



Mercedes-Benz MY2021 GLE350 4MATIC PEMS Report

1. Background

Daimler AG, with headquarters in Stuttgart, Germany, is a large automotive company that sells vehicles and services in nearly every country in the world. Daimler has production facilities in Europe, North and South America, Asia, and Africa. The current brand portfolio includes Mercedes-Benz as well as Mercedes-AMG, Mercedes-Maybach, smart, and EQ.

As part of fulfilling obligations under the Consent Decree entered on March 9, 2021 (“Consent Decree”) with the United States and California, Daimler conducts off-cycle testing, encompassing Portable Emissions Measurement System (PEMS) testing, to demonstrate off-cycle tailpipe emissions and to screen for undisclosed auxiliary emission control devices (AECDs) and defeat devices in U.S. light- and medium-duty vehicles. The testing was conducted as described in Section VII of the Consent Decree. Pursuant to the Consent Decree, Daimler will conduct PEMS testing for any new diesel vehicles issued Certificates of Conformity or Executive Orders through and including MY2023 as light- or medium-duty diesel models, and for three vehicles certified as light- or medium-duty gasoline Test Groups per Model Year from MY2021 through and including MY2024. This PEMS Report relates to MY2021 GLE350 4MATIC from Test Group MMBXT02.0U3A, which is the second highest volume Test Group applicable for MY2021 based on the projected 50 states’ sales volumes prepared for NMOG + NO_x fleet averages under Tier 3.

2. Approach

To demonstrate off-cycle tailpipe emissions, tests were performed on public roads in the Los Angeles area on city, highway, and mountain routes. These test routes have been approved by CARB. Emissions measured and/or calculated and reported include oxides of nitrogen (NO_x), carbon monoxide (CO), carbon dioxide (CO₂), total hydrocarbons (THC), and non-methane organic gases (NMOG). All tests were executed by a team in Long Beach, CA. This team is independent of Daimler AG’s and Mercedes-Benz AG’s product development departments. All vehicles were configured and tested by MBRDNA Long Beach Compliance staff. Test results were then analyzed to ensure quality control processes took place before and after each test sequence, including instrument calibration and calibration with reference gasses.

3. Emissions Results

MY2021 vehicle with the specifications listed in Table 1 was tested in February 2020. Tables 2 through 4 provide the vehicle test results of the combined route segments performed in the default transmission mode (Comfort Mode).

Table 1: Vehicle Specification

Model	Tier	Drive type	HP	Torque (ft.lb)	Transmission	Exh Treatment	Fuel	Start Mileage
GLE350 4Matic	ULEV70	AWD	255	273	9-Automatic	TWC	Gasoline	31

Table 2: Highway Results

Model	A1 Highway East (g/mi)					B2 Highway West (g/mi)				
	CO ₂	CO	THC	NO _x	NMOG	CO ₂	CO	THC	NO _x	NMOG
GLE350 4Matic	356.01	0.81439	0.00357	0.00883	0.00341	297.21	0.74191	0.00108	0.00887	0.00103

Table 3: Mountain Results

Model	A2 Mountain Uphill (g/mi)					B1 Mountain Downhill (g/mi)				
	CO ₂	CO	THC	NO _x	NMOG	CO ₂	CO	THC	NO _x	NMOG
GLE350 4Matic	586.51	1.17386	0.00845	0.01505	0.00805	161.91	0.25740	0.00539	0.00685	0.00513

Table 4: Cold Start and Urban Driving Result

Model	A0 Long Beach → CARB (g/mi)					LA City (g/mi)				
	CO ₂	CO	THC	NO _x	NMOG	CO ₂	CO	THC	NO _x	NMOG
GLE350 4Matic	324.41	0.74254	0.01238	0.01033	0.01260	471.10	1.23075	-0.00018	0.02402	-0.00018

4. Trip Statistics

Tables 5 to 10 summarize the vehicle test statistics and environmental conditions during each test cycle.

Table 5: Highway East (A1)

Trip Duration h.mm.ss	Distance (mi)	V*Apos [‡]	Average Speed (mi/h)	Standstill %	Constant %	Acceleration %	Deceleration %	Cumulative pos. altitude (m)	Average temperature (F)
0.31.06	27.23	15.25	52.54	2.4	1.4	51.1	45.1	408.8	75.13

Table 6: Highway West (B2)

Trip Duration h.mm.ss	Distance (mi)	V*Apos [‡]	Average Speed (mi/h)	Standstill %	Constant %	Acceleration %	Deceleration %	Cumulative pos. altitude (m)	Average temperature (F)
0.29.55	28.15	17.53	56.46	3.2	1.2	49.1	46.5	204.3	77.32

Table 7: Mountain Uphill (A2)

Trip Duration h.mm.ss	Distance (mi)	V*Apos [‡]	Average Speed (mi/h)	Standstill %	Constant %	Acceleration %	Deceleration %	Cumulative pos. altitude (m)	Average temperature (F)
0.35.55	17.74	13.51	29.64	13.33	1.2	44.3	41.2	1038.1	75.24

Table 8: Mountain Downhill (B1)

Trip Duration h.mm.ss	Distance (mi)	V*Apos [‡]	Average Speed (mi/h)	Standstill %	Constant %	Acceleration %	Deceleration %	Cumulative pos. altitude (m)	Average temperature (F)
0.30.37	17.33	14.29	33.96	16.4	1.5	44.3	37.8	88.8	73.62

Table 9: Long Beach to CARB (A0)

Trip Duration h.mm.ss	Distance (mi)	V*Apos ‡	Average Speed (mi/h)	Standstill %	Constant %	Acceleration %	Deceleration %	Cumulative pos. altitude (m)	Average temperature (F)
0.31.12	23.98	14.01	46.11	8.2	1.1	48.6	42.0	249.3	72.47

Table 10: LA City

Trip Duration h.mm.ss	Distance (mi)	V*Apos ‡	Average Speed (mi/h)	Standstill %	Constant %	Acceleration %	Deceleration %	Cumulative pos. altitude (m)	Average temperature (F)
1.00.55	16.29	13.19	16.05	31.4	0.3	34.8	33.5	285.8	84.05

‡V*Apos results are the 95th percentile values displayed in m²/s³

5. Routes

The routes for on-road emissions testing are approved by CARB and intended to include various road and traffic conditions. These routes include mountain driving at high elevation, urban driving, and highway driving. These routes are separated into six test sections with no key-off cycles between A0 and B2.

Table 11: Description of Test Routes and Calculated Trip Statistics

Route	Distance (mi)	Segment Duration	Max – Min Elevation (m)	Average Speed (mph)	Fraction Hwy	Fraction Urban/Rural
A0	24	31 min	128	46	68	32
A1	27	31 min	278	53	83	17
A2	18	36 min	992	30	0	100
B1	17	31 min	985	34	25	75
B2	28	30 min	288	56	83	17
LA City	16	61 min	71	16	6	94

5.1 Highway Sections (A1 & B2)

These routes are representative of highway driving in California. Each route segment is approximately 27 miles and is composed of 95% highway and 5% surface roads. These segments travel between Vineyard Ave, Ontario CA and California Air Resource Board office at 9528 Telstar Ave, El Monte CA via Hwy 10. The average speed is 55mph and the net elevation change is approximately 928ft (283m).

A1 – Highway East

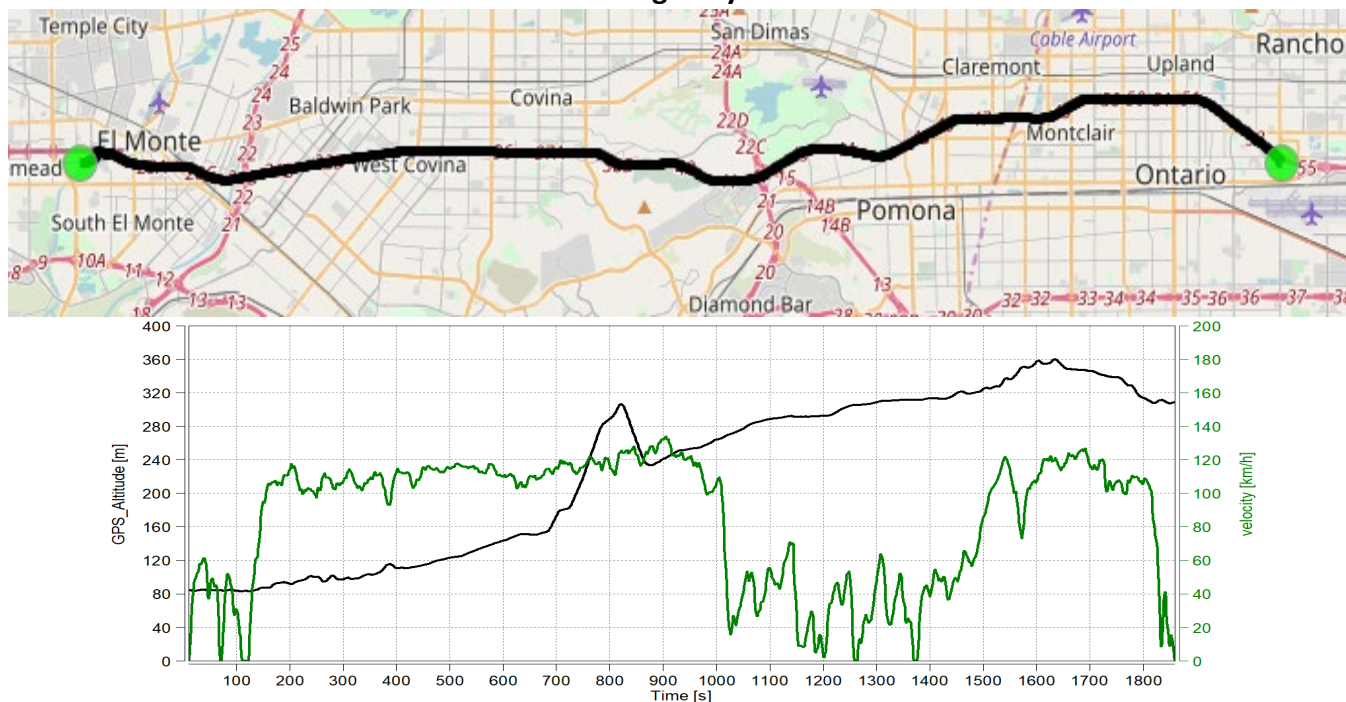


Figure 1. Map of Route A1 – Highway East. Including speed and elevation

B2 – Highway West

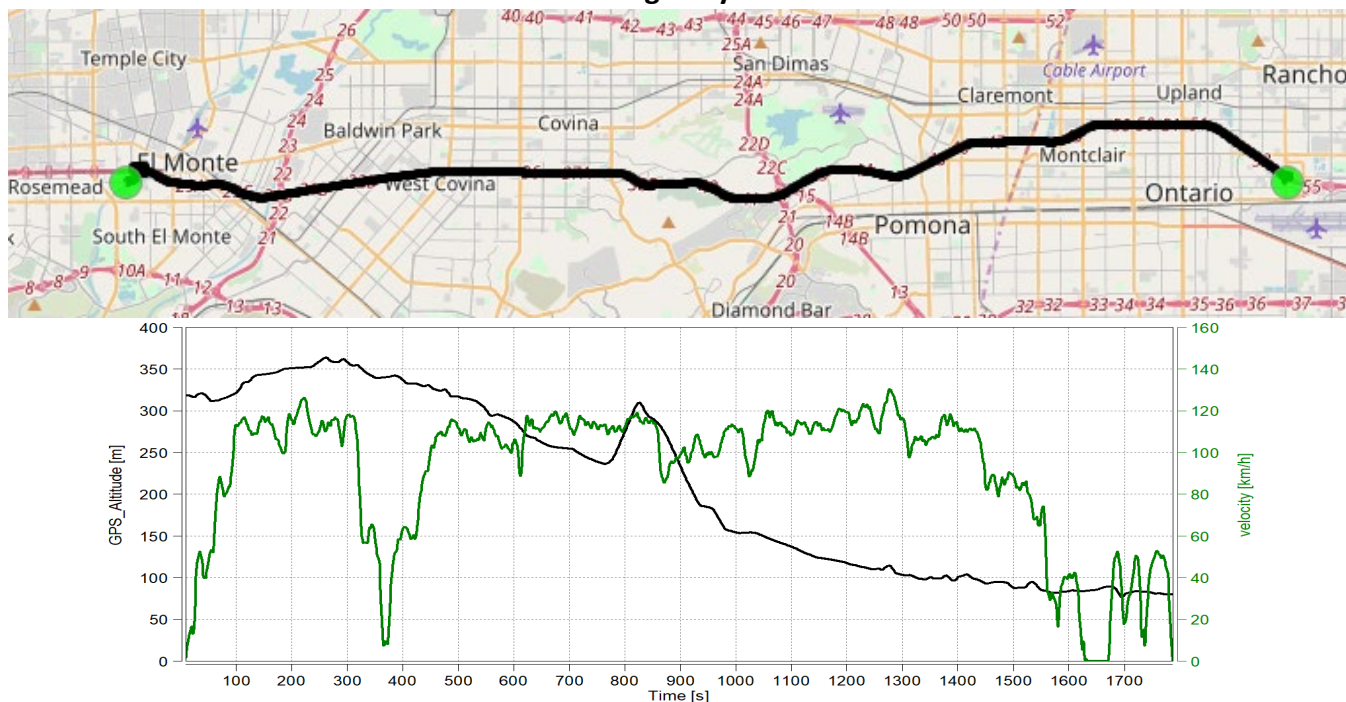


Figure 2. Map of Route B2 – Highway West. Including speed and elevation

5.2 Mountain Sections (A2 & B1)

This route is representative of rural uphill and downhill driving. Each route segment is approximately 17.5 miles and is composed of 90% surface roads and 10% highway, starting from Vineyard Ave in Ontario and traveling to Mt. Baldy, then returning to Vineyard Ave. The average speed is 32mph. The net elevation change is 3242ft (988m).

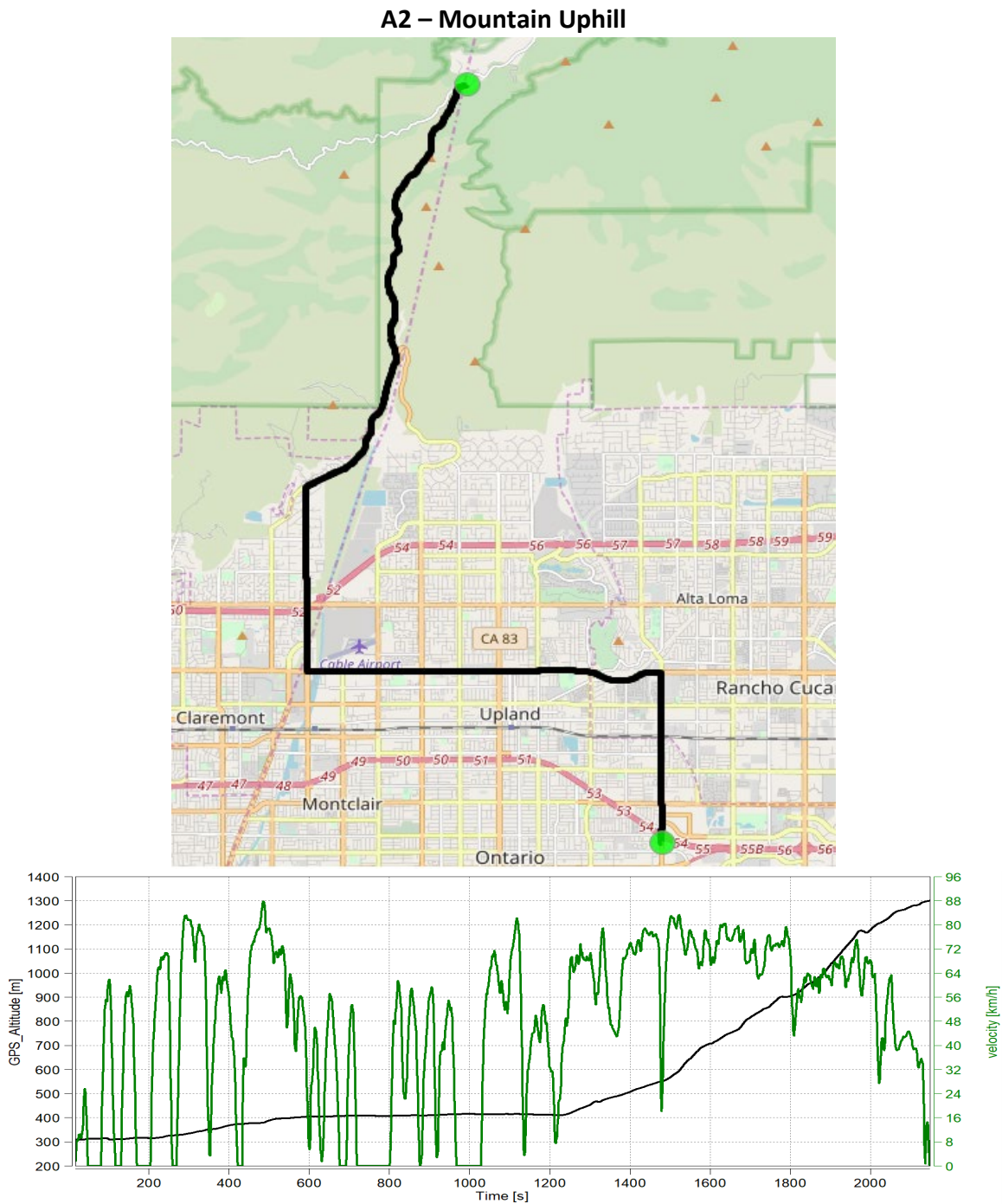


Figure 3. Map of Route A2 – Mountain Uphill. Including speed and elevation

B1 – Mountain Downhill.

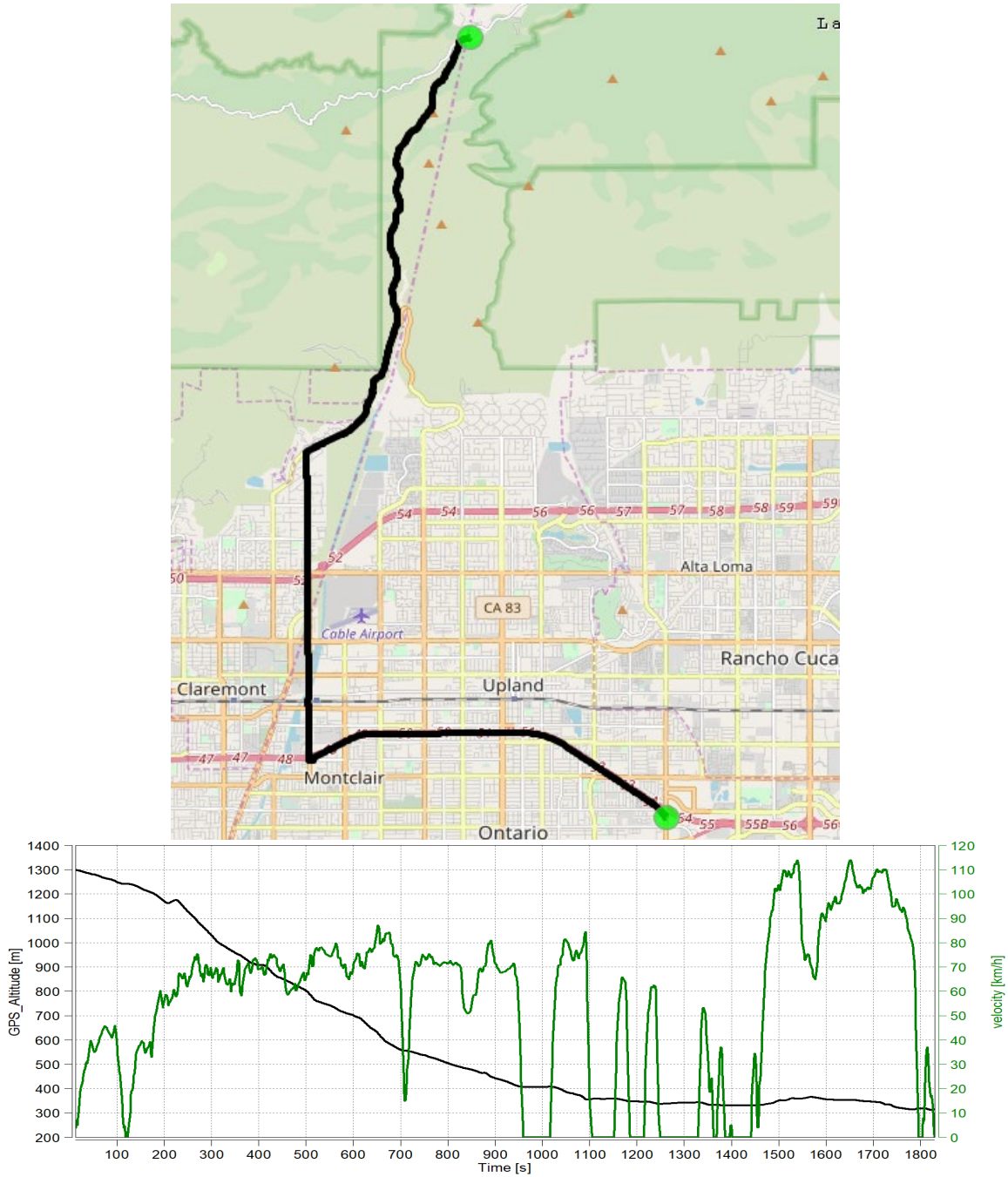


Figure 4. Map of Route B1 – Mountain Downhill. Including speed and elevation

5.3 Long Beach to CARB Section (A0)

This route travels between 4035 Via Oro Ave, Long Beach CA and 9528 Telstar Ave, El Monte CA. This route contains a cold start event with the test vehicle normalized to ambient conditions, beginning from Long Beach.

A0 – Long Beach to CARB

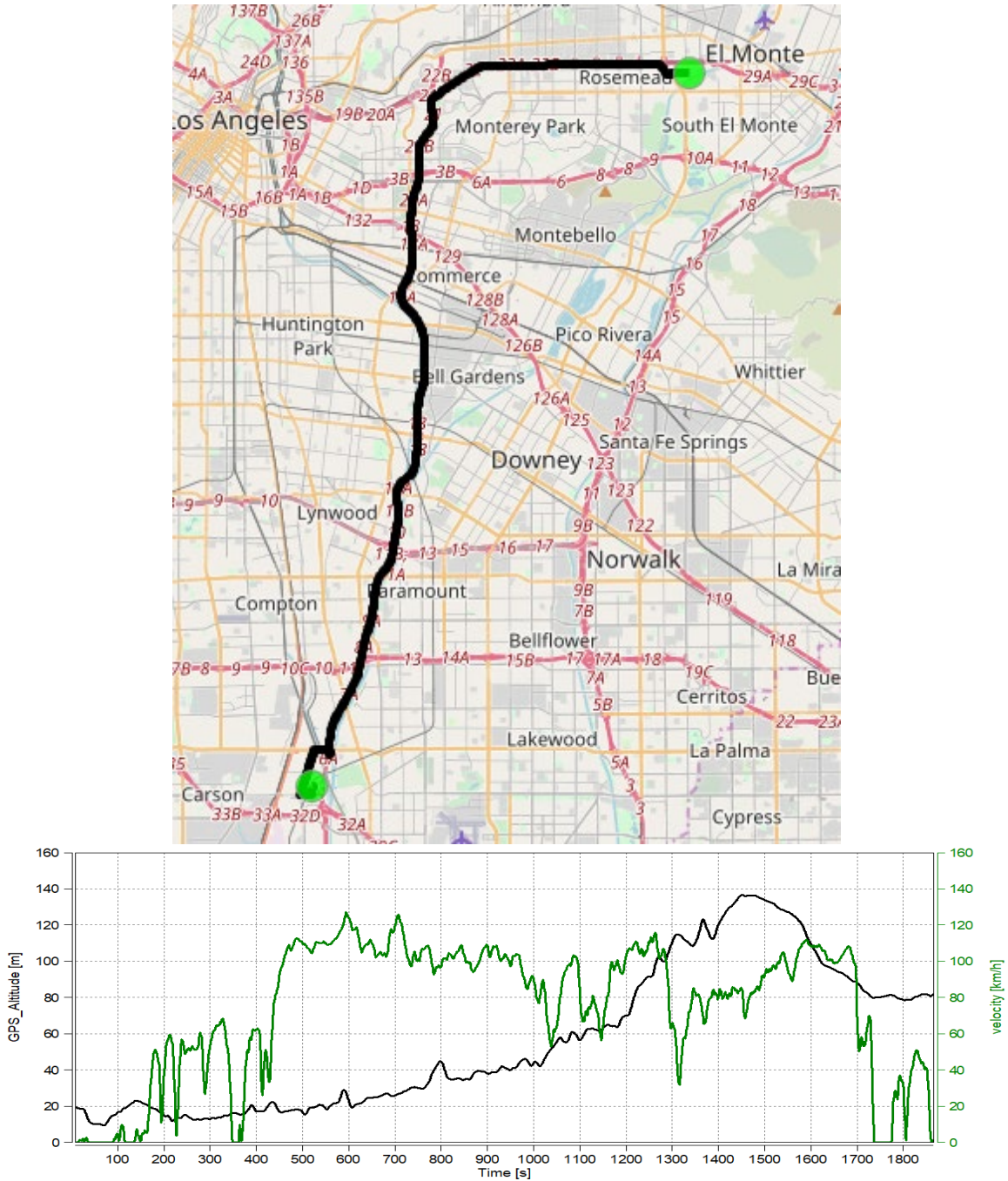


Figure 5. Map of Route A0 – Long Beach to CARB, El Monte. Including speed and elevation

5.4 LA City Driving Section

This route is intended to represent city driving and is a modernized reflection of the LA4. There are minor modifications to account for traffic patterns and roads which have changed since 1972 but this route represents a similar pattern to the original route. The route is approximately 16 miles and is 20% highway, 80% surface road with an average speed of 16mph.

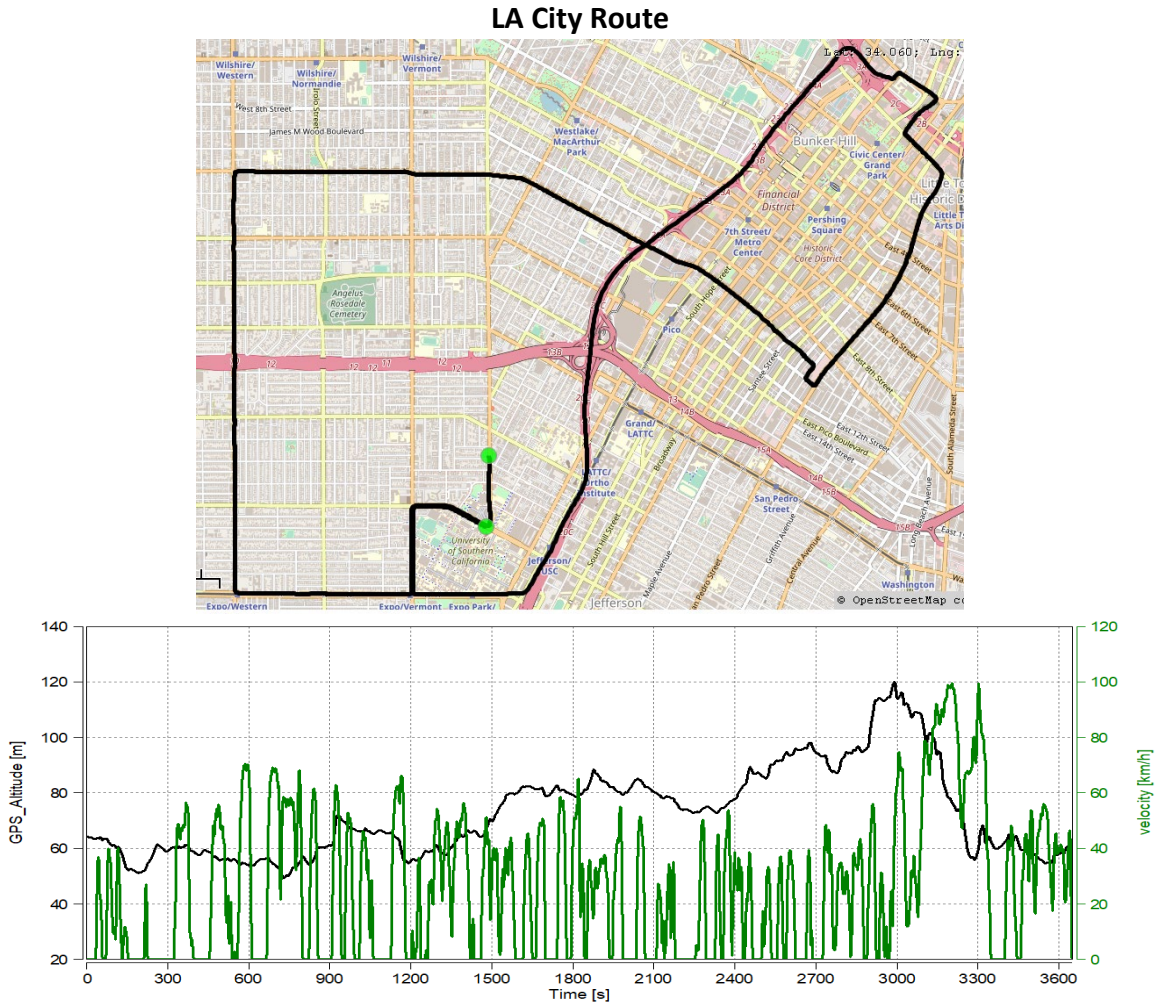


Figure 6. Map of LA City Route. Including speed and elevation

6. Log Sheets

A comprehensive list with information regarding each PEMS test conducted is provided separately as an addendum to this report. In addition to the information concerning PEMS test results, all test records will also be provided in the same file.

The information is provided in the file: Flat_File_Log_Sheet_GLE350 MY21 2020-Feb-28.pdf

This file contains log sheet information on PEMS testing conducted with the MY2021 Mercedes-Benz GLE350 4MATIC test vehicle W167-3511. The table also includes information and explanations on valid, aborted, and invalid tests.

7. Appendix

The following pages include emission report summaries for each test performed using the PEMS system and AVL post processing.

Trip Duration	1866.00	s	ave THC	1.43575	ppm	BS CO2	518.60650	g/hphr
Trip Duration (a)	1866.00	s	ave NMHC	1.40704	ppm	BS CO	1.19302	g/hphr
Trip Distance	27.23	mi	ave CH4	0.02872	ppm	BS THC	0.00493	g/hphr
Trip Distance (a)	27.23	mi	ave CO	411.64896	ppm	BS NMHC	0.00456	g/hphr
			ave CO2	12.06269	%	BS CH4	0.00011	g/hphr
Trip Fuel Cons. (b)	2.71	kg	ave NOx	6.10032	ppm	BS NO (d)	0.00700	g/hphr
Trip Fuel Cons. (ab)	2.71	kg	ave PM	n/a	mg/m3	BS NO2	0.00586	g/hphr
Trip Fuel Cons. EU (ac)	3.21	kg	ave Soot meas	n/a	mg/m3	BS NOx	0.01286	g/hphr
Trip Fuel Cons. US (ac)	3.20	kg	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
			ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
						BS PM	n/a	g/hphr
Trip Fuel Economy (b)	28.39	mpg_US				BS PN	n/a	#/hpr
Trip Fuel Economy (ab)	28.39	mpg_US	tot THC	0.09220	g			
Trip Fuel Economy EU (ac)	23.98	mpg_US	tot NMHC	0.08529	g			
Trip Fuel Economy US (ac)	24.10	mpg_US	tot CH4	0.00204	g	DS CO2	355.87437	g/mi
Trip Fuel Economy GGE (b)	28.39	mpg_US	tot CO	22.29565	g	DS CO	0.81867	g/mi
Trip Fuel Economy GGE (ab)	28.39	mpg_US	tot CO2	9691.89433	g	DS THC	0.00339	g/mi
Trip Fuel Economy EU GGE (ac)	23.98	mpg_US	tot NO (d)	0.13082	g	DS NMHC	0.00313	g/mi
Trip Fuel Economy US GGE (ac)	24.10	mpg_US	tot NO2	0.10952	g	DS CH4	0.00008	g/mi
			tot NOx	0.24034	g	DS NO (d)	0.00480	g/mi
Trip Av. Eng. Speed	1788.53	rpm	tot Soot	n/a	g	DS NO2	0.00402	g/mi
Trip Av. Torque	97.32	lbft	tot Soot meas	n/a	g	DS NOx	0.00882	g/mi
Trip Av. Power	36.05	hp	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Work			tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Work (a)	18.69	hphr				DS PM	n/a	g/mi
			PM measurement type	0.00000	-	DS PN	n/a	#/mi
Trip Exhaust Mass	50.42	kg	tot Soot on PM filter (estim.)	0.00000	mg			
Trip Exhaust Mass EU (ac)	42.33	kg	Soot --> PM simple scaling factor	1.00000	-	FS CO2	3570.32319	g/kg
Trip Exhaust Mass US (ac)	42.56	kg				FS CO	8.21333	g/kg
			Trip Av. Veh. Speed	52.54154	mi/hr	FS THC	0.03396	g/kg
						FS NMHC	0.03142	g/kg
Trip Av. Amb. Temperature	75.13	deg_F	Trip Distance Share Urban	12.24121	% distance	FS CH4	0.00075	g/kg
Trip Av. Humidity	36.91	%	Trip Distance Share Rural	4.63089	% distance	FS NO (d)	0.04819	g/kg
Trip Av. GPS Altitude	227.82	m	Trip Distance Share Motorway	83.12790	% distance	FS NO2	0.04034	g/kg
						FS NOx	0.08854	g/kg
Fuel Type	Petrol (E10)					FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) Based on A/F ratio (eq 28-32 - R49)
(d) NO calculated using molecular weight of NO2, GGE=Gasoline Gallon Equivalents

Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: Trip Summary Drift Corrected

'W167-3511 A1 HWY EAST'

Start Date: 02/24/2020

Start Time: 12:42:14.0



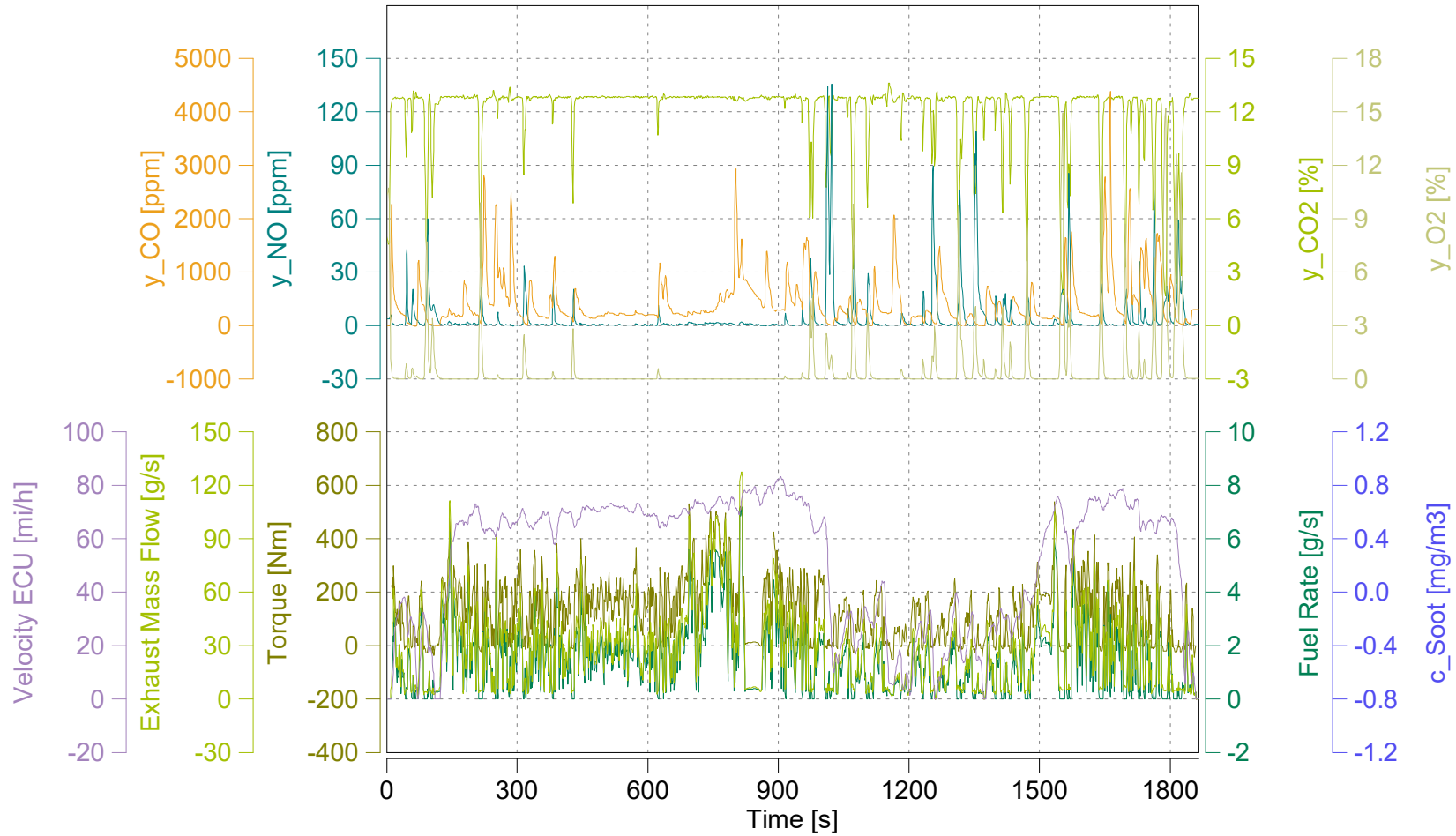
Concerto M.O.V.E., 2019

Trip Duration	1866.00	s	ave THC DC	1.62966	ppm	BS CO2 DC	518.80302	g/hphr
Trip Duration (a)	1866.00	s	ave NMHC DC	1.59707	ppm	BS CO DC	1.18679	g/hphr
Trip Distance	27.23	mi	ave CH4 DC	0.03259	ppm	BS THC DC	0.00521	g/hphr
Trip Distance (a)	27.23	mi	ave CO DC	409.49864	ppm	BS NMHC DC	0.00482	g/hphr
			ave CO2 DC	12.06726	%	BS CH4 DC	0.00012	g/hphr
Trip Fuel Cons. (b)	2.71	kg	ave NOx DC	6.09926	ppm	BS NO DC (d)	0.00700	g/hphr
Trip Fuel Cons. (ab)	2.71	kg	ave PM	n/a	mg/m3	BS NO2 DC	0.00586	g/hphr
Trip Fuel Cons. EU (ac)	3.21	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	0.01286	g/hphr
Trip Fuel Cons. US (ac)	3.20	kg	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
			ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
						BS PM	n/a	g/hphr
Trip Fuel Economy (b)	28.39	mpg_US				BS PN DC	n/a	#/hpr
Trip Fuel Economy (ab)	28.39	mpg_US	tot THC DC	0.09731	g			
Trip Fuel Economy EU (ac)	23.98	mpg_US	tot NMHC DC	0.09001	g	DS CO2 DC	356.00922	g/mi
Trip Fuel Economy US (ac)	24.10	mpg_US	tot CH4 DC	0.00216	g	DS CO DC	0.81439	g/mi
Trip Fuel Economy GGE (b)	28.39	mpg_US	tot CO DC	22.17919	g	DS THC DC	0.00357	g/mi
Trip Fuel Economy GGE (ab)	28.39	mpg_US	tot CO2 DC	9695.56689	g	DS NMHC DC	0.00331	g/mi
Trip Fuel Economy EU GGE (ac)	23.98	mpg_US	tot NO DC (d)	0.13076	g	DS CH4 DC	0.00008	g/mi
Trip Fuel Economy US GGE (ac)	24.10	mpg_US	tot NO2 DC	0.10959	g	DS NO DC (d)	0.00480	g/mi
			tot NOx DC	0.24036	g	DS NO2 DC	0.00402	g/mi
Trip Av. Eng. Speed	1788.53	rpm	tot Soot	n/a	g	DS NOx DC	0.00883	g/mi
Trip Av. Torque	97.32	lbft	tot Soot meas	n/a	g	DS Soot	n/a	g/mi
Trip Av. Power	36.05	hp	tot PM	n/a	g	DS Soot meas	n/a	g/mi
Trip Work			tot PN DC	n/a	#	DS PM	n/a	g/mi
Trip Work (a)	18.69	hphr				DS PN DC	n/a	#/mi
			PM measurement type	0.00000	-			
Trip Exhaust Mass	50.42	kg	tot Soot on PM filter (estim.)	0.00000	mg	FS CO2 DC	3571.67610	g/kg
Trip Exhaust Mass EU (ac)	42.33	kg	Soot --> PM simple scaling factor	1.00000	-	FS CO DC	8.17042	g/kg
Trip Exhaust Mass US (ac)	42.56	kg				FS THC DC	0.03585	g/kg
			Trip Av. Veh. Speed	52.54154	mi/hr	FS NMHC DC	0.03316	g/kg
Trip Av. Amb. Temperature	75.13	deg_F				FS CH4 DC	0.00079	g/kg
Trip Av. Humidity	36.91	%	Trip Distance Share Urban	12.24121	% distance	FS NO DC (d)	0.04817	g/kg
Trip Av. GPS Altitude	227.82	m	Trip Distance Share Rural	4.63089	% distance	FS NO2 DC	0.04037	g/kg
			Trip Distance Share Motorway	83.12790	% distance	FS NOx DC	0.08854	g/kg
Fuel Type	Petrol (E10)					FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) Based on A/F ratio (eq 28-32 - R49)
 (d) NO calculated using molecular weight of NO2, GGE=Gasoline Gallon Equivalents

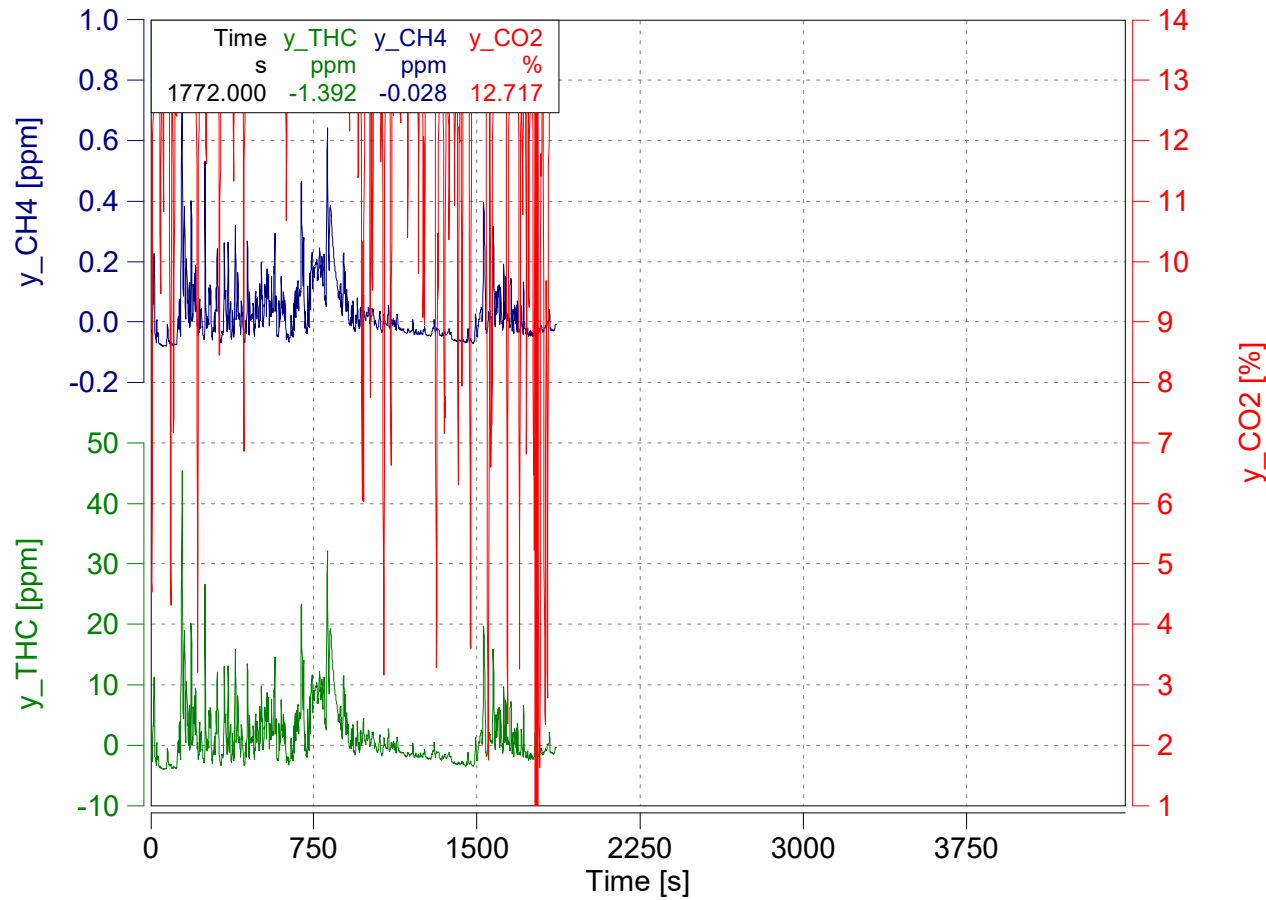
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Vehicle: W167 / PEMS
 Engine: /
 NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
 Dry / Wet Corr.: 2 - CFR40 §86.1342-90



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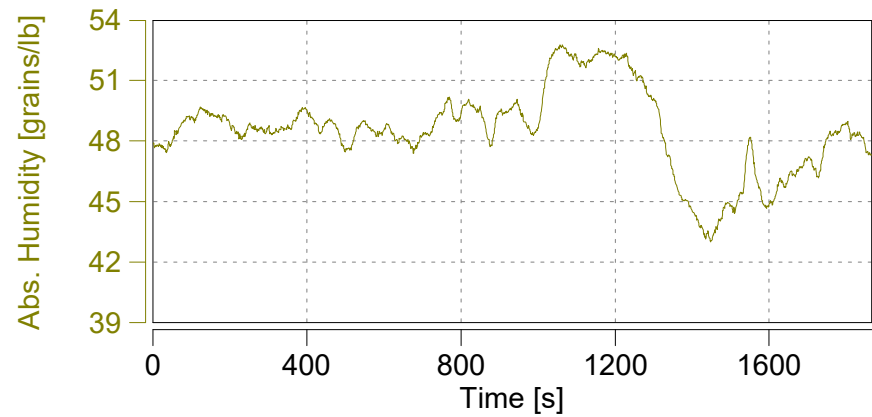
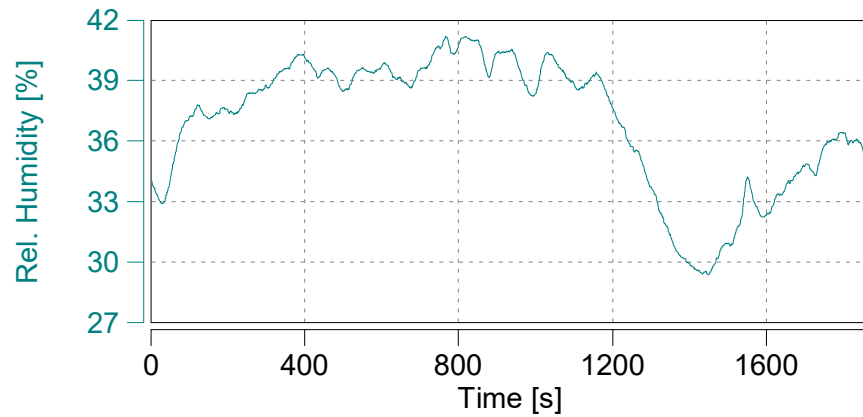
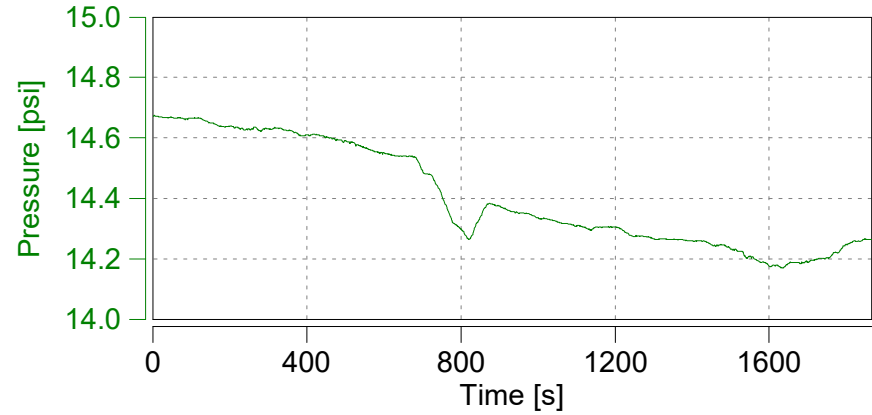
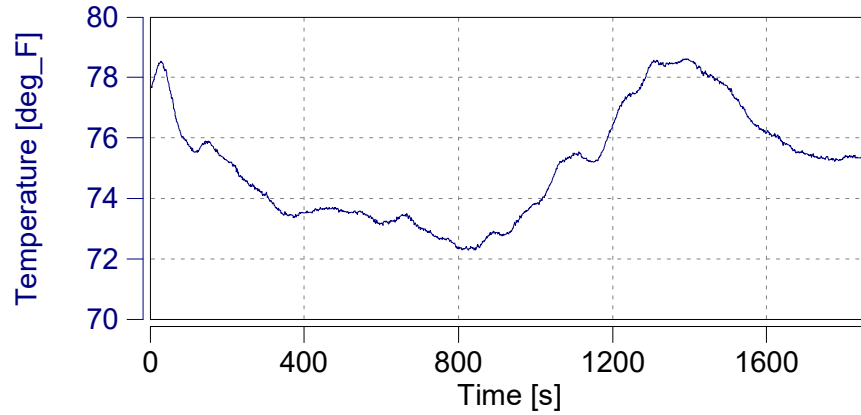


Absolute Time Shifts

y_THC	s	-5.2
y_CH4	s	-7.2

Reset Time Shifts in Plot

Apply Current Values



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Legislation:

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Engine: /
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Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

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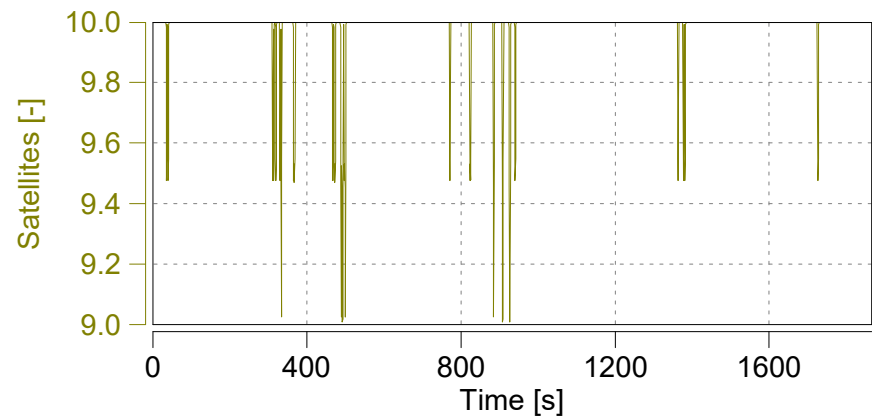
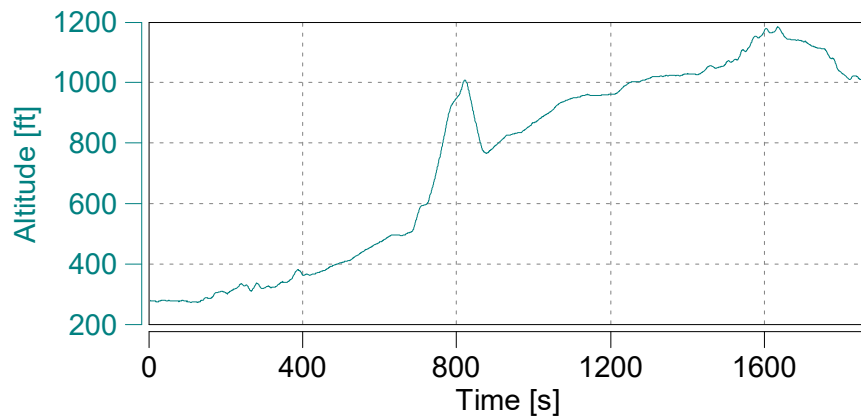
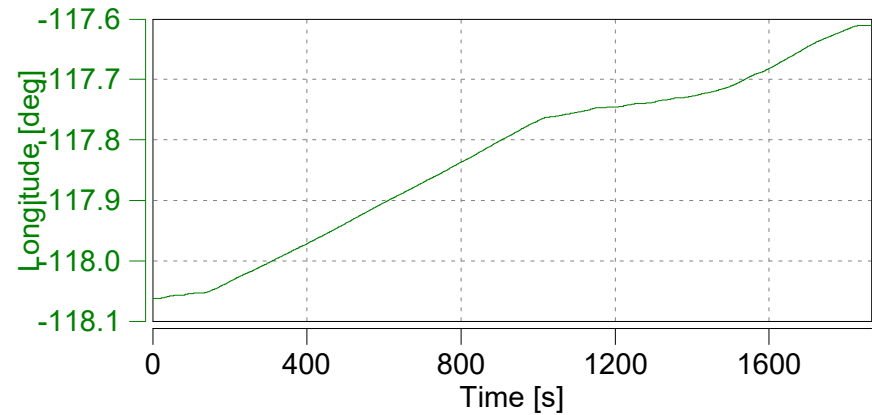
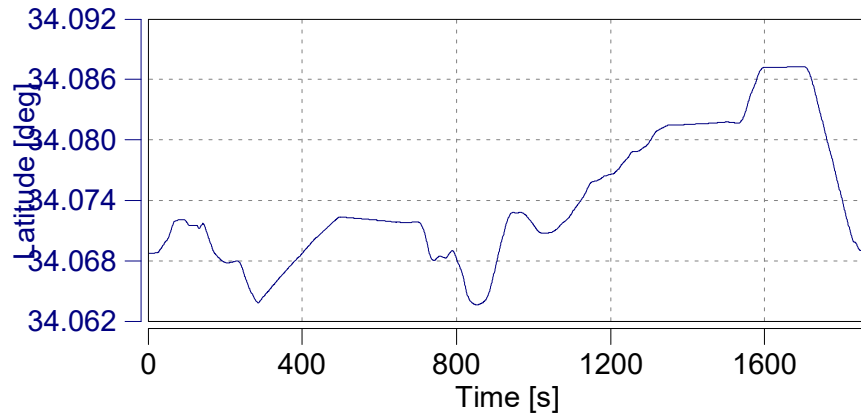
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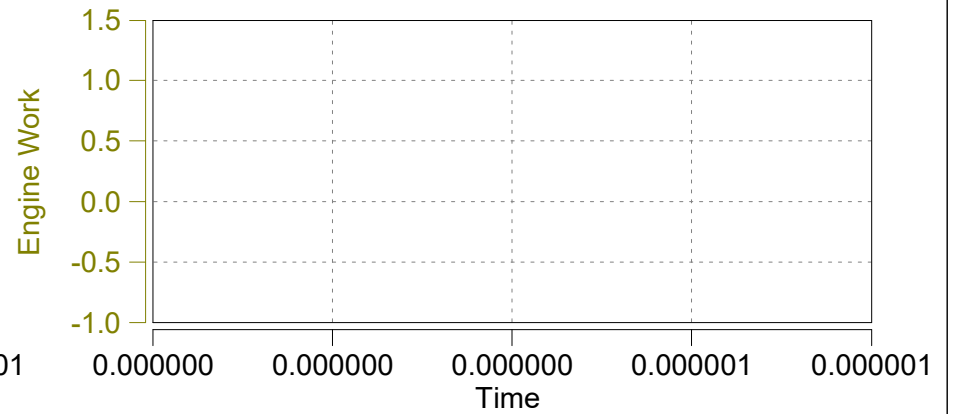
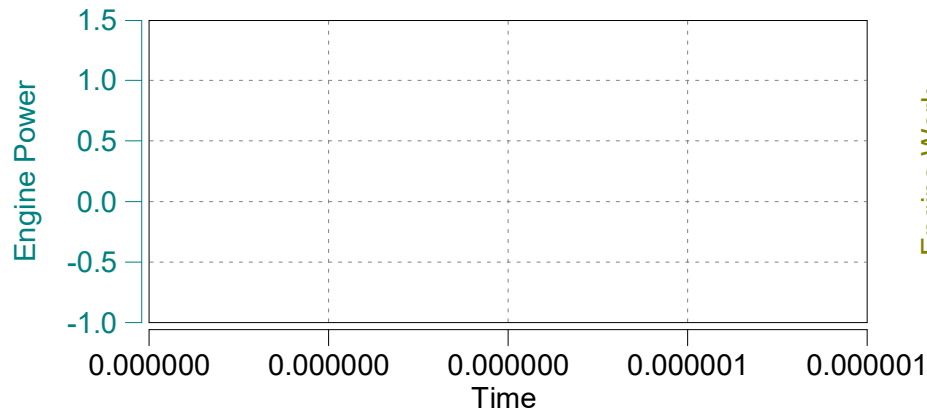
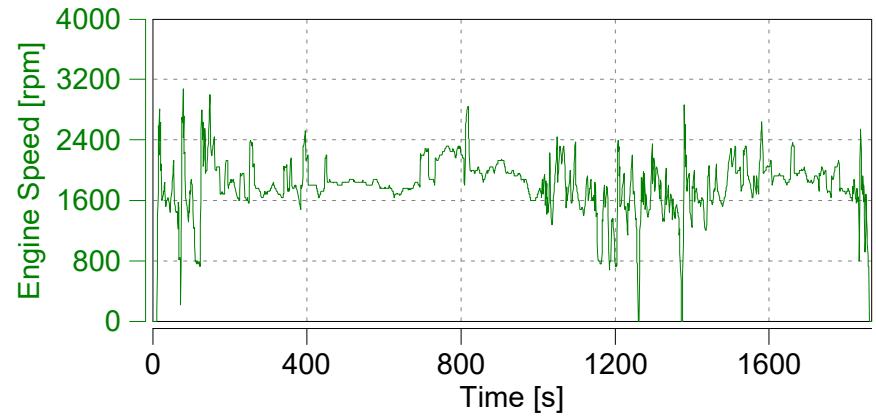
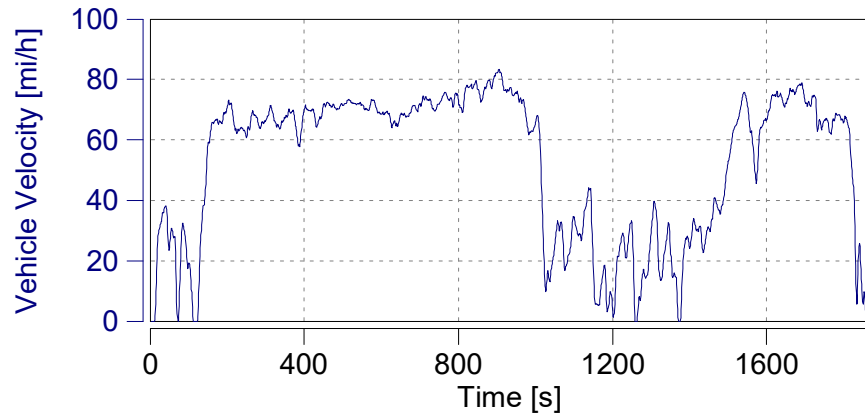


Concerto M.O.V.E, 2019



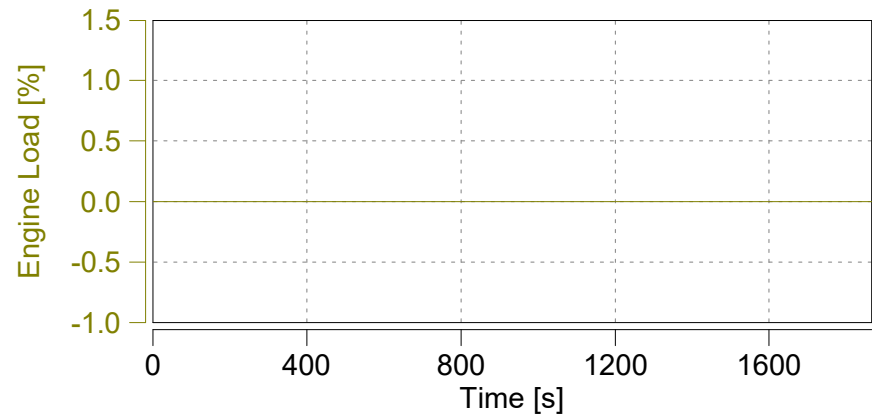
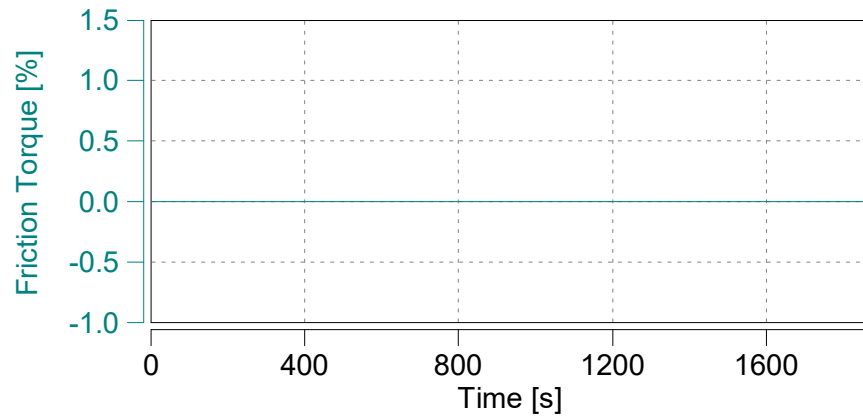
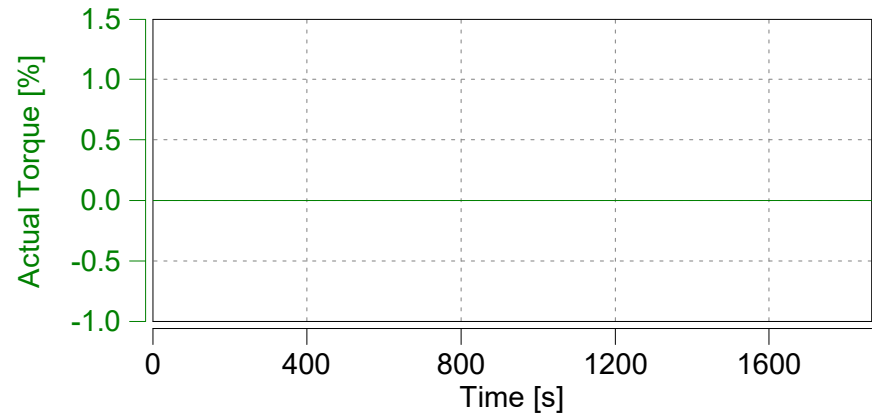
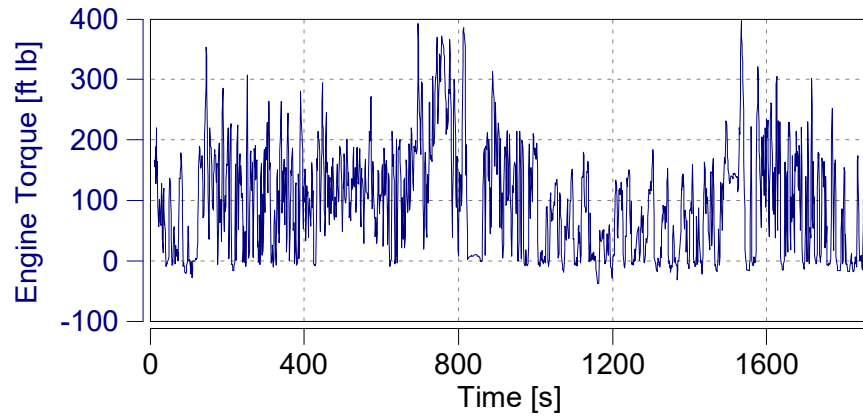
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Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90



Case: W167-3511

Page: Engine (3)

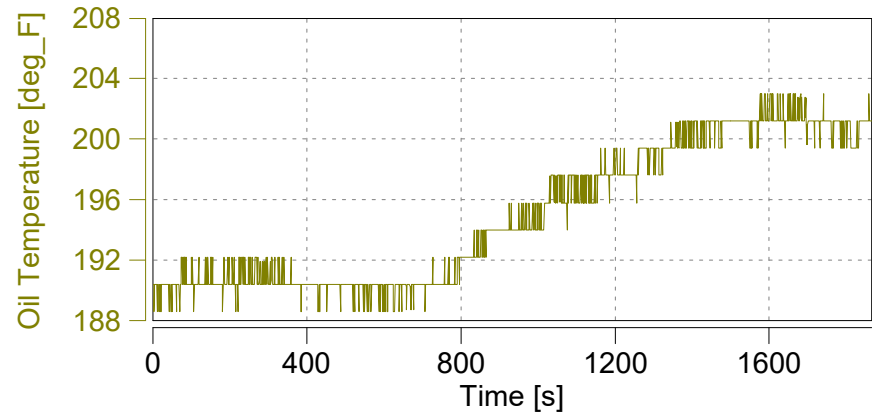
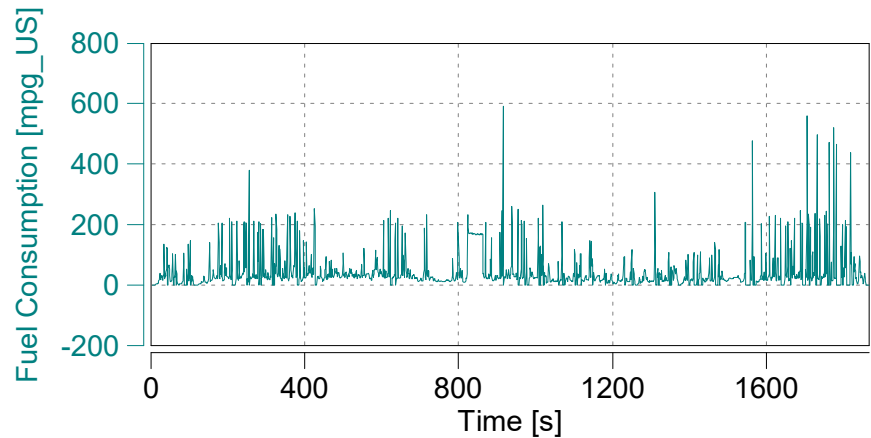
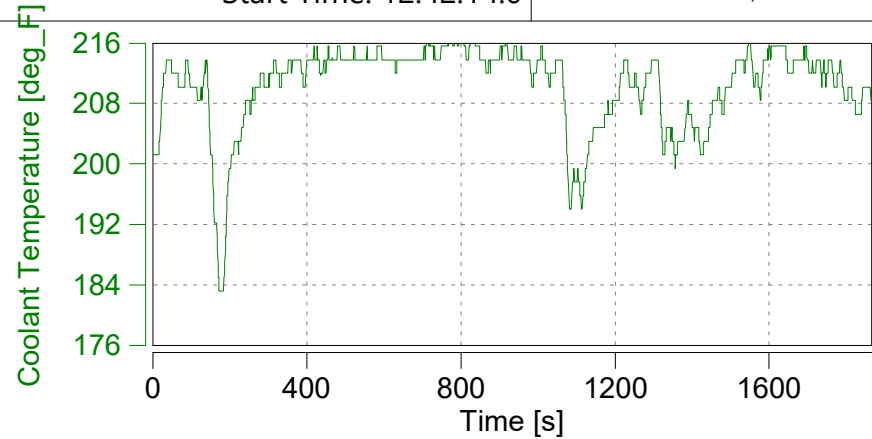
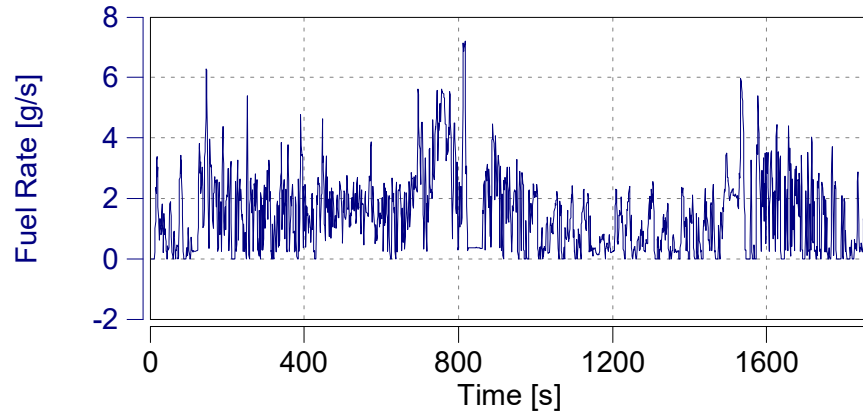
'W167-3511 A1 HWY EAST'

Start Date: 02/24/2020

Start Time: 12:42:14.0



Concerto M.O.V.E., 2019



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: Exhaust Flow (1)

