

PCB Block Artifacts

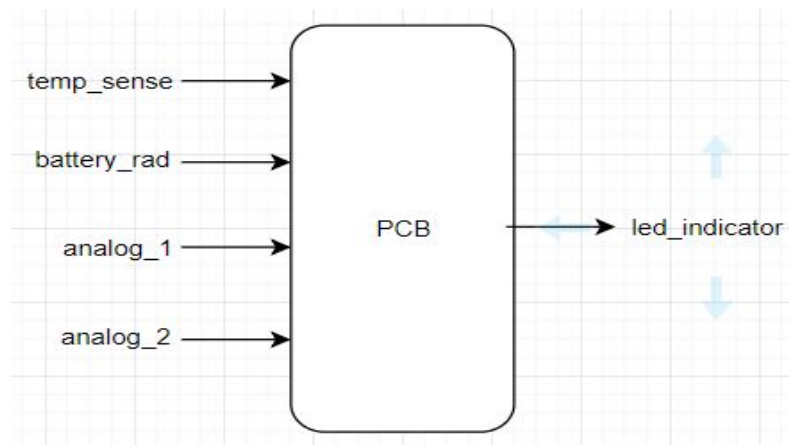


Figure 1. PCB Block Diagram

Interface	Properties
temp_sense	This will read be one the many analogy in that we have on the system. That will read the internal temperature of the enclosure. 3.3 to zero voltage, the signal will be 10 bits.
battery_read	This will read the supply battery voltage which will be from 4.20-0v.
analog_1	This will be an analog in that will read up to 4.2 volts from any external sensor. For this first reader we will be able to show that this block will be able to read a higher voltage source and inputting it into the feather module.
analog_2	This will also be an external voltage reading from 4.2 volts to 0 over any external sensor or source.
Dimensions	Length: 54.610 mm Width:48.260 mm

Table 1. Enclosure Block Interfaces and Properties

Testing Steps

1. temp_sense test: for this interface we will hook up the temperature sensor on a bread board in series with a 10K resistor and have it read the voltage into the feather.
 - a. After the hardware and the software are setup, we will show the temperature of something and we will relay that information onto the serial monitor. If the temperature is accurate to what the test environment that we are using, then the block passes this test.
2. battery_read test: of this interface we will use on the onboard battery voltage reader that is provided on the feather module which will read out the voltage onto the serial monitor that the beta module is connected to.
 - a. The battery information will be manipulating the voltage divider output reading from one of the analogy pins that is on the feather module. If the battery voltage is the same as reading using multimeter, then it would pass this test.
3. analog_1 and analog_2 test: this two input analogy input will be able to read 4.2 to 0v from an external sensor or source. If the reading is correct, then this test will be passed. The main thing that the analog_1 will show that the feather module will be able to read in a voltage from 4.2 to 0v which is used for satisfying the one of the engineering requirements.
 - a. For this test there will be a power supply hooked up to these voltage inputs, and there will be a voltage divider with Vout being what we are measuring, if that reading is similar to the DMM reading then this test is passed.
 - b. If the module reads the voltage correctly, where the reading is the same as a multi-meter then this test will be passed.
4. Dimensions test: this is essentially the how big the PCB is and if the dimensions will fit into the enclosure, if the PCB is smaller than the enclosure interior then this test is passed.