

INTERNATIONAL STANDARD

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**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 Varembé
CH-1211 Geneva 20
Switzerland

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

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**SPATIAL WIRELESS POWER TRANSFER
BASED ON MULTIPLE MAGNETIC RESONANCES –****Part 1: Requirements****FOREWORD**

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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.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

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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.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- 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".]