Embedded Systems Lab Demonstration Validation Sheet

This sheet should be modified by the student to reflect the current lab assignment being demonstrated

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| --- | --- |
| Lab Number: | Graduate Lab 1 – Stepper Motor Driver |
| Team Members | |  | | --- | | Team Member 1: | | Team Member 2: | |
| Date: |  |

# Lab Requirements

Obtain a list of the Lab requirements from the end of the lab handout and type them here, perform a self-review and indicate with an X if you met each requirement or not.

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| REQ Number | Objective | Self-Review | TA  Review |
| 1 | The LEDs on the YRDKRX63N light up as coils would be energized in a stepper motor. |  |  |
| 2 | The 3 buttons on the board change the stepping mode of the driver. One button should set the mode to wave drive, one to full step, and one to half step. |  |  |
| 3 | The current stepping mode of the driver should be displayed on the LCD at all times. |  |  |
| 4 | When in wave drive mode, the LEDs should represent the steps taken in that mode. |  |  |
| 5 | When in full step mode, the LEDs should represent the steps taken in that mode. |  |  |
| 6 | When in half step mode, the LEDs should represent the steps taken in that mode. |  |  |
| 7 | An external pin should be selected as the drive pin, and another pin should be selected as the direction pin. |  |  |
| 8 | The direction pin will change the direction the stepper motor rotates, reversing the LED sequence when changed from a 1 to a 0. |  |  |
| 9 | The drive pin is used to control the speed of the motor. At each rising edge of a square wave or PWM input to the drive pin, the stepper motor should take a step. |  |  |
| 10 | Temperature sensor can trigger a temporary shutdown until the driver has “cooled off” |  |  |