

# EK-AI6108L-S User Guide



**AcSiP Technology Corp.**

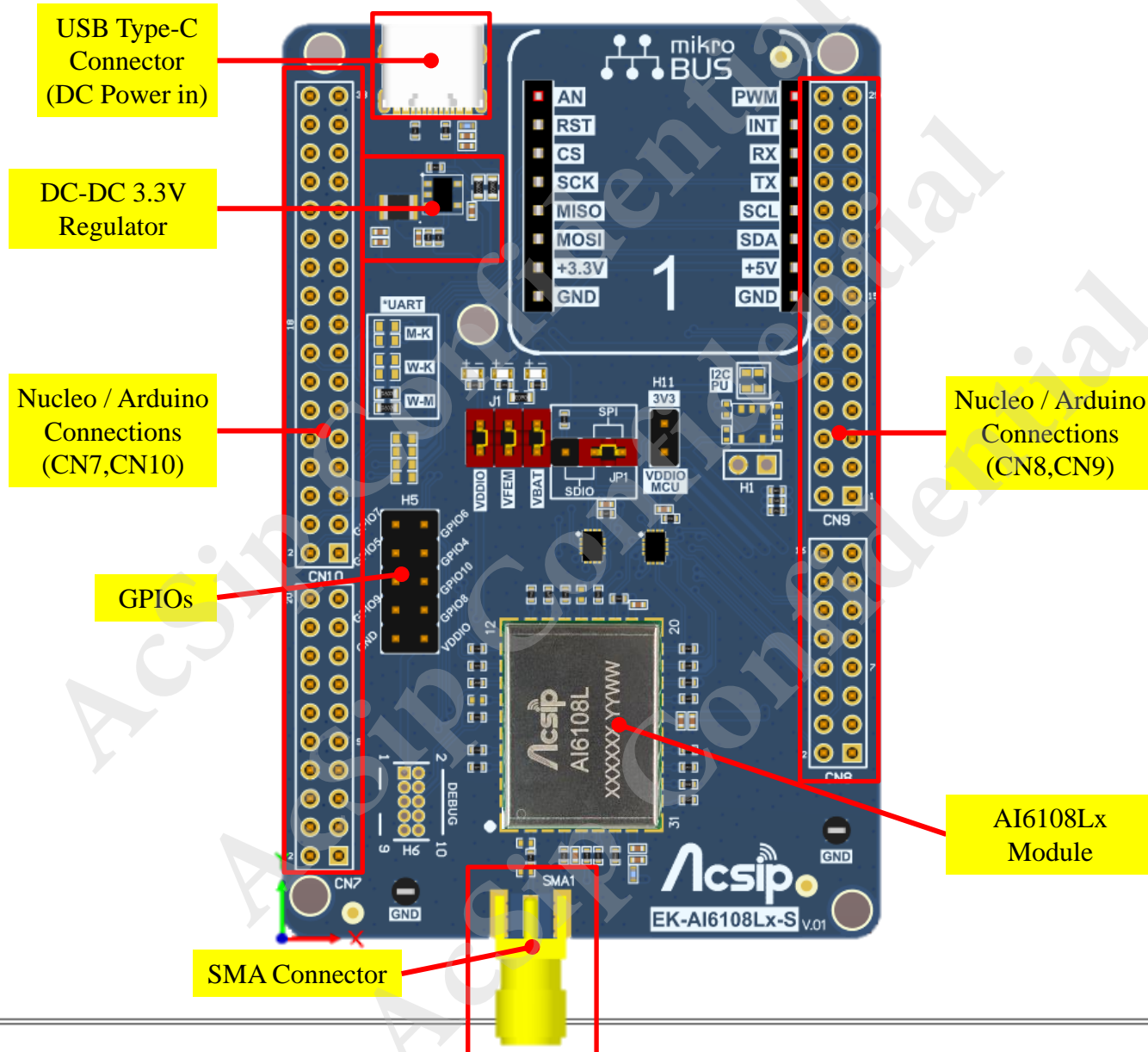
