INTERNATIONAL STANDARD

ISO/IEC 16504

First edition
2011-11-15

Information technology — Telecommunications and information exchange between systems — MAC and PHY for operation in TV white space

Technologies de l'information — Télécommunications et échange d'information entre systèmes — MAC et PHY pour opération en espace blanc TV

Reference number
ISO/IEC 16504:2011(E)

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Published in Switzerland

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

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ISO/IEC 16504 was prepared by Ecma International (as ECMA-392) and was adopted, under a special “fast-track procedure”, by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, in parallel with its approval by national bodies of ISO and IEC.

Introduction

Analogue broadcasting systems have been or are being upgraded to digital technology, which frees up channels in the TV frequency bands. This International Standard specifies a physical layer and a medium access sub-layer for wireless devices to operate in the TV frequency bands.

Applications include high speed video streaming and internet access on personal/portable electronics, home electronics equipment, and computers and peripherals.

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1 Scope

This International Standard specifies a medium access control (MAC) sub-layer and a physical (PHY) layer for personal/portable cognitive wireless networks operating in TV bands. This International Standard also specifies a MUX sublayer for higher layer protocols.

This International Standard specifies a number of incumbent protection mechanisms which may be used to meet regulatory requirements.

2 Conformance

Conforming devices implement the MUX sub-layer, MAC sub-layer and the PHY layer as specified herein and support at least one of the device types (master, peer, or slave) and at least one of bandwidths (6 MHz, 7 MHz, 8 MHz), and may support multiple antennae modes.

3 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.

ISO/IEC 10646:2003, *Information technology — Universal Multiple-Octet Coded Character Set (UCS)*

ISO/IEC 18033-3:2005, *Information technology — Security techniques — Encryption algorithms — Part 3: Block ciphers*