

# EK-AI6108LT-S User Guide



**AcSiP Technology Corp.**

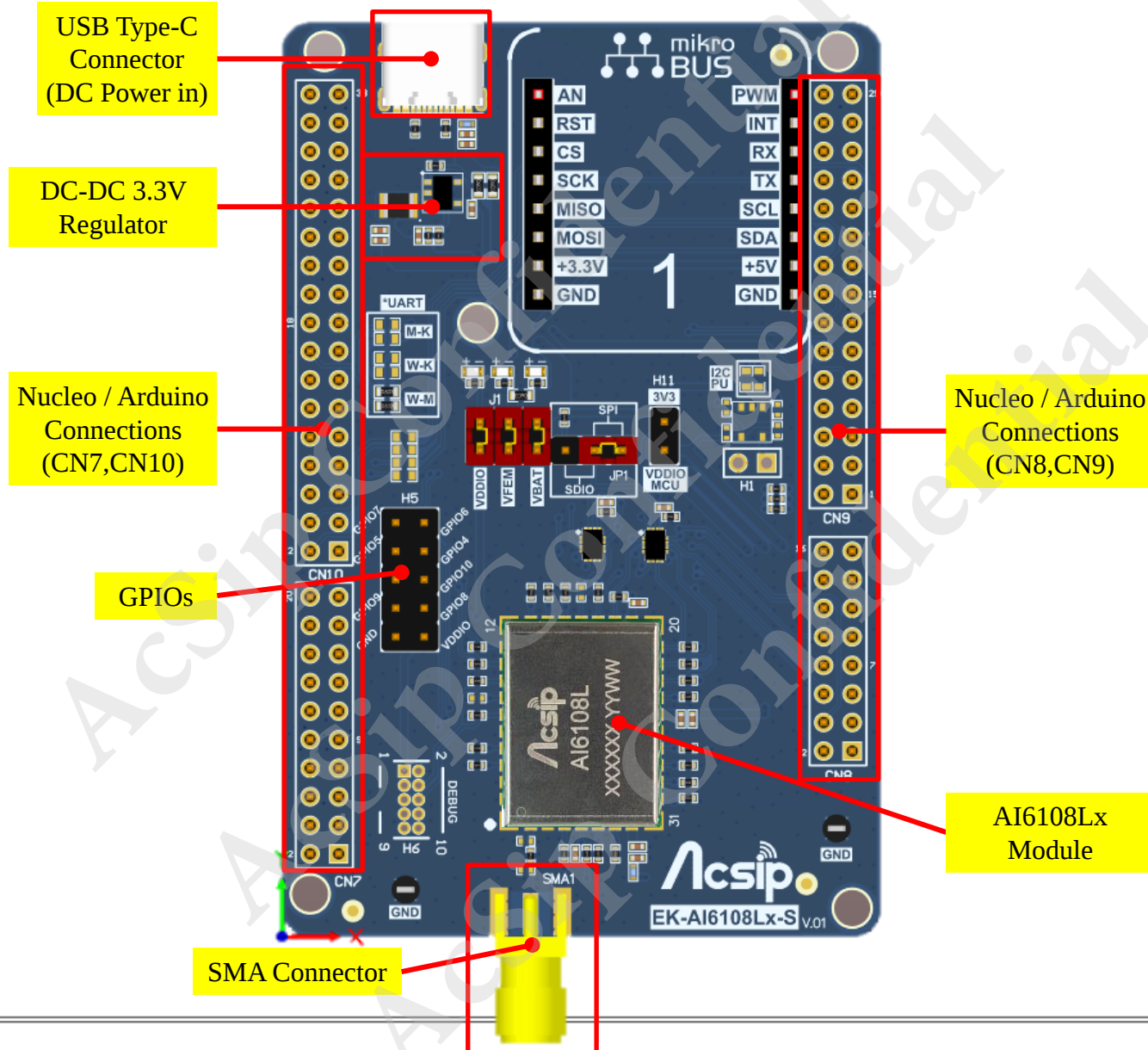
[www.acsip.com.tw](http://www.acsip.com.tw)