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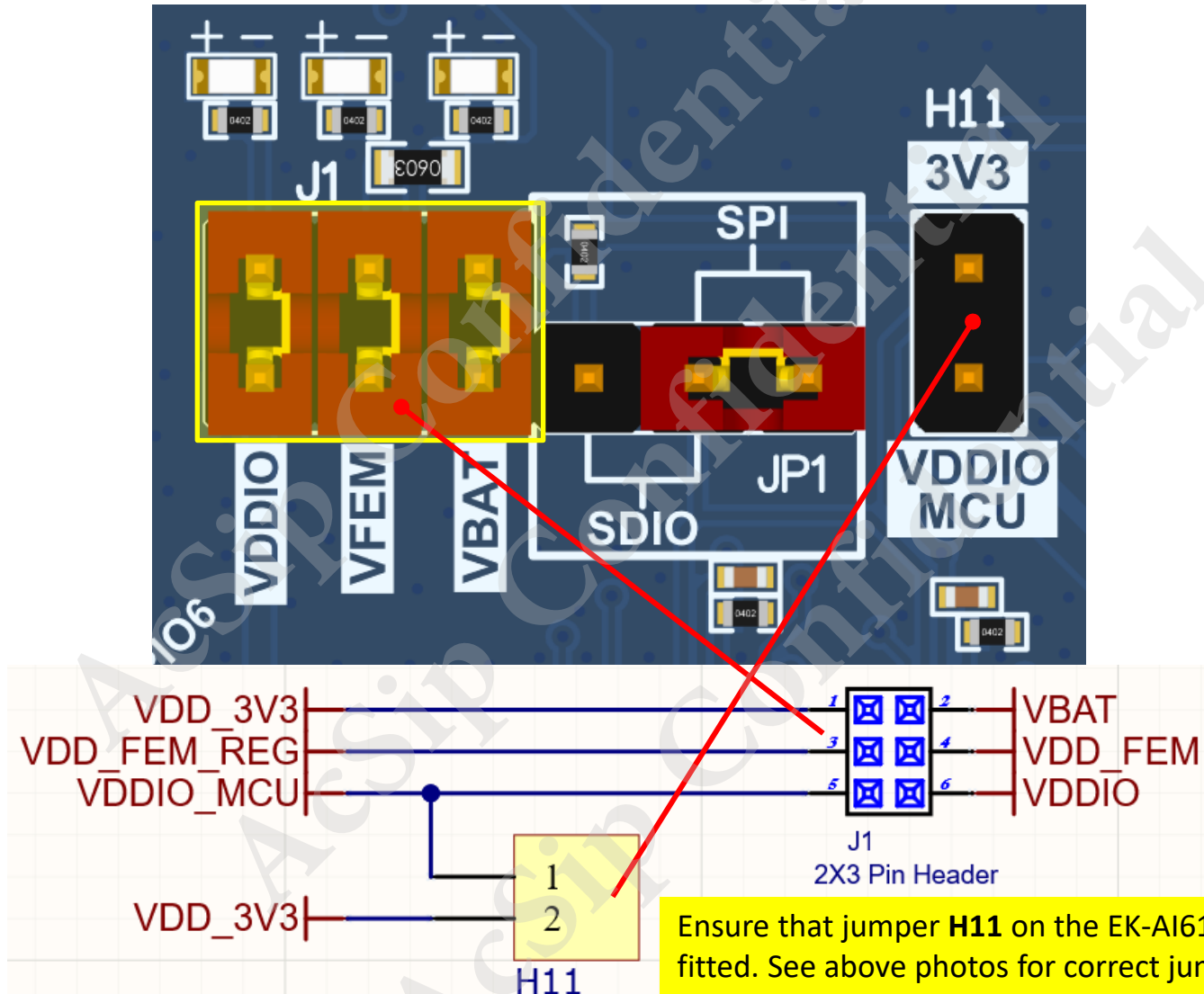
Date: 2024/02/20

