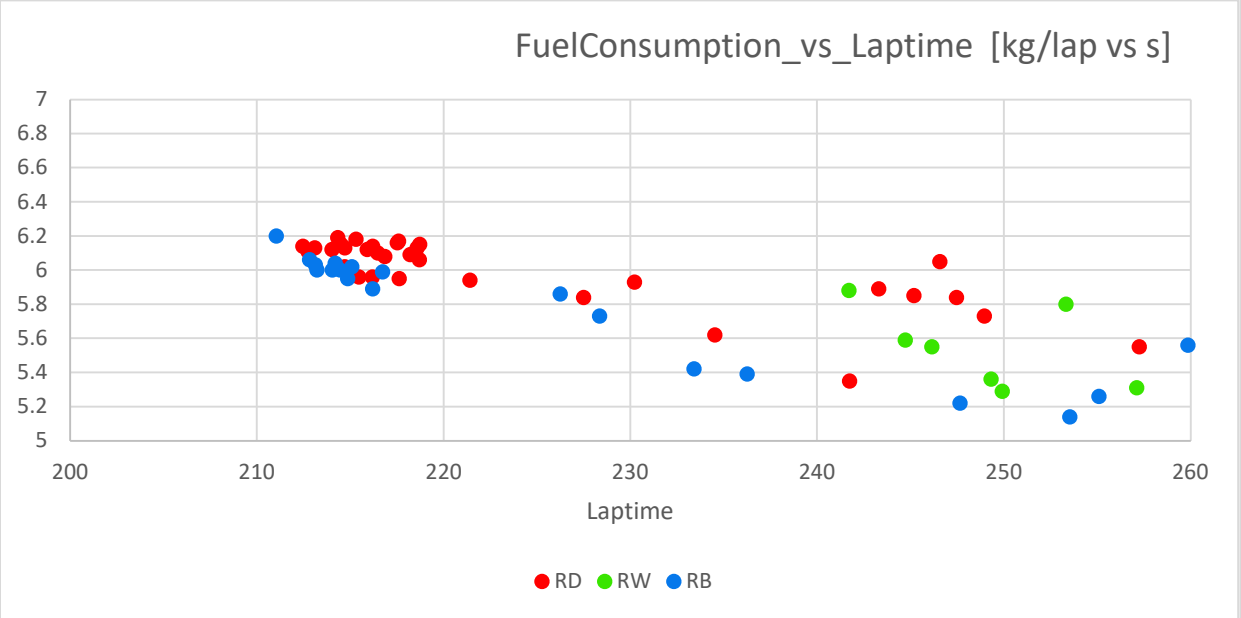
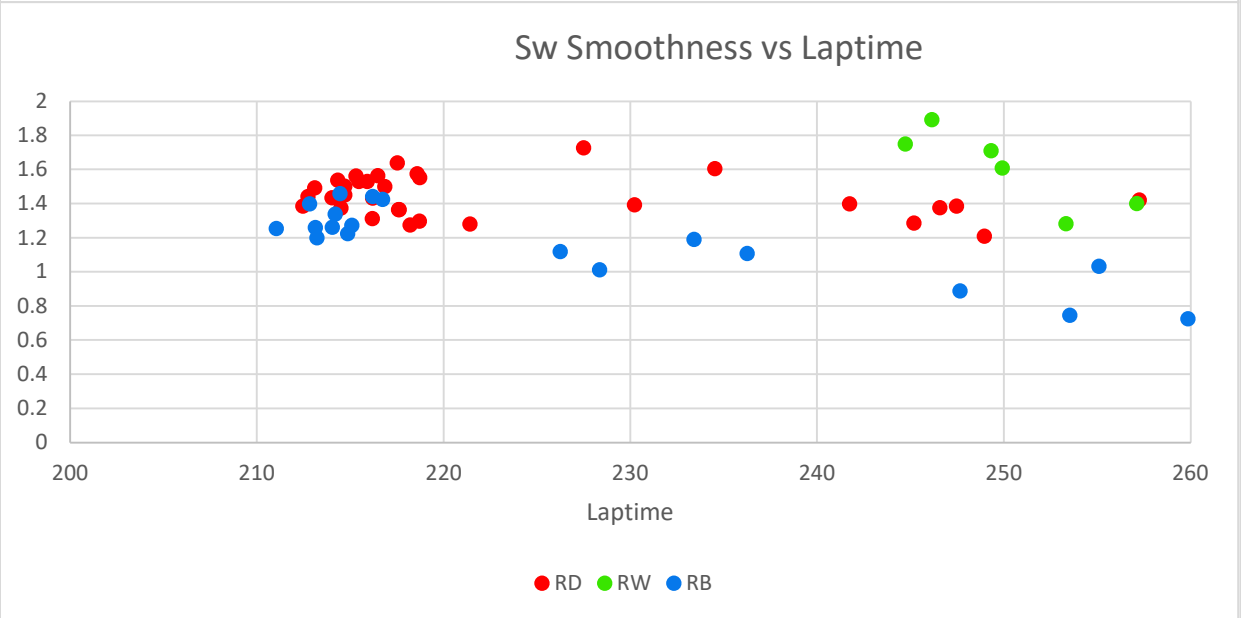
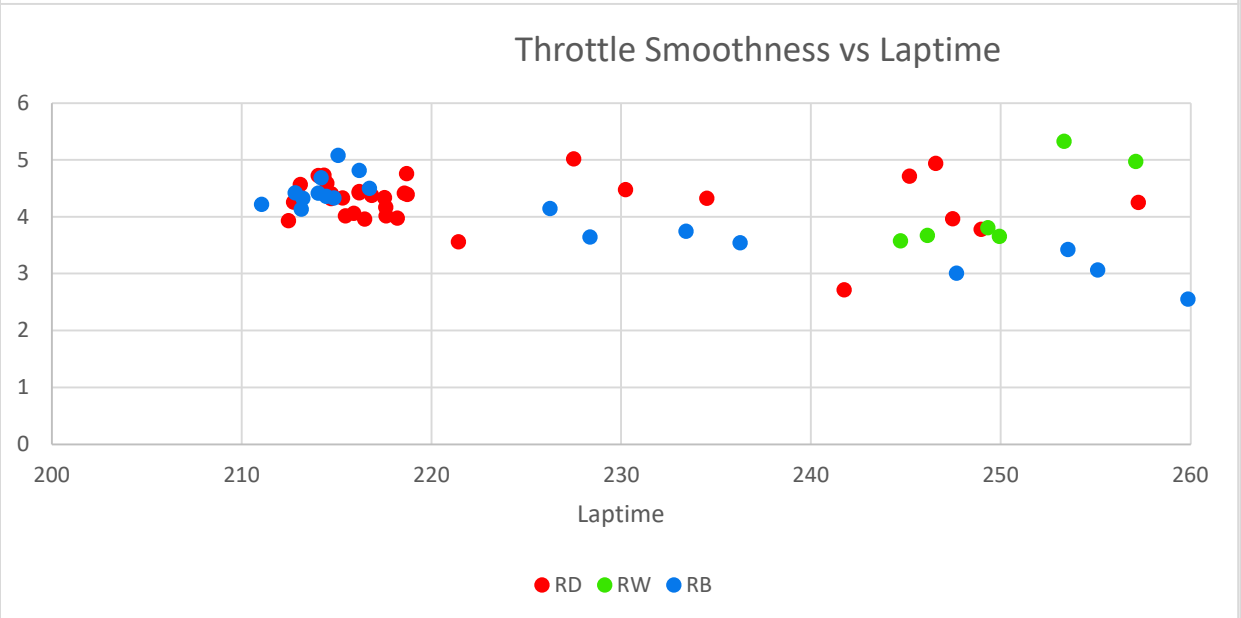
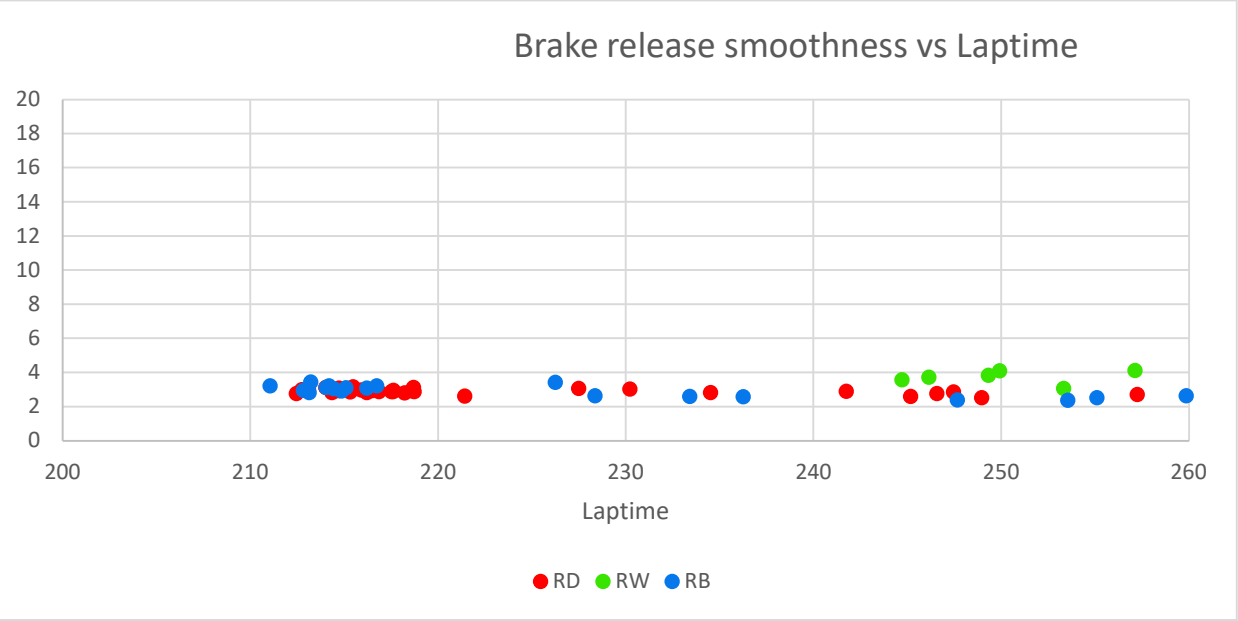
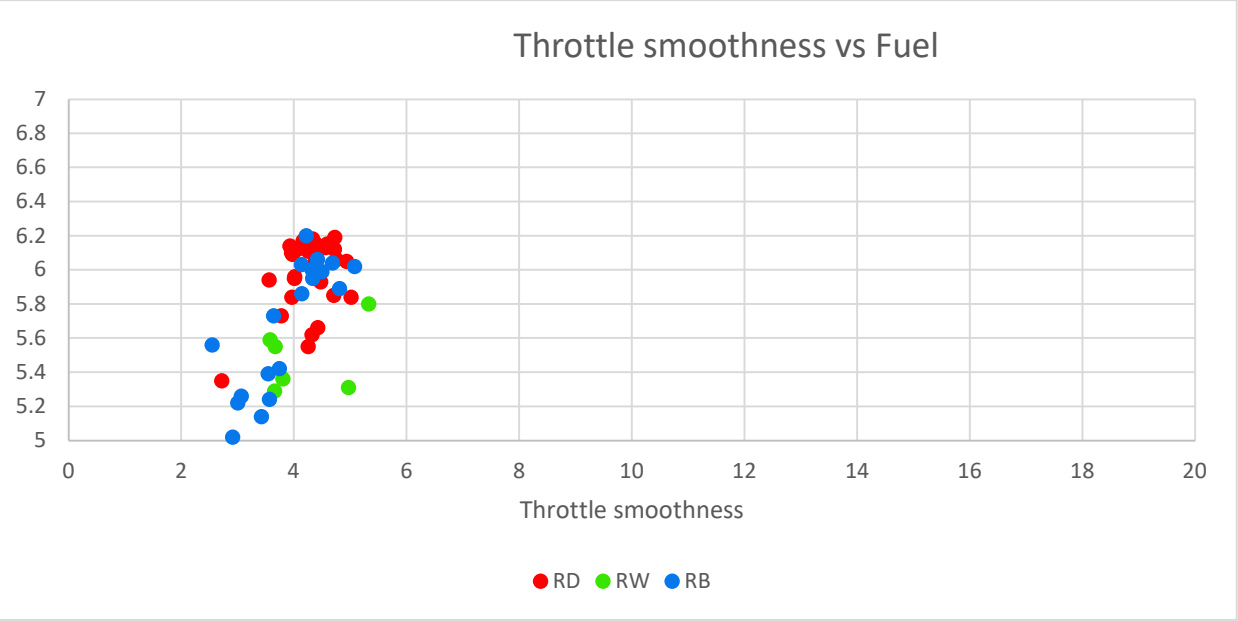
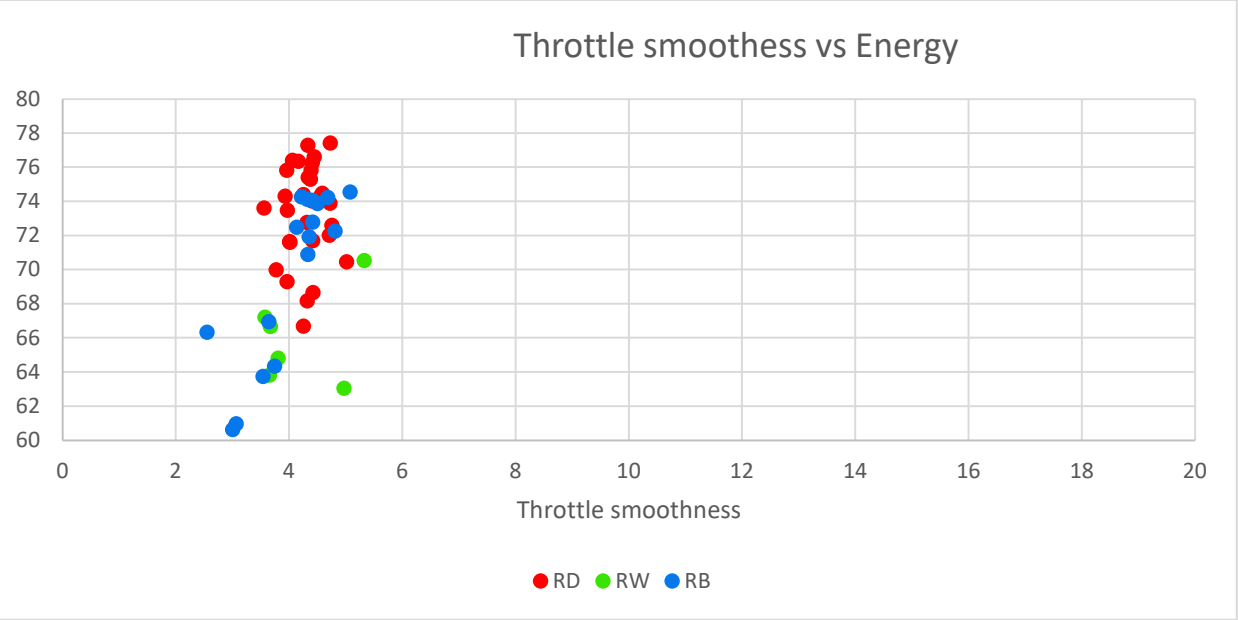

FuelConsumption_vs_Laptime [kg/lap vs s]
7
6.8
6.6
6.4
6.2
6
5.8
5.6
5.4
5.2
5
200
210
220
230
240
250
260
Laptime
RD RW RB


Sw Smoothness vs Laptime
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
200
210
220
230
240
250
260
Laptime
RD RW RB

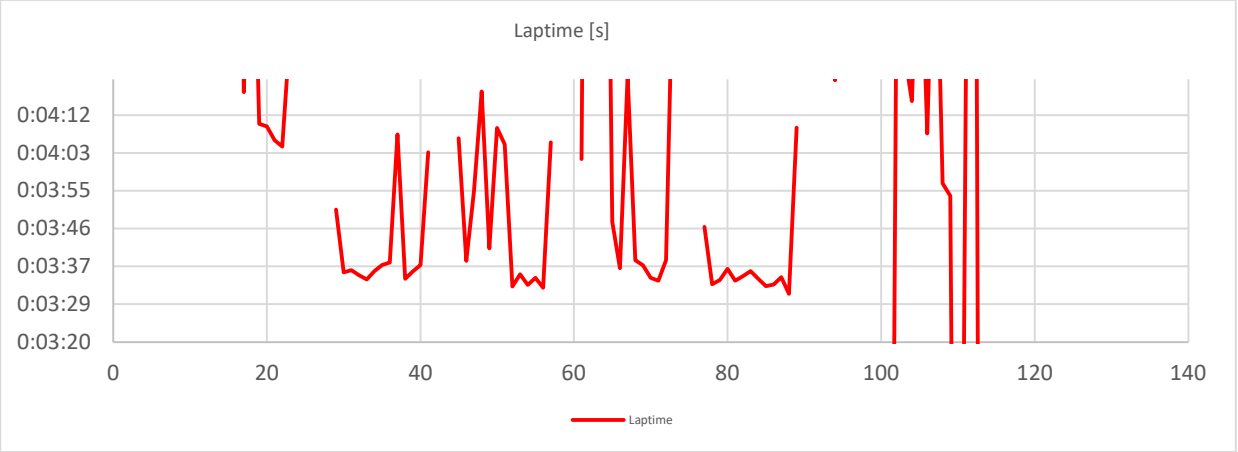

Throttle Smoothness vs Laptime
6
5
4
3
2
1
0
200
210
220
230
240
250
260
Laptime
RD RW RB

