

# EK-AI6108LT-S User Guide



**AcSiP Technology Corp.**

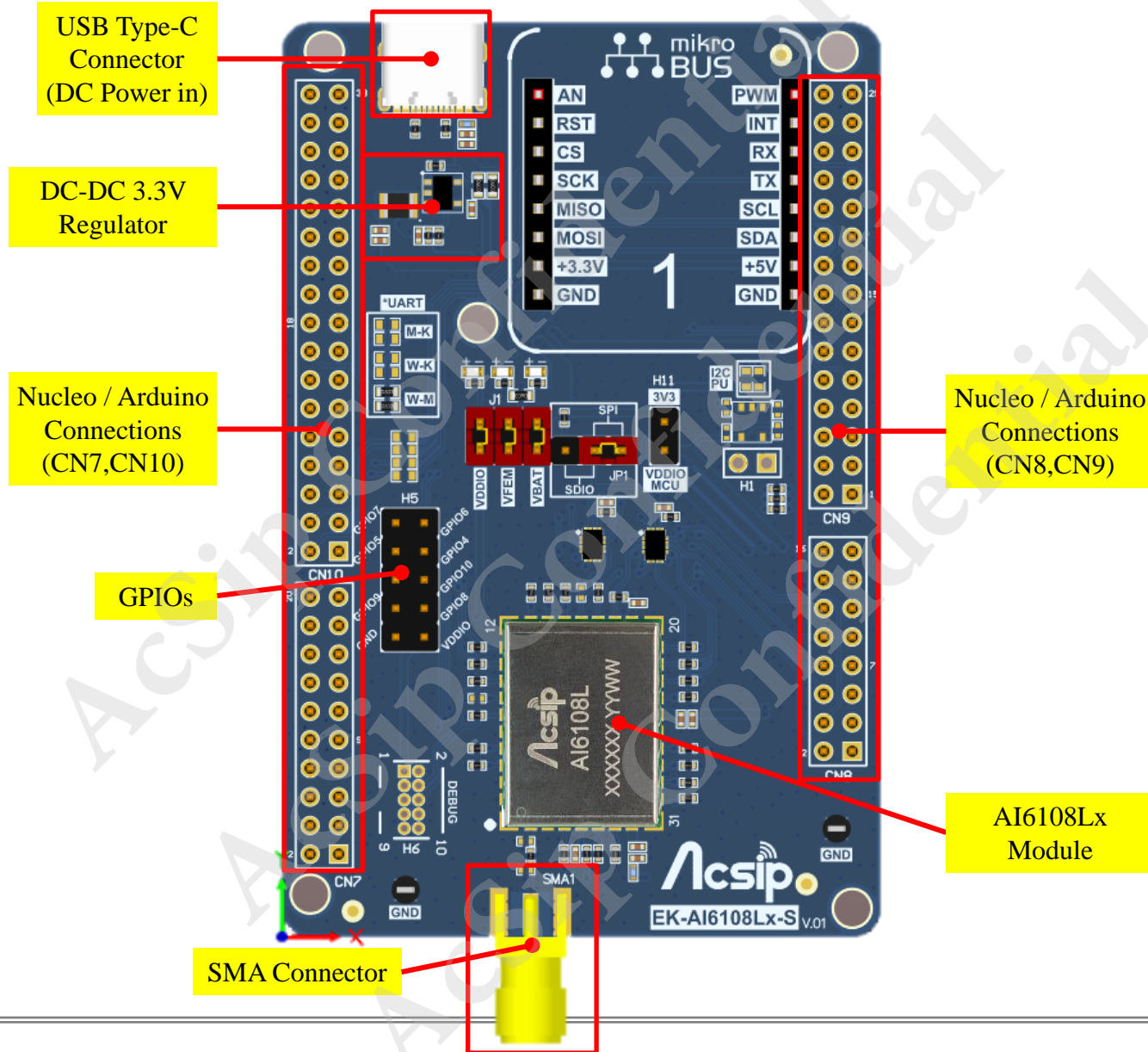
[www.acsip.com.tw](http://www.acsip.com.tw)

