Irish Standard
I.S. EN 50121-2:2017

Railway applications - Electromagnetic compatibility - Part 2: Emission of the whole railway system to the outside world

I.S. EN 50121-2:2017

Incorporating amendments/corrigenda/National Annexes issued since publication:

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I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

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National Foreword

I.S. EN 50121-2:2017 is the adopted Irish version of the European Document EN 50121-2:2017, Railway applications - Electromagnetic compatibility - Part 2: Emission of the whole railway system to the outside world

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50121-2

January 2017

ICS 29.280; 33.100.10; 45.020

Supersedes EN 50121-2:2015

English Version

Railway applications - Electromagnetic compatibility - Part 2: Emission of the whole railway system to the outside world

Applications ferroviaires - Compatibilité électromagnétique - Partie 2: Emission du système ferroviaire dans son ensemble vers le monde extérieur

Bahnanwendungen - Elektromagnetische Verträglichkeit - Teil 2: Störaussendungen des gesamten Bahnsystems in die Außenwelt

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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European foreword

This document (EN 50121-2:2017) has been prepared by CLC/TC 9X, “Electrical and electronic applications for railways”.

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) [2017-11-07]
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) [2019-11-07]

This document supersedes EN 50121-2:2015.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

EN 50121-2:2016 includes the following significant technical change with respect to EN 50121-2:2015:

a) deletion of Annex ZZ.

This European Standard will be read in conjunction with EN 50121-1.

EN 50121, *Railway applications — Electromagnetic compatibility*, consists of the following parts:

— *Part 1: General*;

— *Part 2: Emission of the whole railway system to the outside world* [the present document];

— *Part 3-1: Rolling stock — Train and complete vehicle*;

— *Part 3-2: Rolling stock — Apparatus*;

— *Part 4: Emission and immunity of the signalling and telecommunications apparatus*;

— *Part 5: Emission and immunity of fixed power supply installations and apparatus*.

1 Scope

This European Standard is intended to define the electromagnetic environment of the whole railway system including urban mass transit and light rail system. It describes the measurement method to verify the emissions, and gives the cartography values of the fields most frequently encountered.

This European Standard specifies the emission limits of the whole railway system to the outside world.

The emission parameters refer to the particular measuring points defined in Clause 5. These emissions should be assumed to exist at all points in the vertical planes which are 10 m from the centre lines of the outer electrified railway tracks, or 10 m from the fence of the substations.

Also, the zones above and below the railway system may be affected by electromagnetic emissions and particular cases need to be considered individually.

These specific provisions need to be used in conjunction with the general provisions in EN 50121-1.

For existing railway lines, it is assumed that compliance with the emission requirements of EN 50121-3-1, EN 50121-3-2, EN 50121-4 and EN 50121-5 will ensure the compliance with the emission values given in this part.

For newly built railway systems it is best practice to provide compliance to the emission limits given in this part of the standard (as defined in the EMC plan according to EN 50121-1).

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 55016-1-1, *Specification for radio disturbance and immunity measuring apparatus and methods — Part 1-1: Radio disturbance and immunity measuring apparatus — Measuring apparatus (CISPR 16-1-1)*

EN 55016-1-4, *Specification for radio disturbance and immunity measuring apparatus and methods — Part 1-4: Radio disturbance and immunity measuring apparatus — Antennas and test sites for radiated disturbance measurements (CISPR 16-1-4)*

IEC 60050-161, *International Electrotechnical Vocabulary. Chapter 161: Electromagnetic compatibility*

3 Terms, definitions and abbreviations

3.1 Terms and definitions

For the purpose of this document, the terms and definitions given in IEC 60050-161 and the following apply.

3.1.1
apparatus
device or assembly of devices which can be used as an independent unit for specific functions

[SOURCE: IEC 60050-151:2001, 151-11-22]

3.1.2
environment
surroundings in which a product or system exists, including air, water, land, natural resources, flora, fauna, humans and their interrelation

[SOURCE: IEC Guide 109:2012, 3.3]