Introduction

The A34L716 Starter Kit makes it easy to develop applications when using the A34L716VLN general-purpose microcontroller with Cortex®-M4 32-bit core. The A34L716 Starter Kit includes everything needed for both beginners and experienced users to get started quickly.

Based on the A34L716VLN, this A34L716 Starter Kit contains the A-Link interface – the ABOV CMSIS-DAP debugger tool, LEDs, push buttons and a type-C USB connector. Specialized function boards can be connected to the extension header connectors.

The A34L716 Starter Kit comes with the ABOV software libraries and examples available with the reference software package.

Figure 1. Configuration of Starter Kit Board

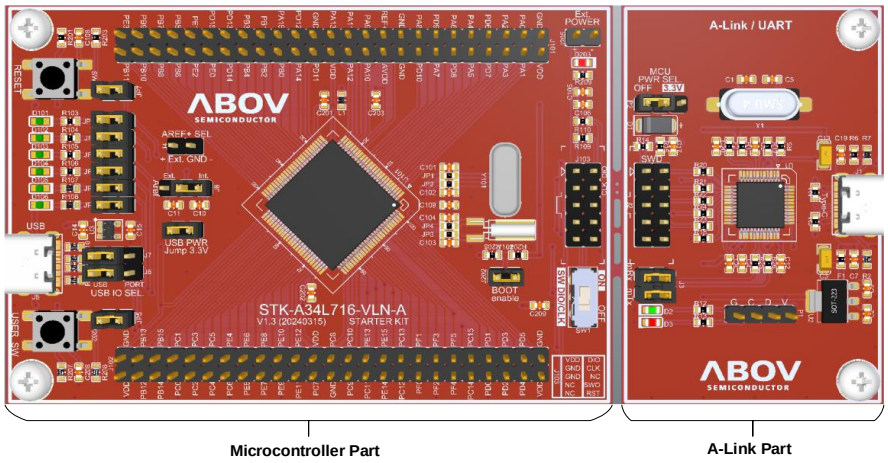

Table 1. Main Features of Starter Kit Board

Main Feature	Specifications	Remark
Microcontroller	A34L716VLN	Arm Cortex-M4 with FPU
Operating clock	Internal 40 kHz Internal 32 MHz External 32.768 kHz External 8 MHz	RINGOSC (LSI) IOSC32 (HSI) SXOSC (LSE) MXOSC (HSE)
Flash ROM	256 KB	Code
SRAM	32 KB	
Host Interface	USB 2.0	USB Type C
Debugging Port	SWD	10-pin connector
Input Buttons	Reset, GPIO	TACT switch

Reference Document

The following documents are available on www.abovsemi.com.

- A34L716 User's Manual
- A34L716 Datasheet

For more information about technical materials, see StarterKit-A34L716VLN.

Contents

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1. Ordering Information

To order the starter kit board product of microcontrollers, refer to Table 2.

Additional information about starter kit board, visit ABOV website (https://www.abovsemi.com/).

Table 2. Ordering Information

Order Code	Board Name	Target Microcontroller
StarterKit-A34L716VLN	STK-A34L716-VLN-A	A34L716VLN

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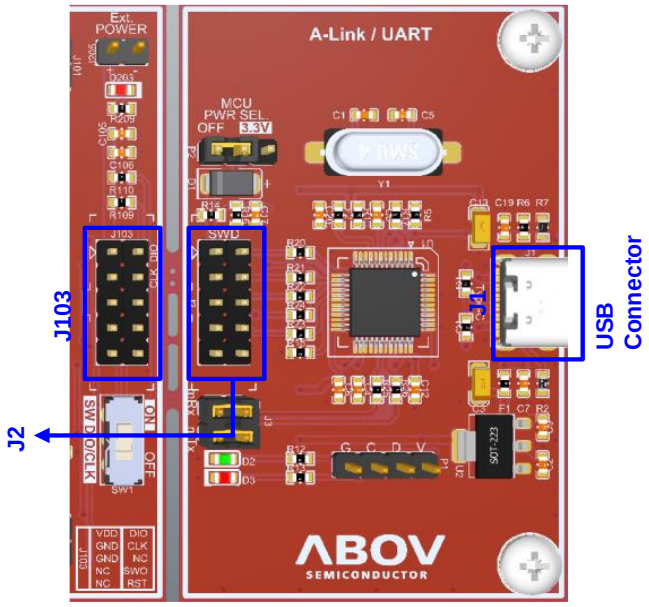
2. Hardware Configuration: A-Link Part

In this chapter, the A-Link part of the starter kit board is described.