# Functional Description



# DC Power Jumper

Jumper Settings vs Schematic



# EK-AI6108Lx-S Pinout

34	33
32	31
30	29
28	27
26	25
24	23
22	21
20	19
18	17
16	15
14	13
12	11
10	9
8	7
6	5
4	3
2	1

CN10

20	19
18	17
16	15
14	13
12	11
10	9
8	7
6	5
4	3
2	1

CN7

10	9
8	7
6	5
4	3
2	1

H5

GPIO6	UART1_RX
GPIO4	I2C_SDA
GPIO10	
GPIO8	
VDDIO	

UART1_TX	GPIO7
I2C_SCL	GPIO5
	GPIO9
	GND

30	29
28	27
26	25
24	23
22	21
20	19
18	17
16	15
14	13
12	11
10	9
8	7
6	5
4	3
2	1

CN9

16	15
14	13
12	11
10	9
8	7
6	5
4	3
2	1

CN8

SDIO_CMD	SDIO_CMD
SDIO_CLK	SDIO_CLK
SDIO_D3	SDIO_D3
SDIO_D2	SDIO_D2
SDIO_D1	SDIO_D1
SDIO_D0	SDIO_D0

SDIO_D2	
SDIO_D1	SPI_INT
GPIO1	
BUSY	BUSY
WAKE	WAKE
RESET_N	RESET_N

GND
GND
VDD5V_MCU
VDDIO_MCU

AN	PWM
RST	INT
CS	RX
SCK	TX
MISO	SCL
MOSI	SDA
+3.3V	+5V
GND	GND

1

GPIO7
GPIO6
GPIO4
GPIO10
GPIO8
VDDIO

SDIO
JP1
VDDIO_MCU

H11
3V3
I2C_PU
H1

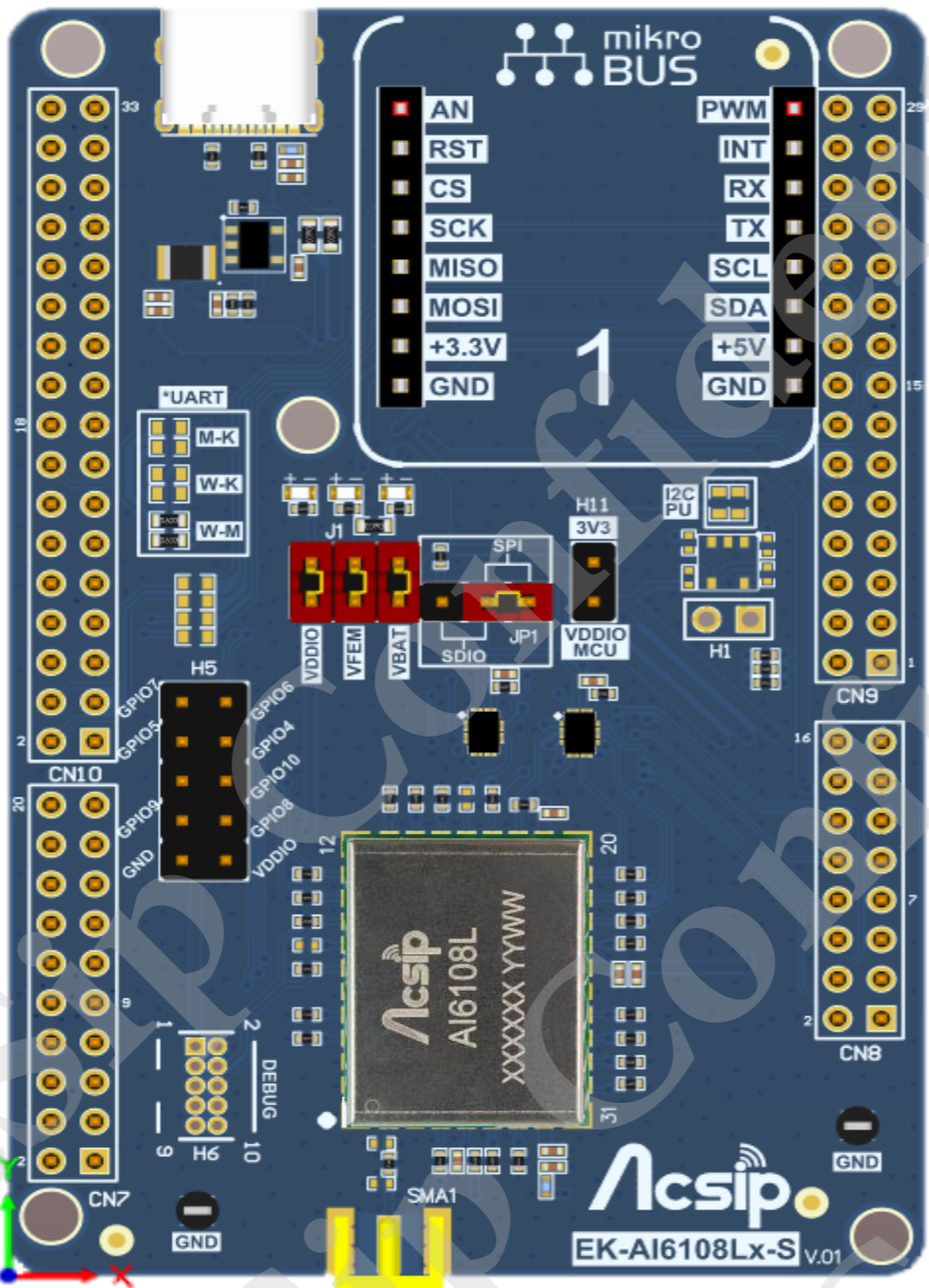
Module Pin Name
POWER
GND
SDIO Interface Pins
SPI Interface Pins
Control Pins
*Serial Pins


\*Pending software support

SPI
SDIO

JP1

Module Pin Name	SDIO	SPI
SDIO_CMD	SDIO_CMD	SPI_MOSI
SDIO_CLK	SDIO_CLK	SPI_SCK
SDIO_D3	SDIO_D3	SPI_CS
SDIO_D2	SDIO_D2	
SDIO_D1	SDIO_D1	SPI_INT
SDIO_D0	SDIO_D0	SPI_MISO





