



# **MICROCHIP**

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***Regional Training Centers***

**Section 3**

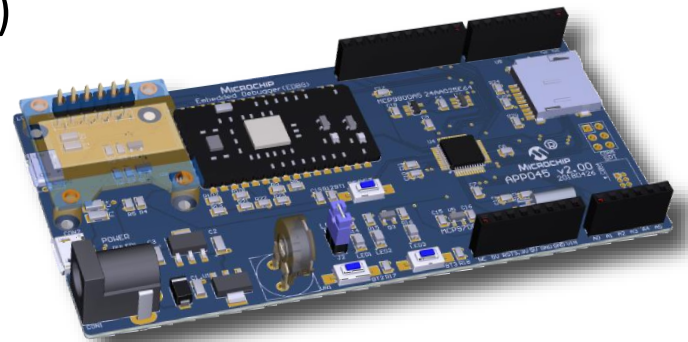
**EVB APP045 v2.00** (SAMD21)

**Introduction**

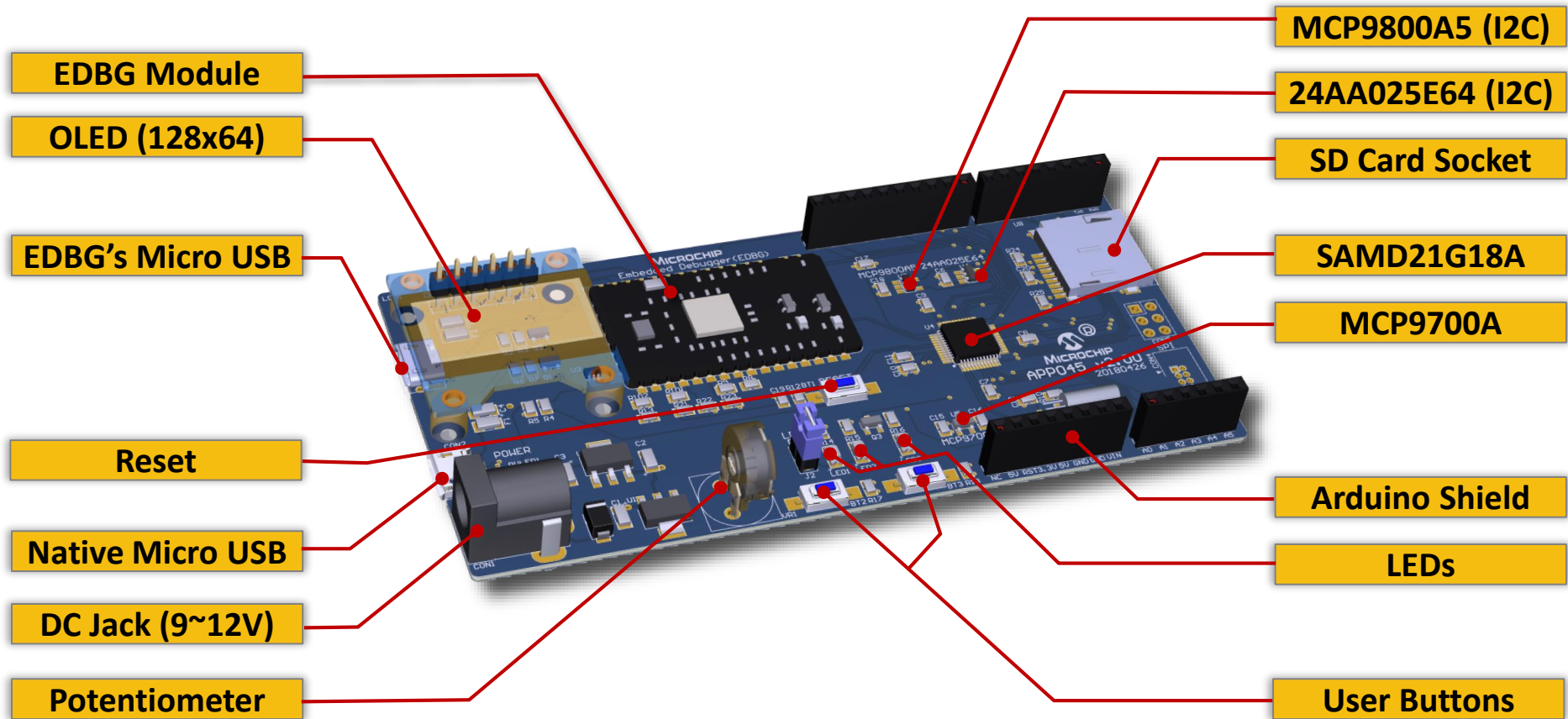
# APP045 EVB Features

## ■ APP045 v2.00

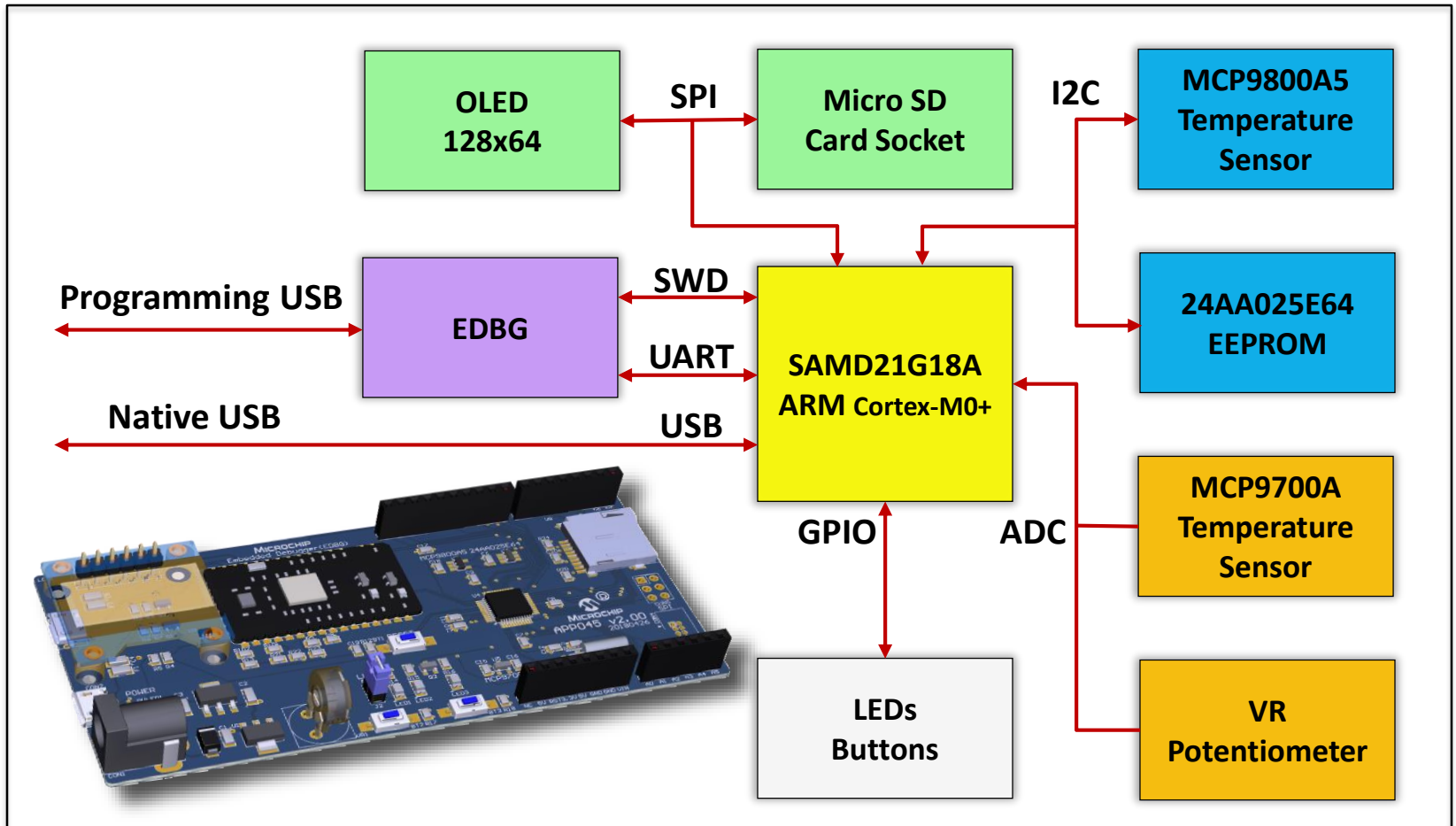
- On board **SAMD21G18A** 32Bit ARM Cortex M0+ Microcontroller
- Built-in **Embedded Debugger (EDBG)** module  
Provide Programming & Debugging function for SAMD21  
Provide Virtual COM port (CDC bridge)
- **Multiple Power Supply Source**  
Programming USB Port  
Native USB Port  
DC Jack (DC 9 ~ 12V)
- **2 x Buttons, 3 x LEDs**
- **1 x Potentiometer(VR), 1 x Analog Temperature Sensor**
- **1 x I2C Temperature Sensor, 1 x I2C EEPROM with Unique ID**
- **1 x SPI OLED (128 x 64, SSD1306 Compliant)**
- **1 x MicroSD Socket (use SPI interface)**
- **Arduino M0 Pro** board Compliant with Arduino Shield Connector



