Mercedes-Benz MY2022 C300 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 MY2022 C300 4MATIC from Test Group NMBXV02.0HY1, which is the highest volume Test Group applicable for MY2022 based on the projected 50 states' sales volumes prepared for NMOG + NOx 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 (CO_2), 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

MY2022 vehicle with the specifications listed in Table 1 was tested in August 2021. 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
C300 4MATIC	SULEV30	AWD	255	295	9 Automatic	TWC	Gasoline	175

Table 2: Highway Results

	A1 Highway East (g/mi)					B2 Highway West (g/mi)				
Model	**CO_2**	**CO**	**THC**	**NO_X**	**NMOG**	**CO_2**	**CO**	**THC**	**NO_X**	**NMOG**
C300 4MATIC	264.29	0.54159	0.01183	0.00376	0.01127	243.20	0.79382	0.00382	0.00446	0.00364

Table 3: Mountain Results

	A2 Mountain Uphill (g/mi)					B1 Mountain Downhill (g/mi)				
Model	**CO_2**	**CO**	**THC**	**NO_X**	**NMOG**	**CO_2**	**CO**	**THC**	**NO_X**	**NMOG**
C300 4MATIC	506.48	1.09923	0.02408	0.00405	0.02295	158.60	0.26105	0.03300	0.00547	0.03145

Table 4: Cold Start and Urban Driving Result

	A0 Long Beach → CARB (g/mi)					LA City (g/mi)				
Model	**CO_2**	**CO**	**THC**	**NO_X**	**NMOG**	**CO_2**	**CO**	**THC**	**NO_X**	**NMOG**
C300 4MATIC	272.47	0.87396	0.01905	0.00747	0.01938	384.33	1.08560	0.00440	0.01114	0.00419

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)
0.29.12	28.53	16.336	58.61	5.7	2.2	47.6	44.5	423	83.61

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)
0.40.45	29.16	14.024	42.94	2.8	0.5	51.6	45.2	200	94.40

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)
0.31.44	17.60	17.603	33.28	10.7	0.5	44.9	43.9	1002	91.15

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)
0.31.36	18.55	15.676	35.22	15.2	1.1	45.9	37.9	91	93.92

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)
0.35.53	24.81	17.382	41.48	8.2	0.6	46.9	44.2	245	77.75

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)
0.52.14	16.37	16.892	18.80	28.3	0.3	35.6	35.8	279	84.05

‡V*Apos results are the 95th percentile values displayed in m^2/s^3

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	25	36 min	129	41	62	38
A1	29	30 min	276	59	94	6
A2	18	31 min	963	33	0	100
B1	19	31 min	973	35	40	60
B2	29	40 min	286	43	64	36
LA City	16	52 min	68	19	6	94

5.1 Highway Sections (A1 & B2)

These routes are representative of highway driving in California. Each route segment is approximately 28 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 50mph and the net elevation change is approximately 938ft (286m).

A1 – Highway East

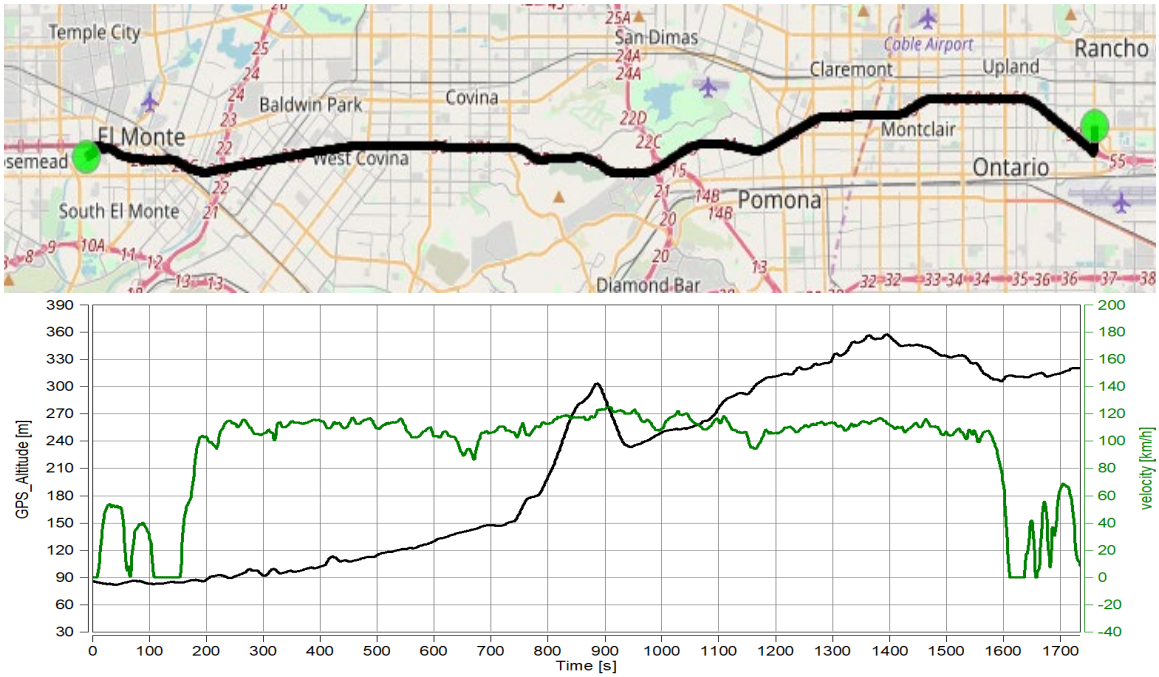


Figure 1. Map of Route A1 – Highway East. Including speed and elevation

B2 – Highway West

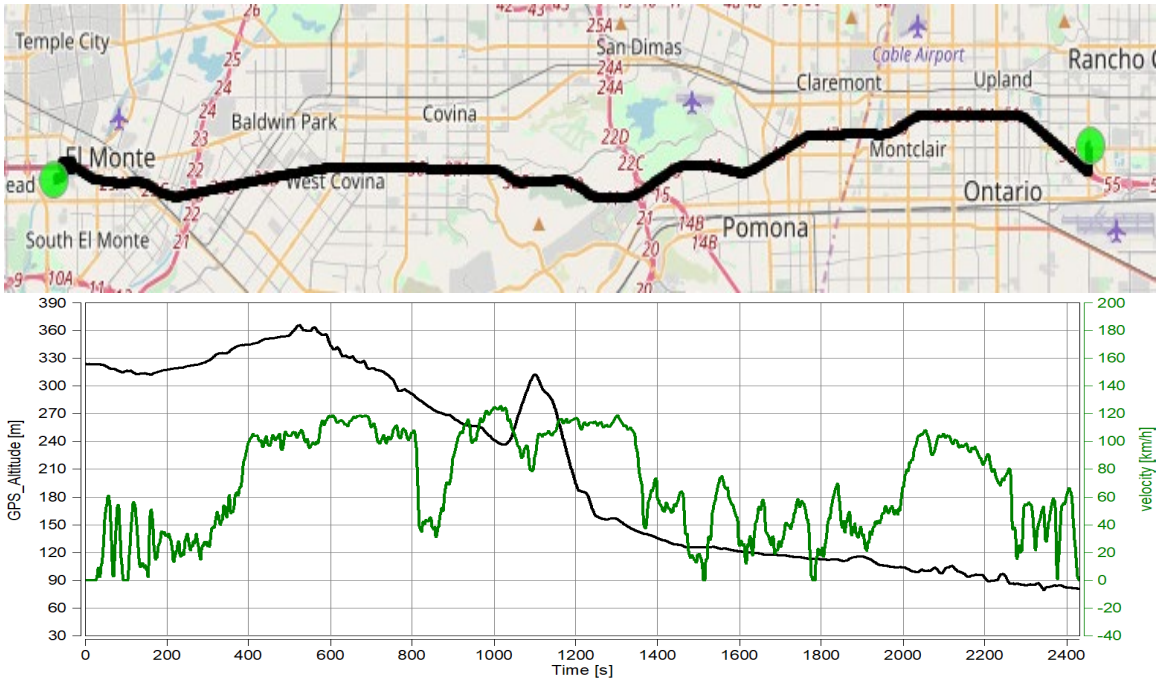


Figure 2. Map of Route B2 – Highway West. Including speed and elevation

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 30mph. The net elevation change is 3242ft (988m).

A2 – Mountain Uphill

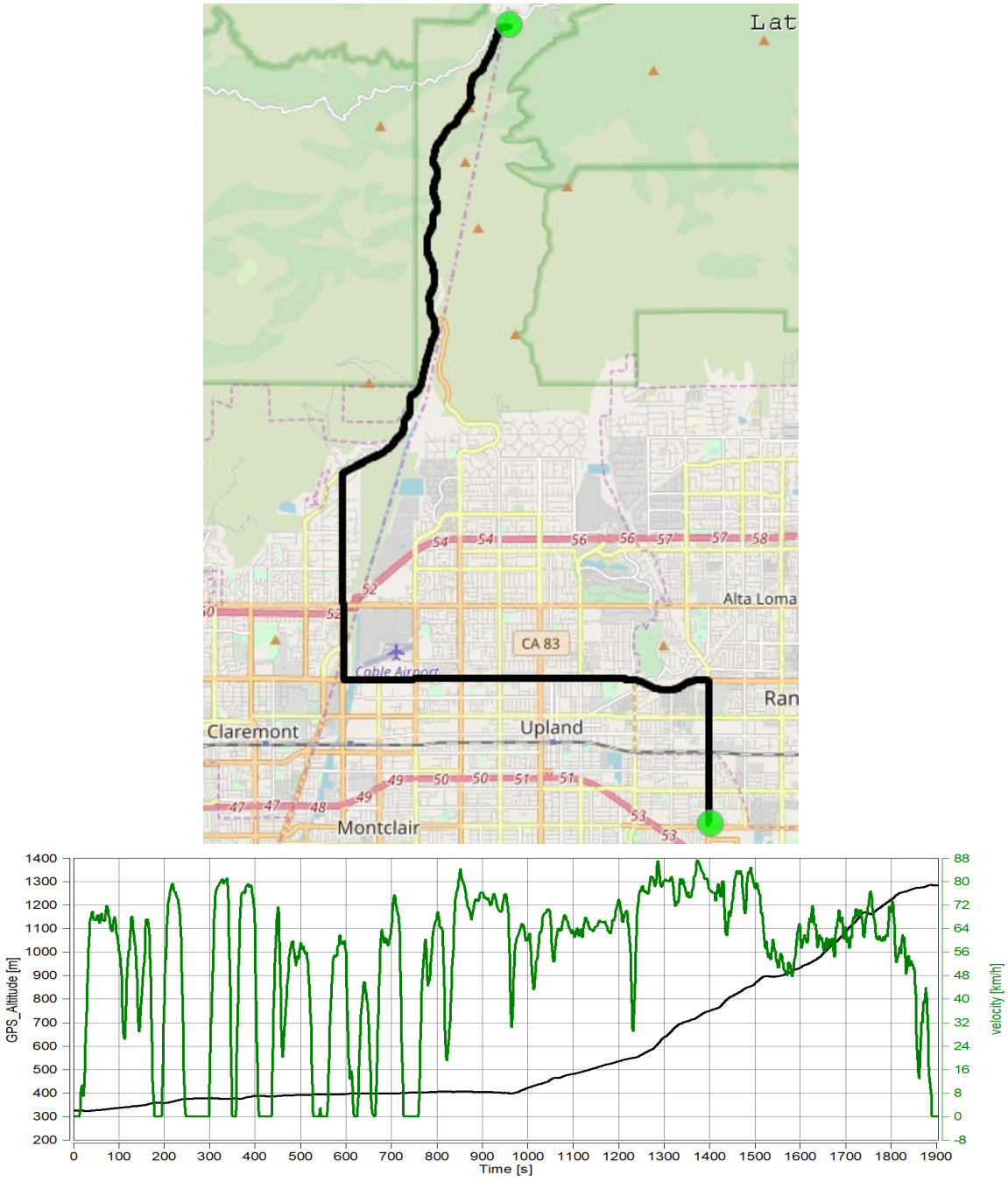


Figure 3. Map of Route A2 – Mountain Uphill. Including speed and elevation

B1 – Mountain Downhill.

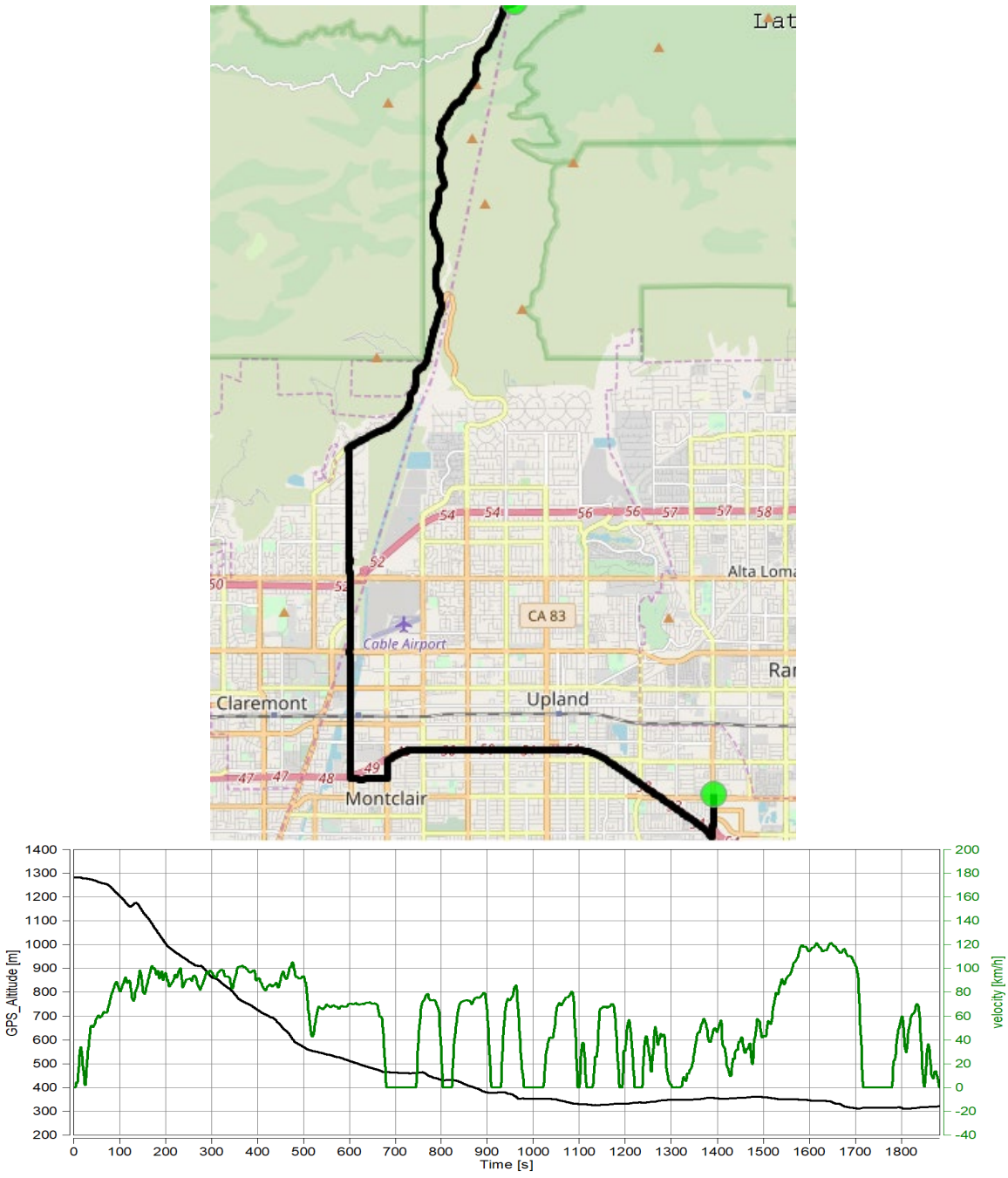


Figure 4. Map of Route B1 – Mountain Downhill. Including speed and elevation

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

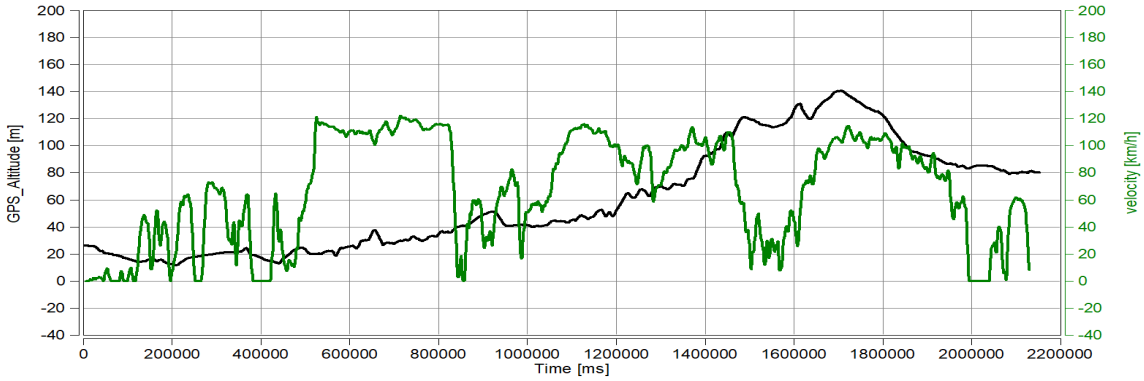


Figure 5. Map of Route A0 – Long Beach to CARB, El Monte. Including speed and elevation

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.

LA City Route

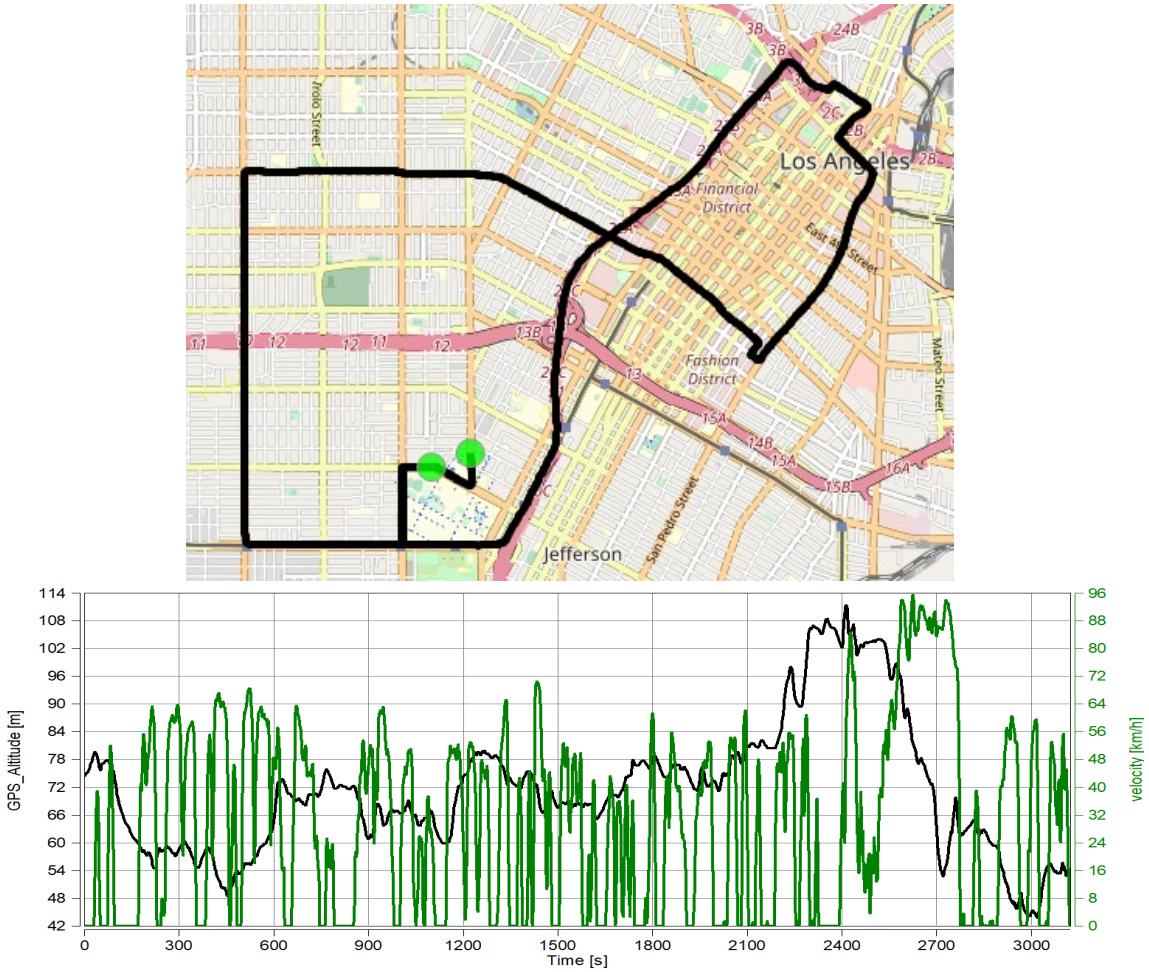


Figure 6. Map of LA City Route. Including speed and elevation

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_C300 1-Sept-2021.pdf

This file contains log sheet information on PEMS testing conducted with the MY2022 Mercedes-Benz C300 test vehicle W206-2518. The table also includes information and explanations on valid, aborted, and invalid tests.

7. Appendix

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

Case: W206-2518
Page: Trip Summary

'W206-2518 A1 HWY East'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019

Trip Duration	1752.00	s
Trip Duration (a)	1752.00	s
Trip Distance	28.53	mi
Trip Distance (a)	28.53	mi
Trip Fuel Cons. (b)	2.51	kg
Trip Fuel Cons. (ab)	2.51	kg
Trip Fuel Cons. EU (ac)	2.51	kg
Trip Fuel Cons. US (ac)	2.49	kg
Trip Fuel Economy (b)	32.16	mpg_US
Trip Fuel Economy (ab)	32.16	mpg_US
Trip Fuel Economy EU (ac)	32.14	mpg_US
Trip Fuel Economy US (ac)	32.47	mpg_US
Trip Fuel Economy GGE (b)	32.16	mpg_US
Trip Fuel Economy GGE (ab)	32.16	mpg_US
Trip Fuel Economy EU GGE (ac)	32.14	mpg_US
Trip Fuel Economy US GGE (ac)	32.47	mpg_US
Trip Av. Eng. Speed	1449.78	rpm
Trip Av. Torque	85.53	lbft
Trip Av. Power	25.75	hp
Trip Work		
Trip Work (a)	12.53	hphr
Trip Exhaust Mass	38.75	kg
Trip Exhaust Mass EU (ac)	38.78	kg
Trip Exhaust Mass US (ac)	39.19	kg
Trip Av. Amb. Temperature	83.61	deg_F
Trip Av. Humidity	42.09	%
Trip Av. GPS Altitude	215.80	m
Fuel Type	Petrol (E10)	

ave THC	18.43513	ppm
ave NMHC	18.06643	ppm
ave CH4	0.36870	ppm
ave CO	423.46803	ppm
ave CO2	12.05412	%
ave NOx	2.66080	ppm
ave PM	n/a	mg/m3
ave Soot meas	n/a	mg/m3
ave Soot	n/a	mg/m3
ave PN	n/a	#/cm3
tot THC	0.33502	g
tot NMHC	0.30990	g
tot CH4	0.00743	g
tot CO	15.29104	g
tot CO2	7529.16227	g
tot NO (d)	0.05704	g
tot NO2	0.05012	g
tot NOx	0.10713	g
tot Soot	n/a	g
tot Soot meas	n/a	g
tot PM	n/a	g
tot PN	n/a	#
PM measurement type	0.00000	-
tot Soot on PM filter (estim.)	0.00000	mg
Soot --> PM simple scaling factor	1.00000	-
Trip Av. Veh. Speed	58.61456	mi/hr
Trip Distance Share Urban	4.02154	% distance
Trip Distance Share Rural	2.17776	% distance
Trip Distance Share Motorway	93.80070	% distance

BS CO2	600.89394	g/hphr
BS CO	1.22036	g/hphr
BS THC	0.02674	g/hphr
BS NMHC	0.02473	g/hphr
BS CH4	0.00059	g/hphr
BS NO (d)	0.00455	g/hphr
BS NO2	0.00400	g/hphr
BS NOx	0.00855	g/hphr
BS Soot	n/a	g/hphr
BS Soot meas	n/a	g/hphr
BS PM	n/a	g/hphr
BS PN	n/a	#/hpr
DS CO2	263.94265	g/mi
DS CO	0.53604	g/mi
DS THC	0.01174	g/mi
DS NMHC	0.01086	g/mi
DS CH4	0.00026	g/mi
DS NO (d)	0.00200	g/mi
DS NO2	0.00176	g/mi
DS NOx	0.00376	g/mi
DS Soot	n/a	g/mi
DS Soot meas	n/a	g/mi
DS PM	n/a	g/mi
DS PN	n/a	#/mi
FS CO2	2999.73794	g/kg
FS CO	6.09219	g/kg
FS THC	0.13348	g/kg
FS NMHC	0.12347	g/kg
FS CH4	0.00296	g/kg
FS NO (d)	0.02272	g/kg
FS NO2	0.01997	g/kg
FS NOx	0.04268	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

'W206-2518 A1 HWY East'
Start Date: 08/04/2021
Start Time: 08:08:03.0

Trip Duration	1752.00	s
Trip Duration (a)	1752.00	s
Trip Distance	28.53	mi
Trip Distance (a)	28.53	mi
Trip Fuel Cons. (b)	2.51	kg
Trip Fuel Cons. (ab)	2.51	kg
Trip Fuel Cons. EU (ac)	2.51	kg
Trip Fuel Cons. US (ac)	2.49	kg
Trip Fuel Economy (b)	32.16	mpg_US
Trip Fuel Economy (ab)	32.16	mpg_US
Trip Fuel Economy EU (ac)	32.14	mpg_US
Trip Fuel Economy US (ac)	32.47	mpg_US
Trip Fuel Economy GGE (b)	32.16	mpg_US
Trip Fuel Economy GGE (ab)	32.16	mpg_US
Trip Fuel Economy EU GGE (ac)	32.14	mpg_US
Trip Fuel Economy US GGE (ac)	32.47	mpg_US
Trip Av. Eng. Speed	1449.78	rpm
Trip Av. Torque	85.53	lbft
Trip Av. Power	25.75	hp
Trip Work		
Trip Work (a)	12.53	hphr
Trip Exhaust Mass	38.75	kg
Trip Exhaust Mass EU (ac)	38.78	kg
Trip Exhaust Mass US (ac)	39.19	kg
Trip Av. Amb. Temperature	83.61	deg_F
Trip Av. Humidity	42.09	%
Trip Av. GPS Altitude	215.80	m
Fuel Type	Petrol (E10)	

ave THC DC	18.56319	ppm
ave NMHC DC	18.19193	ppm
ave CH4 DC	0.37126	ppm
ave CO DC	427.85062	ppm
ave CO2 DC	12.06980	%
ave NOx DC	2.66262	ppm
ave PM	n/a	mg/m3
ave Soot meas	n/a	mg/m3
ave Soot	n/a	mg/m3
ave PN DC		
tot THC DC	0.33735	g
tot NMHC DC	0.31205	g
tot CH4 DC	0.00748	g
tot CO DC	15.44929	g
tot CO2 DC	7538.95312	g
tot NO DC (d)	0.05707	g
tot NO2 DC	0.05018	g
tot NOx DC	0.10722	g
tot Soot	n/a	g
tot Soot meas	n/a	g
tot PM	n/a	g
tot PN DC		
PM measurement type	0.00000	-
tot Soot on PM filter (estim.)	0.00000	mg
Soot --> PM simple scaling factor	1.00000	-
Trip Av. Veh. Speed	58.61456	mi/hr
Trip Distance Share Urban	4.02154	% distance
Trip Distance Share Rural	2.17776	% distance
Trip Distance Share Motorway	93.80070	% distance

BS CO2 DC	601.67533	g/hphr
BS CO DC	1.23299	g/hphr
BS THC DC	0.02692	g/hphr
BS NMHC DC	0.02490	g/hphr
BS CH4 DC	0.00060	g/hphr
BS NO DC (d)	0.00455	g/hphr
BS NO2 DC	0.00400	g/hphr
BS NOx DC	0.00856	g/hphr
BS Soot	n/a	g/hphr
BS Soot meas	n/a	g/hphr
BS PM	n/a	g/hphr
BS PN DC		
DS CO2 DC	264.28588	g/mi
DS CO DC	0.54159	g/mi
DS THC DC	0.01183	g/mi
DS NMHC DC	0.01094	g/mi
DS CH4 DC	0.00026	g/mi
DS NO DC (d)	0.00200	g/mi
DS NO2 DC	0.00176	g/mi
DS NOx DC	0.00376	g/mi
DS Soot	n/a	g/mi
DS Soot meas	n/a	g/mi
DS PM	n/a	g/mi
DS PN DC		
FS CO2 DC	3003.63877	g/kg
FS CO DC	6.15524	g/kg
FS THC DC	0.13441	g/kg
FS NMHC DC	0.12433	g/kg
FS CH4 DC	0.00298	g/kg
FS NO DC (d)	0.02274	g/kg
FS NO2 DC	0.01999	g/kg
FS NOx DC	0.04272	g/kg
FS Soot	n/a	g/kg
FS Soot meas	n/a	g/kg
FS PM	n/a	g/kg
FS PN DC		

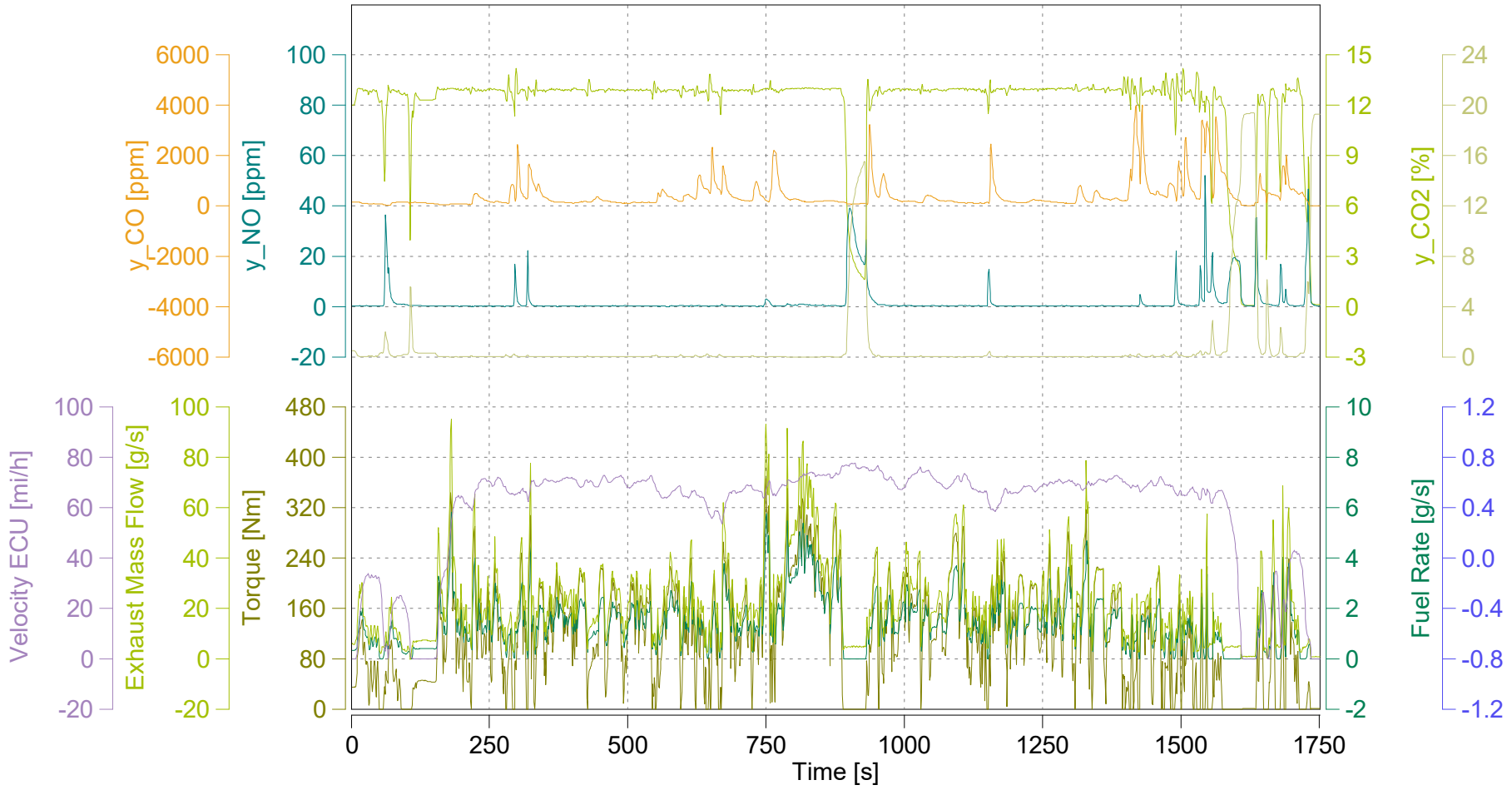
(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) Based on A/F ratio (eq 28-32 - R49)
(d) NO calculated using molecular weight of NO2, GGE=Gasoline Gallon Equivalents

Case: W206-2518
Page: Time Alignment Check

'W206-2518 A1 HWY East'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto

Absolute Time



y_THC
y_NO
y_CO2
y_O2
c_Soot
Fuel Rate
Exhaust Mass
Torque
Velocity ECU

AVL 492 Defa

THC
NO/NO2
CO/CO2
O2

Apply Defa

Alignment Plo

Reset Time

Reset Al

Apply Curr

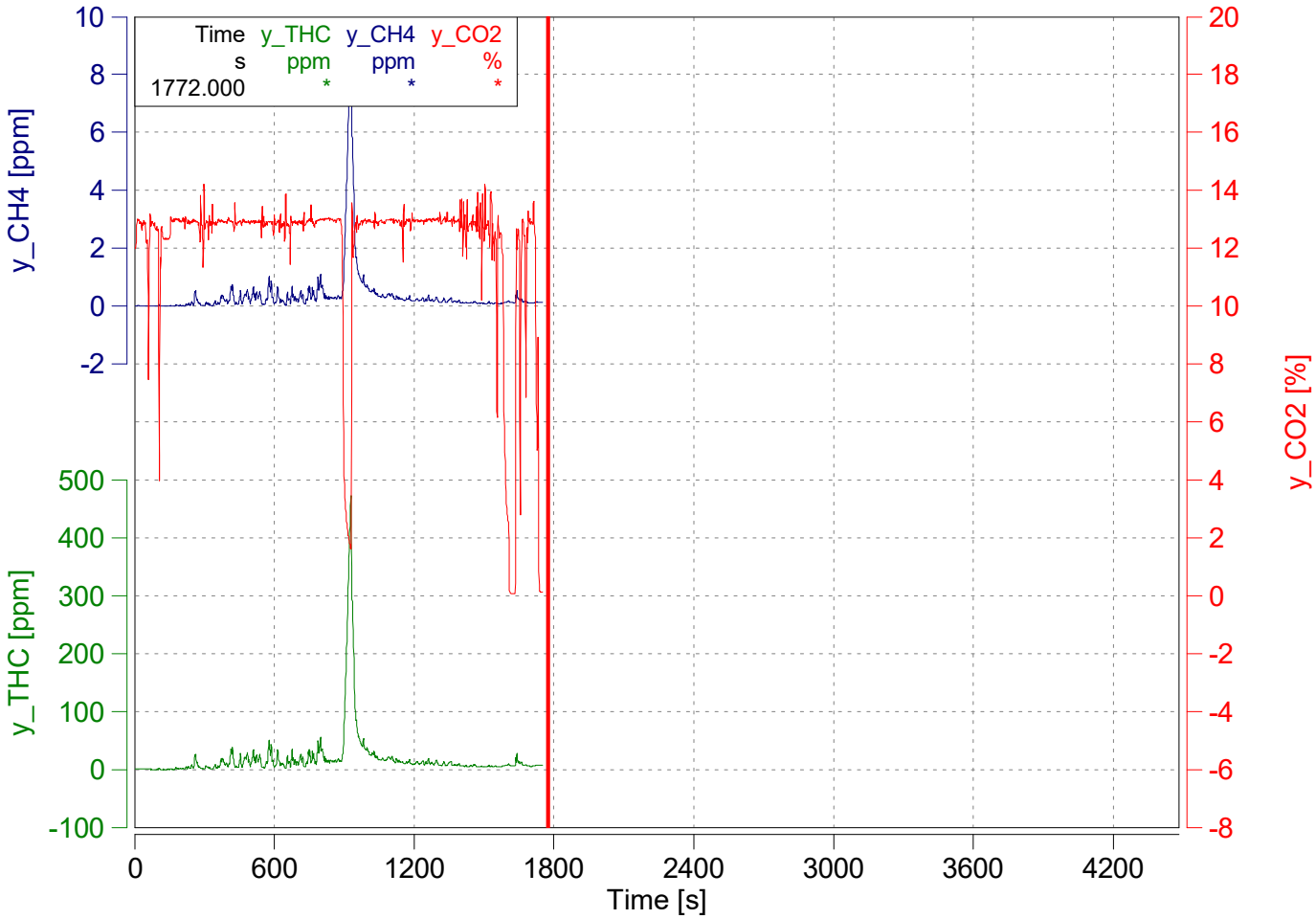
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: Time Alignment of Gas Concentrations

'W206-2518 A1 HWY East'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019



Absolute Time Shifts

y_THC	s	-4.3
y_CH4	s	-6.3

Reset Time Shifts in Plot

Apply Current Values

Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: Ambient Conditions

'W206-2518 A1 HWY East'
Start Date: 08/04/2021
Start Time: 08:08:03.0

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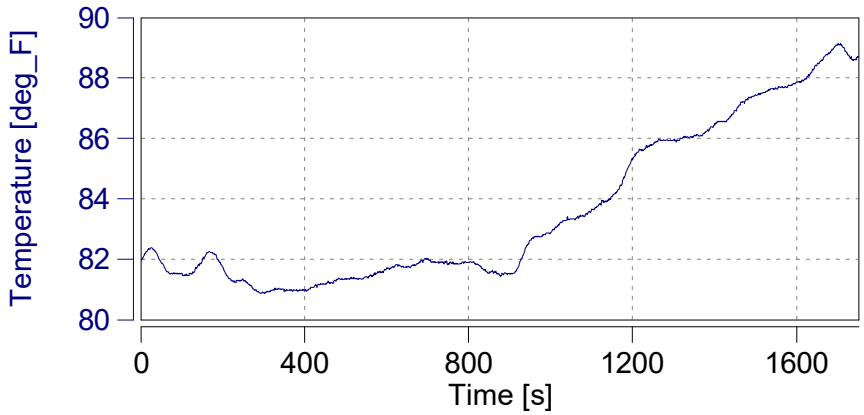
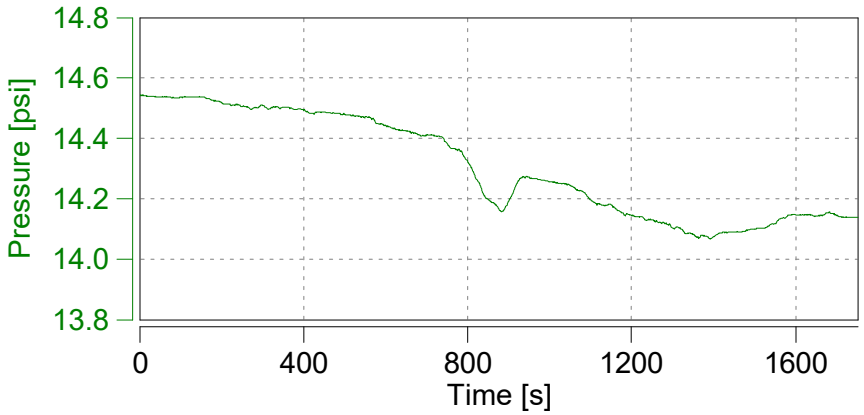
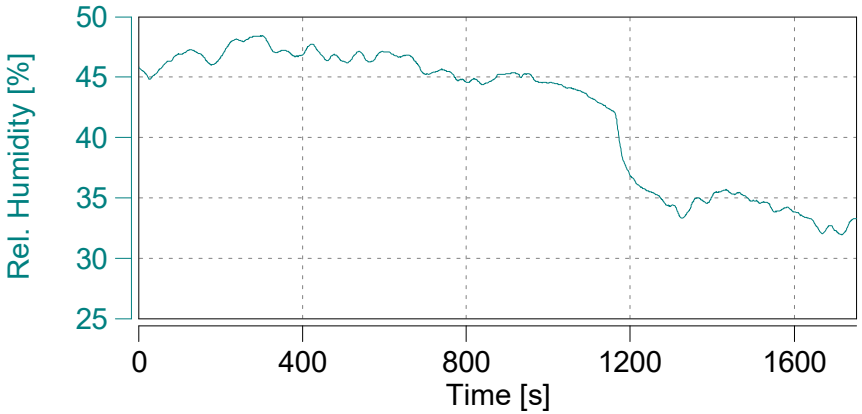
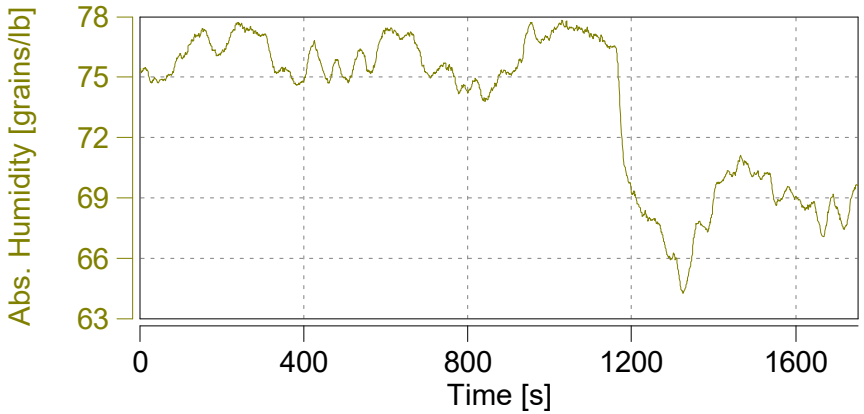
Concerto M.O.V.E, 2019









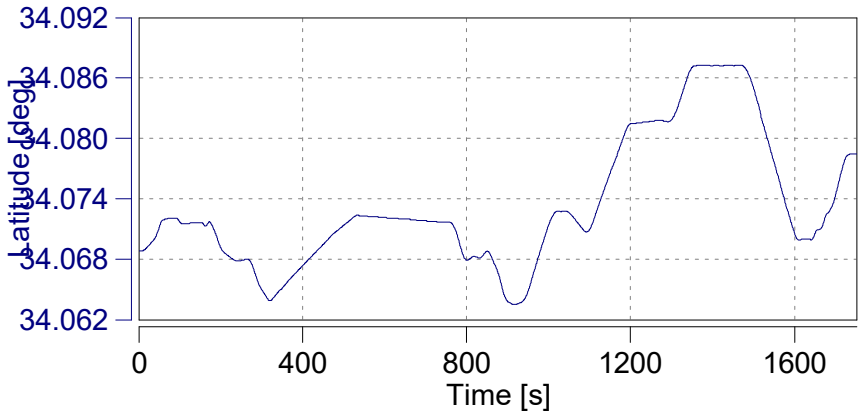
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

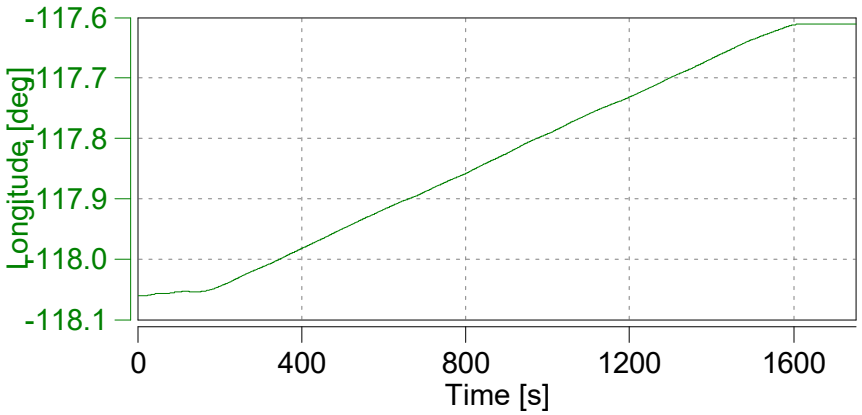
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

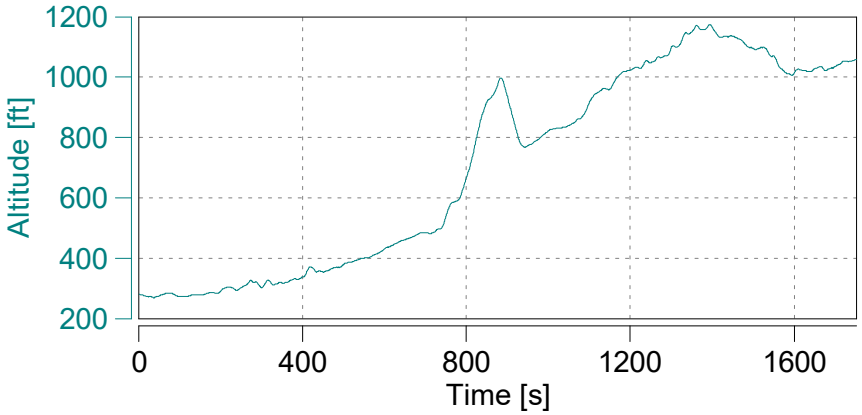
Case: W206-2518
Page: GPS

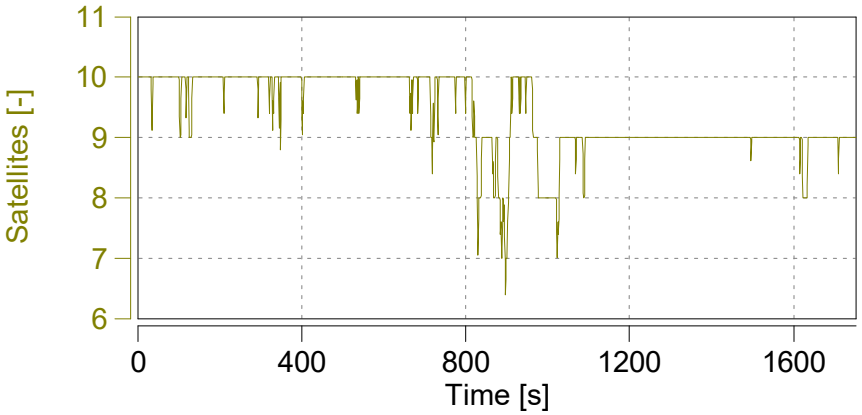
'W206-2518 A1 HWY East'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019







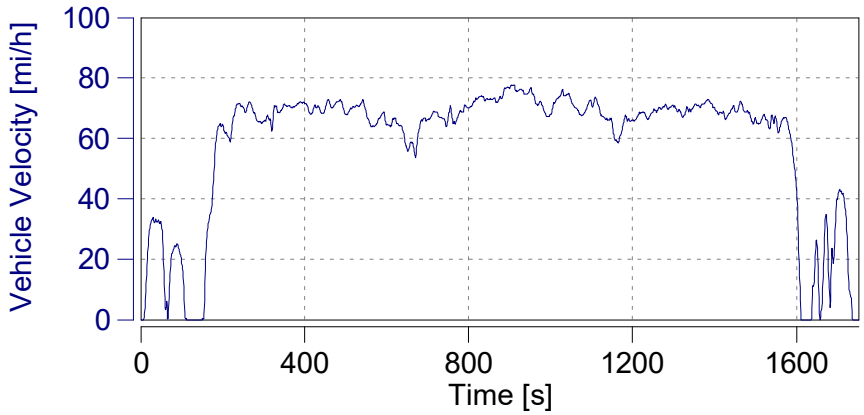


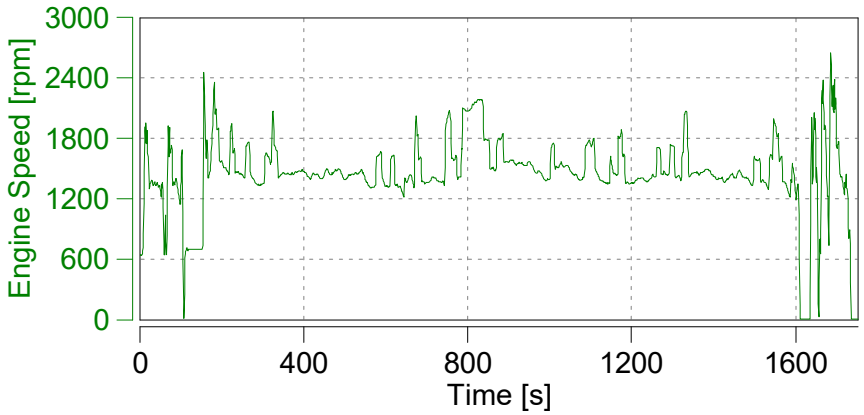
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

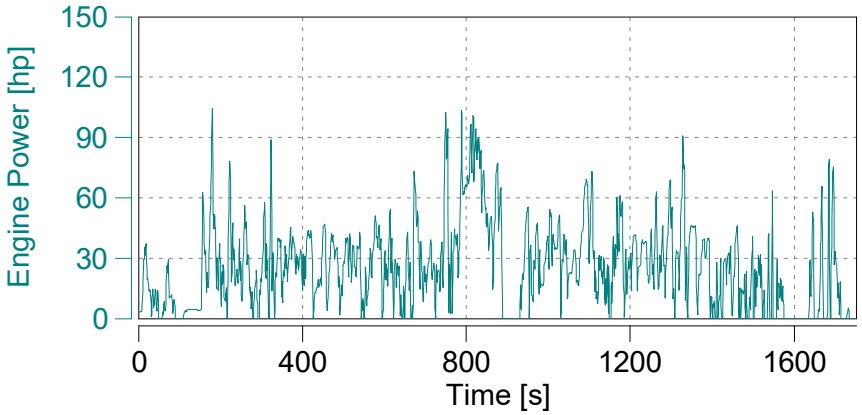
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

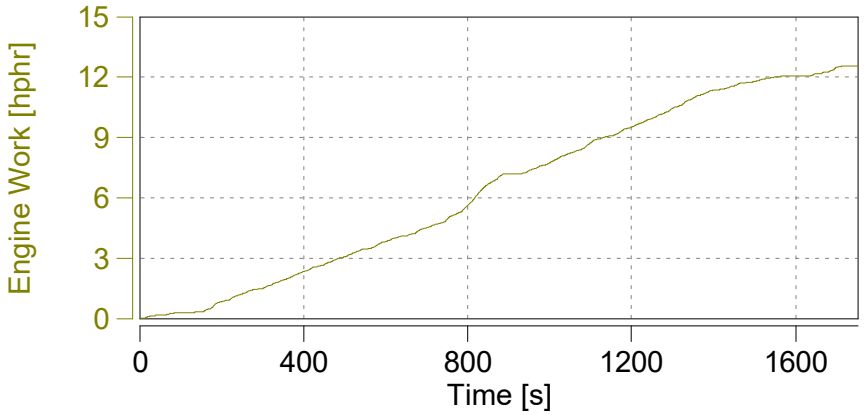
'W206-2518 A1 HWY East'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019









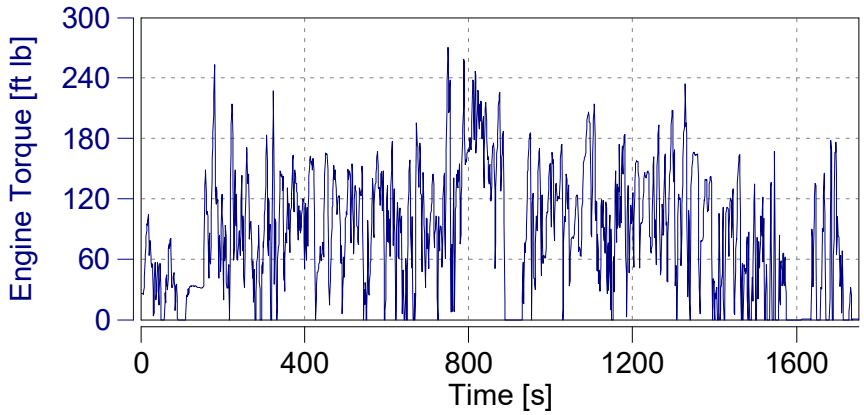
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

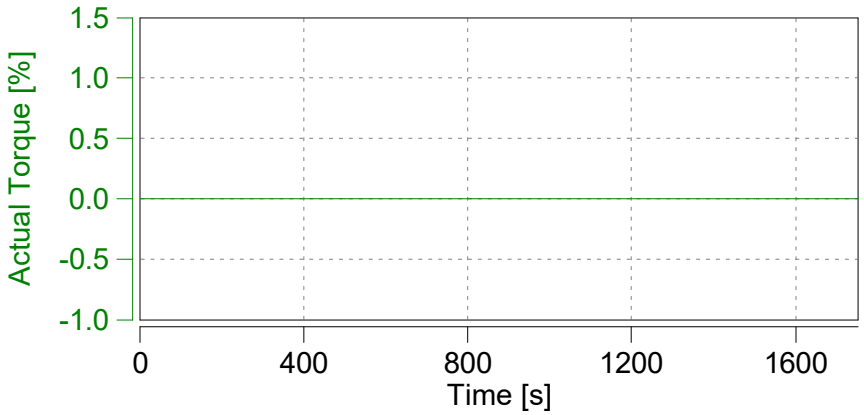
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

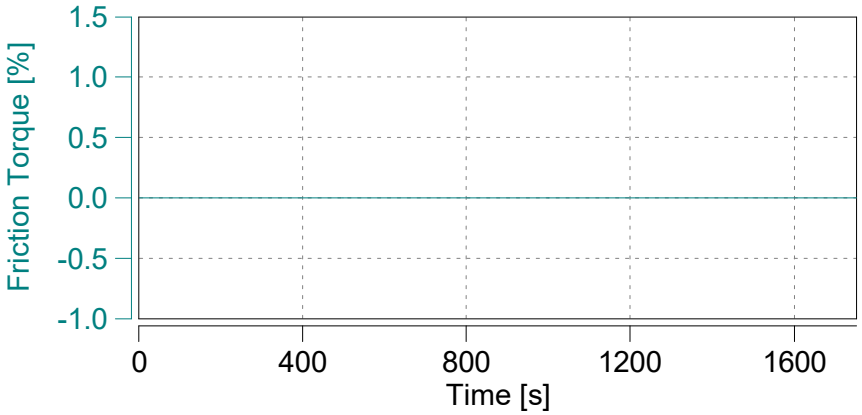
Case: W206-2518
Page: Engine (2)

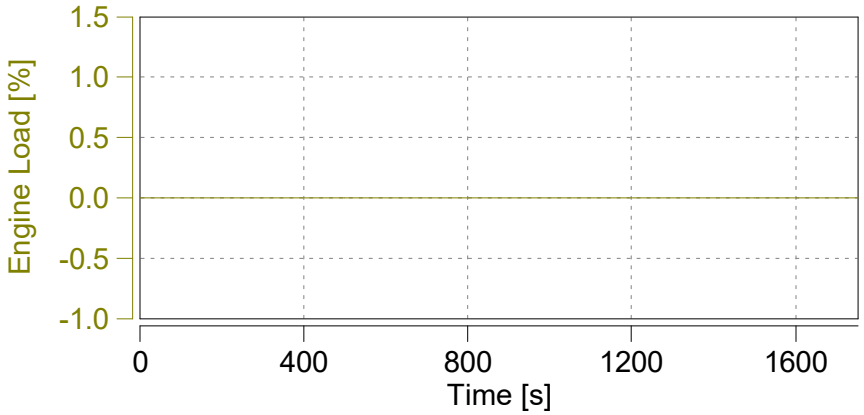
'W206-2518 A1 HWY East'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019







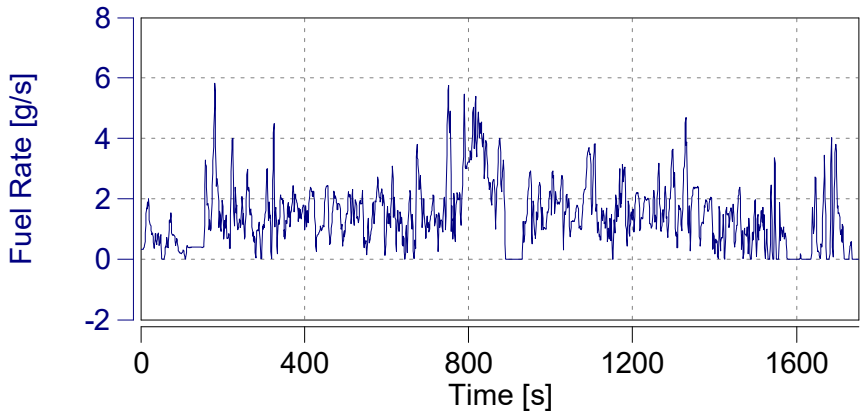


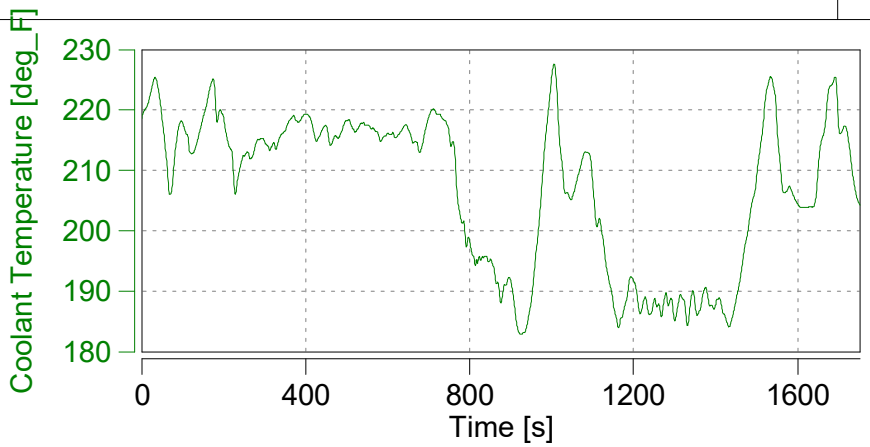
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

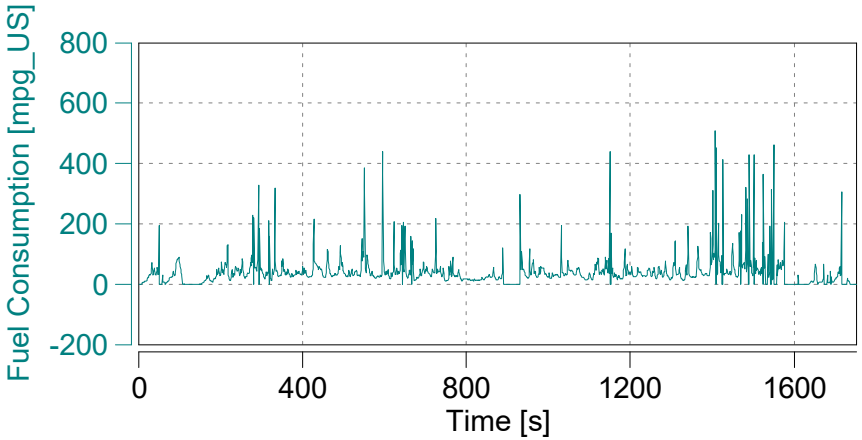
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

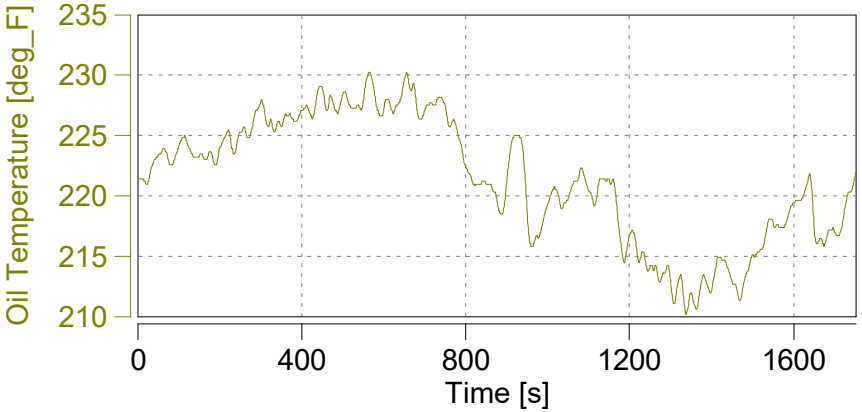
'W206-2518 A1 HWY East'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019









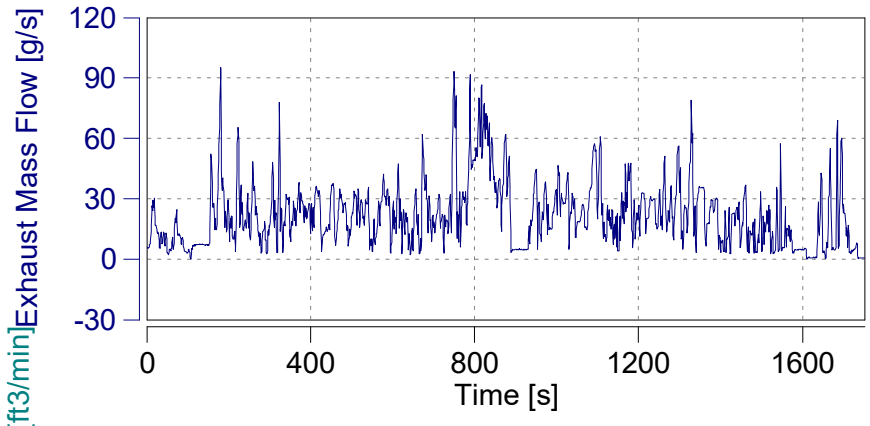
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

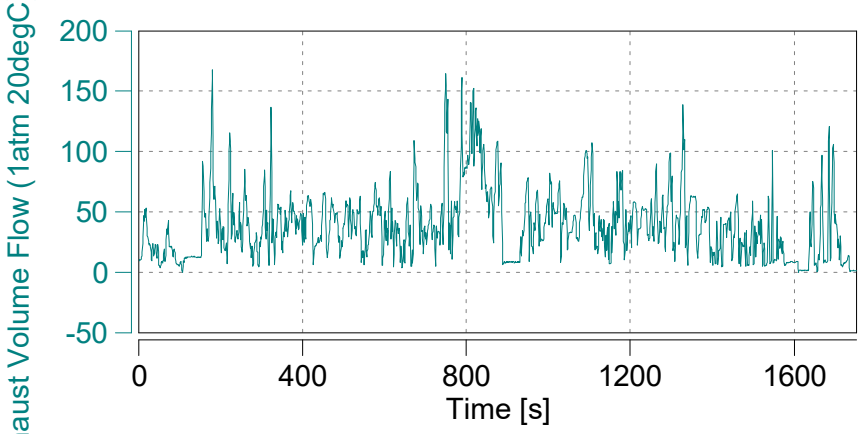
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

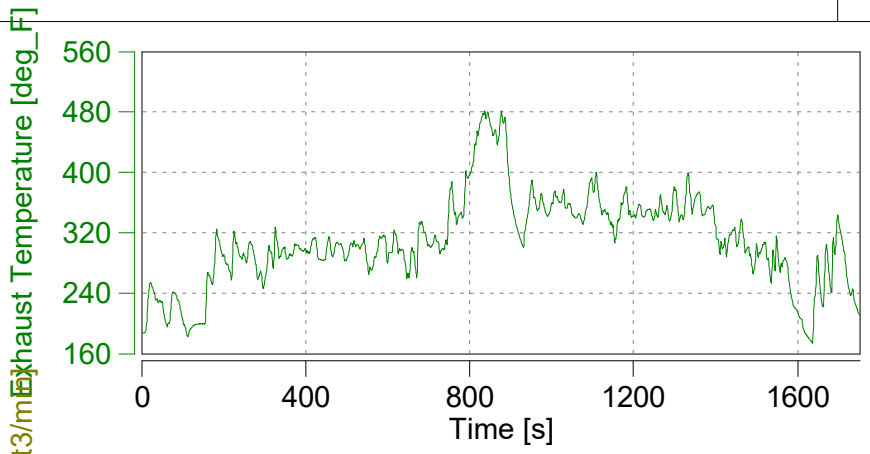
Case: W206-2518
Page: Exhaust Flow (1)

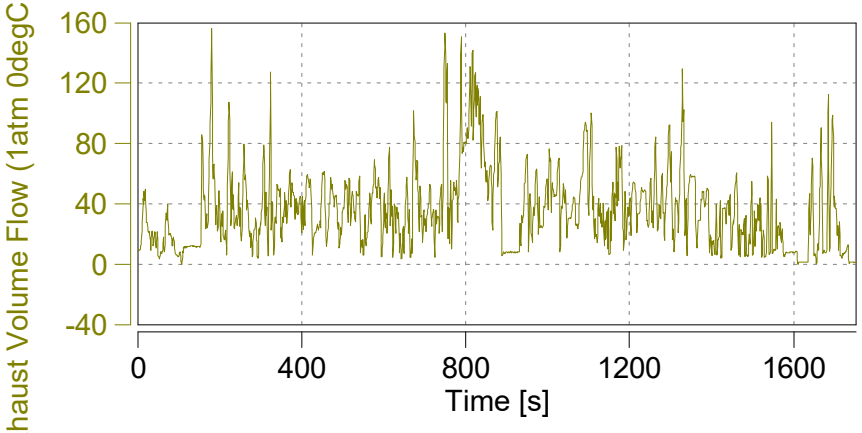
'W206-2518 A1 HWY East'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019









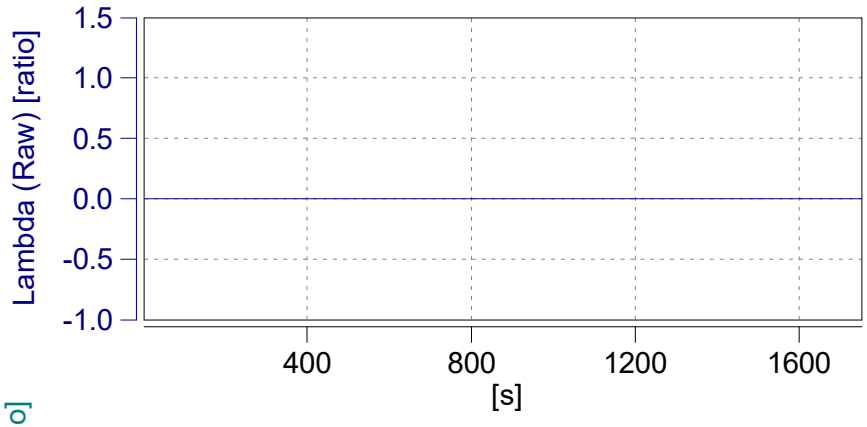
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

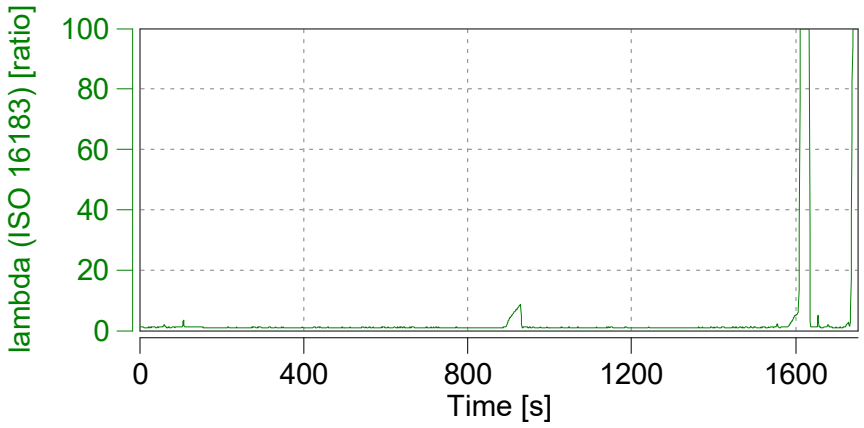
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

