Progress Report - Week 7
Team 179 - USB RF Switch Controller

Sponsored by Phonon Corporation

10/13 - 10/19
Meeting Held 10/15
Overview

Met with team members and Phonon representatives to discuss following parameters and decide upon current status of project and practiced project presentation.

- Timeline of project discussed with sponsor.
- Utilizing DC-DC boost converter for step up voltage.
- DC-DC converter will require opto-coupler to prevent voltage feedback.
- Selection of possible DC-DC converters sent to sponsor.
- Option of using isolated flyback converter with opto-coupler also available.
- Using capacitive storage over battery for switches.
- Reasoning for not utilizing battery to be sent to sponsor in write-up.
- Calculated minimum size capacitor needed for 28V switches and conducted tests on similar sized capacitor.
- Tested capacitor was found to be substantially enough for switching on SPx8T mechanical switch.
- Microcontroller to be decided upon; most possible choice is Arduino.

Summary

Capacitors are to be utilized over battery due to lifetime of battery being unreasonable for need; as well as difficulty of transients with charging and discharging of battery compared to necessity of switching.

Capacitor tested found capable of performing task required for system. DC-DC boost converter for voltage step up is to be used due to availability, price, and ease of integration into project.