Advanced Powertrain Research Facility

Downloadable Dynamometer Database (D[3])- Test Summary Sheet

2013 Chevrolet Malibu Eco

Vehicle Architecture	Hybrid
Document Date	1/8/2014
Revision Number	1
Notes:	

Vehicle Setup Information

Test Cell Location	APRF- Bldg 371
Vehicle Dynamometer Input	
Test weight [lb]	3906
Target A [lb]	30.4035
Target B [lb/mph]	0.27111
Target C [lb/mph^2]	0.014436
Test Fuel Information	
Fuel type	EPA Tier II EEE HF0437
Fuel density [g/ml]	0.742
Fuel Net HV [BTU/lbm]	18493

Test ID [#]	Cycle	Cold start (CSt) Hot start [HSt]	Date	Test Cell Temp [C]	Test Cell RH [%]	Test Cell Baro [in/Hg]	Vehicle cooling fan speed: Speed Match [SM] or constant speed [CS]	Solar Lamps [W/m2]	Veicle Climate Control settings	Hood Position [Up] or [Closed]	Window Position [Closed] or [Down]	Cycle Distance [mi]	Cycle Fuel economy [mpg] (Emiss Bag)	Cycle HV battery Integrated net current [DC Ah]	Cycle HV battery Average Zero crossing Voltage [V]	Cycle HV battery Net Energy [DC Wh]	Cycle HV battery Net Energy Consumption [DC Wh/mi]
Test information				Test cell information			Test cell setup		Vehicle setup					Electric energy consumption			
Test sequence purpose: AVTE Standard testing																	
61302095	UDDS CS	CSt	02/18/13	-7	15.63	29.04	SM	Off	72F	Closed	Closed	7.45	21.5	-0.380	114.3	-43.399	-9.032
61302096	UDDS HS	HSt	02/18/13	-7	17.93	29.02	SM	Off	72F	Closed	Closed	7.51	28.1	0.391	113.4	44.340	3.394
61302097	UDDS HS	HSt	02/18/13	-7	19.34	29.01	SM	Off	72F	Closed	Closed	7.52	28.7	-0.042	111.8	-4.721	-2.795
61302099	Highway	HSt	02/18/13	-6	20.24	28.97	SM	Off	72F	Closed	Closed	10.28	44.5	0.042	110.9	4.647	-0.173
61302100	US06	HSt	02/18/13	-4	15.88	28.95	SM	Off	72F	Closed	Closed	8.03	28.8	-0.091	112.0	-10.211	-4.308
61302058	UDDS CS	Cst	02/13/13	22	44.58	29.07	SM	Off	Off	Closed	Down	7.47	27.8	0.054	109.9	5.950	-1.334
61302059	UDDS HS	HSt	02/13/13	23	40.94	29.07	SM	Off	Off	Closed	Down	7.48	30.3	-0.023	109.6	-2.532	-2.301
61302060	UDDS HS	HSt	02/13/13	22	46.46	29.06	SM	Off	Off	Closed	Down	7.45	30.4	0.015	110.2	1.658	-1.718
61302061	Highway	HSt	02/13/13	25	36.72	29.06	SM	Off	Off	Closed	Down	10.26	48.0	0.059	110.2	6.508	-0.110
61302062	US06	HSt	02/13/13	25	33.75	29.06	SM	Off	Off	Closed	Down	8.03	30.5	-0.030	112.0	-3.397	-3.809
61302071	UDDS CS	Cst	02/14/13	35	44.63	28.96	SM	850	72F	Closed	Closed	7.45	21.9	-0.078	109.9	-8.597	-2.535
61302072	UDDS HS	HSt	02/14/13	35	40.34	28.96	SM	850	72F	Closed	Closed	7.46	23.2	-0.081	110.6	-8.999	-2.498
61302075	Highway	HSt	02/14/13	38	24.91	28.99	SM	850	72F	Closed	Closed	10.27	45.0	0.190	109.6	20.842	1.281
61302076	US06	HSt	02/14/13	39	22.86	29.00	SM	850	72F	Closed	Closed	8.04	27.1	0.070	111.6	7.791	-0.510
61302078	SC03	HSt	02/14/13	37	37.18	29.01	SM	850	72F	Closed	Closed	3.60	22.8	-0.018	112.9	-2.058	-1.947

Summary notes

For the highway and US06, SC03, cycles only the second (hot) test results are presented in this summary.

Electric energy consumption:

HV battery Integrated net current --> Integrated current as reported by power analyzer

HV battery Average Zero crossing Voltage --> Calculated Average Zero crossing Voltage over the phase or cycle

HV Net Energy --> Integrated power as reported by power analyzer

Note that HV Net Energy is not equal to the product of HV battery Integrated net current times Average Zero crossing Voltage.

* Target Coefficients developed during AVTE coast down testing