**Freedom Board Pin Connections to PCB: Pin Connections**

Motor Controller:

* VDD – Connect to +5V
* GND – Connect to GND of Board
* Motor Controller Pin 5 (INPUT 1) - J1 02 – (PTA1)
* Motor Controller Pin 7 (INPUT 2) – J1 04 – (PTA2)
* Motor Controller Pin 10 (INPUT 3) – J1 06 - (PTD4)
* Motor Controller Pin 12 (INPUT 4) – J1 08 (PTA12)

Power Supply:

* Output of Regulator from Board - J9 16 – (P5-9V\_VIN)
* Ground of Board to Ground of PCB - J9 14 – (GND)

Line Camera: Header Male Pins - 5

* SI (Serial Input) – J1 14 – (PTC8)
* CLK (Clock Pulse) – J1 12 – (PTA5)
* AO (Analog Output) – J10 12 - PTC1
* VDD – Connect to +5V
* GND – Connect to GND of Board

Optical Sensor:

To be decided

Servo Motor: Headers male pins - 3

* PWM Control Pin to Motor: J1 10 (PTA4)
* Ground Pin – GND
* Vcc Pin – Connect to +5V

Bluetooth Module:

* Tx – J1 03 (PTC0)
* Rx – J1 05 (PTC3)
* VCC – Connect of +5V
* GND - GND

Hall Effect Sensor:

* Vcc – Connect to +5V
* Ground – GND
* Output – J10 10 - (PTC2)

LCD Display: I2C Interface 4 Male headers

* J1 14 - SCL PTC 8
* J1 16 - SDA PTC 9
* VCC – Connect to +5V
* GND - GND

Infrared LED Detector: To bed decided later