[F1 ANNEX VIII

TEST RESULTS

Textual Amendments

F1 Substituted by Commission Regulation (EU) 2017/1151 of 1 June 2017 supplementing Regulation (EC) No 715/2007 of the European Parliament and of the Council on type-approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information, amending Directive 2007/46/EC of the European Parliament and of the Council, Commission Regulation (EC) No 692/2008 and Commission Regulation (EU) No 1230/2012 and repealing Commission Regulation (EC) No 692/2008 (Text with EEA relevance).

(To be completed by the type-approval authority and attached to the vehicle EC type-approval certificate)

In each case, the information must make clear to which variant and version it is applicable. One version may not have more than one result. However, a combination of several results per version indicating the worst case is permissible. In the latter case, a note shall state that for items marked (*) only worst case results are given.

1. Results of the sound level tests

Number of the base regulatory act and latest amending regulatory act applicable to the approval. In case of a regulatory act with two or more implementation stages, indicate also the implementation stage: ….

Variant/Version:	…	…	…
Moving (dB(A)/E):	…	…	…
Stationary (dB(A)/E):	…	…	…
at (min^{-1}):	…	…	…

2. Results of the exhaust emission tests

2.1. *Emissions from motor vehicles tested under the test procedure for light-duty vehicles*

Indicate the latest amending regulatory act applicable to the approval. In case the regulatory act has two or more implementation stages, indicate also the implementation stage: …

Fuel(s)[1] … (diesel, petrol, LPG, NG, Bi-fuel: petrol/NG, LPG, NG/biomethane, Flex-fuel: petrol/ethanol…)

2.1.1. Type 1 test[2],[3] (vehicle emissions in the test cycle after a cold start)

NEDC AVERAGE VALUES, WLTP HIGHEST VALUES

Variant/Version:	…	…	…
CO (mg/km)	…	…	…
THC (mg/km)	…	…	…

NMHC (mg/km)	…	…	…
NO_x (mg/km)	…	…	…
THC + NO_x (mg/km)	…	…	…
Mass of particulate matter (PM) (mg/km)	…	…	…
[[F2]Number of particles (PN) (#/km) (if applicable)**]**	…	…	…

Textual Amendments

F2 Substituted by Commission Regulation (EU) 2018/1832 of 5 November 2018 amending Directive 2007/46/EC of the European Parliament and of the Council, Commission Regulation (EC) No 692/2008 and Commission Regulation (EU) 2017/1151 for the purpose of improving the emission type approval tests and procedures for light passenger and commercial vehicles, including those for in-service conformity and real-driving emissions and introducing devices for monitoring the consumption of fuel and electric energy (Text with EEA relevance).

AMBIENT TEMPERATURE CORRECTION TEST (ATCT)

ATCT Family	**Interpolation family**	**[**[F3]**Road Load Matrix family]**
…	…	**[**[F3]…**]**
…	…	**[**[F3]…**]**

Textual Amendments

F3 Deleted by Commission Regulation (EU) 2017/1347 of 13 July 2017 correcting Directive 2007/46/EC of the European Parliament and of the Council, Commission Regulation (EU) No 582/2011 and Commission Regulation (EU) 2017/1151 supplementing Regulation (EC) No 715/2007 of the European Parliament and of the Council on type-approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information, amending Directive 2007/46/EC of the European Parliament and of the Council, Commission Regulation (EC) No 692/2008 and Commission Regulation (EU) No 1230/2012 and repealing Regulation (EC) No 692/2008 (Text with EEA relevance).

FAMILY CORRECTION FACTORS

ATCT Family	**FCF**
…	…
…	…

2.1.2. Type 2 test[(4)],[(5)] (emissions data required at type-approval for roadworthiness purposes)

Type 2, low idle test:

Variant/Version:	…	…	…
CO (% vol.)	…	…	…
Engine speed (min^{-1})	…	…	…
Engine oil temperature (°C)	…	…	…

Type 2, high idle test:

Variant/Version:	…	…	…
CO (% vol.)	…	…	…
Lambda Value	…	…	…
Engine speed (min^{-1})	…	…	…
Engine oil temperature (°C)	…	…	…

