EUROPEAN RADIOCOMMUNICATIONS COMMITTEE

ERC Decision
of 23 November 1998
on the adoption of approval regulations for Automatic Vehicle Identification (AVI) for railways
based on the European Standard
(Telecommunications series) EN 300 761 V1.1.1 (1998-01)
(operating in the 2.45 GHz ISM band)

ERC/DEC/(98)30

EXPLANATORY MEMORANDUM

1 INTRODUCTION

The free movement of radiocommunications goods and the provision of Europe-wide services for radiocommunications are only achievable if there exist common regulations throughout Europe regarding availability of frequency bands, type approval requirements and border crossing procedures. A basic requirement to fulfil these objectives is the Europe-wide implementation of national regulations based on the European Telecommunications Standards (ETSs or ENs) developed by the European Telecommunications Standards Institute (ETSI).

This Decision (ERC/DEC/(98)30) provides the necessary mechanism for CEPT administrations to commit themselves to implement, within their national regimes, EN 300 761 V1.1.1 (1998-01)[1] and withdraw any conflicting national standard.

2 BACKGROUND.

Both the ERC and ETSI are involved in the development of common regulations, as described in (1) above. The Memorandum of Understanding between ERC and ETSI explains the respective responsibilities of the two organisations and its annex describes the principles of cooperation. The ERC, for its part, should, *inter alia*, adopt Decisions on the introduction of ETSI standards into approval regimes.

EN 300 761 V1.1.1 (1998-01) has been prepared by the ETSI Technical Committee Electromagnetic Compatibility and Radio Spectrum Matters (ERM). The standard has undergone the ETSI standards approval procedure and is now published as an EN.

The use of the 2.45 GHz ISM band as required by EN 300 761 V1.1.1 (1998-01) is not harmonised within CEPT. Administrations may adopt different arrangements, to meet national requirements, for frequency bands and channel separations. Further, the equipment used in this frequency range is subject to national licensing and frequency planning which requires specification of, *inter alia*, frequency of operation and radiated power . Such parameters are considered as outside the scope of this Decision.

Because of the essential requirement for efficient and effective spectrum utilisation, and the possibility of interference to safety related equipments, it is necessary to ensure that a minimum set of receiver parameters are defined, so that transmissions only occur under the well defined circumstances detailed in EN 300 761 V1.1.1 (1998-01).

Nevertheless, there are a number of parameters, in particular those considered by the ERC as essential for spectrum management purposes[2], which can be harmonised by adopting within approval regulations the limit values and measurement methods provided in EN 300 761 V1.1.1 (1998-01).

3 REQUIREMENT FOR AN ERC DECISION.

The allocation and assignment of radio frequencies and the complementary equipment type approval regimes in CEPT member countries are laid down by law, regulation or administrative action. The ERC recognises that for harmonised fixed and mobile radio services to be introduced successfully throughout Europe, manufacturers and operators must be given the confidence to make the necessary investment in the development and procurement of new systems. Commitment by CEPT administrations to implement this ERC Decision will provide a clear indication that equipment conforming to national type approval regulations based on EN 300 761 V1.1.1 (1998-01) will have the benefit of a Europe-wide market.

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[1] EN 300 761 V1.1.1 (1998-01): Electromagnetic compatibility and Radio spectrum Matters (ERM): Automatic Vehicle Identification (AVI) for railways

[2] Parameters necessary for spectrum management as agreed at the 11th ERC meeting in Brussels, June 1994.

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"The European Conference of Postal and Telecommunications Administrations,

considering:

a) that CEPT has a long term objective to harmonise the use of frequencies and the related regulatory regimes;

b) that such harmonisation will benefit administrations, manufacturers, operators and users;

c) that ETSI has published EN 300 761 V1.1.1 (1998-01) for Automatic Vehicle Identification for railways ;

d) that, for the foreseeable future, there will continue to be widespread use of equipment having the technical characteristics described in (c) above;

e) that, in accordance with the Memorandum of Understanding between ERC and ETSI, the ERC shall adopt ERC Decisions on the introduction of ETSI standards into approval regimes;

f) that the use of radio equipment is subject to national licensing and frequency planning requirements, in particular for frequency of operation, limit of maximum duration of transmission (e.g. use of time-out/timers) and maximum field strength levels;

g) that suitable transitional arrangements are given in CEPT Recommendation T/R 01-05;

h) that information concerning frequency band, radiated power and field strength, type of antenna, permitted channel spacing, duty cycle, licencing requirements, type approval, and marking requirements can be found in the CEPT/ERC Recommendation 70-03;

i) that because unnecessary transmissions by interogator or transponder transmitters may result from inadequate receiver performance: and as such transmisions may cause unacceptable interference to safety related systems, as well as leading to poor spectrum utilisation efficiency, a minimum set of receiver parameters is required, as defined in **Annex 1.**

DECIDES

1. to adopt approval regulations for Automatic Vehicle Identification for railways, based on the limit values and measurement methods for spectrum management parameters contained in EN 300 761 V1.1.1 (1998-01), with the exclusion by national choice of those parameters which are subject to national licensing requirements. A list of the parameters to be included in approval regulations is given in **Annex 1**;

2. to withdraw any conflicting national regulation(s);

3. that this decision shall enter into force on 1 December 1998;

4. that CEPT Member administrations shall communicate the national measures implementing this Decision to the ERC Chairman and the ERO when the decision is nationally implemented."

Note:
Please check the ERO web site (www.ero.dk) under "Documentation / Implementation" for the up to date position on the implementation of this and other ERC Decisions..

ANNEX 1

Methods of measurement and limits from EN 300 761 V1.1.1 (1998-01) to be included in national type approval requirements:

EN 300 761 V1.1.1 (1998-01)	Section	Comments
Interogator transmitter parameters[3]:	7	
Equivalent isotropically radiated power (EIRP)	7.1	
Frequency error	7.2	
Transmitter spectrum mask	7.3	
Modulation index	7.4	
Eye pattern	7.5	
Radiated spurious emissions	7.6	
Interrogator Receiver parameters[3]	8	
Maximum usable sensitivity	8.1	
Error behaviour at high wanted input signals	8.2	
Degradation measurements	8.3	
Spurious emissions	8.4	
Transponders[3]	9	
Transponder sensitivity	9.1	
Transponder wake-up protection	9.2	
Transponder conversion gain	9.3	
Transponder spurious radiation	9.4	

[3] In some countries the spurious emissions and spurious radiations of transmitters and receivers are not considered as approval requirements but are essential requirements of the EMC Directive 89/336 EC for which alternative procedures apply.