



EUROPEAN COMMISSION
JOINT RESEARCH CENTRE

Interim Report for AA DG-GROW/JRC

No. SI2.730104 - Task 5.1

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Abstract	<p>This document is the final version of the vehicle emissions test report for the Citroen Cactus Blue HDi (Euro 6, Vehicle technical details in the report, JRC ID CN002)</p> <p>The report contains the vehicle emissions results on various test cycles, in the laboratory and on the road.</p>
Disclaimer	<p>The information and views set out in this document are a property of the Joint Research Centre (JRC). They are of preliminary nature and were not fully screened and processed according to the JRC quality and publication rules. Neither the Commission nor any person acting on the Commission's behalf may be held responsible for the use which may be made of the information contained therein.</p>

Vehicle Test Report - Citroën C4 Cactus CN002

December 20, 2016

A. Vehicle details

Table 1: Vehicle specification

Vehicle Make:	CITROEN
Vehicle Type:	C4 CACTUS
Vehicle Class:	M1
Vehicle Identification Number:	CN002
Model Year:	2015
Vehicle Identification Number:	VF70BBHYBGE510809
Emissions Standard:	EURO6
Transmission Type:	Manual
Number of Gears:	5
Odometer Reading:	4792
Engine Capacity in cm ³ :	1560
Engine Family:	BlueHDi 100cv
Engine Type:	DIESEL
Emissions Control Technologies:	Urea SCR + DPF
Nominal Fuel Tank Capacity:	45 l
Tyre Type:	Michelin
Tyre Dimensions:	205/55/R16
N° Homologation	e2 * 2007/46 * 0440 * 05



Figure 1: Vehicle tested

B. Tests conducted

Table 2: Laboratory tests conducted

Type	Repeats
Standard NEDC According to ECE R83	3
NEDC - Hot vehicle	3
NEDC @ 10°C - Cold Vehicle	1
NEDC @ 30°C - Cold Vehicle	1
NEDC @ 4WD chassis dynamometer - Hot Vehicle	1
WLTP High Road Load - Cold Vehicle	2
WLTP High Road Load - Hot Vehicle	2
WLTP High Road Load - Free GS - Cold Vehicle	1
WLTP High Road Load - Free GS - Hot Vehicle	2
WLTP Low Road Load - Cold Vehicle	1
WLTP Low Road Load - Hot Vehicle	1
WLTP @ 30°C Low Road Load - Cold Vehicle	1
WLTP @ 30°C Low Road Load - Hot Vehicle	1

Table 3: On-road tests conducted

Type	Repeats
RDE Route 1 (Esperia)	4
RDE Route 2 (Labierna)	4
RDE Route 3 (Sacromonte)	2
RDE Route 4 (Milano)	2

Generic test protocol: Version 10/08/2016

Application by the JRC: Version 10/08/2016

C. Laboratory Emissions Results

- Average results for the repeated tests
- Tests with DPF regeneration excluded

Table 4: Average laboratory emissions

Type	NOx [mg/km]	HC [mg/km]	CO [mg/km]	CO2 [g/km]	PN [E+9/km]
NEDC Cold	28.49	24.59	355.6	114.6	17.49
NEDC Hot	39.31	7.526	125.5	109.8	3.049
NEDC 10°C Cold	133.8	32.05	600.9	121.4	7.084
NEDC 30°C Cold	25.57	23.15	327.4	115.3	1.859
NEDC 4W Hot	24.81	20.03	310.2	117.1	5.071
WLTP HRL Cold	58.11	2.396	52.22	142.9	3.834
WLTP HRL Hot	59.34	0.2395	11.06	139.6	1.63
WLTP HRL Free Cold	123.5	2.568	45.05	143.2	11.71
WLTP HRL Free Hot	25.77	0.4265	10.49	141.5	1.353
WLTP LRL Cold	30.56	3.305	51.04	136.6	11.22
WLTP LRL Hot	51.87	1.988	42.04	140.3	1.636
WLTP LRL 30°C Cold	281.9	2.254	64.45	141.4	1.248
WLTP LRL 30°C Hot	254.6	0.205	11.5	138.2	1.471

