



Vehicle
Certification
Agency

In-Service Conformity (ISC) for Light Duty Emissions

Final Report - 2025

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A. Quick Overview and Main Conclusions

The Vehicle Certification Agency (VCA) is an Executive Agency of the Department for Transport (DfT) and part of the Road Transport Group, through which it receives its corporate sponsorship.

The VCA's core aim is to improve vehicle safety and environmental protection by providing vehicle and component testing, certification, information and other related services. As the UK's designated Type Approval Authority, the Agency issues emissions approvals for light-duty vehicles sold in Great Britain, through either the domestic GB (g11) Scheme or the international UN (E11) Scheme.

Within these separate emissions regulations there is a requirement for the relevant parties to undertake In-Service Conformity (ISC) testing on light-duty vehicles. For GB emission approvals this requirement is stated Annex II, Part B of Assimilated EU Regulation 2017/1151 as amended by SI 2022 No.1273. For UN (E11) approvals this requirement is stated in Annex 4 of UNR83.08.

For the purposes of Type Approval, these emissions approvals are grouped by their approval holders into ISC families. If a family sells over 5000 units in the UK, the VCA are required to perform a Type 1 and 1a test on a minimum of 5 % of the ISC families per manufacturer per year or at least two ISC families per manufacturer per year, where available.

In 2025 the VCA completed a test programme performing these tests on 7 ISC families, totalling 21 vehicles belonging to the approval holders below:

Approval Holder	Approval Type	No.ISC Families	No. of Vehicles
Ford-Werke	UN	1	3
	GB	2	6
Nissan Motor Co., Ltd	GB	2	6
SAIC Motor Corp., Ltd	GB	1	3
Volkswagen AG	GB	1	3

All vehicles were tested by HORIBA-MIRA Ltd at their facility located on the MIRA Tech Park, Watling Street (A5), Nuneaton, Warwickshire, CV10 0TU

All ISC families were successfully tested and passed the statistical procedure, with no additional vehicles requiring testing. No remedial measures have been undertaken as a result of this programme.

B. ISC Activities Performed by the Manufacturer in the previous year

As required by the aforementioned light-duty emissions regulations, the manufacturers shall perform ISC testing for tailpipe emissions comprising of at least a Type 1 test for all ISC families.

The manufacturers may also perform Type 1a (RDE), Type 4 and Type 6 tests for all or part of the ISC families. The manufacturers shall report to the GTAA all results from their ISC testing.

No manufacturer has reported any non-compliances from their ISC test programmes to the VCA in 2025.

C. ISC Activities Performed by Accredited Laboratories or Technical Services in the previous year

No Technical Service or Third Party has reported any ISC Testing to VCA in 2025. Therefore, no information on third party risk assessments or testing is available.

D. ISC Activities Performed by the VCA in the Previous Year

Information Gathering & Risk Assessment

When an Approval Holder has more than 2 families with over 5000 sales, the VCA are required to perform a risk assessment to determine which families to test.

The ISC methodology states the risk-assessment methodology shall be consistent with the international standard ISO 31000:2018 – Risk Management. The VCA's risk assessment gathers information on key vehicle characteristics to calculate a risk score, with the two highest scoring families will go onto be tested.

The following variables are assessed for each family:

- GTAA testing history (from both UK and EU GTAA ISC)
- Number of warranty claims in previous year
- RDE Family Reports
- Powertrain characteristics, which are then compared to an emissions intelligence database to determine which configurations present the highest risk of non-compliance. The following characteristics are assessed:
 - Mass in running order
 - Powertrain architecture
 - Fuel
 - Fuelling method
 - Aspiration
 - Engine volume
 - Exhaust aftertreatment
 - Level of hybridisation
- Intelligence shared by other third parties, such as the Driver & Vehicle Standards Agency (DVSA) Market Surveillance Unit (MSU).

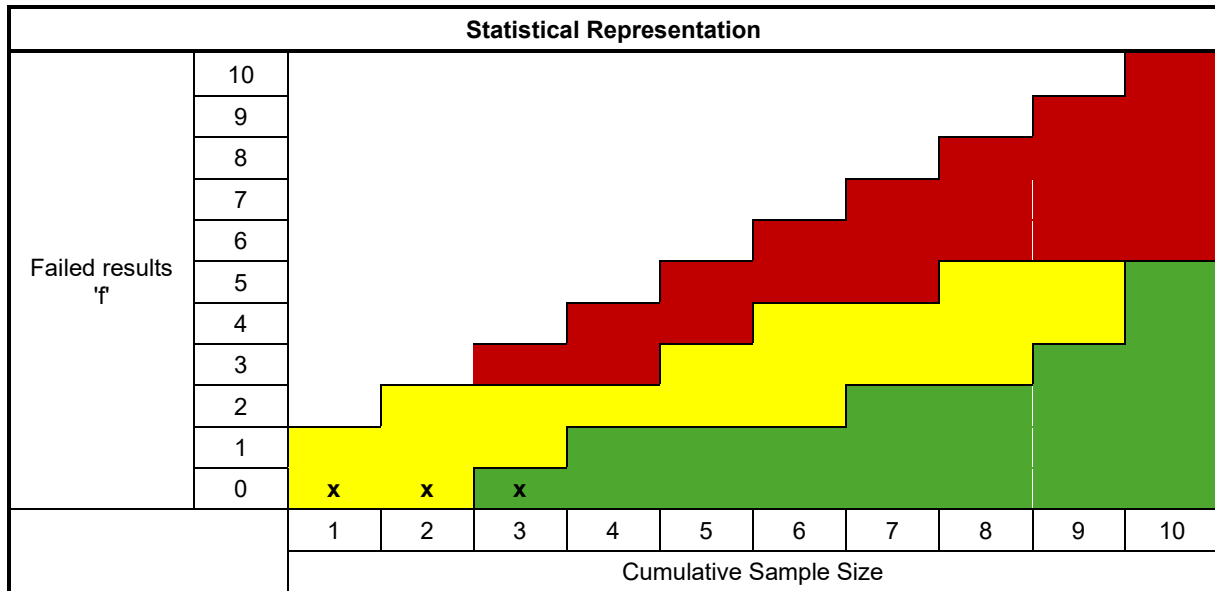
The only manufacturer which had more than 2 families was Nissan Motor Co., Ltd, who had 4 families in scope for ISC. The other manufacturers only had 1 or 2 families in scope; therefore, no risk assessment was required prior to selecting them for testing.

