| Criteria | Full credit | Partial credit | No credit |
|---|---|---|---|
| Part 1: complete schematic of sensing circuitry. Include filtering, component values, header pin labels, overvoltage protection | 10 points | 5 points | 0 points |
| Part 1: write expressions for the ADC input voltages as functions of battery voltage and current | 5 points | 3 points | 0 points |
| Part 1: explain and document test data proving that you can capture the battery voltage and current within the MSP430 | 15 points | 7 points | 0 points |
| Part 2: Description of testing, debugging, and evaluation procedure | 15 points | 8 points | 0 points |
| Part 2: full schematic of Exp 3, including indication of which component is on each board and any twisted pair wiring | 10 points | 5 points | 0 points |
| Part 2: at MPP, capture oscilloscope waveform of PV panel voltage and MSP430 duty cycle output, showing operation (P&O or other) about MPP | 10 points | 5 points | 0 points |
| Part 2: Explain what measurements and data were collected to validate that PV system operated at max power point | 10 points | 5 points | 0 points |
| Part 2: Measured PV panel output power and input power. Calculated converter efficiency. | 7 points | 4 points | 0 points |
| Unshaded conditions: is more power captured with or without the converter? Compare experimental data. Explain why. | 9 points | 4 points | 0 points |
| With 4 cells shaded: does experimental system capture more power with or without converter? Give experimental data. Explain why. Suggest a way to improve this case. | 9 points | 5 points | 0 points |