

# DEMEVAL-ME310 EVK User Guide

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## 1.OVERVIEW

The aim of this document is to describe the “DEMEVAL-ME310” EVK board based on Telit ME310G1-WW modem 2odüle The DEMEVAL-ME310 board is powered either by

- onboard 2pin connectors
- VIN pin on connector

Using either the onboard 3.8V DC power supply or by a 3.7 V LIPO battery.  
All GPIO pins of Telit ME310G1-WW levels are set to 1.8 V,

This document lists and describes circuit building blocks and connectors

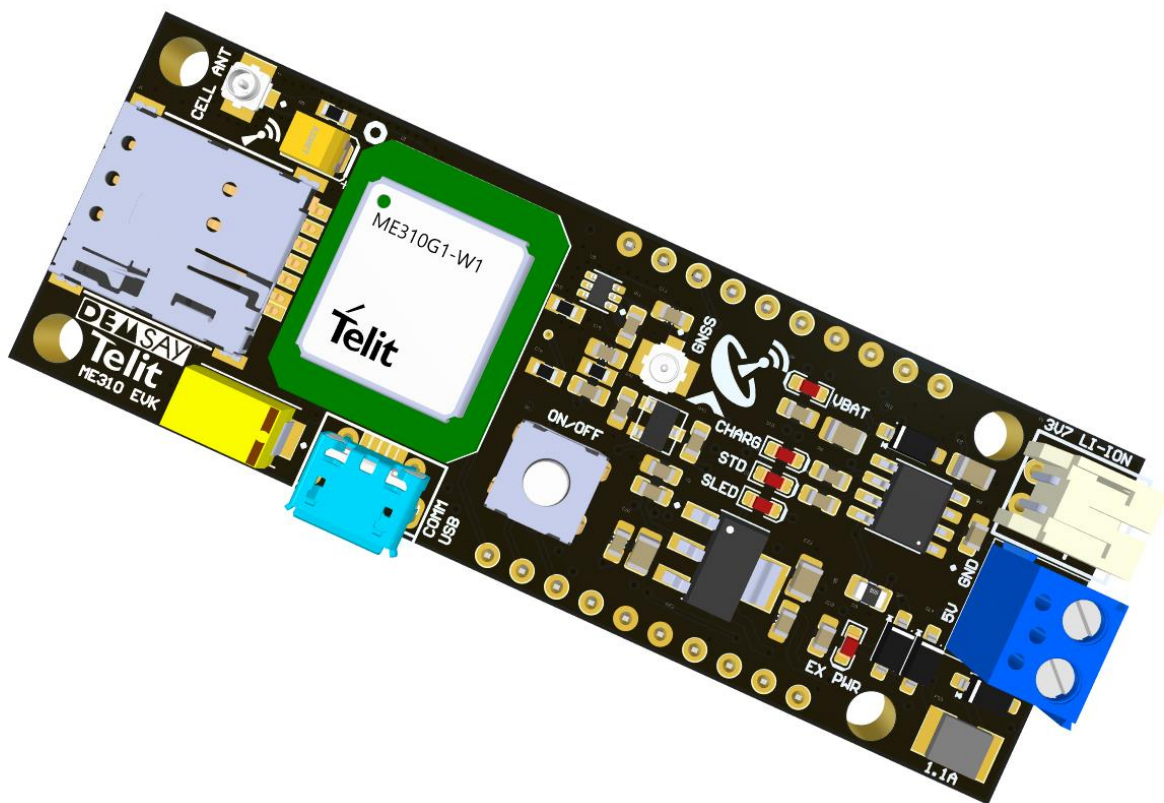
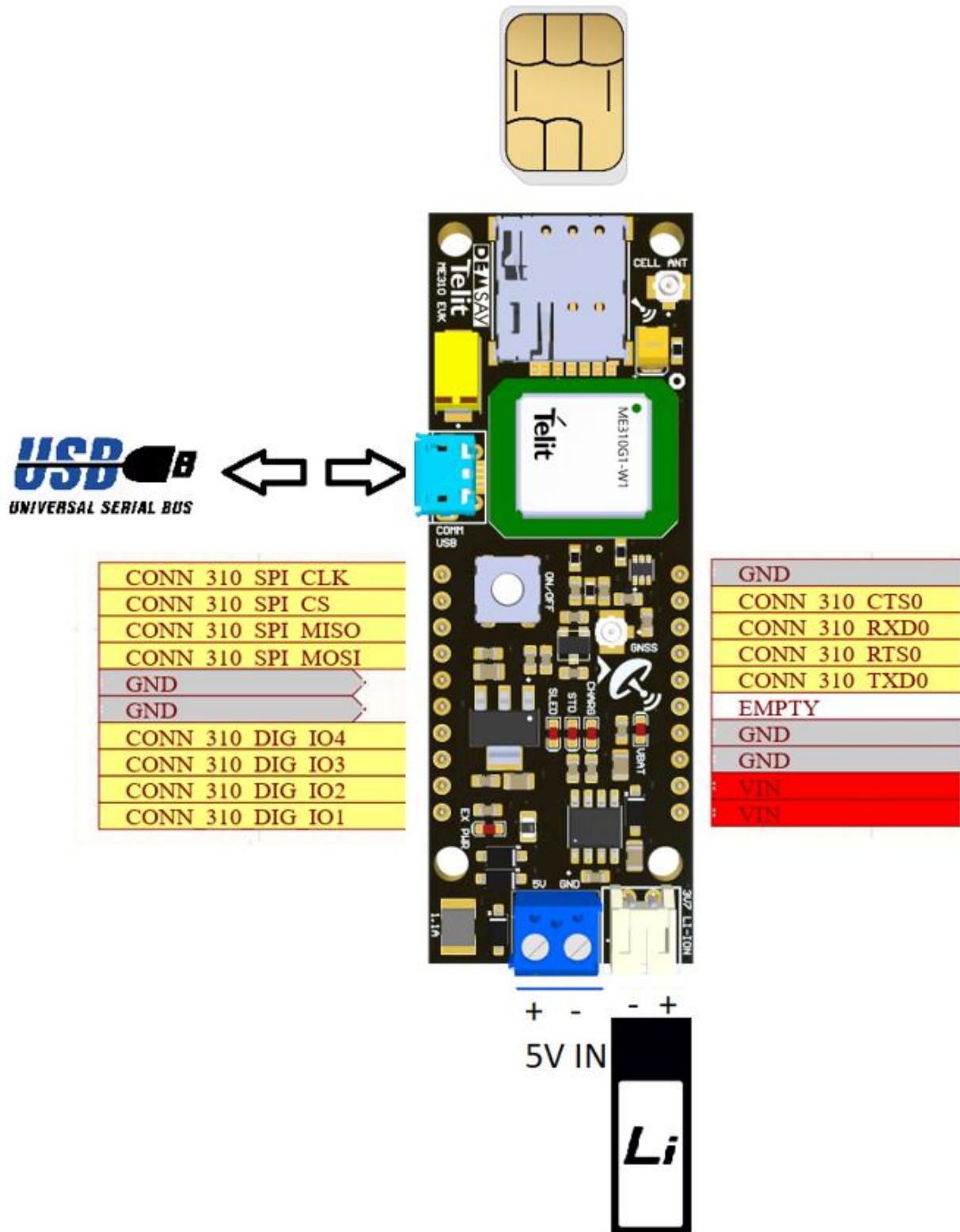
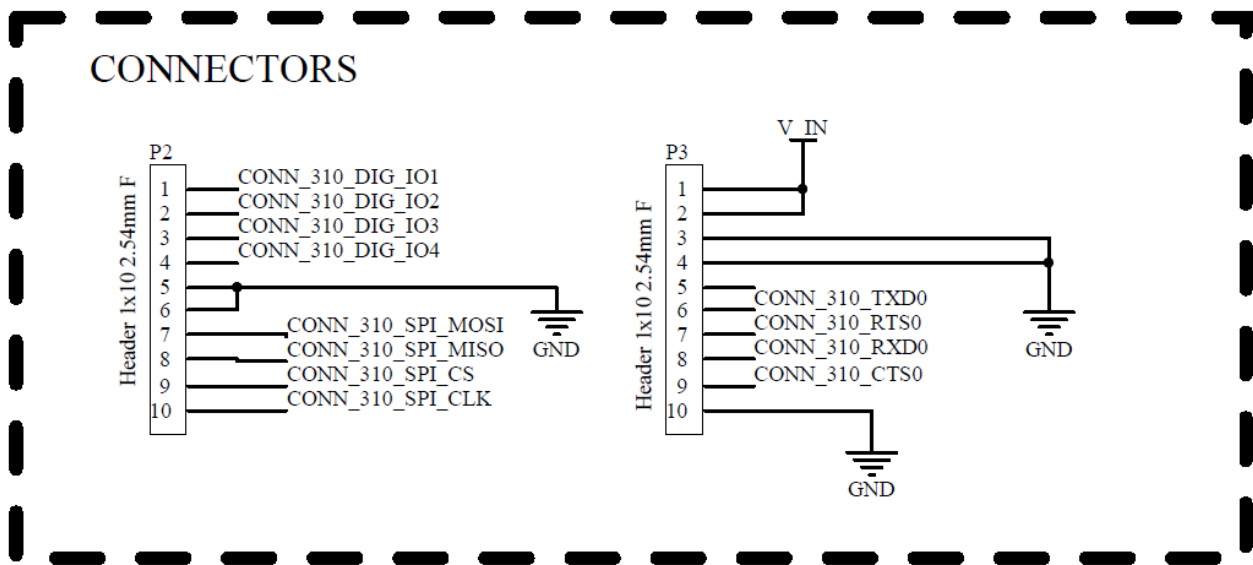