2.1.3. Type 3 test (emissions of crankcase gases): …

2.1.4. Type 4 test (evaporative emissions): … g/test

2.1.5. Type 5 test (durability of anti-pollution control devices):

— Ageing distance covered (km)(e.g. 160 000 km): …

— Deterioration factor DF: calculated/fixed[(6)]

— Values:

Variant/Version:	…	…	…
CO	…	…	…
THC	…	…	…
NMHC	…	…	…
NO_x	…	…	…
THC + NO_x	…	…	…
Mass of particulate matter (PM)	…	…	…
[[F2]Number of particles (PN) (if applicable)**]**	…	…	…

2.1.6. Type 6 test (average emissions at low ambient temperatures):

Variant/Version:	…	…	…

CO (g/km)	…	…	…
THC (g/km)	…	…	…

2.1.7. OBD: yes/no[7]

2.2. *Emissions from engines tested under the test procedure for heavy-duty vehicles.*

Indicate the latest amending regulatory act applicable to the approval. In case the regulatory act has two or more implementation stages, indicate also the implementation stage: …

Fuel(s)[8] … (diesel, petrol, LPG, NG, ethanol …)

2.2.1. Results of the ESC test[9],[10],[11]

Variant/Version:	…	…	…
CO (mg/kWh)	…	…	…
THC (mg/kWh)	…	…	…
NO_x (mg/kWh)	…	…	…
NH_3 (ppm) ([1])	…	…	…
PM mass (mg/kWh)	…	…	…
PM number (#/kWh) ([1])	…	…	…

2.2.2. Result of the ELR test[12]

Variant/Version:	…	…	…
Smoke value: … m^{-1}	…	…	…

2.2.3. Result of the ETC test[13],[14]

Variant/Version:	…	…	…
CO (mg/kWh)	…	…	…
THC (mg/kWh)	…	…	…
NMHC (mg/kWh) ([1])	…	…	…
CH_4 (mg/kWh) ([1])	…	…	…
NO_x (mg/kWh)	…	…	…
NH_3 (ppm) ([1])	…	…	…
PM mass (mg/kWh)	…	…	…

PM number (#/kWh) ([1])	…	…	…

2.2.4. Idle test[(15)]

Variant/Version:	…	…	…
CO (% vol.)	…	…	…
Lambda Value ([1])	…	…	…
Engine speed (min^{-1})	…	…	…
Engine oil temperature (K)	…	…	…

2.3. *Diesel smoke*

Indicate the latest amending regulatory act applicable to the approval. In case the regulatory act has two or more implementation stages, indicate also the implementation stage: …

2.3.1. Results of the test under free acceleration

Variant/Version:	…	…	…
Corrected value of the absorption coefficient (m^{-1})	…	…	…
Normal engine idling speed	…	…	…
Maximum engine speed	…	…	…
Oil temperature (min./max.)	…	…	…

3. **Results of the CO_2 emission, fuel/electric energy consumption, and electric range tests**

Number of the base regulatory act and the latest amending regulatory act applicable to the approval: …

3.1. *Internal combustion engines, including not externally chargeable hybrid electric vehicles (NOVC)*[(16)(17)]

Variant/Version:	…	…	…
CO_2 mass emission (urban conditions) (g/km)	…	…	…
CO_2 mass emission (extra-urban conditions) (g/km)	…	…	…
CO_2 mass emission (combined) (g/km)	…	…	…
Fuel consumption (urban conditions) (l/100 km)[a]	…	…	…
Fuel consumption (extra-urban conditions) (l/100 km)[a]	…	…	…
Fuel consumption (combined) (l/100 km)[a]	…	…	…

a The unit 'l/100 km' is replaced by 'm^3/100 km' for vehicles fuelled with NG and H2NG, and by 'kg/100 km' for vehicles fuelled with hydrogen.

b [F3

c F3]

Interpolation family identifier[a]	**Variant/versions**
…	…
…	…
…	…

a The format for the Interpolation Family Identifier is provided in paragraph 5.0 of Annex XXI to Commission Regulation (EU) 2017/1151 of 1 June 2017 supplementing Regulation (EC) No 715/2007 of the European Parliament and of the Council on type-approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information, amending Directive 2007/46/EC of the European Parliament and of the Council, Commission Regulation (EC) No 692/2008 and Commission Regulation (EU) No 1230/2012 and repealing Regulation (EC) No 692/2008 (OJ L 175, 7.7.2017, p. 1).

