

USB Plug-in Card for the EVK2160A Demonstration Kit

User Guide







Section 1

Overview and Procedure

1.1 Introduction

This application note details how to set up the EVK2160A standalone evaluation board to connect to a PC using the USB plug-in card, in order to run EVK2160A demonstration software.

New users are recommended to work through the Quickstart guide to familiarise themselves with the kit and software before reading this User Guide.

For detailed information regarding these products, including the latest datasheet and demonstration software, go to www.atmel.com.

Note: This User Guide should be read in conjunction with *Software GUI for the EVK2160A Demonstration Kit* User Guide.

1.2 Getting Started

1.2.1 Components Required

The following components are required:

- 1 x EVK2160A Evaluation Board
- 1 x USB Plug-in Card 9206
- 1 x Soldering Iron
- 1 x Solder
- 1 x Tweezers
- Wire to fit

1.2.2 EVK2160A Evaluation Board

The EVK2160A Evaluation Board comprises one AT42QT2160-MMU (QT2160) with 16 channels; these are configured as 8 capacitive sensing keys and one slider, made of a further 8 capacitive sensing keys (see [Figure 1-1 on page 1-2](#)).

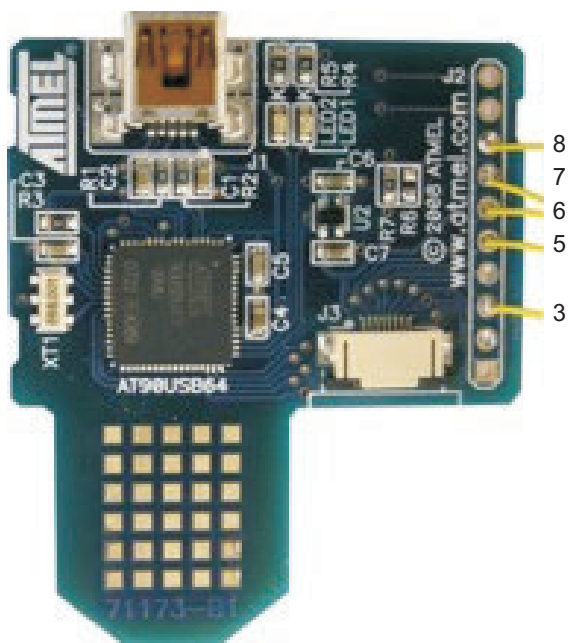
Figure 1-1. EVK2160A Evaluation Board



1.2.3 USB Plug-in Card

The USB plug-in card enables standalone evaluation boards such as the EVK2160A to connect to PC applications through a USB port, using I²C-compatible communications (see [Figure 1-2](#)).

Figure 1-2. USB Plug-in Card

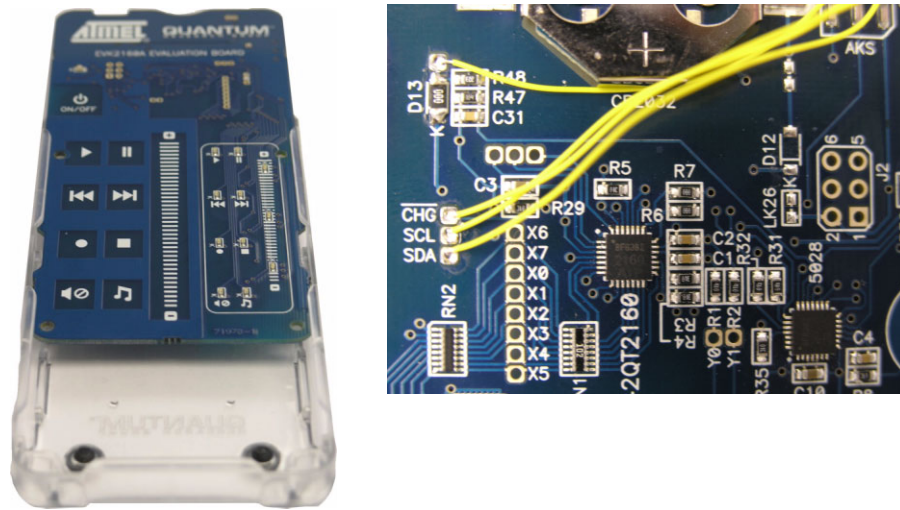


1.3 EVK2160A Preparation

The USB plug-in card is used to supply external power to the unit. To protect the unit from possible damage through cross-powering of external and battery power:

1. Slide out the EVK2160A PCB from the moulded case (see [Figure 1-3](#)).
2. Remove the battery from the EVK2160A evaluation board (if fitted).
3. Remove diode D13.
4. Remove the 0Ω resistor from D12 and fit to D13.