Figure 1 – “DEMEVAL-ME310” EVK Board



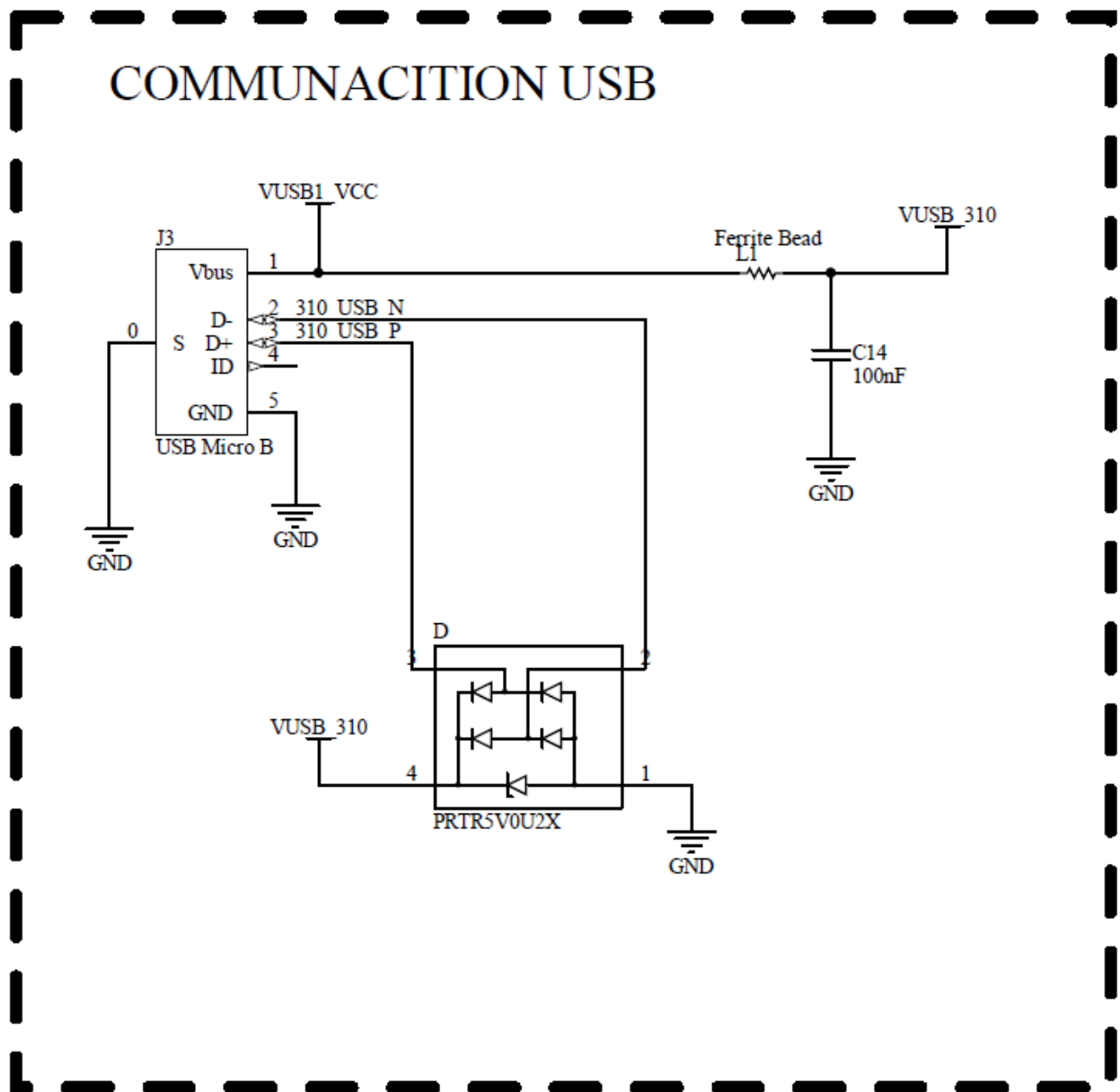
The DEMEVAL\_M310 EVK has 1 USB connector:  
 The USB connector is located near to the ME310 module and SMA connector is connected to the ME310 module