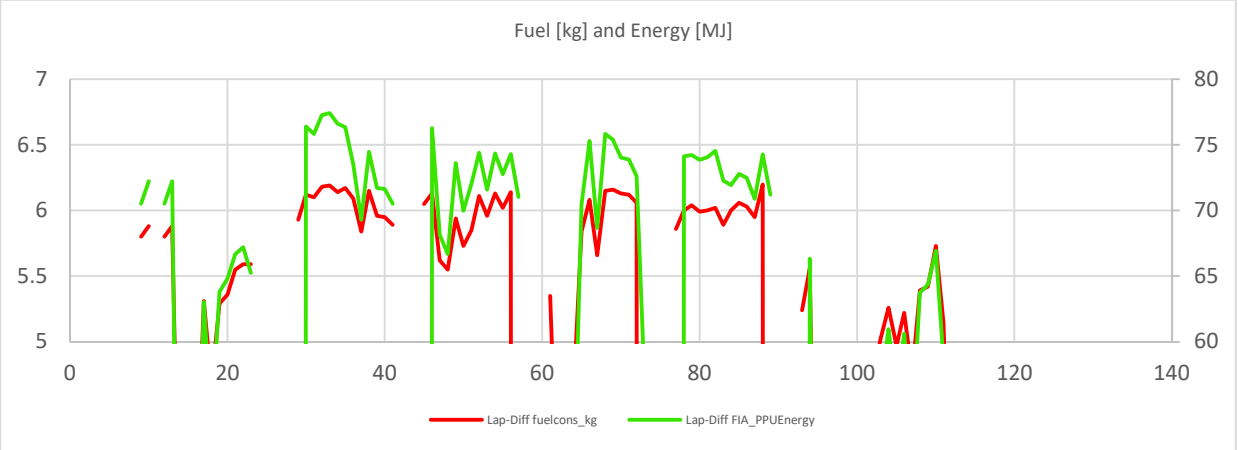

Brake release smoothness vs Laptime
20
18
16
14
12
10
8
6
4
2
0
200
210
220
230
240
250
260
Laptime
RD
RW
RB

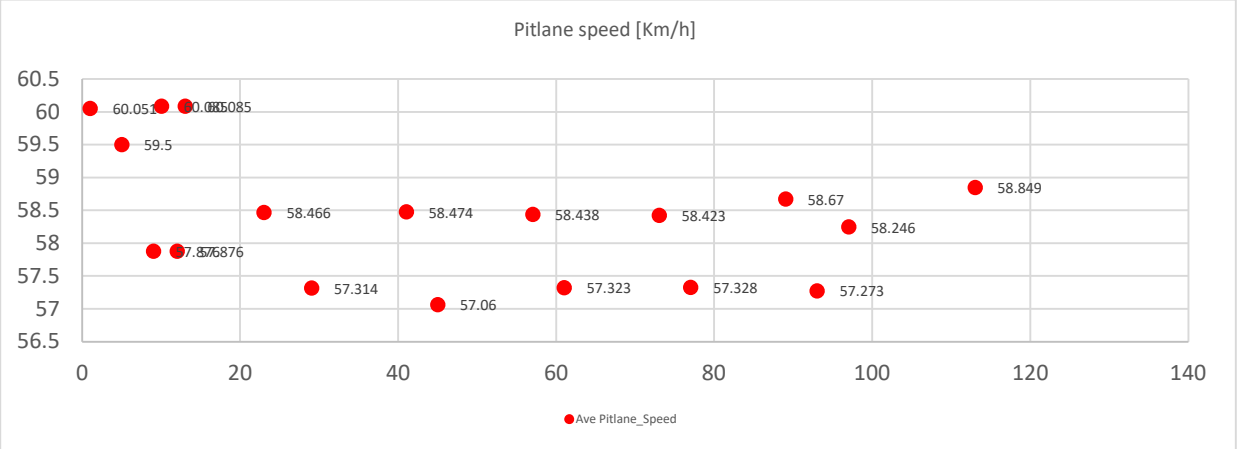

Throttle smoothness vs Fuel
7
6.8
6.6
6.4
6.2
6
5.8
5.6
5.4
5.2
5
0
2
4
6
8
10
12
14
16
18
20
Throttle smoothness
RD
RW
RB

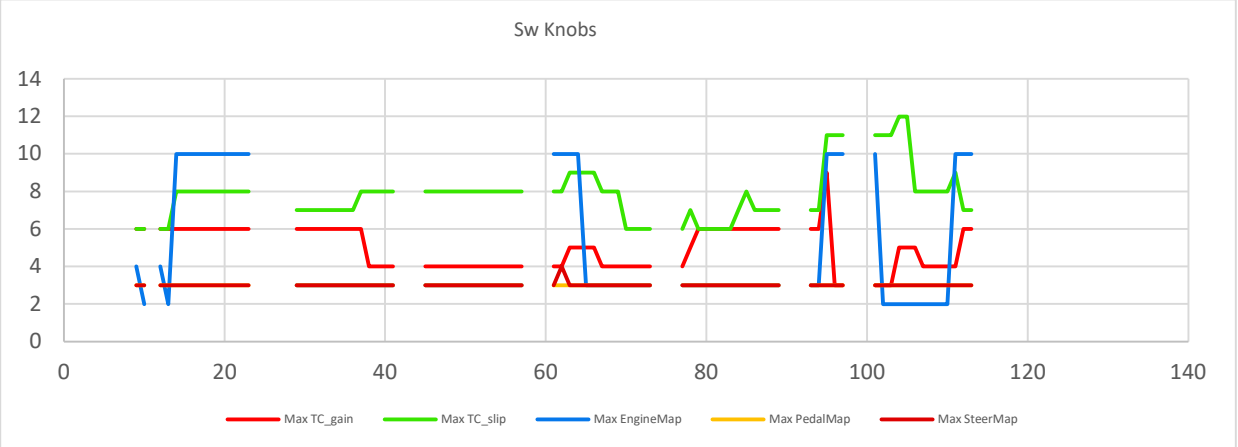

Throttle smoothess vs Energy
80
78
76
74
72
70
68
66
64
62
60
0
2
4
6
8
10
12
14
16
18
20
Throttle smoothness
RD
RW
RB

Driver

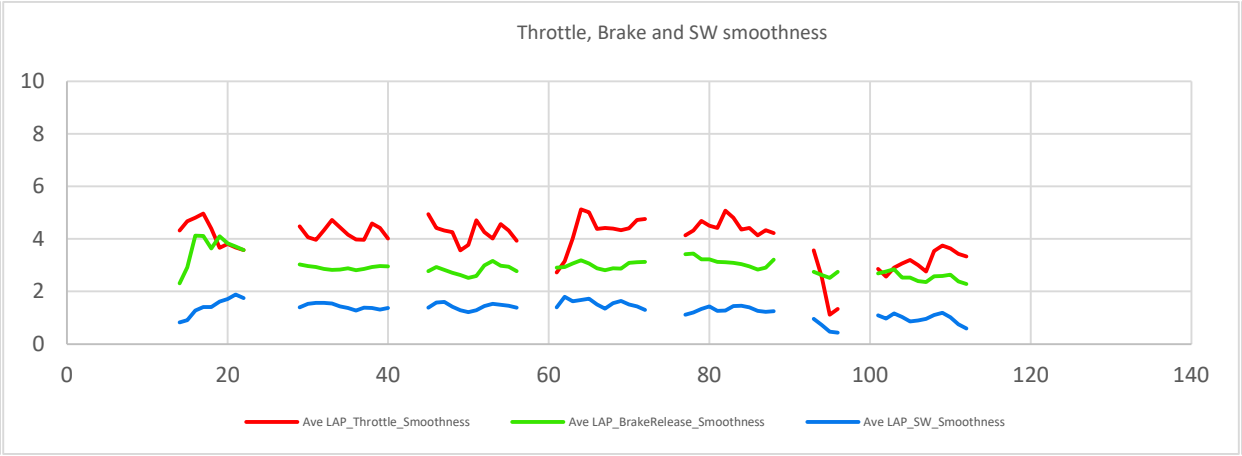

Laptime [s]
0:04:12
0:04:03
0:03:55
0:03:46
0:03:37
0:03:29
0:03:20
0
20
40
60
80
100
120
140
Laptime

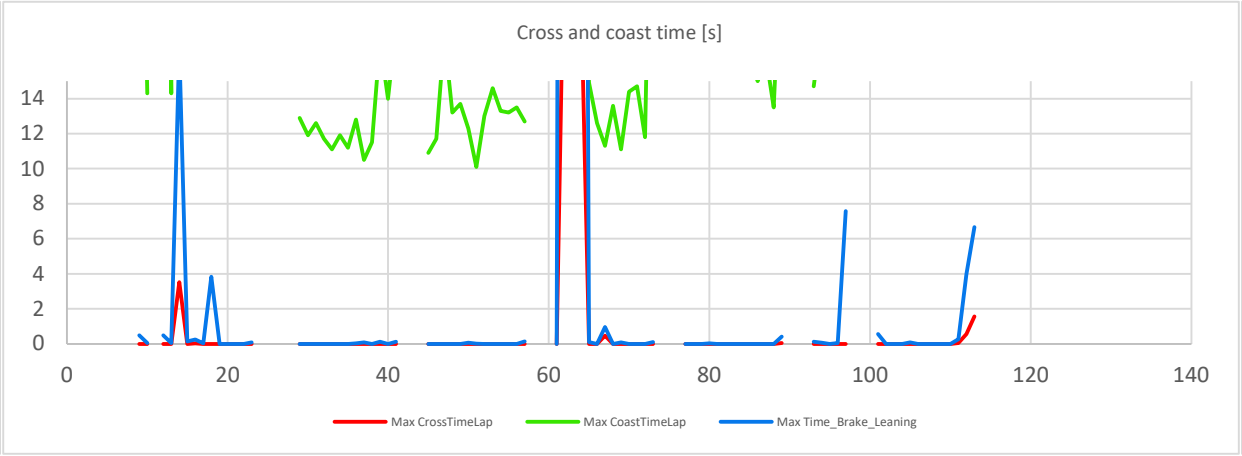

Fuel [kg] and Energy [MJ]
7
6.5
6
5.5
5
80
75
70
65
60
0
20
40
60
80
100
120
140
Lap-Diff fuelcons_kg
Lap-Diff FIA_PPUEnergy

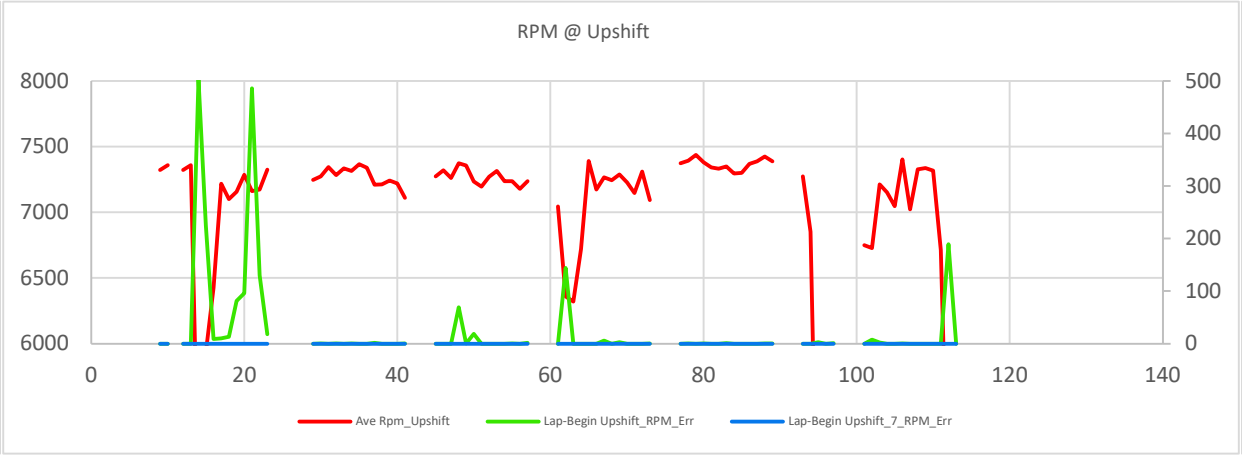

Pitlane speed [Km/h]
60.5
60
59.5
59
58.5
58
57.5
57
56.5
60.051
59.5
58.466
58.474
58.438
58.423
58.67
58.849
58.246
57.314
57.06
57.323
57.328
57.273
0
20
40
60
80
100
120
140
Ave Pitlane_Speed

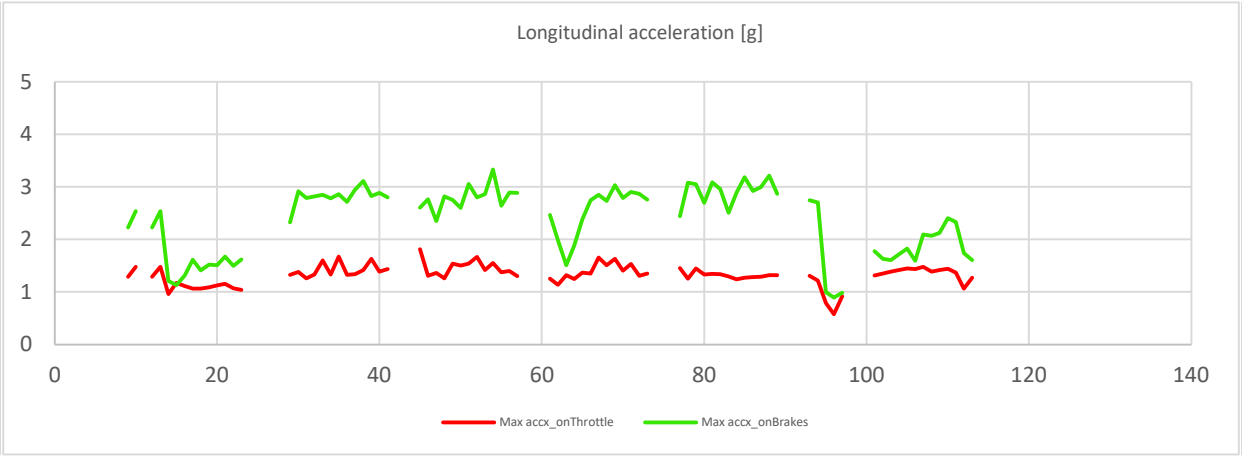

Sw Knobs
14
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
Max TC_gain
Max TC_slip
Max EngineMap
Max PedalMap
Max SteerMap

Driver 2

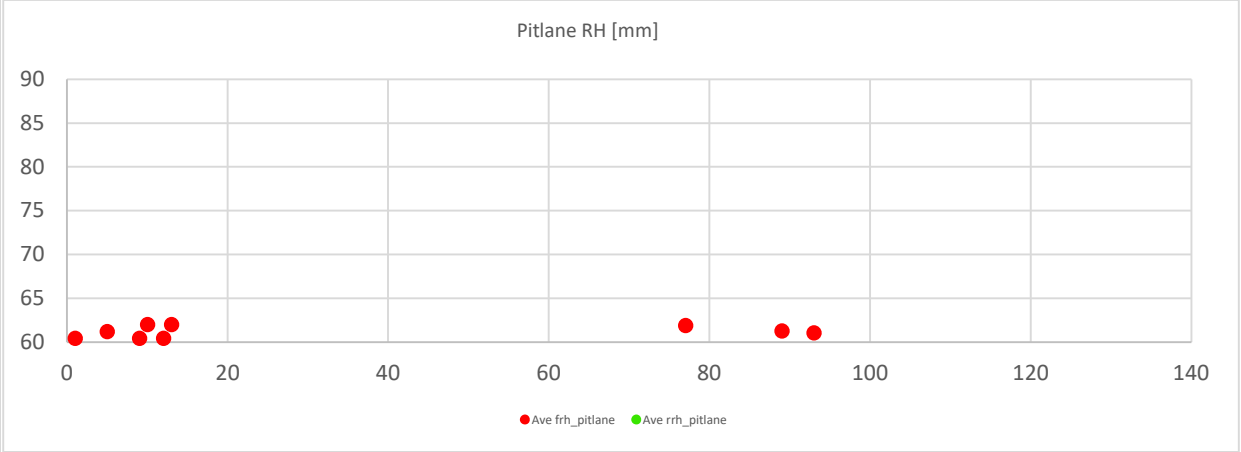

Throttle, Brake and SW smoothness
10
8
6
4
2
0
0
20
40
60
80
100
120
140
Ave LAP_Throttle_Smoothness
Ave LAP_BrakeRelease_Smoothness
Ave LAP_SW_Smoothness

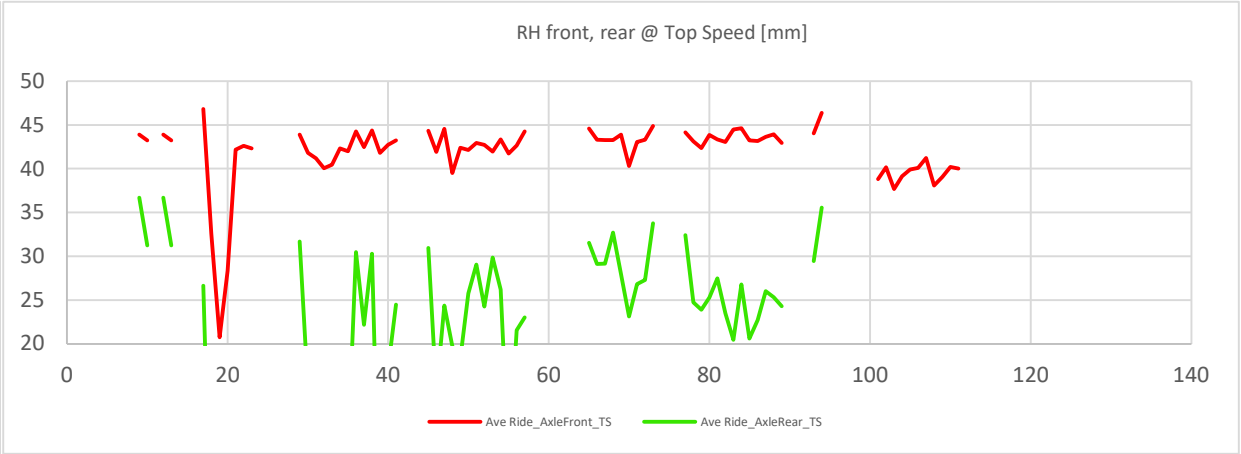

Cross and coast time [s]
14
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
Max CrossTimeLap
Max CoastTimeLap
Max Time_Brake_Leaning

