

Low Emission Bus Scheme Certificate

Customer:	BYD Europe B.V.				
Customer Address:	s-Gravelandseweg 256, 3125 BK, Schiedam, Netherlands				
Test Purpose:	LEB Energy Consumption Testing			DYNAMOMETER SETTINGS	
Vehicle Manufacturer:	BYD	Unladen weight (kg)	12603.0	Test Weight	13868 kg
Vehicle Type & Number:	BYD eBus	Gross Weight (kg)	18700.0	F ⁰	329.76 N
Engine:	Electric Motor	Seated Capacity	35	F ¹	-6.7904 N/kmh
Transmission:	N/A	Passenger Capacity	70	F ²	0.42029 N/kmh ²
Euro VI certificate Y/N	N/A	GVW CHECK	OK	F ³	-0.002120 N/kmh ³

Declared fuel, properties and source plus carbon conversion factors

Net Heating Value: Diesel	N/A	MJ / Litre	Fuel Provider	UK market standard
Well-to-Tank Factor: Diesel	N/A	g CO2e / MJ	WTT evidence	UK GHG reporting factors 2016
Well-to-Tank Factor: Electricity	143.50	g CO2e / MJ	Fuel Type*	UK Grid Electricity inc. WTT + T&D

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 ₂ (g/km)	CH ₄ (g/km)*	N ₂ O (g/km)*	Energy Consumption (KWhr)	Electrical Energy Consumption (kWh/ 100 km)
Rural	0.00	0.00	0.00	0.000	0.00	0.000	0.000	5.52	81.8
Outer London	0.00	0.00	0.00	0.000	0.00	0.000	0.000	4.72	79.7
Inner London	0.00	0.00	0.00	0.000	0.00	0.000	0.000	2.21	95.9
MLTB Average	0.00	0.00	0.00	0.0000	0.00	0.000	0.000	6.92	84.2
LUB Average	0.00	0.00	0.00	0.0000	0.00	0.000	0.000	12.45	83.1

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

Total measured energy consumed on vehicle (kWh)	49.80	Distance in Z.E. mode (km)	65.10	Usable Battery Capacity (kWh)	345.0
Measured grid energy during charging (kWh)	54.13	Charging efficiency (%)	92%	Max Theoretical Z.E. Range (km)	451.0

Total Tank-to-Wheel GHG CO₂ equivalent

Test Phase	CO ₂ (g/km)	CH ₄ (g/km x 25)*	N ₂ O (g/km x 298)*	Fuel TTW** GHG (CO ₂ Equivalent g/km)
Rural	0.00	0.000	0.00	0.00
Outer London	0.00	0.000	0.00	0.00
Inner London	0.00	0.000	0.00	0.00
MLTB	0.00	0.000	0.00	0.00
LUB Total Average	0.00	0.000	0.00	0.00

Calculated total Well-to-Wheel GHG CO₂ equivalent emissions over test

Test Phase	Fuel Energy (MJ / km)	Fuel WTT*GHG Emissions (g CO ₂ e / km)	Electrical Energy (MJ / km)	Electricity WTT* GHG Emissions (g CO ₂ e / km)	Measured Fuel TTW** GHG Emissions (g CO ₂ e / km)	Total WTW*** GHG Emissions (g CO ₂ e / km)
Rural	0.00	0.00	2.95	422.61	0.00	422.61
Outer London	0.00	0.00	2.87	411.60	0.00	411.60
Inner London	0.00	0.00	3.45	495.45	0.00	495.45
MLTB	0.00	0.00	3.03	435.07	0.00	435.07
LUB Total Average	0.00	0.00	2.99	429.45	0.00	429.45

Data Generated by (On behalf of Test facility):	Insert Date	Data Approved by:	Insert Date
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Low Emission Bus Certificate Summary

GHG Well-to-Wheel	429.5	g CO ₂ e / km
Euro V Average Diesel Equivalent	1139.4	g CO ₂ e / km
WTW GHG saving (compared with Euro V diesel equivalent)	709.9	g CO ₂ e / km
% WTW GHG saving (compared with Euro V diesel equivalent)	62%	g CO ₂ e / km
Max Theoretical Zero Emission Operating Range (km)	451.0	km
WTW CO ₂ per passenger km (@ Max Pass Capacity)	6.1	g CO ₂ e/pass km
Approved as Low Emission Bus? (15% saving or more)	YES	

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

COMMENTS: Emission results marked in red are below detection levels. UK Grid Electricity WTT factor includes transmission and distribution losses (T&D) and well-to-tank emissions for generation and T&D. [†]Based on LEB Test Guidance notes for EV vehicles (4 x LUB Cycles as ZEC Vehicle). [‡]Value calculated based on Total energy used during testing and CLAIMED charging efficiency. [§]Range calculation assumed full operation from 100% to 0% with a linear reduction of 3.6% battery capacity per 16.3 km test cycle.

Test Numbers: ML02015809 (08-September-2016), ML02015810 (08-September-2016), ML02015811 (08-September-2016), ML02015812 (08-September-2016).

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