Setup:

1. Attach USB cable between host computer and JTAGulator
   a. Host computer should recognize USB device (FT232R USB UART or USB Serial Port)
   b. Error or no detection indicates failure at P1, U1, U3, or associated components
2. U6 pin 3 = 5.0V +/- 5% = 4.75V to 5.25V
3. U6 pin 2 or 4 (tab) = 3.3V +/- 1% = 3.26V to 3.34V

Programming:

4. Load Parallax Propeller Tool on host computer and select Run | Identify Hardware... or press F7
   a. Error or no detection indicates failure at U2, Q1, or associated components
5. Program EEPROM w/ JTAGulator code (via pre-compiled .eeprom file or built from source)
   a. Refer to video demonstration at https://youtu.be/xlxwy-wG1M
   b. Error or no detection indicates failure at U4, U2, or associated components
6. LED = ORANGE
   a. No LED indicates failure at D1, U2, or associated components
System Test:

7. Load Parallax Serial Terminal or other terminal program and open connection (115200 baud, 8 data bits, no parity, 1 stop bit)

8. Press any key in terminal program
   a. LED = GREEN
   b. Terminal program should display start-up banner and command prompt (>)

9. Set target voltage to 3.3V using the “V” command
   a. VADJ = 3.3V +/- 1% = 3.26V to 3.34V
   b. Improper voltage indicates failure at U5, U2, or associated components

10. From the GPIO (“G”) submenu, set output value to 000000 using the “w” command
    a. CH23..CH0 = 0.0V (maximum allowable 0.1V)
    b. Improper voltage indicates failure at U7-U15, U2, or associated components

11. From the GPIO (“G”) submenu, set output value to FFFFFF using the “w” command
    a. CH23..CH0 = 3.3V (minimum allowable 3.1V)
    b. Improper voltage indicates failure at U7-U15, R10-R13, P2-P9, U2, or associated components

12. From the GPIO (“G”) submenu, use the “C” command to read all channels
    a. CH23..CH0: 11111111 11111111 11111111 (0xFFFFF)
    b. Connect each channel from CH23..CH0 to GND one at a time
    c. Verify that only the proper channel displays a “0” bit (also known as “walking 0s”)
    d. Improper result indicates failure at U7-U15, R10-R13, P2-P9, U2, or associated components

13. Close terminal program

14. Disconnect JTAGulator from host computer

END OF TEST