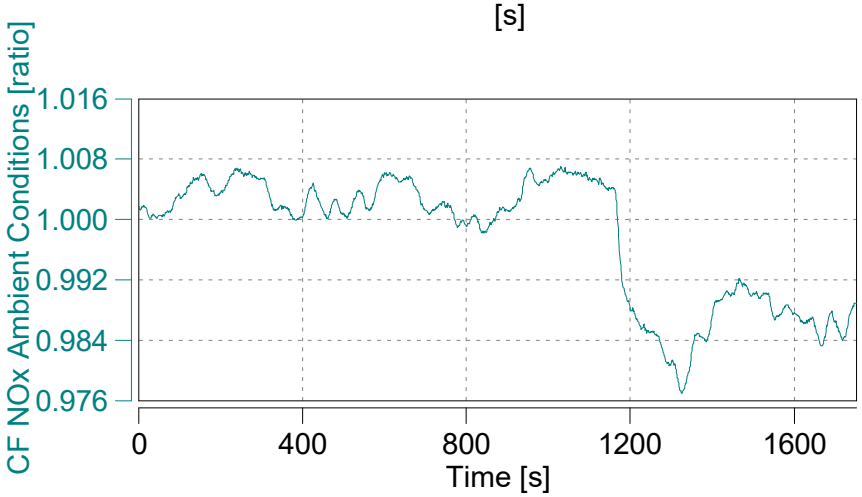
Case: W206-2518
Page: Exhaust Flow (2)

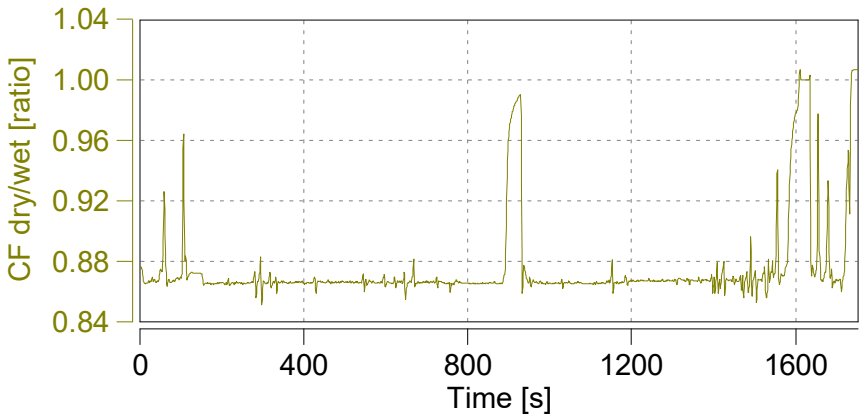
'W206-2518 A1 HWY East'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019









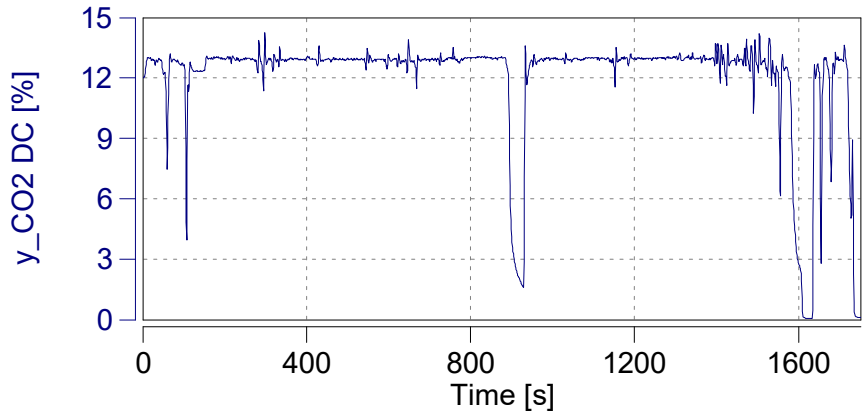
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

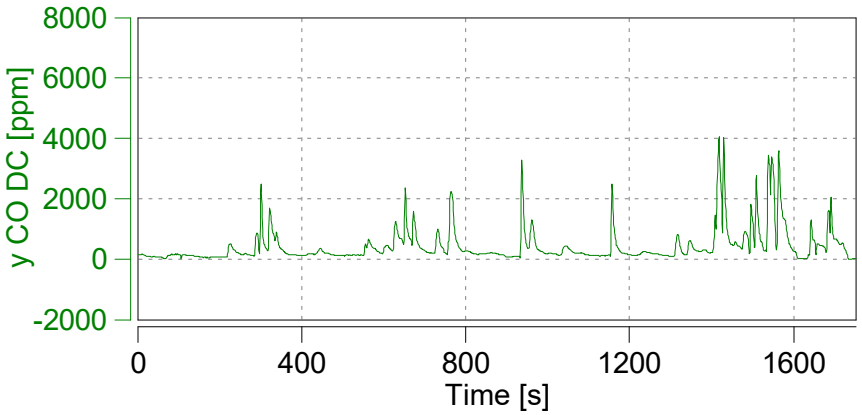
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

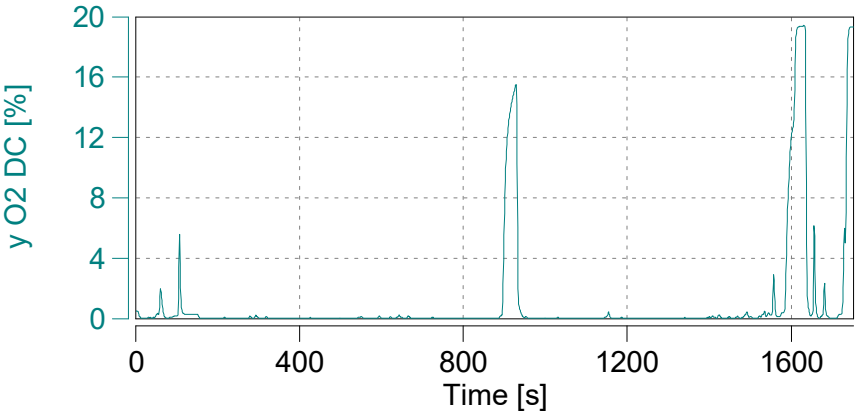
Case: W206-2518
Page: Corrected Emissions (1)

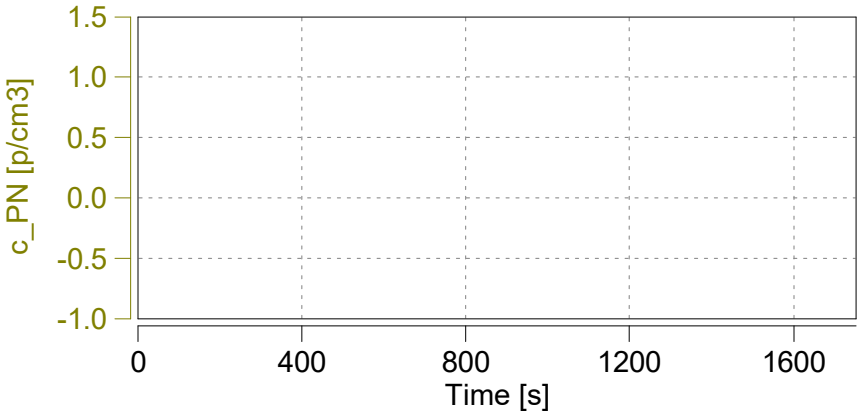
'W206-2518 A1 HWY East'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019









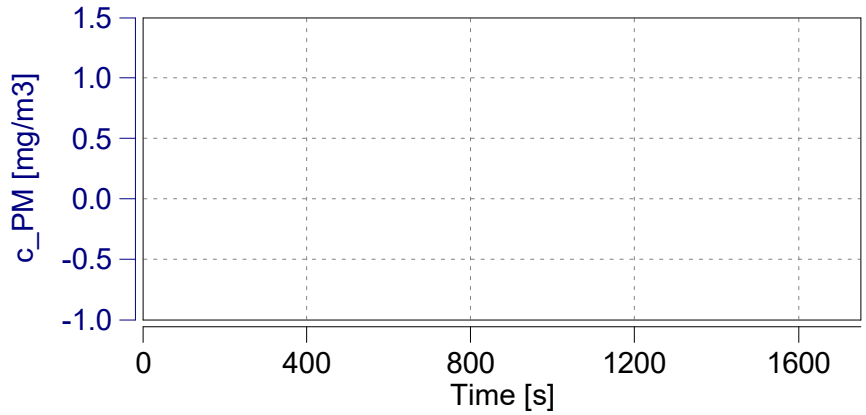
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

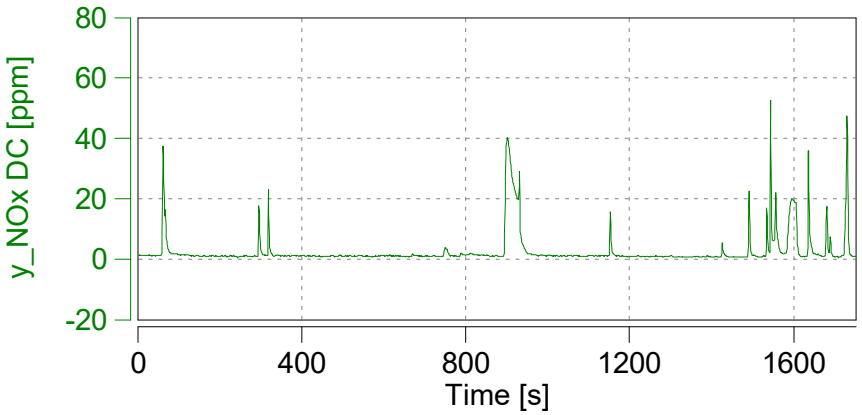
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

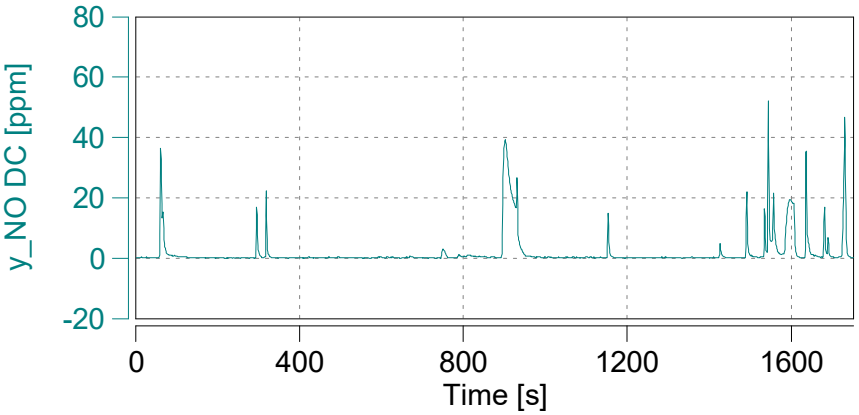
Case: W206-2518
Page: Corrected Emissions (2)

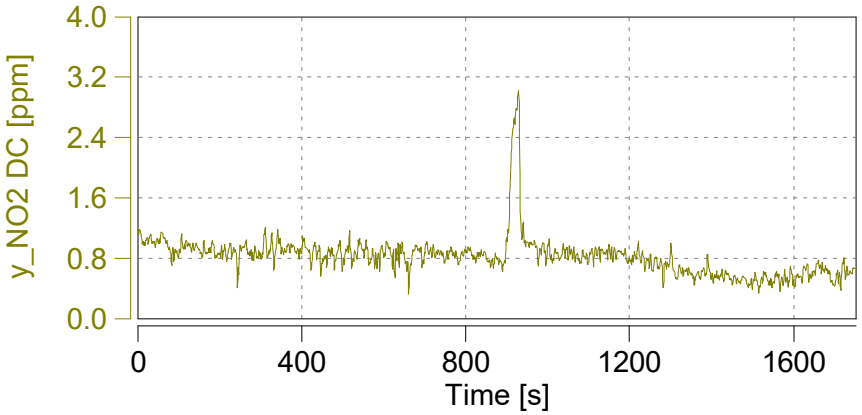
'W206-2518 A1 HWY East'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019









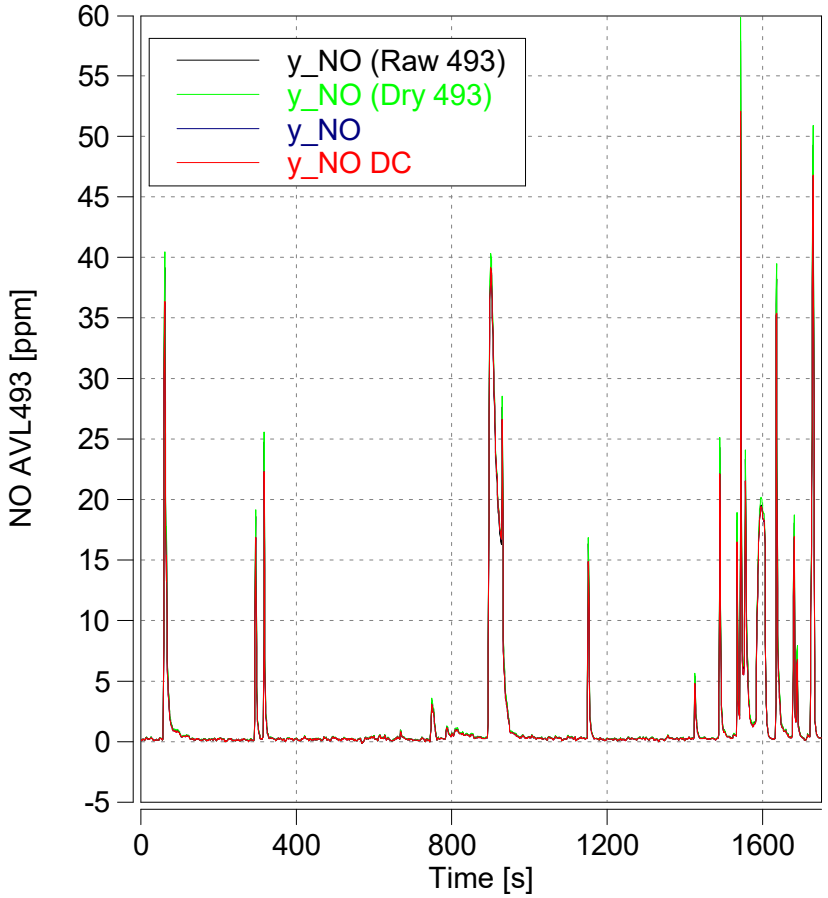
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

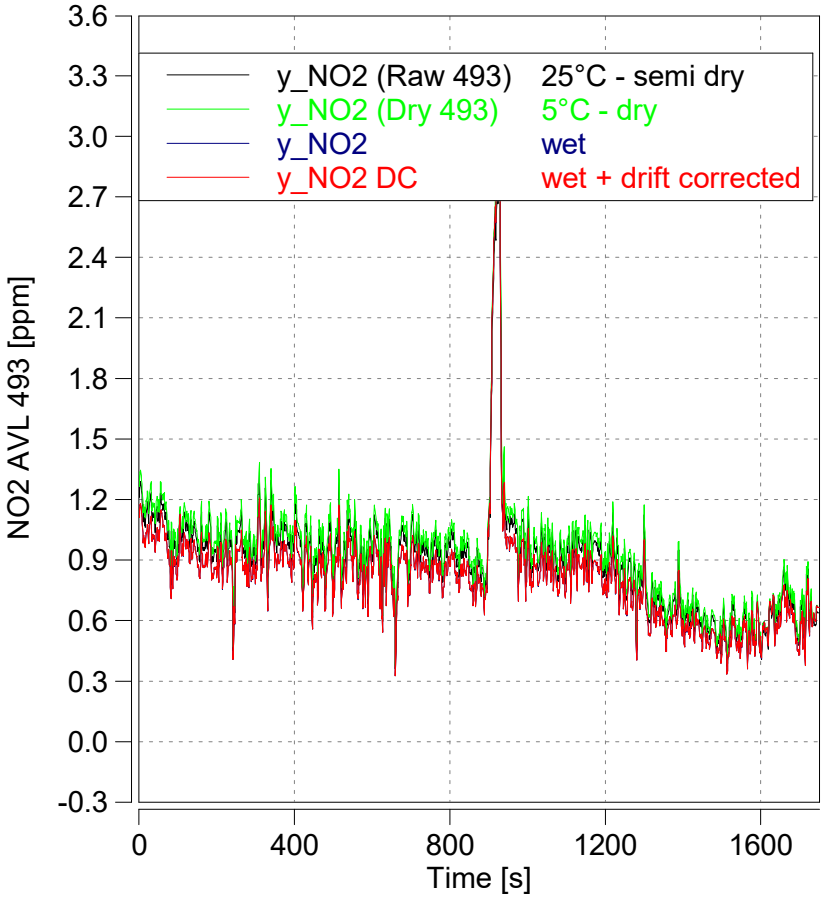
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: Corrected Emissions (3)

'W206-2518 A1 HWY East'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019

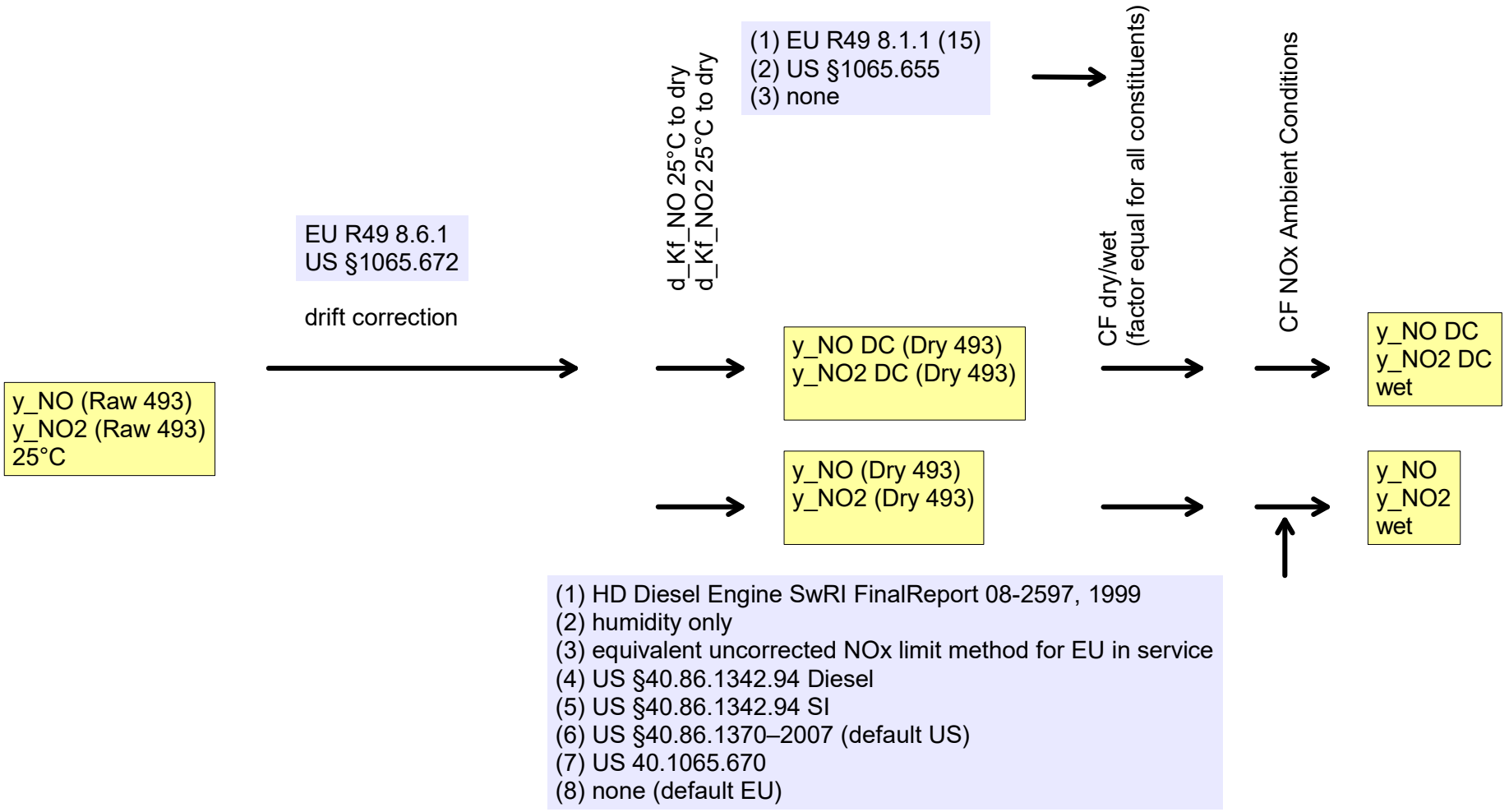




Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

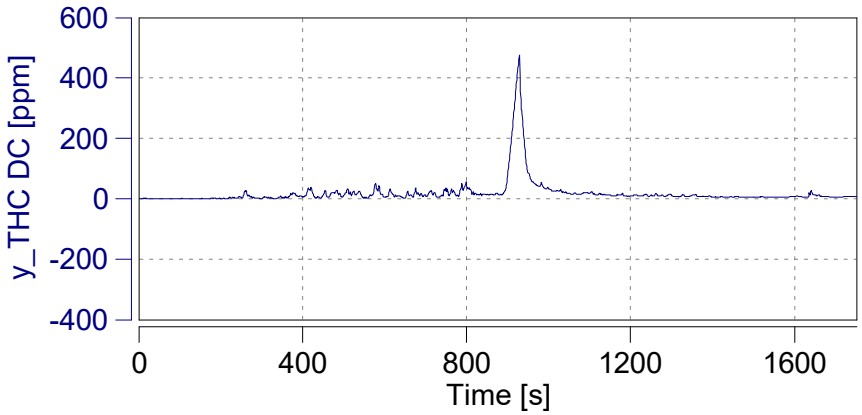
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

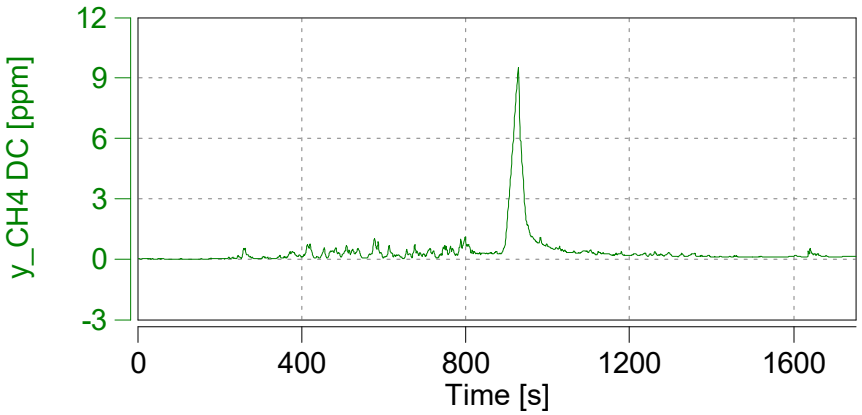
NOx - AVL 493

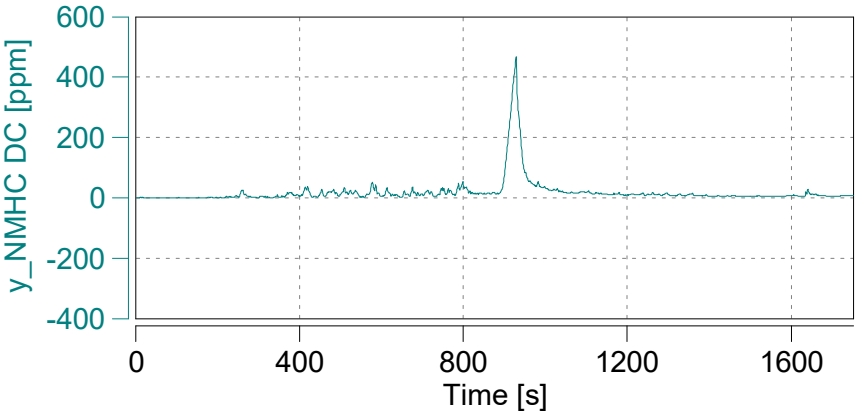

y_NO (Raw 493)
y_NO2 (Raw 493)
25°C
EU R49 8.6.1
US §1065.672
drift correction
d_Kf_NO 25°C to dry
d_Kf_NO2 25°C to dry
(1) EU R49 8.1.1 (15)
(2) US §1065.655
(3) none
y_NO DC (Dry 493)
y_NO2 DC (Dry 493)
y_NO (Dry 493)
y_NO2 (Dry 493)
CF dry/wet
(factor equal for all constituents)
CF NOx Ambient Conditions
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)

'W206-2518 A1 HWY East'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019







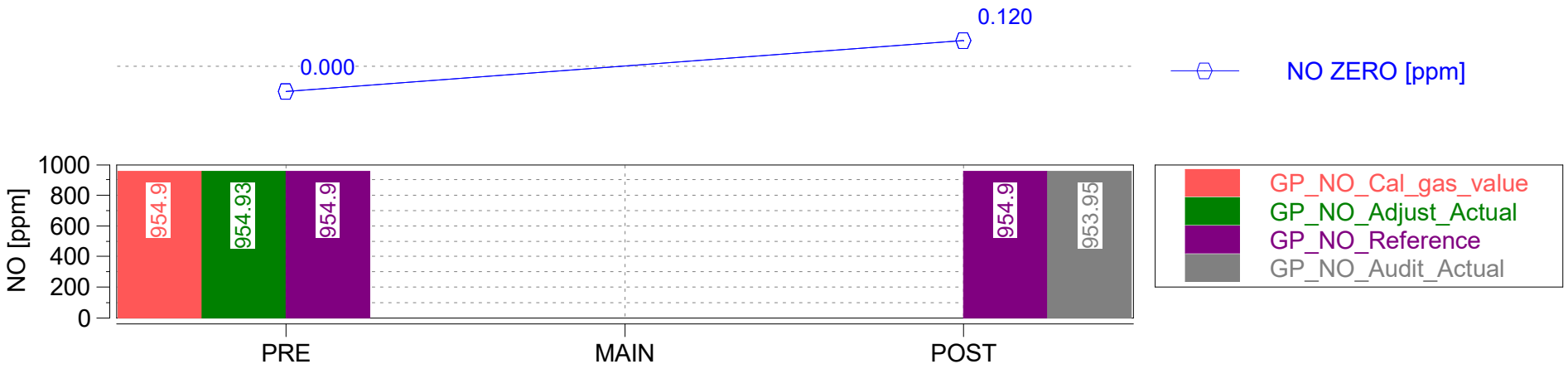
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

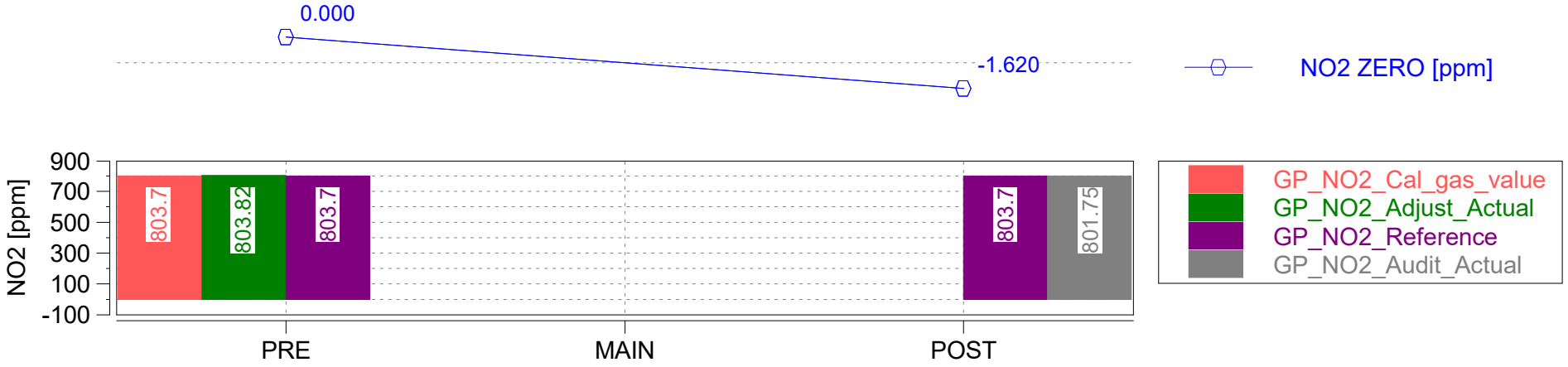
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: NO/NO2/NOx Zero - Span

'W206-2518 A1 HWY East'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019





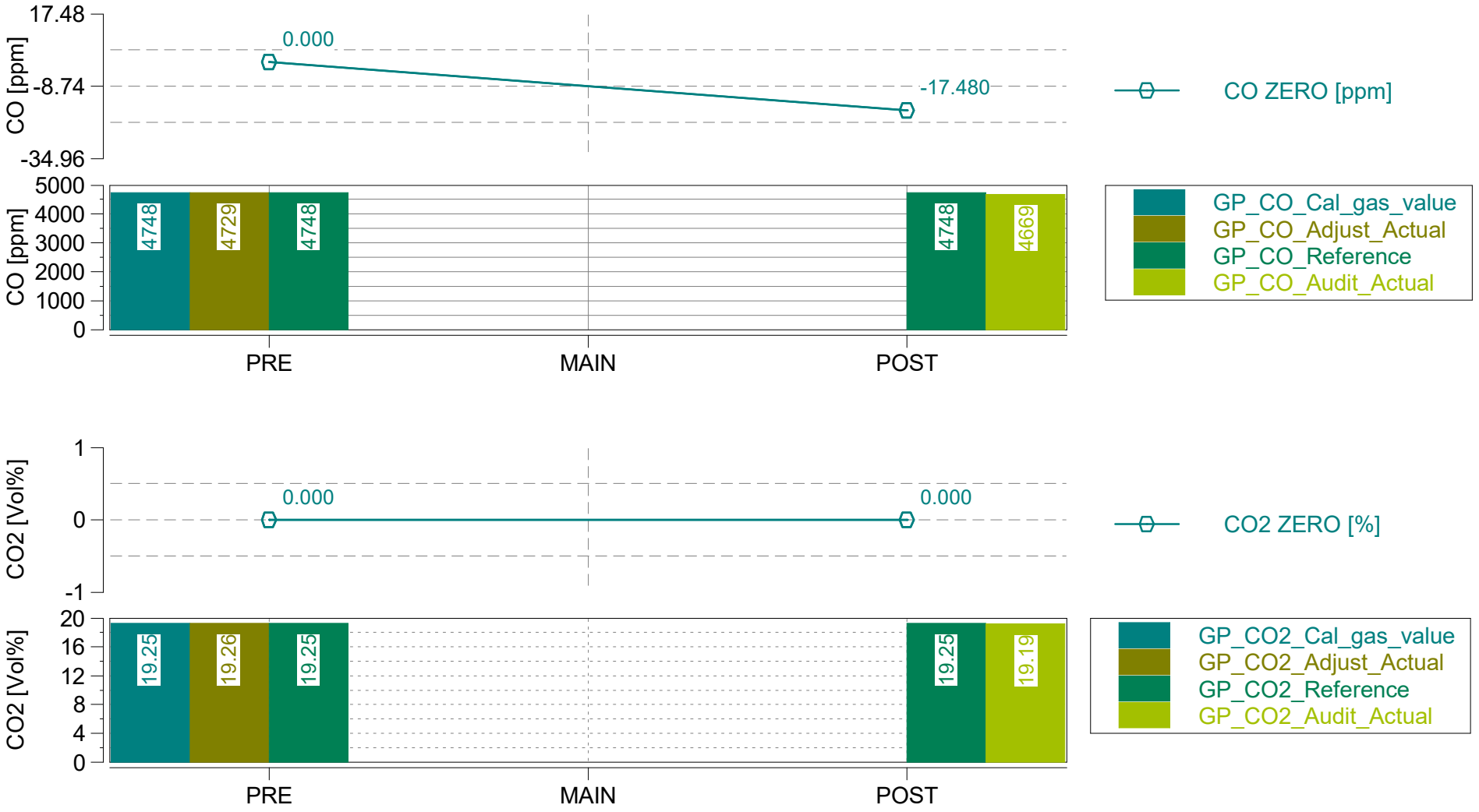
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: CO/CO2 Zero - Span

'W206-2518 A1 HWY East'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019



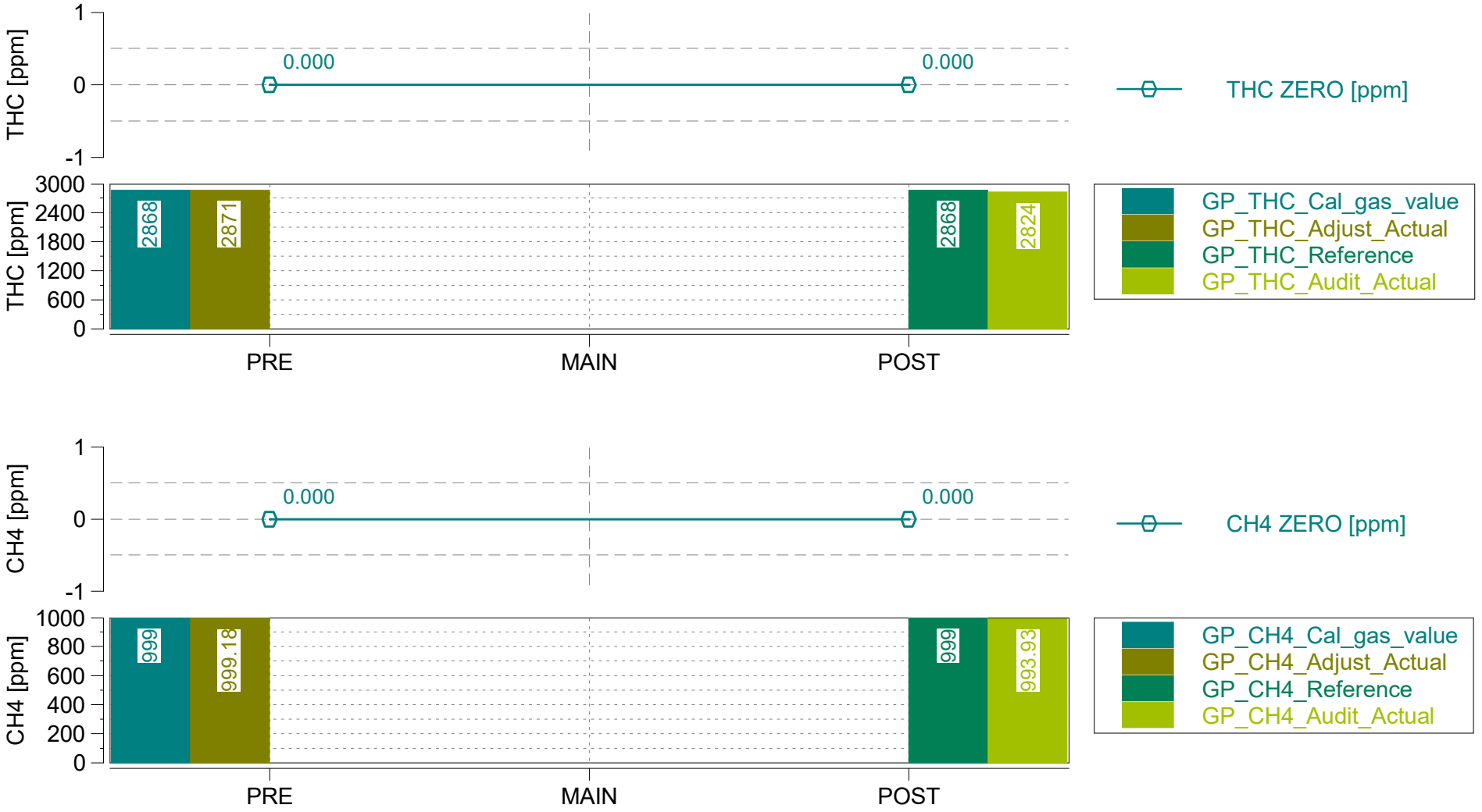
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: THC/CH4 Zero - Span

'W206-2518 A1 HWY East'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019



Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

§	criterium	condition	value	unit	pass/fail
GAS Leak Check	The leakage rate on the vacuum side shall not exceed 0.5 per cent of the in-use flow rate for the portion of the system being checked.	The leakage rate <= 0.5%	**0.06**	**%**	pass
PN Leak Check	n/a	n/a	**n/a**	**n/a**	n/a
PM Leak Check	n/a	n/a	**n/a**	**n/a**	n/a

GAS PEMS Devices

Device ID	AVL492
Serial Number	0597
Firmware Version	V1.17
Main Test Date	2021-08-04
Leak Check Age [days]	0

Device ID	AVL4925iS
Serial Number	175
Firmware Version	1.22.0.4

EFM

Device ID	AVL495
Serial Number	00914
Serial Number Tube	01090
Firmware Version	V1.16

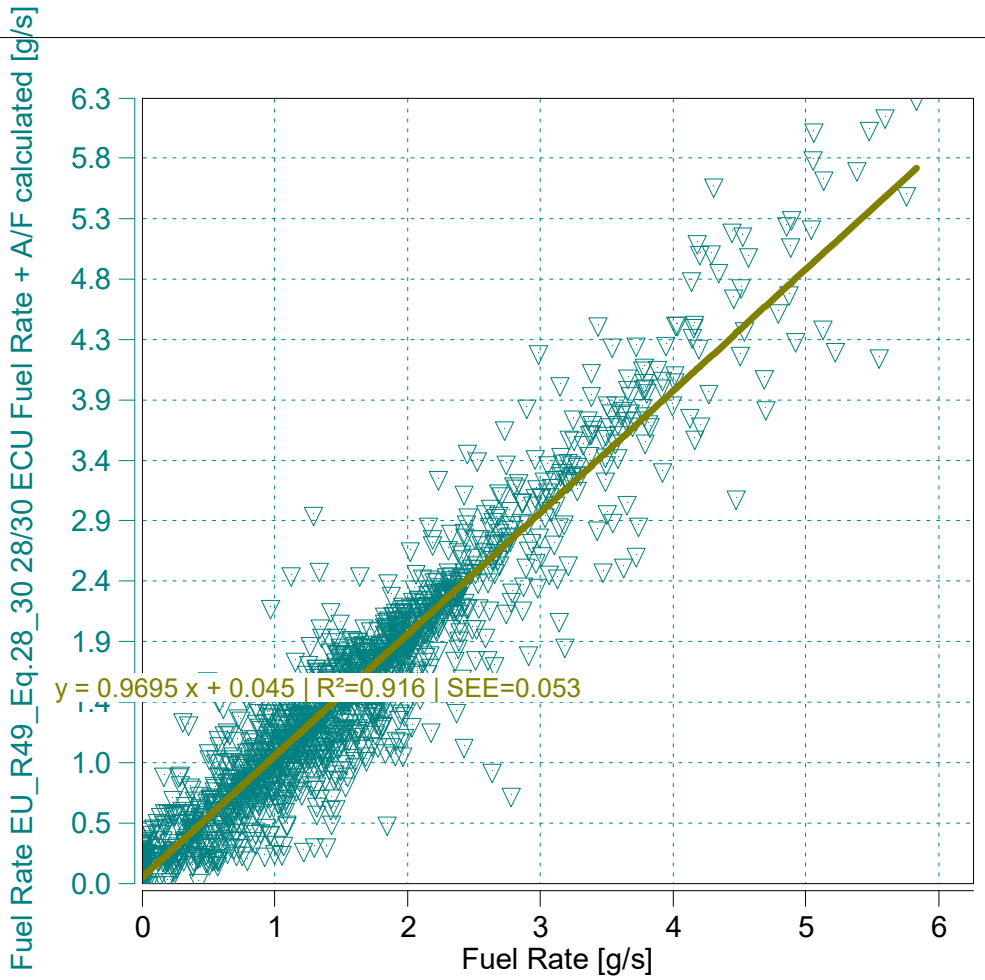
System Control

SC Version	V2.9_237
SC Serial Number	60301072

Case: W206-2518
Page: Fuel Rate ECU vs. Calculated

'W206-2518 A1 HWY East'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019



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

y = 0.9695 x + 0.045 | R²=0.916 | SEE=0.053
m = 0.97 (0.9 - 1.1 recommended)
R² = 0.92 (min 0.9 mandatory)

Data from - to [% of Maximum]

0 100

Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: Trip Summary

'W206-2518 B2 HWY West'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019

Trip Duration	2445.00	s
Trip Duration (a)	2445.00	s
Trip Distance	29.16	mi
Trip Distance (a)	29.16	mi
Trip Fuel Cons. (b)	2.34	kg
Trip Fuel Cons. (ab)	2.34	kg
Trip Fuel Cons. EU (ac)	2.36	kg
Trip Fuel Cons. US (ac)	2.34	kg
Trip Fuel Economy (b)	35.32	mpg_US
Trip Fuel Economy (ab)	35.32	mpg_US
Trip Fuel Economy EU (ac)	34.90	mpg_US
Trip Fuel Economy US (ac)	35.23	mpg_US
Trip Fuel Economy GGE (b)	35.32	mpg_US
Trip Fuel Economy GGE (ab)	35.32	mpg_US
Trip Fuel Economy EU GGE (ac)	34.90	mpg_US
Trip Fuel Economy US GGE (ac)	35.23	mpg_US
Trip Av. Eng. Speed	1453.05	rpm
Trip Av. Torque	50.15	lbft
Trip Av. Power	14.98	hp
Trip Work		
Trip Work (a)	10.17	hphr
Trip Exhaust Mass	37.04	kg
Trip Exhaust Mass EU (ac)	36.68	kg
Trip Exhaust Mass US (ac)	37.04	kg
Trip Av. Amb. Temperature	94.40	deg_F
Trip Av. Humidity	28.52	%
Trip Av. GPS Altitude	209.93	m
Fuel Type	Petrol (E10)	

ave THC	5.67364	ppm
ave NMHC	5.56016	ppm
ave CH4	0.11347	ppm
ave CO	556.70265	ppm
ave CO2	11.98643	%
ave NOx	3.57733	ppm
ave PM	n/a	mg/m3
ave Soot meas	n/a	mg/m3
ave Soot	n/a	mg/m3
ave PN	n/a	#/cm3
tot THC	0.11063	g
tot NMHC	0.10233	g
tot CH4	0.00245	g
tot CO	22.91328	g
tot CO2	7083.35137	g
tot NO (d)	0.14550	g
tot NO2	0.00001	g
tot NOx	0.12999	g
tot Soot	n/a	g
tot Soot meas	n/a	g
tot PM	n/a	g
tot PN	n/a	#
PM measurement type	0.00000	-
tot Soot on PM filter (estim.)	0.00000	mg
Soot --> PM simple scaling factor	1.00000	-
Trip Av. Veh. Speed	42.93978	mi/hr
Trip Distance Share Urban	23.29299	% distance
Trip Distance Share Rural	12.39365	% distance
Trip Distance Share Motorway	64.31337	% distance

BS CO2	696.16162	g/hphr
BS CO	2.25195	g/hphr
BS THC	0.01087	g/hphr
BS NMHC	0.01006	g/hphr
BS CH4	0.00024	g/hphr
BS NO (d)	0.01430	g/hphr
BS NO2	0.00000	g/hphr
BS NOx	0.01278	g/hphr
BS Soot	n/a	g/hphr
BS Soot meas	n/a	g/hphr
BS PM	n/a	g/hphr
BS PN	n/a	#/hpr
DS CO2	242.88605	g/mi
DS CO	0.78569	g/mi
DS THC	0.00379	g/mi
DS NMHC	0.00351	g/mi
DS CH4	0.00008	g/mi
DS NO (d)	0.00499	g/mi
DS NO2	0.00000	g/mi
DS NOx	0.00446	g/mi
DS Soot	n/a	g/mi
DS Soot meas	n/a	g/mi
DS PM	n/a	g/mi
DS PN	n/a	#/mi
FS CO2	3032.07590	g/kg
FS CO	9.80818	g/kg
FS THC	0.04736	g/kg
FS NMHC	0.04380	g/kg
FS CH4	0.00105	g/kg
FS NO (d)	0.06228	g/kg
FS NO2	0.00000	g/kg
FS NOx	0.05564	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: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: Trip Summary Drift Corrected

'W206-2518 B2 HWY West'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019

Trip Duration	2445.00	s
Trip Duration (a)	2445.00	s
Trip Distance	29.16	mi
Trip Distance (a)	29.16	mi
Trip Fuel Cons. (b)	2.34	kg
Trip Fuel Cons. (ab)	2.34	kg
Trip Fuel Cons. EU (ac)	2.36	kg
Trip Fuel Cons. US (ac)	2.34	kg
Trip Fuel Economy (b)	35.32	mpg_US
Trip Fuel Economy (ab)	35.32	mpg_US
Trip Fuel Economy EU (ac)	34.90	mpg_US
Trip Fuel Economy US (ac)	35.23	mpg_US
Trip Fuel Economy GGE (b)	35.32	mpg_US
Trip Fuel Economy GGE (ab)	35.32	mpg_US
Trip Fuel Economy EU GGE (ac)	34.90	mpg_US
Trip Fuel Economy US GGE (ac)	35.23	mpg_US
Trip Av. Eng. Speed	1453.05	rpm
Trip Av. Torque	50.15	lbft
Trip Av. Power	14.98	hp
Trip Work		
Trip Work (a)	10.17	hphr
Trip Exhaust Mass	37.04	kg
Trip Exhaust Mass EU (ac)	36.68	kg
Trip Exhaust Mass US (ac)	37.04	kg
Trip Av. Amb. Temperature	94.40	deg_F
Trip Av. Humidity	28.52	%
Trip Av. GPS Altitude	209.93	m
Fuel Type	Petrol (E10)	

ave THC DC	5.71305	ppm
ave NMHC DC	5.59879	ppm
ave CH4 DC	0.11426	ppm
ave CO DC	562.46411	ppm
ave CO2 DC	12.00202	%
ave NOx DC	3.57887	ppm
ave PM	n/a	mg/m3
ave Soot meas	n/a	mg/m3
ave Soot	n/a	mg/m3
ave PN DC		
tot THC DC	0.11140	g
tot NMHC DC	0.10304	g
tot CH4 DC	0.00247	g
tot CO DC	23.15041	g
tot CO2 DC	7092.56249	g
tot NO DC (d)	0.14557	g
tot NO2 DC	0.00001	g
tot NOx DC	0.13004	g
tot Soot	n/a	g
tot Soot meas	n/a	g
tot PM	n/a	g
tot PN DC		
PM measurement type	0.00000	-
tot Soot on PM filter (estim.)	0.00000	mg
Soot --> PM simple scaling factor	1.00000	-
Trip Av. Veh. Speed	42.93978	mi/hr
Trip Distance Share Urban	23.29299	% distance
Trip Distance Share Rural	12.39365	% distance
Trip Distance Share Motorway	64.31337	% distance

BS CO2 DC	697.06690	g/hphr
BS CO DC	2.27525	g/hphr
BS THC DC	0.01095	g/hphr
BS NMHC DC	0.01013	g/hphr
BS CH4 DC	0.00024	g/hphr
BS NO DC (d)	0.01431	g/hphr
BS NO2 DC	0.00000	g/hphr
BS NOx DC	0.01278	g/hphr
BS Soot	n/a	g/hphr
BS Soot meas	n/a	g/hphr
BS PM	n/a	g/hphr
BS PN DC		
DS CO2 DC	243.20190	g/mi
DS CO DC	0.79382	g/mi
DS THC DC	0.00382	g/mi
DS NMHC DC	0.00353	g/mi
DS CH4 DC	0.00008	g/mi
DS NO DC (d)	0.00499	g/mi
DS NO2 DC	0.00000	g/mi
DS NOx DC	0.00446	g/mi
DS Soot	n/a	g/mi
DS Soot meas	n/a	g/mi
DS PM	n/a	g/mi
DS PN DC		
FS CO2 DC	3036.01878	g/kg
FS CO DC	9.90969	g/kg
FS THC DC	0.04768	g/kg
FS NMHC DC	0.04411	g/kg
FS CH4 DC	0.00106	g/kg
FS NO DC (d)	0.06231	g/kg
FS NO2 DC	0.00000	g/kg
FS NOx DC	0.05567	g/kg
FS Soot	n/a	g/kg
FS Soot meas	n/a	g/kg
FS PM	n/a	g/kg
FS PN DC		

(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

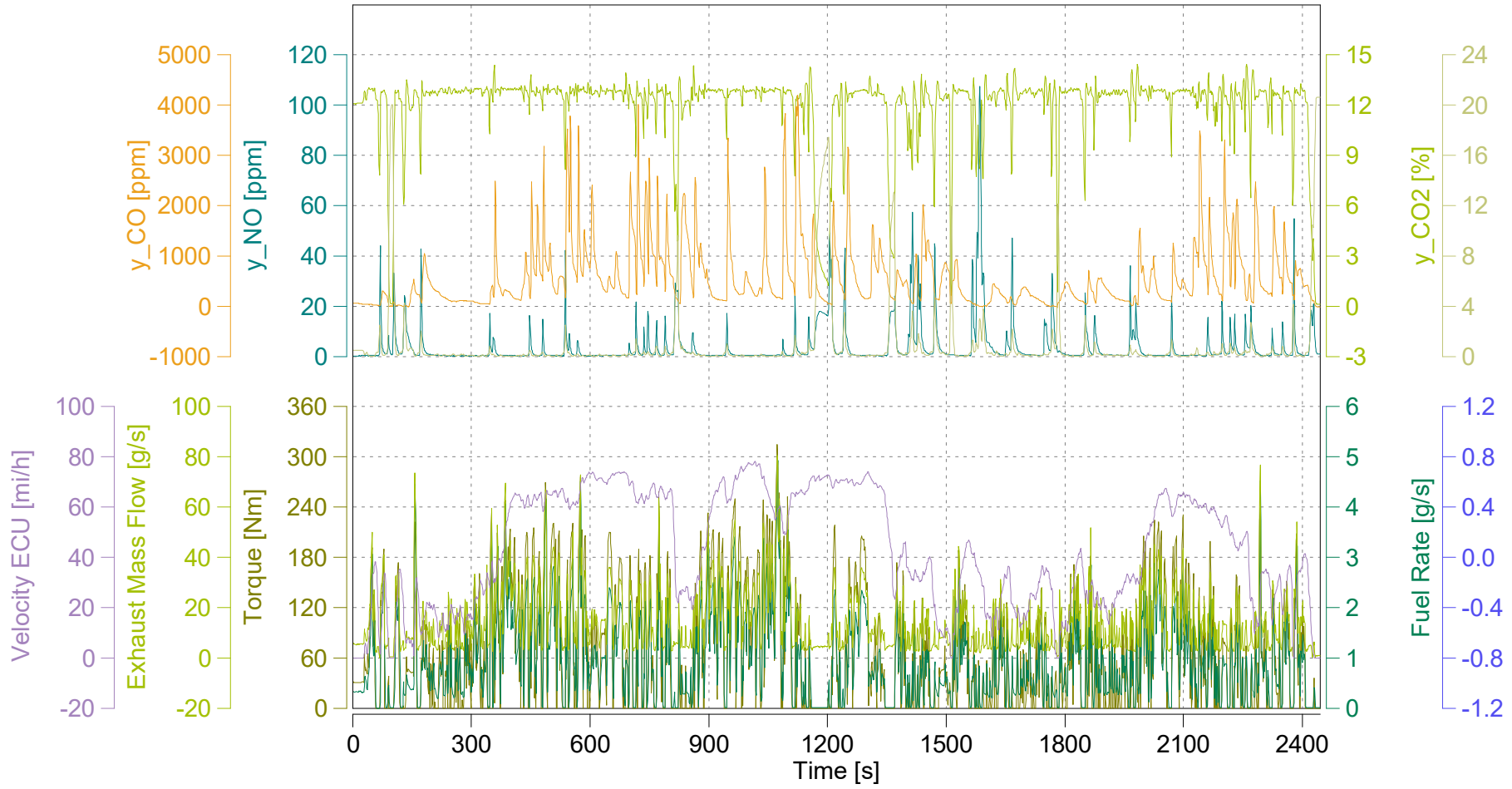
Case: W206-2518
Page: Time Alignment Check

'W206-2518 B2 HWY West'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto

Absolute Time

y_THC
y_NO
y_CO2
y_O2
c_Soot
Fuel Rate
Exhaust Mass
Torque
Velocity ECU



AVL 492 Defa

THC
NO/NO2
CO/CO2
O2

Apply Defa

Alignment Plo

Reset Time
Reset Al
Apply Curr

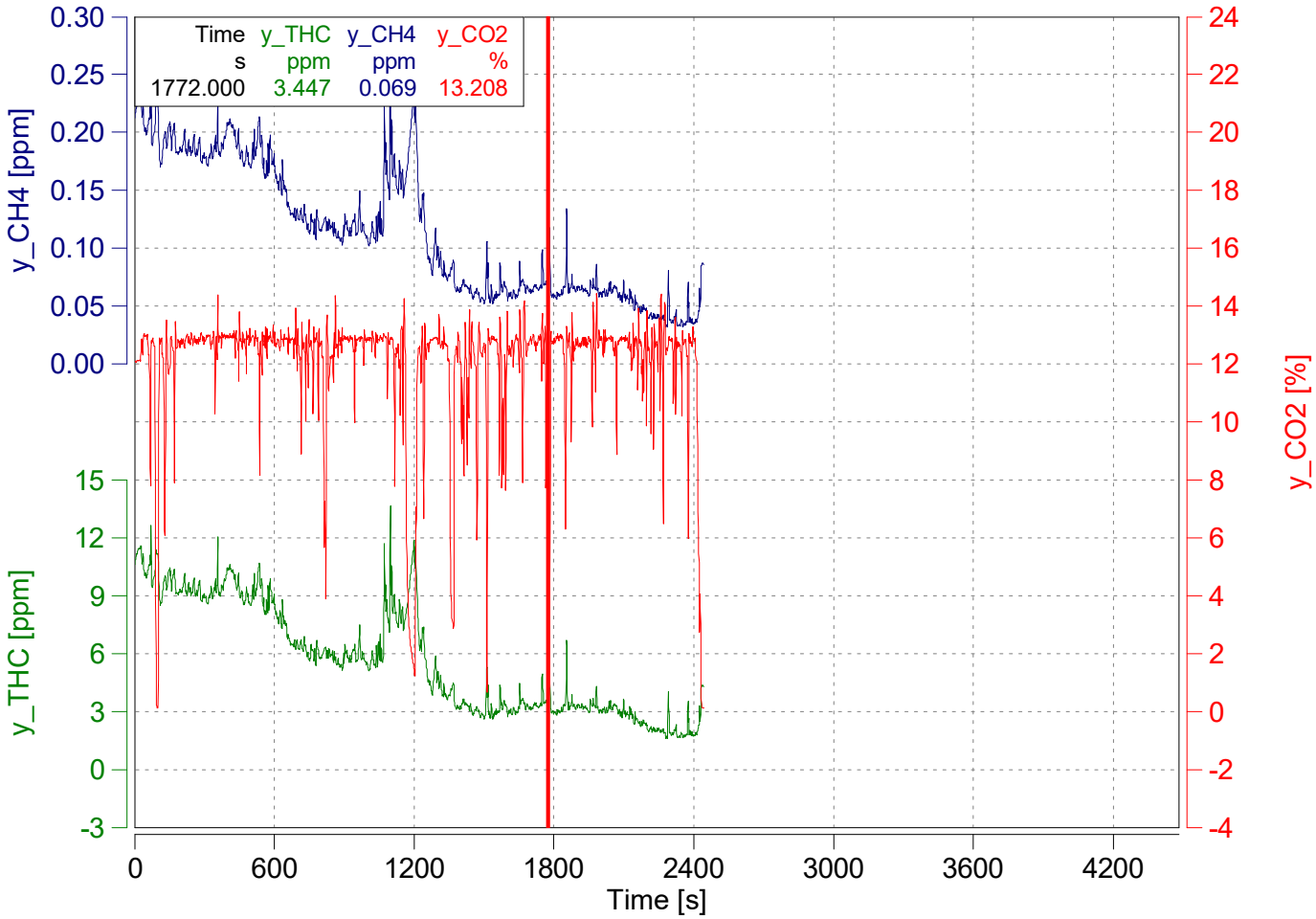
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: Time Alignment of Gas Concentrations

'W206-2518 B2 HWY West'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019



Absolute Time Shifts

y_THC	s	-4.3
y_CH4	s	-6.3

Reset Time Shifts in Plot

Apply Current Values

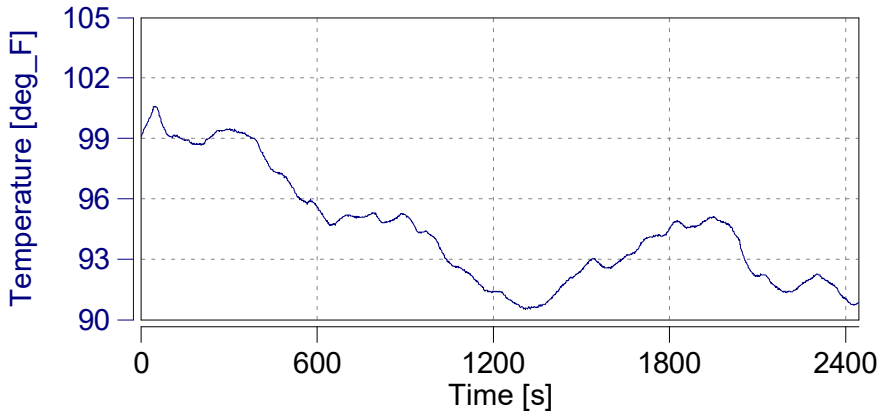
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

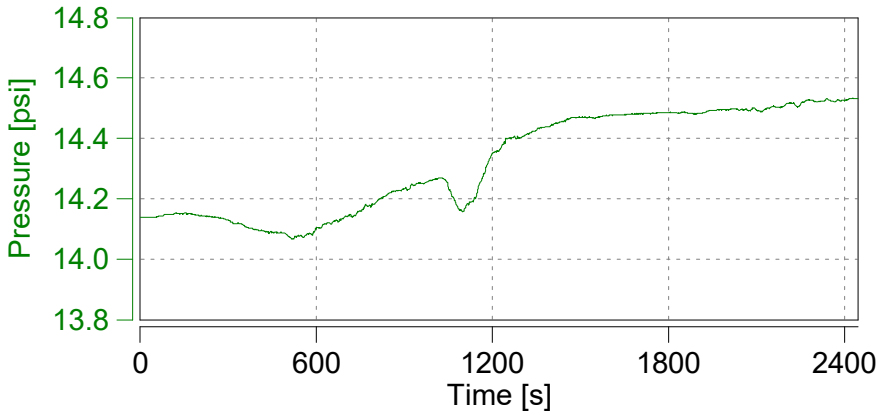
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

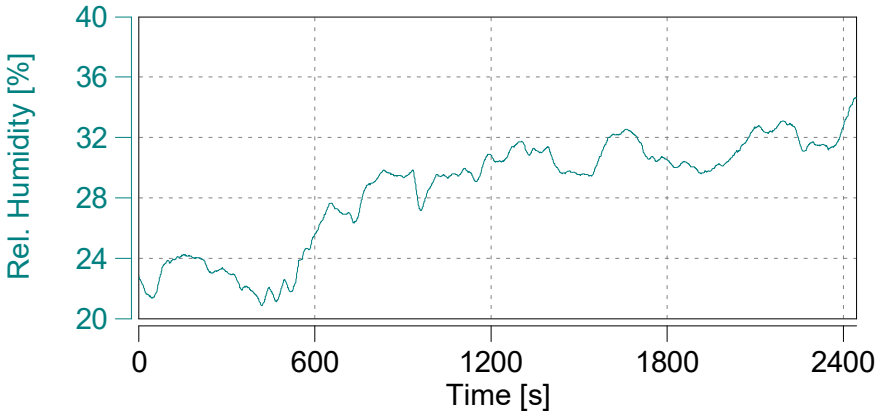
Case: W206-2518
Page: Ambient Conditions

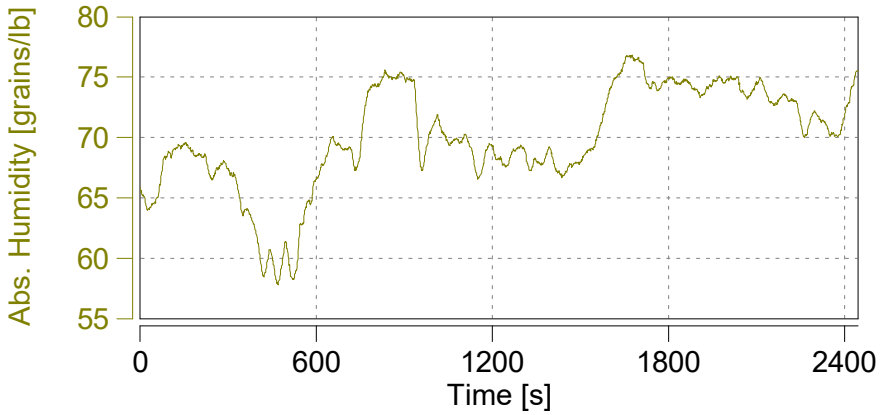
'W206-2518 B2 HWY West'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019









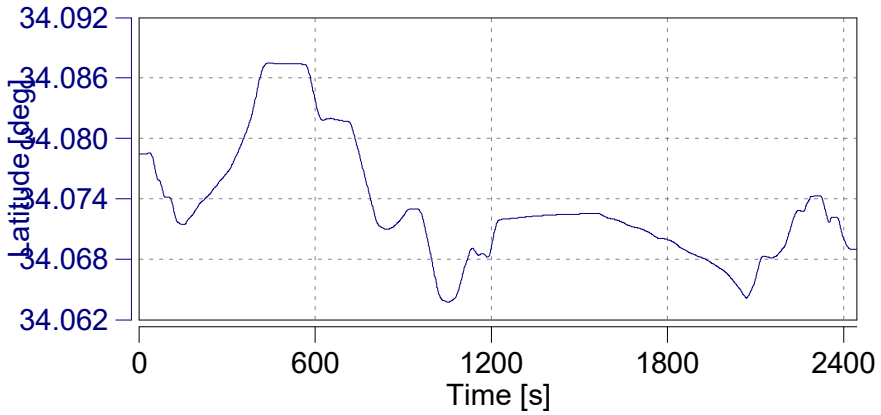
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

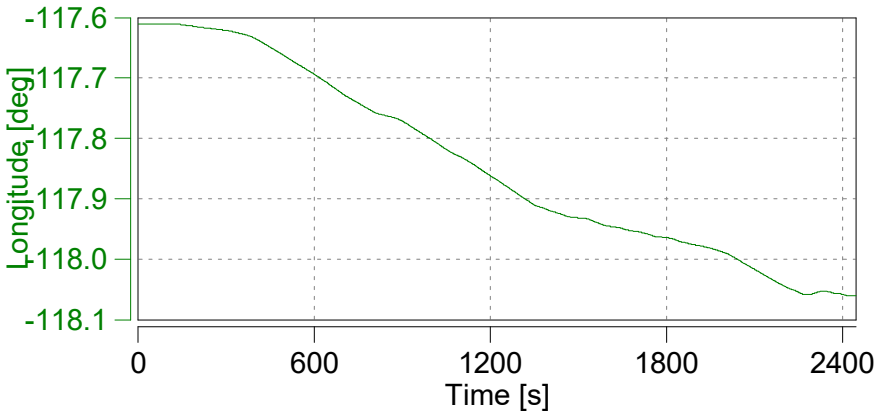
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

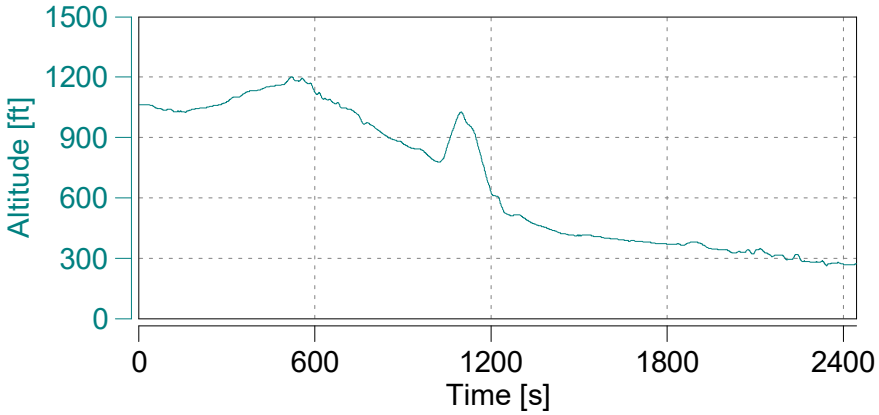
Case: W206-2518
Page: GPS

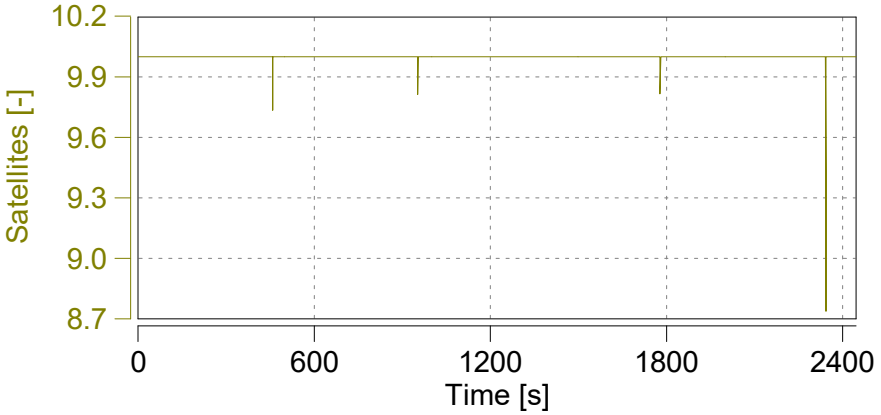
'W206-2518 B2 HWY West'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019









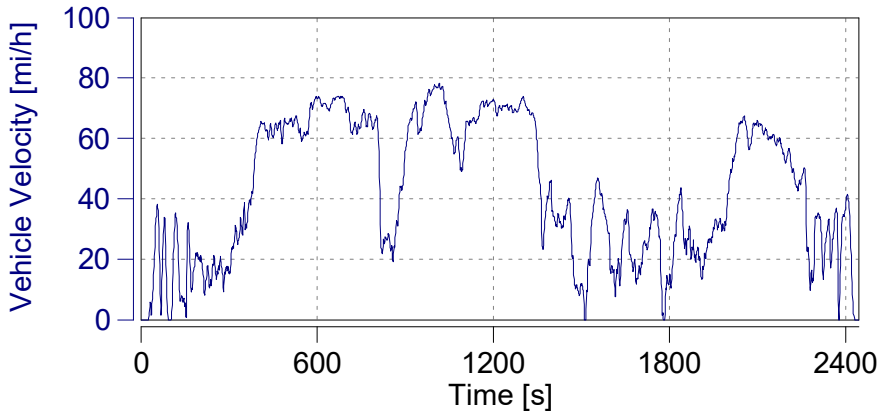
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

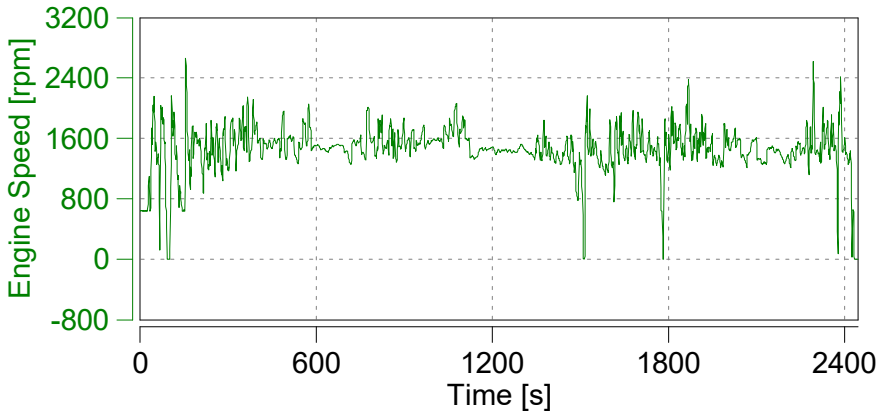
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

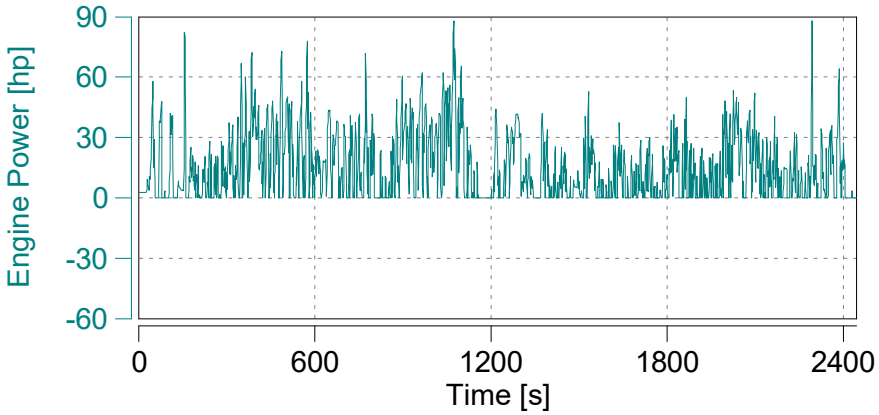
Case: W206-2518
Page: Engine (1)