# CONNECTORS



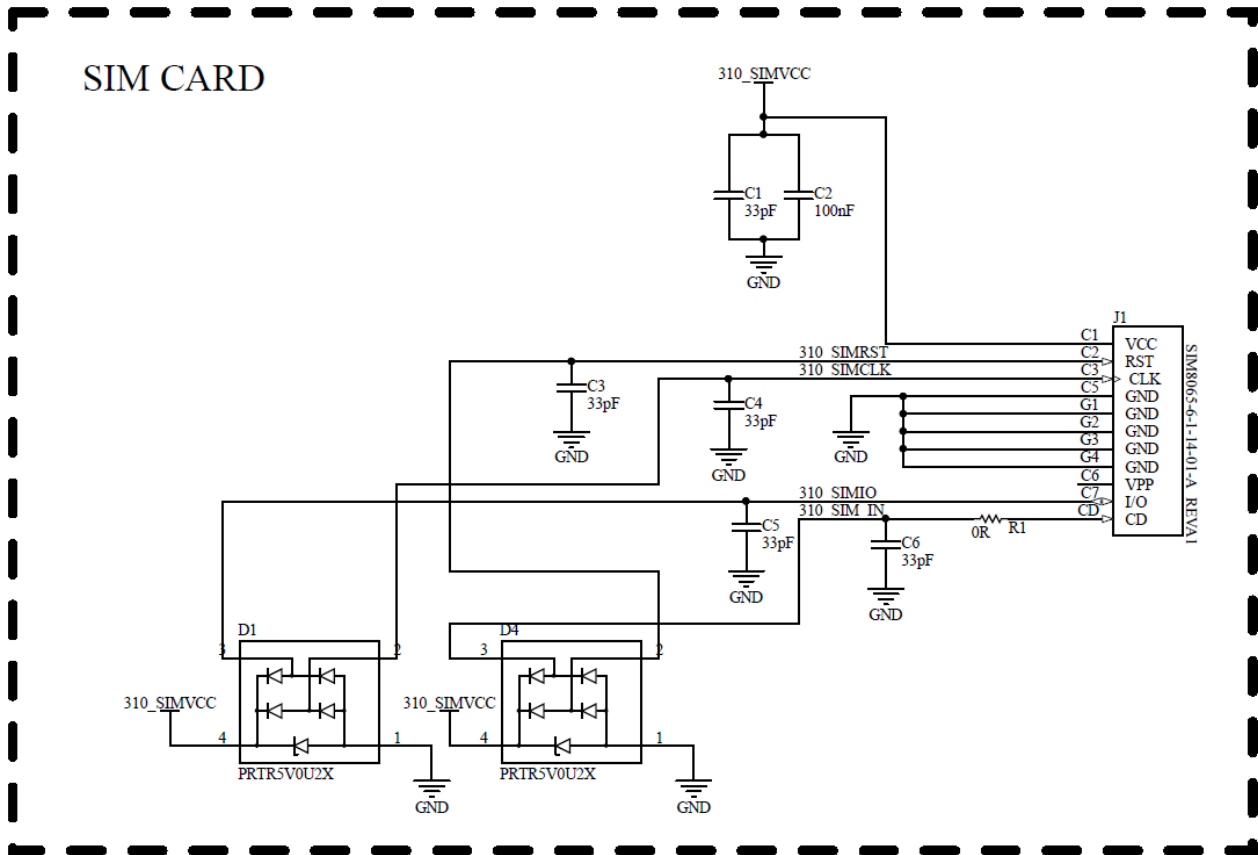
Pin	Sch Net Name	ME310 Pin	ME310 Signal	I/O	Function	Type
P2,1	CONN_310_DIG_IO1	V13	IO2	I/O	Configurable GPIO02	CMOS 1.8V
P2,2	CONN_310_DIG_IO2	D7	IO3	I/O	Configurable GPIO03	CMOS 1.8V
P2,3	CONN_310_DIG_IO3	D9	IO4	I/O	Configurable GPIO04	CMOS 1.8V
P2,4	CONN_310_DIG_IO4	D11	IO5	I/O	Configurable GPIO05	CMOS 1.8V
P2,5	GND			GND	GND	Power
P2,6	GND			GND	GND	Power
P2,7	CONN_310_SPI_MOSI	AA5	SPI_MOSI	I/O	SPI MOSI	CMOS 1.8V
P2,8	CONN_310_SPI_MISO	Y8	SPI_MISO	I/O	SPI MISO	CMOS 1.8V
P2,9	CONN_310_SPI_CS	Y6	SPI_CS	I/O	SPI Chip Select	CMOS 1.8V
P2,10	CONN_310_SPI_CLK	AA7	SPI_CLK	I/O	SPI Clock	CMOS 1.8V
Pin	Sch Net Name	ME310 Pin	ME310 Signal	I/O	Function	Type
P3,1	V_IN	V13	IO2	I/O	POWER	CMOS 1.8V
P3,2	V_IN	D7	IO3	I/O	POWER	CMOS 1.8V
P3,3	GND	D9	IO4	I/O		CMOS 1.8V
P3,4	GND	D11	IO5	I/O		CMOS 1.8V
P3,5						
P3,6	GND			GND	GND	Power
P3,7	CONN_310_TXD0	AA5	SPI_MOSI	I/O	SPI MOSI	CMOS 1.8V
P3,8	CONN_310_RTS0	Y8	SPI_MISO	I/O	SPI MISO	CMOS 1.8V
P3,9	CONN_310_RXD0	Y6	SPI_CS	I/O	SPI Chip Select	CMOS 1.8V
P3,10	CONN_310_CTS0	AA7	SPI_CLK	I/O	SPI Clock	CMOS 1.8V