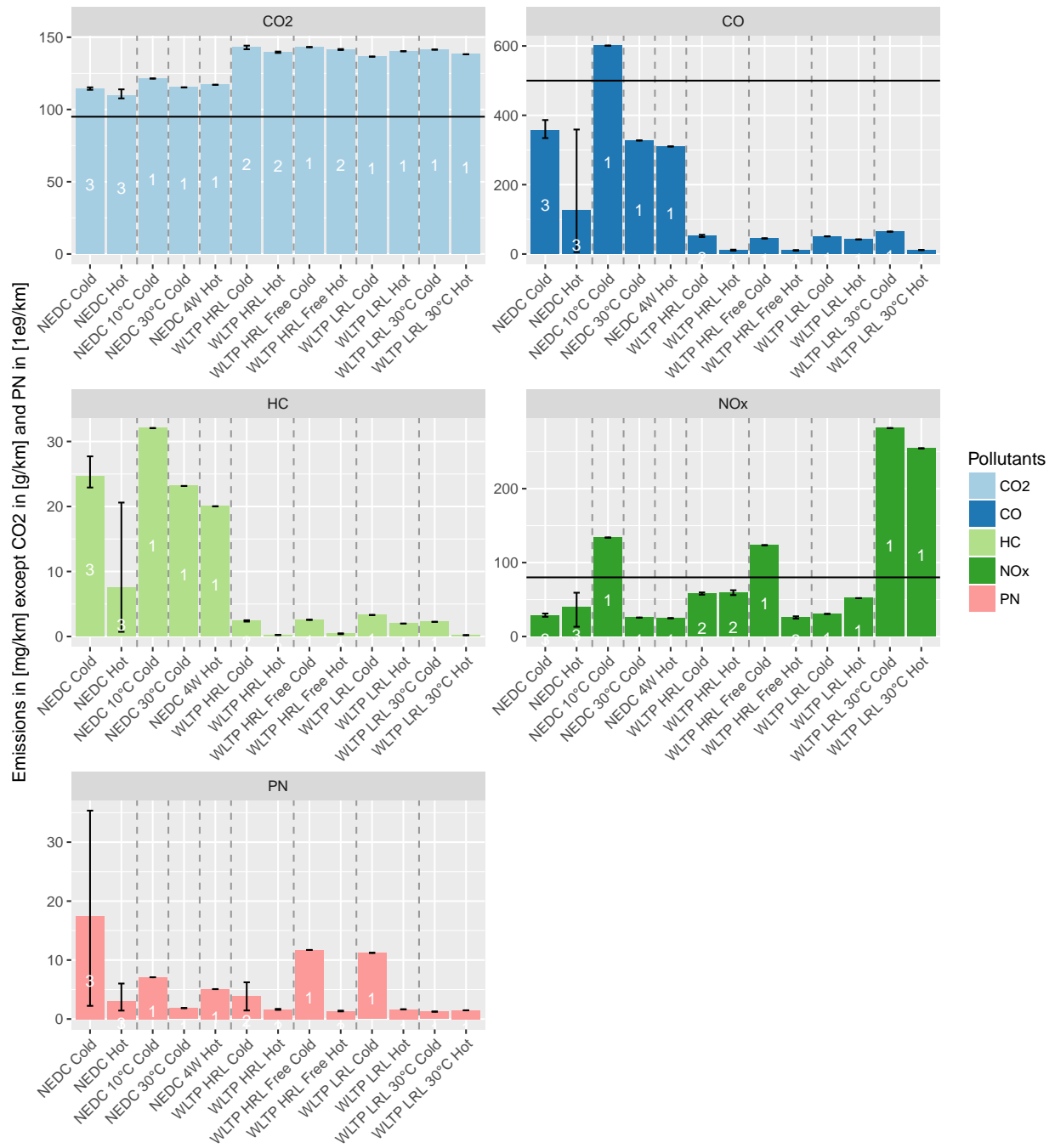


Figure 2: Emissions measured during laboratory tests. Error bars stand for min and max values. Numbers in the bars stand for the number of test. The horizontal line displayed on the CO₂ panel stands for the declared CO₂ emission factor displayed in the type approval certificate of the vehicle (95 g/km). The horizontal lines displayed on the CO and NO_x panels stand for the CO and NO_x standards for Euro 6 (500 and 80 mg/km respectively). The PN standard for Euro 6 (6×10^{11} #/km) is not displayed.

