

IEEE Standard for Local and metropolitan area networks—

Part 15.4: Low-Rate Wireless Personal Area Networks (LR-WPANs)

Amendment 6: TV White Space Between 54 MHz and 862 MHz Physical Layer

IEEE Computer Society

Sponsored by the
LAN/MAN Standards Committee

IEEE
3 Park Avenue
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USA

IEEE Std 802.15.4m™-2014
(Amendment to
IEEE Std 802.15.4™-2011
as amended by IEEE Std 802.15.4e™-2012,
IEEE Std 802.15.4f™-2012,
IEEE Std 802.15.4g™-2012,
IEEE Std 802.15.4j™-2013,
and IEEE Std 802.15.4k™-2013)

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Approved 27 March 2014

IEEE-SA Standards Board

Abstract: In this amendment to IEEE Std 802.15.4™-2011, outdoor low-data-rate, wireless, television white space (TVWS) network requirements are addressed. Alternate physical layers (PHYs) are defined as well as only the medium access control (MAC) modifications needed to support their implementation.

Keywords: ad hoc network, IEEE 802.15.4™, IEEE 802.15.4m™, low data rate, low power, LR-WPAN, mobility, PAN, personal area network, radio frequency, RF, short range, TV white space, wireless, wireless personal area network, WPAN

The Institute of Electrical and Electronics Engineers, Inc.
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Print: ISBN 978-0-7381-9060-0 STDPD98628
PDF: ISBN 978-0-7381-9079-2 STD98628

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Introduction

This introduction is not part of IEEE Std 802.15.4m-2014, IEEE Standard for Local and metropolitan area networks—Part 15.4: Low-Rate Wireless Personal Area Networks (LR-WPANs)—Amendment 6: TV White Space Between 54 MHz and 862 MHz Physical Layer.

This amendment specifies alternate physical layers (PHYs) in addition to those of IEEE Std 802.15.4-2011. In addition to the new PHYs, the amendment also defines the medium access control (MAC) modifications needed to support their implementation.

The alternate PHYs support principally outdoor, low-data-rate, wireless, TV white space (TVWS) network applications under multiple regulatory domains. The TVWS PHYs are as follows:

- Frequency Shift Keying (TVWS-FSK) PHY
- Orthogonal Frequency Division Multiplexing (TVWS-OFDM) PHY
- Narrow Band Orthogonal Frequency Division Multiplexing (TVWS-NB-OFDM) PHY

The TVWS PHYs support multiple data rates in bands ranging from 54 MHz to 862 MHz.

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