### 3.ME310 Native USB Connector



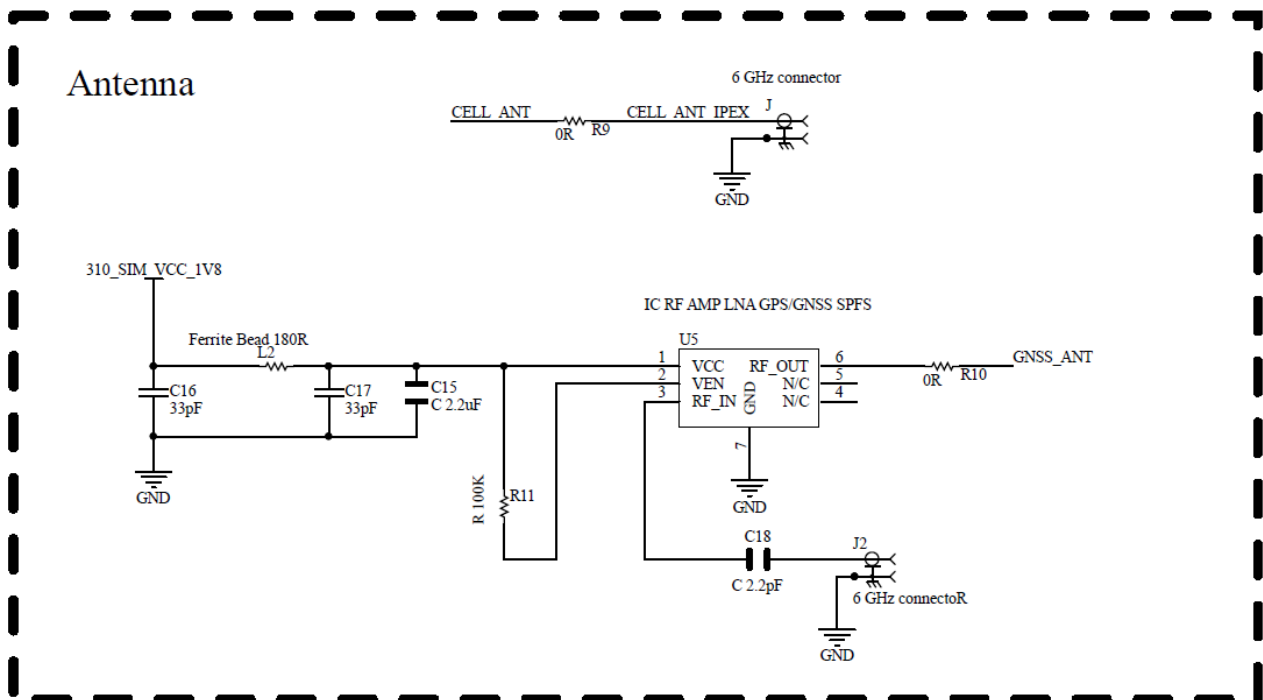
Pin	Sch Net Name	ME310 Pin	ME310 Signal	I/O	Function	Type
J3,1	VUSB1_VCC	T18	USB_VBUS	I	USB Power Sense	
J3,5	GND					
J3,2	310_USB_N	V18	USB_D-	I/O	USB differential Data (-)	
J3,3	310_USB_P	U19	USB_D+	I/O	USB differential Data (+)	
J3,4	N.C					

### 4.SIM CARD



The board supports micro SIM , inputs are ESD protected.