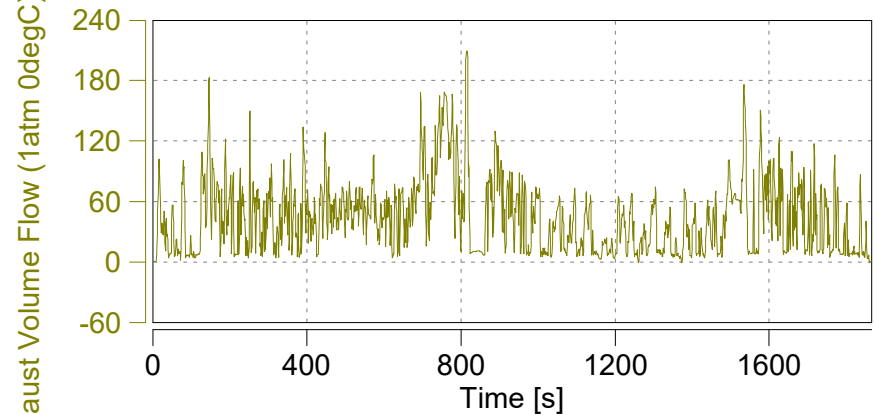
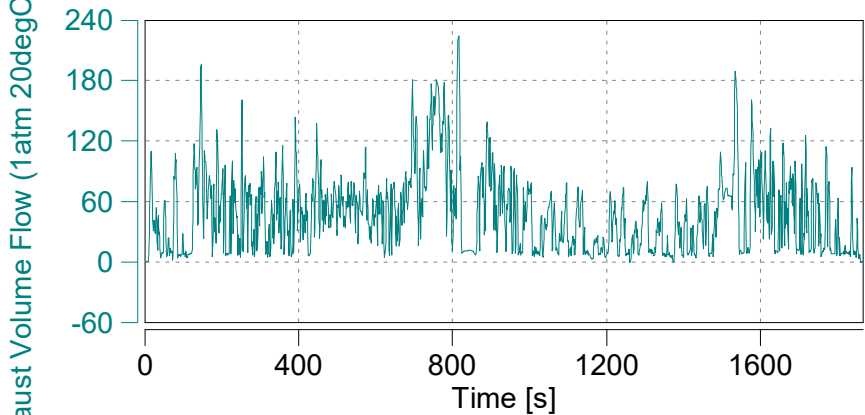
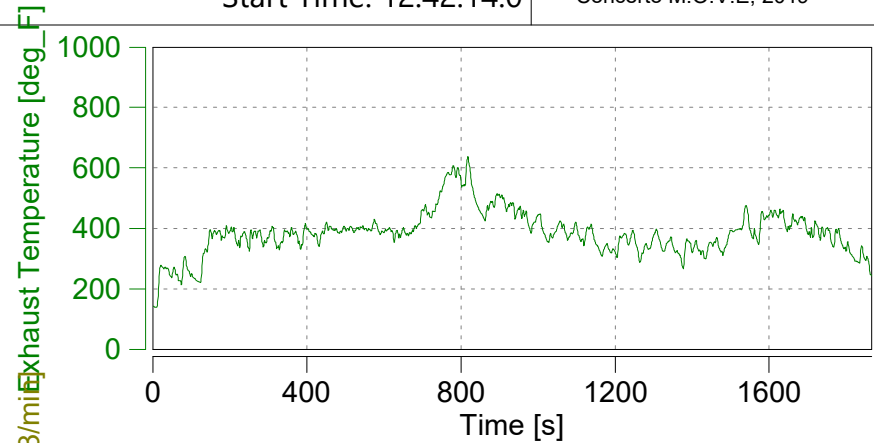
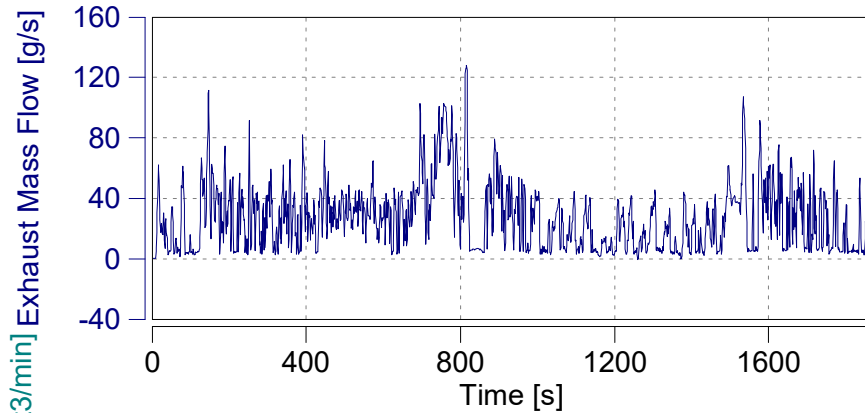
'W167-3511 A1 HWY EAST'

Start Date: 02/24/2020

Start Time: 12:42:14.0

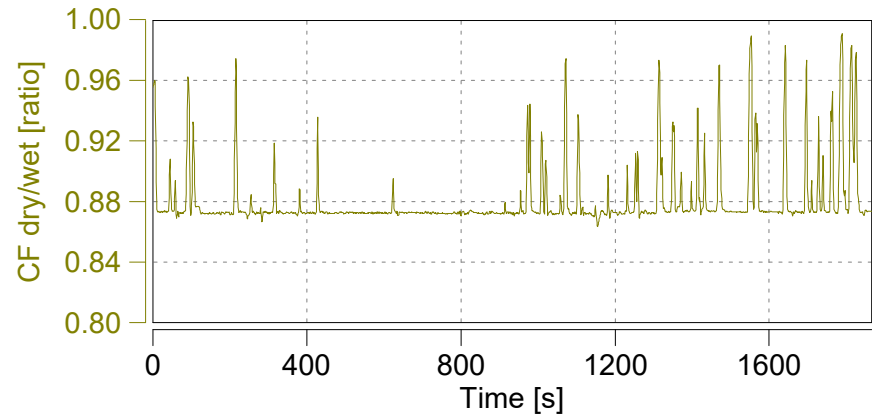
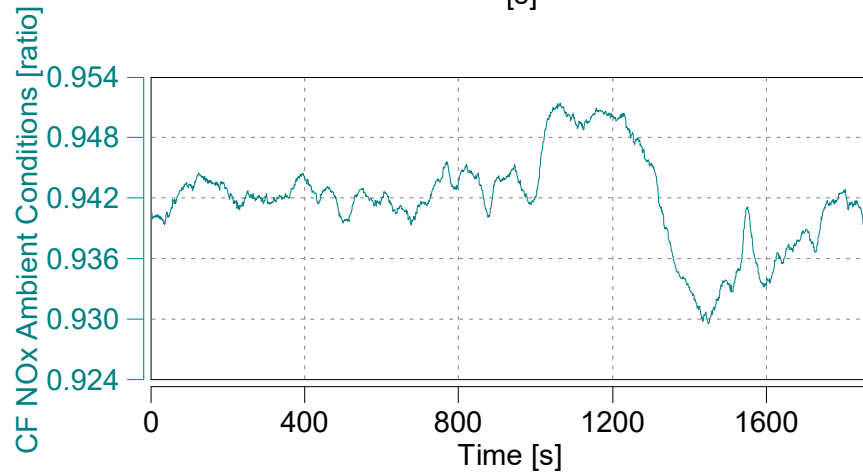
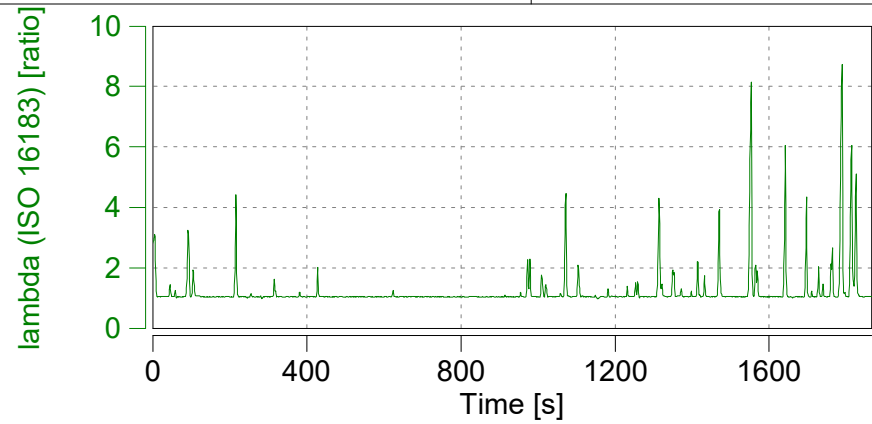
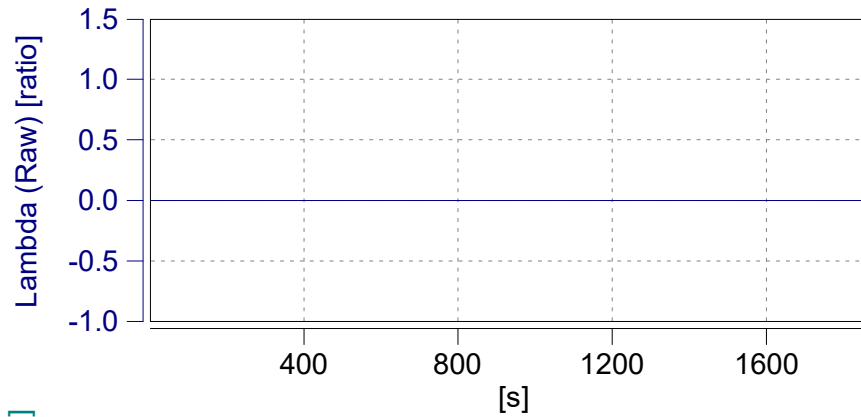


Concerto M.O.V.E., 2019



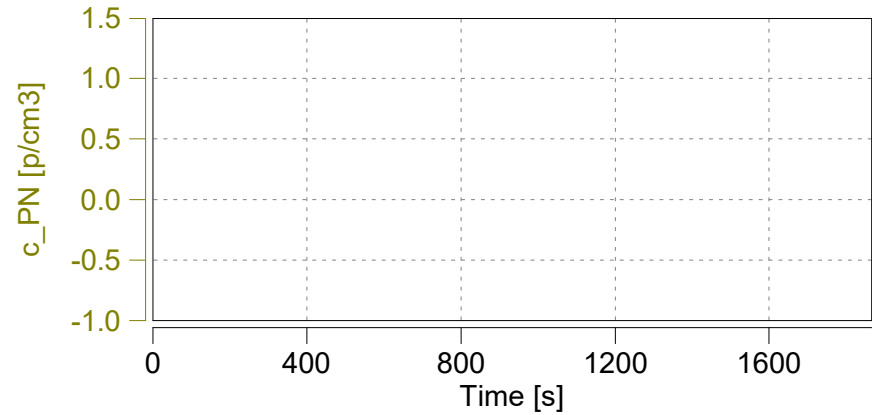
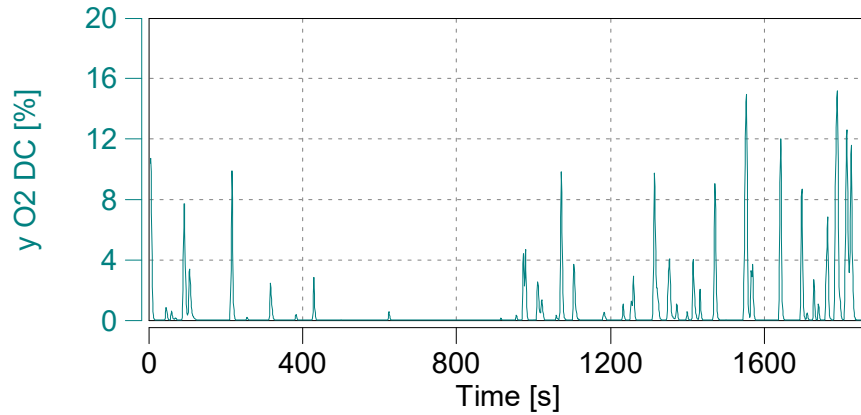
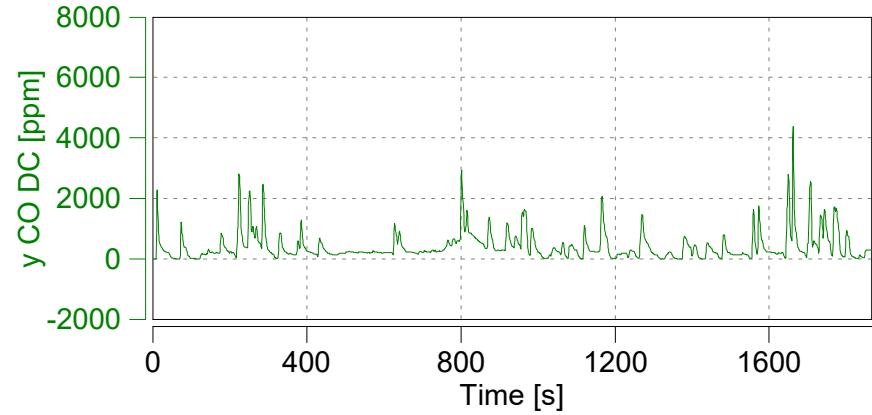
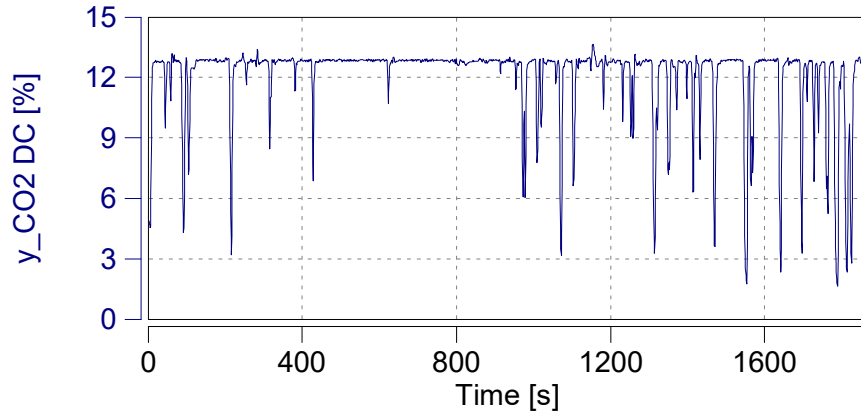
Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90



Concerto Version: 503 Build 82, Serial Number: 1604
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Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: Corrected Emissions (2)

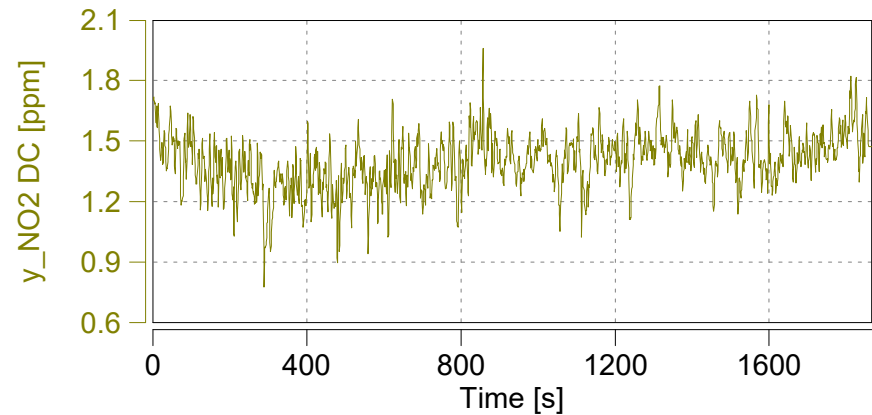
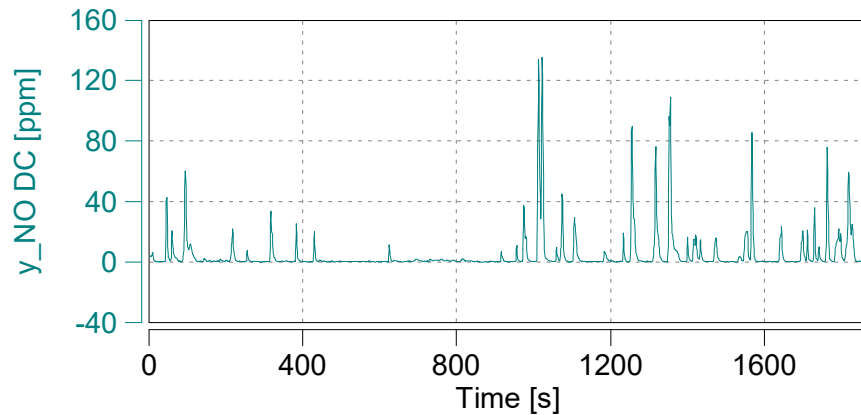
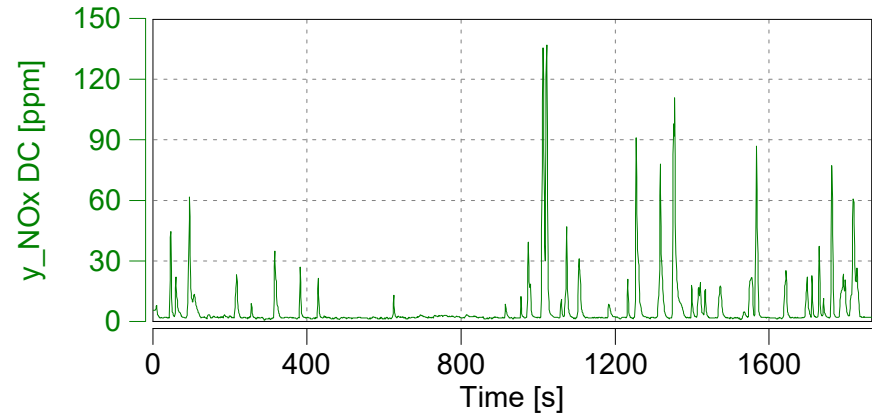
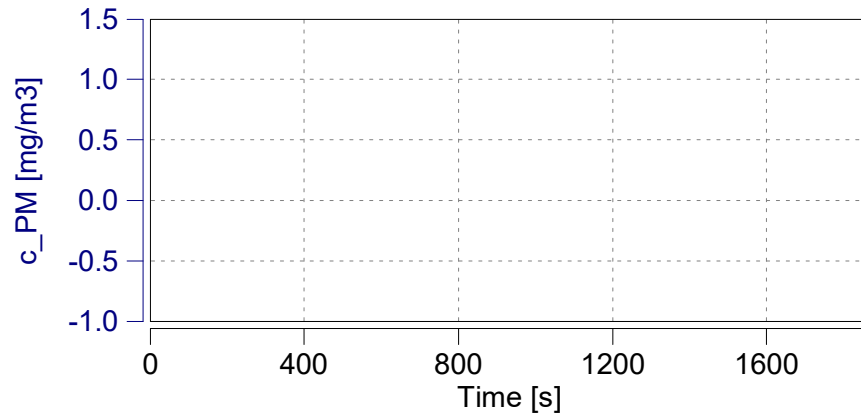
'W167-3511 A1 HWY EAST'

Start Date: 02/24/2020

Start Time: 12:42:14.0

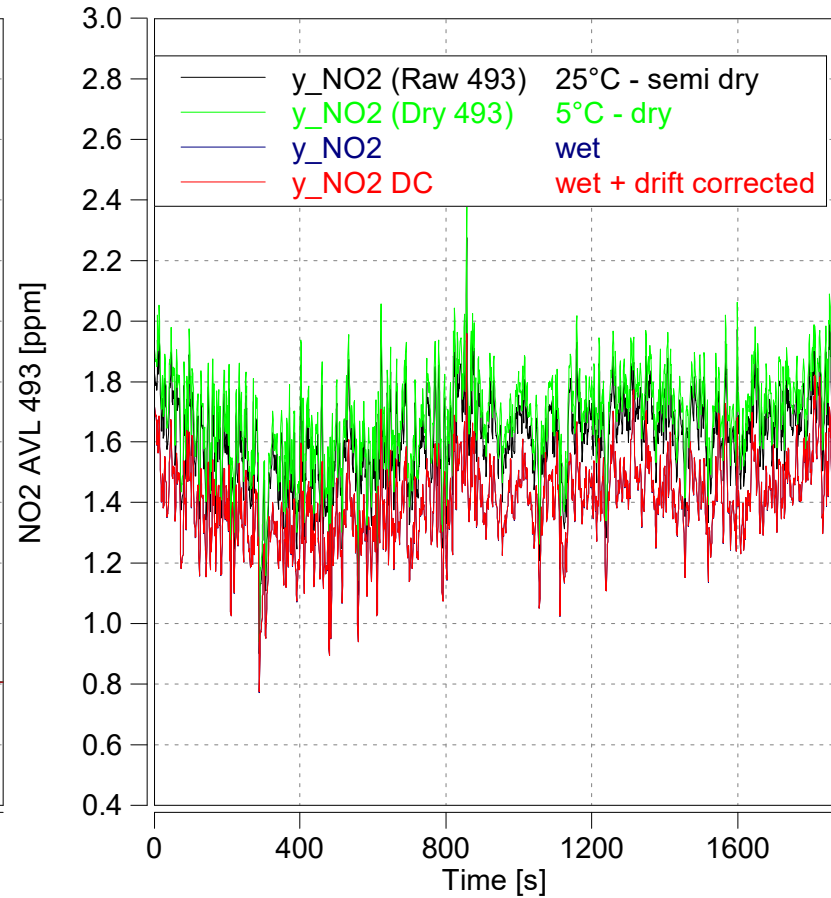
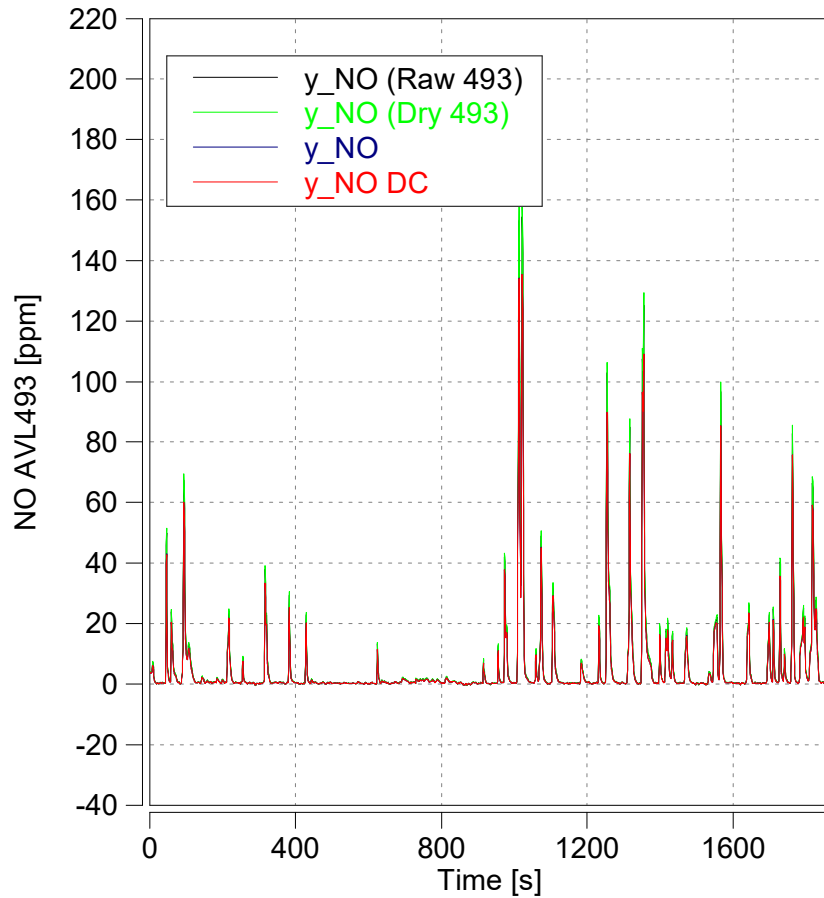


Concerto M.O.V.E., 2019



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90



NOx - AVL 493

y_NO (Raw 493)
y_NO2 (Raw 493)
25°C

EU R49 8.6.1
US §1065.672
drift correction

d_Kf_NO 25°C to dry
d_Kf_NO2 25°C to dry

- (1) EU R49 8.1.1 (15)
- (2) US §1065.655
- (3) none

y_NO DC (Dry 493)
y_NO2 DC (Dry 493)

y_NO (Dry 493)
y_NO2 (Dry 493)

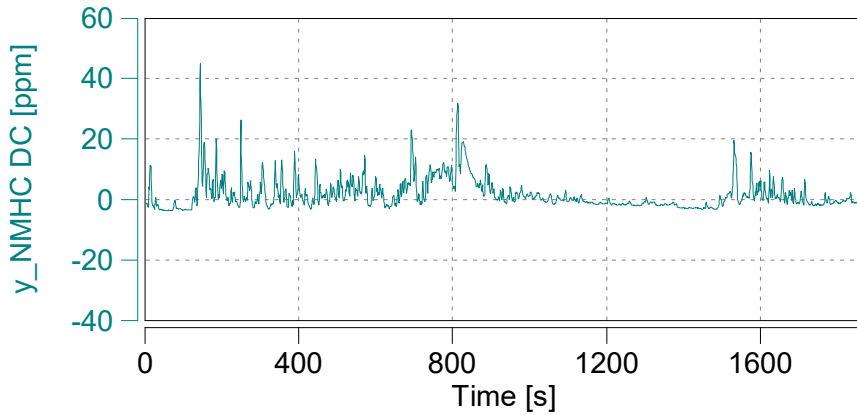
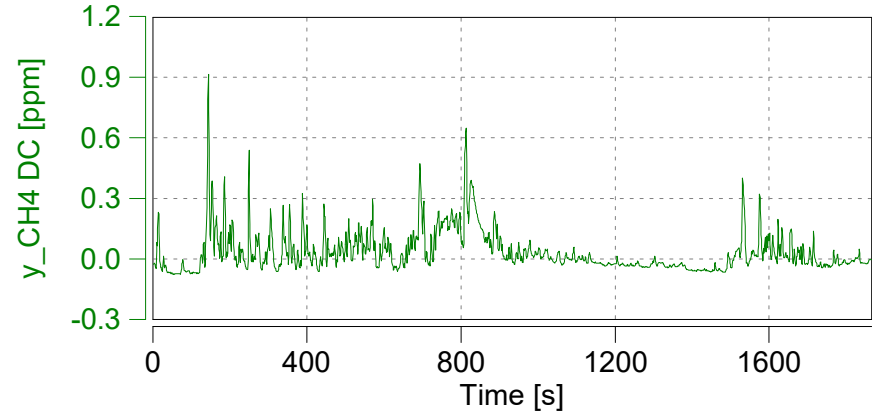
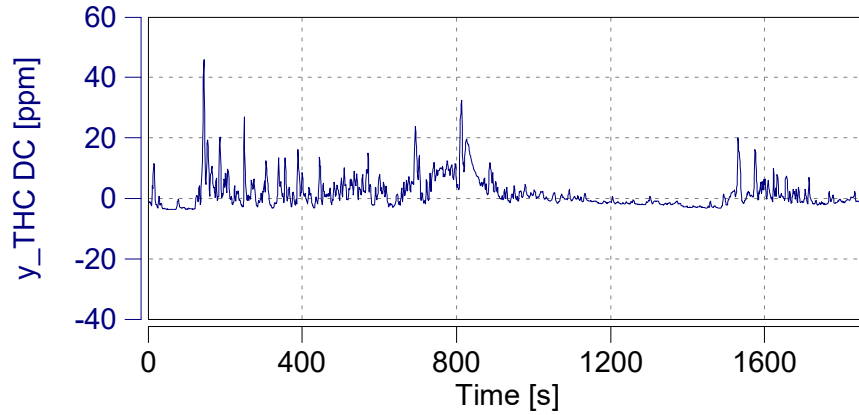
CF dry/wet
(factor equal for all constituents)

CF NOx Ambient Conditions

y_NO DC
y_NO2 DC
wet

y_NO
y_NO2
wet

- (1) HD Diesel Engine SwRI FinalReport 08-2597, 1999
- (2) humidity only
- (3) equivalent uncorrected NOx limit method for EU in service
- (4) US §40.86.1342.94 Diesel
- (5) US §40.86.1342.94 SI
- (6) US §40.86.1370-2007 (default US)
- (7) US 40.1065.670
- (8) none (default EU)



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
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#ERROR
W167-3511

Vehicle type (e.g. M 3 , N 3 and application e.g. rigid or articulated truck, city bus)	#ERROR
Vehicle description (e.g. vehicle model, prototype)	PEMS

	CO	THC	NMHC	CH4	NOx	PM
Pass-fail results	passed		passed	passed	passed	passed
Work window conformity factor						
CO2 mass window conformity factor						

Nr. NOx urban valid windows below 90th perc. of all valid windows **997.0**

Trip Information	Urban	Rural	Motorway
Shares of time of the trip in % characterised by urban, rural and motorway operation	32.1	5.5	62.4

Shares of time of the trip in % characterised by accelerating, decelerating, cruising and stop			
Accelerating		51.1	%
Decelerating		45.1	%
Cruising		1.4	%
Stop		2.4	%

	Minimum	Maximum
Work window average power (%)		
CO2 mass window duration (s)		

Work window: percentage of valid windows	
CO2 mass window: percentage of valid window	
Fuel consumption consistency ratio	m = 1.11
	r ² = 0.97

Case: W167-3511

Page: Torque, Amb. Press., Work/CO2, BSFC, Odometer

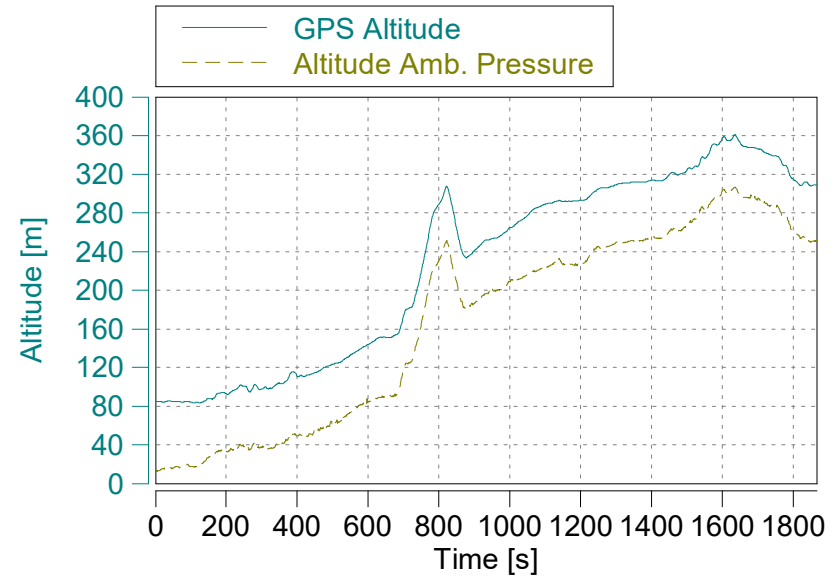
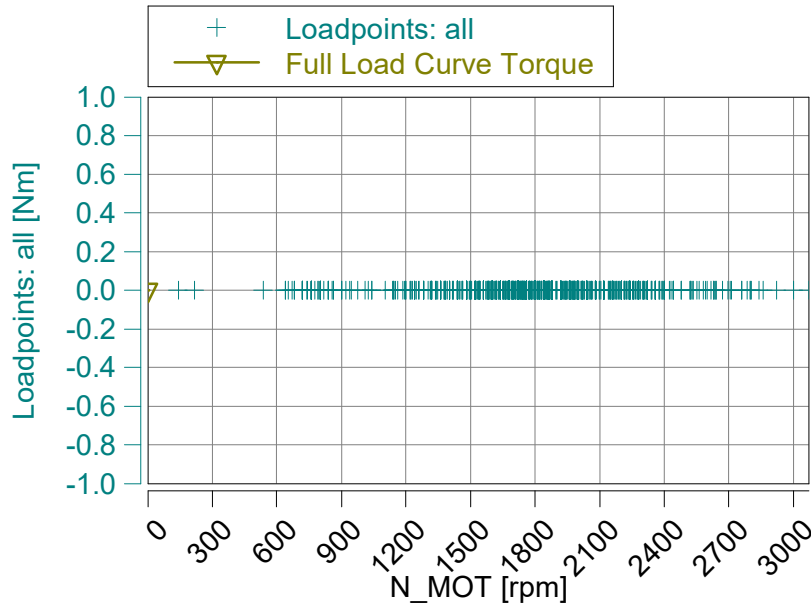
'W167-3511 A1 HWY EAST'

Start Date: 02/24/2020

Start Time: 12:42:14.0



Concerto M.O.V.E., 2019



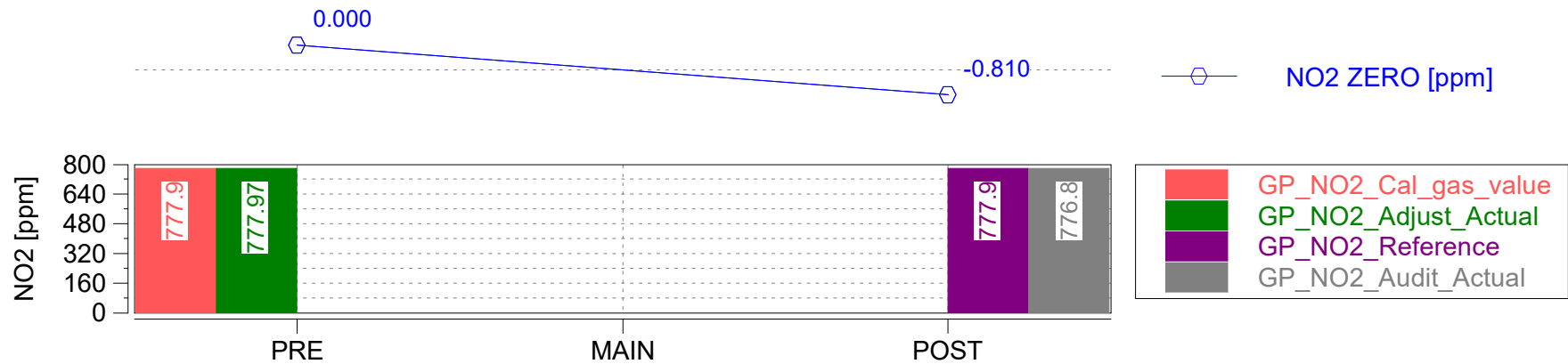
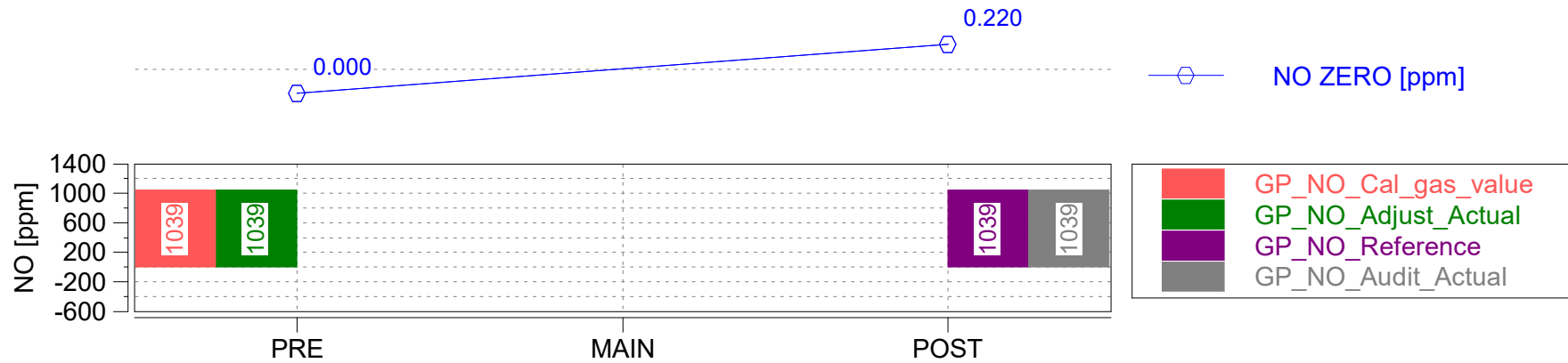
Trip Duration (a)	1866.0	s
Test Duration (b)		s
Total Work (c)		kWh
Reference Work		kWh
Total CO2 Mass (c)		g
Reference CO2 Mass		g
avg BSFC ECU	194.8	g/kWh
avg BSFC ISO16183	230.6	g/kWh
Distance ECU	43.8	km
Distance GPS	43.694	km

GAS PEMS Leak Check Age	0	days
GAS PEMS Leak Check Date	N/A	yyyy-mm-dd
GAS PEMS Leak Check Time	N/A	hh:mm:ss
GAS PEMS Leak Check External	0.00	%

- (a) GAS PEMS measurement state only
- (b) without Cold Start
- (c) not cummulated during exclusions

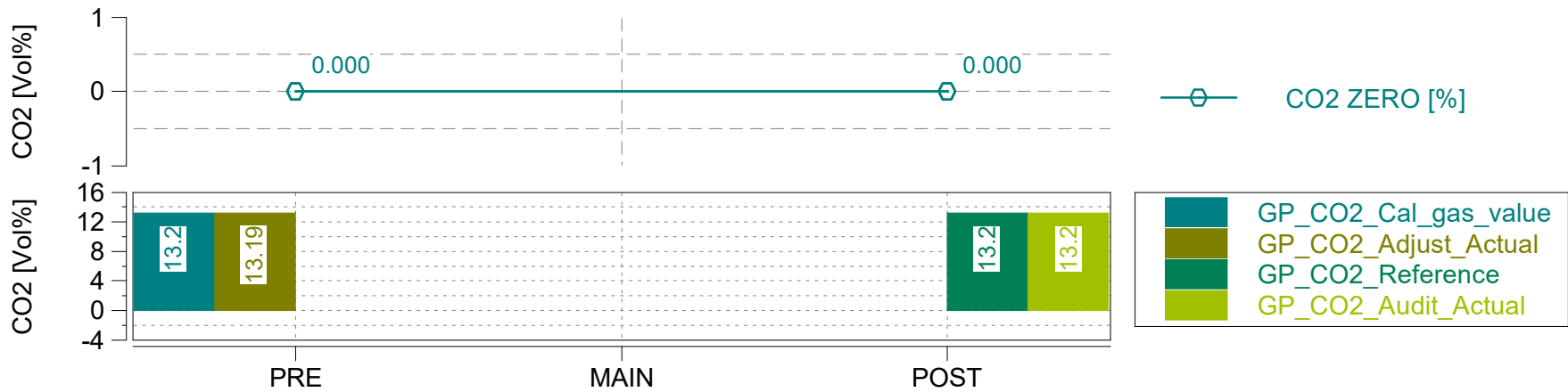
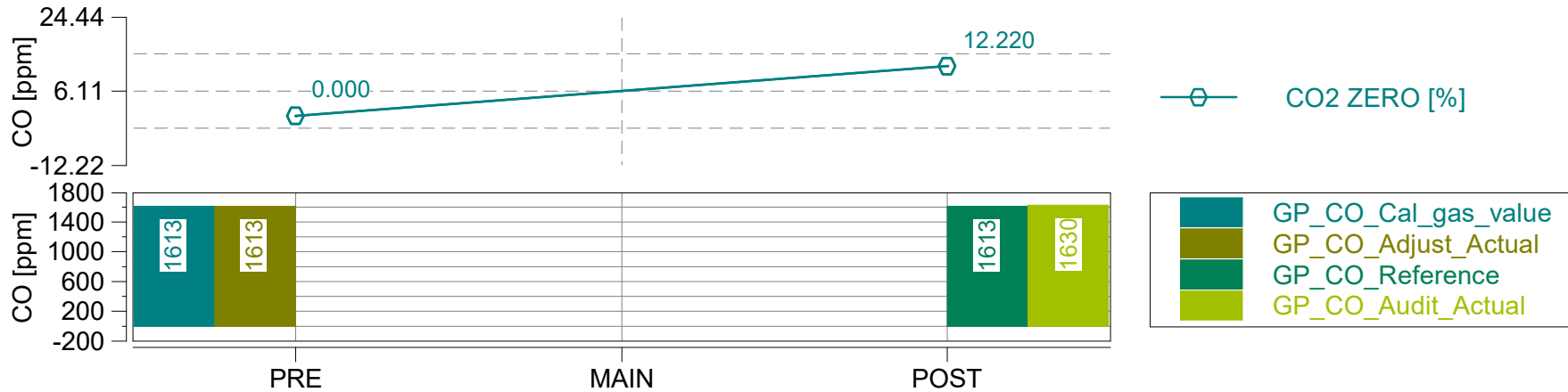
Concerto Version: 503 Build 82, Serial Number: 1604
 M.O.V.E Post-Processing: DT_1R3.1_B300
 Legislation:

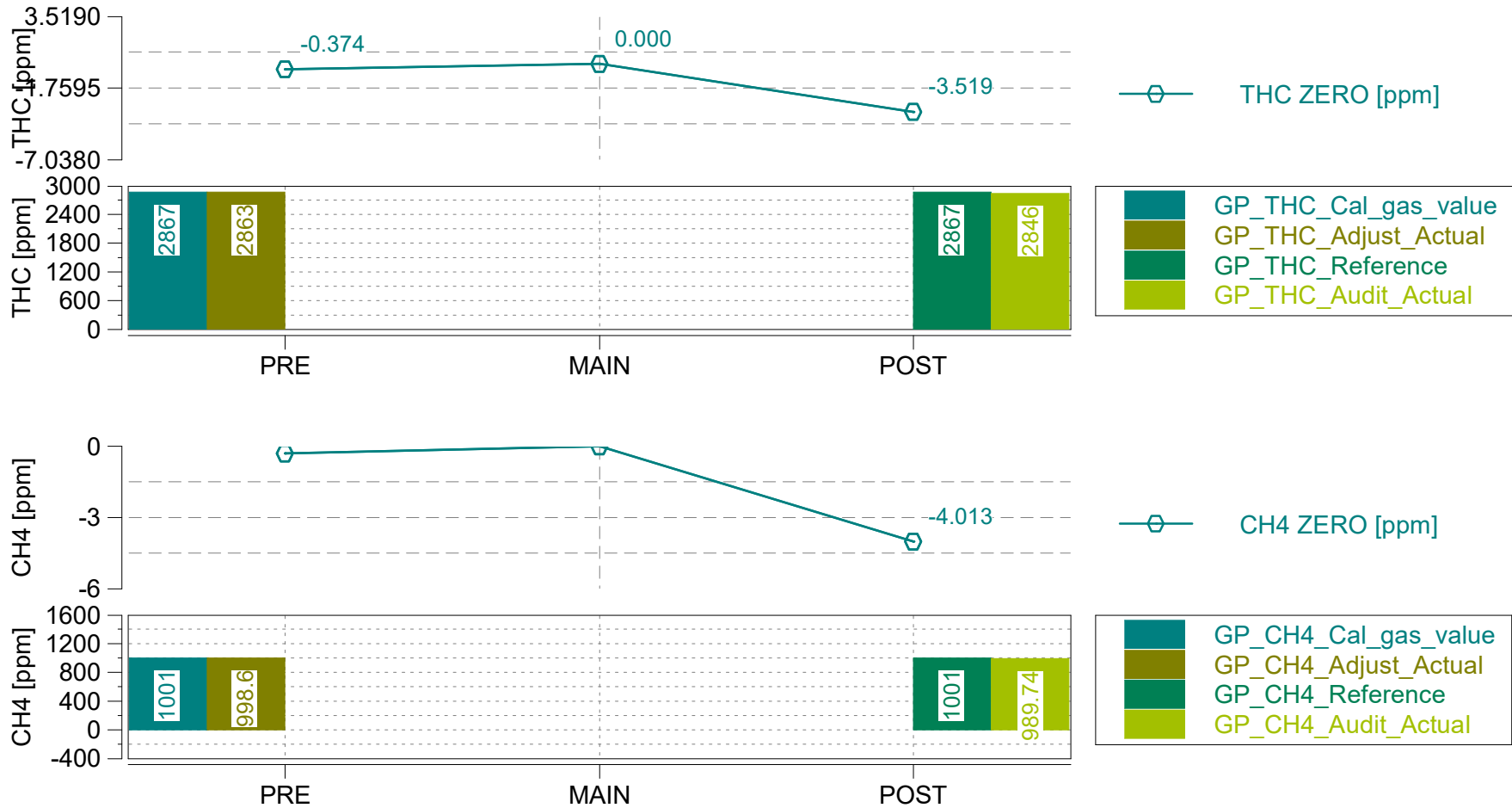
Vehicle: W167 / PEMS
 Engine: /
 NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
 Dry / Wet Corr.: 2 - CFR40 §86.1342-90



Concerto Version: 503 Build 82, Serial Number: 1604
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 Legislation:

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Concerto Version: 503 Build 82, Serial Number: 1604
 M.O.V.E Post-Processing: DT_1R3.1_B300
 Legislation:

Vehicle: W167 / PEMS
 Engine: /
 NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
 Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: Fuel Rate ECU vs. Calculated

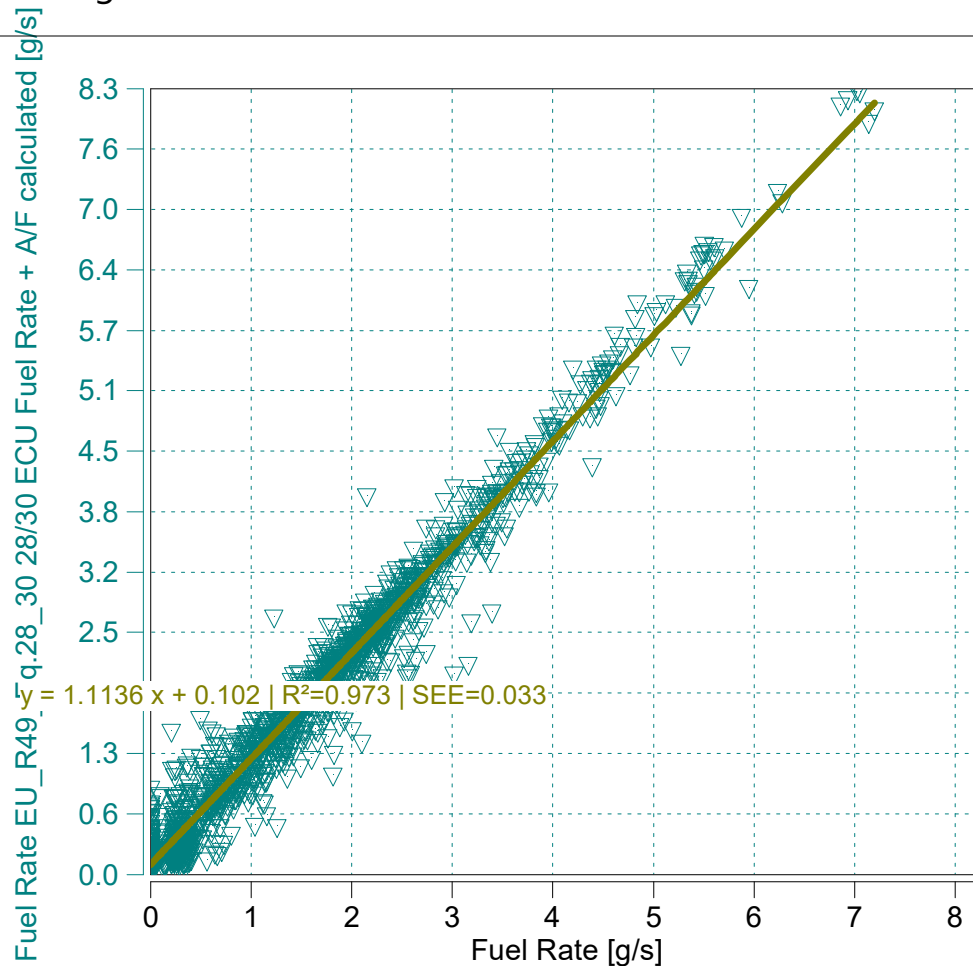
'W167-3511 A1 HWY EAST'

Start Date: 02/24/2020

Start Time: 12:42:14.0



Concerto M.O.V.E, 2019



EU 582/2011/Appendix I/3.2.1 | Fuel Rate ECU and calculated

$y = 1.1136 x + 0.102 \mid R^2=0.973 \mid SEE=0.033$
 $m = 1.11$ (0.9 - 1.1 recommended)
 $R^2 = 0.97$ (min 0.9 mandatory)

Data from - to [% of Maximum]

Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Trip Duration	1795.00	s	ave THC	-1.16289	ppm	BS CO2	528.86174	g/hphr
Trip Duration (a)	1795.00	s	ave NMHC	-1.13963	ppm	BS CO	1.32760	g/hphr
Trip Distance	28.15	mi	ave CH4	-0.02326	ppm	BS THC	0.00166	g/hphr
Trip Distance (a)	28.15	mi	ave CO	460.90362	ppm	BS NMHC	0.00153	g/hphr
			ave CO2	11.34262	%	BS CH4	0.00004	g/hphr
Trip Fuel Cons. (b)	2.34	kg	ave NOx	6.58440	ppm	BS NO (d)	0.00964	g/hphr
Trip Fuel Cons. (ab)	2.34	kg	ave PM	n/a	mg/m3	BS NO2	0.00615	g/hphr
Trip Fuel Cons. EU (ac)	2.77	kg	ave Soot meas	n/a	mg/m3	BS NOx	0.01579	g/hphr
Trip Fuel Cons. US (ac)	2.76	kg	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
			ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
						BS PM	n/a	g/hphr
Trip Fuel Economy (b)	34.07	mpg_US				BS PN	n/a	#/hpr
Trip Fuel Economy (ab)	34.07	mpg_US	tot THC	0.02623	g			
Trip Fuel Economy EU (ac)	28.74	mpg_US	tot NMHC	0.02427	g			
Trip Fuel Economy US (ac)	28.86	mpg_US	tot CH4	0.00058	g	DS CO2	297.09682	g/mi
Trip Fuel Economy GGE (b)	34.07	mpg_US	tot CO	20.99432	g	DS CO	0.74580	g/mi
Trip Fuel Economy GGE (ab)	34.07	mpg_US	tot CO2	8363.28015	g	DS THC	0.00093	g/mi
Trip Fuel Economy EU GGE (ac)	28.74	mpg_US	tot NO (d)	0.15245	g	DS NMHC	0.00086	g/mi
Trip Fuel Economy US GGE (ac)	28.86	mpg_US	tot NO2	0.09727	g	DS CH4	0.00002	g/mi
			tot NOx	0.24971	g	DS NO (d)	0.00542	g/mi
Trip Av. Eng. Speed	1827.25	rpm	tot Soot	n/a	g	DS NO2	0.00346	g/mi
Trip Av. Torque	84.32	lbft	tot Soot meas	n/a	g	DS NOx	0.00887	g/mi
Trip Av. Power	31.72	hp	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Work			tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Work (a)	15.81	hphr				DS PM	n/a	g/mi
			PM measurement type	0.00000	-	DS PN	n/a	#/mi
Trip Exhaust Mass	44.15	kg	tot Soot on PM filter (estim.)	0.00000	mg			
Trip Exhaust Mass EU (ac)	36.57	kg	Soot --> PM simple scaling factor	1.00000	-	FS CO2	3577.50655	g/kg
Trip Exhaust Mass US (ac)	36.76	kg				FS CO	8.98061	g/kg
			Trip Av. Veh. Speed	56.45686	mi/hr	FS THC	0.01122	g/kg
Trip Av. Amb. Temperature	77.32	deg_F				FS NMHC	0.01038	g/kg
Trip Av. Humidity	31.79	%	Trip Distance Share Urban	6.95509	% distance	FS CH4	0.00025	g/kg
Trip Av. GPS Altitude	212.07	m	Trip Distance Share Rural	9.99591	% distance	FS NO (d)	0.06521	g/kg
			Trip Distance Share Motorway	83.04900	% distance	FS NO2	0.04161	g/kg
Fuel Type	Petrol (E10)					FS NOx	0.10682	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) Based on A/F ratio (eq 28-32 - R49)
(d) NO calculated using molecular weight of NO2, GGE=Gasoline Gallon Equivalents

Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: Trip Summary Drift Corrected

'W167-3511 B2 HWY WEST'

Start Date: 02/24/2020

Start Time: 12:42:14.0



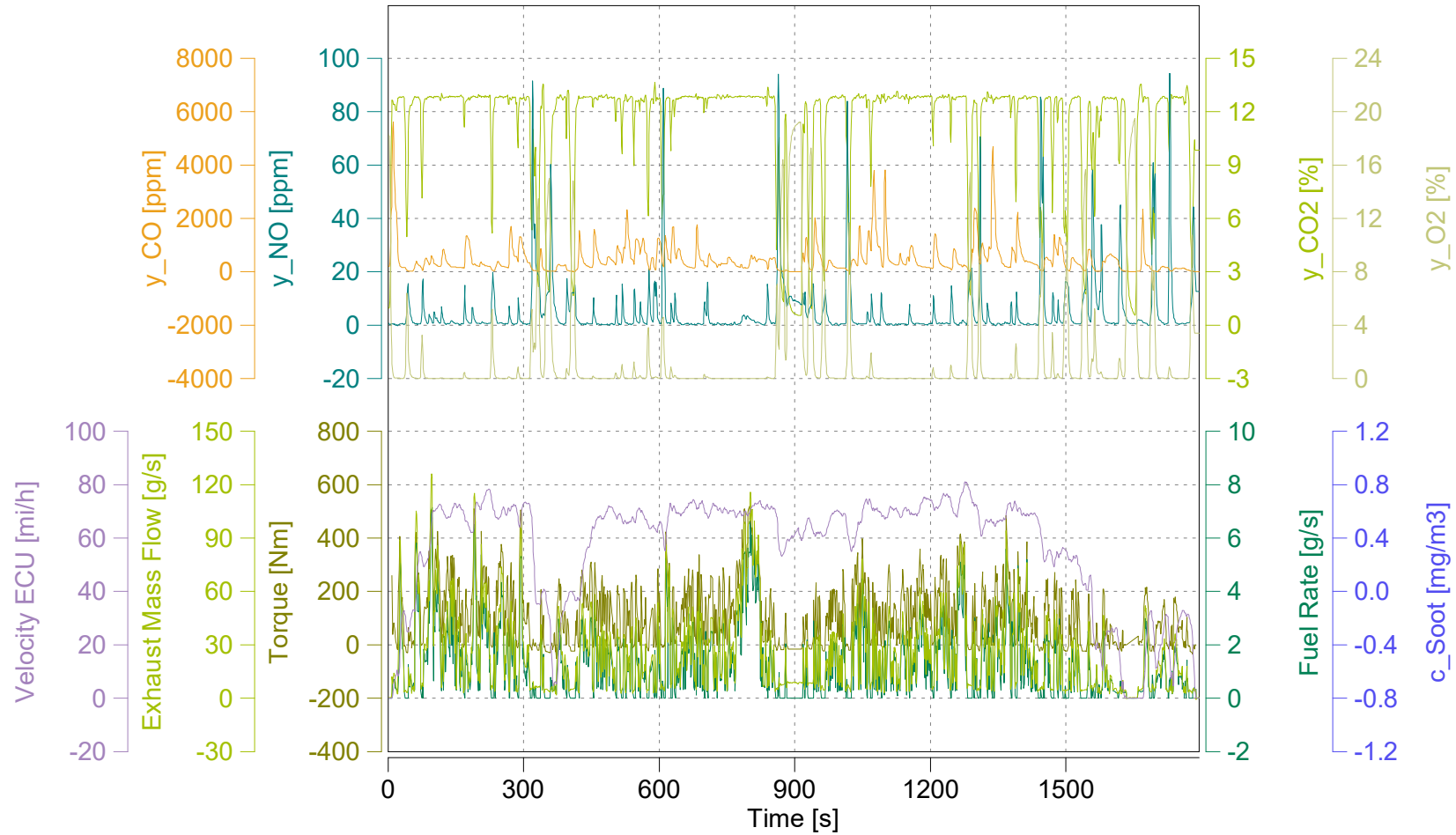
Concerto M.O.V.E, 2019

Trip Duration	1795.00	s	ave THC DC	-0.97972	ppm	BS CO2 DC	529.06214	g/hphr
Trip Duration (a)	1795.00	s	ave NMHC DC	-0.96013	ppm	BS CO DC	1.32067	g/hphr
Trip Distance	28.15	mi	ave CH4 DC	-0.01959	ppm	BS THC DC	0.00193	g/hphr
Trip Distance (a)	28.15	mi	ave CO DC	458.49602	ppm	BS NMHC DC	0.00178	g/hphr
Trip Fuel Cons. (b)	2.34	kg	ave CO2 DC	11.34691	%	BS CH4 DC	0.00004	g/hphr
Trip Fuel Cons. (ab)	2.34	kg	ave NOx DC	6.58314	ppm	BS NO DC (d)	0.00964	g/hphr
Trip Fuel Cons. EU (ac)	2.77	kg	ave PM	n/a	mg/m3	BS NO2 DC	0.00615	g/hphr
Trip Fuel Cons. US (ac)	2.76	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	0.01579	g/hphr
Trip Fuel Economy (b)	34.07	mpg_US	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Economy (ab)	34.07	mpg_US	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Economy EU (ac)	28.74	mpg_US	tot THC DC	0.03048	g	BS PM	n/a	g/hphr
Trip Fuel Economy US (ac)	28.86	mpg_US	tot NMHC DC	0.02820	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy GGE (b)	34.07	mpg_US	tot CH4 DC	0.00068	g	DS CO2 DC	297.20940	g/mi
Trip Fuel Economy GGE (ab)	34.07	mpg_US	tot CO DC	20.88465	g	DS CO DC	0.74191	g/mi
Trip Fuel Economy EU GGE (ac)	28.74	mpg_US	tot CO2 DC	8366.44926	g	DS THC DC	0.00108	g/mi
Trip Fuel Economy US GGE (ac)	28.86	mpg_US	tot NO DC (d)	0.15238	g	DS NMHC DC	0.00100	g/mi
Trip Av. Eng. Speed	1827.25	rpm	tot NO2 DC	0.09733	g	DS CH4 DC	0.00002	g/mi
Trip Av. Torque	84.32	lbft	tot NOx DC	0.24971	g	DS NO DC (d)	0.00541	g/mi
Trip Av. Power	31.72	hp	tot Soot	n/a	g	DS NO2 DC	0.00346	g/mi
Trip Work	15.81	hphr	tot Soot meas	n/a	g	DS NOx DC	0.00887	g/mi
Trip Work (a)	15.81	hphr	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass	44.15	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass EU (ac)	36.57	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Exhaust Mass US (ac)	36.76	kg	tot Soot on PM filter (estim.)	0.00000	mg	DS PN DC	n/a	#/mi
Trip Av. Amb. Temperature	77.32	deg_F	Soot --> PM simple scaling factor	1.00000	-	FS CO2 DC	3578.86218	g/kg
Trip Av. Humidity	31.79	%	Trip Av. Veh. Speed	56.45686	mi/hr	FS CO DC	8.93369	g/kg
Trip Av. GPS Altitude	212.07	m	Trip Distance Share Urban	6.95509	% distance	FS THC DC	0.01304	g/kg
Fuel Type	Petrol (E10)		Trip Distance Share Rural	9.99591	% distance	FS NMHC DC	0.01206	g/kg
			Trip Distance Share Motorway	83.04900	% distance	FS CH4 DC	0.00029	g/kg
						FS NO DC (d)	0.06518	g/kg
						FS NO2 DC	0.04164	g/kg
						FS NOx DC	0.10682	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) Based on A/F ratio (eq 28-32 - R49)
 (d) NO calculated using molecular weight of NO2, GGE=Gasoline Gallon Equivalents

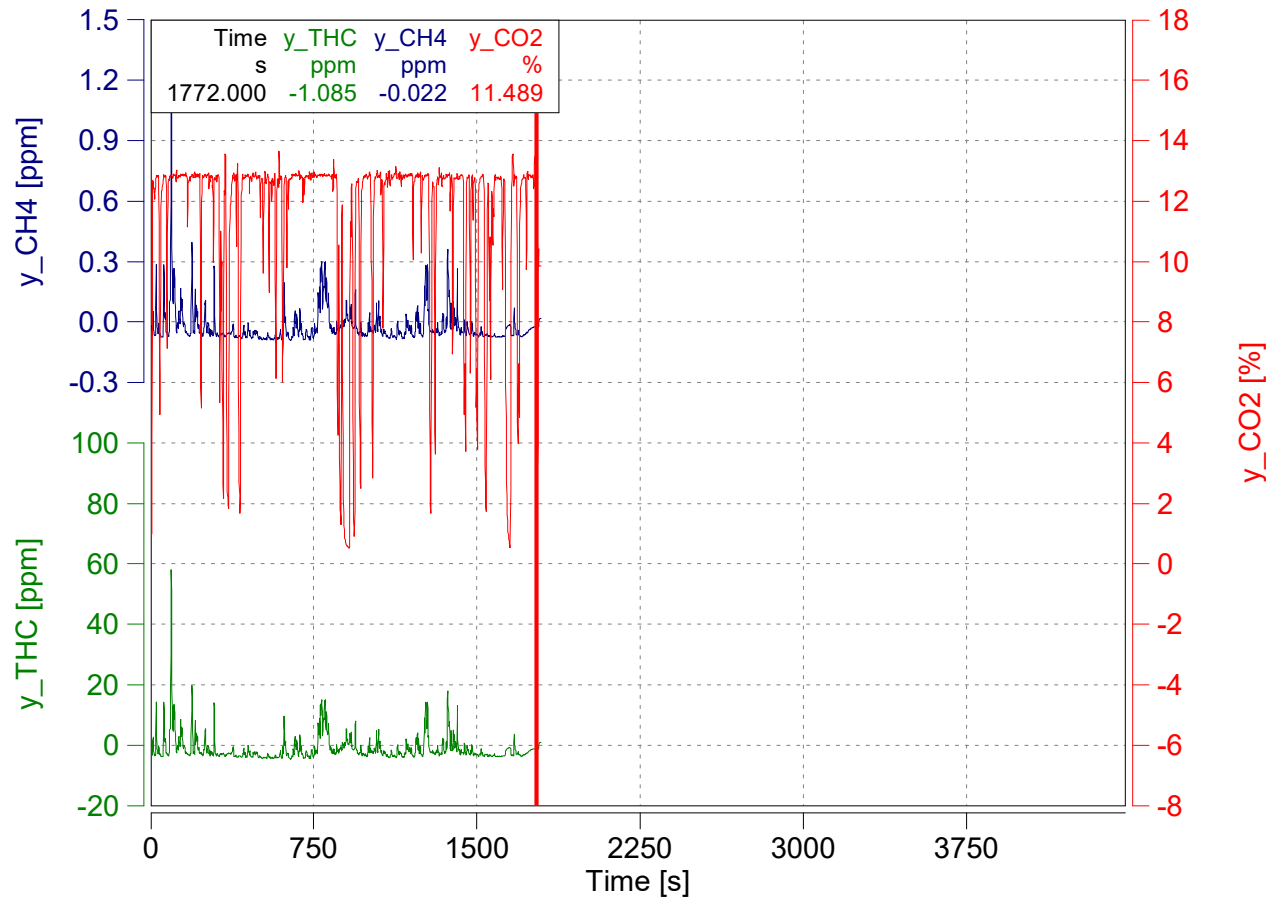
Concerto Version: 503 Build 82, Serial Number: 1604
 M.O.V.E Post-Processing: DT_1R3.1_B300
 Legislation:

Vehicle: W167 / PEMS
 Engine: /
 NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
 Dry / Wet Corr.: 2 - CFR40 §86.1342-90



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

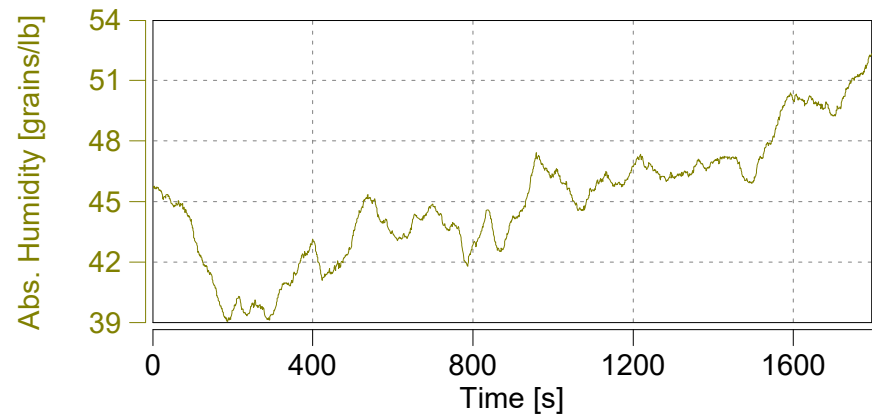
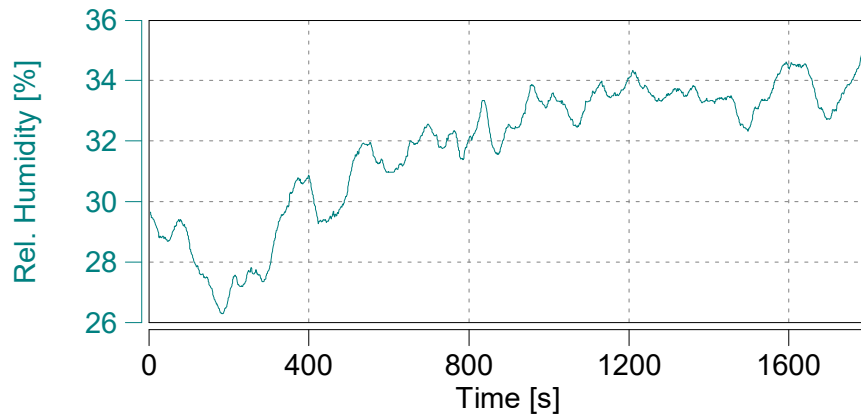
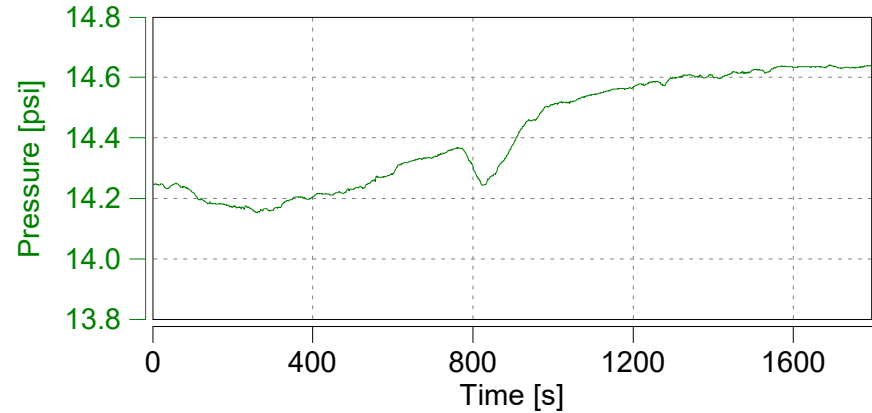
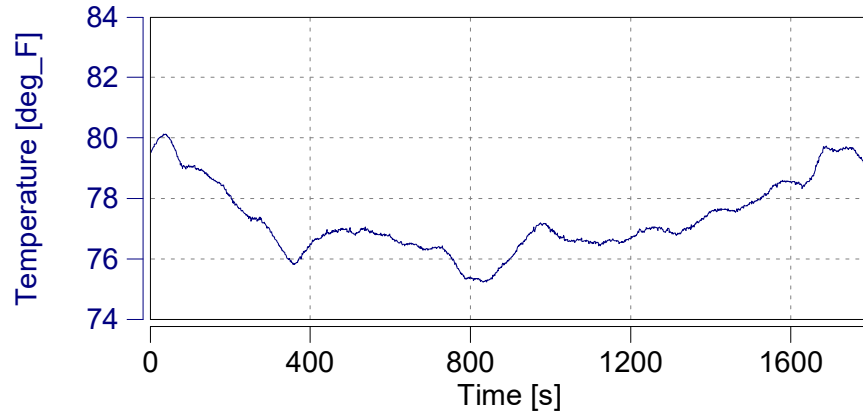


Absolute Time Shifts

y_THC	s	-5.2
y_CH4	s	-7.2

Reset Time Shifts in Plot

Apply Current Values



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: GPS

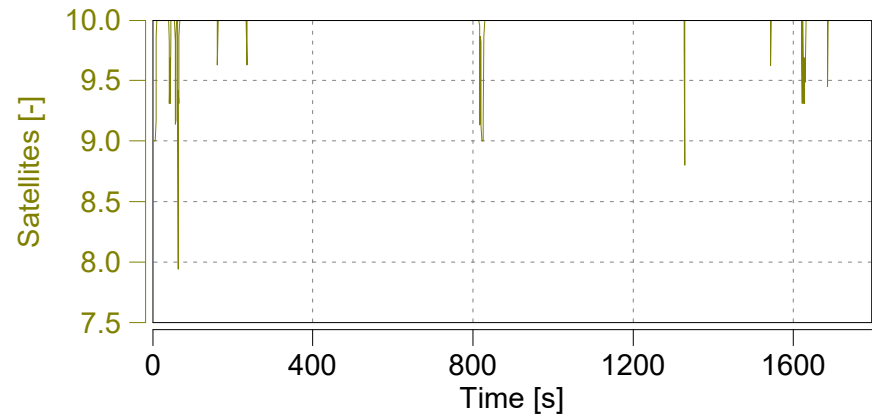
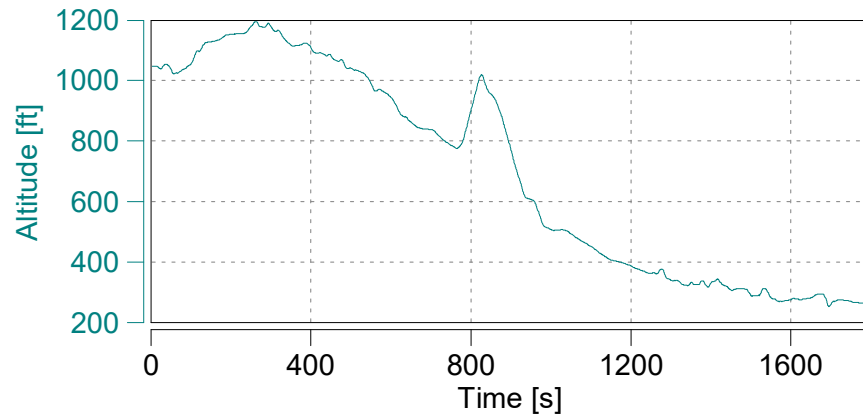
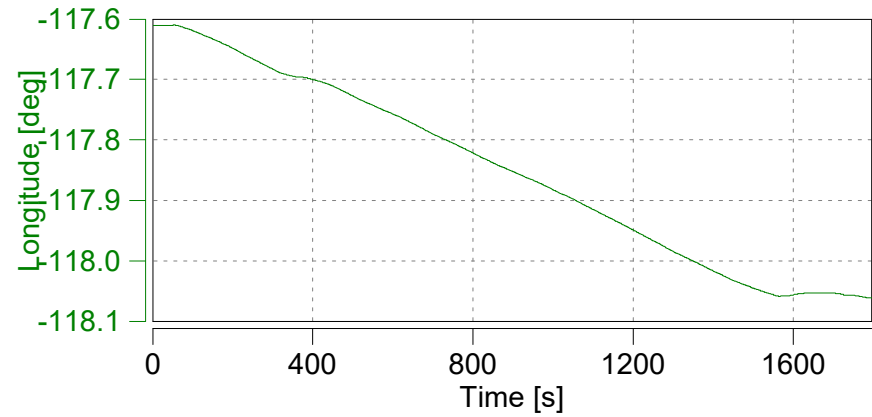
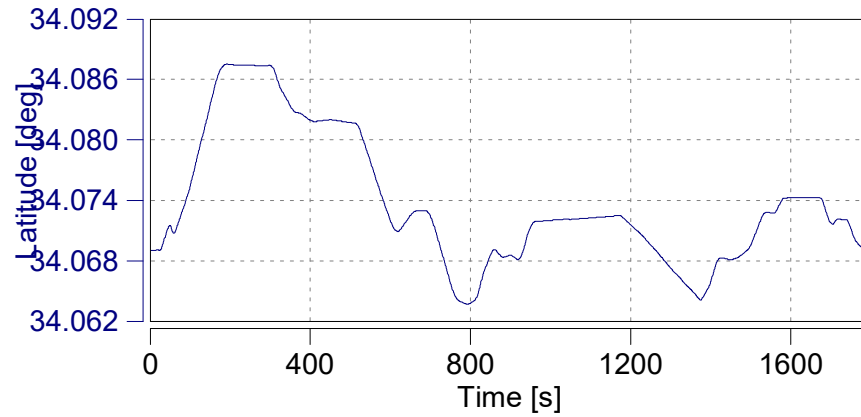
'W167-3511 B2 HWY WEST'

