

Fuel Cell Monitor System

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VALIDATION PLAN

Revision – 1

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Fuel Cell Monitor Validation Plan

Paragraph #	Test Name	Success Criteria	Methodology	Status	Responsible Engineer(s)
3.2.4.2	Power Devices On PCB	PCB transfers power without overheating or burnout	Power Board and watch, smell, listen	Untested	Russell, Sameer
3.2.1.1	Internal signal voltage range	System can properly handle the specified voltages with minimal difference between tests.	Introduce voltages of 0-5V and measure output signals	Untested	Russell
3.2.1.1	Differential voltage tests	Pass a differential voltage through the Opamp buffer and receive the proper digital signal from the optoisolator	Introduce a range of voltages including edge cases and ensure proper output	Untested	Russell, Sameer
3.2.4.4	Android application graphical functionality	Application can properly display accurate voltage levels to user.	Use application on android device and verify volatages are accurately displayed	Untested	Jessica
3.2.4.4	Android Application alarm functionality	Application send alarm to user when voltage goes above or below ranges	Add set points to app and introduce alarm level voltages	Untested	Jessica
3.2.4.2	Power system functionality test	Power is applied from wall outlet and proper power transfer is read at outputs	Apply power to system and read voltage output at device trace	Untested	Sameer
3.2.4.1	Opamp system functionality test	Differential voltages are passed to the opamp and expected voltage is seen on the output	Power opamps and apply varying differential voltages and read output voltage	Untested	Sameer
N/A	PIC32 Microcontroller functionality test	The code for recieving the voltage signal for data acquisition	PCB board and coding on IDE	Untested	Rana
N/A	ESP32 Microcontroller functionality test	The code for communicating with the application	PCB board and coding on IDE	Untested	Rana

