Nissan Cycle Aging Report

Energy Storage Innovation Lab

Date written: 2022-09-22

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Cycle Count

Nissan Pack 5: Cycle 1119 of 2190

51%

Nissan Pack 6: Cycle 1425 of 2190

65%

Nomenclature

Collapse

Terminology	Definition
NP #	Nissan Pack. The number specifies which pack.
Aging	Refers to the type of test being conducted.
Pack / Module / Cell	Each pack has 8 modules in series. Each module has 2 cells. Therefore there are a total of 16 cells in a pack.
Characterization	Two charge and discharge cycles, followed by flicks. Characterization is conducted to characterize the battery⍰s capacity.
Drive Cycle	A type of test conducted to allow calculation of the internal resistance for the battery.
Aging	Simulates real life usage of the battery throughout its life cycle.

*See Appendix for examples of characterization, drive, and aging test cycles.

Timeline of all tests included in report

Pack #	Week of Aging/Char	Start Date	End Date
5	Aging 61	2022-09-22	2022-09-22
6	Aging 32	2022-09-22	2022-12-23

Test Specifications

Testing cycles are conducted in the following order

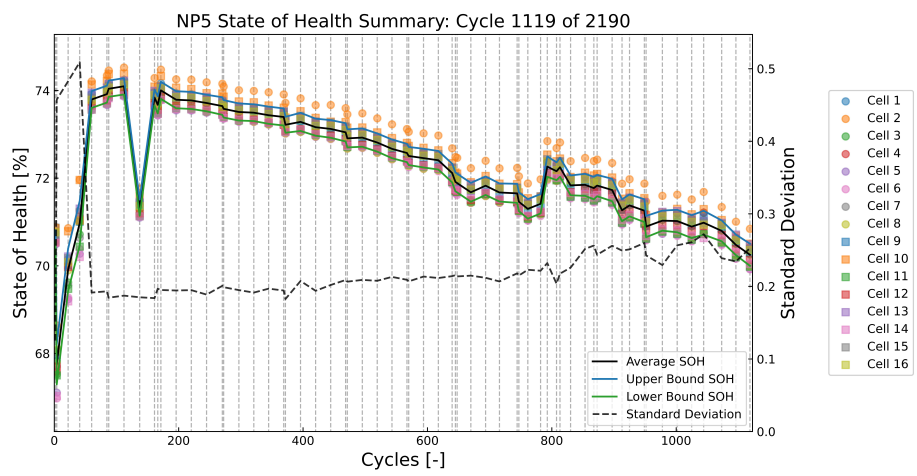
1. Characterization and drive cycle
2. Characterization and aging
3. Characterization and aging
4. Characterization and aging
5. Characterization and aging
6. Repeat from beginning

Testing Cycle Boundaries

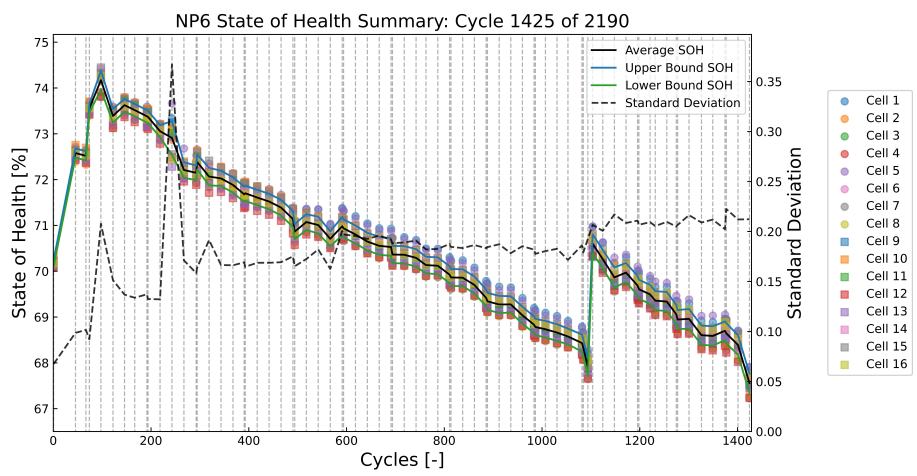
1. The lower cell voltage limit is 2.9 V
2. The upper cell voltage limit is 4.1 V
3. The maximum current limit is 40 A