Figure 1-3. EVK2160A Adaptations



1.4 USB Plug-in Card Setup

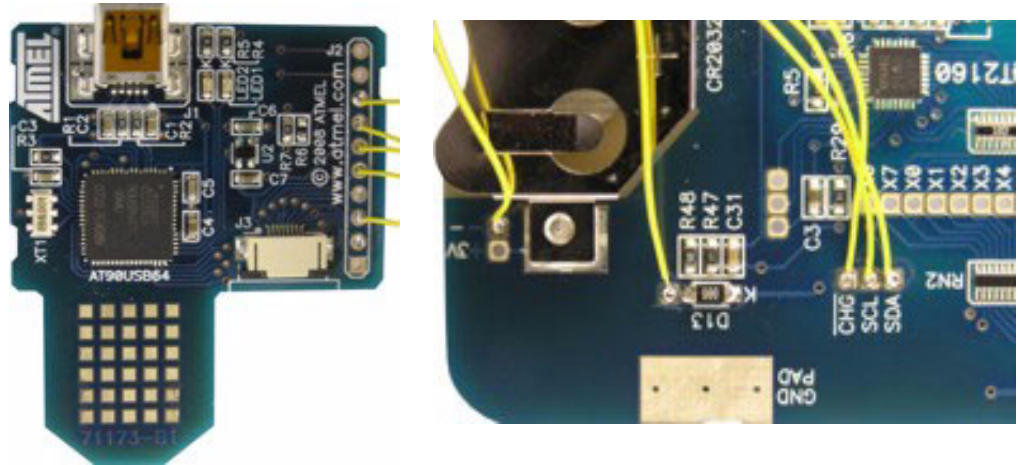
To communicate and provide power, see [Table 1-1](#) for the wires to attach between the USB plug-in card and the EVK2160A:

Table 1-1. Connections Between EVK2160A and the USB Plug-in Card

| USB Plug-in Card Connector J2 Pin* | EVK2160A |
|------------------------------------|-------------------------|
| 3 | $\overline{\text{CHG}}$ |
| 5 | SDA |
| 6 | SDL |
| 7 | D13/TP17 |
| 8 | - ve Pin or GND pad |

Note: * Pin one on J2 is denoted by a square pin (see [Figure 1-4 on page 1-4](#)).

Figure 1-4. USB Plug-in Card and EVK2160A Connections

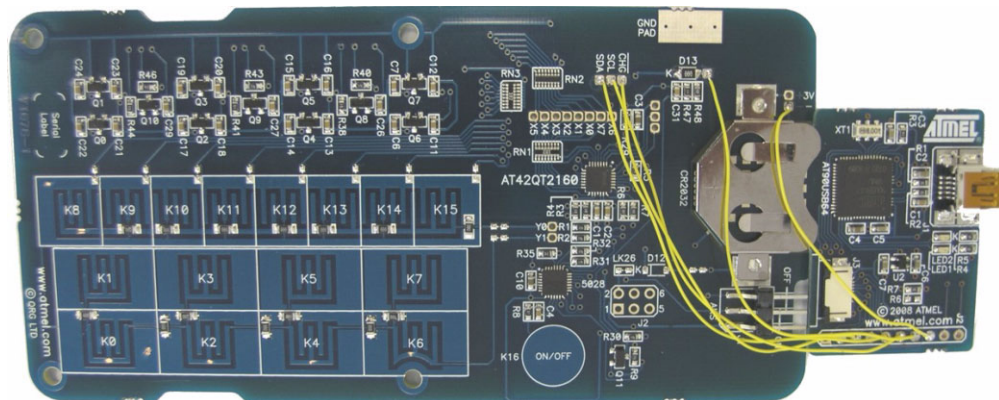


1.5 EVK2160A and USB Plug-in Card Assembly

To assemble the EVK2160A and USB Plug-in Card:

1. Slide the USB plug-in card into the battery slot on the EVK2160A PCB (see [Figure 1-5](#)).

Figure 1-5. USB Plug-in Card and EVK2160A Connections

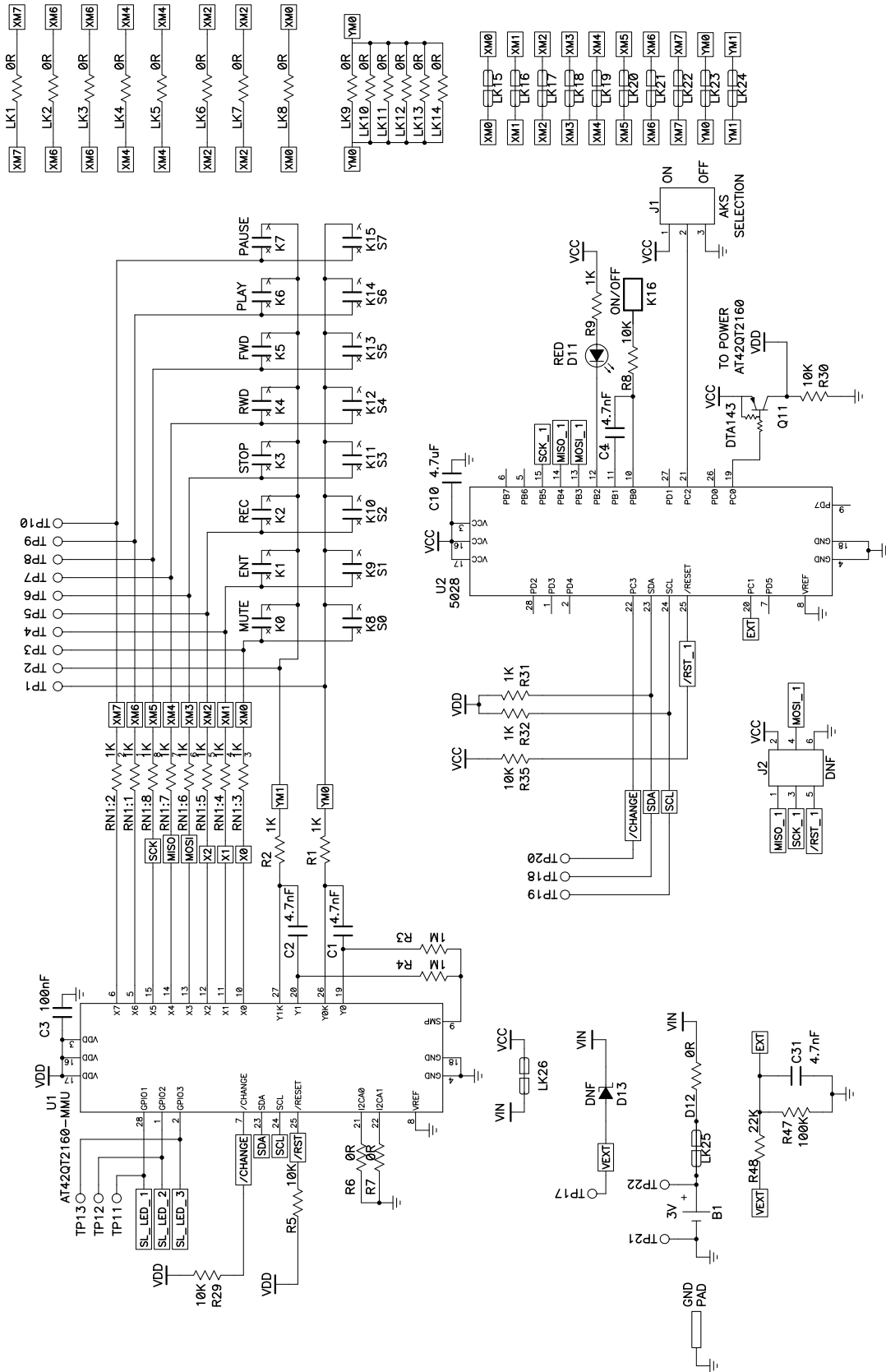


2. Slide the EVK2160A assembly into the moulded case (see [Figure 1-6 on page 1-5](#)). The assembly setup for connection to PC software is now complete.
3. Refer to the *Software GUI for the EVK2160A User Guide* for details of the software GUI interface.

