Project XXXXX

Product Requirements

Team Name

Authors

**Document History**

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# Objective

The objective of this document is to document the requirements…

# Scope

The scope of this document is to define the requirements…

# References

## Cited Documents

This is place to cite any relevant standards, regulations, etc. relevant to the requirements…

## Acronyms

EPO Engineering Purchase Order

ER Engineering Release

POC Proof of Concept

…

# Functional Requirements

## ****User Interface Requirements****

The operator shall not be required to apply any more than 40 lbs of pedal effort to stop the vehicle.

## What it should do

# Mechanical Requirements

## Strength Requirements

The design shall be able to carry a static load of 1000 lbs.

## Spatial Requirements

The Enclosure shall fit within the following:

* Length < 250 mm
* Width < 100 mm
* Height < 300 mm

## Weight/Mass Requirements

The total system shall weigh no more than 20 lbs.

## Mounting / Interface Requirements

The “widget” shall mount to the “doo-hickey” using the following bolt pattern:

Image

## Appearance Requirements

The final product shall be painted black with…

## Durability Requirements

The system shall be designed to operate for 5000 hours without any scheduled maintenance.

## Reliability Requirements

All components (bearings) shall have 90% reliability

# Electrical Requirements

## Operational Voltage

During operation the bus voltage shall remain above 40.0V.

## Operational Power Capability

During operation, the Battery pack shall be capable of delivering or absorbing power per the table below:

## Energy Storage Capacity

The battery shall target a minimum of 20 kWh capacity.

# Software Requirements

## Functionality

## User Interface

# Environmental Requirements

## Temperature

Example - The Product is expected to have full operational capabilities in environments with ambient temperatures of -20C to 40C.

## Environmental Sealing

Example - All electrical components shall be is IP67.

# Regulatory Requirements

## UL Requirements

The components shall comply with the UL XXXX Standard

## Shipping Requirements

# Cost Requirements

## Prototype Cost

Cost to build a POC prototype shall not exceed $3000.

## Production Requirements

Estimated annual volume of the product will potentially be 100 units/month = 1200/year

Projected cost for production units shall be < $250.

# Schedule Requirements

The following are the major Project Milestones:

* Approval of Requirements Sept. 30, 2018
* Concept Design Review Nov. 30, 2018
* EPO of long lead parts Dec. 8, 2018
* Detailed Design Review Feb. 9, 2019
* ER of drawing package March 2, 2019
* Complete Prototype build April 5, 2019
* UI Design EXPO April 26, 2019
* Final Report / Drawings May 4, 2019