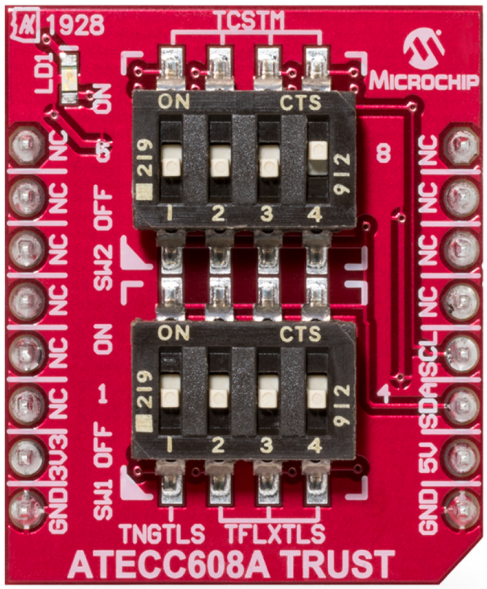
ATECC608A Trust Development Kit

Introduction:

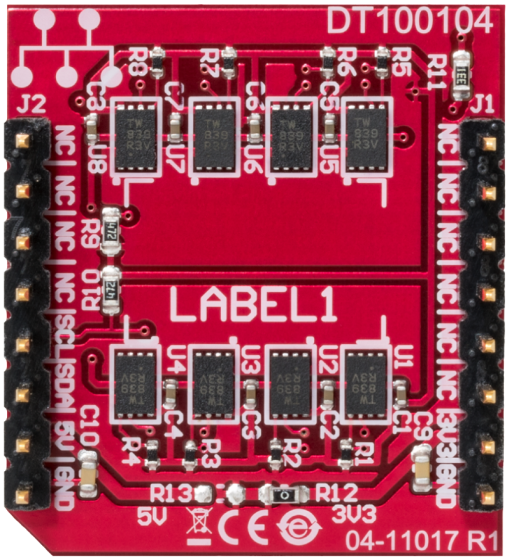
The ATECC608A trust is an add-on board for the CryptoAuth Trust Platform and other Microchip development platforms that contain a mikroBUS header. The board supports a mikroElectronica header that connects to any board that has a mikroBUS connection. This board provides an alternative to the sample units that require a socket board for doing the initial development and testing.

The ATECC608A Trust contains the ATECC608A secure elements – Trust&GO, TrustFLEX and TrustCUSTOM. This provides a user the ability to develop solutions with any of these secure elements based on the requirements of the application. The user guide provides a physical overview of the connections and switch setting implemented on the board

Fig 1: Top and Bottom view of ATECC608A Trust



Top View



Bottom View

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1. Device Description:

The ATECC608A trust consists of 8 ATECC608A secure elements:

- 1 Trust&GO
- 3 TrustFLEX
- 4 TrustCUSTOM

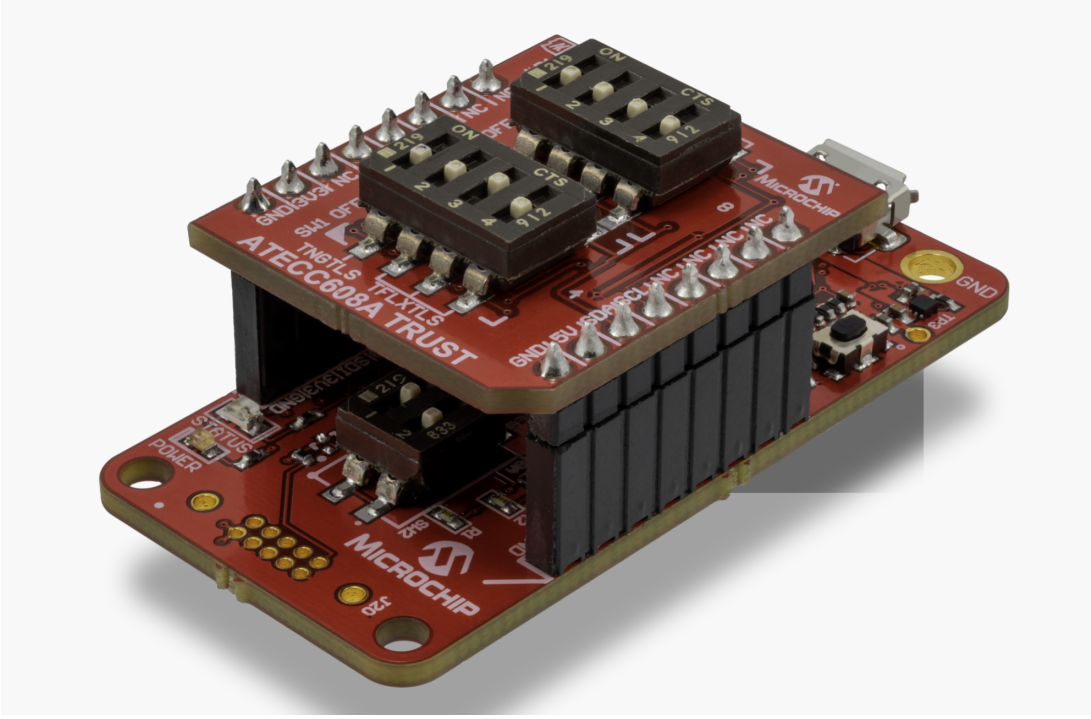
When used with the CryptoAuth Trust Platform the dip switch settings must disconnect the onboard secure elements and enable the mikroBus header. This setting is highlighted below.

