ECEN 5023-001, -001B

Fall 2018

Managing Energy Modes Rubric

1. Total points for this exercise is 10 points
    a. 5.0 pts for the questions
    b. 5.0 pts of the code

2. Question scoring. Max score is 5.0 pts.
    a. Question 1: EM0
        i. Period average current: 4.5 – 5.2mA (0.4 pts)
        ii. Current LED off: 4.4 – 5.1mA (0.4 pts)
        iii. Current LED on: current in (ii) plus 0.40 to 0.55mA (0.2pts)
    b. Question 2: EM1
        i. Period average current: 3.0 – 3.9mA (0.4 pts)
        ii. Current LED off: 3.2 – 3.8ma (0.4 pts)
        iii. Current LED on: current in (ii) plus 0.40 to 0.55mA (0.2 pts)
    c. Question 3: EM2
        i. Period average current: 40-50uA (0.4 pts)
        ii. Current LED off: ~3.8-~4.4uA (0.4 pts)
        iii. Current LED on: current in (ii) plus 0.45 to 0.55mA (0.2pts)
    d. Question 4: EM2: Period and On-time
        i. Period: 2.20 – 2.30 seconds (0.5 pts)
        ii. On-time: 172 – 178 mS (0.5 pts)
    e. Question 5: EM3
        i. Period average current: ~slightly less than (c) (0.4 pts)
        ii. Current LED off: ~slightly less than (c) (0.4 pts)
        iii. Current LED on: current in (ii) plus 0.45 to 0.55mA (0.2 pts)
    f. Question 6: EM3: Period and On-time
        i. Period: 2.00 – 2.50 seconds (0.0 pts)
        ii. On-time: 165 - 185 mS (0.0 pts)

3. Functional code delivered per exercise. Max score is 5.0 pts.
    a. Code functions in EM2 correctly (0.5 pts)
        i. Do not take off if the period is off in period + on duty cycle abve. They will be getting credit off in question 2d above
    b. Code functions in EM3 correctly (0.5 pts)
        i. Do not take off if the period is off in period + on duty cycle above. They will be getting credit off in question 2f above
    c. Set Period to 2.0 second and on-time to 500mS, does the program work correctly in EM2? (1.0 pts)

d. Set Period to 6.5 seconds and on-time to 500mS, does the program work correctly in EM2? (1.0 pts)
e. Set Period to 6.5 seconds and on-time to 500mS, does the program work correctly in EM3? (1.0 pts)
f. IP credit is given to Silicon Labs for sleep routines (1.0 pts)
g. If prescaler is not automatically calculated and optimally set (-1.0 pts)