Doc No : 912-17003

Ver. : A

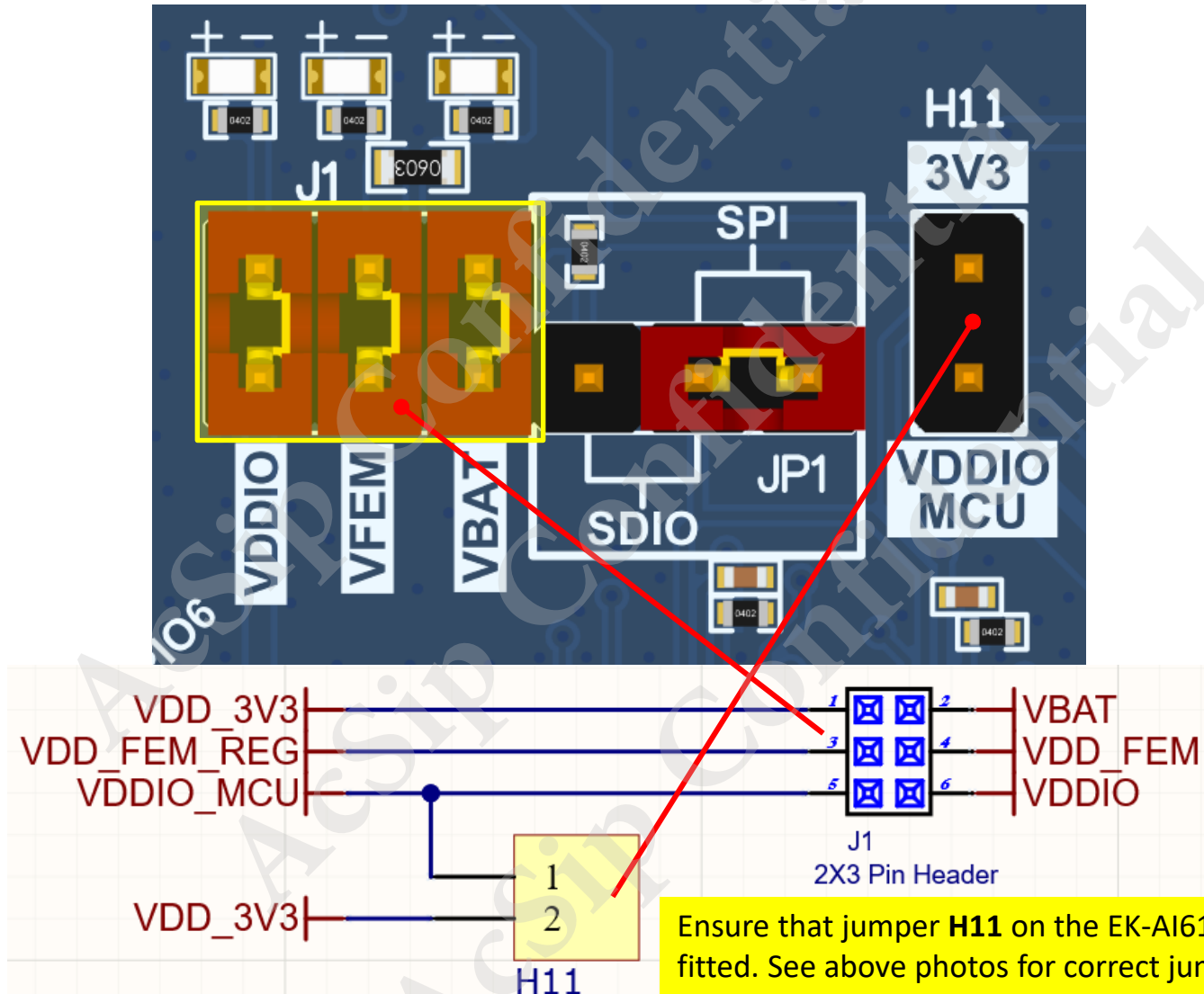
Date: 2024/02/16

# Functional Description

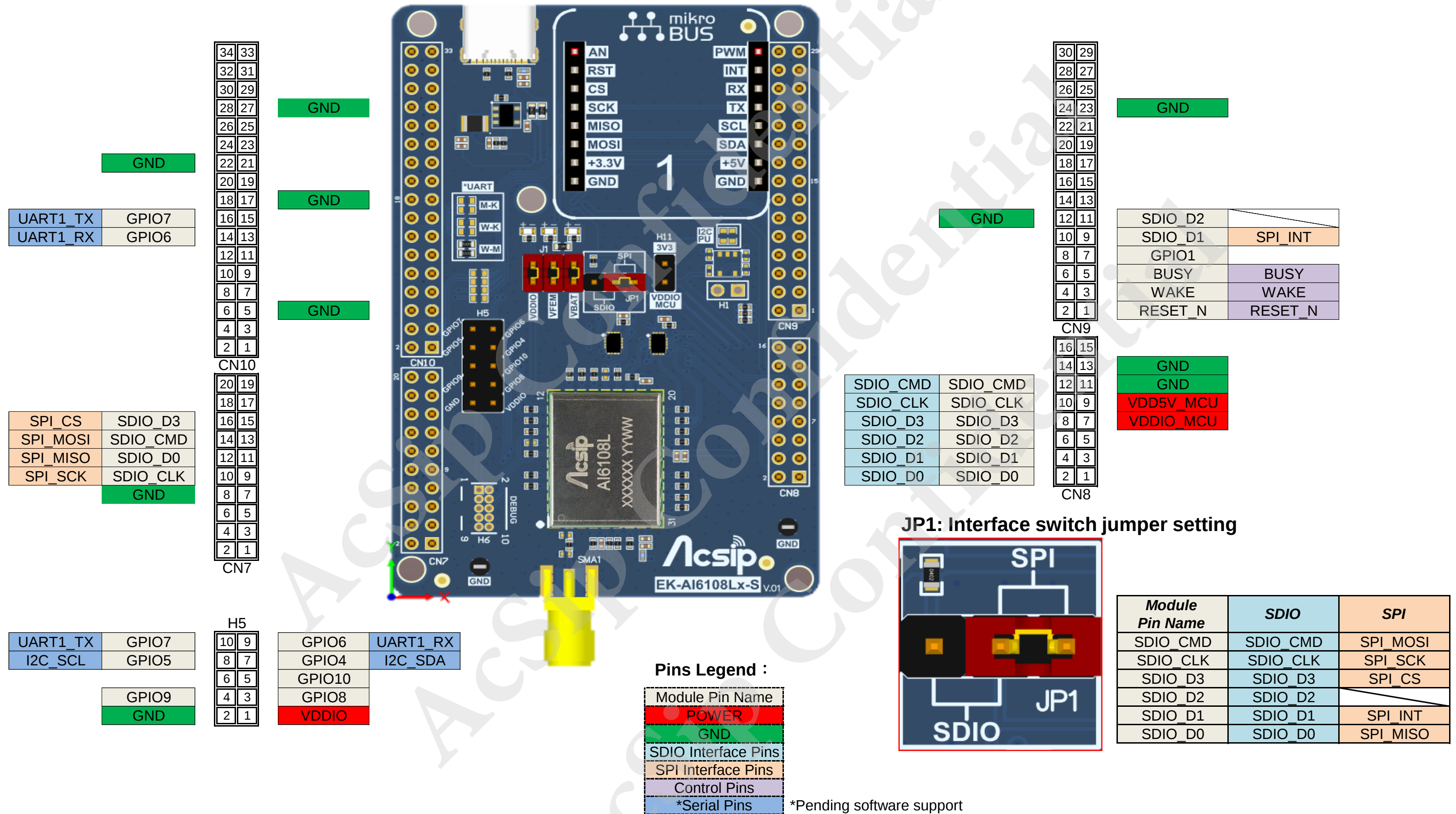