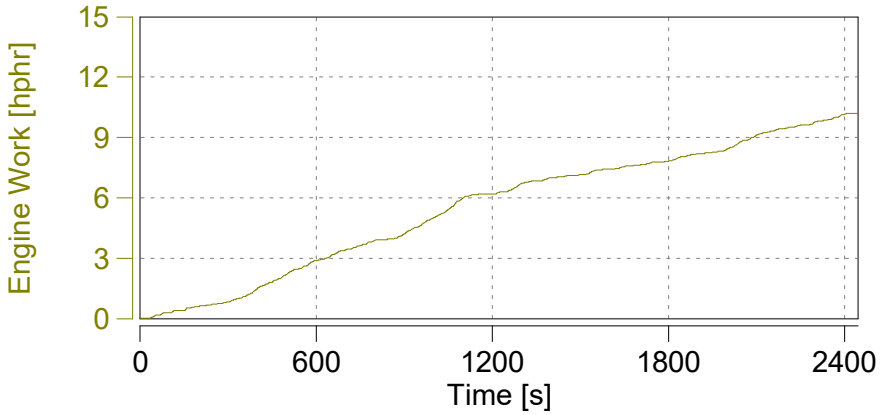
'W206-2518 B2 HWY West'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019





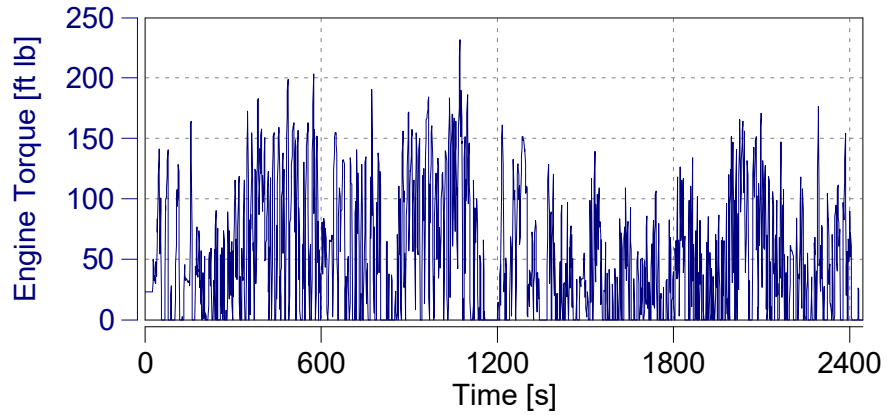


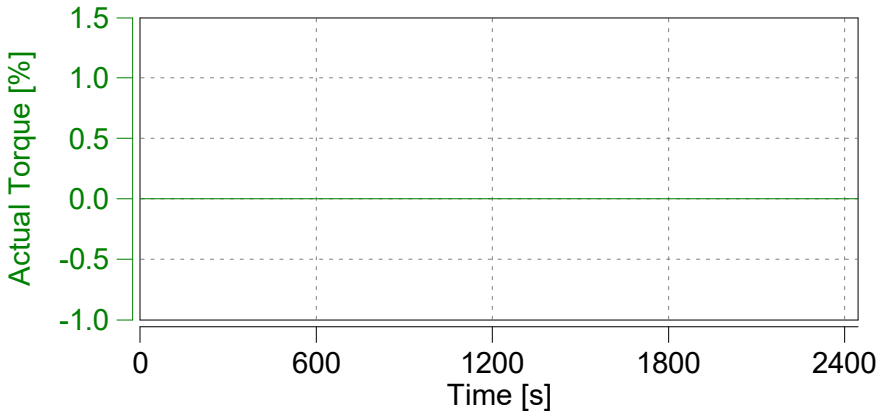


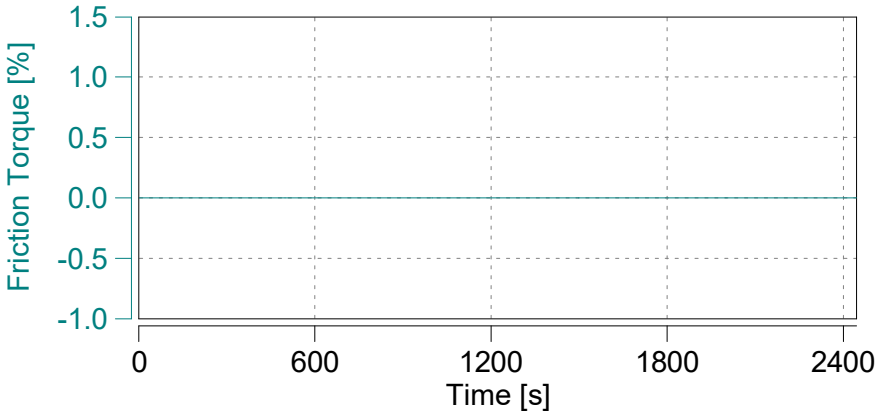
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

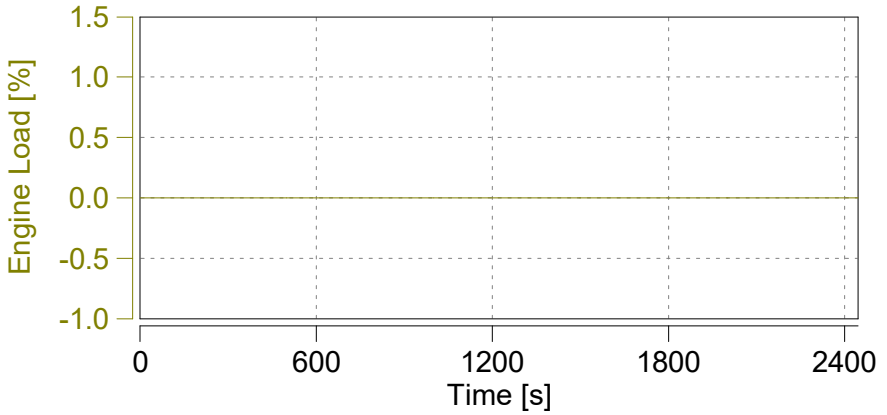
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

'W206-2518 B2 HWY West'
Start Date: 08/04/2021
Start Time: 08:08:03.0





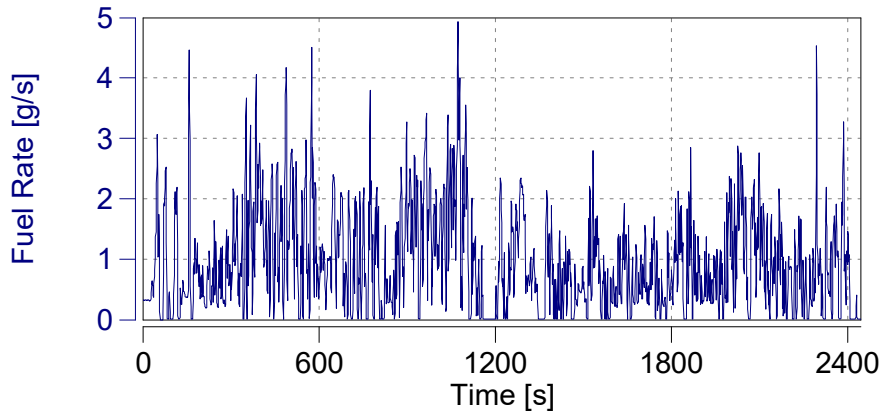


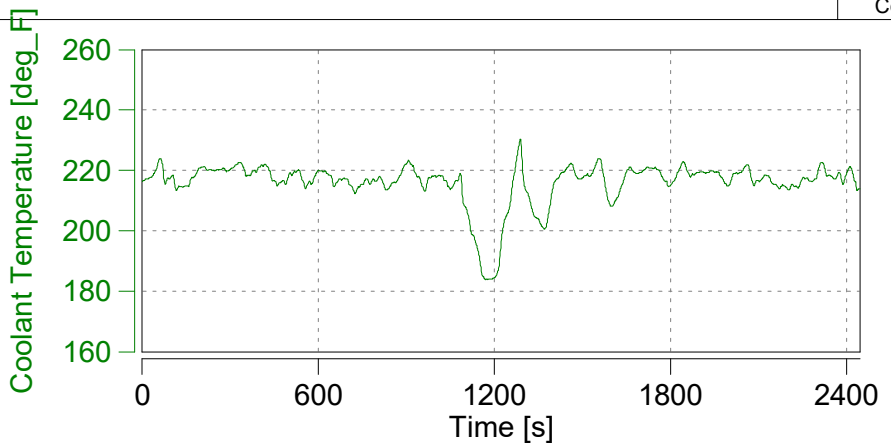


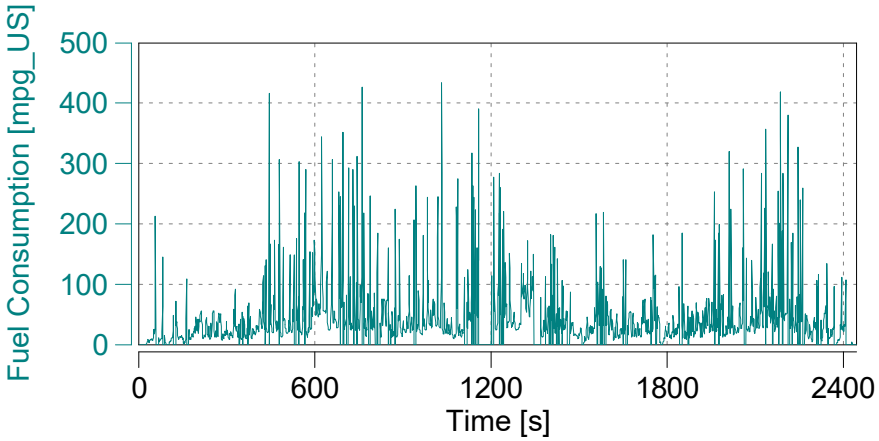
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

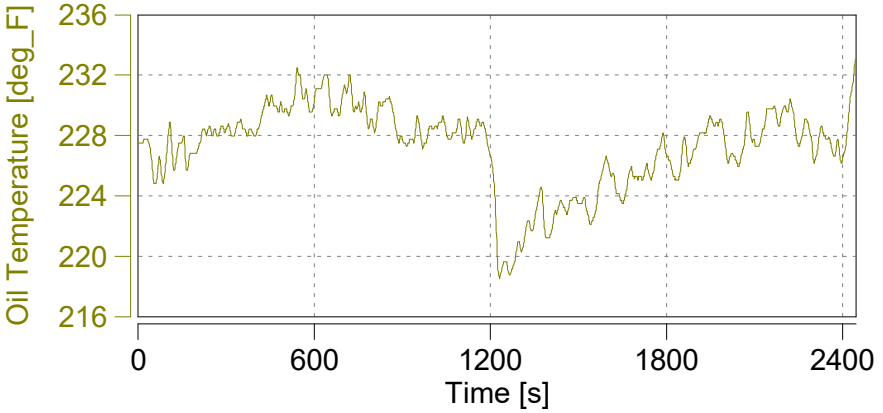
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

'W206-2518 B2 HWY West'
Start Date: 08/04/2021
Start Time: 08:08:03.0









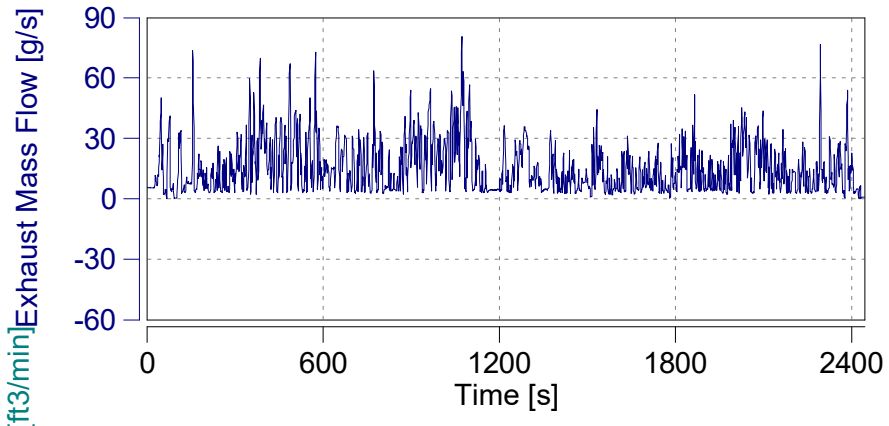
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

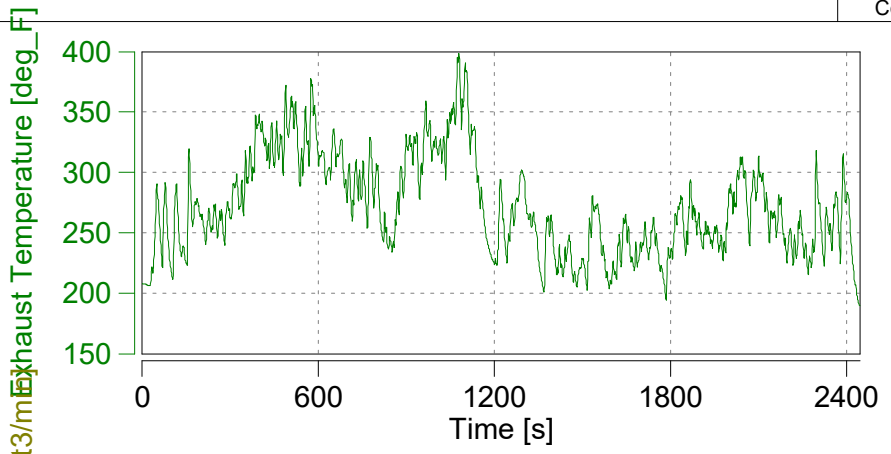
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

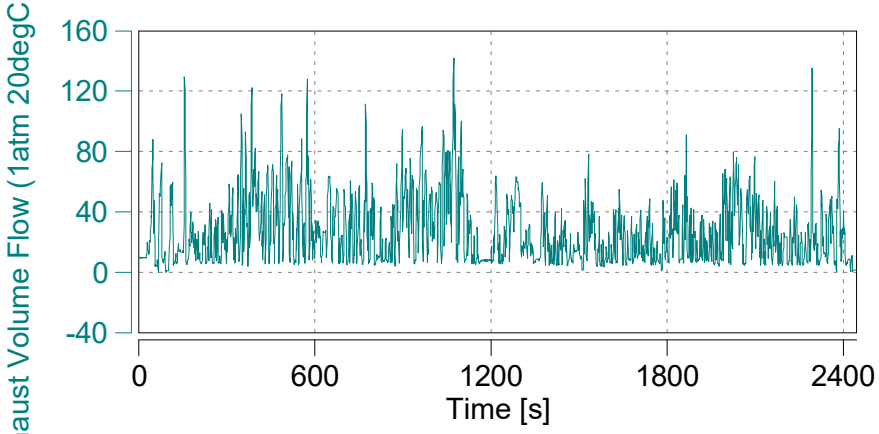
Case: W206-2518
Page: Exhaust Flow (1)

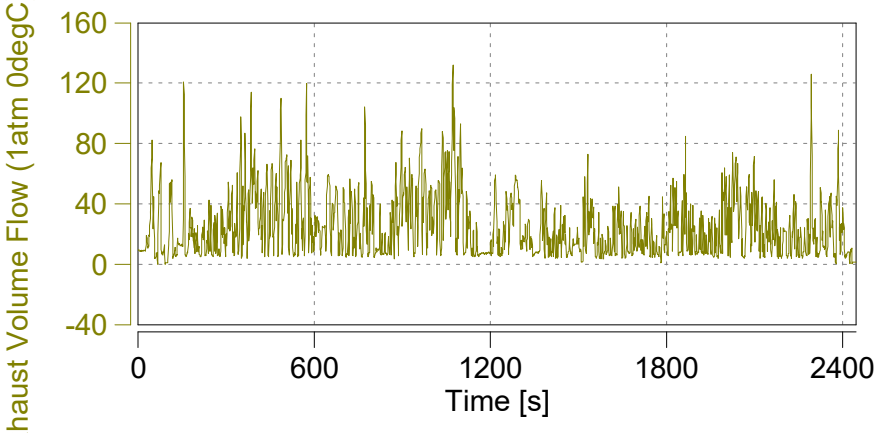
'W206-2518 B2 HWY West'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019









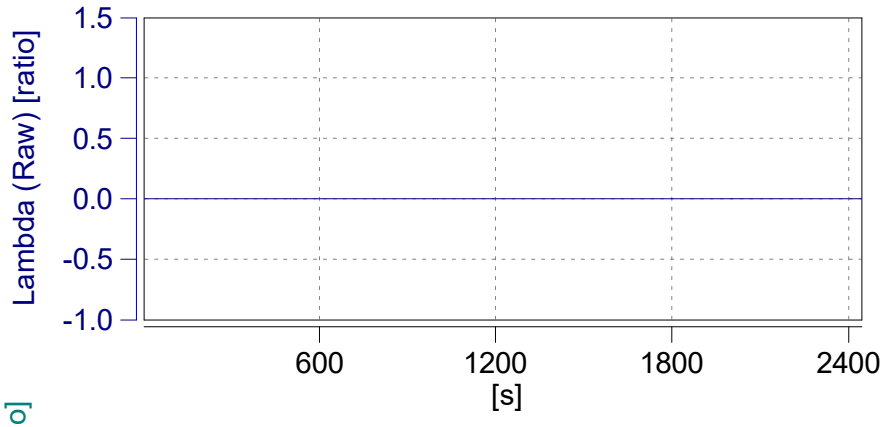
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

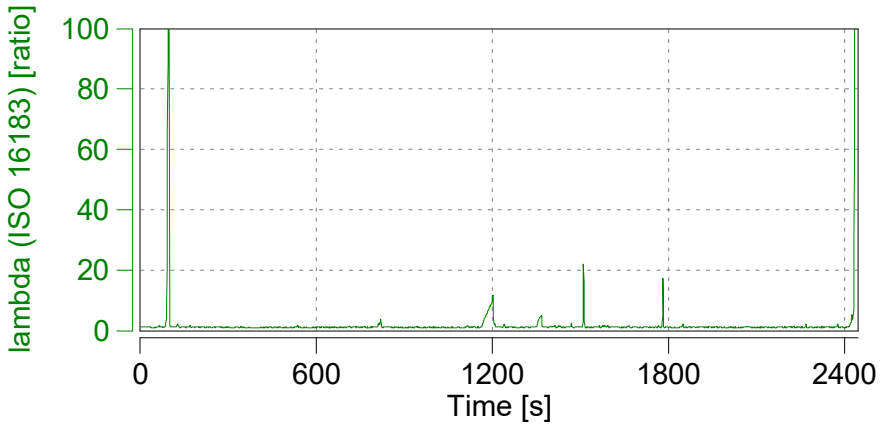
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

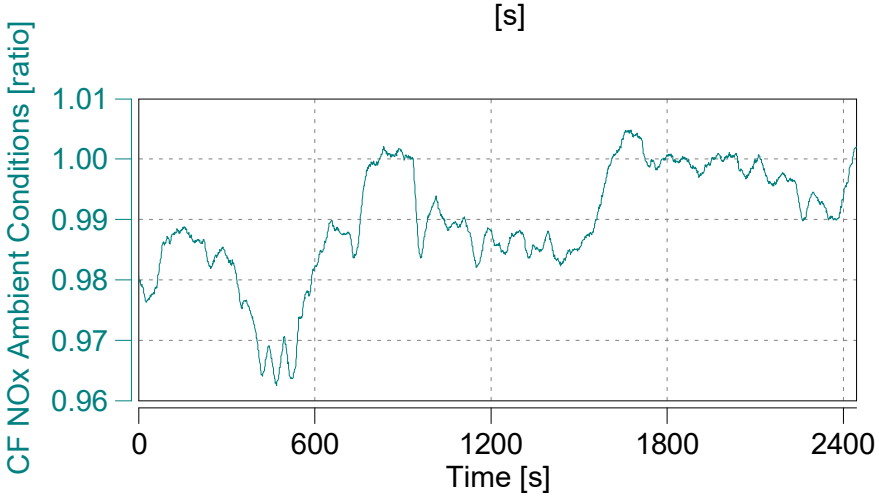
Case: W206-2518
Page: Exhaust Flow (2)

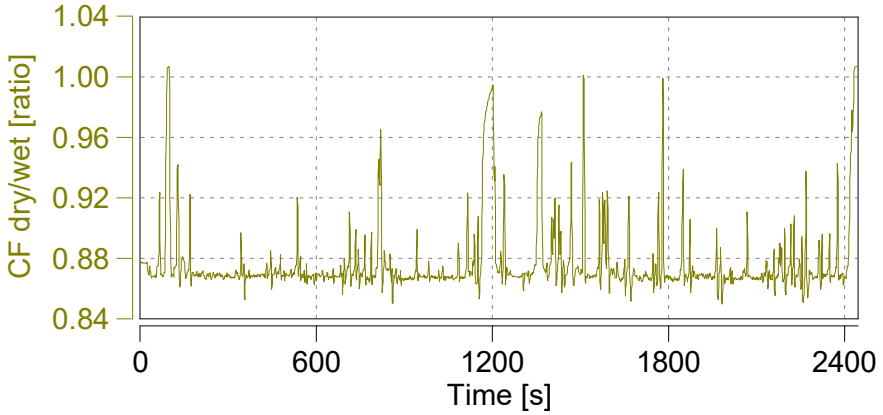
'W206-2518 B2 HWY West'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019









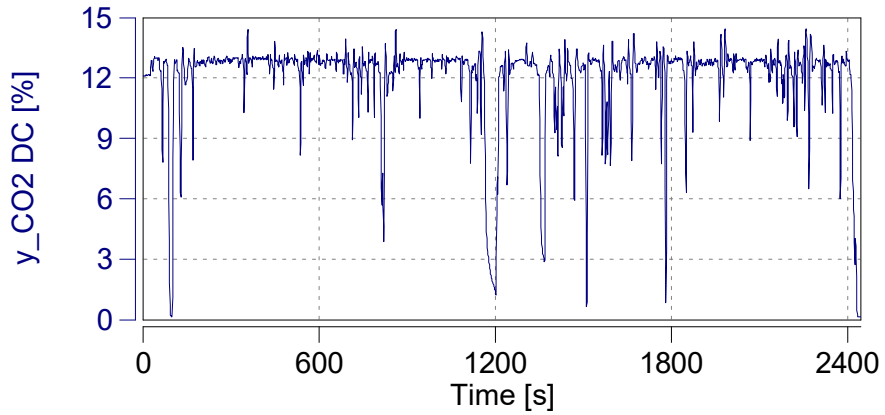
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

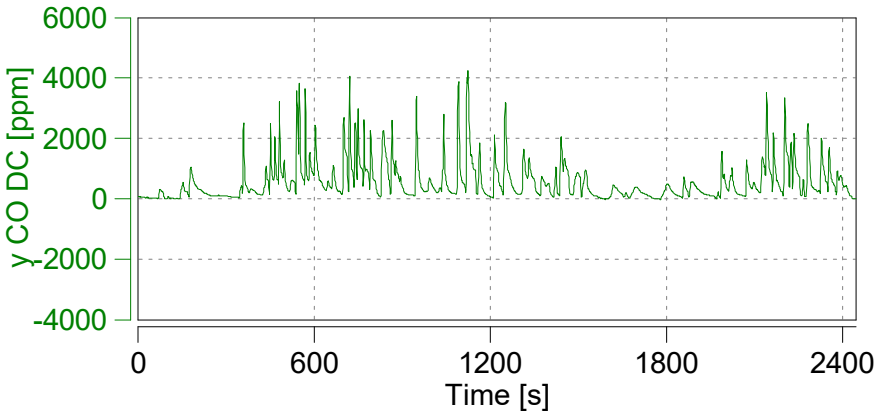
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

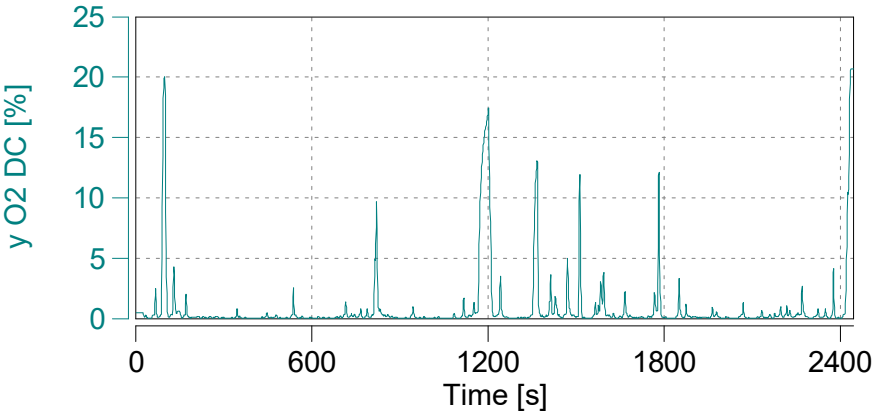
Case: W206-2518
Page: Corrected Emissions (1)

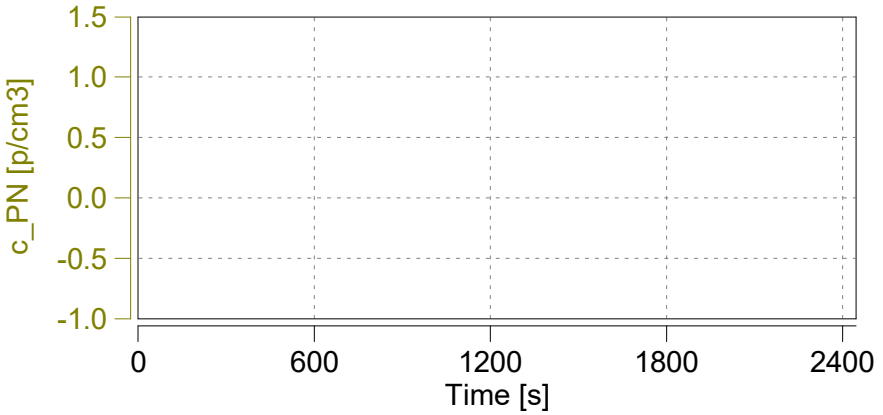
'W206-2518 B2 HWY West'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019









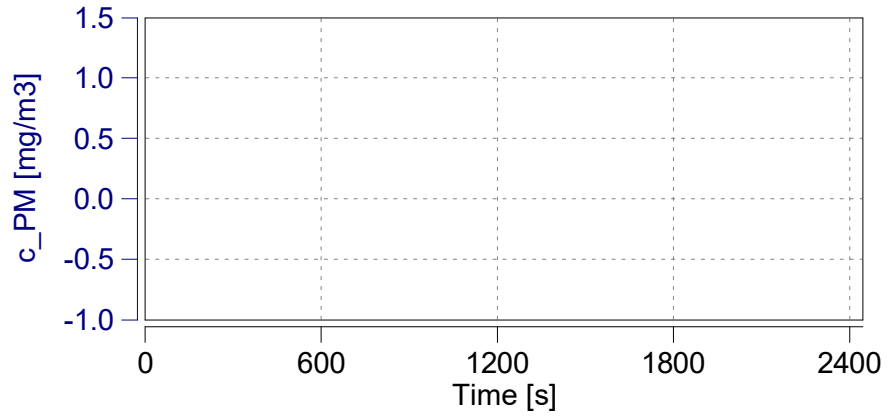
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

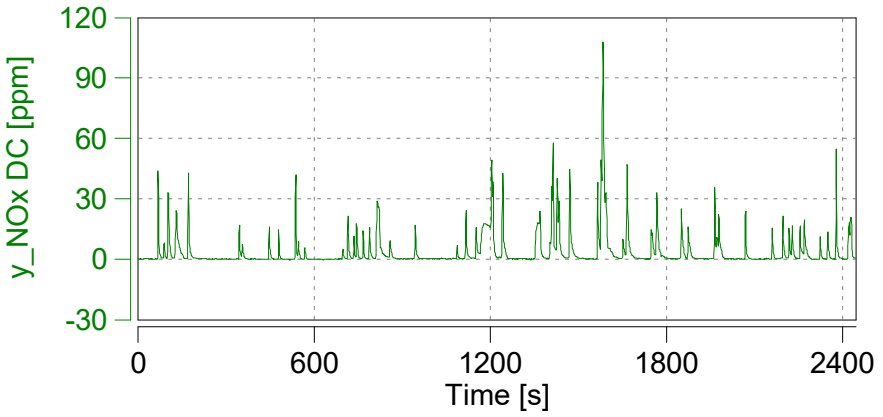
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

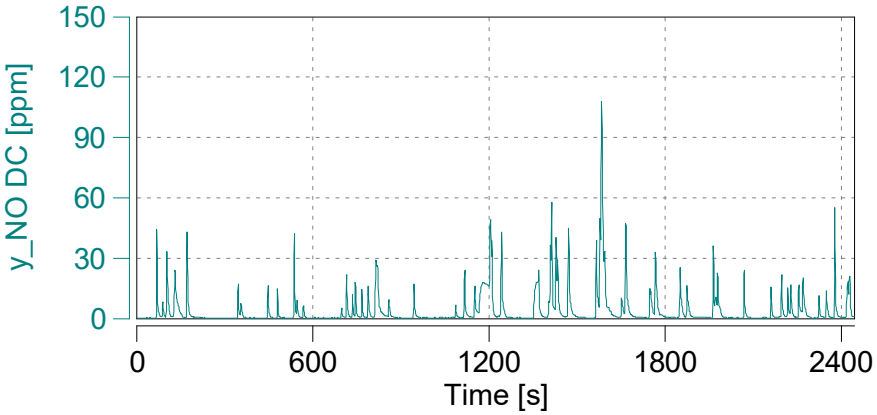
Case: W206-2518
Page: Corrected Emissions (2)

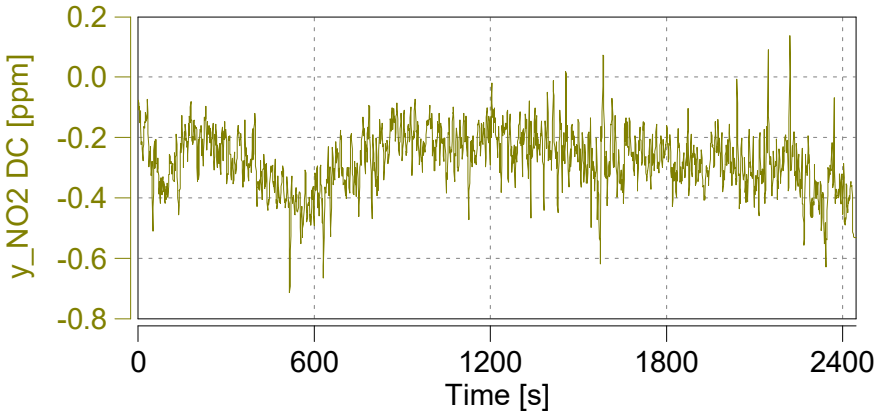
'W206-2518 B2 HWY West'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019









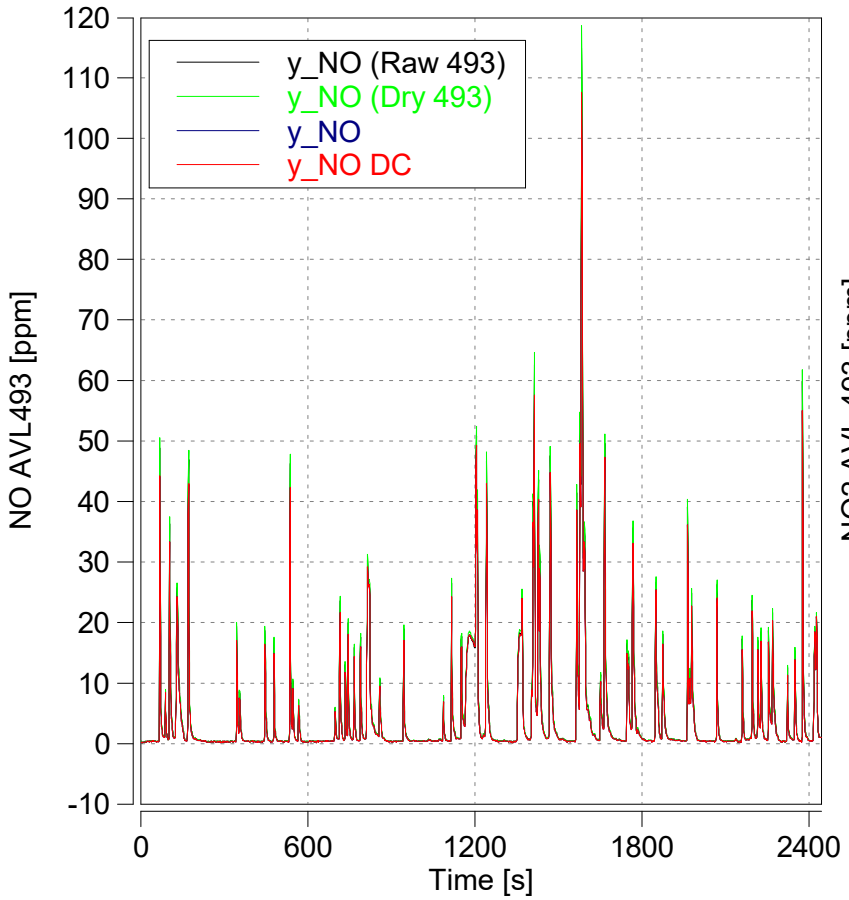
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

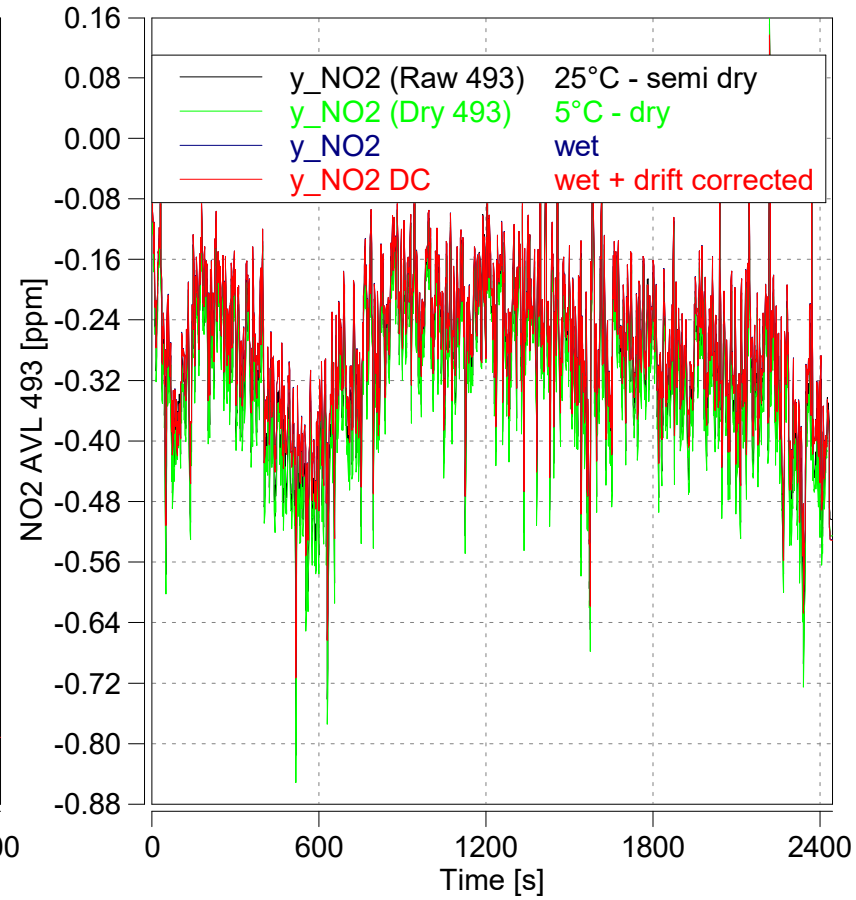
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: Corrected Emissions (3)

'W206-2518 B2 HWY West'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019

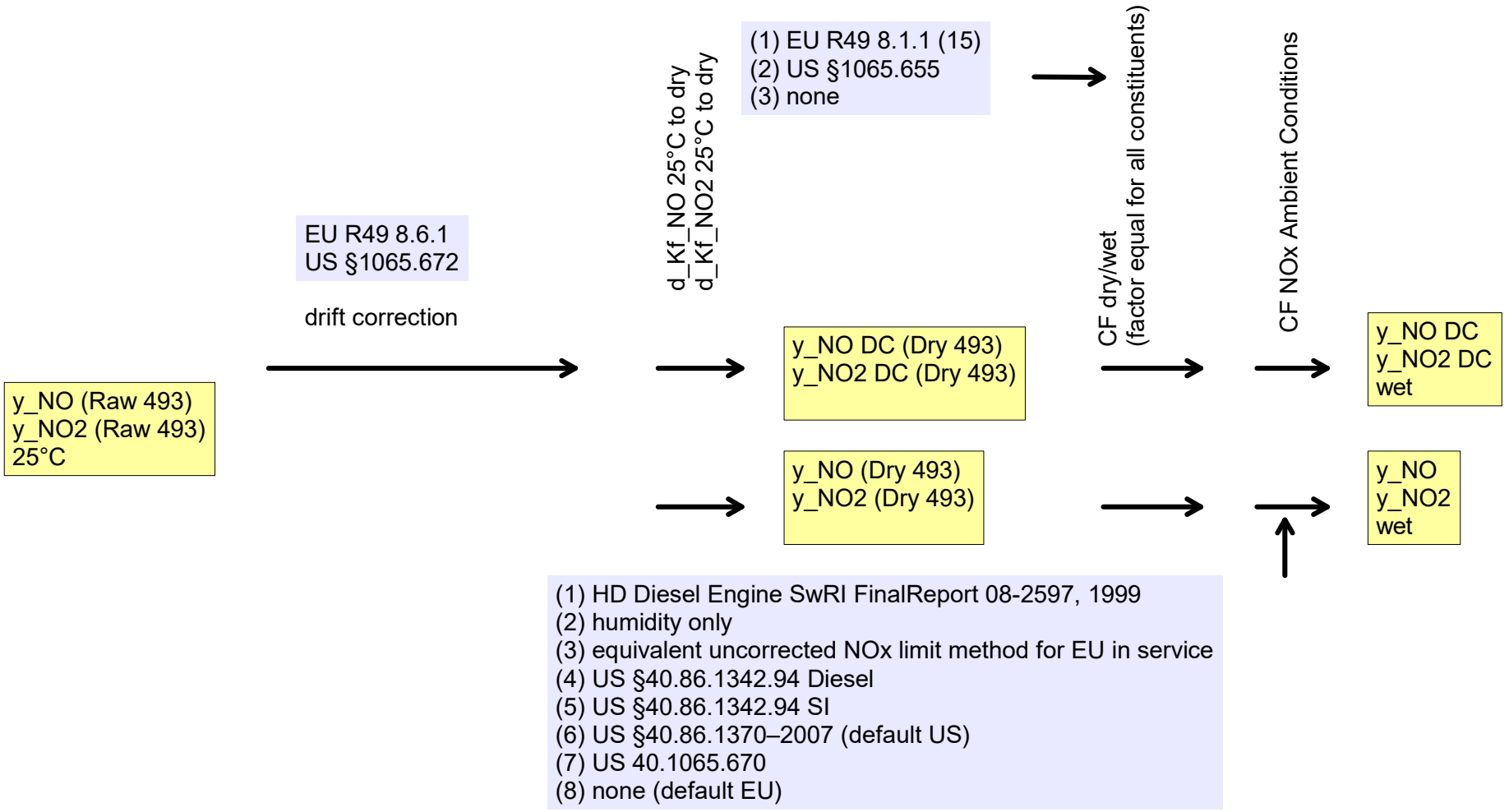




Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

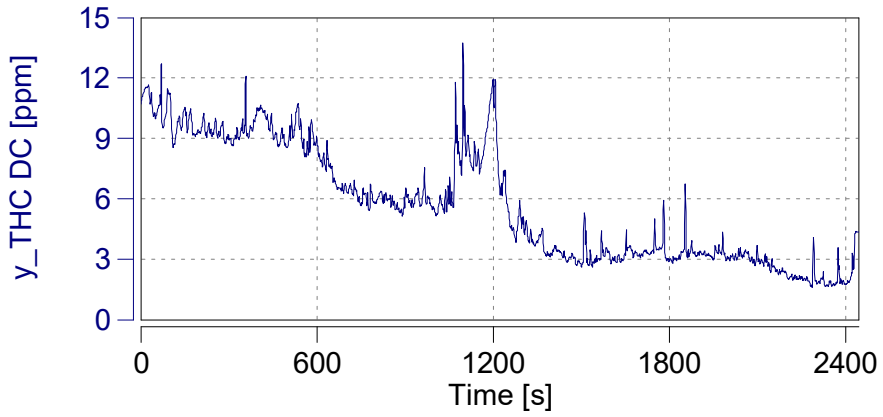
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

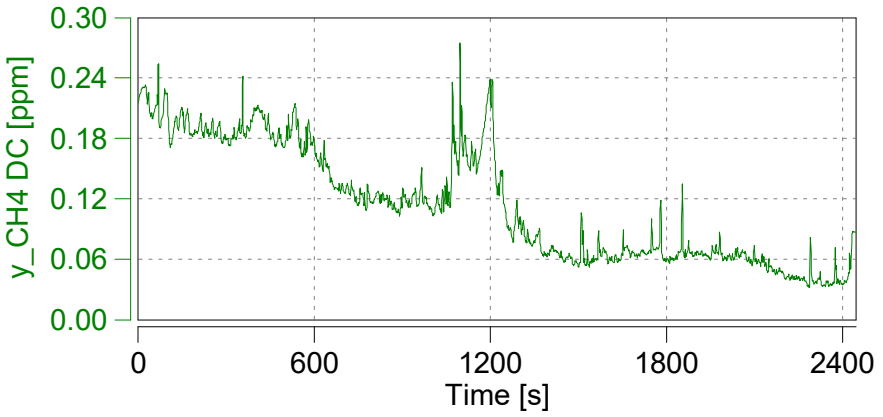
NOx - AVL 493

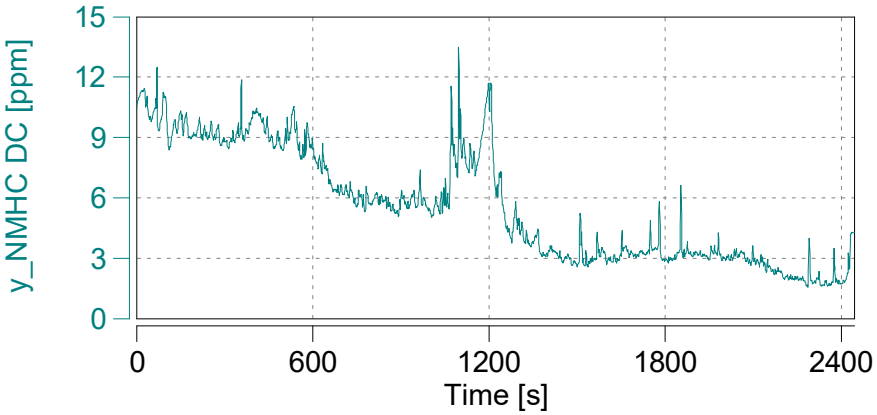

y_NO (Raw 493)
y_NO2 (Raw 493)
25°C
EU R49 8.6.1
US §1065.672
drift correction
d_Kf_NO 25°C to dry
d_Kf_NO2 25°C to dry
(1) EU R49 8.1.1 (15)
(2) US §1065.655
(3) none
y_NO DC (Dry 493)
y_NO2 DC (Dry 493)
y_NO (Dry 493)
y_NO2 (Dry 493)
CF dry/wet
(factor equal for all constituents)
CF NOx Ambient Conditions
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)

'W206-2518 B2 HWY West'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019







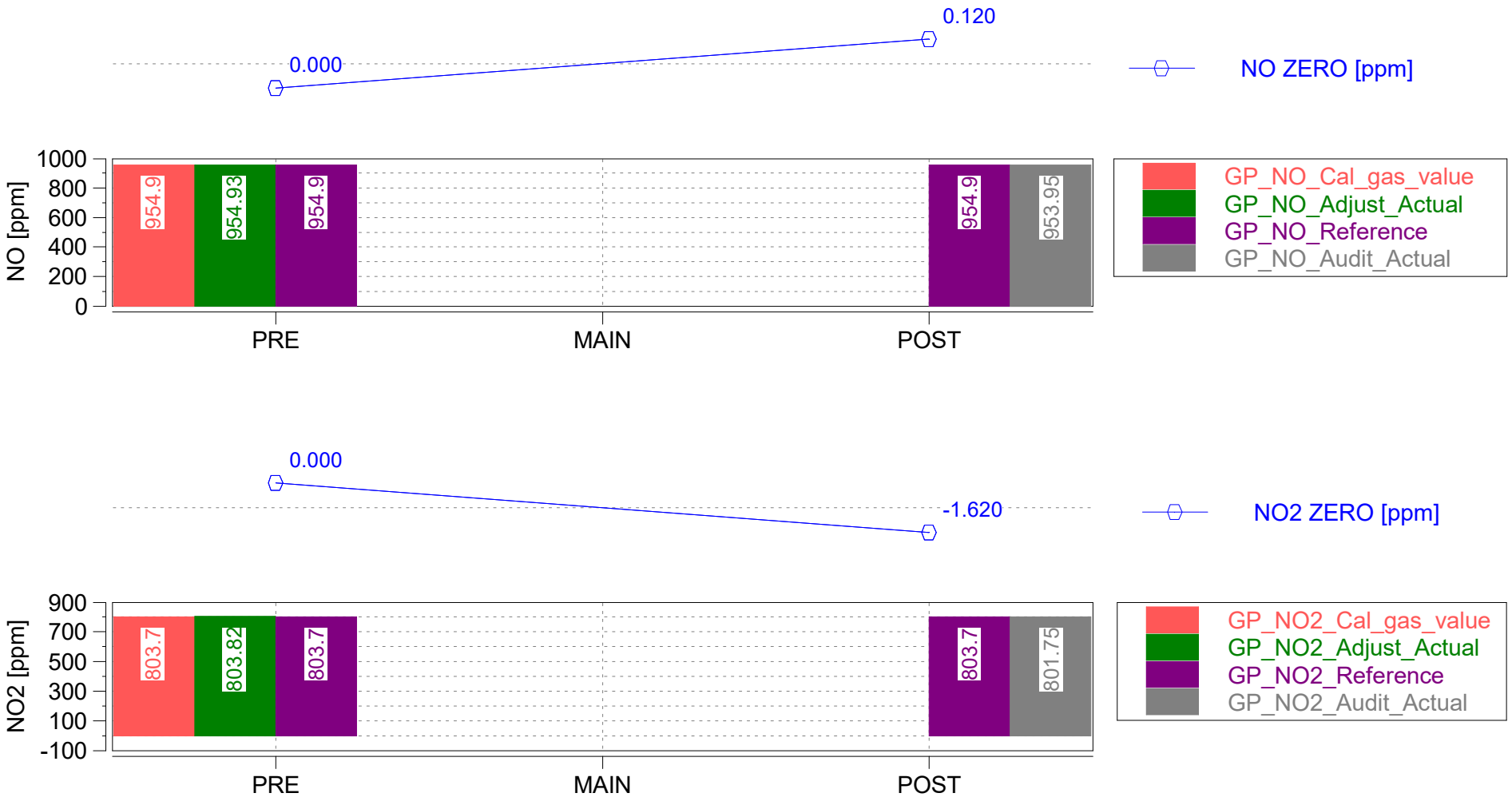
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: NO/NO2/NOx Zero - Span

'W206-2518 B2 HWY West'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019



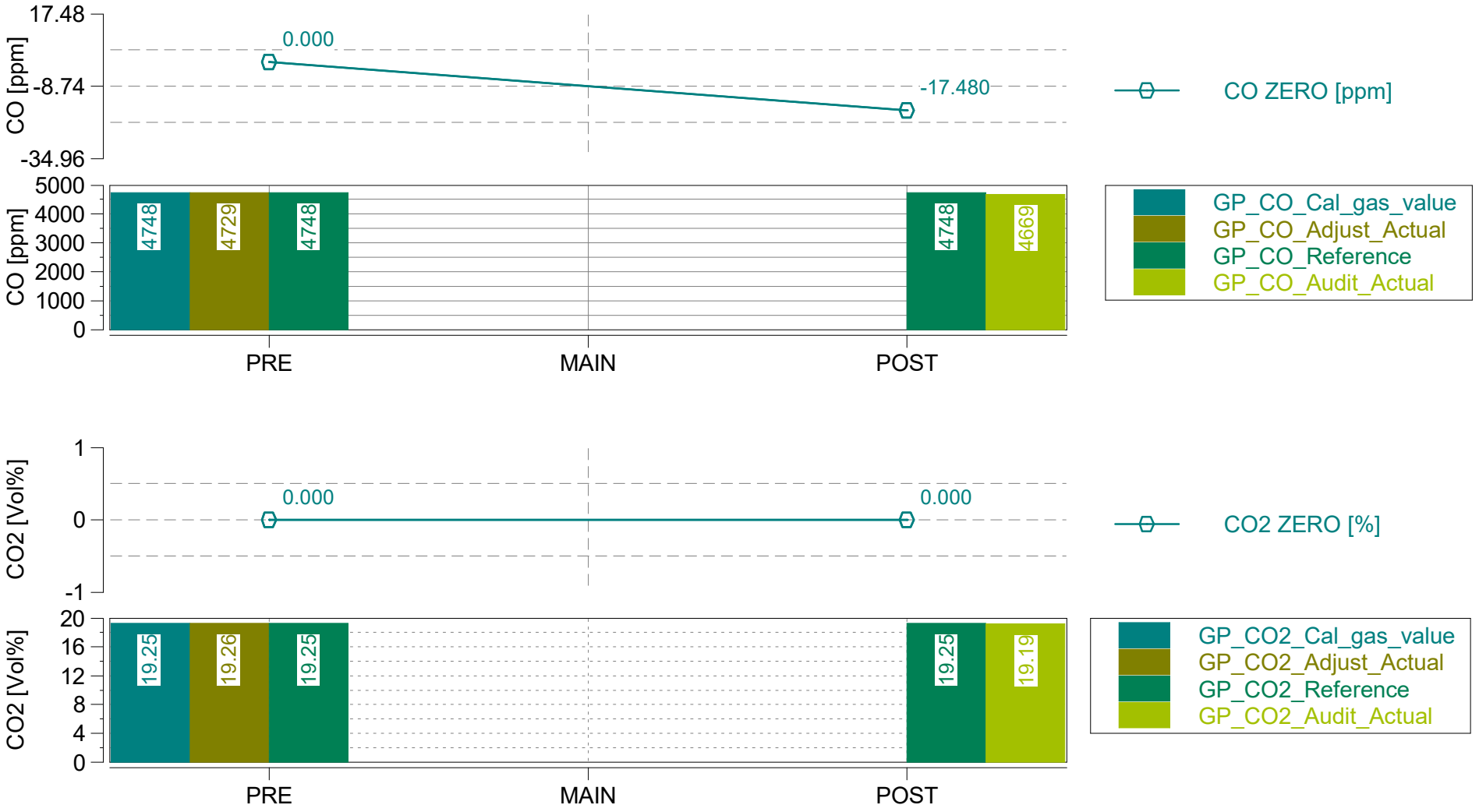
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: CO/CO2 Zero - Span

'W206-2518 B2 HWY West'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019



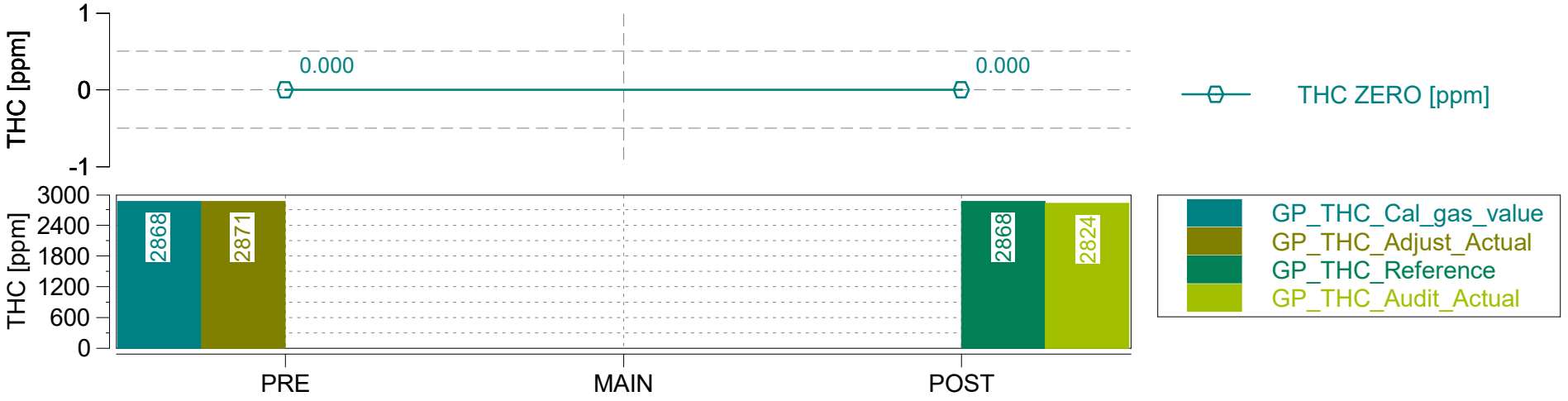
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

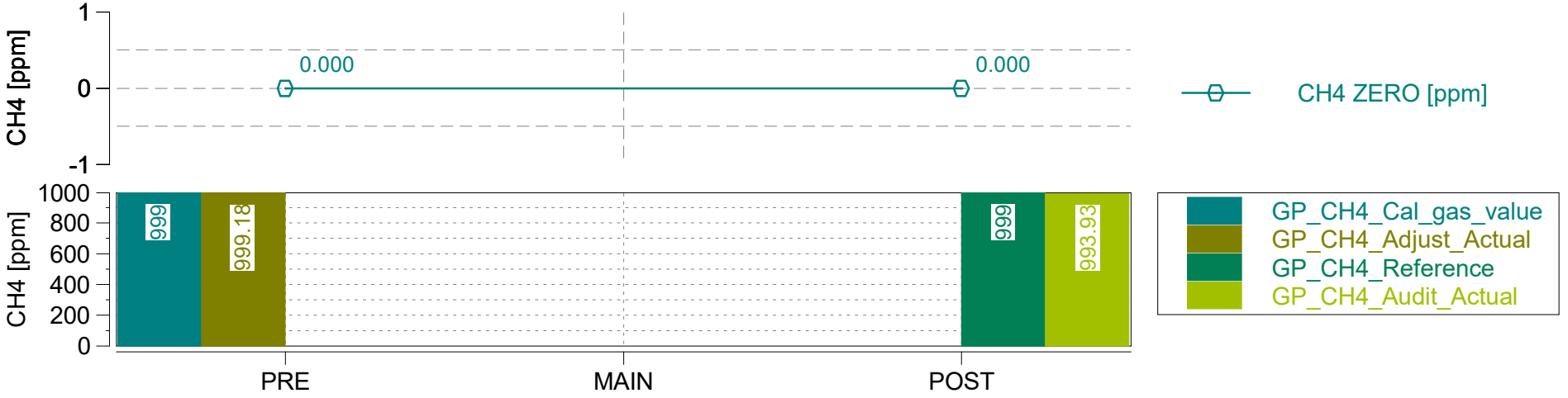
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: THC/CH4 Zero - Span

'W206-2518 B2 HWY West'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019





Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

§	criterium	condition	value		
GAS Leak Check	The leakage rate on the vacuum side shall not exceed 0.5 per cent of the in-use flow rate for the portion of the system being checked.	The leakage rate <= 0.5%	**0.06**		
PN Leak Check	n/a	n/a	**n/a**		
PM Leak Check	n/a	n/a	**n/a**		

GAS PEMS Devices

Device ID	AVL492
Serial Number	0597
Firmware Version	V1.17
Main Test Date	2021-08-04
Leak Check Age [days]	0

Device ID	AVL4925iS
Serial Number	175
Firmware Version	1.22.0.4

EFM

Device ID	AVL495
Serial Number	00914
Serial Number Tube	01090
Firmware Version	V1.16

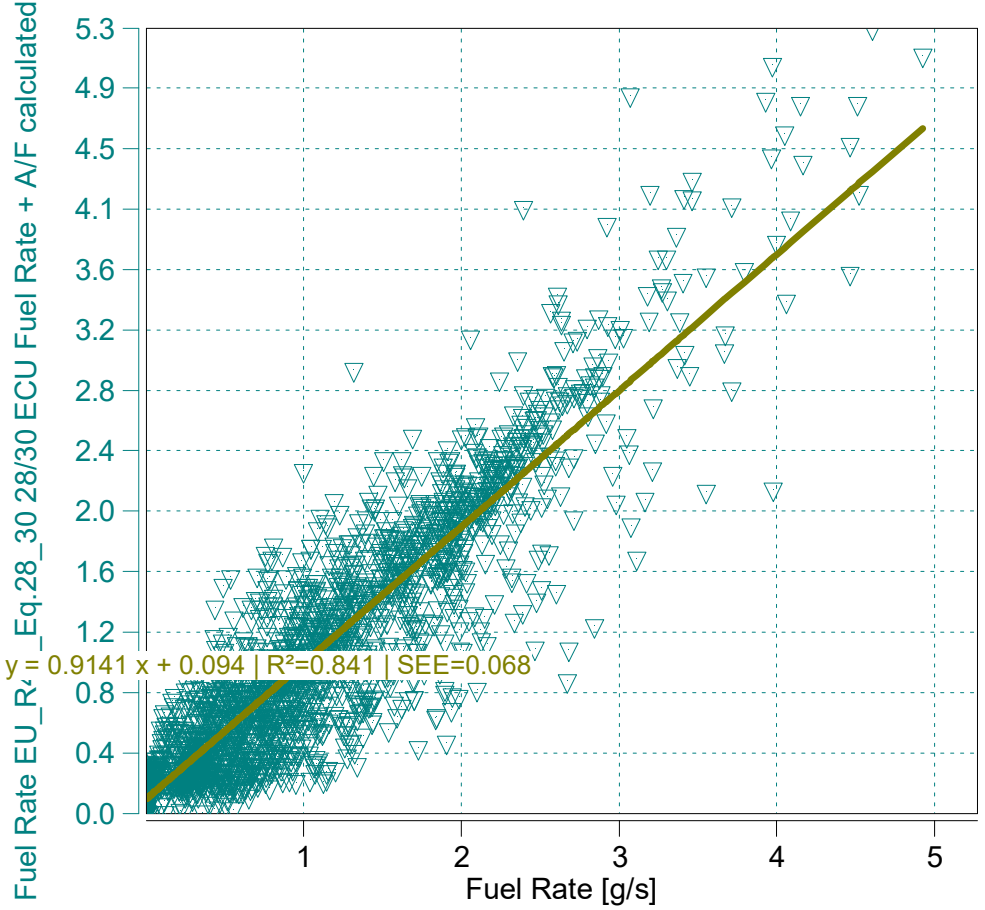
System Control

SC Version	V2.9_237
SC Serial Number	60301072

Case: W206-2518
Page: Fuel Rate ECU vs. Calculated

'W206-2518 B2 HWY West'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019



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

y = 0.9141 x + 0.094 | R²=0.841 | SEE=0.068
m = 0.91 (0.9 - 1.1 recommended)
R² = 0.84 (min 0.9 mandatory)

Data from - to [% of Maximum]

0 100

Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: Trip Summary

'W206-2518 A2 Mtn Uphill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019

Trip Duration	1904.00	s
Trip Duration (a)	1904.00	s
Trip Distance	17.60	mi
Trip Distance (a)	17.60	mi
Trip Fuel Cons. (b)	2.94	kg
Trip Fuel Cons. (ab)	2.94	kg
Trip Fuel Cons. EU (ac)	2.96	kg
Trip Fuel Cons. US (ac)	2.94	kg
Trip Fuel Economy (b)	16.93	mpg_US
Trip Fuel Economy (ab)	16.93	mpg_US
Trip Fuel Economy EU (ac)	16.81	mpg_US
Trip Fuel Economy US (ac)	16.94	mpg_US
Trip Fuel Economy GGE (b)	16.93	mpg_US
Trip Fuel Economy GGE (ab)	16.93	mpg_US
Trip Fuel Economy EU GGE (ac)	16.81	mpg_US
Trip Fuel Economy US GGE (ac)	16.94	mpg_US
Trip Av. Eng. Speed	1527.83	rpm
Trip Av. Torque	77.34	lbft
Trip Av. Power	27.19	hp
Trip Work		
Trip Work (a)	14.38	hphr
Trip Exhaust Mass	45.57	kg
Trip Exhaust Mass EU (ac)	45.19	kg
Trip Exhaust Mass US (ac)	45.56	kg
Trip Av. Amb. Temperature	91.15	deg_F
Trip Av. Humidity	27.57	%
Trip Av. GPS Altitude	591.60	m
Fuel Type	Petrol (E10)	

ave THC	16.84294	ppm
ave NMHC	16.50608	ppm
ave CH4	0.33686	ppm
ave CO	473.49227	ppm
ave CO2	11.82050	%
ave NOx	1.63013	ppm
ave PM	n/a	mg/m3
ave Soot meas	n/a	mg/m3
ave Soot	n/a	mg/m3
ave PN	n/a	#/cm3
tot THC	0.42093	g
tot NMHC	0.38937	g
tot CH4	0.00933	g
tot CO	19.14827	g
tot CO2	8902.39257	g
tot NO (d)	0.07488	g
tot NO2	0.00927	g
tot NOx	0.07133	g
tot Soot	n/a	g
tot Soot meas	n/a	g
tot PM	n/a	g
tot PN	n/a	#
PM measurement type	0.00000	-
tot Soot on PM filter (estim.)	0.00000	mg
Soot --> PM simple scaling factor	1.00000	-
Trip Av. Veh. Speed	33.27720	mi/hr
Trip Distance Share Urban	25.96697	% distance
Trip Distance Share Rural	74.03303	% distance
Trip Distance Share Motorway	0.00000	% distance

BS CO2	619.12010	g/hphr
BS CO	1.33167	g/hphr
BS THC	0.02927	g/hphr
BS NMHC	0.02708	g/hphr
BS CH4	0.00065	g/hphr
BS NO (d)	0.00521	g/hphr
BS NO2	0.00064	g/hphr
BS NOx	0.00496	g/hphr
BS Soot	n/a	g/hphr
BS Soot meas	n/a	g/hphr
BS PM	n/a	g/hphr
BS PN	n/a	#/hpr
DS CO2	505.81952	g/mi
DS CO	1.08797	g/mi
DS THC	0.02392	g/mi
DS NMHC	0.02212	g/mi
DS CH4	0.00053	g/mi
DS NO (d)	0.00425	g/mi
DS NO2	0.00053	g/mi
DS NOx	0.00405	g/mi
DS Soot	n/a	g/mi
DS Soot meas	n/a	g/mi
DS PM	n/a	g/mi
DS PN	n/a	#/mi
FS CO2	3025.73055	g/kg
FS CO	6.50808	g/kg
FS THC	0.14307	g/kg
FS NMHC	0.13234	g/kg
FS CH4	0.00317	g/kg
FS NO (d)	0.02545	g/kg
FS NO2	0.00315	g/kg
FS NOx	0.02424	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: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

'W206-2518 A2 Mtn Uphill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

Trip Duration	1904.00	s
Trip Duration (a)	1904.00	s
Trip Distance	17.60	mi
Trip Distance (a)	17.60	mi
Trip Fuel Cons. (b)	2.94	kg
Trip Fuel Cons. (ab)	2.94	kg
Trip Fuel Cons. EU (ac)	2.96	kg
Trip Fuel Cons. US (ac)	2.94	kg
Trip Fuel Economy (b)	16.93	mpg_US
Trip Fuel Economy (ab)	16.93	mpg_US
Trip Fuel Economy EU (ac)	16.81	mpg_US
Trip Fuel Economy US (ac)	16.94	mpg_US
Trip Fuel Economy GGE (b)	16.93	mpg_US
Trip Fuel Economy GGE (ab)	16.93	mpg_US
Trip Fuel Economy EU GGE (ac)	16.81	mpg_US
Trip Fuel Economy US GGE (ac)	16.94	mpg_US
Trip Av. Eng. Speed	1527.83	rpm
Trip Av. Torque	77.34	lbft
Trip Av. Power	27.19	hp
Trip Work		
Trip Work (a)	14.38	hphr
Trip Exhaust Mass	45.57	kg
Trip Exhaust Mass EU (ac)	45.19	kg
Trip Exhaust Mass US (ac)	45.56	kg
Trip Av. Amb. Temperature	91.15	deg_F
Trip Av. Humidity	27.57	%
Trip Av. GPS Altitude	591.60	m
Fuel Type	Petrol (E10)	

ave THC DC	16.95994	ppm
ave NMHC DC	16.62074	ppm
ave CH4 DC	0.33920	ppm
ave CO DC	478.39257	ppm
ave CO2 DC	11.83587	%
ave NOx DC	1.63094	ppm
ave PM	n/a	mg/m3
ave Soot meas	n/a	mg/m3
ave Soot	n/a	mg/m3
ave PN DC		
tot THC DC	0.42386	g
tot NMHC DC	0.39207	g
tot CH4 DC	0.00939	g
tot CO DC	19.34644	g
tot CO2 DC	8913.96915	g
tot NO DC (d)	0.07491	g
tot NO2 DC	0.00928	g
tot NOx DC	0.07136	g
tot Soot	n/a	g
tot Soot meas	n/a	g
tot PM	n/a	g
tot PN DC		
PM measurement type	0.00000	-
tot Soot on PM filter (estim.)	0.00000	mg
Soot --> PM simple scaling factor	1.00000	-
Trip Av. Veh. Speed	33.27720	mi/hr
Trip Distance Share Urban	25.96697	% distance
Trip Distance Share Rural	74.03303	% distance
Trip Distance Share Motorway	0.00000	% distance

BS CO2 DC	619.92520	g/hphr
BS CO DC	1.34545	g/hphr
BS THC DC	0.02948	g/hphr
BS NMHC DC	0.02727	g/hphr
BS CH4 DC	0.00065	g/hphr
BS NO DC (d)	0.00521	g/hphr
BS NO2 DC	0.00065	g/hphr
BS NOx DC	0.00496	g/hphr
BS Soot	n/a	g/hphr
BS Soot meas	n/a	g/hphr
BS PM	n/a	g/hphr
BS PN DC		
DS CO2 DC	506.47728	g/mi
DS CO DC	1.09923	g/mi
DS THC DC	0.02408	g/mi
DS NMHC DC	0.02228	g/mi
DS CH4 DC	0.00053	g/mi
DS NO DC (d)	0.00426	g/mi
DS NO2 DC	0.00053	g/mi
DS NOx DC	0.00405	g/mi
DS Soot	n/a	g/mi
DS Soot meas	n/a	g/mi
DS PM	n/a	g/mi
DS PN DC		
FS CO2 DC	3029.66518	g/kg
FS CO DC	6.57544	g/kg
FS THC DC	0.14406	g/kg
FS NMHC DC	0.13326	g/kg
FS CH4 DC	0.00319	g/kg
FS NO DC (d)	0.02546	g/kg
FS NO2 DC	0.00315	g/kg
FS NOx DC	0.02425	g/kg
FS Soot	n/a	g/kg
FS Soot meas	n/a	g/kg
FS PM	n/a	g/kg
FS PN DC		