Doc No : 912-17003

Ver. : A

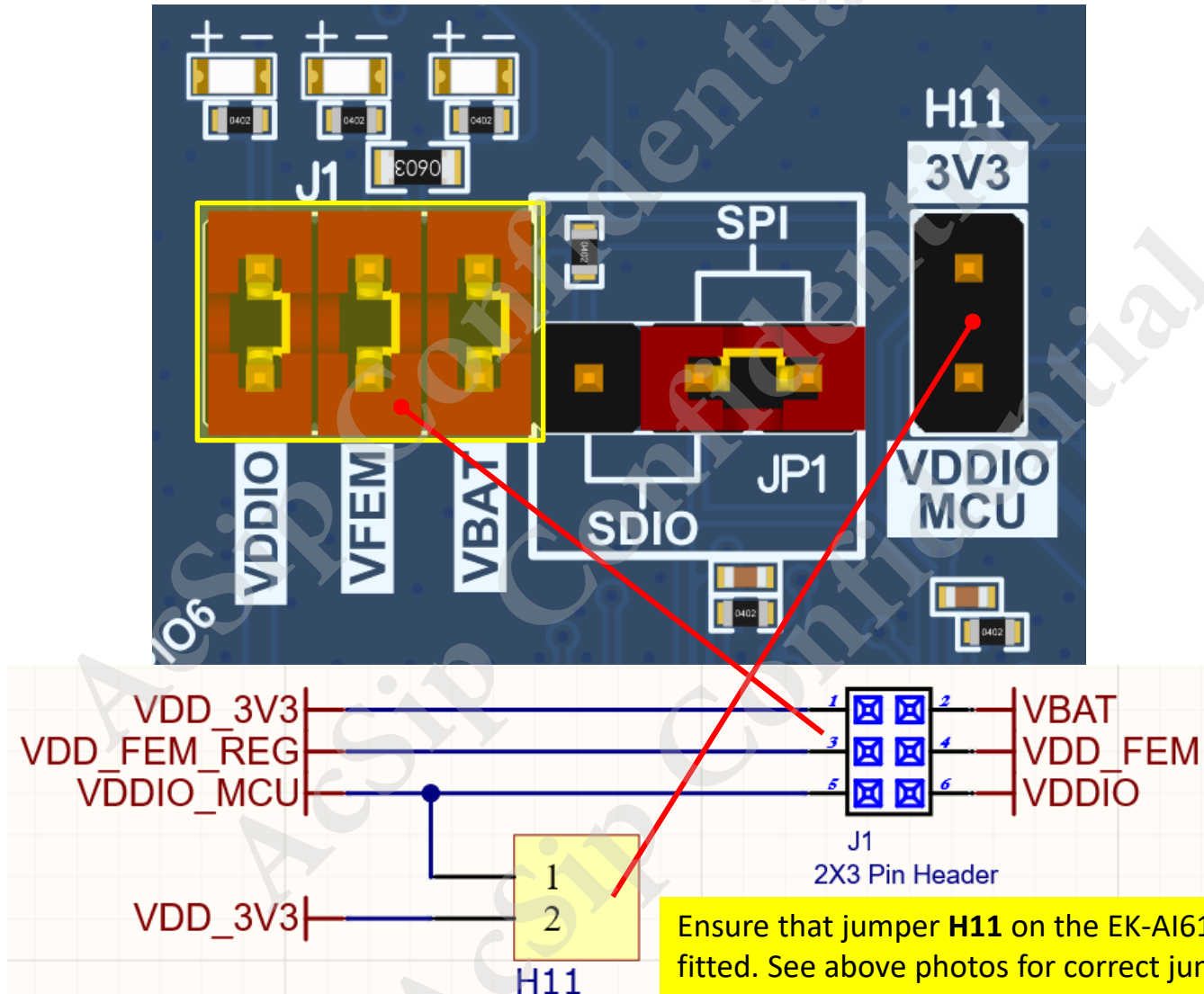
Date: 2024/02/16

# Functional Description

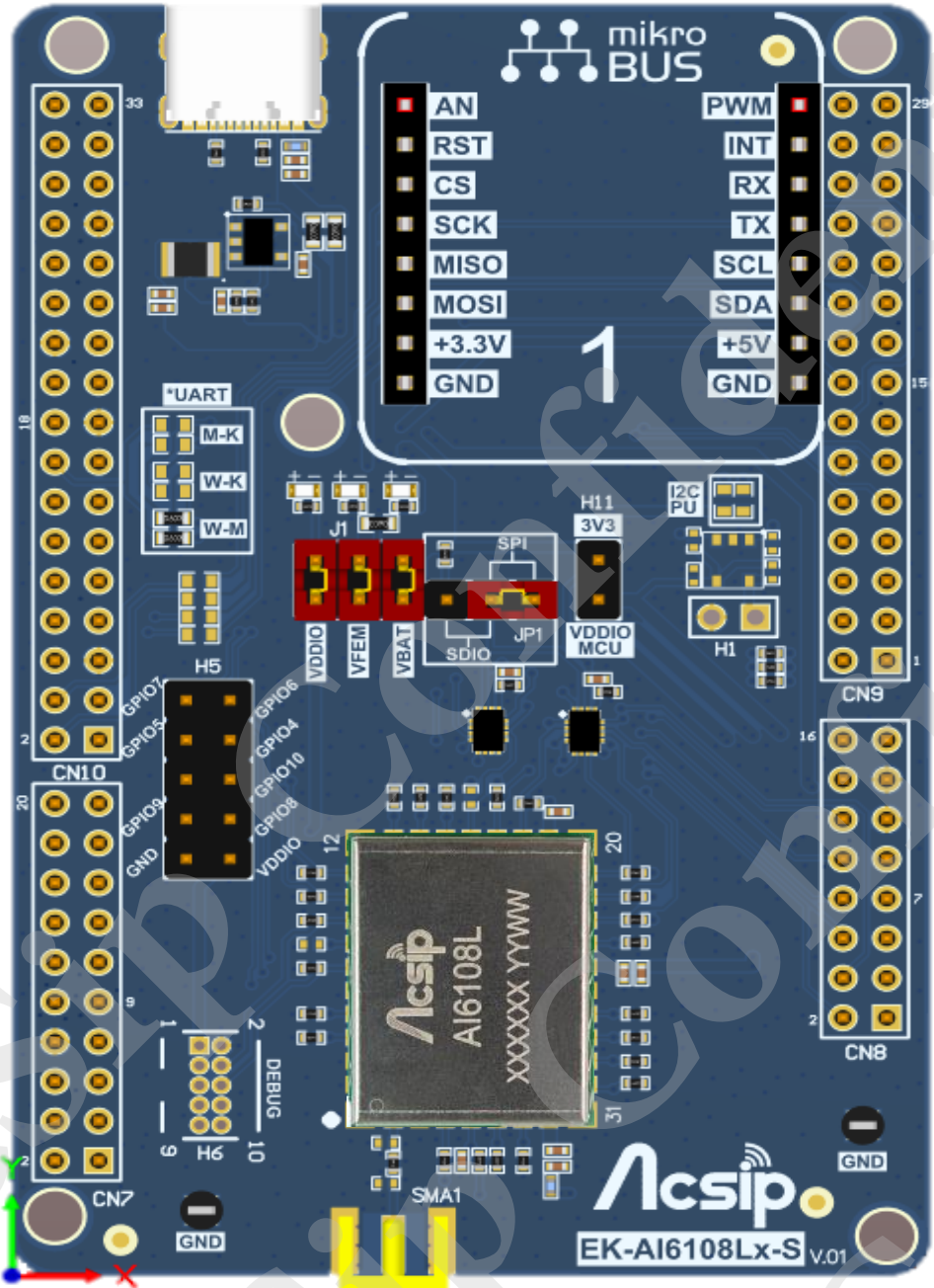


# DC Power Jumper

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
UART1_TX	GPIO7	16	15
UART1_RX	GPIO6	14	13
		12	11
		10	9
		8	7
		6	5
		4	3
		2	1
		CN10	
		20	19
		18	17
		16	15
SPI_CS	SDIO_D3	14	13
SPI_MOSI	SDIO_CMD	12	11
SPI_MISO	SDIO_D0	10	9
SPI_SCK	SDIO_CLK	8	7
	GND	6	5
		4	3
		2	1
		CN7	
		10	9
UART1_TX	GPIO7	8	7