# DC Power Jumper

Jumper Settings vs Schematic



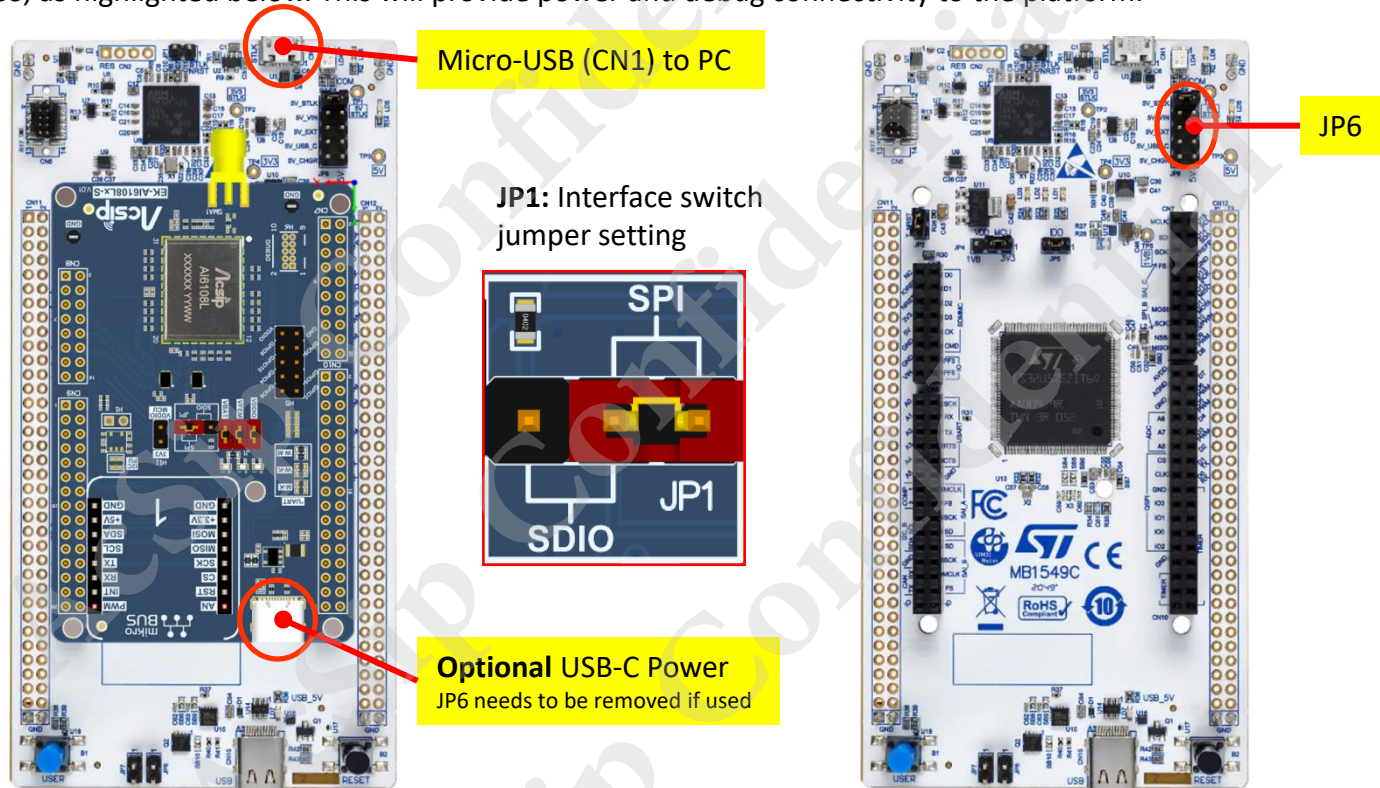
# ER / WEEK 5 / 11090



# 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.

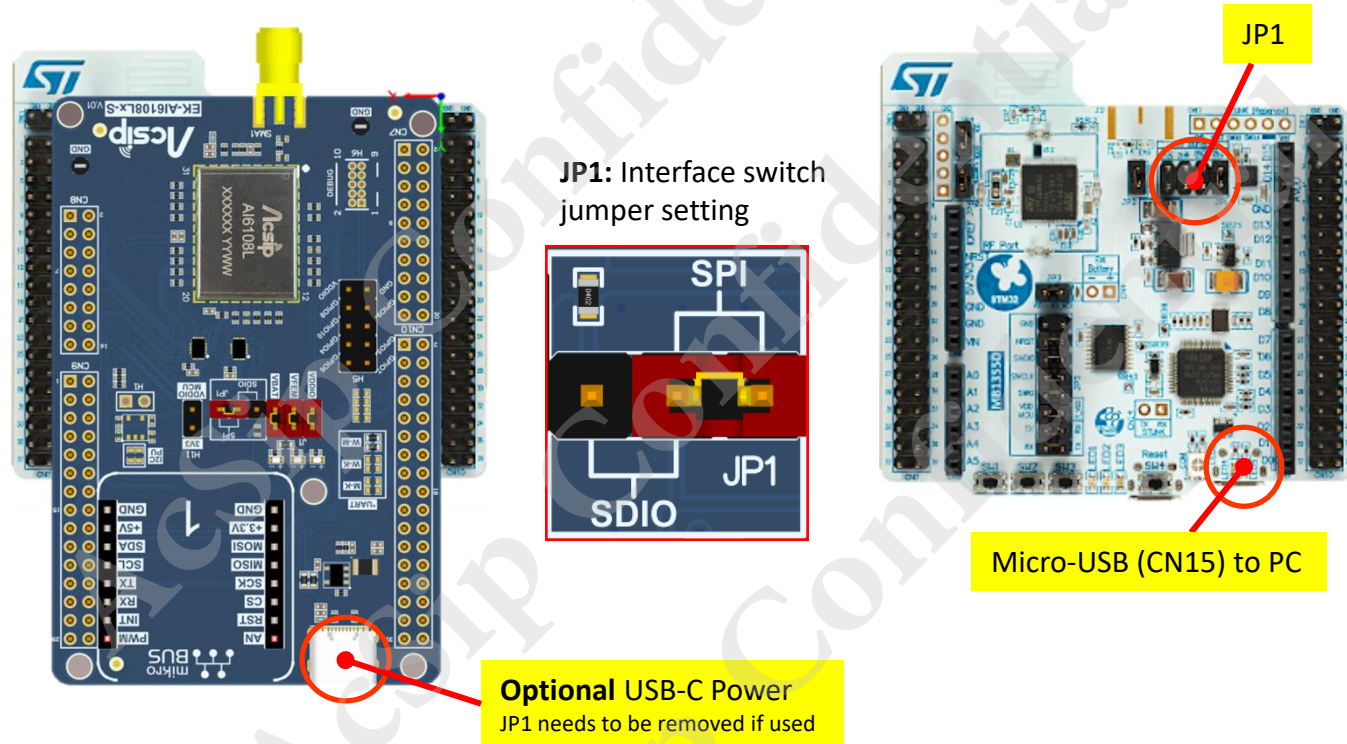


**Optionally** power can be supplied via the USB-C connector on the EK-AI6108Lx-S instead. In most cases this should not be necessary, but may be necessary if the USB port is not able to supply sufficient power. Note that if power is supplied via the USB-C connector then **JP6** on the Nucleo must be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