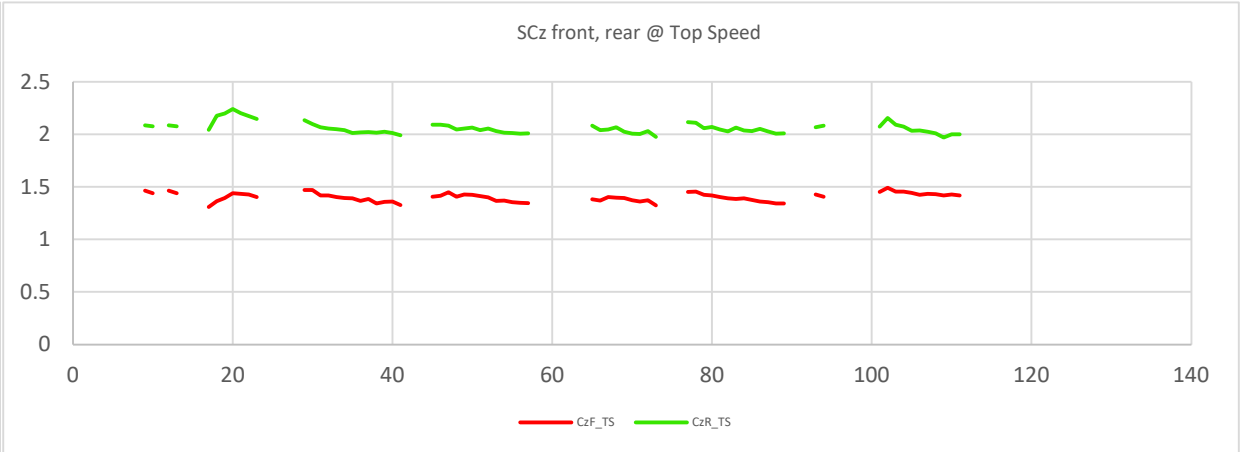

RPM @ Upshift
8000
7500
7000
6500
6000
500
400
300
200
100
0
0
20
40
60
80
100
120
140
Ave Rpm_Upshift
Lap-Begin Upshift_RPM_Err
Lap-Begin Upshift_7_RPM_Err


Longitudinal acceleration [g]
5
4
3
2
1
0
0
20
40
60
80
100
120
140
Max accx_onThrottle
Max accx_onBrakes

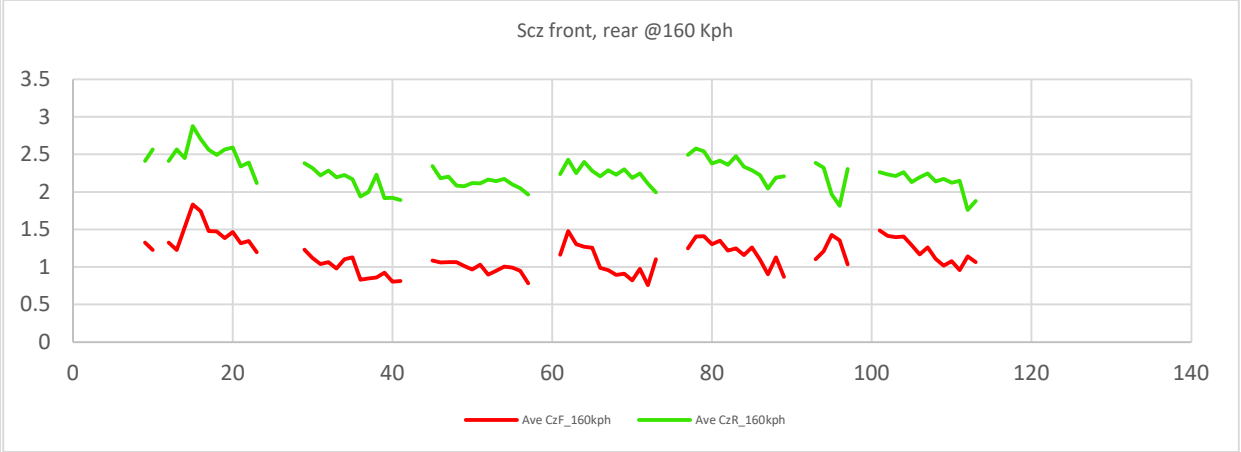
Aerodynamics 1

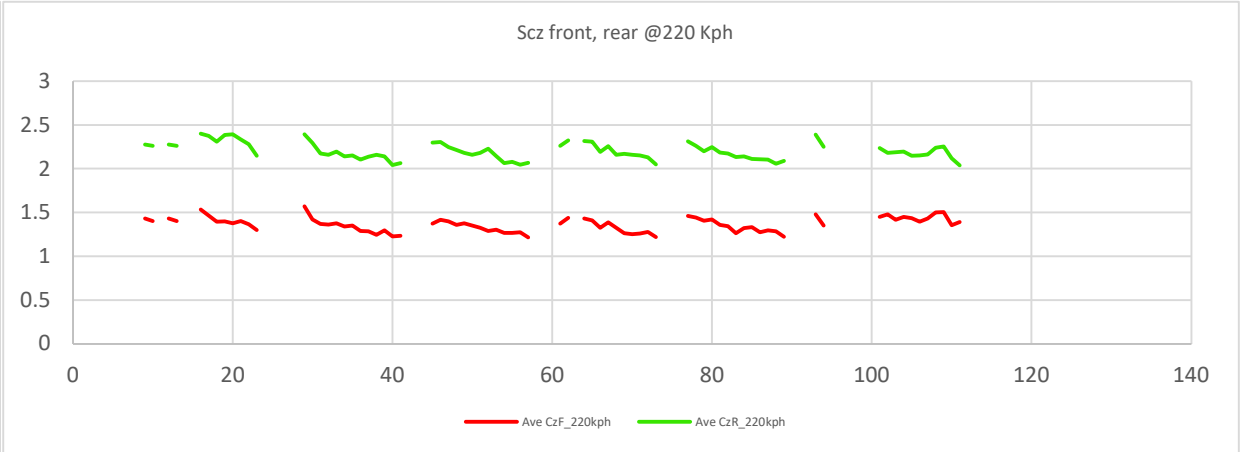


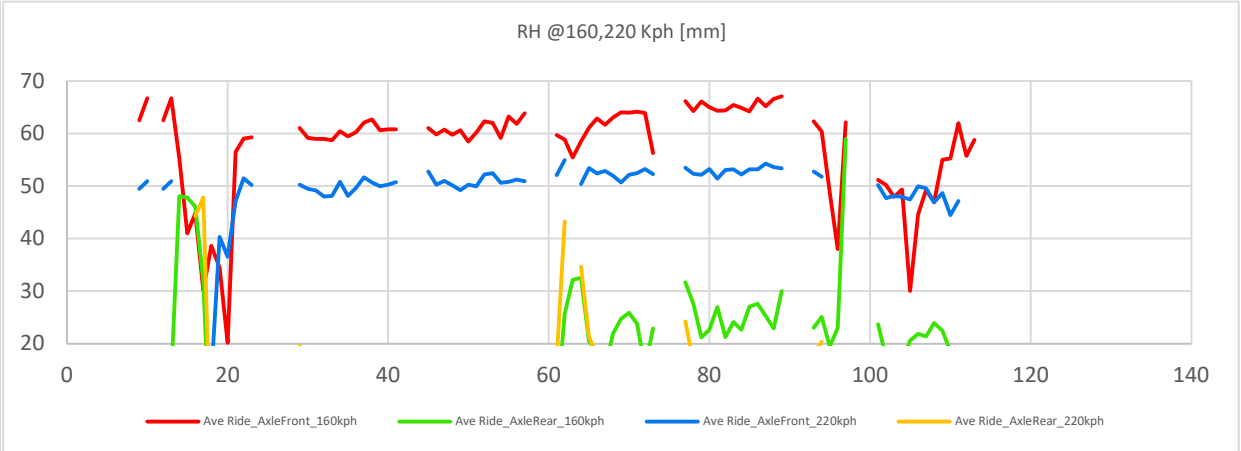


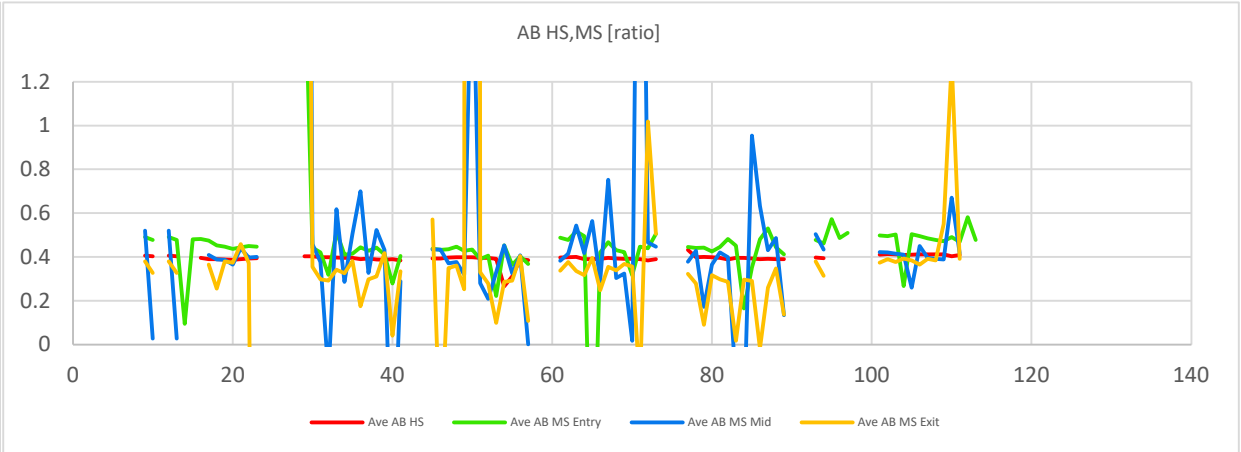


Aerodynamics 2

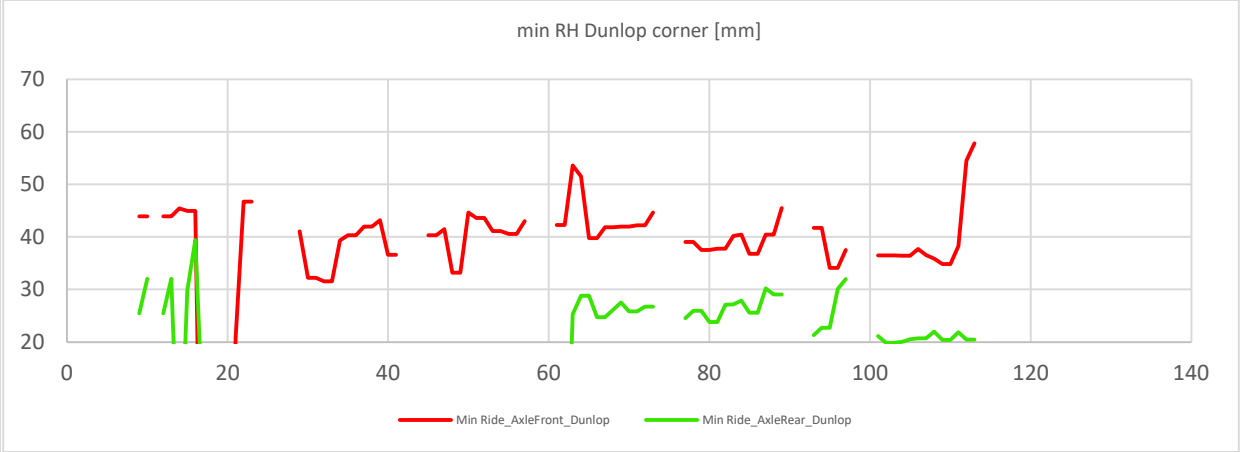


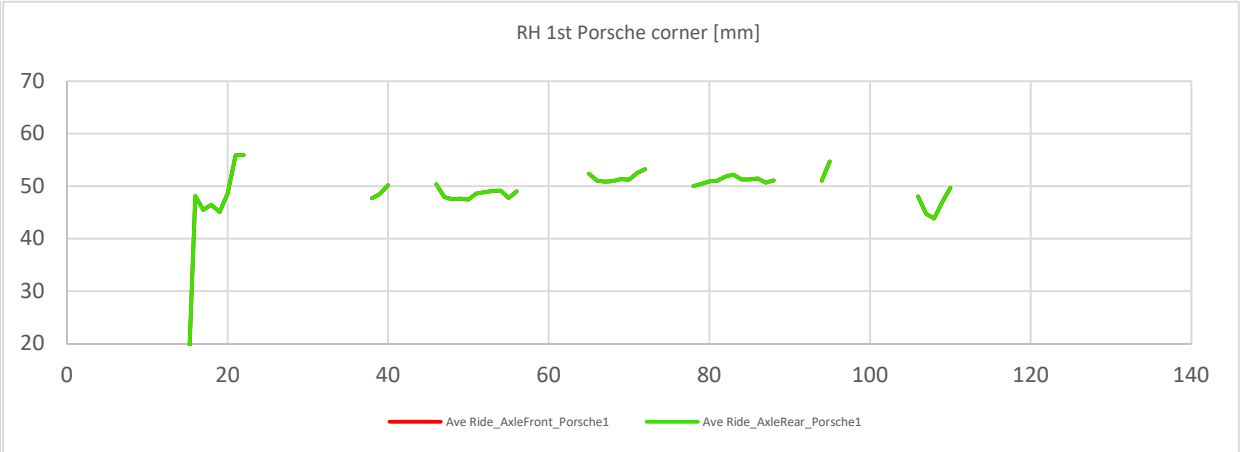




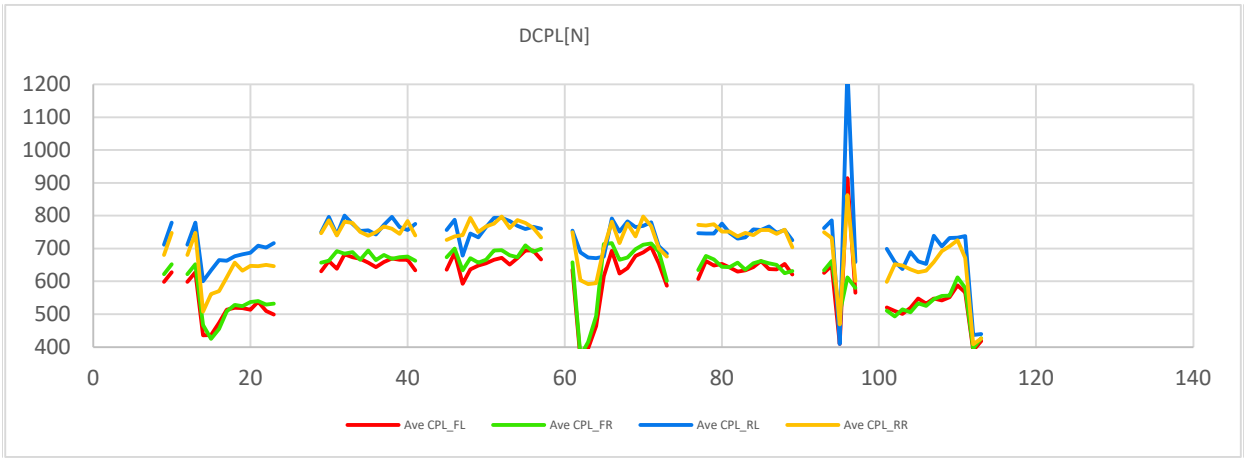


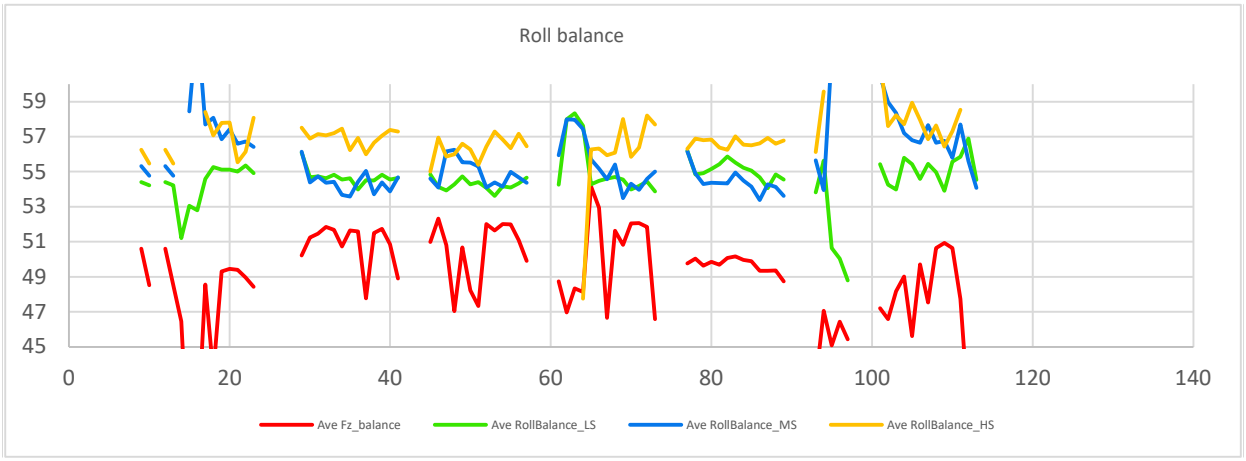
Aerodynamics 3 (Track specific)