Summary Graphs

State of Health Summary

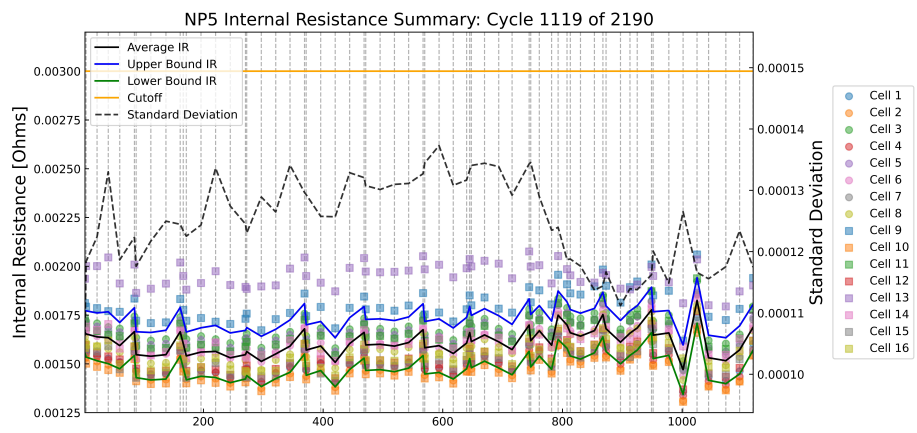


NP5 SOH Summary

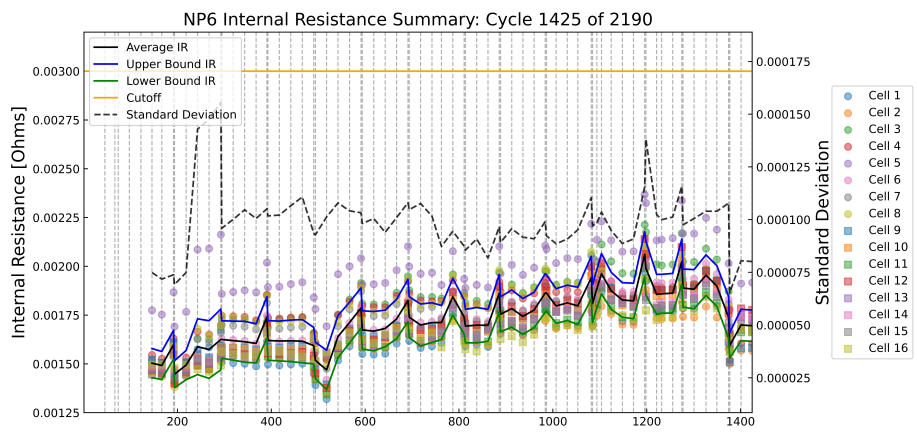


NP6 SOH Summary

Internal Resistance Summary



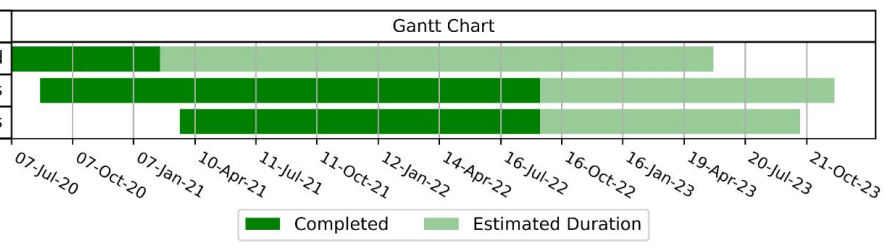
NP5 IR Summary



NP6 IR Summary

Test Progress Gantt Chart

Task	Start Date	End Date	Progress	Status
Nissan Pack 3	07-07-2020	06-01-2023	21.14%	Terminated
Nissan Pack 6	08-19-2020	12-01-2023	65.05%	In Progress
Nissan Pack 5	03-18-2021	10-10-2023	51.08%	In Progress