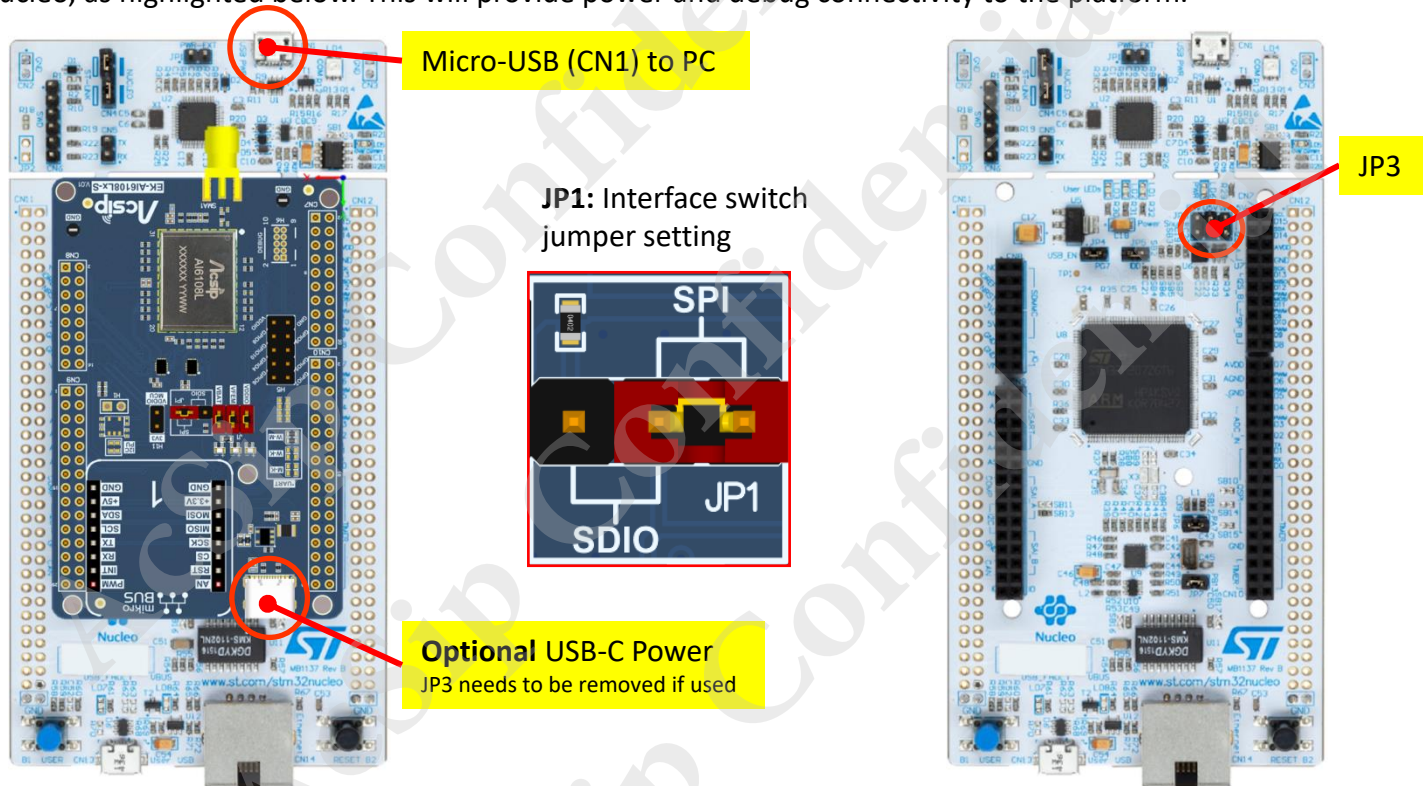


**Optionally** power can be supplied via the USB-C connector on the EK-AI6108Lx-S instead. In most cases this should not be necessary, but may be necessary if the USB port is not able to supply sufficient power. Note that if power is supplied via the USB-C connector then **JP1** on the Nucleo must be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

