

A31T216

Starter Kit

STK-A31T216-RLN-A

Starter Kit H/W Manual

Version 1.03

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1 Introduction of starter kit board

Figure 1 shows a starter kit board of A31T216-RLN-A. In Table 1, you can see main features of the starter kit board.

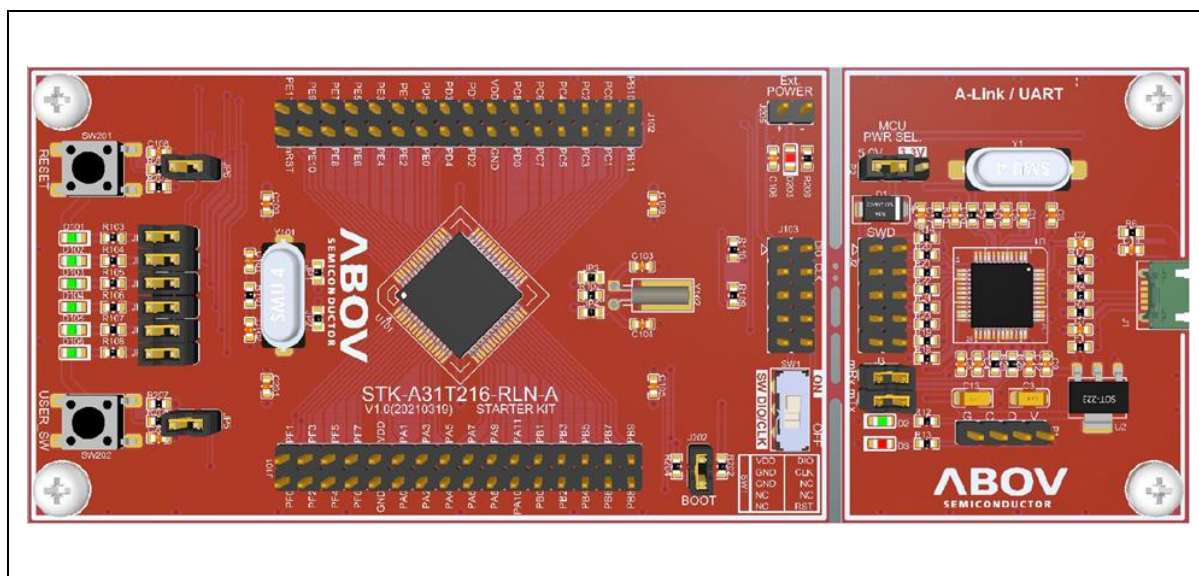


Figure 1. Starter Kit Board

Table 1. Main Features of Starter Kit Board

Main feature	Specifications	Remark
MCU	A31T216RLN	ARM CORTEX-M0+
Operating clock	8 MHz	Crystal Main
ROM	256 KB flash ROM	Code
SRAM	16 KB	Data
Communication Port	USB 2.0	Micro USB Type B 5-pin
Debugging Port	SWD	10-pin Connector
Input Buttons	1 reset & 1 event input	TACT switch

2 A-link part

In this chapter, A-link part of the starter kit board is introduced.