ISC Testing

Ford-Werke (GB)

Family 1 – GB-WF0-P35-3_/ Ford Puma (999cc Gasoline NOVC-HEV)

Outcome: Pass



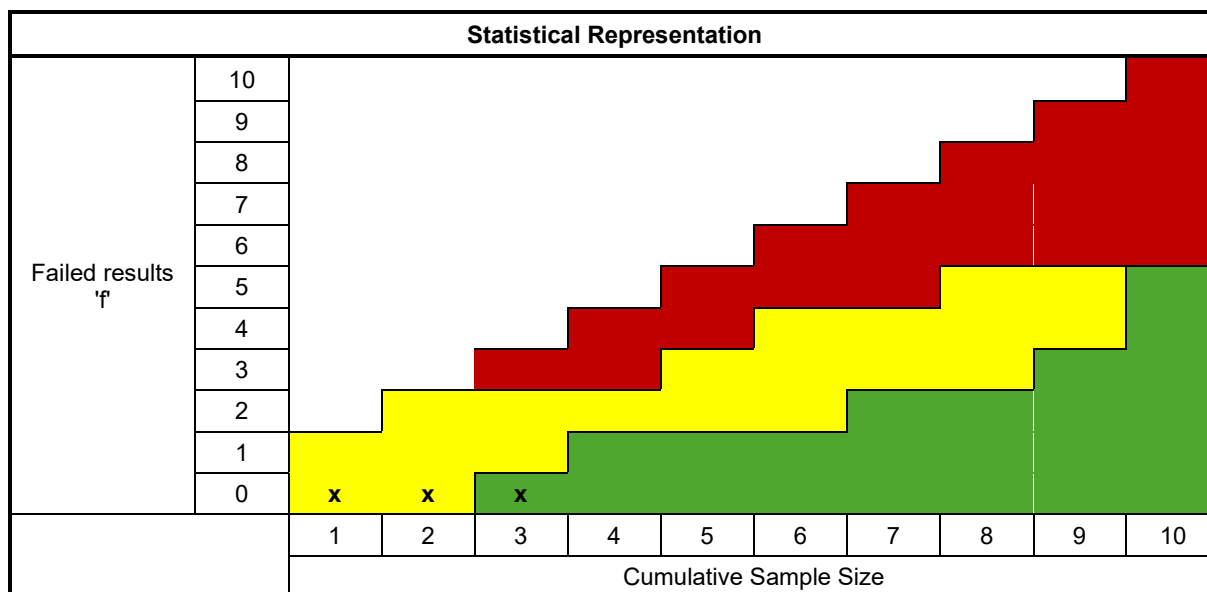
Type 1 WLTC								Decision
CO (mg/km)	THC (mg/km)	NMHC (mg/km)	NOx (mg/km)	THC + NOx (mg/km)	PM (mg/km)	PN (#/km)		
Limit	1000	100	68	60	-	4.5	6.00E+11	
Vehicle 1	394.4	49.4	44.2	16.3	-	0.12	8.06E+10	PASS
Vehicle 2	206.3	29.3	26.1	12.7	-	0.10	1.27E+11	PASS
Vehicle 3	450.2	37.4	32.9	16.2	-	0.21	9.03E+10	PASS

Type 1a RDE					Decision
Urban Trip		Total Trip			
NOx (mg/km)	PN (#/km)	NOx (mg/km)	PN (#/km)		
Limit	85.8	9.00E+11	85.8	9.00E+11	
Vehicle 1	15.5	6.10E+10	10.4	6.13E+10	PASS
Vehicle 2	8.2	1.22E+11	5.1	1.49E+11	PASS
Vehicle 3	12.8	2.80E+10	6.8	1.91E+10	PASS

Ford-Werke (GB)

Family 2 – GB-WF0-P34-0 / Ford Focus (999cc Gasoline NOVC-HEV)

Outcome: Pass



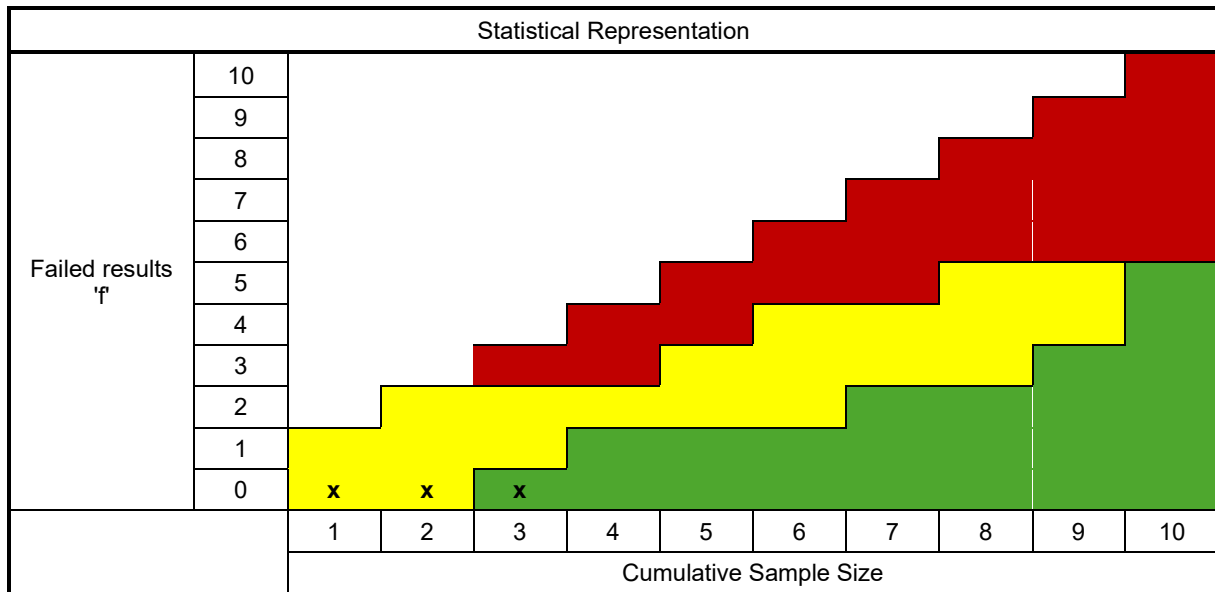
Type 1 WLTC								Decision
CO (mg/km)	THC (mg/km)	NMHC (mg/km)	NOx (mg/km)	THC + NOx (mg/km)	PM (mg/km)	PN (#/km)		
Limit	1000	100	68	60	-	4.5	6.00E+11	
Vehicle 1	237.9	28.6	24.1	12.1	-	0.16	1.02E+11	PASS
Vehicle 2	705.2	45.7	38.7	8.9	-	0.14	3.80E+10	PASS
Vehicle 3	406.7	44.7	39.8	15.9	-	0.12	9.47E+10	PASS

