## Hardware Requirements

Talaria TWO module supports SPI and SDIO interfaces for host communication. The interface can be specified by the following boot argument in Talaria TWO during firmware ELF programming:

|  |
| --- |
| hio.transport=[spi|sdio] |

1. With SPI interface, Talaria TWO module runs as SPI slave. Host must run as the SPI master. The maximum SPI clock frequency supported is 25MHz. Pins of the Talaria TWO module are fixed. Table 1 provides the details:

|  |  |  |
| --- | --- | --- |
| **PIN NUMBER@T2** | **PIN NAME@T2** | **PINAME@HOST** |
| GPIO\_1 | MOSI | MOSI |
| GPIO\_2 | MISO | MISO |
| GPIO\_5 | CS | CS |
| GPIO\_0 | SCK | SCK |
| GPIO\_4 | IRQ (interrupt) | HOST IRQ |

Table 1: SPI interface - PIN details

Diagram

Description automatically generated

Figure 2: SPI interface for host communication

1. With SDIO interface, Talaria TWO module runs as SDIO device with the SDIO clock at 10MHz. Host must run as the SDIO host. Pins of the Talaria TWO module are fixed. Table 2 provides the details:

|  |  |  |
| --- | --- | --- |
| **PIN NUMBER@T2** | **PIN NAME@T2** | **PINAME@HOST** |
| GPIO\_1 | CMD | SD-CMD |
| GPIO\_2 | DATA0 | SD-DATA0 |
| GPIO\_3 | DATA1 | SD-DATA1 |
| GPIO\_0 | SD\_CLK | SDIO\_CLK |
| GPIO\_4 | DATA2 | SD-DATA2 |
| GPIO\_5 | DATA3 | SD-DATA3 |

Table 2: SDIO interface - PIN details

Diagram

Description automatically generated

Figure 3: SDIO interface for host communication

1. Two additional GPIOs are required for the following functionalities:
   1. Talaria TWO Wakeup

This is usually controlled by the host. It is used by the host to wake up the Talaria TWO module from sleep. GPIO-14 is used for this operation and can be modified depending on the GPIO availability. This pin should be connected to one of the GPIOs available on the host.

* 1. Host Power Control

This connection is controlled by Talaria TWO module and is used to turn ON/OFF the host. GPIO-3(SPI)/GPIO-20(SDIO) is used for this operation on Talaria TWO module and can be altered depending on the GPIO availability.