Johns Hopkins University

Project 3

Serial Transmit of Temperature

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EN.605.715.81.FA19 - Software Development for Real-Time Systems

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09/29/2019

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# Derived Requirements

The following requirements were derived from the Project 3 Measurement and transmission of propeller speed v1 document:

* The system shall measure the speed of a brushless propeller using an IR Emitter/Detector pair.
* The system shall capture the propeller’s RPMs using an interrupt driven by the IR Emitter/Detector pair.
* The system shall record the propeller RPMs over time.
* The system shall transmit the recorded time and propeller RPMs across Serial (USB) to a host machine.
* The system shall transmit the recoded time and RPMs as comma separated values.

# Hardware Design

The following diagram is a schematic of the circuit connected to an Arduino Uno (rev. 3) that will TBD:

# Board Layout

The following picture showcases how the hardware design was implemented using an Arduino Uno (rev. 3) and breadboard:

# Software Design and Implementation

## Sequence Diagrams

The following diagram is a sequence diagram of the program that TBD:

# TBD

# Video Demonstration

A video demonstration of the software and Arduino running can be found at the following link:

TBD