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## Green NCAP test procedure



vehicle selection: current model year, homologation Euro 6c, Euro 6d-Temp, Euro 6d-Temp-EVAP or Euro 6d (Euro 6 with characters AD, AG, BG or AJ), according to [GNT\\_Green\\_NCAP\\_VSSTR\\_v1.0.0.docx](#)

for definitions, acronyms and symbols please see [GNT\\_Definitions\\_Acronyms\\_Symbols\\_WG\\_v1.0.1.xlsx](#)

vehicle data collection according to [GNT\\_Parameter\\_Input\\_List\\_Template\\_WG\\_v1.1.8.xlsx](#)

wheel alignment [with wheel alignment protocol](#);  
This can be either performed by the laboratory or a specialized workshop. It has to be ensured, that the correct values and tolerances are applicable. A protocol (usually handed out by the workshop or given by the measurement device) has to prove the correctness of the wheel alignment adjustments.

driving resistance from vehicle's CoC documents according to [GNT\\_Driving\\_Resistance\\_WG\\_v1.0.1.docx](#)

weighing on laboratory scale according to [GNT\\_Overall\\_GNCAp\\_Test\\_Procedure\\_WG\\_v1.0.6.xlsx](#)

**Calculation of test masses:** The calculation of test masses will automatically be conducted in [GNT\\_Parameter\\_Input\\_List\\_Template\\_WG\\_v1.1.8.xlsx](#) by following these formulas:

Laboratory tests:	PEMS+ regular cold:	PEMS+ heavy warm:	PEMS+ light warm:
<p>If deviation between (mass on laboratory scale) and mass – 75 Kg) is less than ± 3% <b>(actual)</b></p> <p><b><math>TM = TM \text{ from CoC (point 47.1.1)}</math></b></p> <p>Where:</p> <p><b>mass on laboratory scale</b> = mass on laboratory scale, 100 % fuel, without driver</p> <p><b>actual mass</b> = point 13.2 of vehicle's CoC</p>	<p>If deviation between (mass on laboratory scale) and mass – 75 Kg) is less than ± 3% <b>(actual mass)</b></p> <p><b><math>TM_{\text{regular,cold}} = UM + OM + 0,7 (LM - (UM + OM + 75 \text{ kg}))</math></b></p> <p>Where:</p> <p><b>mass on laboratory scale</b> = mass on laboratory scale, 100 % fuel, without driver</p> <p><b>actual mass</b> = point 13.2 of vehicle's CoC</p> <p><b>UM + OM</b> = actual mass – 75 kg</p> <p><b>LM</b> = gross vehicle weight: point 16.1 of vehicle's CoC</p>	<p>If deviation between (mass on laboratory scale) and mass – 75 Kg) is less than ± 3% <b>(actual)</b></p> <p><b><math>TM_{\text{heavy,warm}} = UM + OM + 0,9 (LM - (UM + OM + 75 \text{ kg}))</math></b></p> <p>Where:</p> <p><b>mass on laboratory scale</b> = mass on laboratory scale, 100 % fuel, without driver</p> <p><b>actual mass</b> = point 13.2 of vehicle's CoC</p> <p><b>UM + OM</b> = actual mass – 75 kg</p> <p><b>LM</b> = gross vehicle weight: point 16.1 of vehicle's CoC</p>	<p><b><math>TM_{\text{light,warm}} = \text{minimum test mass possible}</math></b></p>
<p>If deviation between (mass on laboratory scale) and mass – 75 Kg) is more than ± 3% <b>(actual)</b></p> <p><b><math>TM = UM + OM + 100\text{kg} + 0,15 (LM - (UM + OM))</math></b></p> <p>Where:</p> <p><b>mass on laboratory scale</b> = mass on laboratory scale, 100 % fuel, without driver</p> <p><b>actual mass</b> = point 13.2 of vehicle's CoC</p> <p><b>UM + OM</b> = actual mass – 75 kg</p> <p><b>LM</b> = gross vehicle weight: point 16.1 of vehicle's CoC</p>	<p>If deviation between (mass on laboratory scale) and mass – 75 Kg) is more than ± 3% <b>(actual)</b></p> <p><b><math>TM_{\text{regular,cold}} = \text{mass on laboratory scale} + 0,7 (LM - (\text{mass on laboratory scale} + 75 \text{ kg}))</math></b></p> <p>Where:</p> <p><b>mass on laboratory scale</b> = mass on laboratory scale, 100 % fuel, without driver</p> <p><b>actual mass</b> = point 13.2 of vehicle's CoC</p> <p><b>UM + OM</b> = actual mass – 75 kg</p> <p><b>LM</b> = gross vehicle weight: point 16.1 of vehicle's CoC</p>	<p>If deviation between (mass on laboratory scale) and (actual mass – 75 Kg) is more than ± 3%</p> <p><b><math>TM_{\text{heavy,warm}} = \text{mass on laboratory scale} + 0,9 (LM - (\text{mass on laboratory scale} + 75 \text{ kg}))</math></b></p> <p>Where:</p> <p><b>mass on laboratory scale</b> = mass on laboratory scale, 100 % fuel, without driver</p> <p><b>actual mass</b> = point 13.2 of vehicle's CoC</p> <p><b>UM + OM</b> = actual mass – 75 kg</p> <p><b>LM</b> = gross vehicle weight: point 16.1 of vehicle's CoC</p>	