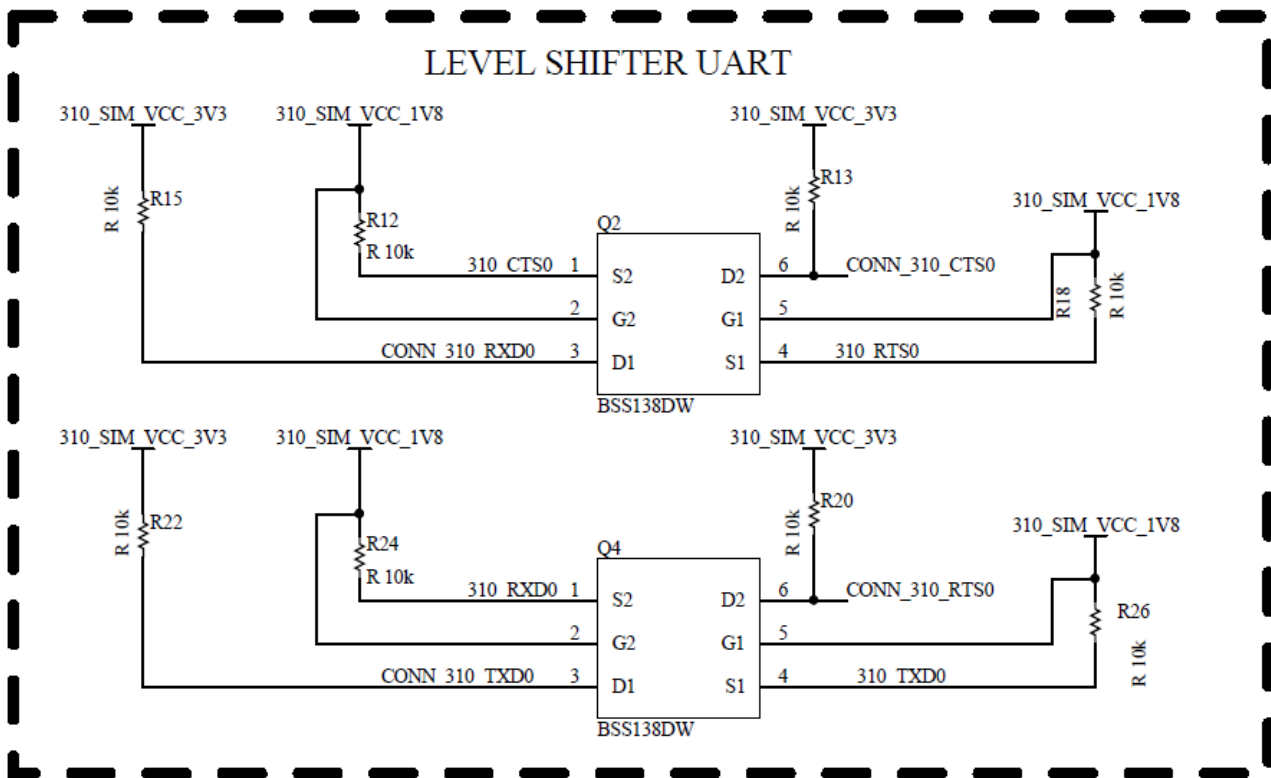
## 5.ANTENNA Connectors



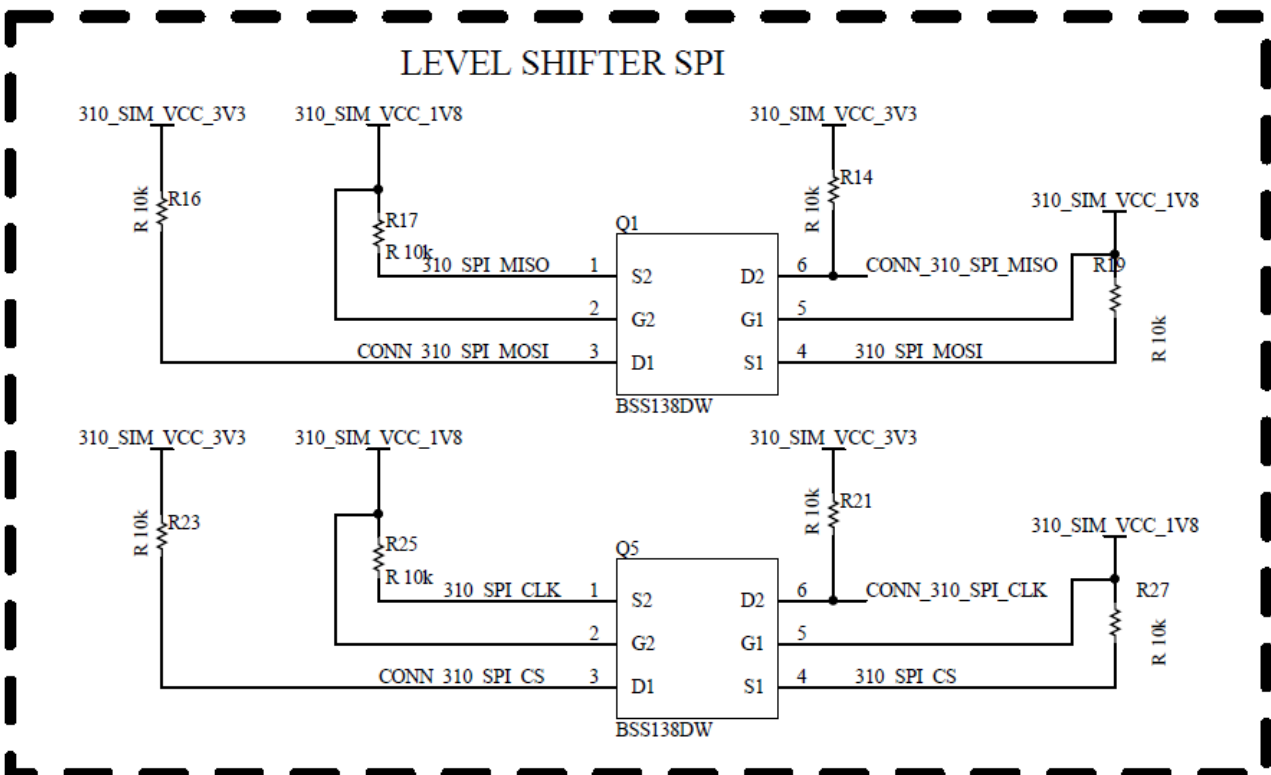
The Cellular antenna signal is connected to the J UFL connector.