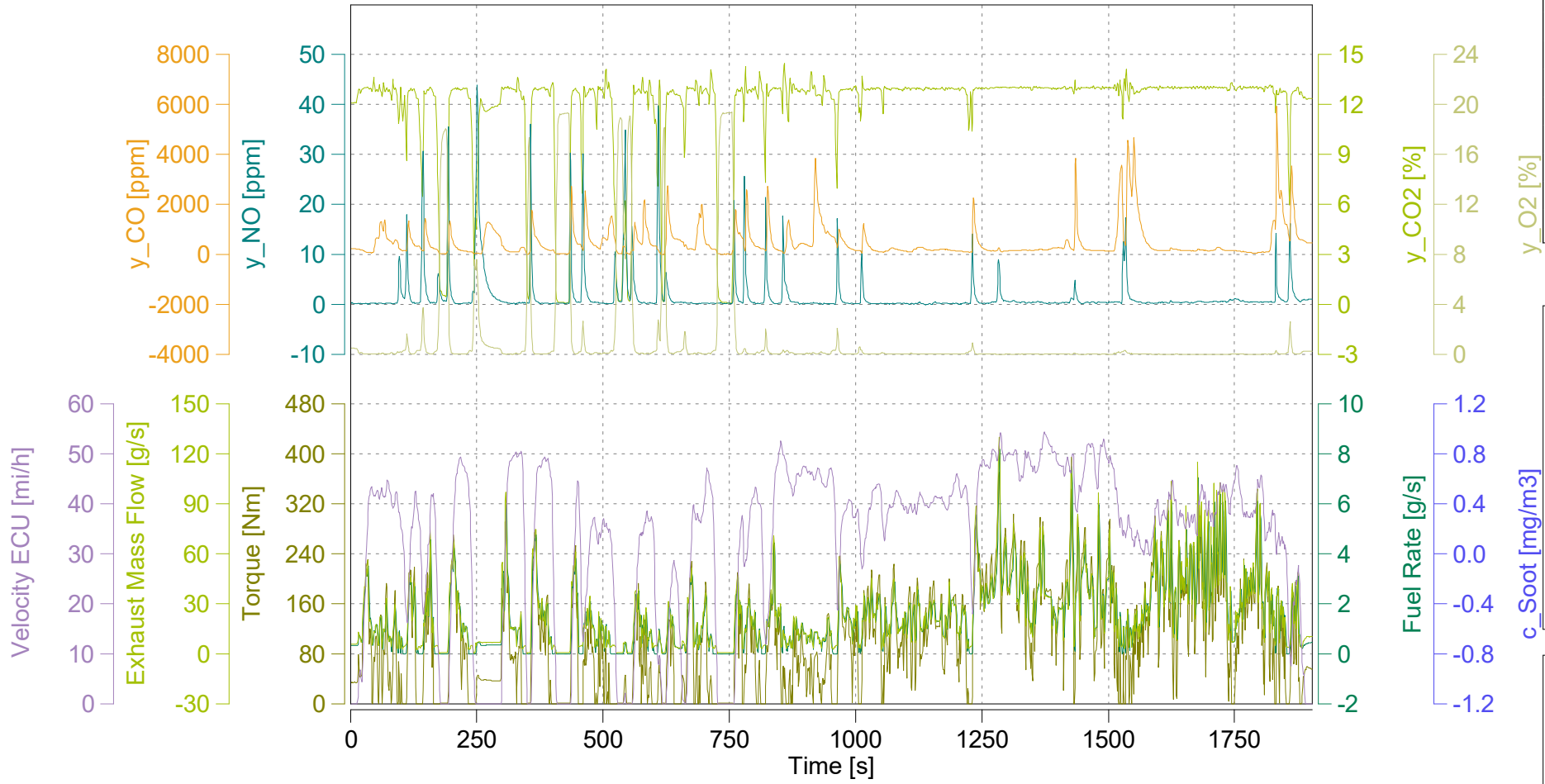
(a) GAS PEMS measurement state only, (b) based on fuel rate input (ECU, Fuel Meter), (c) Based on A/F ratio (eq 28-32 - R49)
(d) NO calculated using molecular weight of NO2, GGE=Gasoline Gallon Equivalents

Case: W206-2518
Page: Time Alignment Check

'W206-2518 A2 Mtn Uphill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto

Absolute Time



y_THC
y_NO
y_CO2
y_O2
c_Soot
Fuel Rate
Exhaust Mass
Torque
Velocity ECU

AVL 492 Defa

THC
NO/NO2
CO/CO2
O2

Apply Defa

Alignment Plo

Reset Time

Reset Al

Apply Curr

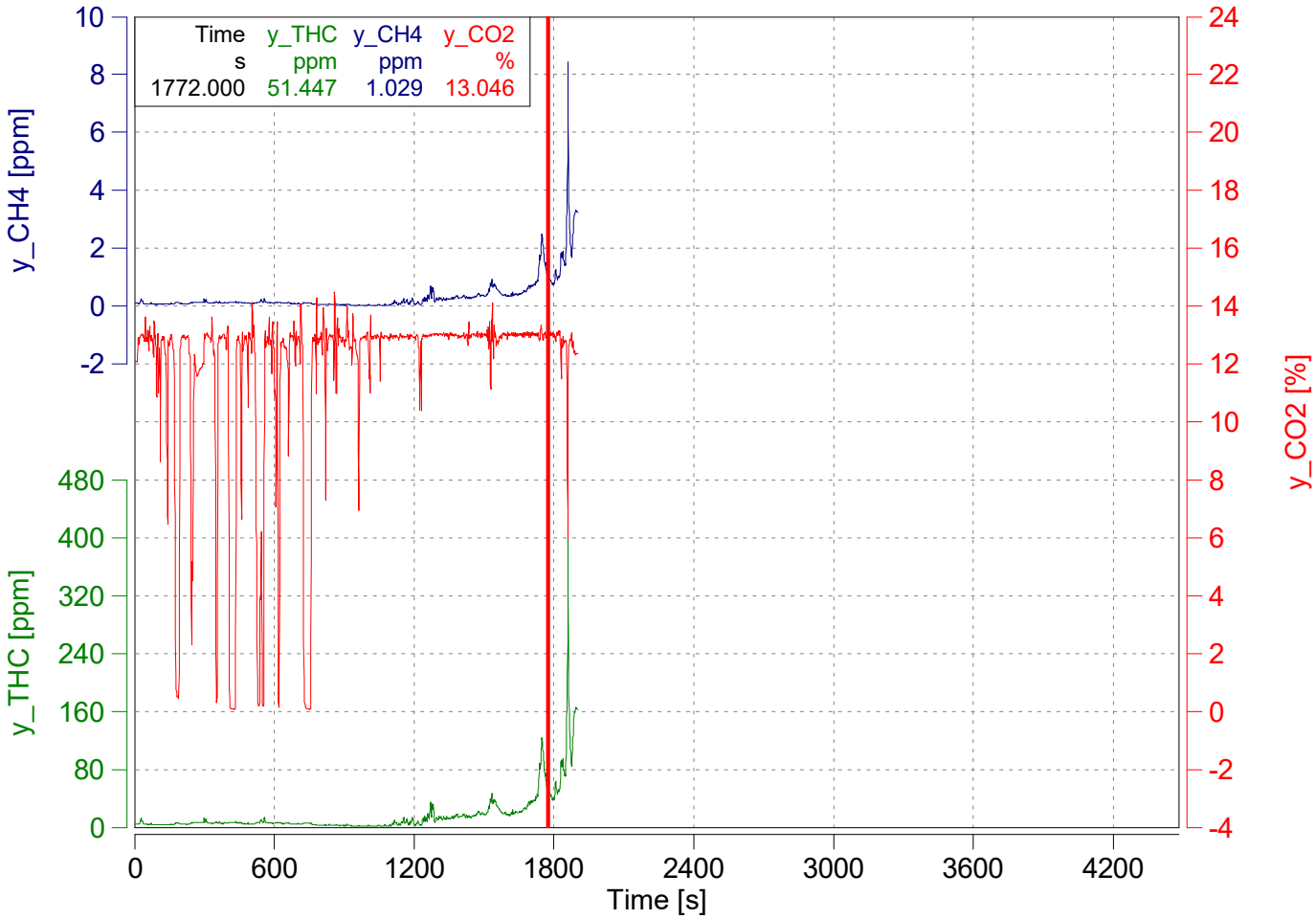
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: Time Alignment of Gas Concentrations

'W206-2518 A2 Mtn Uphill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019



Absolute Time Shifts

y_THC	s	-4.3
y_CH4	s	-6.3

Reset Time Shifts in Plot

Apply Current Values

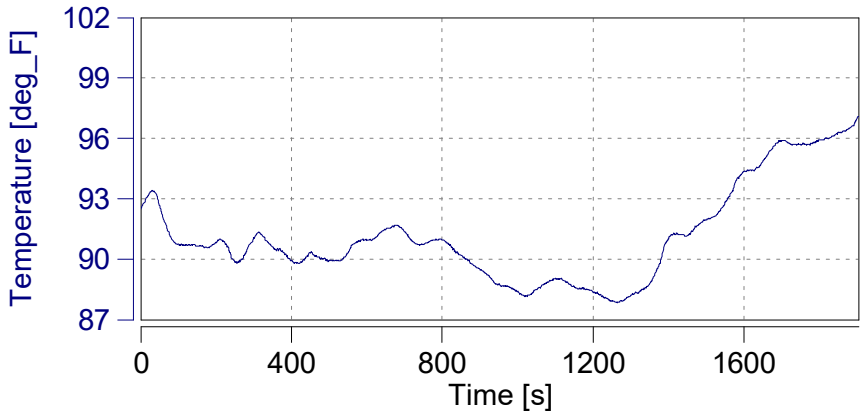
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

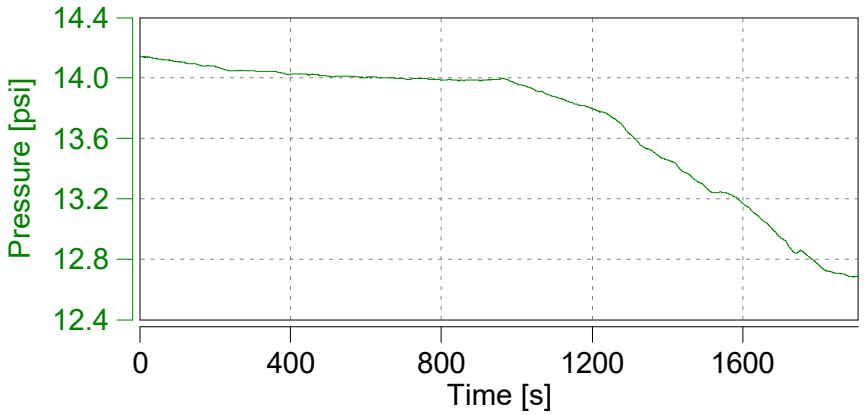
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

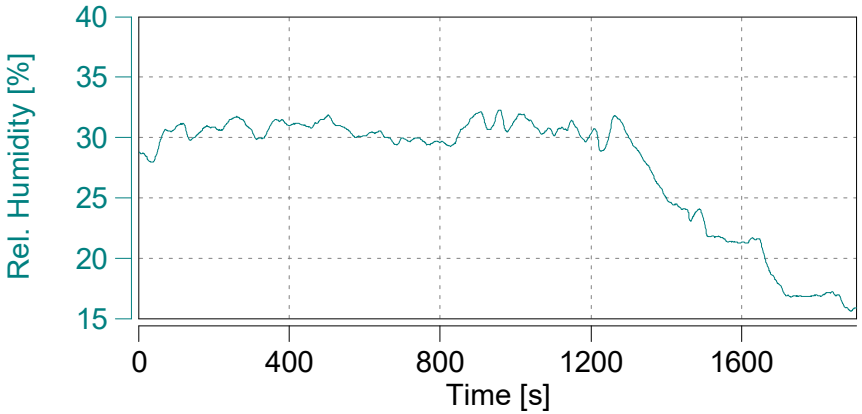
Case: W206-2518
Page: Ambient Conditions

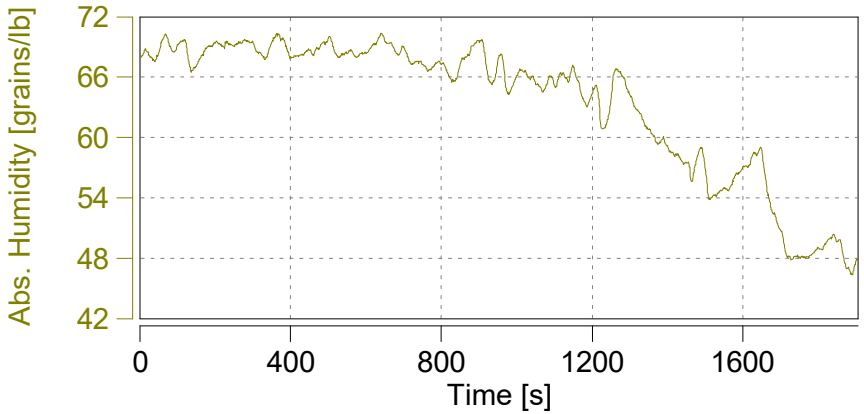
'W206-2518 A2 Mtn Uphill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019







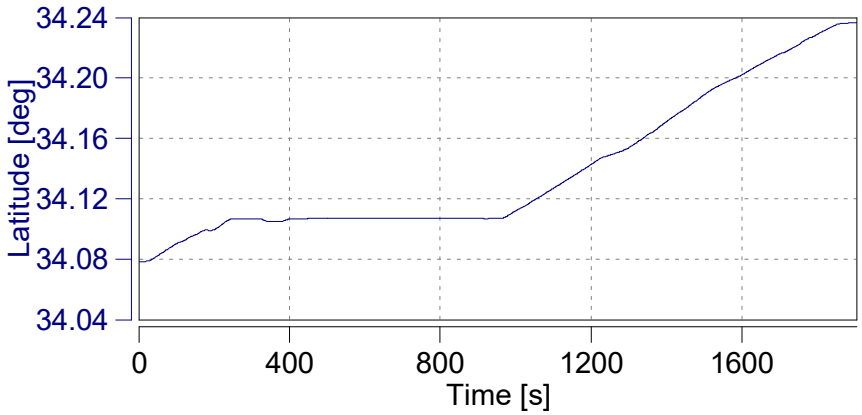


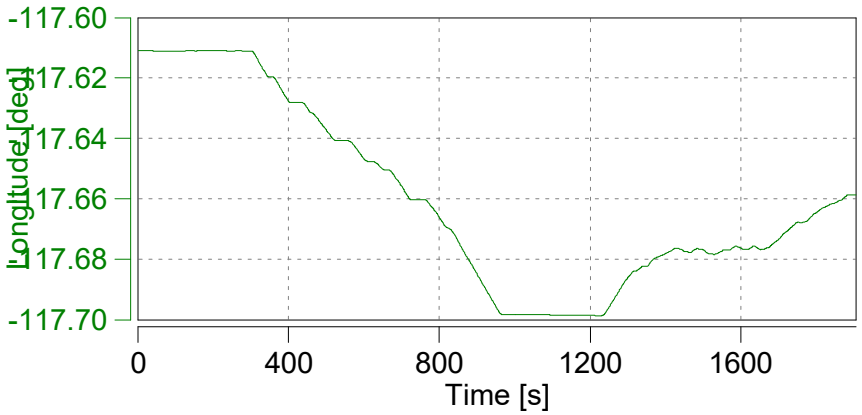
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

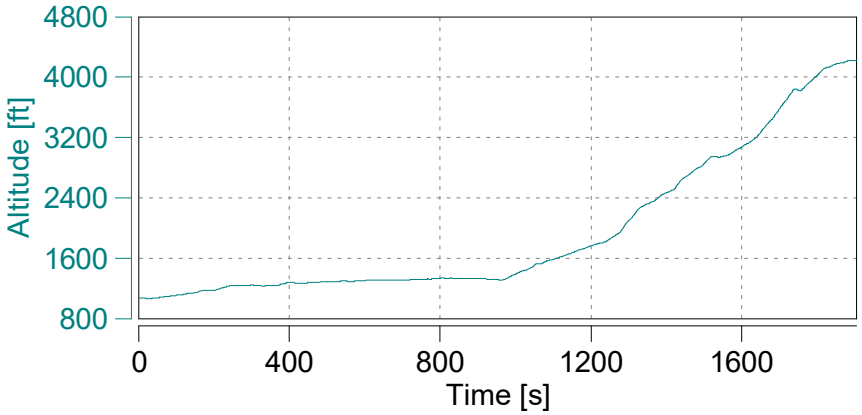
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

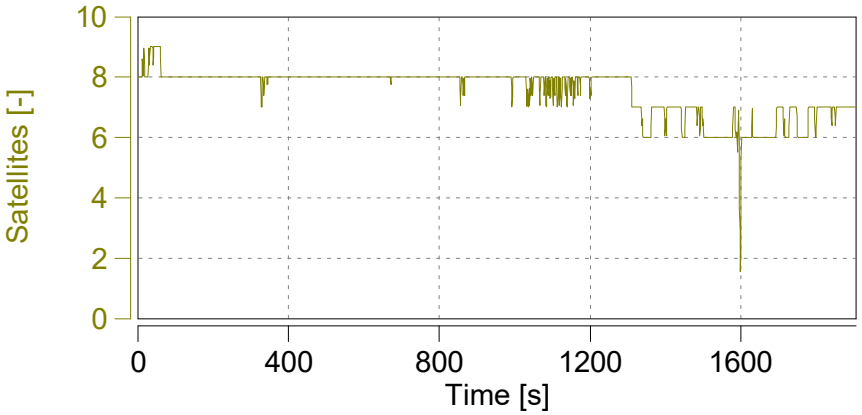
'W206-2518 A2 Mtn Uphill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019







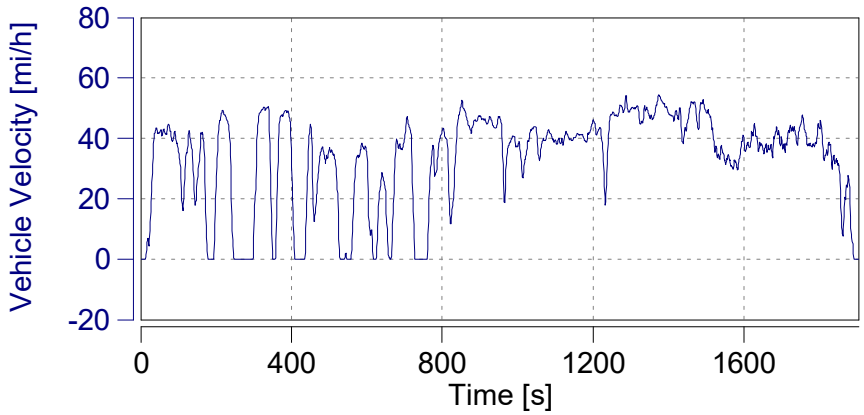


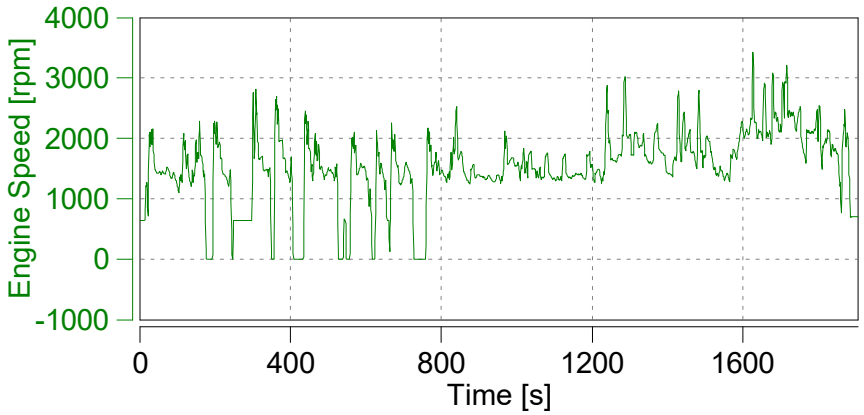
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

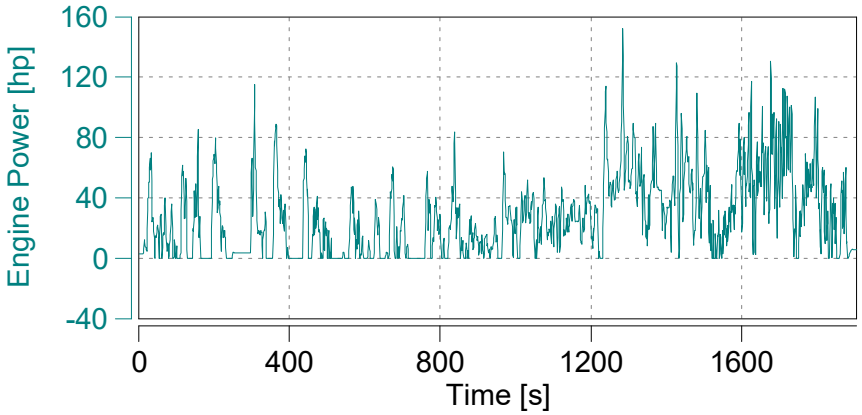
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

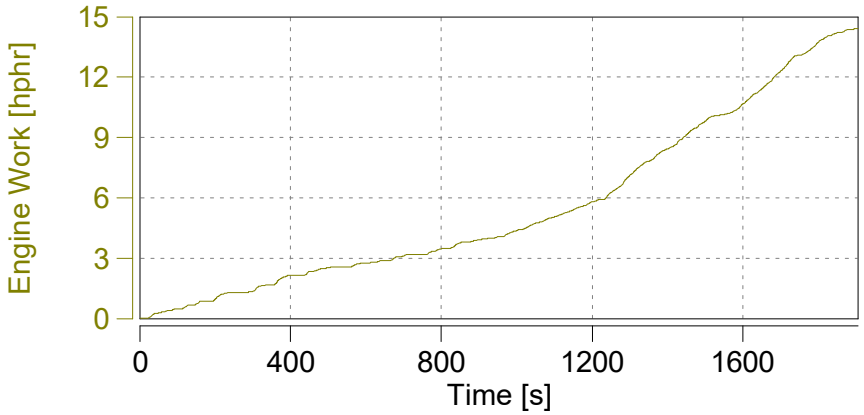
'W206-2518 A2 Mtn Uphill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019







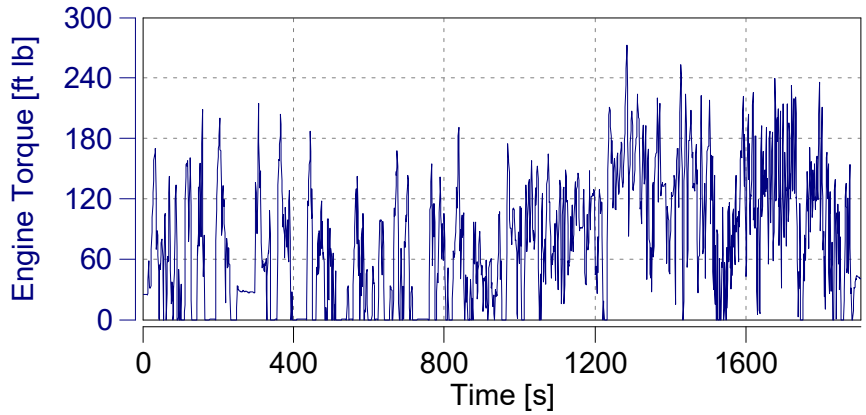


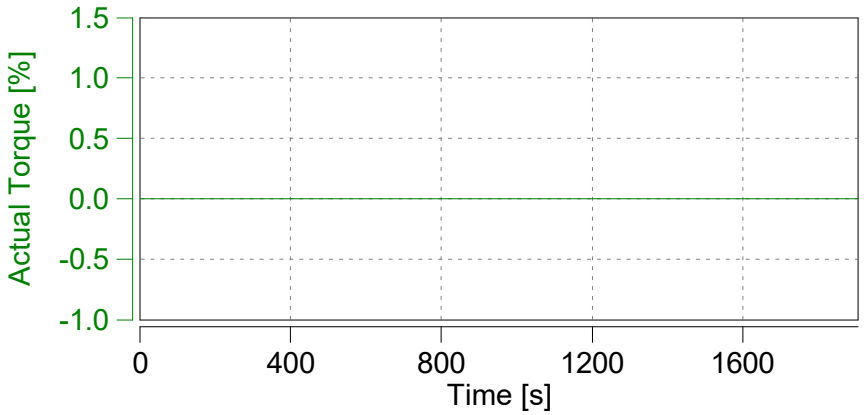
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

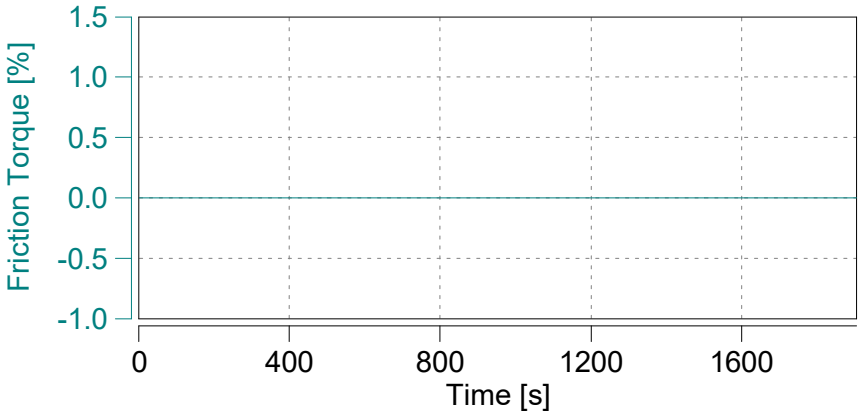
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

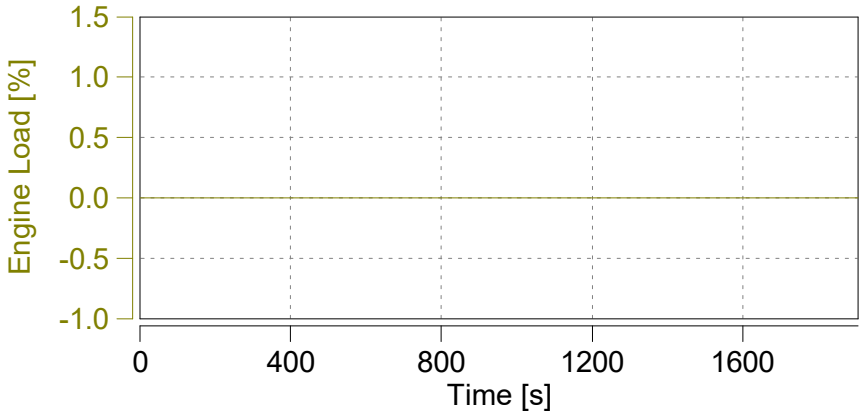
'W206-2518 A2 Mtn Uphill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019







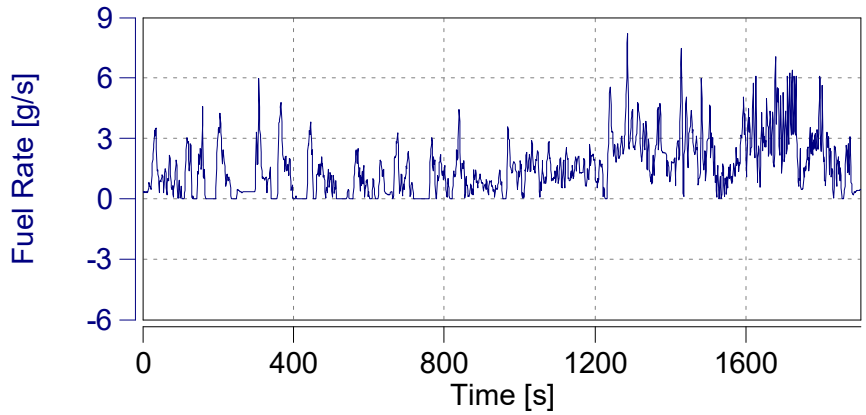


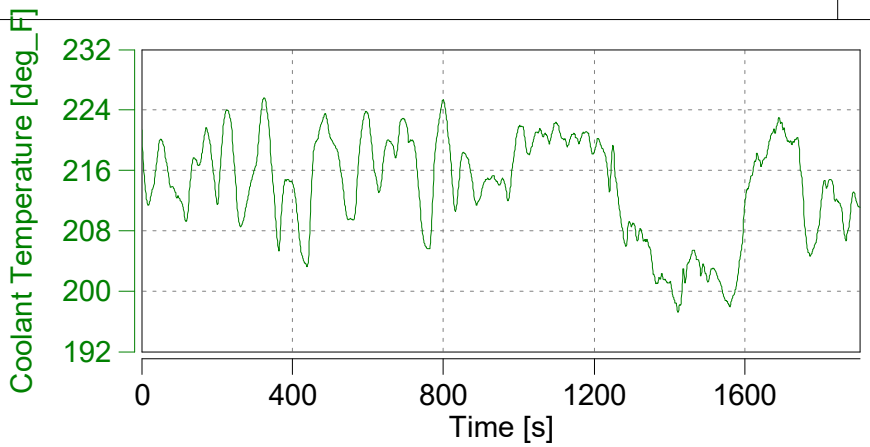
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

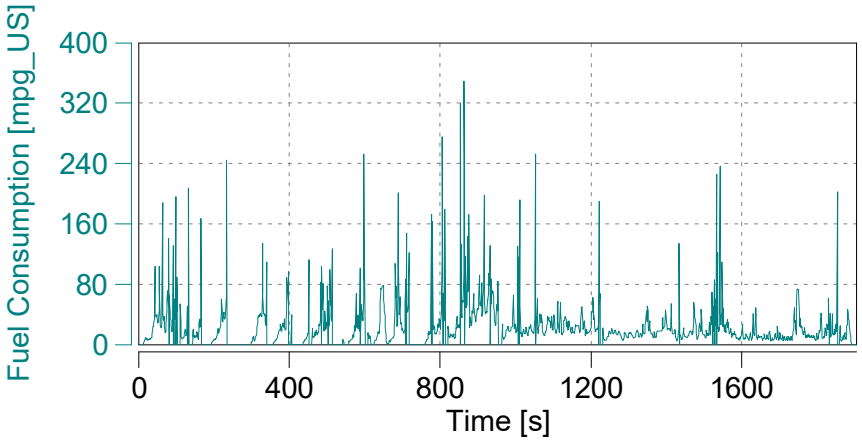
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

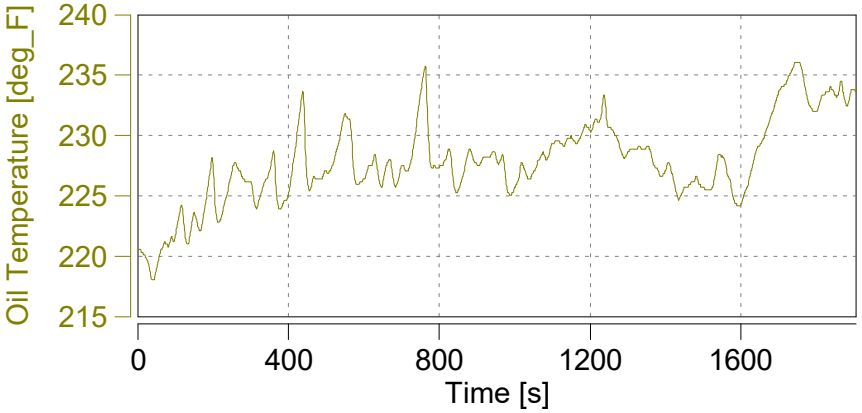
'W206-2518 A2 Mtn Uphill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019









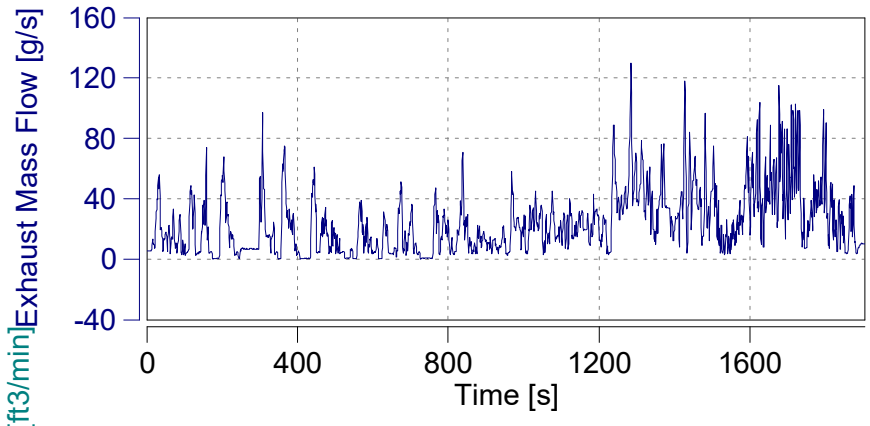
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

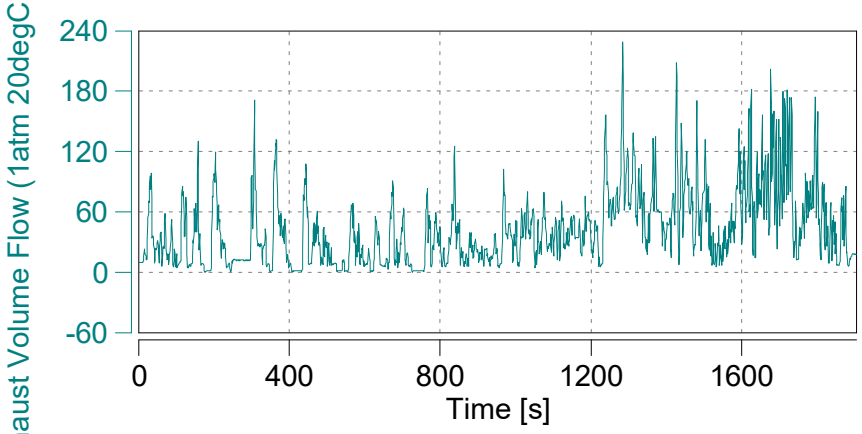
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

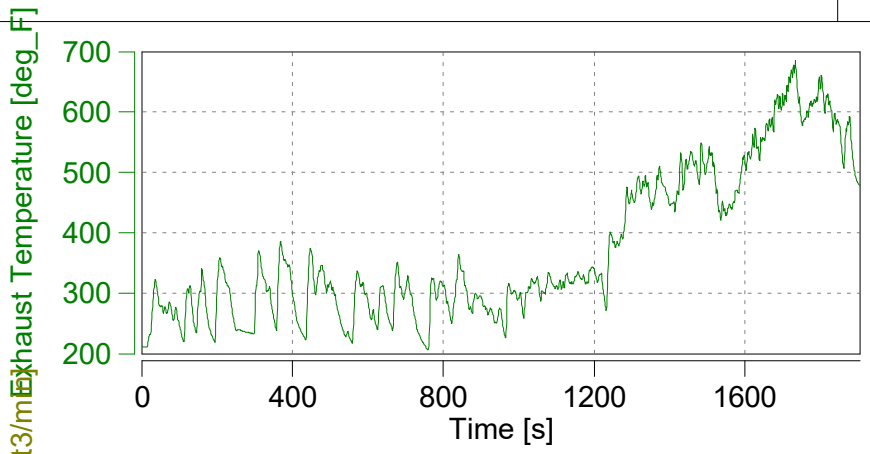
Case: W206-2518
Page: Exhaust Flow (1)

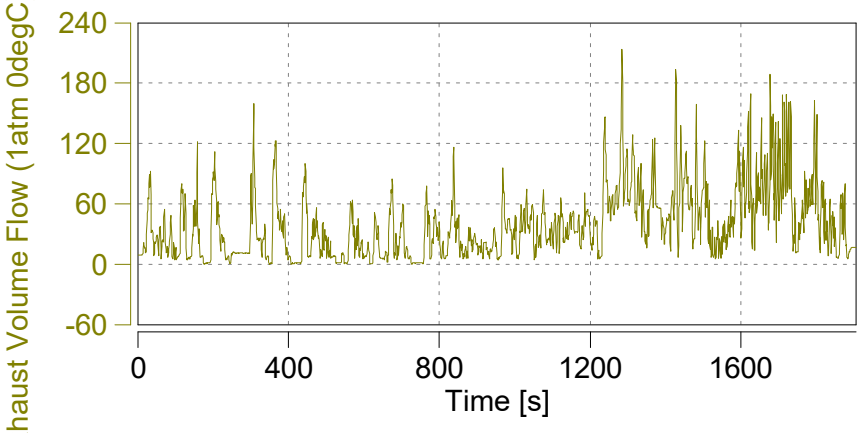
'W206-2518 A2 Mtn Uphill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019









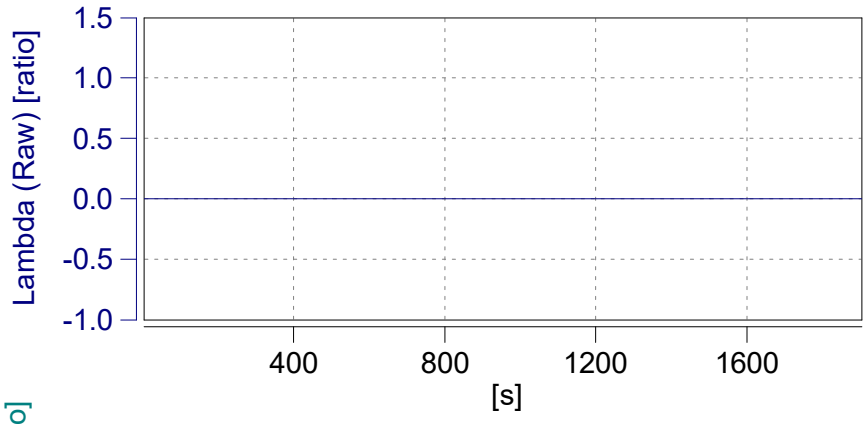
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

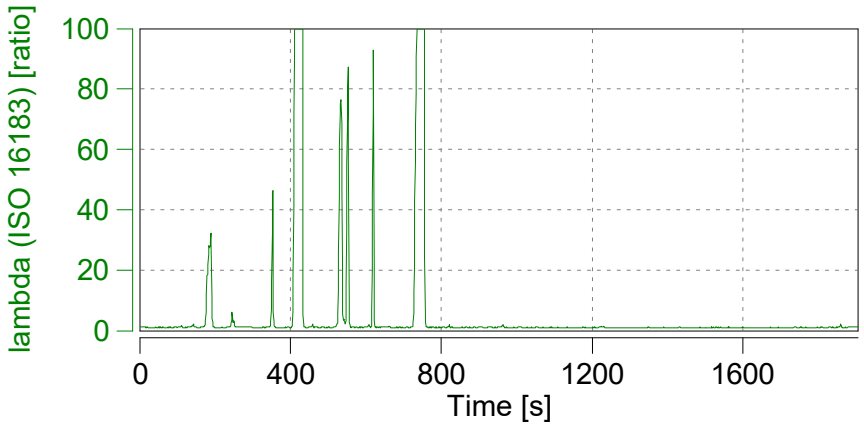
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

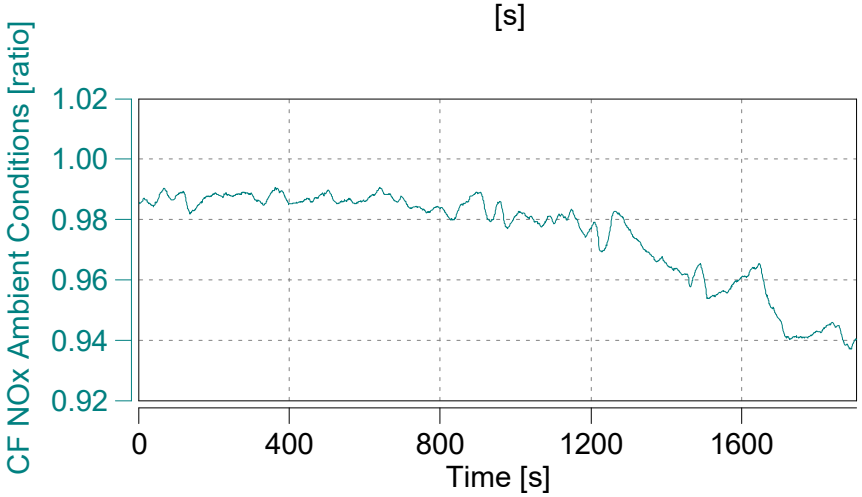
Case: W206-2518
Page: Exhaust Flow (2)

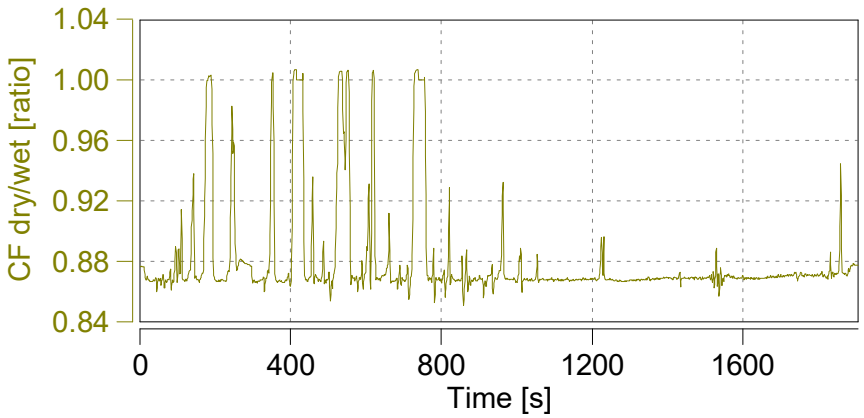
'W206-2518 A2 Mtn Uphill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019









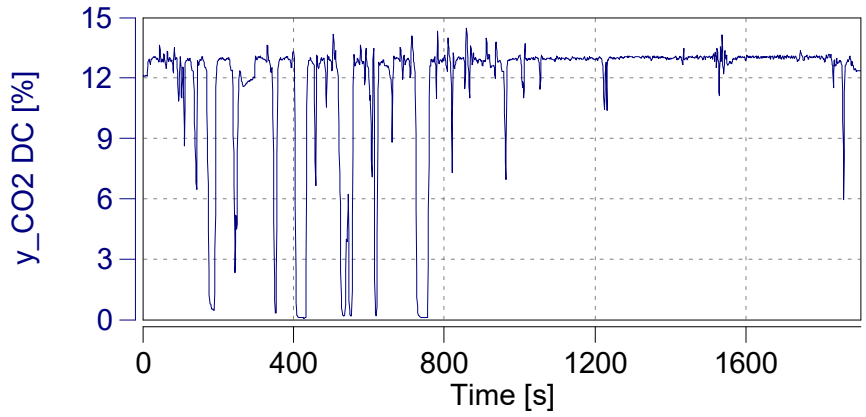
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

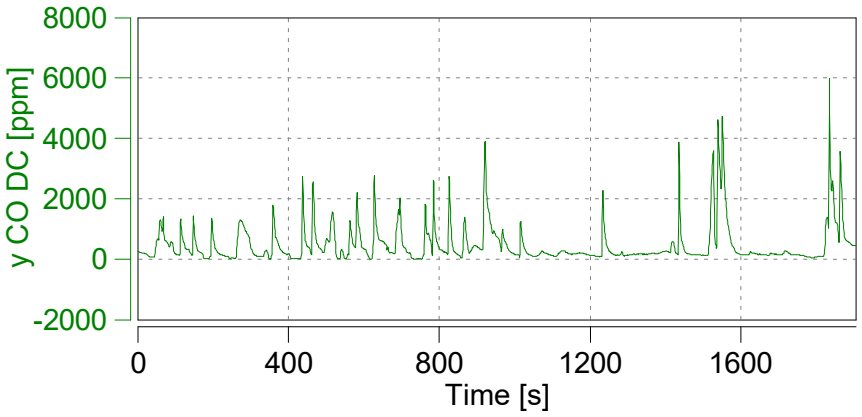
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

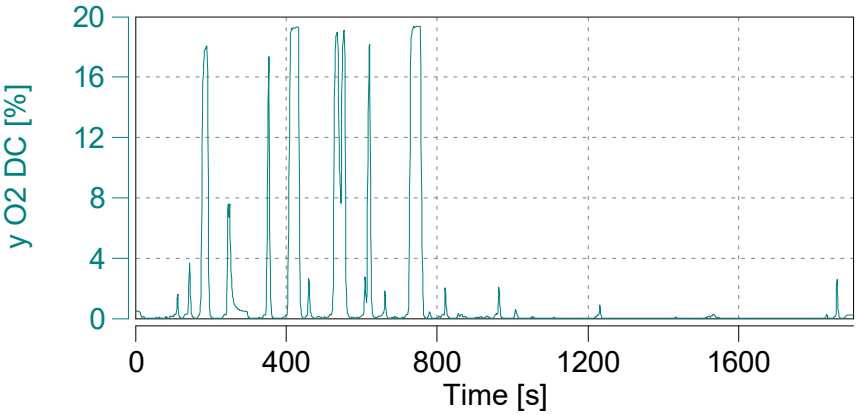
Case: W206-2518
Page: Corrected Emissions (1)

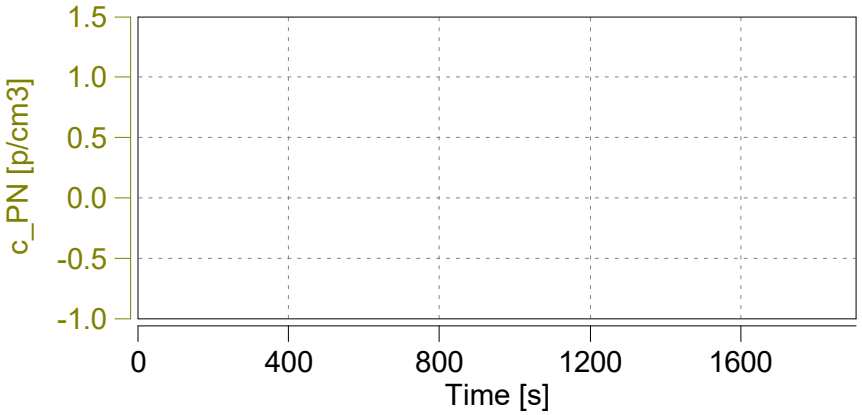
'W206-2518 A2 Mtn Uphill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019





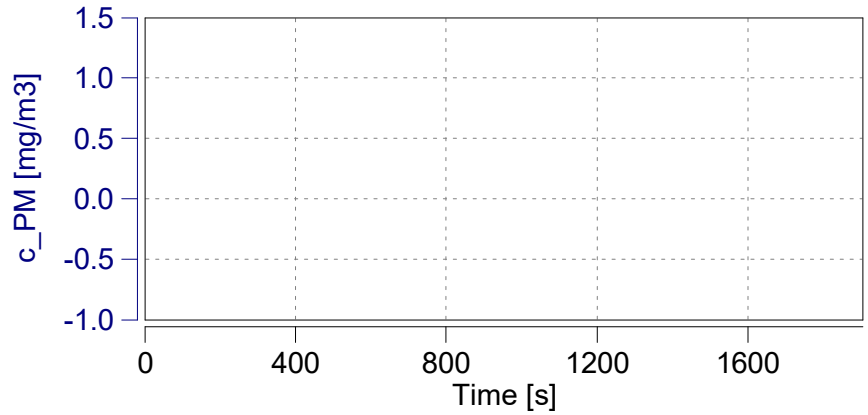


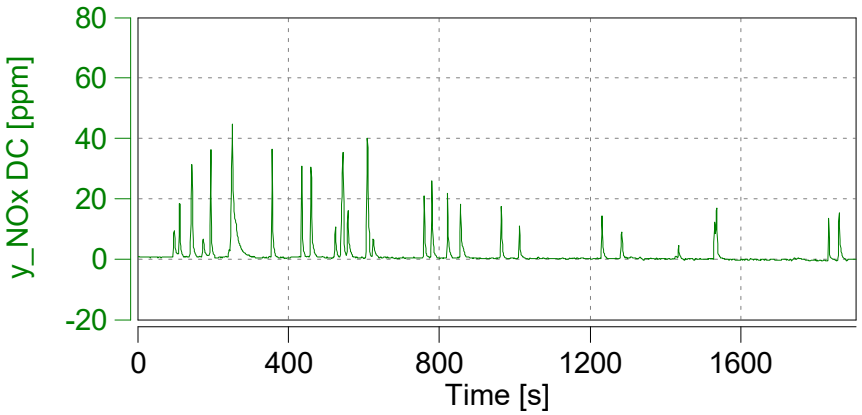


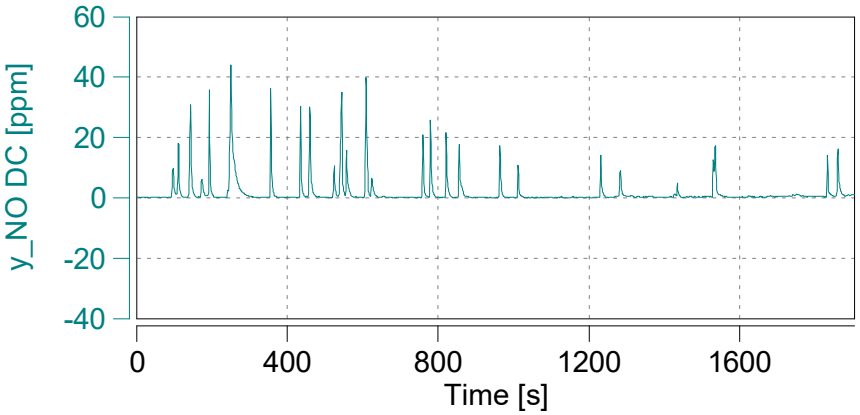
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

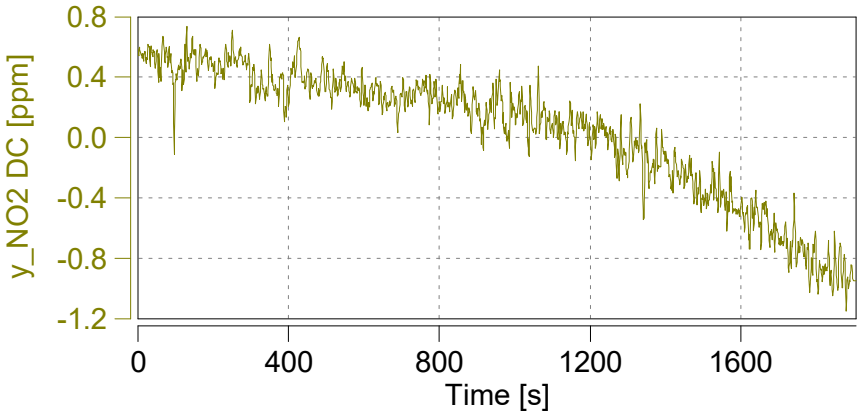
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

'W206-2518 A2 Mtn Uphill'
Start Date: 08/04/2021
Start Time: 08:08:03.0





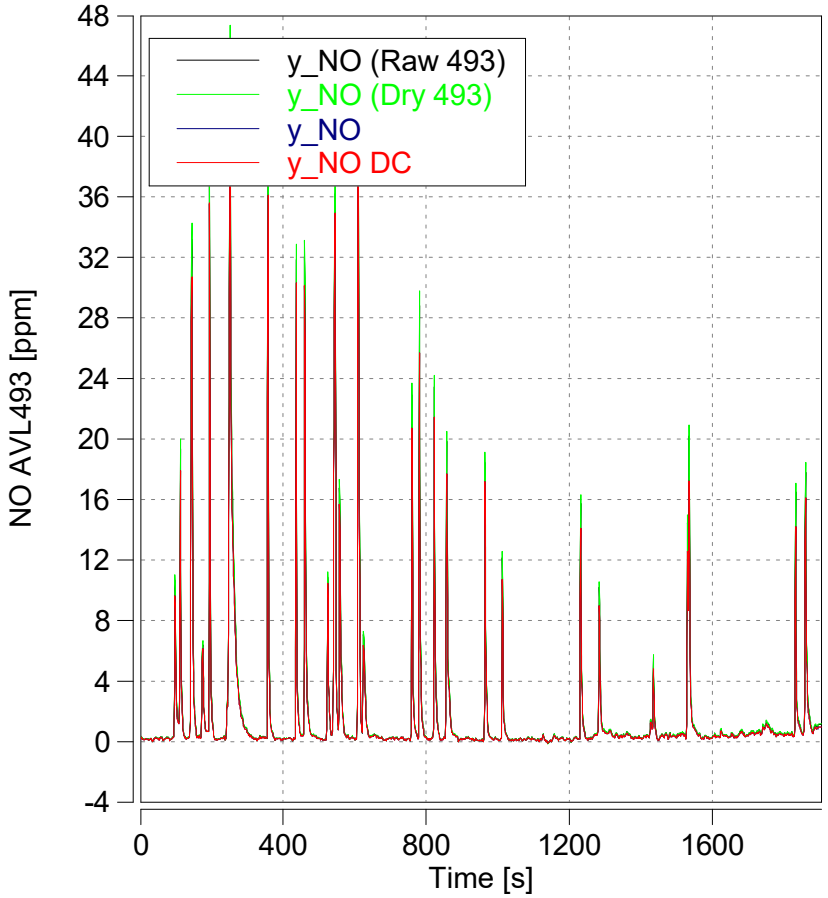


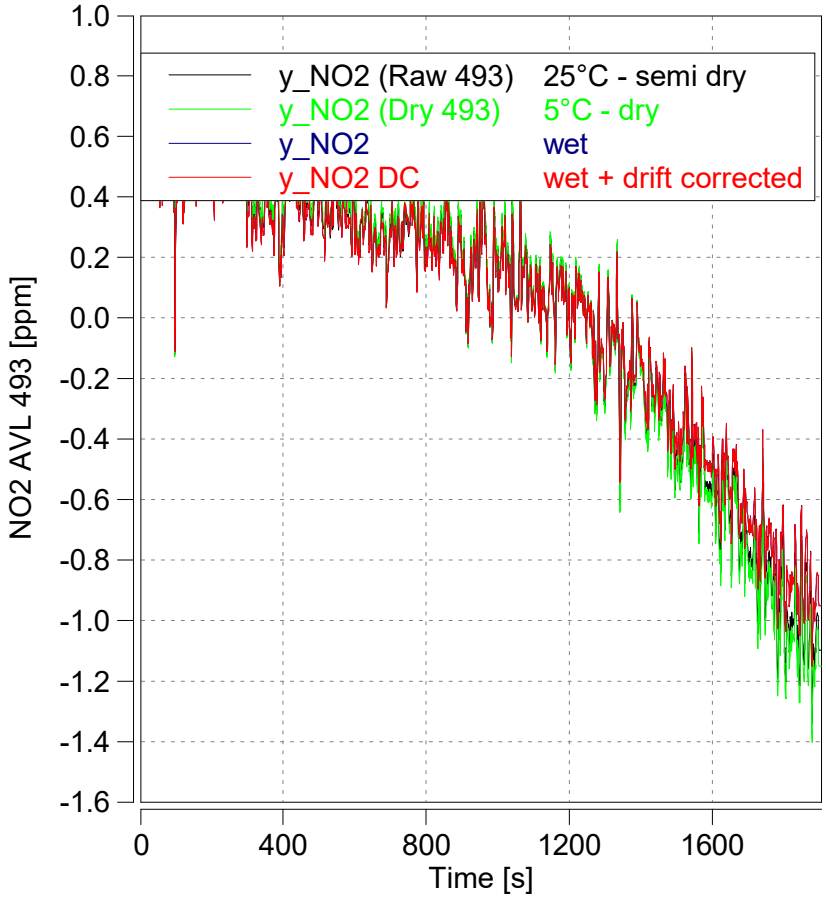


Case: W206-2518
Page: Corrected Emissions (3)

'W206-2518 A2 Mtn Uphill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019

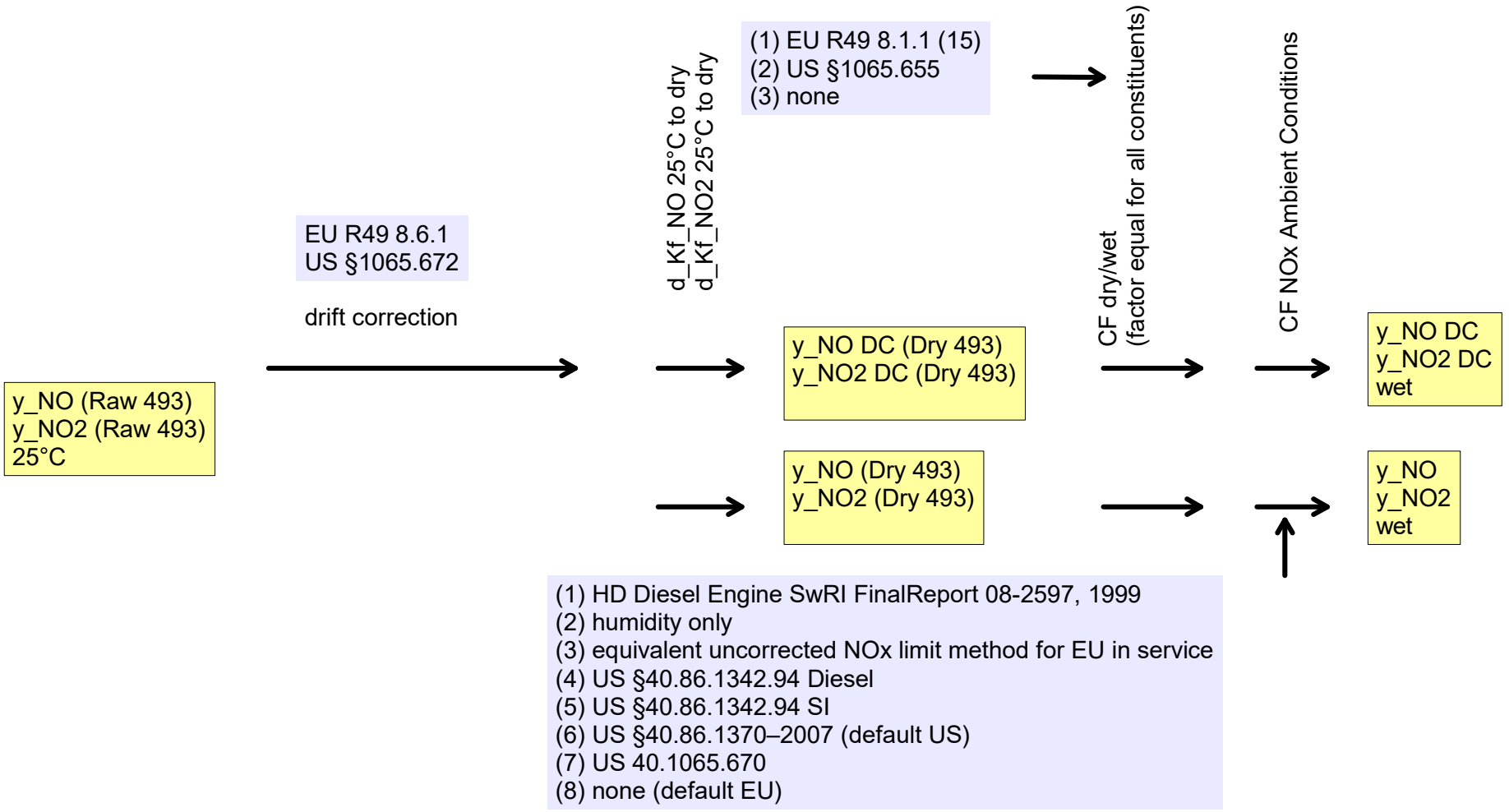




Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

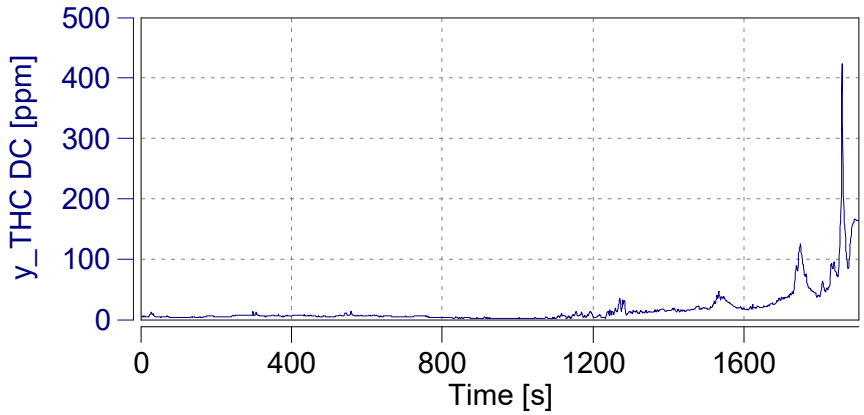
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

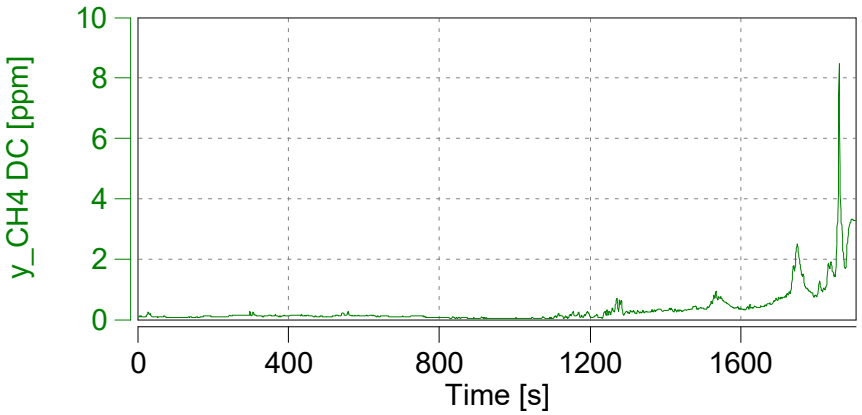
NOx - AVL 493

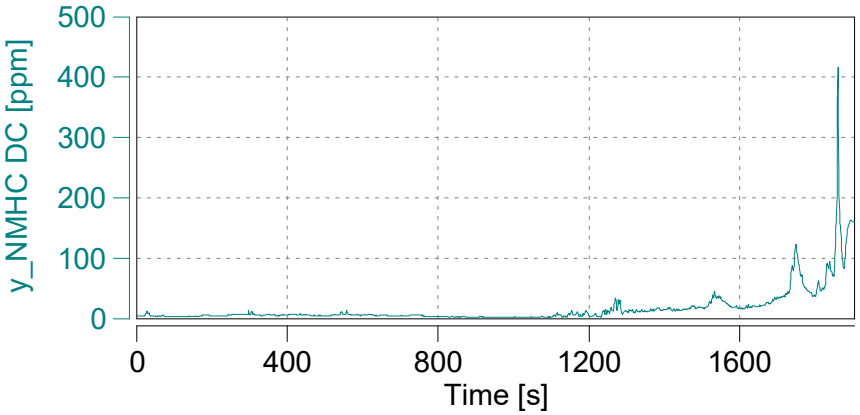

y_NO (Raw 493)
y_NO2 (Raw 493)
25°C
EU R49 8.6.1
US §1065.672
drift correction
d_Kf_NO 25°C to dry
d_Kf_NO2 25°C to dry
(1) EU R49 8.1.1 (15)
(2) US §1065.655
(3) none
y_NO DC (Dry 493)
y_NO2 DC (Dry 493)
y_NO (Dry 493)
y_NO2 (Dry 493)
CF dry/wet
(factor equal for all constituents)
CF NOx Ambient Conditions
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)

'W206-2518 A2 Mtn Uphill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019



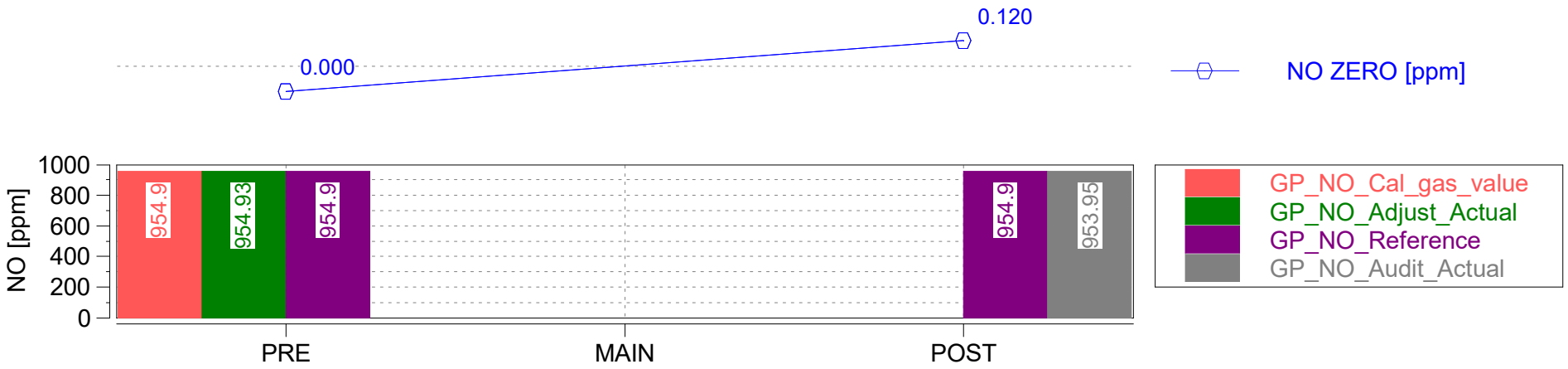


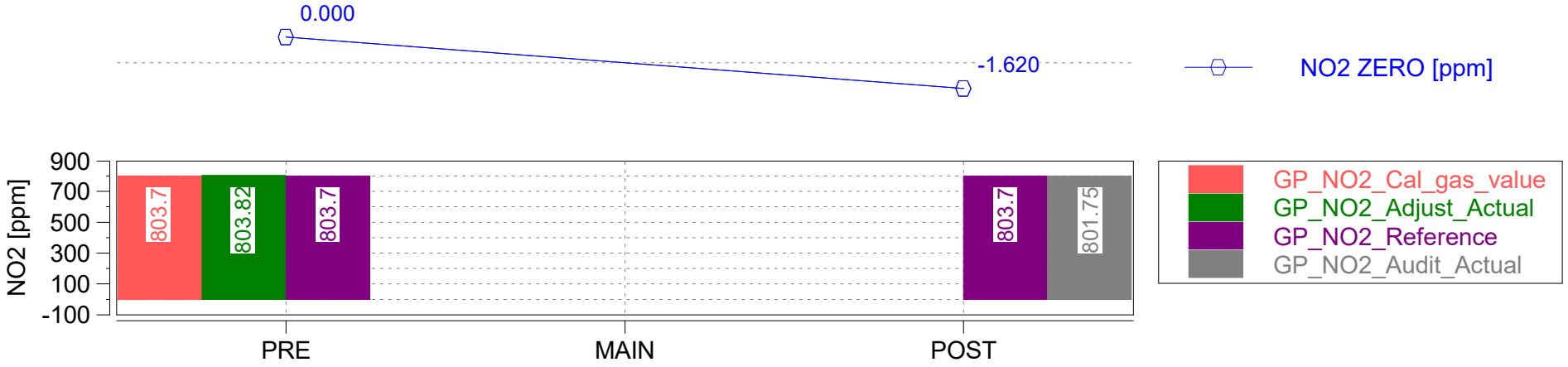


Case: W206-2518
Page: NO/NO2/NOx Zero - Span

'W206-2518 A2 Mtn Uphill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019





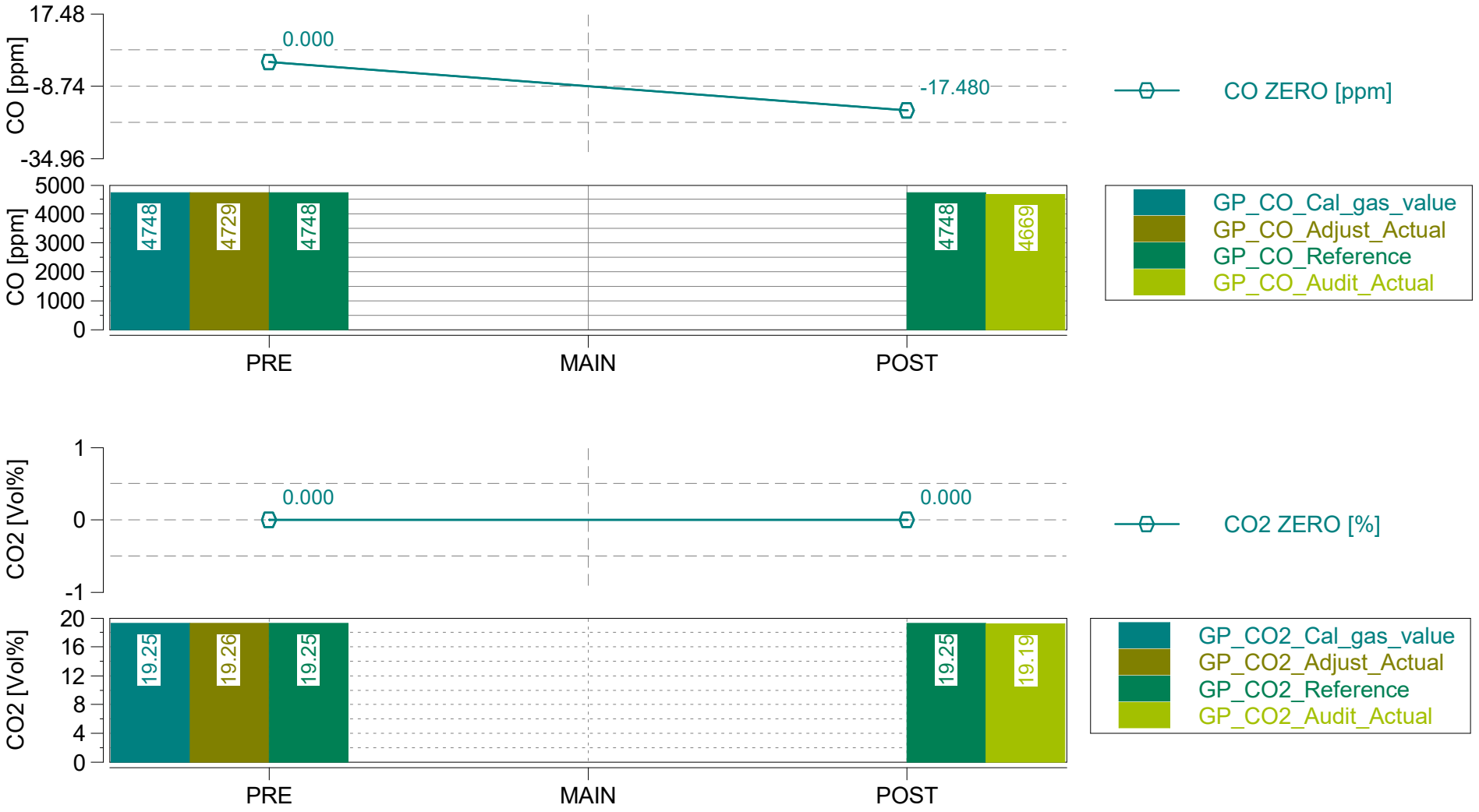
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: CO/CO2 Zero - Span

