A/D Converter

BU79100G-LA-EVK-001 Manual

BU79100G-LA-EVK-001 is an evaluation board for A/D Converter BU79100G-LA. This User's Guide will show how to use BU79100G-LA-EVK-001 together with RKX-EVK-001 and the ADC Windows GUI that are part of ADC Evaluation Kit.

Preparation

- BU79100G-LA-EVK-001 1pc
- RKX-EVK-001 1pc
- Ribbon cable included with RKX-EVK-001 1pc
- micro-USB cable included with RKX-EVK-001 1pc
- PC with the ADC Windows GUI installed 1pc

Setting

1. Download the latest installer (ROHM_EVK_Setup.exe) from the URL below and install the ADC Windows GUI[*1].
   https://www.rohm.com/products/data-converter/a-d-converters#evalutionBoard
   After installation, the shortcuts to the ADC Windows GUI and to the ADC Evaluation Kit User's Guide can be found on the desktop, in the Windows Start menu under ROHM_EVK folder, and in the installation directory: \Documents\ROHM_EVK\
   *1 The software is subject to change without notice.

2. Start the ADC Windows GUI.
   If update pop-up window is shown, click Yes to download the latest configurations from the server.(Figure 1)

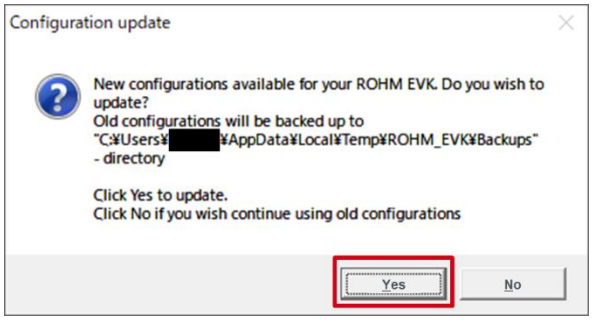
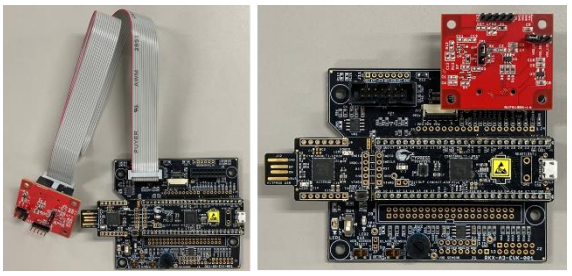


Figure 1. Example of update pop-up window

3. Connect BU79100G-LA-EVK-001 to 14-pin connector J5 of RKX-EVK-001 with a ribbon cable or directly to 18-pin connector J6. (Figure 2)



Ribbon cable connection Direct connection

Figure 2. BU79100G-LA-EVK-001 connection

4. Connect BU79100G-LA-EVK-001 to RKX-EVK-001 and connect to PC using micro-USB cable.[*2]
   *2 With Windows 10, the operating system should automatically use the correct driver. For the earlier Windows versions, please follow the driver installation procedure in the ADC Evaluation Kit User's Guide.

   [Optional]
   The CY8CKIT-059 PSoC® 5LP Prototyping Kit comes preloaded with the custom firmware when purchased as part of RKX-EVK-001. The latest version of the firmware can be found in the installation directory: \Documents\ROHM_EVK\ROHM-EVK-Firmware

   The guide for programming the custom firmware to the Cypress CY8CKIT-059 PsoC® 5LP Prototyping Kit can be found in the ADC Evaluation Kit User's Guide.

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Measurement

1. Input analog signals to AIN and GND of CN2 on BU79100G-LA-EVK-001. (Figure. 3)

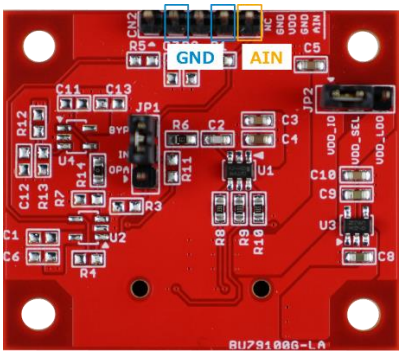

Figure 3. CN2 pin position

2. Start the ADC Windows GUI.

3. Select the BU79100G stream from the Stream menu:
e.g.: BU79100G / ADC data (VA=3.3V, 10kSPS, non-inverted)

4. If the settings are adjusted properly, data streaming should start automatically[*3], and the on-screen output should display real time output for BU79100G-LA.(Figure 4)

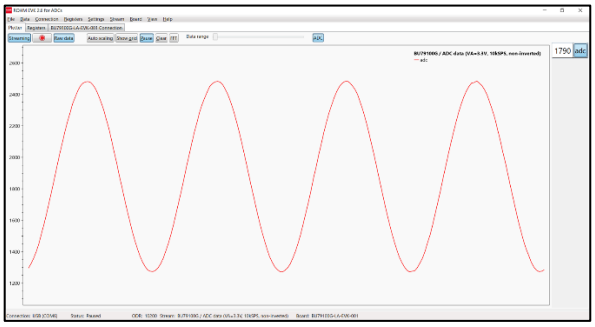

Figure 4. Example of the ADC Windows GUI window

*3 If data streaming does not start automatically, click the Streaming button.

