How to connect the current sense amplifier and A/D converter

This user's guide describes how to connect the current sense amplifier evaluation board BD14210G-EVK-001and the A/D converter evaluation board BU79100G-LA-EVK-001.

About BD14210G-EVK-001

BD14210G-EVK-001 is an evaluation board for the current sense amplifier BD14210G-LA. (Figure 1)

For details, please refer to the user's guide at URL below.

https://fscdn.rohm.com/en/products/databook/applinote/ic/sensor/current/bd14210g-evk-001_ug-e.pdf

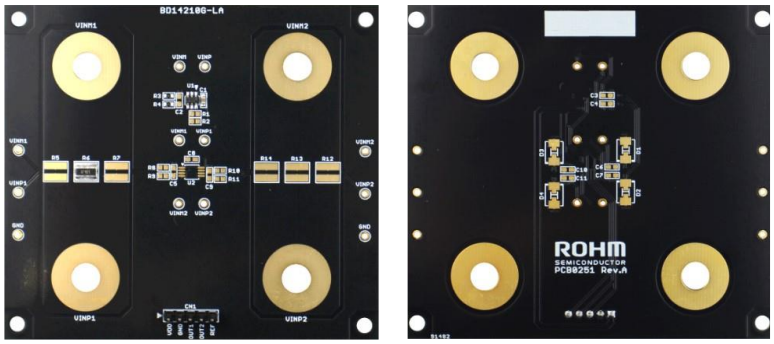

Figure 1. BD14210G-EVK-001

About BU79100G-LA-EVK-001

BU79100G-LA-EVK-001 is an evaluation board for the A/D converter BU79100G-LA. (Figure 2)

For details, please refer to the user's guide at URL below.

https://fscdn.rohm.com/en/products/databook/applinote/ic/data_converter/dac/bu79100g-la-evk-001_ug-e.pdf

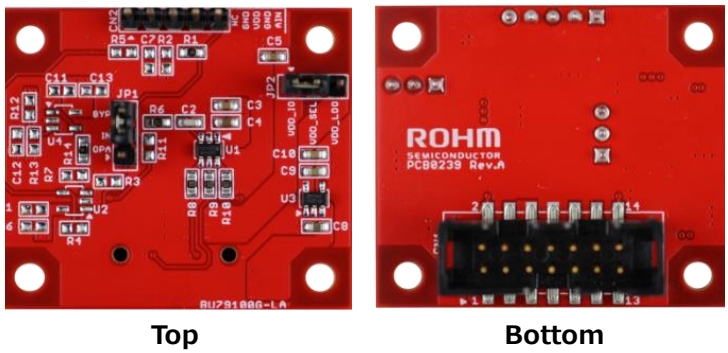

Figure 2. BU79100G-LA-EVK-001

For IC specifications, please refer to the respective datasheets.

Preparation

- BD14210G-EVK-001 1 pc
- BU79100G-LA-EVK-001 1 pc
- RKX-EVK-001 1 pc
- Ribbon cable included with RKX-EVK-001 1 pc
- Micro-USB cable included with RKX-EVK-001 1 pc
- PC with the ROHM EVK GUI SW installed 1 pc
- External power supply 2
- Any cable for connection Several pcs

Figure 3. RKX-EVK-001 and included cable

How to connect

1. Connect BU79100G-LA-EVK-001 and the external power supply to BD14210G-EVK-001. (Figure 4)

   Note: Please use a cable that is as short as possible to connect OUT1 and AIN.

