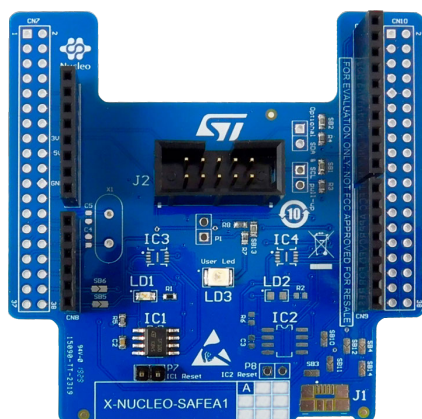


## Secure element expansion board based on STSAFE-A110



### 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.

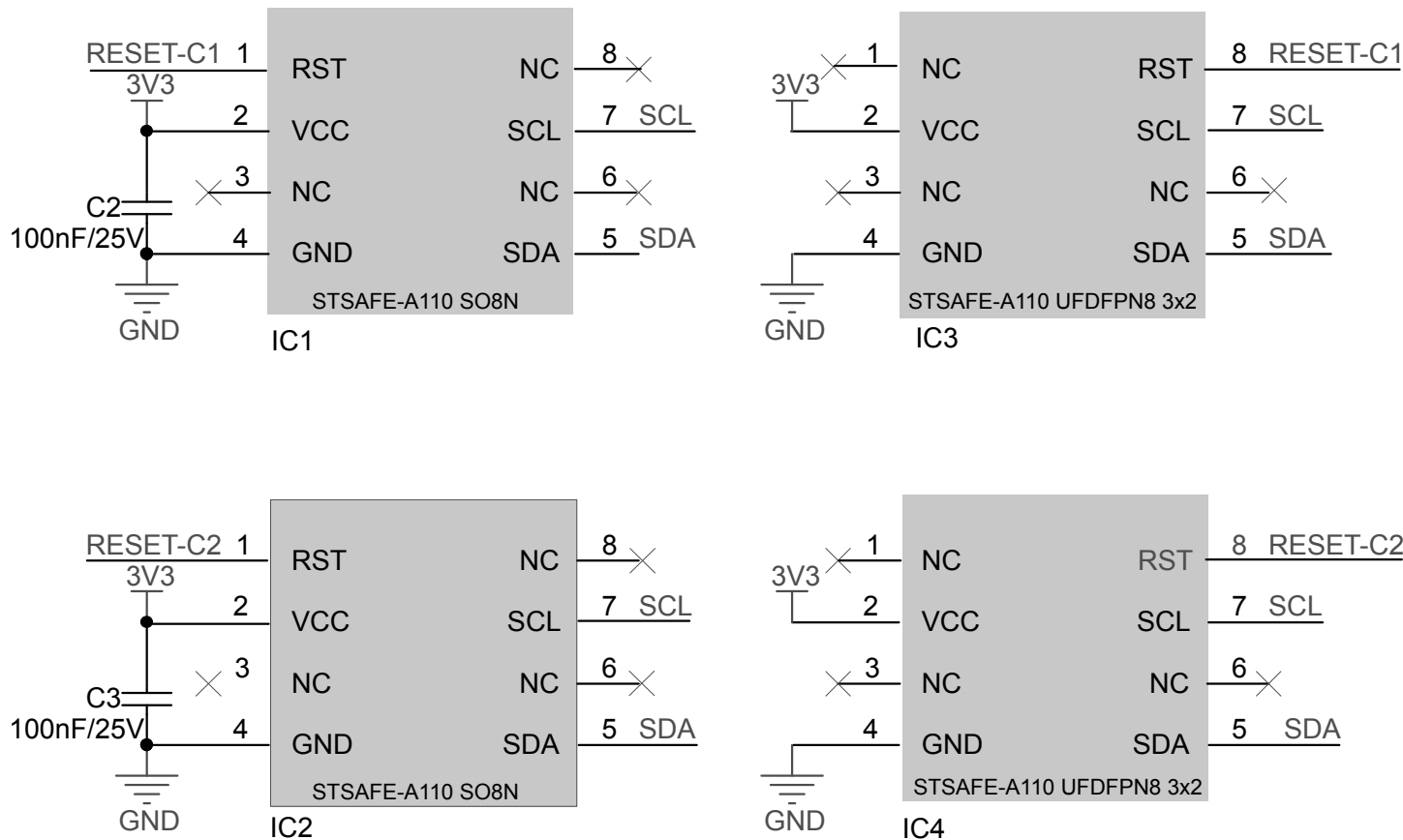
The [X-NUCLEO-SAFEA1](#) expansion board is used with free [X-CUBE-SAFEA1](#) or [X-CUBE-SBSFU](#) software packages containing sample code to demonstrate how to implement security applications.