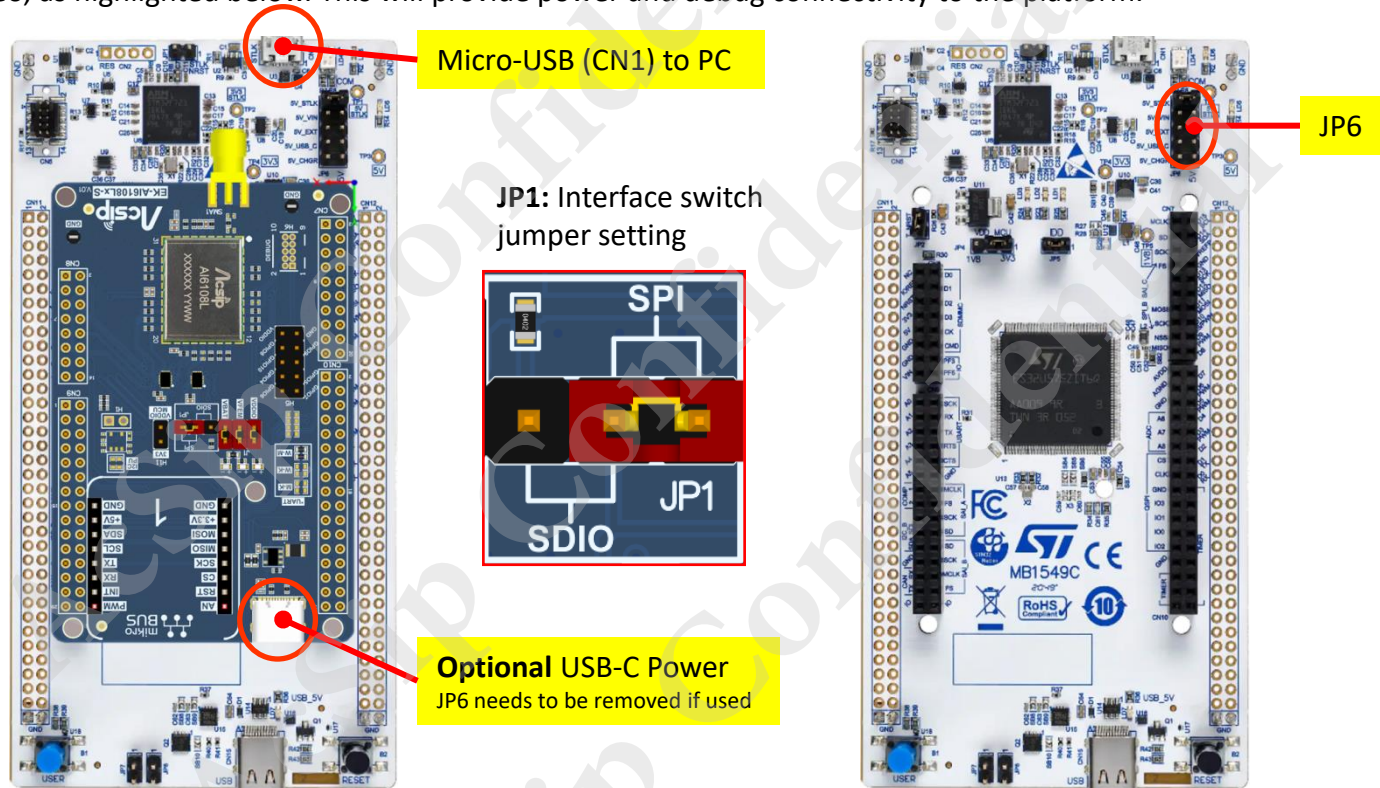
AcSiP Technology Corp.

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# Reference Platforms

## STM32 NUCLEO-U575ZI-Q

- This uses the [STM32 NUCLEO-U575ZI-Q](#) as the host MCU development board.
- The two boards connect together as shown in the photo below. This is connected to the PC by the micro-USB connector **CN1** on the Nucleo, as highlighted below. This will provide power and debug connectivity to the platform.