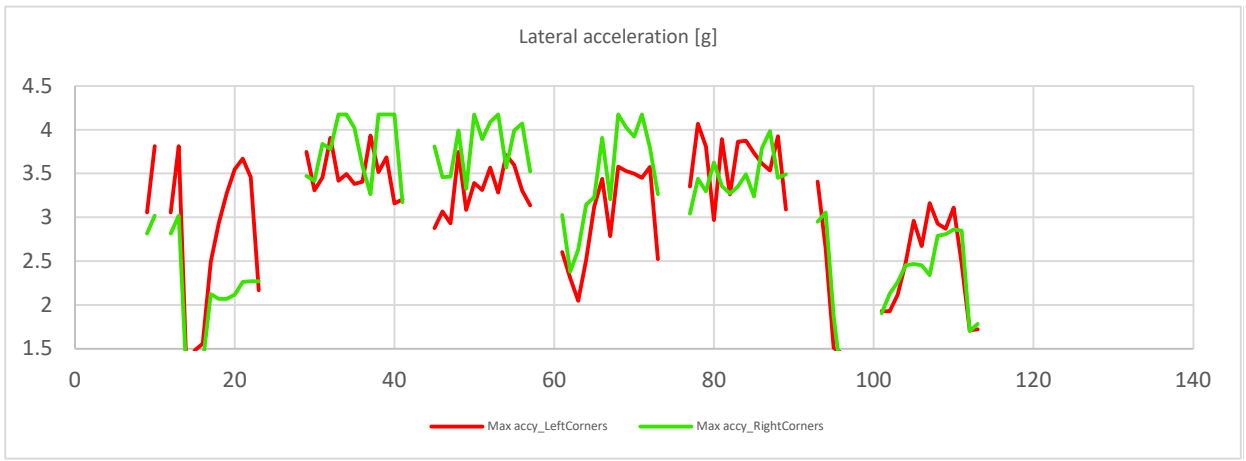




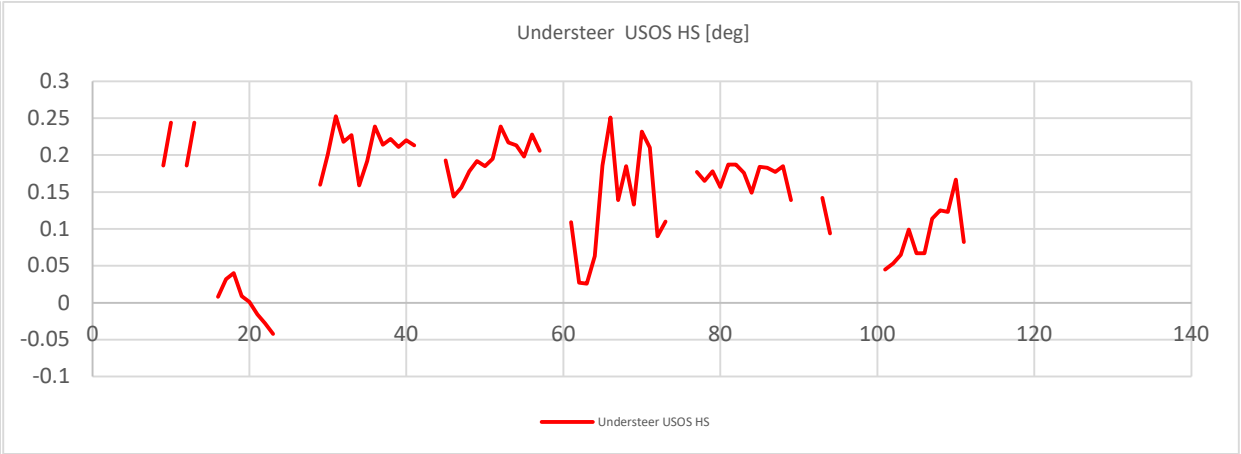
Setup 1

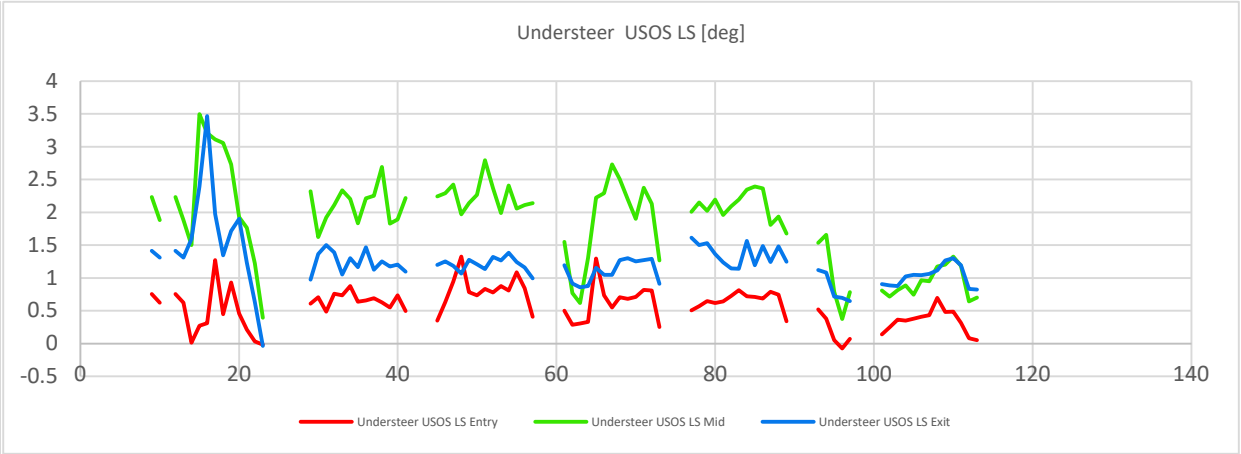

DCPL[N]
1200
1100
1000
900
800
700
600
500
400
0
20
40
60
80
100
120
140
Ave CPL_FL
Ave CPL_FR
Ave CPL_RL
Ave CPL_RR

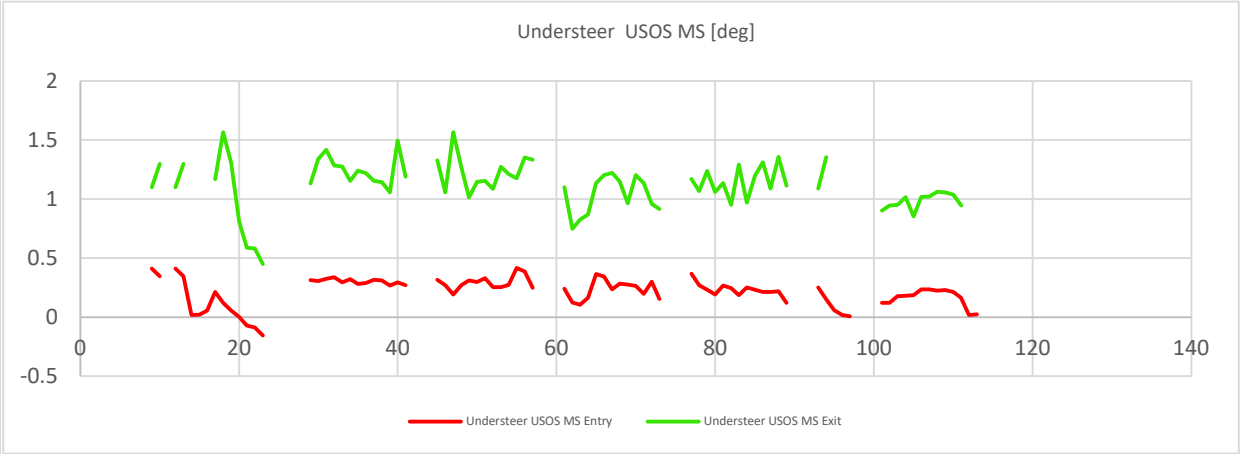

Roll balance
59
57
55
53
51
49
47
45
0
20
40
60
80
100
120
140
Ave Fz_balance
Ave RollBalance_LS
Ave RollBalance_MS
Ave RollBalance_HS


Lateral acceleration [g]
4.5
4
3.5
3
2.5
2
1.5
0
20
40
60
80
100
120
140
Max accy_LeftCorners
Max accy_RightCorners

Setup 2

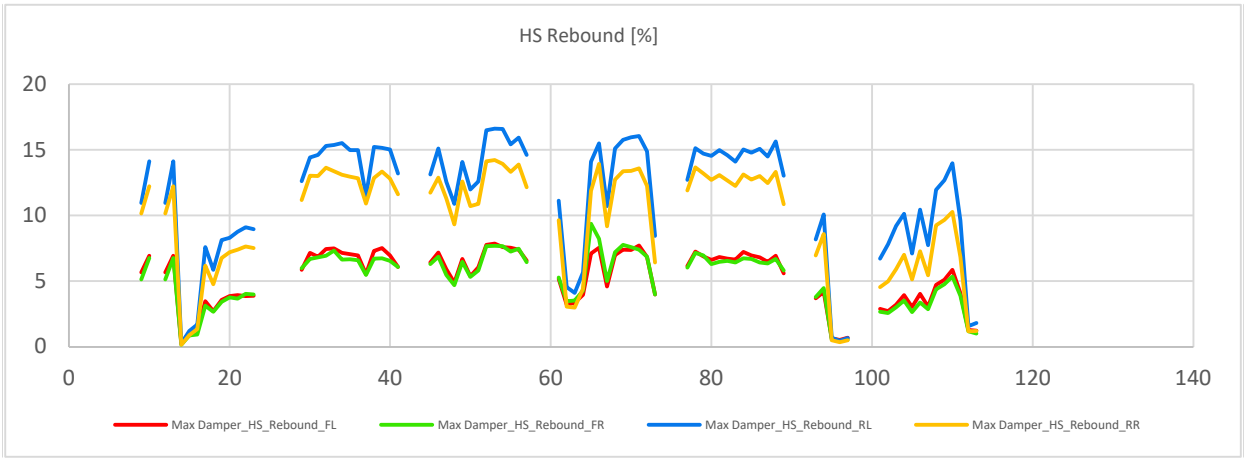

Understeer USOS HS [deg]
0.3
0.25
0.2
0.15
0.1
0.05
0
-0.05
-0.1
0
20
40
60
80
100
120
140
Understeer USOS HS

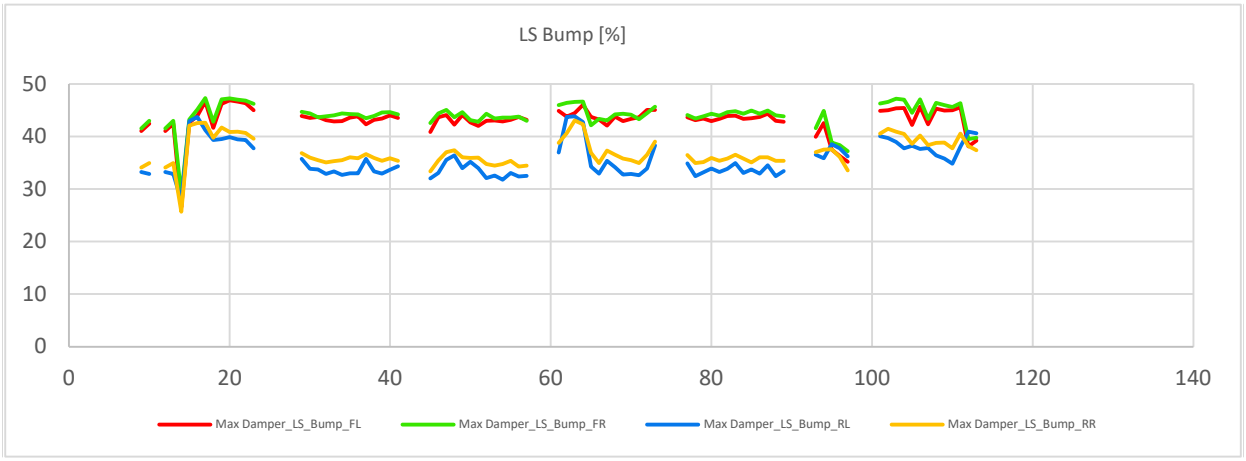

Understeer USOS LS [deg]
4
3.5
3
2.5
2
1.5
1
0.5
0
-0.5
0
20
40
60
80
100
120
140
Understeer USOS LS Entry
Understeer USOS LS Mid
Understeer USOS LS Exit

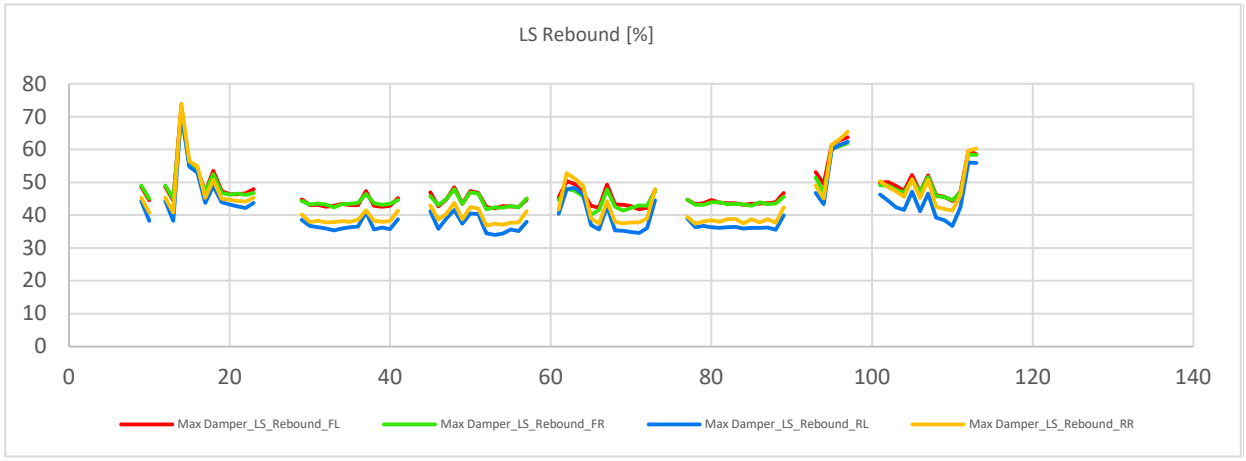

Understeer USOS MS [deg]
2
1.5
1
0.5
0
-0.5
0
20
40
60
80
100
120
140
Understeer USOS MS Entry
Understeer USOS MS Exit

Damper

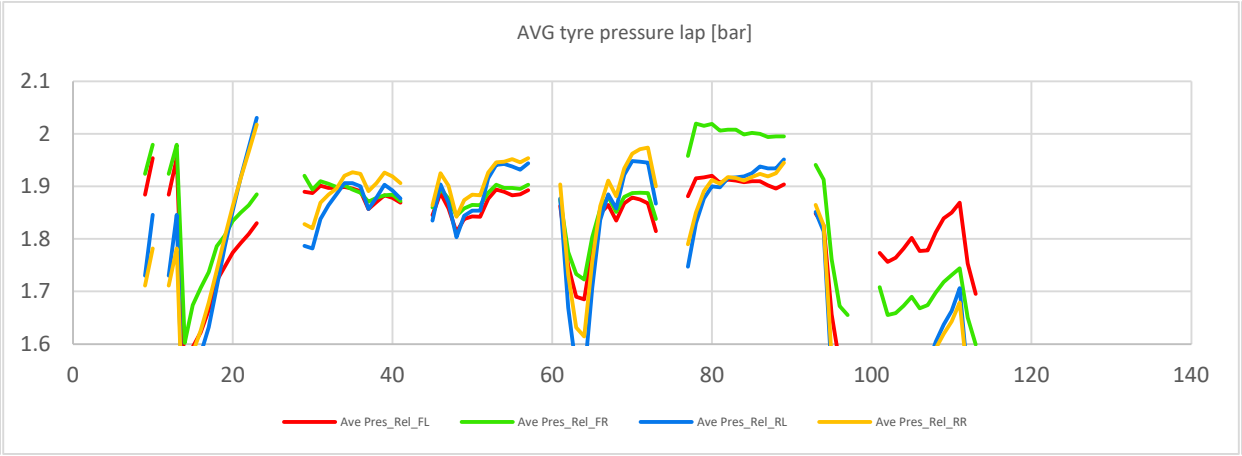
HS Bump [%]
20
15
10
5
0
0
20
40
60
80
100
120
140
Max Damper_HS_Bump_FL
Max Damper_HS_Bump_FR
Max Damper_HS_Bump_RL
Max Damper_HS_Bump_RR

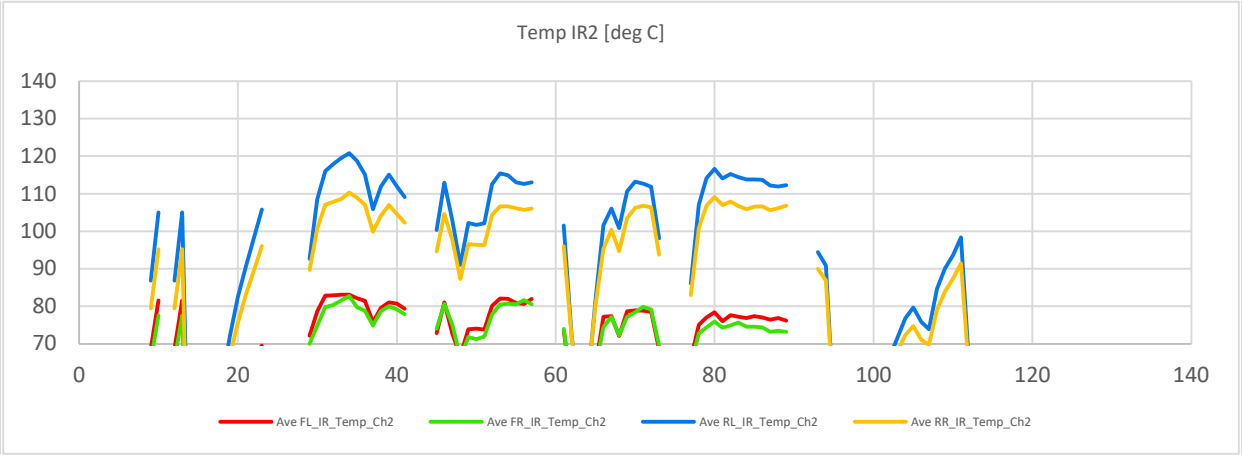

HS Rebound [%]
20
15
10
5
0
0
20
40
60
80
100
120
140
Max Damper_HS_Rebound_FL
Max Damper_HS_Rebound_FR
Max Damper_HS_Rebound_RL
Max Damper_HS_Rebound_RR