I2C_SCL	GPIO5	6	5
		4	3
	GPIO9	2	1
	GND		
		H5	
		10	9
		8	7
		6	5
		4	3
		2	1

GND

GND

GND

GPIO6	UART1_RX
GPIO4	I2C_SDA
GPIO10	
GPIO8	
VDDIO	

### Pins Legend :

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

\*Pending software support

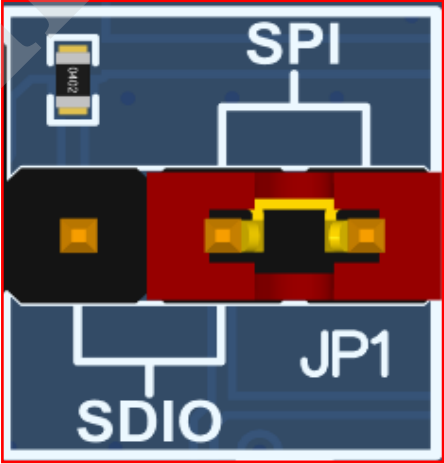
		30	29
		28	27
		26	25
		24	23
		22	21
		20	19
		18	17
		16	15
		14	13
		12	11
		10	9
		8	7
		6	5
		4	3
		2	1
		CN9	
		16	15
		14	13
		12	11
		10	9
		8	7
		6	5
		4	3
		2	1
		CN8	

