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## **Road vehicles — Electrical disturbances from conduction and coupling —**

### **Part 5: Enhanced definitions and verification methods for harmonization of pulse generators according to ISO 7637**

*Véhicules routiers — Perturbations électriques par conduction et par couplage —*

*Partie 5: Amélioration des définitions et des méthodes de vérification pour l'harmonisation des générateurs d'impulsions selon la norme ISO 7637*



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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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The committee responsible for this document is ISO/TC 22, *Road vehicles*, Subcommittee SC 32, *Electrical and electronic components and general system aspects*.

A list of all parts in the ISO/TR 7637 series can be found on the ISO website.

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## Introduction

Pulses in vehicles are generated by different switching events of electrical loads connected to the supply system and coupled via the wiring harness to other components or wires. For test purpose, these pulse phenomena are simulated by pulse generators and coupled via coupling structures to the wiring of a device under test. The test pulses are not real pulses but representatives for the wide range of pulse shapes, amplitudes, source resistances and pulse energy observed in vehicles. The definition of the test pulses and the coupling structures are described in ISO 7637-1, ISO 7637-2 and ISO 7637-3. Based on the standard definition, test equipment has been developed and is commercially available.

The experience with existing test equipment shows some difficulties in terms of result reproducibility for the same DUT dependent on the used generator, which is caused by different realization of test generators coupling and decoupling networks. The intention of this document is to describe the background for these variances and to define methods for harmonization of different generator behaviour.