tyres summer, or if otherwise defined in the CoC according to CoC, min. 50% pattern depth, pressure according to [GNT\\_WLTC+\\_WG\\_v1.0.4.docx](#)

AdBlue quality check according to [GNT\\_AdBlue\\_Quality\\_Check\\_v1.0.0.docx](#)

maintenance check according to [GNT\\_WLTC+\\_WG\\_v1.0.4.docx](#), [GNT\\_Parameter\\_Input\\_List\\_Template\\_WG\\_v1.1.8.xlsx](#), check service history, vehicle memory readout

mileage from 3.000km up to 30.000km; PEVs shall be tested with at least 300km

onboard fuel/energy consumption monitoring [data readout](#)

installation of accelerator pedal position acquisition device

vehicle OBD memory readout and check

check vehicle according to [GNT\\_Anti\\_manipulation\\_template\\_v1.0.0.xlsx](#)

documentation test vehicle according to [GNT\\_Parameter\\_Input\\_List\\_Template\\_WG\\_v1.1.8.xlsx](#), [GNT\\_Footage\\_procedure\\_v1.0.4.docx](#)

vehicle preparation for emissions testing according to [GNT\\_WLTC+\\_WG\\_v1.0.4.docx](#), [GNT\\_PEMS+\\_WG\\_v1.0.6.docx](#)

### Warmup for warm start tests:

For a warm up of the engine, the vehicle shall be driven at a speed of 100 km/h until the engine oil temperature has reached 90 °C or for a maximum of 5 minutes, whatever comes first. Therefore, a thermocouple has to be installed to the oil sump. The engine oil temperature at the start of the cycle must be at 90 °C +/- 5 °C. If the installation of a thermocouple isn't possible, it shall be ensured (e.g. by the vehicle's gauges), that the vehicle has reached its standard operation temperature.

### Instructions for tests with Diesel Particulate Filter regeneration occurrence:

If a regeneration is detected during testing, the test should be continued and conducted as normal, not be interrupted, and shall be completed! This rule is valid for any test, both on chassis dyno and on-road. Generally, the results of the test, in which regeneration was detected, will not be included in the rating. The objective of completing tests that retroactively were declared invalid owing to regeneration is to be able to quantify the impact of regeneration on the individual test results as well as on the clean air index scores.

According to "GNT\_Overall\_GNCAp\_Test\_Procedure\_WG", two valid PEMS+ cold tests are to be conducted: "PEMS+ cold" AND "PEMS+ cold rep". A test with regeneration occurring is generally not considered valid. If one of the PEMS+ cold tests is a test with regeneration occurring and therefore invalid, a third PEMS+ cold test shall be conducted. If at the third PEMS+ cold test regeneration is also occurring, the results of the first PEMS+ with regeneration shall be included in the rating – this means that the rating will include the results of one test without regeneration and one test with regeneration, which in this case is declared valid. If at all three tests regeneration occurs, the rating shall consist of the results of the first two tests with regeneration occurrence, which in this case are both declared valid.