[F3]

Results:	**Interpolation family identifier**			**[F3Road Load Matrix family identifier]**
	VH	**VM (if applicable)**	**VL (if applicable)**	**[F3V representative]**
CO_2 mass emission LOW phase (g/km)	…	…	…	

CO_2 mass emission MID phase (g/km)	…	…	…	
CO_2 mass emission HIGH phase (g/km)	…	…	…	
CO_2 mass emission EXTRA-HIGH phase (g/km)	…	…	…	
CO_2 mass emission (combined) (g/km)	…	…	…	
Fuel consumption LOW phase (l/100 km m^3/100 km kg/100 km)	…	…	…	
Fuel consumption MID phase (l/100 km m^3/100 km kg/100 km)	…	…	…	
Fuel consumption HIGH phase (l/100 km m^3/100 km kg/100 km)	…	…	…	
Fuel consumption EXTRA-HIGH phase (l/100 km m^3/100 km kg/100 km)	…	…	…	
Fuel consumption (combined) (l/100 km m^3/100 km kg/100 km)	…	…	…	
[F2 f_0 (N)	…	…	…	

f_1 (N/(km/h))	…	…	…	
f_2 (N/(km/h)^2)	…	…	…	
RR (kg/t)	…	…	…	
Delta Cd * A (for VL if applicable compared to VH) (m^2)	…	…	…	
Test Mass (kg)	…	…	…	
Frontal area (m^2) (for road load matrix family vehicles only)				]

[[F4]Repeat for each interpolation family.**]**

Textual Amendments

F4 Substituted by Commission Regulation (EU) 2017/1347 of 13 July 2017 correcting Directive 2007/46/EC of the European Parliament and of the Council, Commission Regulation (EU) No 582/2011 and Commission Regulation (EU) 2017/1151 supplementing Regulation (EC) No 715/2007 of the European Parliament and of the Council on type-approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information, amending Directive 2007/46/EC of the European Parliament and of the Council, Commission Regulation (EC) No 692/2008 and Commission Regulation (EU) No 1230/2012 and repealing Regulation (EC) No 692/2008 (Text with EEA relevance).

3.2. *Externally chargeable hybrid electric vehicles (OVC)*[(18)]

Variant/Version:	…	…	…
CO_2 mass emission (Condition A, combined) (g/km)	…	…	…
CO_2 mass emission (Condition B, combined) (g/km)	…	…	…
CO_2 mass emission (weighted, combined) (g/km)	…	…	…
Fuel consumption (Condition A, combined) (l/100 km) ([g])	…	…	…

Fuel consumption (Condition B, combined) (l/100 km) ([g])	…	…	…
Fuel consumption (weighted, combined) (l/100 km) ([g])	…	…	…
Electric energy consumption (Condition A, combined) (Wh/km)	…	…	…
Electric energy consumption (Condition B, combined) (Wh/km)	…	…	…
Electric energy consumption (weighted and combined) (Wh/km)	…	…	…
Pure electric range (km)	…	…	…

Interpolation family number	**Variant/versions**
…	…
…	…
…	…

[F3]

Results:	**Interpolation family identifier**			**[F3Road Load Matrix family identifier]**
	VH	**VM (if applicable)**	**VL (if applicable)**	**[F3V representative]**
CS CO_2 mass emission LOW phase (g/km)	…		…	
CS CO_2 mass emission MID phase (g/km)	…		…	
CS CO_2 mass emission HIGH phase (g/km)	…		…	