2.1 A-link section

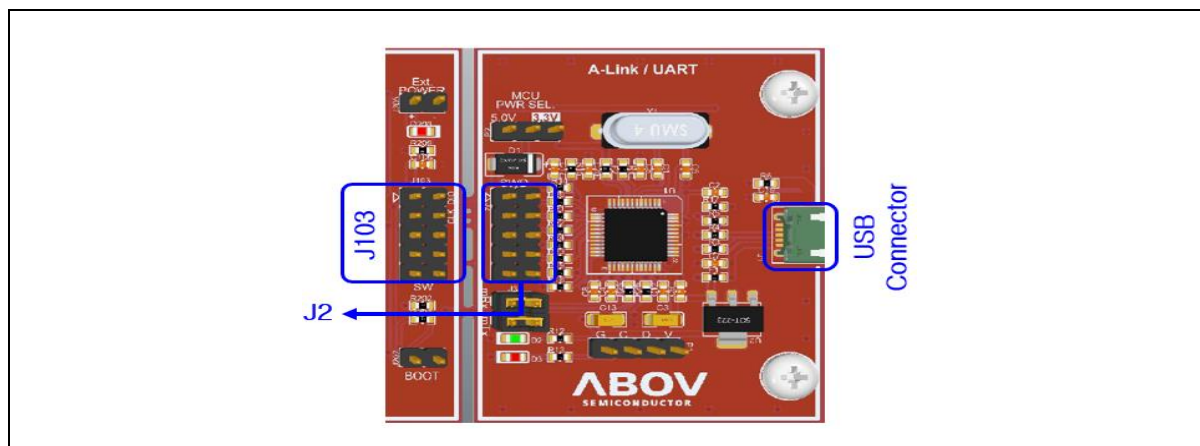


Figure 2. A-Link Section

2.1.1 USB connector (micro USB type B)

- PC USB interface (Debug Keil, IAR ..)
- CMSIS-DAP (Debug)
- COM Port

2.1.2 J103 (Box Header): SWD Connector on MCU Board

Table 2. SWD Pin Description on MCU Board

V-Sense	1	2	SWDIO
GND	3	4	SWCLK
GND	5	6	NC
NC	7	8	NC
GND	9	10	nRESET

2.1.3 J2 (box Header): SWD Connector on A-Link Board

Table 3. A-Link SWD Pin Description

V-Sense	1	2	SWDIO
GND	3	4	SWCLK
GND	5	6	NC
NC	7	8	NC
GND	9	10	nRESET

2.2 Power, USB to UART section

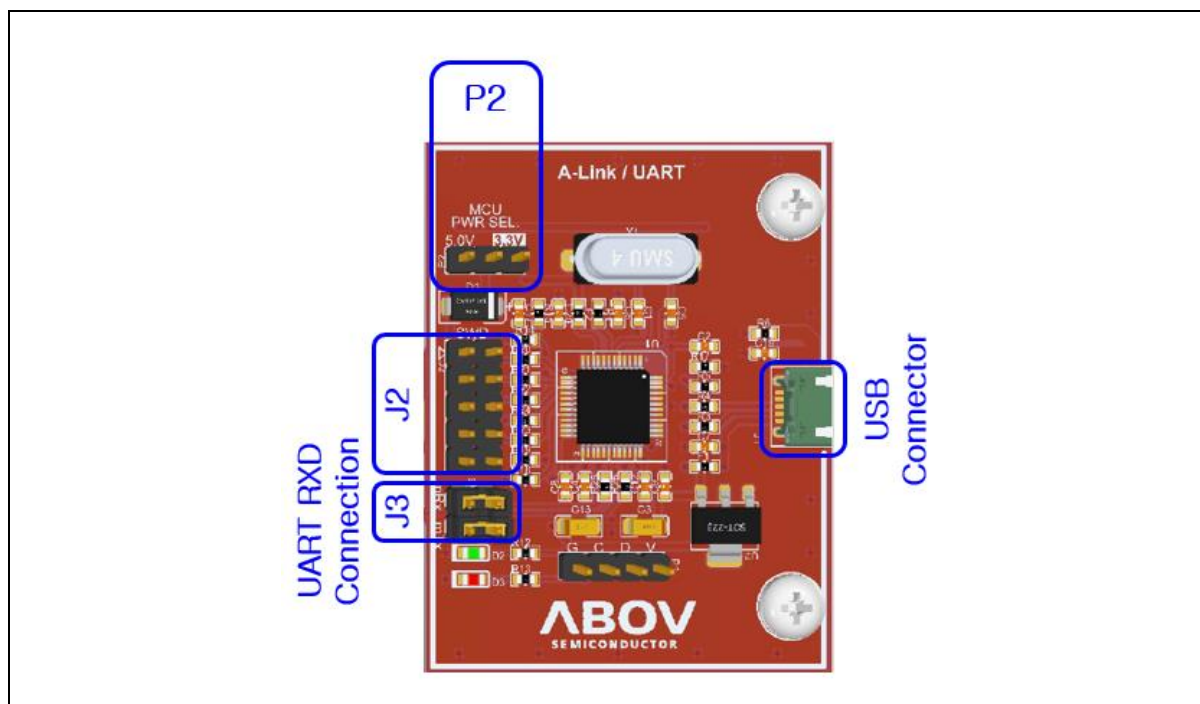


Figure 3. Power, USB to UART Section