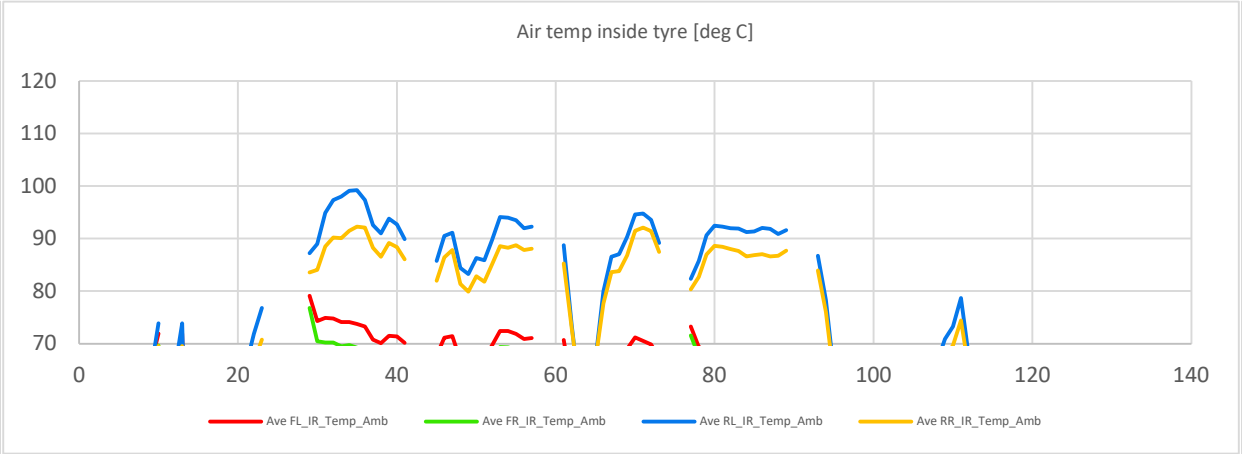

LS Bump [%]
50
40
30
20
10
0
0
20
40
60
80
100
120
140
Max Damper_LS_Bump_FL
Max Damper_LS_Bump_FR
Max Damper_LS_Bump_RL
Max Damper_LS_Bump_RR

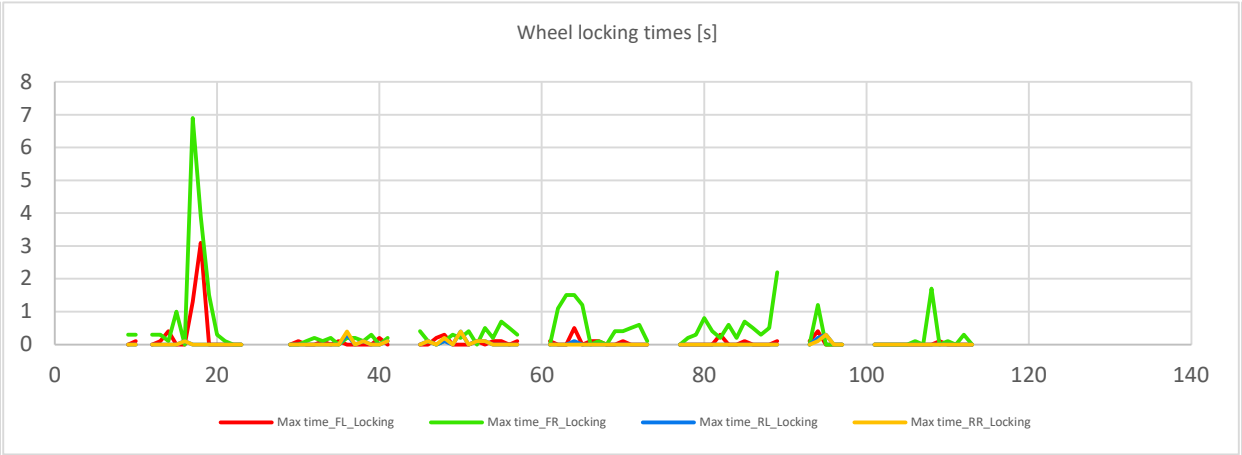

LS Rebound [%]
80
70
60
50
40
30
20
10
0
0
20
40
60
80
100
120
140
Max Damper_LS_Rebound_FL
Max Damper_LS_Rebound_FR
Max Damper_LS_Rebound_RL
Max Damper_LS_Rebound_RR

Tyres

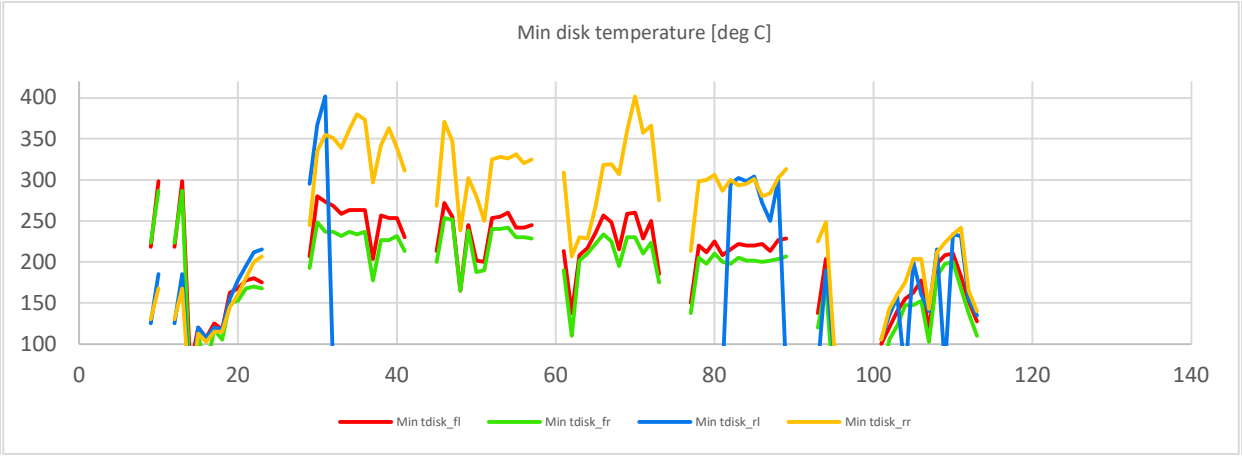

AVG tyre pressure lap [bar]
2.1
2
1.9
1.8
1.7
1.6
0
20
40
60
80
100
120
140
Ave Pres_Rel_FL
Ave Pres_Rel_FR
Ave Pres_Rel_RL
Ave Pres_Rel_RR

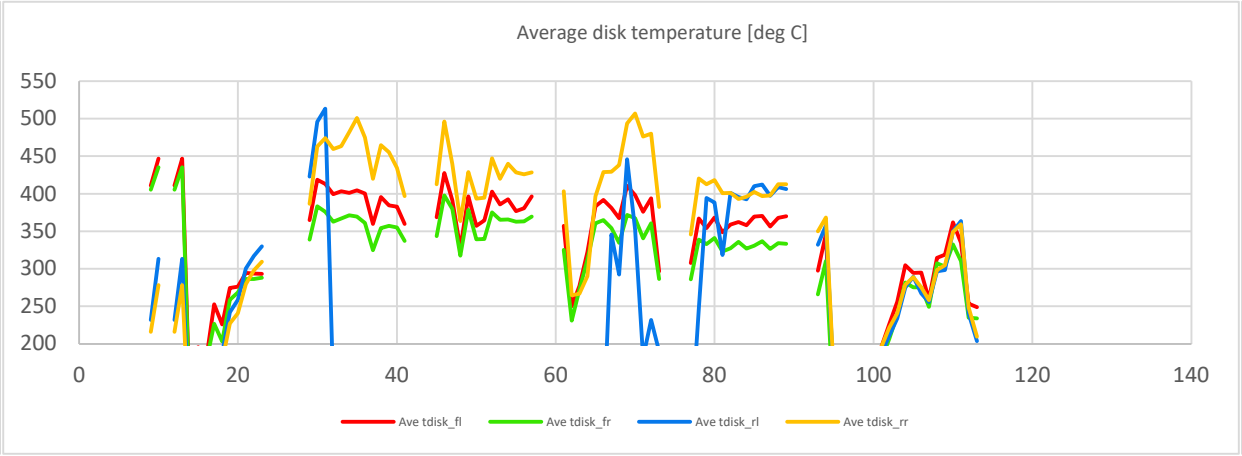

Temp IR2 [deg C]
140
130
120
110
100
90
80
70
0
20
40
60
80
100
120
140
Ave FL_IR_Temp_Ch2
Ave FR_IR_Temp_Ch2
Ave RL_IR_Temp_Ch2
Ave RR_IR_Temp_Ch2

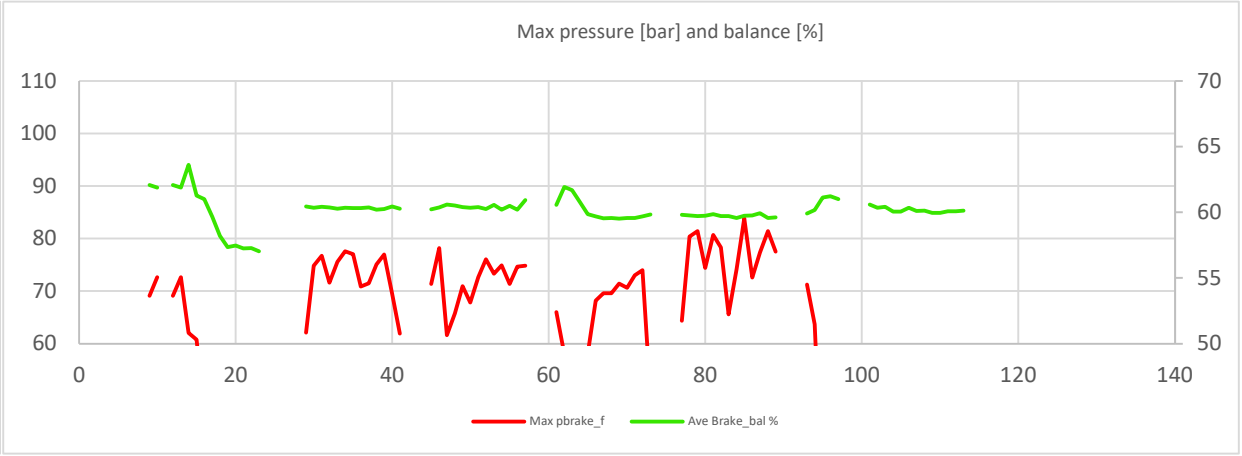

Air temp inside tyre [deg C]
120
110
100
90
80
70
0
20
40
60
80
100
120
140
Ave FL_IR_Temp_Amb
Ave FR_IR_Temp_Amb
Ave RL_IR_Temp_Amb
Ave RR_IR_Temp_Amb

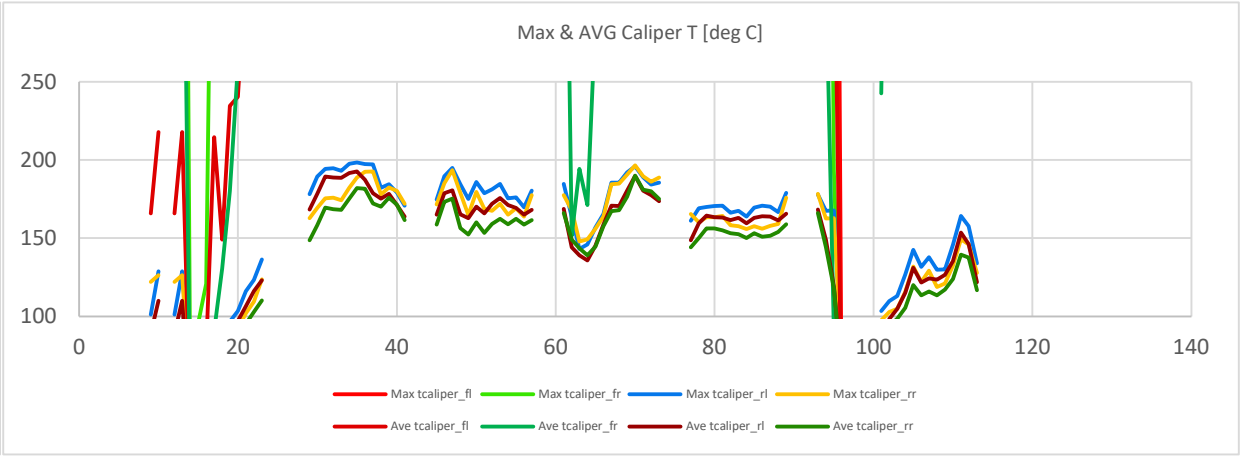

Wheel locking times [s]
8
7
6
5
4
3
2
1
0
0
20
40
60
80
100
120
140
Max time_FL_Locking
Max time_FR_Locking
Max time_RL_Locking
Max time_RR_Locking

Brakes

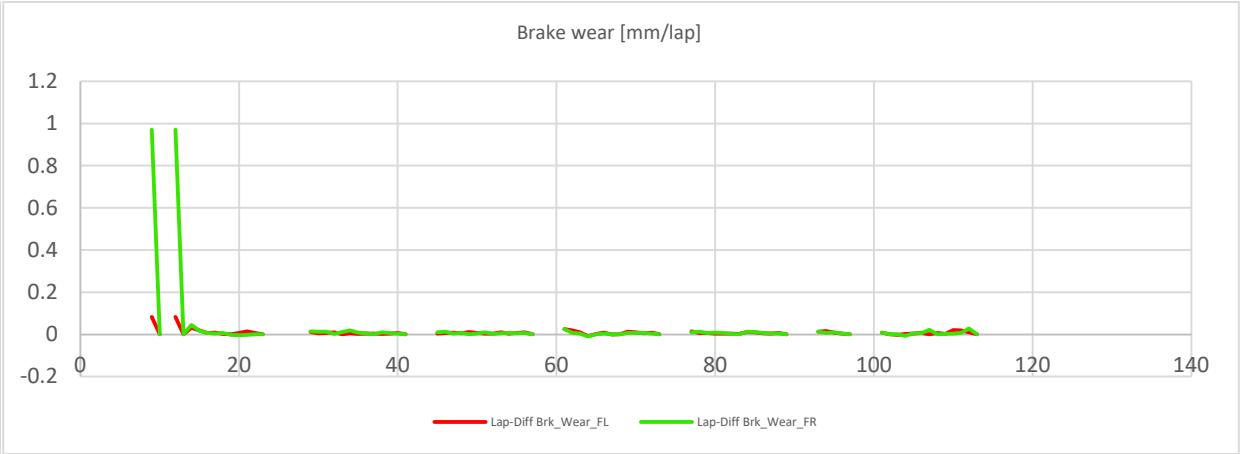

Min disk temperature [deg C]
400
350
300
250
200
150
100
0
20
40
60
80
100
120
140
Min tdisk_fl
Min tdisk_fr
Min tdisk_rl
Min tdisk_rr

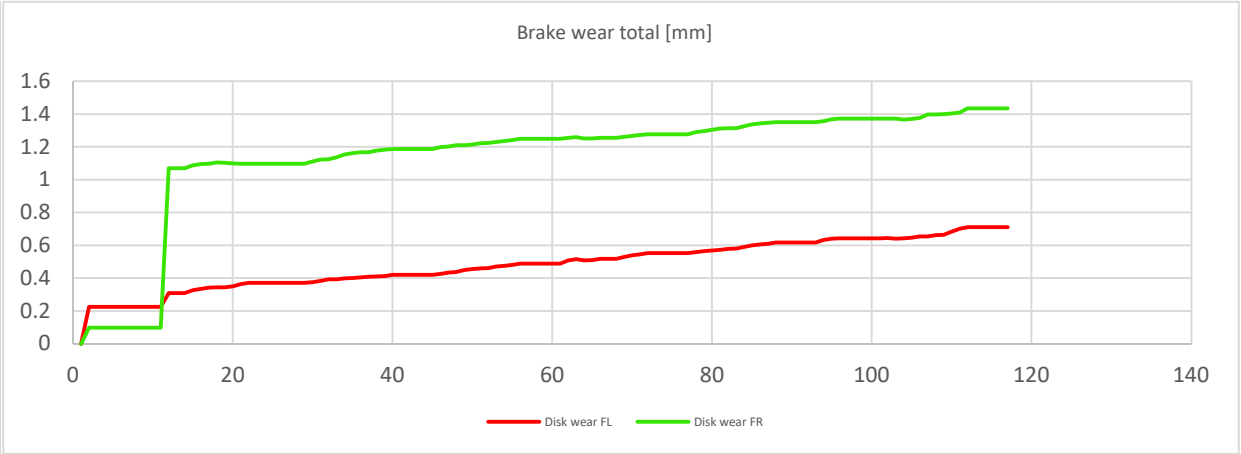

Average disk temperature [deg C]
550
500
450
400
350
300
250
200
0
20
40
60
80
100
120
140
Ave tdisk_fl
Ave tdisk_fr
Ave tdisk_rl
Ave tdisk_rr


Max pressure [bar] and balance [%]
110
100
90
80
70
60
70
65
60
55
50
0
20
40
60
80
100
120
140
Max pbrake_f
Ave Brake_bal %

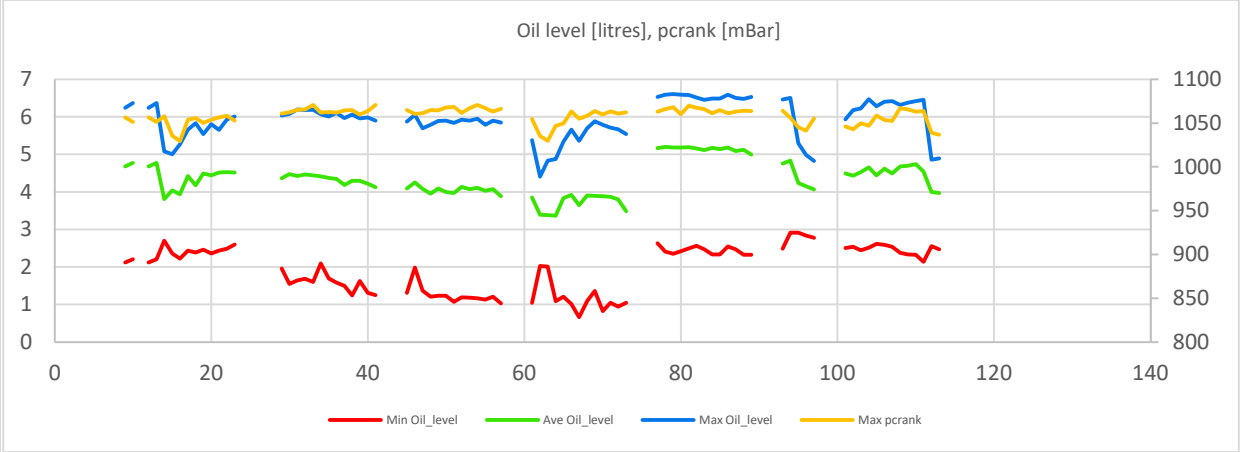

Max & AVG Caliper T [deg C]
250
200
150
100
0
20
40
60
80
100
120
140
Max tcaliper_fl
Max tcaliper_fr
Max tcaliper_rl
Max tcaliper_rr
Ave tcaliper_fl
Ave tcaliper_fr
Ave tcaliper_rl
Ave tcaliper_rr