CS CO_2 mass emission EXTRA-HIGH phase (g/km)	…		…	
CS CO_2 mass emission (combined) (g/km)	…		…	
CD CO_2 mass emission (combined) (g/km)				
CO_2 mass emission (weighted, combined) (g/km)				
CS Fuel consumption LOW phase (l/100 km)	…		…	
CS Fuel consumption MID phase (l/100 km)	…		…	
CS Fuel consumption HIGH phase (l/100 km)	…		…	
CS Fuel consumption EXTRA-HIGH phase (l/100 km)	…		…	
CS Fuel consumption (combined) (l/100 km)	…		…	
CD Fuel consumption (combined) (l/100 km)	…		…	
Fuel consumption (weighted, combined) (l/100 km)	…		…	

$EC_{AC,weighted}$	…		…	
EAER (combined)	…		…	
$EAER_{city}$	…		…	
[F2f_0 (N)	…		…	
f_1 (N/(km/h))	…		…	
f_2 (N/(km/h)^2)	…		…	
RR (kg/t)	…		…	
Delta $C_D \times A$ (for VL or VM compared to VH) (m^2)	…		…	
Test Mass (kg)	…		…	
Frontal area (m^2) (for road load matrix family vehicles only)				]

Repeat for each interpolation family.

3.3. *Pure electric vehicles*[19]

Variant/Version:	…	…	…
Electric energy consumption (Wh/km)	…	…	…
Range (km)	…	…	…

Interpolation family number	**Variant/versions**
…	…
…	…
…	…

[F3]

Results:	**Interpolation family identifier**		**[F3Matrix family identifier]**
	VH	**VL**	**[F3V representative]**
Electric Consumption (Combined) (Wh/km)	…	…	

Pure Electric Range (Combined) (km)	…	…	
Pure Electric Range (City) (km)	…	…	
⌊[F2]f_0 (N)	…	…	
f_1 (N/(km/h))	…	…	
f_2 (N/(km/h)^2)	…	…	
RR (kg/t)	…	…	
Delta $C_D \times A$ (for VL compared to VH) (m^2)	…	…	
Test Mass (kg)	…	…	
Frontal area (m^2) (for road load matrix family vehicles only)			⌋

3.4. *Hydrogen fuel cell vehicles*[20]

Variant/Version:	…	…	…
Fuel consumption (kg/100 km)	…	…	…

	⌊[F2]**Variant/Version:**	**Variant/Version:**
Fuel Consumption (Combined) (kg/100 km)	…	…
f_0 (N)	…	…
f_1 (N/(km/h))	…	…
f_2 (N/(km/h)^2	…	…
RR (kg/t)	…	…
Test Mass (kg)	…	⌋

⌊[F4]3.5. ⌊[F2]*Output report(s) from the correlation tool in accordance with Regulation (EU) 2017/1152 and/or 2017/1153 and final NEDC values*⌋

Repeat for each interpolation family:

Interpolation family identifier [Footnote: 'Type Approval Number + Interpolation Family Sequence number']: …

VH report: …

VL report (if applicable): …

3.5.1. Deviation factor (if applicable)

Repeat for each interpolation family:

Interpolation family identifier [Footnote: 'Type Approval Number + Interpolation Family Sequence number']: …

3.5.2. Verification factor (if applicable)

Repeat for each interpolation family:

Interpolation family identifier [Footnote: 'Type Approval Number + Interpolation Family Sequence number']: ….

[F5 3.5.3. Internal combustion engines, including not externally chargeable hybrid electric vehicles (NOVC)[21][22]

Final correlated NEDC values	**Interpolation family identifier**	
	VH	**VL (if applicable)**
CO_2 mass emission (urban conditions) (g/km)		
CO_2 mass emission (extra-urban conditions) (g/km)		
CO_2 mass emission (combined) (g/km)		
Fuel consumption (urban conditions) (l/100 km) ([1])		
Fuel consumption (extra-urban conditions) (l/100 km) ([1])		
Fuel consumption (combined) (l/100 km) ([1])		

Textual Amendments

F5 Inserted by Commission Regulation (EU) 2018/1832 of 5 November 2018 amending Directive 2007/46/EC of the European Parliament and of the Council, Commission Regulation (EC) No 692/2008 and Commission Regulation (EU) 2017/1151 for the purpose of improving the emission type approval tests and procedures for light passenger and commercial vehicles, including those for in-service conformity and real-driving emissions and introducing devices for monitoring the consumption of fuel and electric energy (Text with EEA relevance).