### Vehicle cabin temperature during chassis dynamometer tests:

For cabin temperature measurement, a temperature measuring tip has to be installed at the front-seat passenger's headrest. All measurements shall be recorded.

The **automatic air condition** is operated with A/C switch on, temperature set at 23 °C and fan speed on automatic regulation with airflow on automatic regulation. No readjustments shall be done. Settings shall be proved by photographs.

The **manual air condition** is operated with A/C switch on, temperature ½ (middle position) and fan speed on 1/3 to ½ with airflow on floor and windscreens. If necessary, the settings for temperature have to be readjusted until 23 °C ± 3 °C are met. This shall only be done during stop phases. All readjustments have to be recorded and proved, e.g. by photographs.

Propulsion unit setup	CE, GFV, HEV, PHEV					PEV At no test shall the battery SoC be depleted to a level below 10 % or where power restriction strategies are activated! The battery capacity test shall be conducted according to GNT_GVI_DrivingRangeTest_v0.0.6.docx; PEMS+ tests can be used for determination of the available battery capacity, the final fill battery discharge has to be conducted on the dyno.
	reference fuel according to GNT_WLTC+_WG_v1.0.4.docx					
	Diesel and Petrol	GFV		HEV	PHEV CD capitals: charge depleting CS capitals: charge sustaining	
note down BC (board computer) values for fuel consumption of every cycle	note down BC (board computer) values for fuel consumption of every cycle	note down BC (board computer) values for fuel consumption of every cycle	note down BC (board computer) values for fuel consumption of every cycle	note down BC values for fuel/energy consumption of every cycle	note down BC (board computer) values for energy consumption of every cycle	
				3Free urban trip until ICE starts, plus free urban trip for additional 20km	3PHEV Free urban trip until ICE starts, plus free urban trip for additional 20km	
test cell at 14 °C ± 3 °C, vehicle at 23 °C ± 5 °C (coolant or oil temperature)	test cell at 14 °C ± 3 °C, vehicle at 23 °C ± 5 °C (coolant or oil temperature)	test cell at 14 °C ± 3 °C, vehicle at 23 °C ± 5 °C (coolant or oil temperature)	test cell at 14 °C ± 3 °C, vehicle at 23 °C ± 5 °C (coolant or oil temperature)	test cell at 14 °C ± 3 °C, vehicle at 23 °C ± 5 °C (coolant or oil temperature)	test cell at 14 °C ± 3 °C, vehicle at 23 °C ± 5 °C (coolant or oil temperature)	
4WLTC_warm_cd according to GNT_WLTC+_WG_v1.0.4.docx	4WLTC_warm_cd according to GNT_WLTC+_WG_v1.0.4.docx	4WLTC_warm_cd according to GNT_WLTC+_WG_v1.0.4.docx	4WLTC_warm_cd according to GNT_WLTC+_WG_v1.0.4.docx	4WLTC_warm_cd according to GNT_WLTC+_WG_v1.0.4.docx	4WLTC_warm_cd according to GNT_WLTC+_WG_v1.0.4.docx	
maximum 120 s inbetween	maximum 120 s inbetween	maximum 120 s inbetween	maximum 120 s inbetween	maximum 120 s inbetween	maximum 120 s inbetween	
4cd for 14°C tests according to GNT_WLTC+_WG_v1.0.4.docx	4cd for 14°C tests according to GNT_WLTC+_WG_v1.0.4.docx	4cd for 14°C tests according to GNT_WLTC+_WG_v1.0.4.docx	4cd for 14°C tests according to GNT_WLTC+_WG_v1.0.4.docx	4cd for 14°C tests according to GNT_WLTC+_WG_v1.0.4.docx	4cd for 14°C tests, 4WD mode acc. to GNT_WLTC+_WG_v1.0.4.docx	
<b>Option 1: if both 14 °C tests and -7 °C tests will be performed at the same chassis dynamometer</b>						
