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# INTERNATIONAL STANDARD

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**Information technology – Home electronic system (HES) architecture –  
Part 3-7: Media and media dependent layers – Radio frequency for network  
based control of HES Class 1**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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## INFORMATION TECHNOLOGY – HOME ELECTRONIC SYSTEM (HES) ARCHITECTURE –

### Part 3-7: Media and media dependent layers – Radio frequency for network based control of HES Class 1

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International Standard ISO/IEC 14543-3-7 was prepared by subcommittee 25: Interconnection of information technology equipment, of ISO/IEC joint technical committee 1: Information technology.

This International Standard is a product family standard. It shall be to be used in conjunction with ISO/IEC 14543-2-1, 14543-3-3, 14543-3-4, 14543-3-5 and 14543-3-6.

This International Standard has been approved by vote of the member bodies, and the voting results may be obtained from the address given on the title page.

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

## INTRODUCTION

The Reference model for Open System Interconnection (OSI), specified in ISO/IEC 7498, assigns the functions that are needed for communications between two entities that are connected by medium to seven logical layers. This International Standard specifies interconnection of entities used for home and building control via the medium radio frequency. According to the OSI reference model, the Physical Layer consists of the medium, the cable, the connectors, the transmission technology, etc., which are hardware requirements. However, the focus of this International Standard lies first and foremost on the description of the “communication medium”.

Currently, ISO/IEC 14543, *Information technology – Home Electronic System (HES) architecture*, consists of the following parts:

- Part 2-1: *Introduction and device modularity*
- Part 3-1: *Communication layers – Application layer for network based control of HES Class 1*
- Part 3-2: *Communication layers – Transport, network and general parts of data link layer for network based control of HES Class 1*
- Part 3-3: *User process for network based control of HES Class 1*
- Part 3-4: *System management – Management procedures for network based control of HES Class 1*
- Part 3-5: *Media and media dependent layers – Power line for network based control of HES Class 1*
- Part 3-6: *Media and media dependent layers – Twisted pair for network based control of HES Class 1*
- Part 3-7: *Media and media dependent layers – Radio frequency for network based control of HES Class 1*
- Part 4: *Home and building automation in a mixed-use building (technical report)*
- Part 5-1: *Intelligent grouping and resource sharing for HES Class 2 and Class 3 – Core protocol (under consideration)*
- Part 5-2: *Intelligent grouping and resource sharing for HES Class 2 and Class 3 – Device certification (under consideration)*

Additional parts may be added later.

## INFORMATION TECHNOLOGY – HOME ELECTRONIC SYSTEM (HES) ARCHITECTURE –

### Part 3-7: Media and media dependent layers – Radio frequency for network based control of HES Class 1

#### 1 Scope

This part of ISO/IEC 14543 defines the mandatory and optional requirements for the medium-specific Physical and Data Link Layers of radio frequency for network based control of HES Class 1 products and systems. It describes a multi-application bus system where the functions are decentralised, distributed and linked through a common communication process.

NOTE: Data Link Layer interface and general definitions, which are medium independent, are given in ISO/IEC 14543-3-1.

#### 2 Normative References

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

IEC 60870-5-1, *Telecontrol equipment and systems – Part 5-1: Transmission protocols – Transmission frame formats*

IEC 60870-5-2, *Telecontrol equipment and systems – Part 5-2: Transmission protocols – Link transmission procedures*