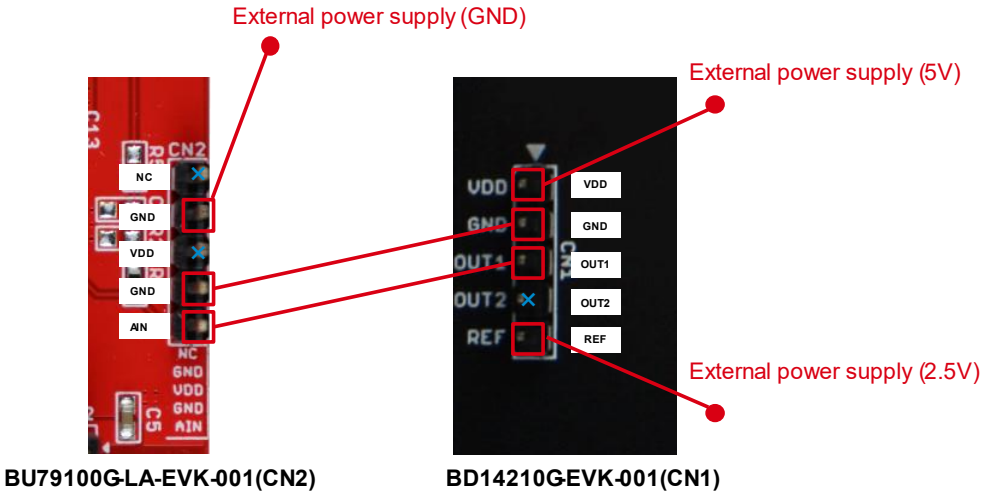

Figure 4. Connection of BU79100G-LA-EVK-001 and BD14210G-EVK-001

2. Connect the current wires to be measured to BD14210G-EVK-001. (Figure 5)

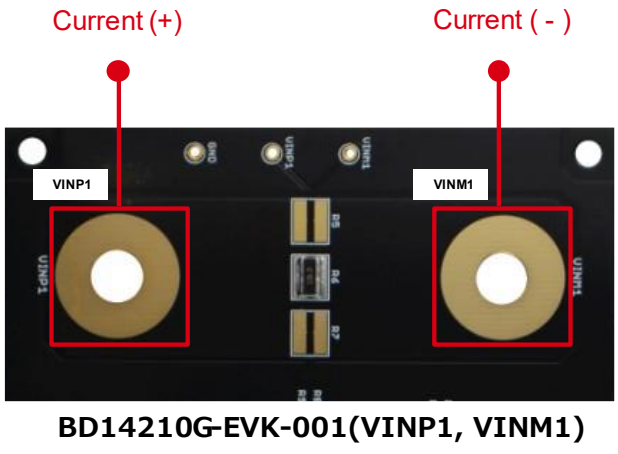

Figure 5. Connection of BD14210G-EVK-001 and the current wires

3. Connect BU79100G-LA-EVK-001 to RKX-EVK-001 and connect RKX-EVK-001 to PC using USB cable. (Figure 6)

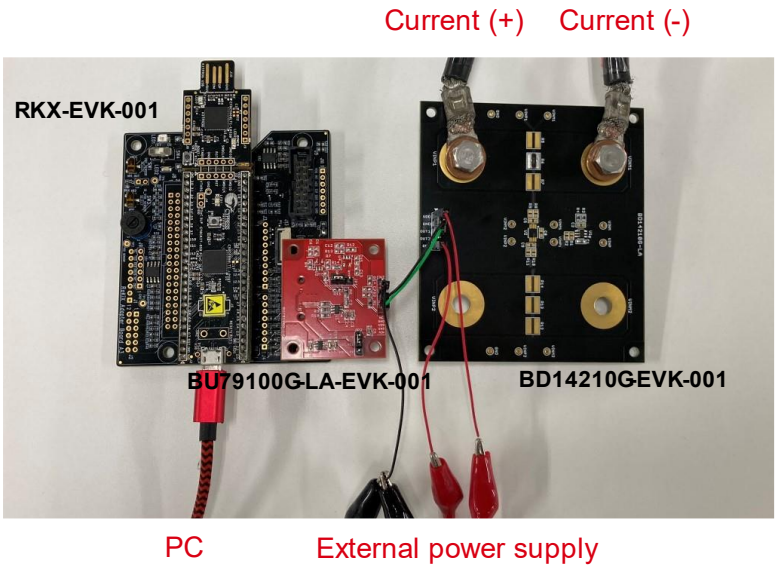

Figure 6. Connection of RKX-EVK-001 and BU79100G-LA-EVK-001

It is also possible to connect BU79100G-LA-EVK-001 to RKX-EVK-001 using the ribbon cable. (Figure 7)