3.5.4. Externally chargeable hybrid electric vehicles (OVC) ([1])

Final correlated NEDC values	**Interpolation family identifier**	
	VH	**VL (if applicable)**

CO_2 mass emission (weighted, combined) (g/km)	…	…
Fuel consumption (weighted, combined) (l/100 km) ([g])	…	…]]

4. **Results of the tests for vehicles fitted with eco-innovation(s)[23][24][25]**

According to Regulation 83 (if applicable)

	Variant/Version …							
Decision approving the eco-innovation	**Code of the eco-innovation[a]**	**Type 1/I cycle (NEDC/ WLTP)**	**1.CO_2 emissions of the baseline vehicle (g/km)**	**2.CO_2 emissions of the eco-innovation vehicle (g/km)**	**3.CO_2 emissions of the baseline vehicle under Type 1 test-cycle[c]**	**4.CO_2 emissions of the eco-innovation vehicle under Type 1 test-cycle (= 3.5.1.3 of Annex I)**	**5.Usage factor (UF) i.e. temporal share of technology usage in normal operation conditions**	**CO_2 emissions savings ((1 – 2) – (3 – 4)) * 5**
xxx/201x	…	…	…	…	…	…	…	…
…	…	…	…	…	…	…	…	…
…	…	…	…	…	…	…	…	…
	Total CO_2 emissions savings on NEDC(g/km)[d]							…

a (h4) Number of the Commission Decision approving the eco-innovation.

b (h5) Assigned in the Commission Decision approving the eco-innovation.

c (h6) If a modelling methodology is applied instead of the type 1 test cycle, this value shall be the one provided by the modelling methodology.

d (h7) Sum of the CO_2 emissions savings of each individual eco-innovation on Type I according UN/ECE Regulation No 83.

According to Annex XXI of Regulation (EU) 2017/1151 (if applicable)

	Variant/Version …
a	(h4) Number of the Commission Decision approving the eco-innovation.
b	(h5) Assigned in the Commission Decision approving the eco-innovation.
c	(h6) If a modelling methodology is applied instead of the type 1 test cycle, this value shall be the one provided by the modelling methodology.
d	(h7) Sum of the CO_2 emissions savings of each individual eco-innovation on Type 1 according to Annex XXI, Sub-Annex 4 of Regulation (EU) 2017/1151.

Decision approving the eco-innovation	**Code of the eco-innovation[a]**	**Type 1/I cycle (NEDC/ WLTP)**	**1.CO_2 emissions of the baseline vehicle (g/km)**	**2.CO_2 emissions of the eco-innovation vehicle (g/km)**	**3.CO_2 emissions of the baseline vehicle under Type 1 test-cycle[c]**	**4.CO_2 emissions of the eco-innovation vehicle under Type 1 test-cycle**	**5.Usage factor (UF) i.e. temporal share of technology usage in normal operation conditions**	**CO_2 emissions savings ((1 – 2) – (3 – 4)) * 5**
xxx/201x	…	…	…	…	…	…	…	…
…	…	…	…	…	…	…	…	…
…	…	…	…	…	…	…	…	…
	Total CO_2 emissions savings on WLTP(g/km)[d]							

a (h4) Number of the Commission Decision approving the eco-innovation.

b (h5) Assigned in the Commission Decision approving the eco-innovation.

c (h6) If a modelling methodology is applied instead of the type 1 test cycle, this value shall be the one provided by the modelling methodology.

d (h7) Sum of the CO_2 emissions savings of each individual eco-innovation on Type 1 according to Annex XXI, Sub-Annex 4 of Regulation (EU) 2017/1151.

4.1. *General code of the eco-innovation(s)*[(26)]: …

Explanatory notes

([h]) Eco-innovations.**]**

(**1**) **[**[F1]When restrictions for the fuel are applicable, indicate these restrictions (e.g. for natural gas the L range or the H range).

(**2**) For bi fuel vehicles, the table shall be repeated for both fuels.