2.1 A-Link Part

Figure 2. A-Link Part of Starter Kit



2.1.1 J1: USB Type C Pin Connector

- Power supply by USB connector from host computer
- A-Link CMSIS-DAP compatible debugger
- USB-to-UART serial port

2.1.2 J103: SWD Connector on Microcontroller Part

Table 3. SWD Connector Pin Description on Microcontroller Part (J103)

Pin Name	Pin Number	Pin Number	Pin Name
VDD	1	2	SWDIO
GND	3	4	SWCLK
GND	5	6	N.C.
N.C.	7	8	N.C.
GND	9	10	nRESET

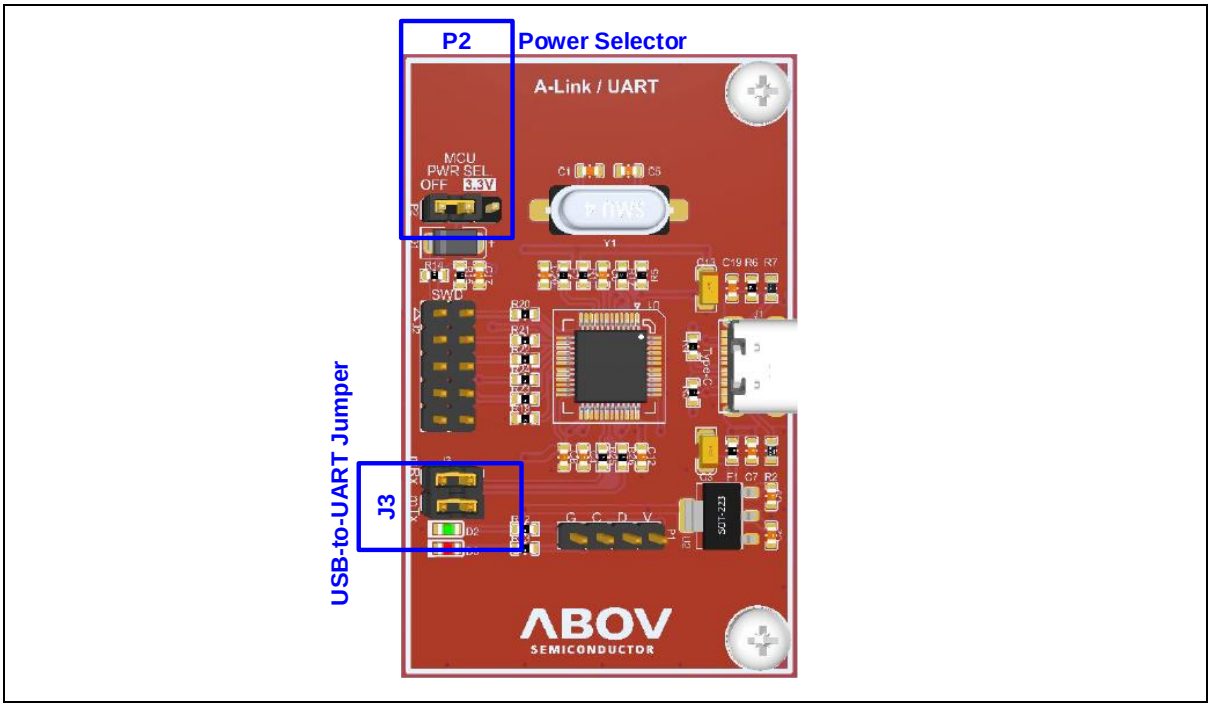
2.1.3 J2: SWD Connector on A-Link Part

Table 4. SWD Connector Pin Description on A-Link Part (J2)

Pin Name	Pin Number	Pin Number	Pin Name
V-Sense	1	2	SWDIO
GND	3	4	SWCLK
GND	5	6	N.C.
N.C.	7	8	N.C.
GND	9	10	nRESET

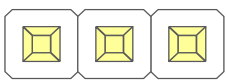
2.2 Power Selector and USB-to-UART Jumpers

