**Hardware Specifications**

**Introduction**  
This document contains the detailed specifications of the hardware components used in the vehicle, including motors, sensors, and the Arduino microcontroller.

**1. Motor Specifications**

* **Type:** DC Motors
* **Power Rating:** 12V
* **RPM:** 300
* **Torque:** 2.5 N-m

**2. Sensor Specifications**

* **IR Sensor:**
  + Type: Analog
  + Range: 0-10 cm
  + Output: Analog Voltage
* **Ultrasonic Sensor:**
  + Range: 2 cm - 400 cm
  + Accuracy: ±3 mm
  + Interface: Digital (Trig, Echo)
* **Color Sensor (TCS3200):**
  + Output: Frequency
  + Detectable Colors: Red, Green, Blue, Orange

**3. Arduino Uno**

* **Microcontroller:** ATmega328P
* **Operating Voltage:** 5V
* **Digital I/O Pins:** 14 (6 PWM)
* **Analog Input Pins:** 6