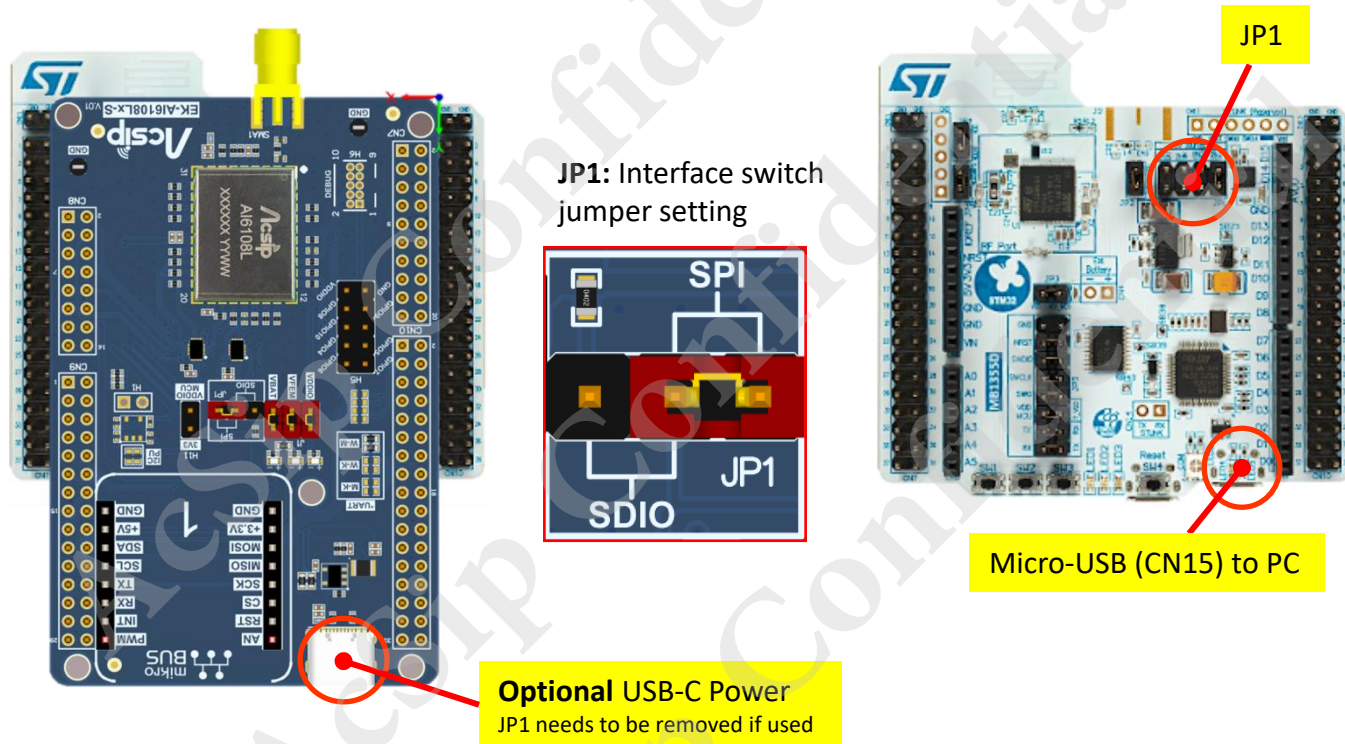


**Optionally** power can be supplied via the USB-C connector on the EK-AI6108Lx-S instead. In most cases this should not be necessary, but may be necessary if the USB port is not able to supply sufficient power. Note that if power is supplied via the USB-C connector then **JP6** on the Nucleo must be removed. The Nucleo must still be connected to the PC via micro-USB connector **CN1** in order to use the debug interface.

# Reference Platforms

## STM32 NUCLEO-WB55RG

- This uses the [STM32 NUCLEO-WB55RG](#) as the host MCU development board.
- The two boards connect together as shown in the photo below. This is connected to the PC by the micro-USB connector **CN15** on the Nucleo, as highlighted below. This will provide power and debug connectivity to the platform.