Figure 3. Power Selector and USB-to-UART Jumpers on A-Link Part



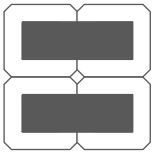
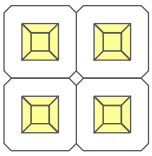
2.2.1 P2: Microcontroller Power Selector

Table 5. Microcontroller Power Selector on A-Link Part (P2)

P2	VDD
	Use 3.3 V power supply by USB connector (P2).
	Use external power supply to microcontroller (J205). See to section 3.1.1

2.2.2 J3: USB-to-UART Jumpers

Table 6. USB-to-UART Jumpers on A-Link board (J3)

J3	Pin	Description
	Short	PD0/RXD0 pin is connected to the host TXD signal. PD1/TXD0 pin is connected to the host RXD signal.
	Open	PD0/RXD0 pin is not connected with the host. PD1/TXD0 pin is not connected with the host.

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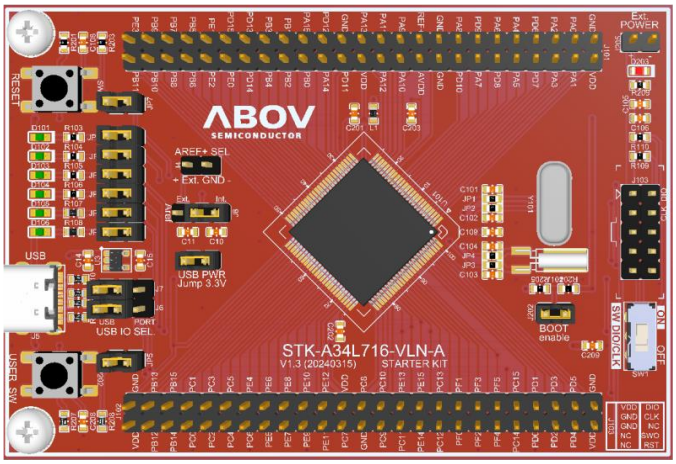
3. Hardware Configuration: Microcontroller Part

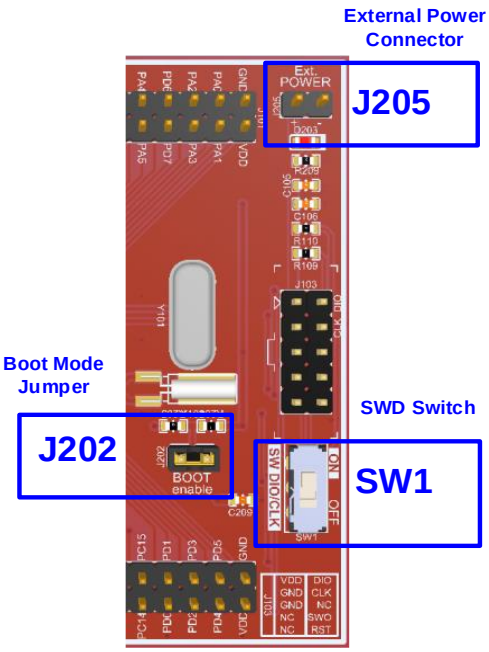
Chapter 3 describes the power, BOOT mode selector and switches, and LEDs on the starter kit board.

Figure 4. Microcontroller Part of Starter Kit Board



3.1 External Power Connector and BOOT Mode Jumper

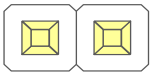
Figure 5. External Power Connector (J205) and BOOT Mode Jumper (J202)



3.1.1 J205: External Power Connector

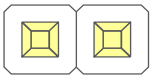
If the USB connector (J1) is not used for power supply, the J205 pin can be used to supply external power to the MCU board.

Table 7.Pin Description of Power Supply Connector (J205)

J205	Pin Name	Description
 + -	VDD	1.8 to 3.6 V
	GND	0 V

3.1.2 J202: BOOT Mode Jumper

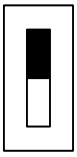
Table 8. Pin Description of BOOT Mode Jumper (J202)