Start Date: 02/24/2020

Start Time: 12:42:14.0

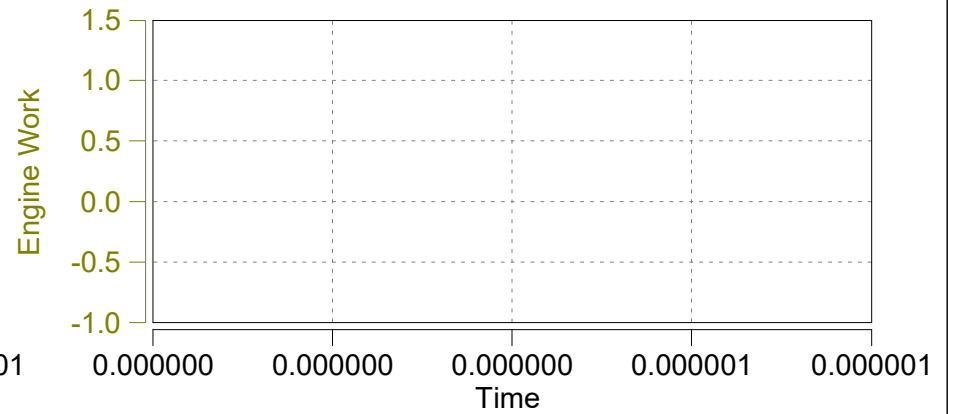
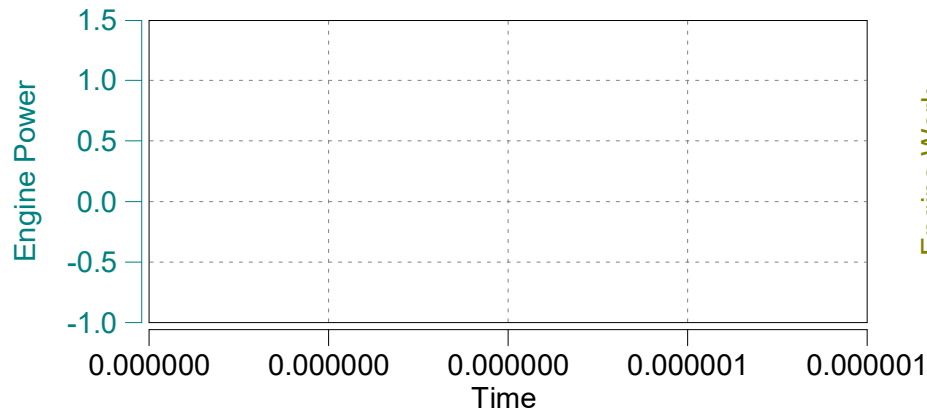
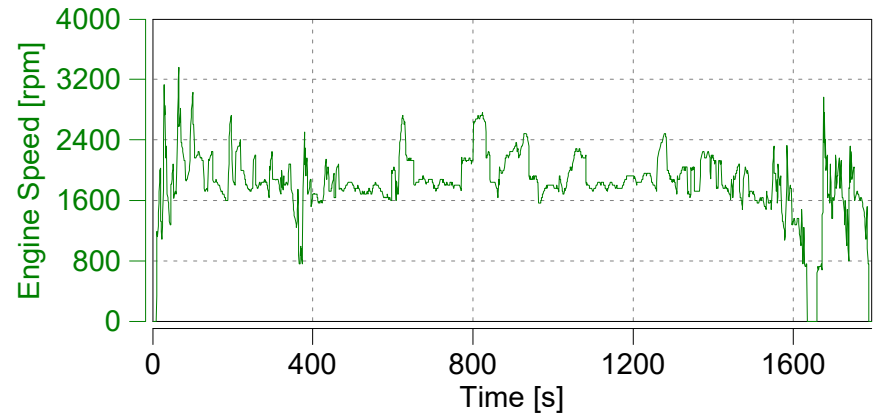
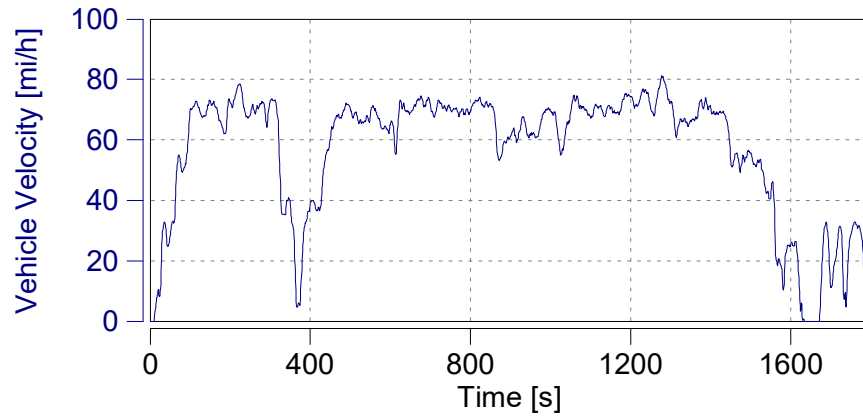


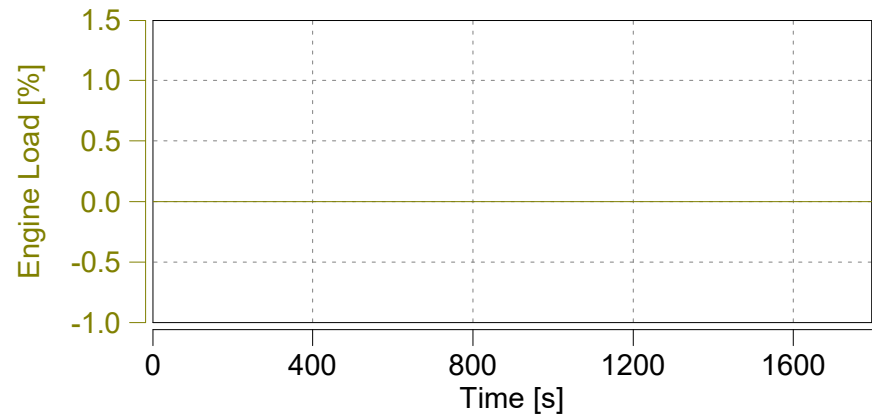
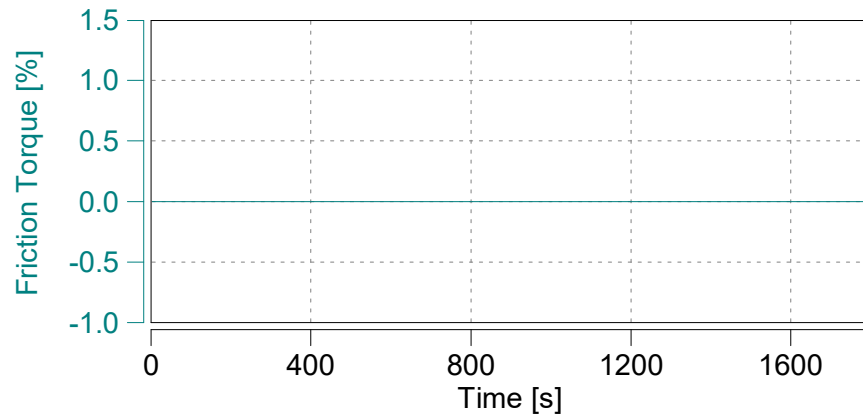
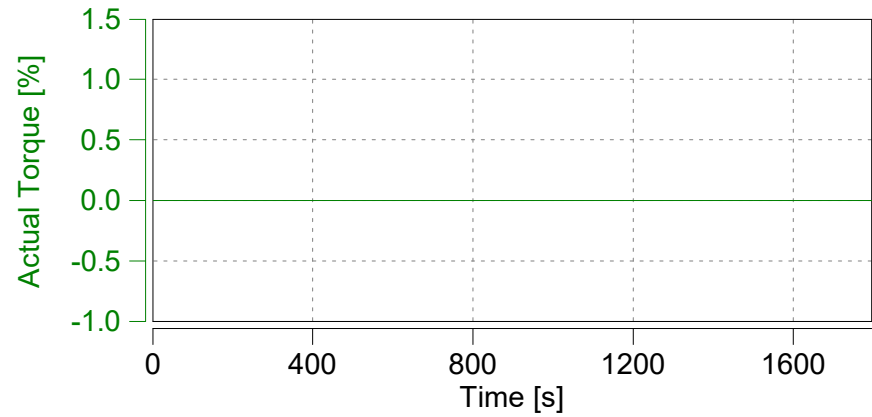
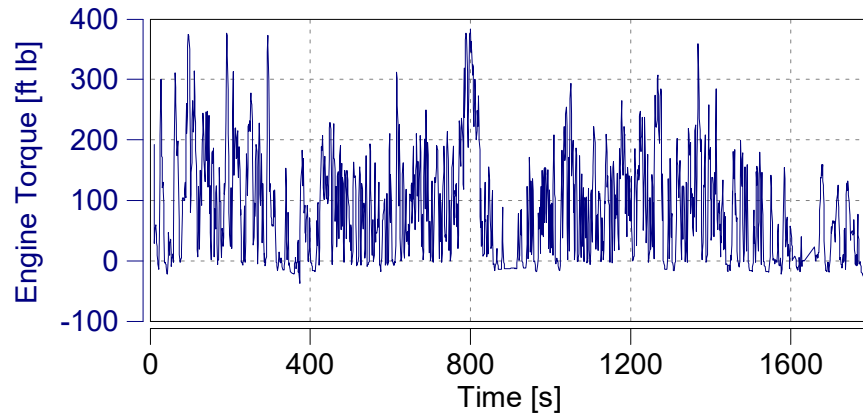
Concerto M.O.V.E., 2019



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90





Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: Engine (3)

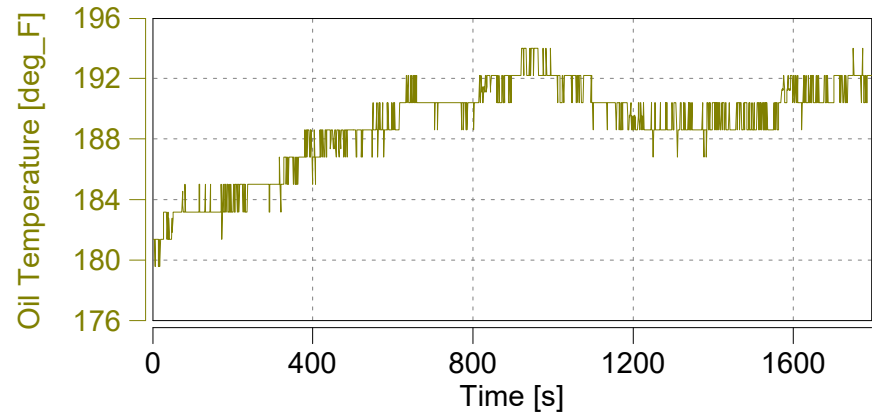
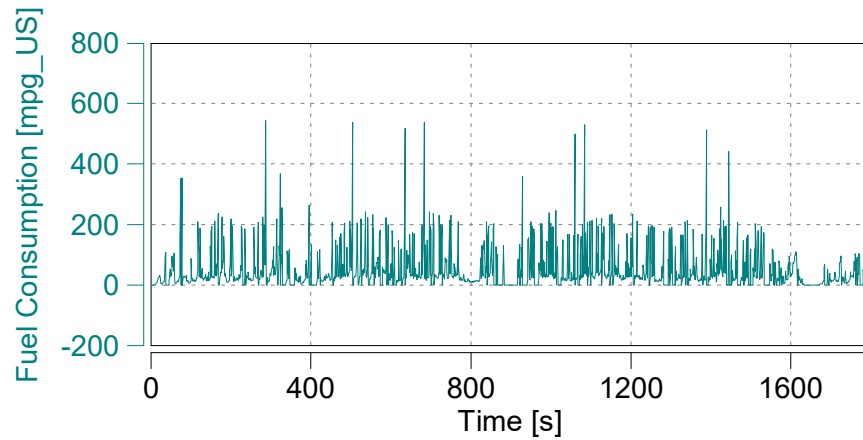
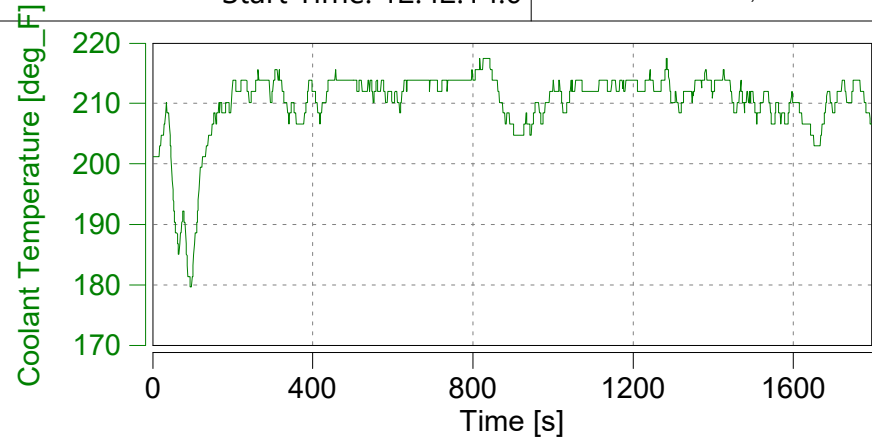
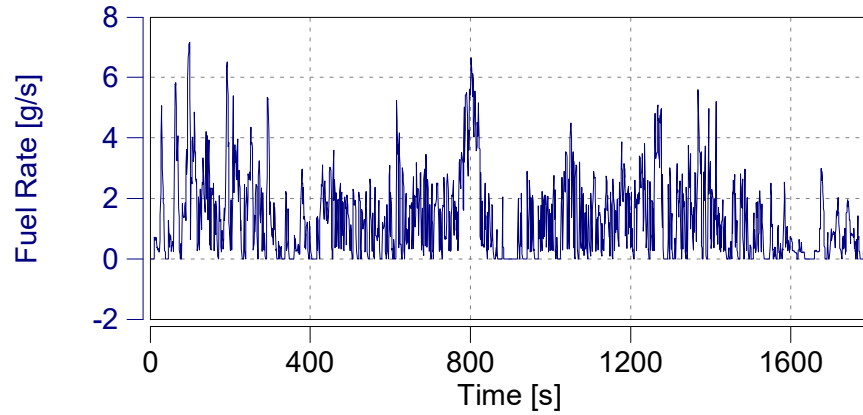
'W167-3511 B2 HWY WEST'

Start Date: 02/24/2020

Start Time: 12:42:14.0

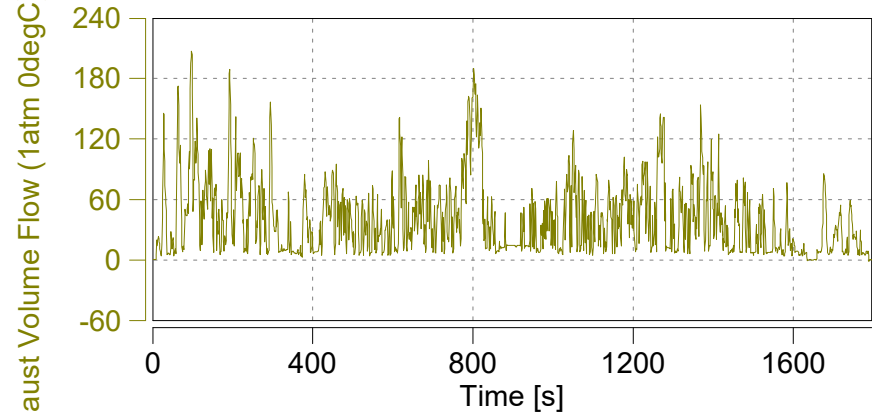
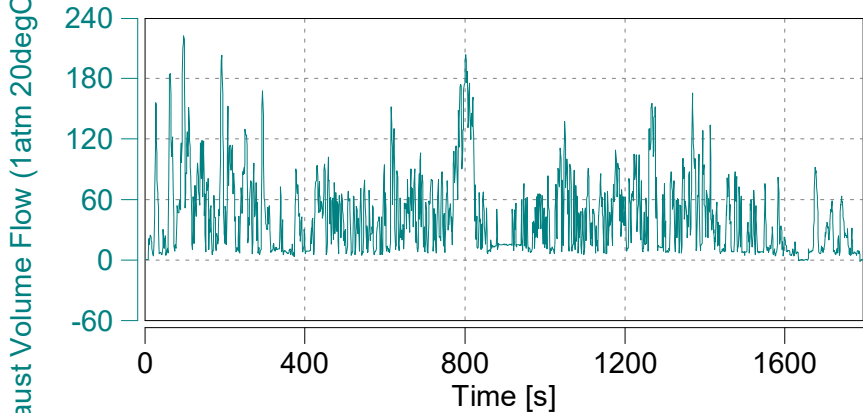
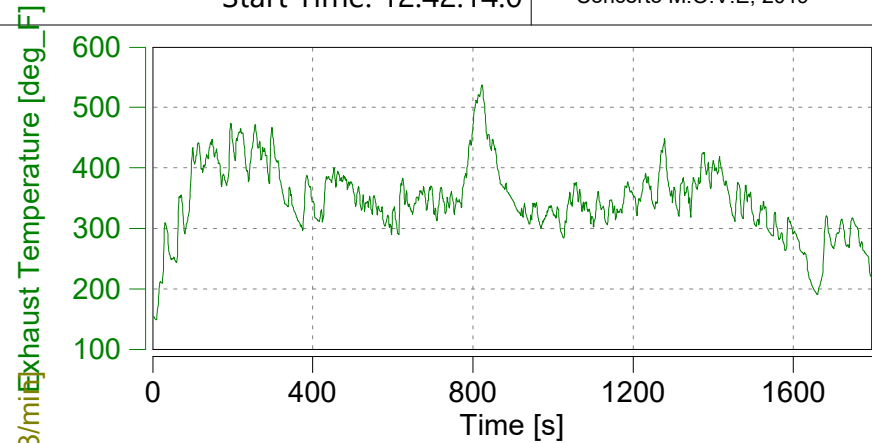
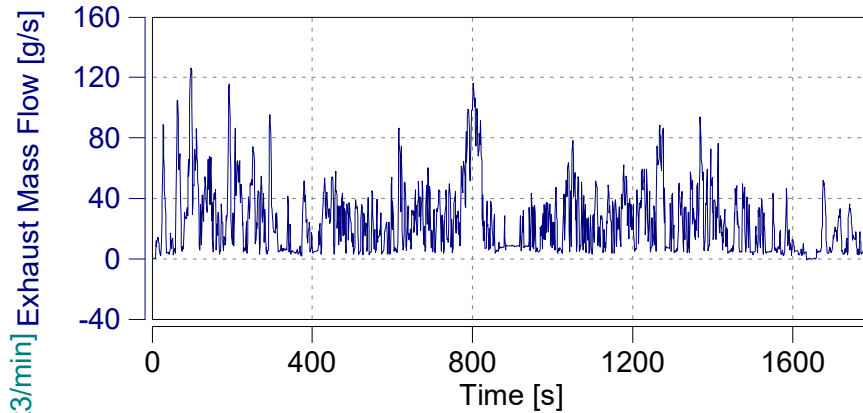


Concerto M.O.V.E, 2019



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: Exhaust Flow (2)

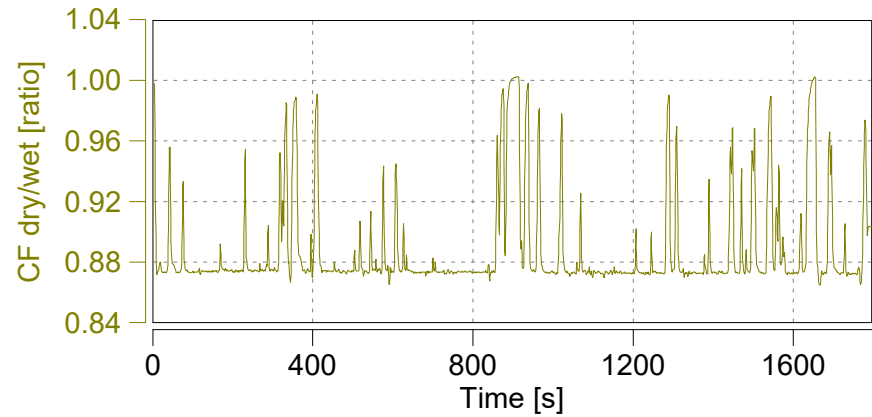
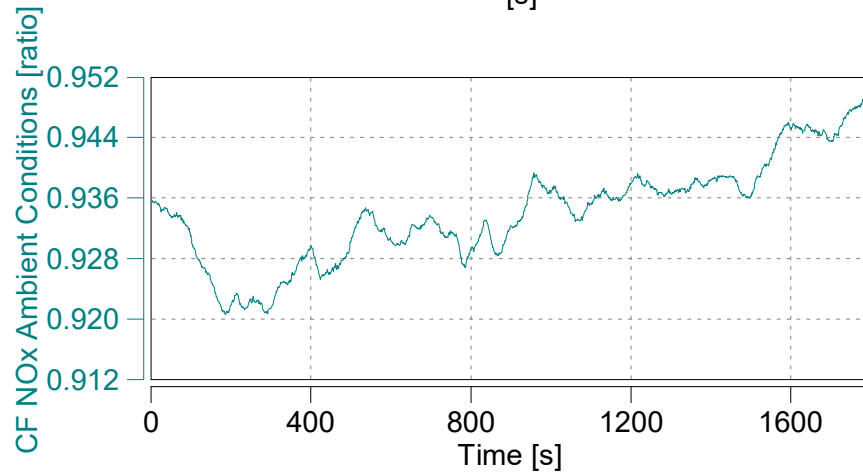
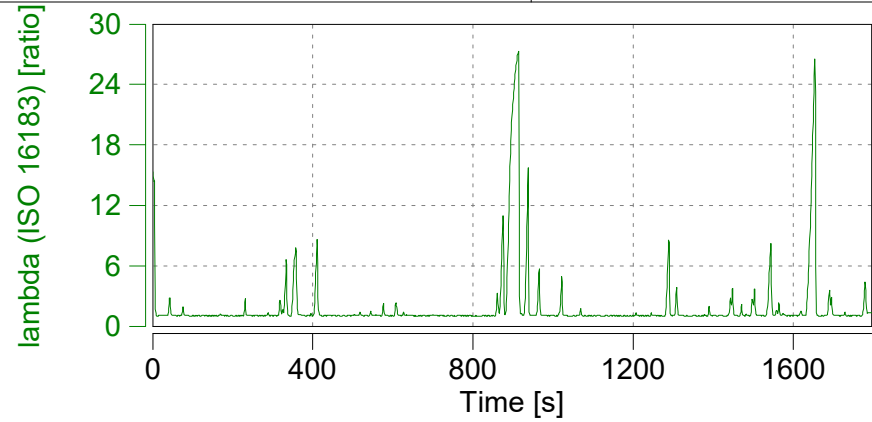
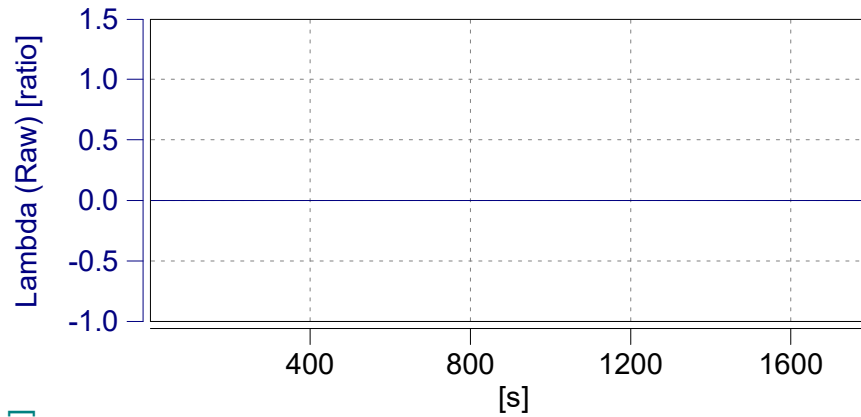
'W167-3511 B2 HWY WEST'

Start Date: 02/24/2020

Start Time: 12:42:14.0



Concerto M.O.V.E., 2019



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: Corrected Emissions (1)

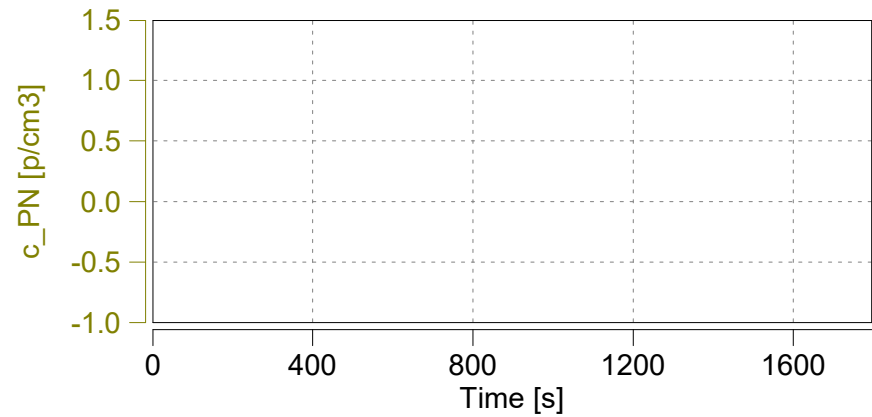
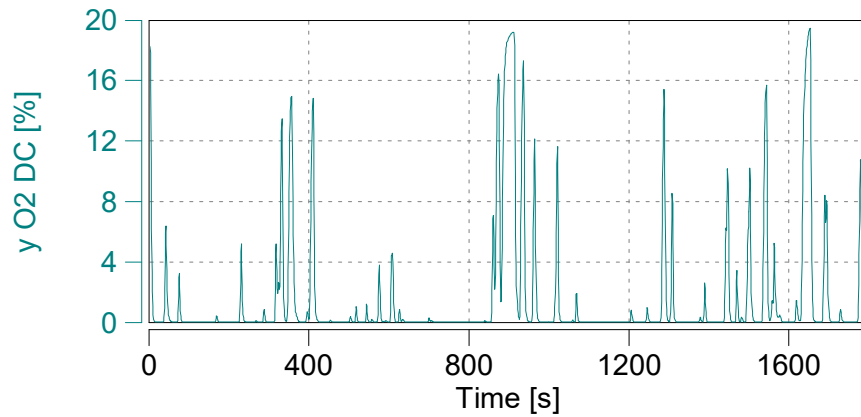
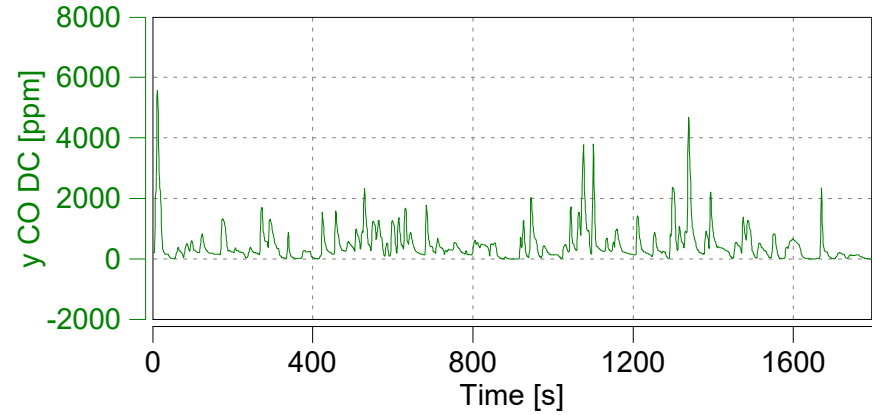
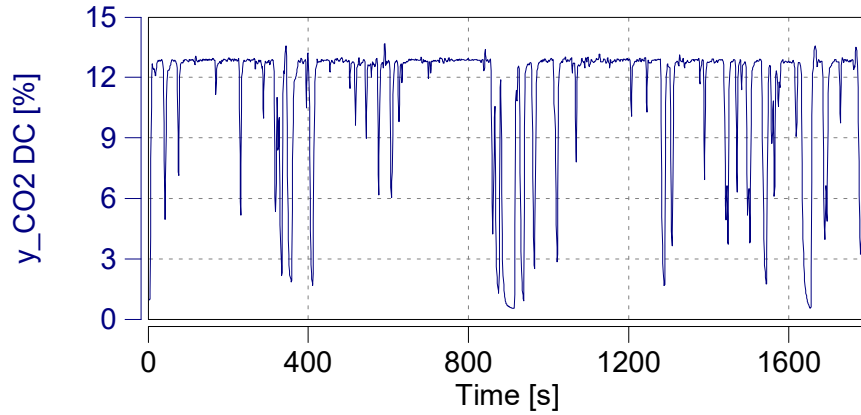
'W167-3511 B2 HWY WEST'

Start Date: 02/24/2020

Start Time: 12:42:14.0



Concerto M.O.V.E., 2019



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: Corrected Emissions (2)

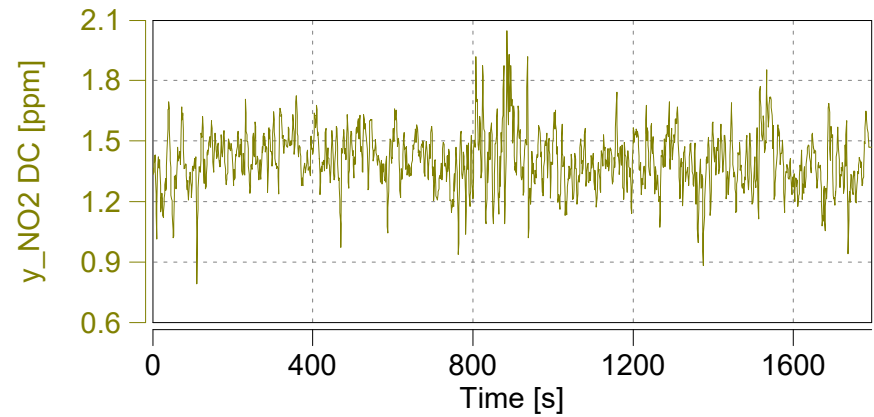
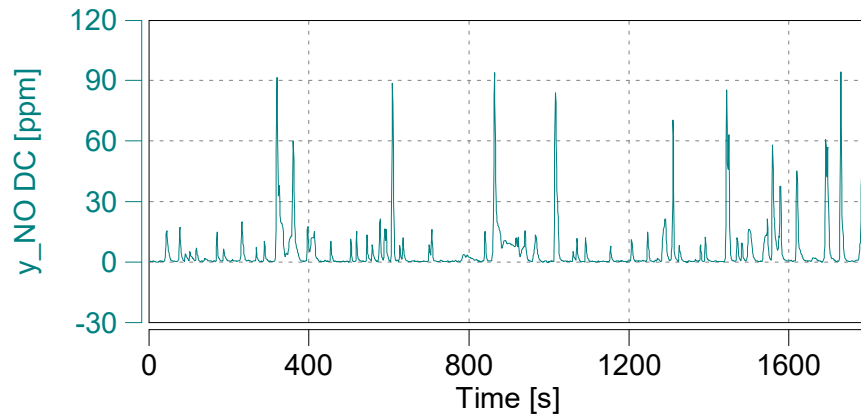
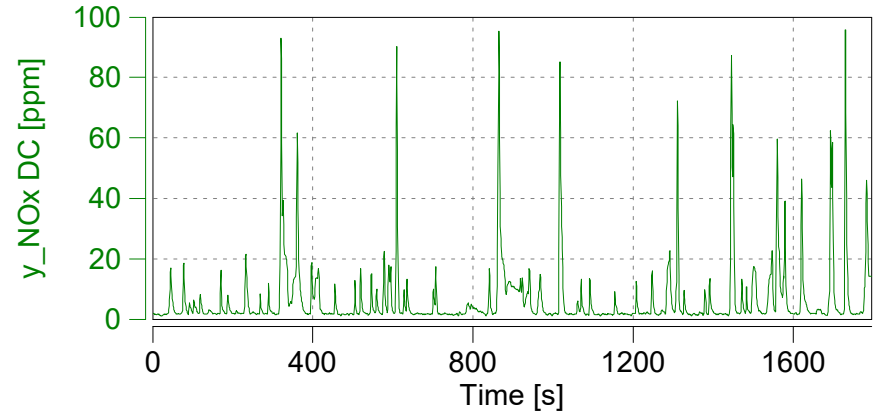
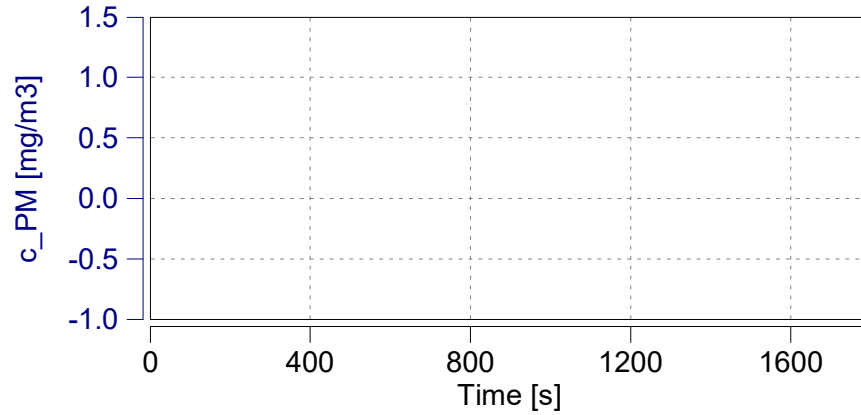
'W167-3511 B2 HWY WEST'

Start Date: 02/24/2020

Start Time: 12:42:14.0

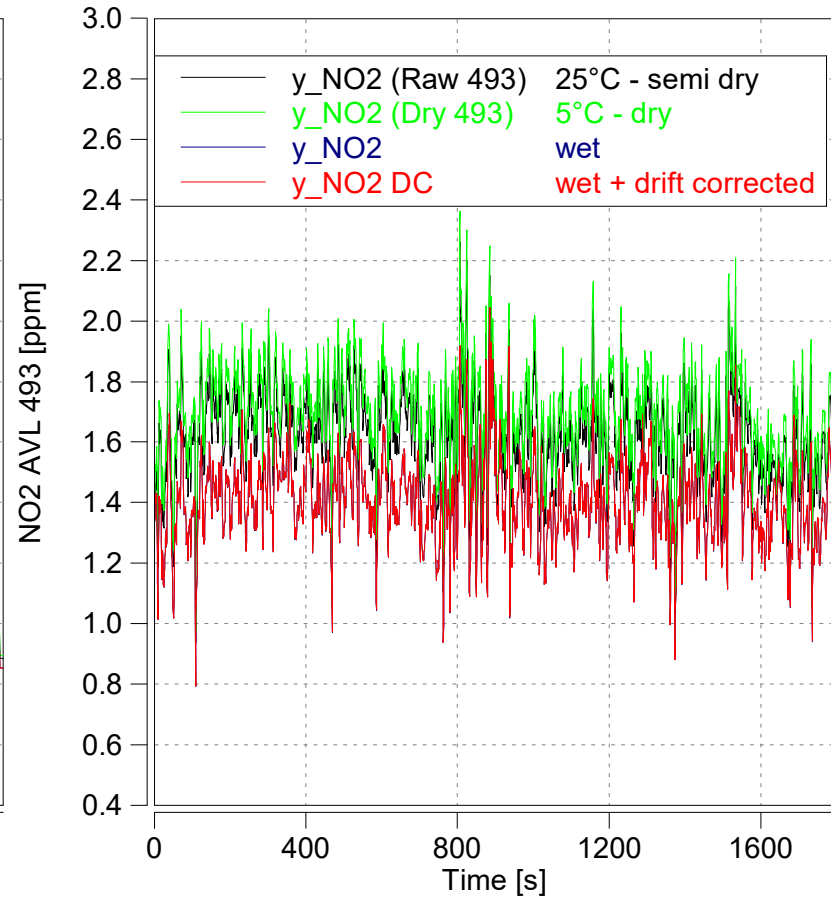
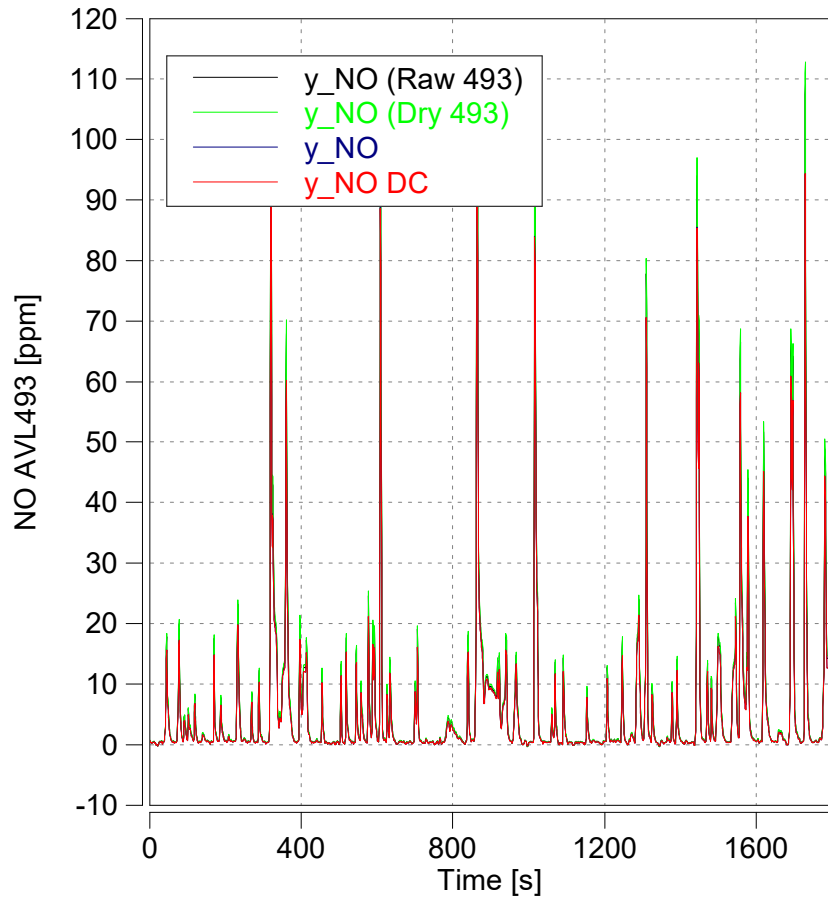


Concerto M.O.V.E., 2019



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

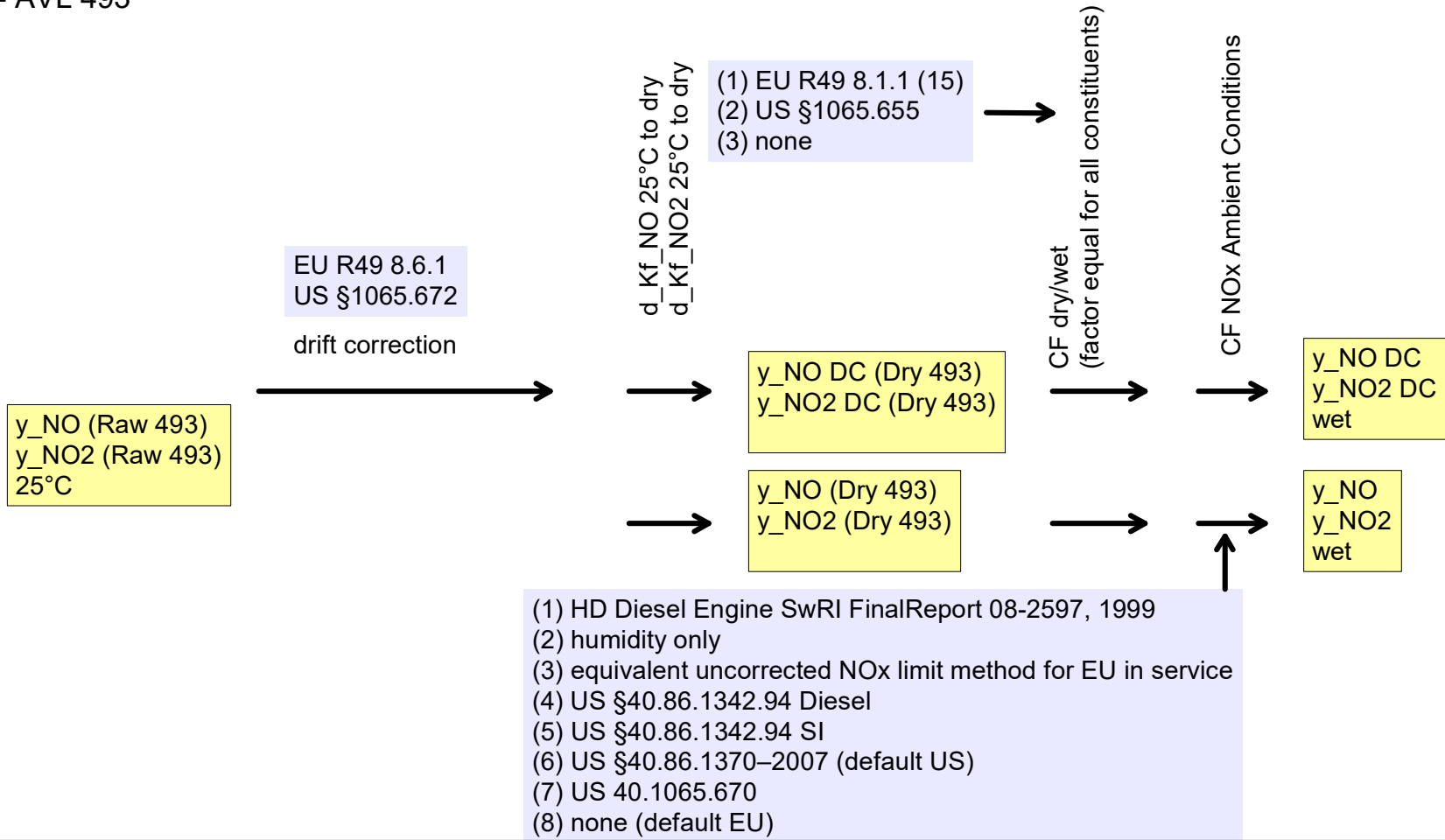


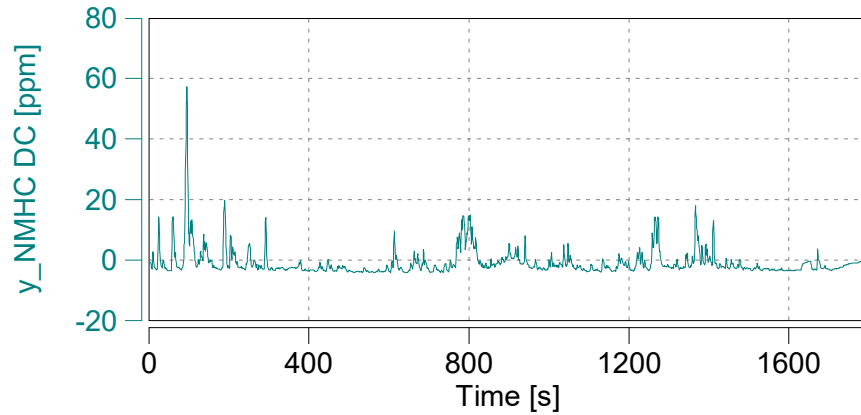
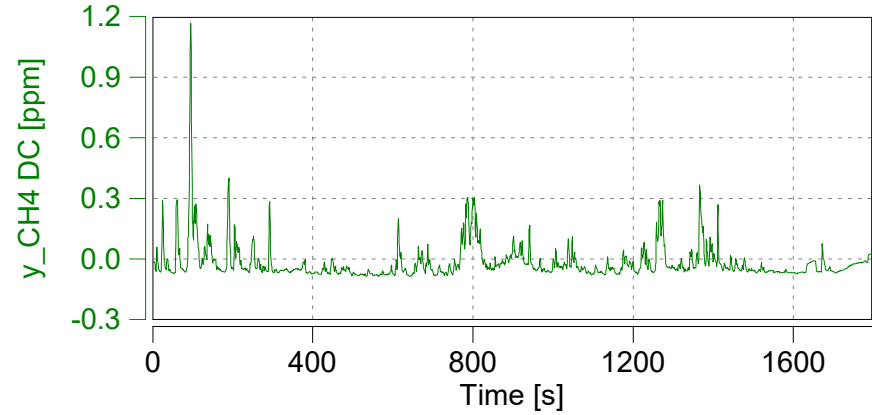
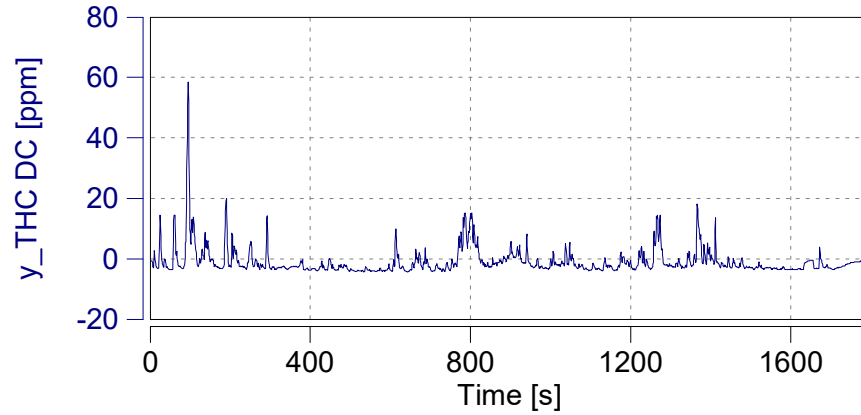
Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90



NOx - AVL 493



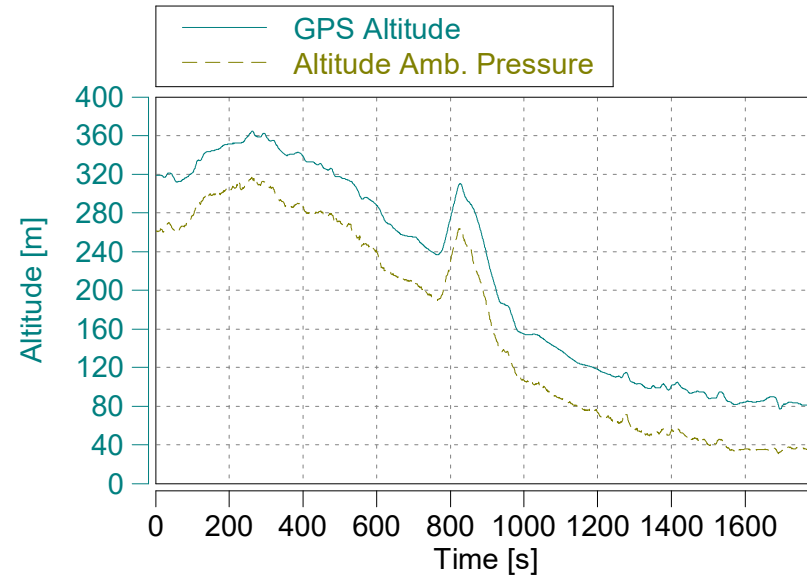
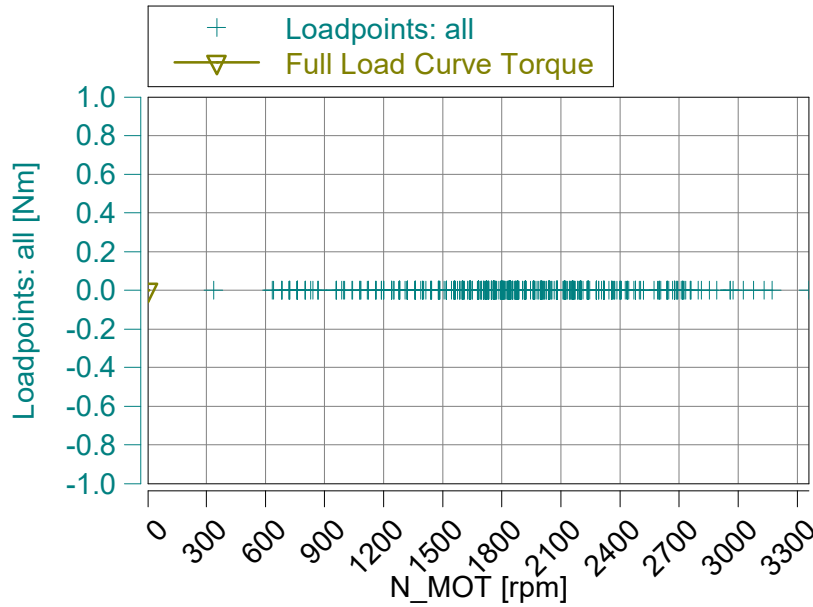


Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

#ERROR
W167-3511

Vehicle type (e.g. M 3 , N 3 and application e.g. rigid or articulated truck, city bus)	#ERROR					
Vehicle description (e.g. vehicle model, prototype)	PEMS					
	CO	THC	NMHC	CH4	NOx	PM
Pass-fail results	passed		passed	passed	passed	passed
Work window conformity factor						
CO2 mass window conformity factor						
Nr. NOx urban valid windows below 90th perc. of all valid windows					997.0	
Trip Information	Urban		Rural		Motorway	
Shares of time of the trip in % characterised by urban, rural and motorway operation	20.5		11.5		68.0	
Shares of time of the trip in % characterised by accelerating, decelerating, cruising and stop						
Accelerating					49.1	%
Decelerating					46.5	%
Cruising					1.2	%
Stop					3.2	%
			Minimum	Maximum		
Work window average power (%)						
CO2 mass window duration (s)						
Work window: percentage of valid windows						
CO2 mass window: percentage of valid window						
Fuel consumption consistency ratio			m = 1.08			
			r ² = 0.96			



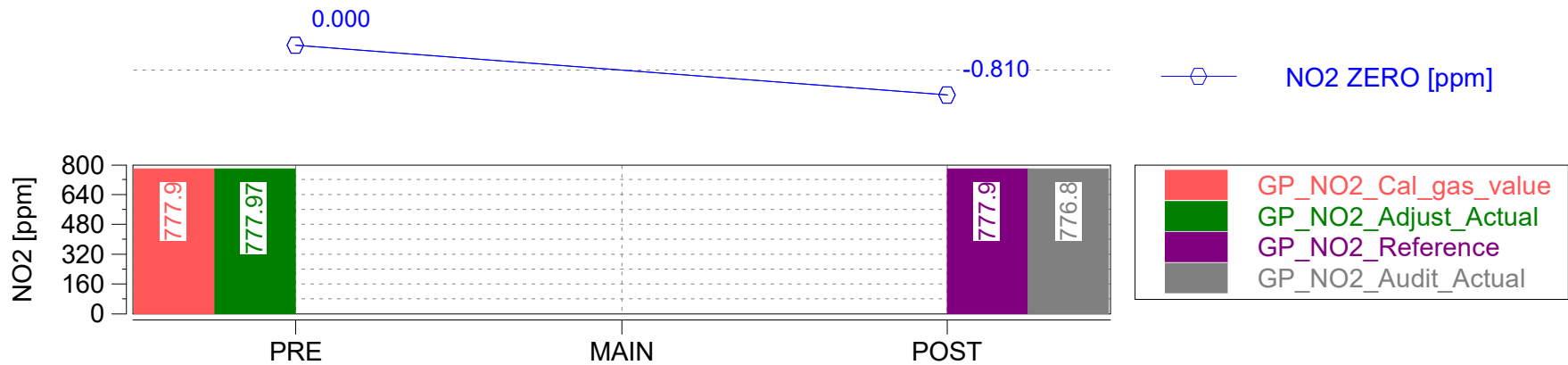
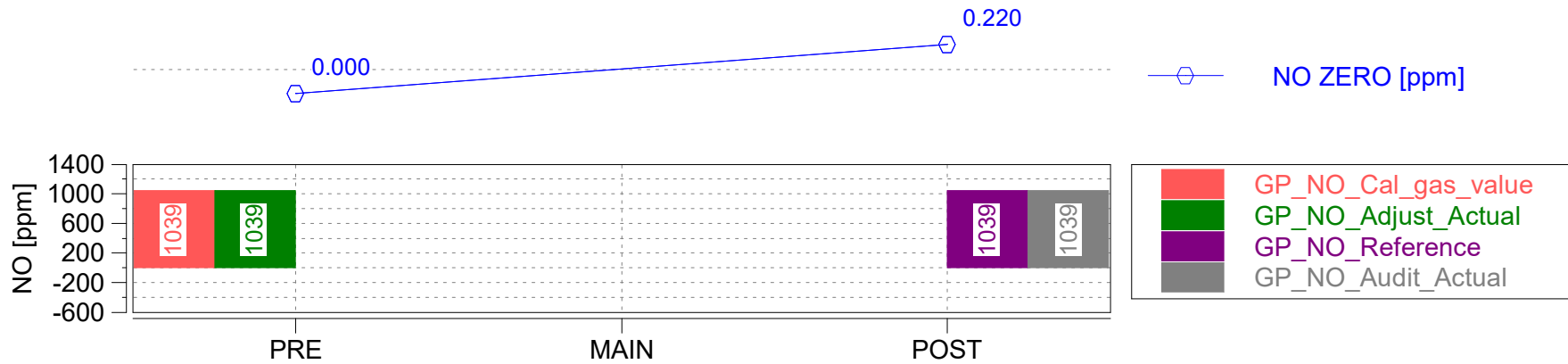
Trip Duration (a)	1795.0	s
Test Duration (b)		s
Total Work (c)		kWh
Reference Work		kWh
Total CO2 Mass (c)		g
Reference CO2 Mass		g
avg BSFC ECU	198.2	g/kWh
avg BSFC ISO16183	235.0	g/kWh
Distance ECU	45.3	km
Distance GPS	45.205	km

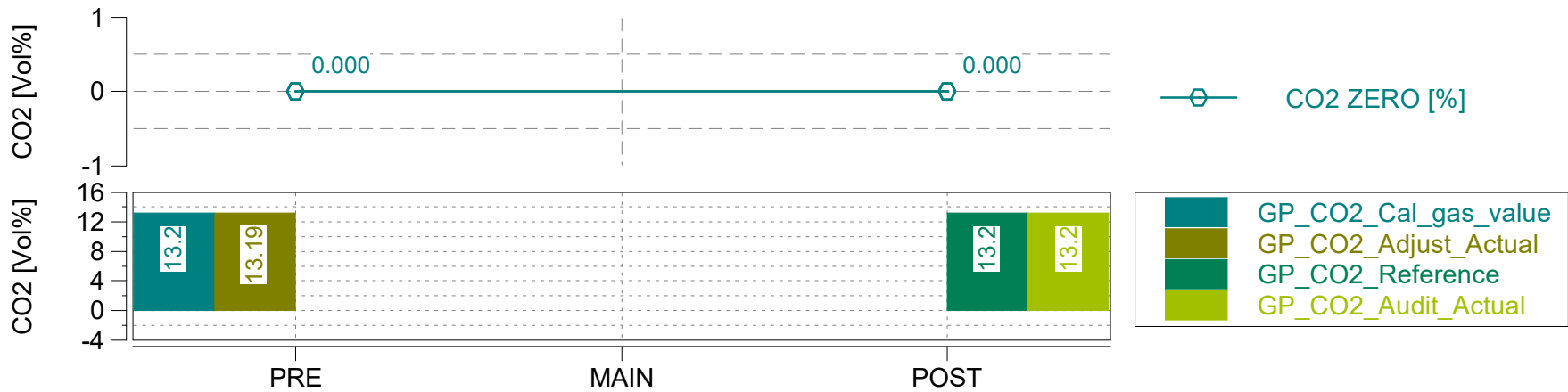
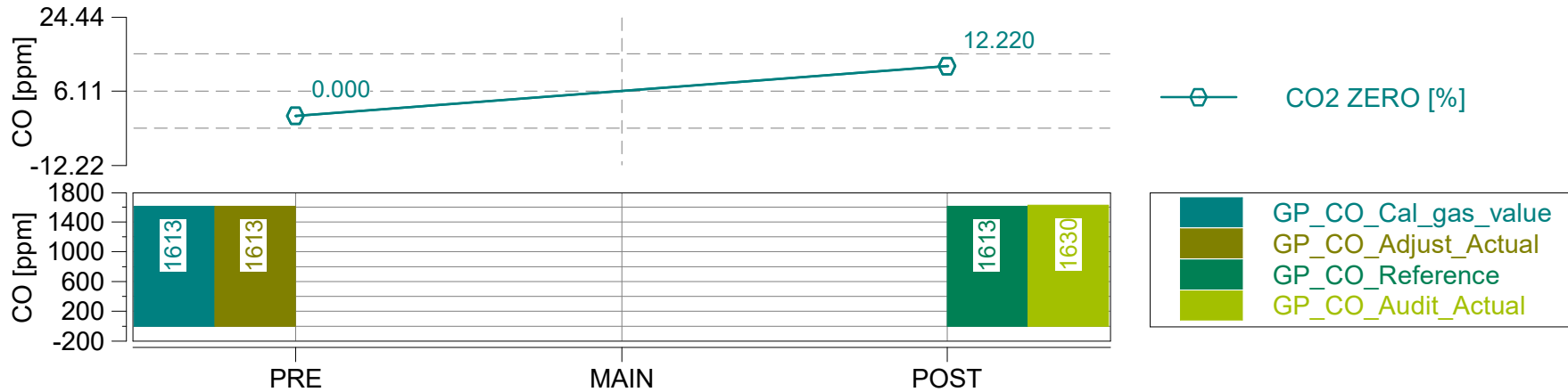
GAS PEMS Leak Check Age	0	days
GAS PEMS Leak Check Date	N/A	yyyy-mm-dd
GAS PEMS Leak Check Time	N/A	hh:mm:ss
GAS PEMS Leak Check External	0.00	%

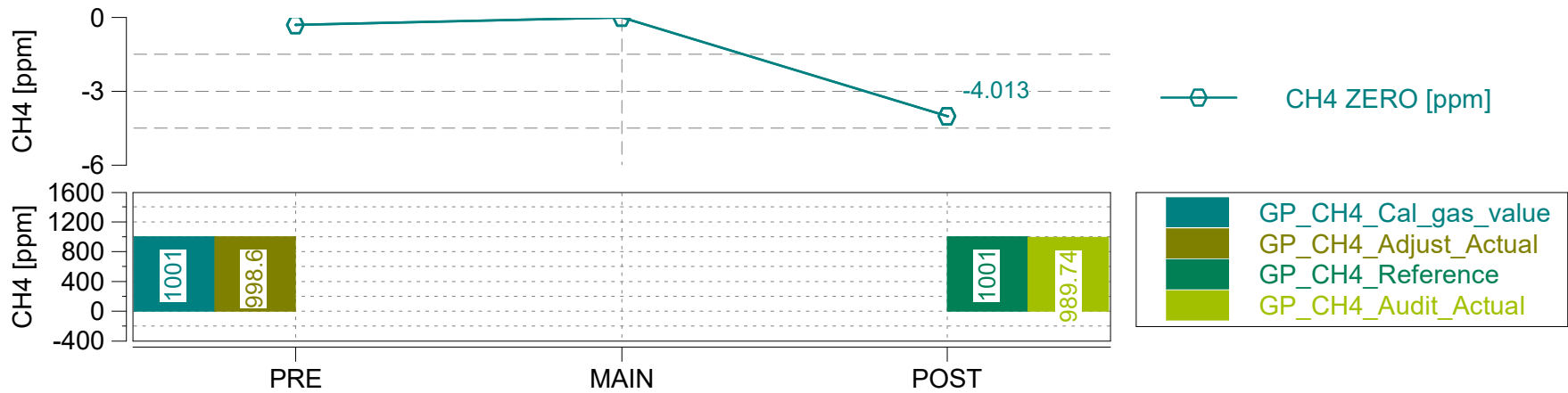
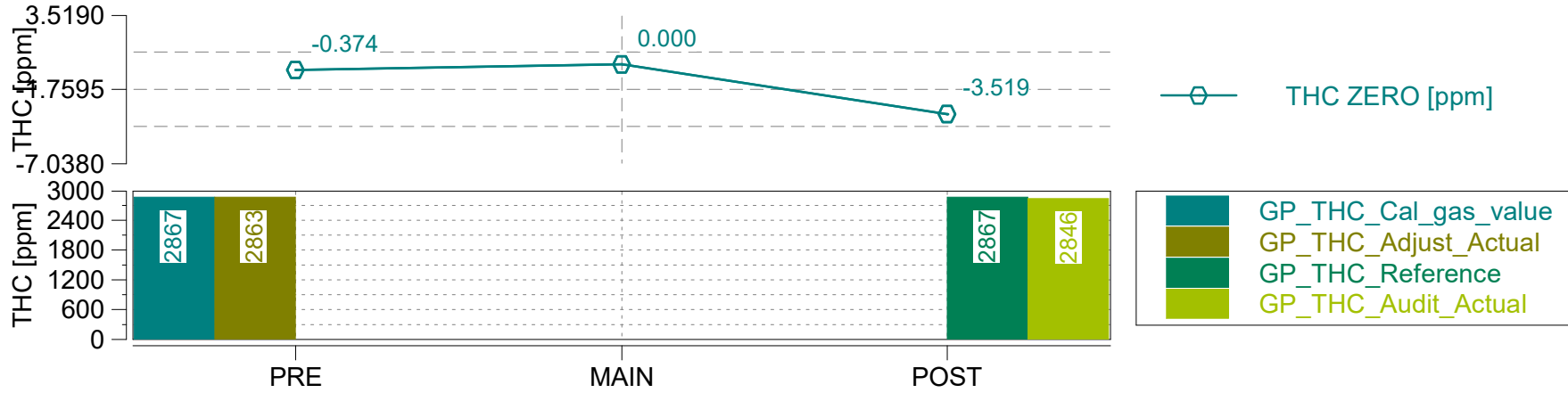
- (a) GAS PEMS measurement state only
- (b) without Cold Start
- (c) not cummulated during exclusions

Concerto Version: 503 Build 82, Serial Number: 1604
 M.O.V.E Post-Processing: DT_1R3.1_B300
 Legislation:

Vehicle: W167 / PEMS
 Engine: /
 NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
 Dry / Wet Corr.: 2 - CFR40 §86.1342-90







Concerto Version: 503 Build 82, Serial Number: 1604
 M.O.V.E Post-Processing: DT_1R3.1_B300
 Legislation:

Vehicle: W167 / PEMS
 Engine: /
 NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
 Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: Fuel Rate ECU vs. Calculated

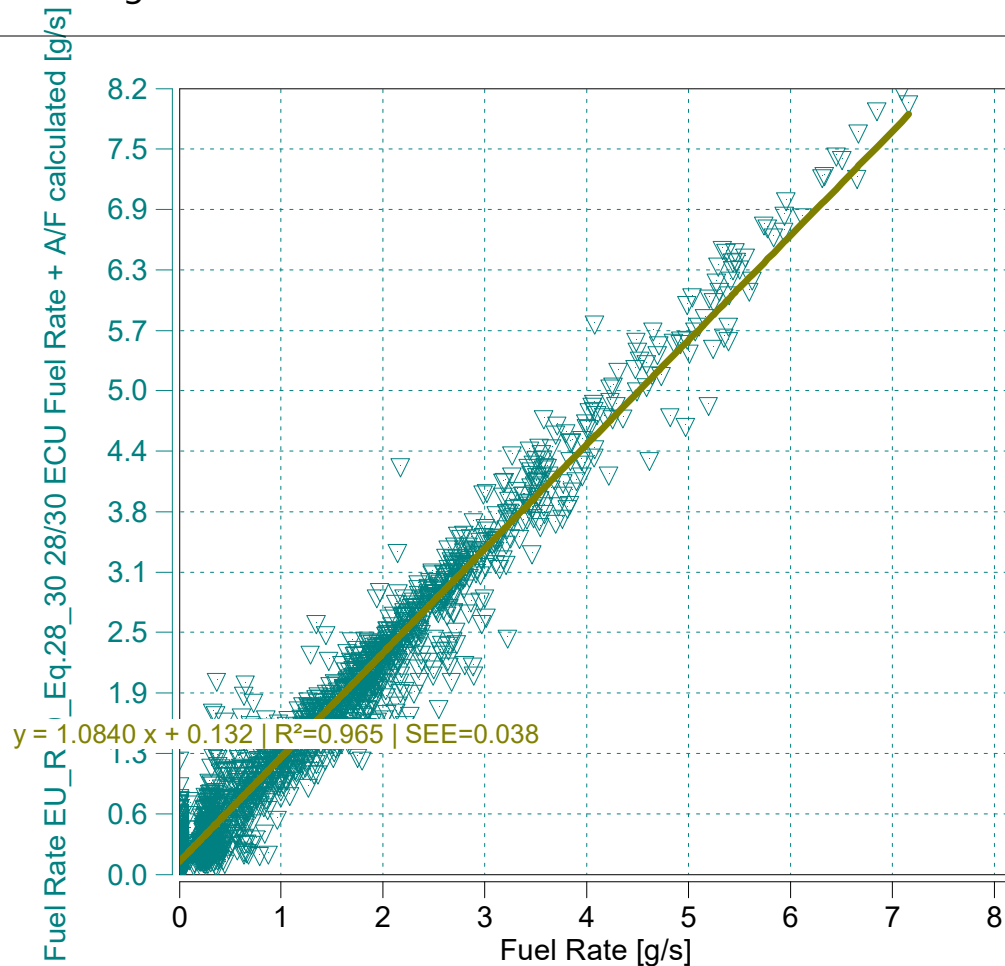
'W167-3511 B2 HWY WEST'

Start Date: 02/24/2020

Start Time: 12:42:14.0



Concerto M.O.V.E, 2019



EU 582/2011/Appendix I/3.2.1 | Fuel Rate ECU and calculated

$y = 1.0840 x + 0.132 \mid R^2=0.965 \mid SEE=0.038$
 $m = 1.08$ (0.9 - 1.1 recommended)
 $R^2 = 0.96$ (min 0.9 mandatory)

Data from - to [% of Maximum]

Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Trip Duration	2155.00	s	ave THC	4.15457	ppm	BS CO2	514.13161	g/hphr
Trip Duration (a)	2155.00	s	ave NMHC	4.07148	ppm	BS CO	1.03479	g/hphr
Trip Distance	17.74	mi	ave CH4	0.08309	ppm	BS THC	0.00713	g/hphr
Trip Distance (a)	17.74	mi	ave CO	341.54227	ppm	BS NMHC	0.00660	g/hphr
Trip Fuel Cons. (b)	2.91	kg	ave CO2	10.82900	%	BS CH4	0.00016	g/hphr
Trip Fuel Cons. (ab)	2.91	kg	ave NOx	6.41527	ppm	BS NO (d)	0.00599	g/hphr
Trip Fuel Cons. EU (ac)	3.45	kg	ave PM	n/a	mg/m3	BS NO2	0.00721	g/hphr
Trip Fuel Cons. US (ac)	3.43	kg	ave Soot meas	n/a	mg/m3	BS NOx	0.01320	g/hphr
Trip Fuel Economy (b)	17.26	mpg_US	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Economy (ab)	17.26	mpg_US	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Economy EU (ac)	14.57	mpg_US	tot THC	0.14429	g	BS PM	n/a	g/hphr
Trip Fuel Economy US (ac)	14.64	mpg_US	tot NMHC	0.13347	g	BS PN	n/a	#/hpr
Trip Fuel Economy GGE (b)	17.26	mpg_US	tot CH4	0.00320	g	DS CO2	586.29148	g/mi
Trip Fuel Economy GGE (ab)	17.26	mpg_US	tot CO	20.93745	g	DS CO	1.18002	g/mi
Trip Fuel Economy EU GGE (ac)	14.57	mpg_US	tot CO2	10402.70306	g	DS THC	0.00813	g/mi
Trip Fuel Economy US GGE (ac)	14.64	mpg_US	tot NO (d)	0.12120	g	DS NMHC	0.00752	g/mi
Trip Av. Eng. Speed	1708.90	rpm	tot NO2	0.14582	g	DS CH4	0.00018	g/mi
Trip Av. Torque	91.16	lbft	tot NOx	0.26702	g	DS NO (d)	0.00683	g/mi
Trip Av. Power	33.80	hp	tot Soot	n/a	g	DS NO2	0.00822	g/mi
Trip Work	20.23	hphr	tot Soot meas	n/a	g	DS NOx	0.01505	g/mi
Trip Work (a)	20.23	hphr	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass	54.13	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass EU (ac)	45.49	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Exhaust Mass US (ac)	45.74	kg	tot Soot on PM filter (estim.)	0.00000	mg	DS PN	n/a	#/mi
Trip Av. Amb. Temperature	75.24	deg_F	Soot --> PM simple scaling factor	1.00000	-	FS CO2	3575.68178	g/kg
Trip Av. Humidity	33.65	%	Trip Av. Veh. Speed	29.64066	mi/hr	FS CO	7.19675	g/kg
Trip Av. GPS Altitude	570.00	m	Trip Distance Share Urban	34.67028	% distance	FS THC	0.04959	g/kg
Fuel Type	Petrol (E10)		Trip Distance Share Rural	65.32972	% distance	FS NMHC	0.04588	g/kg
			Trip Distance Share Motorway	0.00000	% distance	FS CH4	0.00110	g/kg
						FS NO (d)	0.04166	g/kg
						FS NO2	0.05012	g/kg
						FS NOx	0.09178	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) Based on A/F ratio (eq 28-32 - R49)
(d) NO calculated using molecular weight of NO2, GGE=Gasoline Gallon Equivalents

Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

'W167-3511 A2 Mountain Uphill'