## 6.CIRCUIT BLOCKS

### 6.1 LEVEL SHIFTER UART

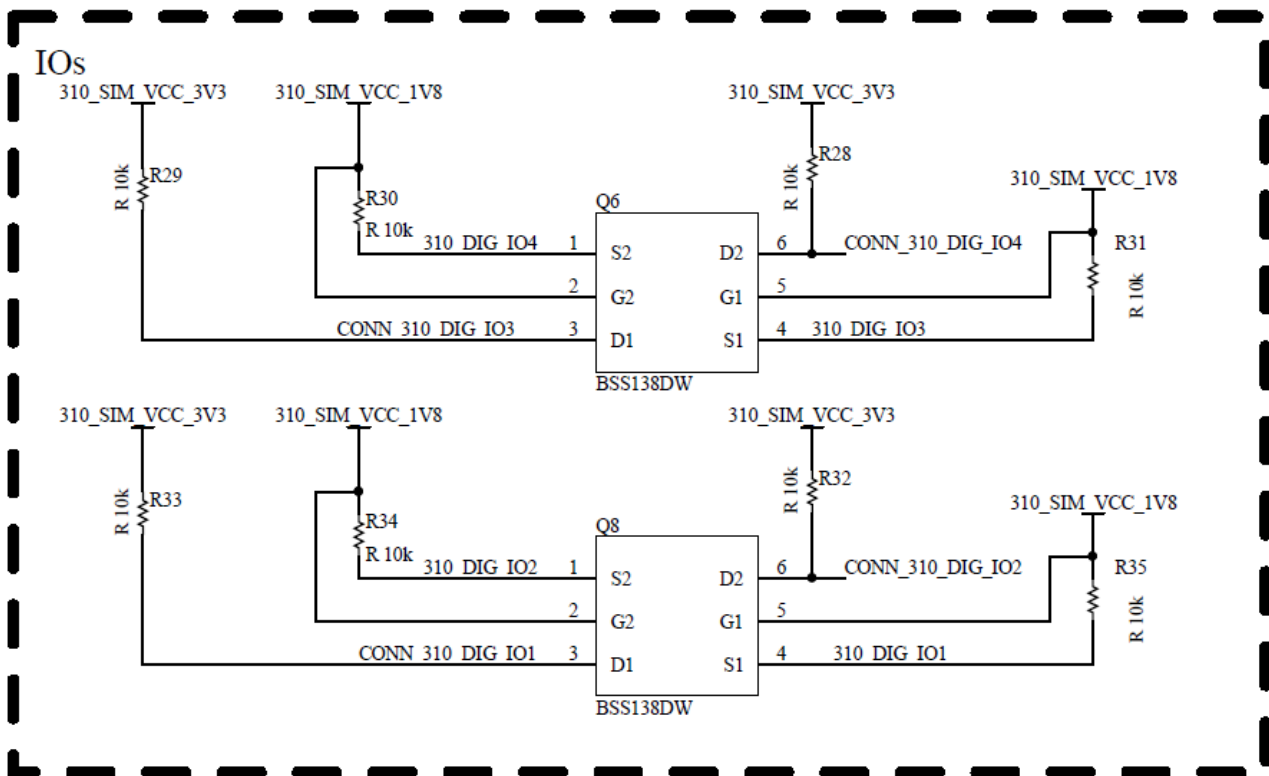


### 6.2 LEVEL SHIFTER SPI





### 6.3 LEVEL SHIFTER IO

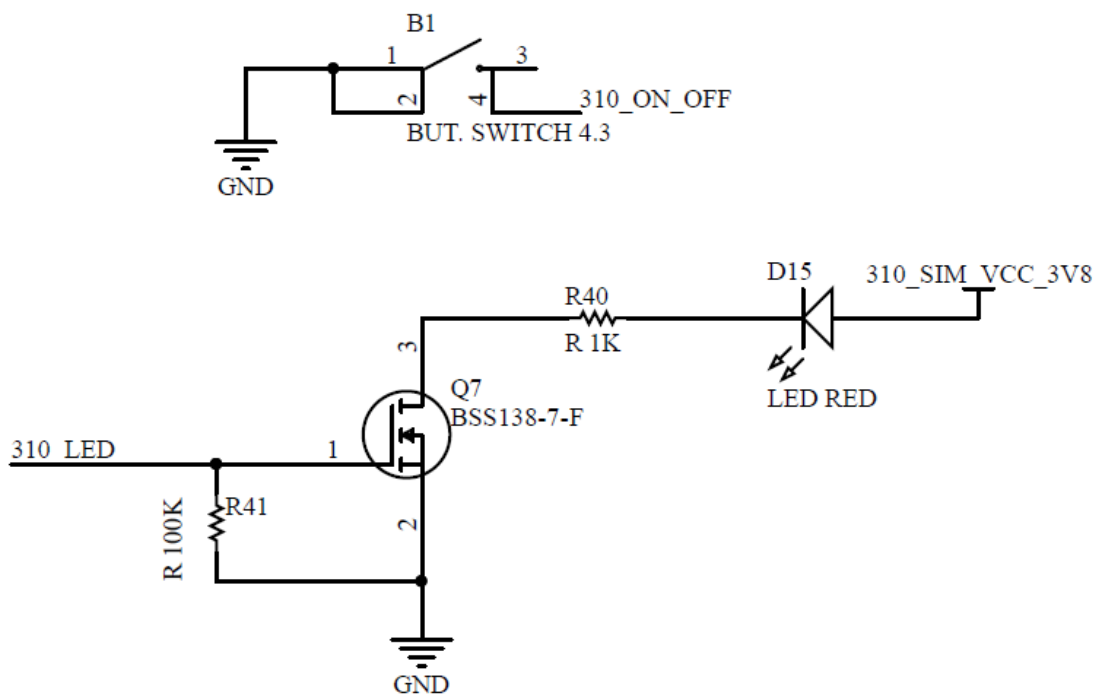


## 7.MCU Button and SLED

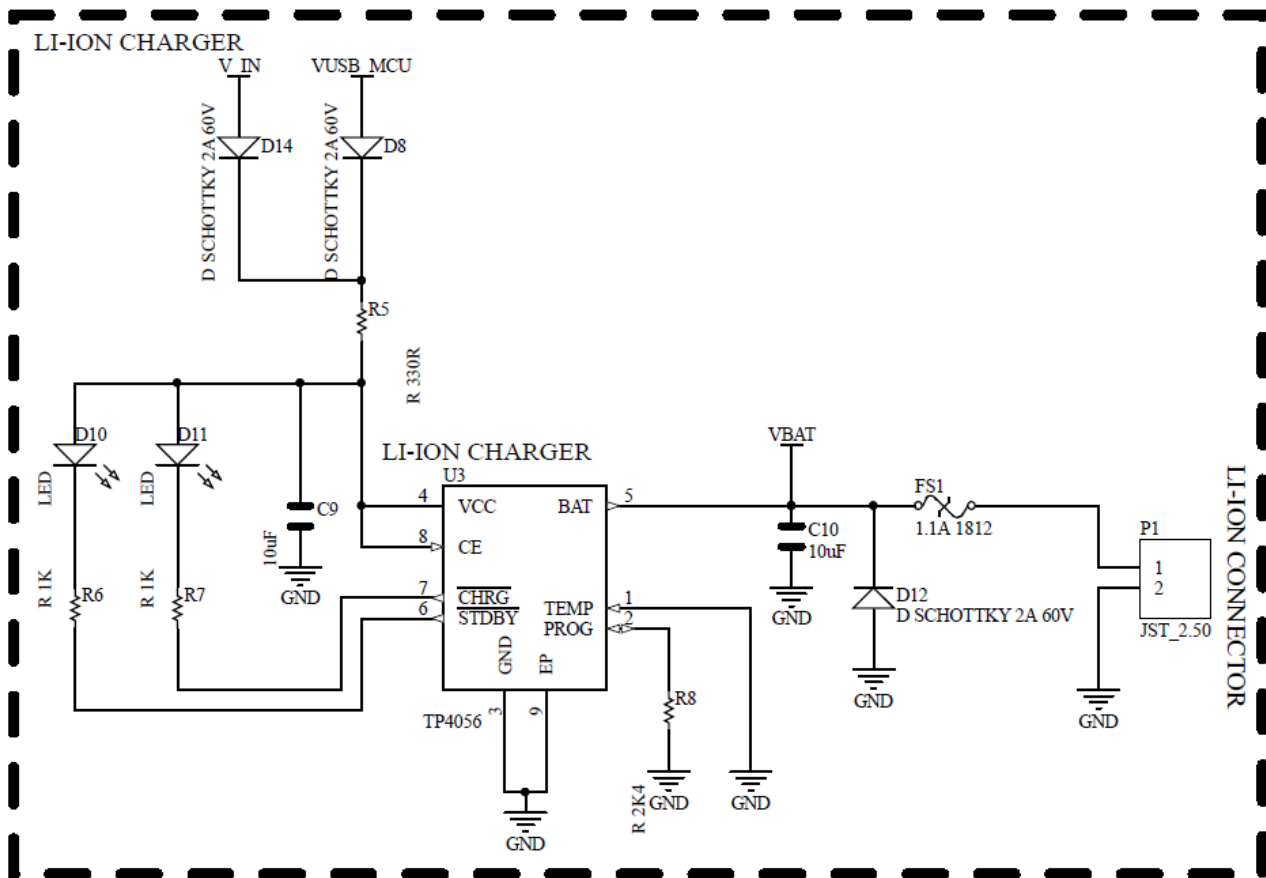
The DEMEVAL\_M310 EVK board has a user-available LED, D15. The led is ON when the ME310 S\_LED(B2) pin is high.