GND

SDIO_D2	
SDIO_D1	SPI_INT
GPIO1	
BUSY	BUSY
WAKE	WAKE
RESET_N	RESET_N

GND
GND
VDD5V_MCU
VDDIO_MCU

### JP1: Interface switch jumper setting



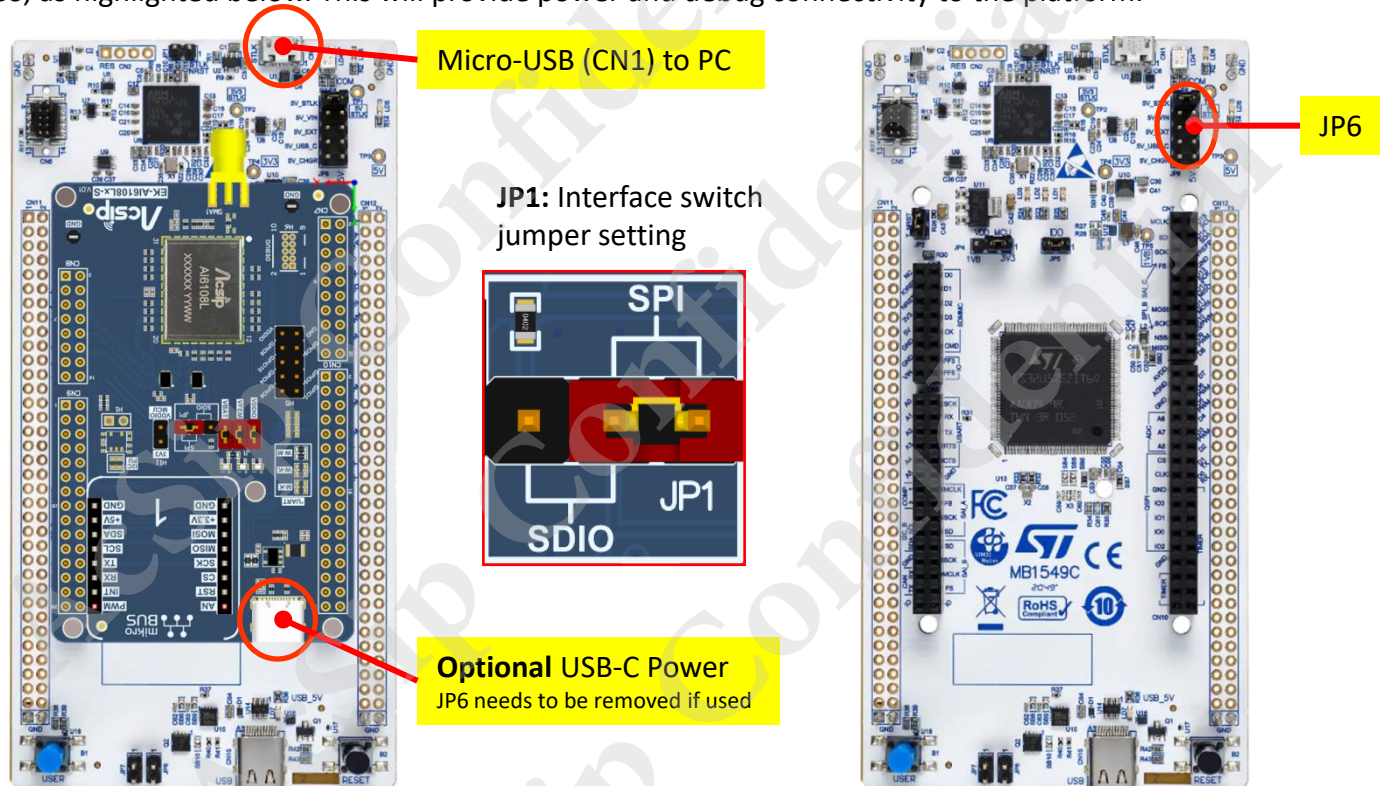
Module Pin Name	SDIO	SPI
SDIO_CMD	SDIO_CMD	SPI_MOSI
SDIO_CLK	SDIO_CLK	SPI_SCK
SDIO_D3	SDIO_D3	SPI_CS
SDIO_D2	SDIO_D2	
SDIO_D1	SDIO_D1	SPI_INT
SDIO_D0	SDIO_D0	SPI_MISO