SW2_1	SW2_2	On-Board Devices (Trust Platform)	mikroBUS Header
ON	ON	Yes	Yes
OFF	ON	Yes	No
ON	OFF	No	Yes
OFF	OFF	No	No

1.1 Connecting a device:

- The ATECC608A Trust board has an I^2C connection through the mikroBUS header that will enable it to connect to the mikroBUS host header present on the Trust Platform or any of the PIC / AVR / SAM host development boards that have a mikroBUS header.

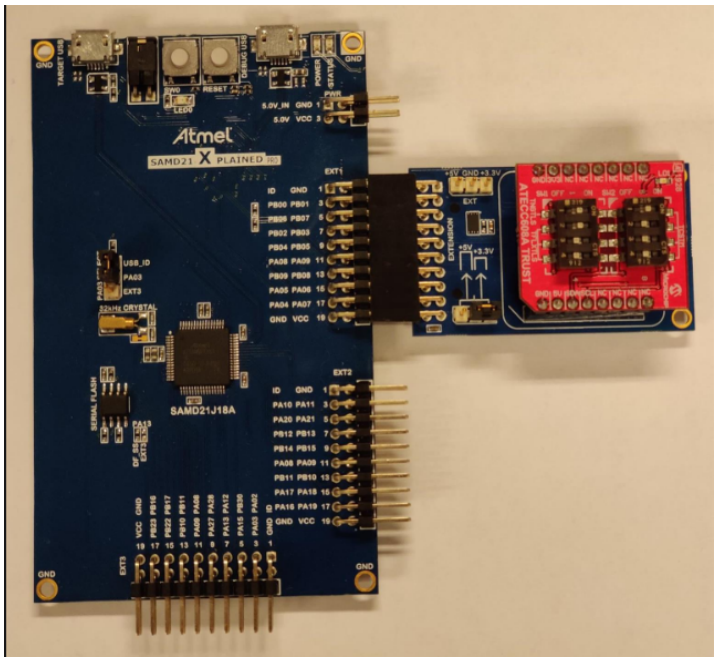
Fig 1.1.1: Connecting the ATECC608A Trust to the CryptoAuth Trust Platform.



Note: Make sure that the angled line on the host board is aligned with the angled edge of the connector for the correct orientation of the board

- The ATECC608A Trust can also be connected to a Microchip XPLAINED PRO boards using the [ATMBusAdapter-XPRO mikroBus to XPRO adapter board](#).

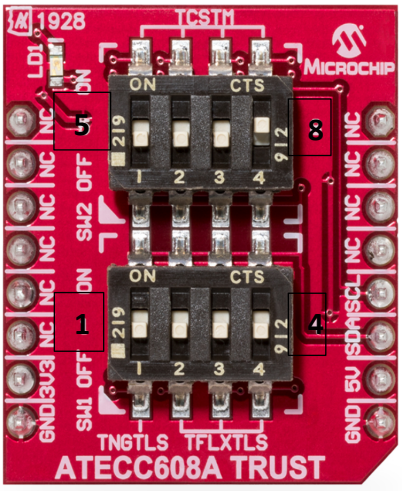
Fig 1.1.2: Connection to SAM Boards



1.2 Selecting a device:

Each secure element has a switch connection that enables the user to select the IC. Slide the DIP switch to the ON state to enable device selection. Device selection is done by connecting the SDA line through the dip switch. SCL Signals of all 8 devices are connected. Note that the switch number corresponds to the device number U# on the back of the board.

Fig 1.2.1: DIP Switch Numbers



Switch #	Dip Switch	SECURE ELEMENTS
SW2	5,6,7,8	TrustCUSTOM
SW1	1 2,3,4	Trust&GO TrustFLEX

Note: Multiple devices with different I²C addresses can be selected for development purposes. For example: 1 Trust&GO and 1 TrustFlex device may be enabled at the same time. Selecting two devices having the same I²C address leads to line contention issues and will fail. It is recommended that only one device ever be selected at the same time.

2. Kit Ordering Information:

MCHP DevKit Number: DT100104

Part Name: ATECC608A Trust
Dev Kit Page: *URL*

3. Supporting Host Boards:

Microchip is a strong support of MikroElektronika and the mikroBUS interface. Many of the development platforms that Microchip creates will support one or more mikroBus interfaces. These include:

- Microchip Explorer 16/32 Development Board
- MPLAB Xpress Evaluation Board
- Automotive Networking Development Board
- PIC Curiosity boards
- PIC Nano Curiosity Boards
- AVR Nano Curiosity Boards

4. Documentation:

Additional documentation for the board can be found on the kit website for DT100104

This includes:

1. Board Schematics
2. Gerber Files
3. Use case Tools
4. CryptoAuth Trust Platform - *URL*