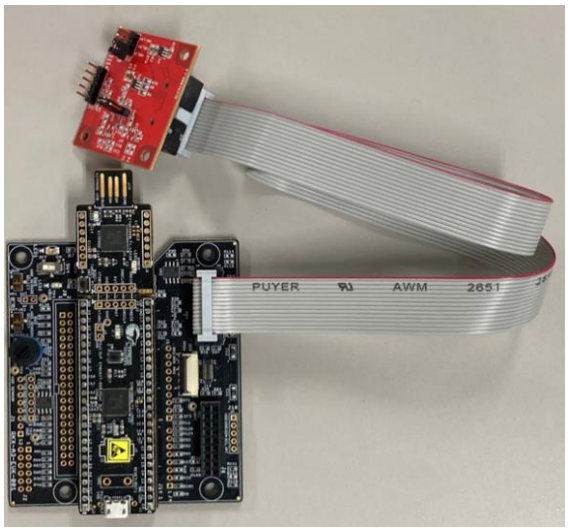

Figure 7. Connection using the ribbon cable

How to evaluate

1. Download and install ROHM EVK GUI SW from the URL below.
   https://www.rohm.com/products/data-converter/a-d-converters#evalutionBoard

2. Start ROHM EVK GUI SW.

3. Select "RKX-EVK-001 / ADC EVB" from "Board" menu. (Figure 8)

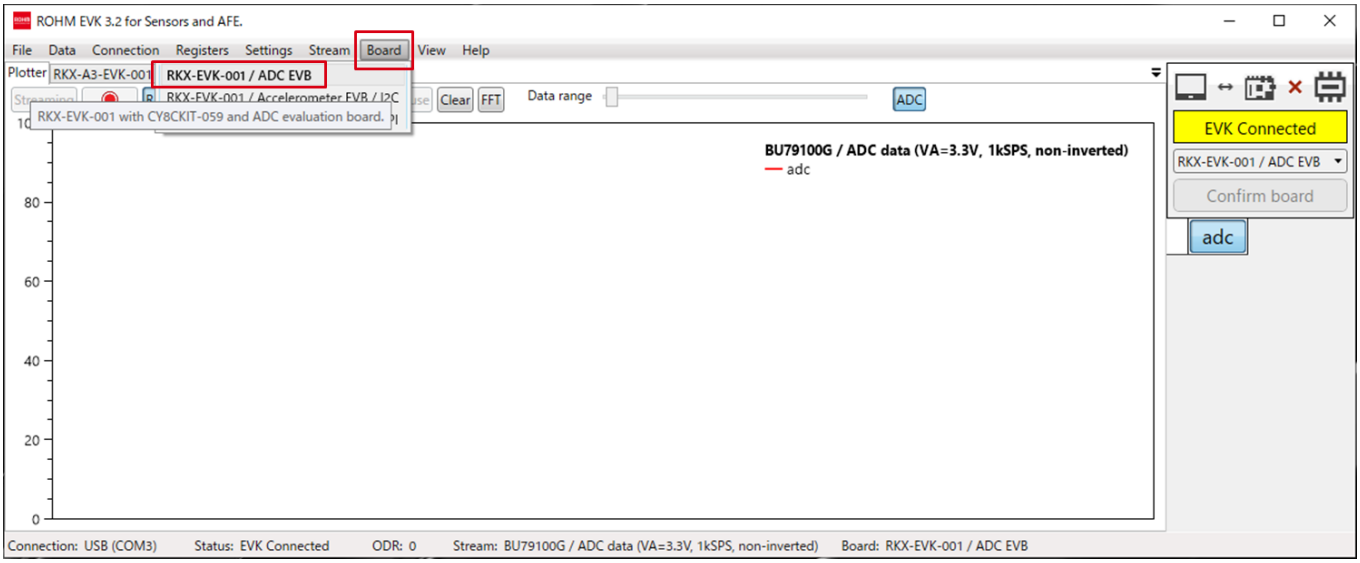

Figure 8. ROHM EVK GUI: "Board" menu

