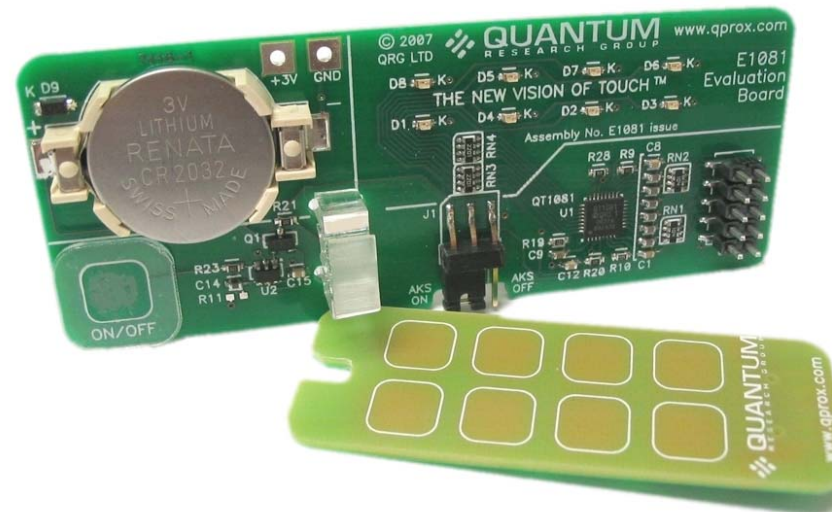
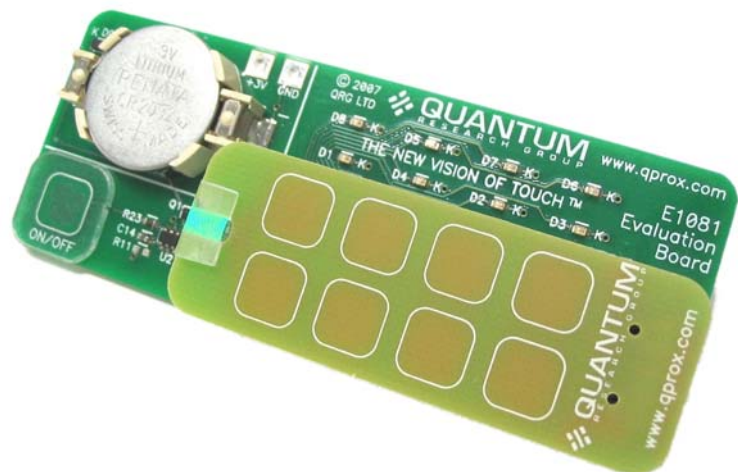


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E1081

User Manual

1 E1081 Overview

1.1 Introduction

This kit is designed for the evaluation and development of applications using the QT1081-ISG Integrated Circuit (IC). In this example the QT1081 is run in Simplified mode.

Refer also to the QT1081-ISG datasheet (see www.qprox.com/downloads).

1.2 Contents of Kit

1 x E1081 Evaluation Assembly (E1081 Main PCB and E1081 Keyboard)

1 x CR2032 Battery, 3V, 235mAh

2 x sample QT1081-ISG ICs

1 x E1081 User Manual



WARNING: if an external power supply is used then the battery **MUST** be removed

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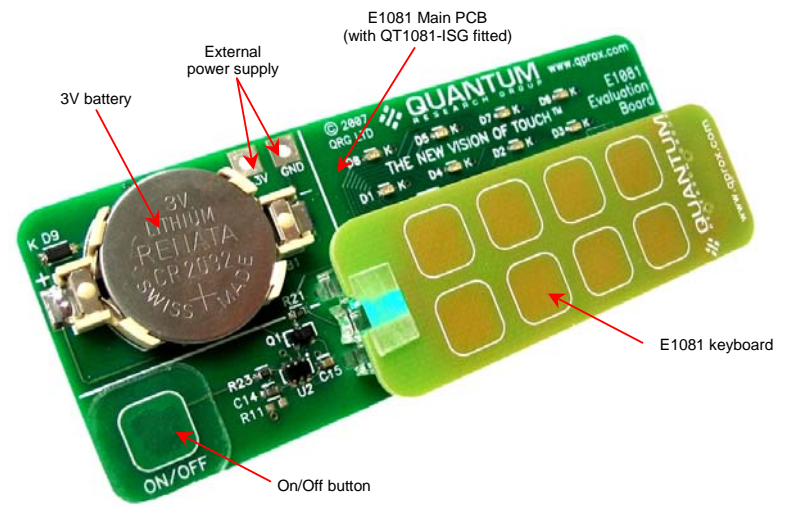


