Accelerometer

KX132-1211-EVK-001

KX132-1211-EVK-001 is an evaluation board for KX132-1211, which is a Kionix Accelerometer. This User's Guide is about how to use KX132-1211-EVK-001 together with Accelerometer Evaluation Kit that is sold as RKX-EVK-001.

Preparation

- KX132-1211-EVK-001   1pc
- RKX-EVK-001   1pc

Setting

1. Download and Install the latest release of the RoKiX Windows GUI following this link:
   https://www.rohm.com/support/accelerometer-evk-support

   Note: After installation, the shortcuts to the RoKiX Windows GUI and to the RoKiX IoT Platform Users Guide can be found on the desktop, in the Windows Start menu under RoKiX folder, and in the installation directory: *\Documents\RoKiX*

2. Start RoKiX Windows GUI. If Configuration update pop-up window is shown, click Yes to download the latest configurations from the server.
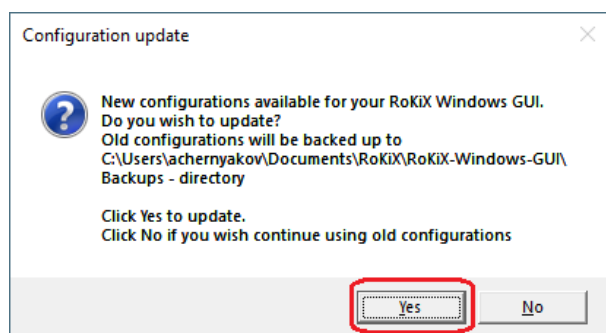

Figure 1. Configuration update pop-up window

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

   Note: The guide for programming the custom firmware to the Cypress CY8CKIT-059 PSoC® 5LP Prototyping Kit can be found in RoKiX IoT Platform Users Guide.

4. Connect the KX132-1211-EVK-001 to the RKX-EVK-001 directly to the 18-pin header J6 or using the provided ribbon cable.
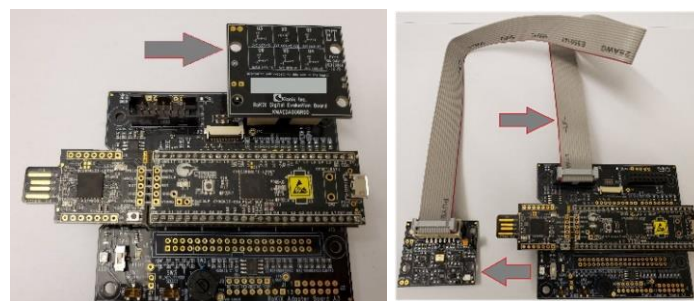
Direct   Ribbon cable

Figure 2. KX132-1211-EVK-001 connection

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5. Connect the CY8CKIT-059 to the PC using the provided micro-USB cable to establish the connection with RoKiX Windows GUI.

    Note: 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 RoKiX IoT Platform User's Guide.

Measurement

Start the RoKiX Windows GUI software and adjust your settings as follows to get the device connected:

1. Select the board configuration from the Board menu: *CY8CKIT-059 / RoKiX adapter A3 / SPI*

2. Select the desired configuration stream for the corresponding accelerometer sensor from the Stream menu: e.g.:

    KX132-1211 / Accel data 100Hz ±8g high performance

3. If the settings are adjusted properly, data streaming should start automatically, and the on-screen output should display real time output for X, Y, and Z axes of KX132-1211 sensor. For additional details about the RoKiX Windows GUI software, please see RoKiX IoT Platform Users Guide.
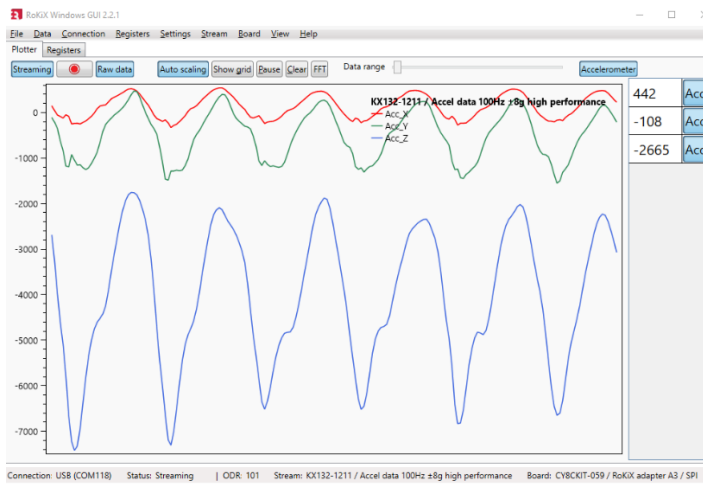

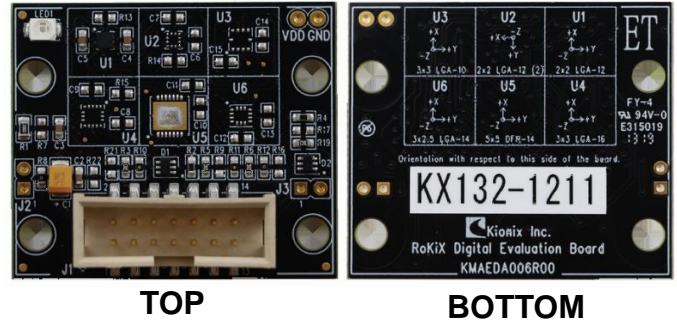Figure 3. Example RoKiX Windows GUI software window

Board Information

TOP   **BOTTOM**

Figure 4. Picture of the accelerometer board

Parts number	Function
C1	Bypass capacitor for VDD (4.7uF)
C2	Bypass capacitor for VDD (0.1uF)
C3	Bypass capacitor for IO_VDD (0.1uF)
C4	Bypass capacitor for VDD (0.1uF)
C5	Bypass capacitor for IO_VDD (0.1uF)
D1	Schottky barrier diode
D2	Schottky barrier diode
LED1	Power LED (Green)
R1	LED current control resistor (200)
R2	Pull-up Resistor for SDI/SDA (2.1k)
R3	Pull-up Resistor for CS (10k)
R4	Pull-up Resistor for SCLK/SCL (2.1k)
R5	Pull-up Resistor for SDO/ADDR (10k)
R6	Pull-down Resistor for SYNC/TRIG (10k)
R8	For measure VDD current
R10	Connect between J1-2 and CS
R11	Connect between J1-10 and SYNC/TRIG
R12	Connect between J1-12 and INT2
R19	Pull-up Resistor for RES (10k)
U1	KX132-1211 Accelerometer

Table 1. The current sensor board parts information

N o t e s

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