2.2.1 P2: MCU Power Selector

Table 4. P2 MCU Power Selector

P2	VDD
	5.0V
	3.3V
	External Power

2.2.2 J3: USB to UART connection

Table 5. USB to UART Description

J3	Pin	Connection
	Short	(mRX) MCU RXD ← PC TXD (mTX) MCU TXD → PC RXD
	Open	(mRx) MCU RXD Open (mTx) MCU TXD Open

3 Device part

In this chapter, power, a boot mode selector and switches of the starter kit board are introduced.

3.1 Power, Boot mode selector and switch

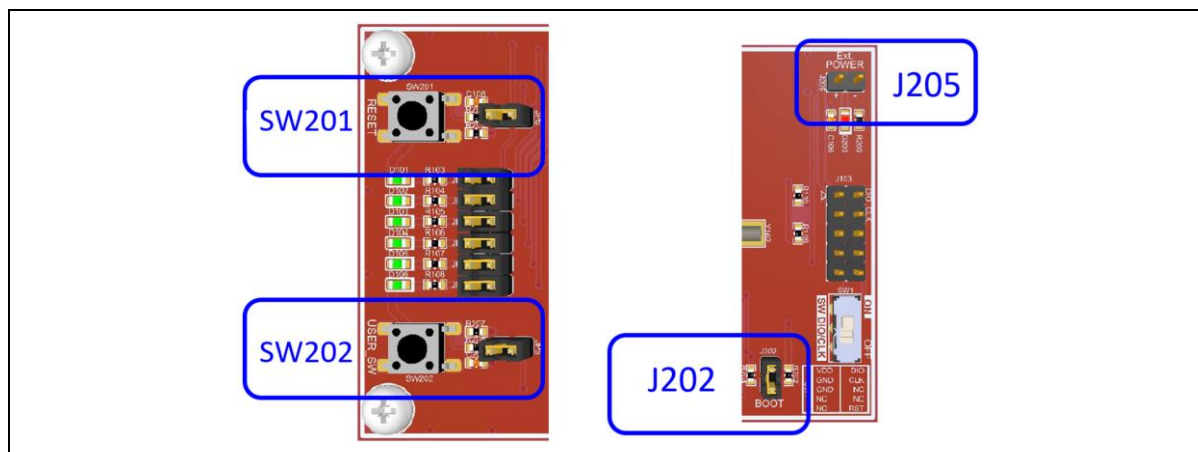
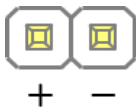


Figure 4. Power, Boot mode and Switch

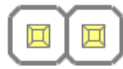
3.1.1 J205: external power (not used)