Type 1a RDE					Decision
Urban Trip		Total Trip			
NOx (mg/km)	PN (#/km)	NOx (mg/km)	PN (#/km)		
Limit	85.8	9.00E+11	85.8	9.00E+11	
Vehicle 1	9.0	8.62E+10	8.8	7.87E+10	PASS
Vehicle 2	9.4	5.18E+10	8.1	1.02E+11	PASS
Vehicle 3	18.1	1.31E+10	8.7	1.31E+10	PASS

Ford-Werke (UN)

Family 1 – PF-11-D36-0 / Ford Transit (1996cc Diesel ICE)

Outcome: Pass



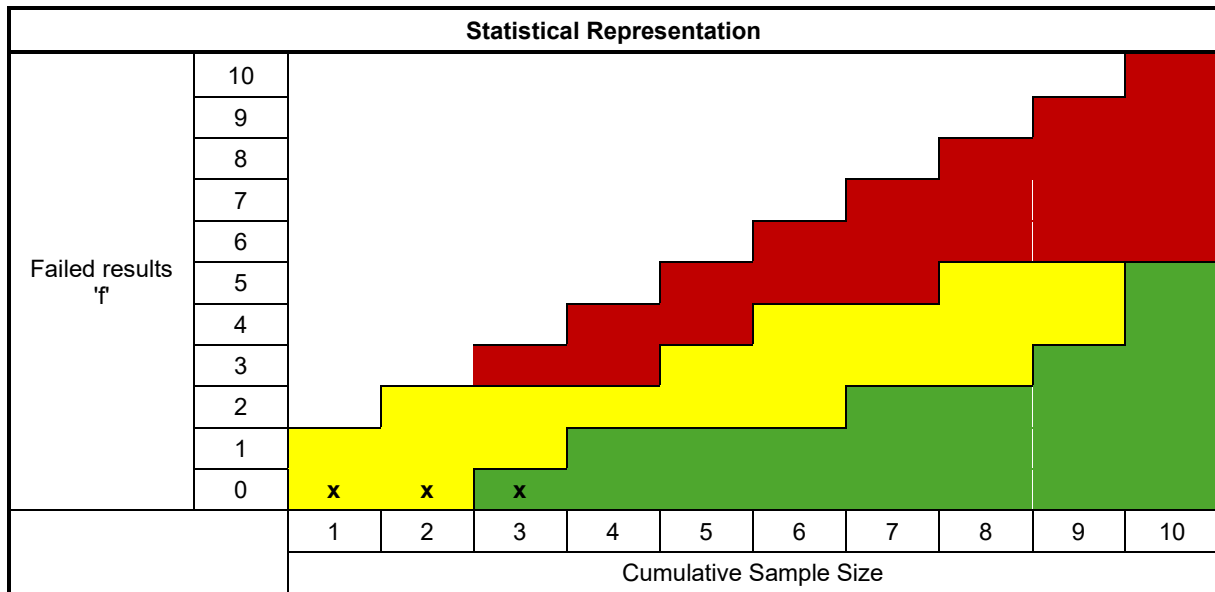
Type 1 WLTC								
	CO (mg/km)	THC (mg/km)	NMHC (mg/km)	NOx (mg/km)	THC + NOx (mg/km)	PM (mg/km)	PN (#/km)	Decision
Limit	740	-	-	125	215	4.5	6.00E+11	
Vehicle 1	47.6	-	-	31.5	61.5	0.02	1.67E+10	PASS
Vehicle 2	26.9	-	-	47.9	58.9	0.45	6.49E+07	PASS
Vehicle 3	29.8	-	-	20.6	32.7	0.30	3.85E+07	PASS

Type 1a RDE					
	Urban Trip		Total Trip		Decision
	NOx (mg/km)	PN (#/km)	NOx (mg/km)	PN (#/km)	
Limit	137.5	8.04E+11	137.5	8.04E+11	
Vehicle 1	48.0	8.17E+07	43.1	4.50E+07	PASS
Vehicle 2	15.8	4.59E+07	19.8	2.85E+07	PASS
Vehicle 3	20.1	9.37E+07	15.2	4.82E+07	PASS

Nissan Motor Co., Ltd (GB)

Family 1 – GB-JN1-0031 / Nissan Qashqai (1332cc Gasoline NOVC-HEV)