Page: Trip Summary Drift Corrected

Start Date: 02/24/2020

Start Time: 12:42:14.0



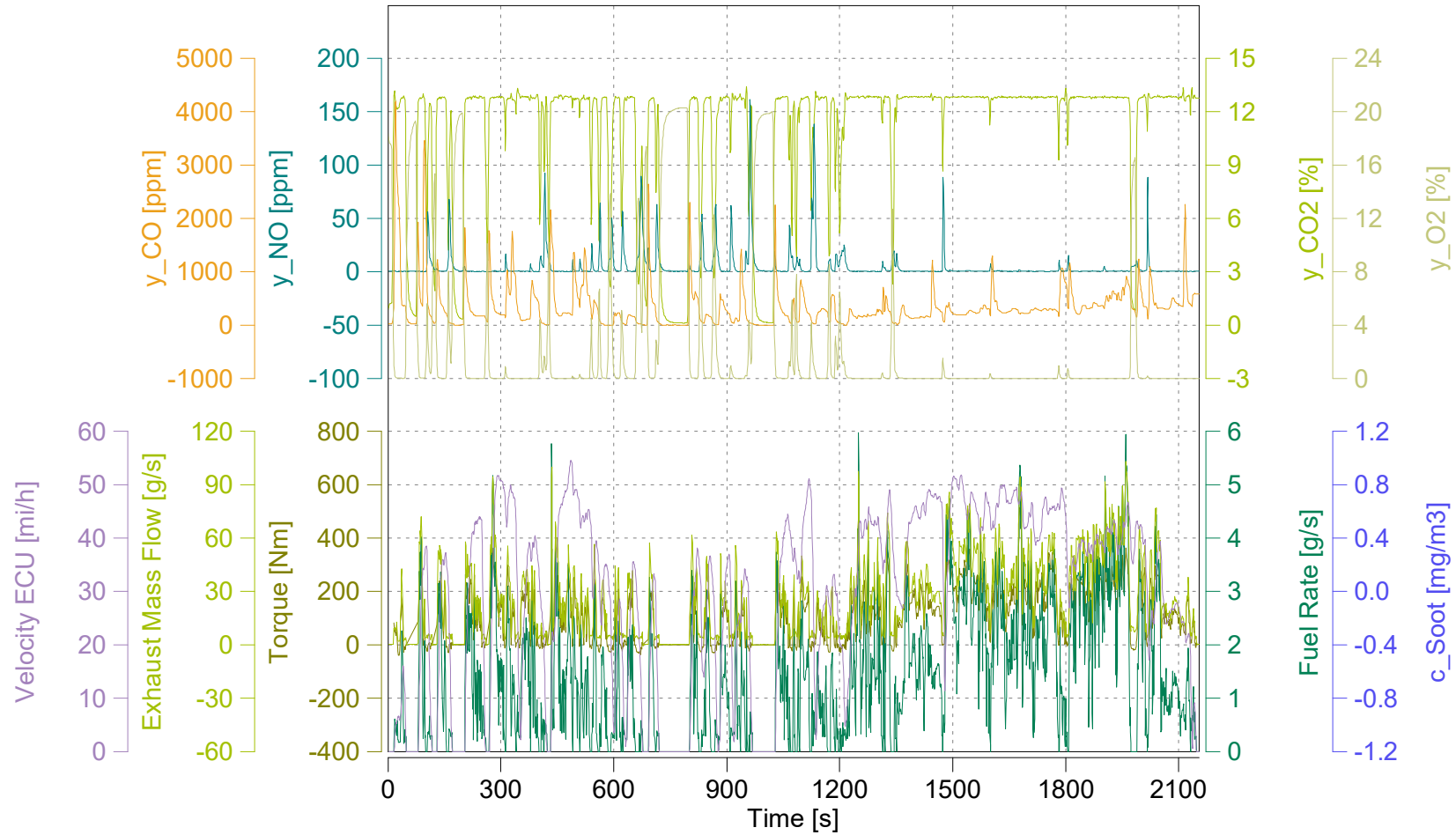
Concerto M.O.V.E, 2019

Trip Duration	2155.00	s	ave THC DC	4.35972	ppm	BS CO2 DC	514.32643	g/hphr
Trip Duration (a)	2155.00	s	ave NMHC DC	4.27253	ppm	BS CO DC	1.02938	g/hphr
Trip Distance	17.74	mi	ave CH4 DC	0.08719	ppm	BS THC DC	0.00741	g/hphr
Trip Distance (a)	17.74	mi	ave CO DC	339.75817	ppm	BS NMHC DC	0.00686	g/hphr
Trip Fuel Cons. (b)	2.91	kg	ave CO2 DC	10.83310	%	BS CH4 DC	0.00016	g/hphr
Trip Fuel Cons. (ab)	2.91	kg	ave NOx DC	6.41442	ppm	BS NO DC (d)	0.00599	g/hphr
Trip Fuel Cons. EU (ac)	3.45	kg	ave PM	n/a	mg/m3	BS NO2 DC	0.00721	g/hphr
Trip Fuel Cons. US (ac)	3.43	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	0.01320	g/hphr
Trip Fuel Economy (b)	17.26	mpg_US	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Economy (ab)	17.26	mpg_US	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Economy EU (ac)	14.57	mpg_US	tot THC DC	0.14996	g	BS PM	n/a	g/hphr
Trip Fuel Economy US (ac)	14.64	mpg_US	tot NMHC DC	0.13871	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy GGE (b)	17.26	mpg_US	tot CH4 DC	0.00332	g	DS CO2 DC	586.51365	g/mi
Trip Fuel Economy GGE (ab)	17.26	mpg_US	tot CO DC	20.82808	g	DS CO DC	1.17386	g/mi
Trip Fuel Economy EU GGE (ac)	14.57	mpg_US	tot CO2 DC	10406.64497	g	DS THC DC	0.00845	g/mi
Trip Fuel Economy US GGE (ac)	14.64	mpg_US	tot NO DC (d)	0.12115	g	DS NMHC DC	0.00782	g/mi
Trip Av. Eng. Speed	1708.90	rpm	tot NO2 DC	0.14591	g	DS CH4 DC	0.00019	g/mi
Trip Av. Torque	91.16	lbft	tot NOx DC	0.26707	g	DS NO DC (d)	0.00683	g/mi
Trip Av. Power	33.80	hp	tot Soot	n/a	g	DS NO2 DC	0.00822	g/mi
Trip Work	20.23	hphr	tot Soot meas	n/a	g	DS NOx DC	0.01505	g/mi
Trip Work (a)	20.23	hphr	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass	54.13	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass EU (ac)	45.49	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Exhaust Mass US (ac)	45.74	kg	tot Soot on PM filter (estim.)	0.00000	mg	DS PN DC	n/a	#/mi
Trip Av. Amb. Temperature	75.24	deg_F	Soot --> PM simple scaling factor	1.00000	-	FS CO2 DC	3577.03672	g/kg
Trip Av. Humidity	33.65	%	Trip Av. Veh. Speed	29.64066	mi/hr	FS CO DC	7.15916	g/kg
Trip Av. GPS Altitude	570.00	m	Trip Distance Share Urban	34.67028	% distance	FS THC DC	0.05155	g/kg
Fuel Type	Petrol (E10)		Trip Distance Share Rural	65.32972	% distance	FS NMHC DC	0.04768	g/kg
			Trip Distance Share Motorway	0.00000	% distance	FS CH4 DC	0.00114	g/kg
						FS NO DC (d)	0.04164	g/kg
						FS NO2 DC	0.05015	g/kg
						FS NOx DC	0.09180	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) Based on A/F ratio (eq 28-32 - R49)
 (d) NO calculated using molecular weight of NO2, GGE=Gasoline Gallon Equivalents

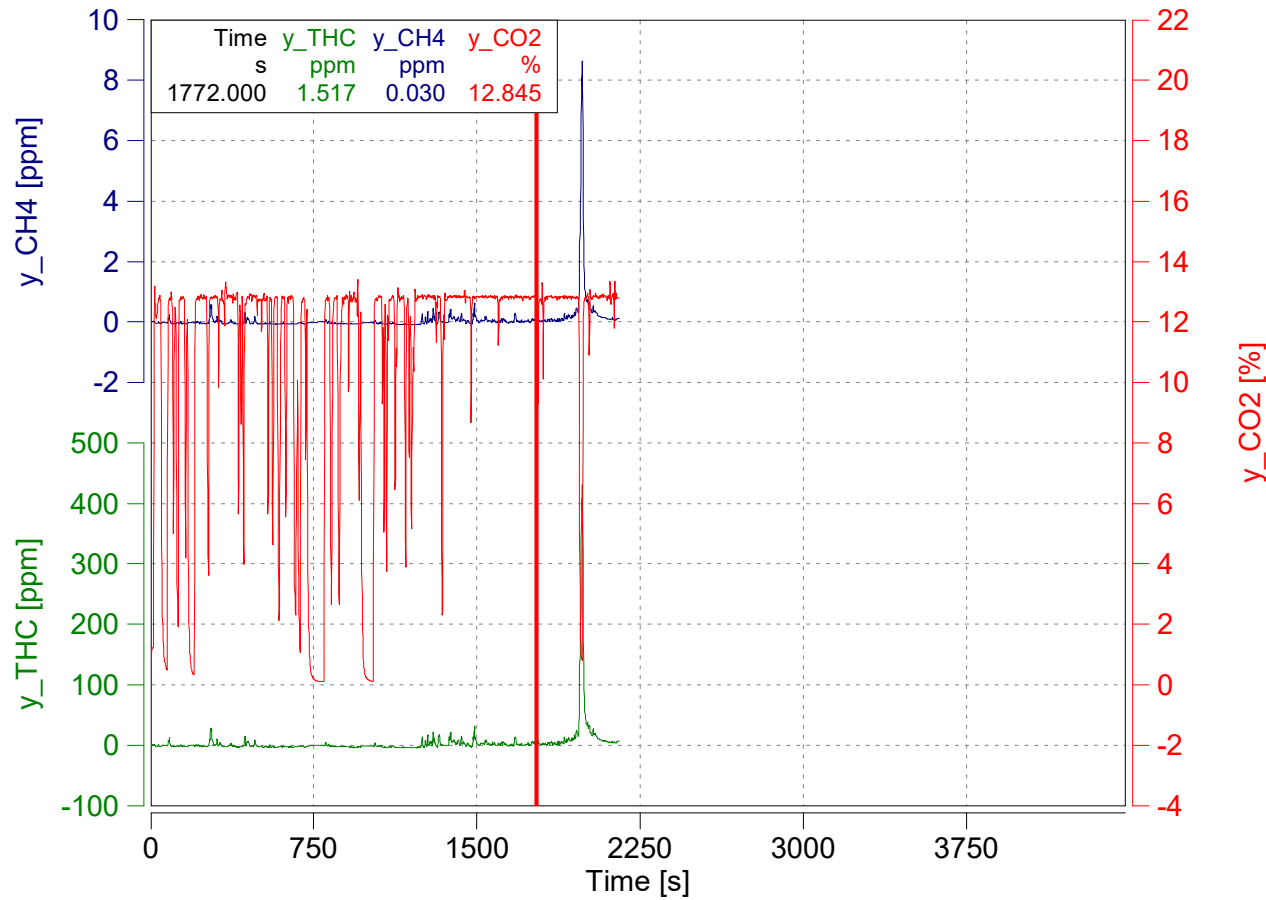
Concerto Version: 503 Build 82, Serial Number: 1604
 M.O.V.E Post-Processing: DT_1R3.1_B300
 Legislation:

Vehicle: W167 / PEMS
 Engine: /
 NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
 Dry / Wet Corr.: 2 - CFR40 §86.1342-90



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90



Absolute Time Shifts

y_THC	s	-5.2
y_CH4	s	-7.2

Reset Time Shifts in Plot

Apply Current Values

Case: W167-3511

Page: Ambient Conditions

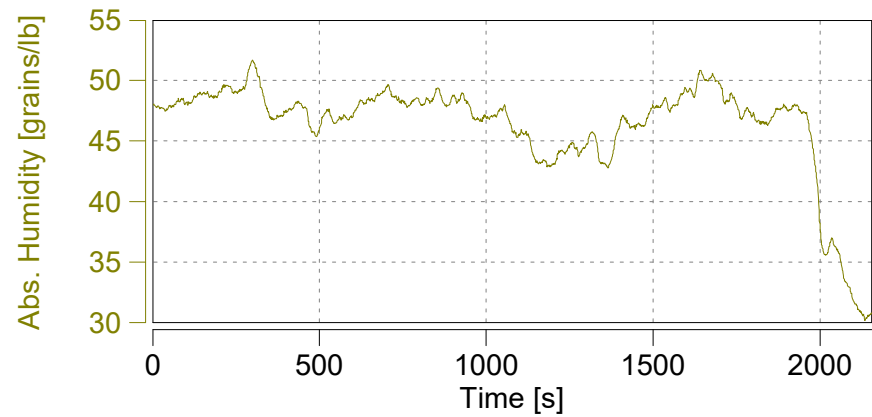
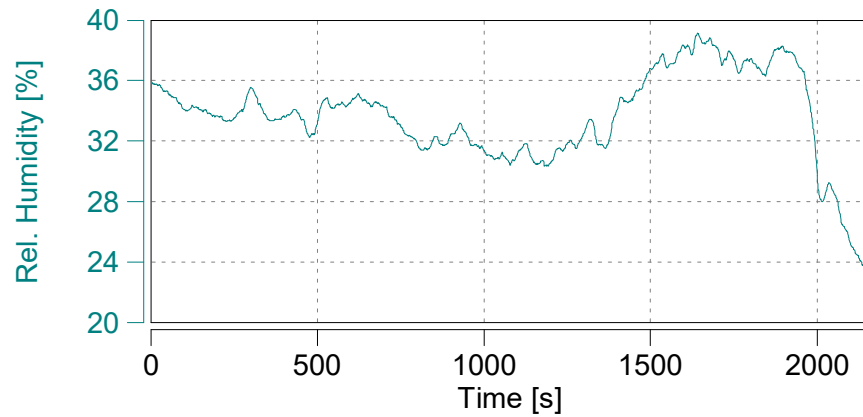
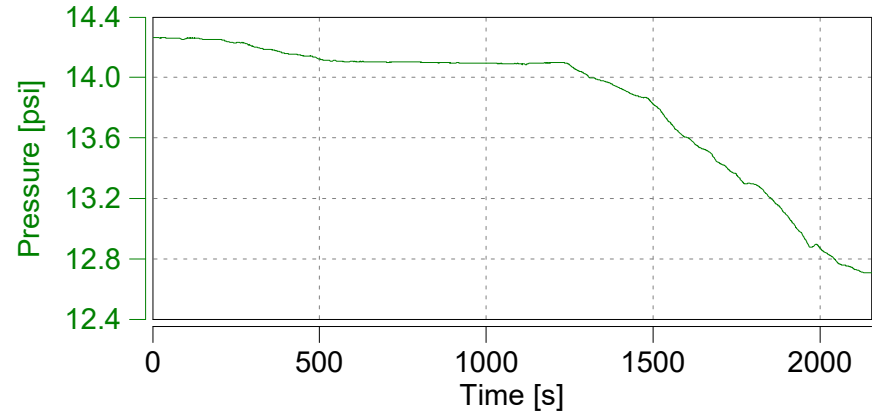
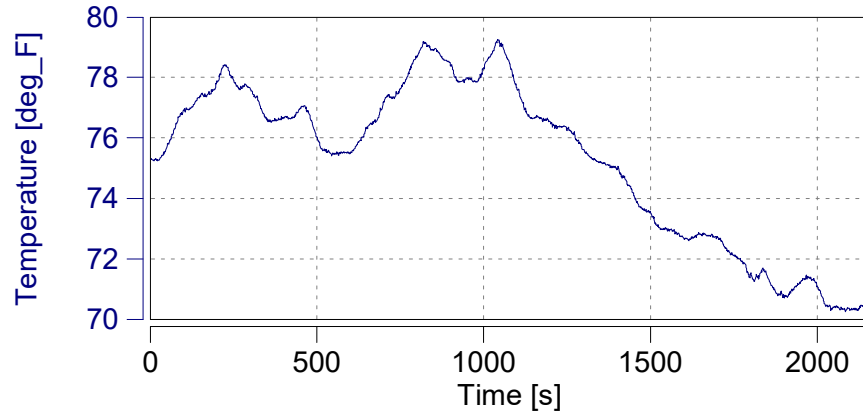
'W167-3511 A2 Mountain Uphill'

Start Date: 02/24/2020

Start Time: 12:42:14.0



Concerto M.O.V.E., 2019



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: GPS

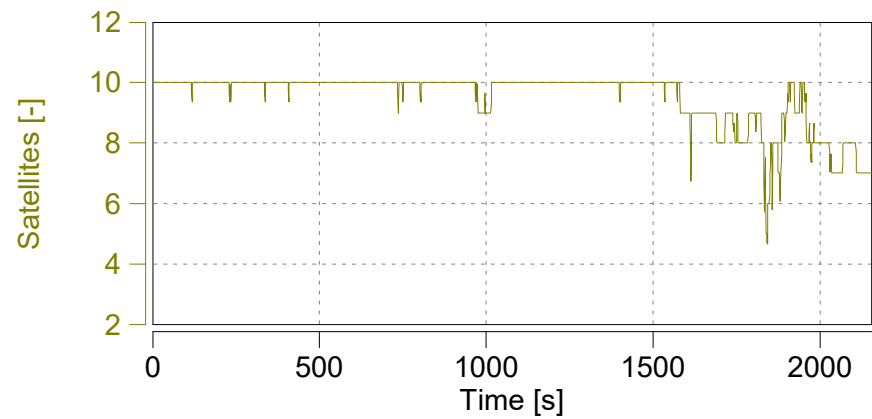
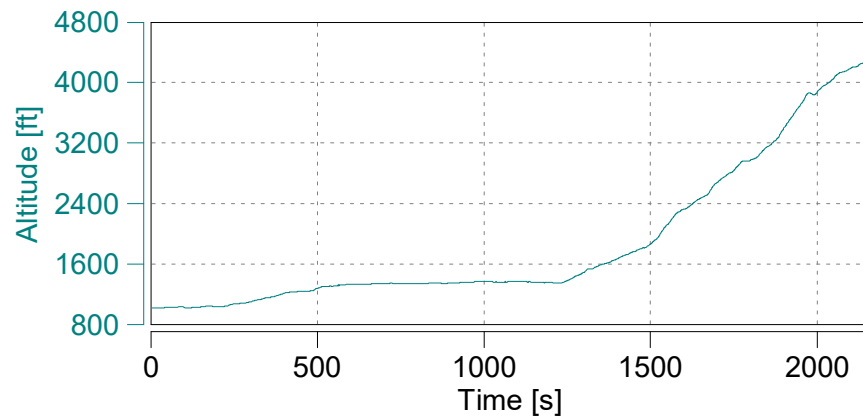
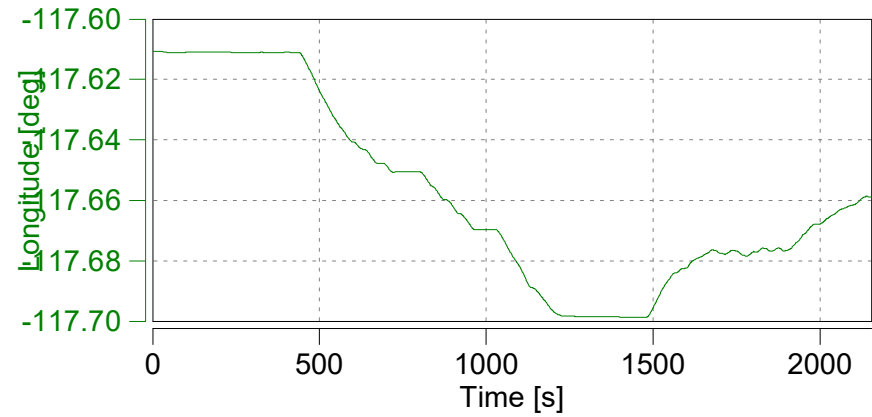
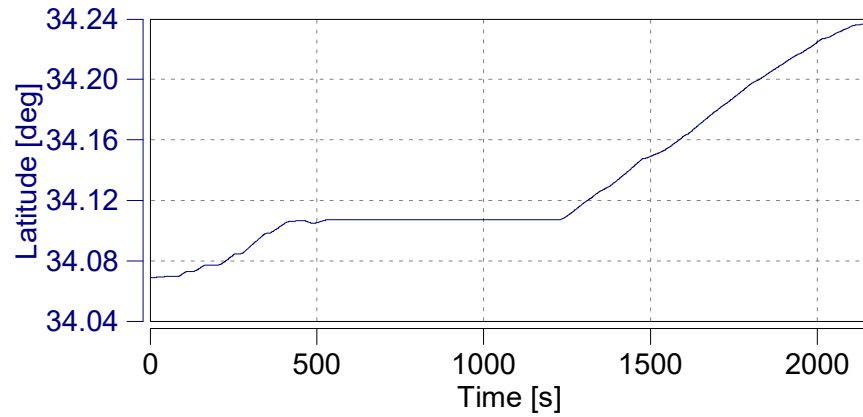
'W167-3511 A2 Mountain Uphill'

Start Date: 02/24/2020

Start Time: 12:42:14.0

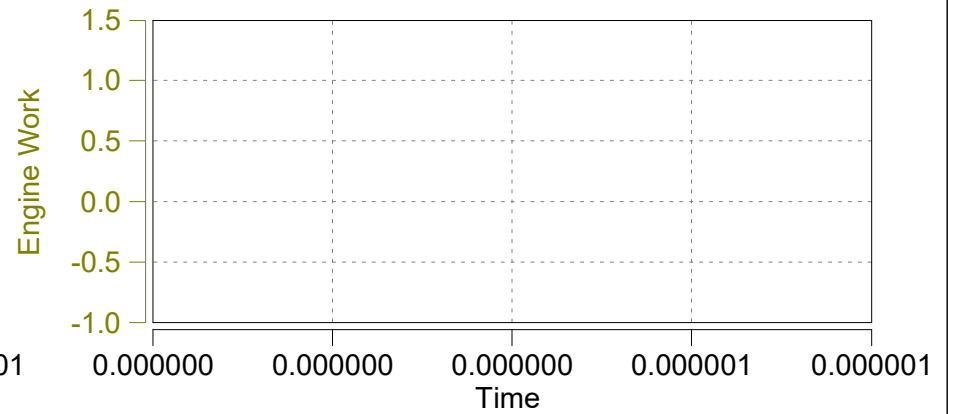
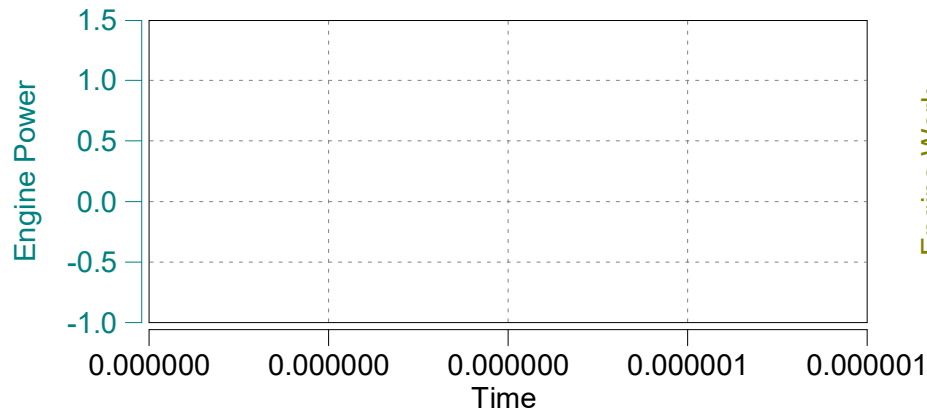
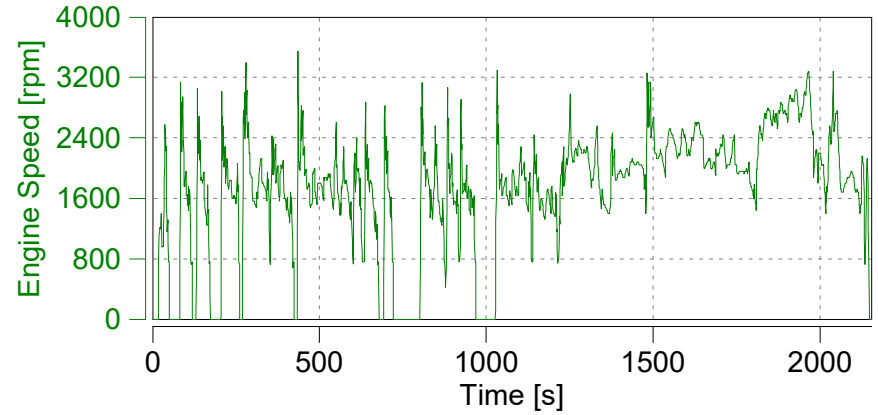
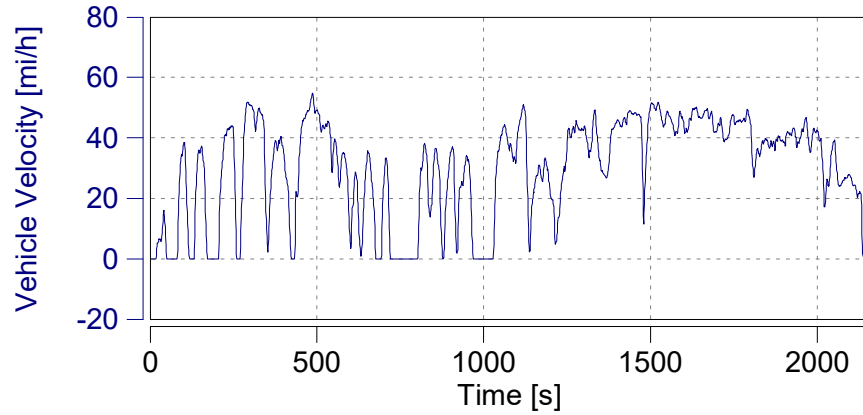


Concerto M.O.V.E, 2019



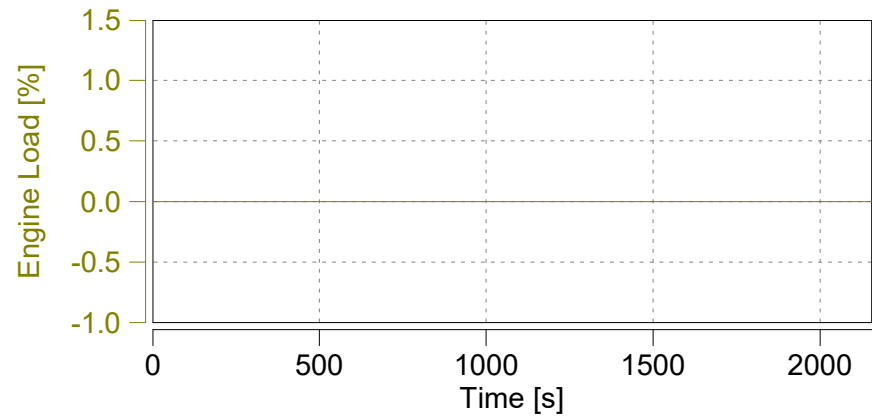
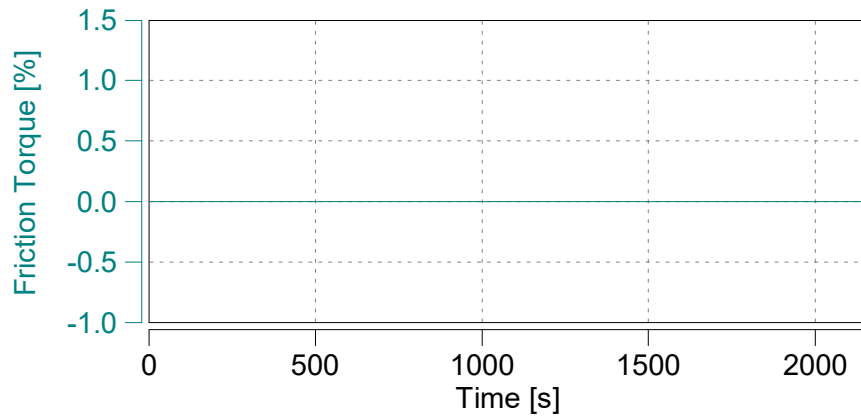
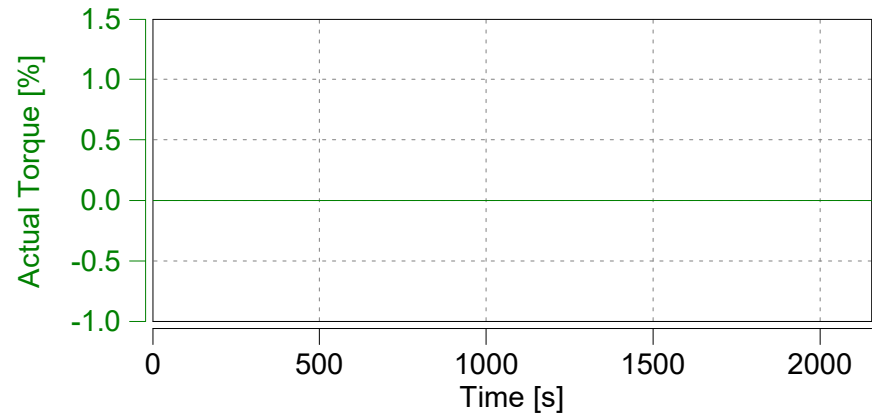
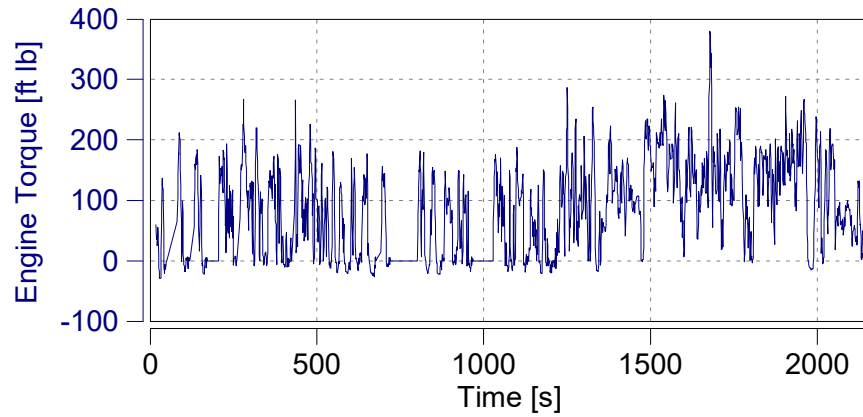
Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90



Case: W167-3511

Page: Engine (3)

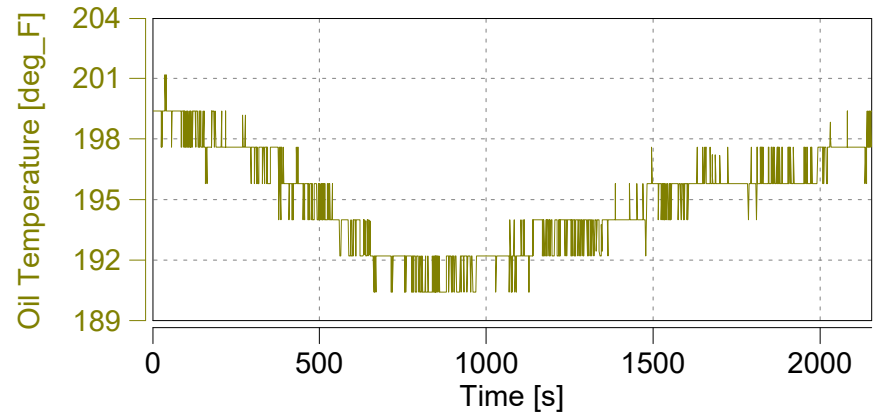
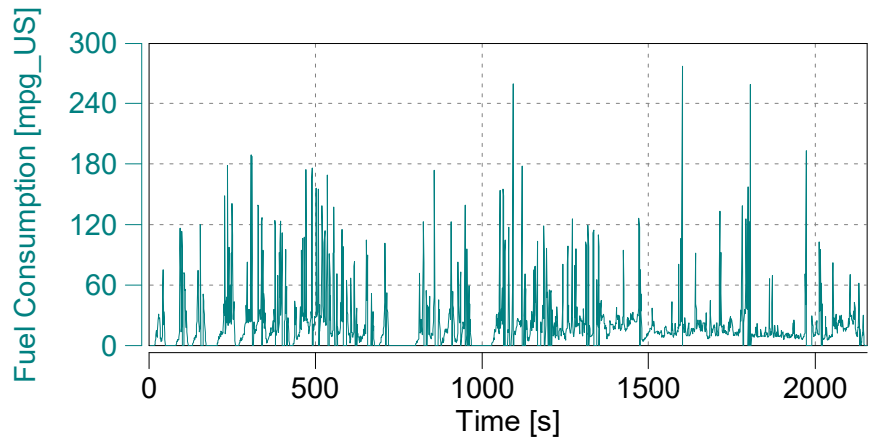
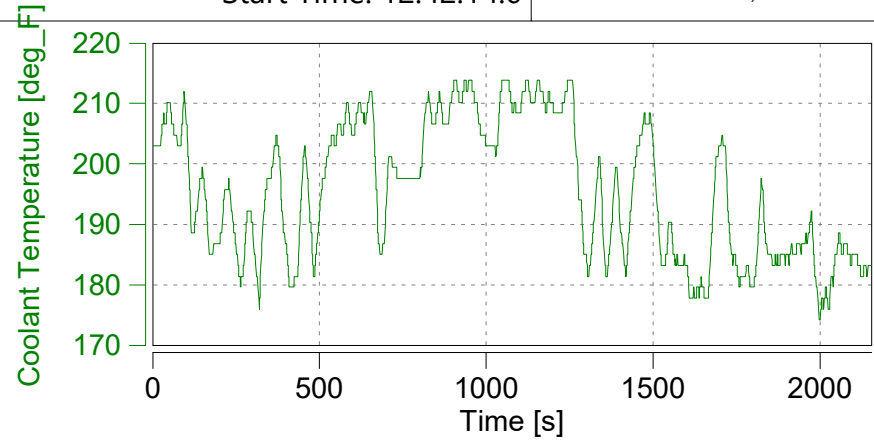
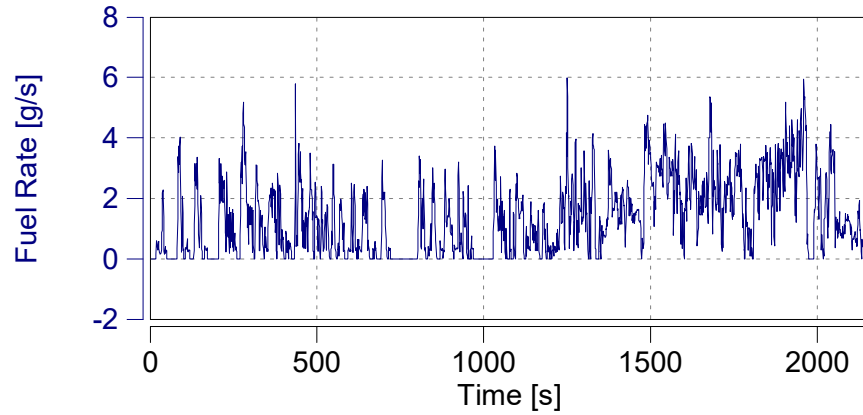
'W167-3511 A2 Mountain Uphill'

Start Date: 02/24/2020

Start Time: 12:42:14.0



Concerto M.O.V.E., 2019



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: Exhaust Flow (1)

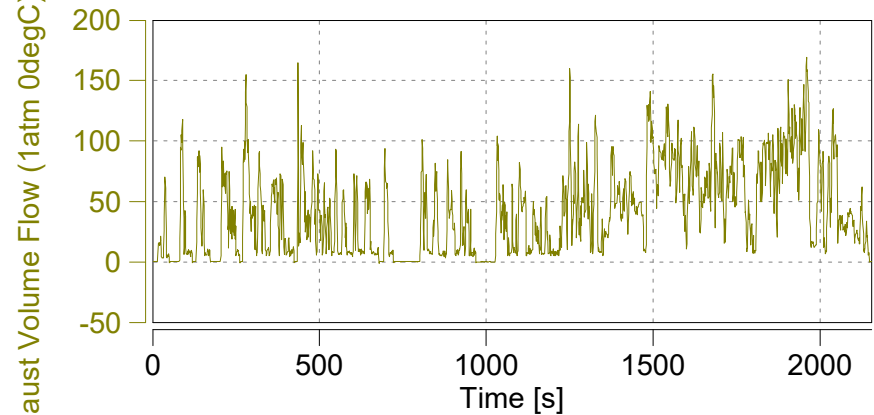
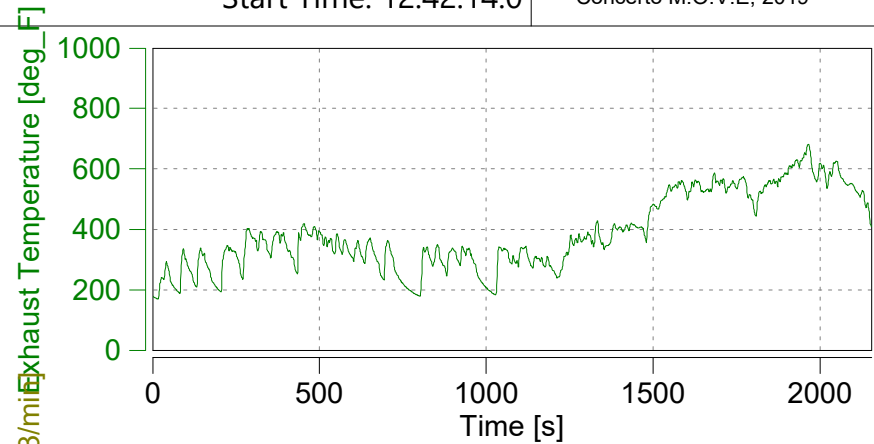
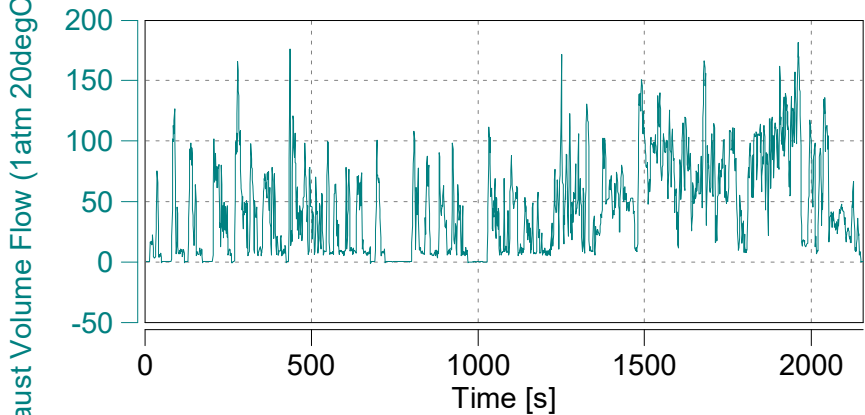
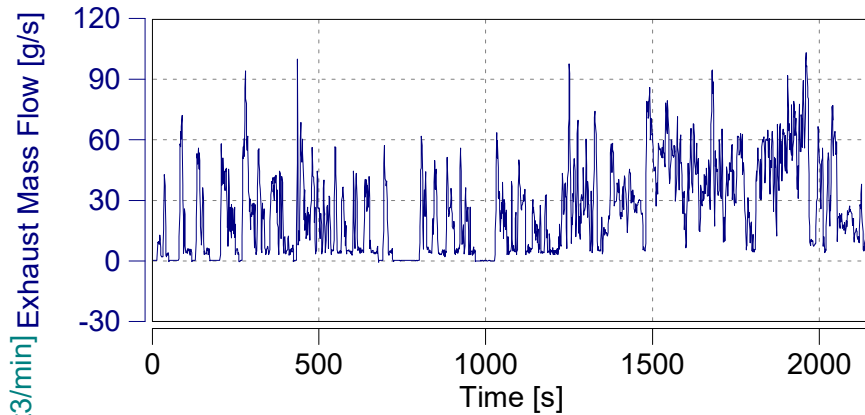
'W167-3511 A2 Mountain Uphill'

Start Date: 02/24/2020

Start Time: 12:42:14.0

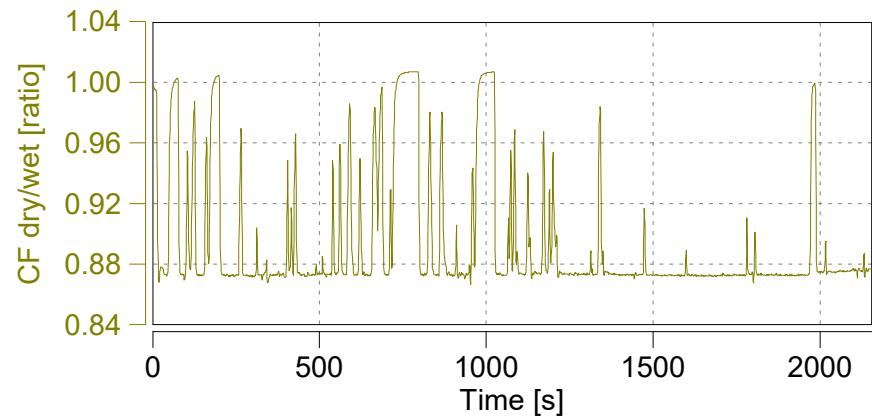
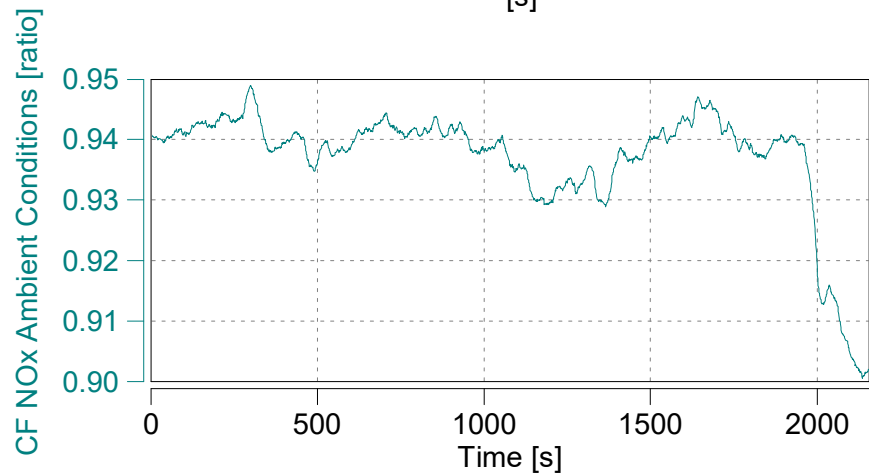
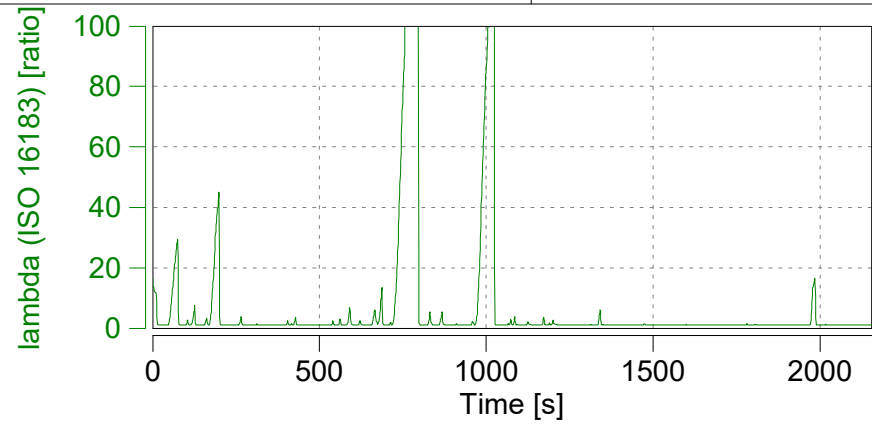
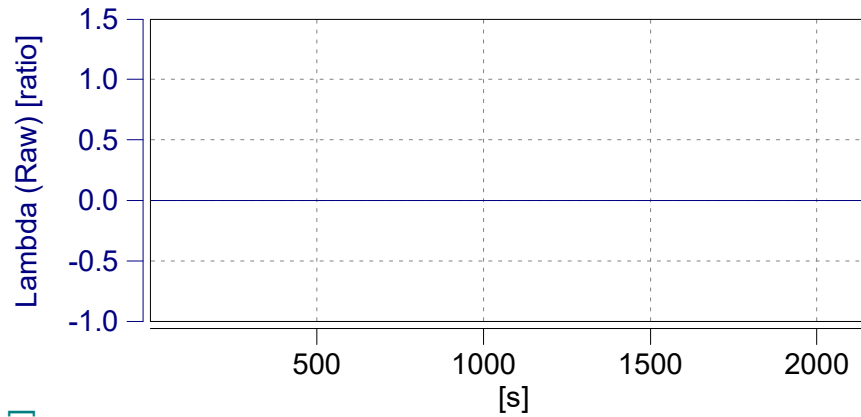


Concerto M.O.V.E, 2019



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
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Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
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Vehicle: W167 / PEMS
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NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: Corrected Emissions (1)

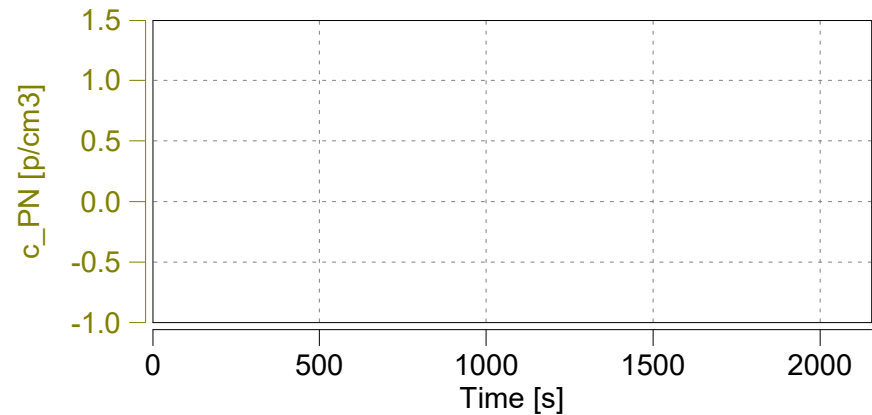
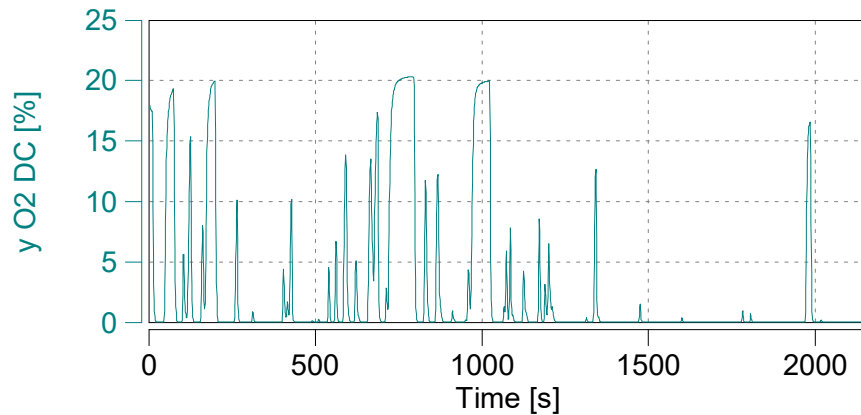
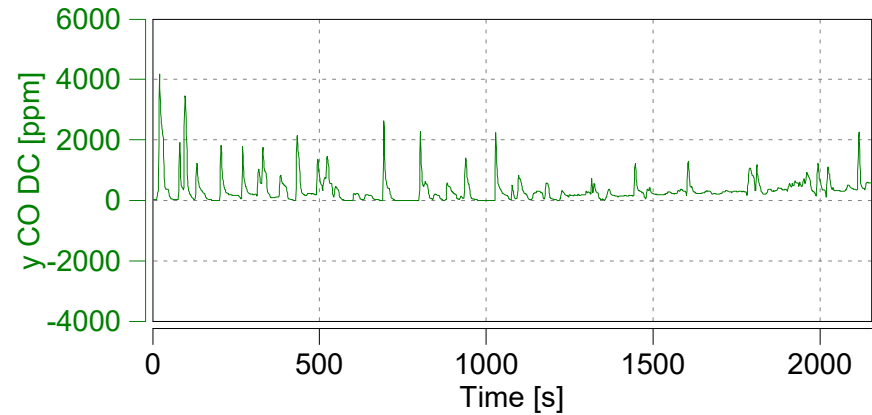
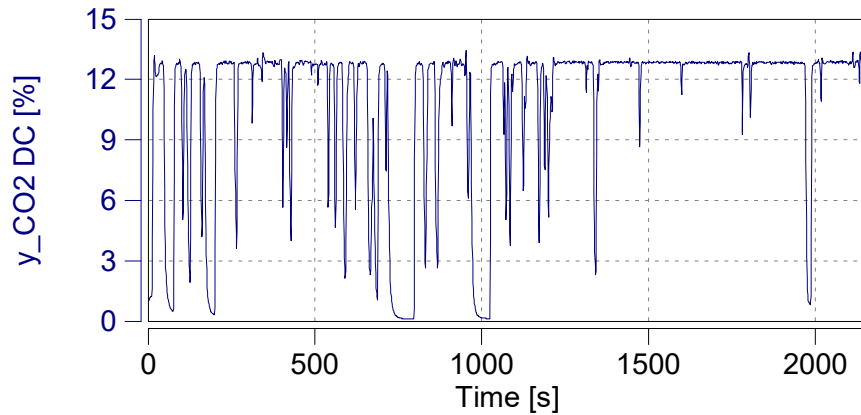
'W167-3511 A2 Mountain Uphill'

Start Date: 02/24/2020

Start Time: 12:42:14.0



Concerto M.O.V.E., 2019



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: Corrected Emissions (2)

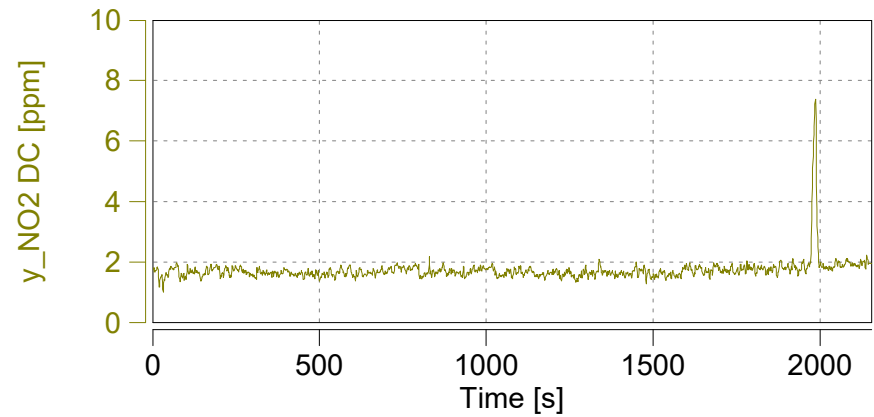
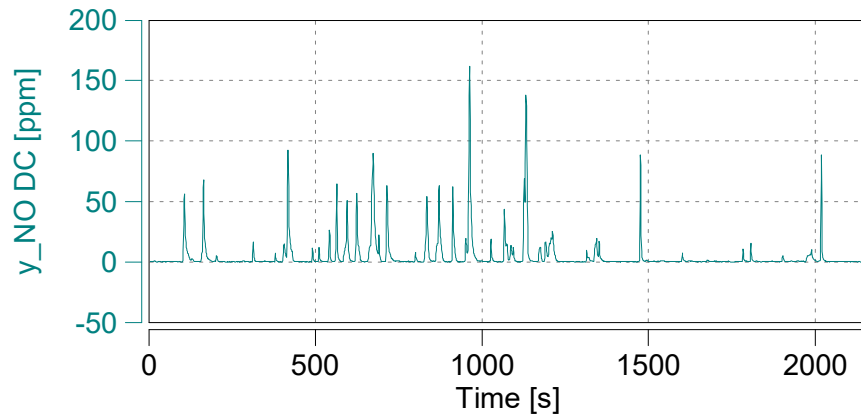
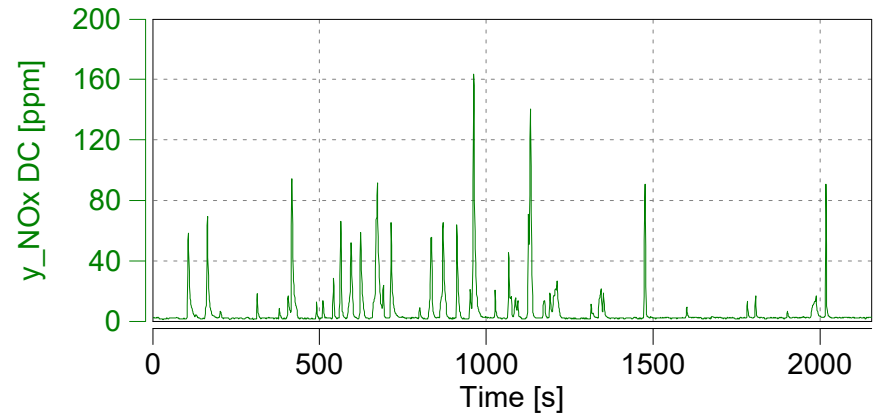
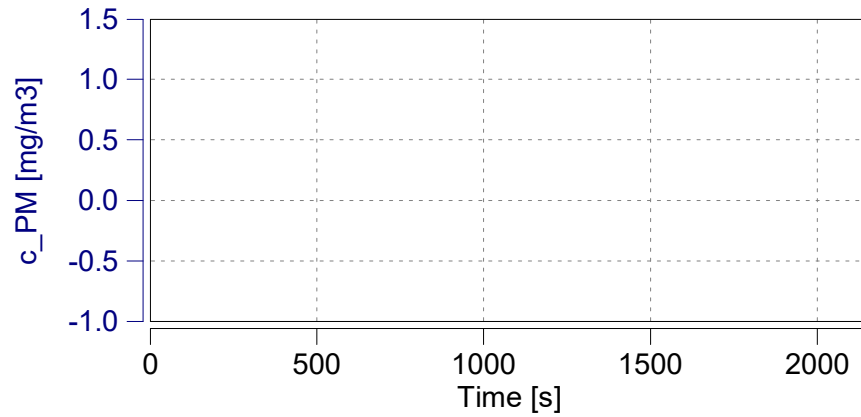
'W167-3511 A2 Mountain Uphill'

Start Date: 02/24/2020

Start Time: 12:42:14.0

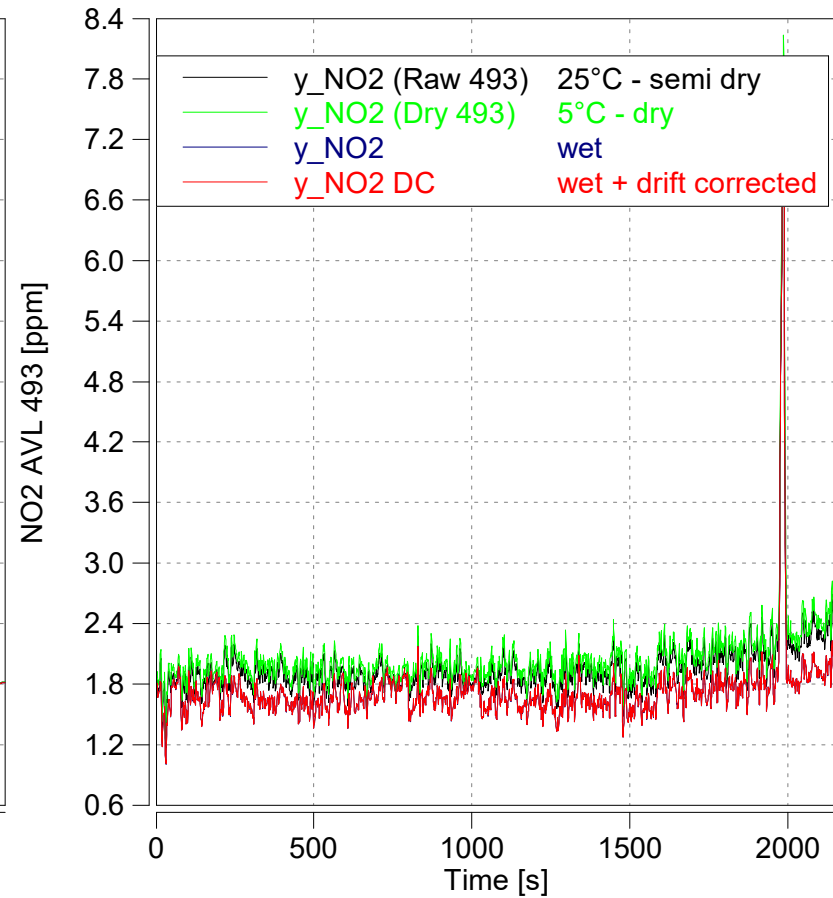
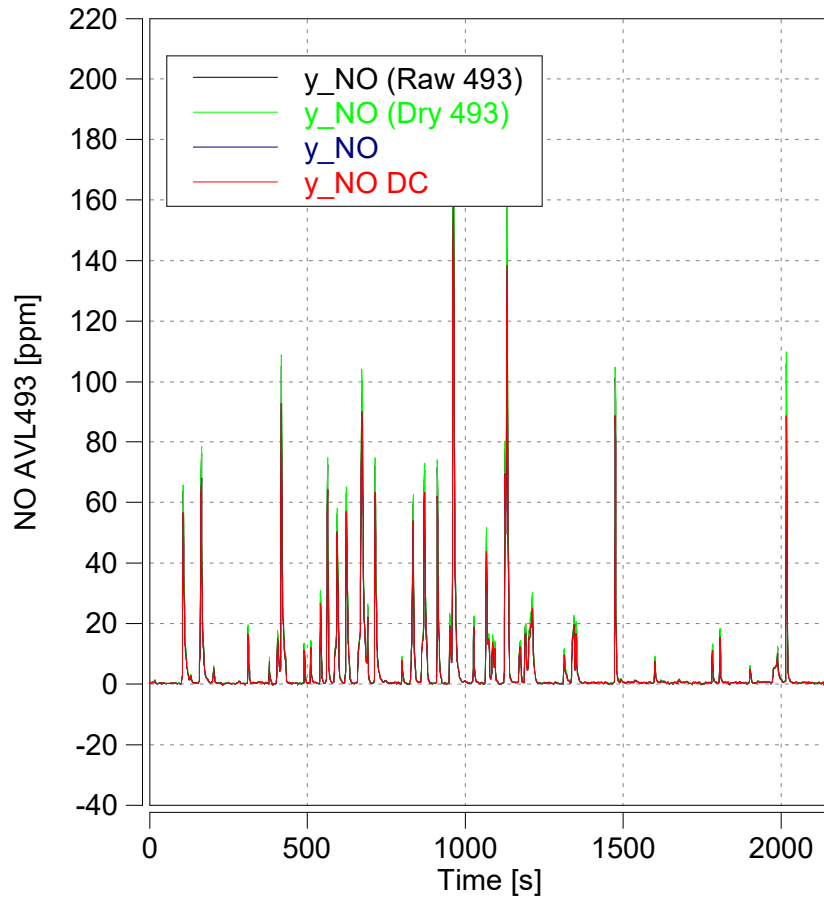


Concerto M.O.V.E., 2019



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

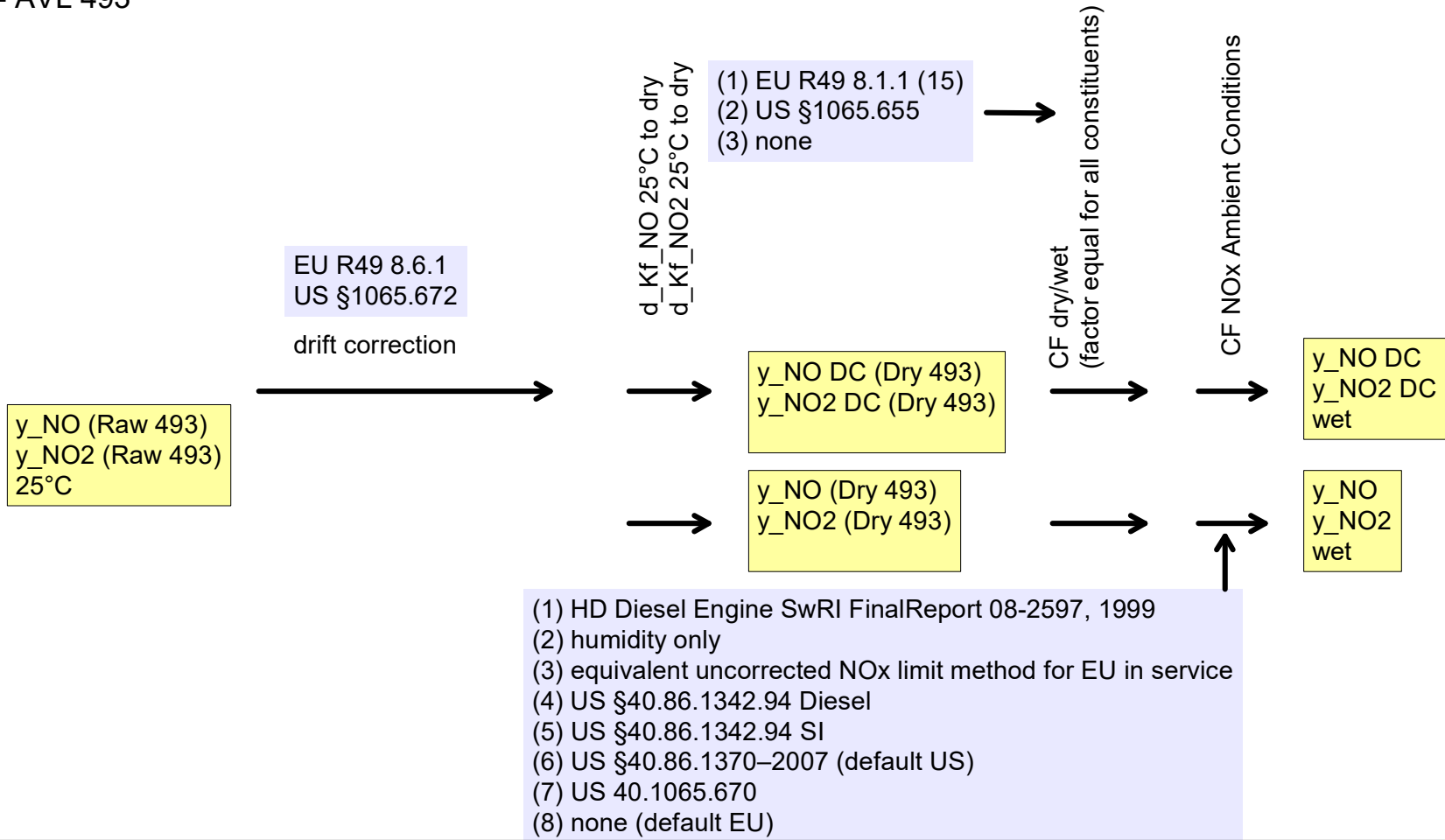


Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90



NOx - AVL 493



Concerto Version: 503 Build 82, Serial Number: 1604
 M.O.V.E Post-Processing: DT_1R3.1_B300
 Legislation:

Vehicle: W167 / PEMS
 Engine: /
 NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
 Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: Corrected Emissions (5)

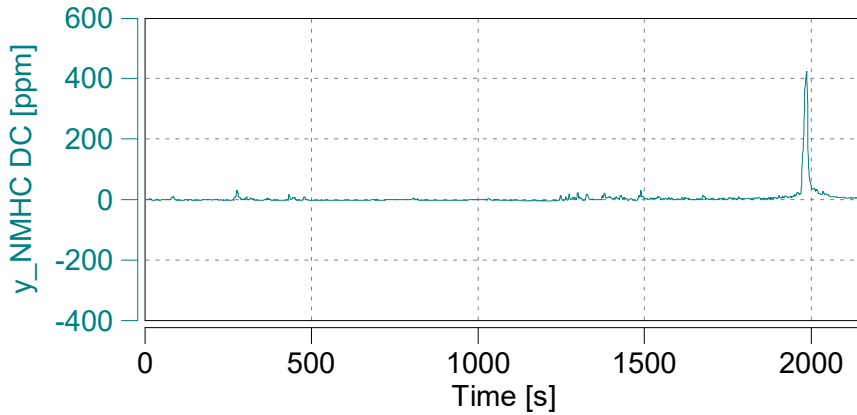
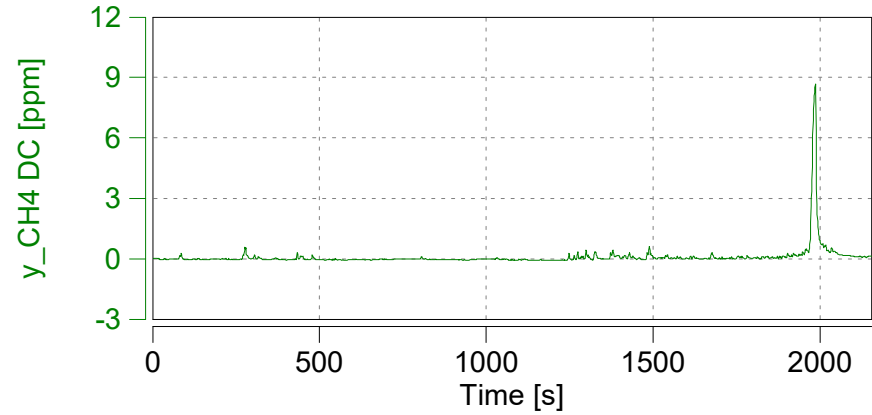
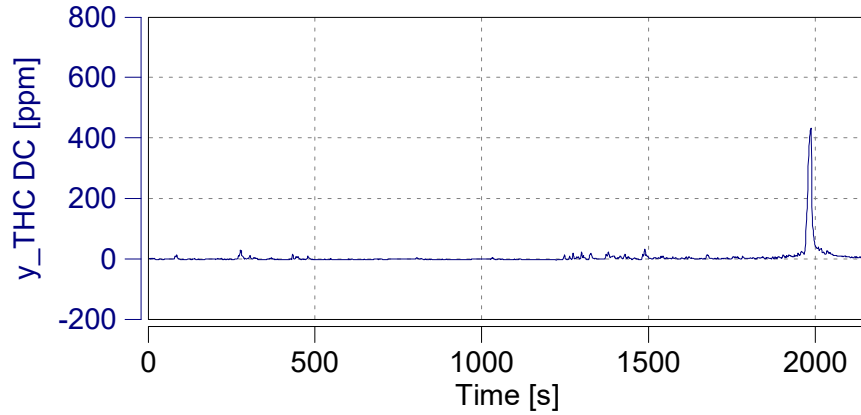
'W167-3511 A2 Mountain Uphill'

Start Date: 02/24/2020

Start Time: 12:42:14.0



Concerto M.O.V.E., 2019

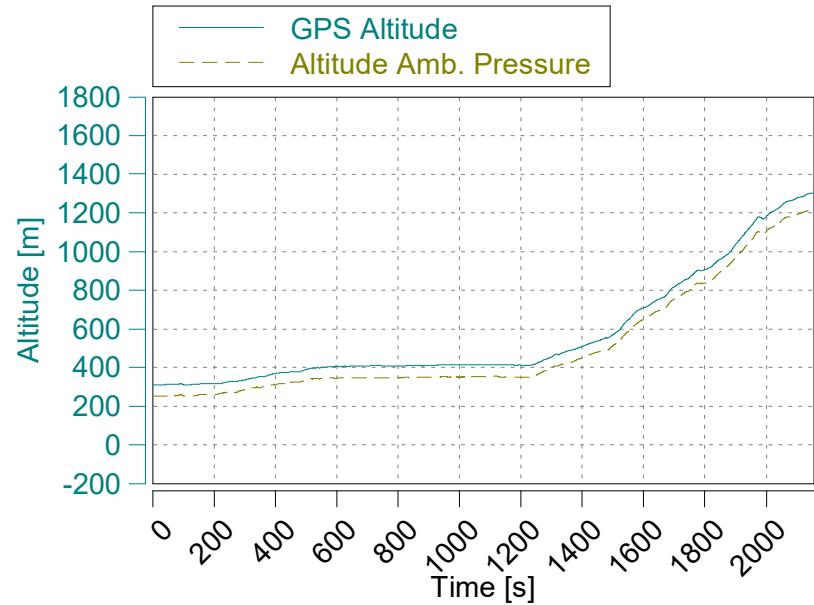
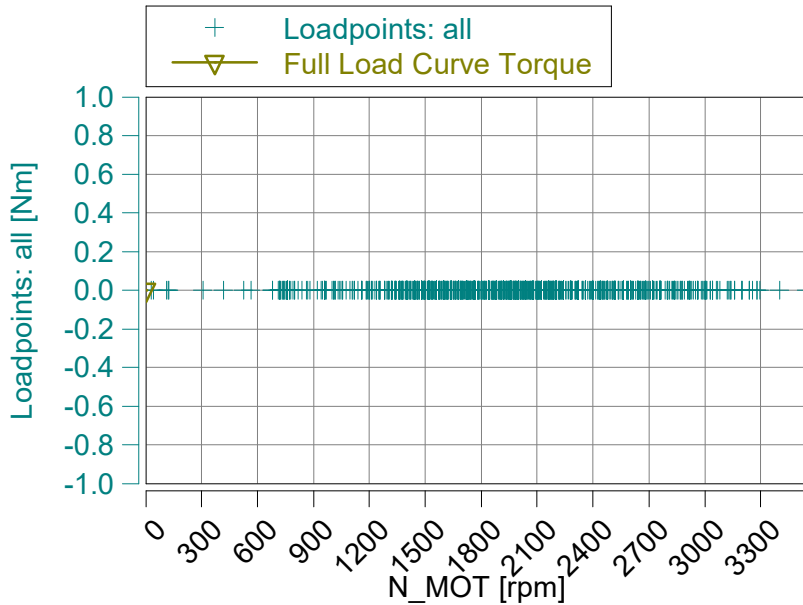


Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

#ERROR
W167-3511

Vehicle type (e.g. M 3 , N 3 and application e.g. rigid or articulated truck, city bus)	#ERROR					
Vehicle description (e.g. vehicle model, prototype)	PEMS					
	CO	THC	NMHC	CH4	NOx	PM
Pass-fail results	passed		passed	passed	passed	passed
Work window conformity factor						
CO2 mass window conformity factor						
Nr. NOx urban valid windows below 90th perc. of all valid windows					997.0	
Trip Information	Urban		Rural		Motorway	
Shares of time of the trip in % characterised by urban, rural and motorway operation	56.3		43.7		0.0	
Shares of time of the trip in % characterised by accelerating, decelerating, cruising and stop						
Accelerating					44.3	%
Decelerating					41.2	%
Cruising					1.2	%
Stop					13.3	%
			Minimum	Maximum		
Work window average power (%)						
CO2 mass window duration (s)						
Work window: percentage of valid windows						
CO2 mass window: percentage of valid window						
Fuel consumption consistency ratio	m = 1.14					
	r ² = 0.98					



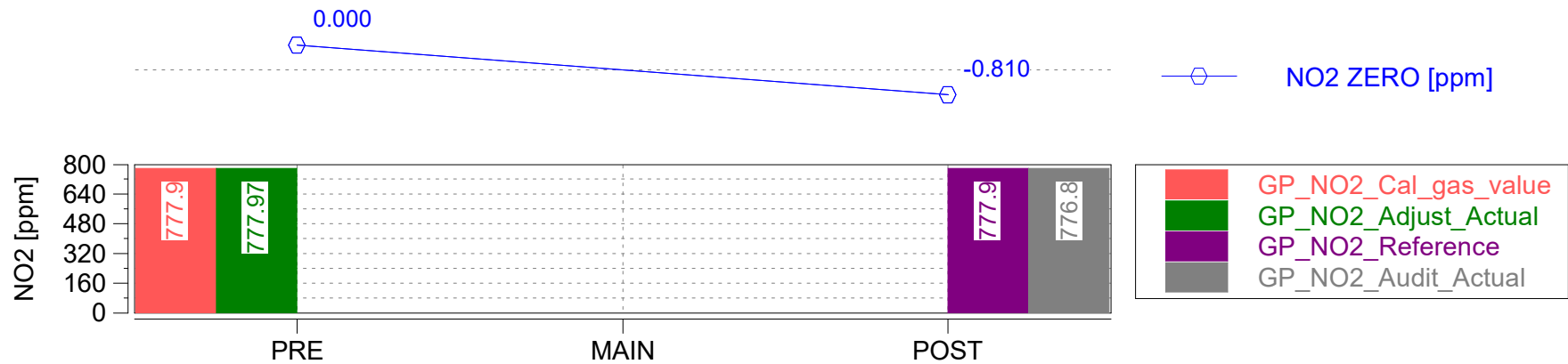
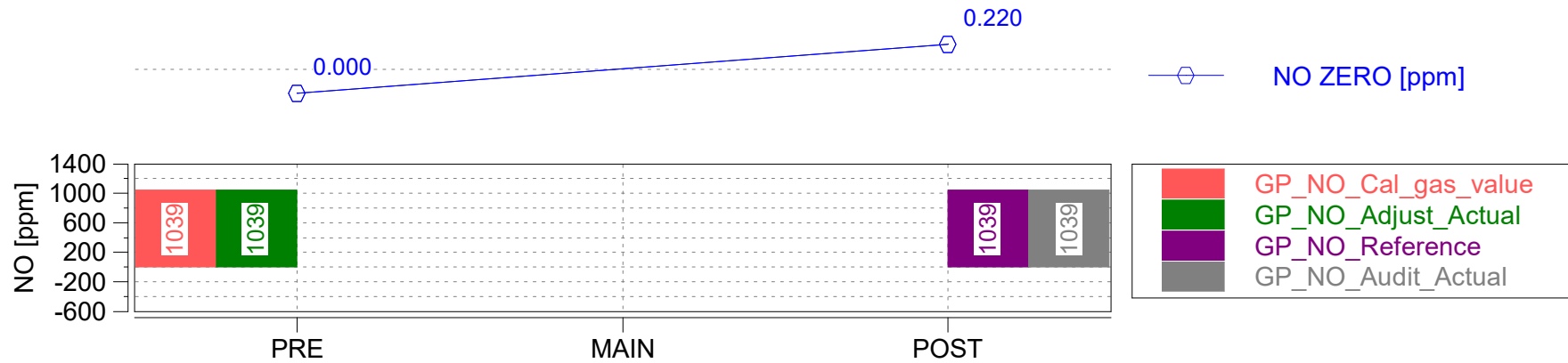
Trip Duration (a)	2155.0	s
Test Duration (b)		s
Total Work (c)		kWh
Reference Work		kWh
Total CO2 Mass (c)		g
Reference CO2 Mass		g
avg BSFC ECU	192.8	g/kWh
avg BSFC ISO16183	228.4	g/kWh
Distance ECU	28.6	km
Distance GPS	28.415	km