'W206-2518 A2 Mtn Uphill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019

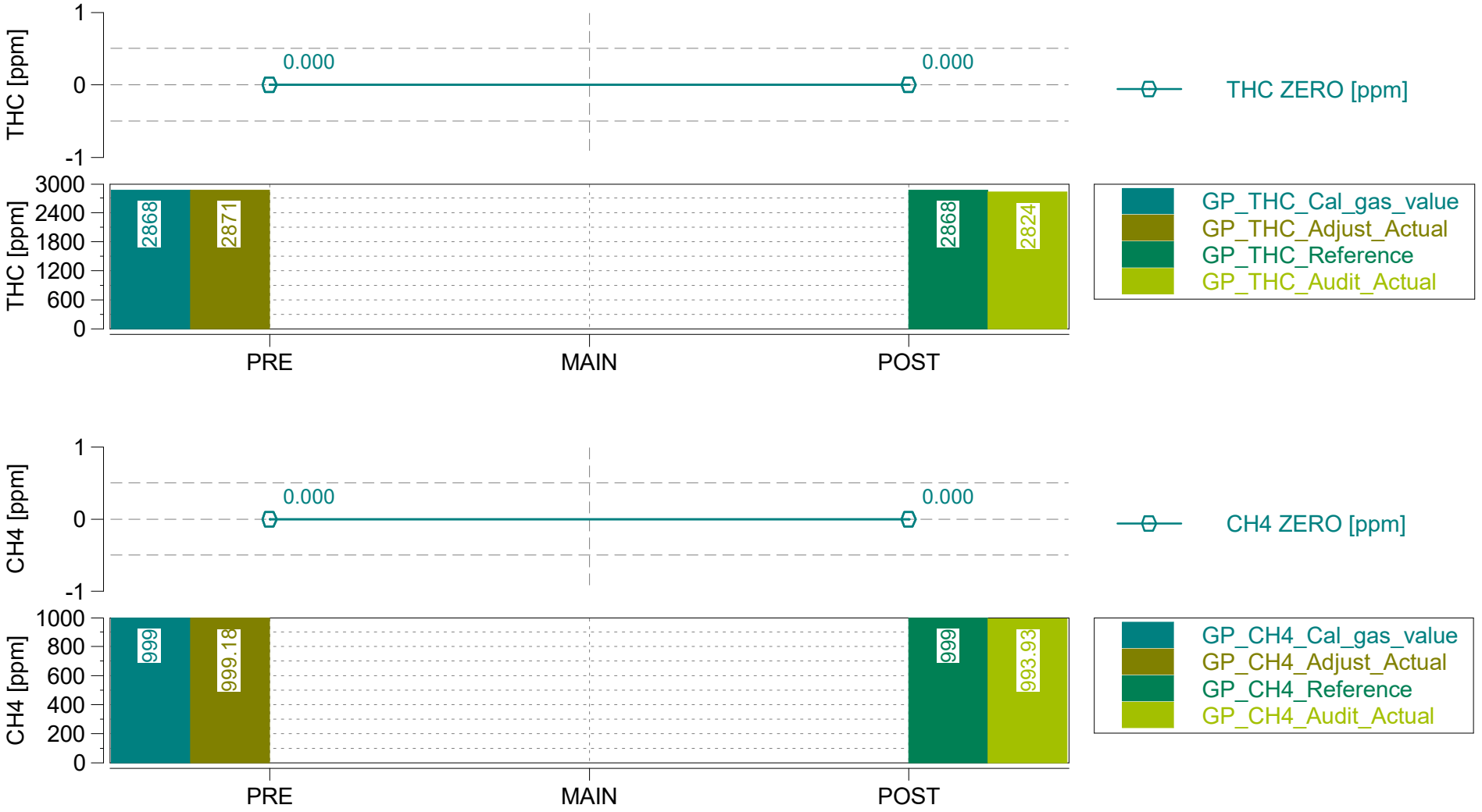


Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

'W206-2518 A2 Mtn Uphill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019



Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

§	criterium	condition	value	unit	pass/fail
GAS Leak Check	The leakage rate on the vacuum side shall not exceed 0.5 per cent of the in-use flow rate for the portion of the system being checked.	The leakage rate <= 0.5%	**0.06**	**%**	pass
PN Leak Check	n/a	n/a	**n/a**	**n/a**	n/a
PM Leak Check	n/a	n/a	**n/a**	**n/a**	n/a

GAS PEMS Devices

Device ID	AVL492
Serial Number	0597
Firmware Version	V1.17
Main Test Date	2021-08-04
Leak Check Age [days]	0

Device ID	AVL4925iS
Serial Number	175
Firmware Version	1.22.0.4

EFM

Device ID	AVL495
Serial Number	00914
Serial Number Tube	01090
Firmware Version	V1.16

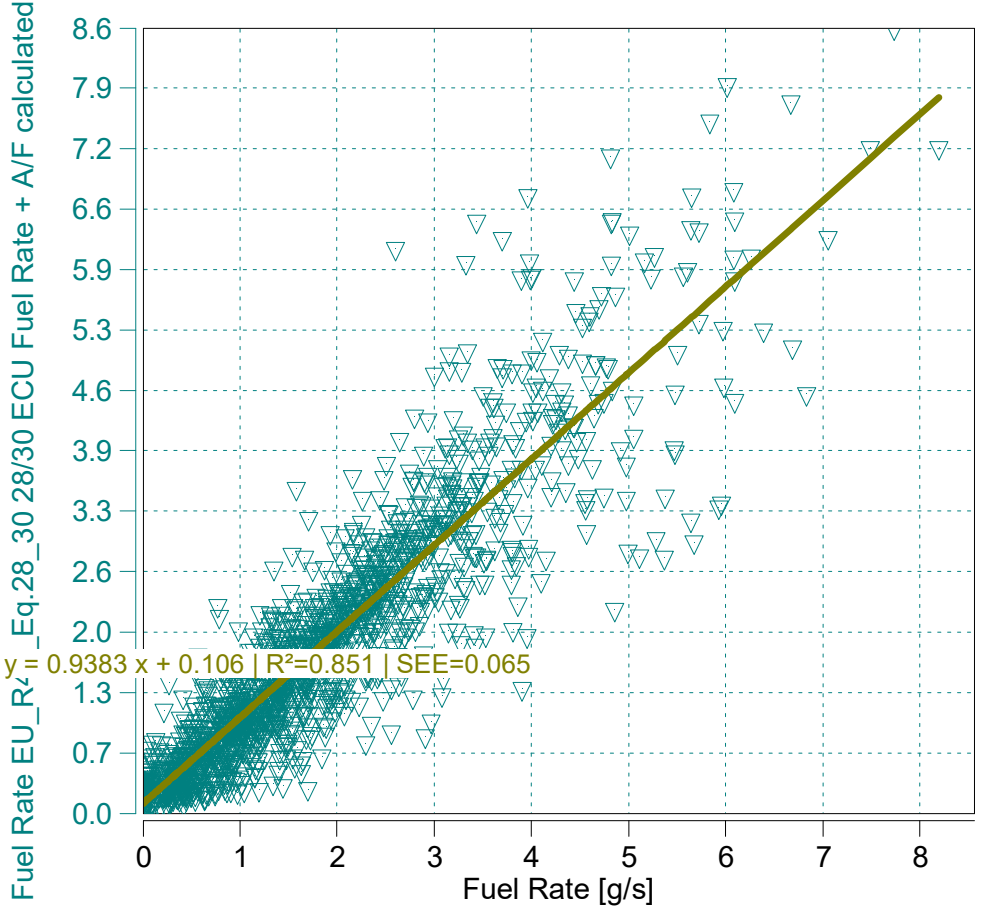
System Control

SC Version	V2.9_237
SC Serial Number	60301072

Case: W206-2518
Page: Fuel Rate ECU vs. Calculated

'W206-2518 A2 Mtn Uphill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019



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

y = 0.9383 x + 0.106 | R²=0.851 | SEE=0.065
m = 0.94 (0.9 - 1.1 recommended)
R² = 0.85 (min 0.9 mandatory)

Data from - to [% of Maximum]

0 100

Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: Trip Summary

'W206-2518 B1 Mtn Downhill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019

Trip Duration	1896.00	s
Trip Duration (a)	1896.00	s
Trip Distance	18.55	mi
Trip Distance (a)	18.55	mi
Trip Fuel Cons. (b)	0.94	kg
Trip Fuel Cons. (ab)	0.94	kg
Trip Fuel Cons. EU (ac)	0.98	kg
Trip Fuel Cons. US (ac)	0.97	kg
Trip Fuel Economy (b)	55.79	mpg_US
Trip Fuel Economy (ab)	55.79	mpg_US
Trip Fuel Economy EU (ac)	53.75	mpg_US
Trip Fuel Economy US (ac)	54.12	mpg_US
Trip Fuel Economy GGE (b)	55.79	mpg_US
Trip Fuel Economy GGE (ab)	55.79	mpg_US
Trip Fuel Economy EU GGE (ac)	53.75	mpg_US
Trip Fuel Economy US GGE (ac)	54.12	mpg_US
Trip Av. Eng. Speed	1409.29	rpm
Trip Av. Torque	22.86	lbft
Trip Av. Power	7.27	hp
Trip Work		
Trip Work (a)	3.83	hphr
Trip Exhaust Mass	18.23	kg
Trip Exhaust Mass EU (ac)	16.39	kg
Trip Exhaust Mass US (ac)	16.57	kg
Trip Av. Amb. Temperature	93.92	deg_F
Trip Av. Humidity	23.93	%
Trip Av. GPS Altitude	530.48	m
Fuel Type	Petrol (E10)	

ave THC	83.34212	ppm
ave NMHC	81.67528	ppm
ave CH4	1.66684	ppm
ave CO	192.14834	ppm
ave CO2	7.72493	%
ave NOx	3.37171	ppm
ave PM	n/a	mg/m3
ave Soot meas	n/a	mg/m3
ave Soot	n/a	mg/m3
ave PN	n/a	#/cm3
tot THC	0.60796	g
tot NMHC	0.56237	g
tot CH4	0.01348	g
tot CO	4.79286	g
tot CO2	2938.15552	g
tot NO (d)	0.10921	g
tot NO2	0.00001	g
tot NOx	0.10144	g
tot Soot	n/a	g
tot Soot meas	n/a	g
tot PM	n/a	g
tot PN	n/a	#
PM measurement type	0.00000	-
tot Soot on PM filter (estim.)	0.00000	mg
Soot --> PM simple scaling factor	1.00000	-
Trip Av. Veh. Speed	35.22120	mi/hr
Trip Distance Share Urban	18.68150	% distance
Trip Distance Share Rural	40.94337	% distance
Trip Distance Share Motorway	40.37513	% distance

BS CO2	767.77171	g/hphr
BS CO	1.25243	g/hphr
BS THC	0.15887	g/hphr
BS NMHC	0.14695	g/hphr
BS CH4	0.00352	g/hphr
BS NO (d)	0.02854	g/hphr
BS NO2	0.00000	g/hphr
BS NOx	0.02651	g/hphr
BS Soot	n/a	g/hphr
BS Soot meas	n/a	g/hphr
BS PM	n/a	g/hphr
BS PN	n/a	#/hpr
DS CO2	158.39257	g/mi
DS CO	0.25838	g/mi
DS THC	0.03277	g/mi
DS NMHC	0.03032	g/mi
DS CH4	0.00073	g/mi
DS NO (d)	0.00589	g/mi
DS NO2	0.00000	g/mi
DS NOx	0.00547	g/mi
DS Soot	n/a	g/mi
DS Soot meas	n/a	g/mi
DS PM	n/a	g/mi
DS PN	n/a	#/mi
FS CO2	3123.18436	g/kg
FS CO	5.09469	g/kg
FS THC	0.64625	g/kg
FS NMHC	0.59779	g/kg
FS CH4	0.01432	g/kg
FS NO (d)	0.11608	g/kg
FS NO2	0.00001	g/kg
FS NOx	0.10783	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

'W206-2518 B1 Mtn Downhill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

Trip Duration	1896.00	s
Trip Duration (a)	1896.00	s
Trip Distance	18.55	mi
Trip Distance (a)	18.55	mi
Trip Fuel Cons. (b)	0.94	kg
Trip Fuel Cons. (ab)	0.94	kg
Trip Fuel Cons. EU (ac)	0.98	kg
Trip Fuel Cons. US (ac)	0.97	kg
Trip Fuel Economy (b)	55.79	mpg_US
Trip Fuel Economy (ab)	55.79	mpg_US
Trip Fuel Economy EU (ac)	53.75	mpg_US
Trip Fuel Economy US (ac)	54.12	mpg_US
Trip Fuel Economy GGE (b)	55.79	mpg_US
Trip Fuel Economy GGE (ab)	55.79	mpg_US
Trip Fuel Economy EU GGE (ac)	53.75	mpg_US
Trip Fuel Economy US GGE (ac)	54.12	mpg_US
Trip Av. Eng. Speed	1409.29	rpm
Trip Av. Torque	22.86	lbft
Trip Av. Power	7.27	hp
Trip Work		
Trip Work (a)	3.83	hphr
Trip Exhaust Mass	18.23	kg
Trip Exhaust Mass EU (ac)	16.39	kg
Trip Exhaust Mass US (ac)	16.57	kg
Trip Av. Amb. Temperature	93.92	deg_F
Trip Av. Humidity	23.93	%
Trip Av. GPS Altitude	530.48	m
Fuel Type	Petrol (E10)	

ave THC DC	83.92105	ppm
ave NMHC DC	82.24263	ppm
ave CH4 DC	1.67842	ppm
ave CO DC	194.13694	ppm
ave CO2 DC	7.73497	%
ave NOx DC	3.37314	ppm
ave PM	n/a	mg/m3
ave Soot meas	n/a	mg/m3
ave Soot	n/a	mg/m3
ave PN DC		
tot THC DC	0.61218	g
tot NMHC DC	0.56628	g
tot CH4 DC	0.01357	g
tot CO DC	4.84247	g
tot CO2 DC	2941.97627	g
tot NO DC (d)	0.10926	g
tot NO2 DC	0.00001	g
tot NOx DC	0.10149	g
tot Soot	n/a	g
tot Soot meas	n/a	g
tot PM	n/a	g
tot PN DC		
PM measurement type	0.00000	-
tot Soot on PM filter (estim.)	0.00000	mg
Soot --> PM simple scaling factor	1.00000	-
Trip Av. Veh. Speed	35.22120	mi/hr
Trip Distance Share Urban	18.68150	% distance
Trip Distance Share Rural	40.94337	% distance
Trip Distance Share Motorway	40.37513	% distance

BS CO2 DC	768.77011	g/hphr
BS CO DC	1.26539	g/hphr
BS THC DC	0.15997	g/hphr
BS NMHC DC	0.14797	g/hphr
BS CH4 DC	0.00355	g/hphr
BS NO DC (d)	0.02855	g/hphr
BS NO2 DC	0.00000	g/hphr
BS NOx DC	0.02652	g/hphr
BS Soot	n/a	g/hphr
BS Soot meas	n/a	g/hphr
BS PM	n/a	g/hphr
BS PN DC		
DS CO2 DC	158.59854	g/mi
DS CO DC	0.26105	g/mi
DS THC DC	0.03300	g/mi
DS NMHC DC	0.03053	g/mi
DS CH4 DC	0.00073	g/mi
DS NO DC (d)	0.00589	g/mi
DS NO2 DC	0.00000	g/mi
DS NOx DC	0.00547	g/mi
DS Soot	n/a	g/mi
DS Soot meas	n/a	g/mi
DS PM	n/a	g/mi
DS PN DC		
FS CO2 DC	3127.24572	g/kg
FS CO DC	5.14742	g/kg
FS THC DC	0.65074	g/kg
FS NMHC DC	0.60194	g/kg
FS CH4 DC	0.01442	g/kg
FS NO DC (d)	0.11614	g/kg
FS NO2 DC	0.00001	g/kg
FS NOx DC	0.10788	g/kg
FS Soot	n/a	g/kg
FS Soot meas	n/a	g/kg
FS PM	n/a	g/kg
FS PN DC		

(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

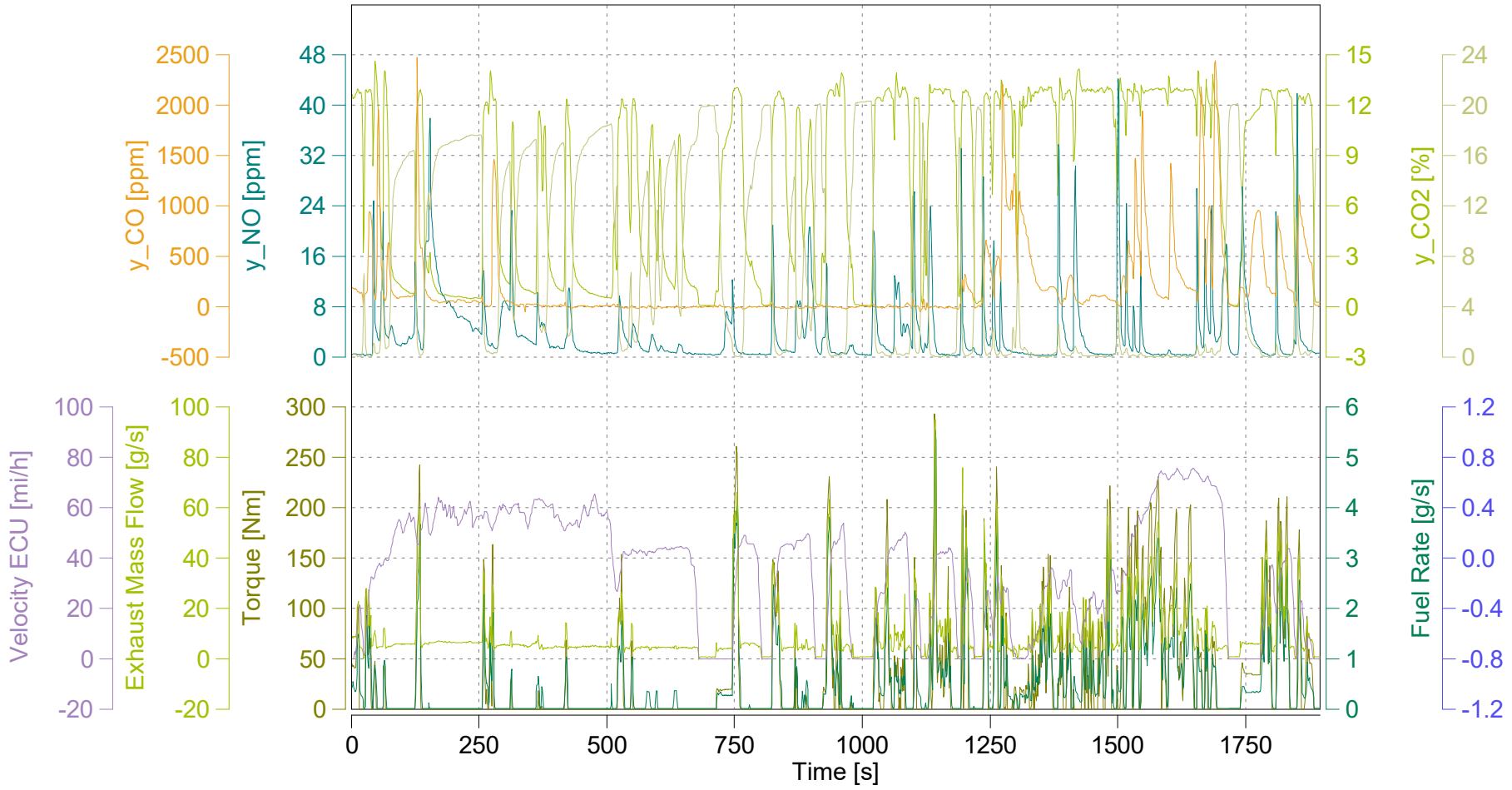
Case: W206-2518
Page: Time Alignment Check

'W206-2518 B1 Mtn Downhill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto

Absolute Time

y_THC
y_NO
y_CO2
y_O2
c_Soot
Fuel Rate
Exhaust Mass
Torque
Velocity ECU



AVL 492 Defa

THC
NO/NO2
CO/CO2
O2

Apply Defa

Alignment Plo

Reset Time
Reset Al
Apply Curr

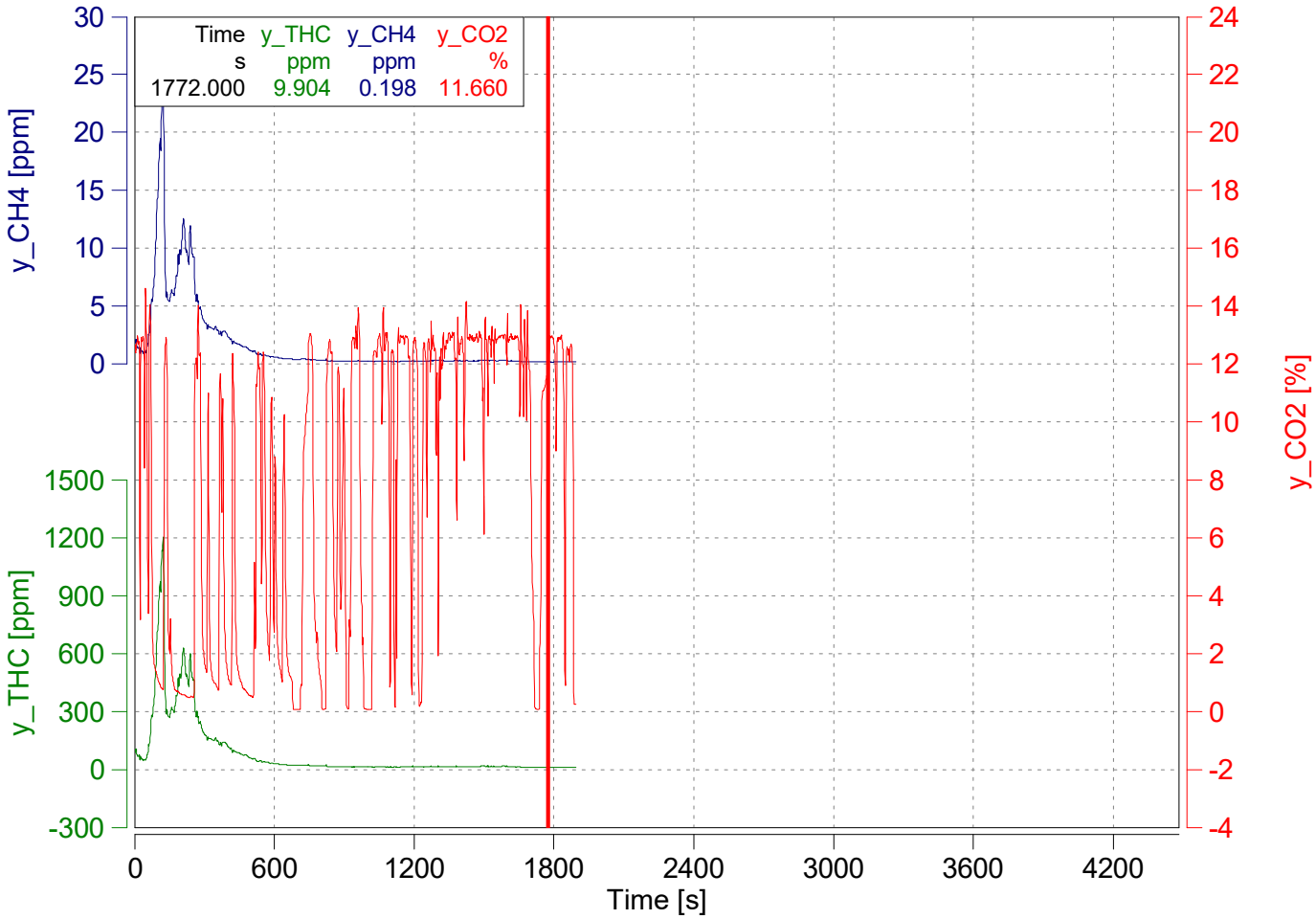
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: Time Alignment of Gas Concentrations

'W206-2518 B1 Mtn Downhill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019



Absolute Time Shifts

y_THC	s	-4.3
y_CH4	s	-6.3

Reset Time Shifts in Plot

Apply Current Values

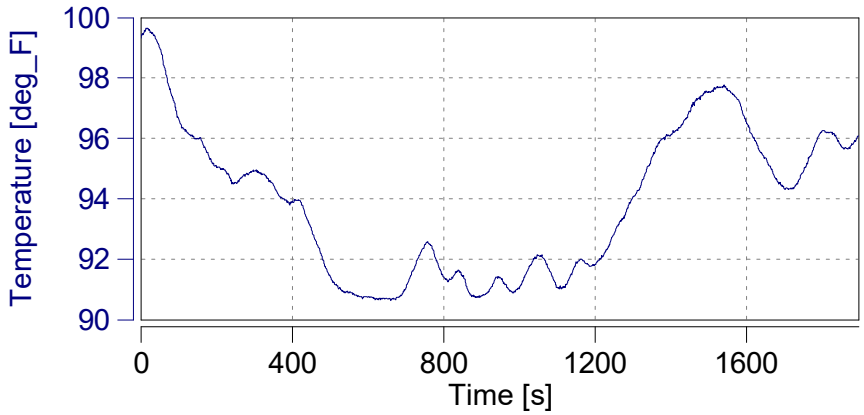
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

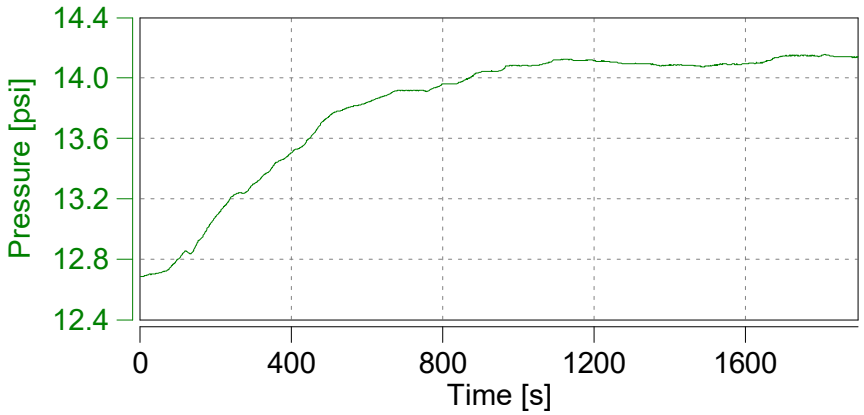
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

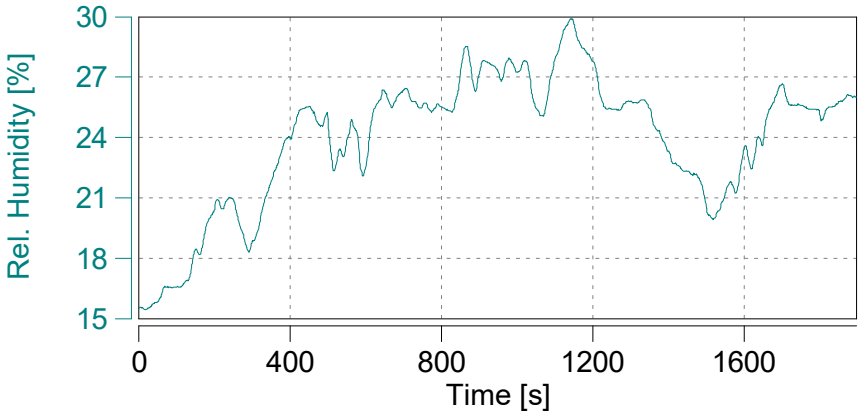
Case: W206-2518
Page: Ambient Conditions

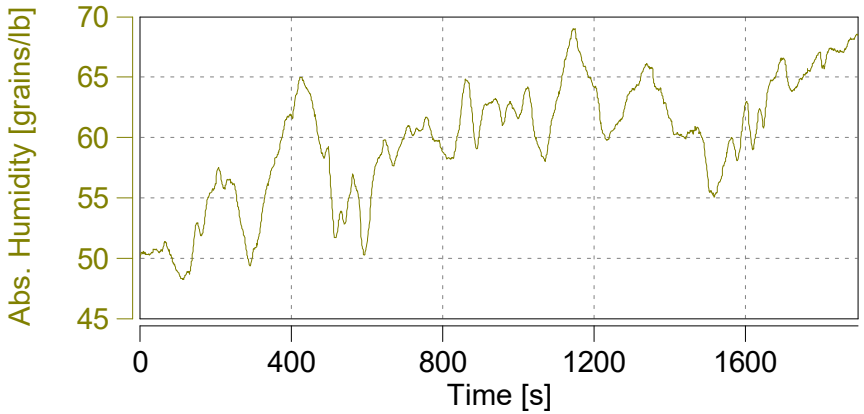
'W206-2518 B1 Mtn Downhill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019







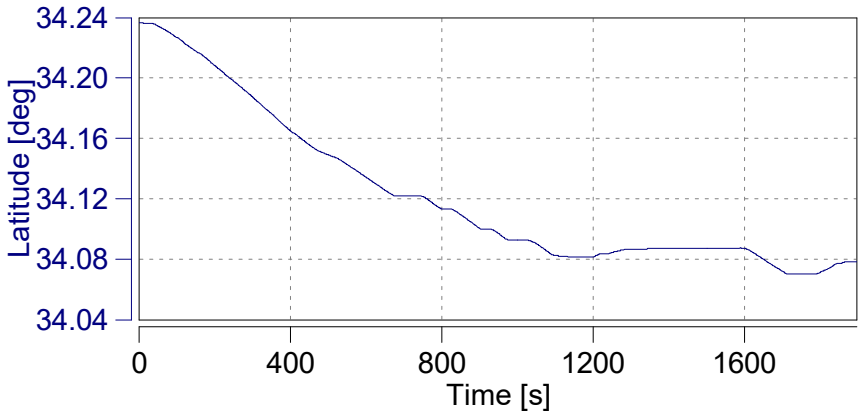


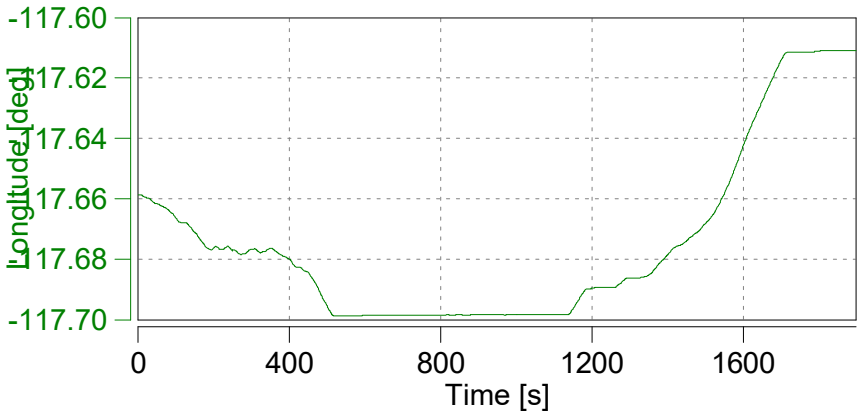
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

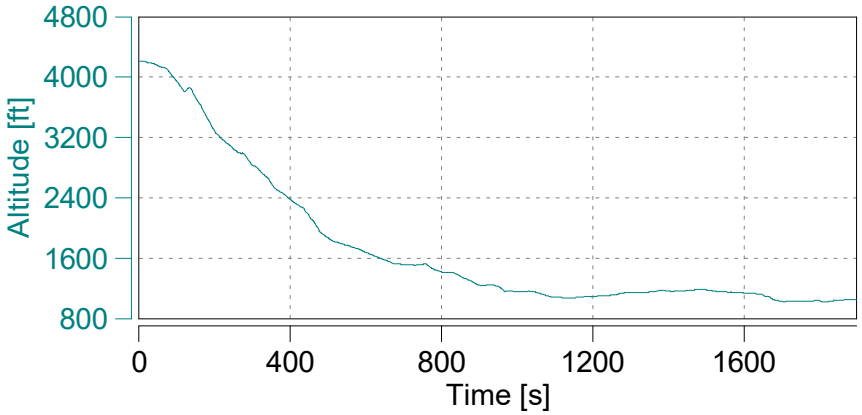
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

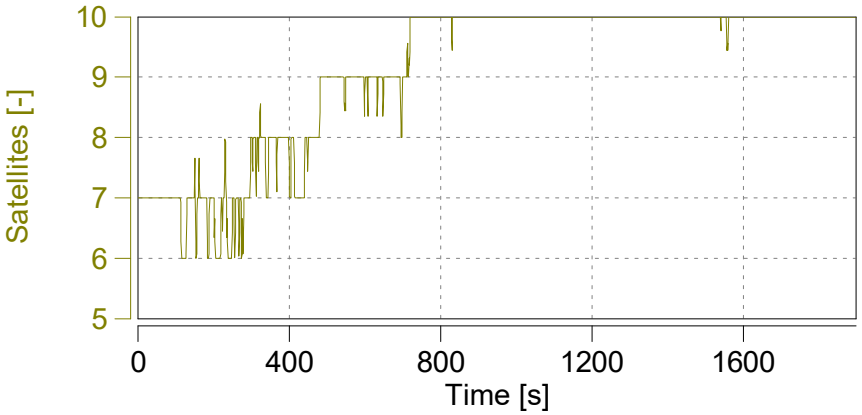
'W206-2518 B1 Mtn Downhill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019









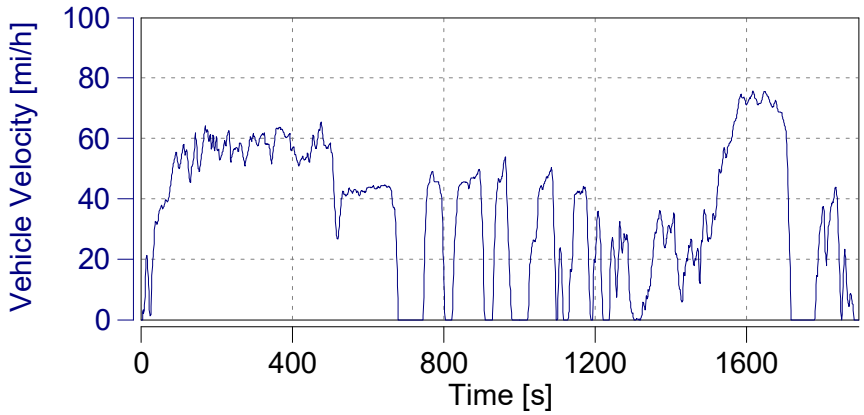
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

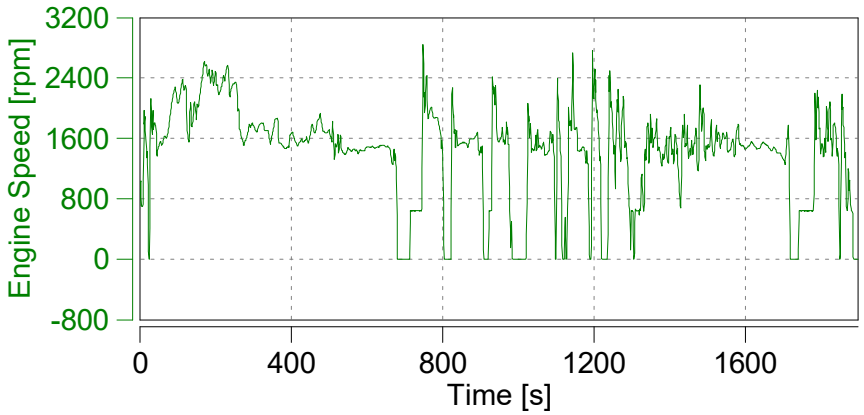
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

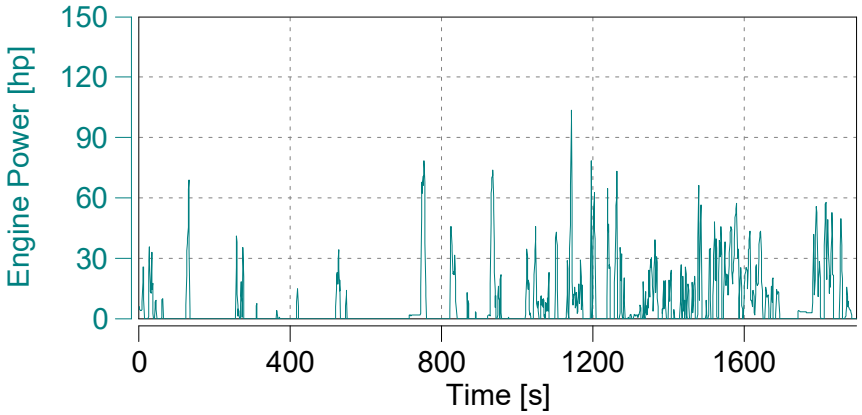
Case: W206-2518
Page: Engine (1)

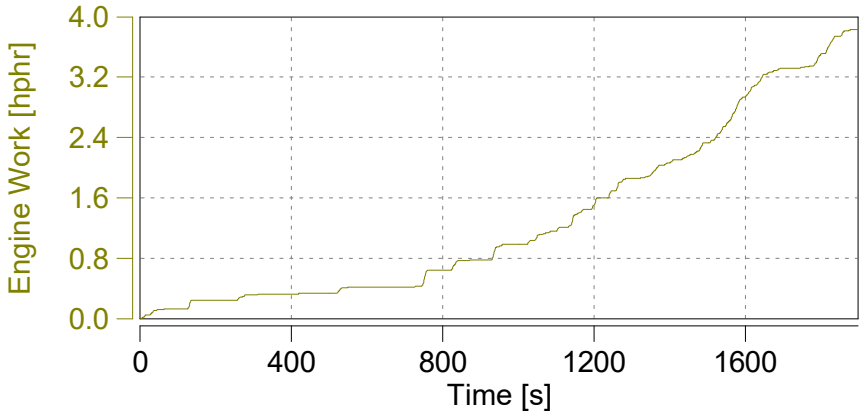
'W206-2518 B1 Mtn Downhill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019









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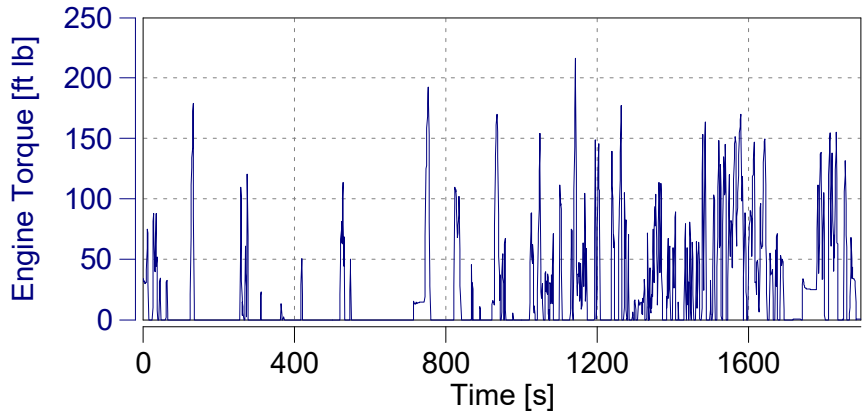
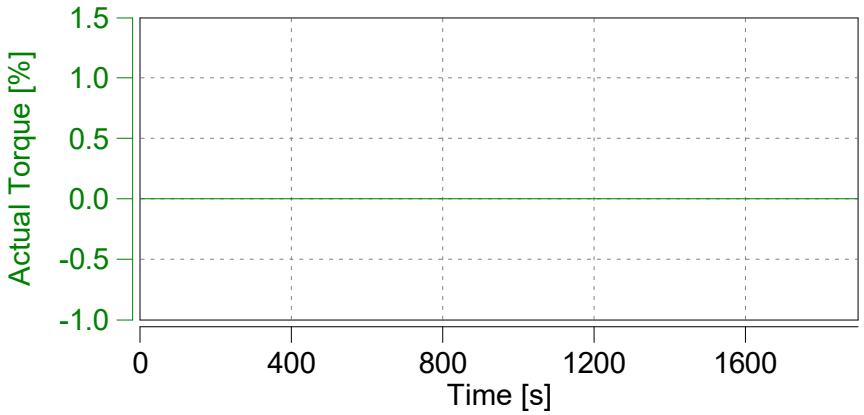
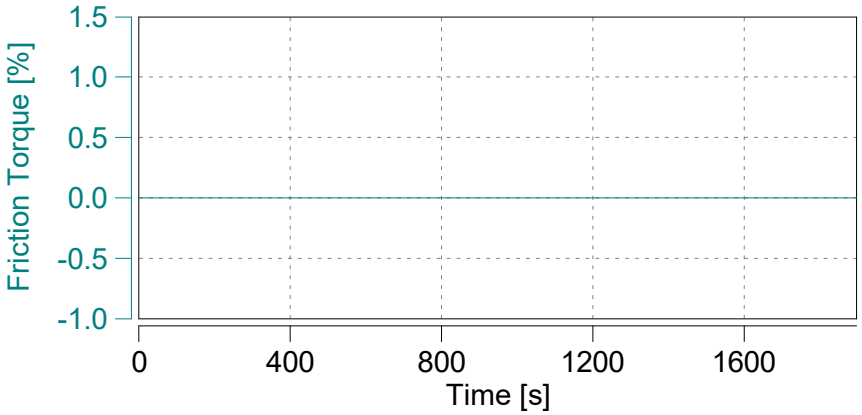
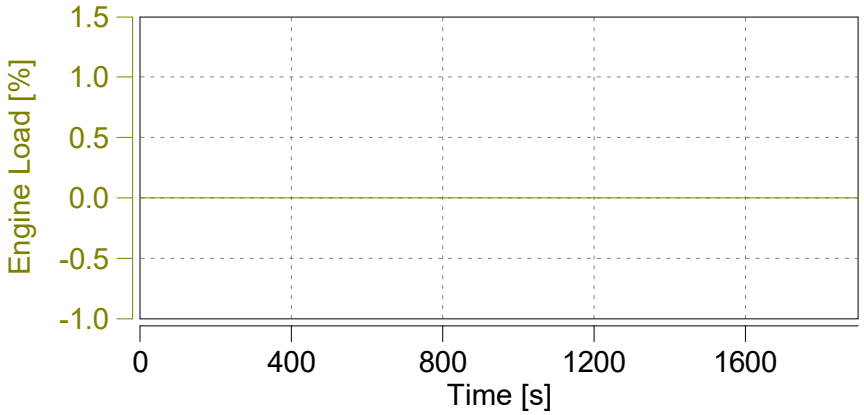
'W206-2518 B1 Mtn Downhill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019







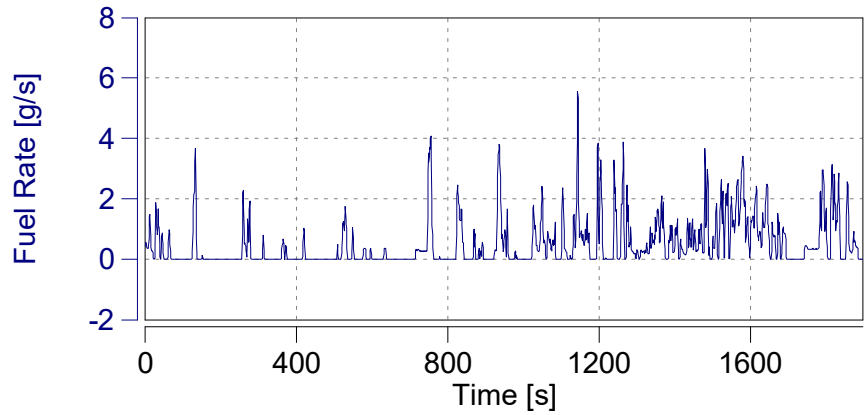


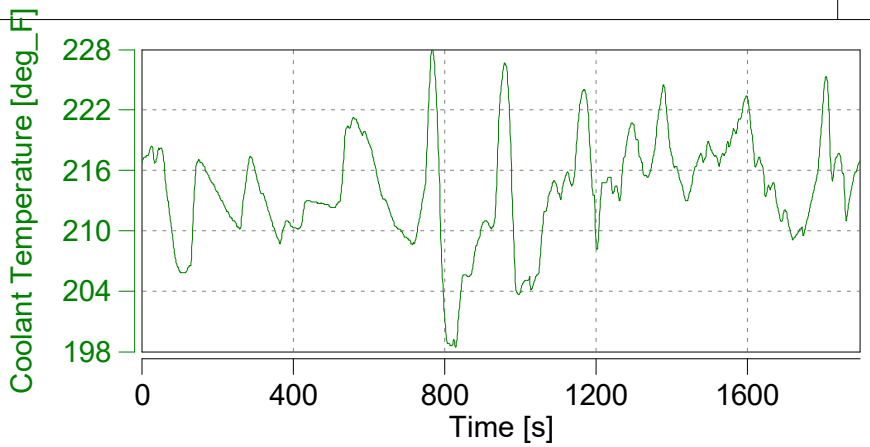
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

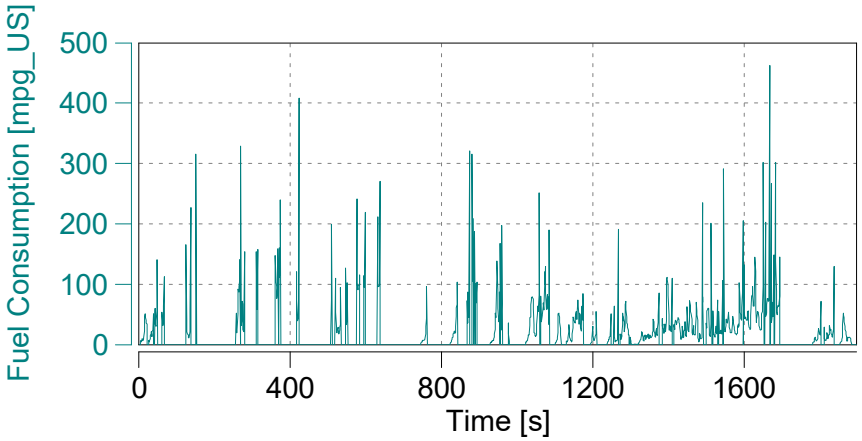
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

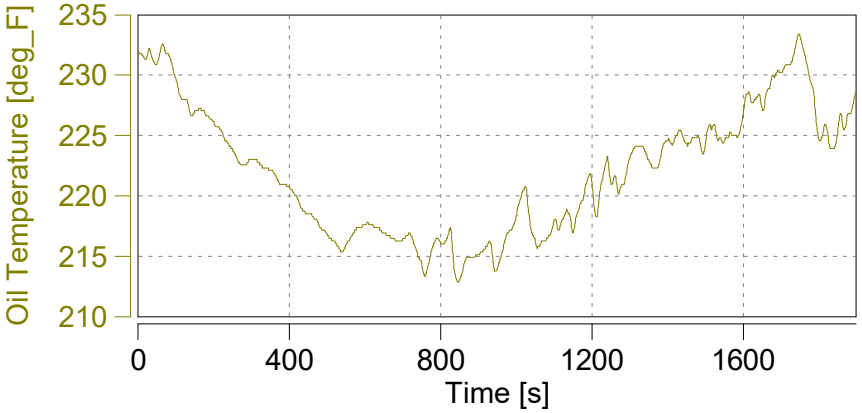
'W206-2518 B1 Mtn Downhill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019









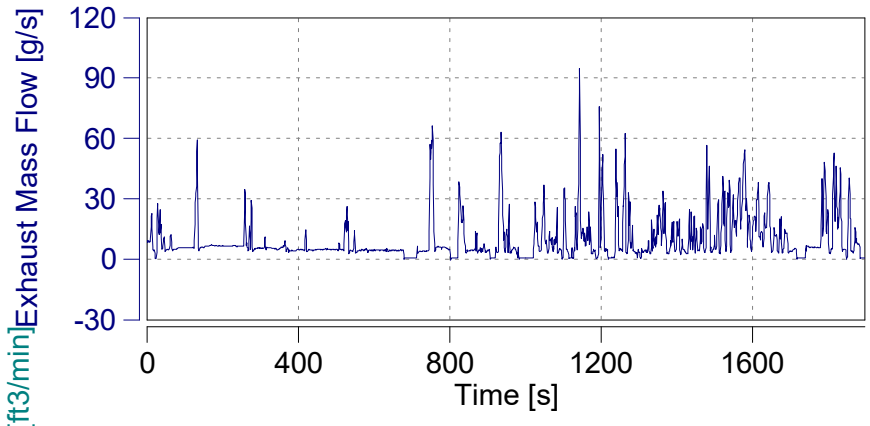
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

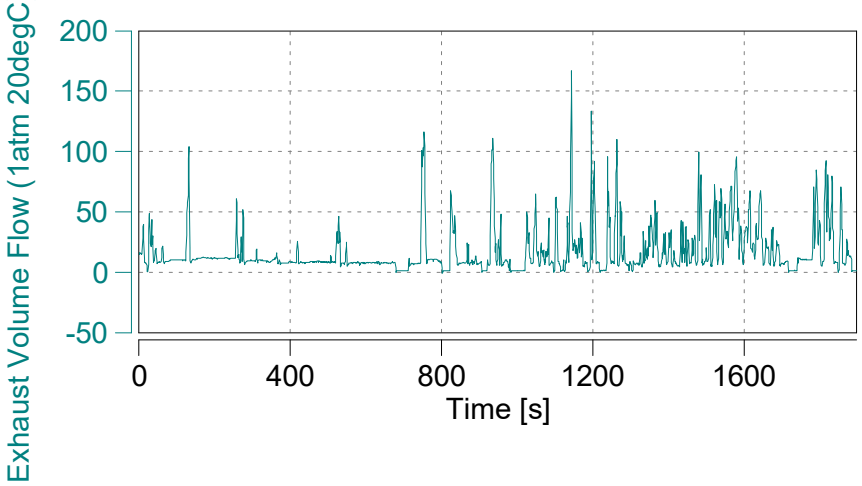
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

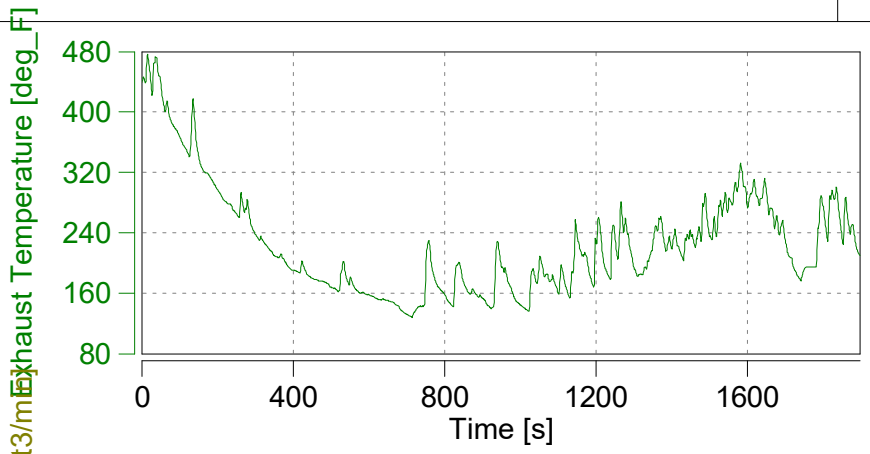
Case: W206-2518
Page: Exhaust Flow (1)

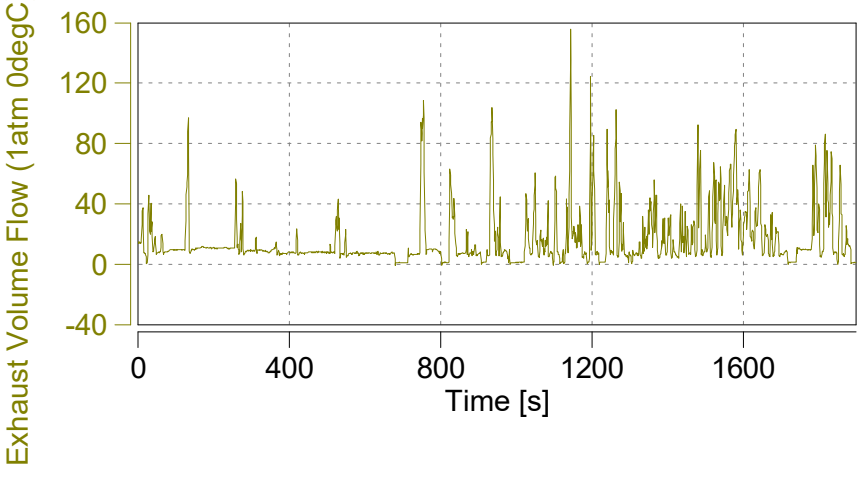
'W206-2518 B1 Mtn Downhill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019









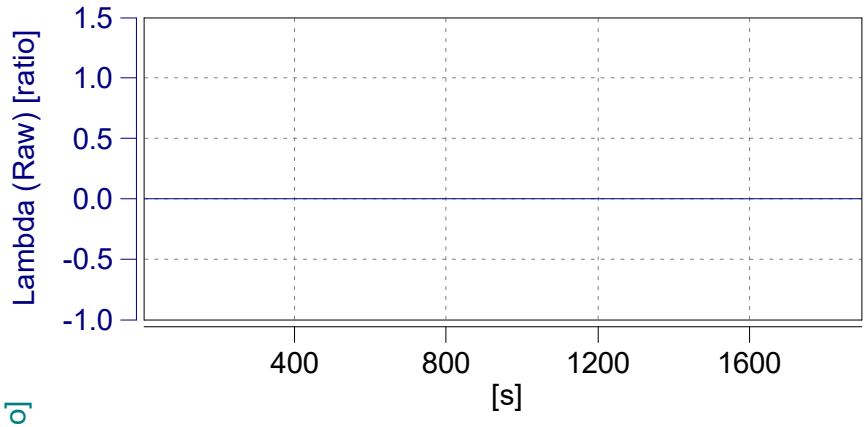
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

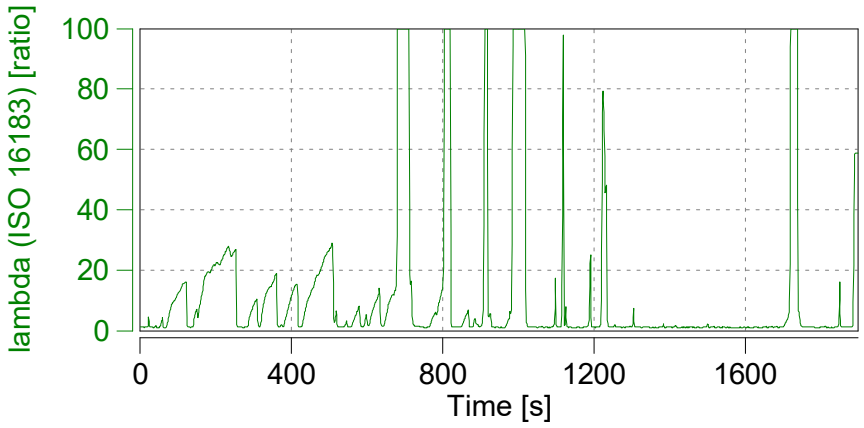
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

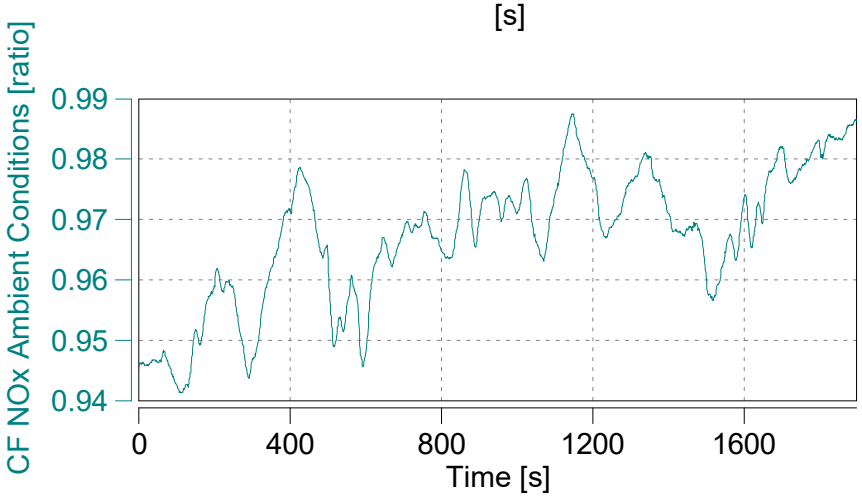
Case: W206-2518
Page: Exhaust Flow (2)

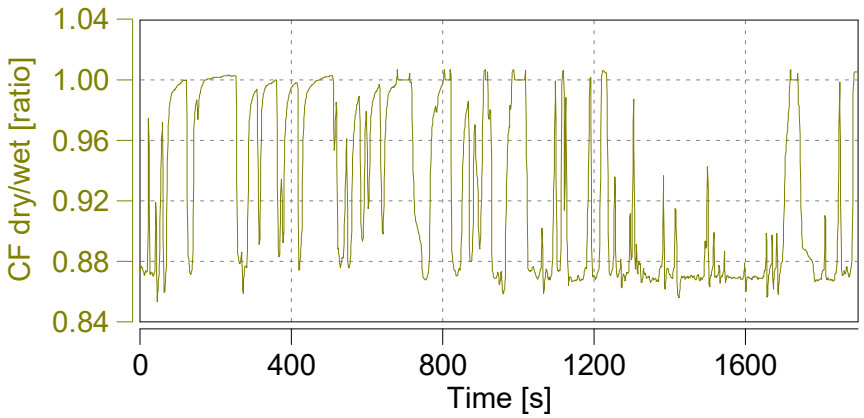
'W206-2518 B1 Mtn Downhill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019









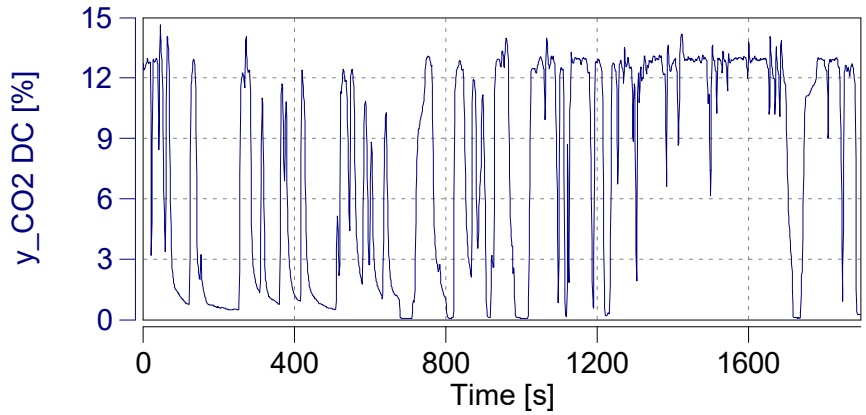
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

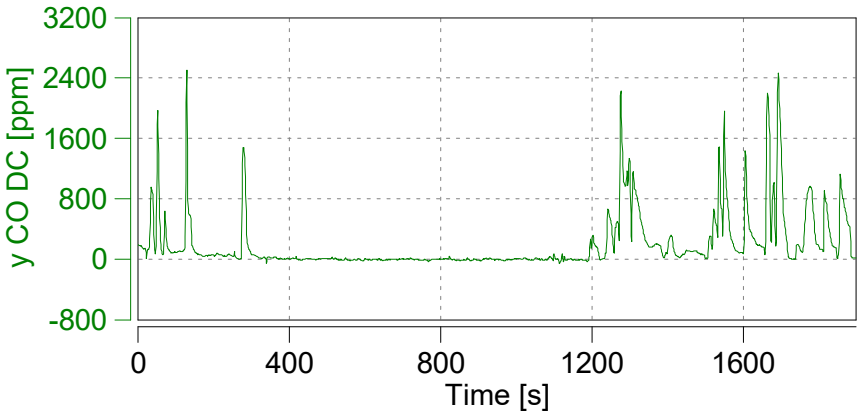
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

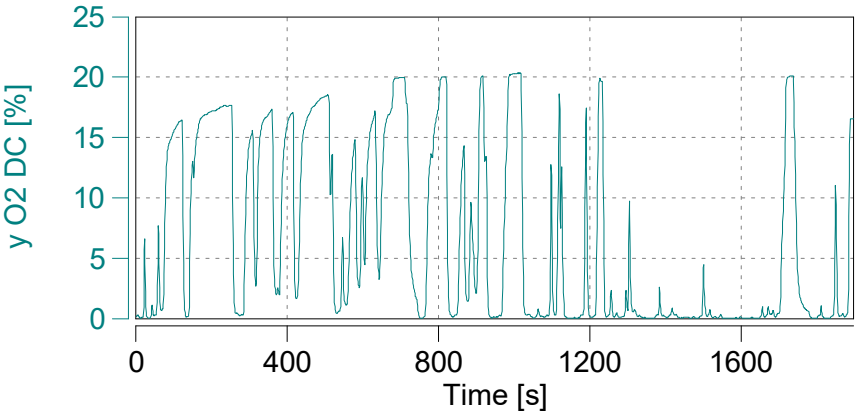
Case: W206-2518
Page: Corrected Emissions (1)

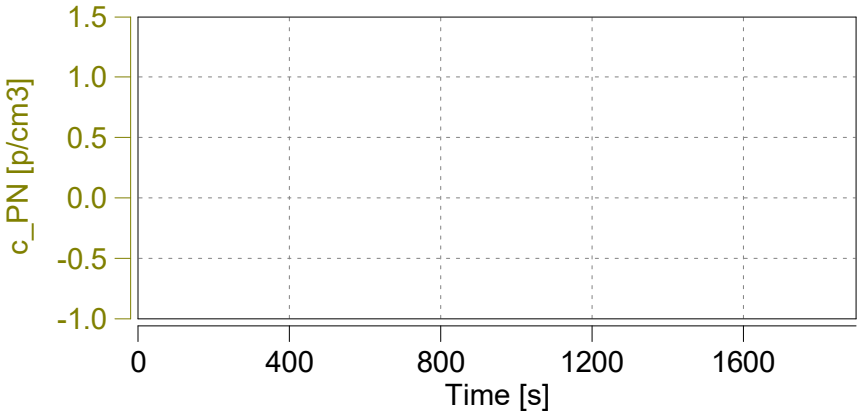
'W206-2518 B1 Mtn Downhill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019









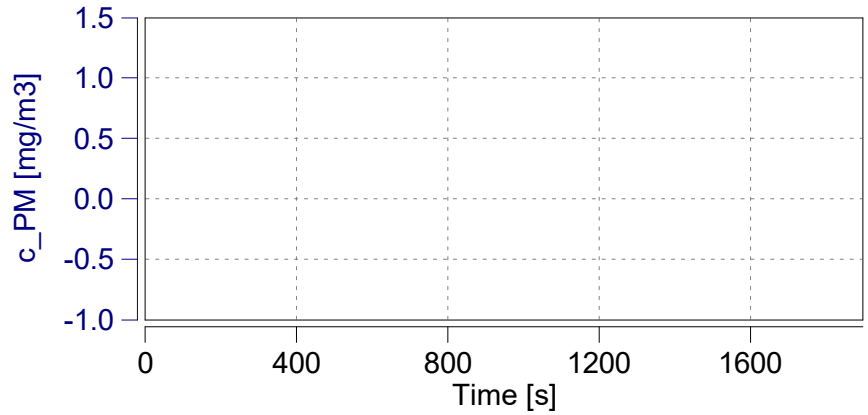
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

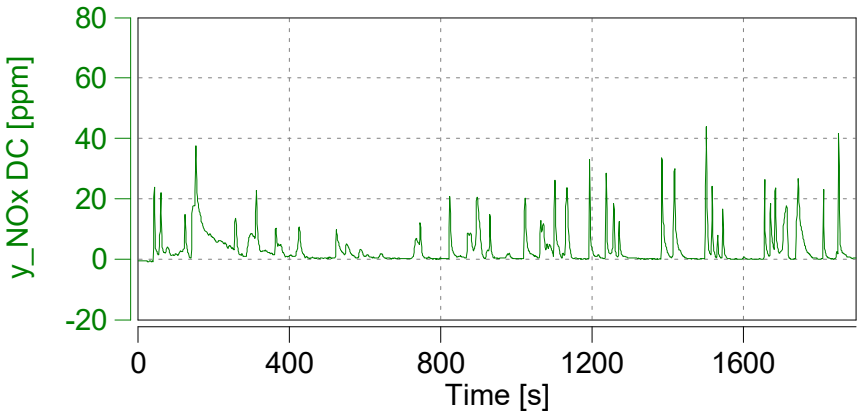
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

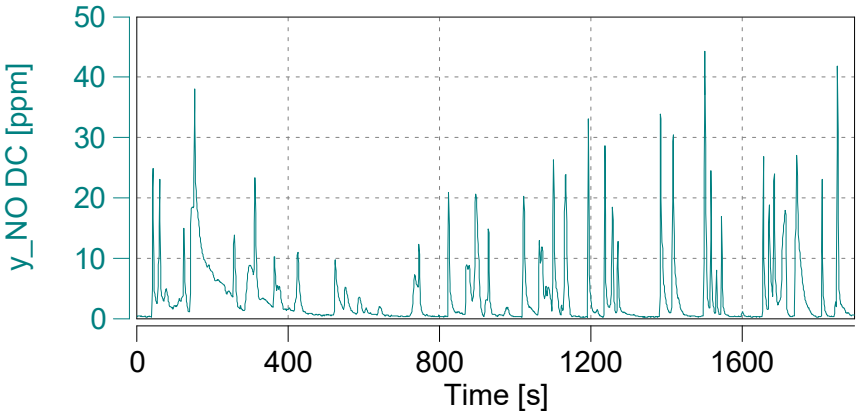
Case: W206-2518
Page: Corrected Emissions (2)

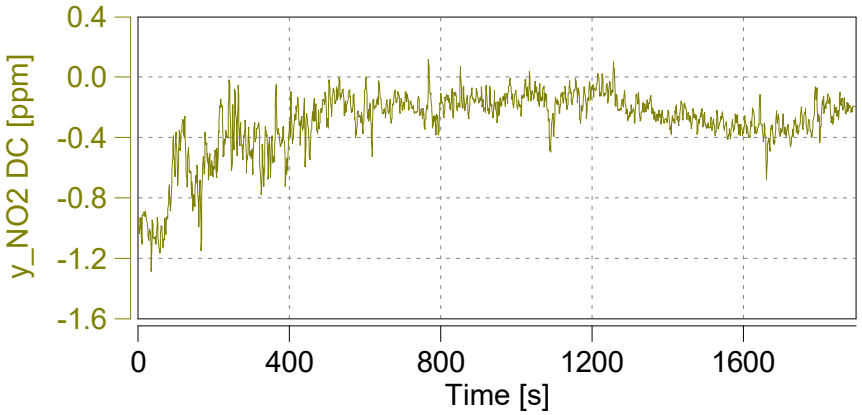
'W206-2518 B1 Mtn Downhill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019









