

Hardware Validation

(Practical Testing on the Robot)

Once the FPGA is programmed, connect the robot hardware to test its operation in a real environment.

Validation Steps:

1. Place the robot on a track with a black line on a white background.
2. Power on the FPGA and the robot.
3. Observe its behavior:
 - The robot should follow the line, adjusting its direction when detecting variations with the line sensors.
 - If the line is detected by the left sensor, the robot should correct to the right, and vice versa.
4. If the behavior is not as expected:
 - Review the demux2 selection logic.
 - Test the sensor inputs individually (IO68 and IO69).
 - Verify if the motor connections (IO54 to IO57) are correct.

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