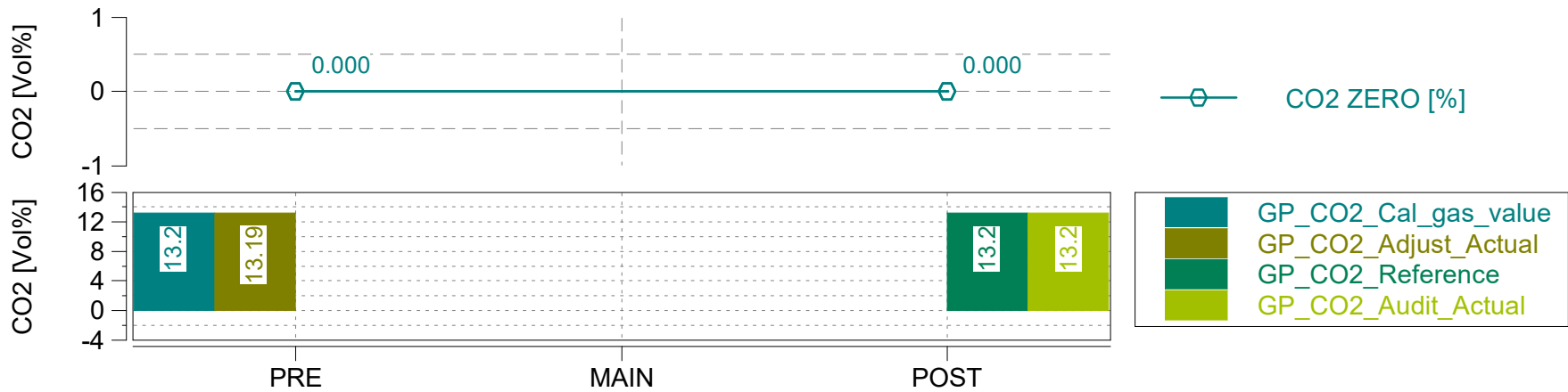
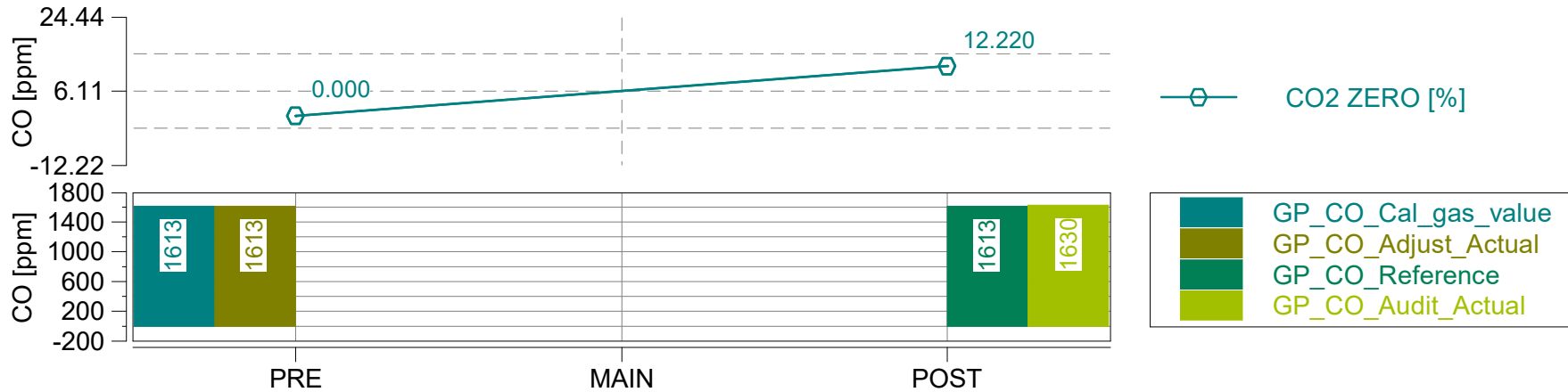
GAS PEMS Leak Check Age	0	days
GAS PEMS Leak Check Date	N/A	yyyy-mm-dd
GAS PEMS Leak Check Time	N/A	hh:mm:ss
GAS PEMS Leak Check External	0.00	%

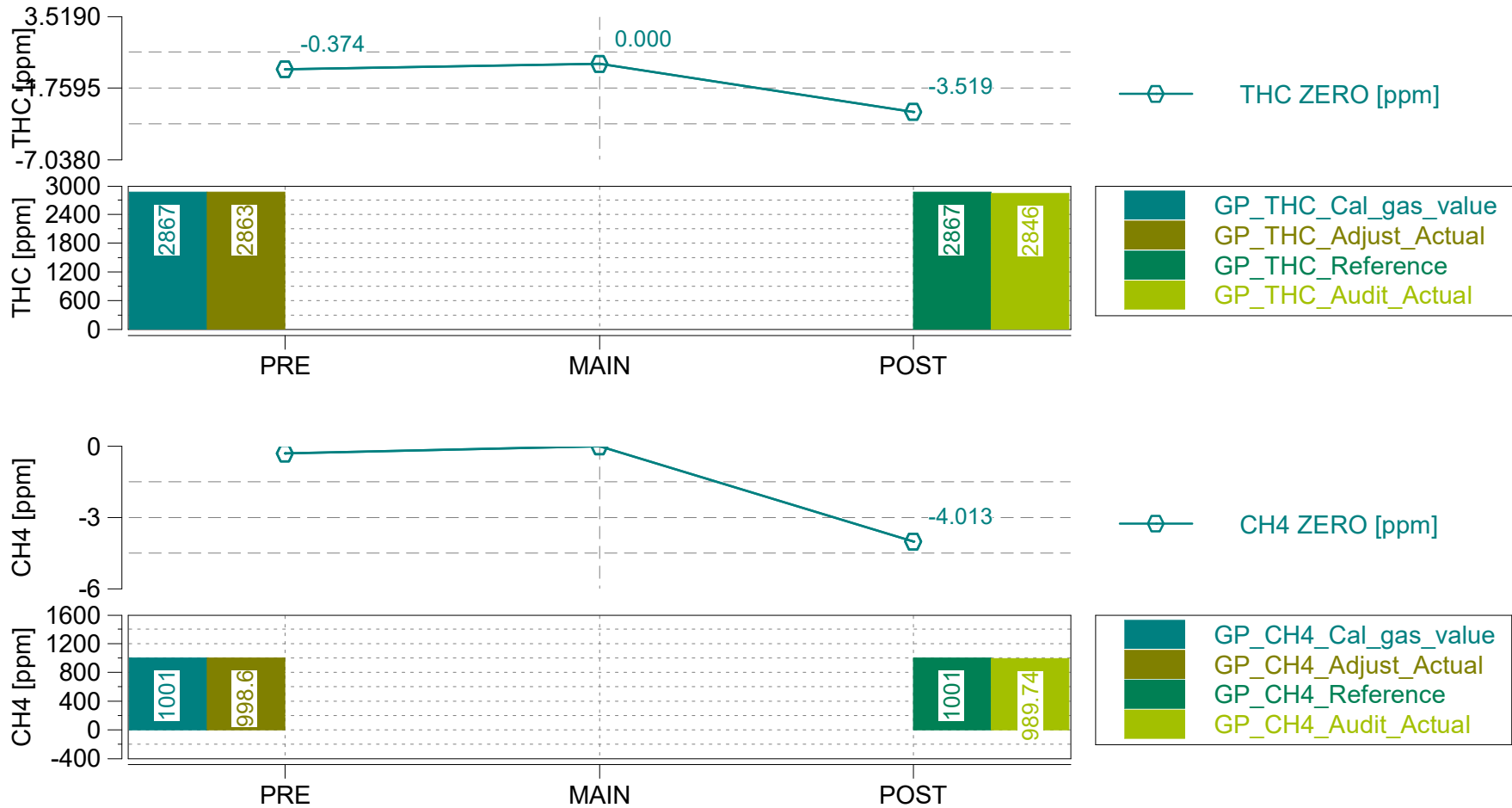
(a) GAS PEMS measurement state only
 (b) without Cold Start
 (c) not cummulated during exclusions

Concerto Version: 503 Build 82, Serial Number: 1604
 M.O.V.E Post-Processing: DT_1R3.1_B300
 Legislation:

Vehicle: W167 / PEMS
 Engine: /
 NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
 Dry / Wet Corr.: 2 - CFR40 §86.1342-90

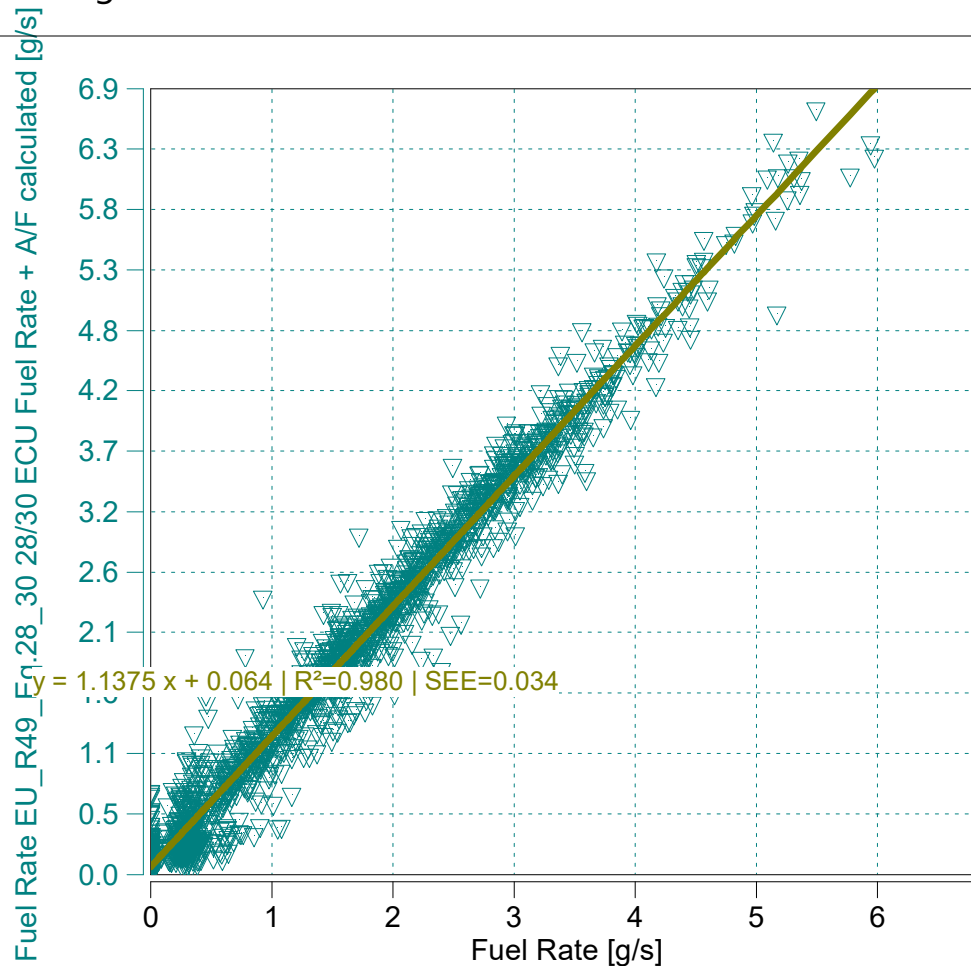






Concerto Version: 503 Build 82, Serial Number: 1604
 M.O.V.E Post-Processing: DT_1R3.1_B300
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 Engine: /
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 Dry / Wet Corr.: 2 - CFR40 §86.1342-90



EU 582/2011/Appendix I/3.2.1 | Fuel Rate ECU and calculated

$y = 1.1375 x + 0.064 \mid R^2=0.980 \mid SEE=0.034$
 $m = 1.14$ (0.9 - 1.1 recommended)
 $R^2 = 0.98$ (min 0.9 mandatory)

Data from - to [% of Maximum]

Concerto Version: 503 Build 82, Serial Number: 1604
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Vehicle: W167 / PEMS
 Engine: /
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 Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Trip Duration	1837.00	s	ave THC	9.14494	ppm	BS CO2	775.22239	g/hphr
Trip Duration (a)	1837.00	s	ave NMHC	8.96205	ppm	BS CO	1.23934	g/hphr
Trip Distance	17.33	mi	ave CH4	0.18290	ppm	BS THC	0.02518	g/hphr
Trip Distance (a)	17.33	mi	ave CO	155.54613	ppm	BS NMHC	0.02329	g/hphr
Trip Fuel Cons. (b)	0.79	kg	ave CO2	5.72635	%	BS CH4	0.00056	g/hphr
Trip Fuel Cons. (ab)	0.79	kg	ave NOx	5.07165	ppm	BS NO (d)	0.01910	g/hphr
Trip Fuel Cons. EU (ac)	0.93	kg	ave PM	n/a	mg/m3	BS NO2	0.01372	g/hphr
Trip Fuel Cons. US (ac)	0.92	kg	ave Soot meas	n/a	mg/m3	BS NOx	0.03282	g/hphr
Trip Fuel Economy (b)	61.95	mpg_US	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Economy (ab)	61.95	mpg_US	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Economy EU (ac)	52.89	mpg_US	tot THC	0.09108	g	BS PM	n/a	g/hphr
Trip Fuel Economy US (ac)	53.05	mpg_US	tot NMHC	0.08425	g	BS PN	n/a	#/hpr
Trip Fuel Economy GGE (b)	61.95	mpg_US	tot CH4	0.00202	g	DS CO2	161.84933	g/mi
Trip Fuel Economy GGE (ab)	61.95	mpg_US	tot CO	4.48329	g	DS CO	0.25875	g/mi
Trip Fuel Economy EU GGE (ac)	52.89	mpg_US	tot CO2	2804.35375	g	DS THC	0.00526	g/mi
Trip Fuel Economy US GGE (ac)	53.05	mpg_US	tot NO (d)	0.06910	g	DS NMHC	0.00486	g/mi
Trip Av. Eng. Speed	1575.64	rpm	tot NO2	0.04965	g	DS CH4	0.00012	g/mi
Trip Av. Torque	20.58	lbft	tot NOx	0.11874	g	DS NO (d)	0.00399	g/mi
Trip Av. Power	7.09	hp	tot Soot	n/a	g	DS NO2	0.00287	g/mi
Trip Work			tot Soot meas	n/a	g	DS NOx	0.00685	g/mi
Trip Work (a)	3.62	hphr	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass	19.71	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass EU (ac)	13.67	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Exhaust Mass US (ac)	13.82	kg	tot Soot on PM filter (estim.)	0.00000	mg	DS PN	n/a	#/mi
Trip Av. Amb. Temperature	73.62	deg_F	Soot --> PM simple scaling factor	1.00000	-	FS CO2	3543.24109	g/kg
Trip Av. Humidity	32.81	%	Trip Av. Veh. Speed	33.95590	mi/hr	FS CO	5.66455	g/kg
Trip Av. GPS Altitude	608.16	m	Trip Distance Share Urban	16.17032	% distance	FS THC	0.11508	g/kg
Fuel Type	Petrol (E10)		Trip Distance Share Rural	58.99624	% distance	FS NMHC	0.10645	g/kg
			Trip Distance Share Motorway	24.83344	% distance	FS CH4	0.00255	g/kg
						FS NO (d)	0.08730	g/kg
						FS NO2	0.06273	g/kg
						FS NOx	0.15003	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) Based on A/F ratio (eq 28-32 - R49)
(d) NO calculated using molecular weight of NO2, GGE=Gasoline Gallon Equivalents

Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

'W167-3511 B1 Mountain Downhill'

Page: Trip Summary Drift Corrected

Start Date: 02/24/2020

Start Time: 12:42:14.0



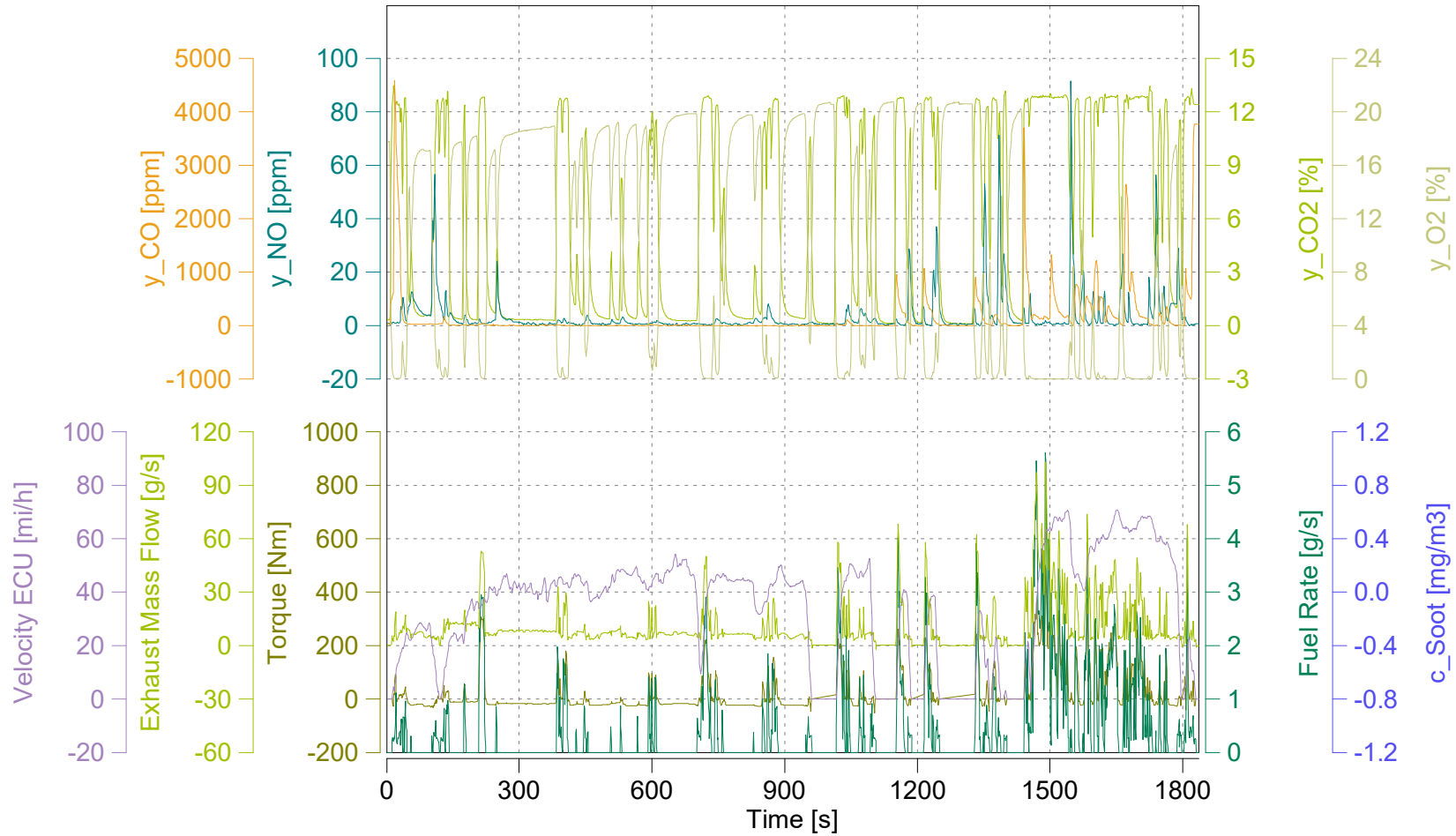
Concerto M.O.V.E, 2019

Trip Duration	1837.00	s	ave THC DC	9.37073	ppm	BS CO2 DC	775.51615	g/hphr
Trip Duration (a)	1837.00	s	ave NMHC DC	9.18332	ppm	BS CO DC	1.23287	g/hphr
Trip Distance	17.33	mi	ave CH4 DC	0.18741	ppm	BS THC DC	0.02579	g/hphr
Trip Distance (a)	17.33	mi	ave CO DC	154.73361	ppm	BS NMHC DC	0.02386	g/hphr
Trip Fuel Cons. (b)	0.79	kg	ave CO2 DC	5.72852	%	BS CH4 DC	0.00057	g/hphr
Trip Fuel Cons. (ab)	0.79	kg	ave NOx DC	5.07134	ppm	BS NO DC (d)	0.01909	g/hphr
Trip Fuel Cons. EU (ac)	0.93	kg	ave PM	n/a	mg/m3	BS NO2 DC	0.01373	g/hphr
Trip Fuel Cons. US (ac)	0.92	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	0.03283	g/hphr
Trip Fuel Economy (b)	61.95	mpg_US	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Economy (ab)	61.95	mpg_US	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Economy EU (ac)	52.89	mpg_US	tot THC DC	0.09331	g	BS PM	n/a	g/hphr
Trip Fuel Economy US (ac)	53.05	mpg_US	tot NMHC DC	0.08631	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy GGE (b)	61.95	mpg_US	tot CH4 DC	0.00207	g	DS CO2 DC	161.91066	g/mi
Trip Fuel Economy GGE (ab)	61.95	mpg_US	tot CO DC	4.45987	g	DS CO DC	0.25740	g/mi
Trip Fuel Economy EU GGE (ac)	52.89	mpg_US	tot CO2 DC	2805.41641	g	DS THC DC	0.00539	g/mi
Trip Fuel Economy US GGE (ac)	53.05	mpg_US	tot NO DC (d)	0.06907	g	DS NMHC DC	0.00498	g/mi
Trip Av. Eng. Speed	1575.64	rpm	tot NO2 DC	0.04968	g	DS CH4 DC	0.00012	g/mi
Trip Av. Torque	20.58	lbft	tot NOx DC	0.11875	g	DS NO DC (d)	0.00399	g/mi
Trip Av. Power	7.09	hp	tot Soot	n/a	g	DS NO2 DC	0.00287	g/mi
Trip Work			tot Soot meas	n/a	g	DS NOx DC	0.00685	g/mi
Trip Work (a)	3.62	hphr	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass	19.71	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass EU (ac)	13.67	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Exhaust Mass US (ac)	13.82	kg	tot Soot on PM filter (estim.)	0.00000	mg	DS PN DC	n/a	#/mi
Trip Av. Amb. Temperature	73.62	deg_F	Soot --> PM simple scaling factor	1.00000	-	FS CO2 DC	3544.58373	g/kg
Trip Av. Humidity	32.81	%	Trip Av. Veh. Speed	33.95590	mi/hr	FS CO DC	5.63496	g/kg
Trip Av. GPS Altitude	608.16	m	Trip Distance Share Urban	16.17032	% distance	FS THC DC	0.11789	g/kg
Fuel Type	Petrol (E10)		Trip Distance Share Rural	58.99624	% distance	FS NMHC DC	0.10905	g/kg
			Trip Distance Share Motorway	24.83344	% distance	FS CH4 DC	0.00261	g/kg
						FS NO DC (d)	0.08727	g/kg
						FS NO2 DC	0.06277	g/kg
						FS NOx DC	0.15003	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) Based on A/F ratio (eq 28-32 - R49)
 (d) NO calculated using molecular weight of NO2, GGE=Gasoline Gallon Equivalents

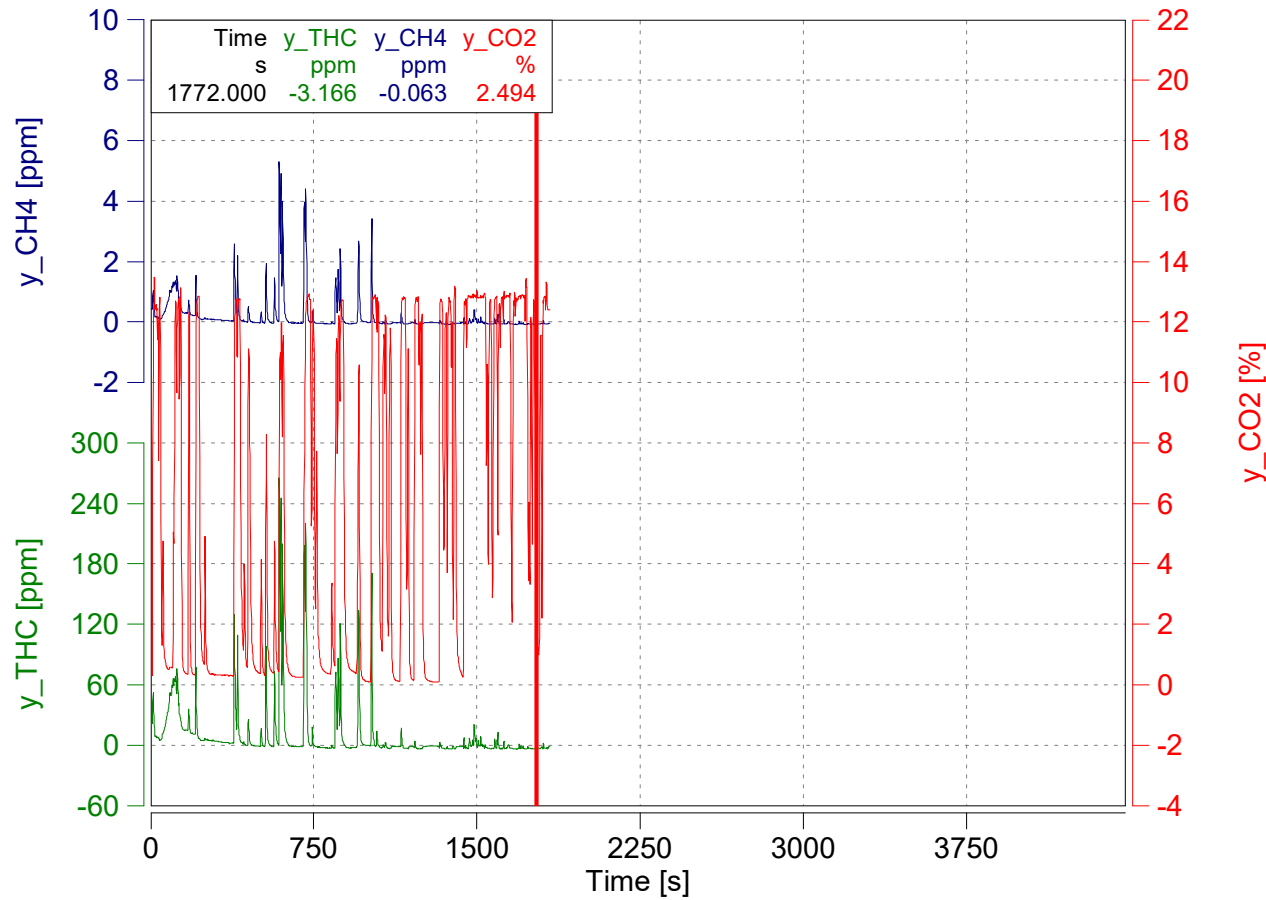
Concerto Version: 503 Build 82, Serial Number: 1604
 M.O.V.E Post-Processing: DT_1R3.1_B300
 Legislation:

Vehicle: W167 / PEMS
 Engine: /
 NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
 Dry / Wet Corr.: 2 - CFR40 §86.1342-90



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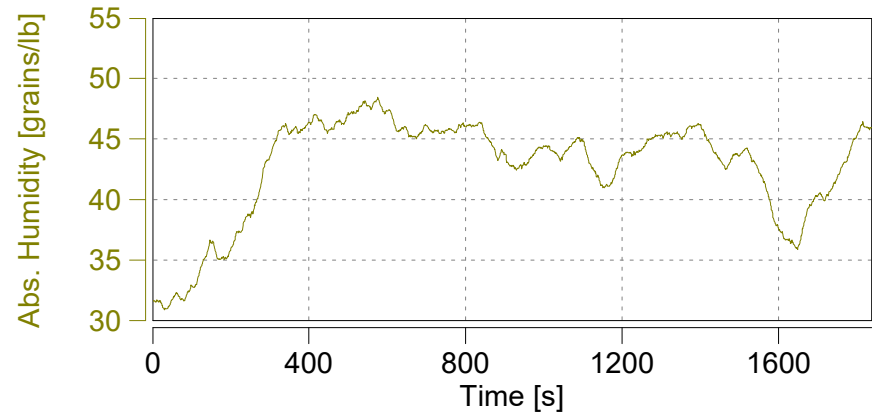
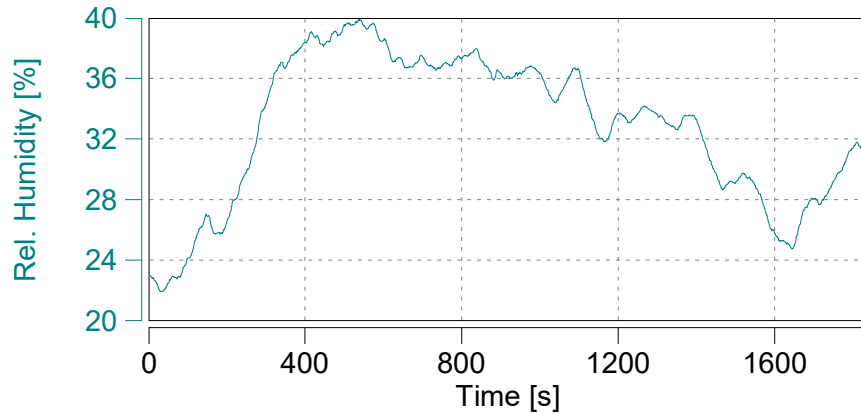
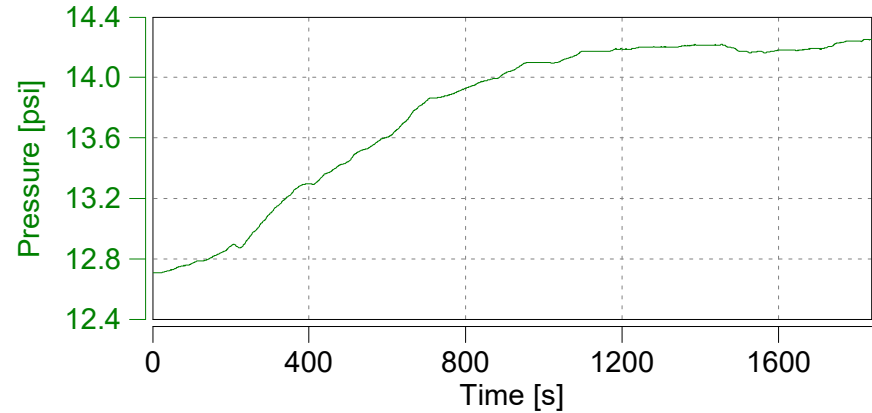
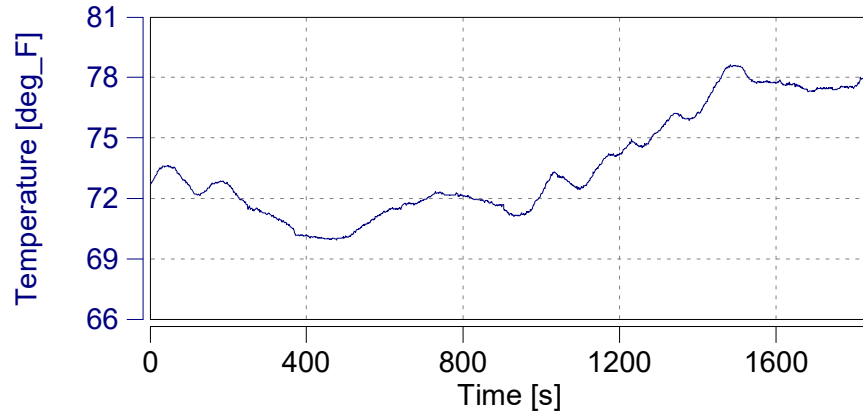


Absolute Time Shifts

y_THC	s	-5.2
y_CH4	s	-7.2

Reset Time Shifts in Plot

Apply Current Values



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
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NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: GPS

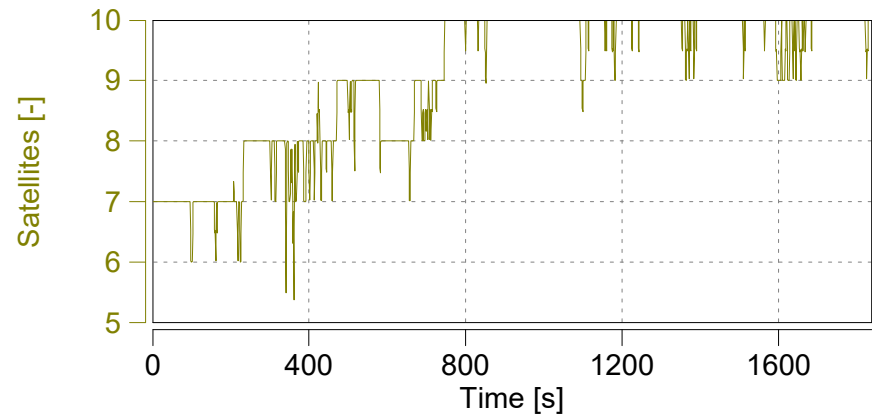
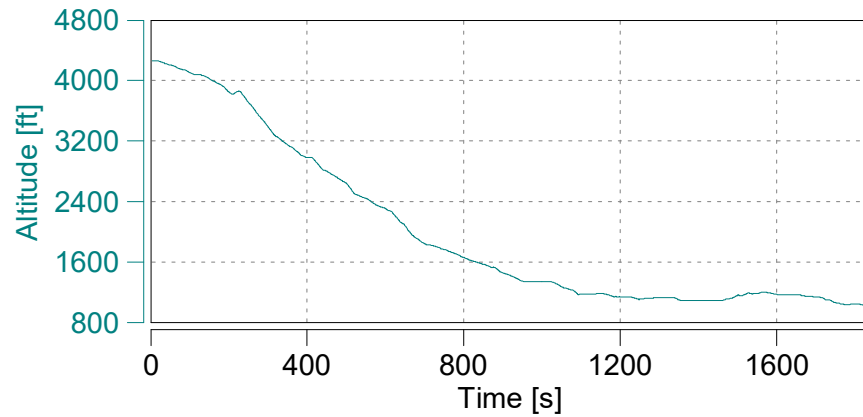
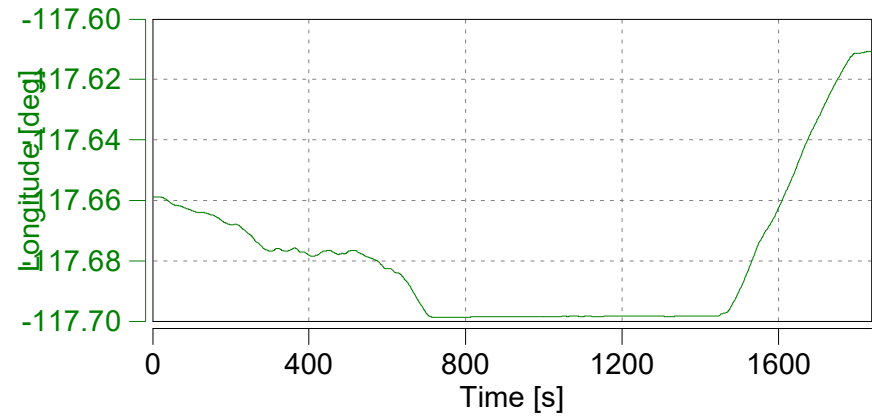
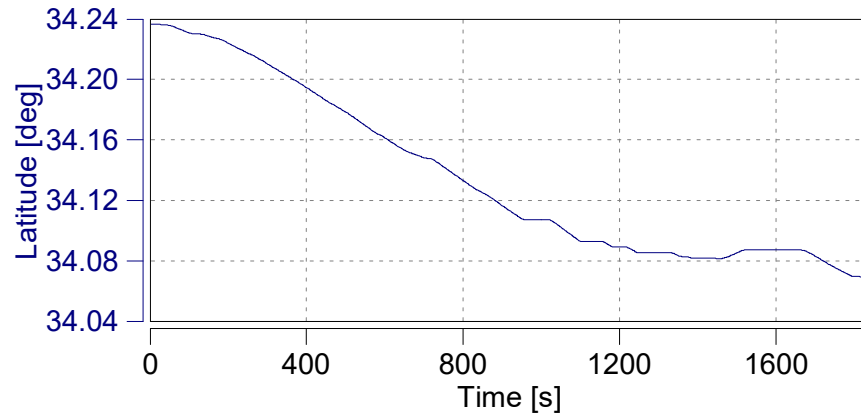
'W167-3511 B1 Mountain Downhill'

Start Date: 02/24/2020

Start Time: 12:42:14.0

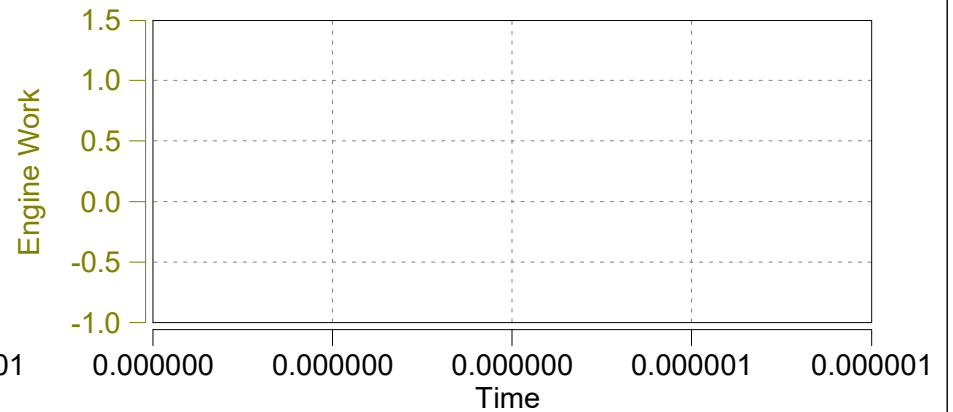
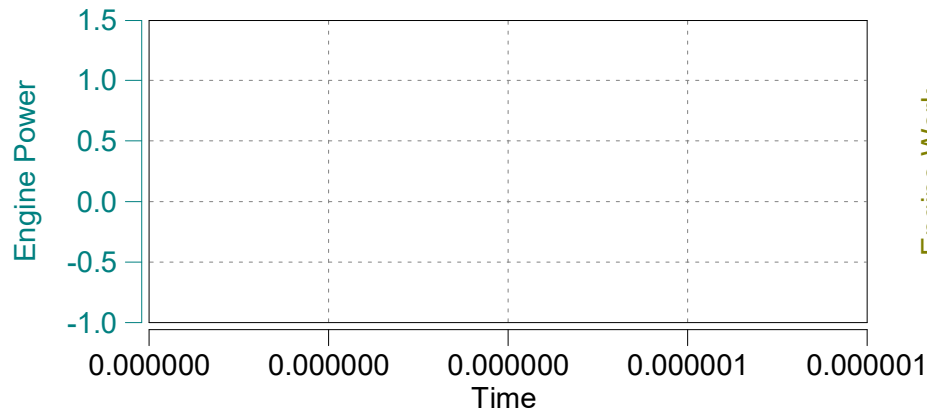
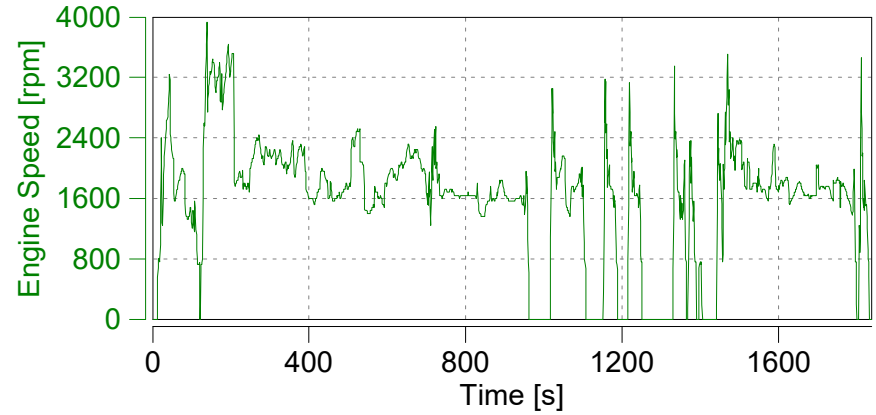
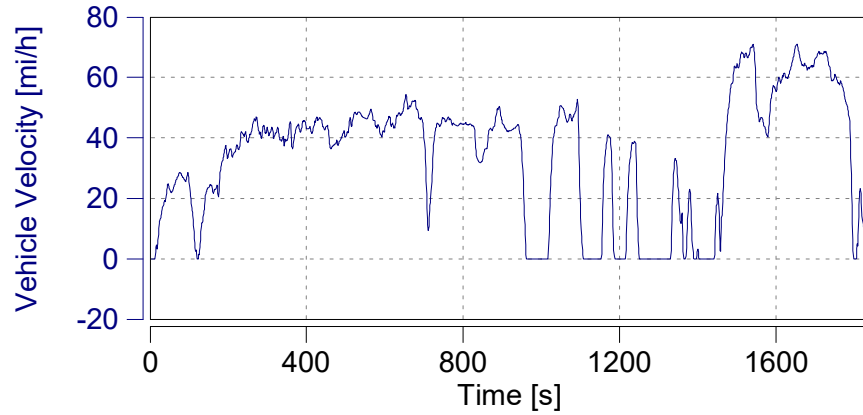


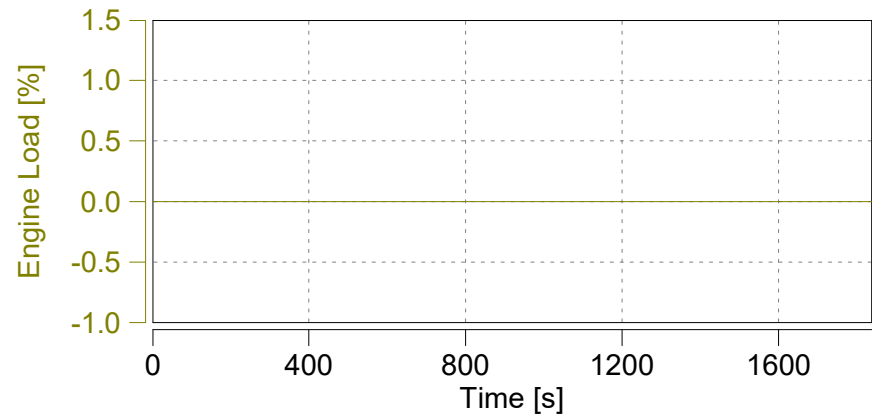
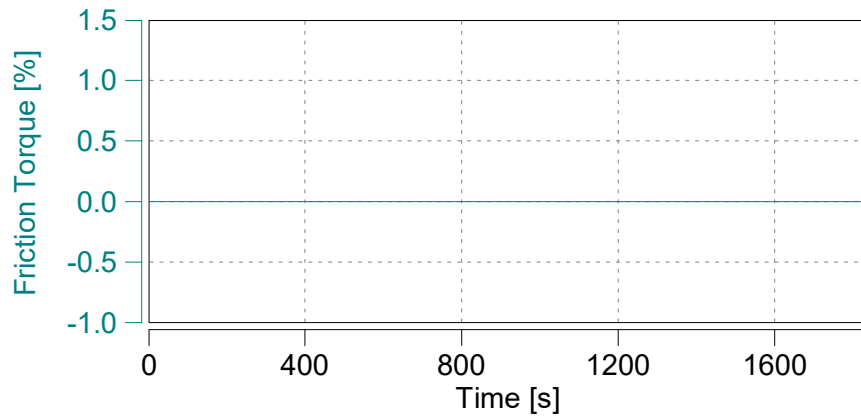
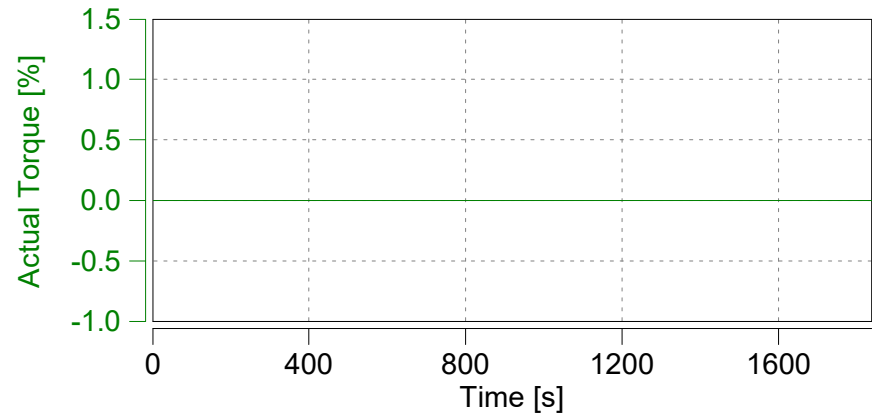
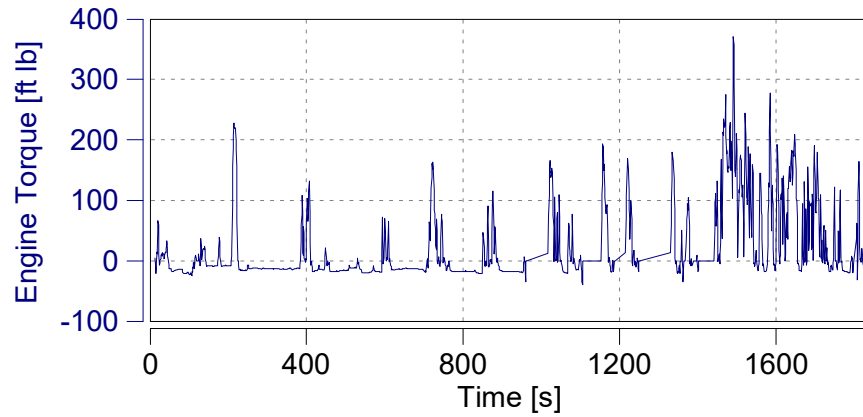
Concerto M.O.V.E, 2019



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
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Case: W167-3511

Page: Engine (3)

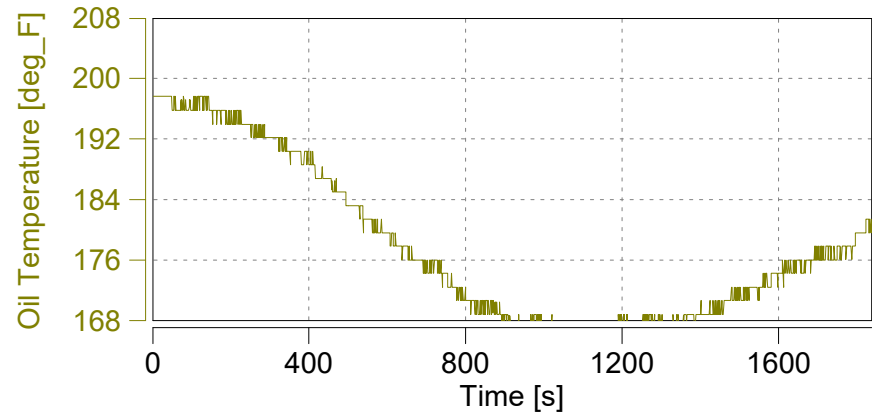
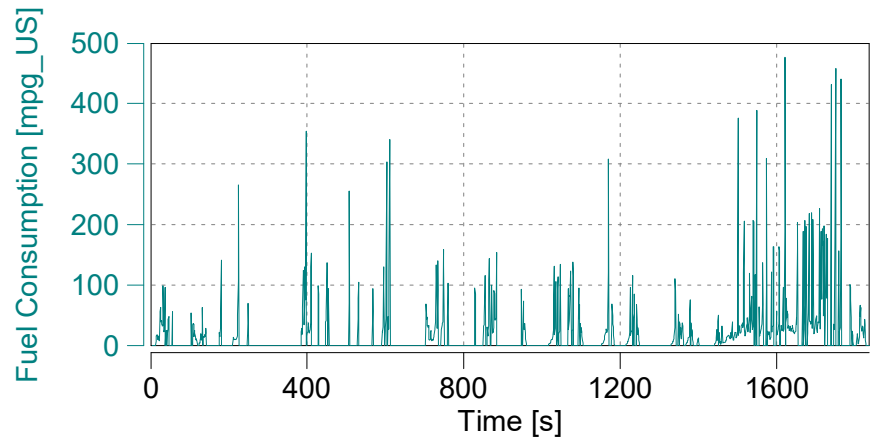
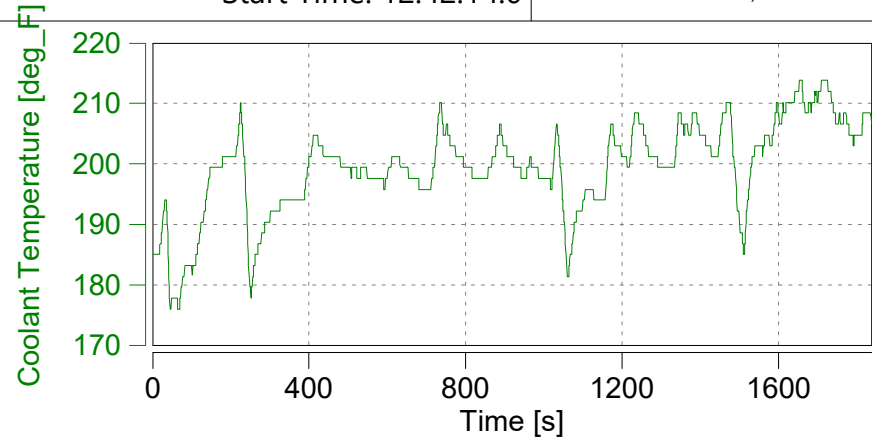
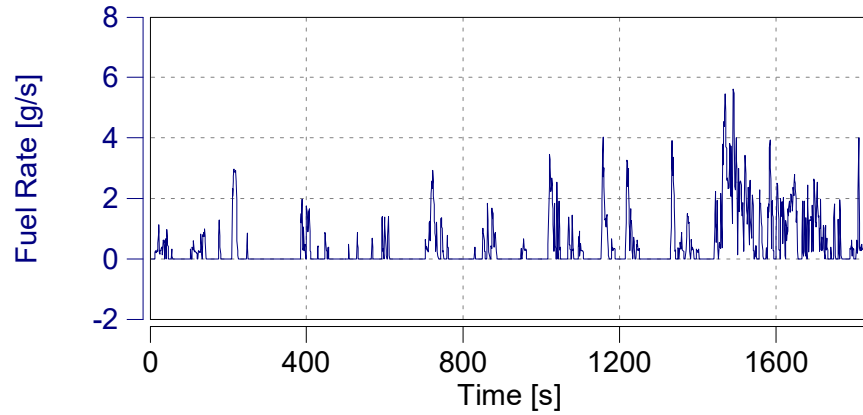
'W167-3511 B1 Mountain Downhill'

Start Date: 02/24/2020

Start Time: 12:42:14.0

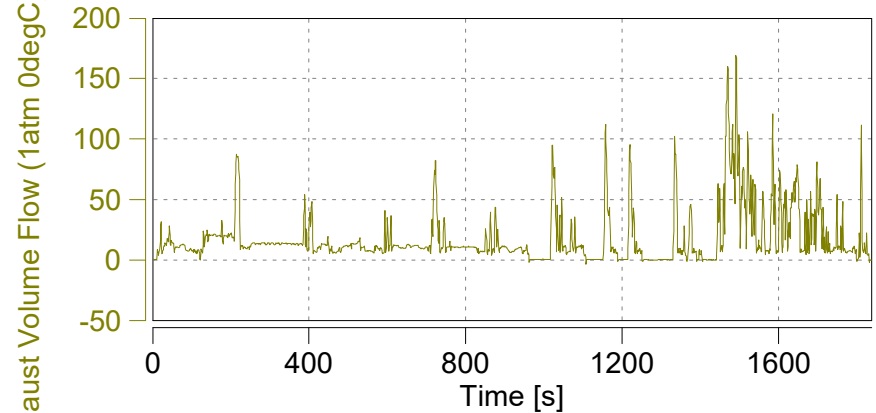
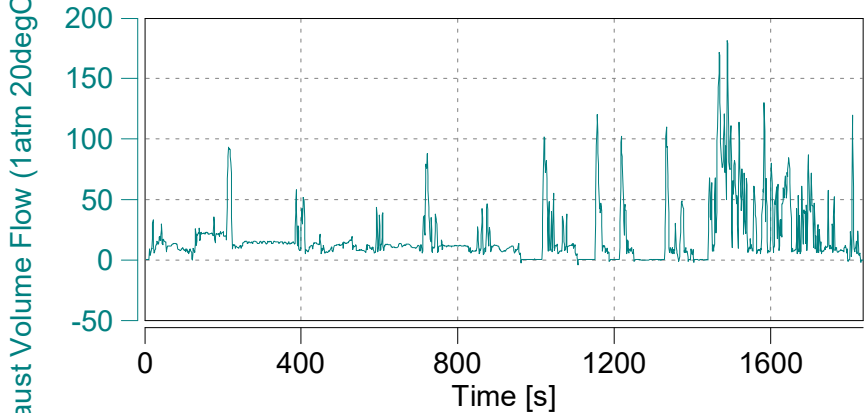
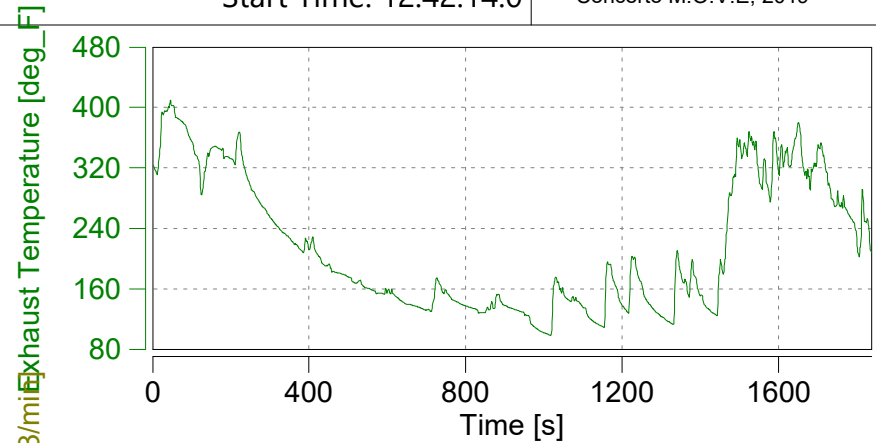
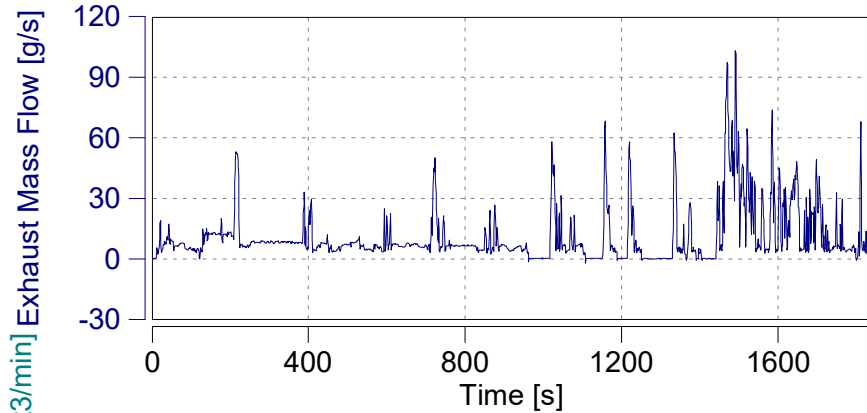


Concerto M.O.V.E, 2019



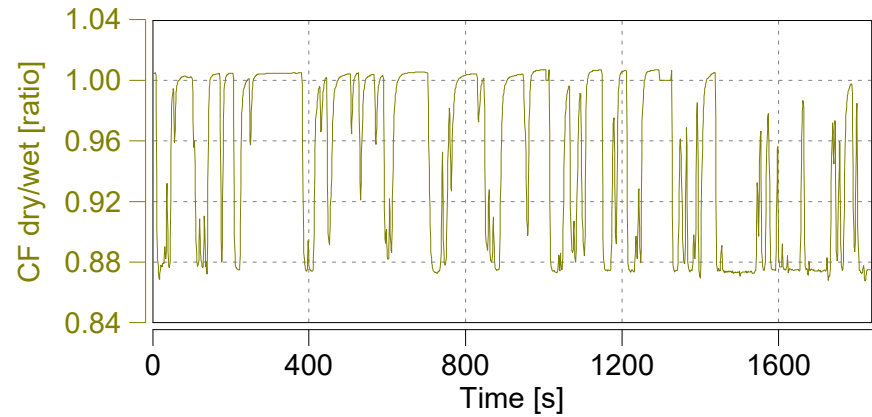
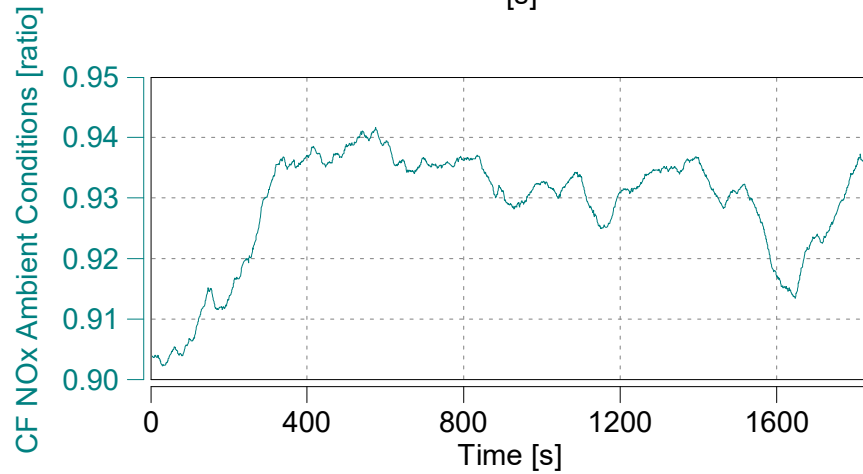
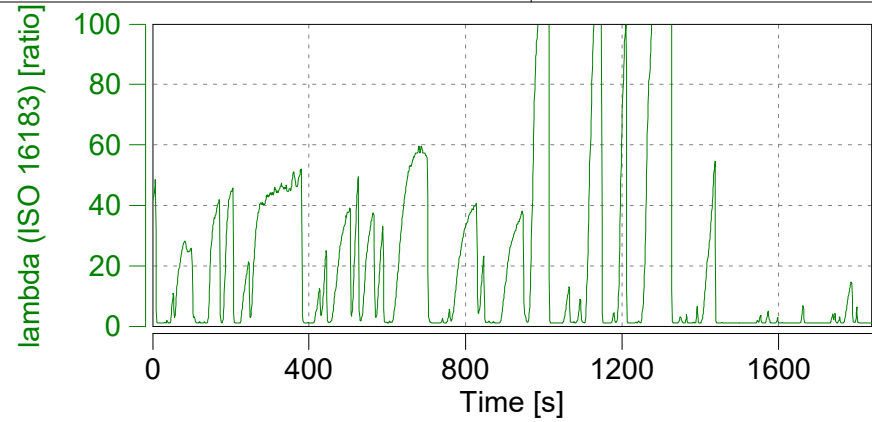
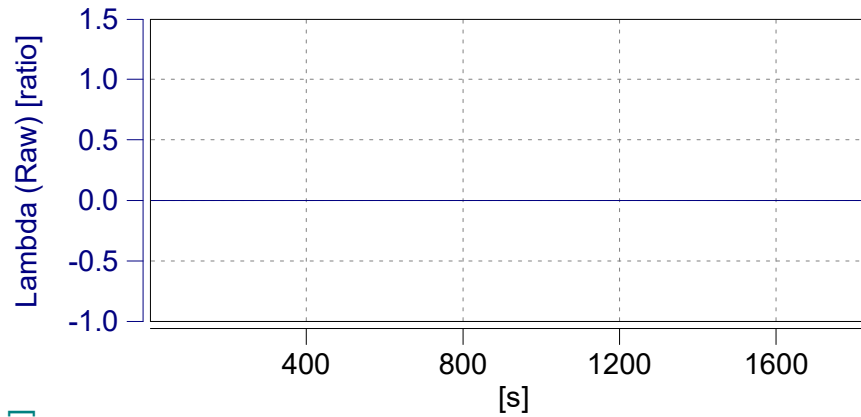
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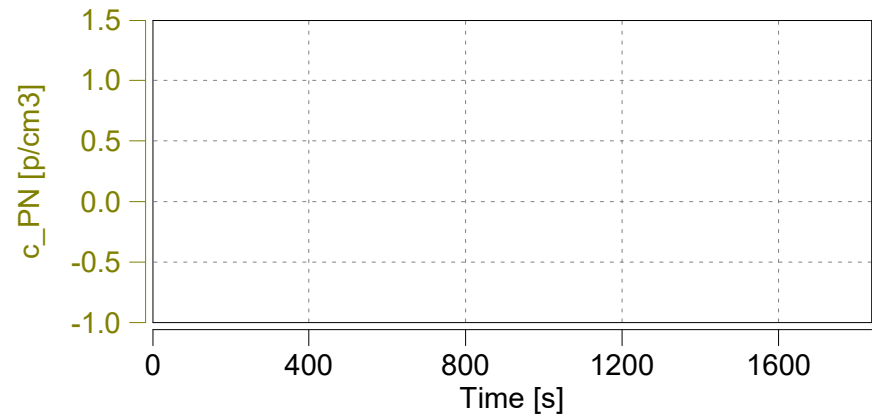
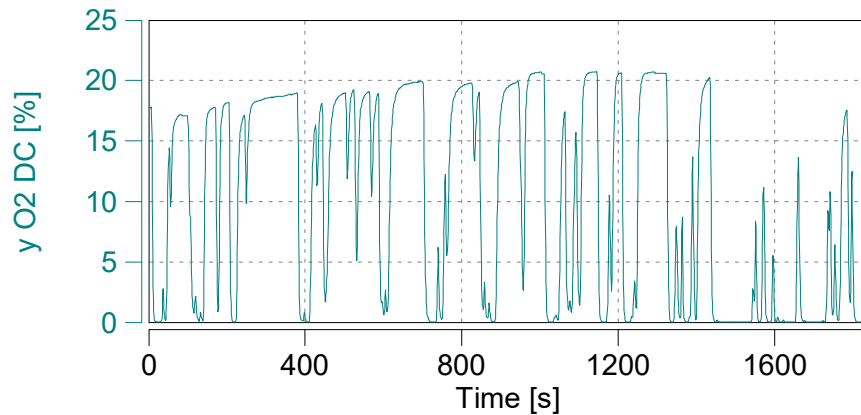
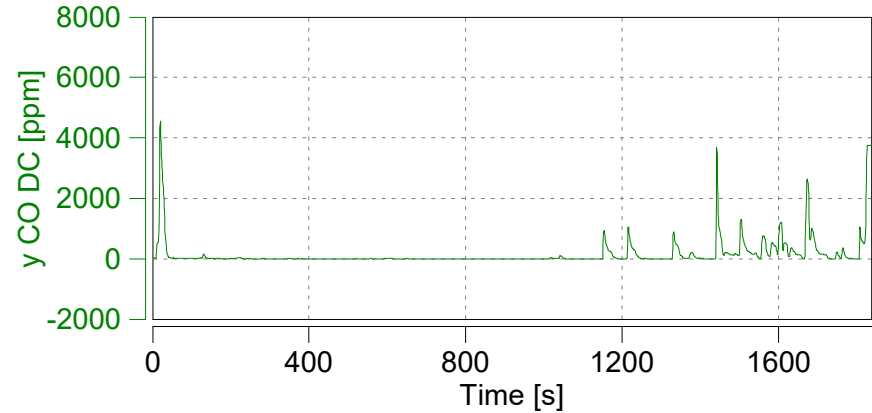
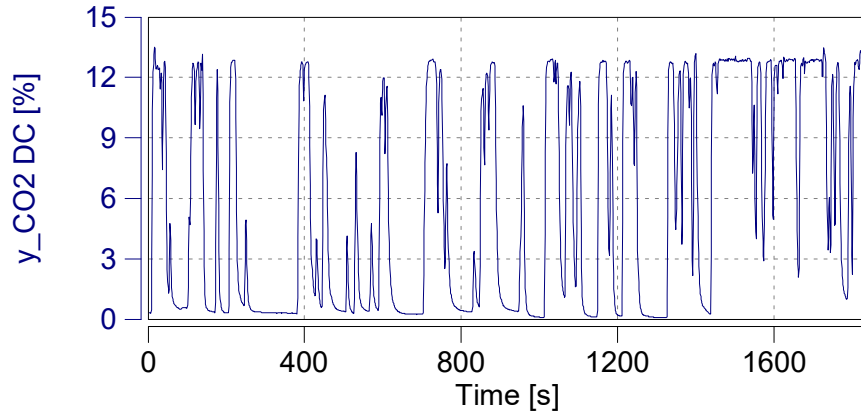
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NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90



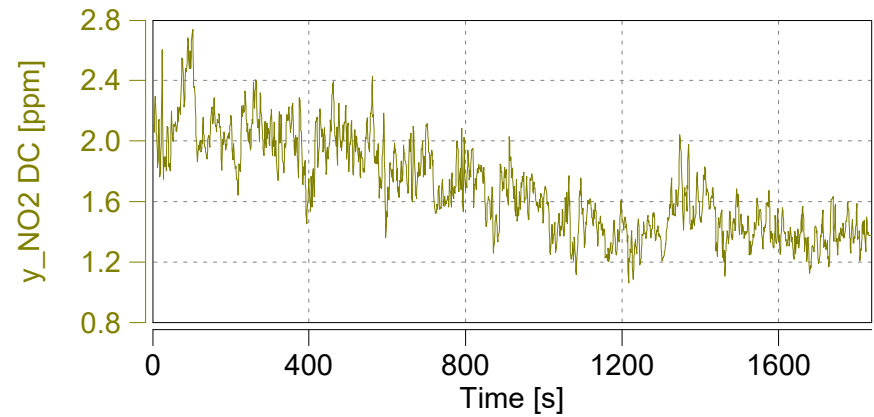
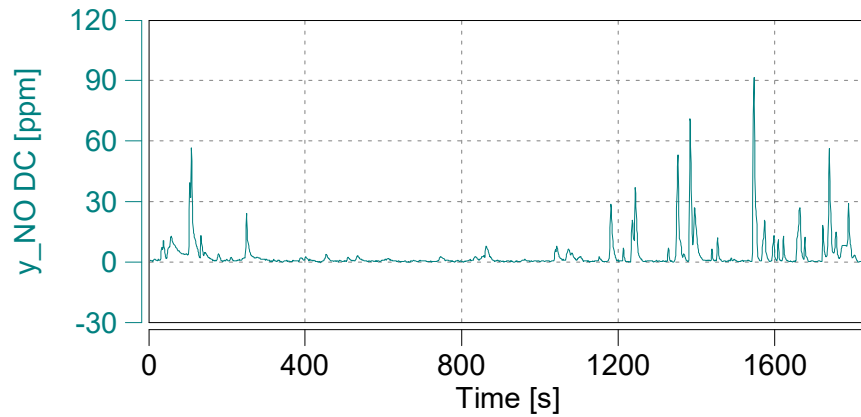
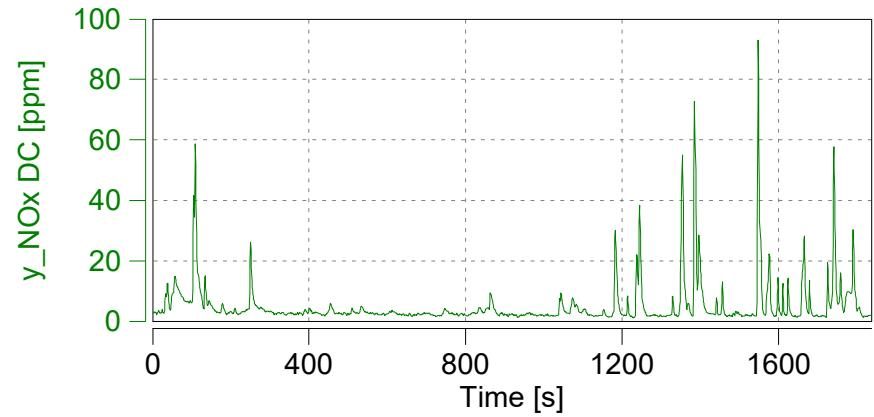
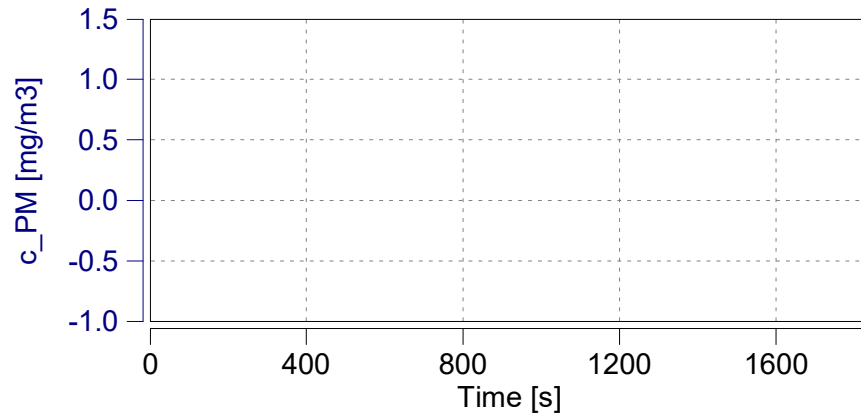
Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90