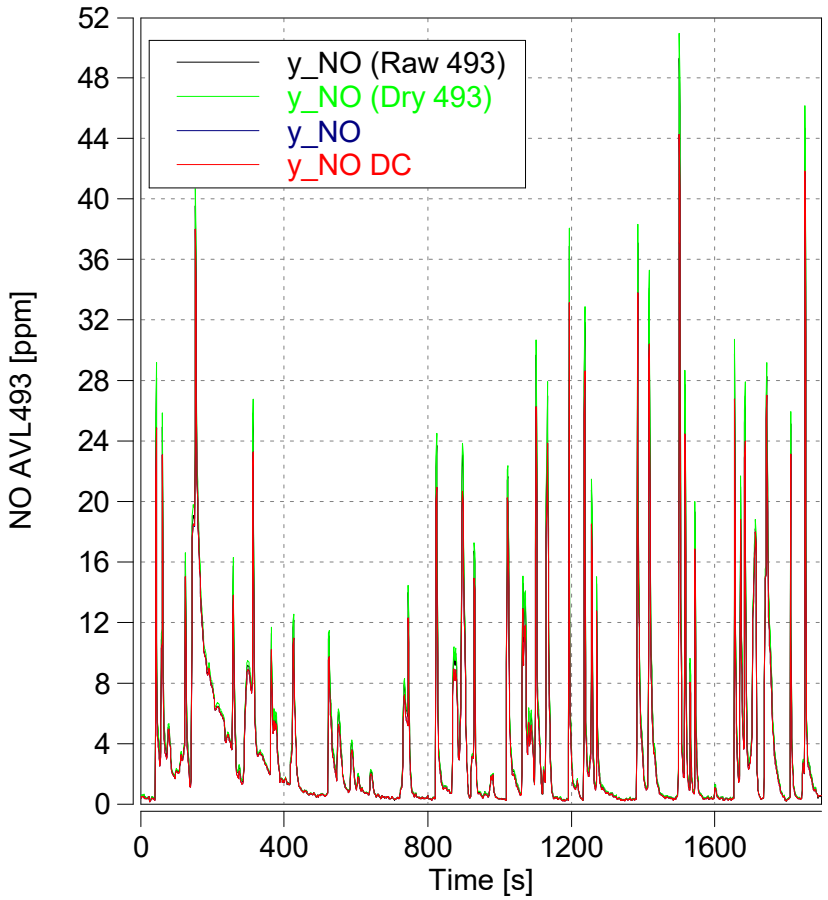
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

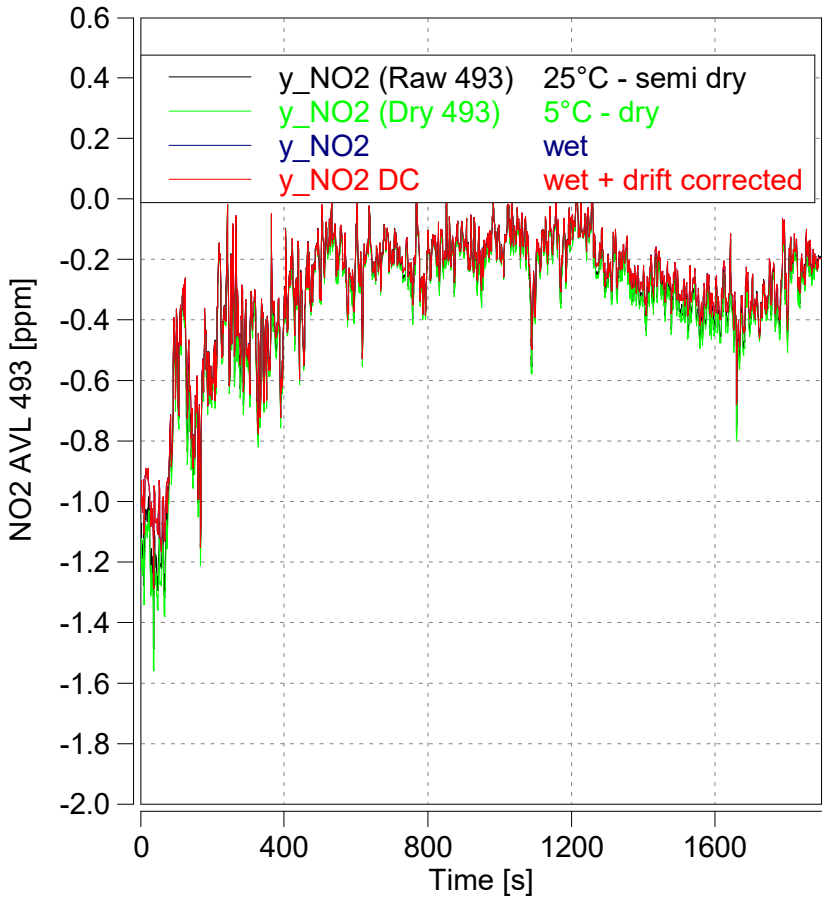
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: Corrected Emissions (3)

'W206-2518 B1 Mtn Downhill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019

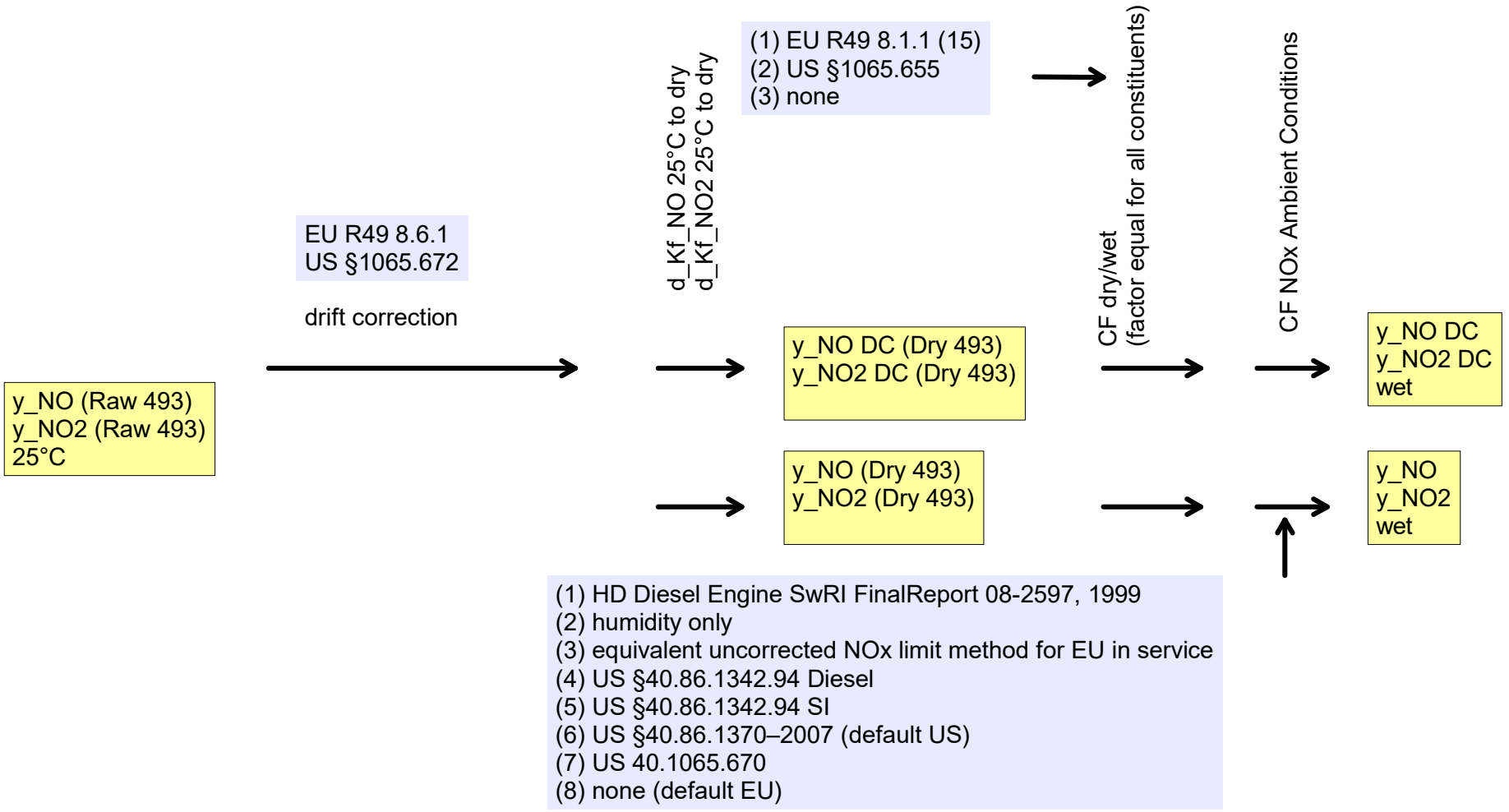




Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

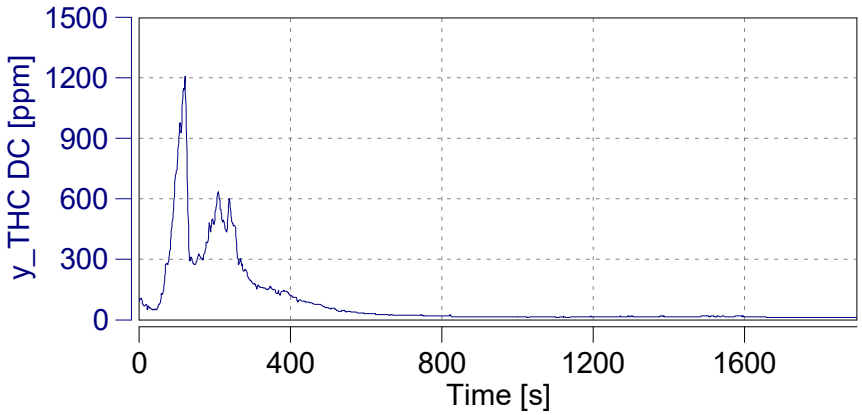
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

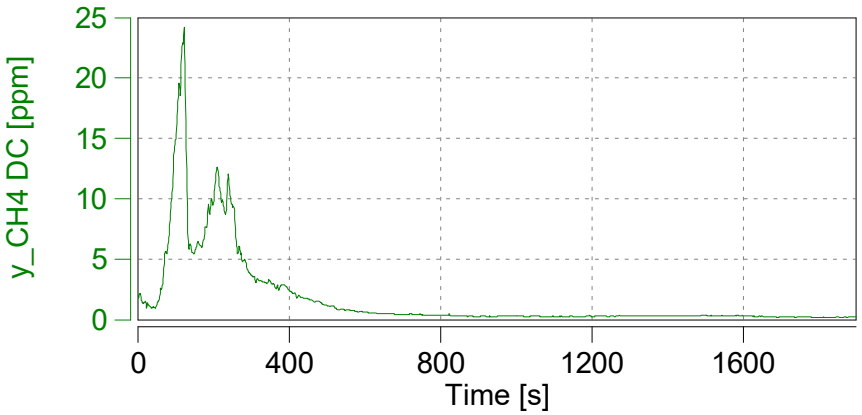
NOx - AVL 493

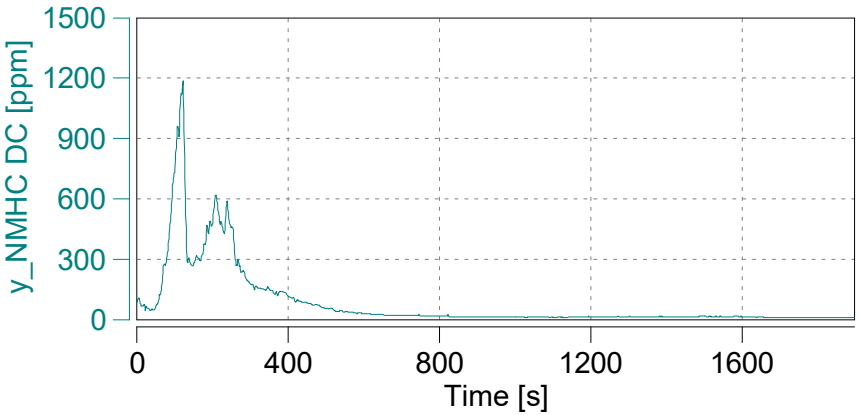

y_NO (Raw 493)
y_NO2 (Raw 493)
25°C
EU R49 8.6.1
US §1065.672
drift correction
d_Kf_NO 25°C to dry
d_Kf_NO2 25°C to dry
(1) EU R49 8.1.1 (15)
(2) US §1065.655
(3) none
y_NO DC (Dry 493)
y_NO2 DC (Dry 493)
y_NO (Dry 493)
y_NO2 (Dry 493)
CF dry/wet
(factor equal for all constituents)
CF NOx Ambient Conditions
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)

'W206-2518 B1 Mtn Downhill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019



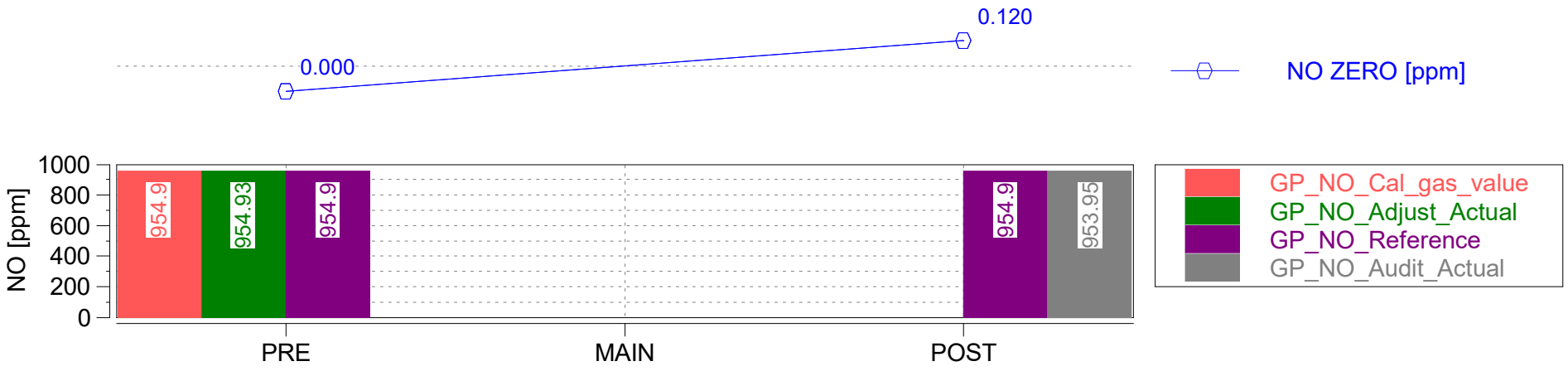


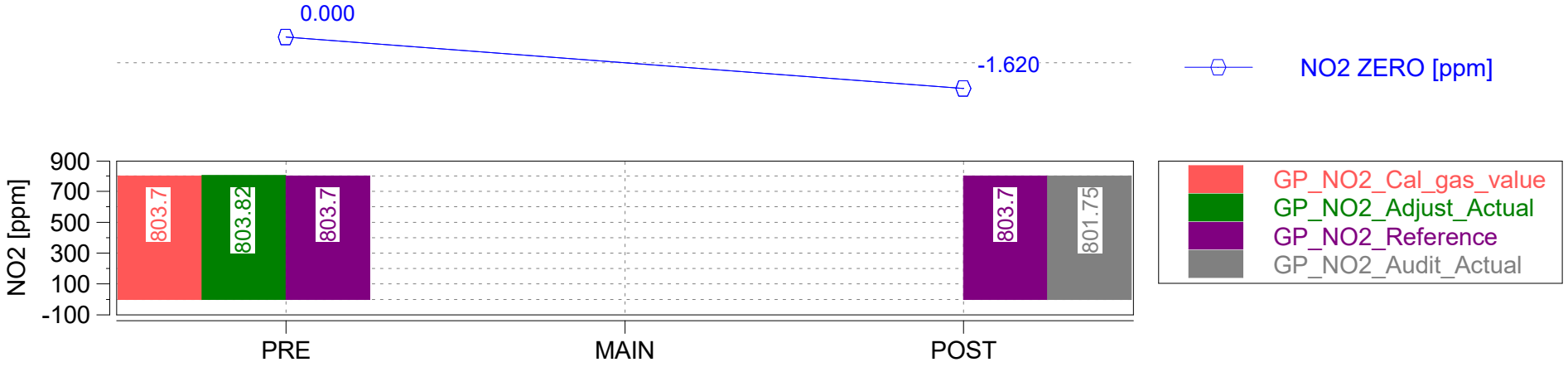


Case: W206-2518
Page: NO/NO2/NOx Zero - Span

'W206-2518 B1 Mtn Downhill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019





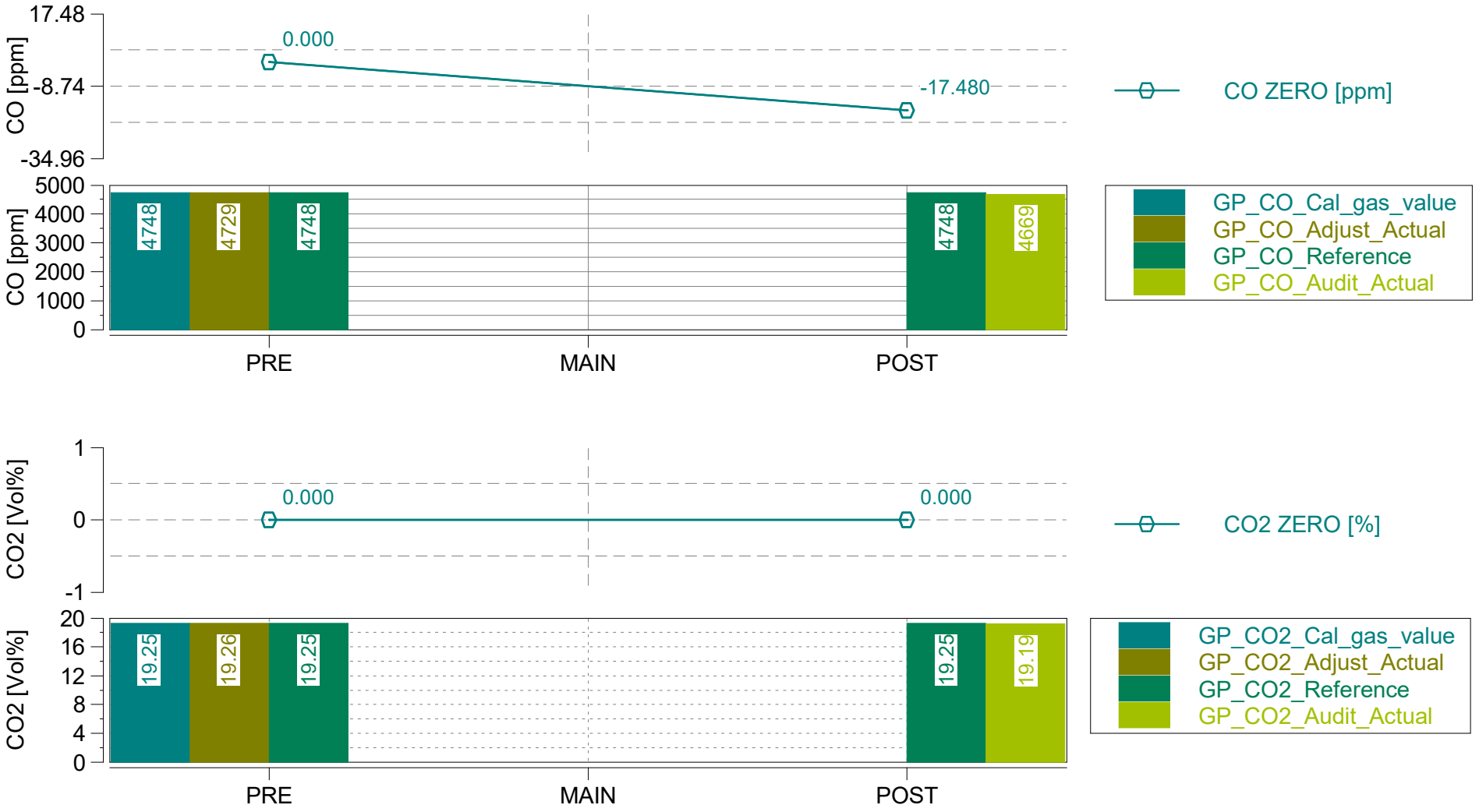
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: CO/CO2 Zero - Span

'W206-2518 B1 Mtn Downhill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019

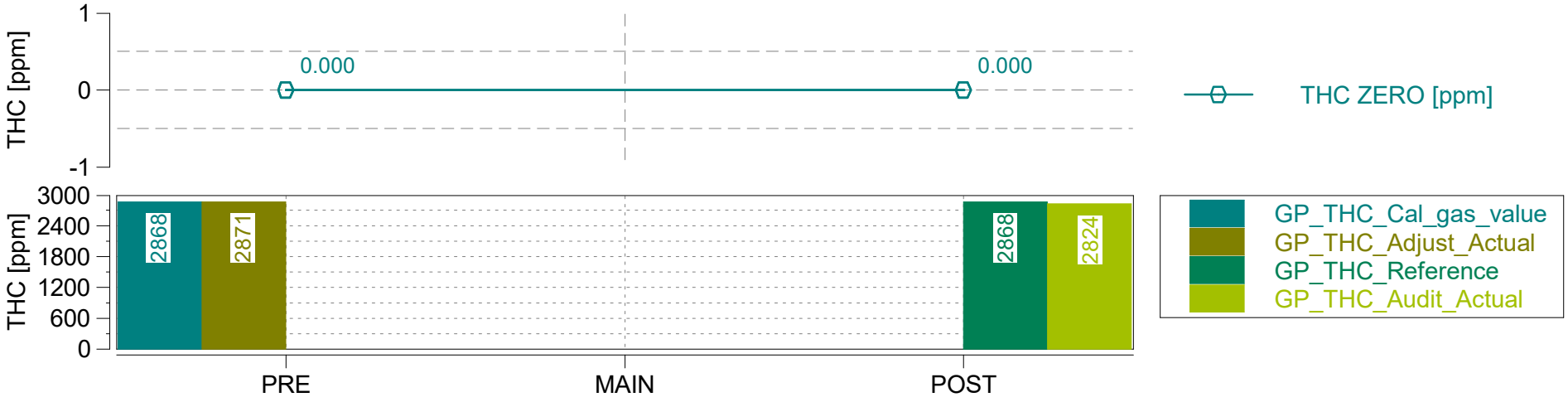


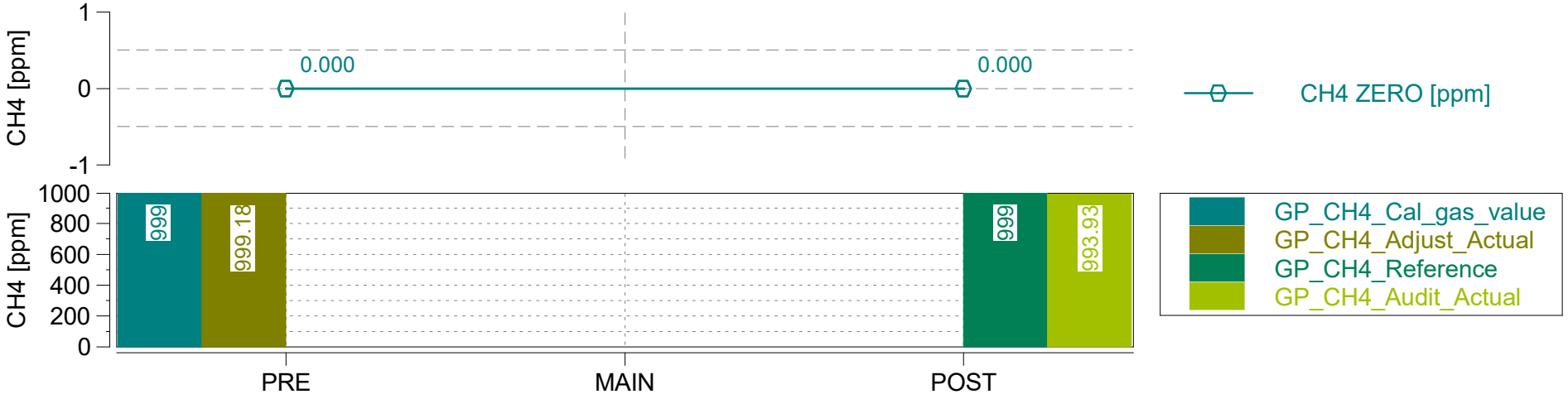
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

'W206-2518 B1 Mtn Downhill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019





Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

§	criterium	condition	value	unit	pass/fail
GAS Leak Check	The leakage rate on the vacuum side shall not exceed 0.5 per cent of the in-use flow rate for the portion of the system being checked.	The leakage rate <= 0.5%	**0.06**	**%**	pass
PN Leak Check	n/a	n/a	**n/a**	**n/a**	n/a
PM Leak Check	n/a	n/a	**n/a**	**n/a**	n/a

GAS PEMS Devices

Device ID	AVL492
Serial Number	0597
Firmware Version	V1.17
Main Test Date	2021-08-04
Leak Check Age [days]	0

Device ID	AVL4925iS
Serial Number	175
Firmware Version	1.22.0.4

EFM

Device ID	AVL495
Serial Number	00914
Serial Number Tube	01090
Firmware Version	V1.16

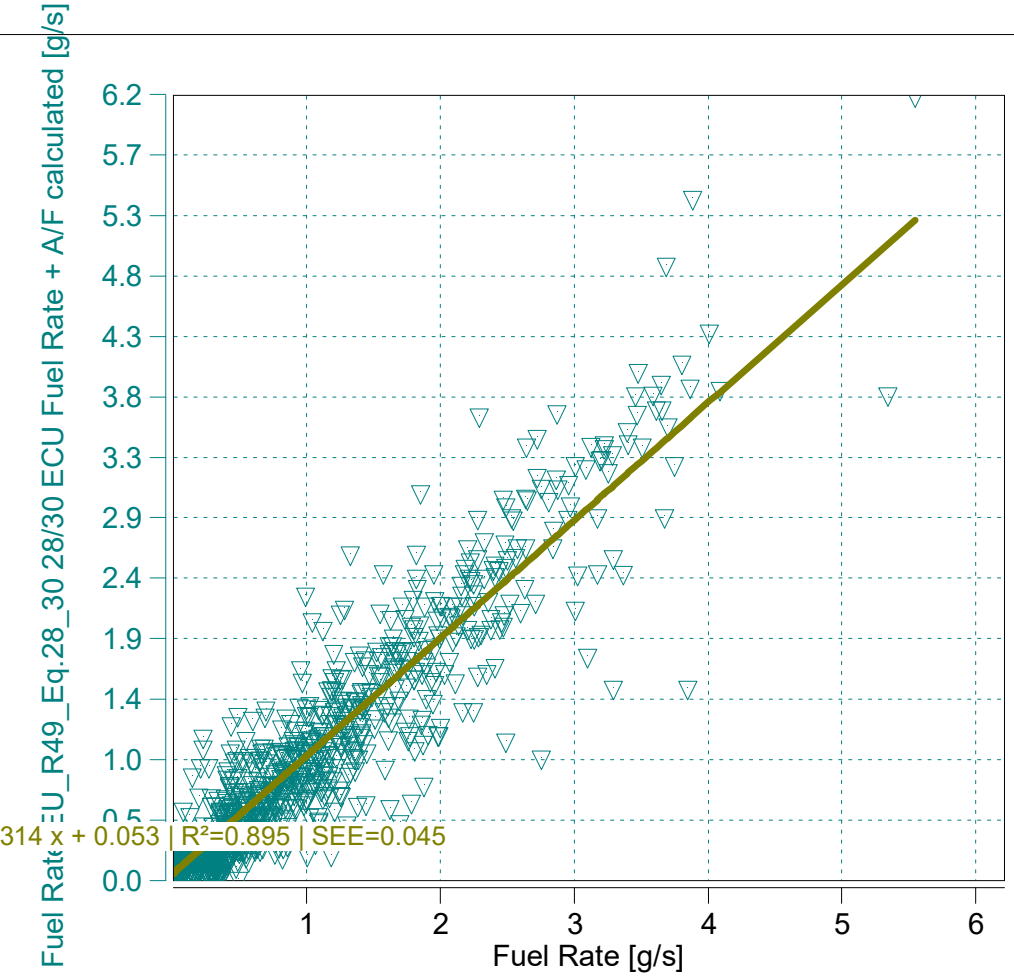
System Control

SC Version	V2.9_237
SC Serial Number	60301072

Case: W206-2518
Page: Fuel Rate ECU vs. Calculated

'W206-2518 B1 Mtn Downhill'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019



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

y = 0.9314 x + 0.053 | R²=0.895 | SEE=0.045
m = 0.93 (0.9 - 1.1 recommended)
R² = 0.90 (min 0.9 mandatory)

Data from - to [% of Maximum]

0 100

Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: Trip Summary

'W206-2518 A0 - LATC to CARB'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019

Trip Duration	2153.00	s
Trip Duration (a)	2153.00	s
Trip Distance	24.81	mi
Trip Distance (a)	24.81	mi
Trip Fuel Cons. (b)	2.37	kg
Trip Fuel Cons. (ab)	2.37	kg
Trip Fuel Cons. EU (ac)	2.26	kg
Trip Fuel Cons. US (ac)	2.23	kg
Trip Fuel Economy (b)	29.66	mpg_US
Trip Fuel Economy (ab)	29.66	mpg_US
Trip Fuel Economy EU (ac)	31.10	mpg_US
Trip Fuel Economy US (ac)	31.46	mpg_US
Trip Fuel Economy GGE (b)	29.66	mpg_US
Trip Fuel Economy GGE (ab)	29.66	mpg_US
Trip Fuel Economy EU GGE (ac)	31.10	mpg_US
Trip Fuel Economy US GGE (ac)	31.46	mpg_US
Trip Av. Eng. Speed	1423.42	rpm
Trip Av. Torque	58.31	lbft
Trip Av. Power	18.20	hp
Trip Work		
Trip Work (a)	10.88	hphr
Trip Exhaust Mass	34.98	kg
Trip Exhaust Mass EU (ac)	36.70	kg
Trip Exhaust Mass US (ac)	37.14	kg
Trip Av. Amb. Temperature	77.75	deg_F
Trip Av. Humidity	54.94	%
Trip Av. GPS Altitude	60.24	m
Fuel Type	Petrol (E10)	

ave THC	34.78017	ppm
ave NMHC	34.08457	ppm
ave CH4	0.69560	ppm
ave CO	639.49407	ppm
ave CO2	11.74043	%
ave NOx	3.52777	ppm
ave PM	n/a	mg/m3
ave Soot meas	n/a	mg/m3
ave Soot	n/a	mg/m3
ave PN	n/a	#/cm3
tot THC	0.46925	g
tot NMHC	0.43407	g
tot CH4	0.01040	g
tot CO	21.45908	g
tot CO2	6750.74412	g
tot NO (d)	0.12741	g
tot NO2	0.05813	g
tot NOx	0.18525	g
tot Soot	n/a	g
tot Soot meas	n/a	g
tot PM	n/a	g
tot PN	n/a	#
PM measurement type	0.00000	-
tot Soot on PM filter (estim.)	0.00000	mg
Soot --> PM simple scaling factor	1.00000	-
Trip Av. Veh. Speed	41.48097	mi/hr
Trip Distance Share Urban	16.78960	% distance
Trip Distance Share Rural	20.81086	% distance
Trip Distance Share Motorway	62.39954	% distance

BS CO2	620.24420	g/hphr
BS CO	1.97162	g/hphr
BS THC	0.04311	g/hphr
BS NMHC	0.03988	g/hphr
BS CH4	0.00096	g/hphr
BS NO (d)	0.01171	g/hphr
BS NO2	0.00534	g/hphr
BS NOx	0.01702	g/hphr
BS Soot	n/a	g/hphr
BS Soot meas	n/a	g/hphr
BS PM	n/a	g/hphr
BS PN	n/a	#/hpr
DS CO2	272.12050	g/mi
DS CO	0.86501	g/mi
DS THC	0.01892	g/mi
DS NMHC	0.01750	g/mi
DS CH4	0.00042	g/mi
DS NO (d)	0.00514	g/mi
DS NO2	0.00234	g/mi
DS NOx	0.00747	g/mi
DS Soot	n/a	g/mi
DS Soot meas	n/a	g/mi
DS PM	n/a	g/mi
DS PN	n/a	#/mi
FS CO2	2852.18304	g/kg
FS CO	9.06644	g/kg
FS THC	0.19826	g/kg
FS NMHC	0.18339	g/kg
FS CH4	0.00439	g/kg
FS NO (d)	0.05383	g/kg
FS NO2	0.02456	g/kg
FS NOx	0.07827	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: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: Trip Summary Drift Corrected

'W206-2518 A0 - LATC to CARB'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019

Trip Duration	2153.00	s
Trip Duration (a)	2153.00	s
Trip Distance	24.81	mi
Trip Distance (a)	24.81	mi
Trip Fuel Cons. (b)	2.37	kg
Trip Fuel Cons. (ab)	2.37	kg
Trip Fuel Cons. EU (ac)	2.26	kg
Trip Fuel Cons. US (ac)	2.23	kg
Trip Fuel Economy (b)	29.66	mpg_US
Trip Fuel Economy (ab)	29.66	mpg_US
Trip Fuel Economy EU (ac)	31.10	mpg_US
Trip Fuel Economy US (ac)	31.46	mpg_US
Trip Fuel Economy GGE (b)	29.66	mpg_US
Trip Fuel Economy GGE (ab)	29.66	mpg_US
Trip Fuel Economy EU GGE (ac)	31.10	mpg_US
Trip Fuel Economy US GGE (ac)	31.46	mpg_US
Trip Av. Eng. Speed	1423.42	rpm
Trip Av. Torque	58.31	lbft
Trip Av. Power	18.20	hp
Trip Work		
Trip Work (a)	10.88	hphr
Trip Exhaust Mass	34.98	kg
Trip Exhaust Mass EU (ac)	36.70	kg
Trip Exhaust Mass US (ac)	37.14	kg
Trip Av. Amb. Temperature	77.75	deg_F
Trip Av. Humidity	54.94	%
Trip Av. GPS Altitude	60.24	m
Fuel Type	Petrol (E10)	

ave THC DC	35.02177	ppm
ave NMHC DC	34.32134	ppm
ave CH4 DC	0.70044	ppm
ave CO DC	646.11236	ppm
ave CO2 DC	11.75570	%
ave NOx DC	3.53016	ppm
ave PM	n/a	mg/m3
ave Soot meas	n/a	mg/m3
ave Soot	n/a	mg/m3
ave PN DC		
tot THC DC	0.47251	g
tot NMHC DC	0.43708	g
tot CH4 DC	0.01047	g
tot CO DC	21.68117	g
tot CO2 DC	6759.52272	g
tot NO DC (d)	0.12747	g
tot NO2 DC	0.05819	g
tot NOx DC	0.18538	g
tot Soot	n/a	g
tot Soot meas	n/a	g
tot PM	n/a	g
tot PN DC		
PM measurement type	0.00000	-
tot Soot on PM filter (estim.)	0.00000	mg
Soot --> PM simple scaling factor	1.00000	-
Trip Av. Veh. Speed	41.48097	mi/hr
Trip Distance Share Urban	16.78960	% distance
Trip Distance Share Rural	20.81086	% distance
Trip Distance Share Motorway	62.39954	% distance

BS CO2 DC	621.05076	g/hphr
BS CO DC	1.99202	g/hphr
BS THC DC	0.04341	g/hphr
BS NMHC DC	0.04016	g/hphr
BS CH4 DC	0.00096	g/hphr
BS NO DC (d)	0.01171	g/hphr
BS NO2 DC	0.00535	g/hphr
BS NOx DC	0.01703	g/hphr
BS Soot	n/a	g/hphr
BS Soot meas	n/a	g/hphr
BS PM	n/a	g/hphr
BS PN DC		
DS CO2 DC	272.47436	g/mi
DS CO DC	0.87396	g/mi
DS THC DC	0.01905	g/mi
DS NMHC DC	0.01762	g/mi
DS CH4 DC	0.00042	g/mi
DS NO DC (d)	0.00514	g/mi
DS NO2 DC	0.00235	g/mi
DS NOx DC	0.00747	g/mi
DS Soot	n/a	g/mi
DS Soot meas	n/a	g/mi
DS PM	n/a	g/mi
DS PN DC		
FS CO2 DC	2855.89199	g/kg
FS CO DC	9.16027	g/kg
FS THC DC	0.19964	g/kg
FS NMHC DC	0.18467	g/kg
FS CH4 DC	0.00442	g/kg
FS NO DC (d)	0.05386	g/kg
FS NO2 DC	0.02459	g/kg
FS NOx DC	0.07832	g/kg
FS Soot	n/a	g/kg
FS Soot meas	n/a	g/kg
FS PM	n/a	g/kg
FS PN DC		

(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: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

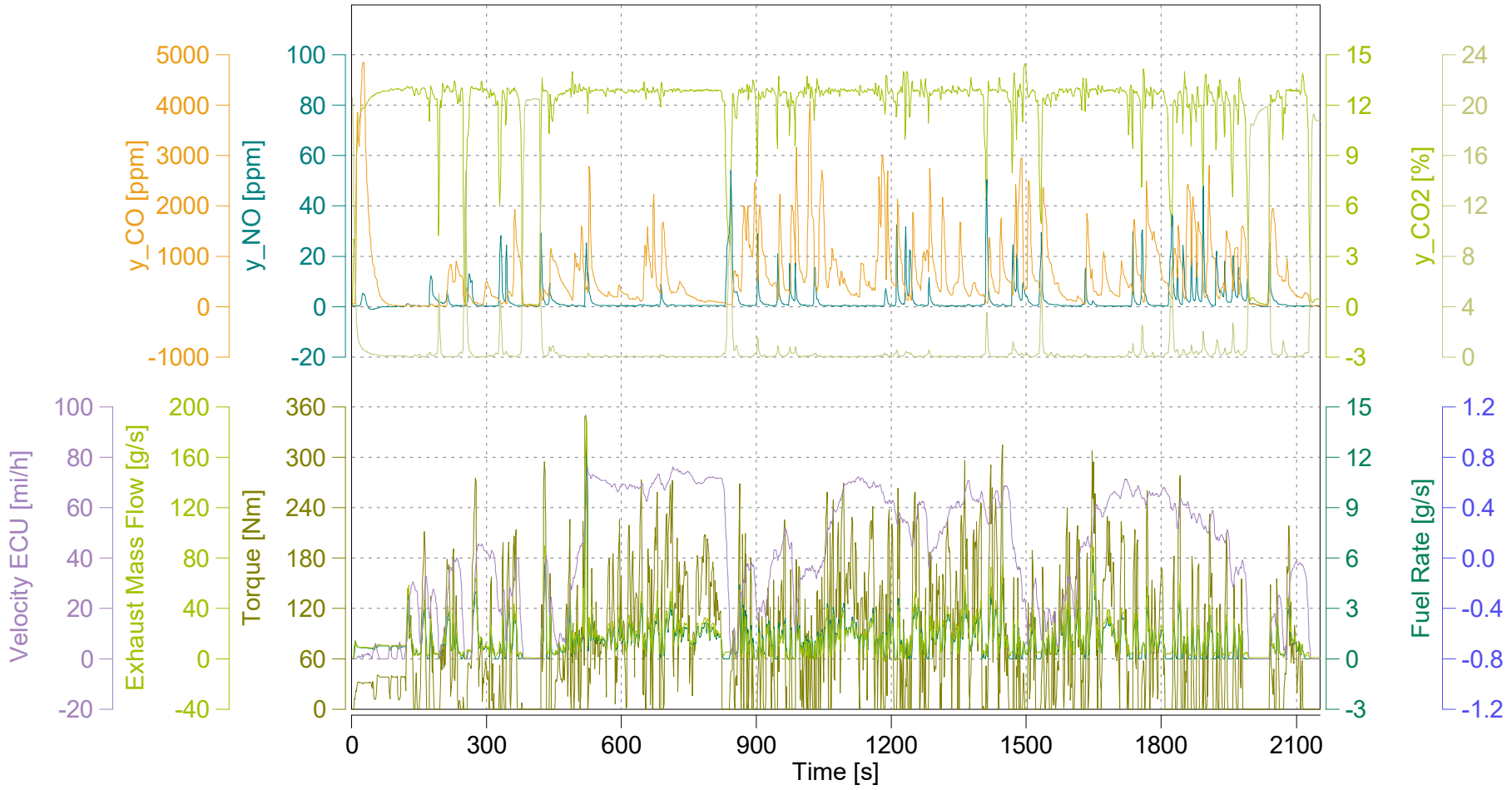
Case: W206-2518
Page: Time Alignment Check

'W206-2518 A0 - LATC to CARB'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto

Absolute Time

y_THC
y_NO
y_CO2
y_O2
c_Soot
Fuel Rate
Exhaust Mass
Torque
Velocity ECU



AVL 492 Defa

THC
NO/NO2
CO/CO2
O2

Apply Defa

Alignment Plo

Reset Time
Reset Al
Apply Curr

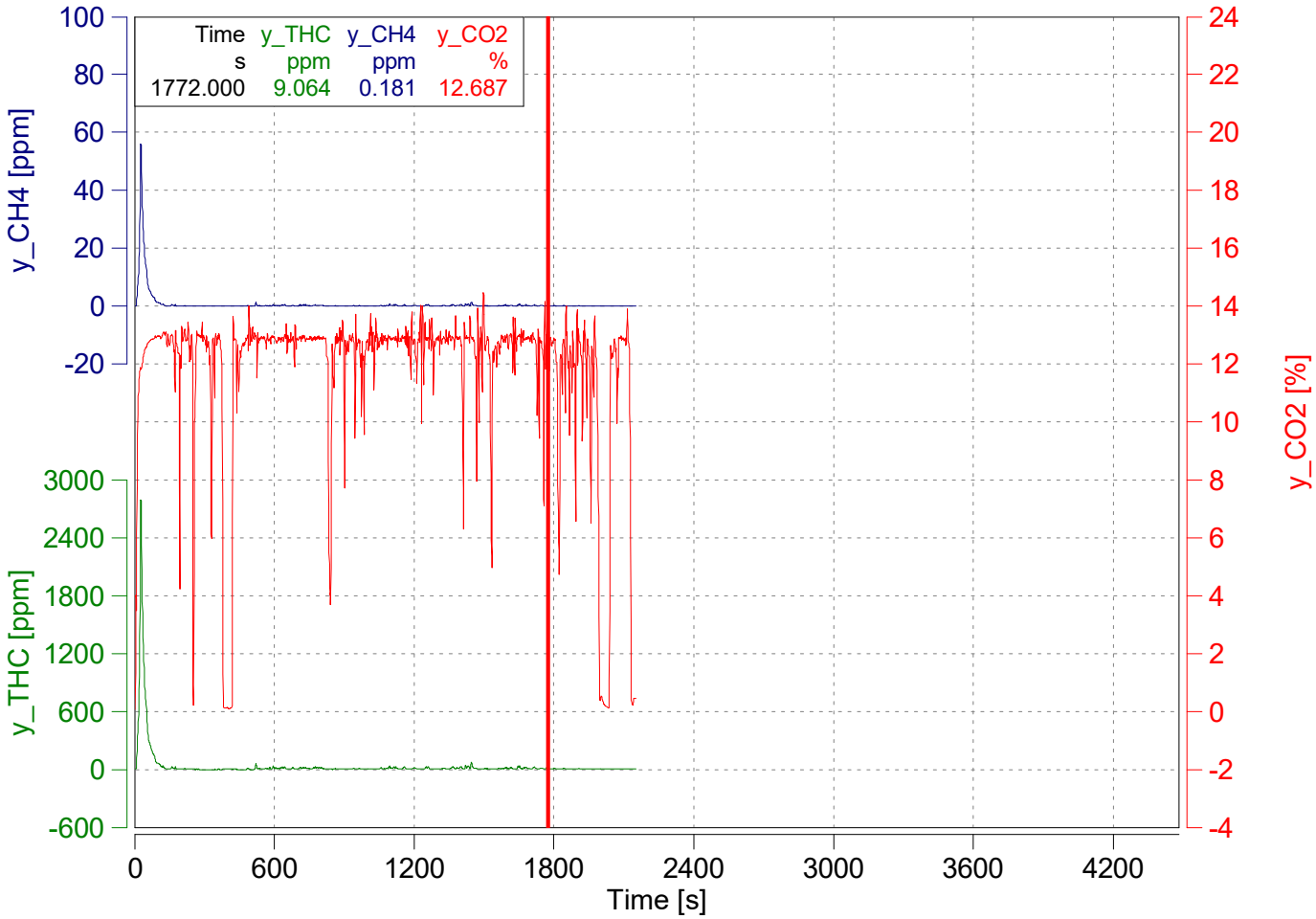
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: Time Alignment of Gas Concentrations

'W206-2518 A0 - LATC to CARB'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019



Absolute Time Shifts

y_THC	s	-4.3
y_CH4	s	-6.3

Reset Time Shifts in Plot

Apply Current Values

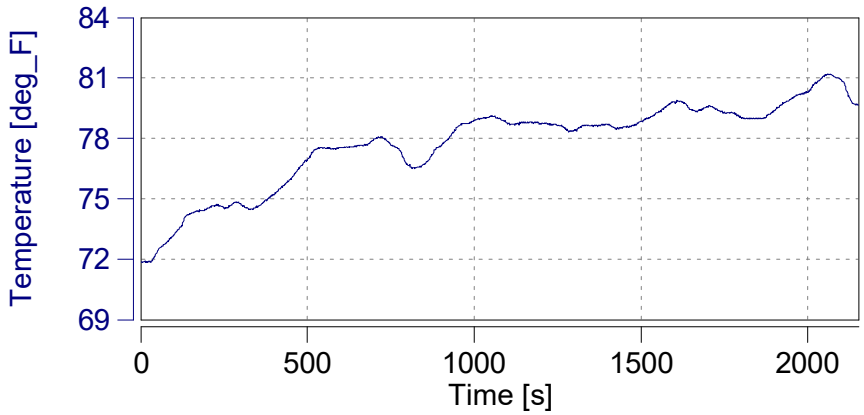
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

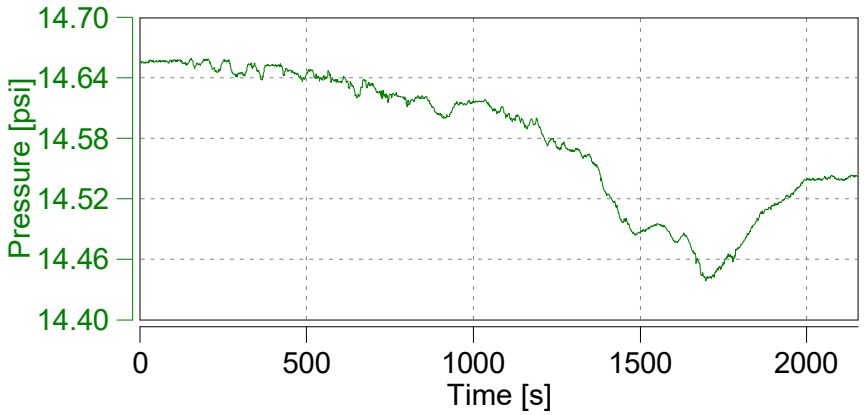
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

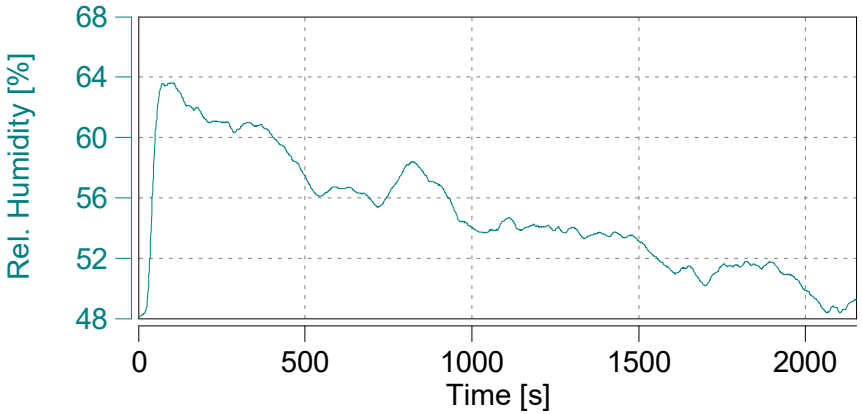
Case: W206-2518
Page: Ambient Conditions

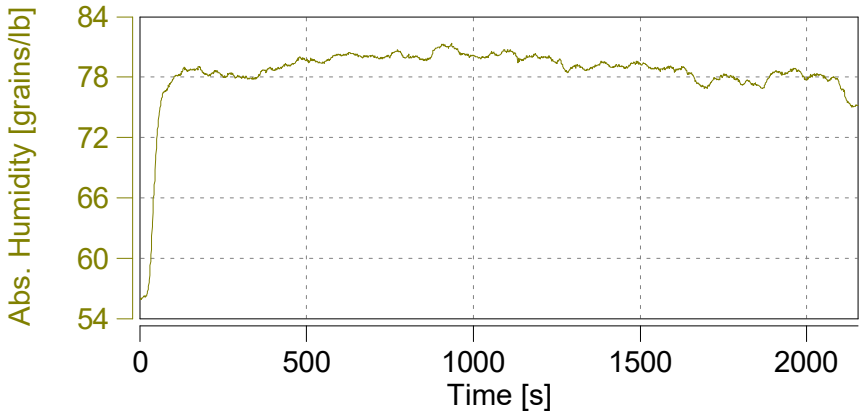
'W206-2518 A0 - LATC to CARB'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019









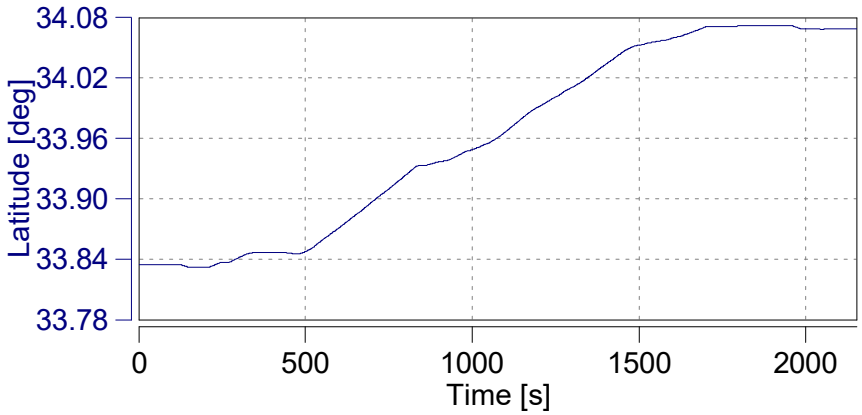
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

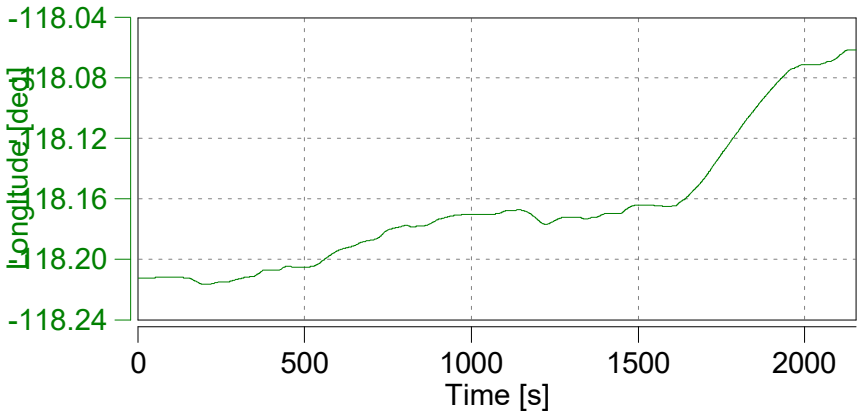
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

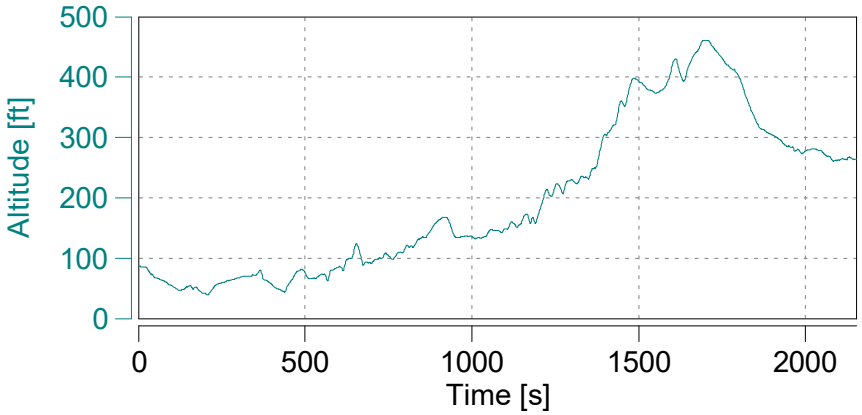
Case: W206-2518
Page: GPS

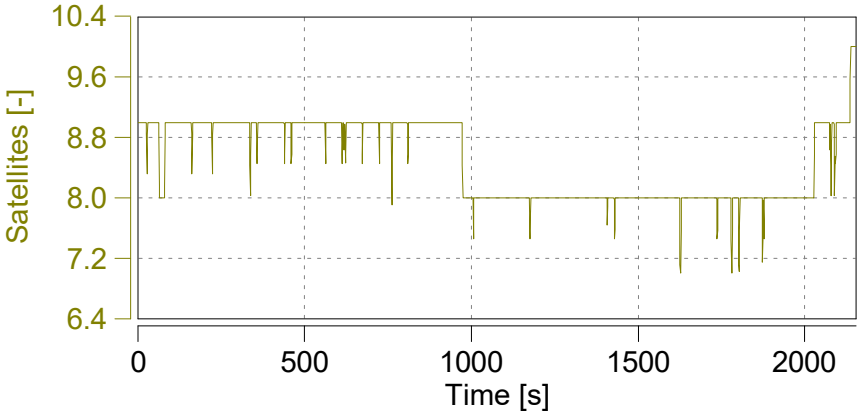
'W206-2518 A0 - LATC to CARB'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019









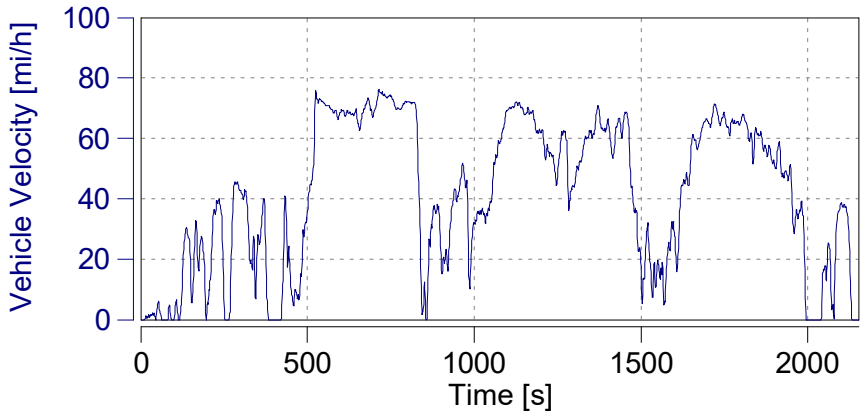
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

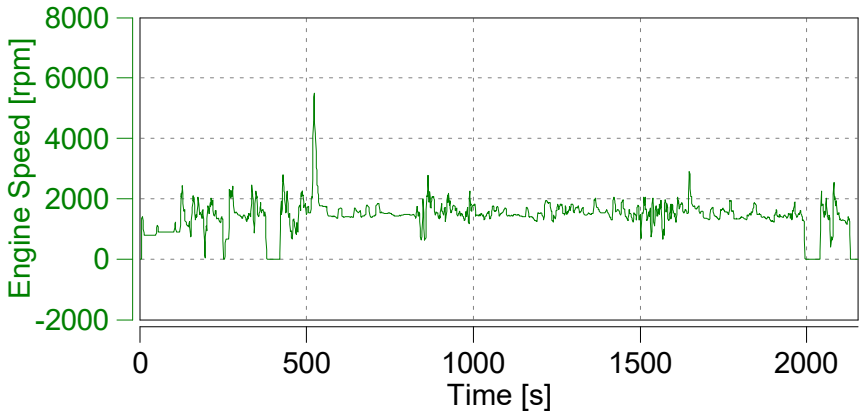
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

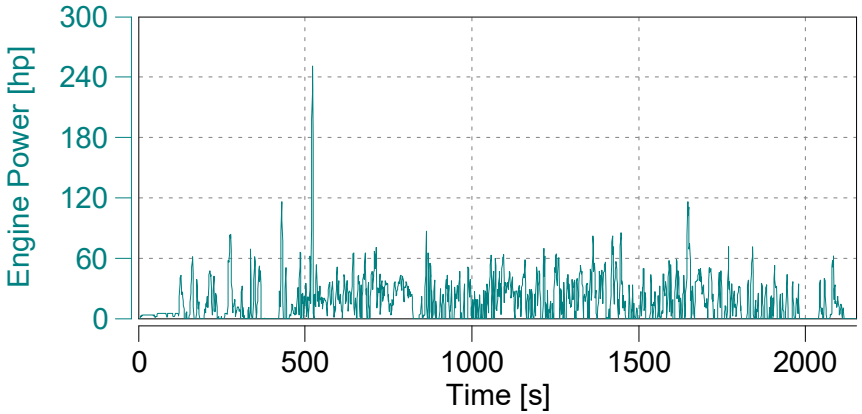
Case: W206-2518
Page: Engine (1)

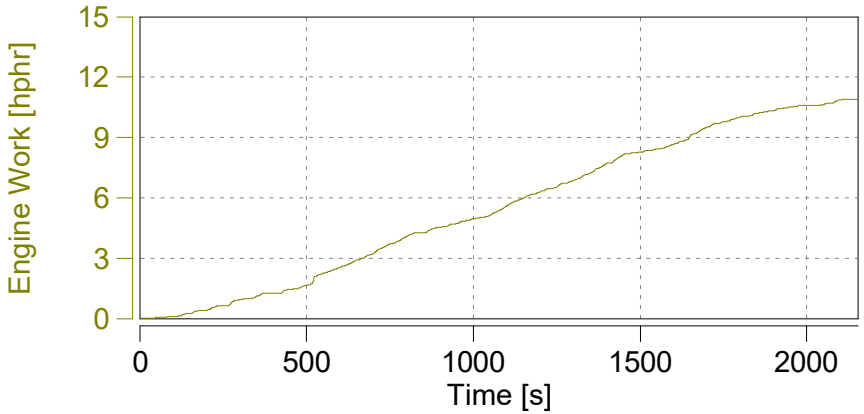
'W206-2518 A0 - LATC to CARB'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019





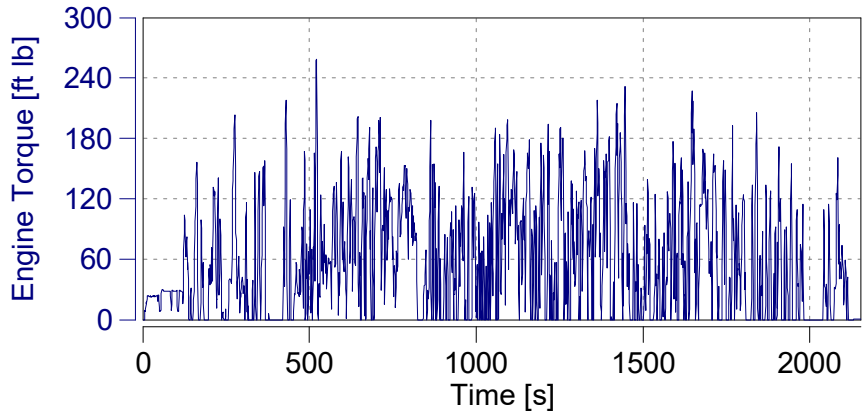


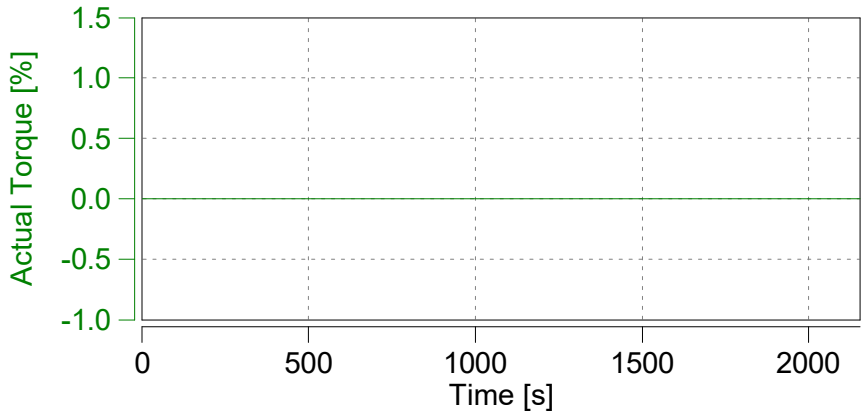


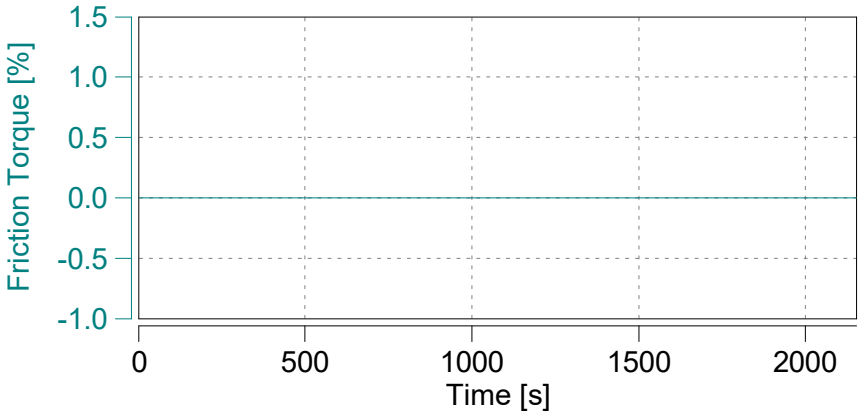
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

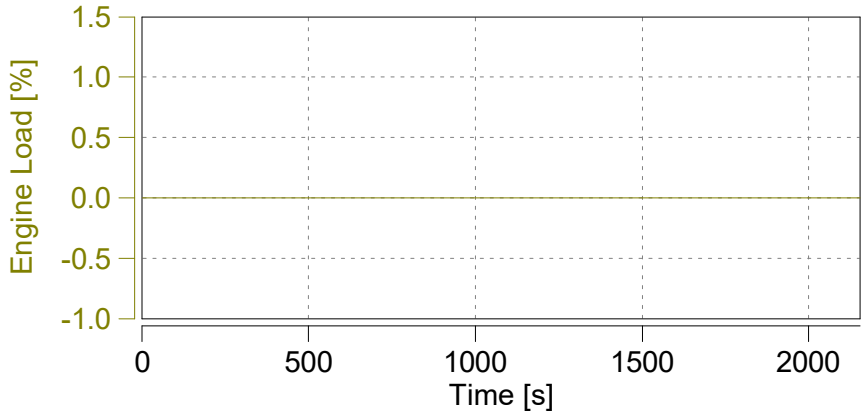
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

'W206-2518 A0 - LATC to CARB'
Start Date: 08/04/2021
Start Time: 08:08:03.0

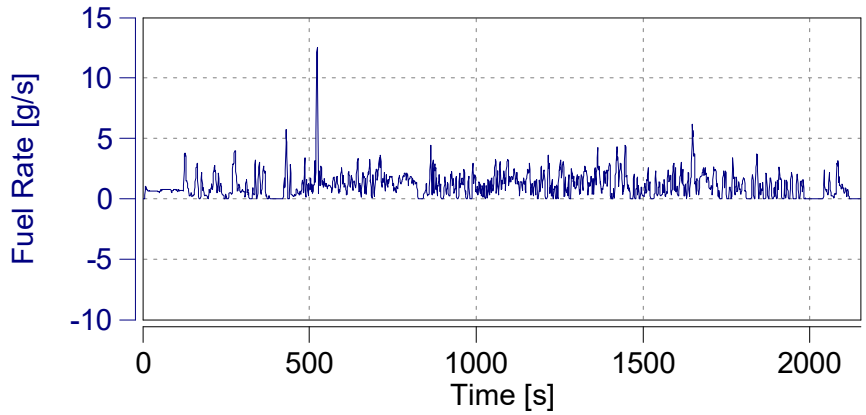


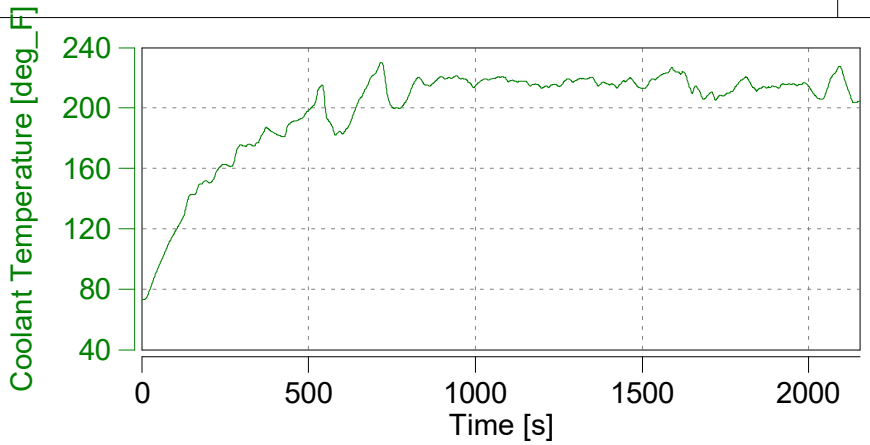


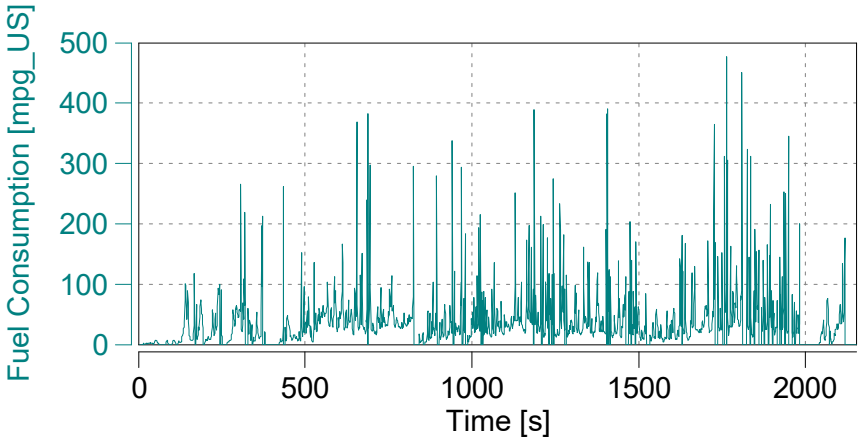


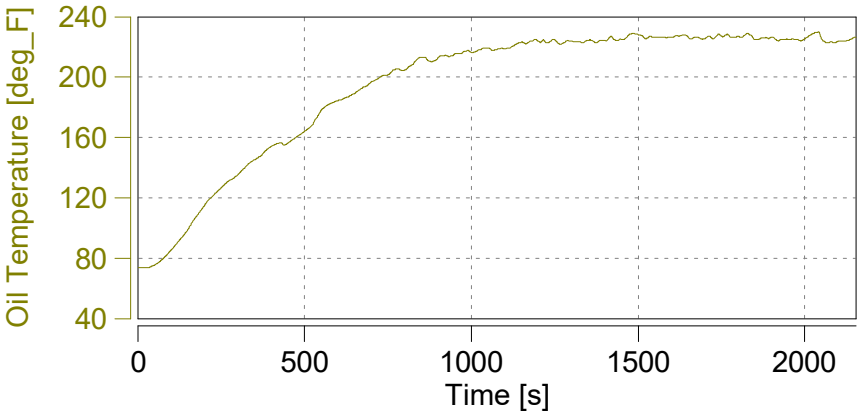


'W206-2518 A0 - LATC to CARB'
Start Date: 08/04/2021
Start Time: 08:08:03.0





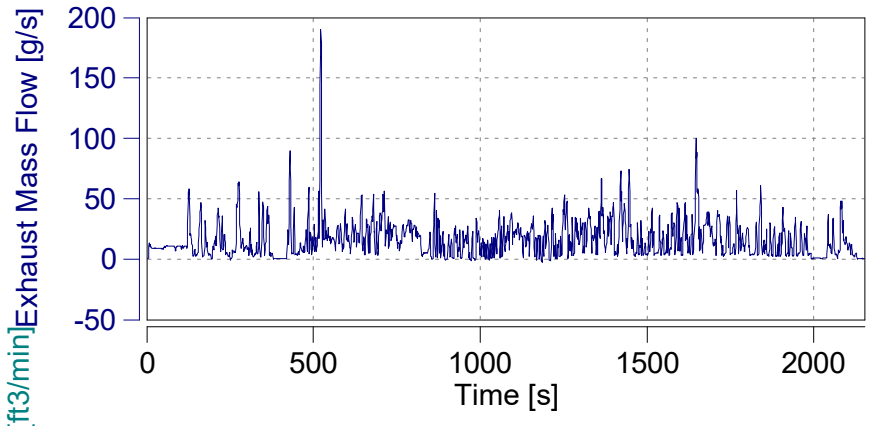


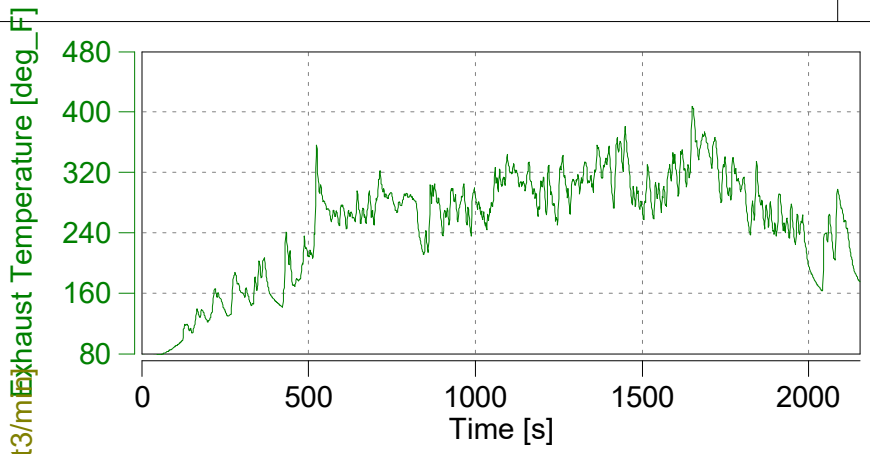


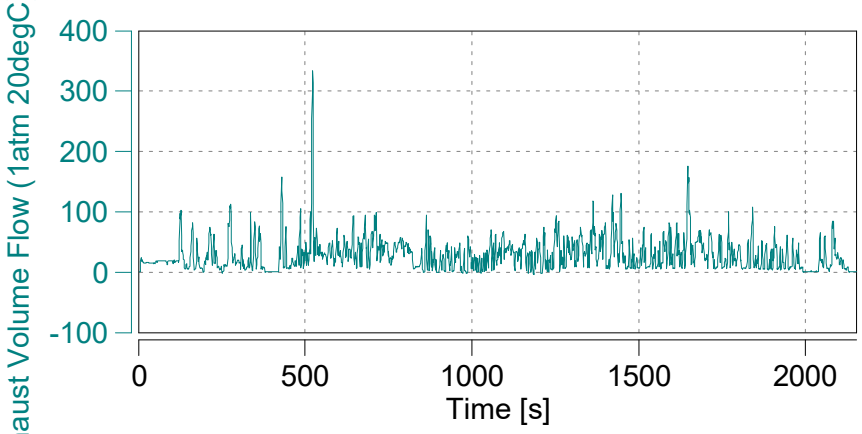
Case: W206-2518
Page: Exhaust Flow (1)