D. PEMS Emissions Results

- Results for the entire route and not processed according to the RDE rules yet
- Test 2016_06_28_Test2 (Labierna) not presented (DPF Regeneration)

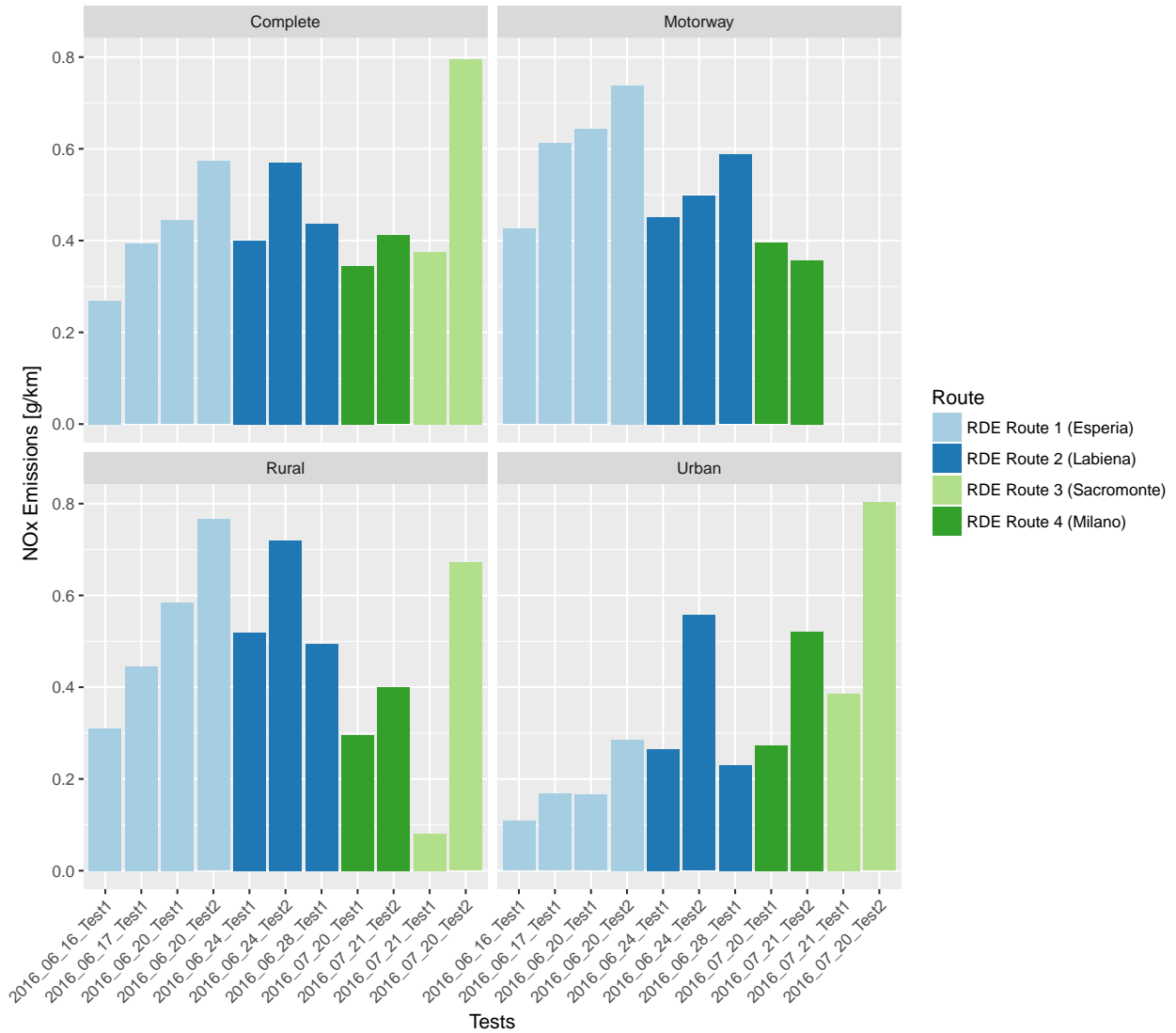


Figure 3: Emissions measured during on-road tests. The complete panel displays the overall NO_x emissions obtained during the complete routes. The Urban, Rural and Motorway panels display the detailed NO_x emissions over the different phases of the routes.

E. Comparison of Laboratory and PEMS results

Table 5: Average laboratory and PEMS emissions. CO₂ diff. stands for the relative difference between the CO₂ measured and the declared CO₂ emission

Type	Repeats	NOx [mg/km]	CO ₂ [g/km]	CO ₂ diff. [%]
NEDC Cold	3	28.49	114.6	20.66
NEDC Hot	3	39.31	109.8	15.57
NEDC 10°C Cold	1	133.8	121.4	27.81
NEDC 30°C Cold	1	25.57	115.3	21.36
NEDC 4W Hot	1	24.81	117.1	23.24
WLTP HRL Cold	2	58.11	142.9	50.45
WLTP HRL Hot	2	59.34	139.6	46.96
WLTP HRL Free Cold	1	123.5	143.2	50.7
WLTP HRL Free Hot	2	25.77	141.5	48.93
WLTP LRL Cold	1	30.56	136.6	43.77
WLTP LRL Hot	1	51.87	140.3	47.7
WLTP LRL 30°C Cold	1	281.9	141.4	48.87
WLTP LRL 30°C Hot	1	254.6	138.2	45.47
RDE Route 1 (Esperia)	4	419.6	121.4	27.82
RDE Route 2 (Labierna)	3	469	133.8	40.82
RDE Route 3 (Sacromonte)	2	585.5	141.8	49.27
RDE Route 4 (Milano)	2	378.2	128.1	34.86

