

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

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LAN/MAN Standards Committee

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(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,
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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

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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.

Contents

2.	Normative references	2
3.	Definitions, acronyms, and abbreviations	3
3.1	Definitions	3
3.2	Acronyms and abbreviations	3
4.	General description	4
4.2	Components of the IEEE 802.15.4 WPAN	4
4.3	Network topologies	4
4.3.2	Peer-to-peer network formation	4
4.5	Functional overview	5
4.5.1	Superframe structure	5
4.5.2	Data transfer model	5
4.5.5	Power consumption considerations	5
4.5.7	Overview of TVWS operation	6
5.	MAC protocol	7
5.1	MAC functional description	7
5.1.1	Channel access	7
5.1.6	Transmission, reception, and acknowledgment	9
5.1.8	Ranging	11
5.1.14	Starting and maintaining TVWS multichannel cluster tree PANs (TMCTP)	11
5.1.15	TVWS power saving (TVWSPS)	15
5.2	MAC frame formats	16
5.2.1	General MAC frame format	16
5.2.2	Format of individual frame types	17
5.2.4	Information element	17
5.3	MAC command frames	33
5.3.14	DBS Request Command	33
5.3.15	DBS Response Command	34
5.5	TVWS access procedures	35
5.5.1	Channel timing management (CTM)	36
6.	MAC services	37
6.2	MAC management service	37
6.2.4	Communications notification primitives	37
6.2.12	Primitives for updating the superframe configuration	40
6.2.23	TMCTP DBS allocation primitives	41
6.2.24	Primitives for device announcement	45
6.3	MAC data service	48
6.3.2	MCPS-DATA.confirm	48
6.3.3	MCPS-DATA.indication	48
6.4	MAC constants and PIB attributes	49
6.4.2	MAC PIB attributes	49
6.4.3	Calculating PHY dependent MAC PIB values	50

8.	General PHY requirements	51
8.1	General requirements and definitions	51
8.1.1	Operating frequency range.....	51
8.1.2	Channel assignments.....	51
9.	PHY services	53
9.2	PHY constants.....	53
9.3	PHY PIB attributes	53
9.4	PHY PIB attribute values for phyMaxFrameDuration and phySHRDuration	55
20.	TVWS PHYs	57
20.1	TVWS-FSK PHY	57
20.1.1	PPDU format for TVWS-FSK.....	57
20.1.2	Modulation and coding for TVWS-FSK	59
20.1.3	TVWS-FSK RF requirements.....	61
20.2	TVWS-OFDM PHY	62
20.2.1	PPDU format for TVWS-OFDM.....	62
20.2.2	System parameters for TVWS-OFDM	67
20.2.3	Modulation and coding for TVWS-OFDM	69
20.2.4	TVWS-OFDM RF requirements	73
20.3	TVWS-NB-OFDM PHY	76
20.3.1	PPDU format for TVWS-NB-OFDM.....	76
20.3.2	System parameters for TVWS-NB-OFDM	86
20.3.3	Modulation and coding parameters for TVWS-NB-OFDM.....	87
20.3.4	Channel aggregation for TVWS-NB-OFDM	96
20.3.5	TVWS-NB-OFDM RF requirements.....	96
	Annex A (informative) Bibliography	99
	Annex D (informative) Protocol implementation conformance statement (PICS) proforma.....	100
	D.2 Abbreviations and special symbols.....	100
	D.7 PICS proforma tables.....	100
	D.7.1 Functional device types	100
	D.7.2 Major capabilities for the PHY	101
	D.7.3 Major capabilities for the MAC sublayer	102
	Annex T (informative) Ranging considerations for operation in TVWS	103
	T.1 Introduction.....	103
	T.2 General.....	103
	T.3 Estimation for TVWS-FSK PHY	103
	T.4 ToA estimation for TVWS-OFDM PHYs	104