Outcome: Pass



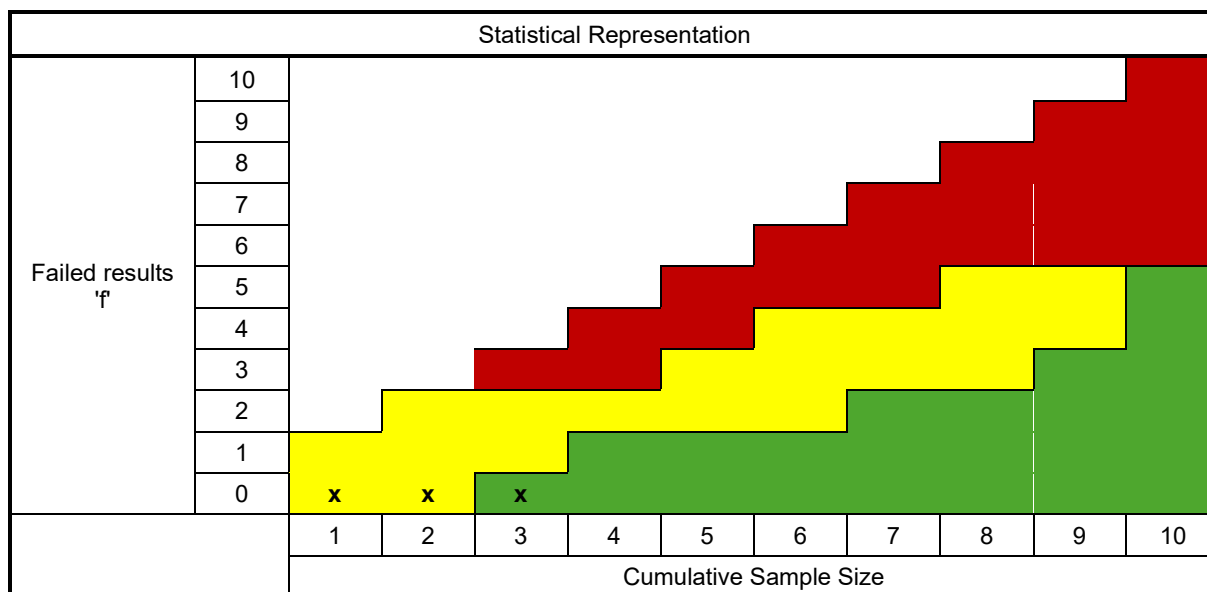
Type 1 WLTC								
	CO (mg/km)	THC (mg/km)	NMHC (mg/km)	NOx (mg/km)	THC + NOx (mg/km)	PM (mg/km)	PN (#/km)	Decision
Limit	1000	100	68	60	-	4.5	6.00E+11	
Vehicle 1	127.0	16.1	12.5	13.0	-	0.07	1.49E+09	PASS
Vehicle 2	111.1	14.0	10.3	7.5	-	0.07	1.17E+09	PASS
Vehicle 3	167.9	13.2	9.5	11.4	-	0.04	6.42E+08	PASS

Type 1a RDE					
	Urban Trip		Total Trip		Decision
	NOx (mg/km)	PN (#/km)	NOx (mg/km)	PN (#/km)	
Limit	85.8	9.00E+11	85.8	9.00E+11	
Vehicle 1	21.6	3.89E+07	21.1	5.49E+08	PASS
Vehicle 2	18.6	3.86E+07	21.2	4.14E+08	PASS
Vehicle 3	20.7	2.04E+08	10.8	2.17E+08	PASS

Nissan Motor Co., Ltd (GB)

Family 2 – GB-JN1-0036 / Nissan X-Trail (1497cc Gasoline NOVC-HEV)

Outcome: Pass



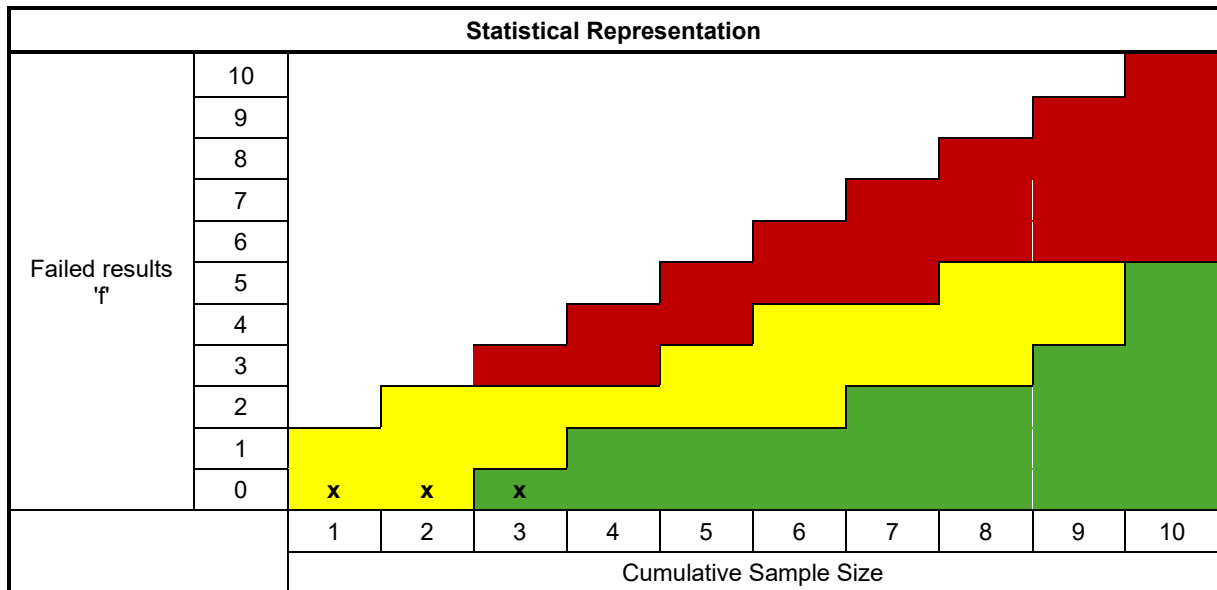
Type 1 WLTC								Decision
CO (mg/km)	THC (mg/km)	NMHC (mg/km)	NOx (mg/km)	THC + NOx (mg/km)	PM (mg/km)	PN (#/km)		
Limit	1000	100	68	60	-	4.5	6.00E+11	
Vehicle 1	103.7	9.1	7.4	3.4	-	0.00	2.90E+09	PASS
Vehicle 2	112.9	9.9	8.0	4.5	-	0.10	8.36E+09	PASS
Vehicle 3	146.9	16.9	14.7	2.5	-	0.17	1.10E+10	PASS