(**3**) For flex fuel vehicles, when the test is to be performed on both fuels, according to Figure I.2.4 of Annex I to Regulation (EU) 2017/1151, and for vehicles running on LPG or NG/Biomethane, either bi-fuel or mono-fuel, the table shall be repeated for the different reference gases used in the test, and an additional table shall display the worst results obtained. When applicable, in accordance with paragraph 3.1.4. of Annex 12 to UN/ECE Regulation No 83, it shall be shown if the results are measured or calculated.

(**4**) For bi fuel vehicles, the table shall be repeated for both fuels.

(**5**) For flex fuel vehicles, when the test is to be performed on both fuels, according to Figure I.2.4 of Annex I to Regulation (EU) 2017/1151, and for vehicles running on LPG or NG/Biomethane, either bi-fuel or mono-fuel, the table shall be repeated for the different reference gases used in the test, and an additional table shall display the worst results obtained. When applicable, in accordance with paragraph 3.1.4. of Annex 12 to UN/ECE Regulation No 83, it shall be shown if the results are measured or calculated.

(**6**) Delete where not applicable.

(**7**) Delete where not applicable.

(**8**) When restrictions for the fuel are applicable, indicate these restrictions (e.g. for natural gas the L range or the H range).

(**9**) If applicable.

(**10**) For Euro VI, ESC shall be understood as WHSC and ETC as WHTC.

(**11**) For Euro VI, if CNG and LPG fuelled engines are tested on different reference fuels, the table shall be reproduced for each reference fuel tested.

(**12**) If applicable.

(**13**) For Euro VI, ESC shall be understood as WHSC and ETC as WHTC.

(**14**) For Euro VI, if CNG and LPG fuelled engines are tested on different reference fuels, the table shall be reproduced for each reference fuel tested.

(**15**) If applicable.

(**16**) If applicable.

(**17**) Repeat the table for each reference fuel tested.

(**18**) If applicable.

(**19**) If applicable.

(**20**) If applicable.

(**21**) **[**[F4]**[**[F5]Repeat the table for each variant/version.

(**22**) Repeat the table for each reference fuel tested.**]]**

(**23**) ([h1]) Repeat the table for each variant/version.

(**24**) ([h2]) Repeat the table for each reference fuel tested

(**25**) ([h3]) Expand the table if necessary, using one extra row per eco-innovation.

(**26**) ([h8]) The general code of the eco-innovation(s) shall consist of the following elements each separated by a blank space:

— Code of the approval authority as set out in Annex VII;

— Individual code of each eco-innovation fitted in the vehicle, indicated in chronological order of the Commission approval decisions.

(E.g. the general code of three eco-innovations approved chronologically as 10, 15 and 16 and fitted to a vehicle certified by the German type-approval authority should be: ‘e1 10 15 16’.)**|**

Textual Amendments

F1 Substituted by Commission Regulation (EU) 2017/1151 of 1 June 2017 supplementing Regulation (EC) No 715/2007 of the European Parliament and of the Council on type-approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information, amending Directive 2007/46/EC of the European Parliament and of the Council, Commission Regulation (EC) No 692/2008 and Commission Regulation (EU) No 1230/2012 and repealing Commission Regulation (EC) No 692/2008 (Text with EEA relevance).

F4 Substituted by Commission Regulation (EU) 2017/1347 of 13 July 2017 correcting Directive 2007/46/EC of the European Parliament and of the Council, Commission Regulation (EU) No 582/2011 and Commission Regulation (EU) 2017/1151 supplementing Regulation (EC) No 715/2007 of the European Parliament and of the Council on type-approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information, amending Directive 2007/46/EC of the European Parliament and of the Council, Commission Regulation (EC) No 692/2008 and Commission Regulation (EU) No 1230/2012 and repealing Regulation (EC) No 692/2008 (Text with EEA relevance).

F5 Inserted by Commission Regulation (EU) 2018/1832 of 5 November 2018 amending Directive 2007/46/EC of the European Parliament and of the Council, Commission Regulation (EC) No 692/2008 and Commission Regulation (EU) 2017/1151 for the purpose of improving the emission type approval tests and procedures for light passenger and commercial vehicles, including those for in-service conformity and real-driving emissions and introducing devices for monitoring the consumption of fuel and electric energy (Text with EEA relevance).