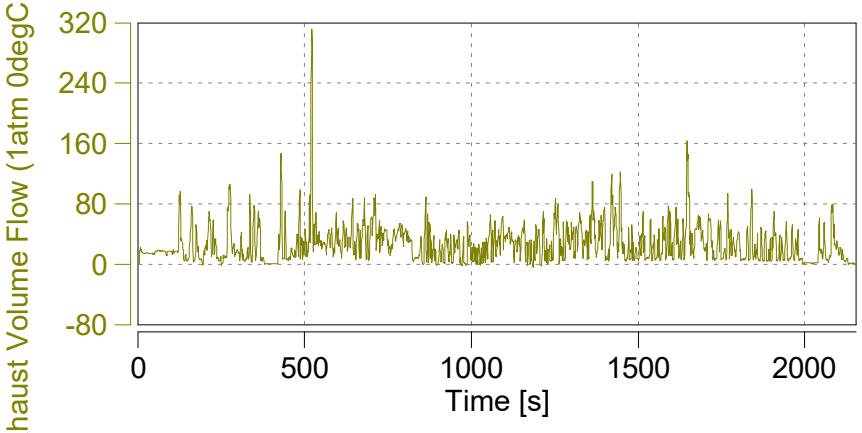
'W206-2518 A0 - LATC to CARB'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019









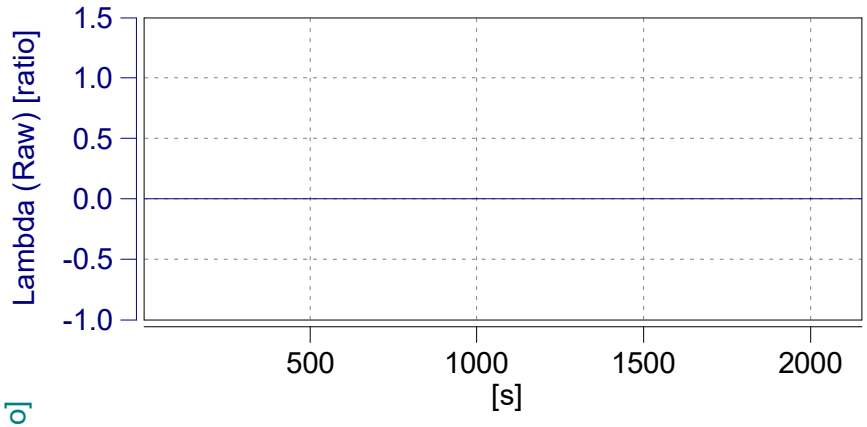
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

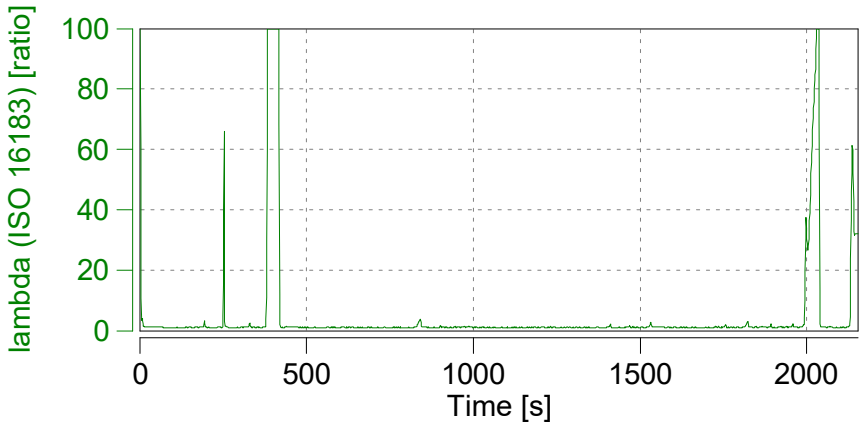
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

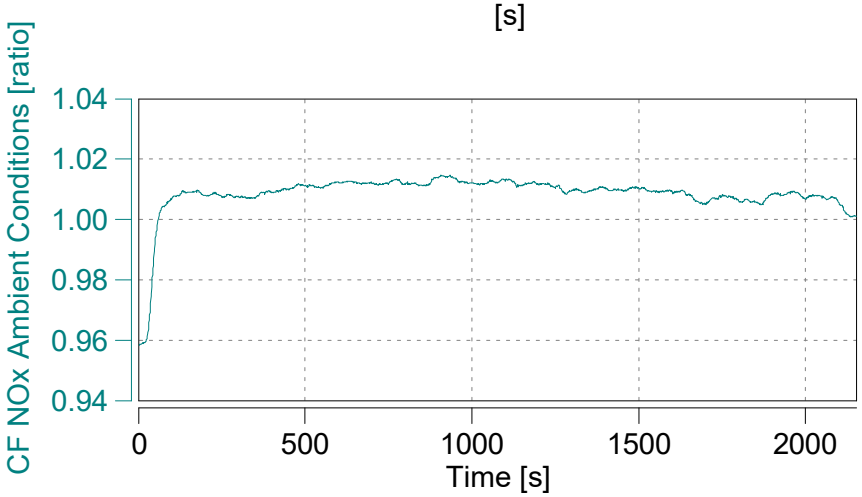
Case: W206-2518
Page: Exhaust Flow (2)

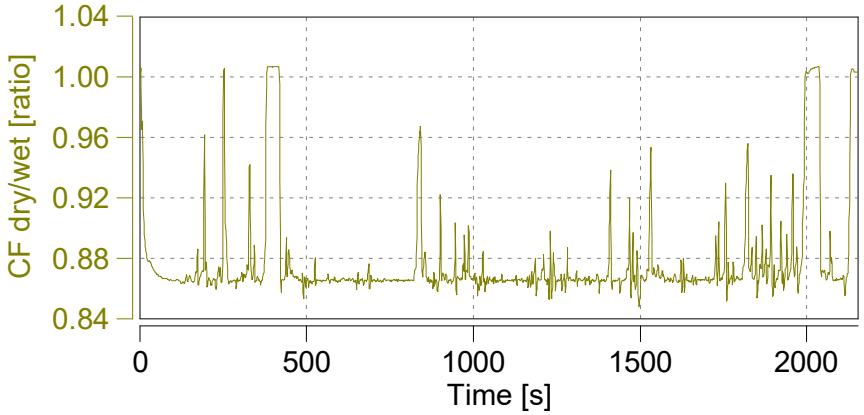
'W206-2518 A0 - LATC to CARB'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019









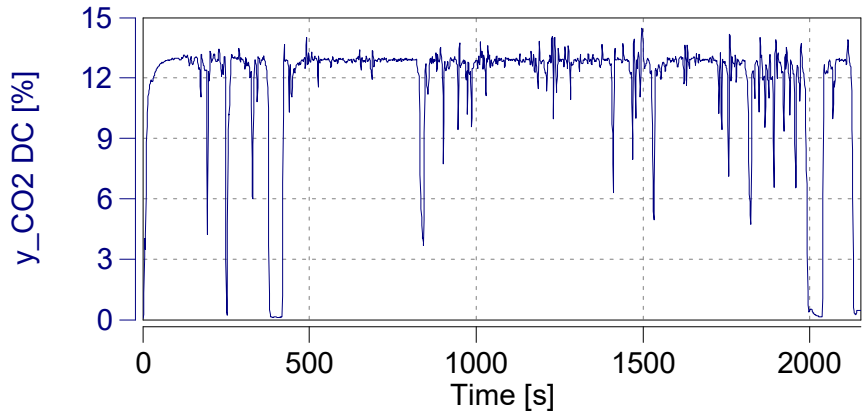
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

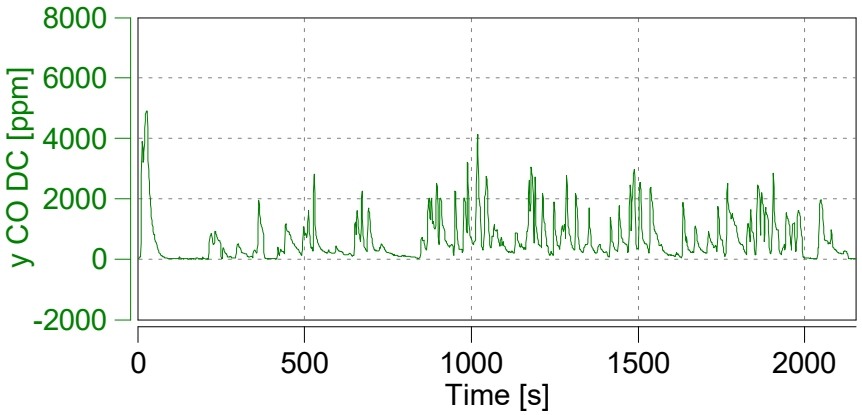
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

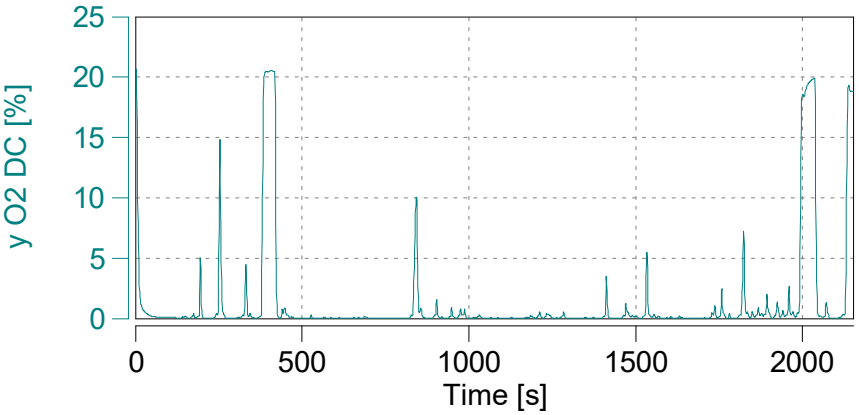
Case: W206-2518
Page: Corrected Emissions (1)

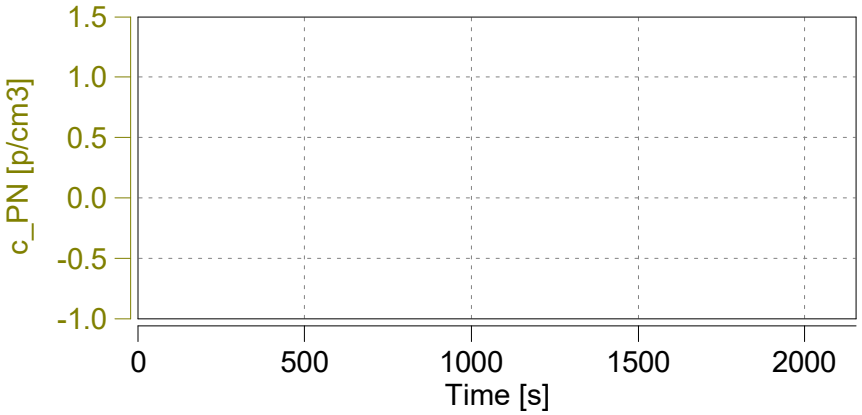
'W206-2518 A0 - LATC to CARB'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019









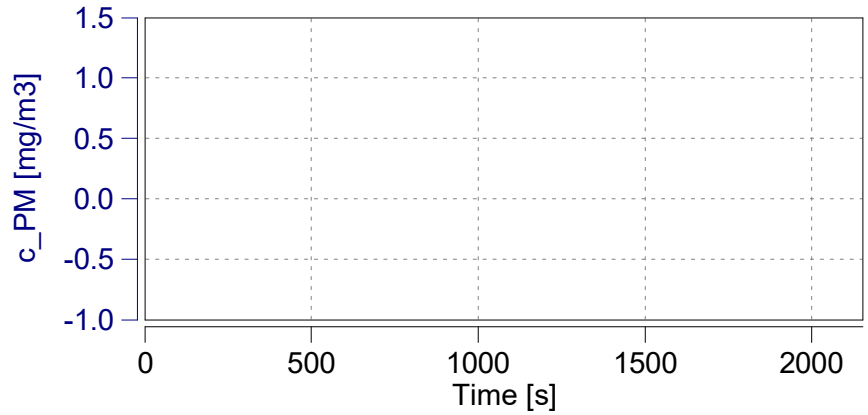
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

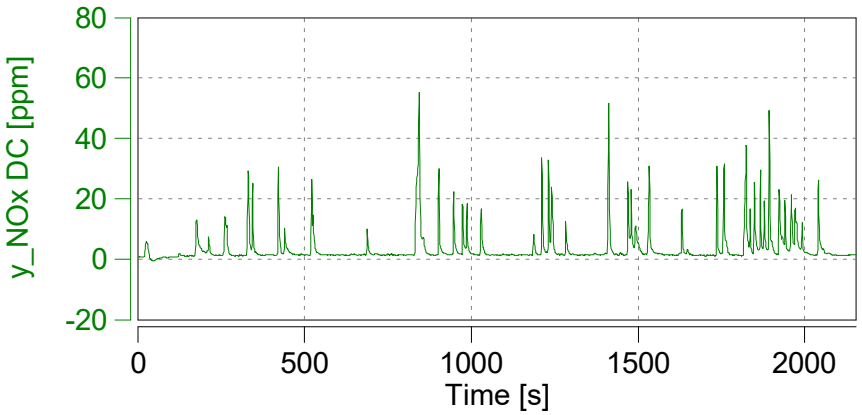
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

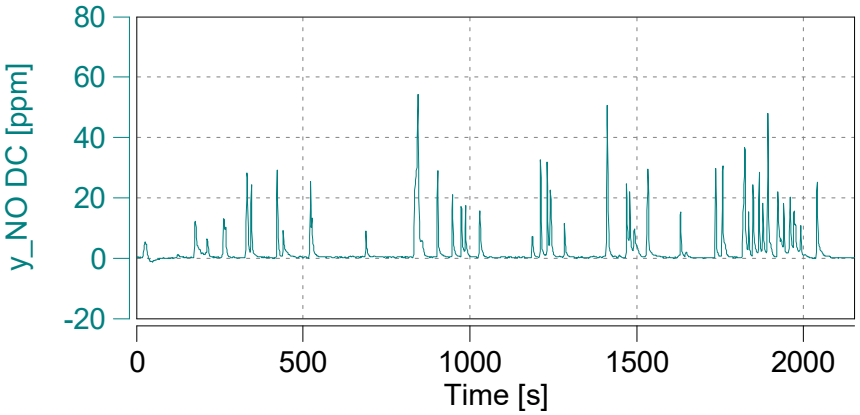
Case: W206-2518
Page: Corrected Emissions (2)

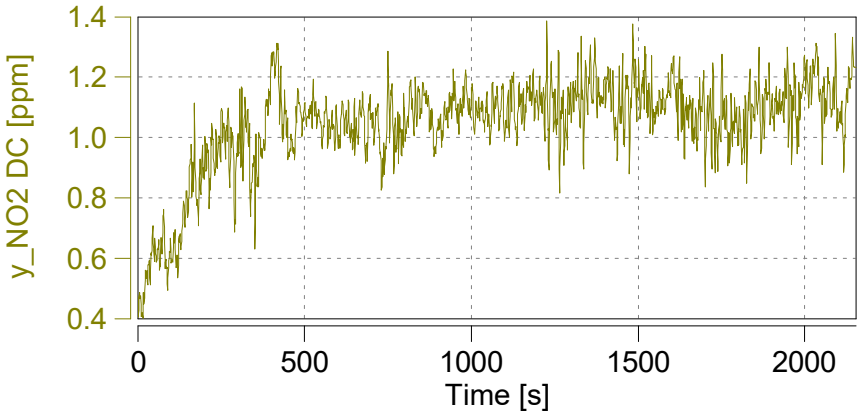
'W206-2518 A0 - LATC to CARB'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019









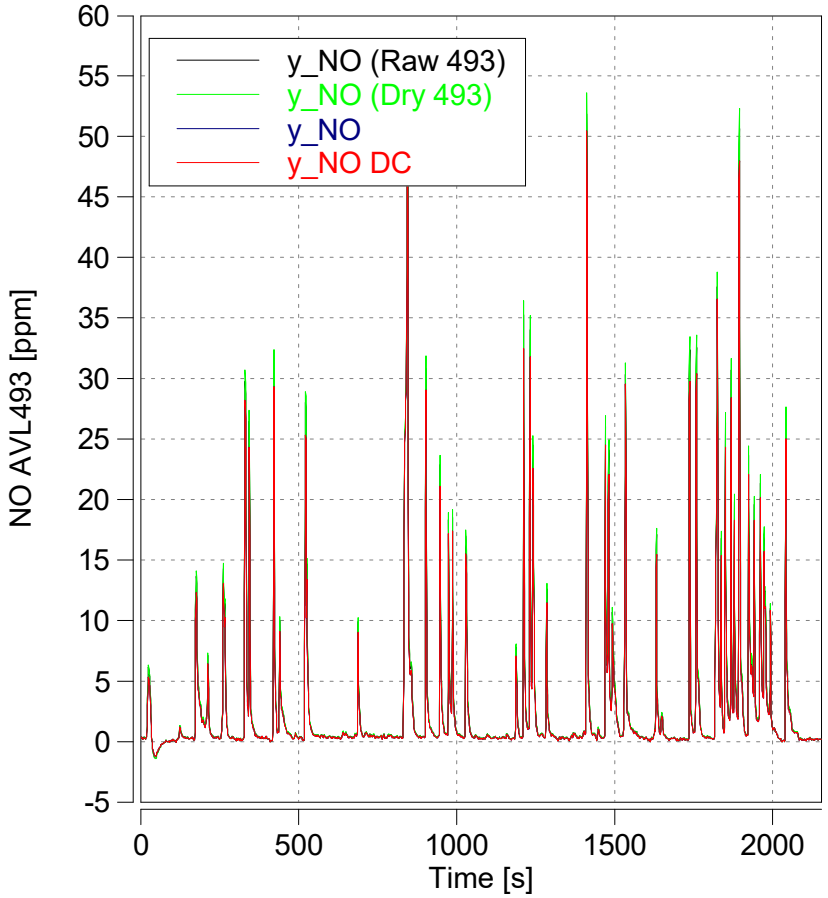
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

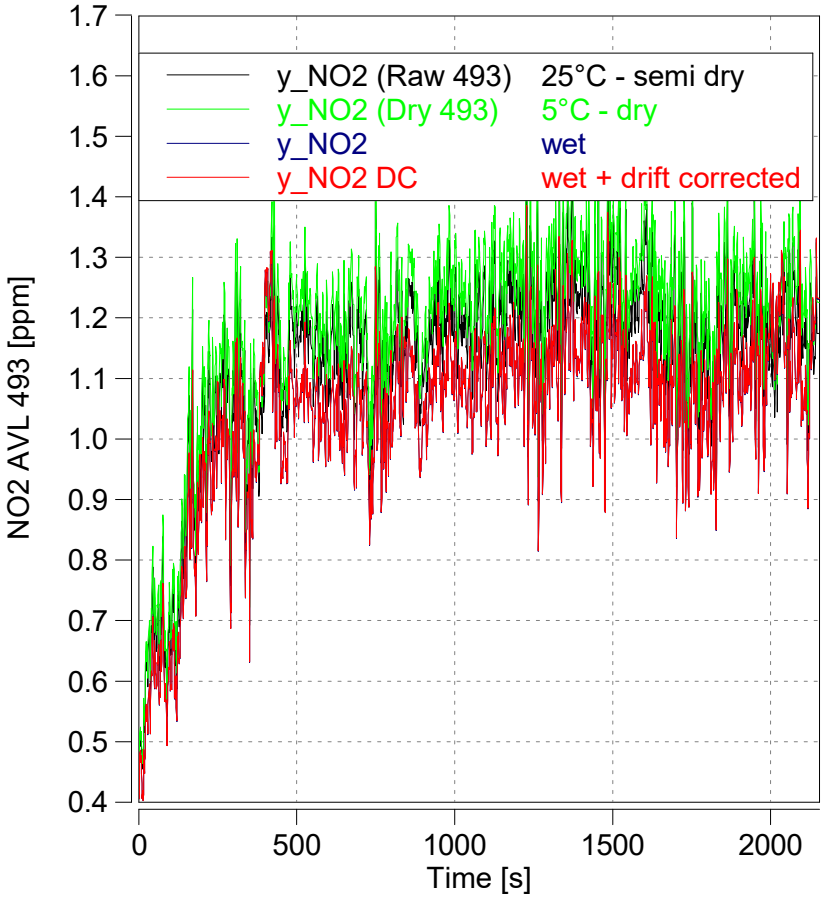
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: Corrected Emissions (3)

'W206-2518 A0 - LATC to CARB'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019

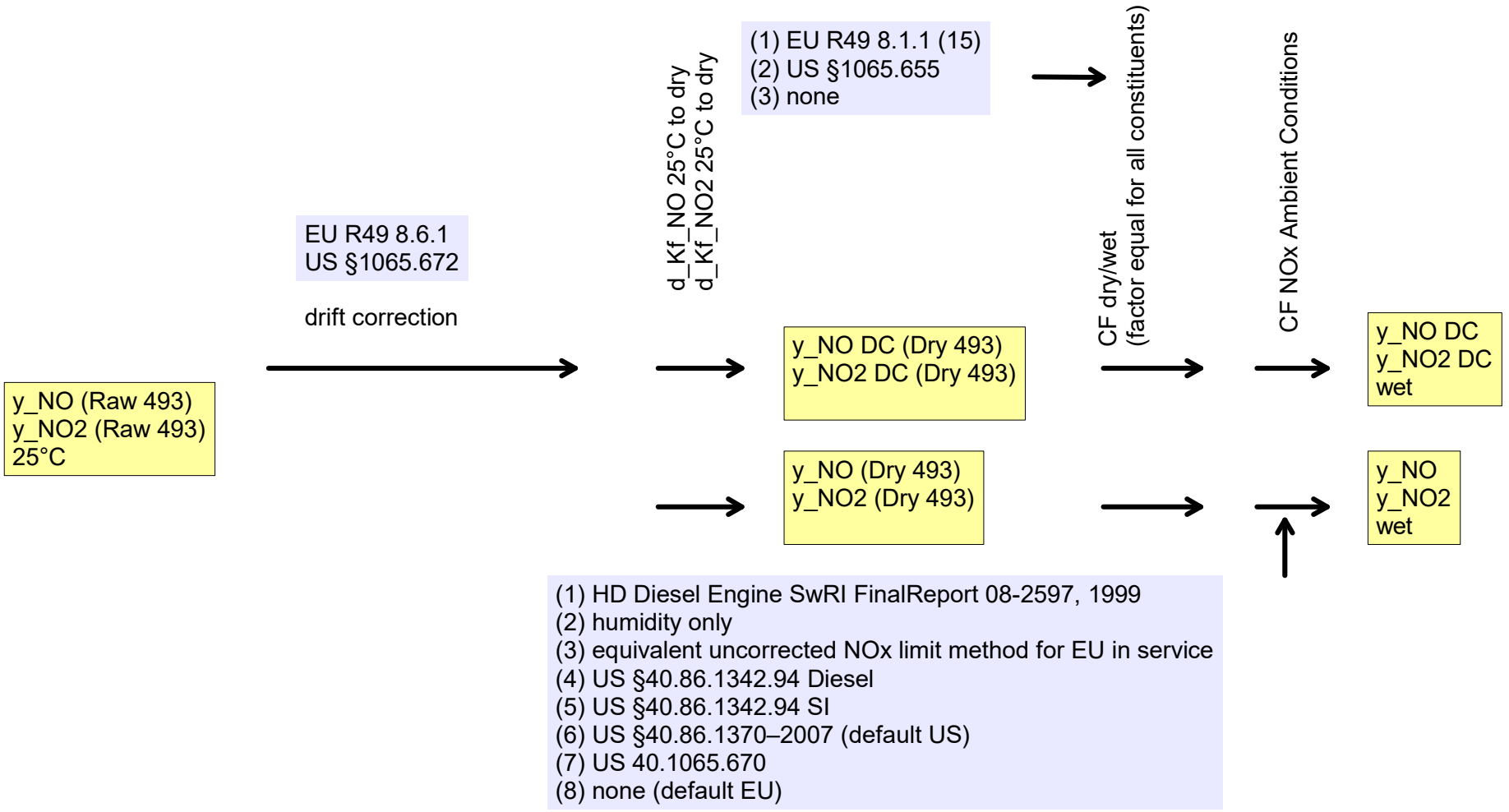




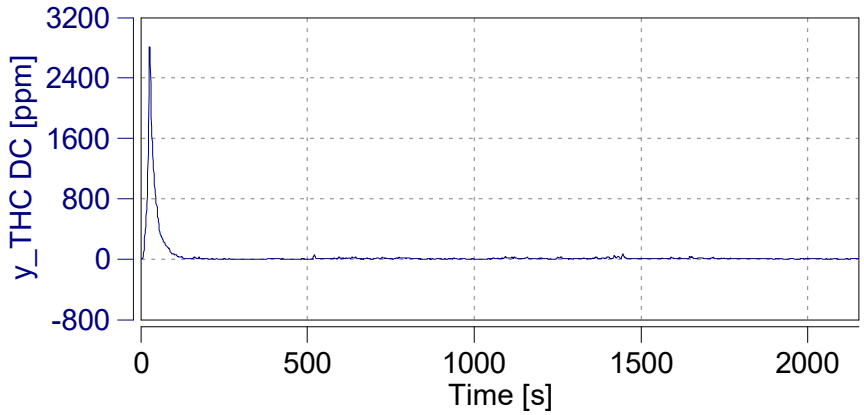
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

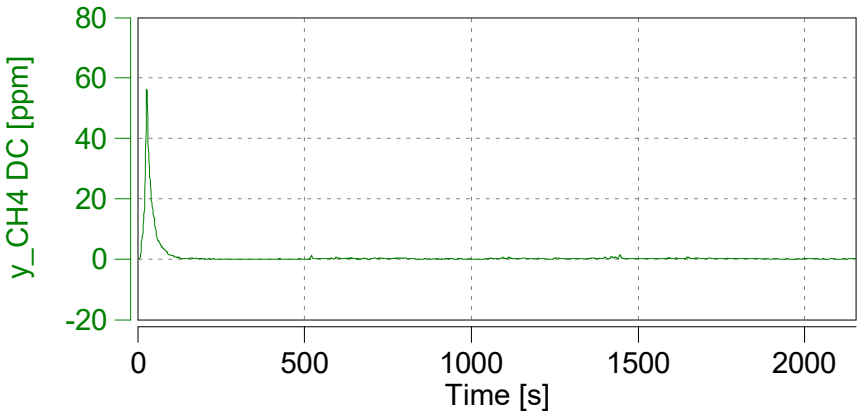
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

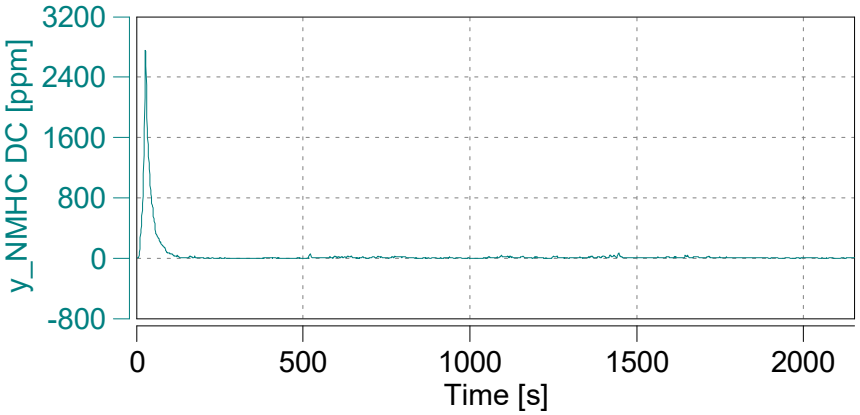
NOx - AVL 493


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)

'W206-2518 A0 - LATC to CARB'
Start Date: 08/04/2021
Start Time: 08:08:03.0



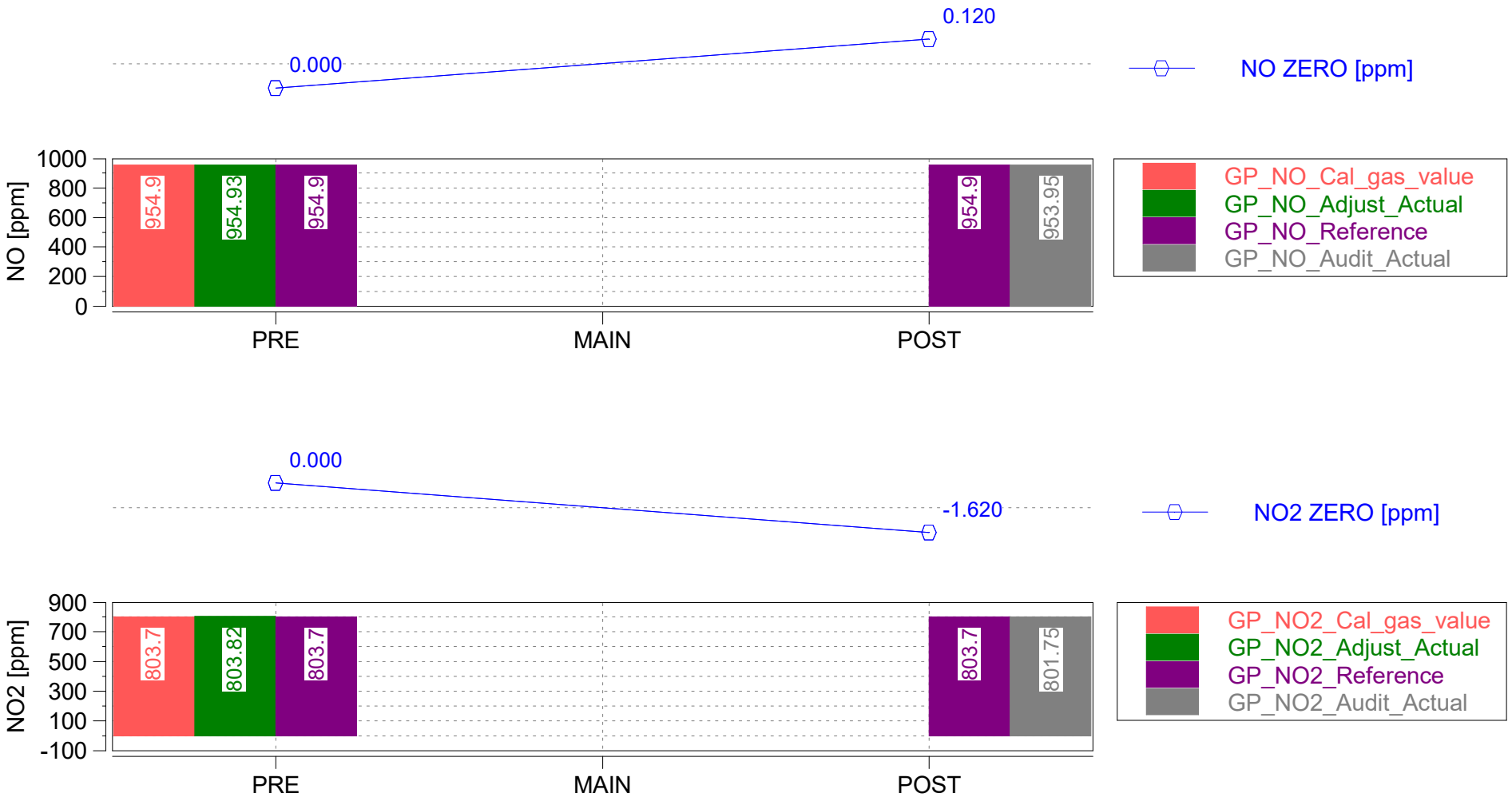




Case: W206-2518
Page: NO/NO2/NOx Zero - Span

'W206-2518 A0 - LATC to CARB'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019



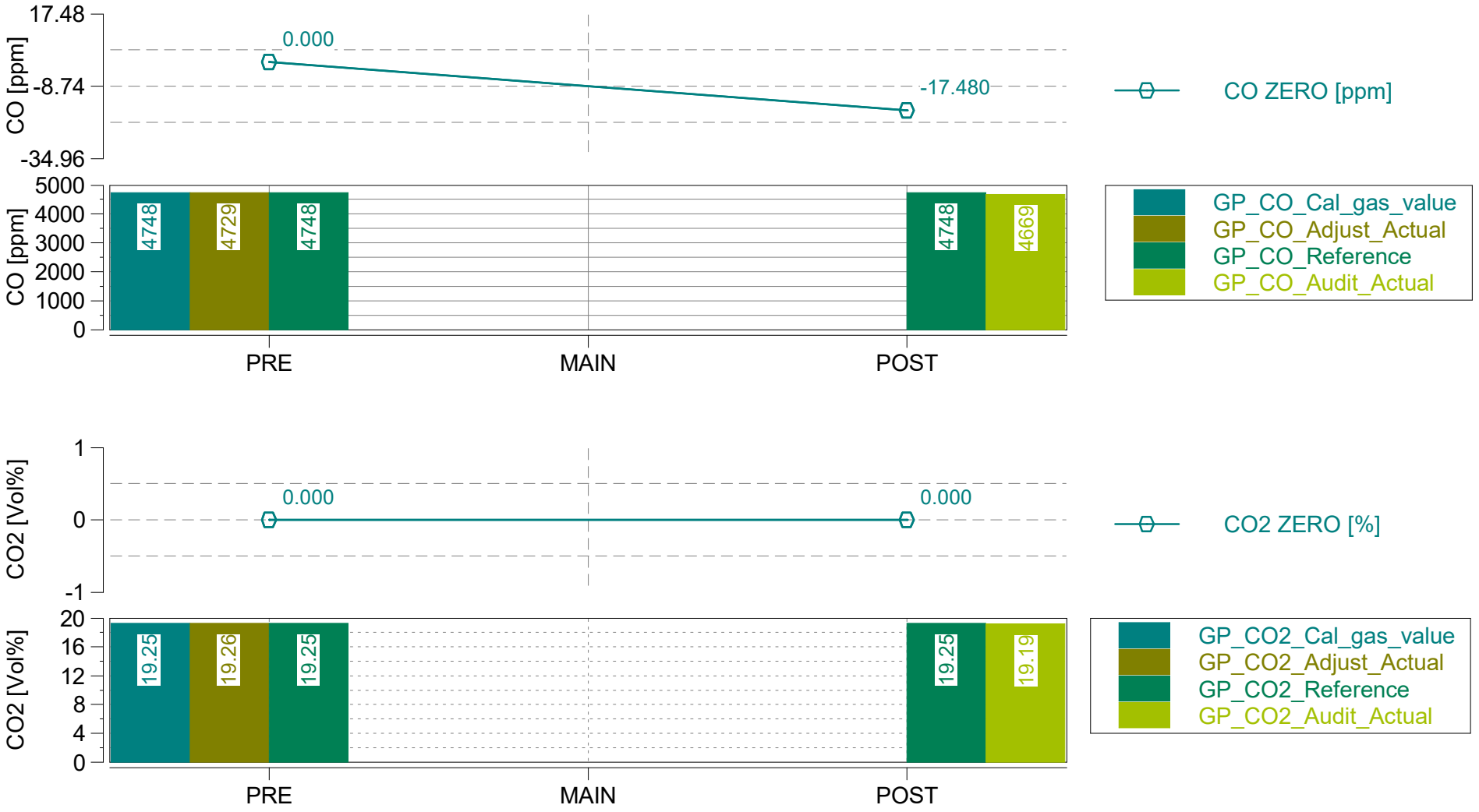
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: CO/CO2 Zero - Span

'W206-2518 A0 - LATC to CARB'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019



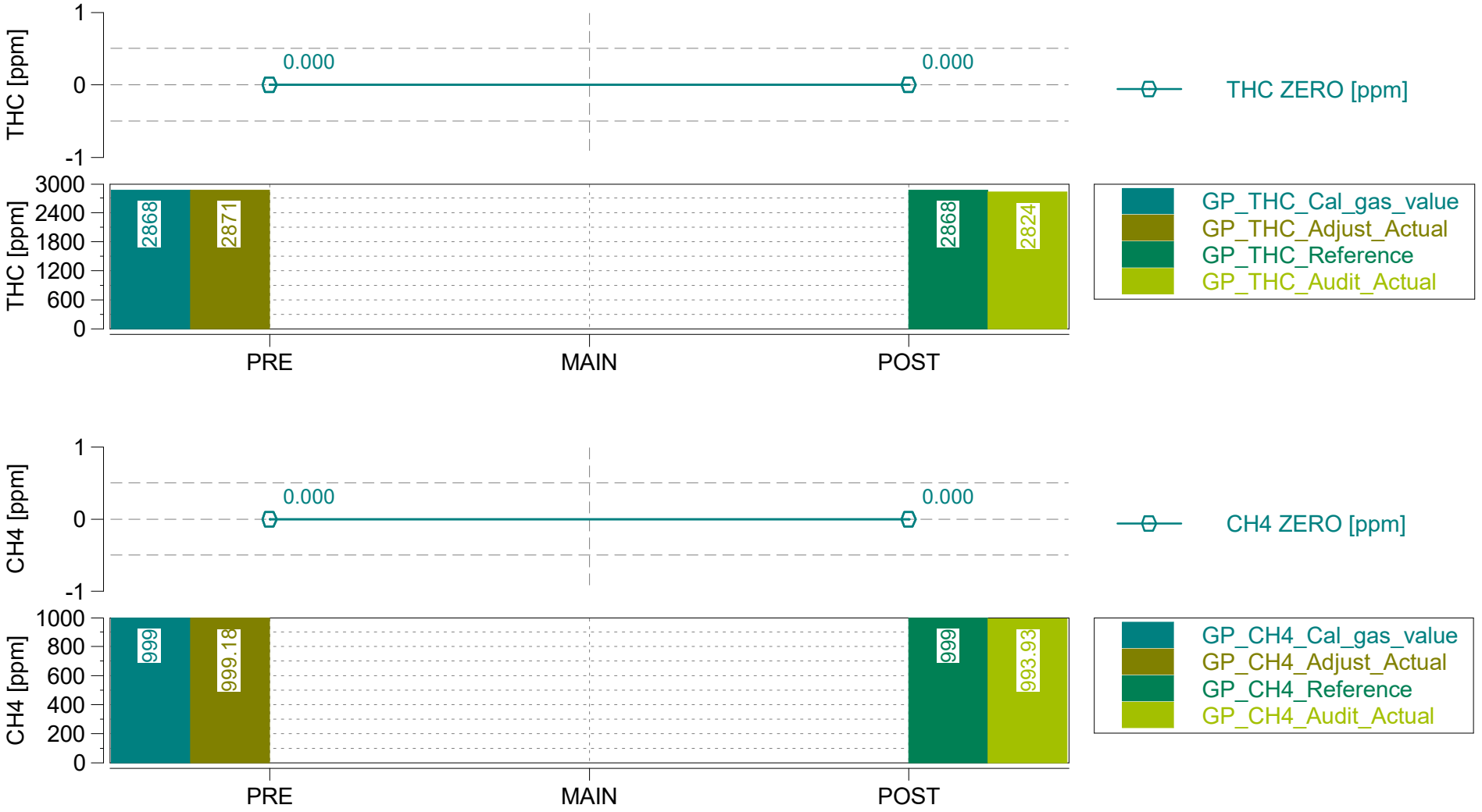
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: THC/CH4 Zero - Span

'W206-2518 A0 - LATC to CARB'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019



Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

§	criterium	condition	value	unit	pass/fail
GAS Leak Check	The leakage rate on the vacuum side shall not exceed 0.5 per cent of the in-use flow rate for the portion of the system being checked.	The leakage rate <= 0.5%	**0.06**	**%**	pass
PN Leak Check	n/a	n/a	**n/a**	**n/a**	n/a
PM Leak Check	n/a	n/a	**n/a**	**n/a**	n/a

GAS PEMS Devices

Device ID	AVL492
Serial Number	0597
Firmware Version	V1.17
Main Test Date	2021-08-04
Leak Check Age [days]	0

Device ID	AVL4925iS
Serial Number	175
Firmware Version	1.22.0.4

EFM

Device ID	AVL495
Serial Number	00914
Serial Number Tube	01090
Firmware Version	V1.16

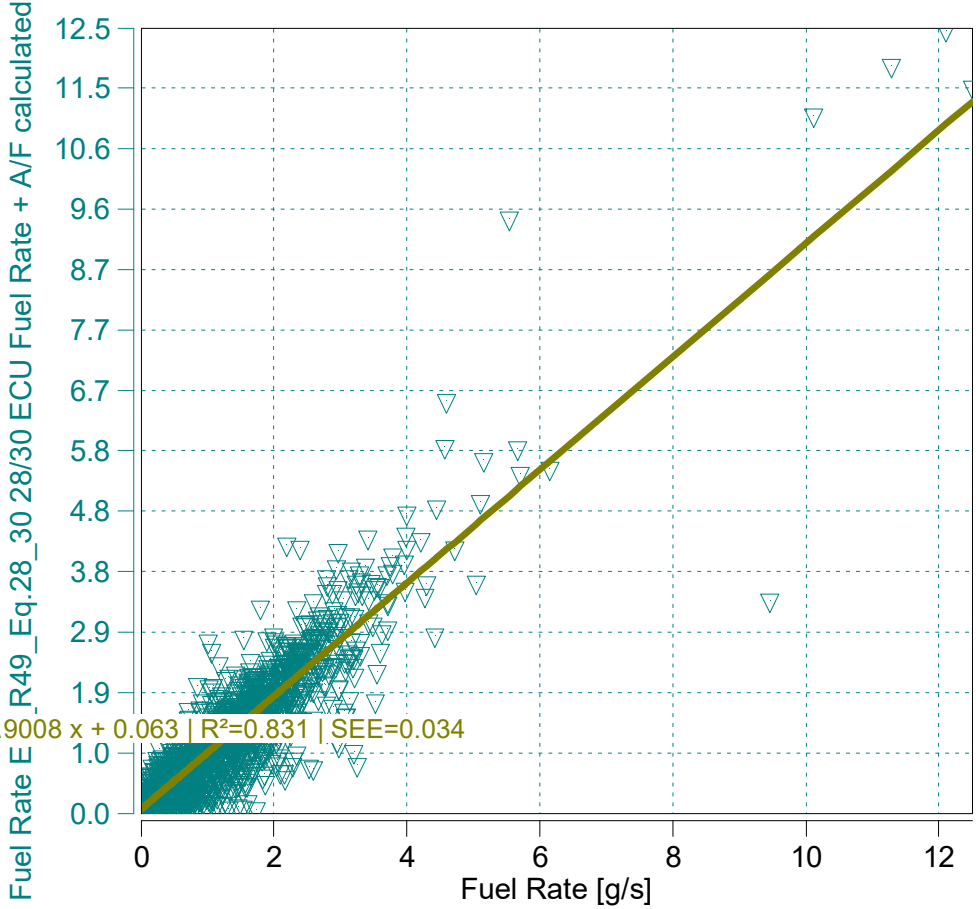
System Control

SC Version	V2.9_237
SC Serial Number	60301072

Case: W206-2518
Page: Fuel Rate ECU vs. Calculated

'W206-2518 A0 - LATC to CARB'
Start Date: 08/04/2021
Start Time: 08:08:03.0

AVL
Concerto M.O.V.E, 2019



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

y = 0.9008 x + 0.063 | R²=0.831 | SEE=0.034
m = 0.90 (0.9 - 1.1 recommended)
R² = 0.83 (min 0.9 mandatory)

Data from - to [% of Maximum]

0 | 100

Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: Trip Summary

'W206-2518 LA City'
Start Date: 08/03/2021
Start Time: 08:25:01.0

AVL
Concerto M.O.V.E, 2019

Trip Duration	3134.00	s
Trip Duration (a)	3134.00	s
Trip Distance	16.37	mi
Trip Distance (a)	16.37	mi
Trip Fuel Cons. (b)	2.05	kg
Trip Fuel Cons. (ab)	2.05	kg
Trip Fuel Cons. EU (ac)	2.10	kg
Trip Fuel Cons. US (ac)	2.08	kg
Trip Fuel Economy (b)	22.60	mpg_US
Trip Fuel Economy (ab)	22.60	mpg_US
Trip Fuel Economy EU (ac)	22.09	mpg_US
Trip Fuel Economy US (ac)	22.31	mpg_US
Trip Fuel Economy GGE (b)	22.60	mpg_US
Trip Fuel Economy GGE (ab)	22.60	mpg_US
Trip Fuel Economy EU GGE (ac)	22.09	mpg_US
Trip Fuel Economy US GGE (ac)	22.31	mpg_US
Trip Av. Eng. Speed	1111.66	rpm
Trip Av. Torque	31.03	lbft
Trip Av. Power	9.89	hp
Trip Work		
Trip Work (a)	8.61	hphr
Trip Exhaust Mass	33.35	kg
Trip Exhaust Mass EU (ac)	32.88	kg
Trip Exhaust Mass US (ac)	33.28	kg
Trip Av. Amb. Temperature	84.05	deg_F
Trip Av. Humidity	41.04	%
Trip Av. GPS Altitude	71.46	m
Fuel Type	Petrol (E10)	

ave THC	4.02887	ppm
ave NMHC	3.94829	ppm
ave CH4	0.08058	ppm
ave CO	357.35798	ppm
ave CO2	9.75812	%
ave NOx	3.76179	ppm
ave PM	n/a	mg/m3
ave Soot meas	n/a	mg/m3
ave Soot	n/a	mg/m3
ave PN	n/a	#/cm3
tot THC	0.07207	g
tot NMHC	0.06666	g
tot CH4	0.00160	g
tot CO	17.74145	g
tot CO2	6294.79410	g
tot NO (d)	0.13810	g
tot NO2	0.04427	g
tot NOx	0.18235	g
tot Soot	n/a	g
tot Soot meas	n/a	g
tot PM	n/a	g
tot PN	n/a	#
PM measurement type	0.00000	-
tot Soot on PM filter (estim.)	0.00000	mg
Soot --> PM simple scaling factor	1.00000	-
Trip Av. Veh. Speed	18.80442	mi/hr
Trip Distance Share Urban	66.54913	% distance
Trip Distance Share Rural	27.50766	% distance
Trip Distance Share Motorway	5.94322	% distance

BS CO2	731.04914	g/hphr
BS CO	2.06041	g/hphr
BS THC	0.00837	g/hphr
BS NMHC	0.00774	g/hphr
BS CH4	0.00019	g/hphr
BS NO (d)	0.01604	g/hphr
BS NO2	0.00514	g/hphr
BS NOx	0.02118	g/hphr
BS Soot	n/a	g/hphr
BS Soot meas	n/a	g/hphr
BS PM	n/a	g/hphr
BS PN	n/a	#/hpr
DS CO2	384.52542	g/mi
DS CO	1.08376	g/mi
DS THC	0.00440	g/mi
DS NMHC	0.00407	g/mi
DS CH4	0.00010	g/mi
DS NO (d)	0.00844	g/mi
DS NO2	0.00270	g/mi
DS NOx	0.01114	g/mi
DS Soot	n/a	g/mi
DS Soot meas	n/a	g/mi
DS PM	n/a	g/mi
DS PN	n/a	#/mi
FS CO2	3071.55084	g/kg
FS CO	8.65696	g/kg
FS THC	0.03516	g/kg
FS NMHC	0.03253	g/kg
FS CH4	0.00078	g/kg
FS NO (d)	0.06739	g/kg
FS NO2	0.02160	g/kg
FS NOx	0.08898	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: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

'W206-2518 LA City'
Start Date: 08/03/2021
Start Time: 08:25:01.0

Trip Duration	3134.00	s
Trip Duration (a)	3134.00	s
Trip Distance	16.37	mi
Trip Distance (a)	16.37	mi
Trip Fuel Cons. (b)	2.05	kg
Trip Fuel Cons. (ab)	2.05	kg
Trip Fuel Cons. EU (ac)	2.10	kg
Trip Fuel Cons. US (ac)	2.08	kg
Trip Fuel Economy (b)	22.60	mpg_US
Trip Fuel Economy (ab)	22.60	mpg_US
Trip Fuel Economy EU (ac)	22.09	mpg_US
Trip Fuel Economy US (ac)	22.31	mpg_US
Trip Fuel Economy GGE (b)	22.60	mpg_US
Trip Fuel Economy GGE (ab)	22.60	mpg_US
Trip Fuel Economy EU GGE (ac)	22.09	mpg_US
Trip Fuel Economy US GGE (ac)	22.31	mpg_US
Trip Av. Eng. Speed	1111.66	rpm
Trip Av. Torque	31.03	lbft
Trip Av. Power	9.89	hp
Trip Work		
Trip Work (a)	8.61	hphr
Trip Exhaust Mass	33.35	kg
Trip Exhaust Mass EU (ac)	32.88	kg
Trip Exhaust Mass US (ac)	33.28	kg
Trip Av. Amb. Temperature	84.05	deg_F
Trip Av. Humidity	41.04	%
Trip Av. GPS Altitude	71.46	m
Fuel Type	Petrol (E10)	

ave THC DC	4.02630	ppm
ave NMHC DC	3.94577	ppm
ave CH4 DC	0.08053	ppm
ave CO DC	357.96565	ppm
ave CO2 DC	9.75305	%
ave NOx DC	3.76272	ppm
ave PM	n/a	mg/m3
ave Soot meas	n/a	mg/m3
ave Soot	n/a	mg/m3
ave PN DC		
tot THC DC	0.07202	g
tot NMHC DC	0.06662	g
tot CH4 DC	0.00160	g
tot CO DC	17.77161	g
tot CO2 DC	6291.52577	g
tot NO DC (d)	0.13812	g
tot NO2 DC	0.04429	g
tot NOx DC	0.18240	g
tot Soot	n/a	g
tot Soot meas	n/a	g
tot PM	n/a	g
tot PN DC		
PM measurement type	0.00000	-
tot Soot on PM filter (estim.)	0.00000	mg
Soot --> PM simple scaling factor	1.00000	-
Trip Av. Veh. Speed	18.80442	mi/hr
Trip Distance Share Urban	66.54913	% distance
Trip Distance Share Rural	27.50766	% distance
Trip Distance Share Motorway	5.94322	% distance

BS CO2 DC	730.66957	g/hphr
BS CO DC	2.06392	g/hphr
BS THC DC	0.00836	g/hphr
BS NMHC DC	0.00774	g/hphr
BS CH4 DC	0.00019	g/hphr
BS NO DC (d)	0.01604	g/hphr
BS NO2 DC	0.00514	g/hphr
BS NOx DC	0.02118	g/hphr
BS Soot	n/a	g/hphr
BS Soot meas	n/a	g/hphr
BS PM	n/a	g/hphr
BS PN DC		
DS CO2 DC	384.32577	g/mi
DS CO DC	1.08560	g/mi
DS THC DC	0.00440	g/mi
DS NMHC DC	0.00407	g/mi
DS CH4 DC	0.00010	g/mi
DS NO DC (d)	0.00844	g/mi
DS NO2 DC	0.00271	g/mi
DS NOx DC	0.01114	g/mi
DS Soot	n/a	g/mi
DS Soot meas	n/a	g/mi
DS PM	n/a	g/mi
DS PN DC		
FS CO2 DC	3069.95606	g/kg
FS CO DC	8.67168	g/kg
FS THC DC	0.03514	g/kg
FS NMHC DC	0.03251	g/kg
FS CH4 DC	0.00078	g/kg
FS NO DC (d)	0.06740	g/kg
FS NO2 DC	0.02161	g/kg
FS NOx DC	0.08900	g/kg
FS Soot	n/a	g/kg
FS Soot meas	n/a	g/kg
FS PM	n/a	g/kg
FS PN DC		

(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

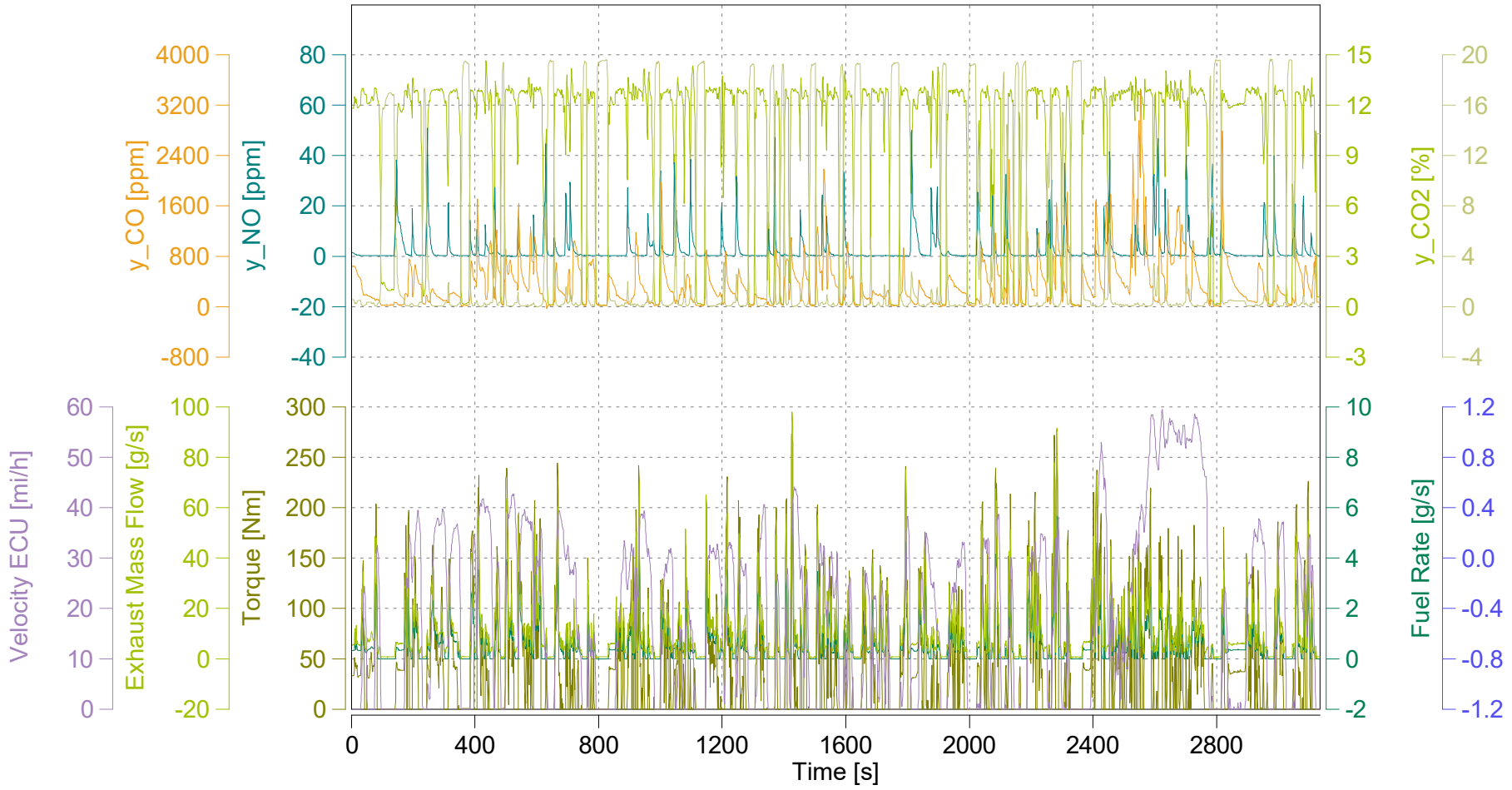
Case: W206-2518
Page: Time Alignment Check

'W206-2518 LA City'
Start Date: 08/03/2021
Start Time: 08:25:01.0

AVL
Concerto

Absolute Time

y_THC
y_NO
y_CO2
y_O2
c_Soot
Fuel Rate
Exhaust Mass
Torque
Velocity ECU



AVL 492 Defa

THC
NO/NO2
CO/CO2
O2

Apply Defa

Alignment Plo

Reset Time

Reset Al

Apply Curr

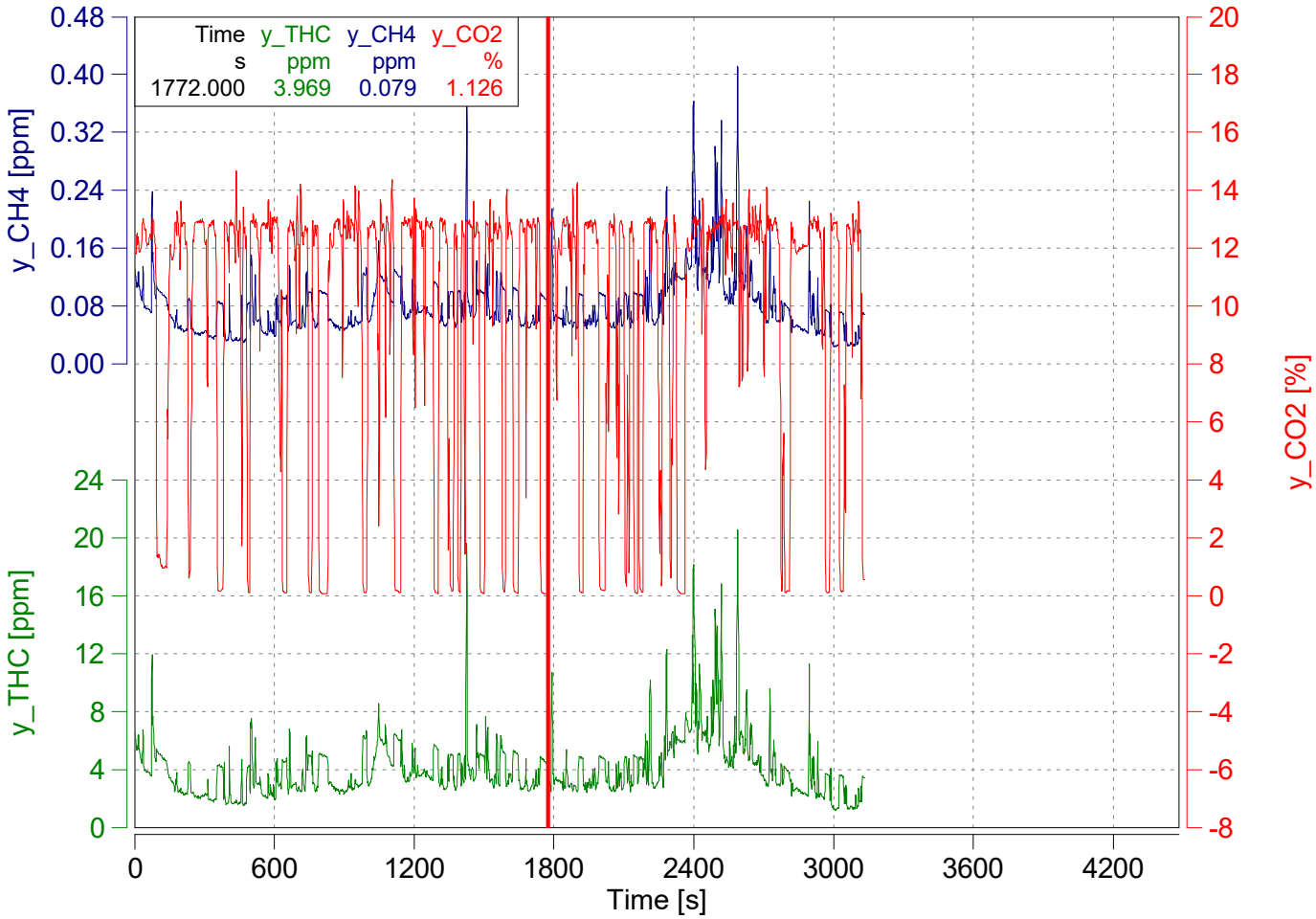
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: Time Alignment of Gas Concentrations

'W206-2518 LA City'
Start Date: 08/03/2021
Start Time: 08:25:01.0

AVL
Concerto M.O.V.E, 2019



Absolute Time Shifts

y_THC	s	-4.3
y_CH4	s	-6.3

Reset Time Shifts in Plot

Apply Current Values

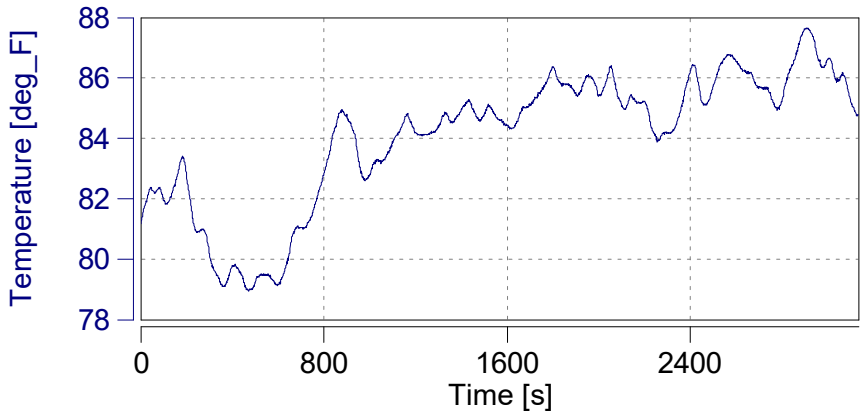
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

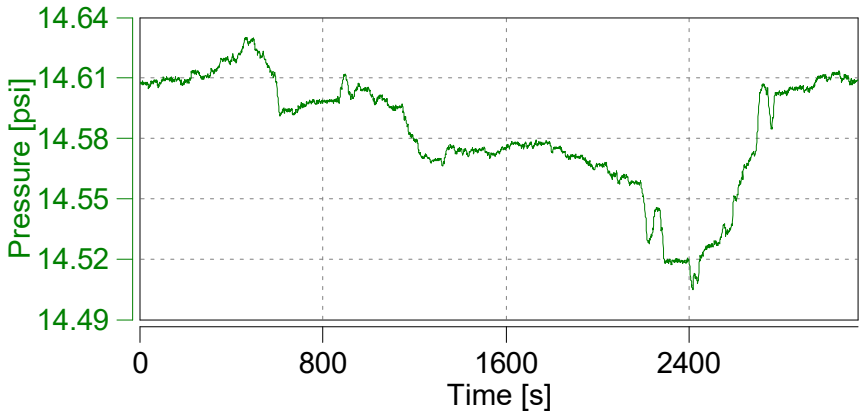
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

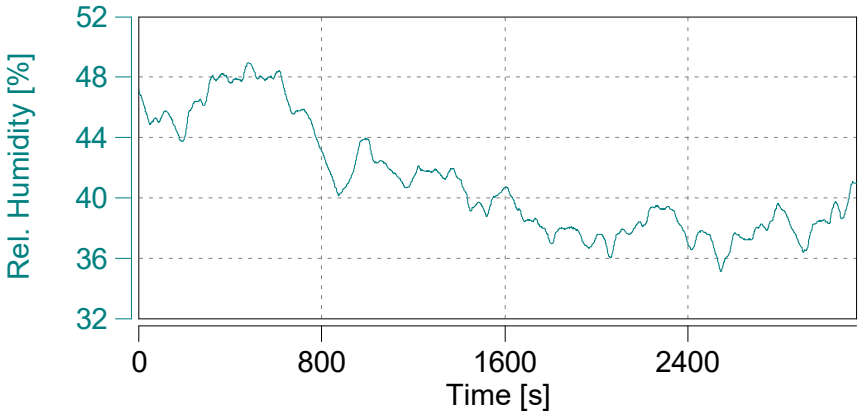
Case: W206-2518
Page: Ambient Conditions

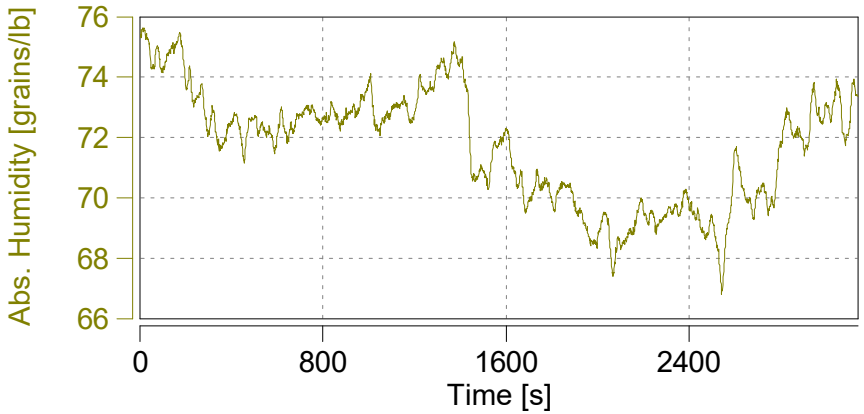
'W206-2518 LA City'
Start Date: 08/03/2021
Start Time: 08:25:01.0