38cd for WLTC cold def CAT according to GNT_WLTC+_CAT_v0.0.6.docx	38cd for WLTC cold def CAT according to GNT_WLTC+_CAT_v0.0.6.docx	38cd for WLTC cold def CAT according to GNT_WLTC+_CAT_v0.0.6.docx	38cd for WLTC cold def CAT according to GNT_WLTC+_CAT_v0.0.6.docx	38cd for WLTC cold def CAT according to GNT_WLTC+_CAT_v0.0.6.docx	38cd for WLTC cold def CAT according to GNT_WLTC+_CAT_v0.0.6.docx	
5WLTC_warm_def according to GNT_WLTC+_WG_v1.0.4.docx	5WLTC_warm_def according to GNT_WLTC+_WG_v1.0.4.docx	5WLTC_warm_def according to GNT_WLTC+_WG_v1.0.4.docx	5WLTC_warm_def according to GNT_WLTC+_WG_v1.0.4.docx	5WLTC_warm_def according to GNT_WLTC+_WG_v1.0.4.docx, note SOC value	5WLTC_warm_def according to GNT_WLTC+_WG_v1.0.4.docx	
41Soaktime 9-36 h, 14 °C ± 3 °C	41Soaktime 9-36 h, 14 °C ± 3 °C	41Soaktime 9-36 h, 14 °C ± 3 °C	41Soaktime 9-36 h, 14 °C ± 3 °C	HVB SOC 100 %	41Soaktime 9-36 h, 14 °C ± 3 °C	
			OBd SoC readout, 41Soaktime 9-36 h, 14 °C ± 3 °C	after HVB charging: 41Soaktime 9-36 h, 14 °C ± 3 °C		
6WLTC_cold_def according to GNT_WLTC+_WG_v1.0.4.docx	6WLTC_cold_def according to GNT_WLTC+_WG_v1.0.4.docx	6WLTC_cold_def according to GNT_WLTC+_WG_v1.0.4.docx	6WLTC_cold_def according to GNT_WLTC+_WG_v1.0.4.docx	7WLTC_cold_def_CD according to GNT_WLTC+_WG_v1.0.4.docx	6WLTC_cold_def according to GNT_WLTC+_WG_v1.0.4.docx	
4 road load verification	4 road load verification	4 road load verification	4 road load verification	4 road load verification	4 road load verification	
warm up	warm up	warm up	warm up, SoC adjustment, 14 °C ± 3 °C	warm up	warm up	
11BAB_warm_def according to GNT_BAB_Motorway_WG_v1.0.1.docx	11BAB_warm_def according to GNT_BAB_Motorway_WG_v1.0.1.docx	11BAB_warm_def according to GNT_BAB_Motorway_WG_v1.0.1.docx	11BAB_warm_def according to GNT_BAB_Motorway_WG_v1.0.1.docx	n-times 8WLTC_warm_def CD until CS acc. to GNT_WLTC+_WG_v1.0.4.docx	11BAB_warm_def according to GNT_BAB_Motorway_WG_v1.0.1.docx	
warm up	warm up	warm up	warm up, SoC adjustment, 14 °C ± 3 °C	:	warm up	
WLTC_warm_precon according to GNT_WLTC+_WG_v1.0.4.docx	WLTC_warm_precon according to GNT_WLTC+_WG_v1.0.4.docx	WLTC_warm_precon according to GNT_WLTC+_WG_v1.0.4.docx	WLTC_warm_precon according to GNT_WLTC+_WG_v1.0.4.docx	41Soaktime 9-36 h, 14 °C ± 3 °C	WLTC_warm_precon according to GNT_WLTC+_WG_v1.0.4.docx	
				9WLTC_cold_def_CS according to GNT_WLTC+_WG_v1.0.4.docx		
				4 road load verification, afterwards SOC adjustment		
PEMS installation, 41Soaktime 9-36 h, 14 °C ± 3 °C	PEMS installation, 41Soaktime 9-36 h, 14 °C ± 3 °C	PEMS installation, 41Soaktime 9-36 h, 14 °C ± 3 °C	SoC adjustment, PEMS installation, 41Soaktime 9-36 h, 14 °C ± 3 °C	12BAB_warm_def_CS according to GNT_BAB_Motorway_WG_v1.0.1.docx	41Soaktime 9-36 h, 14 °C ± 3 °C	
13WLTC_cold_def_rep_PEMS_corr. acc. to GNT_WLTC+_WG_v1.0.4.docx	13WLTC_cold_def_rep_PEMS_corr. acc. to GNT_WLTC+_WG_v1.0.4.docx	13WLTC_cold_def_rep_PEMS_corr. acc. to GNT_WLTC+_WG_v1.0.4.docx	13WLTC_cold_def_rep_PEMS_corr. acc. to GNT_WLTC+_WG_v1.0.4.docx	SoC adjustment	16WLTC_cold_def_rep according to GNT_WLTC+_WG_v1.0.4.docx	
4 road load verification	4 road load verification	4 road load verification	4 road load verification	10WLTC_warm_def_rep_CS according to GNT_WLTC+_WG_v1.0.4.docx	4 road load verification	