Gantt Chart

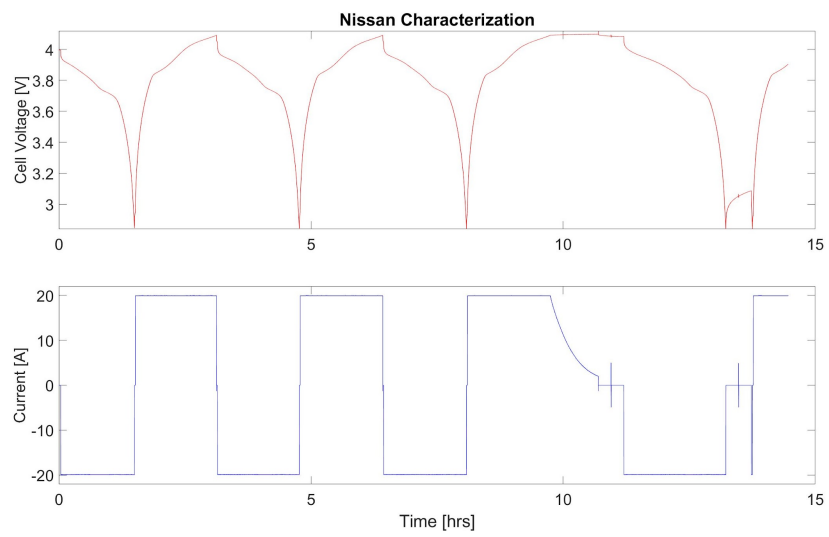
Recent Delays / Issues

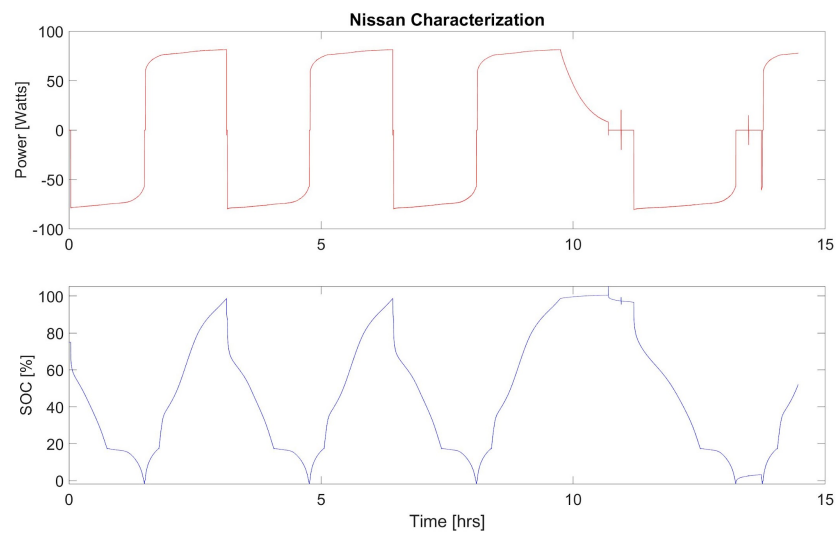
None

Appendix

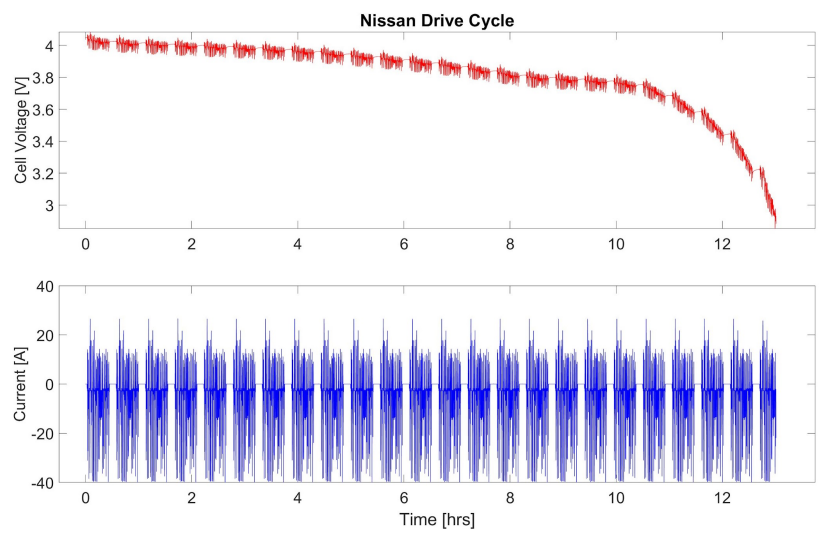
Documents the test details