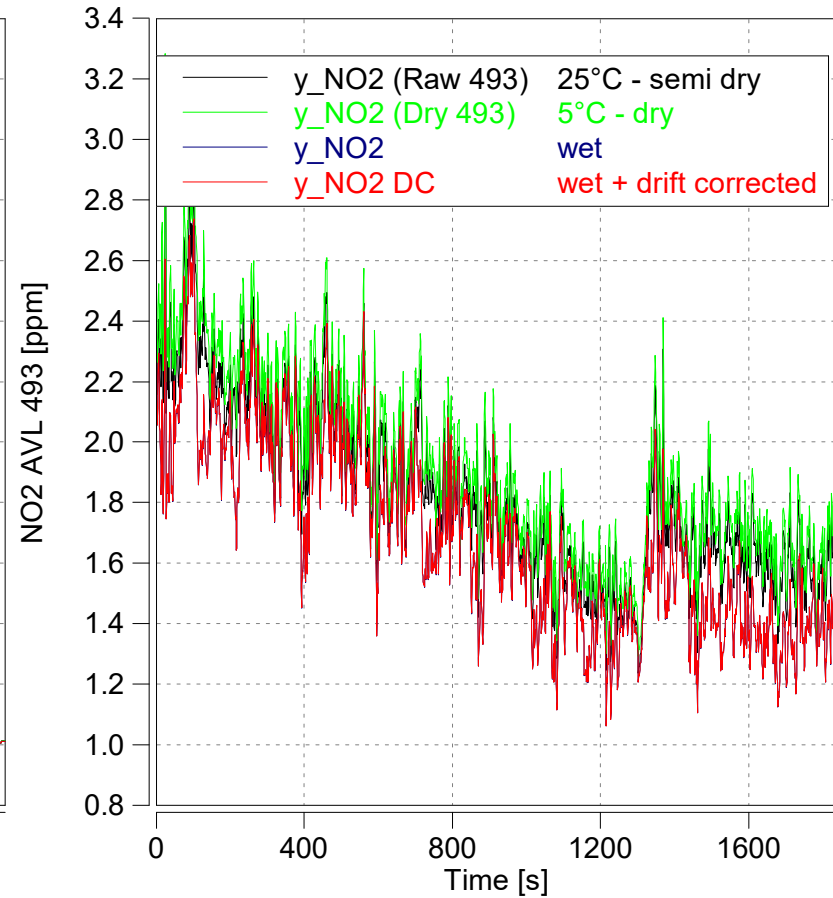
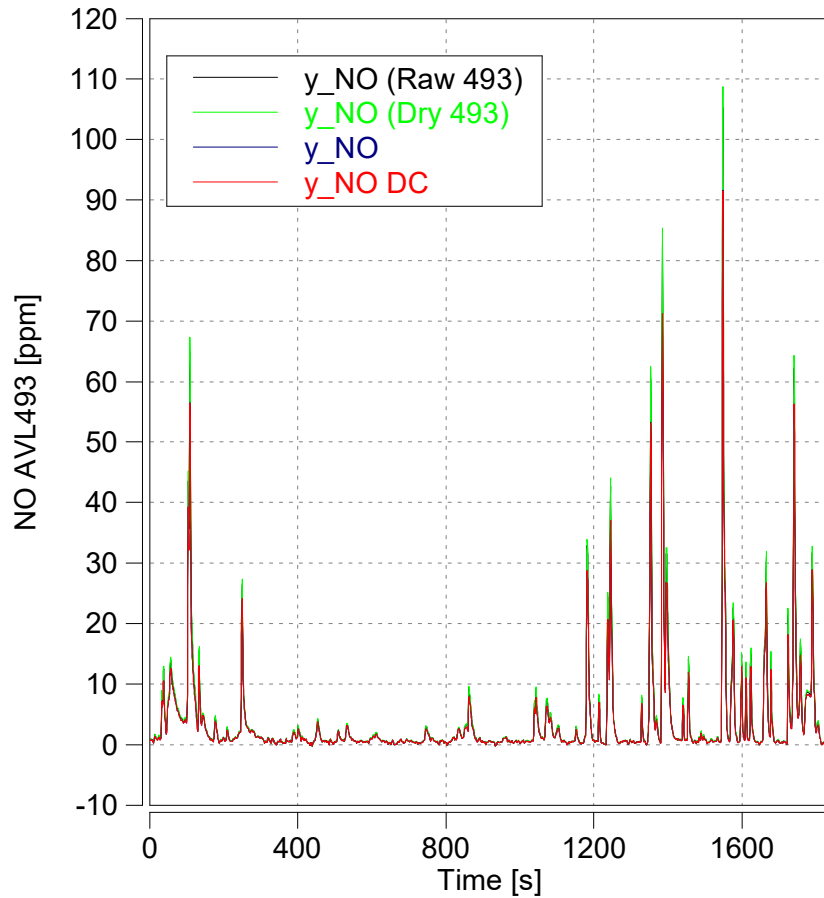
Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90



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Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

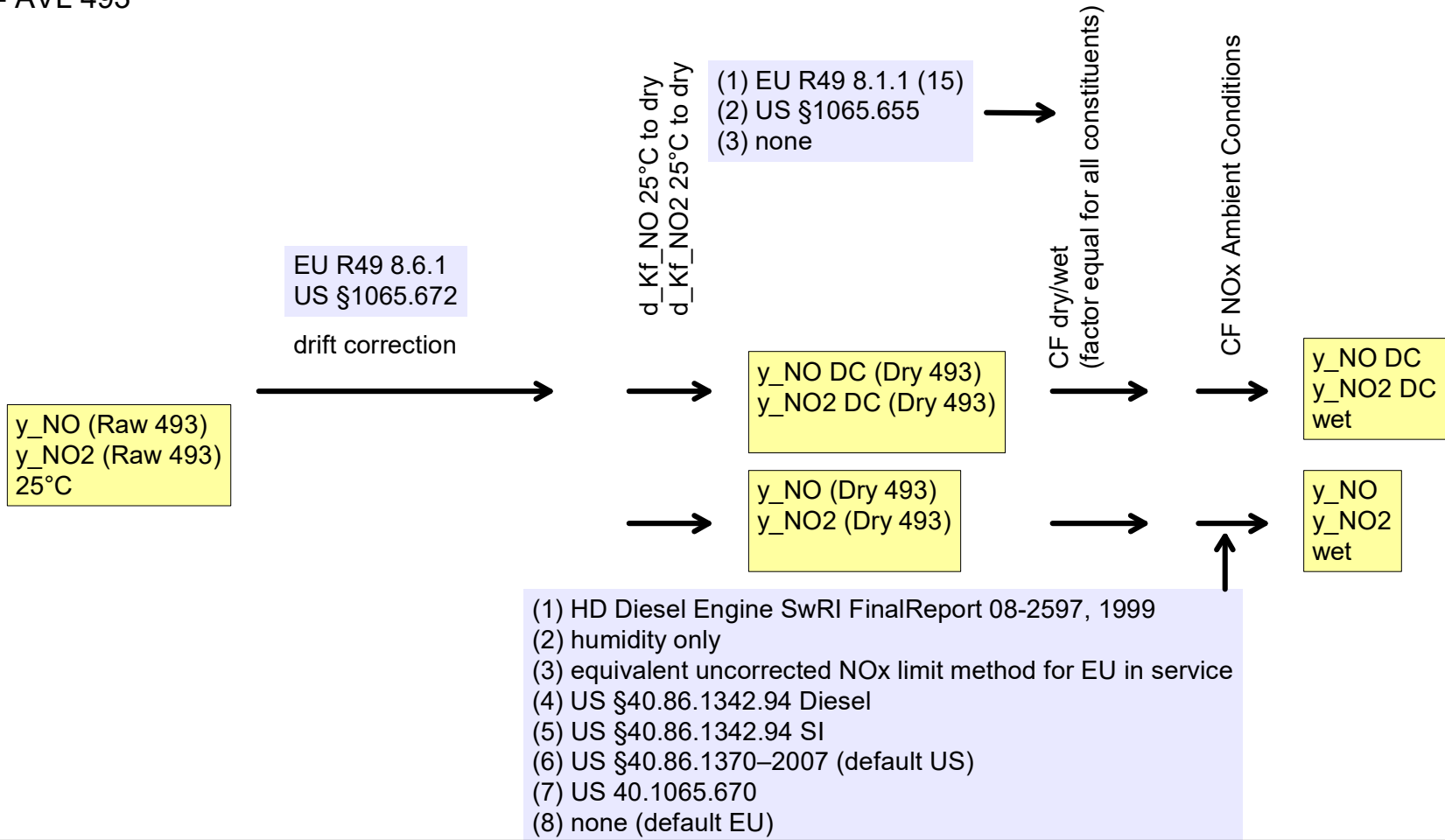


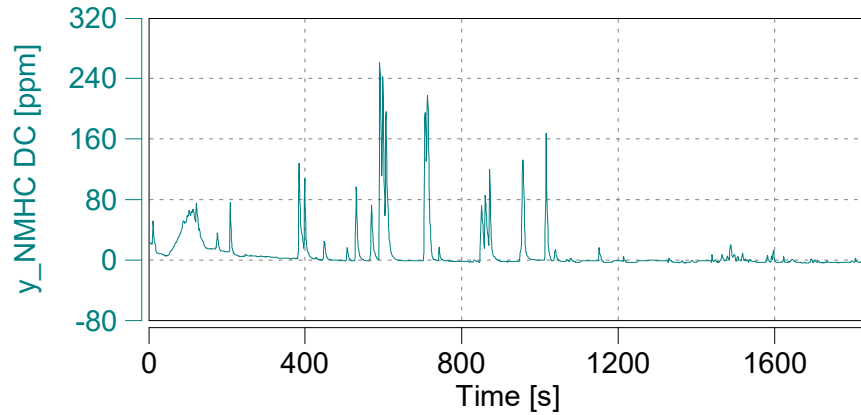
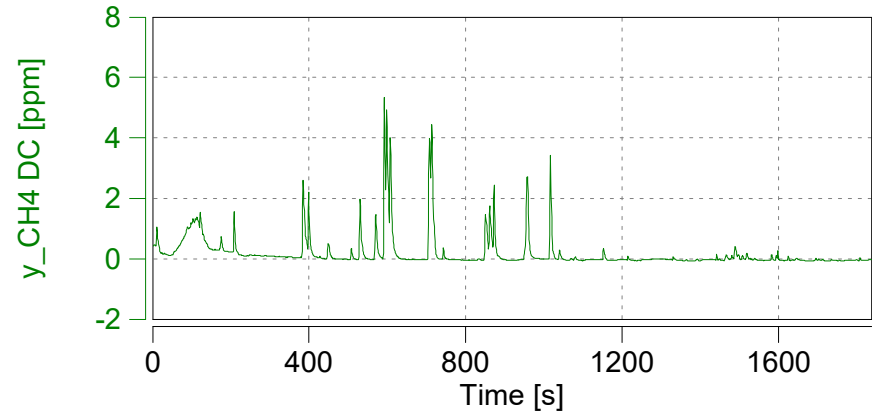
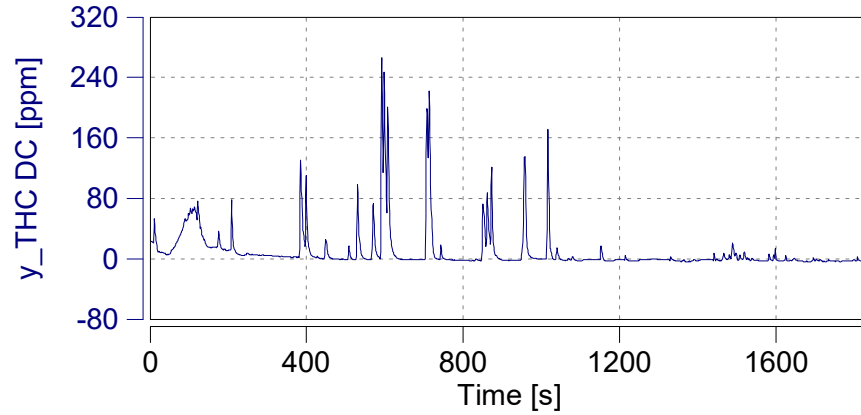
Concerto Version: 503 Build 82, Serial Number: 1604
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Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90



NOx - AVL 493



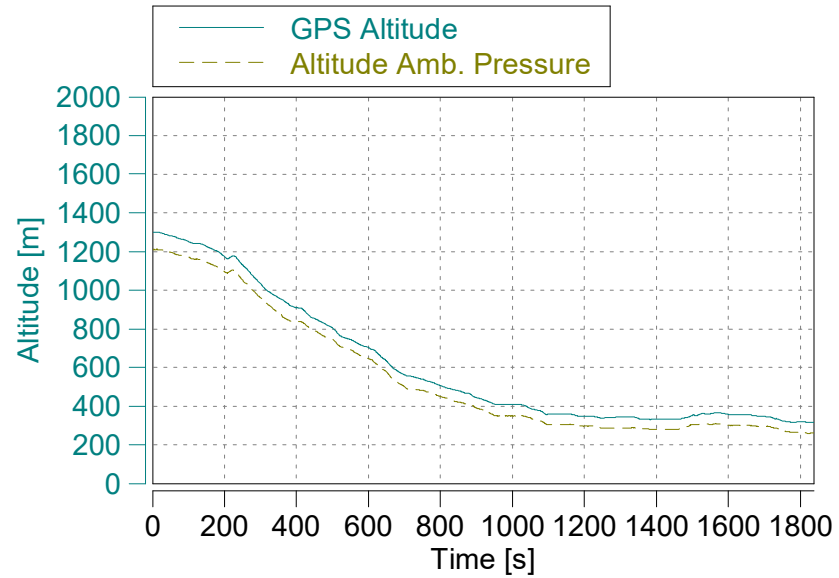
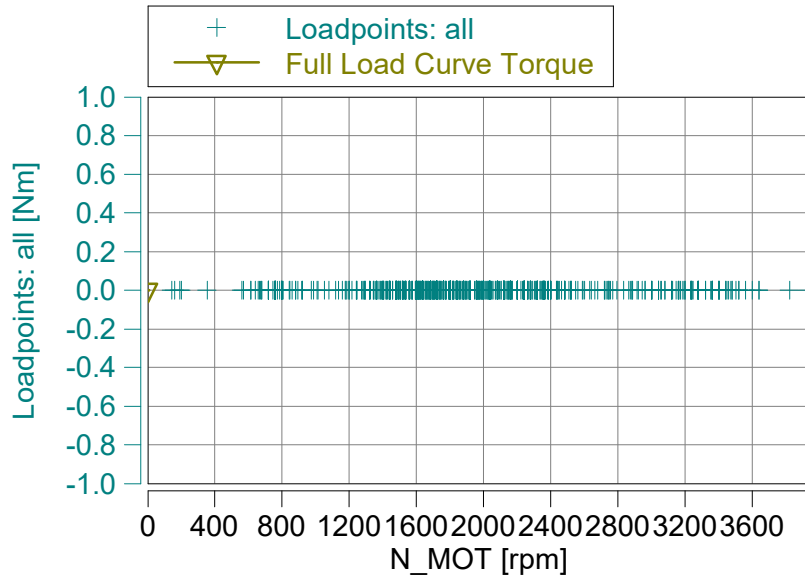


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Dry / Wet Corr.: 2 - CFR40 §86.1342-90

#ERROR
W167-3511

Vehicle type (e.g. M 3 , N 3 and application e.g. rigid or articulated truck, city bus)	#ERROR					
Vehicle description (e.g. vehicle model, prototype)	PEMS					
	CO	THC	NMHC	CH4	NOx	PM
Pass-fail results	passed		passed	passed	passed	passed
Work window conformity factor						
CO2 mass window conformity factor						
Nr. NOx urban valid windows below 90th perc. of all valid windows					997.0	
Trip Information	Urban		Rural		Motorway	
Shares of time of the trip in % characterised by urban, rural and motorway operation	41.8		45.0		13.2	
Shares of time of the trip in % characterised by accelerating, decelerating, cruising and stop						
Accelerating					44.3	%
Decelerating					37.8	%
Cruising					1.5	%
Stop					16.4	%
			Minimum	Maximum		
Work window average power (%)						
CO2 mass window duration (s)						
Work window: percentage of valid windows						
CO2 mass window: percentage of valid window						
Fuel consumption consistency ratio			m = 1.09			
			r ² = 0.95			



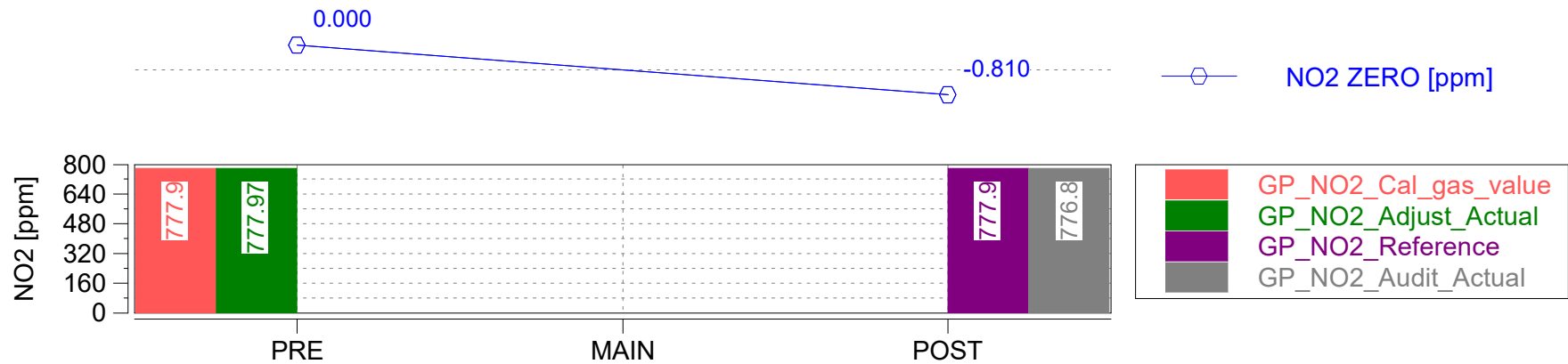
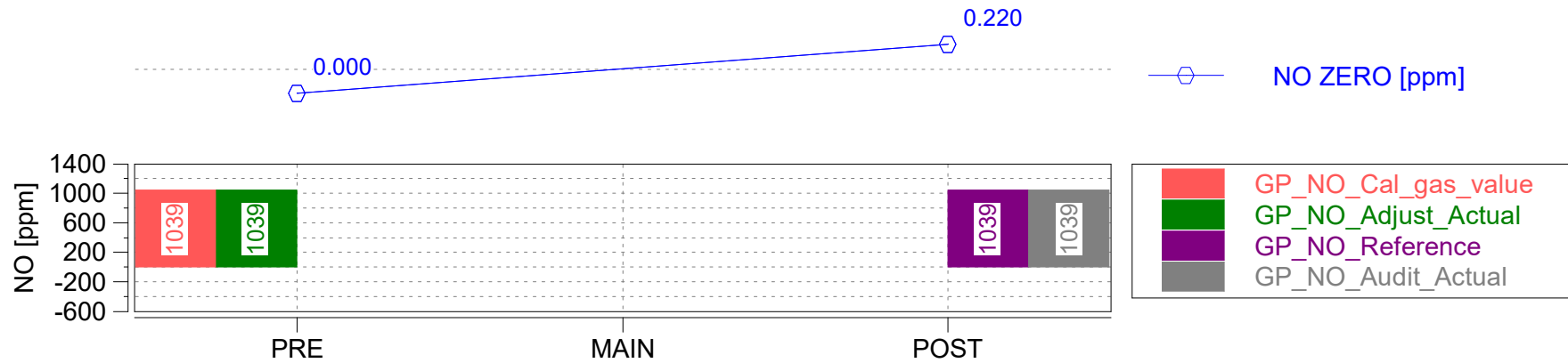
Trip Duration (a)	1837.0	s
Test Duration (b)		s
Total Work (c)		kWh
Reference Work		kWh
Total CO2 Mass (c)		g
Reference CO2 Mass		g
avg BSFC ECU	293.4	g/kWh
avg BSFC ISO16183	343.7	g/kWh
Distance ECU	27.9	km
Distance GPS	27.835	km

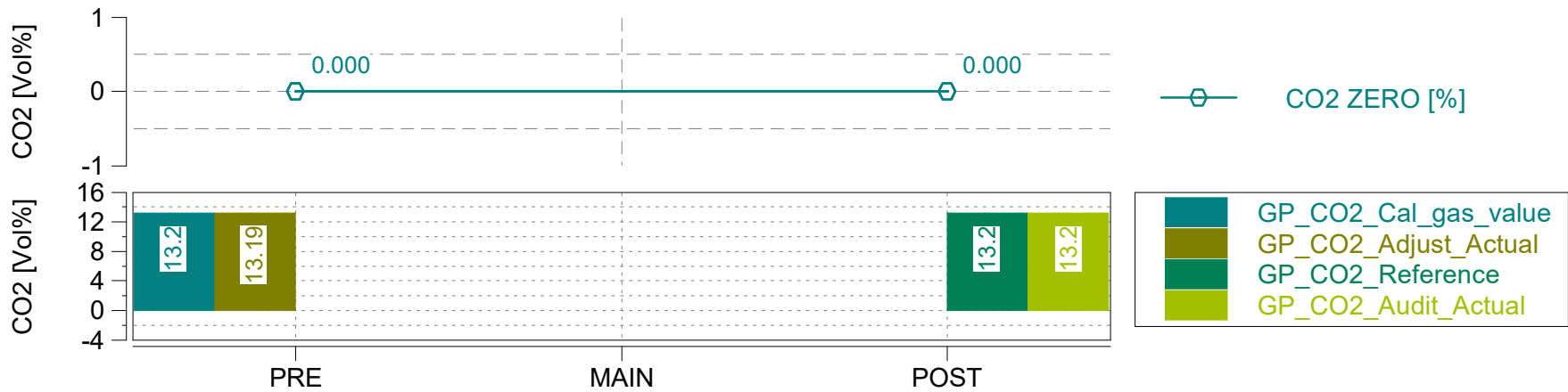
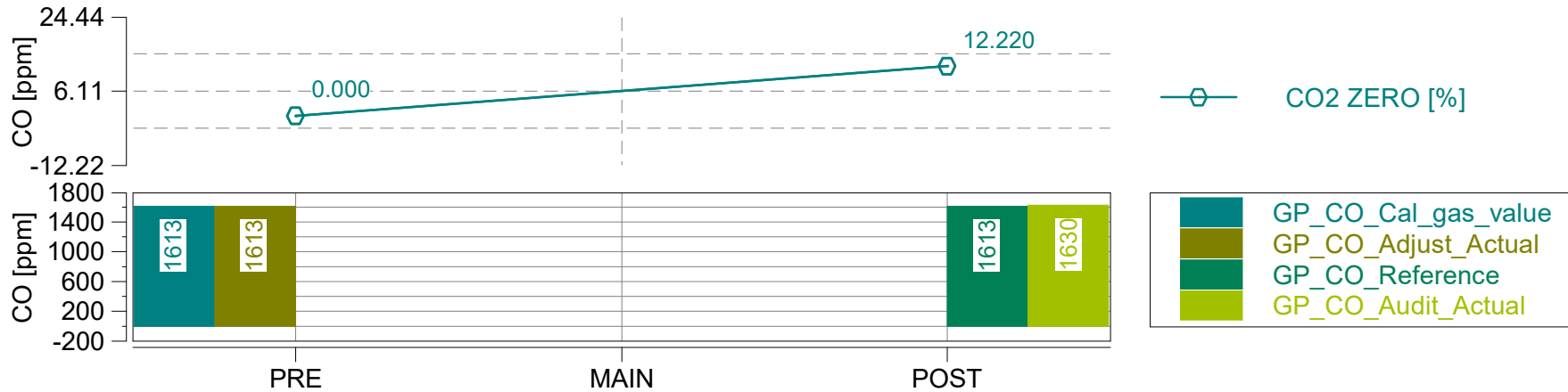
GAS PEMS Leak Check Age	0	days
GAS PEMS Leak Check Date	N/A	yyyy-mm-dd
GAS PEMS Leak Check Time	N/A	hh:mm:ss
GAS PEMS Leak Check External	0.00	%

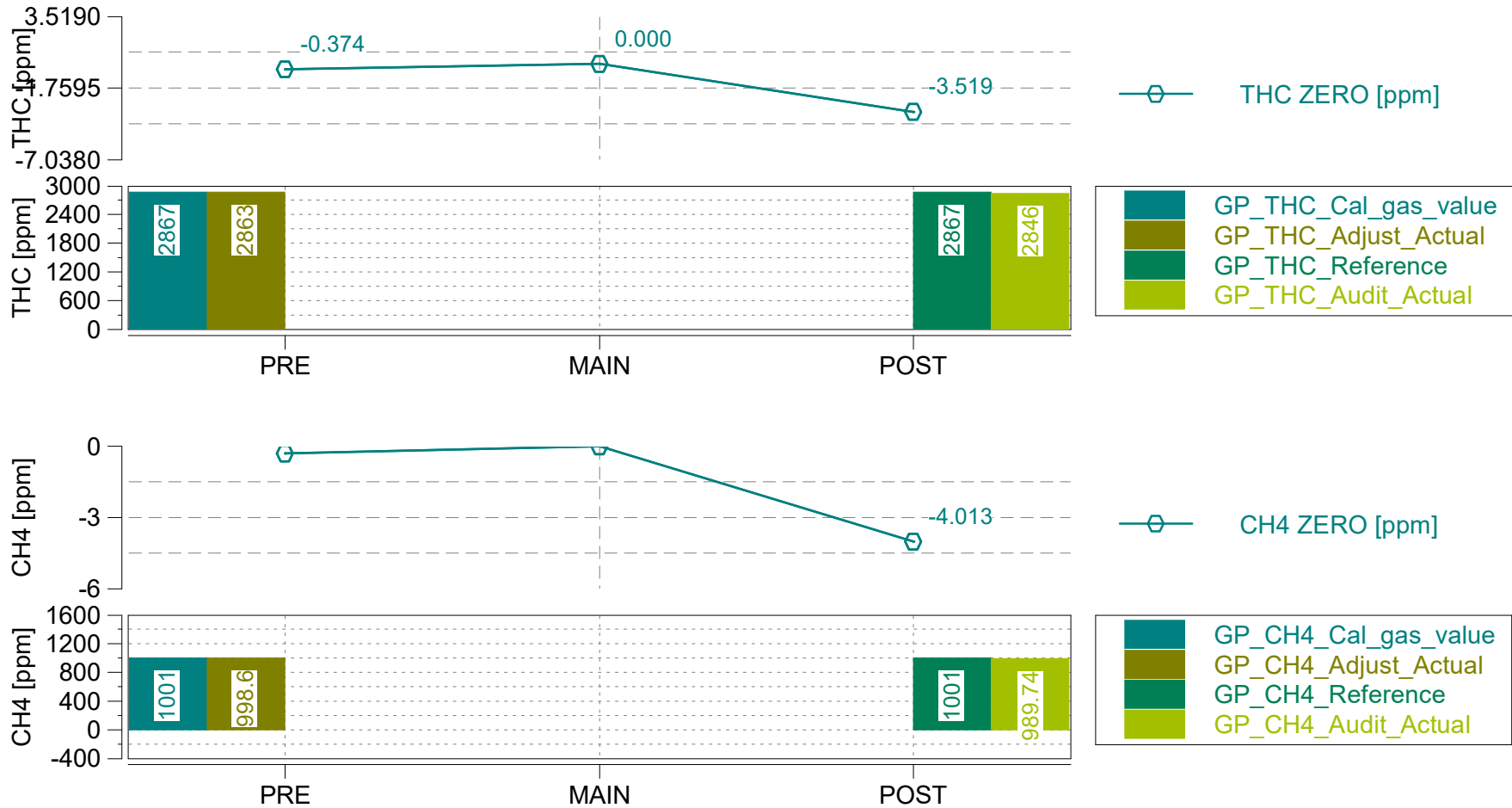
(a) GAS PEMS measurement state only
 (b) without Cold Start
 (c) not cummulated during exclusions

Concerto Version: 503 Build 82, Serial Number: 1604
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 Dry / Wet Corr.: 2 - CFR40 §86.1342-90





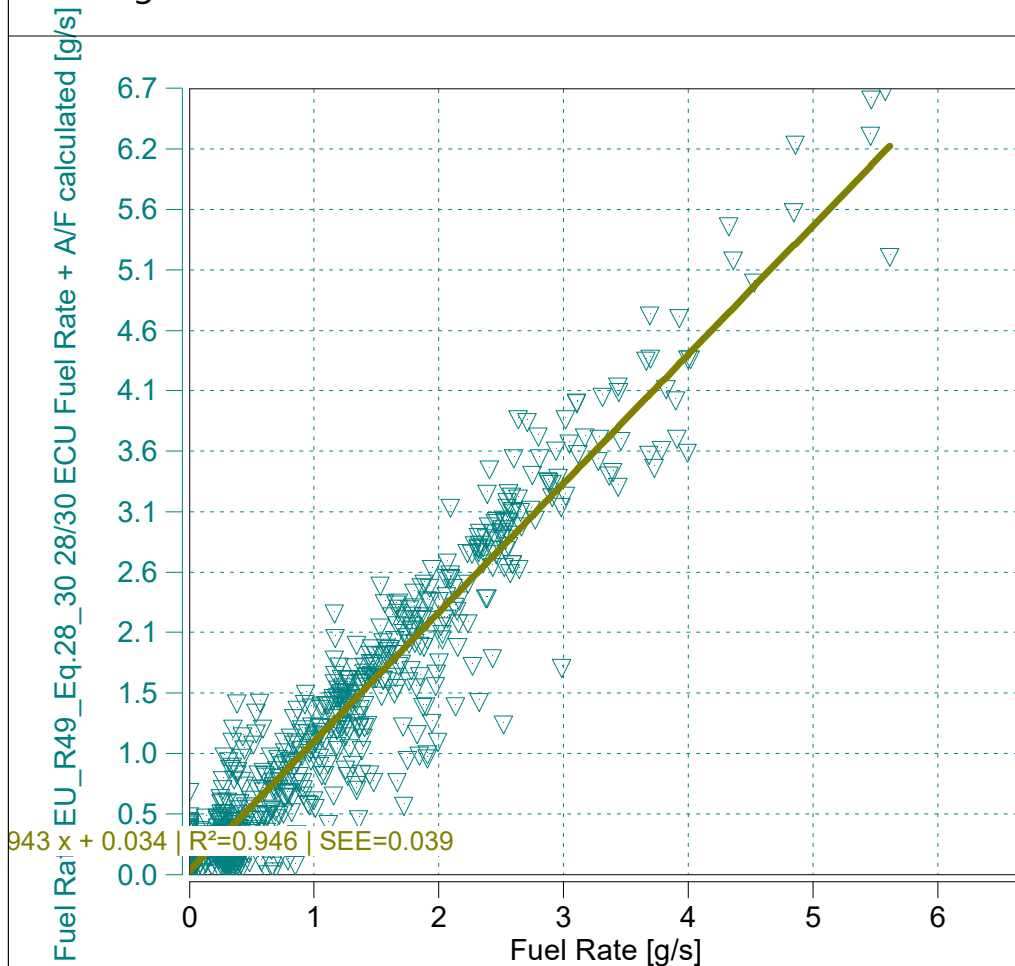


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EU 582/2011/Appendix I/3.2.1 | Fuel Rate ECU and calculated



$y = 1.0943 x + 0.034 \mid R^2=0.946 \mid SEE=0.039$
 $m = 1.09$ (0.9 - 1.1 recommended)
 $R^2 = 0.95$ (min 0.9 mandatory)

Data from - to [% of Maximum]

Trip Duration	1872.00	s	ave THC	24.97373	ppm	BS CO2	539.86532	g/hphr
Trip Duration (a)	1872.00	s	ave NMHC	24.47426	ppm	BS CO	1.24266	g/hphr
Trip Distance	23.98	mi	ave CH4	0.49947	ppm	BS THC	0.02025	g/hphr
Trip Distance (a)	23.98	mi	ave CO	396.81282	ppm	BS NMHC	0.01873	g/hphr
Trip Fuel Cons. (b)	2.18	kg	ave CO2	11.77329	%	BS CH4	0.00045	g/hphr
Trip Fuel Cons. (ab)	2.18	kg	ave NOx	7.53885	ppm	BS NO (d)	0.00991	g/hphr
Trip Fuel Cons. EU (ac)	2.58	kg	ave PM	n/a	mg/m3	BS NO2	0.00728	g/hphr
Trip Fuel Cons. US (ac)	2.57	kg	ave Soot meas	n/a	mg/m3	BS NOx	0.01719	g/hphr
Trip Fuel Economy (b)	31.08	mpg_US	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Economy (ab)	31.08	mpg_US	ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Economy EU (ac)	26.31	mpg_US	tot THC	0.29170	g	BS PM	n/a	g/hphr
Trip Fuel Economy US (ac)	26.45	mpg_US	tot NMHC	0.26983	g	BS PN	n/a	#/hpr
Trip Fuel Economy GGE (b)	31.08	mpg_US	tot CH4	0.00647	g	DS CO2	324.28642	g/mi
Trip Fuel Economy GGE (ab)	31.08	mpg_US	tot CO	17.89751	g	DS CO	0.74644	g/mi
Trip Fuel Economy EU GGE (ac)	26.31	mpg_US	tot CO2	7775.48286	g	DS THC	0.01217	g/mi
Trip Fuel Economy US GGE (ac)	26.45	mpg_US	tot NO (d)	0.14279	g	DS NMHC	0.01125	g/mi
Trip Av. Eng. Speed	1645.06	rpm	tot NO2	0.10480	g	DS CH4	0.00027	g/mi
Trip Av. Torque	80.37	lbft	tot NOx	0.24759	g	DS NO (d)	0.00596	g/mi
Trip Av. Power	27.70	hp	tot Soot	n/a	g	DS NO2	0.00437	g/mi
Trip Work	14.40	hphr	tot Soot meas	n/a	g	DS NOx	0.01033	g/mi
Trip Work (a)	14.40	hphr	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass	40.62	kg	tot PN	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass EU (ac)	34.24	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Exhaust Mass US (ac)	34.45	kg	tot Soot on PM filter (estim.)	0.00000	mg	DS PN	n/a	#/mi
Trip Av. Amb. Temperature	72.47	deg_F	Soot --> PM simple scaling factor	1.00000	-	FS CO2	3561.51388	g/kg
Trip Av. Humidity	41.70	%	Trip Av. Veh. Speed	46.11001	mi/hr	FS CO	8.19785	g/kg
Trip Av. GPS Altitude	56.36	m	Trip Distance Share Urban	10.72016	% distance	FS THC	0.13361	g/kg
Fuel Type	Petrol (E10)		Trip Distance Share Rural	20.99139	% distance	FS NMHC	0.12359	g/kg
			Trip Distance Share Motorway	68.28846	% distance	FS CH4	0.00296	g/kg
						FS NO (d)	0.06540	g/kg
						FS NO2	0.04800	g/kg
						FS NOx	0.11341	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) Based on A/F ratio (eq 28-32 - R49)
(d) NO calculated using molecular weight of NO2, GGE=Gasoline Gallon Equivalents

Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: Trip Summary Drift Corrected

'W167-3511 A0 LATC>CARB'

Start Date: 02/24/2020

Start Time: 12:42:14.0



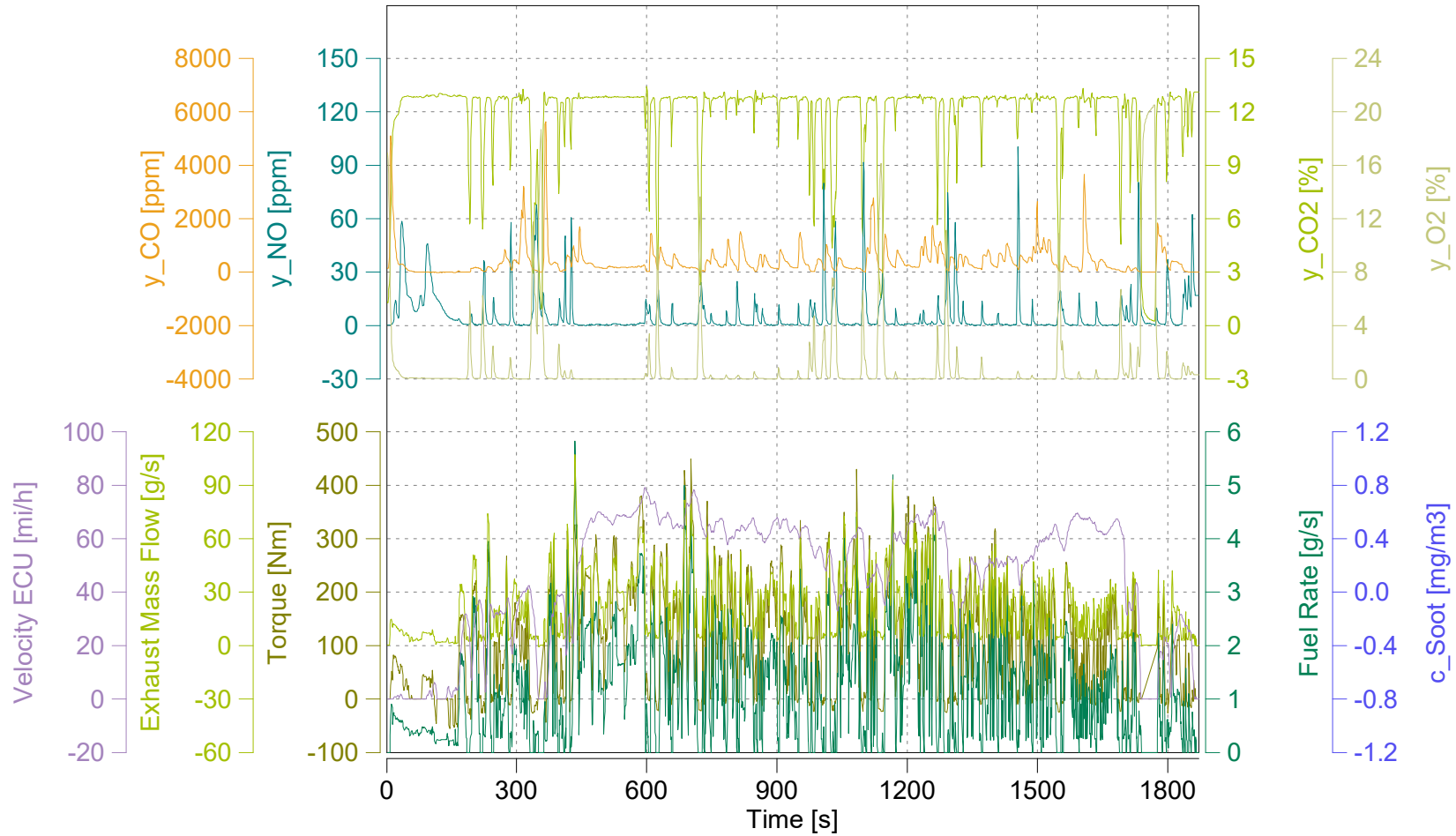
Concerto M.O.V.E, 2019

Trip Duration	1872.00	s	ave THC DC	25.26497	ppm	BS CO2 DC	540.06989	g/hphr
Trip Duration (a)	1872.00	s	ave NMHC DC	24.75967	ppm	BS CO DC	1.23616	g/hphr
Trip Distance	23.98	mi	ave CH4 DC	0.50530	ppm	BS THC DC	0.02060	g/hphr
Trip Distance (a)	23.98	mi	ave CO DC	394.74001	ppm	BS NMHC DC	0.01906	g/hphr
Trip Fuel Cons. (b)	2.18	kg	ave CO2 DC	11.77775	%	BS CH4 DC	0.00046	g/hphr
Trip Fuel Cons. (ab)	2.18	kg	ave NOx DC	7.53748	ppm	BS NO DC (d)	0.00991	g/hphr
Trip Fuel Cons. EU (ac)	2.58	kg	ave PM	n/a	mg/m3	BS NO2 DC	0.00728	g/hphr
Trip Fuel Cons. US (ac)	2.57	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	0.01719	g/hphr
Trip Fuel Economy (b)	31.08	mpg_US	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
Trip Fuel Economy (ab)	31.08	mpg_US	ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
Trip Fuel Economy EU (ac)	26.31	mpg_US	tot THC DC	0.29672	g	BS PM	n/a	g/hphr
Trip Fuel Economy US (ac)	26.45	mpg_US	tot NMHC DC	0.27447	g	BS PN DC	n/a	#/hpr
Trip Fuel Economy GGE (b)	31.08	mpg_US	tot CH4 DC	0.00658	g	DS CO2 DC	324.40931	g/mi
Trip Fuel Economy GGE (ab)	31.08	mpg_US	tot CO DC	17.80402	g	DS CO DC	0.74254	g/mi
Trip Fuel Economy EU GGE (ac)	26.31	mpg_US	tot CO2 DC	7778.42924	g	DS THC DC	0.01238	g/mi
Trip Fuel Economy US GGE (ac)	26.45	mpg_US	tot NO DC (d)	0.14273	g	DS NMHC DC	0.01145	g/mi
Trip Av. Eng. Speed	1645.06	rpm	tot NO2 DC	0.10487	g	DS CH4 DC	0.00027	g/mi
Trip Av. Torque	80.37	lbft	tot NOx DC	0.24760	g	DS NO DC (d)	0.00595	g/mi
Trip Av. Power	27.70	hp	tot Soot	n/a	g	DS NO2 DC	0.00437	g/mi
Trip Work	14.40	hphr	tot Soot meas	n/a	g	DS NOx DC	0.01033	g/mi
Trip Work (a)	14.40	hphr	tot PM	n/a	g	DS Soot	n/a	g/mi
Trip Exhaust Mass	40.62	kg	tot PN DC	n/a	#	DS Soot meas	n/a	g/mi
Trip Exhaust Mass EU (ac)	34.24	kg	PM measurement type	0.00000	-	DS PM	n/a	g/mi
Trip Exhaust Mass US (ac)	34.45	kg	tot Soot on PM filter (estim.)	0.00000	mg	DS PN DC	n/a	#/mi
Trip Av. Amb. Temperature	72.47	deg_F	Soot --> PM simple scaling factor	1.00000	-	FS CO2 DC	3562.86345	g/kg
Trip Av. Humidity	41.70	%	Trip Av. Veh. Speed	46.11001	mi/hr	FS CO DC	8.15503	g/kg
Trip Av. GPS Altitude	56.36	m	Trip Distance Share Urban	10.72016	% distance	FS THC DC	0.13591	g/kg
Fuel Type	Petrol (E10)		Trip Distance Share Rural	20.99139	% distance	FS NMHC DC	0.12572	g/kg
			Trip Distance Share Motorway	68.28846	% distance	FS CH4 DC	0.00301	g/kg
						FS NO DC (d)	0.06538	g/kg
						FS NO2 DC	0.04804	g/kg
						FS NOx DC	0.11341	g/kg
						FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) Based on A/F ratio (eq 28-32 - R49)
 (d) NO calculated using molecular weight of NO2, GGE=Gasoline Gallon Equivalents

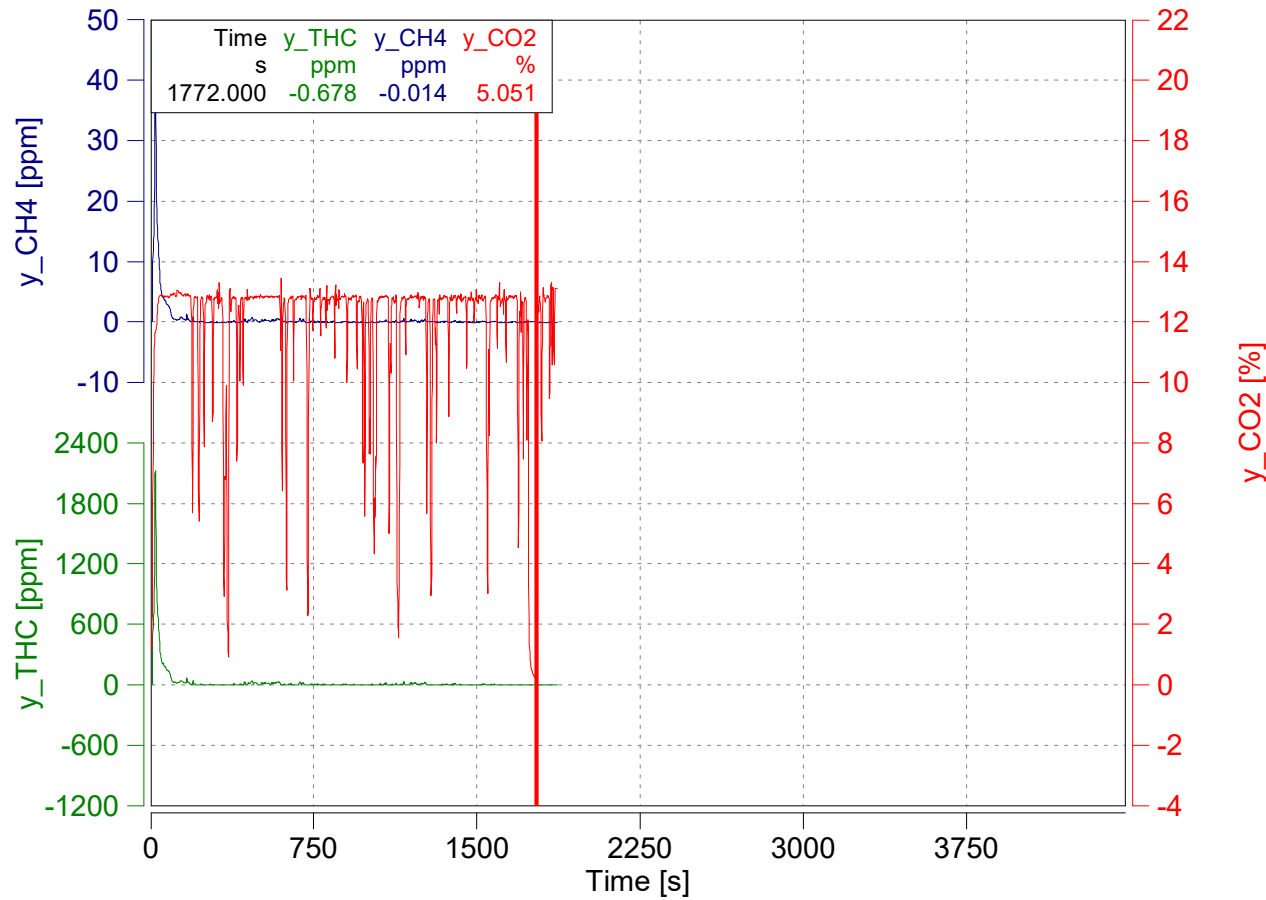
Concerto Version: 503 Build 82, Serial Number: 1604
 M.O.V.E Post-Processing: DT_1R3.1_B300
 Legislation:

Vehicle: W167 / PEMS
 Engine: /
 NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
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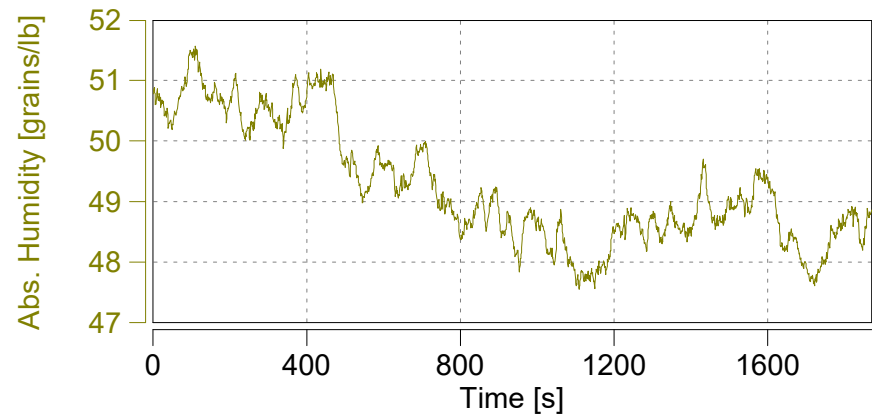
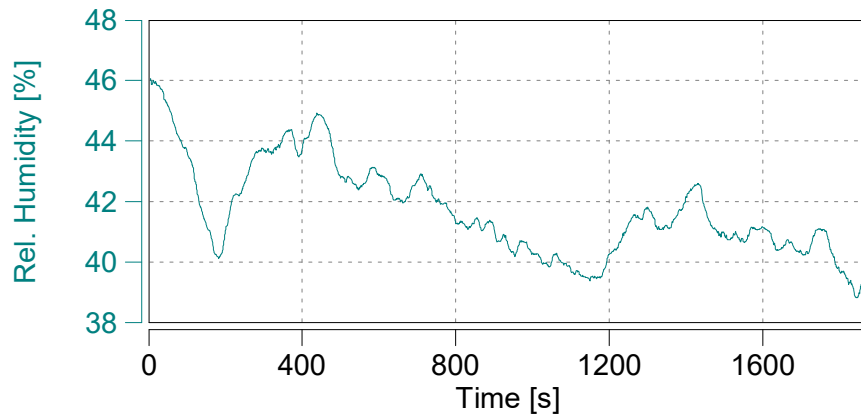
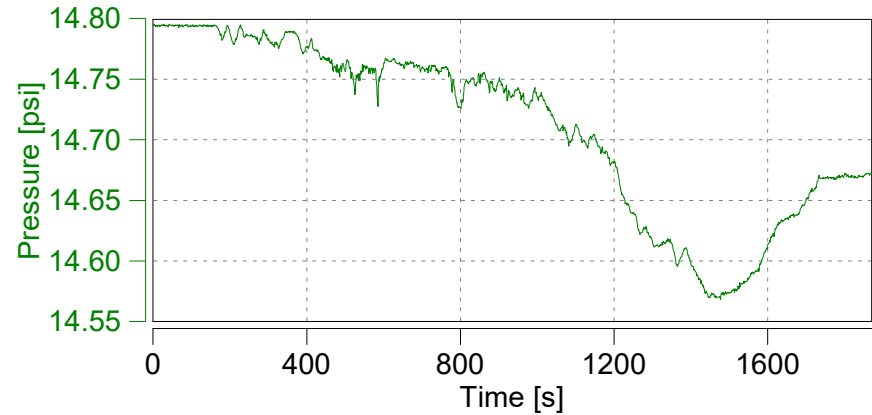
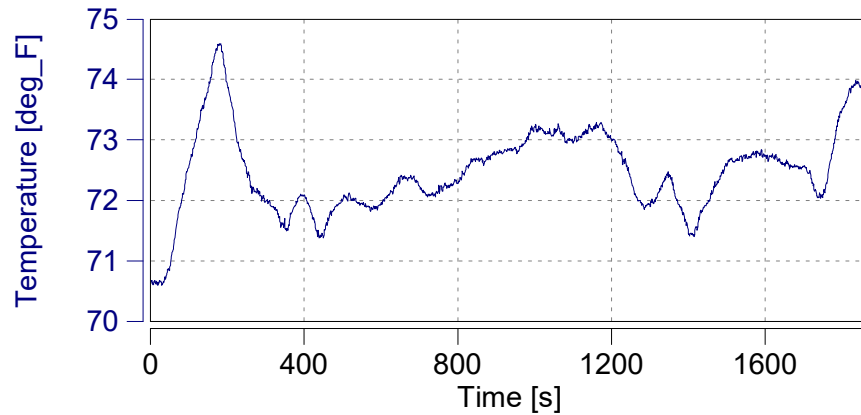


Absolute Time Shifts

y_THC	s	-5.2
y_CH4	s	-7.2

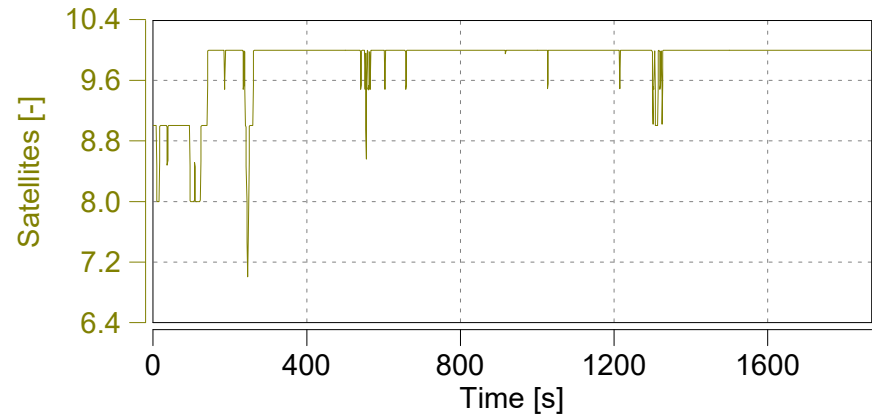
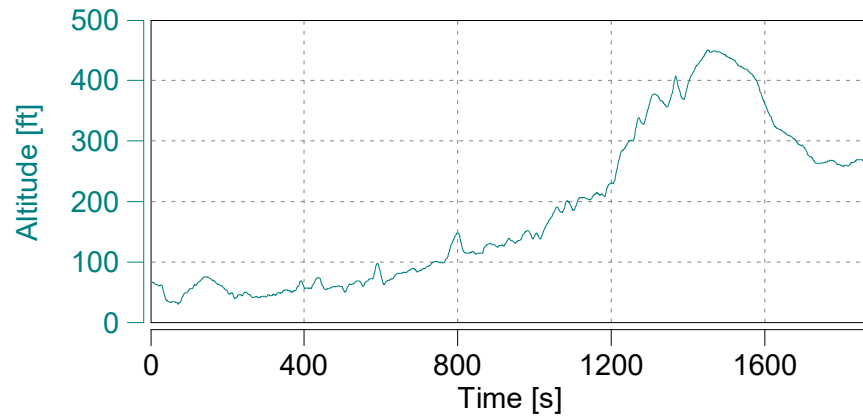
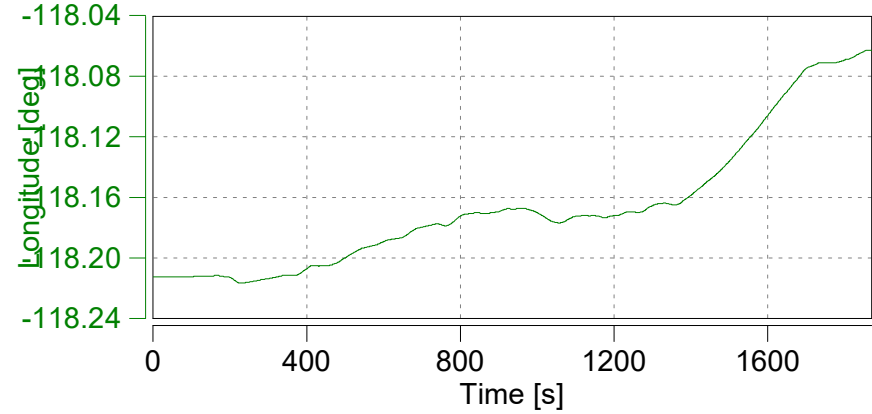
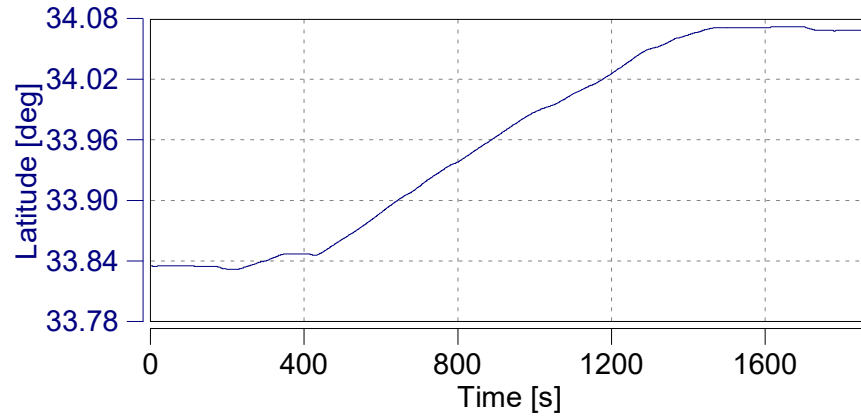
Reset Time Shifts in Plot

Apply Current Values



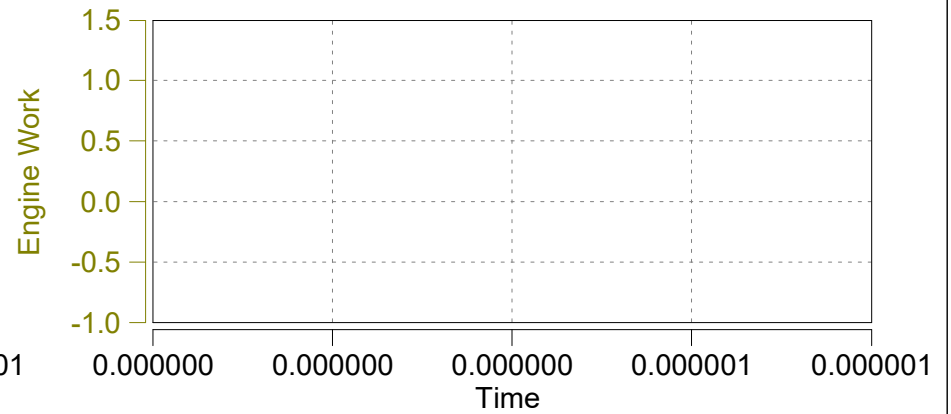
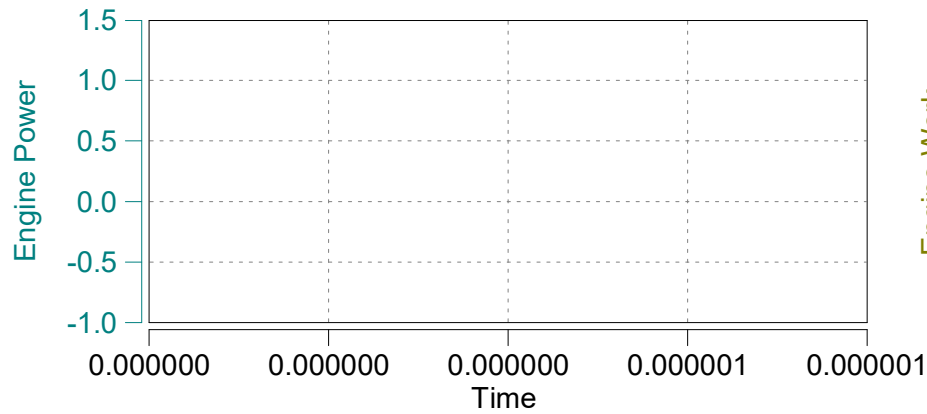
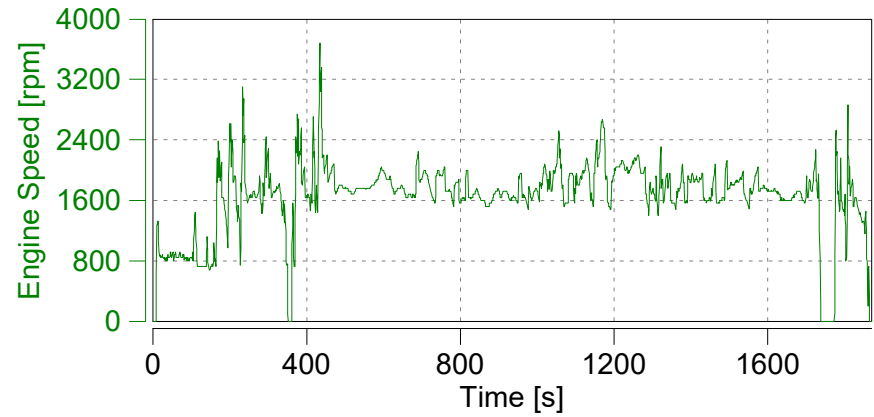
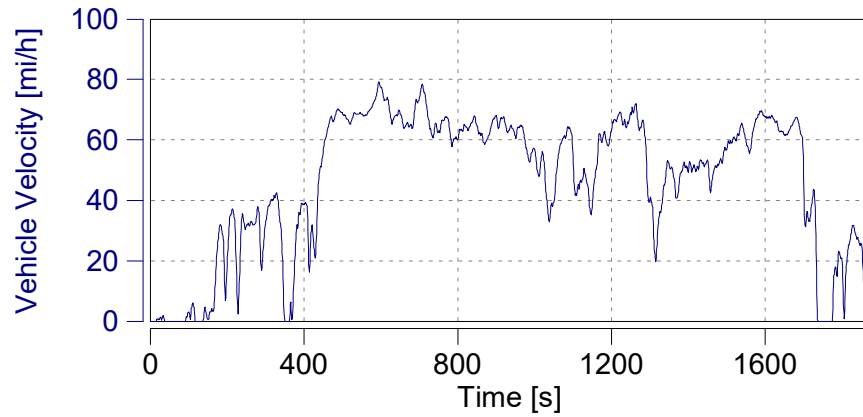
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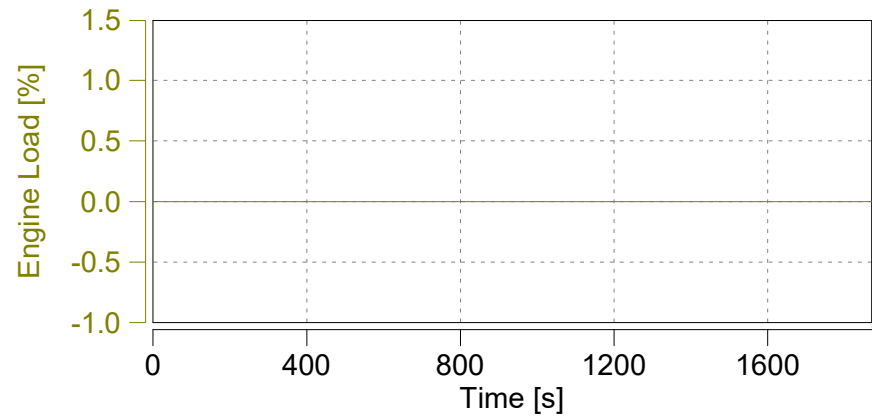
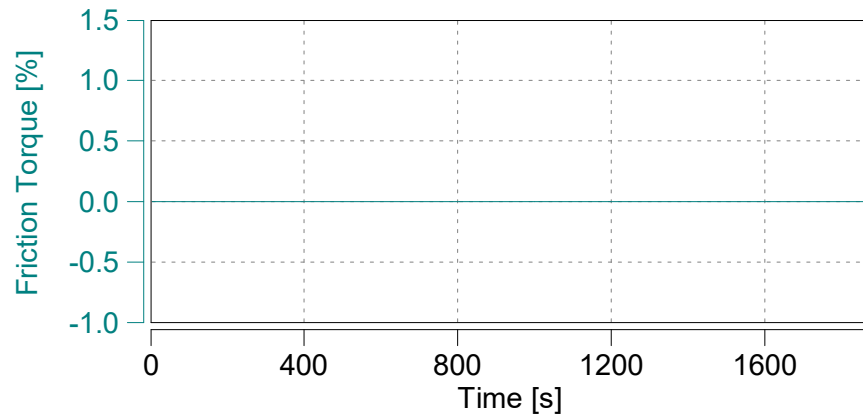
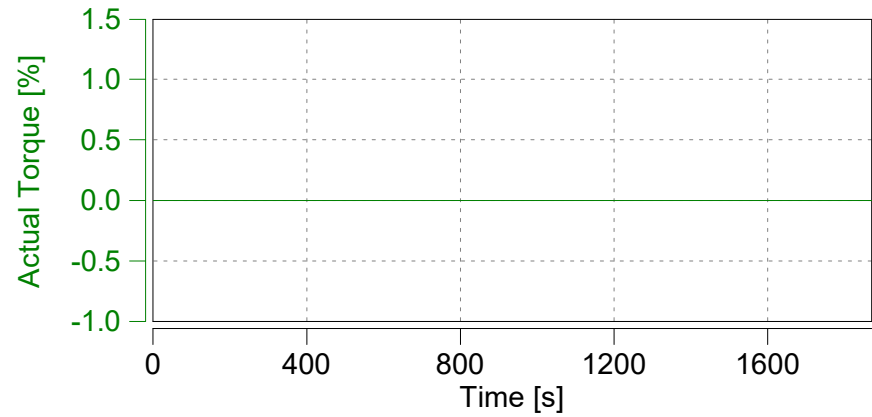
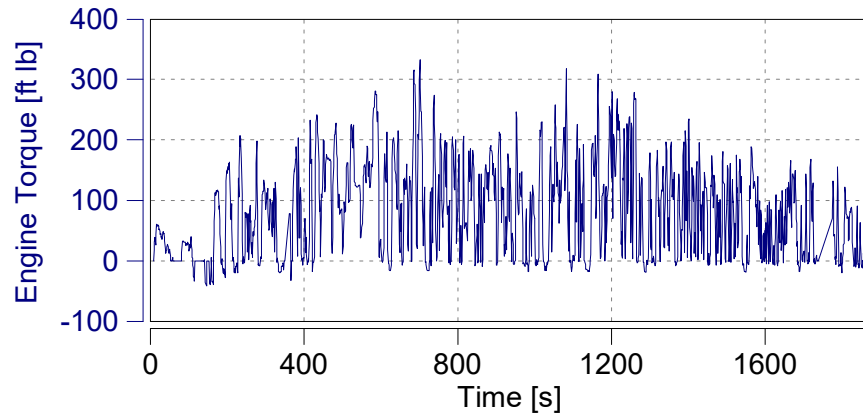
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Case: W167-3511

Page: Engine (3)

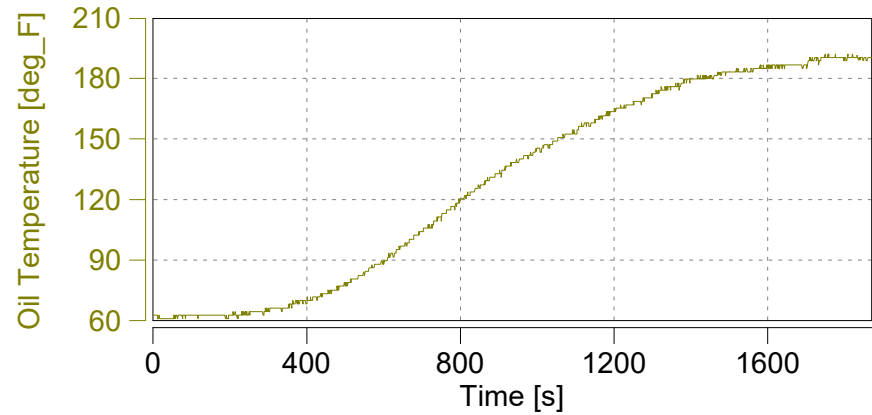
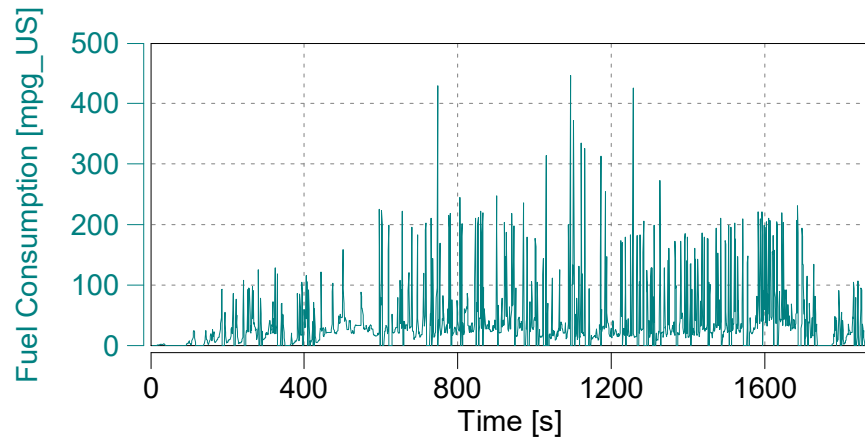
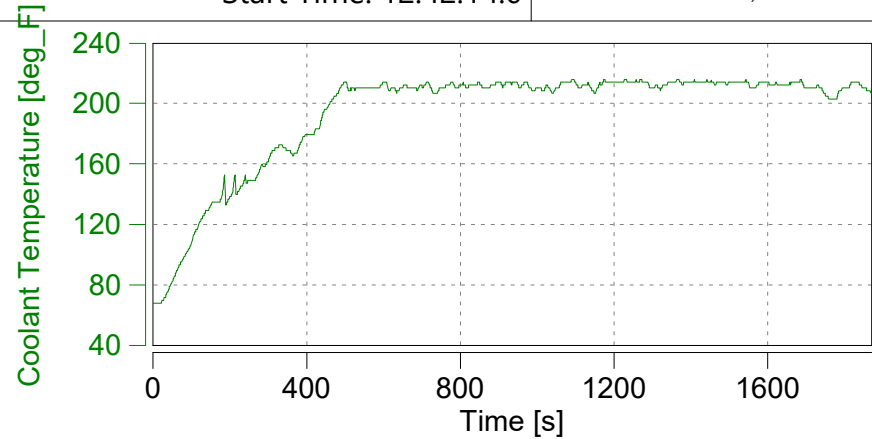
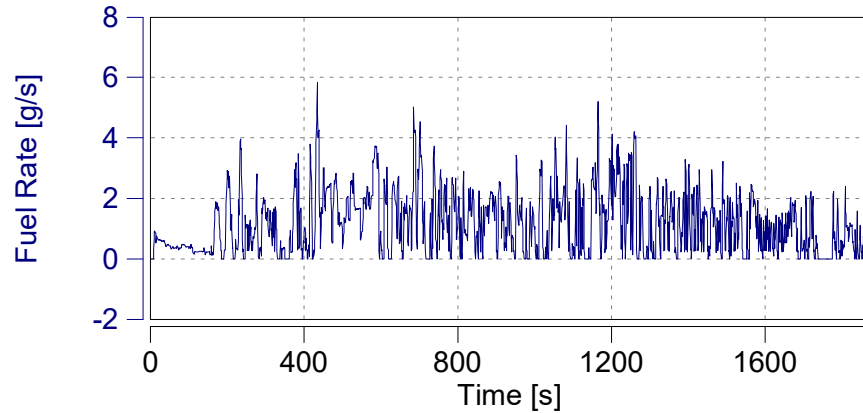
'W167-3511 A0 LATC>CARB'

Start Date: 02/24/2020

Start Time: 12:42:14.0



Concerto M.O.V.E., 2019



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: Exhaust Flow (1)