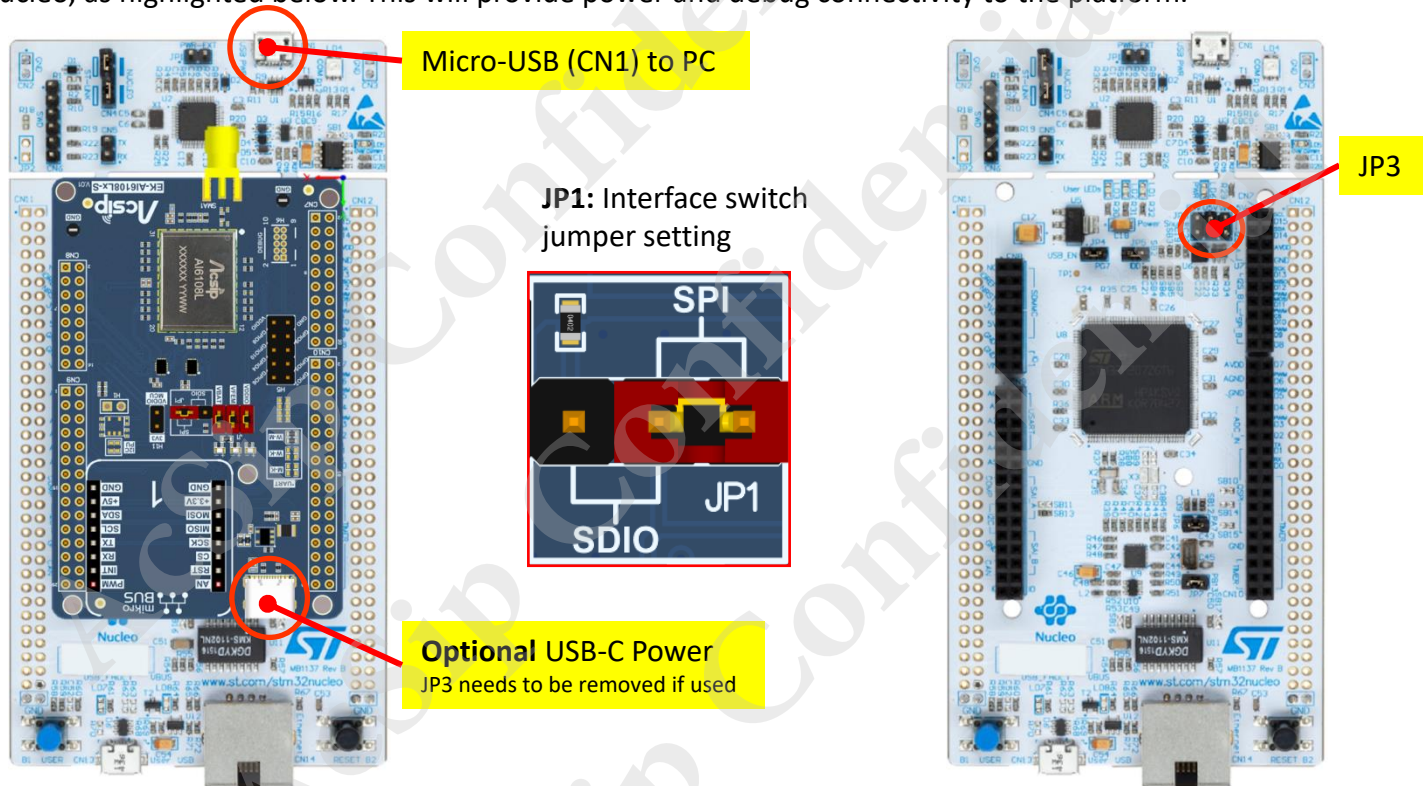


**Optionally** power can be supplied via the USB-C connector on the EK-AI6108Lx-S instead. In most cases this should not be necessary, but may be necessary if the USB port is not able to supply sufficient power. Note that if power is supplied via the USB-C connector then **JP1** on the Nucleo must be removed. The Nucleo must still be connected to the PC via micro-USB connector **CN15** in order to use the debug interface.

