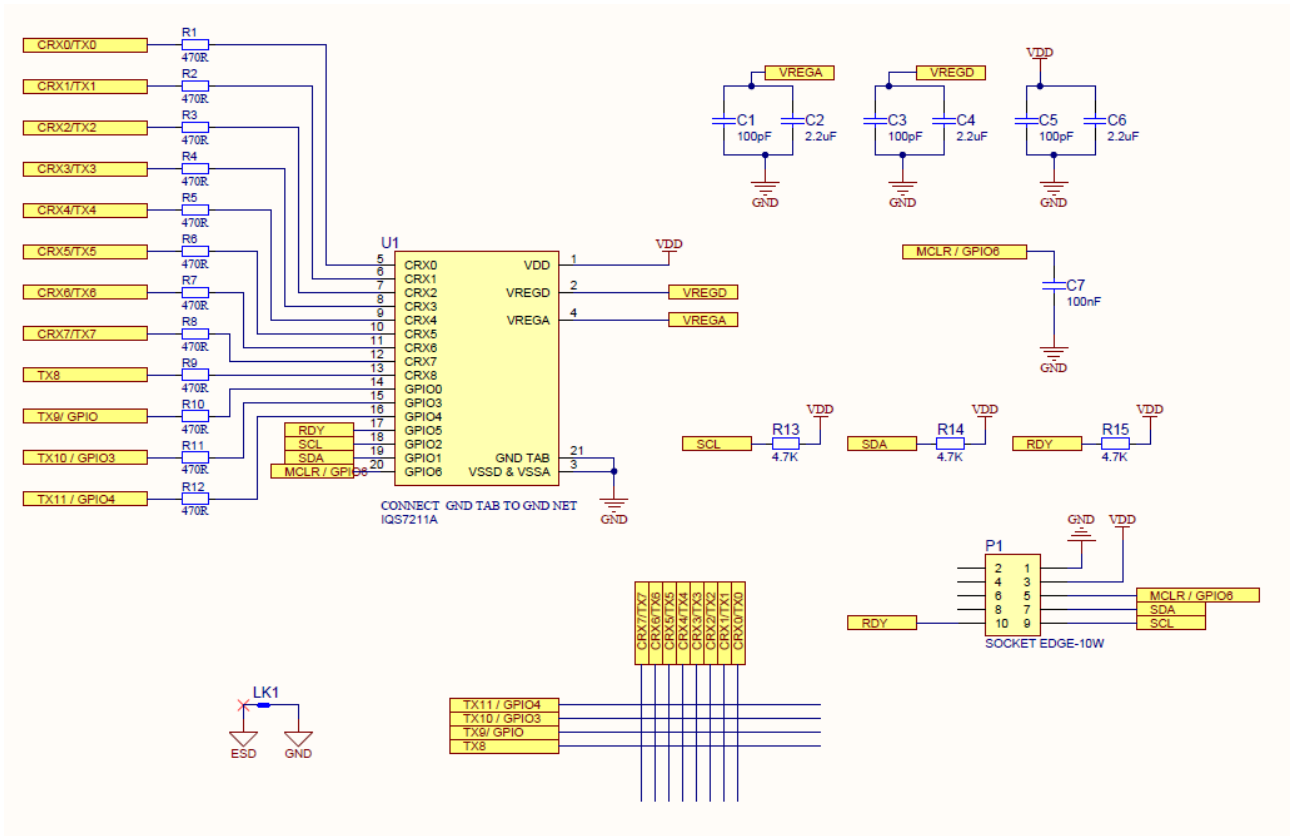


Figure 6-1 IQS7211A Rectangle Trackpad Layout

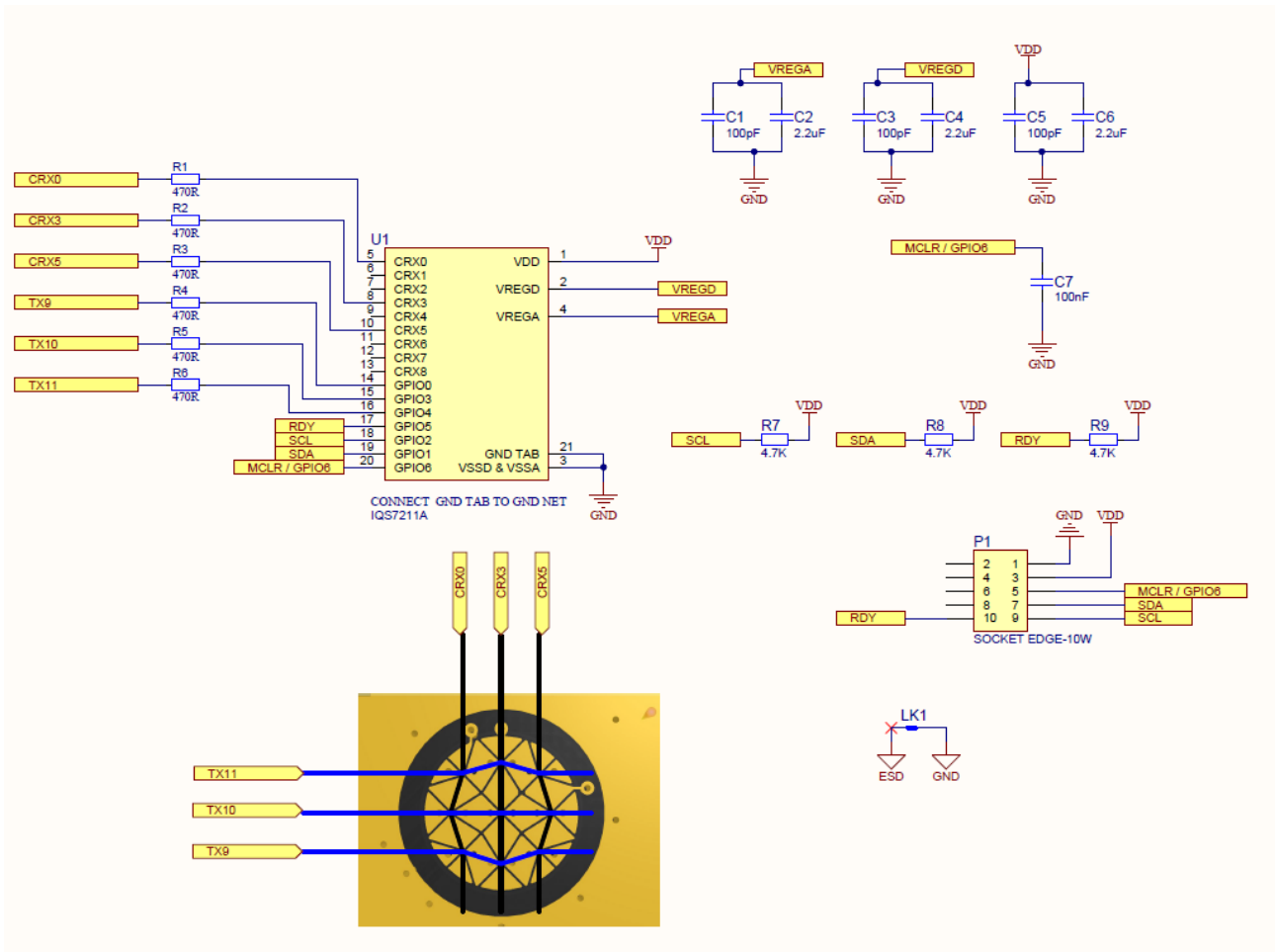


