**Test Plan**

System Tests:

* Software:
  + Test Input data. Send test data equivalent to the sensor data. Confirm that data was received and compare with test input data.
  + Test sensor input data conversion. Send input test data. Allow conversion to pulse width modulation values. Compare with expected pulse width modulation values.
  + Test output data. Send output data. Was output data sent and was that data equivalent to the data given.
* Hardware:
  + Test 12V wall wart to ensure the 12V DC is the proper output.
  + Test voltage regulator from 12V DC to 5V DC with oscilloscope.
  + Test ultrasonic range module input and output signals using function generator and oscilloscope.
  + Test processor inputs and outputs using oscilloscope and function generator.
  + Test Led array range of illumination using power supply.

**Detailed Test Case Descriptions**