# 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.

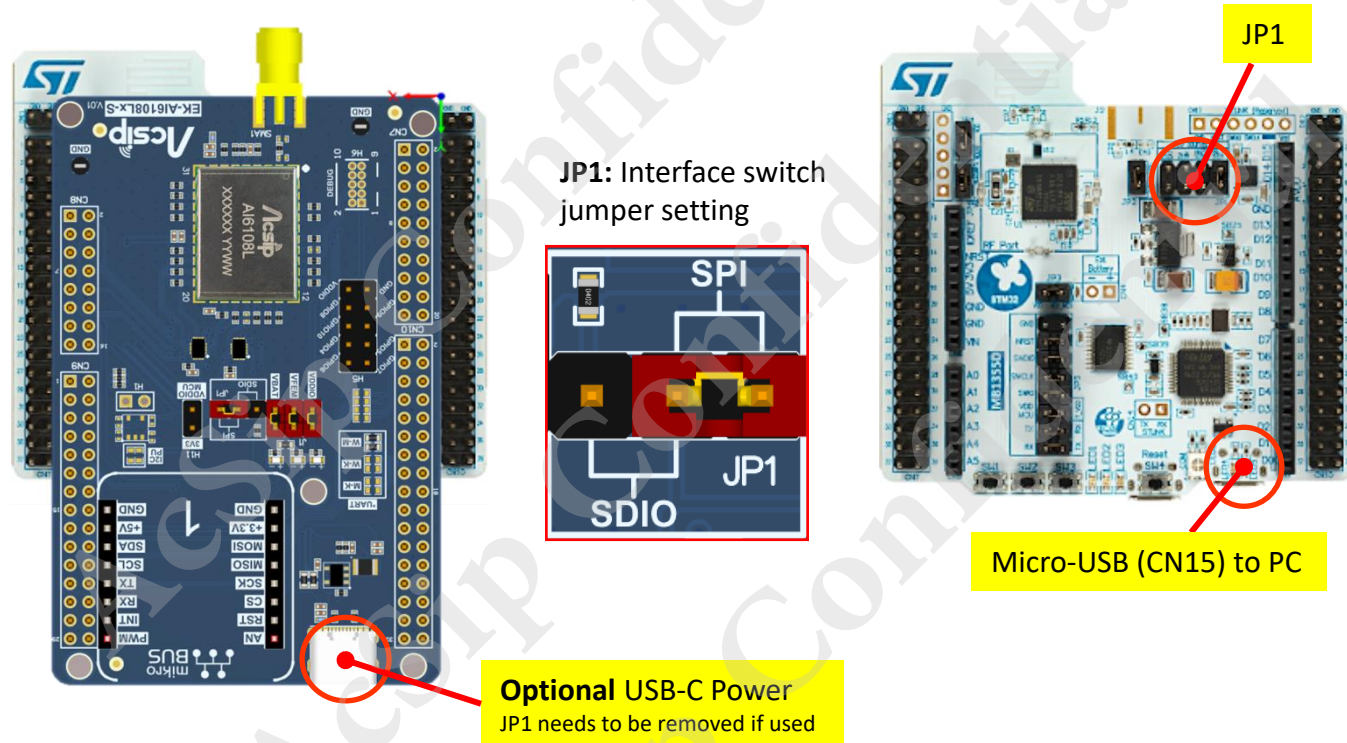


**Optionally** power can be supplied via the USB-C connector on the EK-AI6108Lx-S instead. In most cases this should not be necessary, but may be necessary if the USB port is not able to supply sufficient power. Note that if power is supplied via the USB-C connector then **JP6** on the Nucleo must be 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.