# Reference Platforms

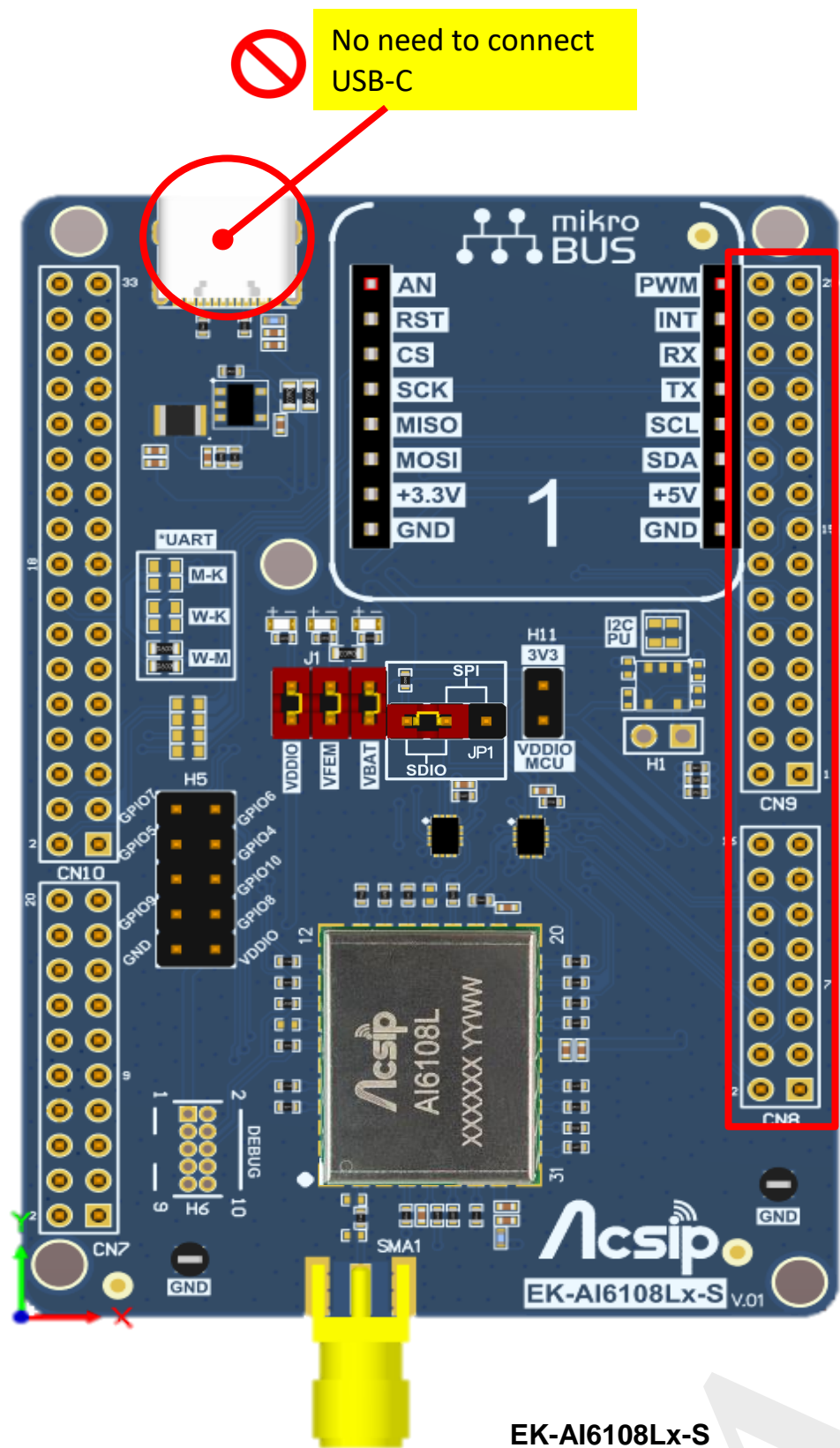
## STM32 NUCLEO-F429ZI

- This uses the [STM32 NUCLEO-F429ZI](#) as the host MCU development board..
- The two boards connect together as shown in the photo below. This is connected to the PC by the micro-USB connector **CN1** on the Nucleo, as highlighted below. This will provide power and debug connectivity to the platform.



**Optionally** power can be supplied via the USB-C connector on the EK-AI6108Lx-S instead. In most cases this should not be necessary, but may be necessary if the USB port is not able to supply sufficient power. Note that if power is supplied via the USB-C connector then **JP3** on the Nucleo must be removed. The Nucleo must still be connected to the PC via micro-USB connector **CN1** in order to use the debug interface.

Reference Platforms  
Raspberry Pi 4



EK-AI6108Lx-S  
Pins Legend :  
Module Pin Name  
POWER  
GND  
SDIO Interface Pins  
SPI Interface Pins  
Control Pins

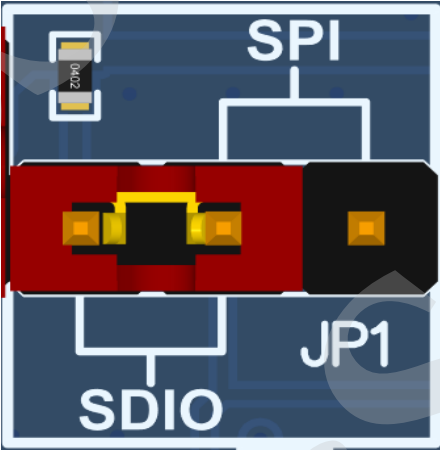
30	29		
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24	23		
22	21		
20	19		
18	17		
16	15		
14	13		
12	11		
10	9		
8	7		
6	5		
4	3		
2	1		
CN9			
16	15		
14	13		
12	11		
10	9		
8	7		
6	5		
4	3		
2	1		
CN8			

