

# Acceptance Test Plan: v0.1

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This document outlines all of the tests required to deliver LFEV-Y5. The plan is presented as an overview with the ATP number next to the test. This refers to the document that describes the test procedure. The requirements are from the SoW for 2017

## ATPs

None of these tests can be viewed as completed until appropriate documentation has been uploaded to the webpage.

Item	Item description	Demonstrated Requirements	Successful Test Criteria	Verification Method
ATP-01	Accumulator integration	R001a R001c R001d R001e R002a R002c R004a (TSV part) R005a R005b (Manual)	Packs power motor and all telemetry is recorded by VSCADA. Control by using the throttle. Verify by accelerating and looking at dash, pack screens, and log files remotely	Test
ATP-02	Accumulator charging	R001b R001g R002b R002h	Packs charge by the charging port and open the safety loop VSCADA reacts correctly Verify by looking at the dash	Test
ATP-03	CAN Bus link	R002a R002c R002d R002e R002f R002g R002j R002k R003a(8) R003d R004a (CAN Bus part) R005a (CAN Bus part) R005c (CAN Bus part) R007c R007d	DAQ by VSCADA of TSI, GLV, TSV, Cooling. Verify by looking at cell phone and looking at dash and remote computer in each mode of VSCADA	Test
ATP-04	Safety loop	R001g R002b R002c R002d R002k	Fault by: Crashing BRB IMD Cooling	Test

		R002m R003b R003c R003d R004a (Safety loop part) R005c (IMD fault) R007b	VSCADA limit Pack fault Throttle fault Brake fault User defined limit (warn) User defined limit (halt) Pack charging Verify by looking at the dash, the remote computer and the cellphone	
<b>ATP-08</b>	Cruise Control	R002l R005b (Software)	Motor can maintain desired speed Verify by checking motor speed compared to target	Test
<b>ATP-09</b>	24h endurance test	GPR006	At the end of all other tests leave the car running for 24h	Test
<b>ATP-10</b>	Unexpected shutdown	R002k	VSCADA works after unexpected GLV shutdown Packs stop powering motor with GLV shutdown	Test
<b>ATP-11</b>	Expected shutdown	R002i	All hardware is put into a safe state for storage. Check packs and all boards are off	Test

## Compliance Matrix

All requirements should also have a QA by each subsystem.

Requirement	Test(s) to demonstrate acceptance
<b>R001a</b>	ATP-01
<b>R001b</b>	ATP-02 OR <a href="https://sites.lafayette.edu/ece492-sp16/files/2016/05/QAR001b.pdf">https://sites.lafayette.edu/ece492-sp16/files/2016/05/QAR001b.pdf</a>
<b>R001c</b>	ATP-01
<b>R001d</b>	ATP-01
<b>R001e</b>	ATP-01
<b>R001f</b>	<a href="https://sites.lafayette.edu/ece492-sp16/files/2016/05/QAR001e.pdf">https://sites.lafayette.edu/ece492-sp16/files/2016/05/QAR001e.pdf</a>
<b>R001g</b>	ATP-02

R002a	ATP-01 or ATP-03
R002b	ATP-02
R002c	ATP-01 OR ATP-03 OR ATP-04
R002d	ATP-01 OR ATP-03 OR ATP-04
R002e	ATP-03
R002f	ATP-03
R002g	ATP-03
R002h	ATP-02 OR ATP-03
R002i	ATP-02 AND ATP-13
R002j	ATP-03
R002k	ATP-03
R002l	ATP-08
R002m	ATP-04
R003a(1)	Any ATP
R003a(2)	QA by GLV
R003a(3)	QA by GLV
R003a(4)	QA by GLV
R003a(5)	QA by GLV
R003a(5)	QA by GLV
R003a(6)	QA by GLV
R003a(7)	QA by GLV
R003a(8)	ATP-03
R003b	ATP-04
R003c	QA by GLV
R003d	ATP-03
R004a	ATP-01 AND ATP-03 AND ATP-04
R004b	QA by Interconnect
R005a	ATP-01 AND ATP-03
R005b	ATP-01 AND ATP-08
R005c	ATP-04
R005d	QA by TSI
R006	Any ATP
R007a	QA by Cooling
R007b	ATP-04
R007c	ATP-03
R007d	ATP-03
R007e	QA by Cooling
R007f	QA by Cooling
R007g	QA by Cooling

### Waived or modified requirements and questions

Requirement	Reason
R003a(4)	Cannot tell if GLV is from the battery or 24VDC

<b>R002h</b>	Cannot tell if GLV is from the battery or 24VDC
<b>R007e</b>	I don't like configuring this over CAN something else? Suggestion use UART to be able to configure parameters But this would need a new connector on the box...
<b>GPR005</b>	25mW components? Is this correct? Doesn't almost every component dissipate this much? Sealing procedure? We don't use one yet but we have tested HV circuits. I plan to use last year's plan
<b>R005d</b>	We've changed the switches

DRAFT