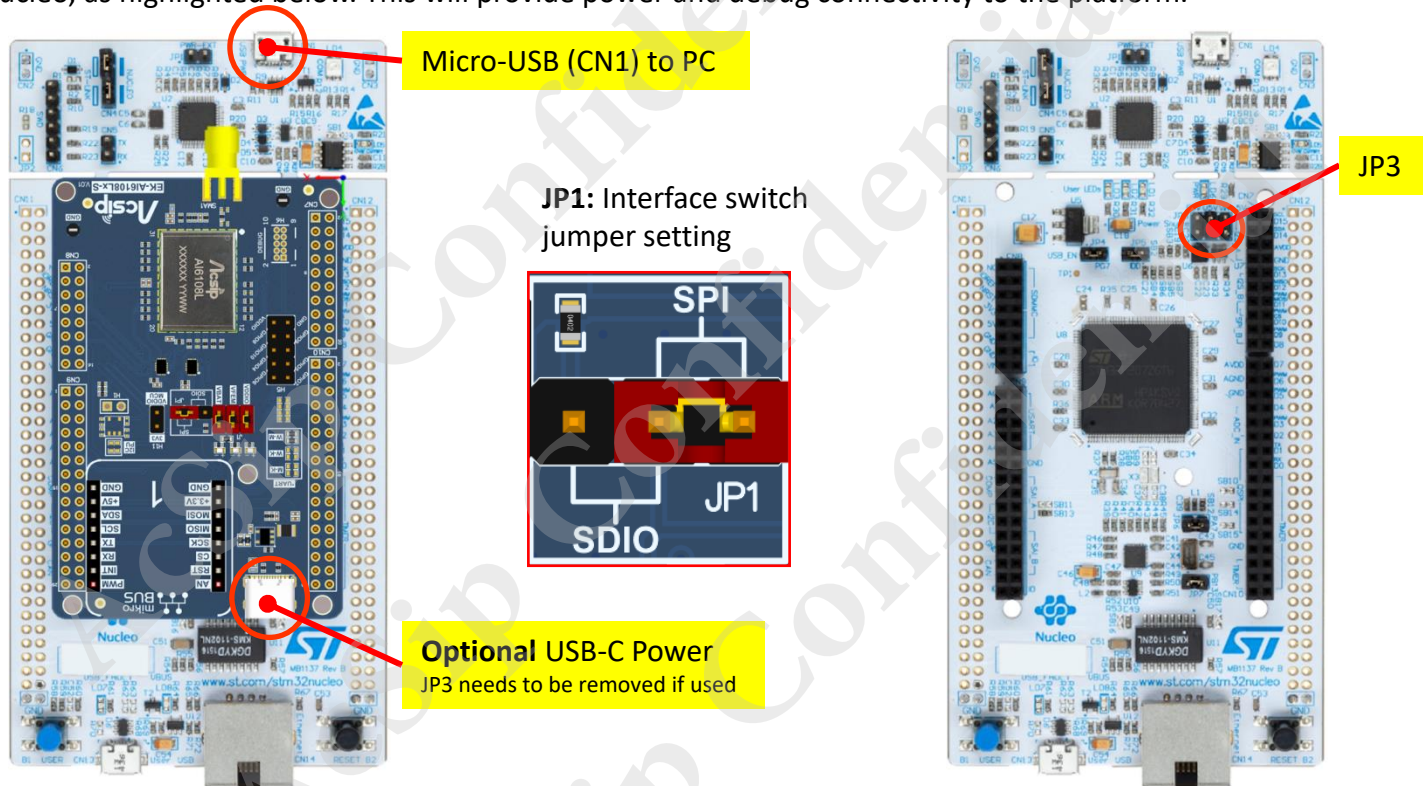


**Optionally** power can be supplied via the USB-C connector on the EK-AI6108Lx-S instead. In most cases this should not be necessary, but may be necessary if the USB port is not able to supply sufficient power. Note that if power is supplied via the USB-C connector then **JP1** on the Nucleo must be 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.