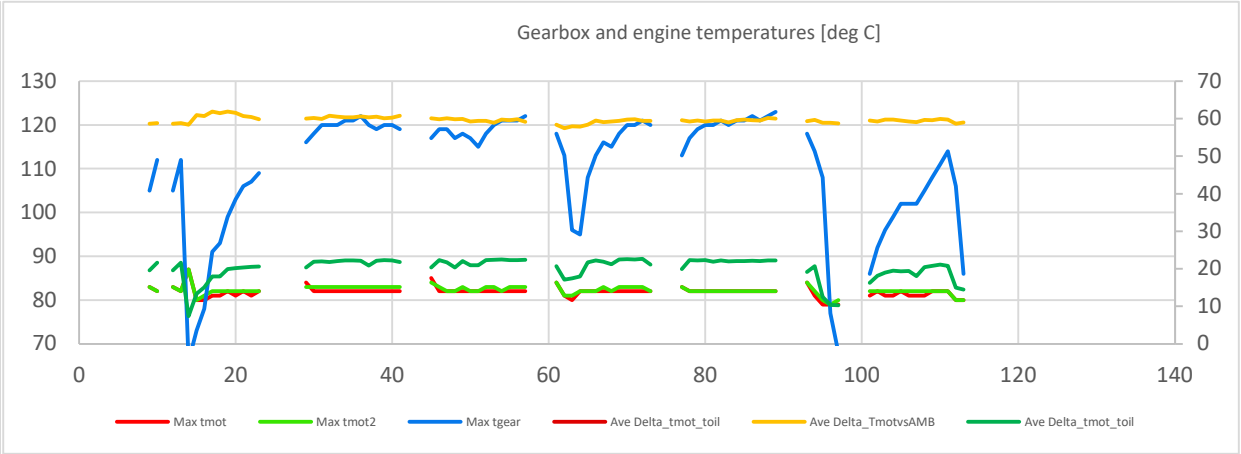
Brake wear

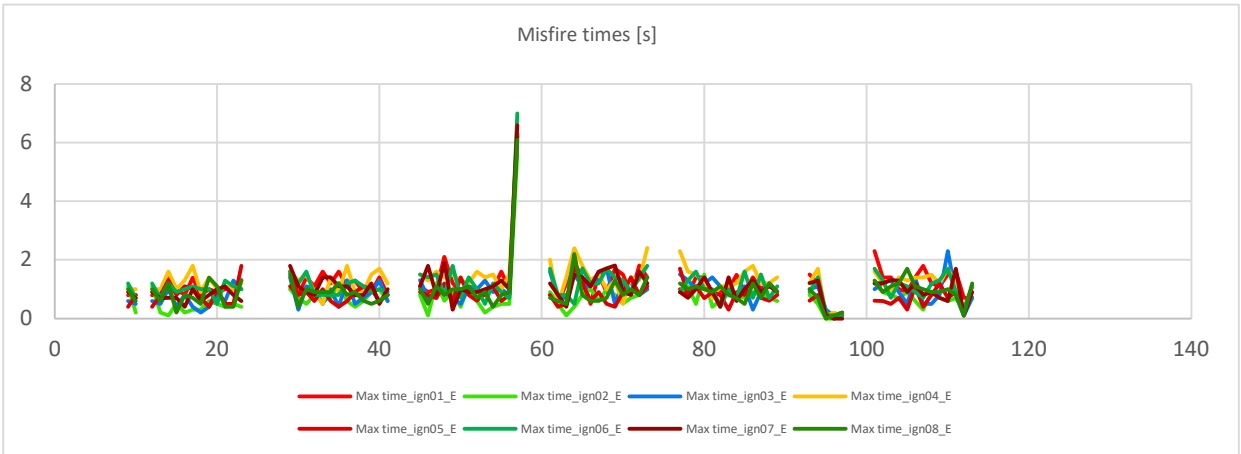

Brake wear [mm/lap]
1.2
1
0.8
0.6
0.4
0.2
0
-0.2
0
20
40
60
80
100
120
140
Lap-Diff Brk_Wear_FL
Lap-Diff Brk_Wear_FR

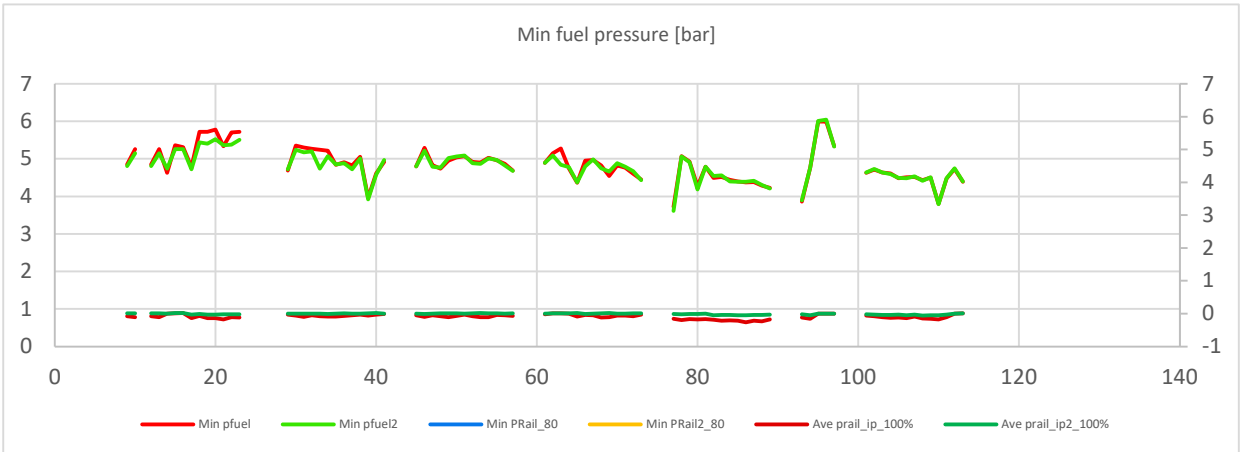

Brake wear total [mm]
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
20
40
60
80
100
120
140
Disk wear FL
Disk wear FR

Engine

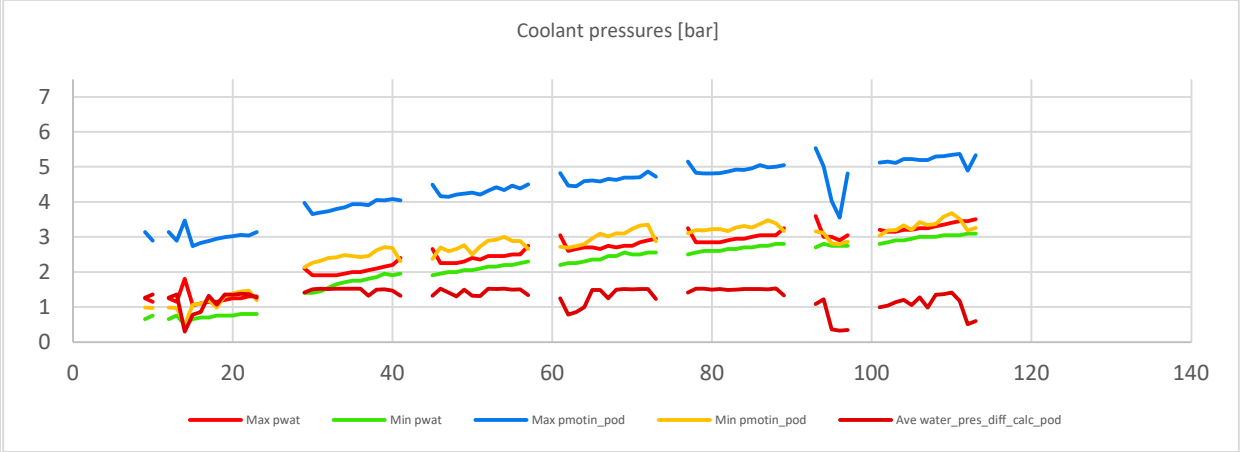

Oil level [litres], pcrank [mBar]
Min Oil_level
Ave Oil_level
Max Oil_level
Max pcrank

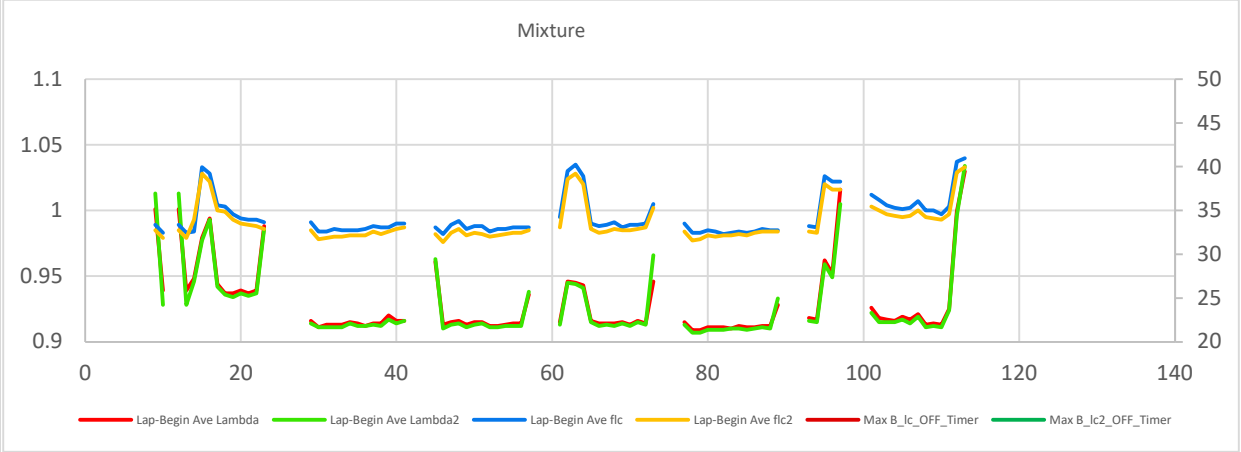

Gearbox and engine temperatures [deg C]
Max tmot
Max tmot2
Max tgear
Ave Delta_tmot_toil
Ave Delta_TmotvsAMB
Ave Delta_tmot_toil

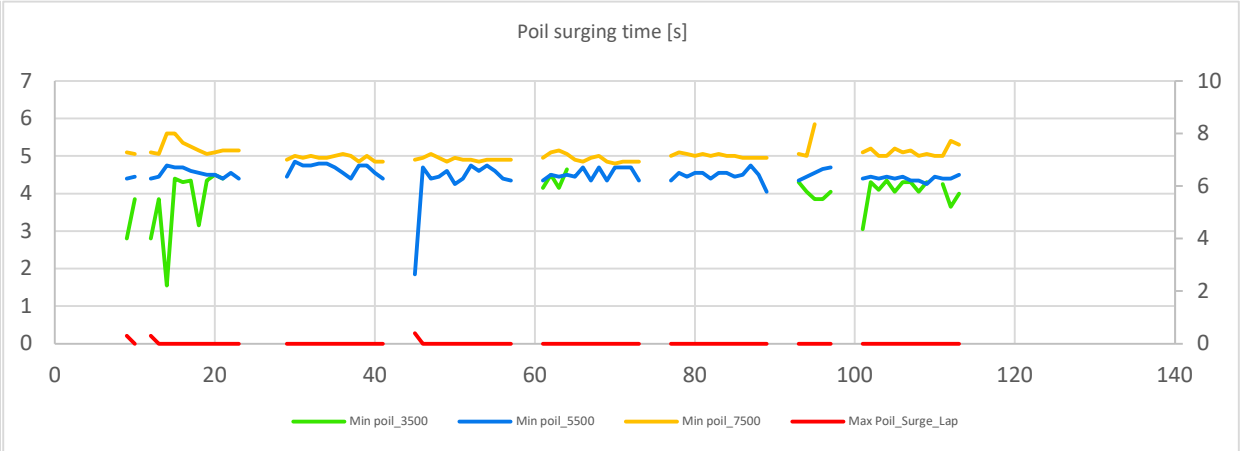

Misfire times [s]
Max time_ign01_E
Max time_ign02_E
Max time_ign03_E
Max time_ign04_E
Max time_ign05_E
Max time_ign06_E
Max time_ign07_E
Max time_ign08_E

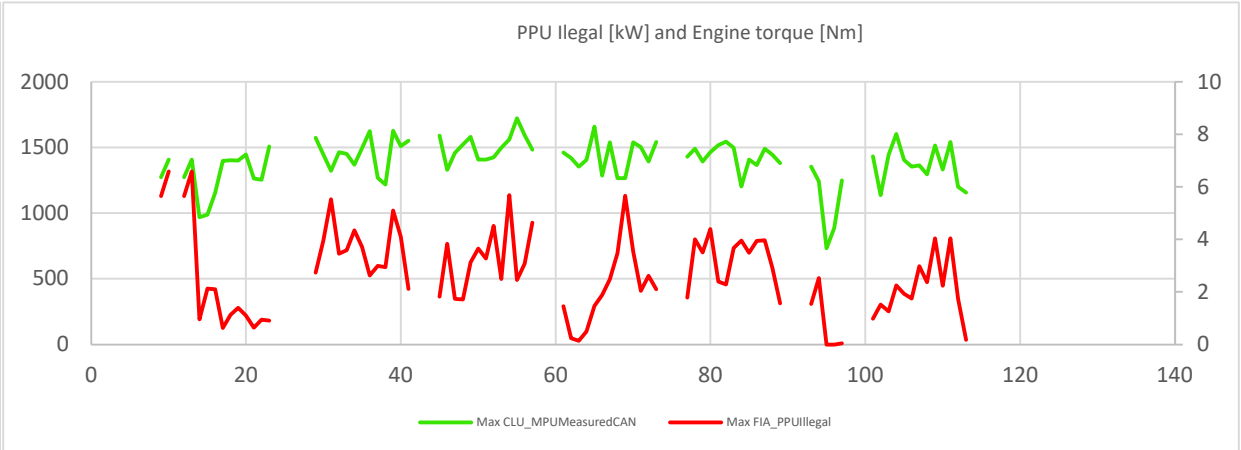

Min fuel pressure [bar]
Min pfuel
Min pfuel2
Min PRail_80
Min PRail2_80
Ave prail_ip_100%
Ave prail_ip2_100%

Engine 2

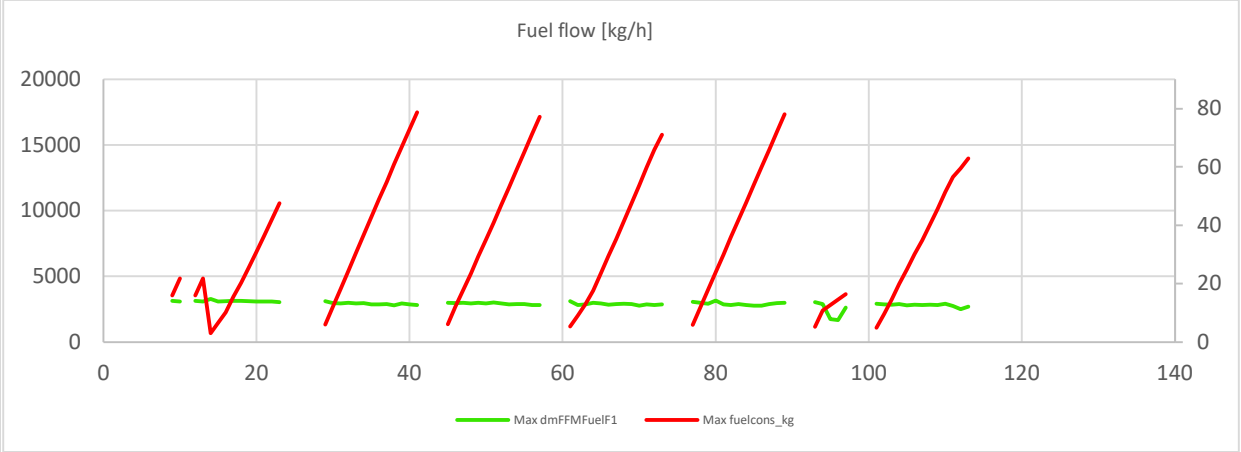

Coolant pressures [bar]
Max pwat
Min pwat
Max pmotin_pod
Min pmotin_pod
Ave water_pres_diff_calc_pod

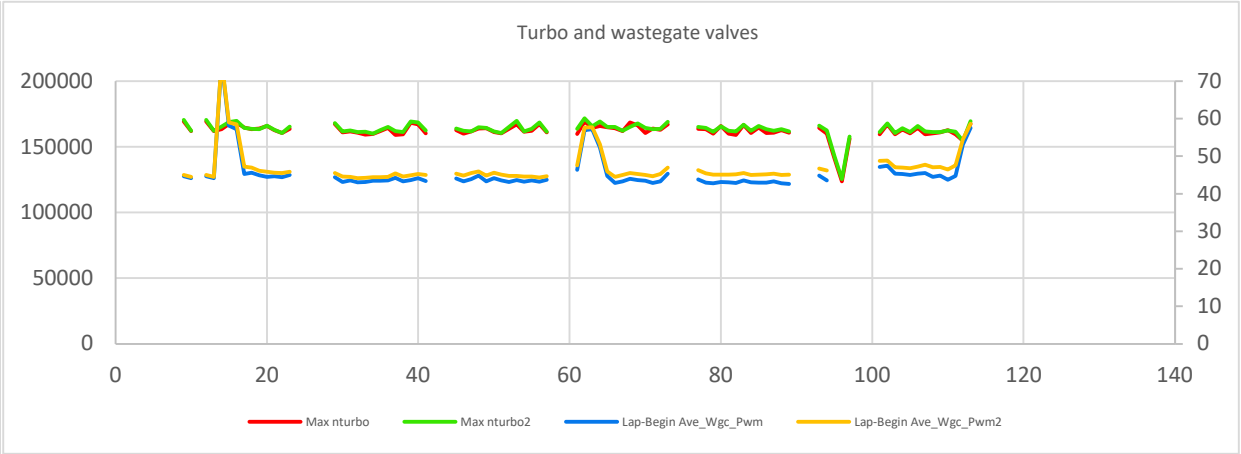

Mixture
Lap-Begin Ave Lambda
Lap-Begin Ave Lambda2
Lap-Begin Ave flc
Lap-Begin Ave flc2
Max B_lc_OFF_Timer
Max B_lc2_OFF_Timer