Figure 1: E1081 Evaluation Assembly

2 Setting Up and Using the E1081

The E1081 Keyboard is already fitted to the E1081 Main PCB (makes the E1081 Evaluation Assembly). To prepare the E1081 for use, proceed as follows (if replacing the E1081 Keyboard go to step 1, otherwise step 4):

1. Place the E1081 Main PCB on a flat surface.
2. Align the notch in the E1081 Keyboard with the plastic post on the E1081 Main PCB (see Figure 2).
3. Ensuring that the connector pins are in alignment, gently press the E1081 Keyboard fully onto the E1081 Main PCB.
4. Insert the battery provided into the battery holder on the E1081 Main PCB. Ensure that the battery has the correct orientation (negative side to board) or the E1081 Assembly will not work.
5. An external power supply can be used instead of a battery.



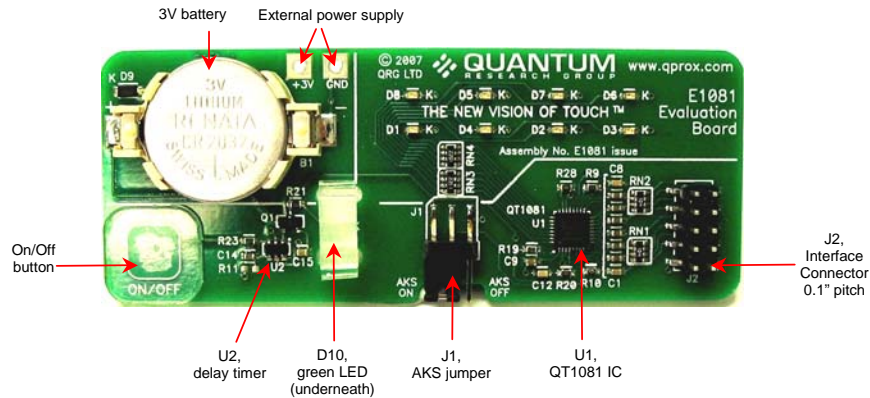
WARNING: if an external power supply is used then the battery MUST be removed.

6. Set the Adjacent Key Suppression (AKS) mode on the E1081 Main PCB (see Figure 3). If set to On, this is where the strongest signal is dominant and only the associated LED lights. When set to Off, multiple LEDs can be simultaneously lit. AKS is global, see QT1081 datasheet for details.
7. To power up the board press the ON/OFF button; the green LED (D10, located underneath the plastic post) lights. If no further action is taken the power will be disconnected after approximately 15 minutes.

4 Troubleshooting

Problem	Potential Solution
Intermittent operation or no power to E1081 Assembly	<ul style="list-style-type: none">• The 15 minute timeout may have been exceeded. Press the On/Off button to see if power is restored.• If using a battery, check that the negative side is facing to the board.• Check/change battery.• If using an external power supply, check that the correct connections have been made.
Red LED(s) stuck on	<ul style="list-style-type: none">• After changing the AKS jumpers turn the power off, and then on again.• After replacing the E1081 Keyboard turn the power off, and then on again.
AKS stays on after changing setting	<ul style="list-style-type: none">• After changing the AKS setting turn the power off, and then on again.
Incorrect LEDs light when keys touched	<ul style="list-style-type: none">• Check that the J2 connector pins on the E1081 Main PCB and E1081 Keyboard are correctly aligned.
Red LED flickering	<ul style="list-style-type: none">• Ensure keyboard PCB fitted.• Check/change battery.

3.2 E1081 Main PCB Assembly Components



WARNING: if an external power supply is used then the battery **MUST** be removed.

Figure 5: E1081 Main PCB Assembly

8. Press the buttons on the E1081 Keyboard, in any sequence, to see the appropriate LEDs light.
9. If AKS is on then only one LED at a time will light, if AKS is off then multiple LEDs can light at the same time