Type 1a RDE					Decision
Urban Trip		Total Trip			
NOx (mg/km)	PN (#/km)	NOx (mg/km)	PN (#/km)		
Limit	85.8	9.00E+11	85.8	9.00E+11	
Vehicle 1	2.29	7.84E+09	1.5	9.56E+09	PASS
Vehicle 2	1.10	4.14E+09	1.2	3.55E+09	PASS
Vehicle 3	3.48	6.45E+09	1.8	3.39E+09	PASS

SAIC Motor Corp., Ltd (GB)

Family 1 - GB-LSJ-2-0 / MG3+ (1498cc Gasoline NOVC-HEV)

Outcome: Pass



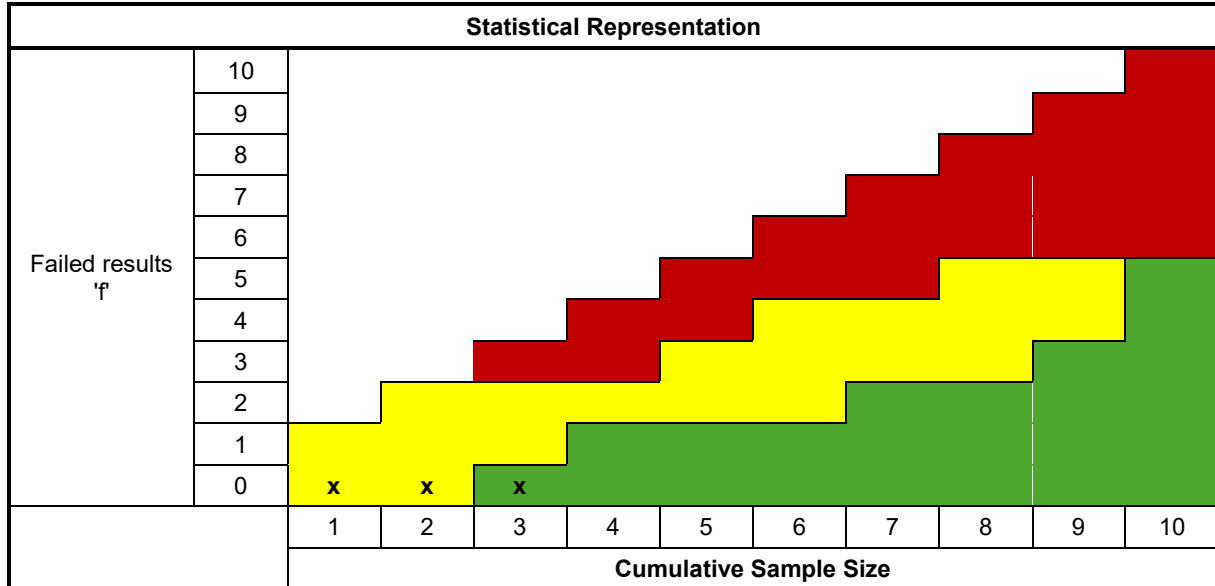
Type 1 WLTC								
	CO (mg/km)	THC (mg/km)	NMHC (mg/km)	NOx (mg/km)	THC + NOx (mg/km)	PM (mg/km)	PN (#/km)	Decision
Limit	1000	100	68	60	-	-	-	
Vehicle 1	132.1	34.2	30.2	13	-	-	-	PASS
Vehicle 2	103.1	33.5	29.0	12.7	-	-	-	PASS
Vehicle 3	141.3	37.3	33.5	13.8	-	-	-	PASS

Type 1a RDE					
	Urban Trip		Total Trip		Decision
	NOx (mg/km)	PN (#/km)	NOx (mg/km)	PN (#/km)	
Limit	85.8	-	85.8	-	
Vehicle 1	8.8	-	6.3	-	PASS
Vehicle 2	0.2	-	0.7	-	PASS
Vehicle 3	11.7	-	5.9	-	PASS

Volkswagen (GB)

Family 1 - GB-VWx-715W_CT_DXDB_FD7_0_A_1_0-000 / VW Tiguan (1498cc Gasoline NOVC-HEV)

Outcome: Pass



Type 1 WLTC								Decision
CO (mg/km)	THC (mg/km)	NMHC (mg/km)	NOx (mg/km)	THC + NOx (mg/km)	PM (mg/km)	PN (#/km)		
Limit	1000	100	68	60	-	4.5	6.00E+11	
Vehicle 1	91.9	8.8	6.9	6.8	-	0.01	8.94E+08	PASS
Vehicle 2	66.6	9	7.3	8.6	-	0.11	9.18E+08	PASS
Vehicle 3	93.6	9.8	7.4	11.4	-	0.21	9.00E+08	PASS

Type 1a RDE					Decision
Urban Trip		Total Trip			
NOx (mg/km)	PN (#/km)	NOx (mg/km)	PN (#/km)		
Limit	85.8	9.00E+11	85.8	9.00E+11	
Vehicle 1	7.2	8.28E+08	7.6	1.14E+09	PASS
Vehicle 2	9.3	5.69E+08	6.7	5.69E+08	PASS
Vehicle 3	9.8	8.95E+08	4.9	6.24E+08	PASS

Detailed Investigations

As all 21 vehicles passed, no detailed investigations were carried out.

Remedial Measures

As all 21 vehicles passed, no remedial measures were undertaken as a result of this programme.

E. Emissions Reductions due to ISC Remedial Measures

As all 21 vehicles were compliant, no manufacturer was required to undergo remedial measures. Therefore, no reduction in emissions can be reported as a result of this programme.

F. Lessons Learned

This is the first annual ISC programme carried out by the VCA as part of the GB Type Approval Scheme, from which a number of lessons learnt will be carried forward into future ISC programmes.

Certificate of Conformity (CoC) Availability

In order to identify whether a candidate vehicle belongs to the correct ISC family, technical information is required. Traditionally, this information could be located on the vehicle's CoC, which states the ISC & IP Family.

