

SPANISH PROPOSAL FOR R 10-07 Ver 2.0

Additional paragraph for 4.1.1.2. Approval of vehicle type by testing of individual ESAs.

Background and rational

Original content of paragraph:

4.1.1.2. Approval of vehicle type by testing of individual ESAs.

A vehicle manufacturer may obtain approval for the vehicle by demonstrating to the Type Approval Authority that all the relevant (see para. 3.1.3. of this Regulation) electrical/electronic systems or ESAs have been approved in accordance with this Regulation and have been installed in accordance with any conditions attached thereto.

3.1.3. The vehicle manufacturer shall draw up a schedule describing all relevant vehicle electrical/electronic systems or ESAs, body styles, variations in body material, general wiring arrangements, engine variations, left-hand/right-hand drive versions and wheelbase versions. Relevant vehicle electrical/electronic systems or ESAs are those which may emit significant broadband or narrowband radiation and/or those which are involved in immunity related functions of the vehicle (see paragraph 2.12.) and those which provide coupling systems for charging the REESS.

Background and rational

This paragraph is included in regulation from the beginning of revisions of Regulation 10 (checked R10-02 from 1997).

The possibility of get type Approval of vehicle type by testing of individual ESAs might have made sense lot years ago, because there was not much electronic monitoring or control in the vehicles, ECU for engines or radio cassette player, etc. but now the vehicles include a huge electronics systems for different objectives or benefits, all of them potential generators of spurious emission or potentials system which may be susceptible to be affected by disturbances.

Background and rational

But now, especially for electric and non-electric buses, and trucks too, it is very difficult for the manufacturer to meet all the necessary requirements with parts of ALL components that affect the EMC, without measuring a complete vehicle, where you really see how it affects the installation. Moreover, we have many experiences of components that are presented as approved, and when you measure the vehicle, they do not meet the requirements.

For a lot of time, we have been observing a serious problem in the application of the type-approval procedure for complete vehicles, because we have many experiences of components tested in complete vehicles, with type approval as a component, which does not fulfil installed in vehicle.

Proposal for addition text

4.1.1.2. Approval of vehicle type by testing of individual ESAs.

A vehicle manufacturer may obtain approval for the vehicle by demonstrating to the Type Approval Authority that all the relevant (see para. 3.1.3. of this Regulation) electrical/electronic systems or ESAs have been approved in accordance with this Regulation and have been installed in accordance with any conditions attached thereto, *except all those components of the powertrain, on board charger, and all components that affect the immunity related functions of vehicle, where the manufacturer must apply the procedure of section 4.1.1.1. Approval of a vehicle installation.*

Definition of Electric power train

"Electric power train" means the electrical circuit which includes the traction motor(s), and may include the REESS, the electric energy conversion system, the electronic converters, the associated wiring harness and connectors, and the coupling system for charging the REESS. (definition of power train in Regulation R 100).

Test comparisons

REESS with type approval as component (last week):

FREC	LEVEL WITH REESS ON	LEVEL REESS WITHOUT AUX. SUPPLY
45,5MHz	52dB	21dB
62 MHz	41dB	20dB

Test comparisons

Aux. power supply (little converter 24 -12V. Dimensions 4cm x 10cm –) with type approval as component:

FREC	LEVEL WITH converter	LEVEL WITHOUT converter
51,3MHz	46dB	21dB

Test comparisons

Refrigerator (24V) with type approval as component:

FREC	LEVEL WITH refrigerator	LEVEL WITHOUT refrigerator
47MHz	48dB	20dB

Test comparisons

Indicator panel for BUS (several cases) with type approval as component:

Typical wideband during test for immunity of vehicles to electromagnetic radiation

20MHz to 80MHz

Bad indications in indicator panel, in some cases switch off with field present

THANK YOU FOR YOUR ATTENTION