

## Secure element expansion board based on STSAFE-A110



### Features

- On-board **STSAFE-A110** customized with a standard evaluation profile
- HE10 extension connector to mount additional STSAFE devices
- Arduino UNO R3 connector
- Free drivers, middleware and software samples compatible with the **STM32 ODE**
- RoHS and WEEE compliant

### Description

The **X-NUCLEO-SAFEA1** expansion board is based on the **STSAFE-A110** secure element. It can be used with any **STM32 Nucleo** development board.

The on-board **STSAFE-A110** is customized with a standard profile for evaluation and is compatible with the Arduino UNO R3 connector.

The **X-NUCLEO-SAFEA1** expansion board is used with free **X-CUBE-SAFEA1** or **X-CUBE-SBSFU** software packages containing sample code to demonstrate how to implement security applications.

Product summary	
Secure element expansion board based on STSAFE-A110	X-NUCLEO-SAFEA1
Authentication and brand protection secure solution	STSAFA110DFSPLO2 STSAFA110DFSPLO3
Provides drivers, middleware and several code examples to demonstrate the features of the STSAFE-A110 device from a STM32 host microcontroller	X-CUBE-SAFEA1
Secure boot and secure firmware update software expansion for STM32Cube	X-CUBE-SBSFU

# 1 Schematic diagrams

Figure 1. X-NUCLEO-SAFEA1 circuit schematic - STSAFE-A chips

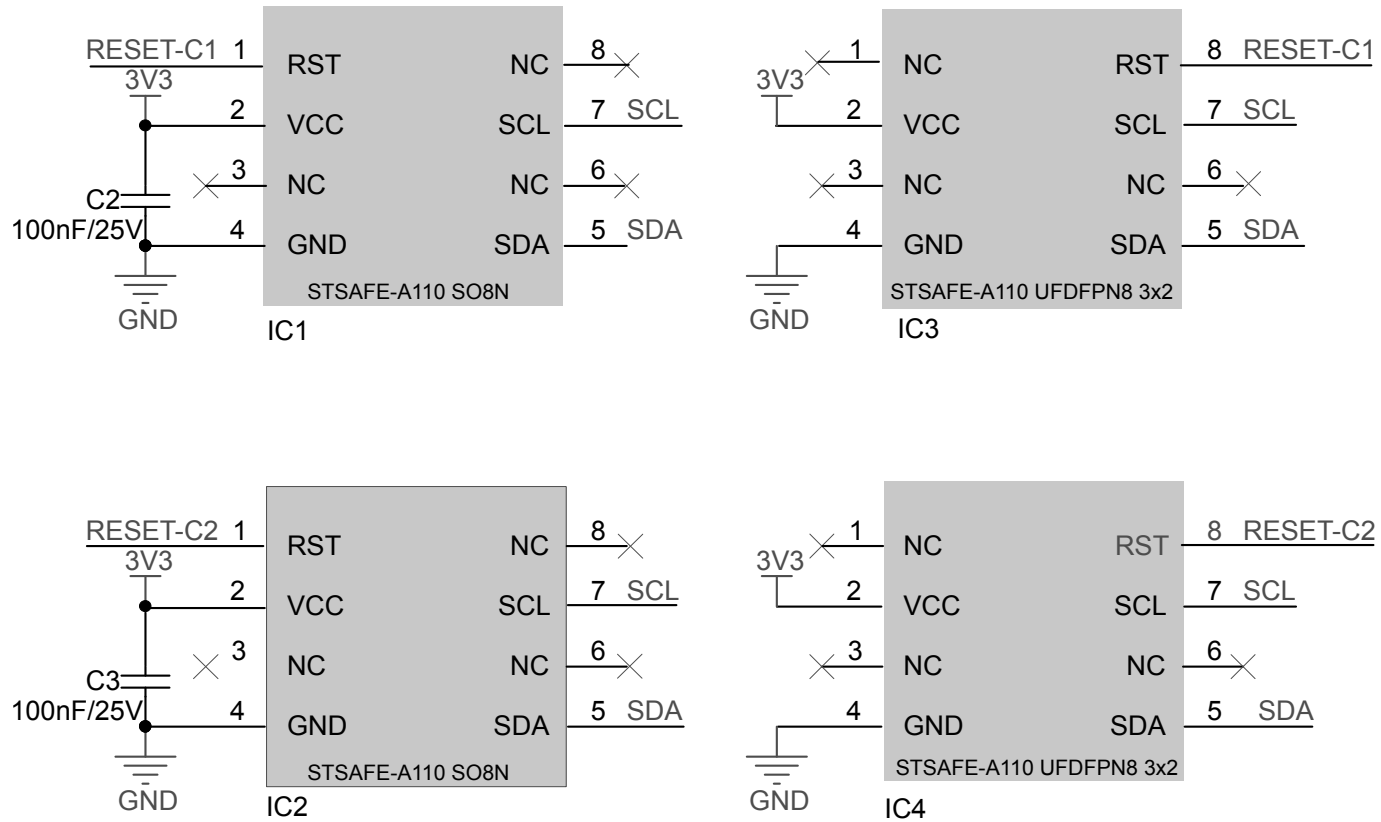


Figure 2. X-NUCLEO-SAFEA1 circuit schematic - Arduino and morpho connectors

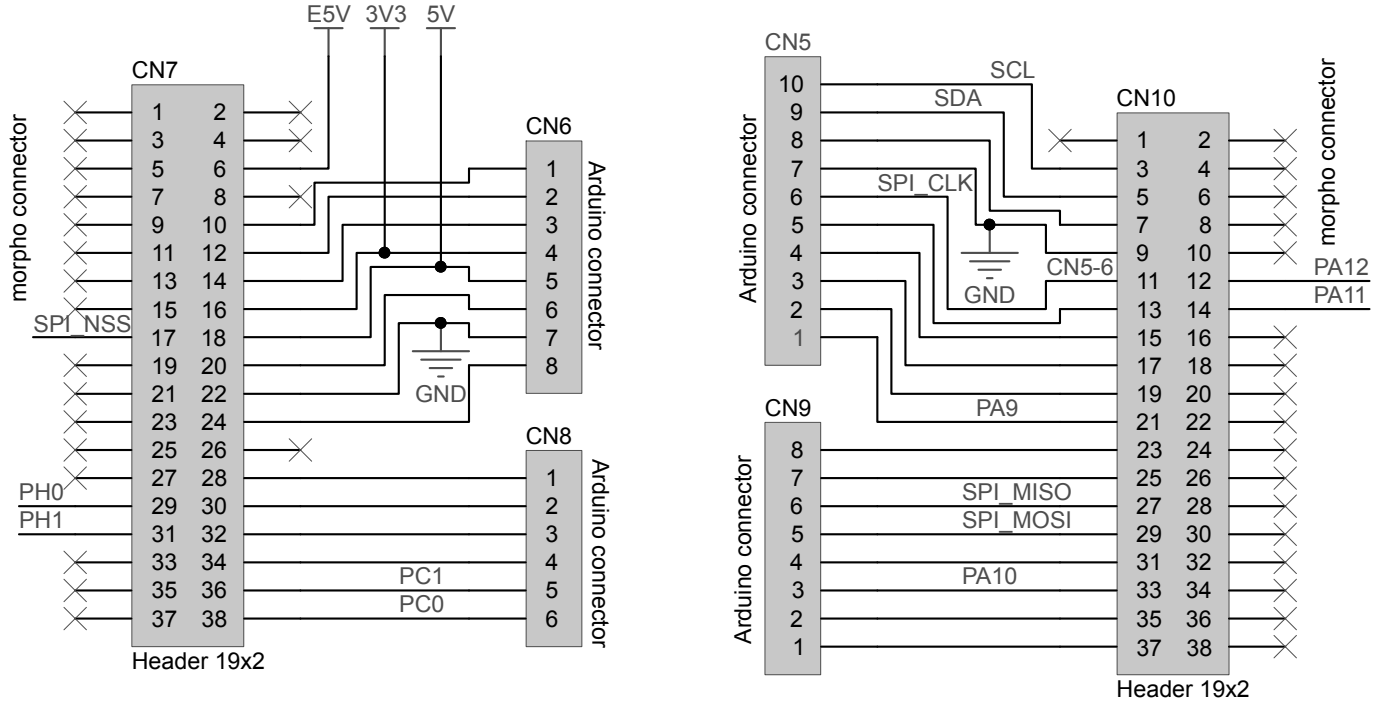
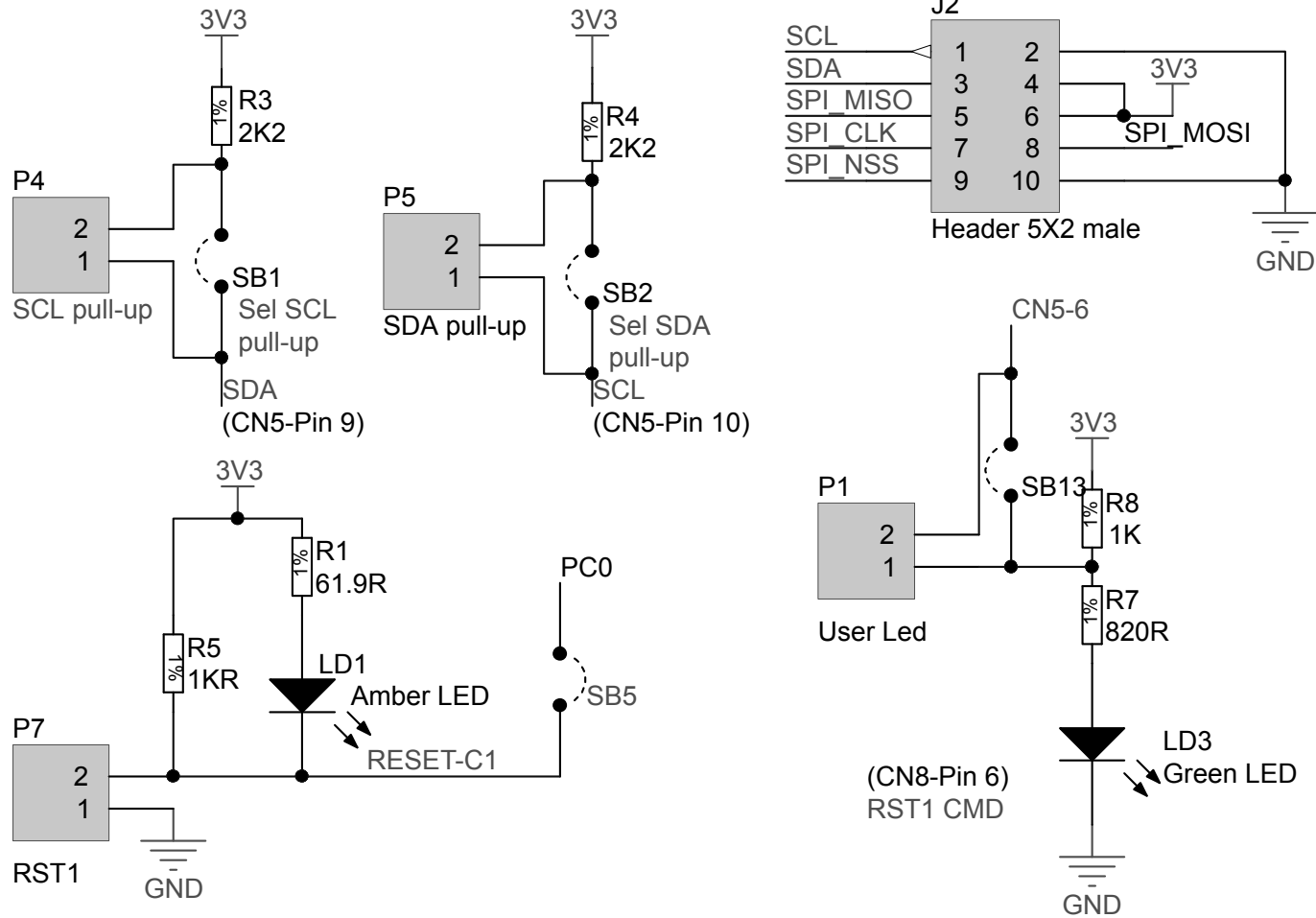


Figure 3. X-NUCLEO-SAFEA1 circuit schematic - LEDs and jumpers



## 2 Board versions

**Table 1. X-NUCLEO-SAFEA1 versions**

RPN	CPN	Finished good	Order code STSAFE-A110	Schematic diagrams	Bill of materials
X-NUCLEO-SAFEA1	X-NUCLEO-SAFEA1A	X\$NUCLEO-SAFEA1A	STSAFA110DFSPL02	X\$NUCLEO-SAFEA1A schematic diagrams	X\$NUCLEO-SAFEA1A bill of materials
	X-NUCLEO-SAFEA1B	X\$NUCLEO-SAFEA1B	STSAFA110DFSPL03	X\$NUCLEO-SAFEA1B schematic diagrams	X\$NUCLEO-SAFEA1B bill of materials

## Revision history

**Table 2. Document revision history**

Date	Version	Changes
11-Oct-2019	1	Initial release.
14-Jan-2020	2	Updated information to reflect upgraded STSAFE-A110 device Added X-CUBE-SAFEA1 software compatibility information Minor text edits
28-Jun-2023	3	Updated cover image. Added <a href="#">Section 2 Board versions</a> .

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