

IOT-AT3080

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Date:2018-Mar.-23

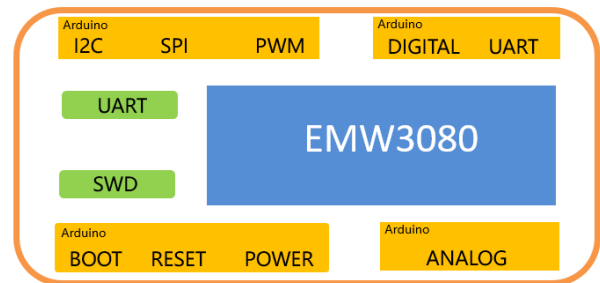
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Abstract



Hardware diagram

IOT-AT-EXT3080 Block Diagram



IOT-AT3080 development board, external Arduino standard interface, built-in AT command, one-click direct connection to various cloud platforms, simple and flexible, easy to get started. Currently supporting cloud platforms: Alibaba Cloud Alink, SDS, MXCHIP Cloud Fog,e Cloud Gome.

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Hardware

- Module EMW3080
 - Integrated Wi-Fi and Cortex-M4F MCU
 - Support main frequency up to 133M and 256K RAM
 - Optional PCB antenna and external antenna
- Standard Arduino interface
- User UART serial port
- Firmware burning port
- Button:
 - Reset
 - Easylink distribution network
 - Operation voltage: DC 1.8 V~3.6V

Version update instructions

Date	Version	Updated content
2018-3-23	1.0	Initial document

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1. Introduction

The IOT-AT3080 is an AT-based wireless module development board developed by MXCHIP.

The standard Arduino interface is provided externally to support the peripheral debugging function based on the Arduino interface while quickly adding wireless Wi-Fi communication to the legacy device master MCU.

The wireless module EMW3080 has built-in AT firmware, which can quickly and securely connect to various cloud service platforms. Currently supported cloud platforms include: Alibaba Cloud Alink, SDS, MXCHIP Cloud Fog, and Gome Cloud.