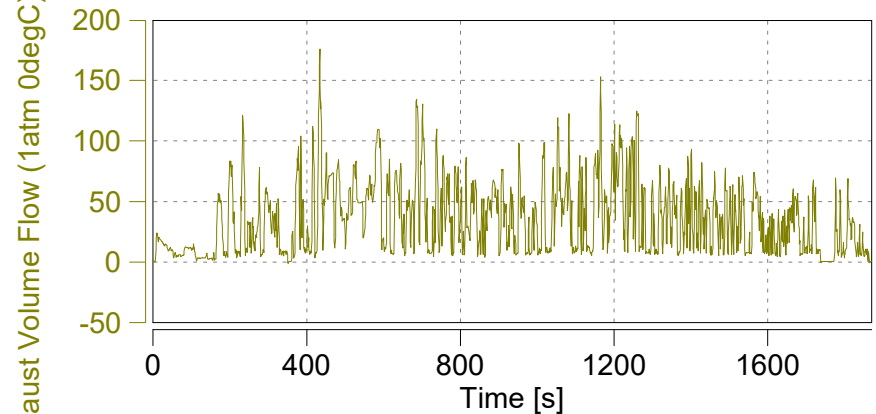
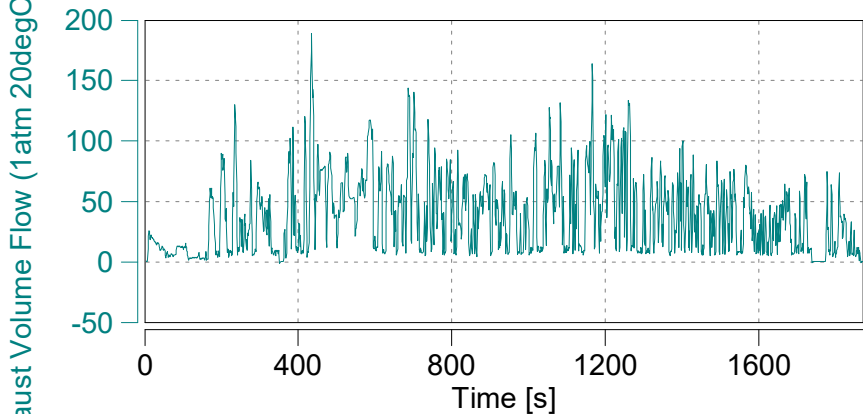
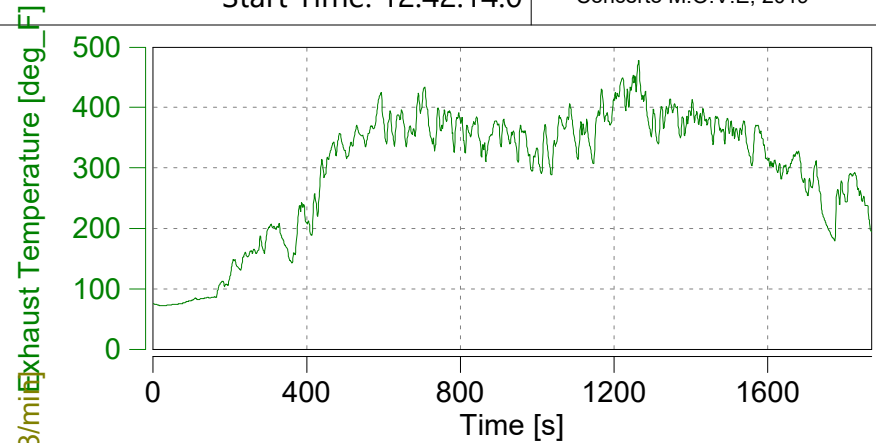
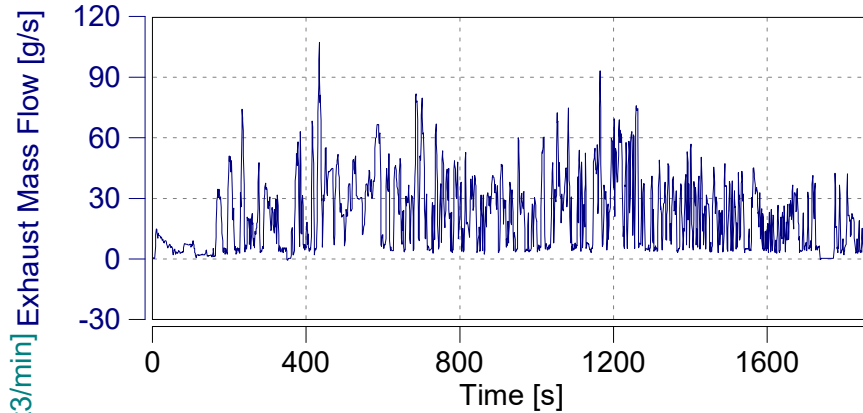
'W167-3511 A0 LATC>CARB'

Start Date: 02/24/2020

Start Time: 12:42:14.0

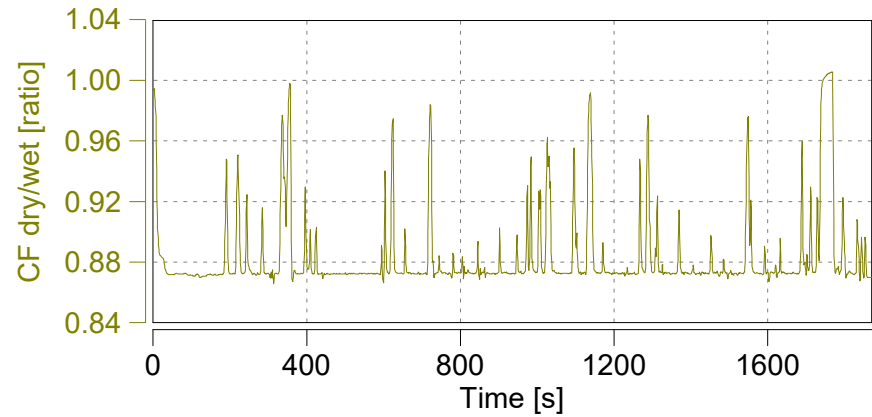
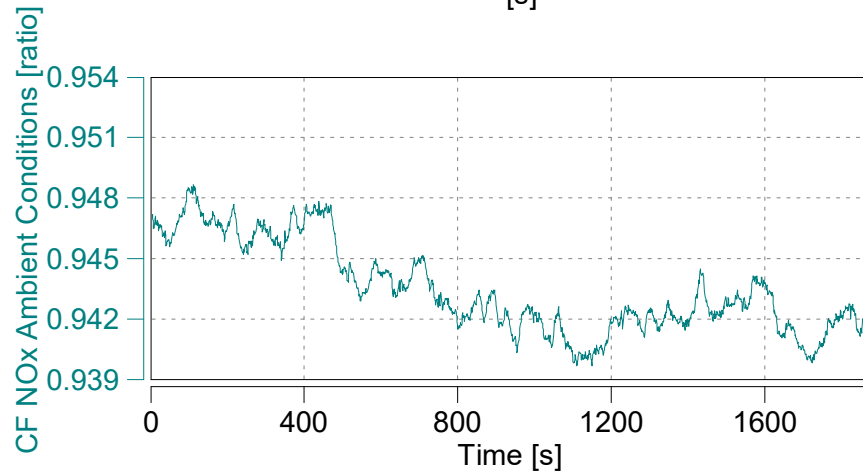
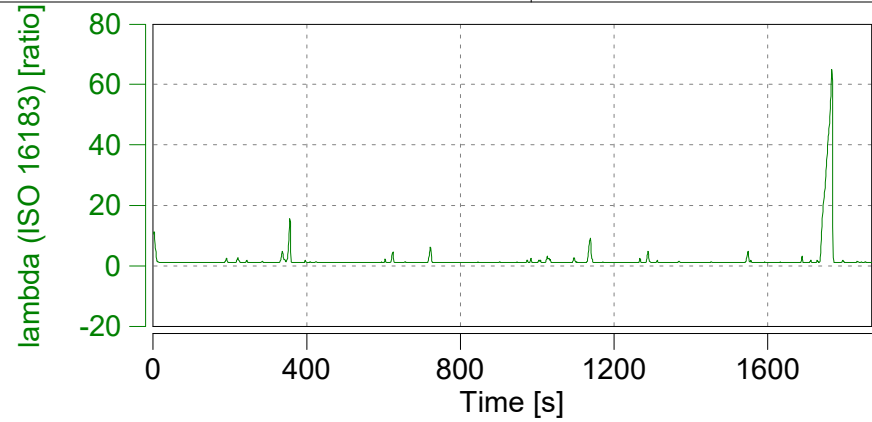
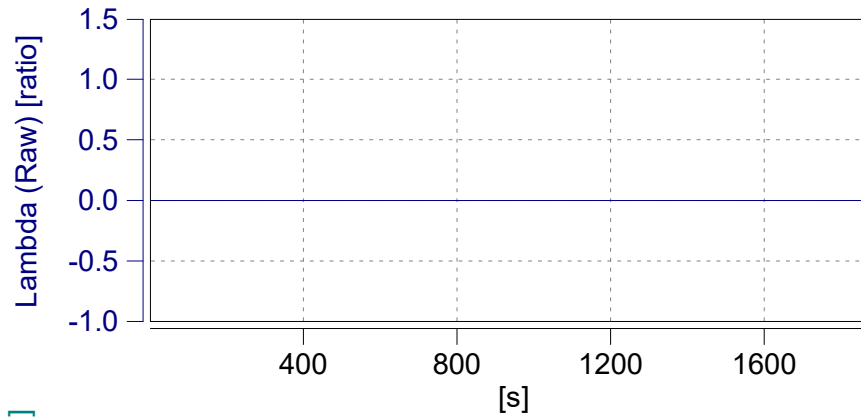


Concerto M.O.V.E, 2019



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: Corrected Emissions (1)

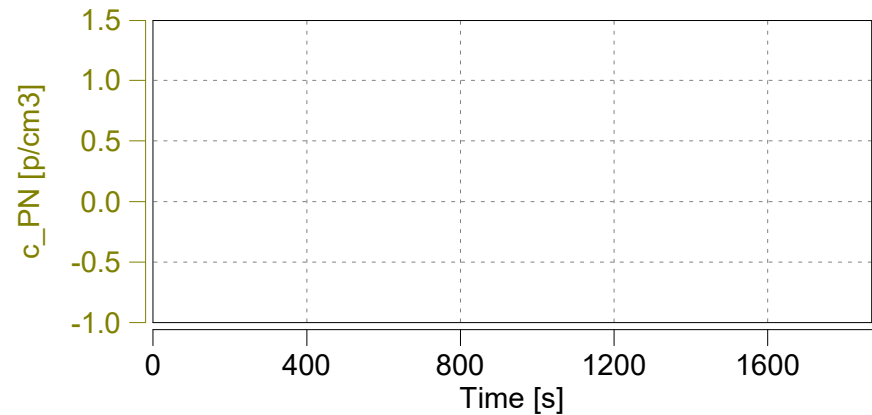
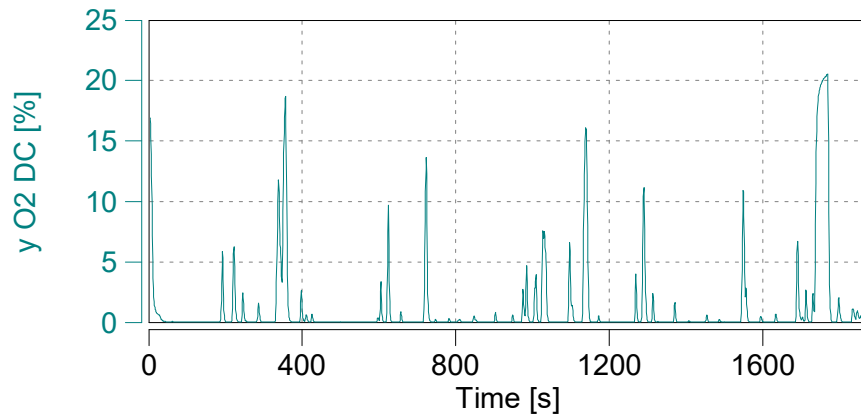
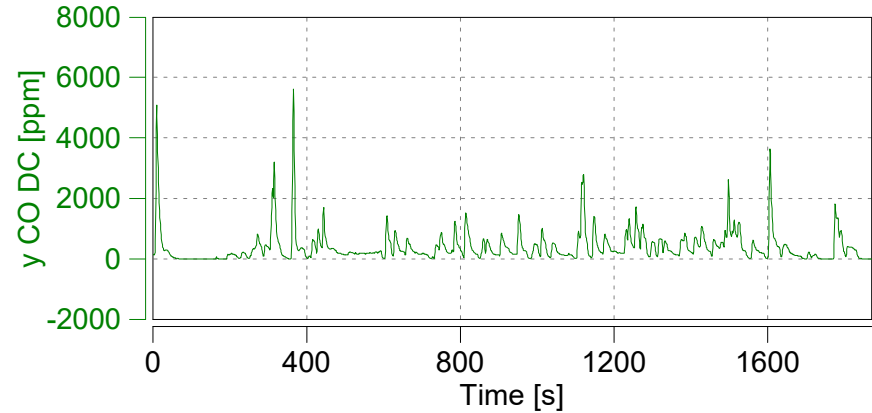
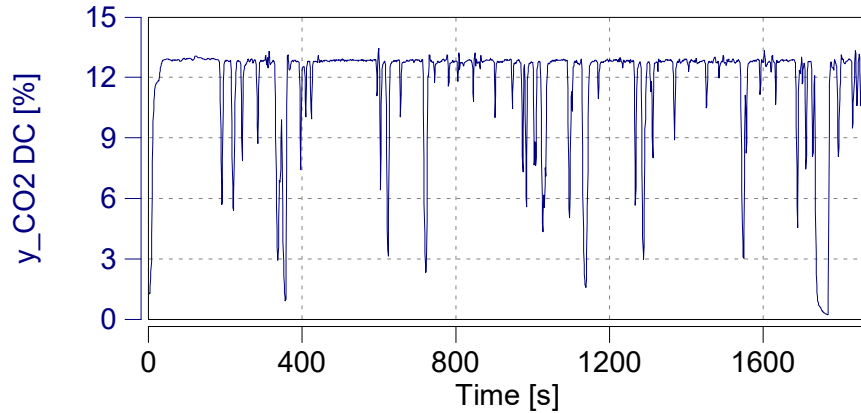
'W167-3511 A0 LATC>CARB'

Start Date: 02/24/2020

Start Time: 12:42:14.0



Concerto M.O.V.E, 2019



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: Corrected Emissions (2)

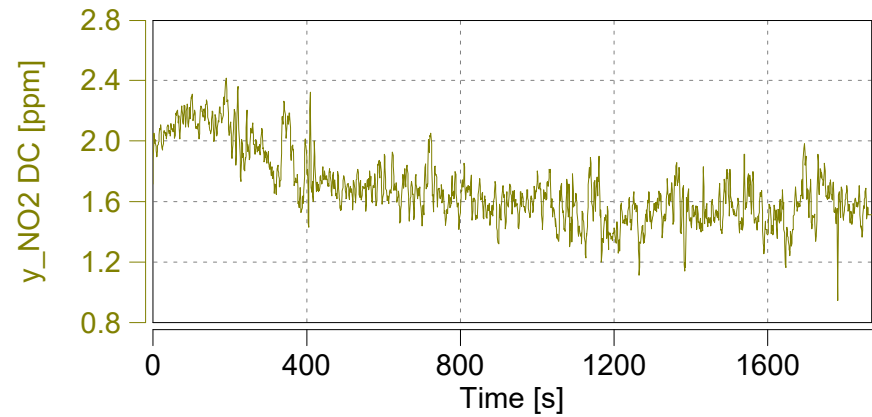
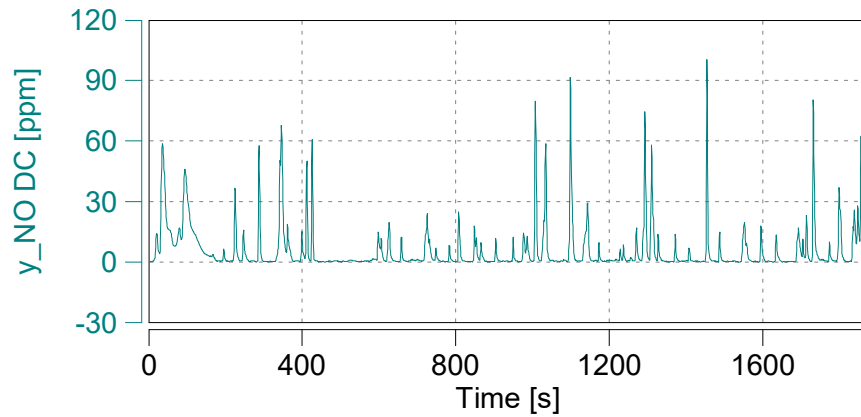
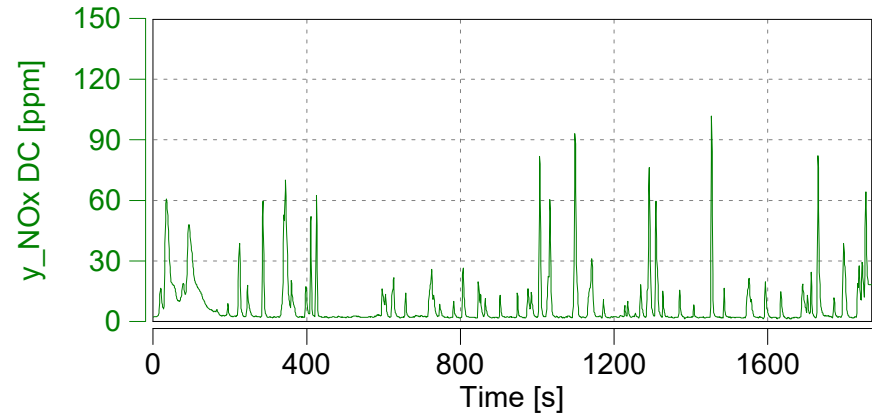
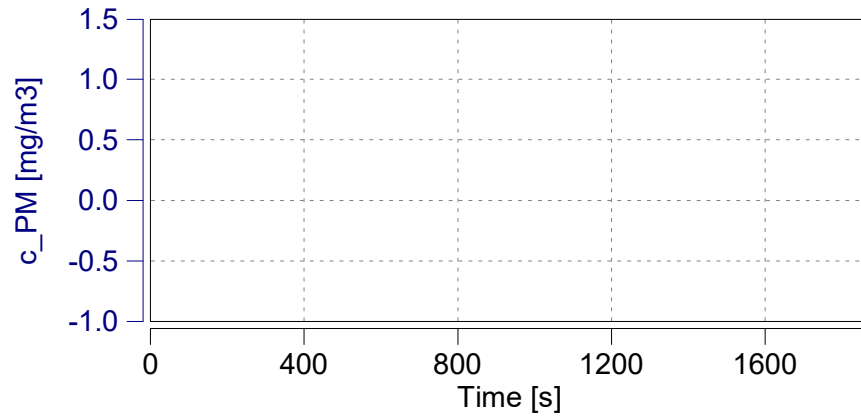
'W167-3511 A0 LATC>CARB'

Start Date: 02/24/2020

Start Time: 12:42:14.0

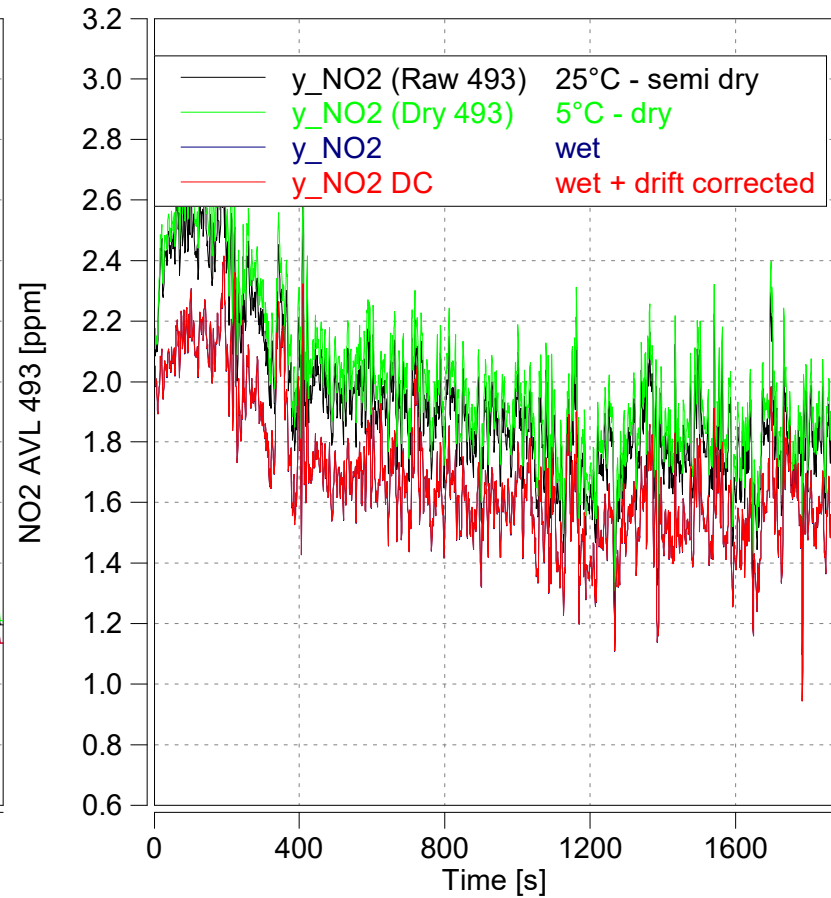
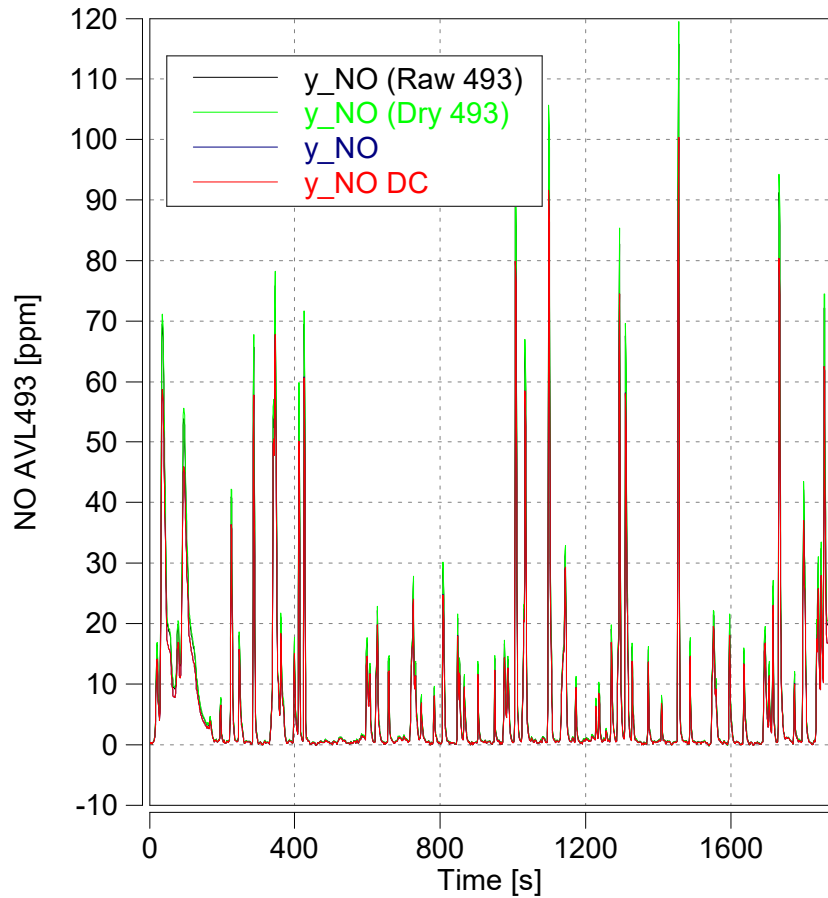


Concerto M.O.V.E., 2019



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

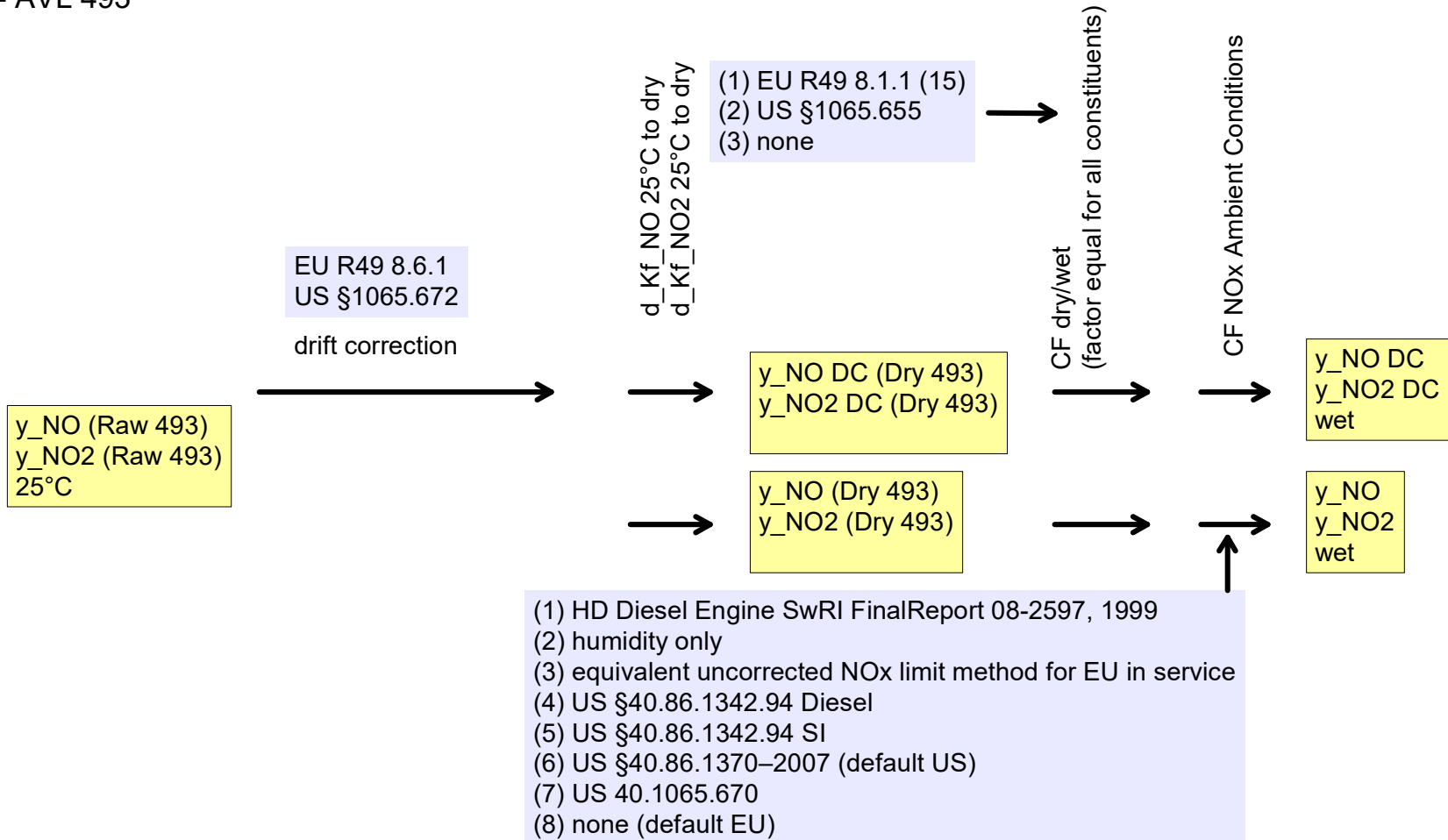


Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90



NOx - AVL 493



Concerto Version: 503 Build 82, Serial Number: 1604
 M.O.V.E Post-Processing: DT_1R3.1_B300
 Legislation:

Vehicle: W167 / PEMS
 Engine: /
 NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
 Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: Corrected Emissions (5)

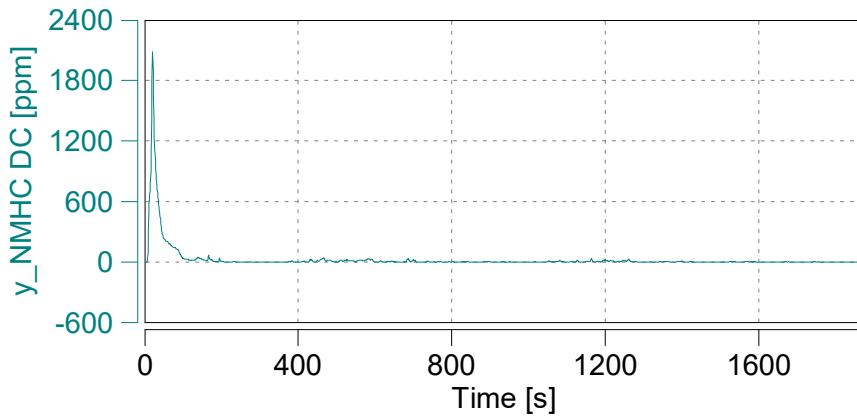
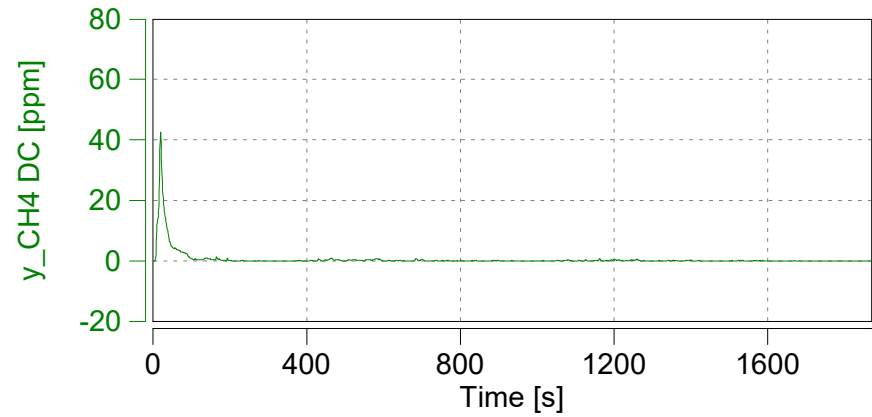
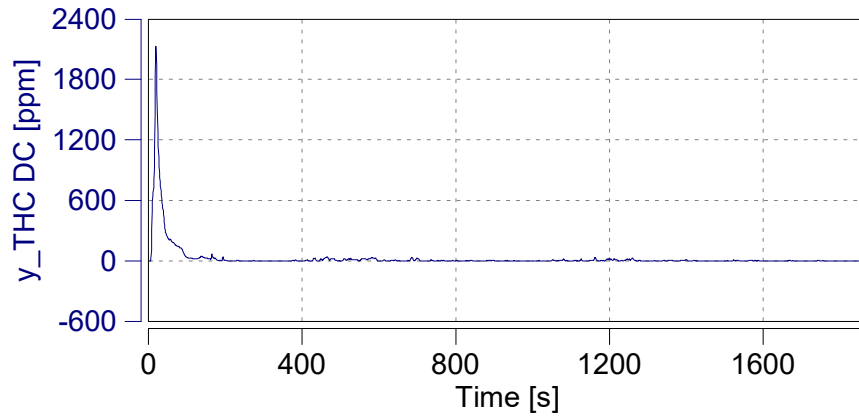
'W167-3511 A0 LATC>CARB'

Start Date: 02/24/2020

Start Time: 12:42:14.0



Concerto M.O.V.E., 2019

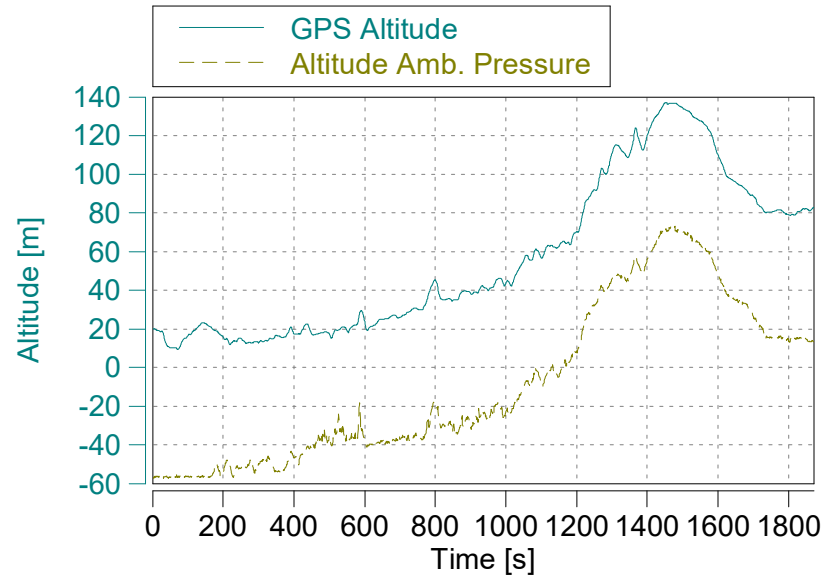
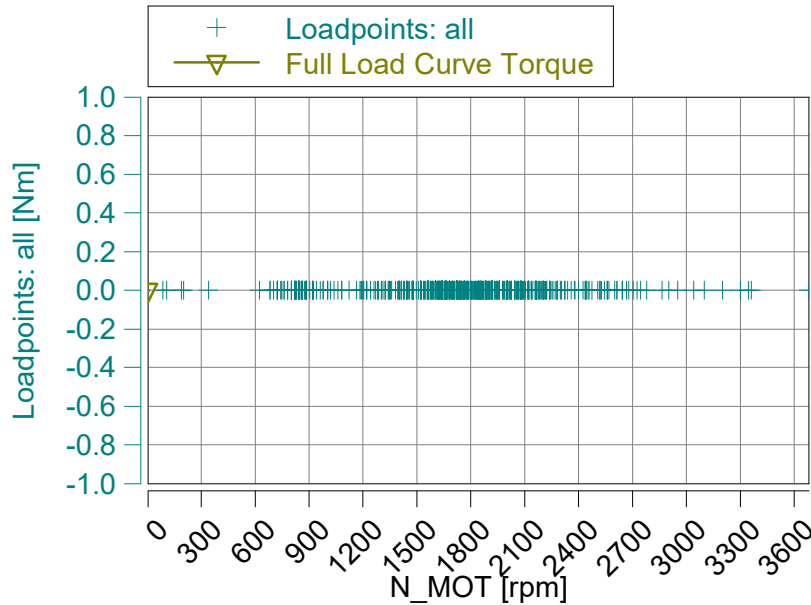


Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

#ERROR
W167-3511

Vehicle type (e.g. M 3 , N 3 and application e.g. rigid or articulated truck, city bus)	#ERROR					
Vehicle description (e.g. vehicle model, prototype)	PEMS					
	CO	THC	NMHC	CH4	NOx	PM
Pass-fail results	passed		passed	passed	passed	passed
Work window conformity factor						
CO2 mass window conformity factor						
Nr. NOx urban valid windows below 90th perc. of all valid windows					997.0	
Trip Information	Urban		Rural		Motorway	
Shares of time of the trip in % characterised by urban, rural and motorway operation	31.3		20.5		48.2	
Shares of time of the trip in % characterised by accelerating, decelerating, cruising and stop						
Accelerating					48.6	%
Decelerating					42.0	%
Cruising					1.1	%
Stop					8.2	%
			Minimum	Maximum		
Work window average power (%)						
CO2 mass window duration (s)						
Work window: percentage of valid windows						
CO2 mass window: percentage of valid window						
Fuel consumption consistency ratio	m = 1.13					
	r ² = 0.97					



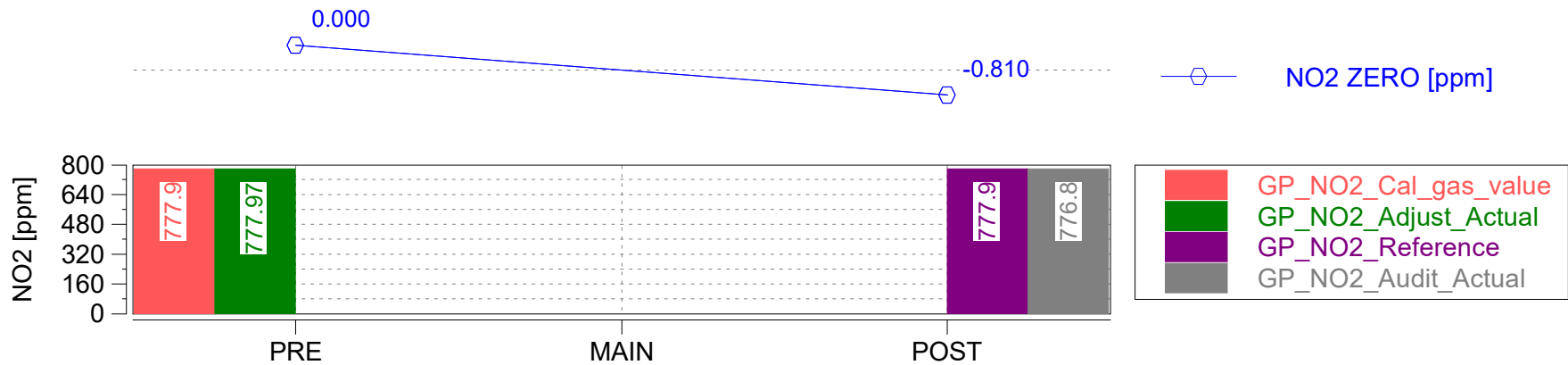
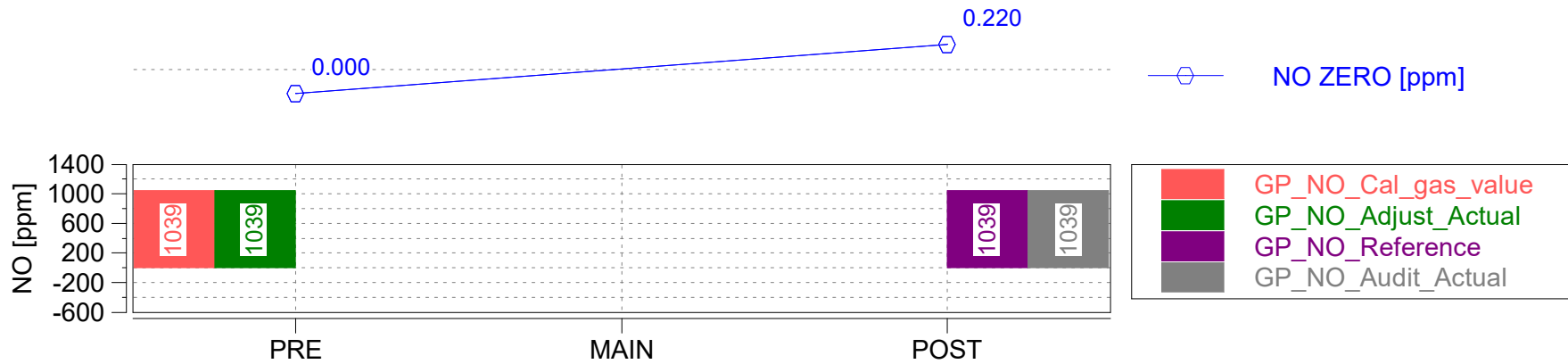
Trip Duration (a)	1872.0	s
Test Duration (b)		s
Total Work (c)		kWh
Reference Work		kWh
Total CO2 Mass (c)		g
Reference CO2 Mass		g
avg BSFC ECU	203.3	g/kWh
avg BSFC ISO16183	240.1	g/kWh
Distance ECU	38.6	km
Distance GPS	38.476	km

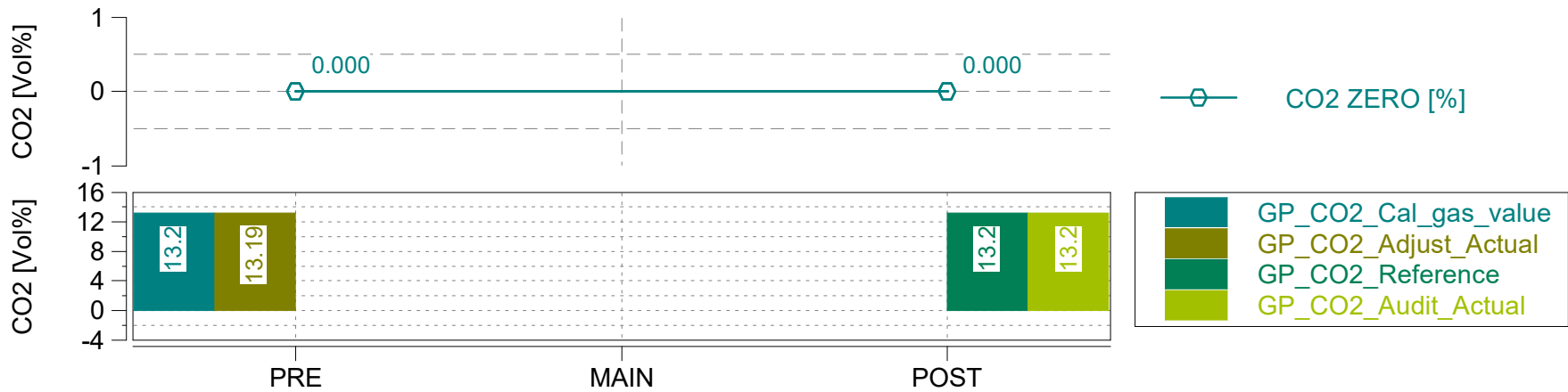
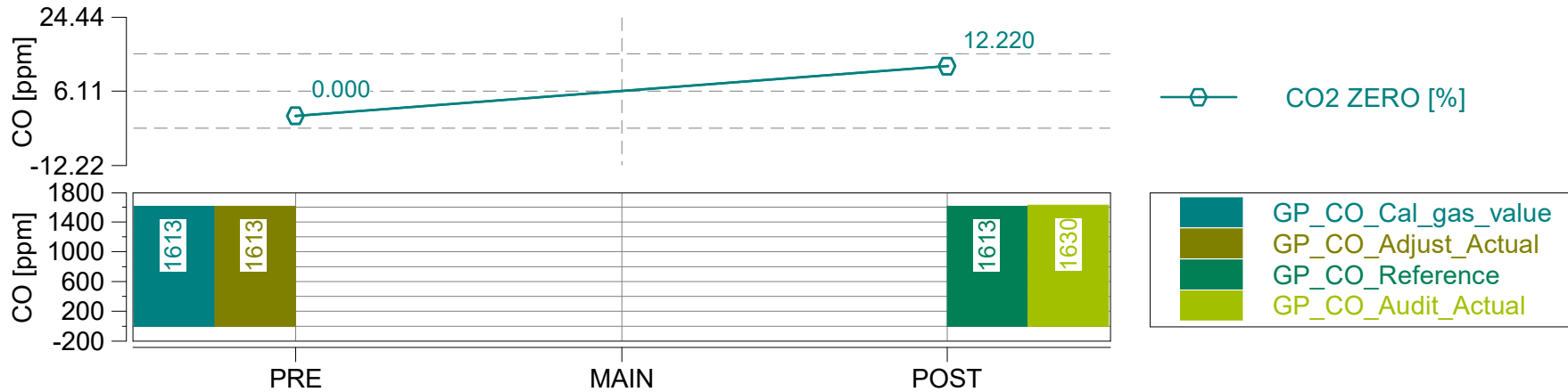
GAS PEMS Leak Check Age	0	days
GAS PEMS Leak Check Date	N/A	yyyy-mm-dd
GAS PEMS Leak Check Time	N/A	hh:mm:ss
GAS PEMS Leak Check External	0.00	%

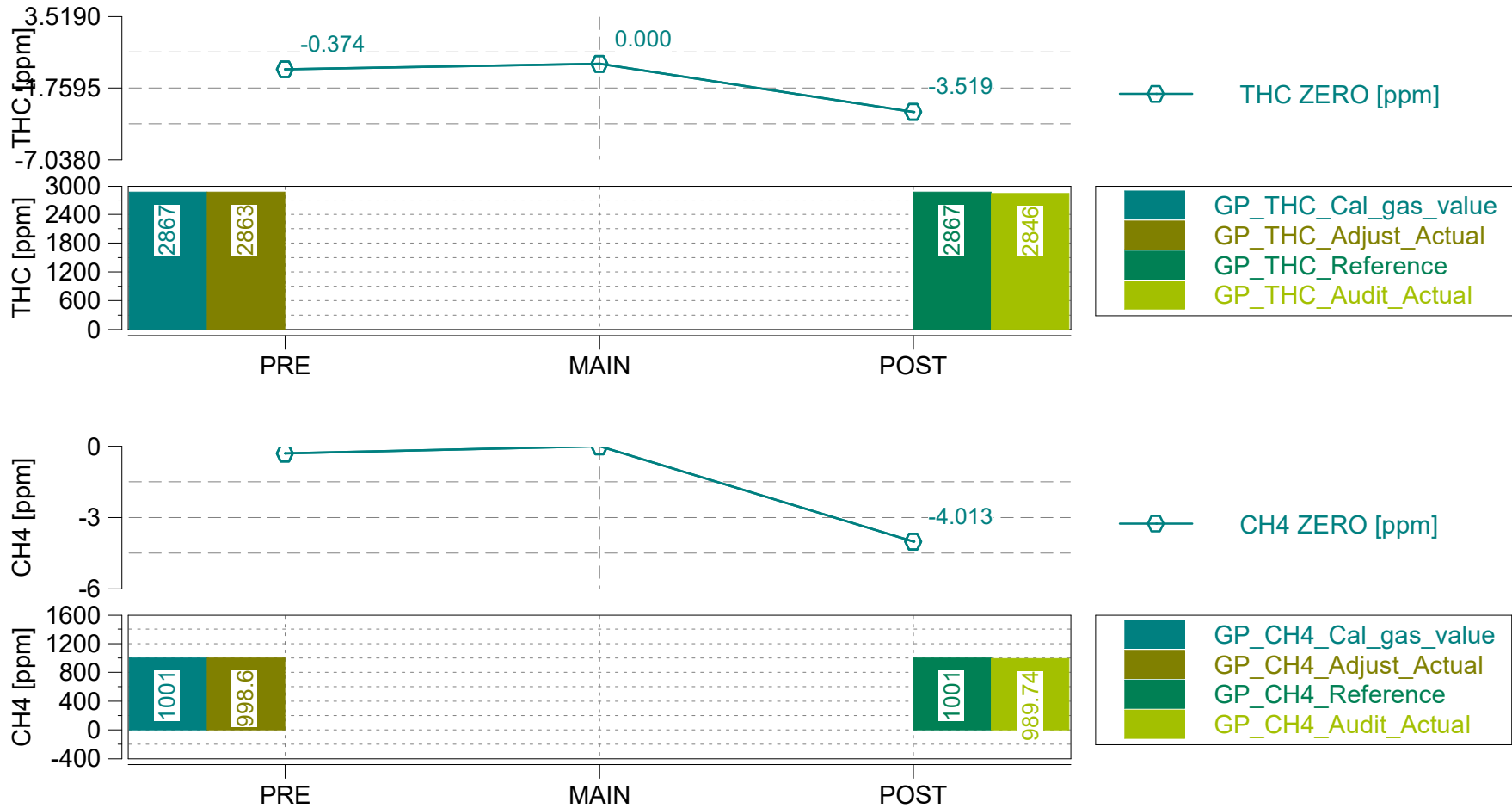
(a) GAS PEMS measurement state only
 (b) without Cold Start
 (c) not cummulated during exclusions

Concerto Version: 503 Build 82, Serial Number: 1604
 M.O.V.E Post-Processing: DT_1R3.1_B300
 Legislation:

Vehicle: W167 / PEMS
 Engine: /
 NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
 Dry / Wet Corr.: 2 - CFR40 §86.1342-90







Concerto Version: 503 Build 82, Serial Number: 1604
 M.O.V.E Post-Processing: DT_1R3.1_B300
 Legislation:

Vehicle: W167 / PEMS
 Engine: /
 NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
 Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: Fuel Rate ECU vs. Calculated

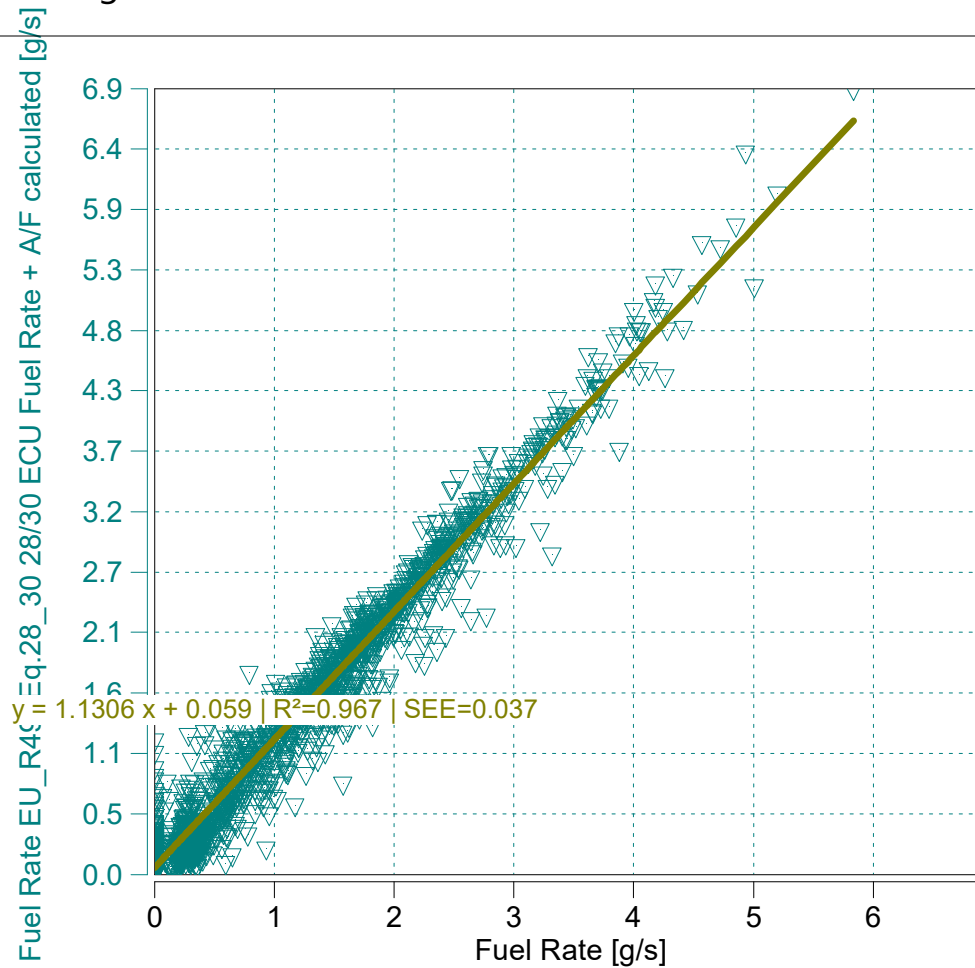
'W167-3511 A0 LATC>CARB'

Start Date: 02/24/2020

Start Time: 12:42:14.0



Concerto M.O.V.E, 2019



EU 582/2011/Appendix I/3.2.1 | Fuel Rate ECU and calculated

$y = 1.1306 x + 0.059 \mid R^2=0.967 \mid SEE=0.037$
 $m = 1.13$ (0.9 - 1.1 recommended)
 $R^2 = 0.97$ (min 0.9 mandatory)

Data from - to [% of Maximum]

Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Trip Duration	3655.00	s	ave THC	-1.95816	ppm	BS CO2	636.92688	g/hphr
Trip Duration (a)	3655.00	s	ave NMHC	-1.91900	ppm	BS CO	1.65784	g/hphr
Trip Distance	16.29	mi	ave CH4	-0.03916	ppm	BS THC	-0.00065	g/hphr
Trip Distance (a)	16.29	mi	ave CO	421.21276	ppm	BS NMHC	-0.00060	g/hphr
			ave CO2	10.25009	%	BS CH4	-0.00001	g/hphr
Trip Fuel Cons. (b)	2.21	kg	ave NOx	10.17502	ppm	BS NO (d)	0.02197	g/hphr
Trip Fuel Cons. (ab)	2.21	kg	ave PM	n/a	mg/m3	BS NO2	0.01039	g/hphr
Trip Fuel Cons. EU (ac)	2.54	kg	ave Soot meas	n/a	mg/m3	BS NOx	0.03237	g/hphr
Trip Fuel Cons. US (ac)	2.53	kg	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
			ave PN	n/a	#/cm3	BS Soot meas	n/a	g/hphr
						BS PM	n/a	g/hphr
Trip Fuel Economy (b)	20.86	mpg_US				BS PN	n/a	#/hpr
Trip Fuel Economy (ab)	20.86	mpg_US	tot THC	-0.00787	g			
Trip Fuel Economy EU (ac)	18.17	mpg_US	tot NMHC	-0.00728	g	DS CO2	471.27939	g/mi
Trip Fuel Economy US (ac)	18.20	mpg_US	tot CH4	-0.00017	g	DS CO	1.22668	g/mi
Trip Fuel Economy GGE (b)	20.86	mpg_US	tot CO	19.98830	g	DS THC	-0.00048	g/mi
Trip Fuel Economy GGE (ab)	20.86	mpg_US	tot CO2	7679.34066	g	DS NMHC	-0.00045	g/mi
Trip Fuel Economy EU GGE (ac)	18.17	mpg_US	tot NO (d)	0.26494	g	DS CH4	-0.00001	g/mi
Trip Fuel Economy US GGE (ac)	18.20	mpg_US	tot NO2	0.12530	g	DS NO (d)	0.01626	g/mi
			tot NOx	0.39024	g	DS NO2	0.00769	g/mi
Trip Av. Eng. Speed	1190.98	rpm	tot Soot	n/a	g	DS NOx	0.02395	g/mi
Trip Av. Torque	40.00	lbft	tot Soot meas	n/a	g	DS Soot	n/a	g/mi
Trip Av. Power	11.88	hp	tot PM	n/a	g	DS Soot meas	n/a	g/mi
Trip Work			tot PN	n/a	#	DS PM	n/a	g/mi
Trip Work (a)	12.06	hphr				DS PN	n/a	#/mi
			PM measurement type	0.00000	-			
Trip Exhaust Mass	39.81	kg	tot Soot on PM filter (estim.)	0.00000	mg	FS CO2	3473.83932	g/kg
Trip Exhaust Mass EU (ac)	34.67	kg	Soot --> PM simple scaling factor	1.00000	-	FS CO	9.04194	g/kg
Trip Exhaust Mass US (ac)	34.83	kg				FS THC	-0.00356	g/kg
			Trip Av. Veh. Speed	16.04947	mi/hr	FS NMHC	-0.00329	g/kg
Trip Av. Amb. Temperature	84.05	deg_F				FS CH4	-0.00008	g/kg
Trip Av. Humidity	18.43	%	Trip Distance Share Urban	70.97565	% distance	FS NO (d)	0.11985	g/kg
Trip Av. GPS Altitude	72.90	m	Trip Distance Share Rural	22.84535	% distance	FS NO2	0.05668	g/kg
			Trip Distance Share Motorway	6.17900	% distance	FS NOx	0.17653	g/kg
Fuel Type	Petrol (E10)					FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) Based on A/F ratio (eq 28-32 - R49)
(d) NO calculated using molecular weight of NO2, GGE=Gasoline Gallon Equivalents

Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: Trip Summary Drift Corrected

'W167-3511 LA City'

Start Date: 02/21/2020

Start Time: 12:46:11.0



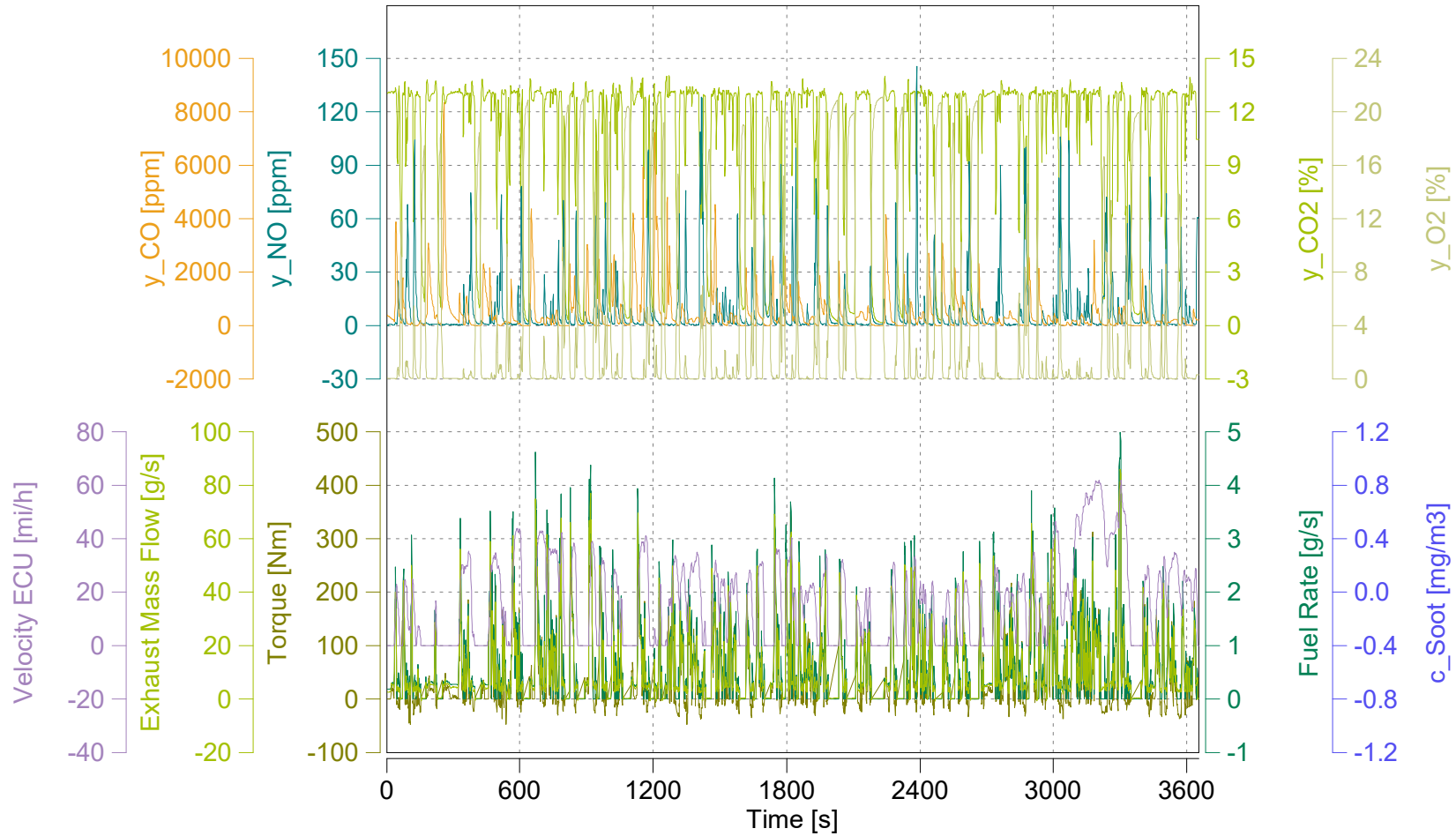
Concerto M.O.V.E., 2019

Trip Duration	3655.00	s	ave THC DC	-1.68593	ppm	BS CO2 DC	636.68806	g/hphr
Trip Duration (a)	3655.00	s	ave NMHC DC	-1.65221	ppm	BS CO DC	1.66334	g/hphr
Trip Distance	16.29	mi	ave CH4 DC	-0.03372	ppm	BS THC DC	-0.00025	g/hphr
Trip Distance (a)	16.29	mi	ave CO DC	422.50750	ppm	BS NMHC DC	-0.00023	g/hphr
			ave CO2 DC	10.24625	%	BS CH4 DC	-0.00001	g/hphr
Trip Fuel Cons. (b)	2.21	kg	ave NOx DC	10.19649	ppm	BS NO DC (d)	0.02194	g/hphr
Trip Fuel Cons. (ab)	2.21	kg	ave PM	n/a	mg/m3	BS NO2 DC	0.01052	g/hphr
Trip Fuel Cons. EU (ac)	2.54	kg	ave Soot meas	n/a	mg/m3	BS NOx DC	0.03247	g/hphr
Trip Fuel Cons. US (ac)	2.53	kg	ave Soot	n/a	mg/m3	BS Soot	n/a	g/hphr
			ave PN DC	n/a	#/cm3	BS Soot meas	n/a	g/hphr
						BS PM	n/a	g/hphr
Trip Fuel Economy (b)	20.86	mpg_US				BS PN DC	n/a	#/hpr
Trip Fuel Economy (ab)	20.86	mpg_US	tot THC DC	-0.00301	g			
Trip Fuel Economy EU (ac)	18.17	mpg_US	tot NMHC DC	-0.00278	g	DS CO2 DC	471.10268	g/mi
Trip Fuel Economy US (ac)	18.20	mpg_US	tot CH4 DC	-0.00007	g	DS CO DC	1.23075	g/mi
Trip Fuel Economy GGE (b)	20.86	mpg_US	tot CO DC	20.05462	g	DS THC DC	-0.00018	g/mi
Trip Fuel Economy GGE (ab)	20.86	mpg_US	tot CO2 DC	7676.46127	g	DS NMHC DC	-0.00017	g/mi
Trip Fuel Economy EU GGE (ac)	18.17	mpg_US	tot NO DC (d)	0.26455	g	DS CH4 DC	-0.00000	g/mi
Trip Fuel Economy US GGE (ac)	18.20	mpg_US	tot NO2 DC	0.12690	g	DS NO DC (d)	0.01624	g/mi
			tot NOx DC	0.39145	g	DS NO2 DC	0.00779	g/mi
Trip Av. Eng. Speed	1190.98	rpm	tot Soot	n/a	g	DS NOx DC	0.02402	g/mi
Trip Av. Torque	40.00	lbft	tot Soot meas	n/a	g	DS Soot	n/a	g/mi
Trip Av. Power	11.88	hp	tot PM	n/a	g	DS Soot meas	n/a	g/mi
Trip Work			tot PN DC	n/a	#	DS PM	n/a	g/mi
Trip Work (a)	12.06	hphr				DS PN DC	n/a	#/mi
			PM measurement type	0.00000	-			
Trip Exhaust Mass	39.81	kg	tot Soot on PM filter (estim.)	0.00000	mg	FS CO2 DC	3472.53679	g/kg
Trip Exhaust Mass EU (ac)	34.67	kg	Soot --> PM simple scaling factor	1.00000	-	FS CO DC	9.07194	g/kg
Trip Exhaust Mass US (ac)	34.83	kg				FS THC DC	-0.00136	g/kg
			Trip Av. Veh. Speed	16.04947	mi/hr	FS NMHC DC	-0.00126	g/kg
Trip Av. Amb. Temperature	84.05	deg_F				FS CH4 DC	-0.00003	g/kg
Trip Av. Humidity	18.43	%	Trip Distance Share Urban	70.97565	% distance	FS NO DC (d)	0.11967	g/kg
Trip Av. GPS Altitude	72.90	m	Trip Distance Share Rural	22.84535	% distance	FS NO2 DC	0.05740	g/kg
			Trip Distance Share Motorway	6.17900	% distance	FS NOx DC	0.17708	g/kg
Fuel Type	Petrol (E10)					FS Soot	n/a	g/kg
						FS Soot meas	n/a	g/kg
						FS PM	n/a	g/kg
						FS PN DC	n/a	#/kg

(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) Based on A/F ratio (eq 28-32 - R49)
 (d) NO calculated using molecular weight of NO2, GGE=Gasoline Gallon Equivalents

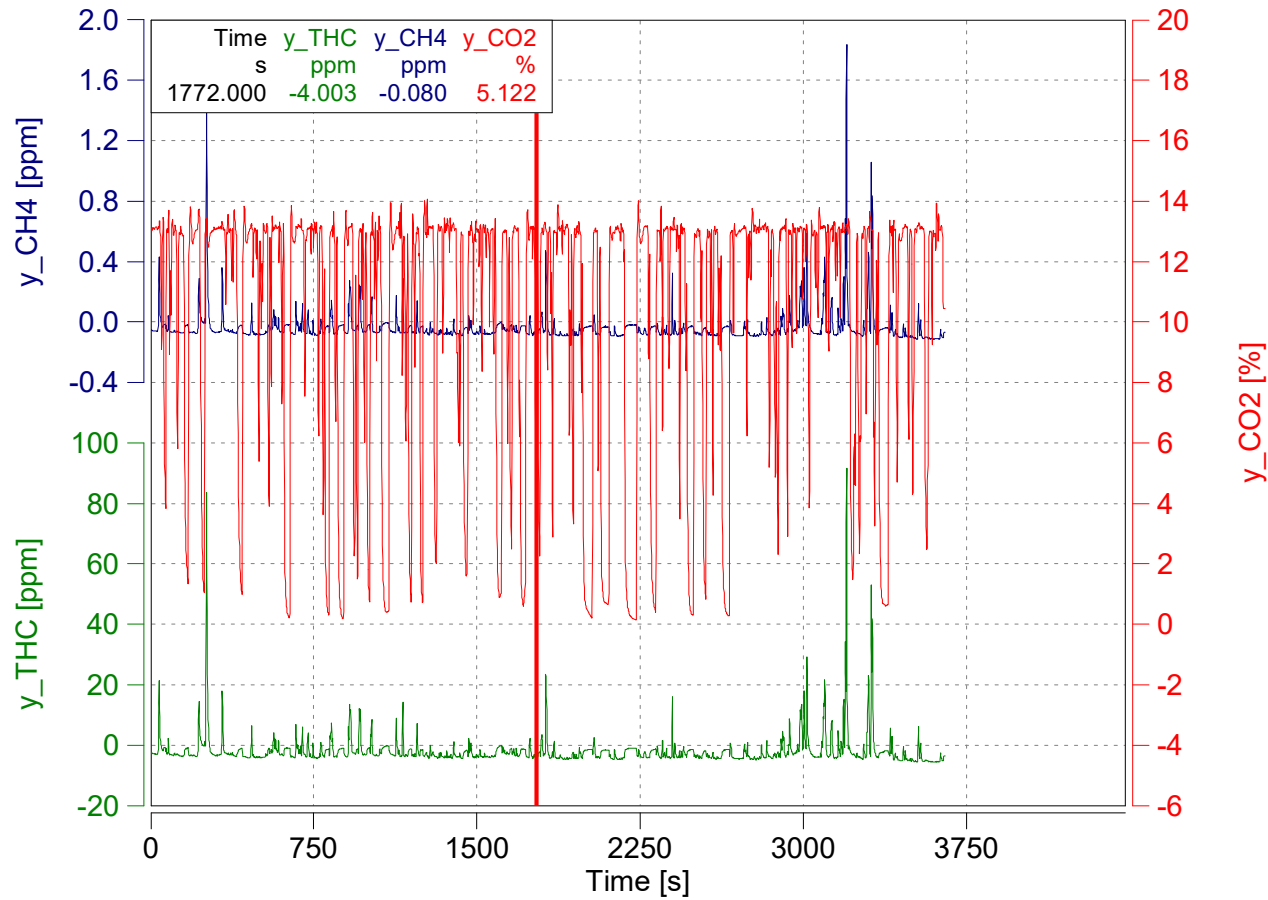
Concerto Version: 503 Build 82, Serial Number: 1604
 M.O.V.E Post-Processing: DT_1R3.1_B300
 Legislation:

Vehicle: W167 / PEMS
 Engine: /
 NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
 Dry / Wet Corr.: 2 - CFR40 §86.1342-90



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90



Absolute Time Shifts

y_THC	s	-5.2
y_CH4	s	-7.2

Reset Time Shifts in Plot

Apply Current Values

Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: Ambient Conditions

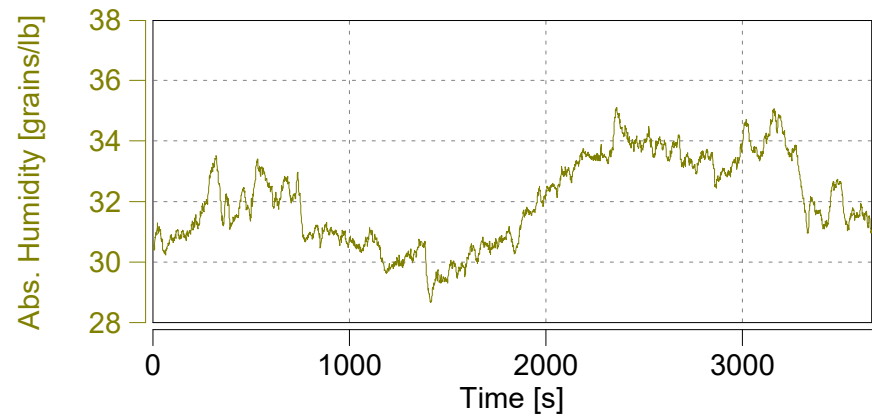
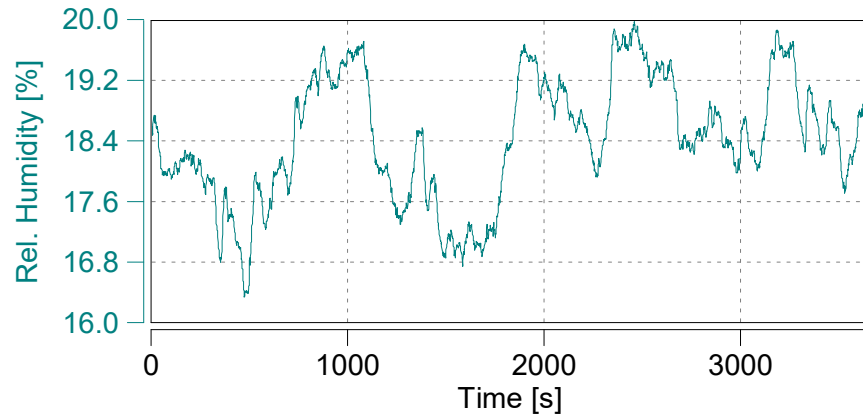
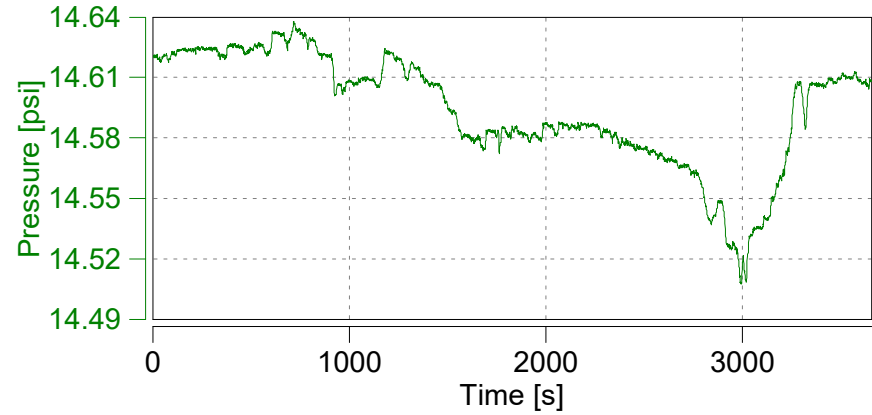
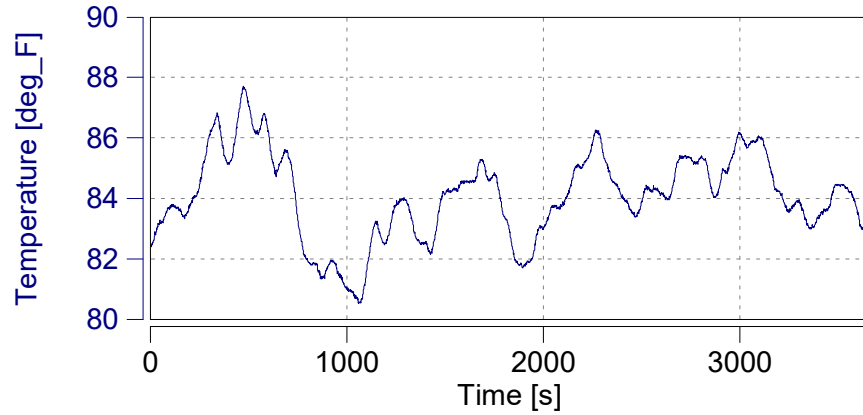
'W167-3511 LA City'