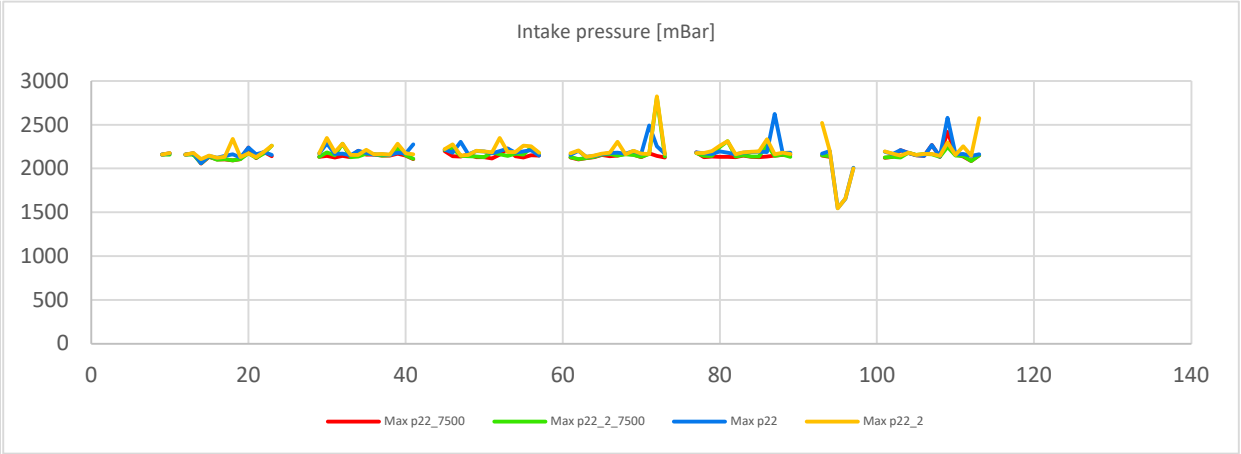

Poil surging time [s]
Min poil_3500
Min poil_5500
Min poil_7500
Max Poil_Surge_Lap

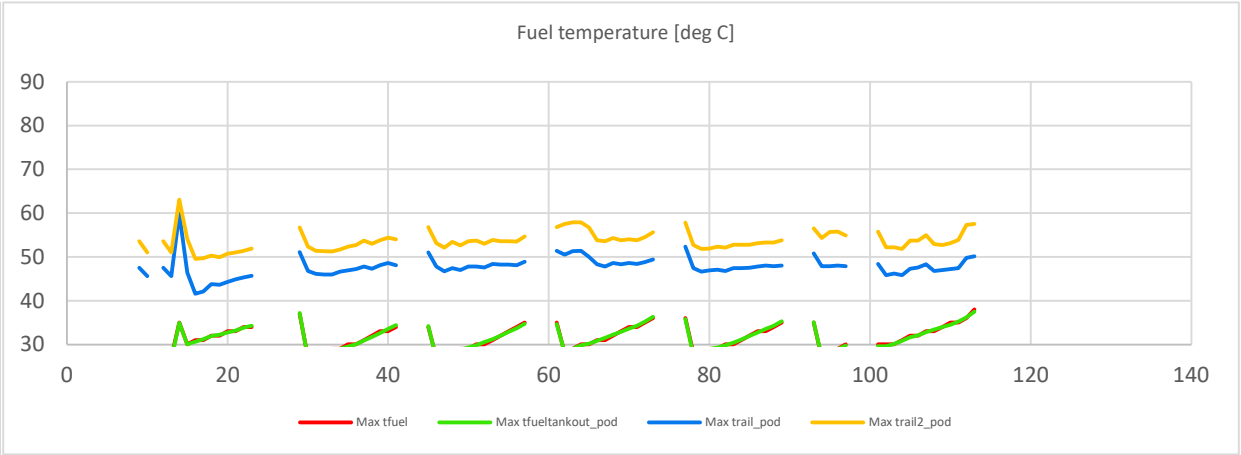

PPU Ilegal [kW] and Engine torque [Nm]
Max CLU_MPUMeasuredCAN
Max FIA_PPUIllegal

Engine 3

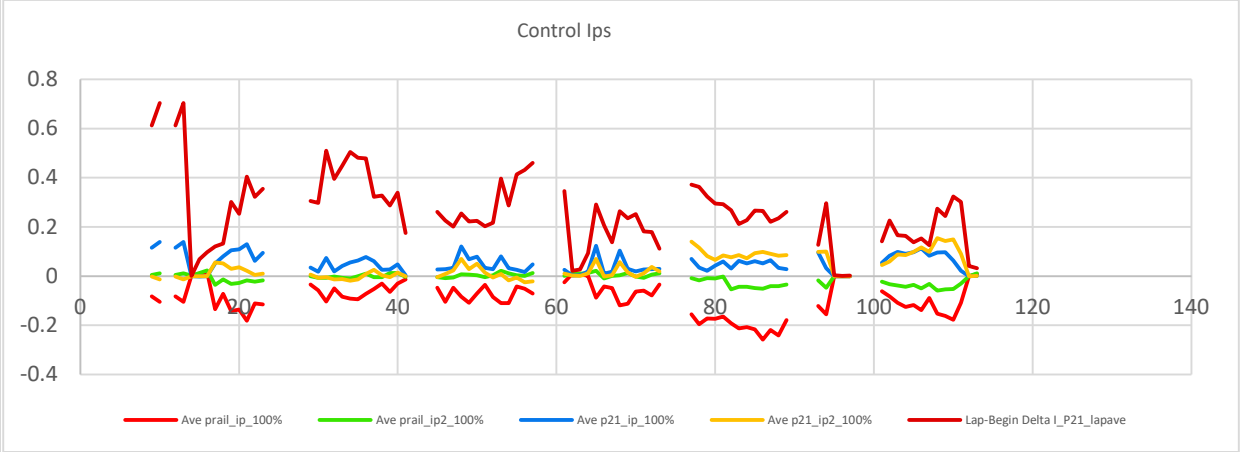

Fuel flow [kg/h]
20000
15000
10000
5000
0
80
60
40
20
0
0 20 40 60 80 100 120 140
Max dmFFMFuelF1
Max fuelcons_kg

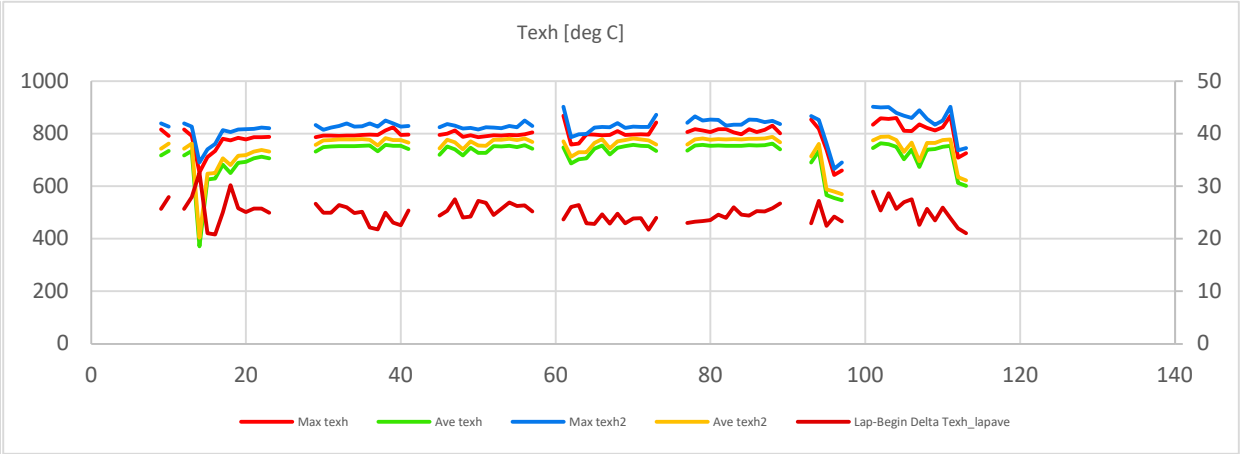

Turbo and wastegate valves
200000
150000
100000
50000
0
70
60
50
40
30
20
10
0
0 20 40 60 80 100 120 140
Max nturbo
Max nturbo2
Lap-Begin Ave_Wgc_Pwm
Lap-Begin Ave_Wgc_Pwm2

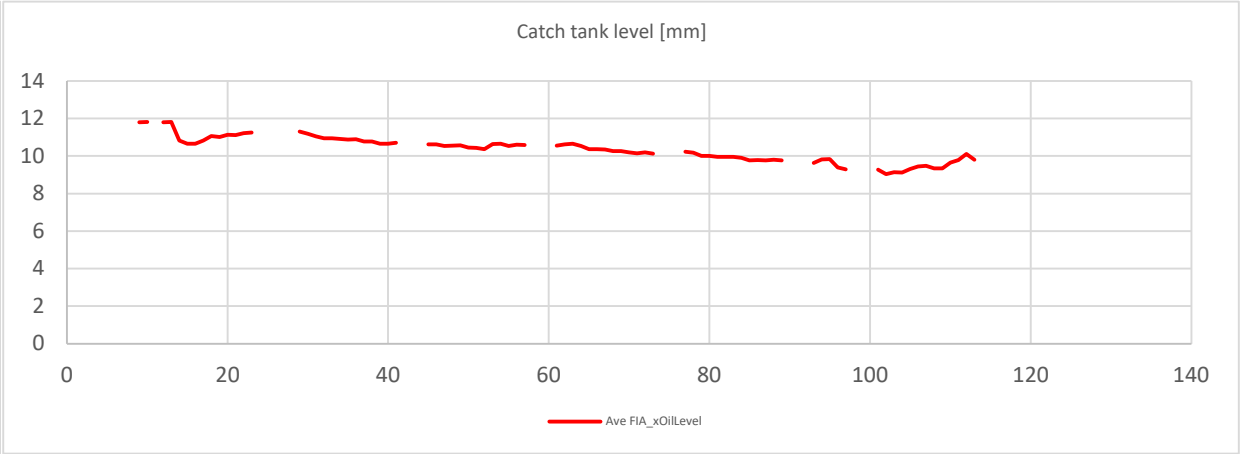

Intake pressure [mBar]
3000
2500
2000
1500
1000
500
0
0 20 40 60 80 100 120 140
Max p22_7500
Max p22_2_7500
Max p22
Max p22_2


Fuel temperature [deg C]
90
80
70
60
50
40
30
0 20 40 60 80 100 120 140
Max tfuel
Max tfueltankout_pod
Max trail_pod
Max trail2_pod

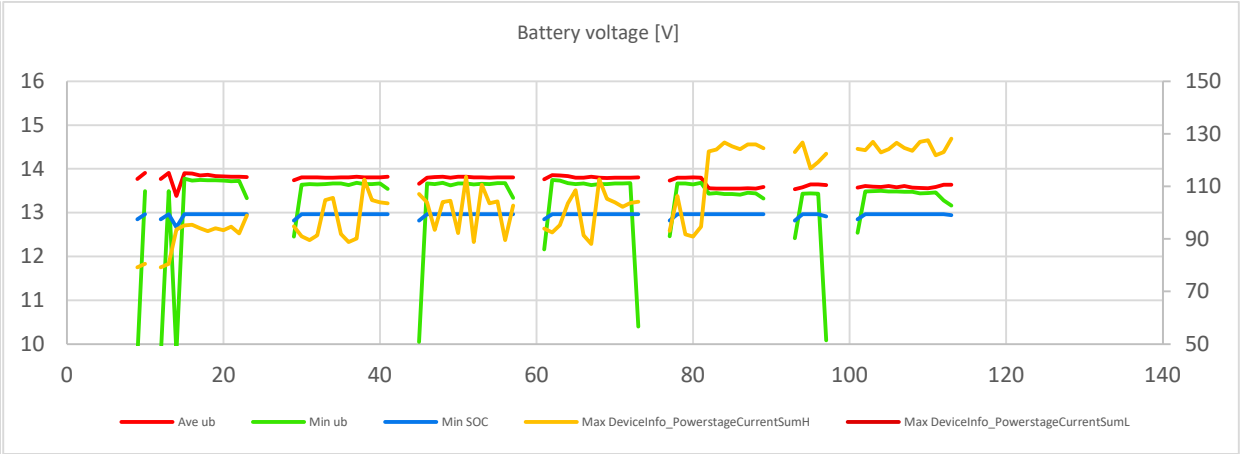
Engine 4

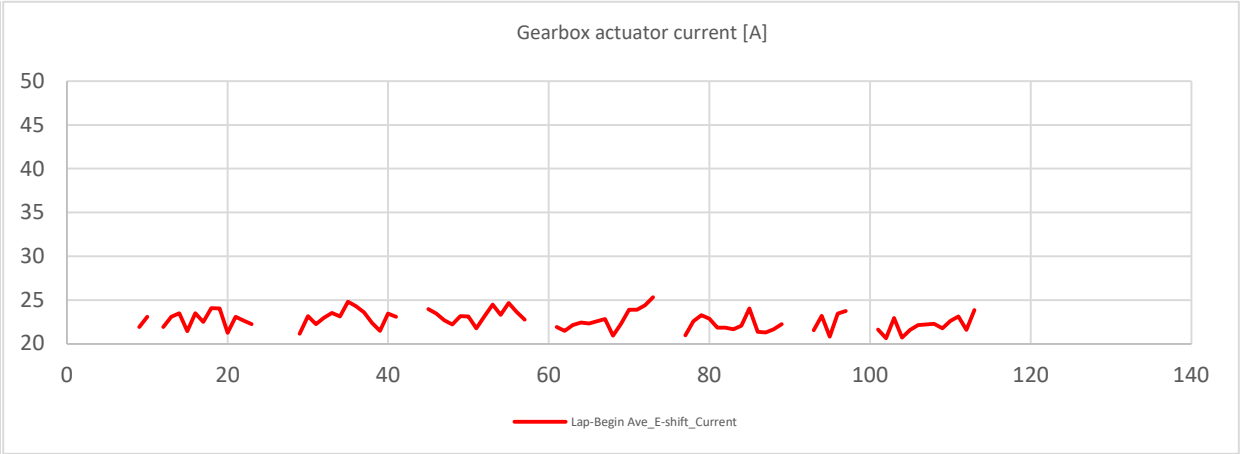

Control Ips
0.8
0.6
0.4
0.2
0
-0.2
-0.4
0
20
40
60
80
100
120
140
Ave prail_ip_100%
Ave prail_ip2_100%
Ave p21_ip_100%
Ave p21_ip2_100%
Lap-Begin Delta I_P21_lapave

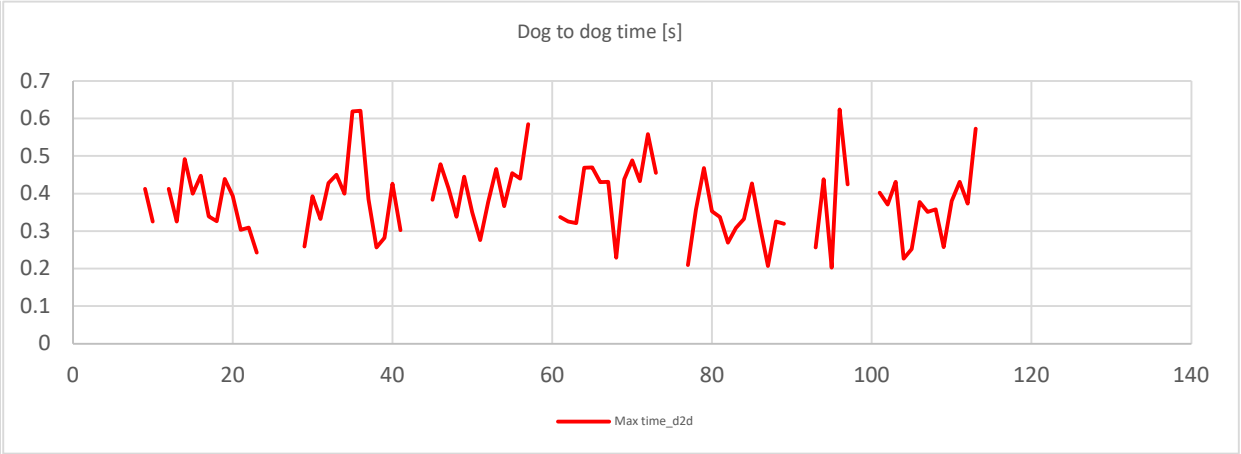

Texh [deg C]
1000
800
600
400
200
0
50
40
30
20
10
0
0
20
40
60
80
100
120
140
Max texh
Ave texh
Max texh2
Ave texh2
Lap-Begin Delta Texh_lapave

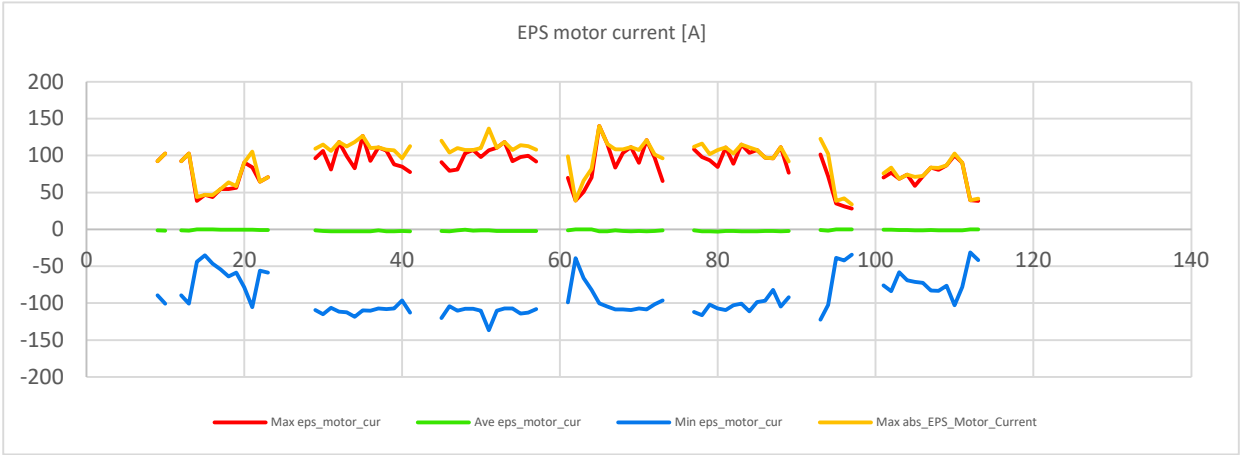

Catch tank level [mm]
14
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
Ave FIA_xOilLevel