J202	Connection State	Description
	Short	BOOT mode
	Open	Normal mode

3.1.3 SW1: SWD Connection Switch

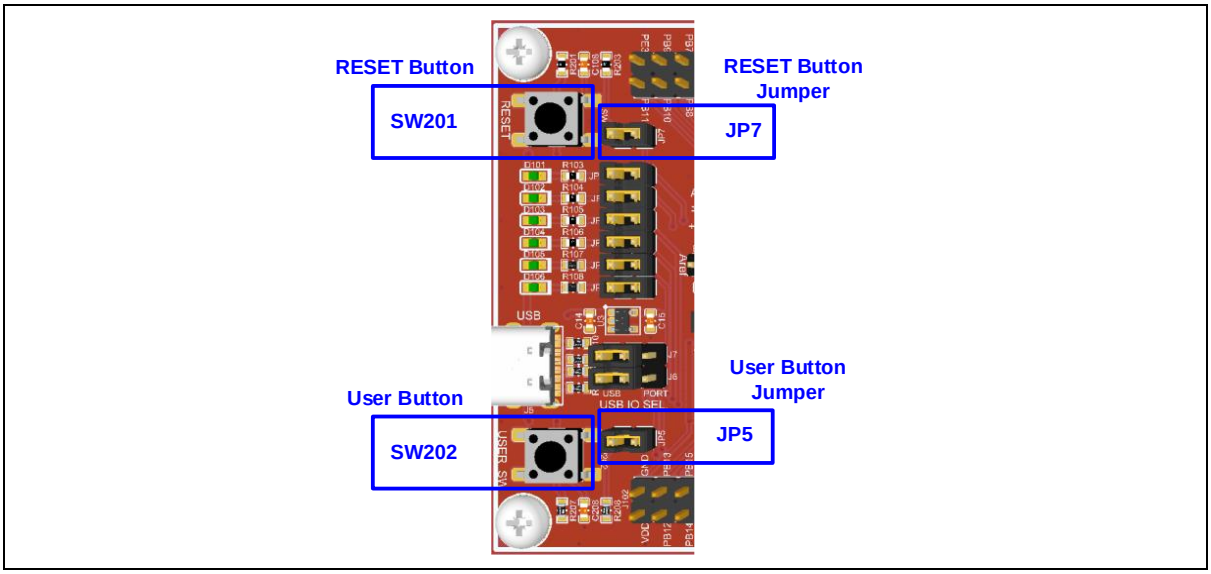
The SWLCK and SWDIO pins are SWD (Serial Wire Debug) signals for clock and data respectively and are used as debug interfaces.

Table 9. Usage of SWD Switch

SW1 State	ON	SW1 State	OFF
	SWCLK/SWDIO pins are connected to A-Link.		SWDLK/SWDIO pins are disconnected from A-Link.

3.2 nRESET and GPIO Buttons

Figure 6. Buttons (SW201, SW202) and Button Jumper (JP5, JP7)



3.2.1 SW201, SW202, JP5, JP7: Buttons and Button Jumpers

Table 10. Description of Buttons (SW201, SW202)

Button	Function	Connection Pin
SW201	External Reset Button	nRESET/PC12 connected with JP7
SW202	External GPIO Button	PF5 connected with JP5

Table 11. Pin Description of GPIO Button Jumper (JP5)

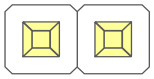
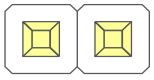
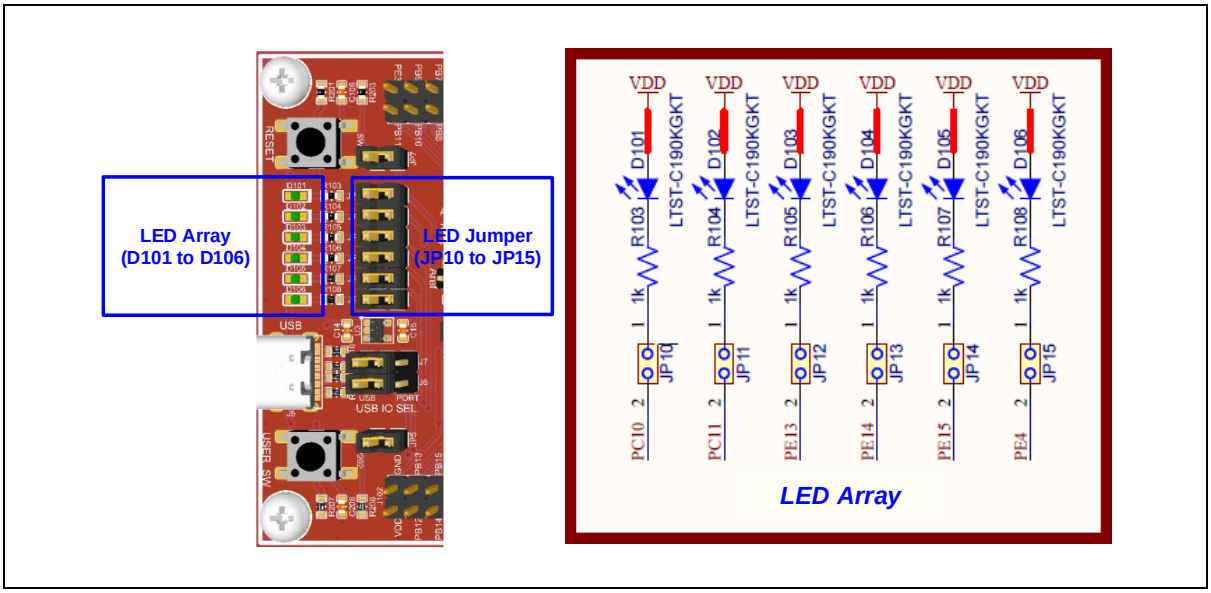
JP5	Connection Status	Description
	Short	Connected to PF5 pin.
	Open	Not connected to SW202.