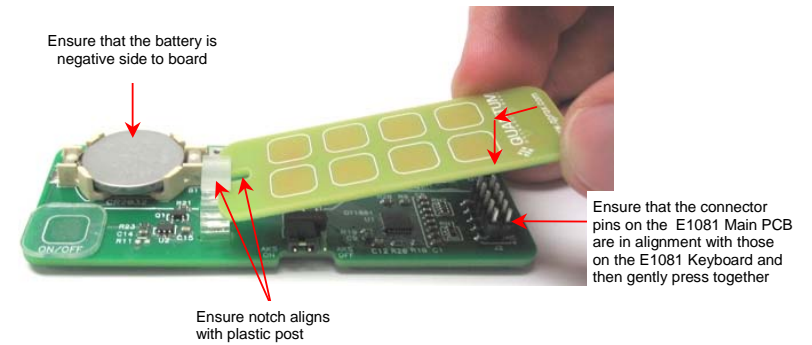


Figure 2: Fitting E1081 Keyboard onto the E1081 Main PCB

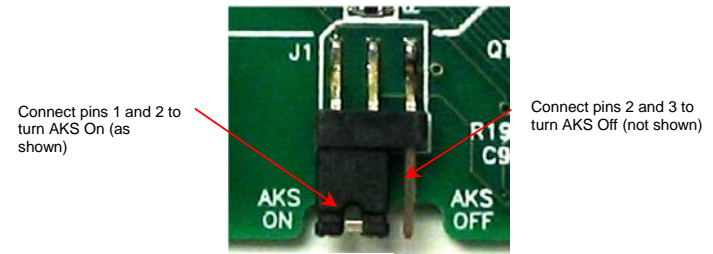


Figure 3: Setting the AKS Mode

3 E1081 Assembly Details

3.1 Main PCB Circuit Diagram

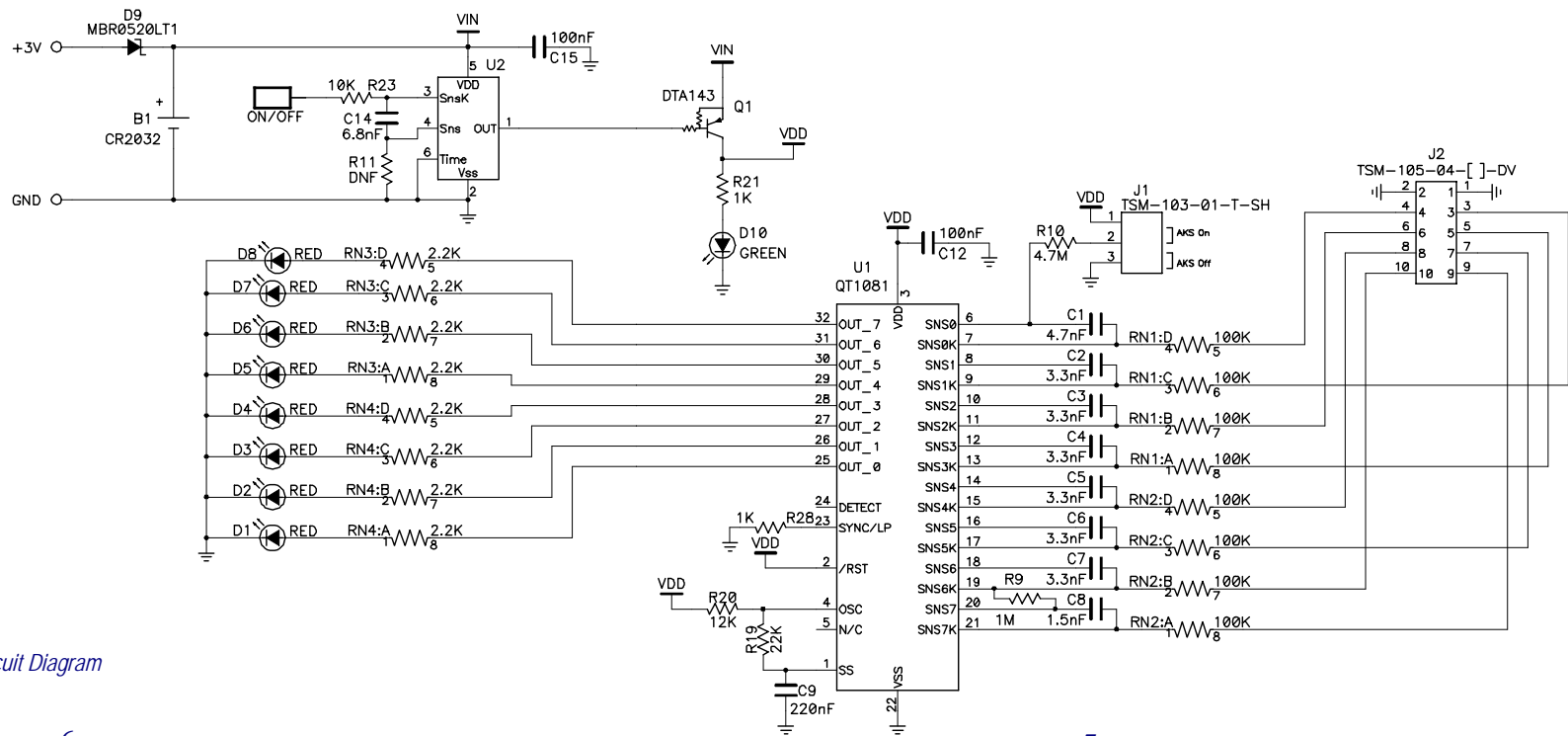


Figure 4: E1081 Assembly Circuit Diagram