Figure 1-6. USB Plug-in Card and EVK2160A Setup Complete

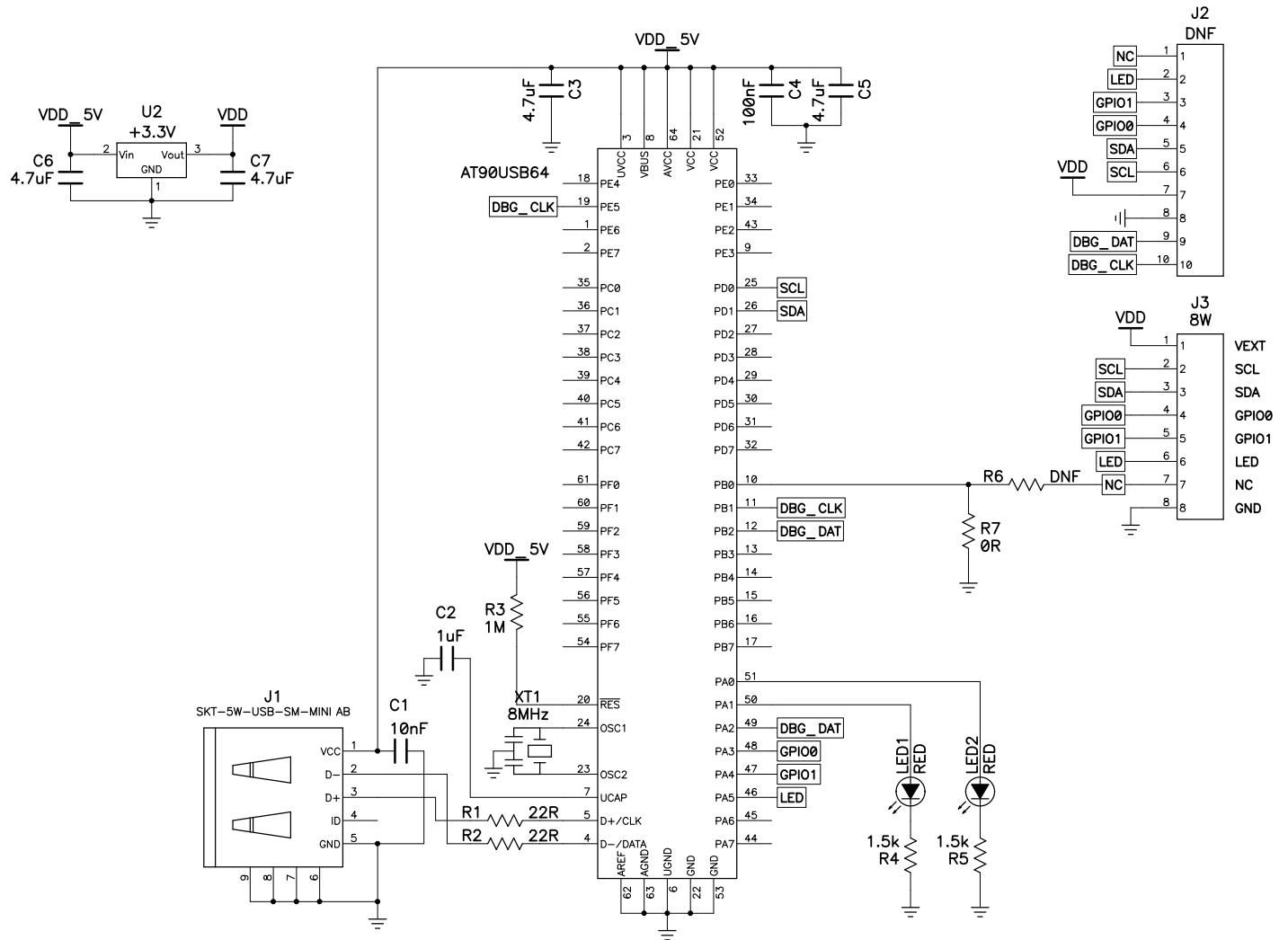


Figure 1-7. EVK2160A Demonstration Board Schematic (sheet 1 of 71078-1)



Overview and Procedure

Figure 1-9. USB Plug-in Card Schematic



Associated Documents

- User Guide – *Software GUI for the EVK2160A Demonstration Kit*

Revision History

| Revision No. | History |
|-------------------------|--|
| Revision AX – June 2009 | <ul style="list-style-type: none">• Initial version for EVK2160A (71078-1) and USB Plug-in Card (71173-B1) |





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