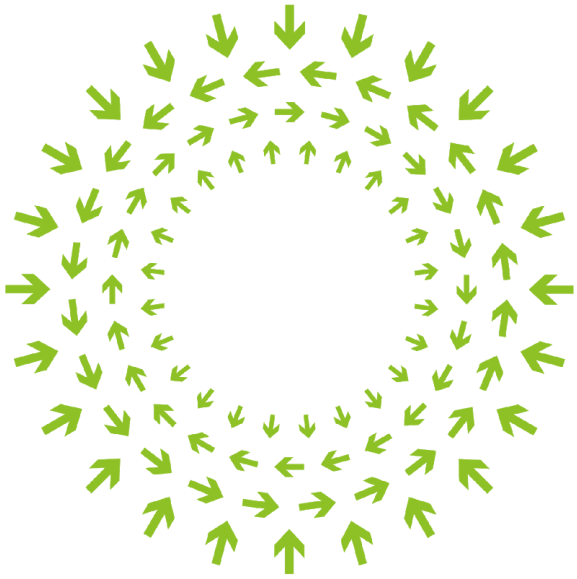

OPEN

Compute Project

Fan simulator spec

1.0

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2. Revision

Revision	Date	Comments
1.0	march 6, 2019	Spec submission

3. Scope & Overview

Scope:
This document defines the technical specifications for the Fan Simulators which can be used in any project which requires fanless operation of equipment like immersion projects.

Overview:
The fan sim is a mini PCB which mimics the presence of a fan. The simulator will not report any fan speed, since there is none. Instead, it creates the pulse which is commonly generated by a functional rotating fan.

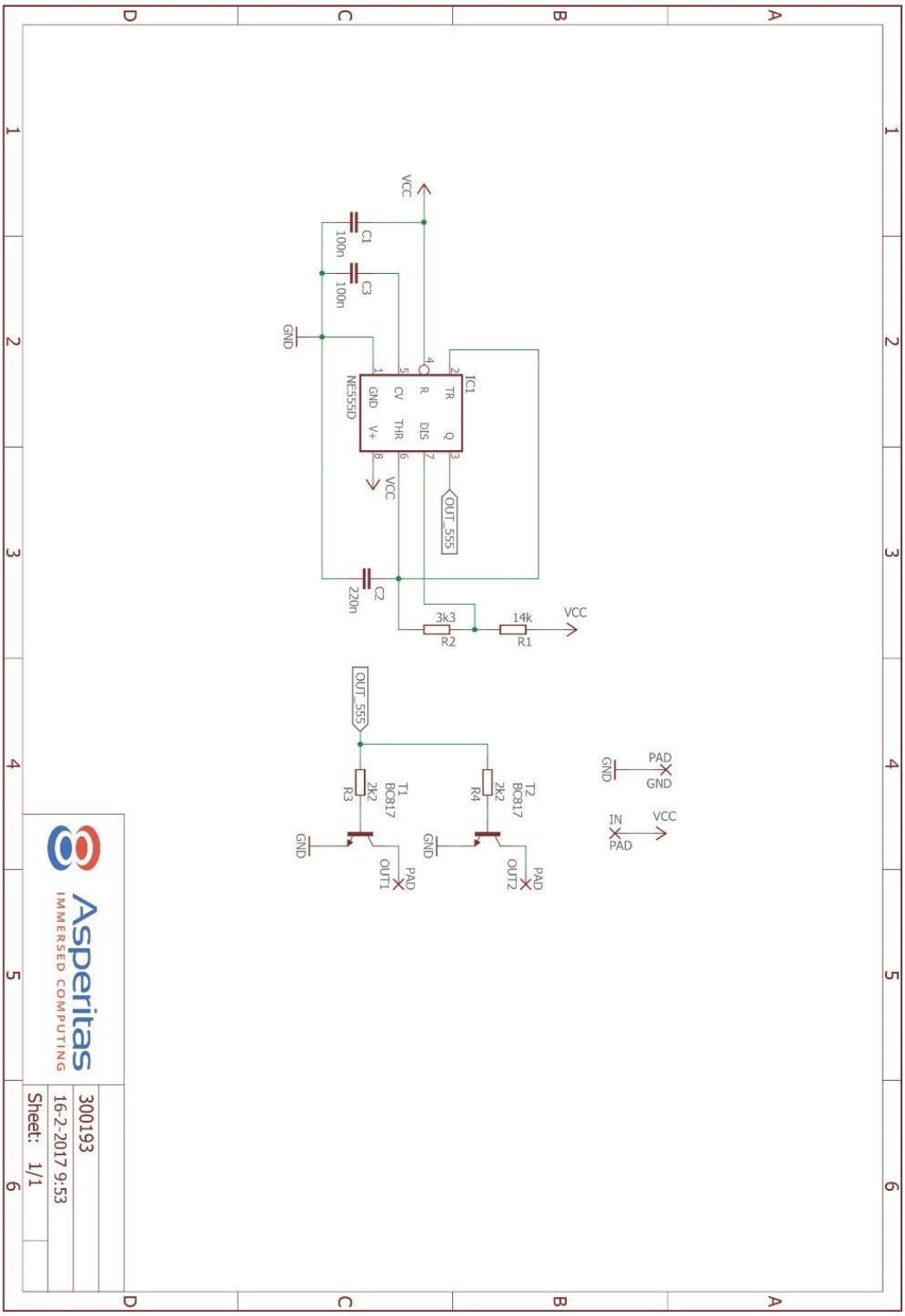
The fan sims are used to enable immersion cooling of components which are designed with an air-flow dependency.

