

## Low Emission Bus Scheme Certificate

Customer:	Wrightbus Limited				
Customer Address:	Galgorm Ind. Estate, Fenaghy Road, Ballymena, Co. Antrim N.I, BT42 1PY				
Test Purpose:	LEB Testing			DYNAMOMETER SETTINGS	
Vehicle Manufacturer:	Wrightbus Limited	Unladen weight (kg)	11000.0	Test Weight	13217 kg
Vehicle Type & Number:	StreetDeck HEV, AH351	Gross Weight (kg)	18000.0	F°	372.53 N
Engine:	Daimler Euro VI	Seated Capacity	66	F¹	-14.6124 N/kmh
Transmission:	Voith Diwa Automatic	Passenger Capacity	95	F²	0.52418 N/kmh²
Euro VI certificate Y/N	Manufacturer Certified	GVW Check	OK	F³	-0.002792 N/kmh³

### Declared fuel, properties and source plus carbon conversion factors

Net Heating Value: Diesel	36.00	MJ / Litre	Fuel Provider	UK market standard
Well-to-Tank Factor: Diesel	15.42	g CO2e / MJ	WTT evidence	UK GHG reporting factors 2016
Well-to-Tank Factor: Electricity	143.50	g CO2e / MJ	Fuel Type	UK Pump Diesel, UK Grid Electricity

### Emissions and Energy consumption results from approved test facility - Average 3 tests

Test Phase	HC (g/km)	CO (g/km)	NOx (g/km)	PM (g/km)	CO <sub>2</sub> (g/km)	CH <sub>4</sub> (g/km)*	N <sub>2</sub> O (g/km)*	Fuel Consumption (l/100 km)	Fuel used (l/km)
Rural	0.003	0.012	0.036	N/A	652.5	0.000	0.054	24.63	0.246
Outer London	0.011	0.026	0.032	N/A	710.7	0.000	0.076	26.84	0.268
Inner London	0.024	0.037	0.070	N/A	998.5	0.000	0.075	37.70	0.377
MLTB Average	0.015	0.029	0.042	N/A	791.7	0.000	0.076	29.89	0.299
LUB Average	0.009	0.021	0.039	0.0025	726.9	0.000	0.066	27.45	0.274

### Zero Emissions (Z.E.) Range: Energy consumption and charging efficiency


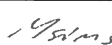
Total measured energy consumed on vehicle (kWh)	N/A	Distance in Z.E. mode (km)	N/A	Usable Battery Capacity (kWh)	N/A
Measured grid energy during charging (kWh)*	N/A	Charging efficiency (%)	N/A	Max Theoretical Z.E. Range (km)	N/A

### Total Tank-to-Wheel GHG CO<sub>2</sub> equivalent

Test Phase	CO <sub>2</sub> (g/km)	CH <sub>4</sub> (g/km x 25)*	N <sub>2</sub> O (g/km x 298)*	Fuel TTW** GHG Emissions (g CO2e / km)
Rural	652.5	0.000	16.214	668.7
Outer London	710.7	0.000	22.641	733.4
Inner London	998.5	0.000	22.343	1020.8
MLTB Average	791.7	0.000	22.618	814.3
LUB Average	726.9	0.000	19.660	746.6

### Calculated total Well-to-Wheel GHG CO<sub>2</sub> equivalent emissions over test

Test Phase	Fuel Energy (MJ / km)	Fuel WTT*GHG Emissions (g CO <sub>2</sub> e / km)	Electrical Energy (MJ / km)	Electricity WTT* GHG Emissions (g CO <sub>2</sub> e / km)	Measured Fuel TTW** GHG Emissions (g CO <sub>2</sub> e / km)	Total WTW*** GHG Emissions (g CO <sub>2</sub> e / km)
Rural	8.87	136.8	N/A	N/A	668.7	805.4
Outer London	9.66	149.0	N/A	N/A	733.4	882.3
Inner London	13.57	209.3	N/A	N/A	1020.8	1230.1
MLTB Average	10.76	165.9	N/A	N/A	814.3	980.2
LUB Average	9.88	152.4	N/A	N/A	746.6	899.0

Data Generated by (On behalf of Test facility):		Date: 29.09.2017	Data Approved by:		Date: 06/10/17
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### Low Emission Bus Certificate Summary

GHG Well-to-Wheel	899.0	g CO2e / km
Euro V Average Diesel Equivalent	1374.9	g CO2e / km
WTW GHG saving (compared with Euro V diesel equivalent)	475.9	g CO2e / km
% WTW GHG saving (compared with Euro V diesel equivalent)	35%	g CO2e / km
Zero Emission operating range (km)	N/A	km
WTW CO <sub>2</sub> per passenger km (@ Max Pass Capacity)	9.5	g CO2e/pass km
Approved as Low Emission Bus? (15% saving or more)	<b>YES</b>	

\* WTT : Well-to-Tank      \*\* TTW : Tank-to-Wheel      \*\*\* WTW : Well-to Wheel

**COMMENTS:**  
Emission results marked in red are below detection levels.  
CO<sub>2</sub>, N<sub>2</sub>O & Fuel Used adjusted for average NEC of 3.31%

**Test Numbers:** ML02017362 (27 September 2017), ML02017364 (27 September 2017), ML02017365 (27 September 2017).

Certificate approved by: On behalf of Bus manufacturer		Certificate Approved by: On behalf of LowCVP/DfT
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