		41Soaktime 9-36 h, 14 °C ± 3 °C		SoC adjustment	18Battery capacity test according to GNT_GVI_DrivingRangeTest_v0.0.6.docx (can also be performed inbetween the tests)	
			14WLTC_cold_def according to GNT_WLTC+_WG_v1.0.4.docx	12BAB_warm_def_CS according to GNT_BAB_Motorway_WG_v1.0.1.docx		
		4 road load verification		41Soaktime 9-36 h, 14 °C ± 3 °C		
				17WLTC_cold_def_rep_PEMS_corr._CS acc. to GNT_WLTC+_WG_v1.0.4.docx		
		15BAB_warm_def according to GNT_BAB_Motorway_WG_v1.0.1.docx		4 road load verification		
<b>for MAW method use CO2 values in vehicle's CoC document</b>						
PEMS preparation and pictures	PEMS preparation and pictures	PEMS preparation and pictures	PEMS preparation and pictures	PEMS preparation and pictures	PEMS preparation and pictures	
20Preconditioning 20min at 118 km/h	20Preconditioning ~20min at motorway speeds	20Preconditioning ~20min at motorway speeds	20Preconditioning ~20min at motorway speeds	20Preconditioning ~20min at motorway speeds, SoC adjustment	20Preconditioning ~20min at motorway speeds	
41Soaktime 9-56 h at 23 °C ± 3 °C	41Soaktime 9-56 h at 23 °C ± 3 °C	41Soaktime 9-56 h at 23 °C ± 3 °C	41Soaktime 9-56 h at 23 °C ± 3 °C	41Soaktime 9-56h at 23 °C ± 3 °C	41Soaktime 9-56h at 23 °C ± 3 °C	
21PEMS+ cold according to GNT_PEMS+_WG_v1.0.5.docx	21PEMS+ cold according to GNT_PEMS+_WG_v1.0.6.docx	21PEMS+ cold according to GNT_PEMS+_WG_v1.0.6.docx	21PEMS+ cold according to GNT_PEMS+_WG_v1.0.6.docx	22PEMS+ cold CS according to GNT_PEMS+_WG_v1.0.6.docx	21PEMS+ cold according to GNT_PEMS+_WG_v1.0.6.docx	
23Warm up (5 min free urban trip and 80 °C coolant temperature)	23Warm up (5 min free urban trip and 80 °C coolant temperature)	23Warm up (5 min free urban trip and 80 °C coolant temperature)	23Warm up (5 min free urban trip and 80 °C coolant temperature), SoC ad.	36Warm up (5 min free urban trip and 80 °C coolant temperature), SoC adjustment		
27Idling 15 min	27Idling 15 min	27Idling 15 min	27Idling 15 min	29Congestion Simulation CS according to GNT_Emission_Robustness_v1.0.4.docx	23Warm up (5min free urban trip)	
24PEMS_heavy_warm according to GNT_Emission_Robustness_v1.0.4.docx	24PEMS_heavy_warm according to GNT_Emission_Robustness_v1.0.4.docx	24PEMS_heavy_warm according to GNT_Emission_Robustness_v1.0.4.docx	24PEMS_heavy_warm according to GNT_Emission_Robustness_v1.0.4.docx	41Soaktime 9-56h at 23 °C ± 3 °C	24PEMS_heavy_warm according to GNT_Emission_Robustness_v1.0.4.docx (no idling before test needed)	
20Preconditioning 20min at 118 km/h	20Preconditioning ~20min at motorway speeds	20Preconditioning ~20min at motorway speeds	20Preconditioning ~20min at motorway speeds	26PEMS+ cold CS according to GNT_PEMS+_WG_v1.0.6.docx	20Preconditioning ~20min at motorway speeds	
41Soaktime 9-56 h at 23 °C ± 3 °C	41Soaktime 9-56 h at 23 °C ± 3 °C	41Soaktime 9-56 h at 23 °C ± 3 °C	41Soaktime 9-56 h at 23 °C ± 3 °C	36Warm up (5 min free urban trip and 80 °C coolant temperature), SoC adjustment	41Soaktime 9-56h at 23 °C ± 3 °C	
26PEMS+ cold rep according to GNT_PEMS+_WG_v1.0.5.docx	26PEMS+ cold rep according to GNT_PEMS+_WG_v1.0.6.docx	26PEMS+ cold rep according to GNT_PEMS+_WG_v1.0.6.docx	26PEMS+ cold rep according to GNT_PEMS+_WG_v1.0.6.docx	31PEMS_eco_warm CS according to GNT_Emission_Robustness_v1.0.4.docx	26PEMS+ cold rep according to GNT_PEMS+_WG_v1.0.6.docx	