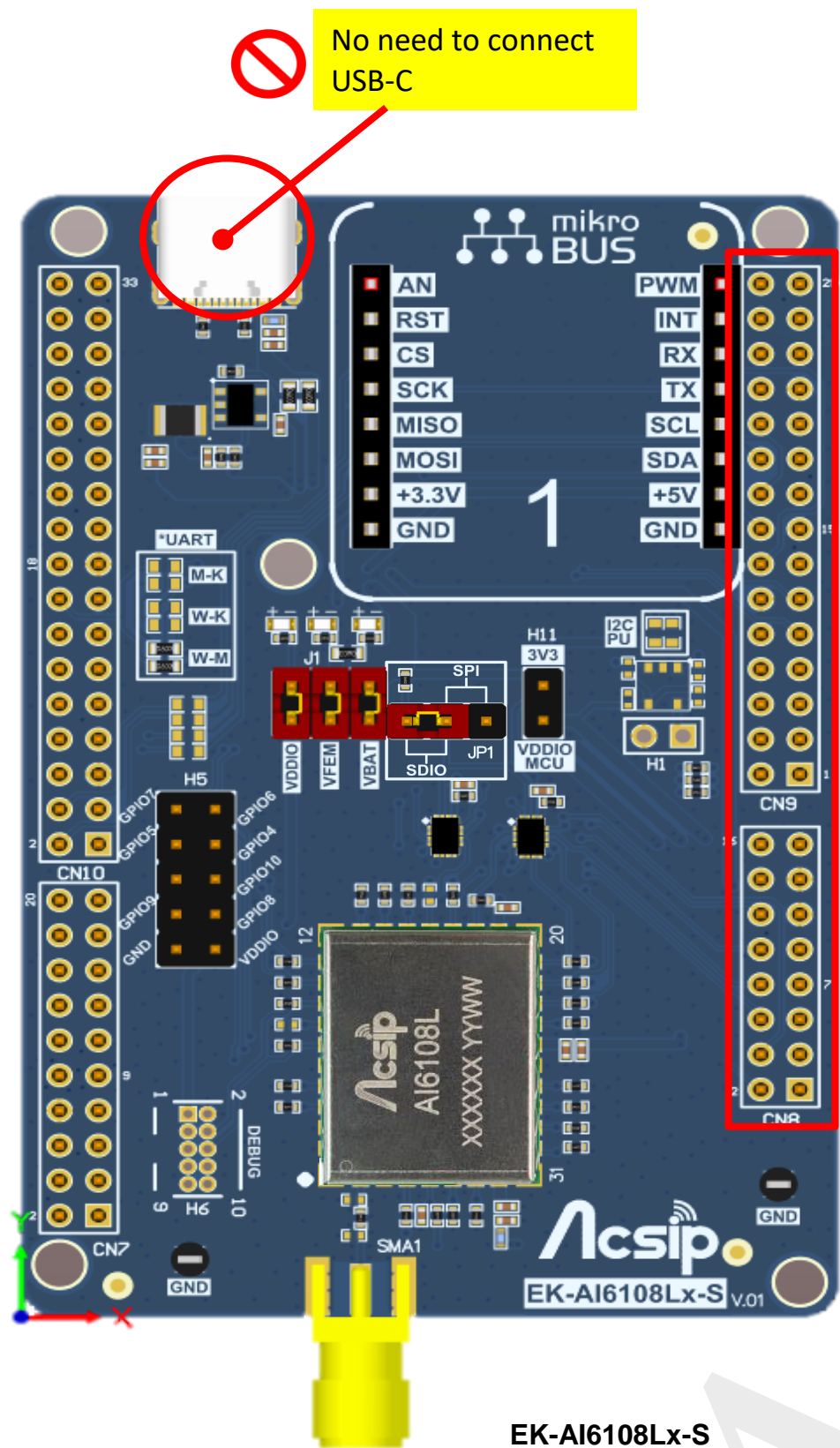


**Optionally** power can be supplied via the USB-C connector on the EK-AI6108Lx-S instead. In most cases this should not be necessary, but may be necessary if the USB port is not able to supply sufficient power. Note that if power is supplied via the USB-C connector then **JP3** on the Nucleo must be 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		
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		

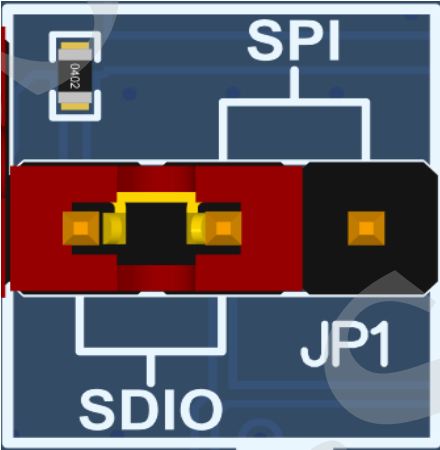
SDIO_CMD	SDIO_CMD
SDIO_CLK	SDIO_CLK
SDIO_D3	SDIO_D3
SDIO_D2	SDIO_D2
SDIO_D1	SDIO_D1
SDIO_D0	SDIO_D0