Table 12. Pin Description of Reset Button Jumber (JP7)

JP7	Connection Status	Description
	Short	RESET button is connected to nRESET/PC12 pin.
	Open	Not connected to SW201.

3.3 LED Array and LED Array Jumpers

Figure 7. LED Array (D101 to D106) and LED Array Jumpers (JP10 to JP15)



3.3.1 LED Array Pin Assignment

Table 13. LED Array Pin Description (D101 to D106)

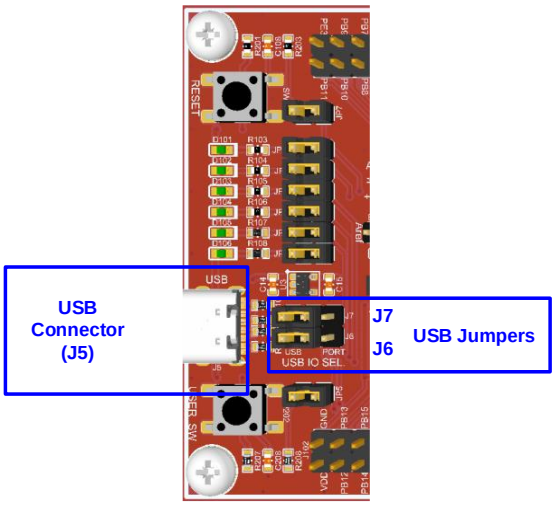
LED Name	LED Connection	Connected Pin
D101	JP10	PC10
D102	JP11	PC11
D103	JP12	PE13
D104	JP13	PE14
D105	JP14	PE15
D106	JP15	PE4

Table 14. Usage of LED Jumper (JP10 to JP15)

JP10 to JP15	Connection Status	Description
	Short	Use LED
	Open	Not use LED

3.4 USB Connector and USB Jumpers

Figure 8. USB Connector (J5) and USB Jumpers (J6, J7)



3.4.1 USB Jumpers Pin Assignment

Table 15. Usage of USB Jumper (J6)

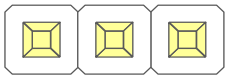
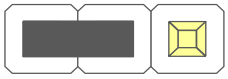
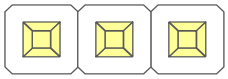
J6	Description
	PC14 is connected to USBDP.
	PC14 is connected to J102. Not use USB.
	Not use USB.

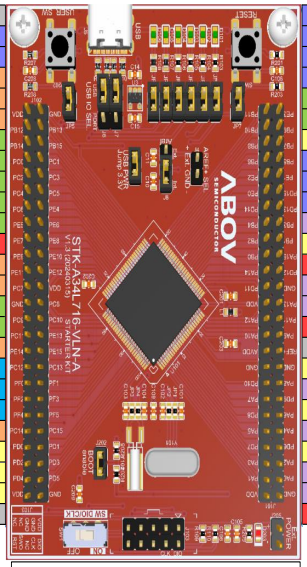
Table 16. Usage of USB Jumper (J7)

J7	Description
	PC15 is connected to USBDM.
	PC15 is connected to J102. Not use USB.
	Not use USB.