However, printed CoC's are often not available with UK vehicles due to their limited use in-service, unlike in Europe where they are more routinely accessible. This made it challenging to secure vehicles at the required speed to prevent them being hired or sold, as the VCA initially had to contact manufacturers for CoC's, which can take up to 10 working days.

As a solution, the VCA utilised our sister agency, the Driver and Vehicle Licencing Agency (DVLA). Once supplied with a Vehicle Identification Number (VIN), DVLA were able to provide Type / Variant / Version (TVV) Codes, which is recorded on vehicle's V5 Registration Document.

These TVV Codes could then be aligned with the codes supplied by manufacturers in their Whole Vehicle Type Approval (WVTA) documents, enabling the corresponding ISC Family to be identified. DVLA were able to share this information with VCA within 1 working day, allowing candidate vehicles to be secured significantly faster than before.

The implementation of Electronic Certificates of Conformity (eCoCs) in Summer 2026 will help alleviate this issue in future, albeit only for newly registered vehicles. For any vehicles registered before this date, we will remain reliant on DVLA support.

Availability of Candidate Vehicles

The GB Type Approval Scheme was not mandatory for Light Duty vehicles until February 2026. As a result, when searching for candidate vehicles it was noted that many had still been registered with their European ISC/IP Identifiers (as permitted by the regulations at this time). This created additional complexity as the VCA had to work with the ISC manufacturers to understand which EU approved vehicles could be considered technically equivalent to test for our programme.

Furthermore, as a number of the products were new models, it was challenging for our sourcing partner to procure vehicles with sufficient mileage or be at least 6 months old that would pass the Appendix 1 Examination. This added further delays when sourcing vehicles. However, HORIBA-MIRA Ltd were able to secure all vehicles required to test.

G. Report of other Invalid Tests

ISC Family	Test	Reason
PF-11-D36-0	Type 1a / RDE	Vehicle exceeded upper $v_{a_{pos}}$ limit in the urban phase of the RDE and the initial stop time before first pull away exceeded the time permitted by the regulation.
GB-LSJ-2-0	Type 1a / RDE	Uncharacteristically heavy traffic on the test route led to the maximum RDE test time permitted by the regulation to be exceeded.

Annexes

Annex A – Glossary

Abbreviation or term	Description
CO	Carbon Monoxide
CoC	Certificate of Conformity
DfT	Department for Transport
DVLA	Driver and Vehicle Licensing Agency
DVSA	Driver and Vehicle Standards Agency
eCoC	Electronic Certificate of Conformity
EU	European Union
GB	Great Britain
GTAA	Granting Type Approval Authority
ICE	Internal Combustion Engine
IP	Interpolation Family
ISC	In-Service Conformity
ISO	International Standards Organisation
MSU	Market Surveillance Unit
NMHC	Non-Methane Hydrocarbons
NOVC-HEV	Not Off-Vehicle Charging Hybrid Electric Vehicle
NOx	Nitrogen Oxides
OVC-HEV	Off-Vehicle Charging Hybrid Electric Vehicle
PEMS	Portable Emissions Measurement System
PM	Particulate Matter
PN	Particulate Number
RDE	Real Driving Emissions
THC	Total Hydrocarbons
TVV	Type / Variant / Version

Type 1	Chassis-dynamometer test measuring tailpipe emissions over a standard drive cycle (WLTC) from a cold start.
Type 1a	On-road RDE test using PEMS to measure real-driving tailpipe emissions under defined boundary conditions
UK	United Kingdom
UN	United Nations
VCA	Vehicle Certification Agency
VIN	Vehicle Identification Number
WLTC	Worldwide Harmonized Light Vehicles Test Cycle
WVTA	Whole Vehicle Type Approval

Annex B – Photography

Ford-Werke (GB)

Family 1 – GB-WF0-P35-3 / Ford Puma (999cc Gasoline NOVC-HEV)