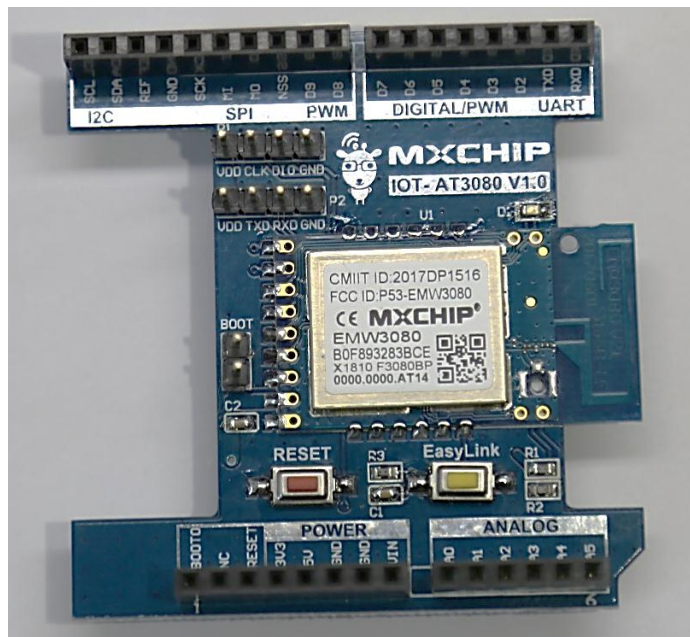


Figure 1.1 IOT-AT3080

IOT-AT3080 Block Diagram

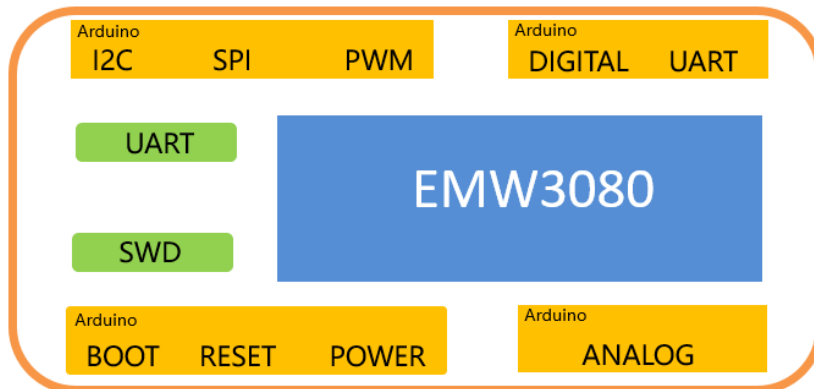


figure 1.2 IOT-AT3080 hardware block diagram

2. Composition diagram

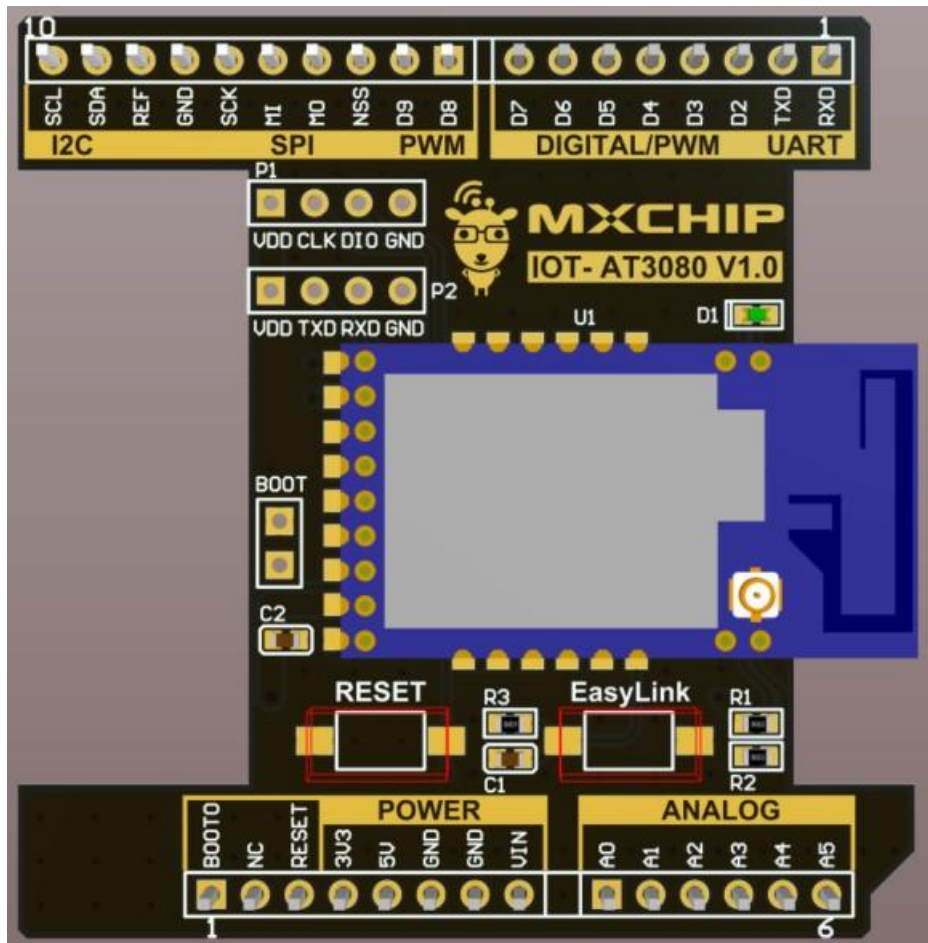


Figure 2.1 IOT-AT3080 composition diagram

Among them, the function description of the components in the clockwise direction to the upper right corner is shown in Table 2.1:

2.1 component function description

No.	Name	function	remark
1	Arduino interface I2C	Emulator burn firmware interface	Factory burning, users do not need
2	User UART serial port	AT command communication with Wi-Fi module	Connected to another user UART serial port
3	System status LED	Indicates the network status of the Wi-Fi module currently working	Fast flashing: network to be distributed Slow flash: Get distribution information, in the connection Constant light: connected to the network or disconnected

No.	Name	function	remark
4	Wireless Wi-Fi module EMW3080	Networked communication	See the EMW3080 data sheet for details
5	Easylink distribution network button	Start Wi-Fi module distribution mode	Short press to enter the distribution network status
6	Arduino interface - analog port	For inputting analog signals	Access to the signal of user master MCU
7	Arduino interface - power port	Used to provide working power or external power to the board	Wi-Fi module working voltage DC3.3V
8	Arduino interface - external reset button	Reset reserved port for external master MCU	Note: with 9, BOOT is not the same port
9	Arduino interface - external BOOT button	BOOT reserved port for external master MCU	Can be defined by the external master MCU
9	reset button	Reset for Wi-Fi module	Short press, module reset
9	BOOT	Enter the BOOT mode of the Wi-Fi module	Shorted, low level; floating, high level
10	User UART serial port	Used for communication between the master MCU and the Wi-Fi module	The UART with the Arduino interface is the same
11	SWD	Firmware burning for modules	Factory burning, users are not available
12	I2C communication port	I2C communication port for external master MCU	
13	SPI communication port	SPI communication port for external master MCU	
14	PWM port	PWM port provided for external master MCU	
15	I/O port	IO port provided for external master MCU	

3. Typical application

The IOT-AT3080 is designed with an Arduino socket for the upper and lower layers, supporting the upper or lower control panel or extended plug-and-play. The typical two-level application is shown in Figure 3.1:

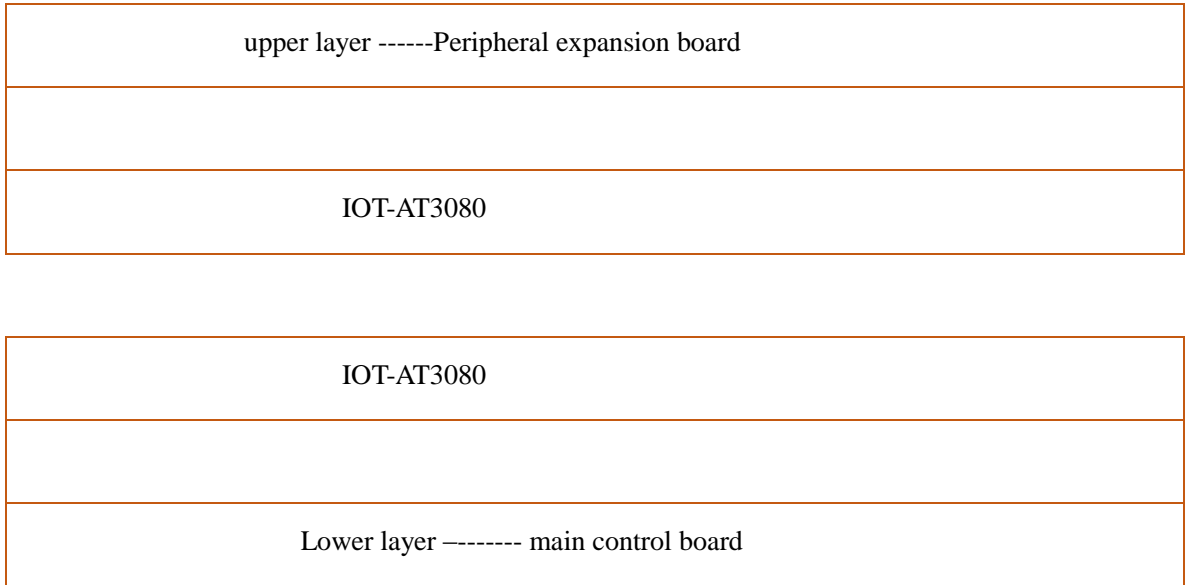


Figure 3.1 Schematic diagram of two-tier application structure

A typical three-layer application structure is shown in Figure 3.2:

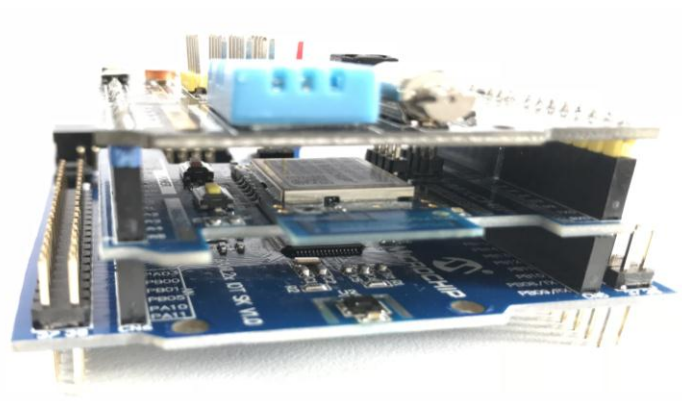
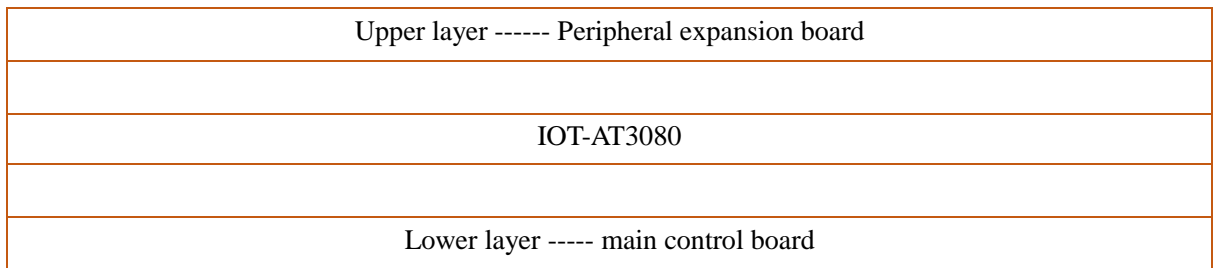


Figure 3.2 Schematic diagram of the three-tier application structure

4. PCB size

The outline drawing of the IOT-AT3080 development board can be seen in Figure 4.1.