B1 connected to MC310 on/off pin(N16). Function is Input Command for Power ON/OFF and to wake from deep sleep mode.

This pin is active LOW.



## 8. Battery Charger



A +3.7 V Lipo battery (not included) connected to P1 can power the The DEMEVAL\_M310 EVK board.

The battery can be charged by the onboard charger, which receives +5V from the VIN connector, or P3-1,2 pins .

When an external power source is present and the battery is connected, the battery is charged. The Board voltage is supplied by the external power source.

When the external power source is disconnected, the The DEMEVAL\_M310 EVK board is battery powered

The battery charger notifies its status through the 3 LEDs:

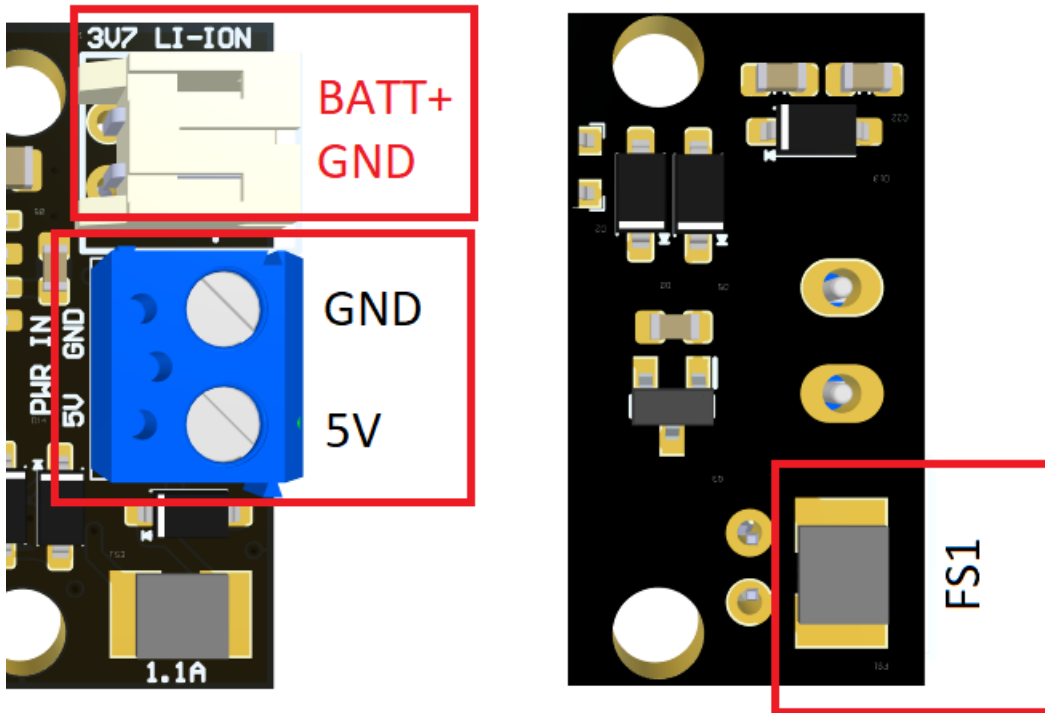
D11 Charging

D10 Charge Complete

D6 +3.7 V Lipo battery connected