4. Select the settings you want to use from "Stream" menu. (Figure 9)

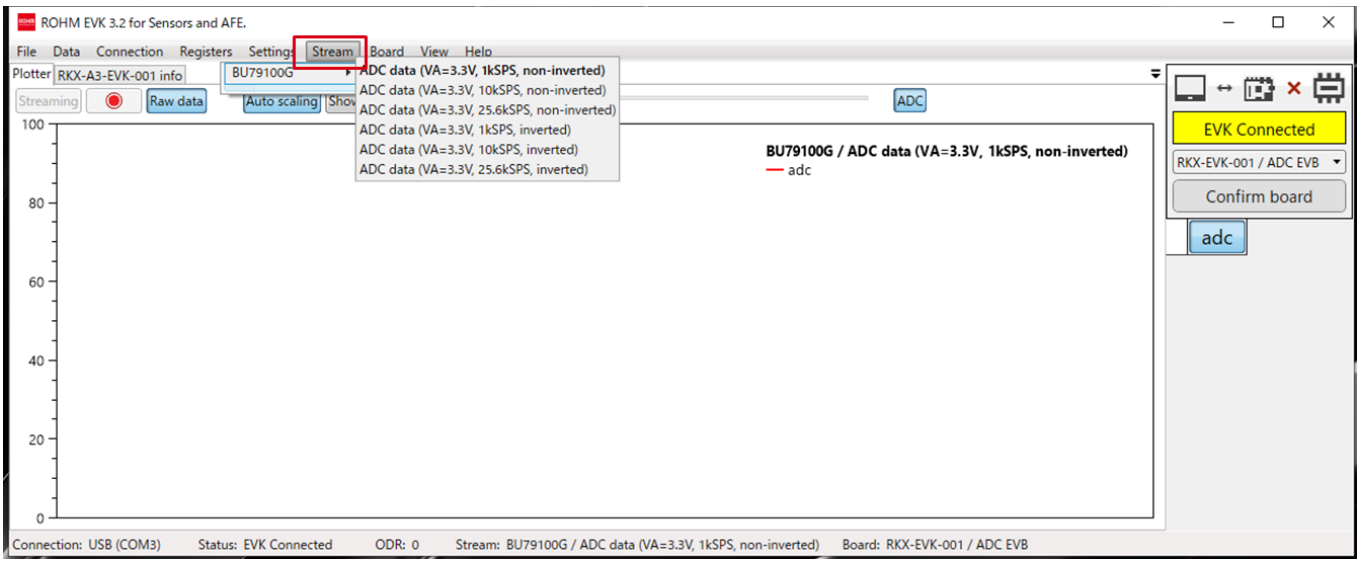

Figure 9. ROHM EVK GUI: "Stream" menu

5. Click "Confirm board" button. (Figure 10)

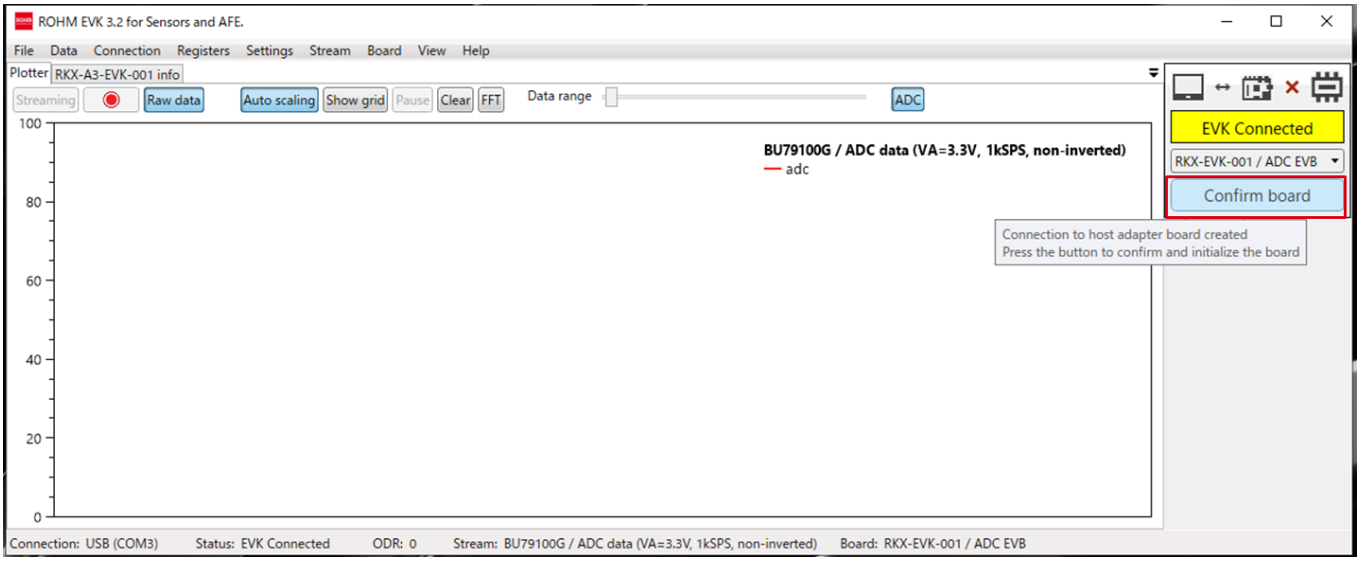

Figure 10. ROHM EVK GUI SW: "Confirm board" button

6. Input the current to be measured and the voltage from the external power supply to BD14210G-EVK-001.
   Note: The default supply voltage for the A/D converter is 3.3V. Please input current