Vehicle 1 Overview



Vehicle 1 PEMS Installation



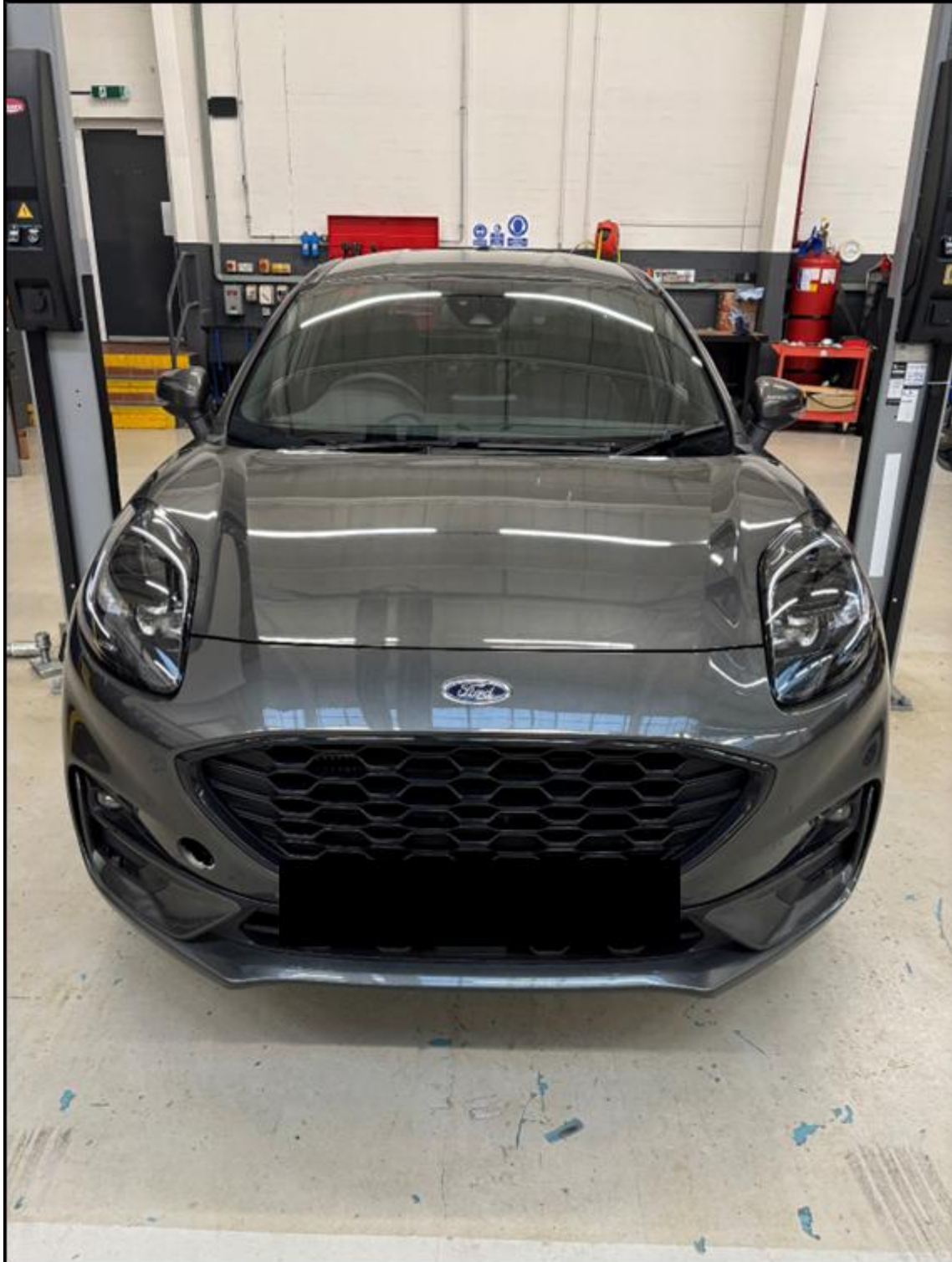
Vehicle 2 Overview



Vehicle 2 PEMS Installation



Vehicle 3 Overview



Vehicle 3 PEMS Installation



Ford-Werke (GB)

Family 2 – GB-WF0-P34-0 / Ford Focus (999cc Gasoline NOVC-HEV)

Vehicle 1 Overview



Vehicle 1 PEMS Installation



Vehicle 2 Overview



Vehicle 2 PEMS Installation



Vehicle 3 Overview



Vehicle 3 PEMS Installation



Ford-Werke (UN)

Family 1 – PF-11-D36-0 / Ford Transit (1996cc Diesel ICE)

Vehicle 1 Overview



Vehicle 1 PEMS Installation



Vehicle 2 Overview



Vehicle 2 PEMS Installation



Vehicle 3 Overview



Vehicle 3 PEMS Installation



Nissan Motor Co., Ltd (GB)

Family 1 – GB-JN1-0031 / Nissan Qashqai (1332cc Gasoline NOVC-HEV)

Vehicle 1 Overview



Vehicle 1 PEMS Installation



Vehicle 2 Overview



Vehicle 2 PEMS Installation



Vehicle 3 Overview



Vehicle 3 PEMS Installation



Nissan Motor Co., Ltd (GB)

Family 2 – GB-JN1-0036 / Nissan X-Trail (1497cc Gasoline OVC-HEV)