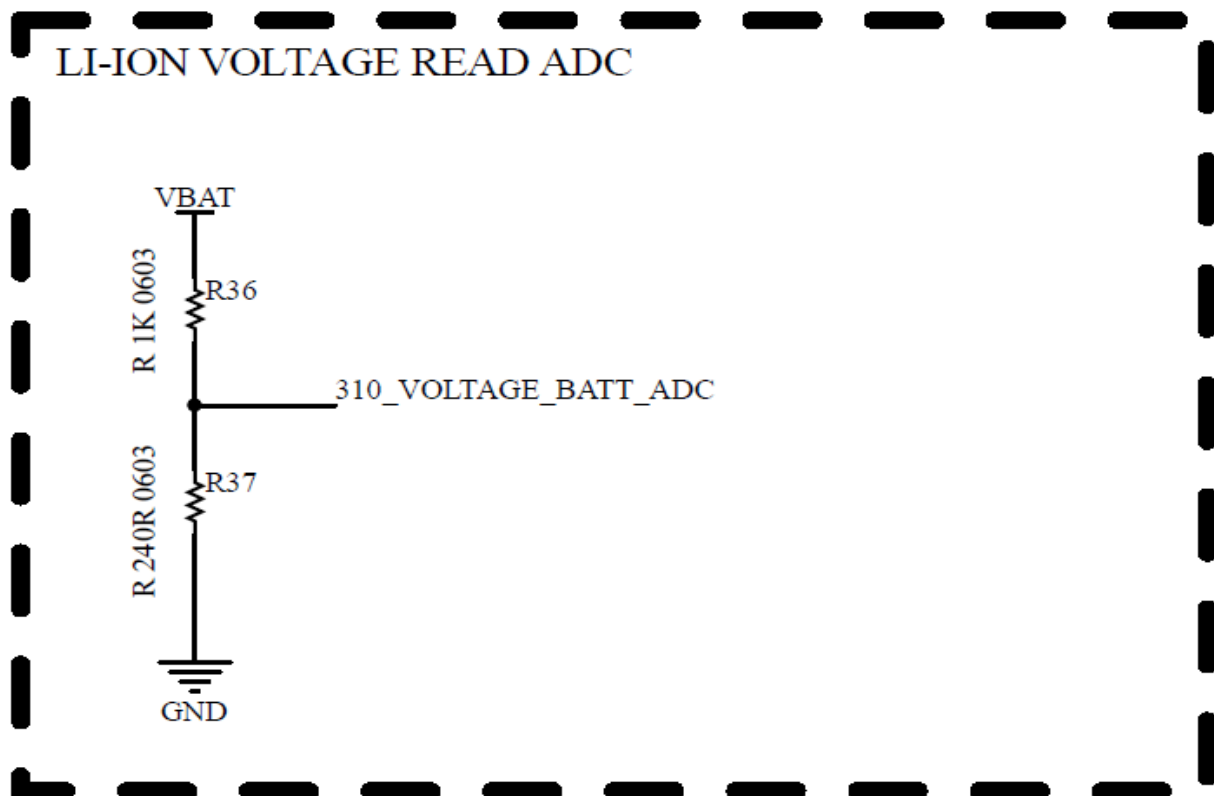
Telit suggests using an external 5V DC power supply through VIN power connector or using an external battery pack

## 9. EXTERNAL VOLTAGE SUPPLY AND LI-ION CONNECTION



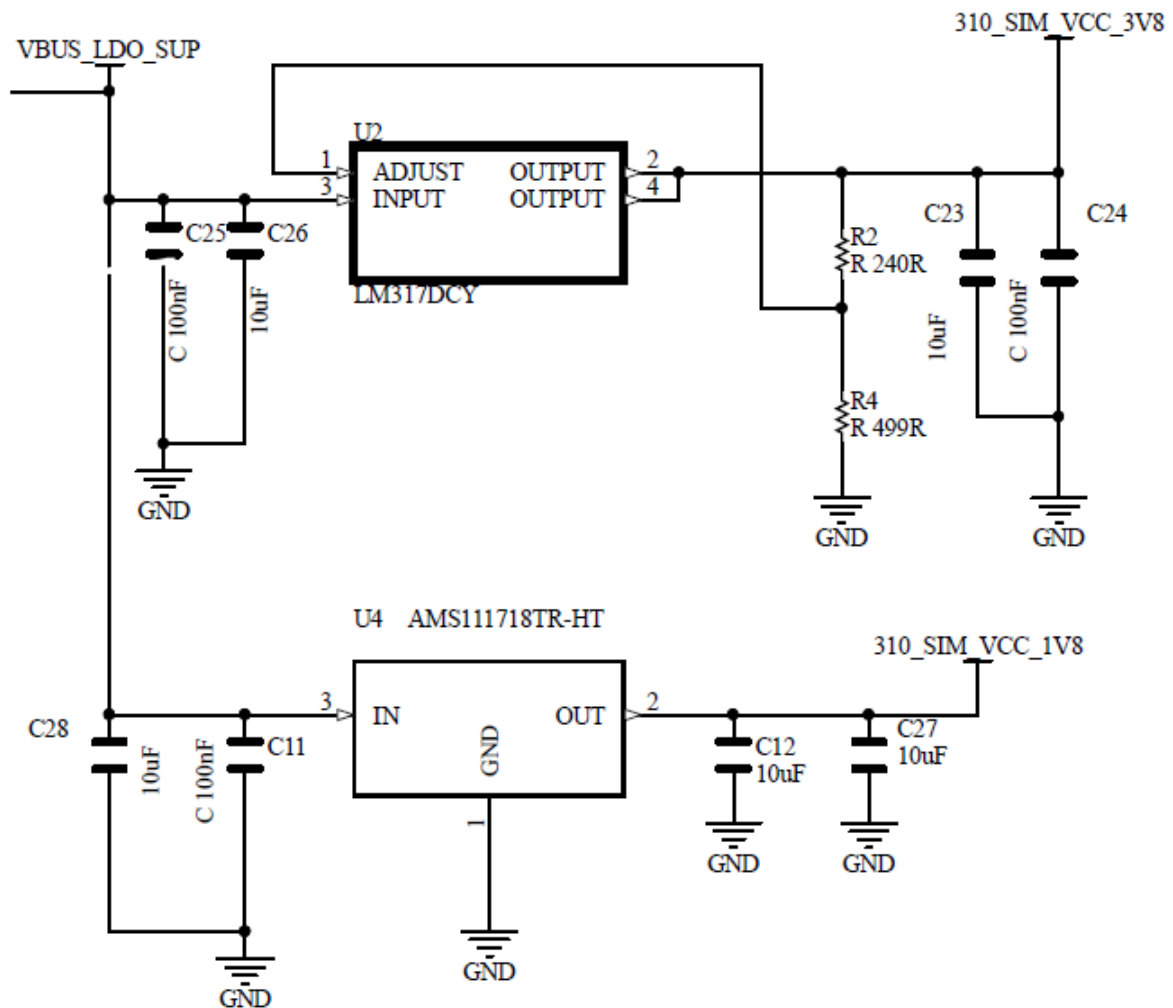
The board is protected by resettable fuse- FS1 (Bottom side)

### 9.1 LI-ION VOLTAGE READ - ADC



310\_VOLTAGE\_BATT\_ADC net is connected to ME310 pin B18 ADC

## 10. POWER



### 10.1 3V8 Power Supply

The ME310 module is powered at 3.8V, the Buck converter provides 3.8V power supply for:

### 10.2 1V8 Power Supply

The ME310 module is powered at 3.8 V, but all I/O pins operate at 1.8 V: the LDO provides 1.8 V level to:

- level translators
- SKY65723-81 Low-Noise Amplifier Front-End Module.

# 11. MECHANICAL DESIGN

Drawing