# Reference Platforms

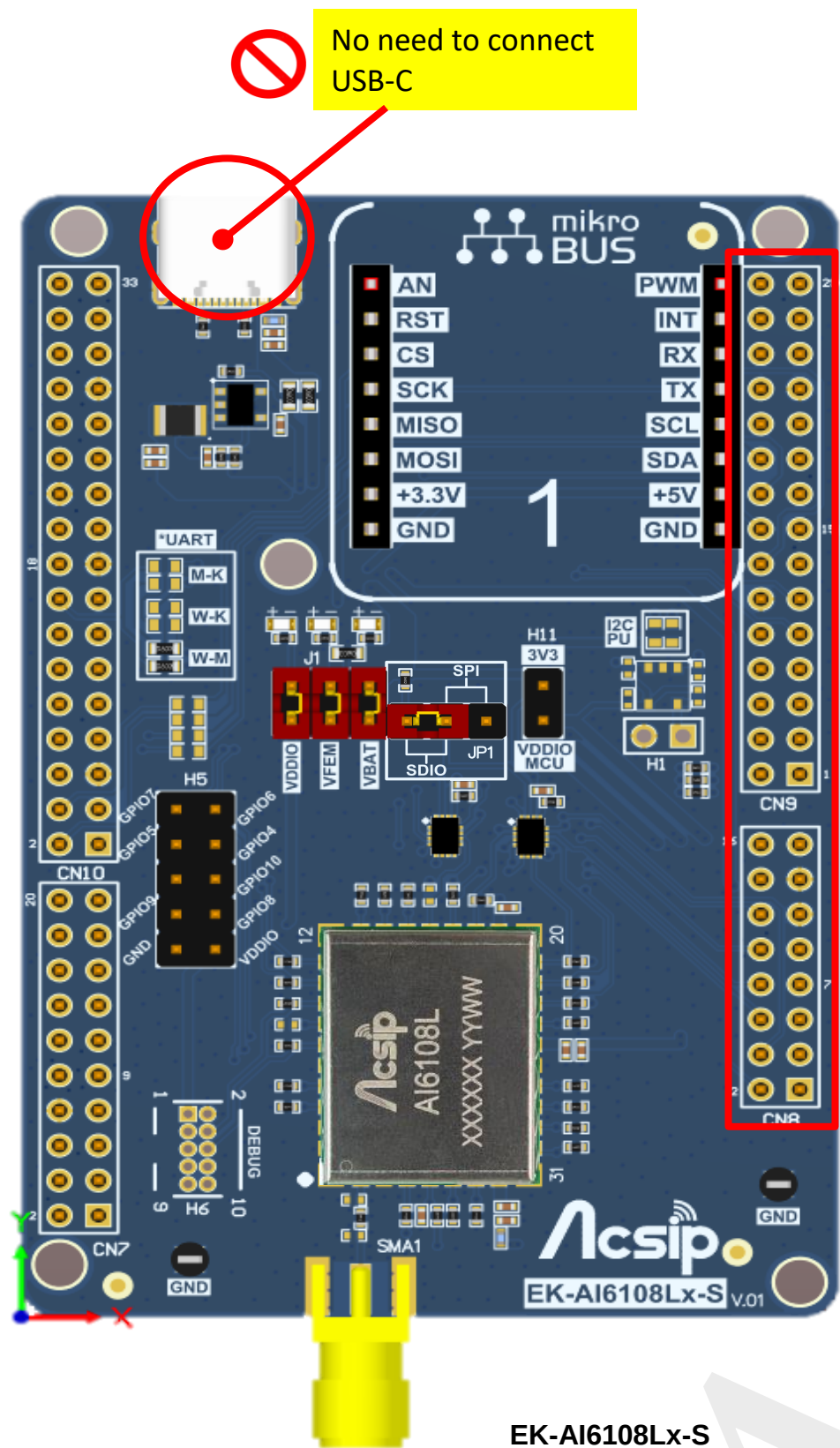
## STM32 NUCLEO-F429ZI

- 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



No need to connect  
USB-C

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  |

CN8

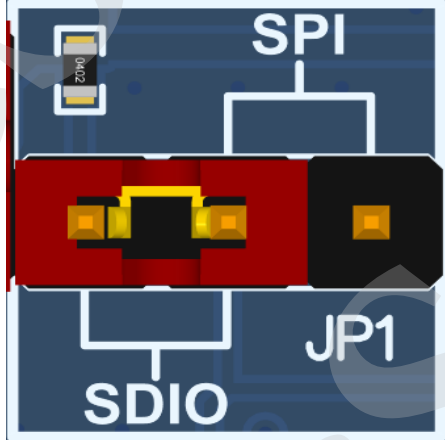
|          |          |
|----------|----------|
| SDIO_CMD | SDIO_CMD |
| SDIO_CLK | SDIO_CLK |
| SDIO_D3  | SDIO_D3  |
| SDIO_D2  | SDIO_D2  |
| SDIO_D1  | SDIO_D1  |
| SDIO_D0  | SDIO_D0  |

CN9

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

CN9

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     |         |
|         |         |
|         |         |
| SDIO_D2 |         |
| SDIO_D1 | SPI_INT |
| GPIO1   |         |
| BUSY    | BUSY    |
| WAKE    | WAKE    |
| RESET_N | RESET_N |

|           |
|-----------|
| GND       |
| GND       |
| VDD5V_MCU |
| VDDIO_MCU |

|          |         |
|----------|---------|
|          | GND     |
|          | GND     |
| BUSY     | GPIO 7  |
| SDIO_D1  | GPIO 25 |
|          | GND     |
| SDIO_D0  | GPIO 24 |
| SDIO_CMD | GPIO 23 |
|          | GND     |

|           |          |
|-----------|----------|
|           | GND      |
|           | 5V Power |
| VDD5V_MCU | 5V Power |

