



# STEVAL-ICB002V1

## Capacitive touch daughterboard based on the STMPE821

Data brief

### Features

- STM32-based STEVAL-PCC009V3 used as motherboard
- Demonstrates up to 3 capacitive touch keys
- PWM output / GPIO output features
- Multiple touch detection
- RoHS compliant

### Description

The STEVAL-ICB002V1 daughterboard is based on the STMPE821 8-channel capacitive touch key controller. This board connects to the STEVAL-PCC009V3 interface board, which acts as the motherboard, to form the STM32-based capacitive touch demonstration application designed to evaluate the functioning of the STMPE821 device.

The STMPE821 is a GPIO (general purpose input/output) port expander with a built-in capacitive touchkey controller. The device is capable of interfacing with a main digital ASIC/controller using the 2-line communication protocol I<sup>2</sup>C.

The STM32 microcontroller is used as the main digital controller to interface the STMPE821 device, and utilizes the capacitive touchkey controller, GPIO controller and PWM controller features of the STMPE821 in the application.

The STMPE821 device controls 3 different touchkeys using the integrated capacitive touchkey controller. Touch events are indicated on LEDs using the GPIO controller, and the corresponding PWM frequency is generated on a separate LED using the PWM controller.

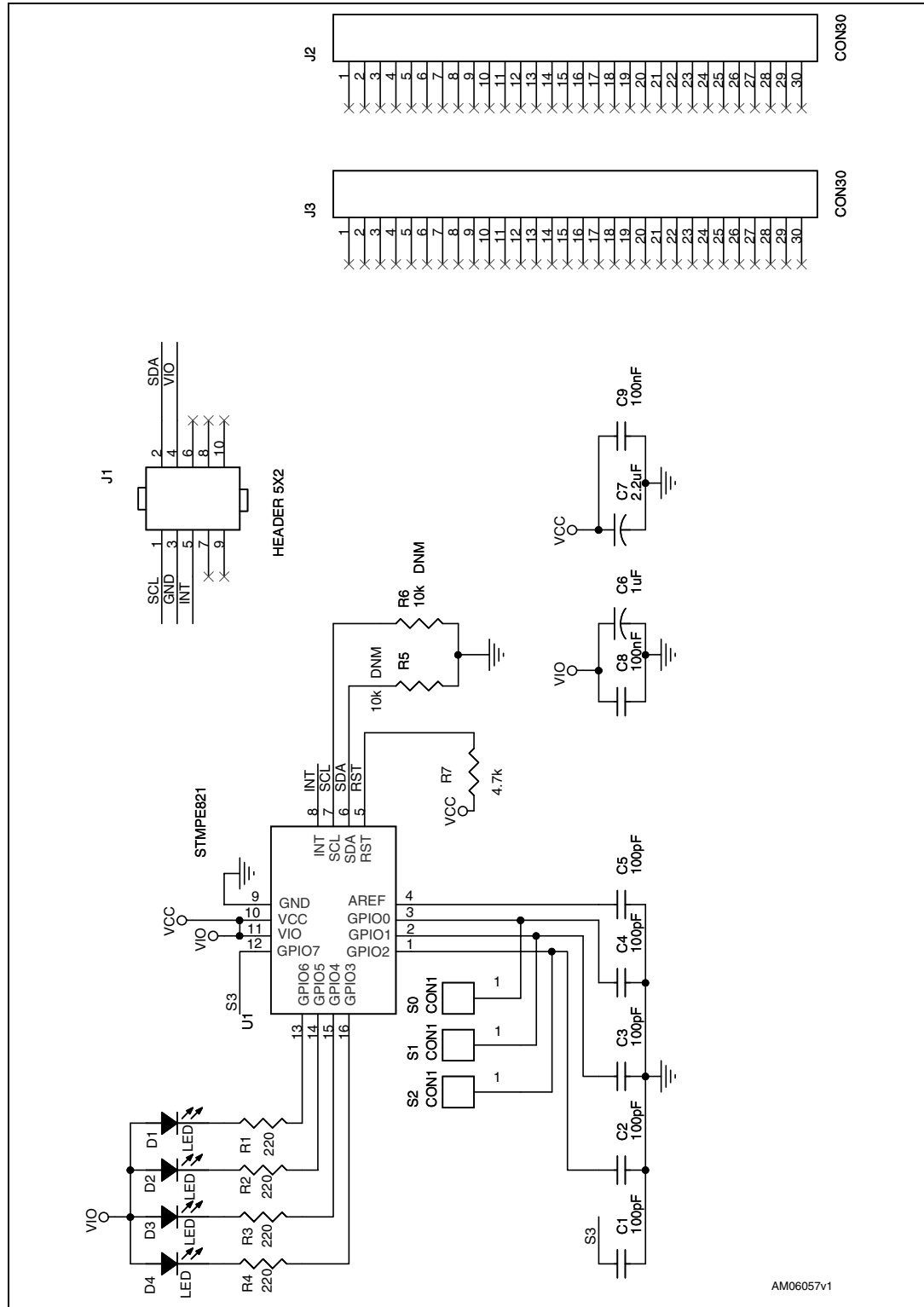
The STM32-based STEVAL-PCC009V3 interface board acts as motherboard for the application and connects to the STEVAL-ICB002V1 via a 10-pin connector.



Power to the interface board (motherboard) is provided from a USB Mini-B type connector. The daughterboard is powered from the motherboard via the 10-pin connector.

# 1 Schematic diagram

Figure 1. STEVAL-ICB002V1 daughterboard circuit schematic



## 2 Revision history

Table 1. Document revision history

Date	Revision	Changes
25-Feb-2010	1	Initial release.

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