SDIO_CMD	SDIO_CMD		
SDIO_CLK	SDIO_CLK		
SDIO_D3	SDIO_D3		
SDIO_D2	SDIO_D2		
SDIO_D1	SDIO_D1		
SDIO_D0	SDIO_D0		

SDIO_D2			
SDIO_D1			
GPIO1			
BUSY			
WAKE			
RESET_N			

SPI_INT			
BUSY			
WAKE			
RESET_N			

JP1: Interface switch jumper setting

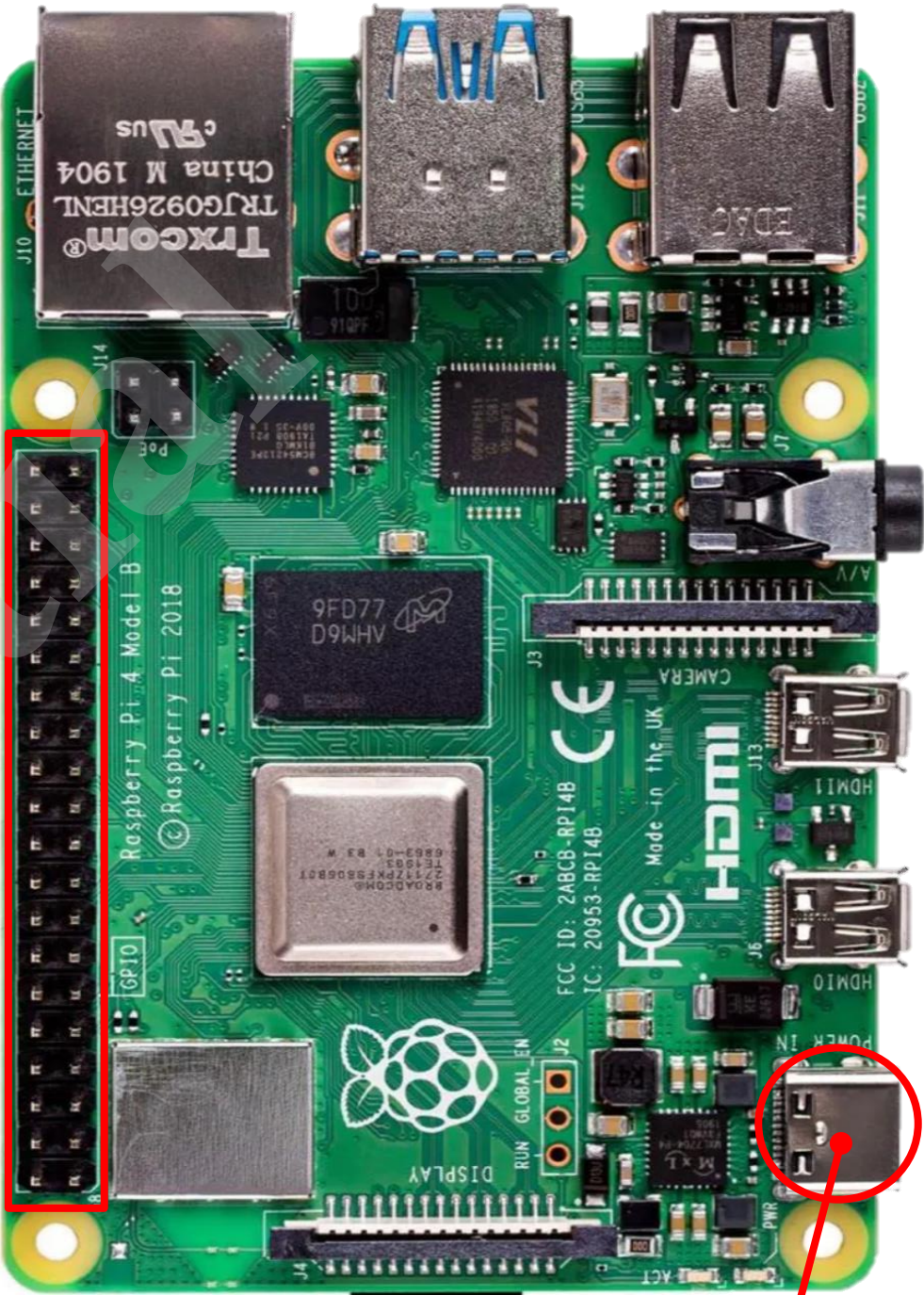


Module Pin Name	SDIO	SPI
SDIO_CMD	SDIO_CMD	SPI_MQSI
SDIO_CLK	SDIO_CLK	SPI_SCK
SDIO_D3	SDIO_D3	SPI_CS
SDIO_D2	SDIO_D2	
SDIO_D1	SDIO_D1	SPI_INT
SDIO_D0	SDIO_D0	SPI_MISO

GND			
GND			
BUSY			
SDIO_D1			
SDIO_D0			
SDIO_CMD			
GND			
GND			
VDD5V_MCU			
5V Power			
5V Power			

GPIO 7			
GND			
GND			
GPIO 25			
GPIO 24			
GPIO 23			
GND			
GND			
GPIO 22			
GPIO 27			
GND			
GND			
GPIO 3			
3v3 Power			

SDIO_D2			
RESET_N			
SDIO_CLK			
SDIO_D3			
WAKE			
VDDIO_MCU			



RPi 4 Pins Legend :  
RPi Pin Name  
POWER  
GND  
SDIO Pins  
Control Pins

# Antenna Specifications

**ARISTOTLE**  
ENTERPRISES INC.

## Specifications

### RFA-08-C58-U-B70

#### Specifications

Frequency range	863 –928 MHz
Peak gain	1.6dBi
Average gain	0.8dBi
VSWR	2.5 : 1 Max.
Polarization	Linear, vertical
Impedance	50 $\Omega$
Connector	SMA PLUG

#### Environment & Mechanical Characteristics

Temperature	- 10°C to +55°C
Humidity	95% @ 25°C