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

SDIO_D2	
SDIO_D1	SPI_INT
GPIO1	
BUSY	BUSY
WAKE	WAKE
RESET_N	RESET_N

GND
GND
VDD5V_MCU
VDDIO_MCU

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

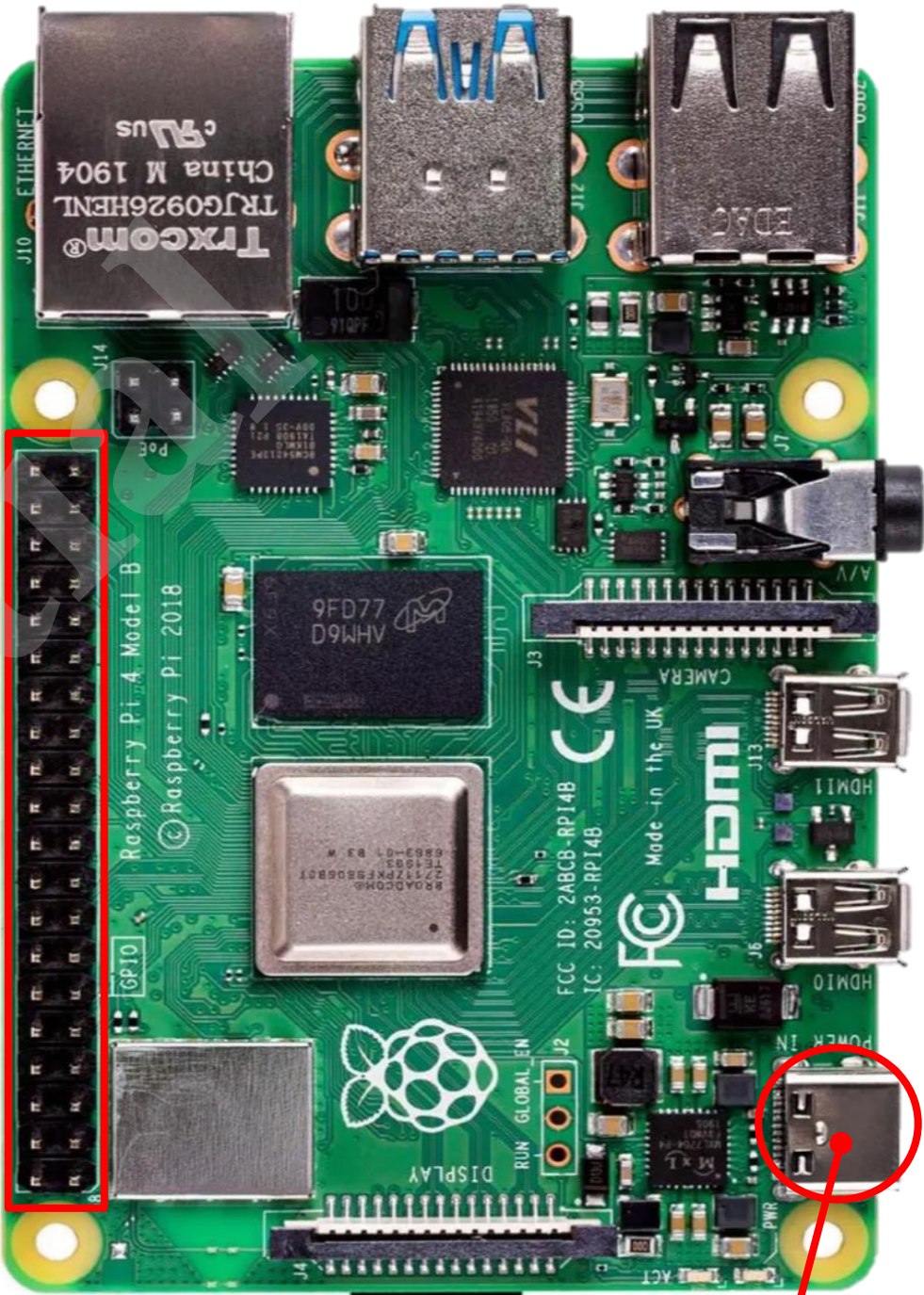
GND	
GND	
BUSY	GPIO 7
SDIO_D1	GPIO 25
SDIO_D0	GPIO 24
SDIO_CMD	GPIO 23
GND	
GND	
VDD5V_MCU	5V Power
5V Power	5V Power

40	39
38	37
36	35
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

GND	
GPIO 26	SDIO_D2
GPIO 5	RESET_N
GND	
GPIO 22	SDIO_CLK
GPIO 27	SDIO_D3
GND	
GPIO 3	WAKE
3v3 Power	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

