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Standards

Irish Standard
I.S. EN IEC 63245-1:2021

Spatial wireless power transfer based on multiple magnetic resonances - Part 1: Requirements

I.S. EN IEC 63245-1:2021

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NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

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EN IEC 63245-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2021

ICS 29.240.99; 35.200

English Version

**Spatial wireless power transfer based on multiple magnetic resonances - Part 1: Requirements
(IEC 63245-1:2021)**

Transfert d'énergie sans fil dans l'espace reposant sur des résonances magnétiques multiples - Partie 1: Exigences
(IEC 63245-1:2021)

Räumliche drahtlose Energieübertragung basierend auf mehrfachen magnetischen Resonanzen - Teil 1: Anforderungen
(IEC 63245-1:2021)

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EN IEC 63245-1:2021 (E)

European foreword

The text of document 100/3548/FDIS, future edition 1 of IEC 63245-1, prepared by IEC/TC 100 "Audio, video and multimedia systems and equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 63245-1:2021.

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IEC 62827-3	NOTE	Harmonized as EN 62827-3
IEC 63006:2019	NOTE	Harmonized as EN IEC 63006:2019 (not modified)
IEC 63028:2017	NOTE	Harmonized as EN 63028:2017 (not modified)



IEC 63245-1

Edition 1.0 2021-03

INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Spatial wireless power transfer based on multiple magnetic resonances –
Part 1: Requirements**

**Transfert d'énergie sans fil dans l'espace reposant sur des résonances
magnétiques multiples –
Partie 1: Exigences**





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IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

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IEC 63245-1

Edition 1.0 2021-03

INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Spatial wireless power transfer based on multiple magnetic resonances –
Part 1: Requirements**

**Transfert d'énergie sans fil dans l'espace reposant sur des résonances
magnétiques multiples –
Partie 1: Exigences**

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SPATIAL WIRELESS POWER TRANSFER BASED ON MULTIPLE MAGNETIC RESONANCES –

Part 1: Requirements

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International Standard IEC 63245-1 has been prepared by technical area 15: Wireless power transfer, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
100/3548/FDIS	100/3564/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 63245 series, published under the general title *Spatial wireless power transfer based on multiple magnetic resonances*, can be found on the IEC website.

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INTRODUCTION

The IEC 63245 (Spatial wireless power transfer based on multiple magnetic resonances, SWPT-MMR) series provides requirements and a reference model for implementing a spatial wireless power transfer system. The IEC 63245 series consists of the following parts:

- IEC 63245-1: *Spatial wireless power transfer based on multiple magnetic resonances – Part 1: Requirements*, which describes requirements of SWPTs with multiple magnetic resonances; and
- IEC 63245-2: *Spatial wireless power transfer based on multiple magnetic resonances – Part 2: Reference model*, which describes a reference model for SWPTs with multiple magnetic resonances.

SPATIAL WIRELESS POWER TRANSFER BASED ON MULTIPLE MAGNETIC RESONANCES –

Part 1: Requirements

1 Scope

This part of IEC 63245 specifies requirements for spatial wireless power transfer based on multiple magnetic resonances (SWPT-MMR), which is a non-radiative wireless power transfer (WPT). This document contains two categories of requirements: general requirements and functional requirements. The general requirements cover charging procedures and charging zones. The functional requirements cover each component of a SWPT-MMR system, such as transmitter coils.

2 Normative references

There are no normative references in this document.

3 Terms, definitions, and abbreviated terms

For the purposes of this document, the following terms and definitions apply.

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- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1 Terms and definitions

3.1.1

null point

point or area in the charging zone where the magnetic field cancels out almost entirely or is below a certain specified minimum

3.1.2

quiet zone

magnetic field having an equalized energy density corresponding to each of the magnetic fields formed on the transmitter coils

3.1.3

spatial wireless power transfer

concept of wireless power transfer between multiple sources and multiple receiving devices placed at a certain distance in various positions and postures within a space

Note 1 to entry: "Spatial" means that receiving devices will take various positions and postures, and will lead to variable transfer efficiency including almost zero percent. This situation can occur when receiving devices are placed far apart from the power source and are freely rearranged.

[SOURCE: IEC 62827-3:2016, 3.1.2, modified – In the definition, "receiving devices placed at a certain distance in various positions and postures within a space" replaces "receiving devices which are placed at a distance within a spatial space".]

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