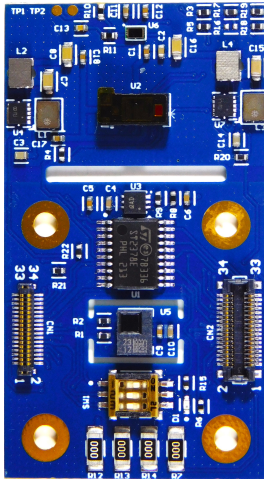


Presence detection add-on for STWIN.box



Features

- Kit content:
 - STEVAL-PDETECTS1 board
 - TMOS long range Fresnel lens: TMOS63-10
 - Plastic case for TMOS63-10 Fresnel lenses
 - Time-of-Flight cover glass: IR136C0-IC09-A066
 - STEVAL-FLTCB03 flex cable
- Compatible with STEVAL-STWINBX1 (not included)
- Key sensor products:
 - VD6283TX ambient light sensor
 - VL53L8CX FlightSense sensor
 - STHS34PF80 infrared sensor for motion and presence detection
- Ready to use data logging application

Description

The **STEVAL-PDETECT1** is a presence detection add-on evaluation kit for STWIN.box, targeting human presence applications. It enables low-power applications, user privacy, and it reduces false triggers with multisensor modalities.

It is possible to use simultaneously up to three add-on boards in a daisy-chain configuration.

The kit is based on three sensors: **STHS34PF80**, **VL53L8CX**, and **VD6283TX**.

The **STHS34PF80** sensor has been designed to measure the amount of IR radiation emitted from an object within its field of view. The information is digitally processed by the ASIC, which can be programmed to monitor motion, presence, or an overtemperature condition.

The **VL53L8CX** is a multizone (either 4x4 or 8x8) ToF ranging sensor, which enhances performance under ambient light with a reduced power consumption. Based on STMicroelectronics' FlightSense technology, the sensor is designed to provide accurate ranging up to 400 cm with a 65° diagonal field of view (FoV).

The **VD6283TX** (1.83 x 1.0 x 0.55 mm) is ST's new color sensor with advanced light flicker extraction. Light measurement is fast and accurate thanks to an individual ADC and a readout for each color channel. The **VD6283TX** uses hybrid color filters with precise responses allowing accurate computation of the correlated color temperature (CCT) and Lux information. The **VD6283TX** can be used for display brightness management or scene light correction.

Product summary	
Presence detection add-on for STWIN.box	STEVAL-PDETECT1
Low-power, high-sensitivity infrared (IR) sensor for presence and motion detection	STHS34PF80TR
Low-power high-performance 8x8 multizone Time-of-Flight sensor (ToF)	VL53L8CXV0GC/1
Hybrid filter multispectral sensor with light flicker engine (Ambient Light Sensor)	VD6283TX45/1
STM32Cube function pack for high speed datalogging and ultrasound processing	FP-SNS-DATALOG2
Applications	Presence Sensing

