2013 Chevrolet Volt

Battery Charge Profiles at Different Temperatures

Summary

The 2013 Chevrolet's battery was charged with a level 2 EVSE charger from charge sustaining mode at 95^{0}F, 72^{0}F, and 20^{0}F. For all temperatures, the charger consumes constant power until the last 30 minutes when power gradually tapers down. For this data set, the vehicle battery charge energy consumption shows a monotonic increase with temperature.

Select Battery Specifications[1]

Manufacturer:	LG Chem
Type:	Lithium-Ion (LMO)
Nominal System Voltage:	355.2 V
Rated Pack Energy:	16.5 kWh
Cooling:	Active - Liquid Cooling

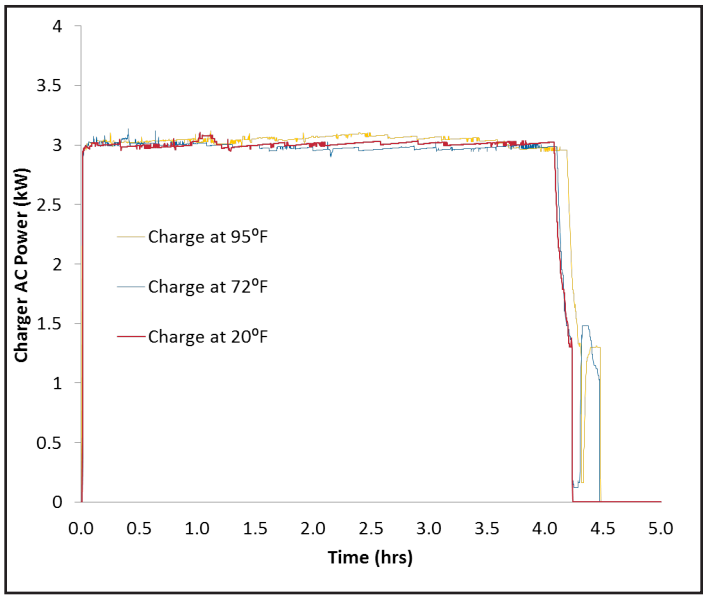

Fig. 1 Chevrolet Volt charger power consumption during charge

Key Charging Experiment Results

	Peak Power (kW)	Energy Consumed (kWh)
Charge at 95^{0}F	3.11	13.08
Charge at 72^{0}F	3.13	12.64
Charge at 20^{0}F	3.10	12.50

Notes:

1. Vehicle specifications were supplied by the manufacturer, measured, or derived from a literature review. For detailed specifications, see Baseline Testing Results available at avt.inl.gov
2. Ambient temperatures were adjusted at the end of charging: 95^{0}F to 72^{0}F, 72^{0}F to 20^{0}F, and 20^{0}F to 72^{0}F

As a production vehicle, this vehicle is assumed to meet all Federal Motor Vehicle Safety Standards (FMVSS) for Battery Electric Vehicles.

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