Table 6. J205 Description and Connection

J205	Pin name	Connection
	VDD	+1.8 ~ 5.0V
	GND	0V

3.1.2 J202: mode select (boot/normal) pins

Table 7. J202 Boot Mode Selector

J202	Pin name	Connection
	Short	Boot mode
	Open	Normal mode

3.1.3 SW201, SW202: switch

Table 8. SW201, SW202 Description and Function

Switch	Function
SW201	nRESET (PE12)
SW202	PB2

3.2 LED display (D101 – D106)

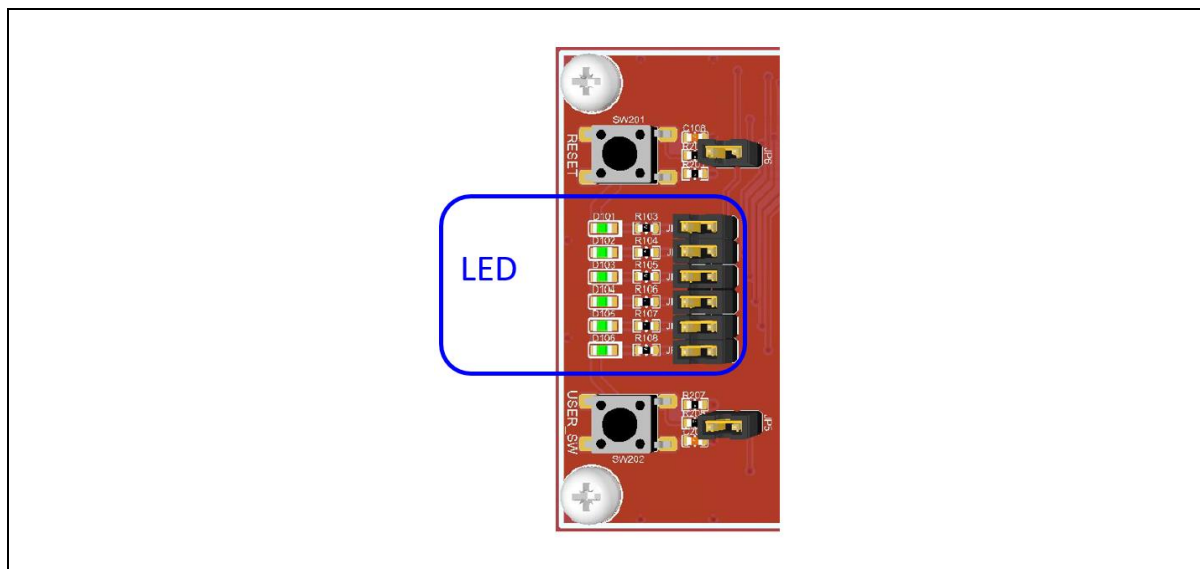


Figure 5. LED Display

3.2.1 LED schematic

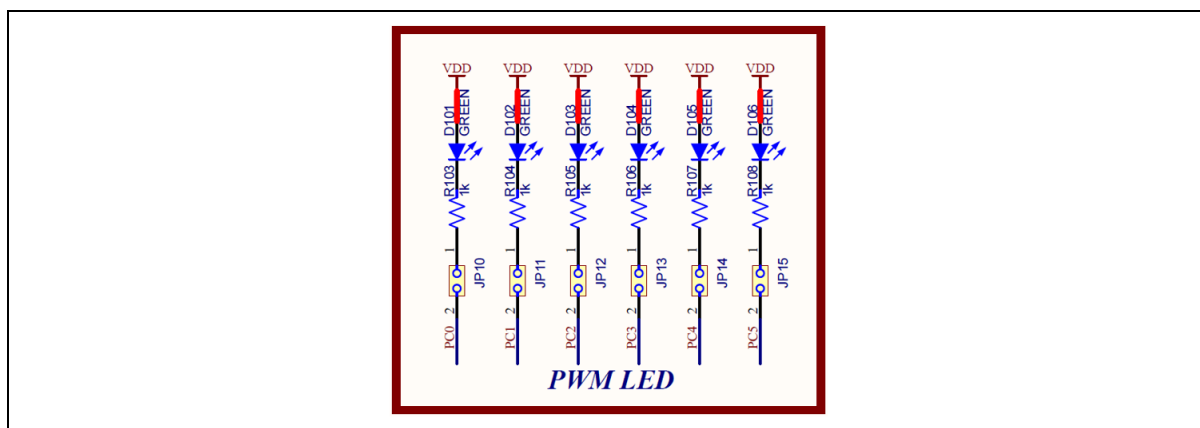