[Optional]
For additional details about the ADC Windows GUI, please see the ADC Evaluation Kit User's Guide.

Board Information [*4]

*4 Board Information is subject to change without notice.

- Digital Communication Interface: SPI
- Supply Voltage Range: 2.7V - 5.25V
- Operating Temperature Range: -40℃ - +85℃

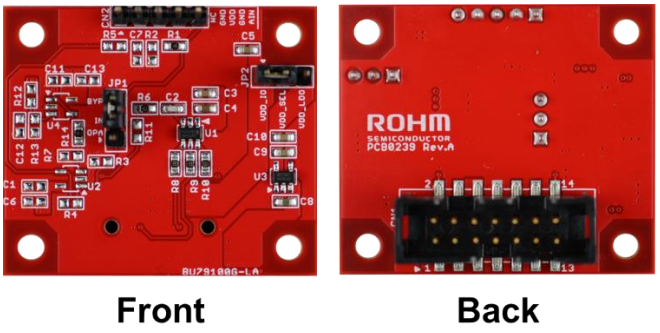

Figure 5. Board Pictures

Table 1. Parts Information

Parts Number	Description
U1	IC: BU79100G-LA
U3	CMOS LDO regulator: BU33JA2VG-C
C2	Capacitor for LPF: 100pF
C3	Bypass capacitor for VDD_SEL: 0.1uF
C4	Bypass capacitor for VDD_SEL: 10uF
C5	Bypass capacitor for VDD_IO: 4.7uF
C8	Input capacitor for LDO: 2.2uF
C9	Output capacitor for LDO: 2.2uF
C10	Output capacitor for LDO: 0.1uF
R1, R14	Jumper resistor: 0Ω
R6	Resistor for LPF: 220Ω
R8	Damping resistor for SCLK: 330Ω
R9	Damping resistor for SDATA: 100Ω
R10	Damping resistor for CSB: 330Ω
JP1, JP2	Connector: 1x3 pin、2.54mm pitch
CN1	Connector: 2x7 pin、2.54mm pitch
CN2	Connector: 1x5 pin、2.54mm pitch

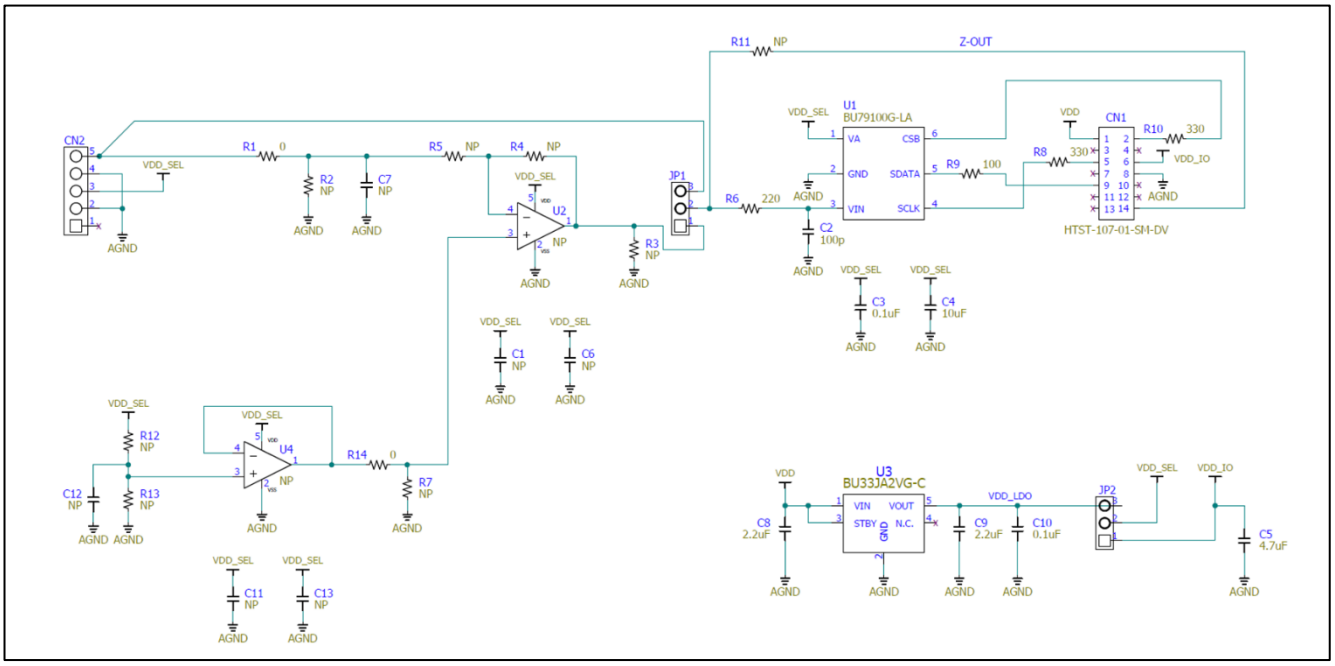

Figure 6. Schematic Diagram

Notes

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