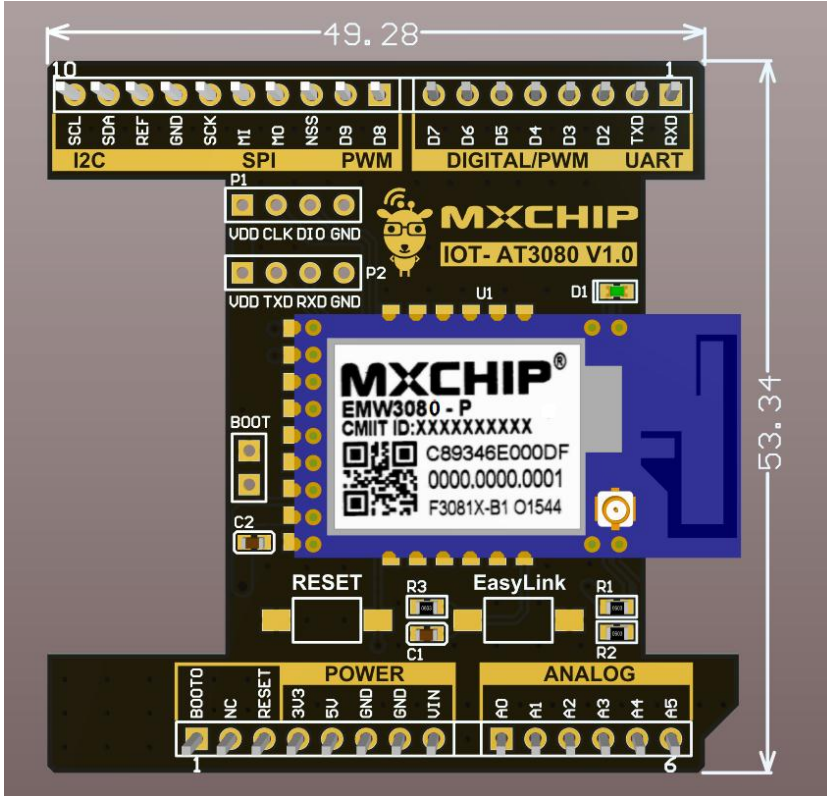


Figure 4.1 PCB Dimensions

5. Reference circuit

The circuit schematic of the IOT-AT3080 development board can refer to Figure 5.1.

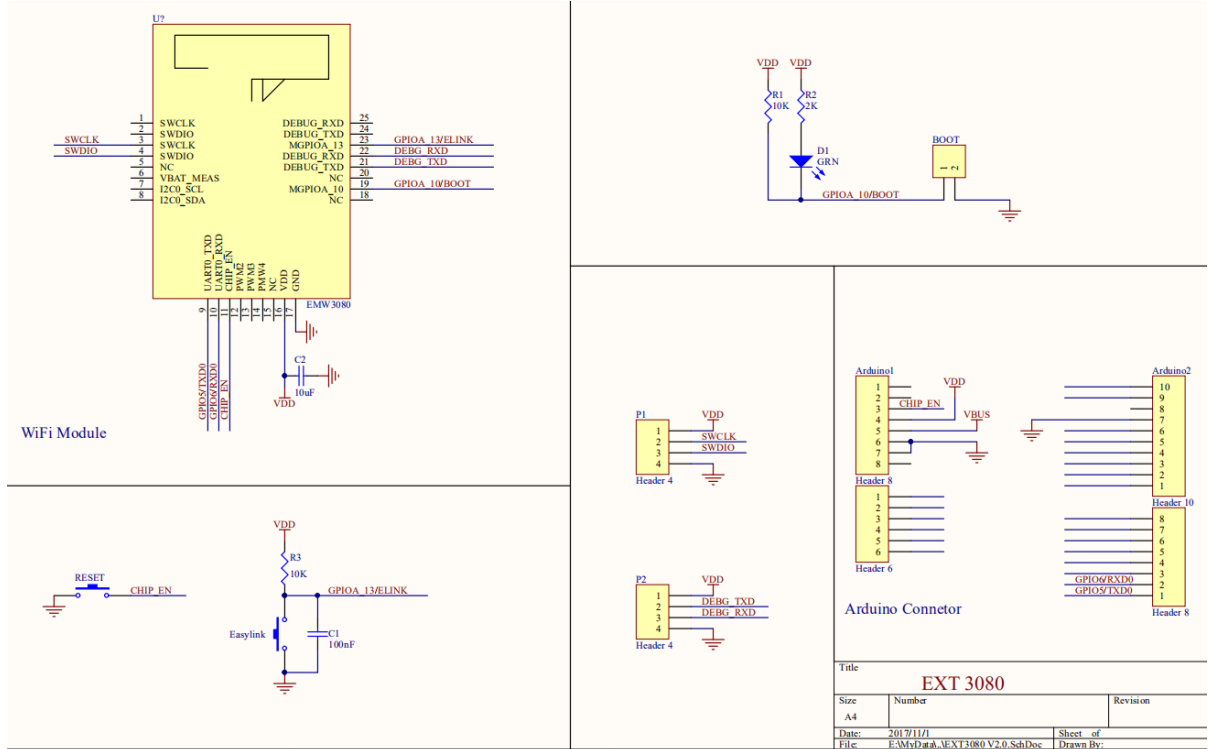


Figure 5.1 Circuit Schematic

6. Sales and tech support information

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