WP2: Emissions and efficiency testing (laboratory)

Testing and robustness testing

WP3: PEMS t	36Warm up (5 min free urban trip and 80 °C coolant temperature)	36Warm up (5 min free urban trip and 80 °C coolant temperature)	gfv	36Warm up (5 min free urban trip and 80 °C coolant temperature)	gfv	36Warm up (5 min free trip and 80 °C coolant temperature), SoC adjustment	36Warm up (5 min free urban trip and 80 °C coolant temperature), SOC adjustment	36Warm up (5 min free urban trip)
	28Congestion Simulation according to GNT_Emission_Robustness_v1.0.2.docx	28Congestion Simulation with idling according to GNT_Emission_Robustness_v1.0.4.docx	gfv	28Congestion Simulation with idling according to GNT_Emission_Robustness_v1.0.4.docx	gfv	28Congestion Simulation with idling according to GNT_Emission_Robustness_v1.0.4.docx	25PEMS_heavy_warm CS according to GNT_Emission_Robustness_v1.0.4.docx	28Congestion Simulation with idling, accrd. to GNT_Emission_Robustness_v1.0.4.docx
	36Warm up (5 min free urban trip and 80 °C coolant temperature)	36Warm up (5 min free urban trip and 80 °C coolant temperature)	gfv	36Warm up (5 min free urban trip and 80 °C coolant temperature)	gfv	36Warm up (5 min free urban trip and 80 °C coolant temperature)	41Soaktime 9-56h at 23 °C ± 3 °C, HVB SOC 100	36Warm up (5 min free urban trip)
	30PEMS_eco_warm according to GNT_Emission_Robustness_v1.0.2.docx	30PEMS_eco_warm according to GNT_Emission_Robustness_v1.0.4.docx	gfv	30PEMS_eco_warm according to GNT_Emission_Robustness_v1.0.4.docx	gfv	30PEMS_eco_warm according to GNT_Emission_Robustness_v1.0.4.docx	32PEMS+ cold CD according to GNT_PEMS+ WG_v1.0.6.docx	30PEMS_eco_warm with idling, according to GNT_Emission_Robustness_v1.0.4.docx
				20Preconditioning ~20min at motorway speeds	petrol		41Soak at 23 °C ± 3 °C, until HVB SOC 100	
				41Soaktime 9-56 h at 23 °C ± 3 °C			33PEMS_eco_cold CD according to GNT_Emission_Robustness_v1.0.4.docx	
				34PEMS+ cold according to GNT_PEMS+ WG_v1.0.6.docx	petrol		41Soak at 23 °C ± 3 °C, until HVB SOC 100	
WP4: Maximum Engine Load Curve Mapping	Warm up (5 min free urban trip and 80 °C coolant temperature)	Warm up (5 min free urban trip and 80 °C coolant temperature)		Warm up (5 min free urban trip and 80 °C coolant temperature)		Warm up (5 min free urban trip and 80 °C coolant temperature)	Warm up (5 min free urban trip and 80 °C coolant temperature)	Warm up 5 min free urban trip
