Subsystem Design Requirements/Constraints

EE4951W

9-21-15

***Power***

James/Andre

1. Input Voltage Range: 0-24v
2. Output: 3–3.6v
3. Switch to USB power when available (preferably automatically)
4. Filter noise from 3.3v rail
5. Keep noise out of VBAT rail

***Current Measurement***

Ryan/Ross

1. Measurement range: 500nA – 5A
2. Quick enough to capture spikes (>80kS/s)
3. VBurden < 50mV
4. Accurate to 4 digits

***Voltage Measurement***

Alpha/Andre

1. Overvoltage protection at ADC inputs
2. Prevent loading of voltage divider
3. Resolution of 0.5%
4. Quick enough to capture spikes (>80kS/s)

***SD Card***

Diego/James

1. Figure out size needed
2. Preferably MicroSD
3. Figure out how and what we need to write to card and how long of a period
4. Communication protocol (preferably SPI)
5. How to write csv file to SD card
6. File system?

***LCD Display***

Diego/Ryan

1. Board v. chassis mount
2. Hardware driver IC
3. Communication protocol
4. What/how to display
5. Power consumption
6. Sleep mode