so that the output of the current sense amplifier (OUT1) does not exceed 3.3V.

7. Click "Streaming" button to start evaluation. (Figure 11)

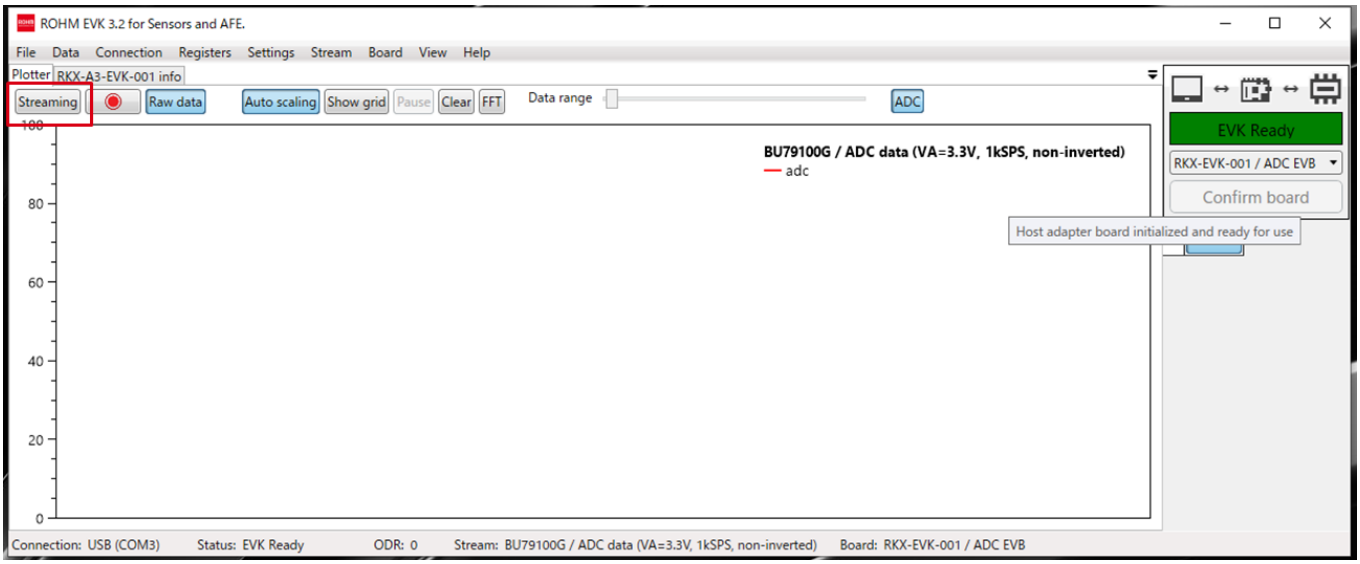

Figure 11. ROHM EVK GUI SW: "Streaming" button

For details on ROHM EVK GUI SW, please refer to the user's guide at URL below.
https://fscdn.rohm.com/en/products/databook/applinote/ic/sensor/rohm-evk-sw_ug-e.pdf

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