# Overview



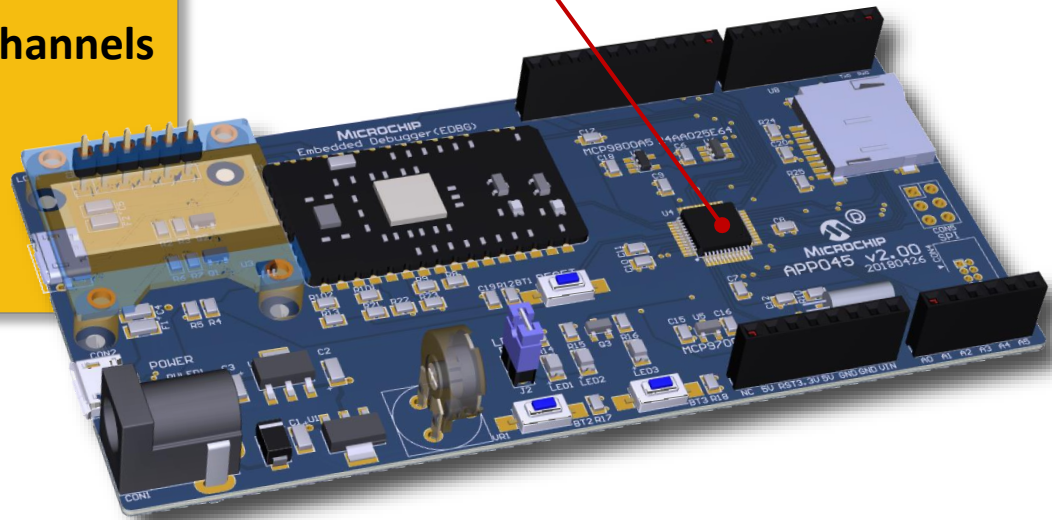
# Block Diagram



# Controller Spec.

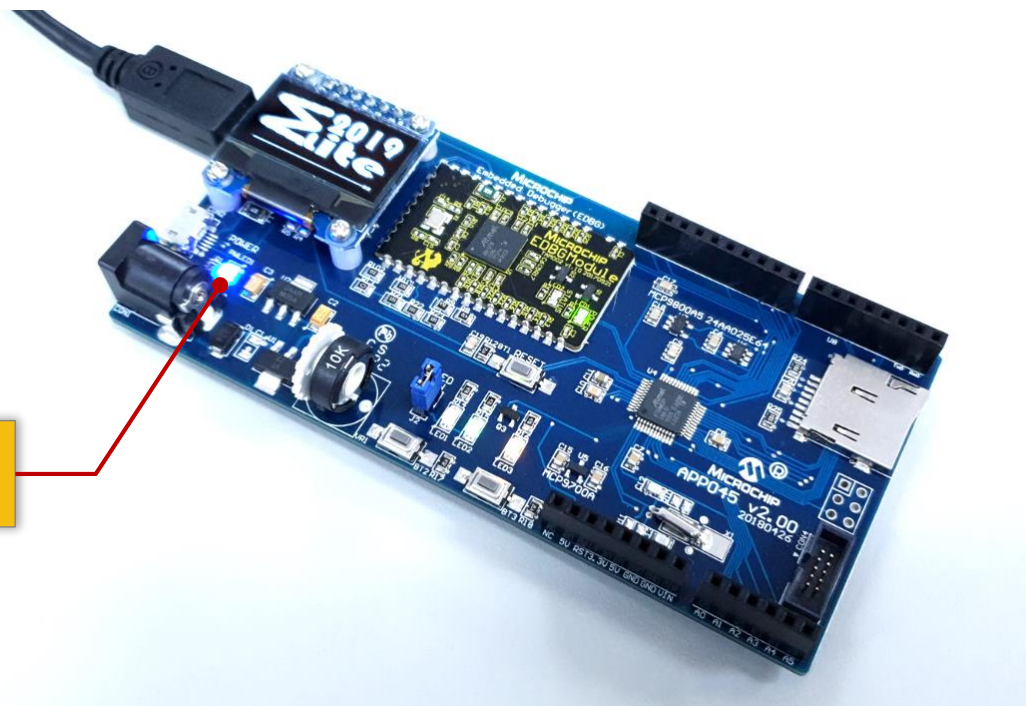
## **SAMD21G18A**

**ARM Cortex-M0+, 48MHz**  
**256KB Flash, 32KB SRAM**  
**12 x DMA**  
**12 x Event System**  
**5 x 16 Bits Timer/Counter**  
**3 x 24 Bits Timer/Counter/Capture**  
**1 x 32 Bits RTC, CRC**  
**6 x SERCOM (I2C, SPI, USART)**  
**1 x 12 bits ADC (350KSPS) up to 20 channels**  
**1 x 10 bits DAC (350KSPS)**  
**2 x Analog Comparators**  
**256 x PTC**  
**38 GPIO**



# Power On & Getting started

- Just plug-in micro USB cable to Programming USB port and confirm the Power LED (PWLED1) has lighting.
- OLED & LEDs will show preloaded demo firmware.



Blue power LED  
must light.