Accelerometer

KX134-1211-EVK-001 Manual

KX134-1211-EVK-001 is an evaluation board for KX134-1211 accelerometer. This User's Guide will show how to use KX134-1211-EVK-001 together with Accelerometer Evaluation Kit that is sold as RKX-EVK-001.

Preparation

- KX134-1211-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 Development Kit User's 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.
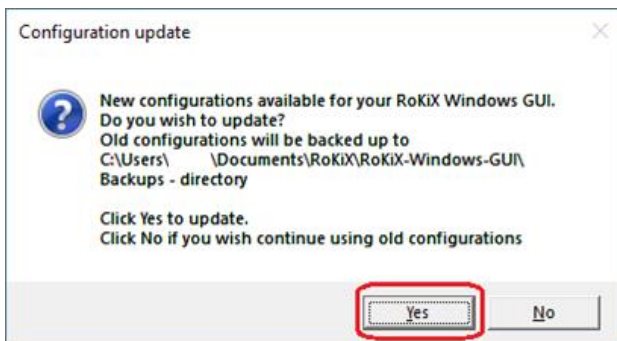

   Figure 1. Configuration update pop-up window

3. (Optional) The CY8CKIT-059 PSoC® 5LP Prototyping Kit comes preloaded with the custom firmware when purchased as part of 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 the RoKiX Development Kit User's Guide.

4. Connect KX134-1211-EVK-001 to RKX-EVK-001 directly to the 18-pin header J6 or using the provided ribbon cable.
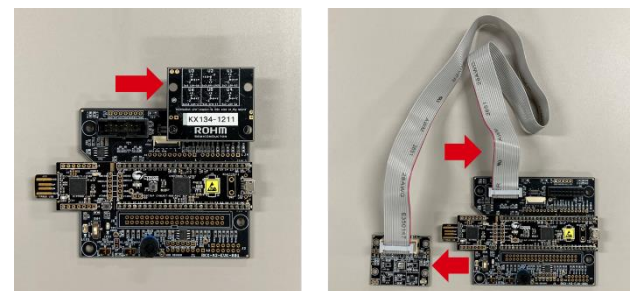
   Direct   Ribbon cable
   Figure 2. KX134-1211-EVK-001 connection

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 Development Kit 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 / I2C*

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

   KX134-1211 / Accel data 50Hz ±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 KX134-1211 sensor.

Figure 3. Example RoKiX Windows GUI software window

4. For additional details about the RoKiX Windows GUI software, please see the RoKiX Development Kit User's Guide.
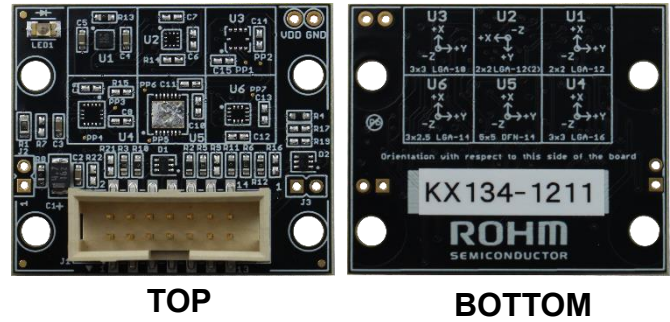
Board Information

TOP　　　　　　　　　**BOTTOM**

Figure 4. Picture of the accelerometer board

Part number	Description / Function
C1	Bulk capacitor for VDD (4.7µF)
C2	Noise decoupling capacitor for VDD (0.1µF)
C3	Noise decoupling capacitor for IO_VDD (0.1µF)
C4	U1 bypass capacitor for VDD (0.1µF)
C5	U1 bypass capacitor for IO_VDD (0.1µF)
D1	Clamp diode for I/O signals
D2	Clamp diode for I/O signals
LED1	VDD power LED (green)
R1	LED1 current limiting resistor (200Ω)
R2	Pull-up resistor for SDI/SDA (2.1kΩ)
R3	Pull-up resistor for nCS (10kΩ)
R4	Pull-up resistor for SCLK/SCL (2.1kΩ)
R5	Pull-up resistor for SDO/ADDR (10kΩ)
R6	Pull-down resistor for TRIG (10kΩ)
R8	Bypass for VDD current measurement jumper (J2)
R10	0Ω jumper for nCS
R11	0Ω jumper for TRIG
R12	0Ω jumper for INT2
R13	0Ω jumper for IO_VDD
U1	KX134-1211 accelerometer

Table 1. Build of Materials for KX134-1211-EVK-001