System

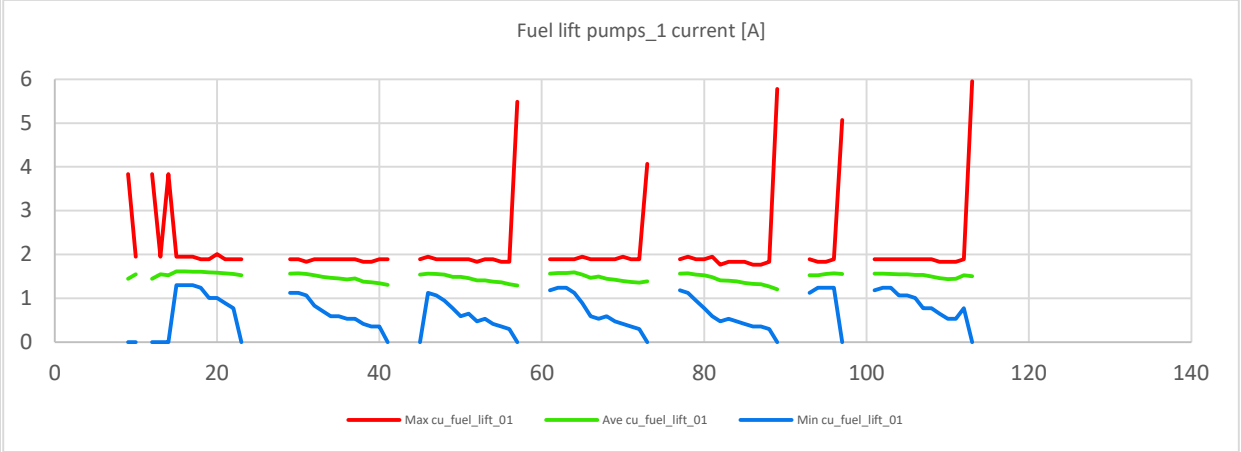

Battery voltage [V]
16
15
14
13
12
11
10
150
130
110
90
70
50
0
20
40
60
80
100
120
140
Ave ub
Min ub
Min SOC
Max DeviceInfo_PowerstageCurrentSumH
Max DeviceInfo_PowerstageCurrentSumL

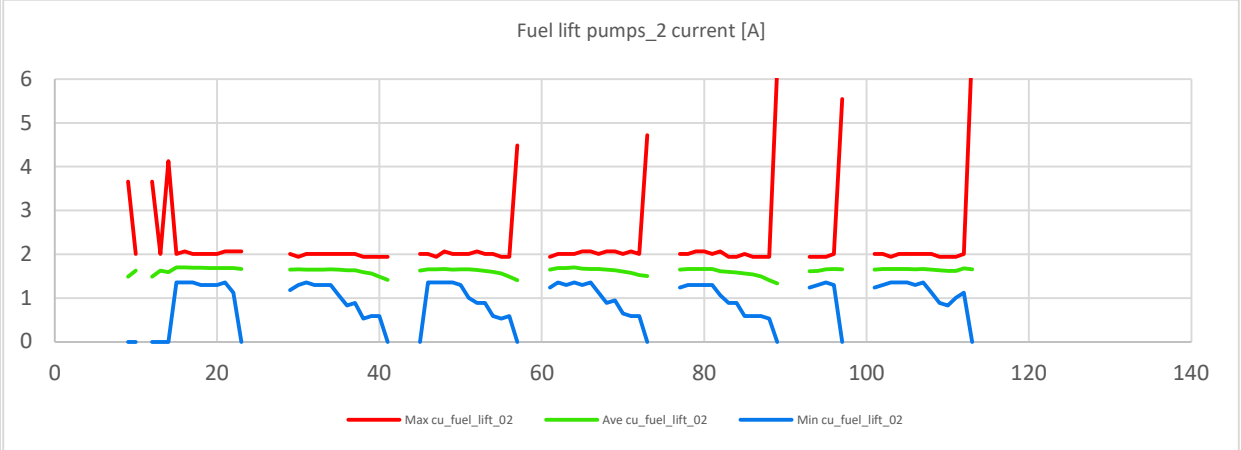

Gearbox actuator current [A]
50
45
40
35
30
25
20
0
20
40
60
80
100
120
140
Lap-Begin Ave_E-shift_Current

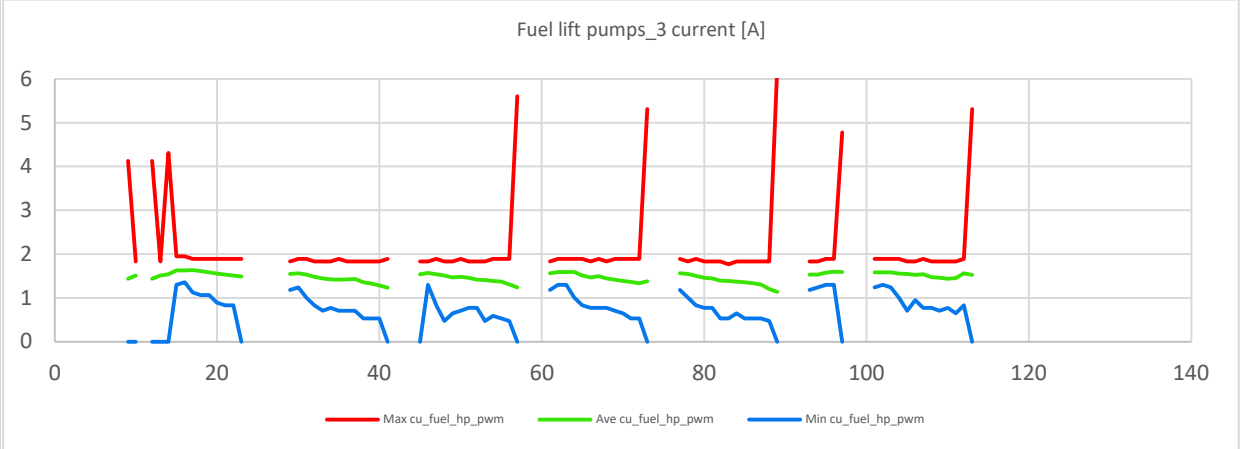

Dog to dog time [s]
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
20
40
60
80
100
120
140
Max time_d2d

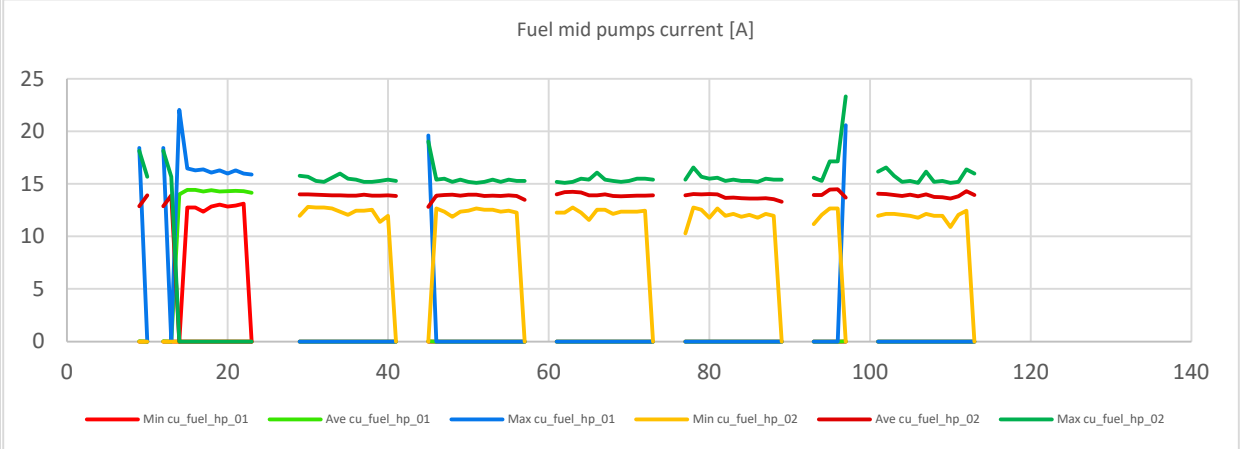

EPS motor current [A]
200
150
100
50
0
-50
-100
-150
-200
0
20
40
60
80
100
120
140
Max eps_motor_cur
Ave eps_motor_cur
Min eps_motor_cur
Max abs_EPS_Motor_Current

System 2

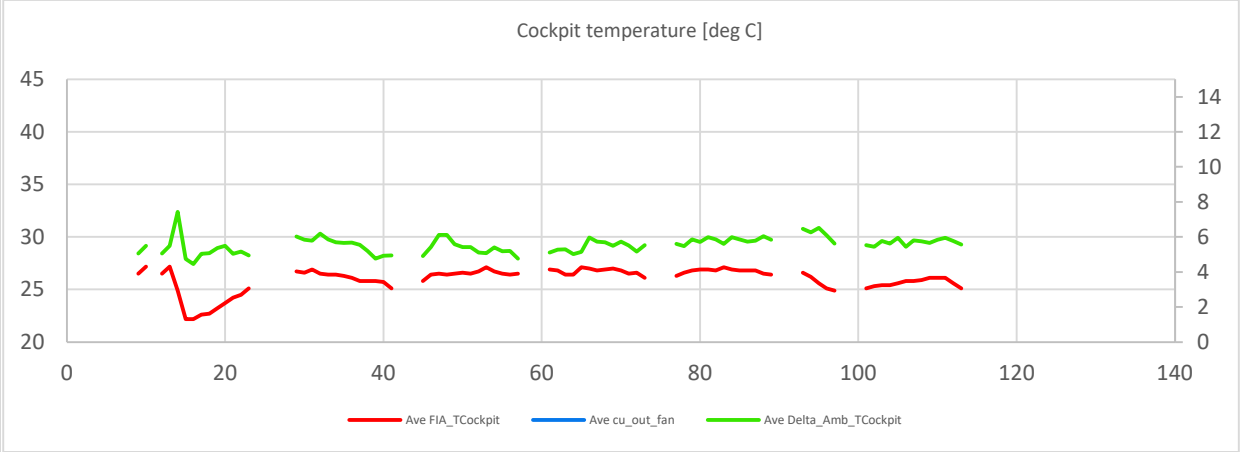

Fuel lift pumps_1 current [A]
Max cu_fuel_lift_01
Ave cu_fuel_lift_01
Min cu_fuel_lift_01

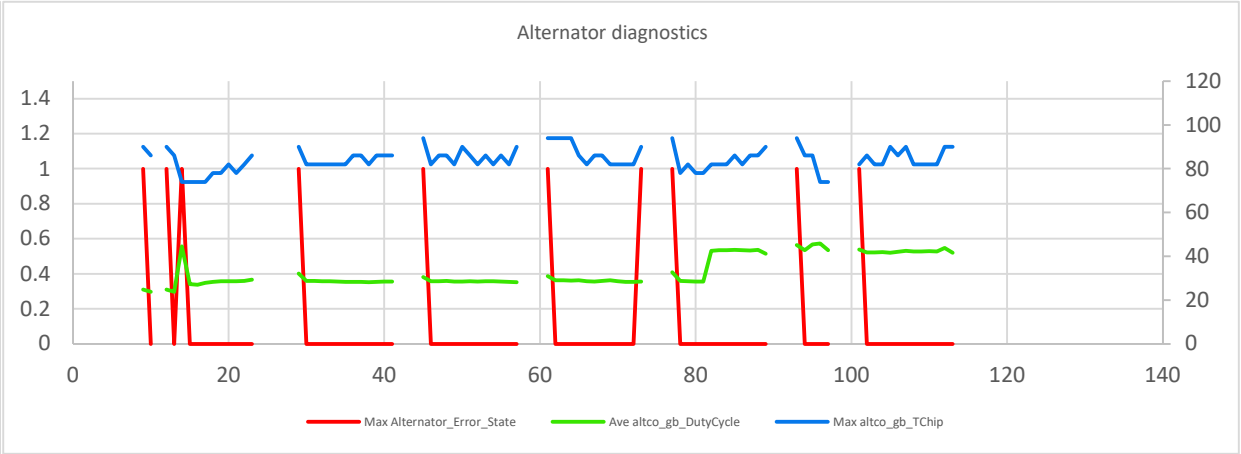

Fuel lift pumps_2 current [A]
Max cu_fuel_lift_02
Ave cu_fuel_lift_02
Min cu_fuel_lift_02

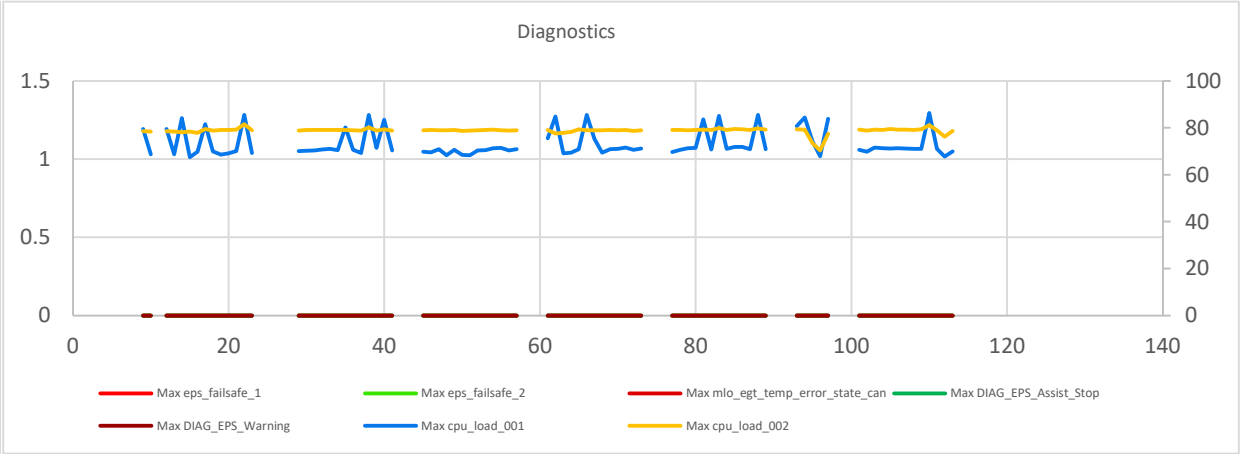

Fuel lift pumps_3 current [A]
Max cu_fuel_hp_pwm
Ave cu_fuel_hp_pwm
Min cu_fuel_hp_pwm

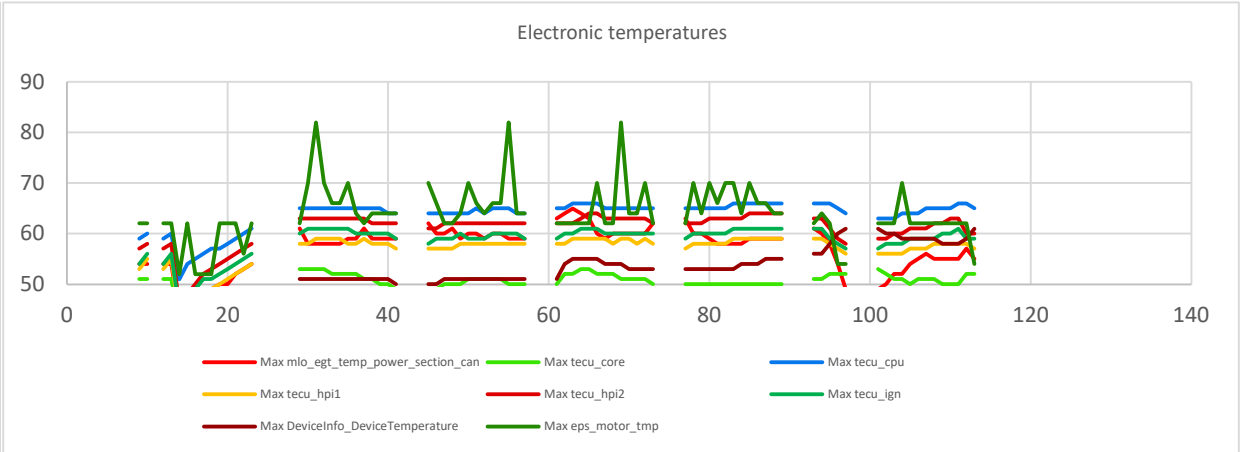

Fuel mid pumps current [A]
Min cu_fuel_hp_01
Ave cu_fuel_hp_01
Max cu_fuel_hp_01
Min cu_fuel_hp_02
Ave cu_fuel_hp_02
Max cu_fuel_hp_02

System 3


Cockpit temperature [deg C]
45
40
35
30
25
20
14
12
10
8
6
4
2
0
0
20
40
60
80
100
120
140
Ave FIA_TCockpit
Ave cu_out_fan
Ave Delta_Amb_TCockpit


Alternator diagnostics
1.4
1.2
1
0.8
0.6
0.4
0.2
0
120
100
80
60
40
20
0
0
20
40
60
80
100
120
140
Max Alternator_Error_State
Ave altco_gb_DutyCycle
Max altco_gb_TChip


Diagnostics
1.5
1
0.5
0
100
80
60
40
20
0
0
20
40
60
80
100
120
140
Max eps_failsafe_1
Max eps_failsafe_2
Max mlo_egt_temp_error_state_can
Max DIAG_EPS_Assist_Stop
Max DIAG_EPS_Warning
Max cpu_load_001
Max cpu_load_002


Electronic temperatures
90
80
70
60
50
0
20
40
60
80
100
120
140
Max mlo_egt_temp_power_section_can
Max tecu_core
Max tecu_cpu
Max tecu_hpi1
Max tecu_hpi2
Max tecu_ign
Max DeviceInfo_DeviceTemperature
Max eps_motor_tmp

System 4

Clutch
2
0
-2
-4
-6
-8
1
0.8
0.6
0.4
0.2
0
0
20
40
60
80
100
120
140
Min sclutch
Lap-Begin Ave_Clutch_Slip