Figure 6. LED Schematic

3.2.2 LED pin assignment

Table 9. LED Pin Description

LED name	PORT
D101	PC0
D102	PC1
D103	PC2
D104	PC3
D105	PC4
D106	PC5

3.3 Pin assignment

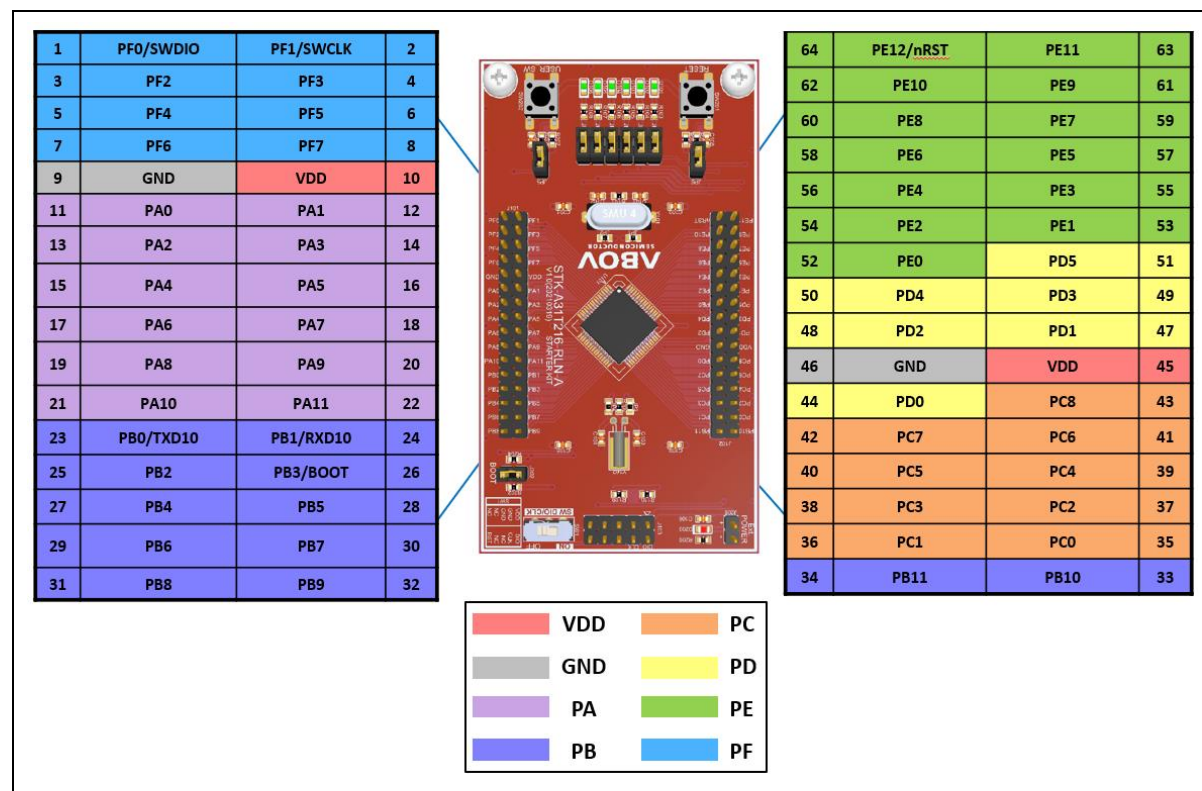


Figure 7. Pin Assignment

Revision history

Date	Version	Description
21.04.21	1.00	Document created
22.02.09	1.01	Revised Document Updated Table 1 (Internal 32MHz → Crystal 8MHz)
23.01.19	1.02	Revised the font of this document
24.12.02	1.03	Updated the disclaimer.

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