	37engine_load_curve_mapping according to GNT_propulsion_unit_performance_max_engine_load_WG_v1.0.0.docx	37engine_load_curve_mapping according to GNT_propulsion_unit_performance_max_engine_load_WG_v1.0.0.docx	gfv	37engine_load_curve_mapping according to GNT_propulsion_unit_performance_max_engine_load_WG_v1.0.0.docx	gfv	37engine_load_curve_mapping according to GNT_propulsion_unit_performance_max_engine_load_WG_v1.0.0.docx	37engine_load_curve_mapping_CS according to GNT_propulsion_unit_performance_max_engine_load_WG_v1.0.0.docx	37engine_load_curve_mapping according to GNT_propulsion_unit_performance_max_engine_load_WG_v1.0.0.docx
	PEMS disassembly	PEMS disassembly		PEMS disassembly		PEMS disassembly	PEMS disassembly	PEMS disassembly
WP2: Low Temp (Laboratory)	Option 2: if 14 °C tests and -7 °C tests will be performed at different chassis dynamometers							
	38WLTC_warm_cd_CAT according to GNT_WLTC+ WG_v1.0.2.docx	38WLTC_warm_cd_CAT according to GNT_WLTC+ WG_v1.0.4.docx	gfv	38WLTC_warm_cd_CAT according to GNT_WLTC+ WG_v1.0.4.docx	gfv			38WLTC_warm_cd_CAT according to GNT_WLTC+ WG_v1.0.4.docx
	38cd for WLTC cold def CAT according to GNT_WLTC+ CAT_v0.0.4.docx	38cd for WLTC cold def CAT according to GNT_WLTC+ CAT_v0.0.6.docx	gfv	38cd for WLTC cold def CAT according to GNT_WLTC+ CAT_v0.0.6.docx	gfv			38cd for WLTC cold def CAT according to GNT_WLTC+ CAT_v0.0.6.docx
	39WLTC_warm_def_rep preon at 23°C ±3°C acc. to GNT_WLTC+ WG_v1.0.2.docx	39WLTC_warm_def_rep preon at 23°C ±3°C acc. to GNT_WLTC+ WG_v1.0.4.docx	gfv	39WLTC_warm_def_rep preon at 23°C ±3°C acc. to GNT_WLTC+ WG_v1.0.4.docx	gfv			39WLTC_warm_def_rep preon at 23°C ±3°C acc. to GNT_WLTC+ WG_v1.0.4.docx
	optional REESS charging	optional REESS charging		optional REESS charging		optional REESS charging		
	41Soaktime minimum 12h, -7 °C ± 3 °C	41Soaktime minimum 12h, -7 °C ± 3 °C		41Soaktime minimum 12h, -7 °C ± 3 °C				41Soaktime minimum 12h, -7 °C ± 3 °C
40WLTC_cold_def_CAT according to GNT_WLTC+ CAT_v0.0.4.docx	40WLTC_cold_def_CAT according to GNT_WLTC+ CAT_v0.0.6.docx	gfv	40WLTC_cold_def_CAT according to GNT_WLTC+ CAT_v0.0.6.docx	gfv			40WLTC_cold_def_CAT according to GNT_WLTC+ CAT_v0.0.6.docx	
38 road load verification	38 road load verification		38 road load verification				38 road load verification	
WP5: Test Analysis, Rating	vehicle OBD memory readout and check							
	Test analysis according to GNT_Test_performance_limits_v2.xlsx							
	Results template GNT_Template_Test_Results_WG_v1.0.3.xlsx							
	Report table GNT_Template_Test_Results_WG_v1.0.3.xlsx							
	Rating GNT_Rating_Sheet_Master_Template_2020_v1.0.1.xlsm and GNT_Rating_Sheet_Master_2020.2.0.2.xlsm							
	Report GNT_Laboratory_Report_Template_v1.0.1.docx							
	Upload Output test data on Sharepoint							