

Commission Implementing Decision (EU) 2019/314 of 21 February 2019
on the approval of the technology used in SEG Automotive Germany
GmbH High efficient 48V motor generator (BRM) plus 48V/12V DC/
DC converter for use in conventional combustion engine and certain
hybrid powered passenger cars as an innovative technology for reducing
CO₂ emissions from passenger cars pursuant to Regulation (EC) No 443/2009
of the European Parliament and of the Council (Text with EEA relevance)

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efficient 48V motor generator (BRM) plus 48V/12V DC/DC converter for use in
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(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EC) No 443/2009 of the European Parliament and of the Council
of 23 April 2009 setting emission performance standards for passenger cars as part of the Union's
integrated approach to reduce CO₂ emissions from passenger cars⁽¹⁾, and in particular Article
12(4) thereof,

Whereas:

- (1) On 14 May 2018, the supplier SEG Automotive Germany GmbH submitted an application for the approval of the High efficient 48V motor generator (BRM) plus 48V/12V DC/DC converter for M₁ vehicles as an eco-innovation. The application has been assessed in accordance with Article 12 of Regulation (EC) No 443/2009 and Commission Implementing Regulation (EU) No 725/2011⁽²⁾.
- (2) The 48V motor generator is a reversible machine that may operate as either an electric motor converting electrical energy into mechanical energy, or a generator converting mechanical energy into electrical energy as a standard alternator. The application submitted focused on the generation function of the component.
- (3) The applicant proposed two different methodologies to determine the total efficiency of the system, combining the efficiency of the 48V motor generator and the efficiency of the 48V/12V DC/DC converter. The first method aims to calculate the efficiency of the 48V motor generator and its 48V/12V DC/DC converter separately, while the second method aims to calculate the efficiency of the 48V motor generator plus its 48V/12V DC/DC converter (combined method). Both testing procedures are in line with the Technical Guidelines for the preparation of applications for the approval of innovative

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technologies pursuant to Regulation (EC) No 443/2009. As compared to the testing methodology defined in Commission Implementing Decision (EU) 2017/785⁽³⁾ on the approval of efficient 12V motor-generators, the testing methodologies for 48V motor generators include different voltage and test current to take into account the specificities of the 48V motor generator.

- (4) The information provided in the application demonstrates that the conditions and the criteria referred to in Article 12 of Regulation (EC) No 443/2009 and in Articles 2 and 4 of Implementing Regulation (EU) No 725/2011 have been met for the two proposed case studies. As a consequence, the SEG Automotive Germany GmbH High efficient 48V motor generator (BRM) plus 48V/12V DC/DC converter applied to M₁ vehicles should be approved as an eco-innovation.
- (5) It is appropriate to approve the testing methodologies for determining the CO₂ savings from the SEG Automotive Germany GmbH High efficient 48V motor generator (BRM) plus 48V/12V DC/DC converter. Only emission savings certified on the basis of one of the two testing methodologies set out in this Decision can be taken into account for determining a manufacturer's specific emission performance pursuant to Regulation (EC) No 443/2009.
- (6) In order to determine the CO₂ savings from the SEG Automotive Germany GmbH High efficient 48V motor generator (BRM) plus 48V/12V DC/DC converter, it is necessary to establish the baseline technology against which the efficiency of the generator function should be assessed. Taking into account expert judgement it is appropriate to consider an alternator with 67 % efficiency as baseline technology to be used for the purpose of determining the CO₂ savings under this Decision..
- (7) In the case of hybrid M₁ vehicles, the testing methodologies are based on certain conditions that are only valid for vehicles for which it is allowed to use uncorrected measurements like the fuel consumption or the CO₂ emissions measured during type 1 test as specified in Annex 8 to UNECE Regulation No 101. This is why the scope of this decision applies to any internal combustion engine powered M₁ vehicles, but is limited to certain hybrid M₁ vehicles only.
- (8) The savings from the SEG Automotive Germany GmbH High efficient 48V motor generator (BRM) plus 48V/12V DC/DC converter may be partially demonstrated on the test referred to in Annex XII to Commission Regulation (EC) No 692/2008⁽⁴⁾. It is therefore necessary to ensure that this partial coverage is taken into account in the testing methodology for CO₂ savings from the motor generator.
- (9) If the type approval authority finds that the SEG Automotive Germany GmbH High efficient 48V motor generator (BRM) plus 48V/12V DC/DC converter does not satisfy the conditions for certification, the application for certification of the savings should be rejected.
- (10) This Decision should apply until 2020 inclusive in relation to the test procedure referred to in Annex XII to Regulation (EC) No 692/2008. With effect from 1 January 2021, innovative technologies are to be assessed in relation to the test procedure laid down in Commission Regulation (EU) 2017/1151⁽⁵⁾.

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- (11) For the purposes of determining the general eco-innovation code to be used in the relevant type approval documents in accordance with Annexes I, VIII and IX to Directive 2007/46/EC of the European Parliament and of the Council⁽⁶⁾, the individual code to be used for the innovative technology for the SEG Automotive Germany GmbH High efficient 48V motor generator (BRM) plus 48V/12V DC/DC converter should be specified,

HAS ADOPTED THIS DECISION:

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- (1) [OJ L 140, 5.6.2009, p. 1.](#)
- (2) Commission Implementing Regulation (EU) No 725/2011 of 25 July 2011 establishing a procedure for the approval and certification of innovative technologies for reducing CO₂ emissions from passenger cars pursuant to Regulation (EC) No 443/2009 of the European Parliament and of the Council ([OJ L 194, 26.7.2011, p. 19](#)).
- (3) Commission Implementing Decision (EU) 2017/785 of 5 May 2017 on the approval of efficient 12 V motor-generators for use in conventional combustion engine powered passenger cars as an innovative technology for reducing CO₂ emissions from passenger cars pursuant to Regulation (EC) No 443/2009 of the European Parliament and of the Council ([OJ L 118, 6.5.2017, p. 20](#))
- (4) Commission Regulation (EC) No 692/2008 of 18 July 2008 implementing and amending 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 (EUR 5 and EUR 6) and on access to vehicle repair and maintenance information ([OJ L 199, 28.7.2008, p. 1](#)).
- (5) 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 (EUR 5 and EUR 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 ([OJ L 175, 7.7.2017, p. 1](#)).
- (6) Directive 2007/46/EC of the European Parliament and of the Council of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles (Framework Directive) ([OJ L 263, 9.10.2007, p. 1](#)).

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