3.5 Pin Assignment

Figure 9. Pin Assignment of Starter Kit-A34L716VLN

51	VDD	GND	52	50	PB11/T7IO/STBYO/COM4/SEG8	PE3/SEG31	49
53	PB12/CLKO/COM5/SEG9	PB13/SCL1/SS10/COM6/SEG10	54	48	PB10/VLC0	PB9/VLC1	47
55	PB14/SDA1/LPDE0/SCK10/COM7/SEG11	PB15/TXD10/LPTXD0/MOSI10/SEG12	56	46	PB8/VLC2	PB7/VLC3	45
57	PC0/RXD10/LPRXD0/MISO10/SEG13	PC1/SCL0/SS11/SEG14	58	44	PB6/CAPL	PB5/CAPH	43
59	PC2/SDA0/LPDE1/SCK11/SEG15/TDO/SWO	PC3/TXD11/LPTXD1/MOSI11/SEG16/TDI	60	42	PE2/SEG30	PE1/T5IO/SEG29	41
61	PC4/RXD11/LPRXD1/MISO11/SEG17/nTRST	PC5/RXD0/TCK/SWCLK	62	40	PE0/SEG28	PD15/SEG27	39
63	PC6/TXD0/TMS/SWDIO	PE4/SS1/T5IO/SEG32	64	38	PD14/SEG26	PD13/SEG25	37
65	PE5/SCK1/T6IO/SEG33	PE6/MOSI1/T7IO/RXD0/SEG34	66	36	PB4/COM3	PB3/SDA0/COM2	35
67	PE7/MISO1/TXD0/SEG35	PE8/SEG36	68	34	PB2/SCL0/COM1	PB1/MISO0/COM0	33
69	PE9/T0IO/AD0S/SS10/SEG37	PE10/T1IO/AD0E/SCK10/SEG38	70	32	PB0/MOSI0/TXD0/SEG7/AN16	PA15/SCK0/RXD0/SEG6/AN15	31
71	PE11/TXD10/T2IO/AD1S/MOSI10/SEG39	PE12/RXD10/T3IO/AD1E/MISO11/SEG40	72	30	PA14/SS0/T6IO/WDTO/SEG5/AN14	PD12/SEG24/AN23	29
73	PC7/RTC_OUT/RTC_TAMP1/SEG18	VDD	74	28	PD11/SEG23/AN22	GND	27
75	GND	PC8/SCL1/RTC_TAMP2/SS11/SEG19	76	26	VDD	PA13/SDA1/SEG4/AN13	25
77	PC9/SDA1/LPDE1/SCK11/SEG20	PC10/TXD11/T0IO/LPTXD1/MOSI11/SEG21	78	24	PA12/SCL1/SEG3/AN12	PA11/SEG2/AN11	23
79	PC11/RXD11/T1IO/LPRXD1/MISO11/SEG22	PE13/T2IO/SEG41	80	22	PA10/SEG1/AN10	PA9/SEG0/AN9	21
81	PE14/T3IO/SEG42	PE15/T4IO/SEG43	82	20	AVDD	AREF+	19
83	PC12/nRESET	PC13/nBOOT	84	18	AREF-	AGND	17
85	PF0/SCL0/CLKO	PF1/SDA0/T0IO	86	16	PD10/AN21	PA8/DAO1/AN8	15
87	PF2/SS0/T1IO	PF3/SCK0/T2IO/LPDE0	88	14	PA7/DAO0/AN7	PD9/AN20	13
89	PF4/MOSI00/T3IO/LPTXD0	PF5/MISO0/LPRXD0	90	12	PD8/AN19	PA6/AO1/AN6	11
91	PC14/USBDP	PC15/USBDM	92	10	PA5/AN5	PA4/AIN1/AN4	9
93	PD0/RXD0	PD1/TXD0	94	8	PD7/AN18/AIP1	PD6/AN17/AIP0	7
95	PD2/XOUT	PD3/XIN	96	6	PA3/AO0/AN3	PA2/AIN0/AN2	5
97	PD4/SS1/SXIN	PD5/SCK1/SXOUT	98	4	PA1/MISO1/AN1/AIP0	PA0/MOSI1/AN0	3
99	VDD	GND	100	2	VDD	GND	1



VDD PC
GND PD
PA PE
PB PF

Revision History

Revision	Date	Notes
1.00	June 18, 2024	Initial release.
1.01	Dec 03, 2024	Updated the disclaimer.

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