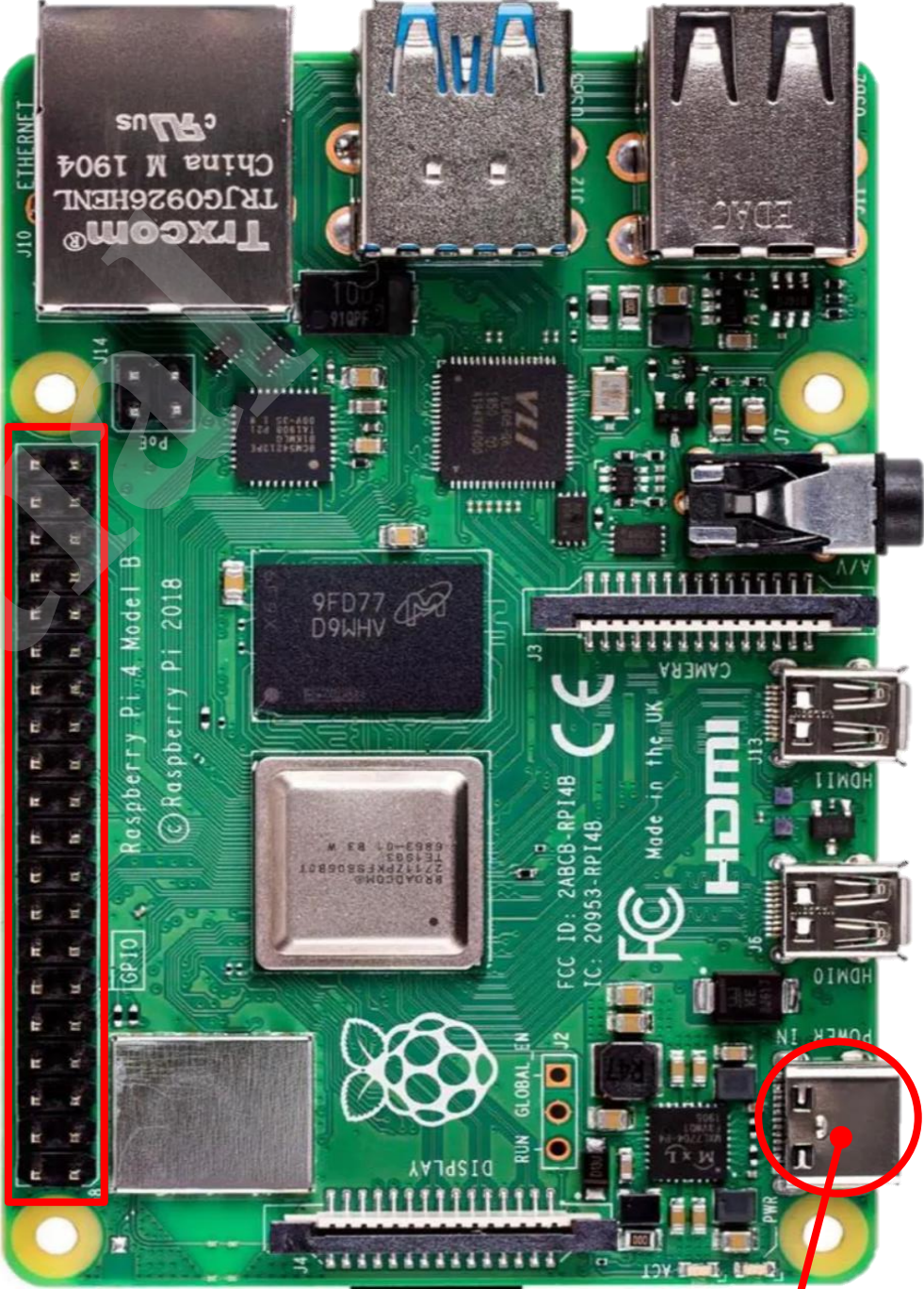
|    |    |
|----|----|
| 40 | 39 |
| 38 | 37 |
| 36 | 35 |
| 34 | 33 |
| 32 | 31 |
| 30 | 29 |
| 28 | 27 |
| 26 | 25 |
| 24 | 23 |
| 22 | 21 |
| 20 | 19 |
| 18 | 17 |
| 16 | 15 |
| 14 | 13 |
| 12 | 11 |
| 10 | 9  |
| 8  | 7  |
| 6  | 5  |
| 4  | 3  |
| 2  | 1  |

J8

|           |           |
|-----------|-----------|
| 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 |



USB-C Power

# 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      |