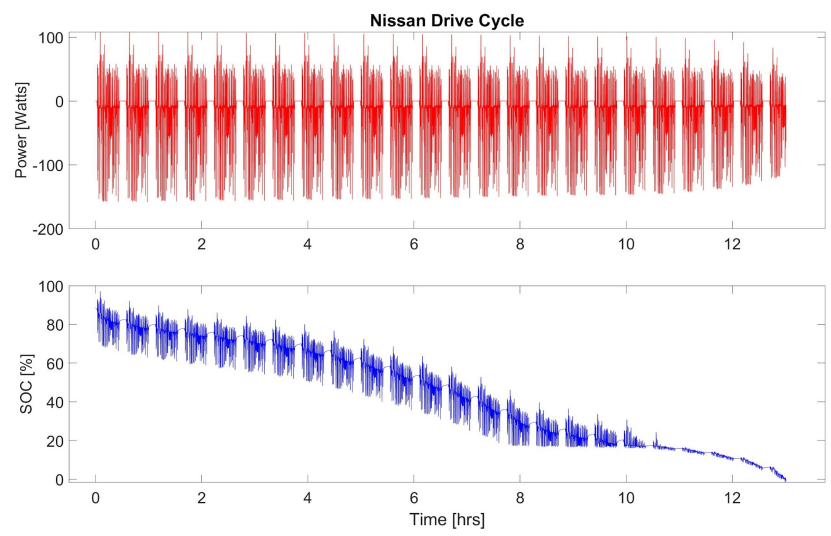
Characterization



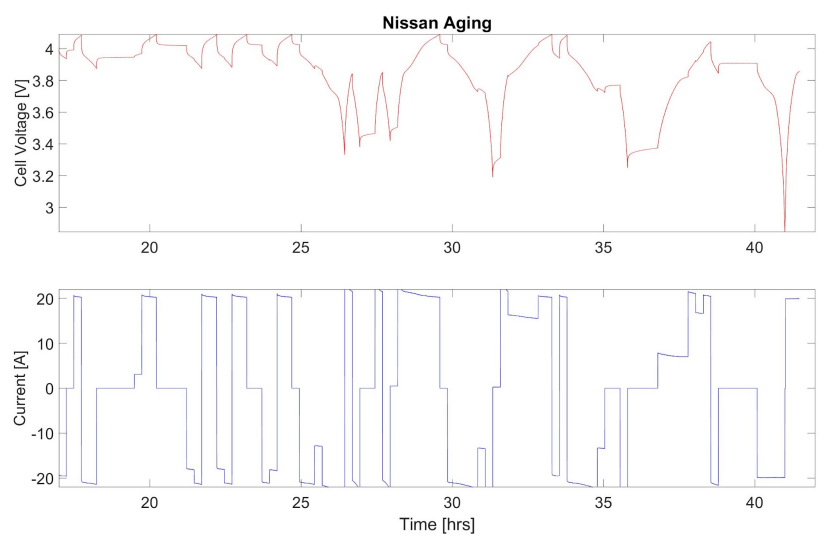


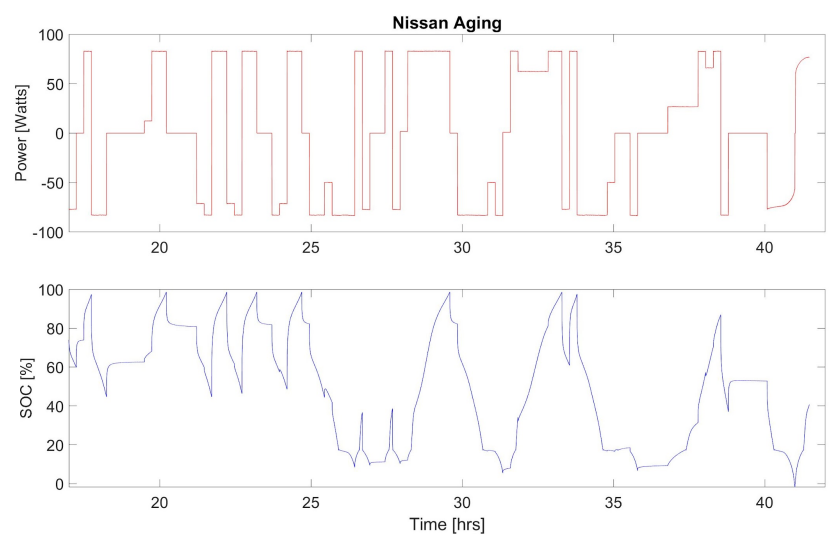
Drive Cycle





Aging Cycle





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