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PROPOSAL FOR DRAFT AMENDMENTS TO REGULATION N° 10  
ELECTROMAGNETIC COMPATIBILITY OF VEHICLES  
OF CATEGORIES L, M, N, O

Transmitted by the expert from France

Note: The text reproduced below was prepared by the expert from France with the aim of clarifying the requirements for the tests of long vehicles in electromagnetic compatibility regarding facilities dimensions.

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Note: this document is distributed to the Experts on General Safety Provisions only.

## **A - PROPOSAL**

### **Annex 1:**

Insert a new definition 2.13:

"2.13. "long vehicles": mean vehicles of categories M, N, O having a length greater than [12 m].

Paragraph 6.4.2.1., amend to read

"6.4.2.1. 20 MHz to 1,000 MHz frequency band. If tests are made for long vehicle using BCI method described in annex 9, reference limit shall be 48 mA in 20 MHz to 1000 MHz frequency band."

### **Annex 6:**

Paragraph 4.4., amend to read

"4.4. In the case of ~~long~~ large vehicle dimensions, ( i.e. excluding cars and light vans)"

Insert a new paragraph 4.5.:

"4.5. In the case where the geometric dimensions of the chamber do not permit the tests as specified in this annex for long vehicle, for which their total length is higher than [12 m], tests could be performed directly on the vehicle it self, with the bulk current injection method as described in annex 9, paragraph 10.

### **Annex 9:**

Paragraph 10.3., amend to read:

"10.3. For an ESA mounted on a ground plane as in paragraph 8.2.1., all cables in the wiring harness should be terminated as realistically as possible and preferably with real loads and actuators. For both vehicle-mounted and ground plane-mounted ASAs, the current injection probe shall be mounted around all the wires harness on each connector and  $150 \pm 10$  mm, from each connector of the electronic control unit (ECU), instrument modules or active sensors as illustrated in figure 1 appendix 2, or a [150 +10/-100 mm] if the test is performed on the vehicle."

### **Annex IIIA - Communication:**

Appendix

Insert a new paragraph 7:

"7 . ESA tested for immunity on vehicles with BCI method: Yes / no".

Paragraph 7 (former), renumber as paragraph 8.

## **B - JUSTIFICATIONS**

### **Vehicles immunity testing**

For certain categories of long vehicles such as "articulated buses", or long industrial trucks equipped with trailer, tests described in annex 6 of Regulation R 10.02 cannot always be performed, in most of the existing electromagnetic compatibility facilities.

These facilities have nearly a 20 m length used dimensions. Taking into account the antenna's dimensions, prescriptions of R10.02 cannot be satisfied regarding the distance to respect from these aeriels to the chamber's walls, and the distance from the tip of these antennas to the reference point (paragraphs 5.3.1. and 5.2.2.2. of annex 6).

Annex 9 related to immunity for electronic electrical sub-assembly (ESA) prescription gives a possibility to perform the test with the bulk current injection method (BCI), directly on the ESA itself, installed on the vehicle, (end of paragraph 10.1, Annex 9).

It is also specify in regulation R810.02, annex 6, paragraph 4.4. (last sentence) that tests are only possible if geometrical dimensions of the test chamber are sufficiently large regarding the vehicles dimensions, outside on an open site.

The new definition 2.13 "long vehicles" need to modify the text to keep the prescription to test the vehicle on the rear or on the middle, depending of the position of the electronic equipment and the vehicle's size.

Production of high disturbance levels is not permitted regarding the protection of the environment.

In order to facilitate the homologation procedure, this proposal for draft amendment is to give the possibility to deliver a communication certificate (annex III-A), from test performed directly on vehicle on different electronic sub-assemblies.

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