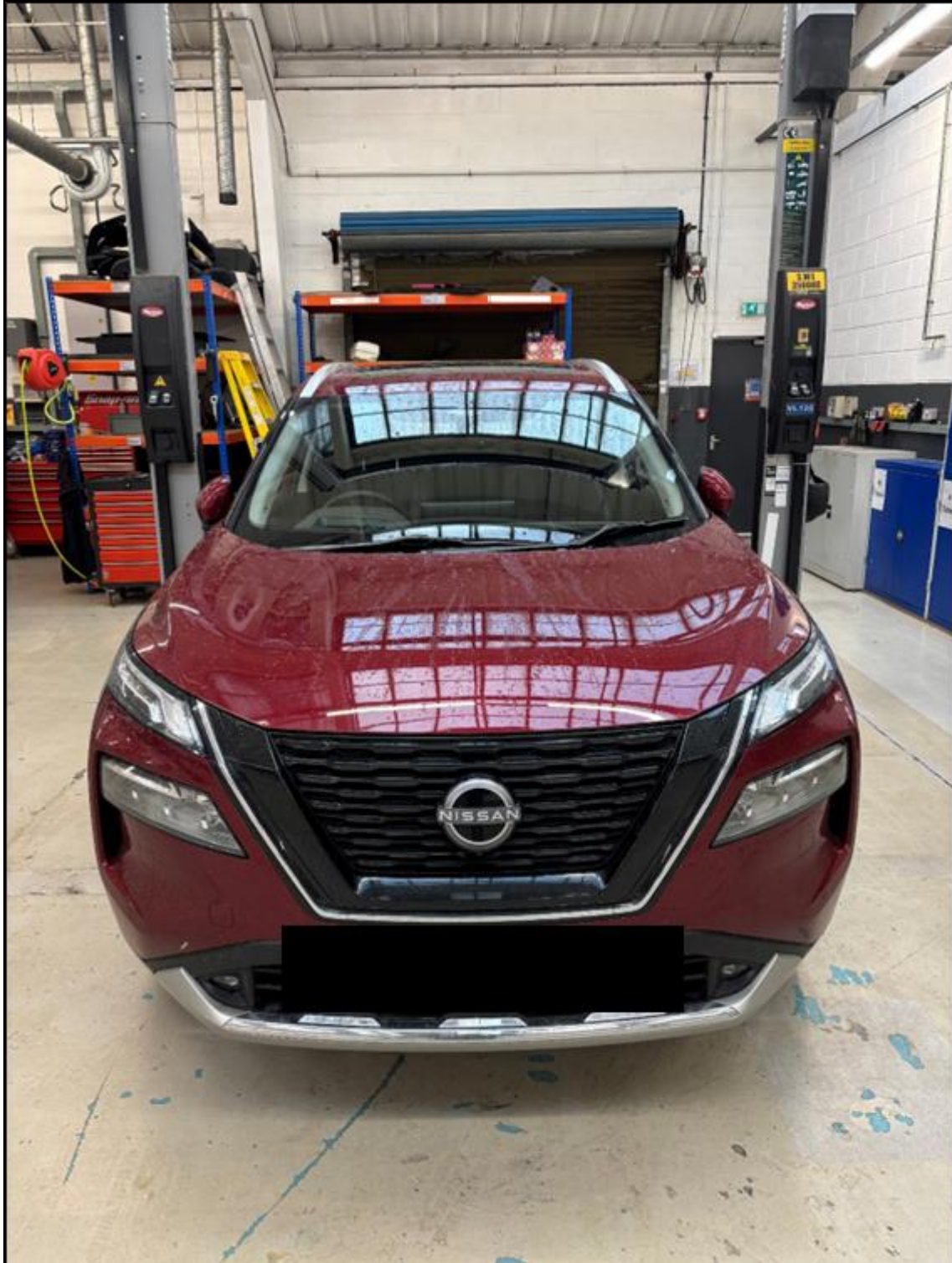
Vehicle 1 Overview



Vehicle 1 PEMS Installation



Vehicle 2 Overview



Vehicle 2 PEMS Installation



Vehicle 3 Overview



Vehicle 3 PEMS Installation



SAIC Motor Corp., Ltd (GB)

Family 1 - GB-LSJ-2-0 / MG3+ (1498cc Gasoline OVC-HEV)

Vehicle 1 Overview



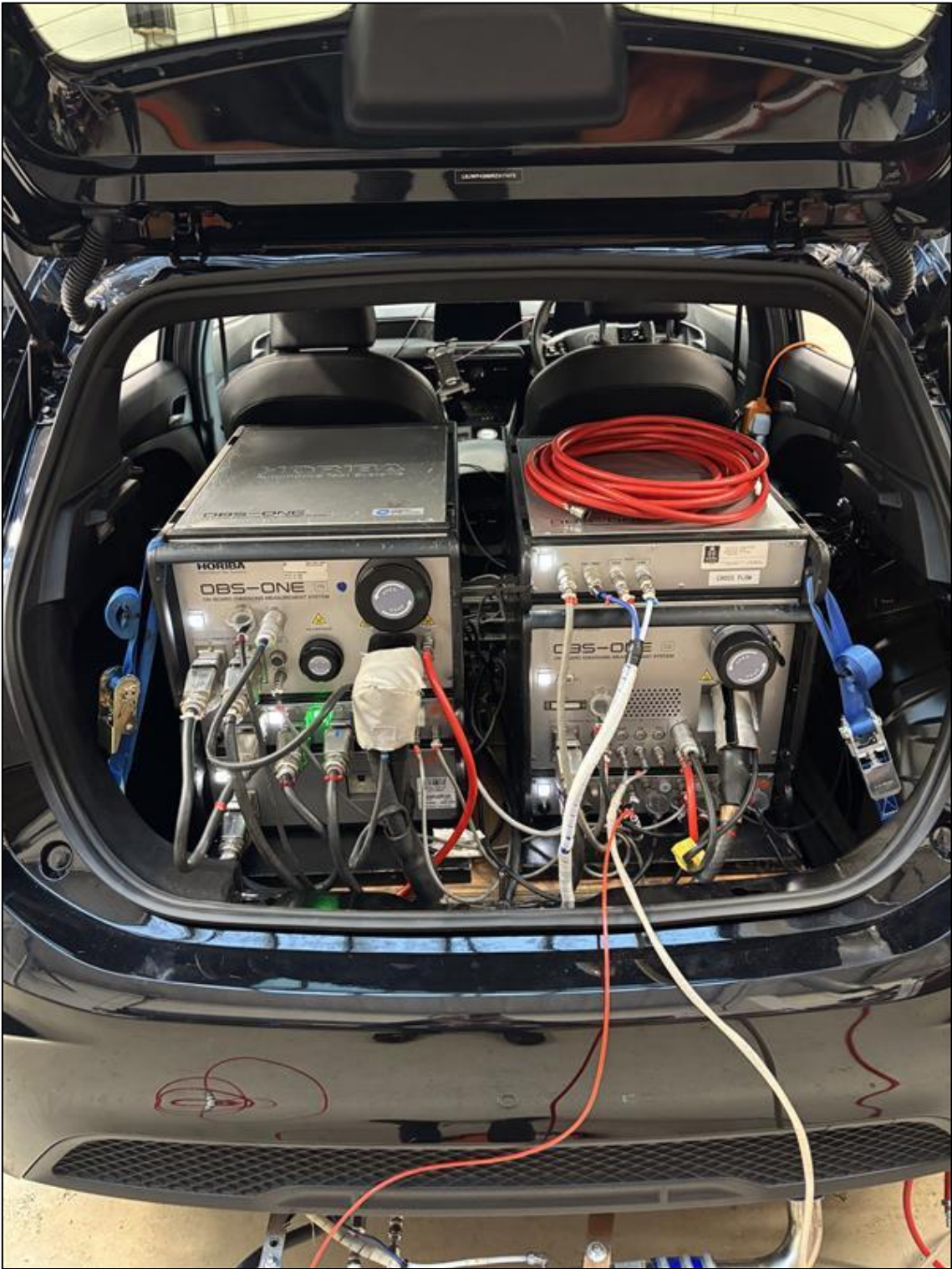
Vehicle 1 PEMS Installation



Vehicle 2 Overview



Vehicle 2 PEMS Installation



Vehicle 3 Overview



Vehicle 3 PEMS Installation



Volkswagen (GB)

Family 1 - GB-VWx-715W CT DXDB FD7 0 A 1 0-000 / VW Tiguan (1498cc Gasoline NOVC-HEV)

Vehicle 1 Overview



Vehicle 1 PEMS Installation



Vehicle 2 Overview



Vehicle 2 PEMS Installation



Vehicle 3 Overview



Vehicle 3 PEMS Installation