WARNING:

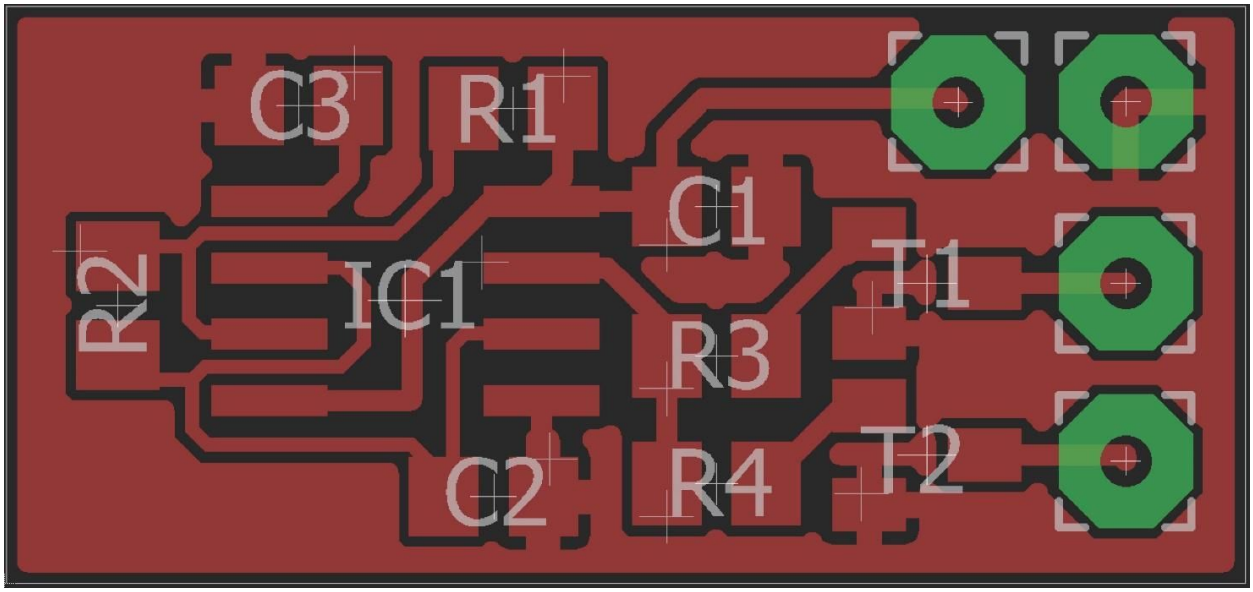
The mimicking of fans will most likely void any warranty on any system since the system was purposely designed to be air dependent. Circumventing any built-in safeguards results in warranty voidance.

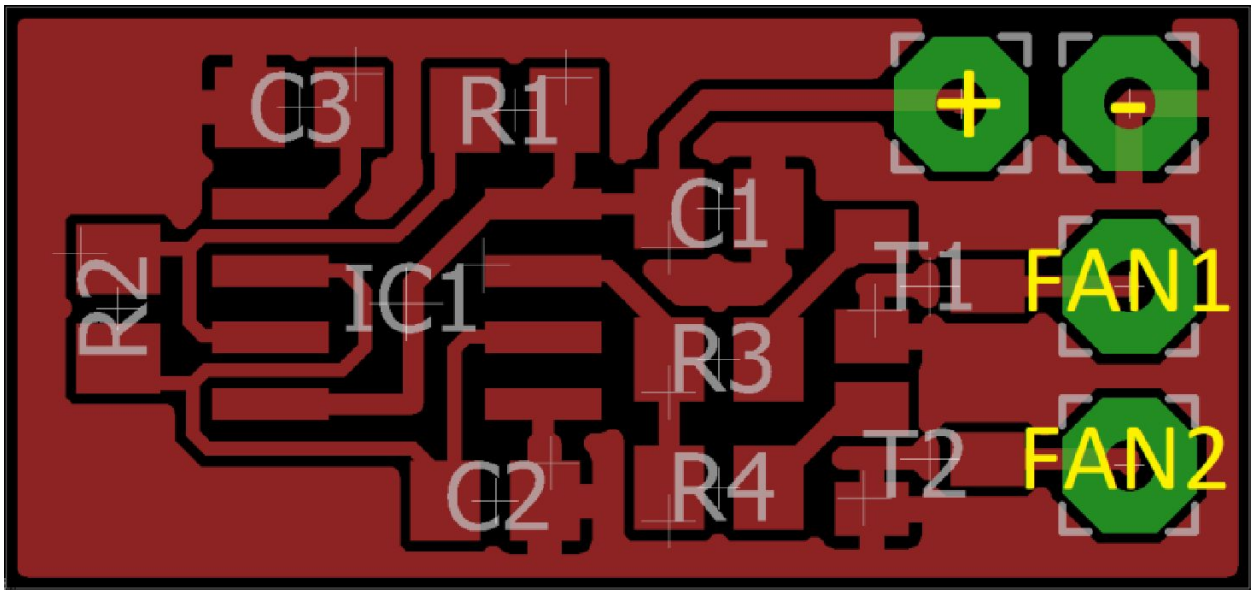
If fan detection is present and cannot be disabled, the recommended course of action is to request modified hardware or firmware from the manufacturer of the system or component.