Start Date: 02/21/2020

Start Time: 12:46:11.0



Concerto M.O.V.E, 2019



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: GPS

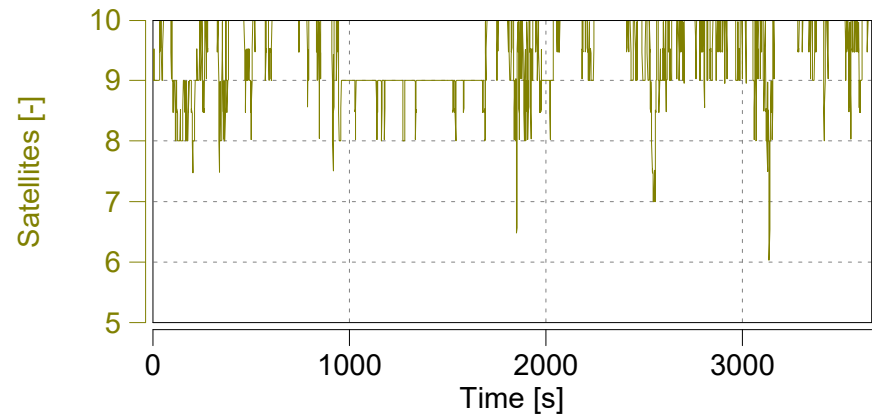
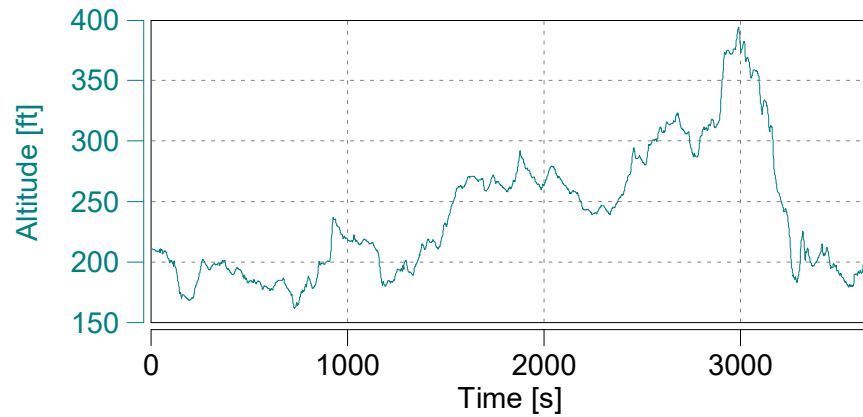
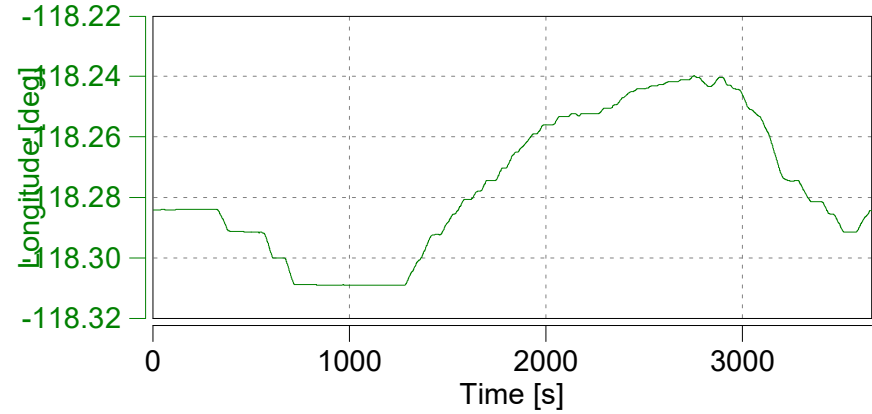
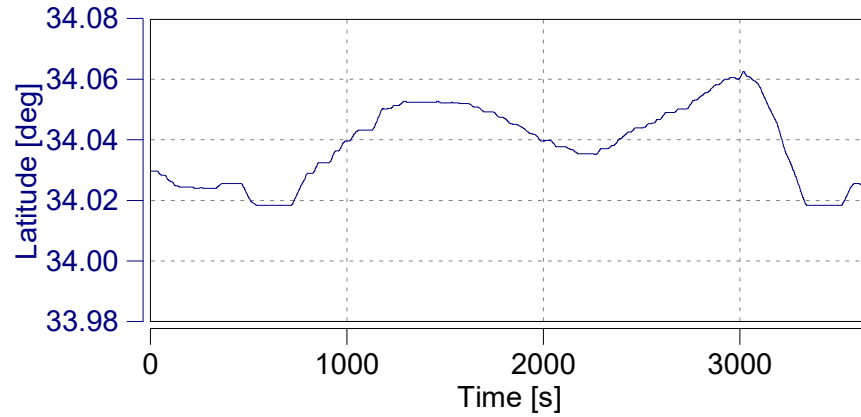
'W167-3511 LA City'

Start Date: 02/21/2020

Start Time: 12:46:11.0



Concerto M.O.V.E, 2019



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: Engine (1)

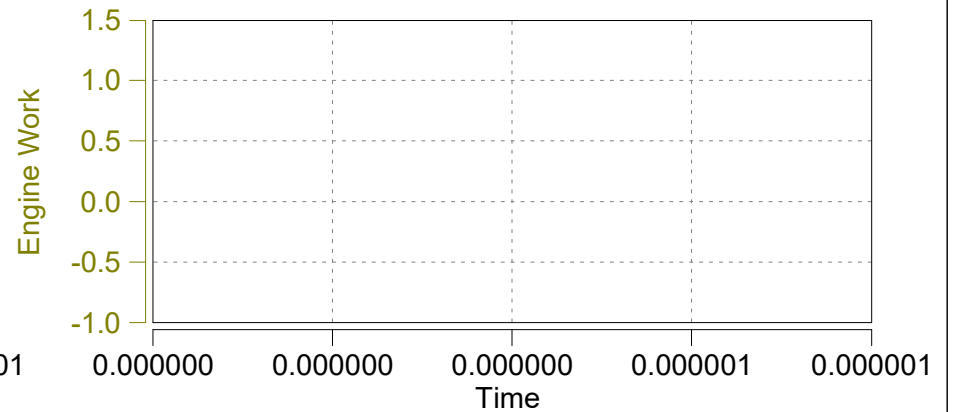
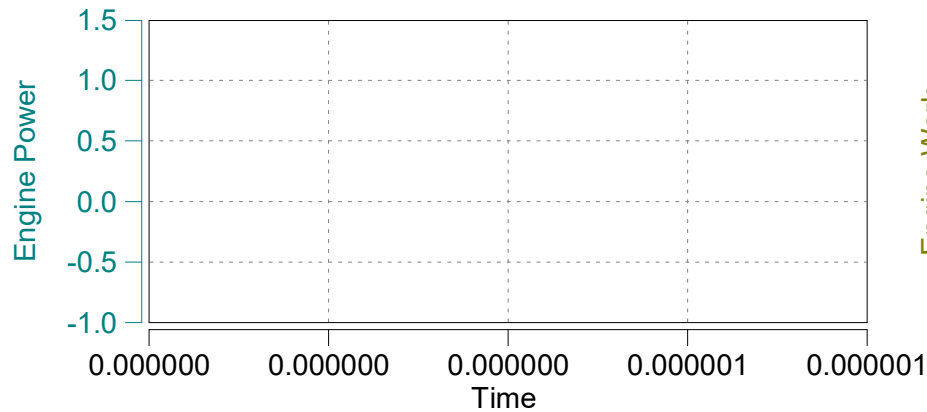
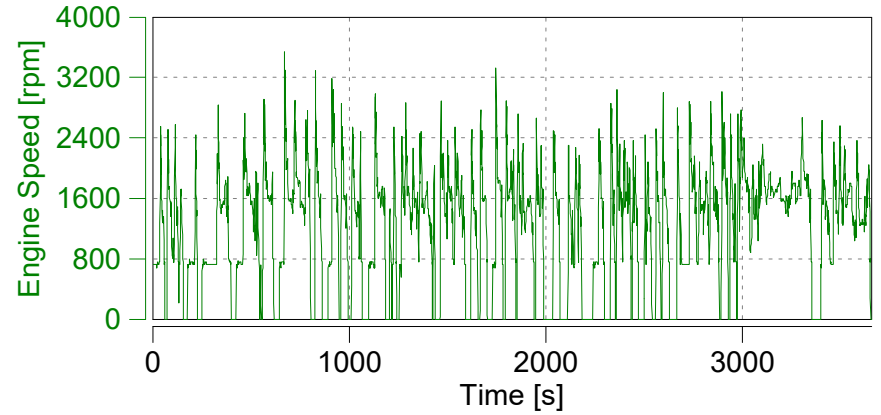
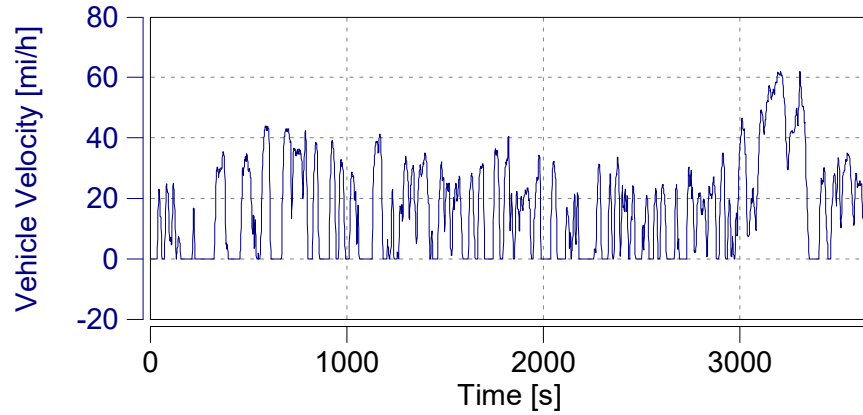
'W167-3511 LA City'

Start Date: 02/21/2020

Start Time: 12:46:11.0

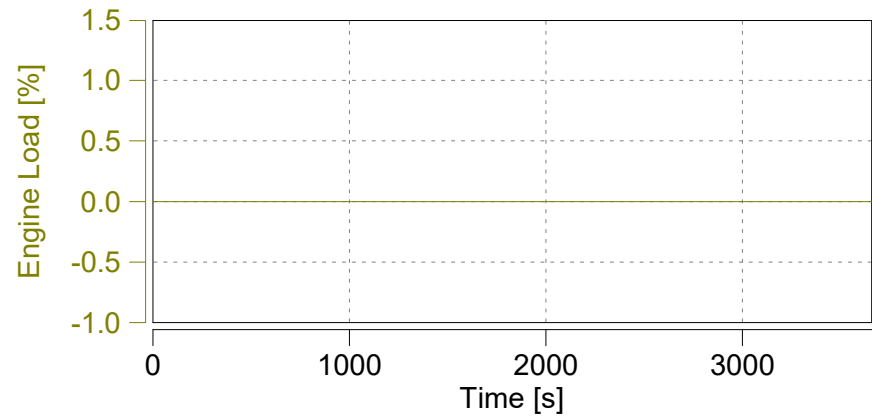
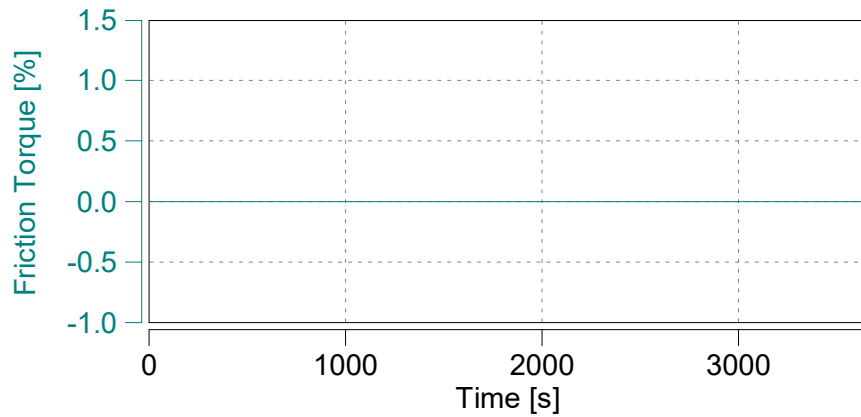
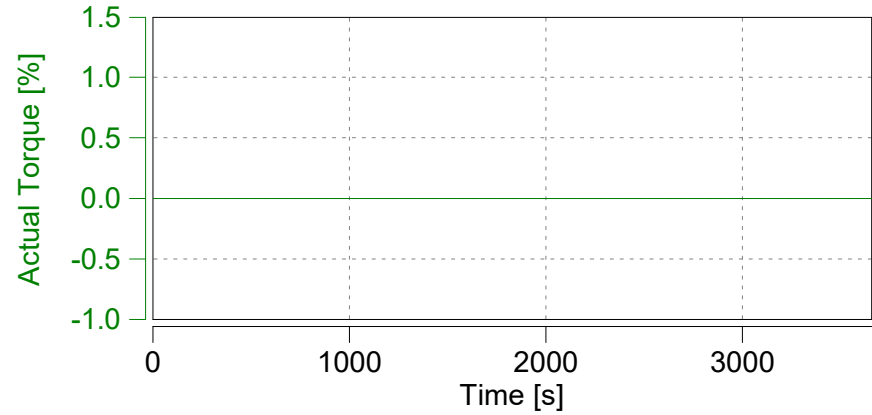
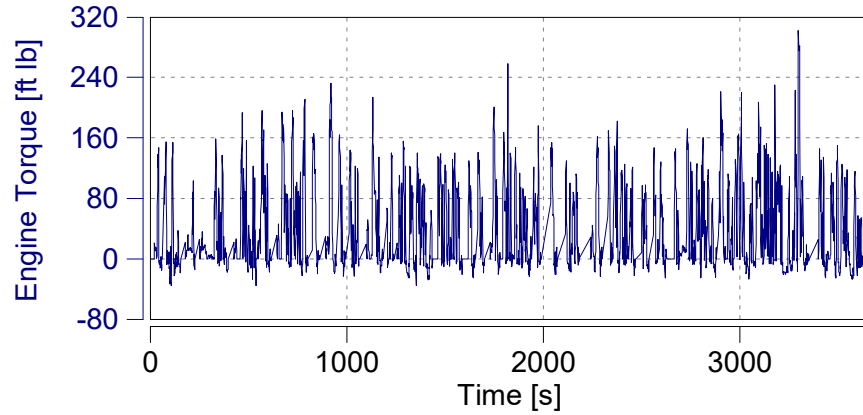


Concerto M.O.V.E., 2019



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
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Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: Engine (3)

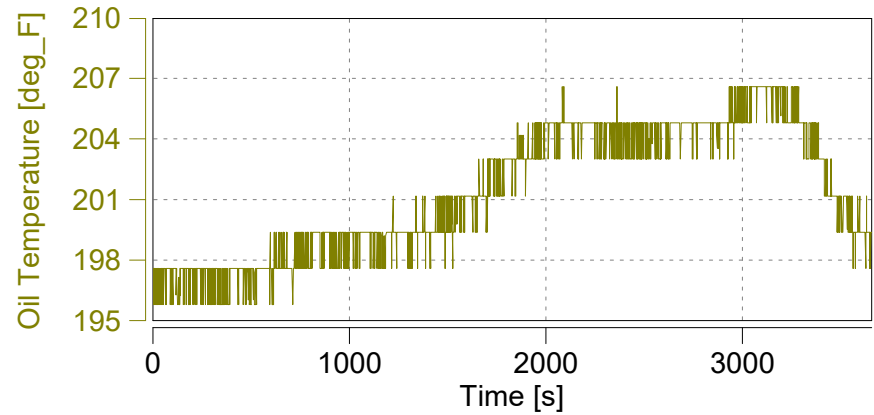
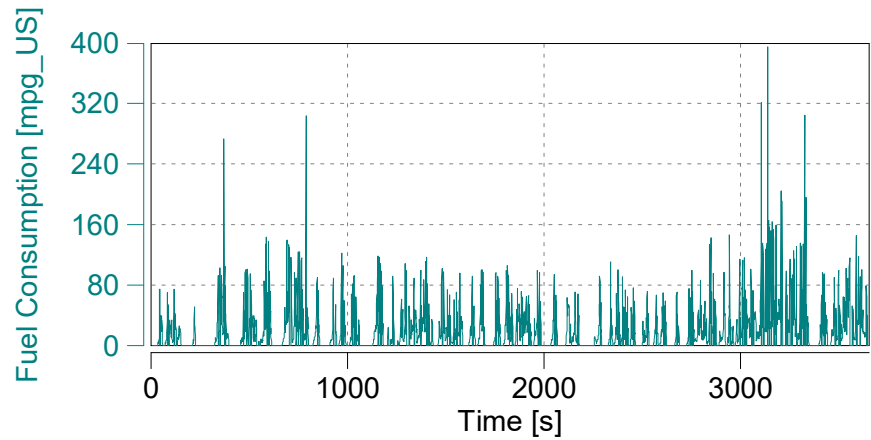
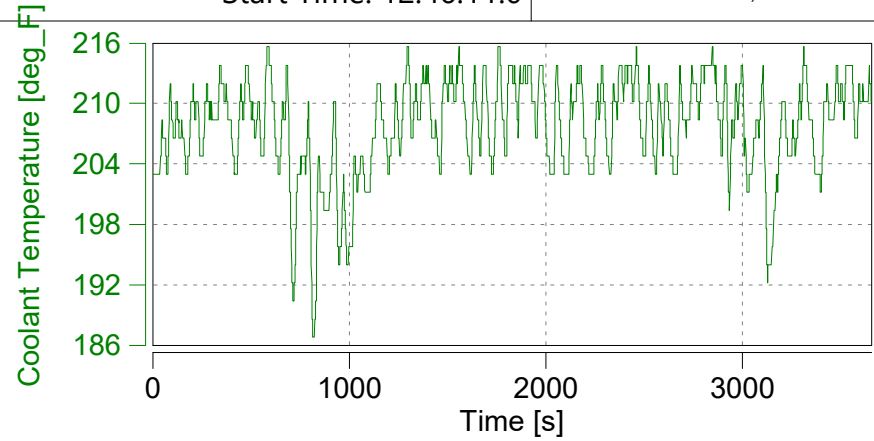
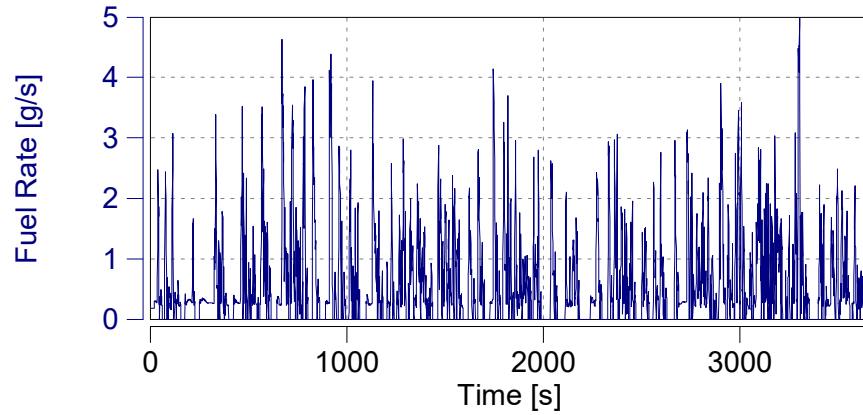
'W167-3511 LA City'

Start Date: 02/21/2020

Start Time: 12:46:11.0



Concerto M.O.V.E., 2019



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: Exhaust Flow (1)

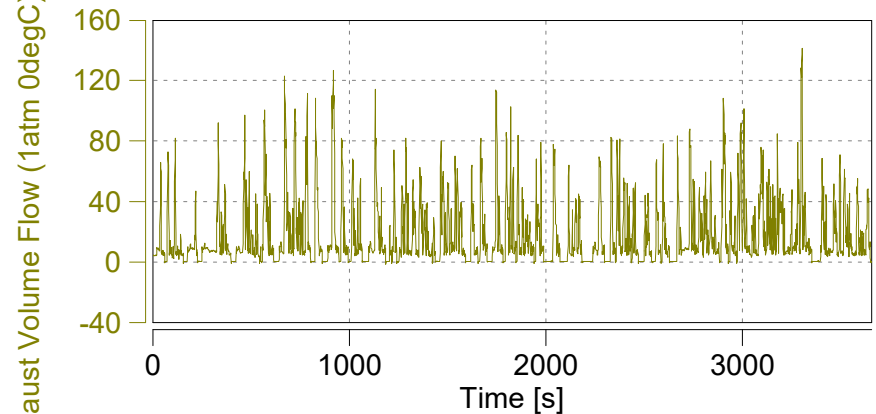
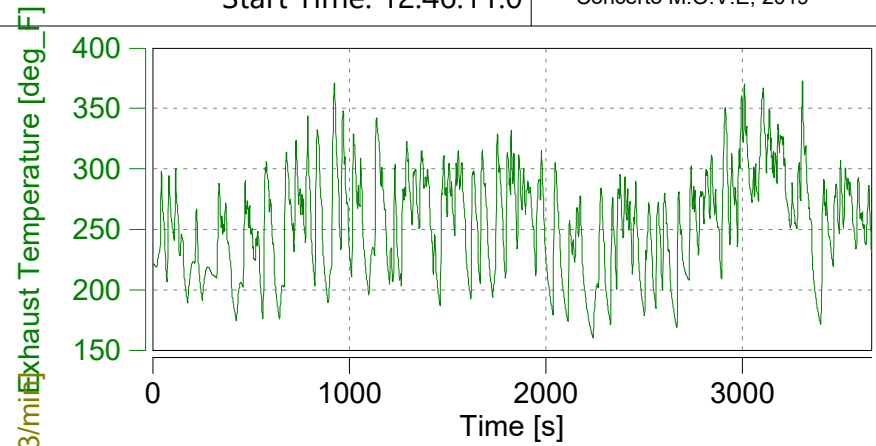
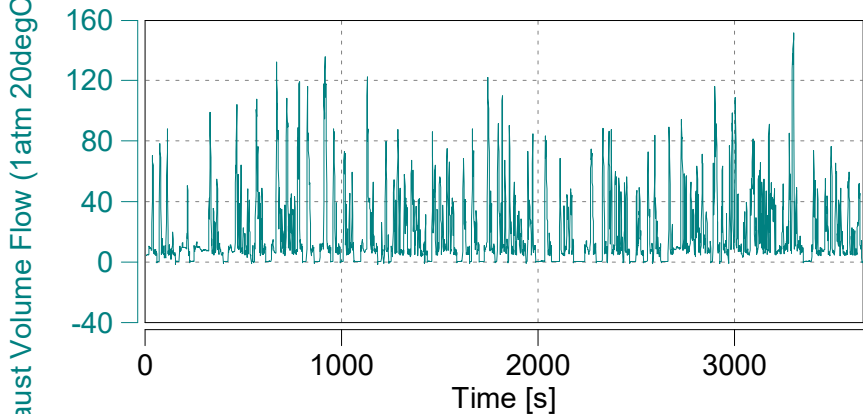
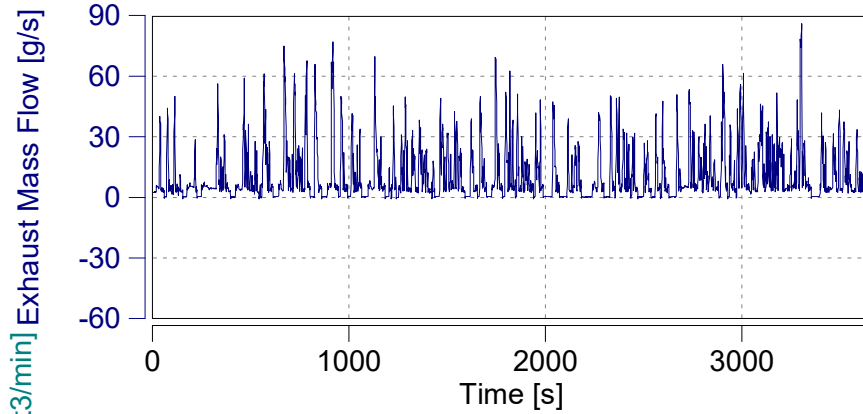
'W167-3511 LA City'

Start Date: 02/21/2020

Start Time: 12:46:11.0



Concerto M.O.V.E., 2019



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: Exhaust Flow (2)

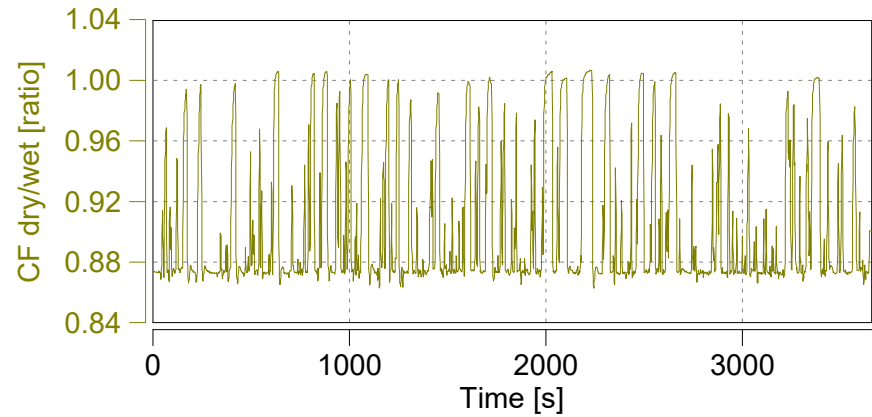
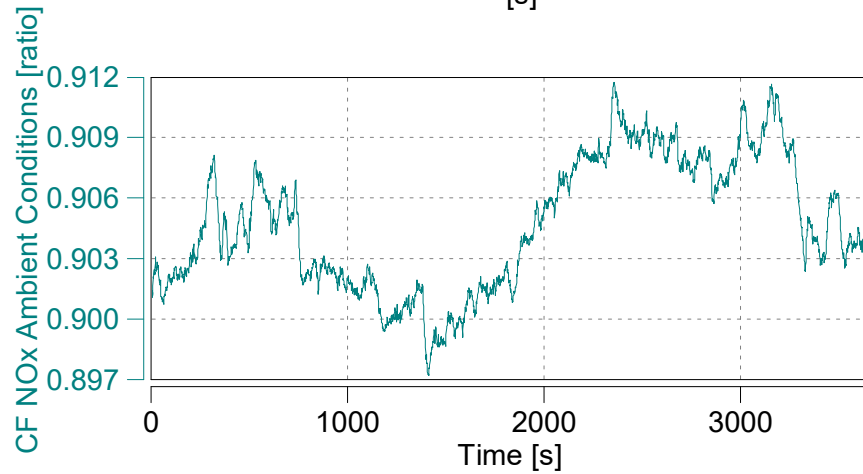
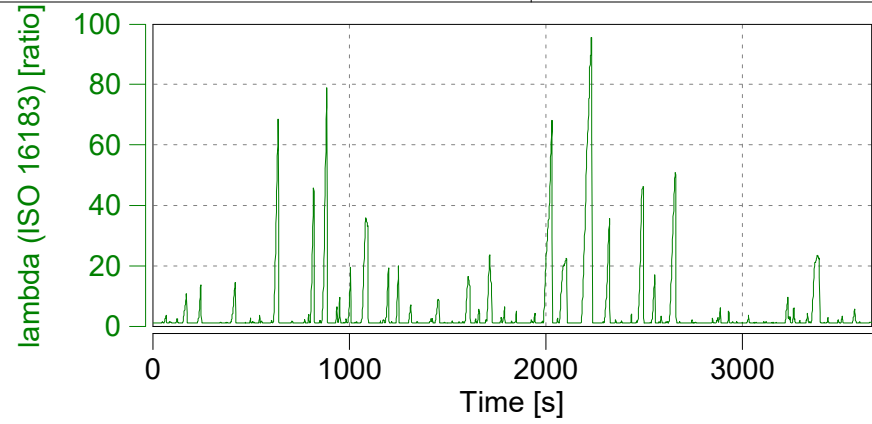
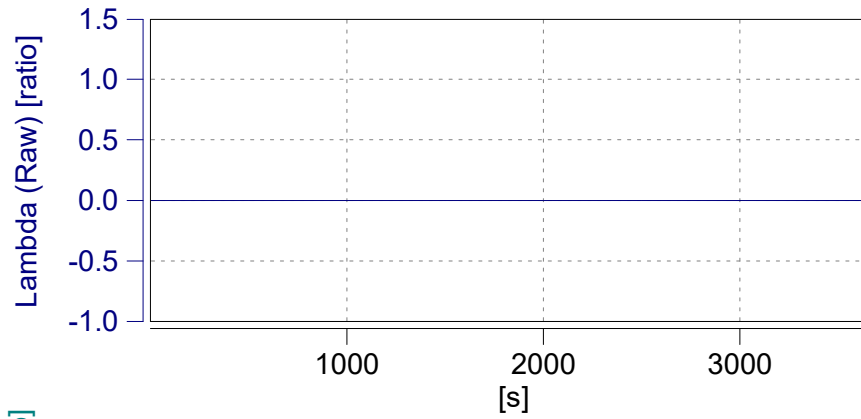
'W167-3511 LA City'

Start Date: 02/21/2020

Start Time: 12:46:11.0



Concerto M.O.V.E., 2019



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: Corrected Emissions (1)

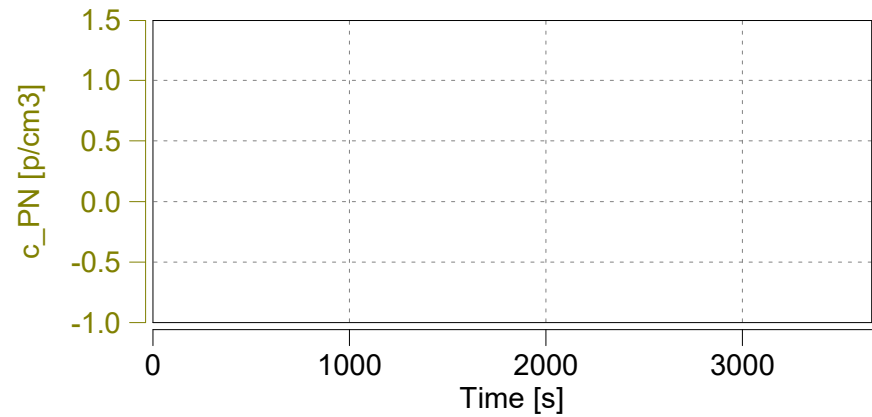
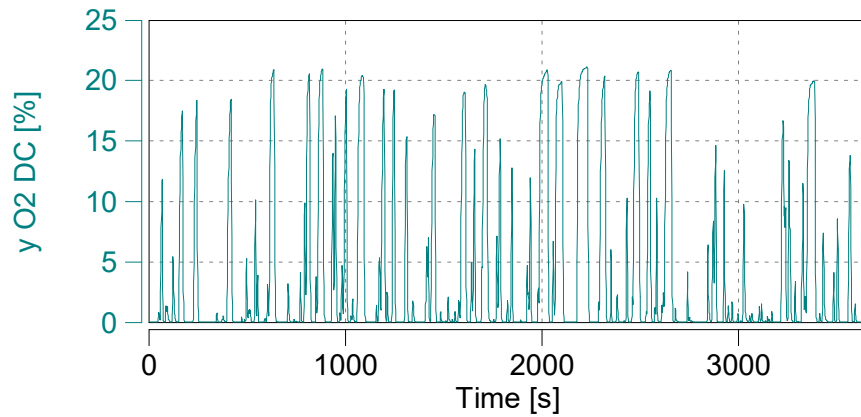
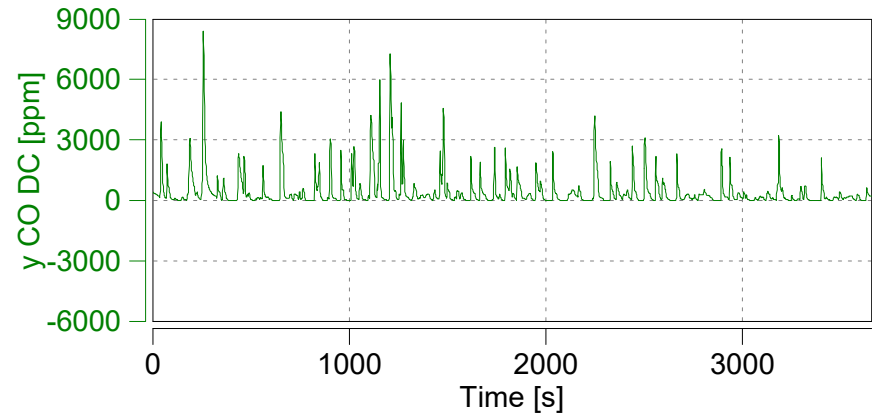
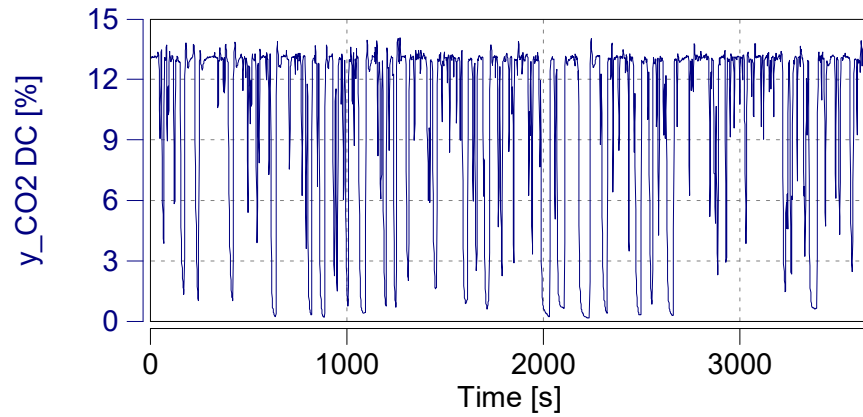
'W167-3511 LA City'

Start Date: 02/21/2020

Start Time: 12:46:11.0



Concerto M.O.V.E., 2019



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: Corrected Emissions (2)

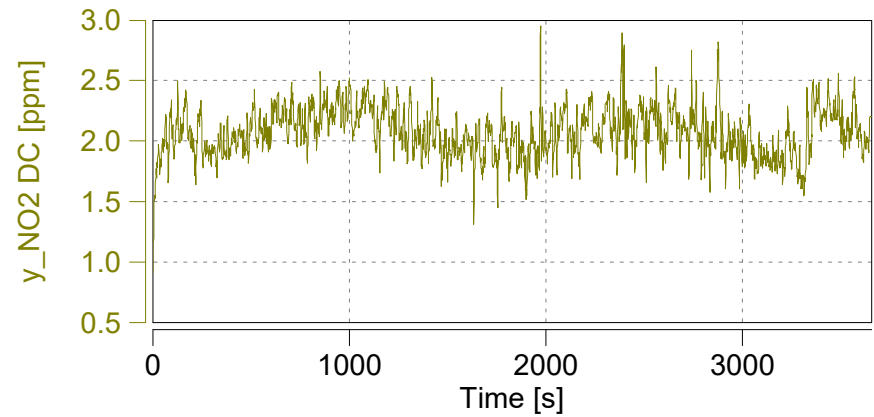
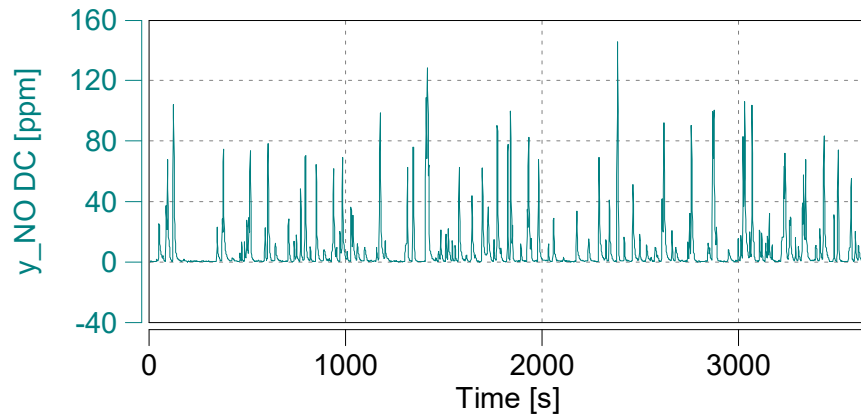
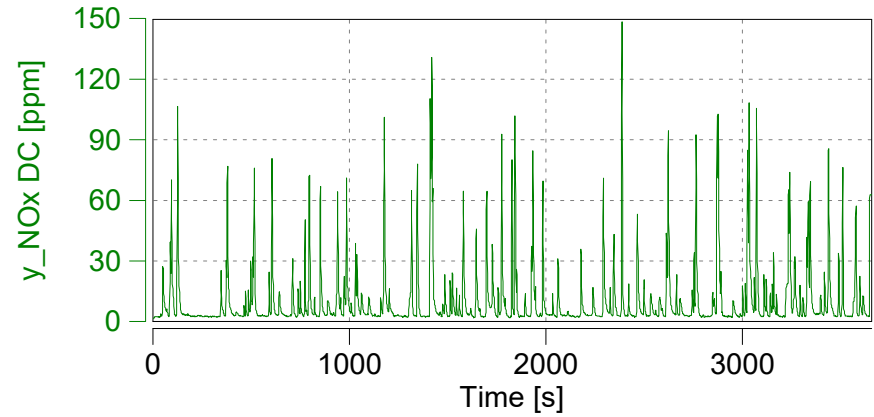
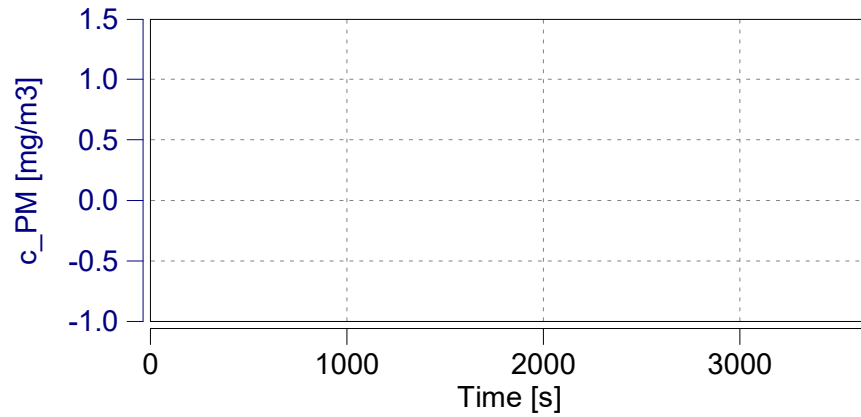
'W167-3511 LA City'

Start Date: 02/21/2020

Start Time: 12:46:11.0

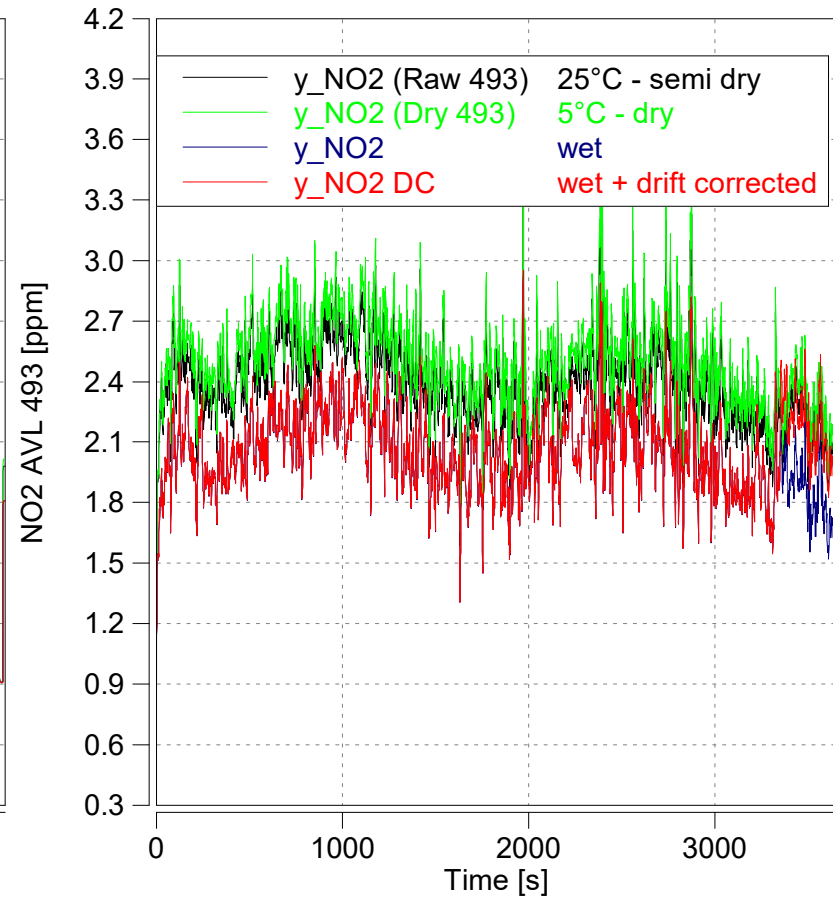
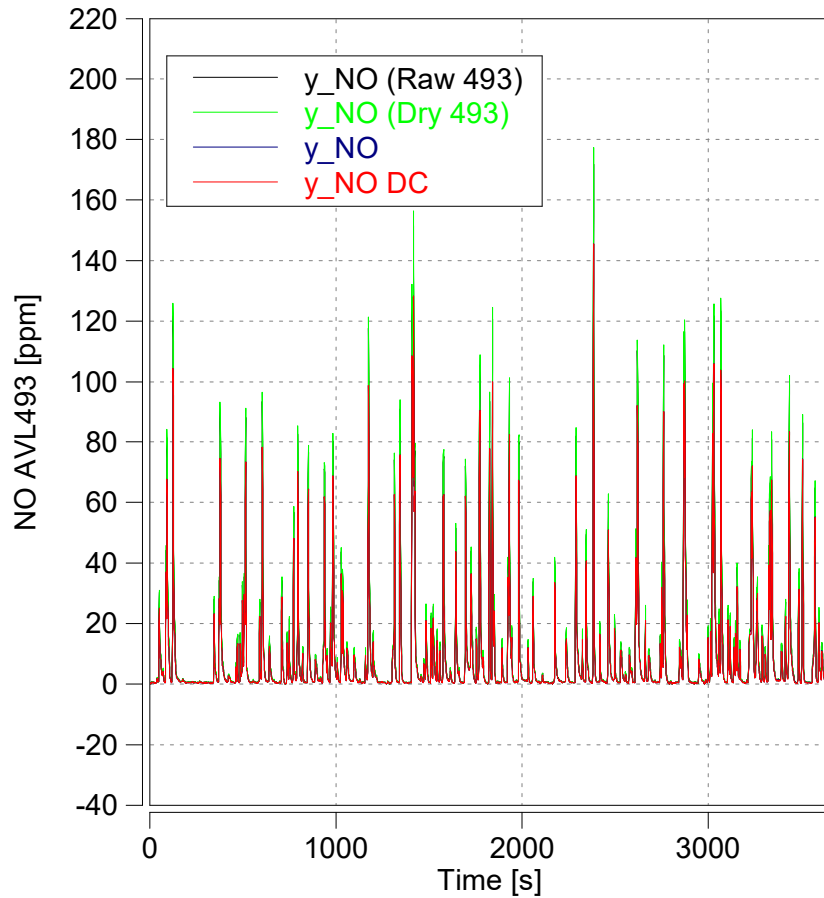


Concerto M.O.V.E., 2019



Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

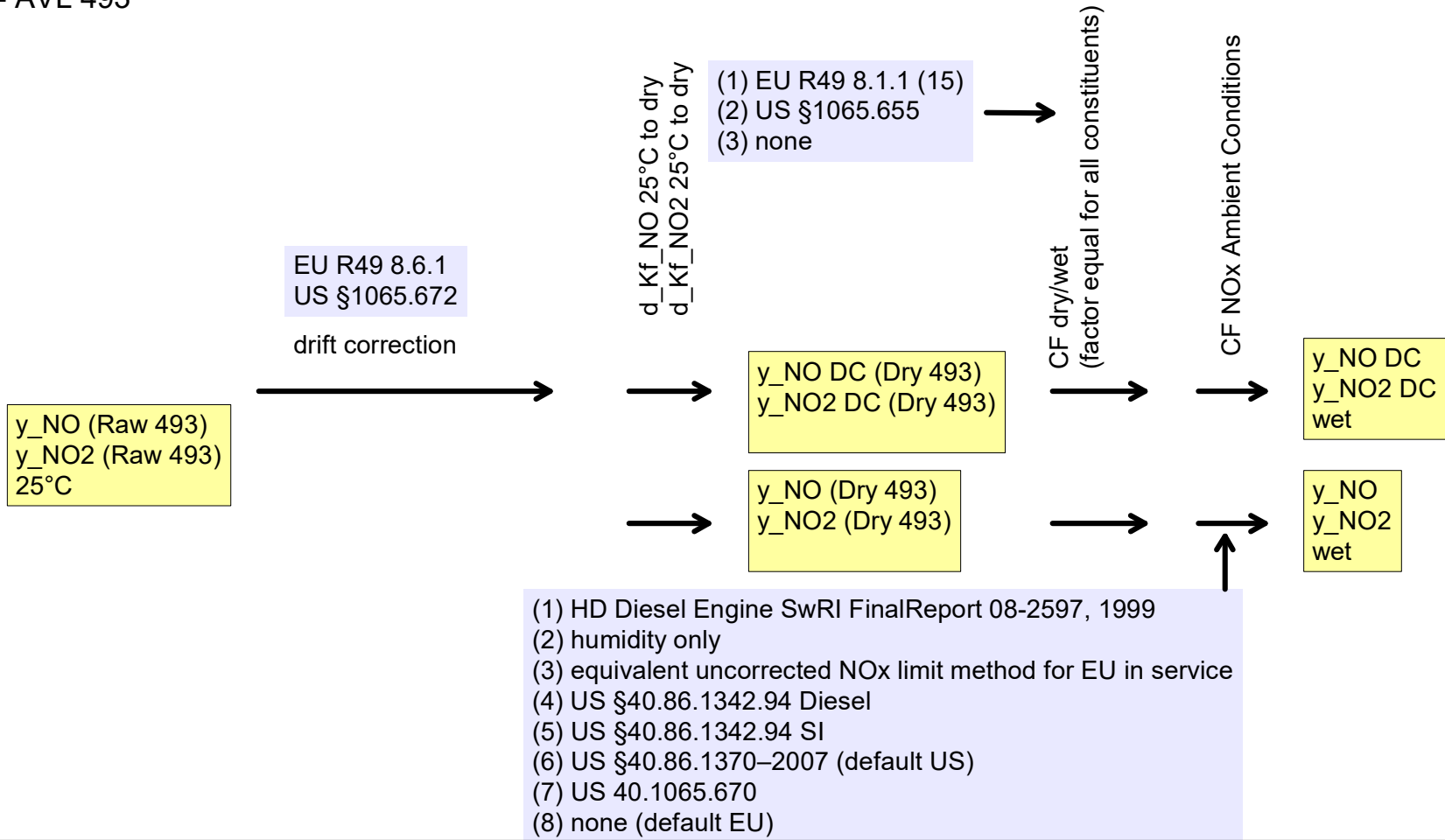


Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90



NOx - AVL 493



Case: W167-3511

Page: Corrected Emissions (5)

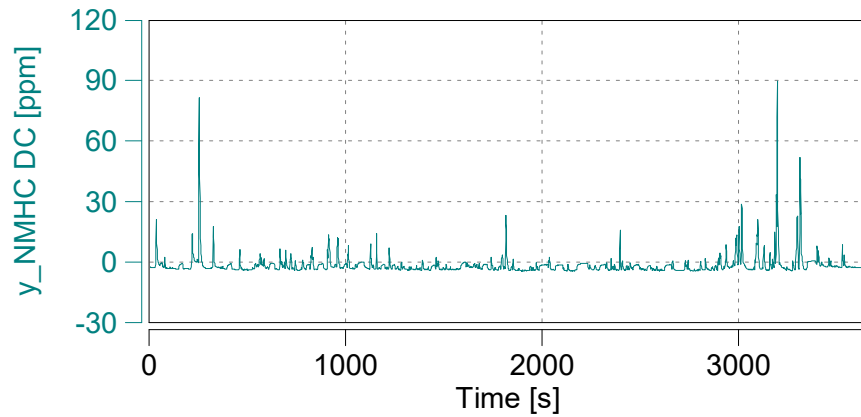
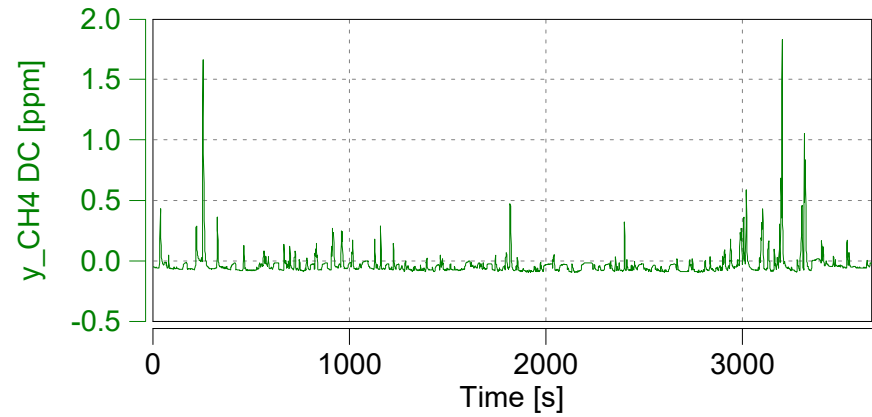
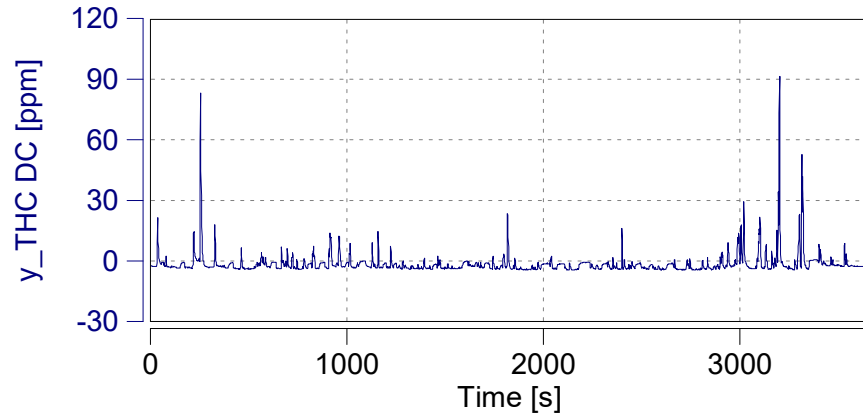
'W167-3511 LA City'

Start Date: 02/21/2020

Start Time: 12:46:11.0



Concerto M.O.V.E., 2019

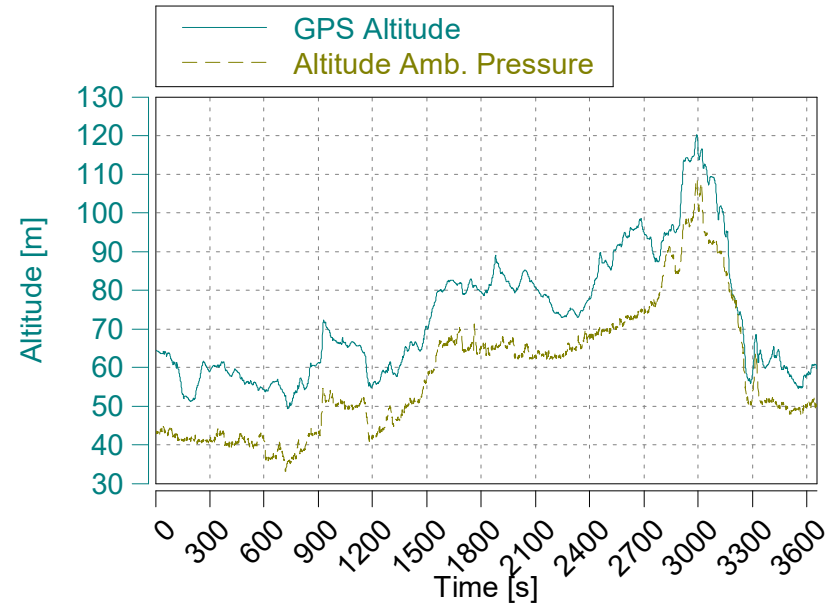
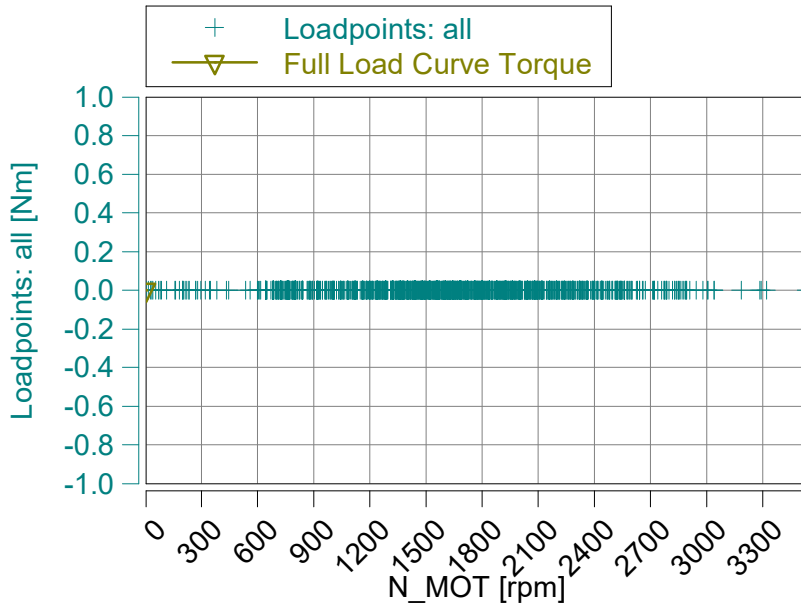


Concerto Version: 503 Build 82, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R3.1_B300
Legislation:

Vehicle: W167 / PEMS
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

#ERROR
W167-3511

Vehicle type (e.g. M 3 , N 3 and application e.g. rigid or articulated truck, city bus)	#ERROR					
Vehicle description (e.g. vehicle model, prototype)	PEMS					
	CO	THC	NMHC	CH4	NOx	PM
Pass-fail results	passed		passed	passed	passed	passed
Work window conformity factor						
CO2 mass window conformity factor						
Nr. NOx urban valid windows below 90th perc. of all valid windows					997.0	
Trip Information	Urban		Rural		Motorway	
Shares of time of the trip in % characterised by urban, rural and motorway operation	90.1		8.2		1.7	
Shares of time of the trip in % characterised by accelerating, decelerating, cruising and stop						
Accelerating					34.8	%
Decelerating					33.5	%
Cruising					0.3	%
Stop					31.4	%
			Minimum		Maximum	
Work window average power (%)						
CO2 mass window duration (s)						
Work window: percentage of valid windows						
CO2 mass window: percentage of valid window						
Fuel consumption consistency ratio			m = 1.13			
			r ² = 0.97			



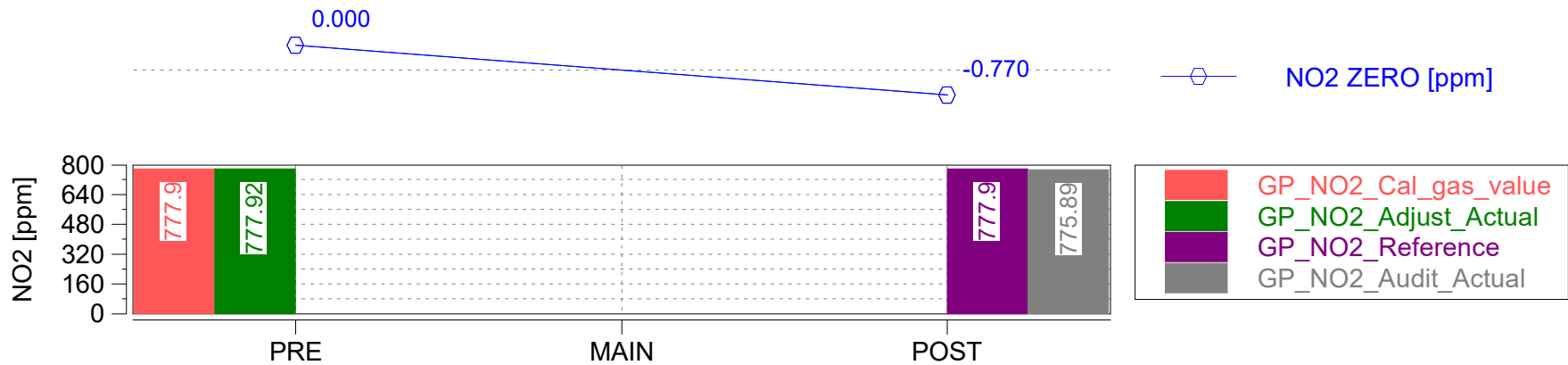
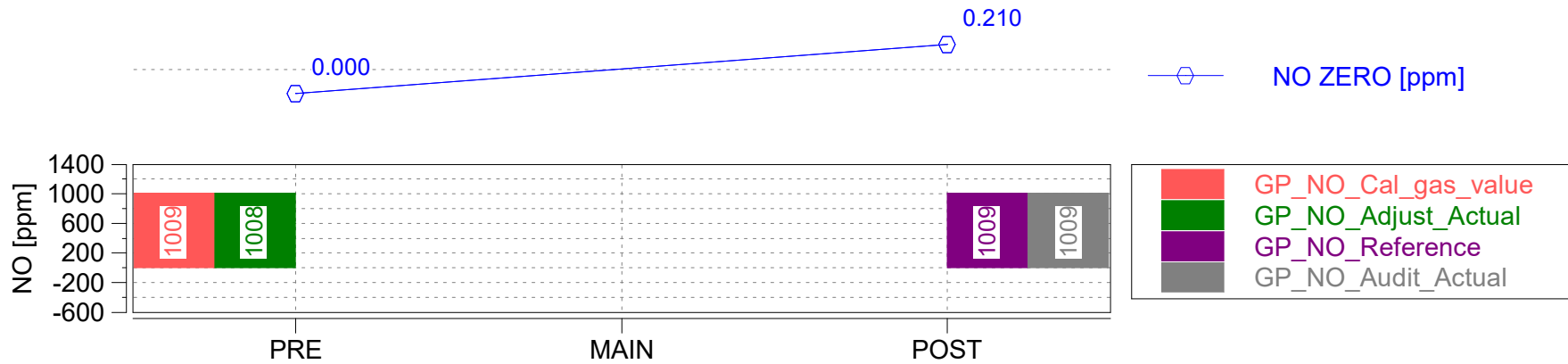
Trip Duration (a)	3655.0	s
Test Duration (b)		s
Total Work (c)		kWh
Reference Work		kWh
Total CO2 Mass (c)		g
Reference CO2 Mass		g
avg BSFC ECU	245.9	g/kWh
avg BSFC ISO16183	282.2	g/kWh
Distance ECU	26.2	km
Distance GPS	26.191	km

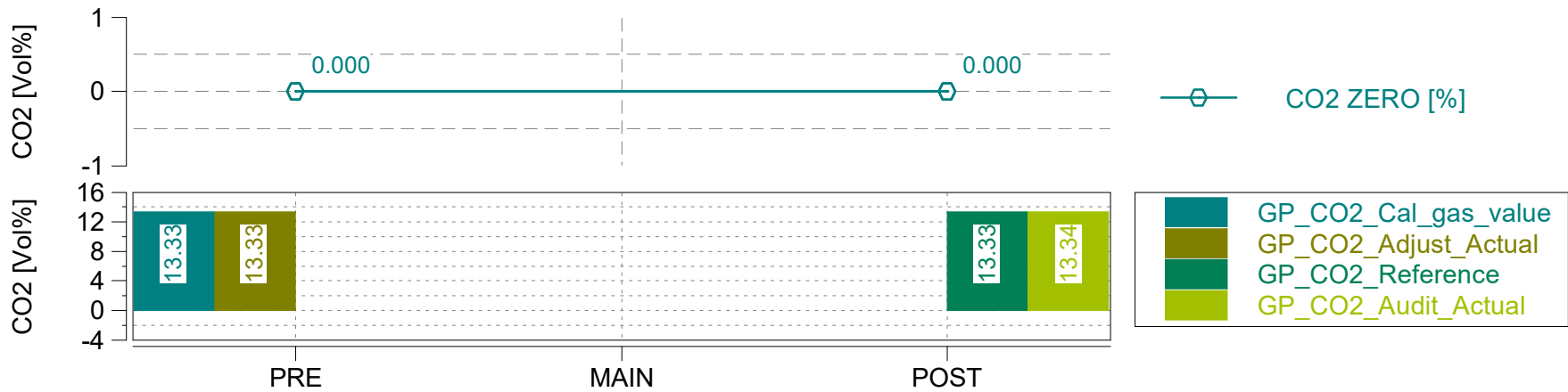
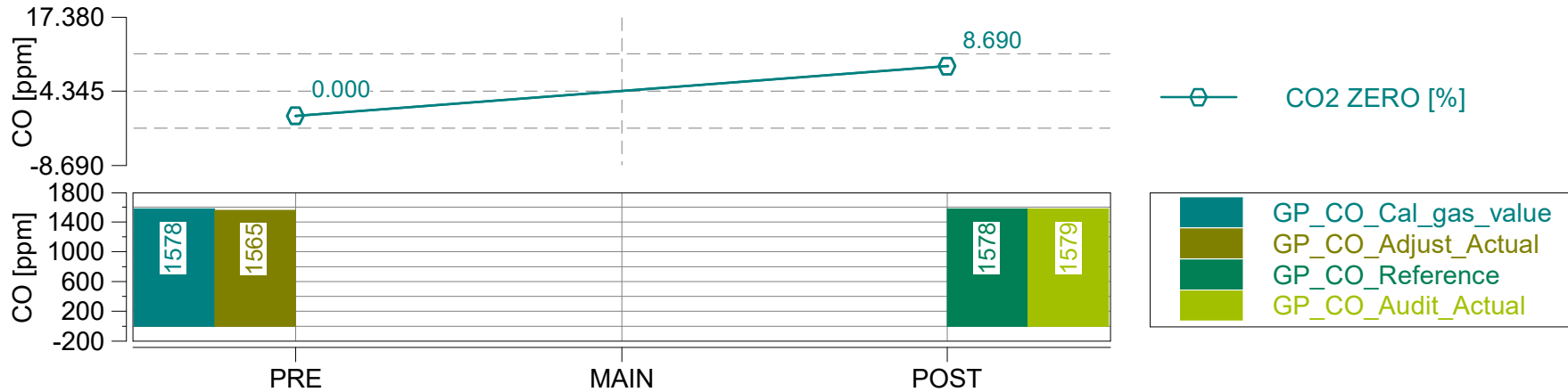
GAS PEMS Leak Check Age	0	days
GAS PEMS Leak Check Date	N/A	yyyy-mm-dd
GAS PEMS Leak Check Time	N/A	hh:mm:ss
GAS PEMS Leak Check External	0.00	%

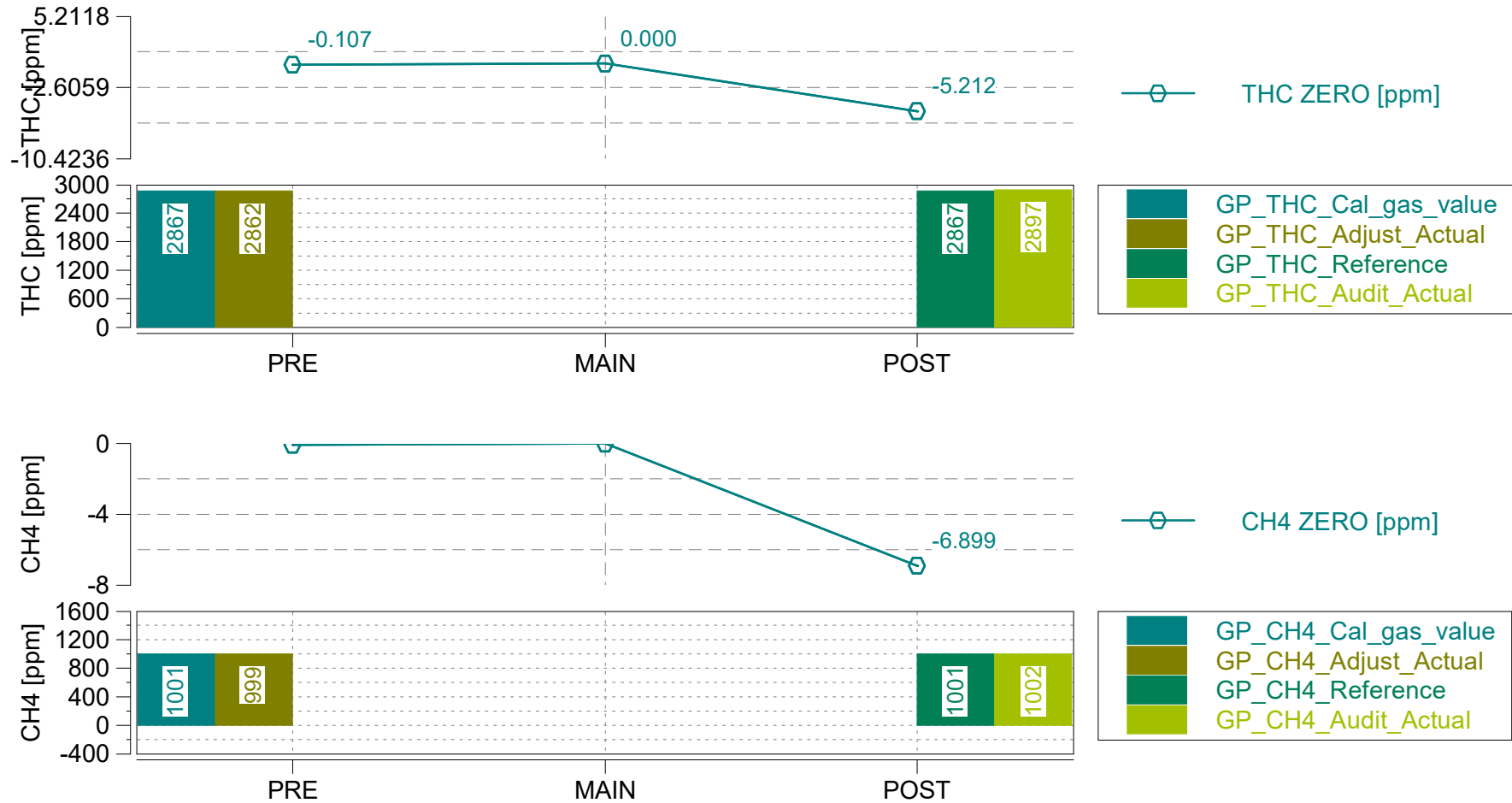
- (a) GAS PEMS measurement state only
- (b) without Cold Start
- (c) not cummulated during exclusions

Concerto Version: 503 Build 82, Serial Number: 1604
 M.O.V.E Post-Processing: DT_1R3.1_B300
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 Engine: /
 NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
 Dry / Wet Corr.: 2 - CFR40 §86.1342-90







Concerto Version: 503 Build 82, Serial Number: 1604
 M.O.V.E Post-Processing: DT_1R3.1_B300
 Legislation:

Vehicle: W167 / PEMS
 Engine: /
 NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
 Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W167-3511

Page: Fuel Rate ECU vs. Calculated

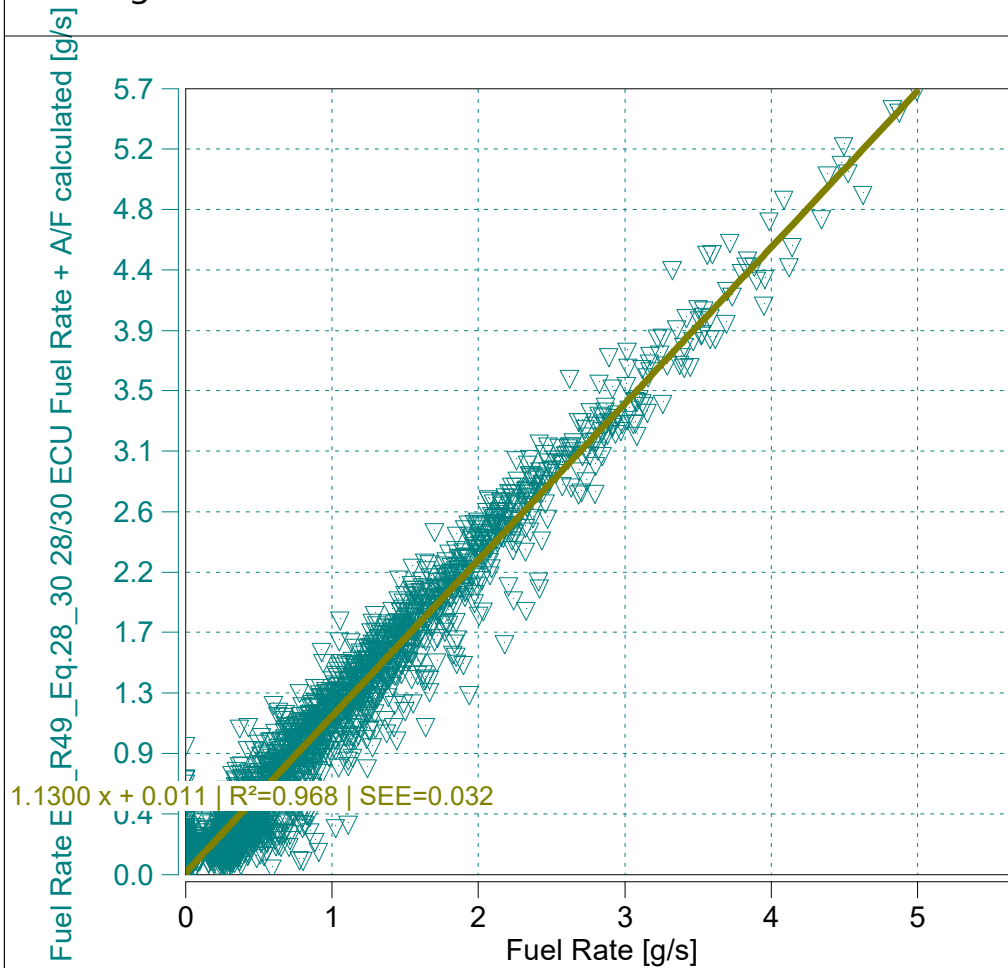
'W167-3511 LA City'

Start Date: 02/21/2020

Start Time: 12:46:11.0



Concerto M.O.V.E, 2019



EU 582/2011/Appendix I/3.2.1 | Fuel Rate ECU and calculated

$y = 1.1300 x + 0.011 \mid R^2=0.968 \mid SEE=0.032$

$m = 1.13$ (0.9 - 1.1 recommended)

$R^2 = 0.97$ (min 0.9 mandatory)

Data from - to [% of Maximum]

0

100

Concerto Version: 503 Build 82, Serial Number: 1604
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