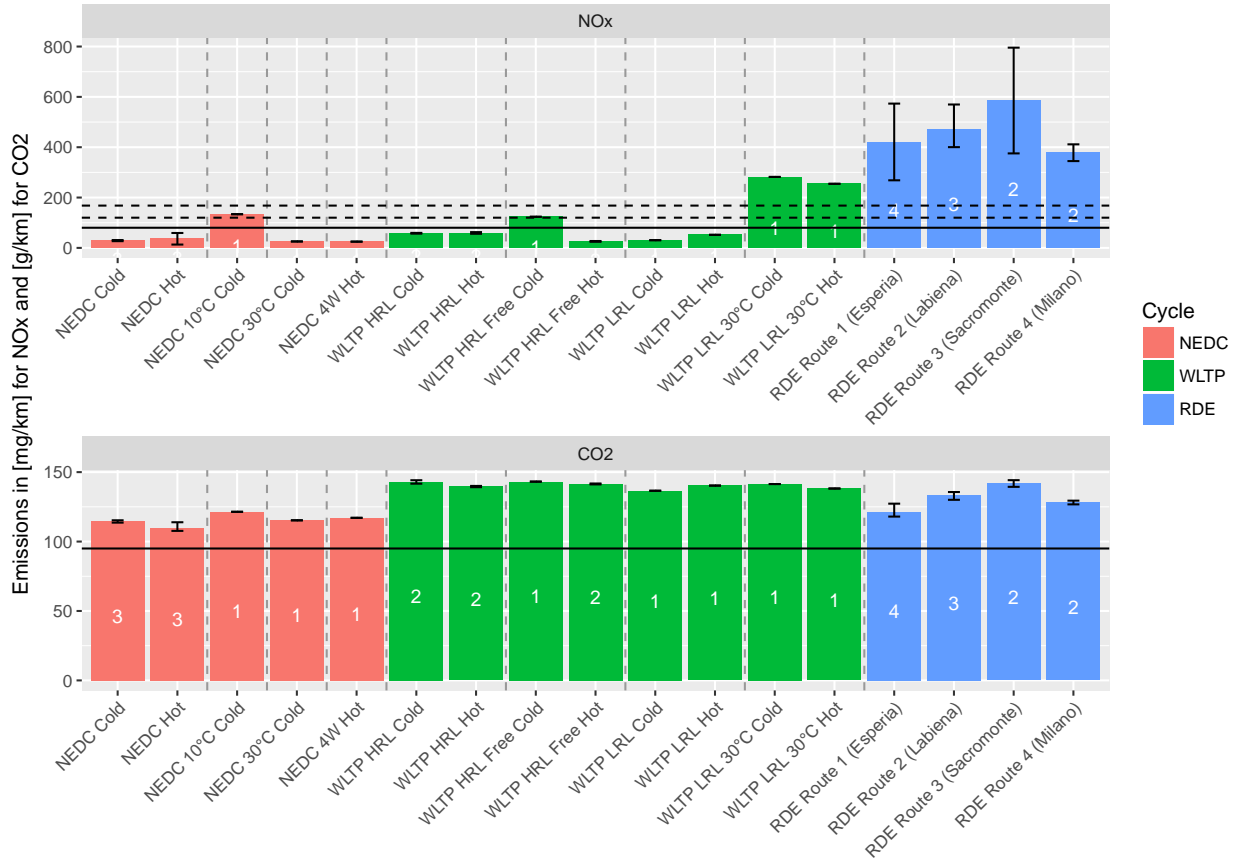


Figure 4: Emissions measured during laboratory and on-road tests. Error bars stand for min and max values. Numbers in the bars stand for the number of test. On the top panel, the horizontal line stands for the NO_x standard for Euro 6 (80 mg/km). The blue and red dashed lines stand for the Euro 6 NO_x limits including the 1.5 and 2.1 conformity factors respectively. On the bottom panel, the horizontal line stands for the declared CO₂ emission factor displayed in the type approval certificate of the vehicle (95 g/km).