4. Electrical schematic



5. PCB design and wiring



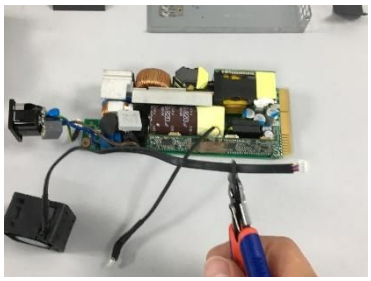


6. PSU Fan sim application example

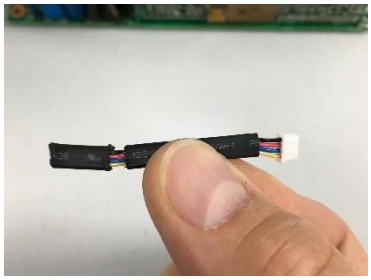
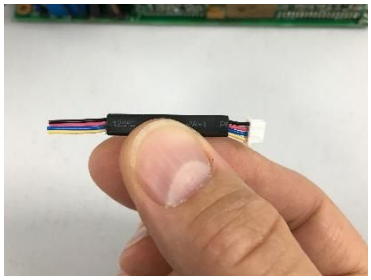
IMPORTANT NOTES

Before starting the modification process, validate correct PSU function in any air-based installation.
Modifying PSU's will void warranty

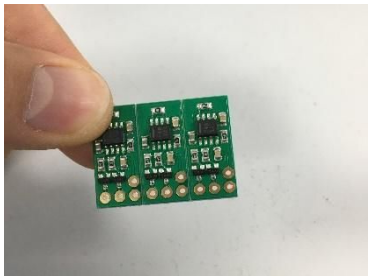
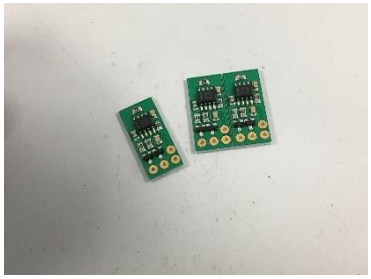
1. Cut the cable of the fan in order to be used for a fan simulator.



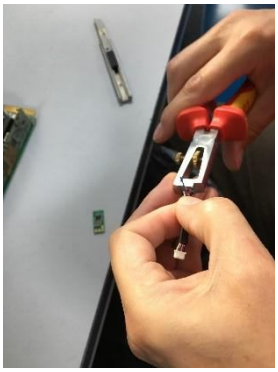
2. Remove a section of mantle from the cable.

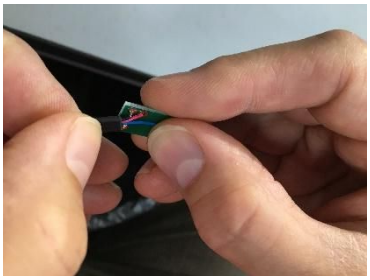
3. Break off a fan simulator from the row.

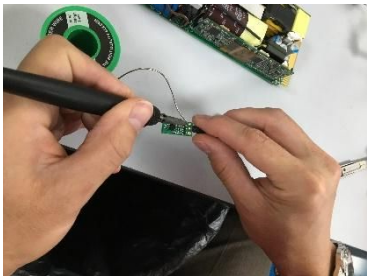
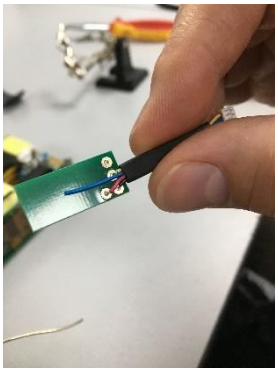
4. Trim wires from fan cable.



5. Place in position ready to be attached to the fan simulator.

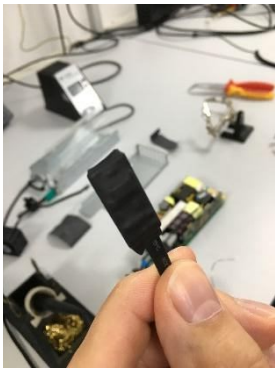


6. Using a soldering iron attach the wires to the fan simulator.

7. Cut a piece of heat shrink to the right length to cover the fan sim and wires.


8. Use a heat gun to shrink to the size of the fan simulator.

9. Attach the fan cable to where it was previous but with now the fan simulator in its place.

10. Use any multi meter to test the PSU. Ensure that it delivers around 12V when it is **unloaded**.