REQUIREMENTS

**ROVER DESCRIPTION**

Our rover consists of a Terasic DE1-SoC development board with a Cyclone V FPGA/SOC system. An embedded Linux system runs on the embedded ARM platform while interfacing with our custom bitstream loaded onto the FPGA fabric. The FPGA provides a motor controller interface to allow us to control our motors using an original high-level interface.

**DRAWING**

**CHARACTERISTICS**

**PERFROMANCE AND FUNCTIONAL CHARACTERISTICS**

**Controller Functional Requirements**

**Inputs/Outputs**

Each motor shall interface with a rotary encoder that will provide relative position feedback.

**Motor Encoders**

The controller shall interface with a camera module by providing a digital command and receiving a digital image.

**Camera Module**

**Motor Driver**

**Motor Driver Logic Power**

**Motor Driver Output Power**

**Controller Power**

**Remote Desktop Interface**