$$I_{sense}(t) = 0.067\, i(t) + 1.68$$

$$V_{sense}(t) = .00744675\, v(t) + 1.488$$

---

① Remove the offset

$$I_{sense\_nooff}(t) = I_{sense}(t) - 1.68$$

$$V_{sense\_nooff}(t) = V_{sense}(t) - 1.488$$

---

② Calculate inst sensed power

$$P_{sense}(t) = V_{sense\_nooff}(t) * I_{sense\_nooff}(t)$$

---

③ Calculate energy - Integrate

$$W_{sense}(t_n) = W_{sense}(t_{n-1}) + P_{sense}(t) \cdot \Delta t = \sum_{n=0}^{t} v(t_n) \cdot i(t_n) \cdot t_{st}$$

---

④ Calculate Avg Power since $t = 0$

$$P_{AVE} = \frac{1}{t - t_0} \cdot \sum_{n=0}^{t} v(t_n) \cdot i(t_n) \cdot t_{step}$$

---

⑤ SCALE RESULT BACK TO REAL VALUES

$$p(t) = 0.067\, i(t) \cdot .00744675\, v(t)$$

$$p(t) = .000498932\, i(t) \cdot v(t)$$

$$P(t) = \frac{p(t)}{.000498932}$$

$$P(t) = 2004.28\, p(t)$$

$$P_{REAL} = 2004.28\, P_{AVE}$$

$$P_{AVE} = \frac{1}{T} \int_0^T v(t)\, i(t)\, dt$$

$$\int_0^T v(t)\, i(t)\, dt \approx \sum_{n=0}^{T} v(t_n)\, i(t_n) \cdot$$

$$P_{AVE} = f \cdot \sum_{n=0}^{T} v(t_n) \cdot i(t_n) \cdot t_{step}$$