AVL
Concerto M.O.V.E, 2019









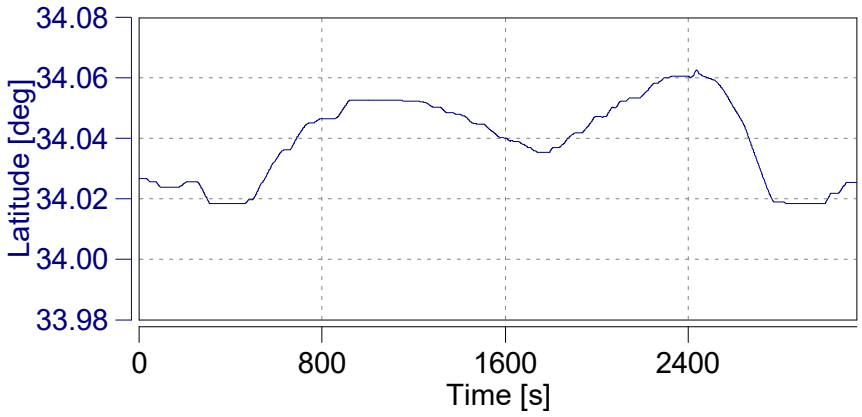
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

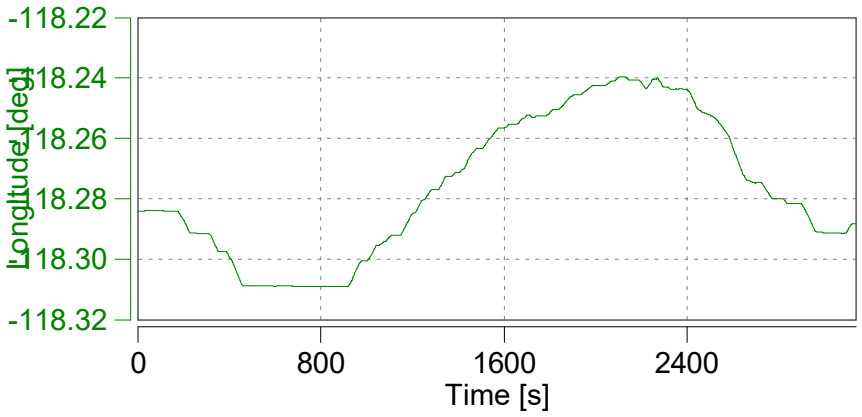
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

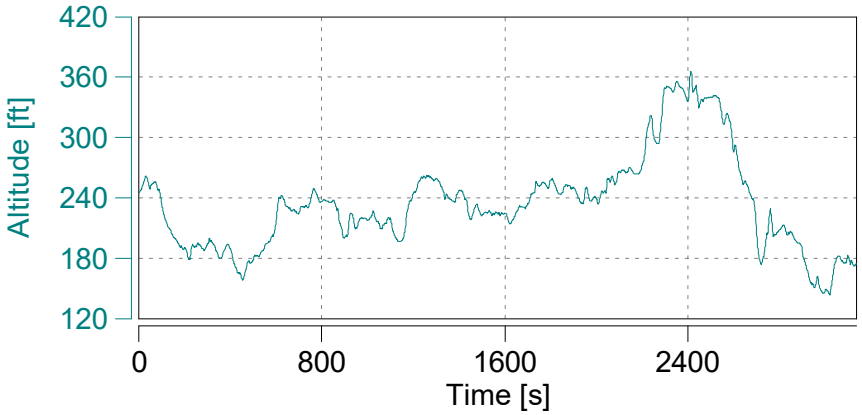
Case: W206-2518
Page: GPS

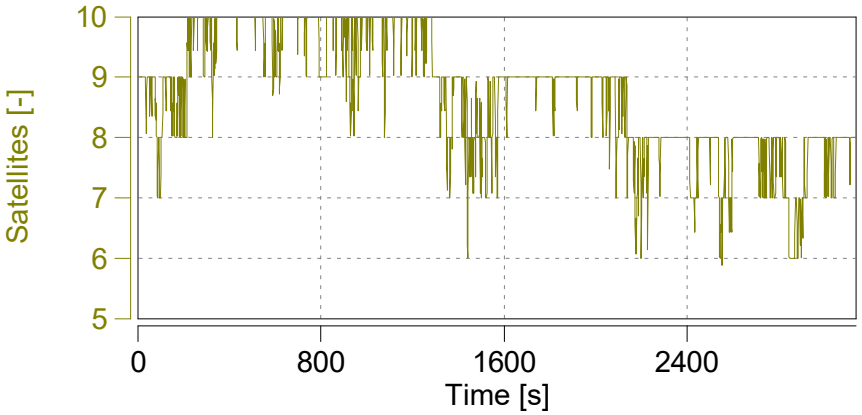
'W206-2518 LA City'
Start Date: 08/03/2021
Start Time: 08:25:01.0

AVL
Concerto M.O.V.E, 2019







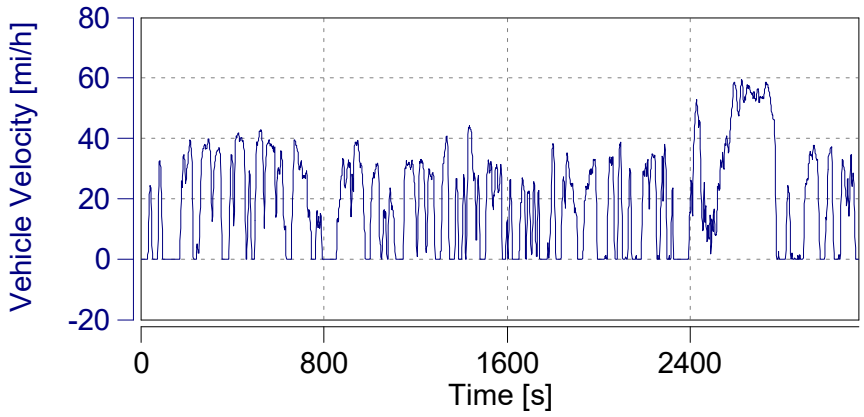


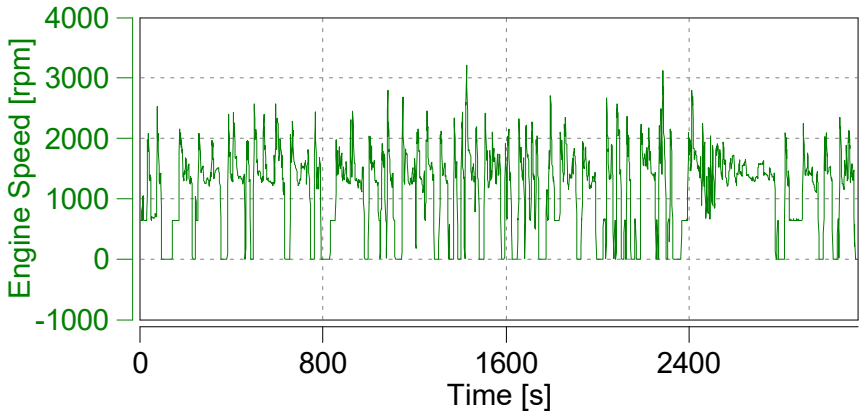
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

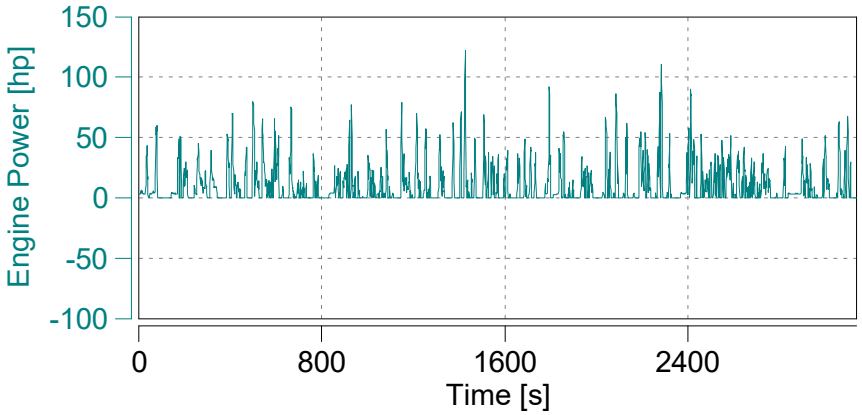
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

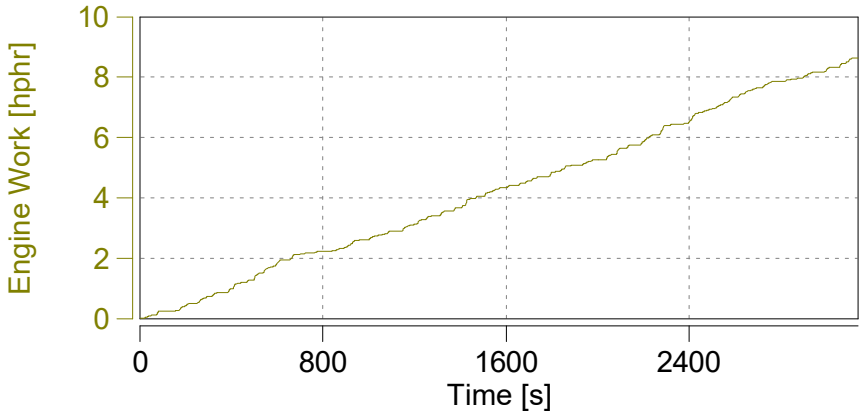
'W206-2518 LA City'
Start Date: 08/03/2021
Start Time: 08:25:01.0

AVL
Concerto M.O.V.E, 2019







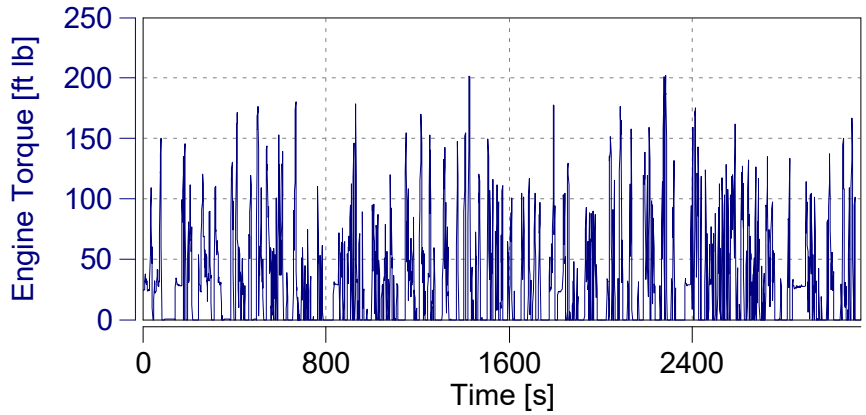


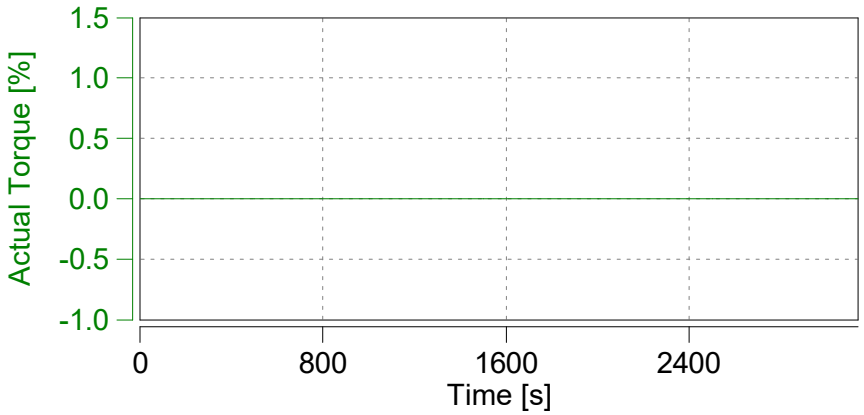
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

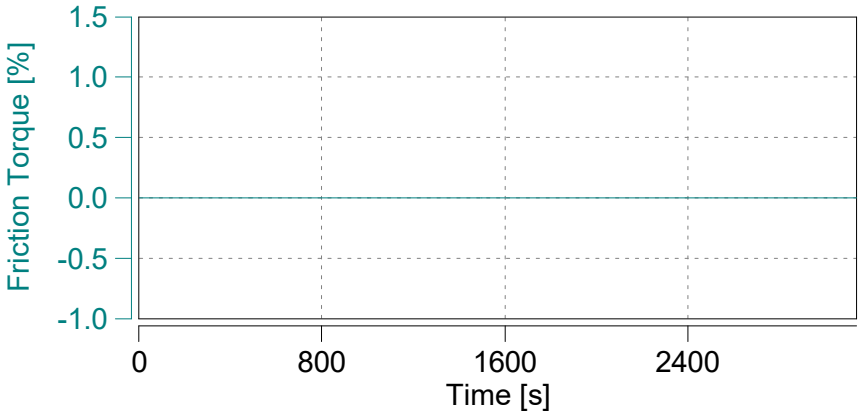
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

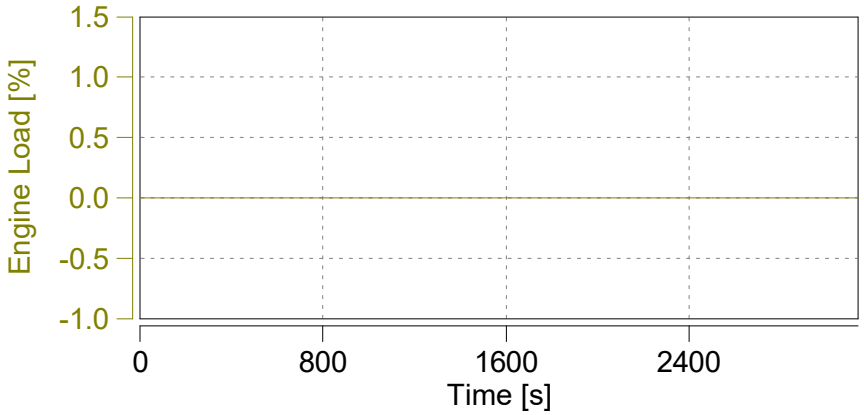
'W206-2518 LA City'
Start Date: 08/03/2021
Start Time: 08:25:01.0

AVL
Concerto M.O.V.E, 2019







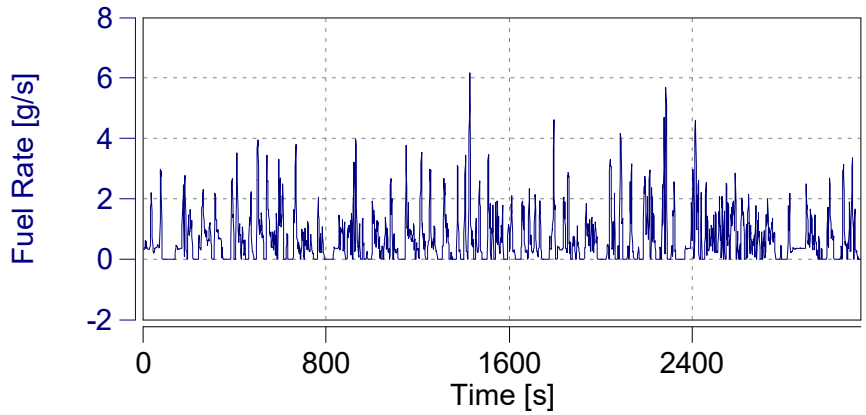


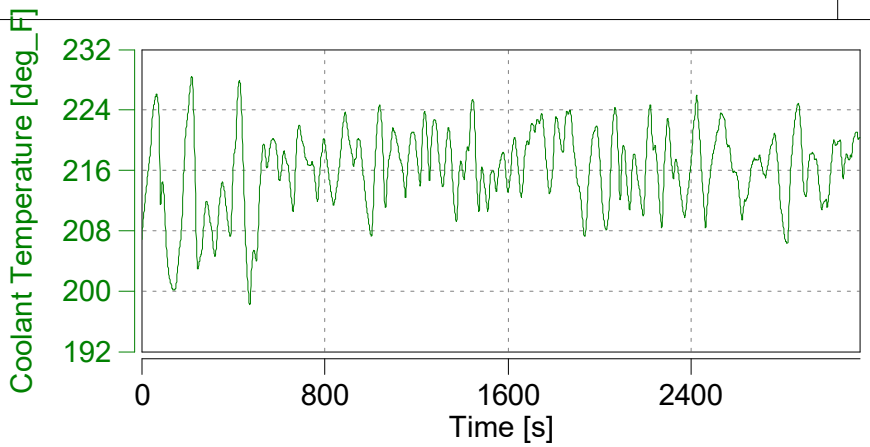
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

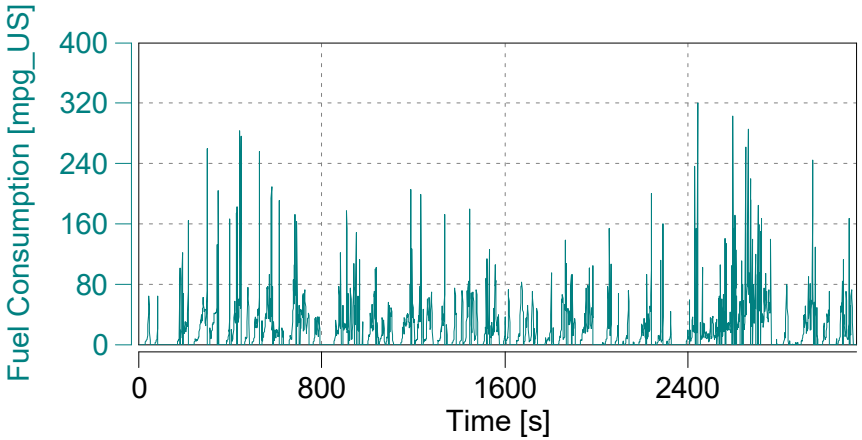
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

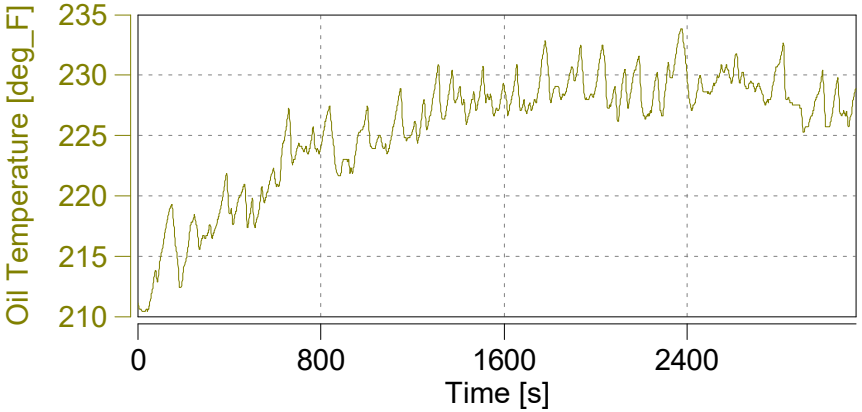
'W206-2518 LA City'
Start Date: 08/03/2021
Start Time: 08:25:01.0

AVL
Concerto M.O.V.E, 2019









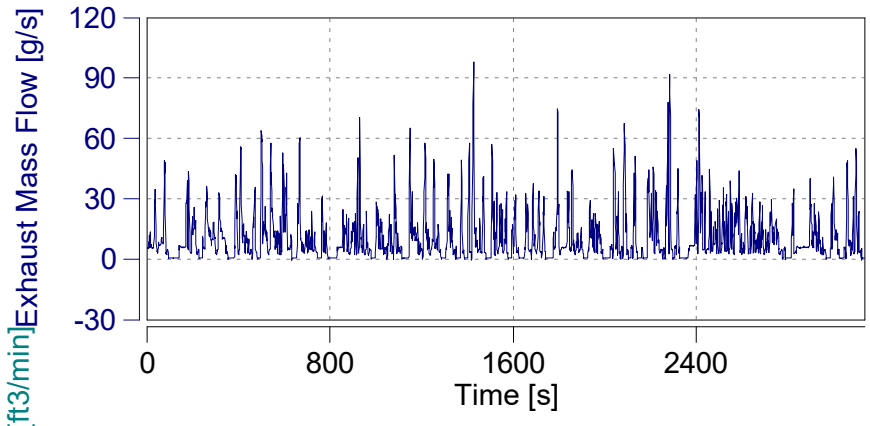
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

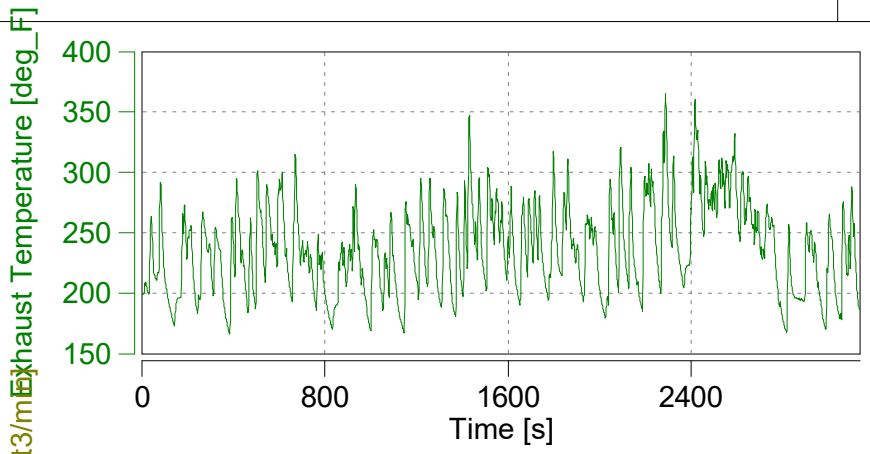
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

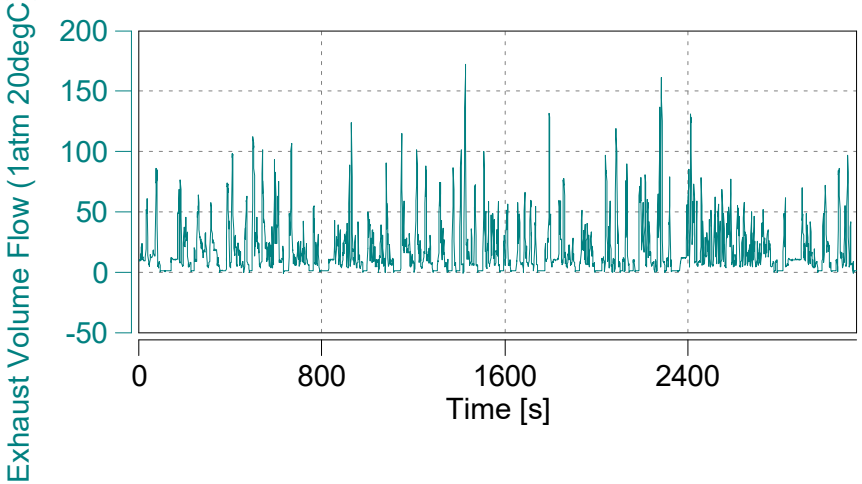
Case: W206-2518
Page: Exhaust Flow (1)

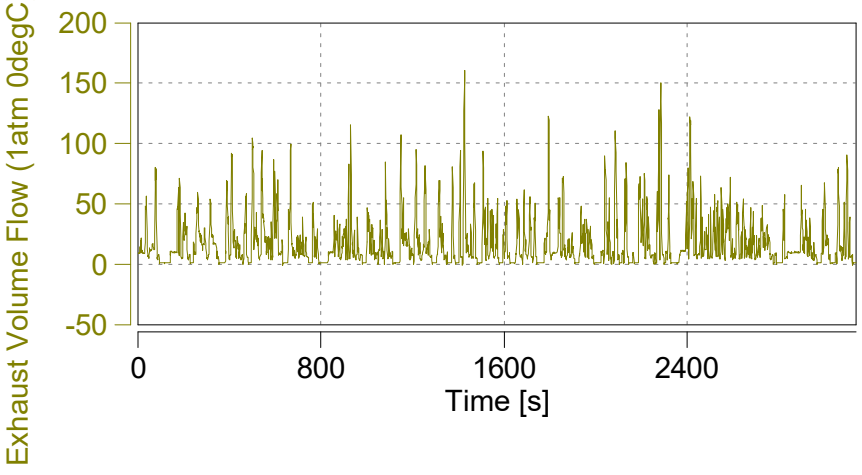
'W206-2518 LA City'
Start Date: 08/03/2021
Start Time: 08:25:01.0

AVL
Concerto M.O.V.E, 2019









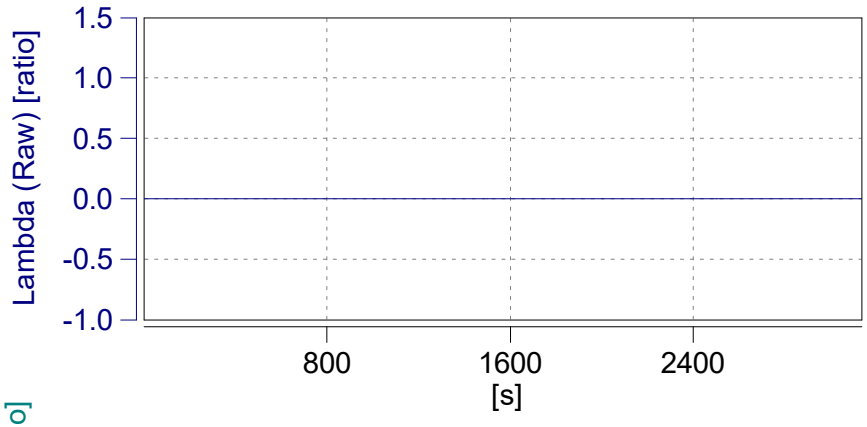
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

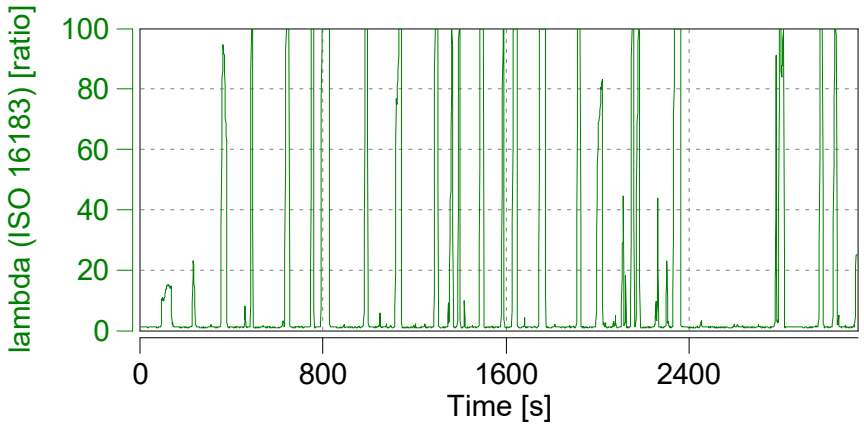
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

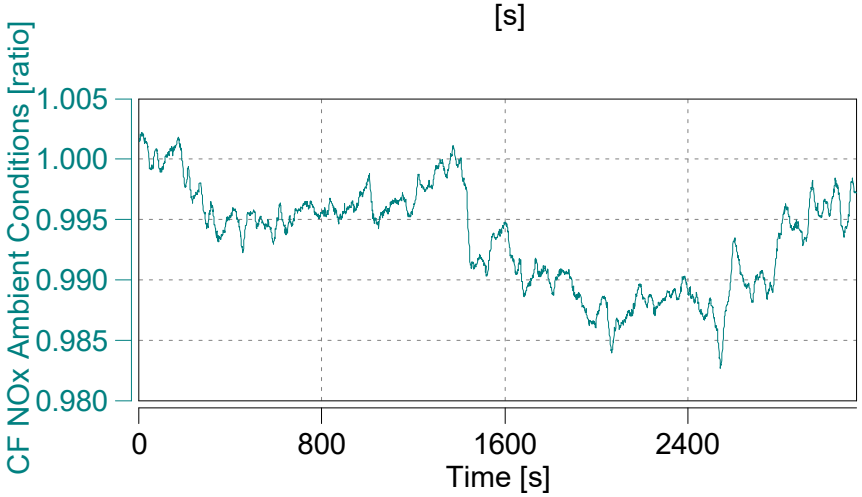
Case: W206-2518
Page: Exhaust Flow (2)

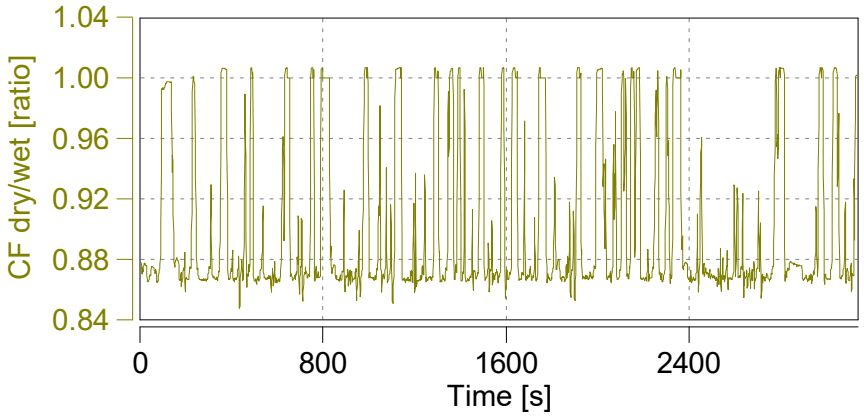
'W206-2518 LA City'
Start Date: 08/03/2021
Start Time: 08:25:01.0

AVL
Concerto M.O.V.E, 2019









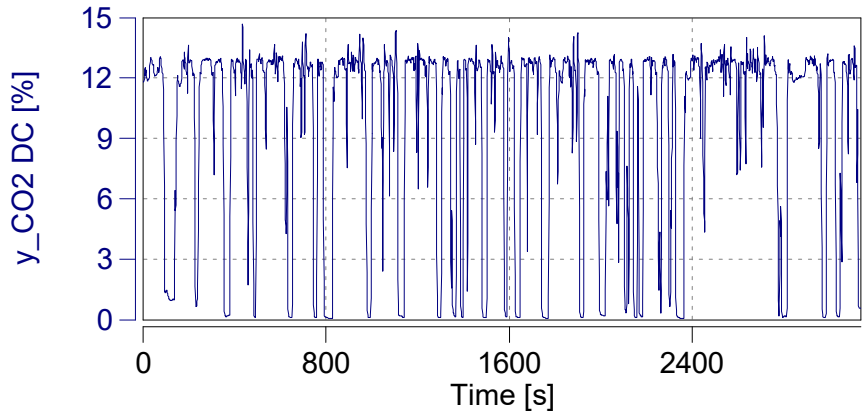
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

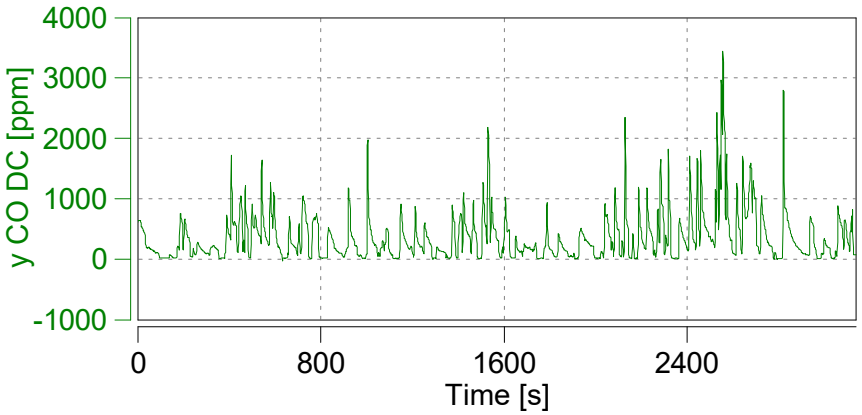
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

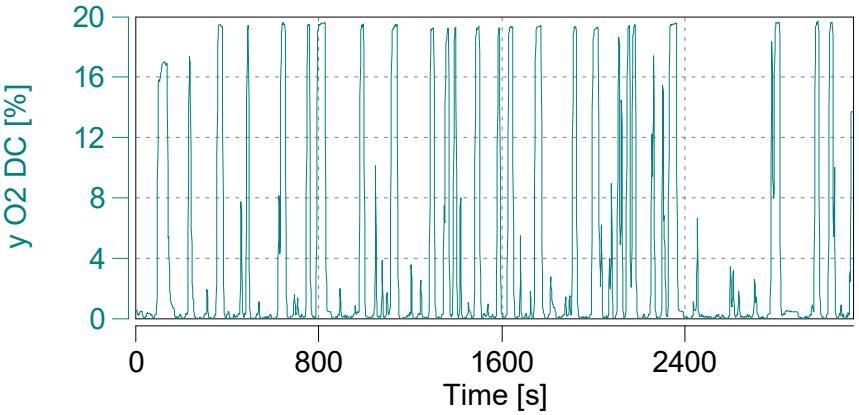
Case: W206-2518
Page: Corrected Emissions (1)

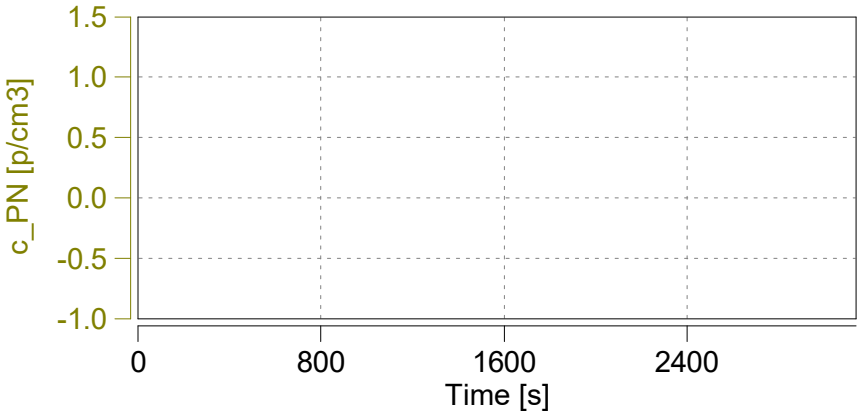
'W206-2518 LA City'
Start Date: 08/03/2021
Start Time: 08:25:01.0

AVL
Concerto M.O.V.E, 2019









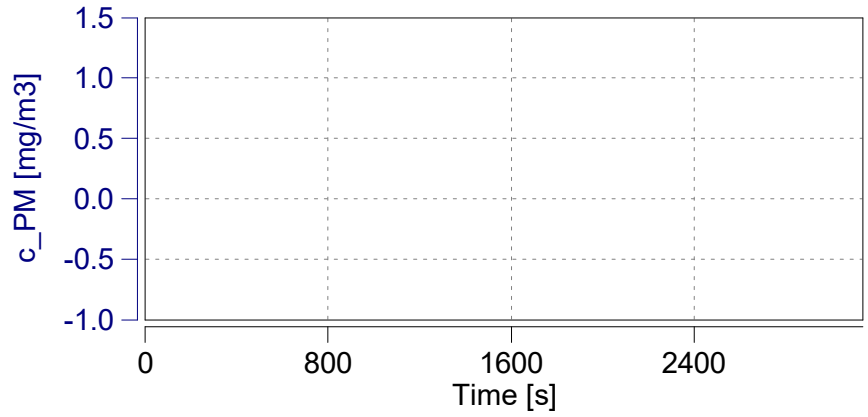
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

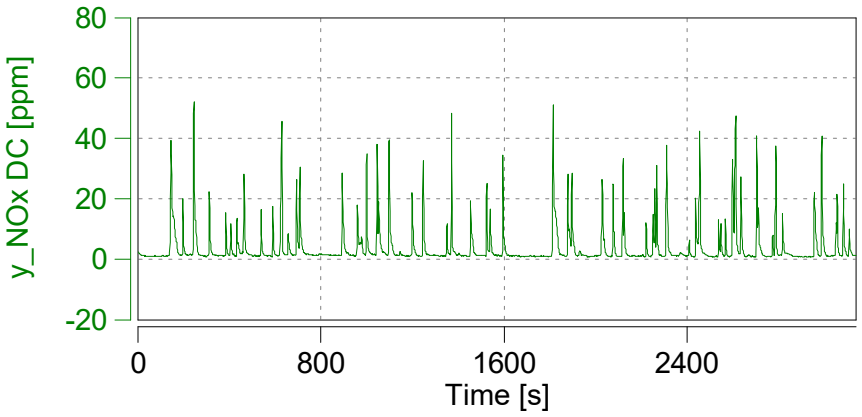
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

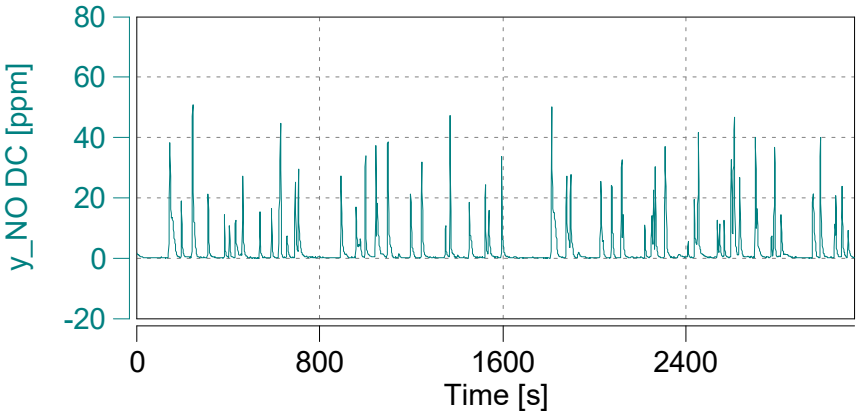
Case: W206-2518
Page: Corrected Emissions (2)

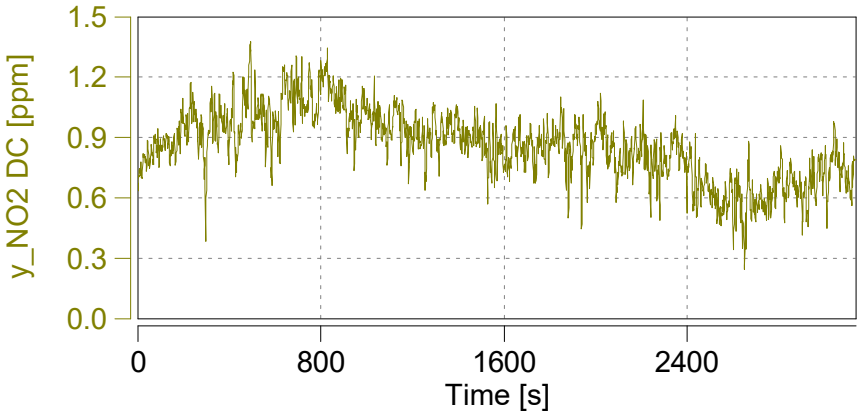
'W206-2518 LA City'
Start Date: 08/03/2021
Start Time: 08:25:01.0

AVL
Concerto M.O.V.E, 2019









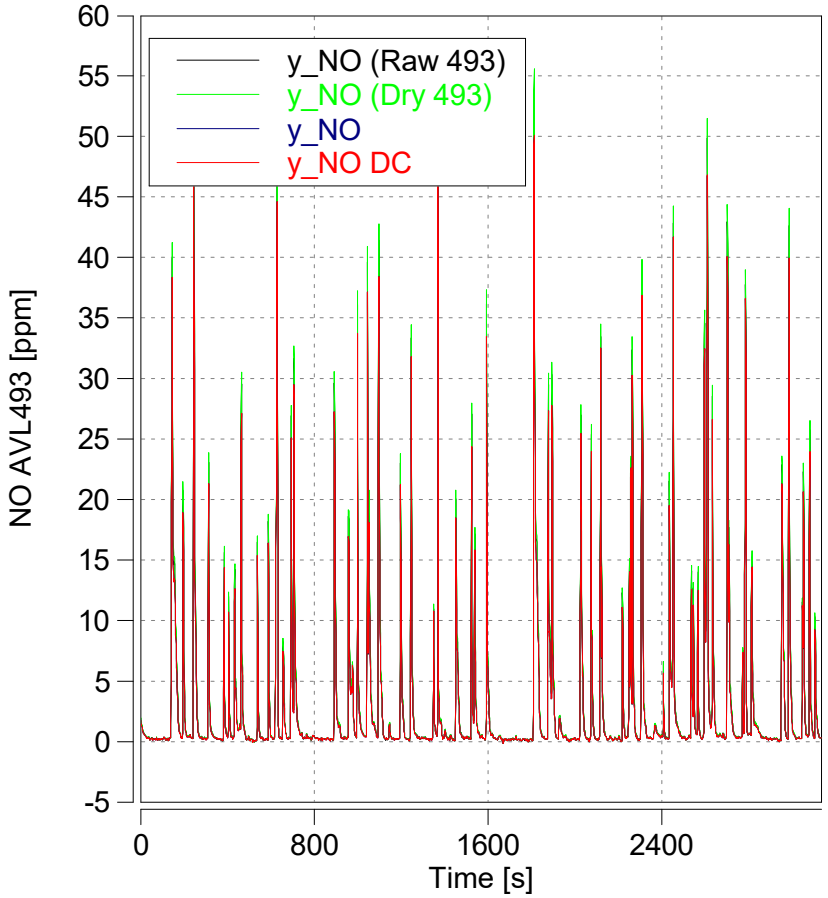
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

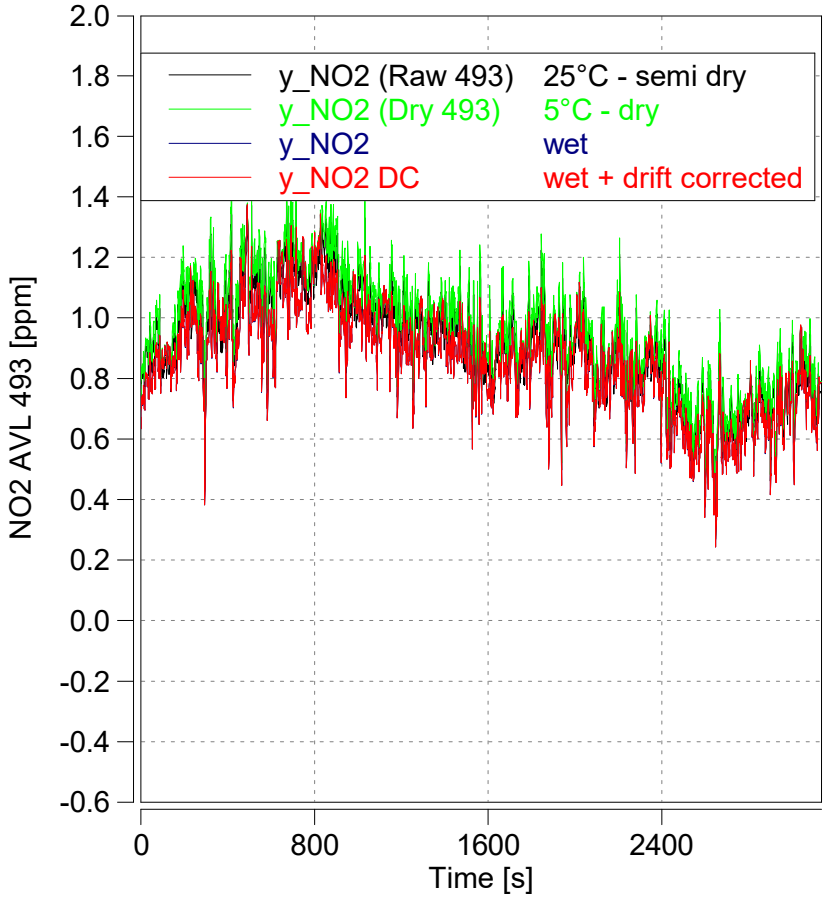
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: Corrected Emissions (3)

'W206-2518 LA City'
Start Date: 08/03/2021
Start Time: 08:25:01.0

AVL
Concerto M.O.V.E, 2019

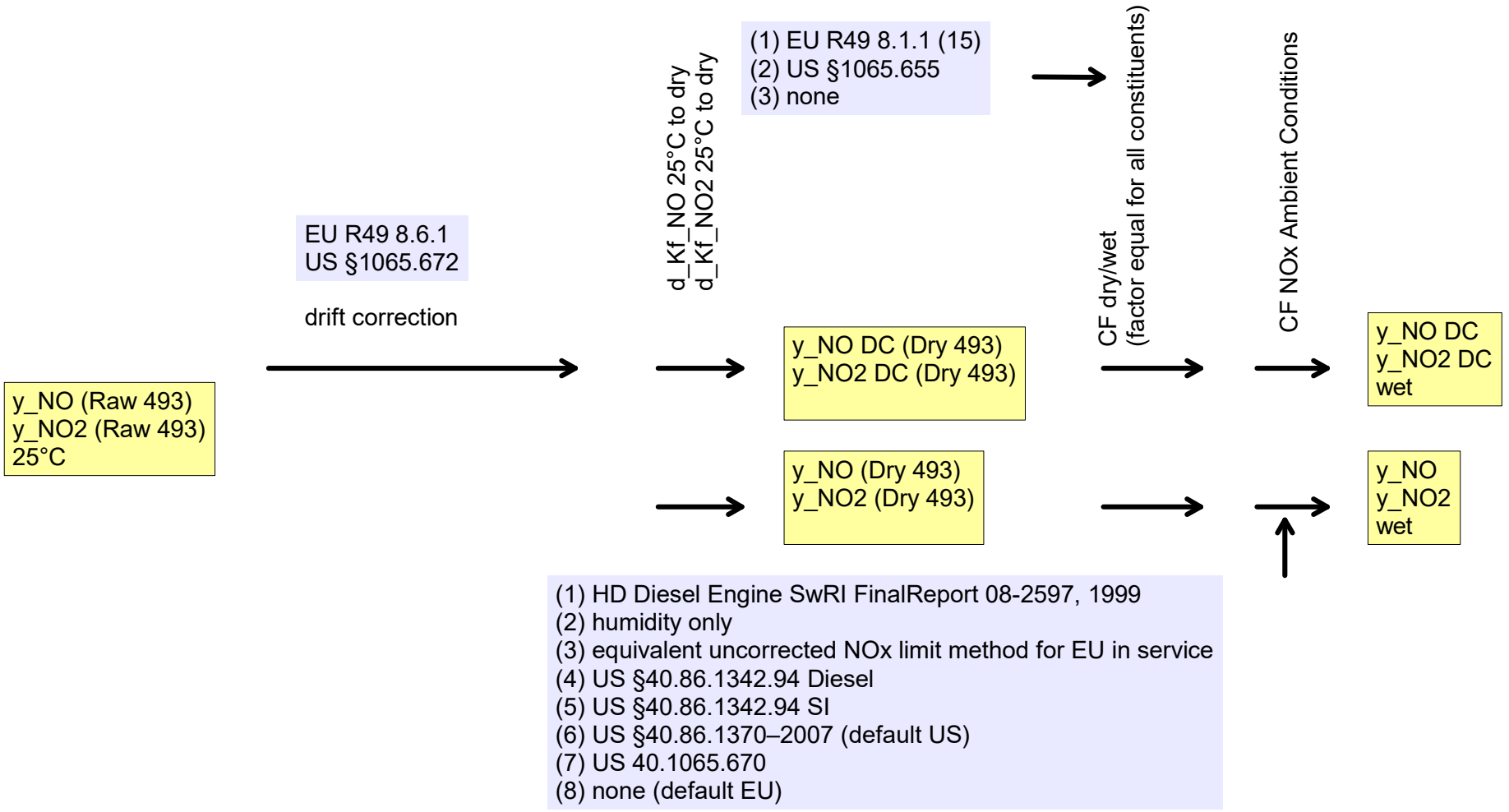




Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

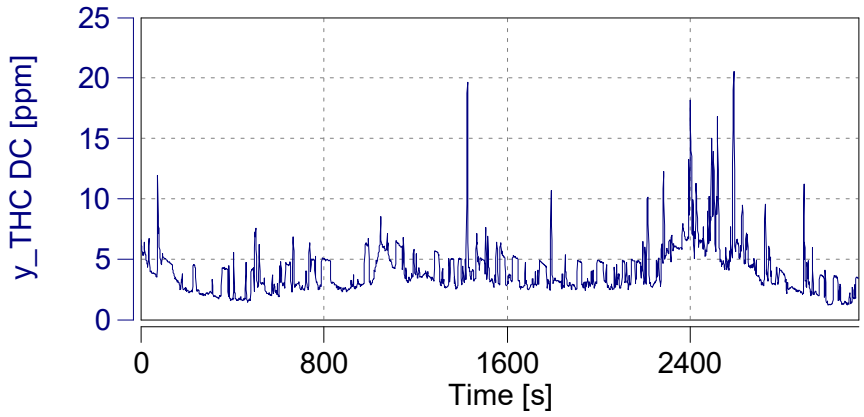
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

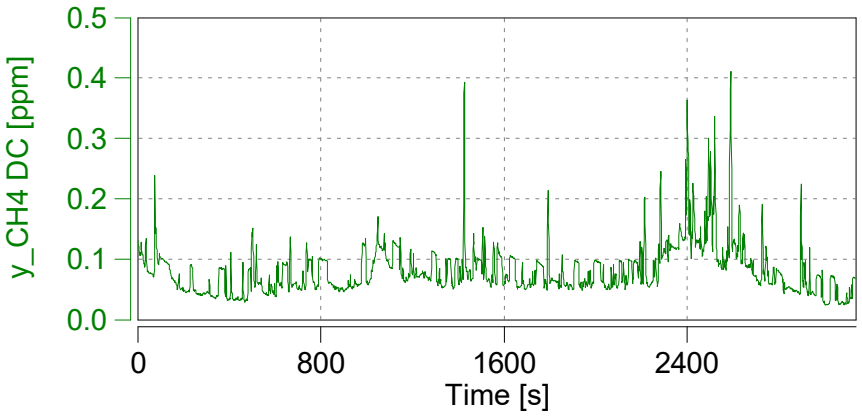
NOx - AVL 493

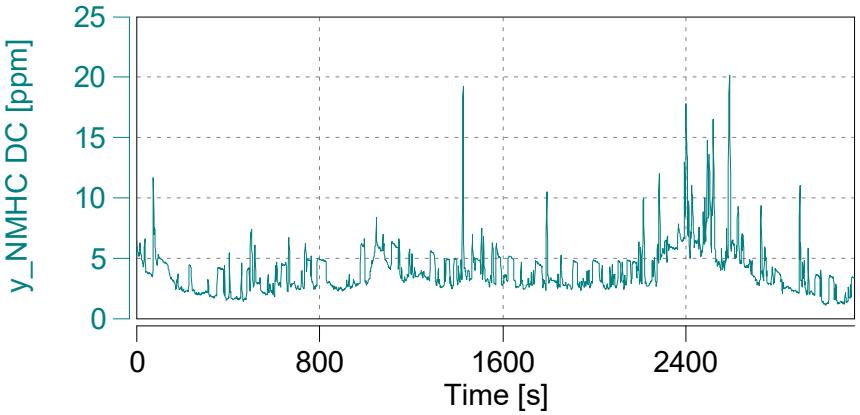

y_NO (Raw 493)
y_NO2 (Raw 493)
25°C
EU R49 8.6.1
US §1065.672
drift correction
d_Kf_NO 25°C to dry
d_Kf_NO2 25°C to dry
(1) EU R49 8.1.1 (15)
(2) US §1065.655
(3) none
y_NO DC (Dry 493)
y_NO2 DC (Dry 493)
y_NO (Dry 493)
y_NO2 (Dry 493)
CF dry/wet
(factor equal for all constituents)
CF NOx Ambient Conditions
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)

'W206-2518 LA City'
Start Date: 08/03/2021
Start Time: 08:25:01.0

AVL
Concerto M.O.V.E, 2019







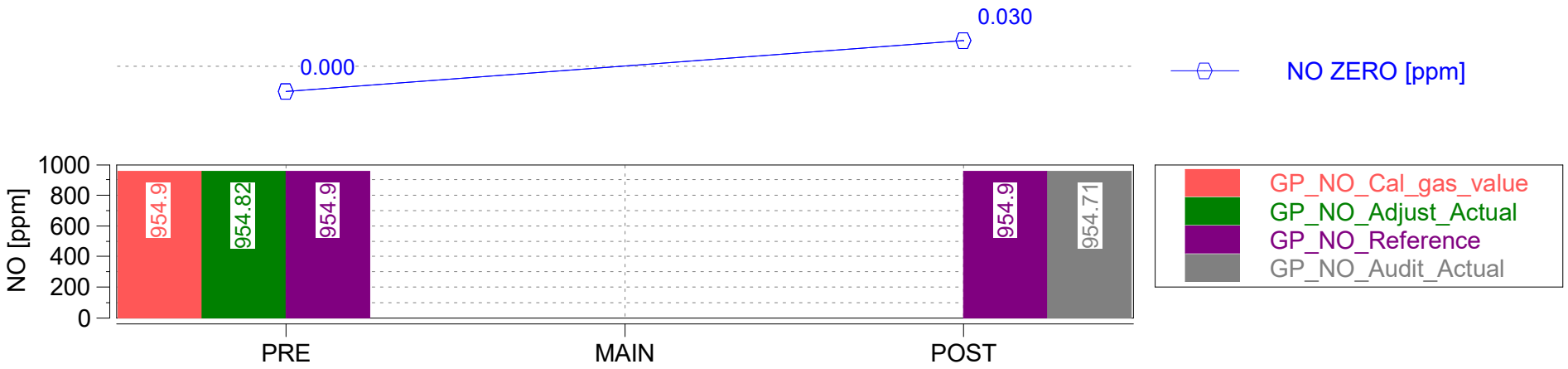
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

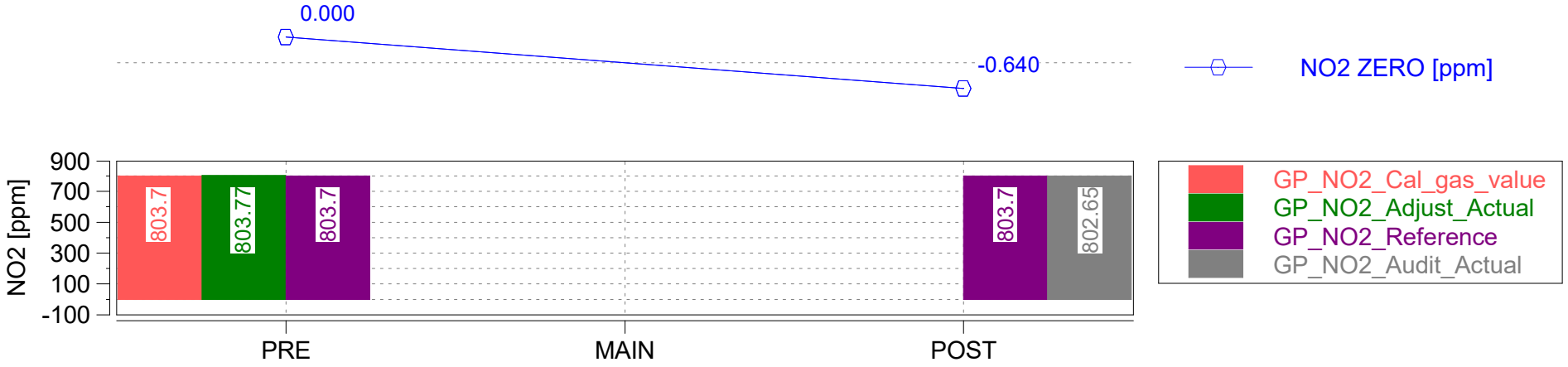
Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: NO/NO2/NOx Zero - Span

'W206-2518 LA City'
Start Date: 08/03/2021
Start Time: 08:25:01.0

AVL
Concerto M.O.V.E, 2019





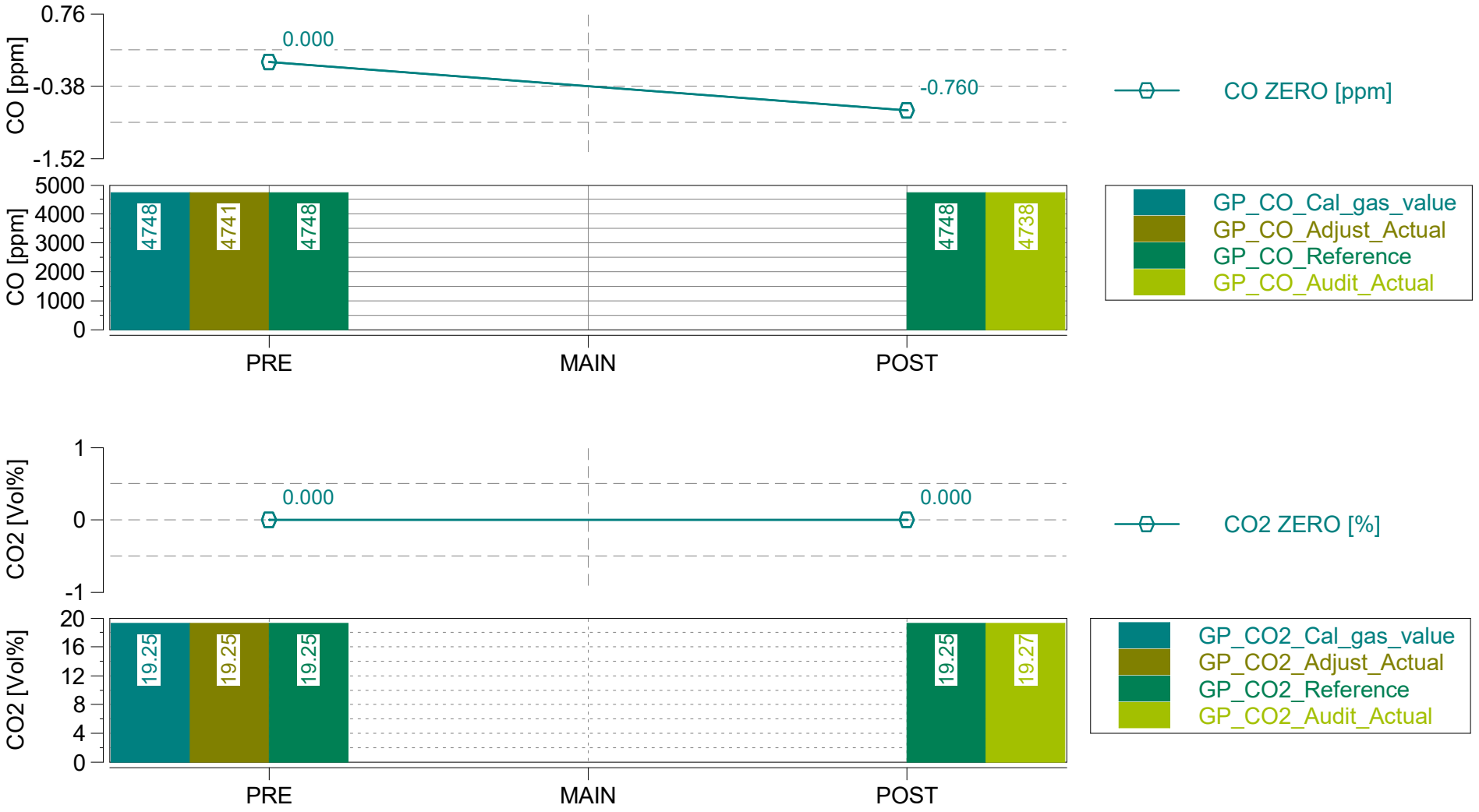
Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90

Case: W206-2518
Page: CO/CO2 Zero - Span

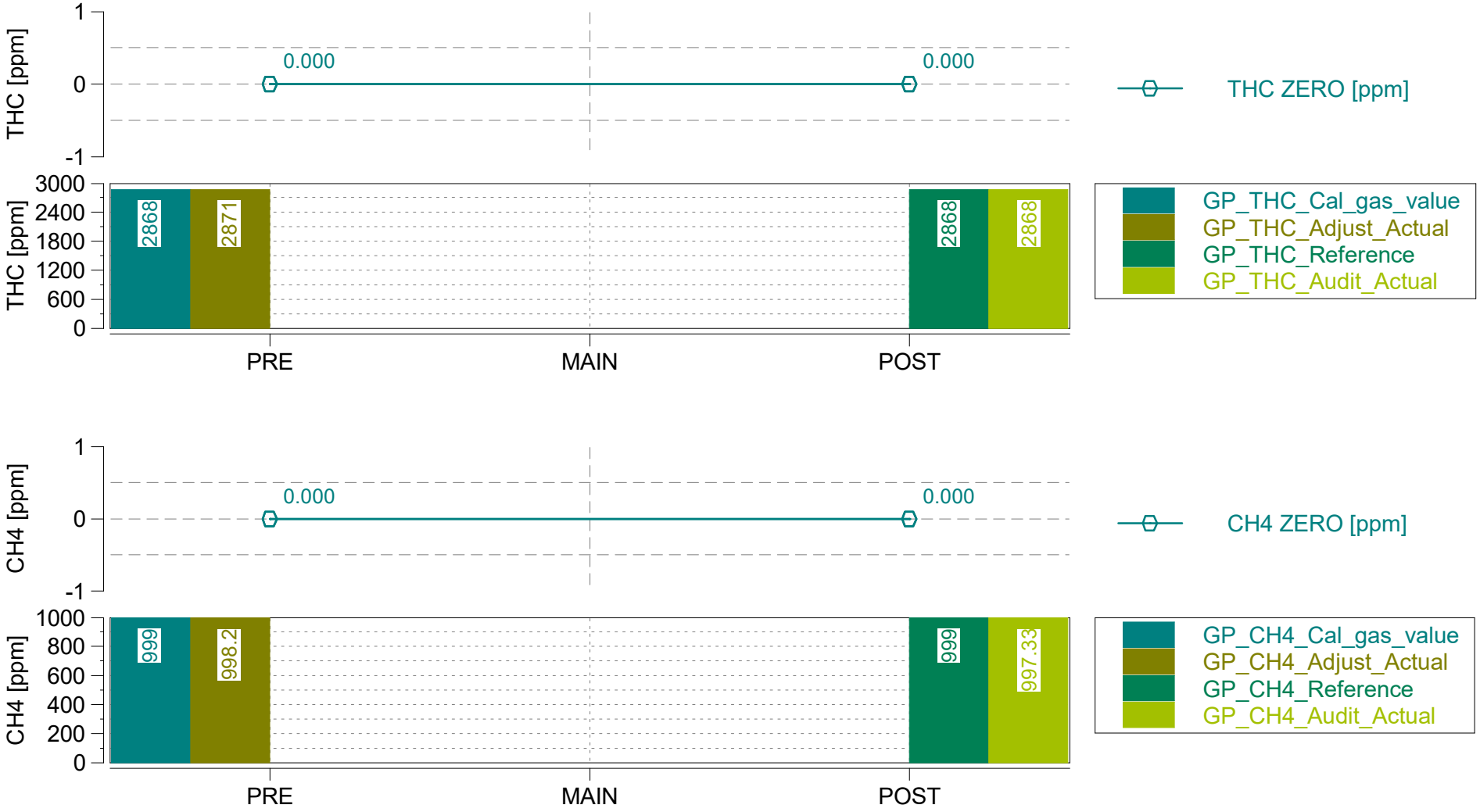
'W206-2518 LA City'
Start Date: 08/03/2021
Start Time: 08:25:01.0

AVL
Concerto M.O.V.E, 2019



Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90


THC [ppm]
1
0
-1
0.000
0.000
THC ZERO [ppm]
THC [ppm]
3000
2400
1800
1200
600
0
2868
2871
2868
2868
GP_THC_Cal_gas_value
GP_THC_Adjust_Actual
GP_THC_Reference
GP_THC_Audit_Actual
PRE
MAIN
POST
CH4 [ppm]
1
0
-1
0.000
0.000
CH4 ZERO [ppm]
CH4 [ppm]
1000
800
600
400
200
0
999
998.2
999
997.33
GP_CH4_Cal_gas_value
GP_CH4_Adjust_Actual
GP_CH4_Reference
GP_CH4_Audit_Actual
PRE
MAIN
POST

§	criterium	condition	value	unit	pass/fail
GAS Leak Check	The leakage rate on the vacuum side shall not exceed 0.5 per cent of the in-use flow rate for the portion of the system being checked.	The leakage rate <= 0.5%	**0.05**	**%**	pass
PN Leak Check	n/a	n/a	**n/a**	**n/a**	n/a
PM Leak Check	n/a	n/a	**n/a**	**n/a**	n/a

GAS PEMS Devices

Device ID	AVL492
Serial Number	0597
Firmware Version	V1.17
Main Test Date	2021-08-03
Leak Check Age [days]	0

Device ID	AVL4925iS
Serial Number	175
Firmware Version	1.22.0.4

EFM

Device ID	AVL495
Serial Number	00914
Serial Number Tube	01090
Firmware Version	V1.16

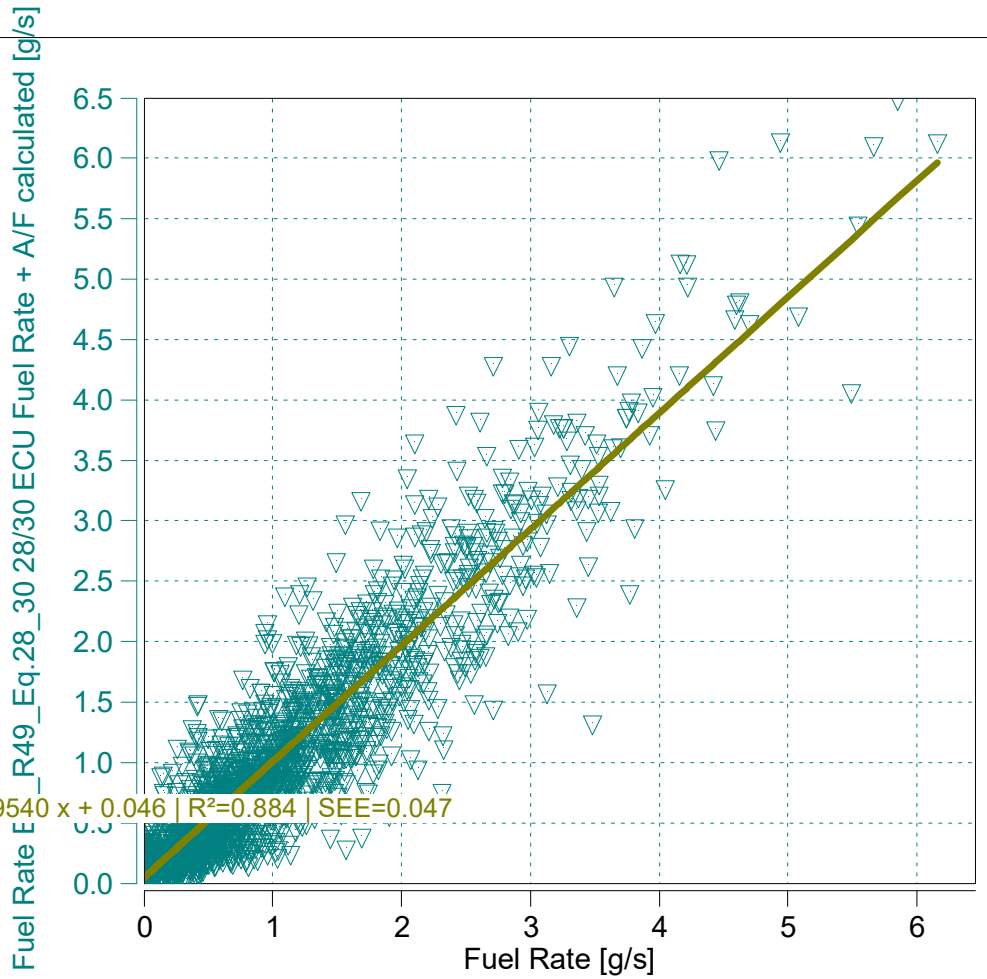
System Control

SC Version	V2.9_237
SC Serial Number	60301072

Case: W206-2518
Page: Fuel Rate ECU vs. Calculated

'W206-2518 LA City'
Start Date: 08/03/2021
Start Time: 08:25:01.0

AVL
Concerto M.O.V.E, 2019



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

y = 0.9540 x + 0.046 | R²=0.884 | SEE=0.047
m = 0.95 (0.9 - 1.1 recommended)
R² = 0.88 (min 0.9 mandatory)

Data from - to [% of Maximum]

0 | 100

Concerto Version: 504 Build 119, Serial Number: 1604
M.O.V.E Post-Processing: DT_1R4.1_B340
Legislation:

Vehicle: W206-2518 / W206-2518
Engine: /
NOx Ambient Condition Corr.: 7 - CFR40 §1065.670
Dry / Wet Corr.: 2 - CFR40 §86.1342-90