Figure 6-2 IQS7211A Flower Trackpad Layout

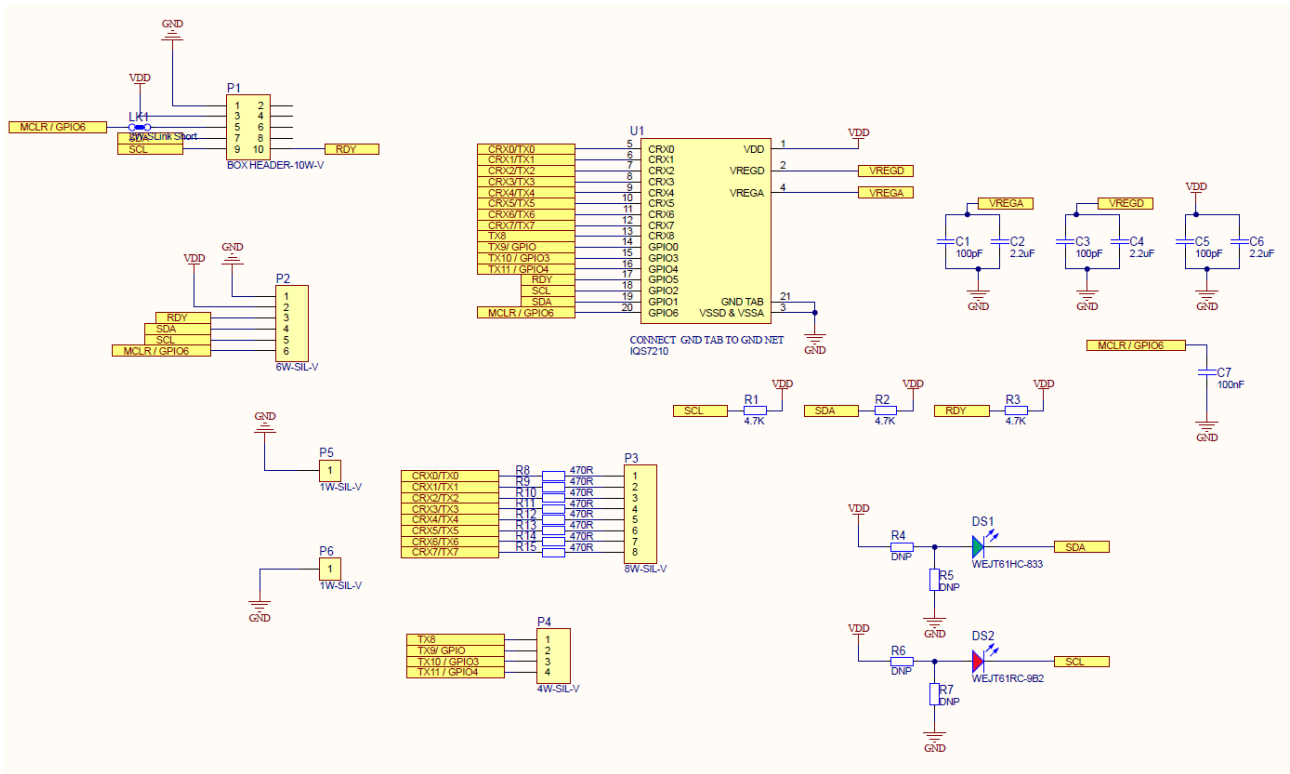


Figure 3 IQS7211A QFN20 Stamp Layout