Schematic diagrams

Figure 1. STEVAL-PDETCS1 circuit schematic

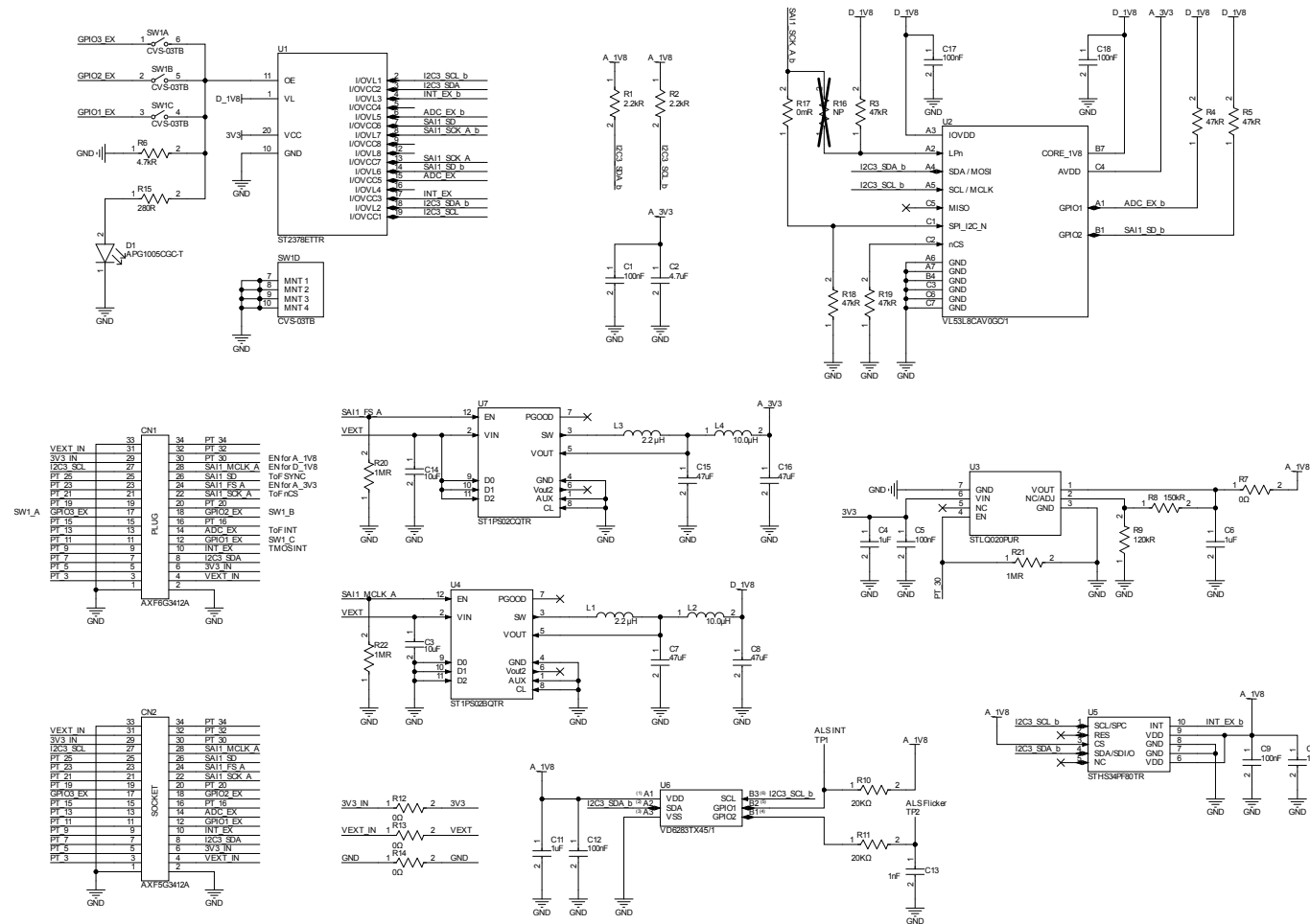
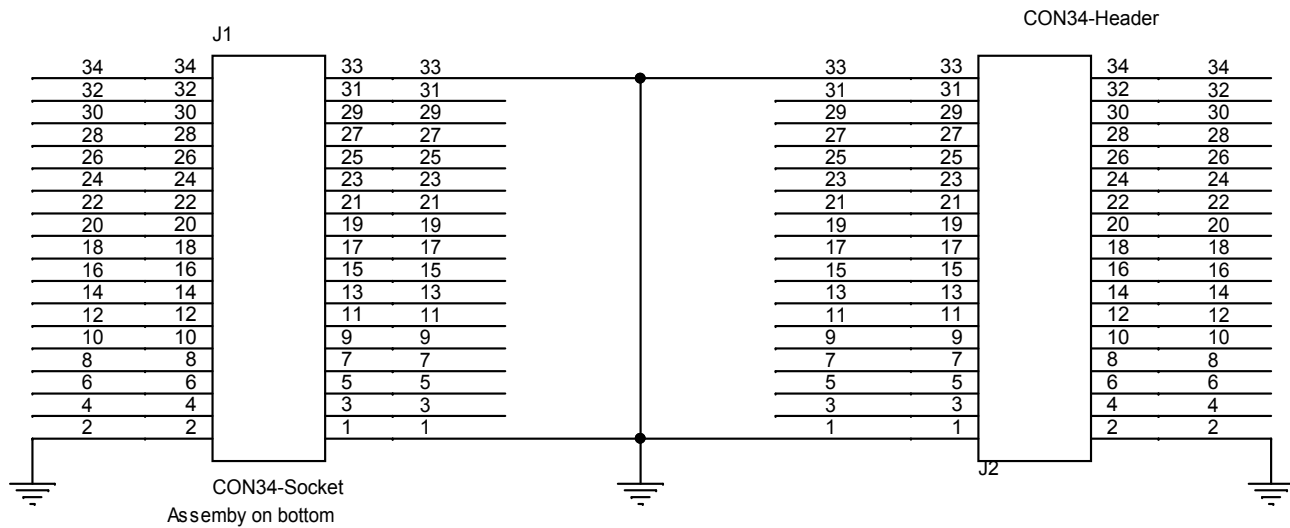


Figure 2. STEVAL-FLTCB03 circuit schematic



2 Kit versions

Table 1. STEVAL-PDETECT1 versions

PCB version	Schematic diagrams	Bill of materials
STEVAL\$PDETECT1A ⁽¹⁾	STEVAL\$PDETECT1A schematic diagrams	STEVAL\$PDETECT1A bill of materials

1. This code identifies the STEVAL-PDETECT1 evaluation kit first version. The evaluation kit with order code STEVAL-PDETECT1 contains the boards STEVAL\$PDETC1A and STEVAL\$FLTCB03A.

Revision history

Table 2. Document revision history

Date	Revision	Changes
01-Mar-2024	1	Initial release.

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