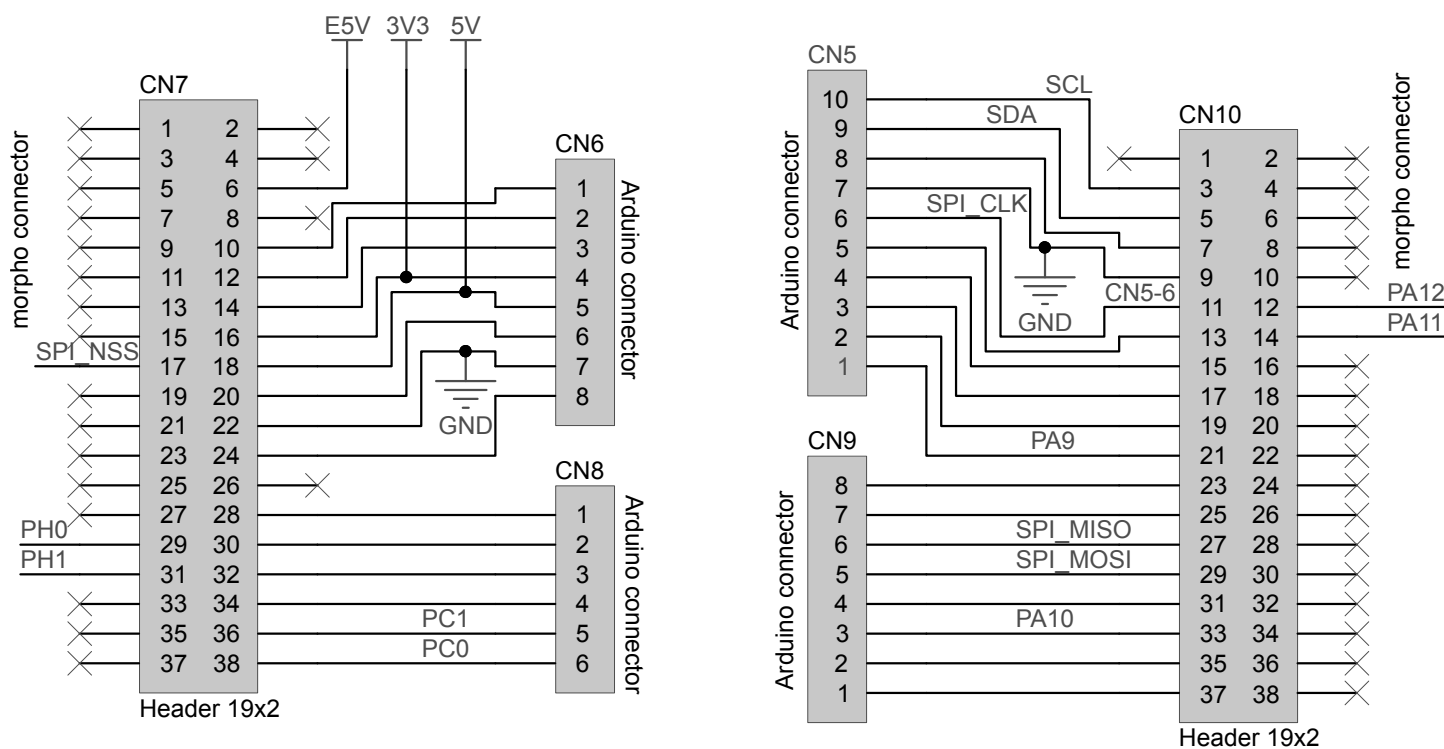
#### Product summary

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

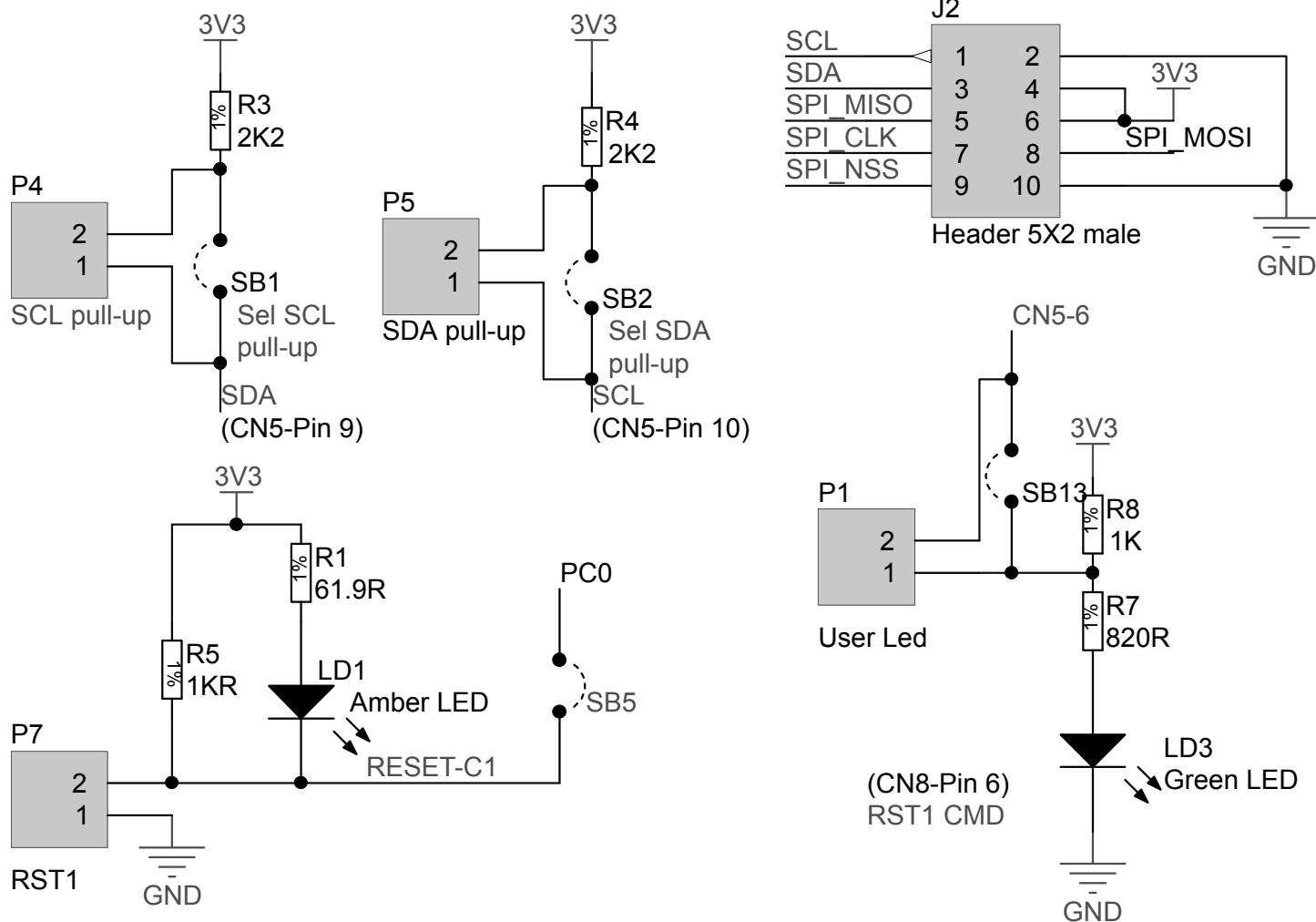
## 1 Schematic diagrams

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**



## Revision history

**Table 1. 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

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