IEEE P802.11  
Wireless LANs

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| LPD to EPD in 5.9GHz | | | | |
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Abstract

This document proposes changes to Draft P802.11REV mc\_D3.0 to affect a change from LPD to EPD in 5.9 GHz bands (see also 11-14/1521r0).

# Normative References

***Insert the following reference (maintaining alphabetic order):***

IEEE Std 802.3®-2012, IEEE Standard for Ethernet

***Change the following reference as shown:***

IEEE Std 802®-2014~~01~~, IEEE Standards for Local and Metropolitan Area Networks: Overview and Architecture

***and change all occurrences of*** “IEEE Std 802-2001” ***to*** “IEEE Std 802-2014”.

# Definitions, acronyms, and abbreviations

## Abbreviations and acronyms

***Insert the following acronyms (maintaining alphabetical order):***

EPD EtherType Protocol Discrimination (IEEE Std 802-2014)

LPD LLC Protocol Discrimination (IEEE Std 802-2014)

# MAC service definition

## Overview of MAC services

### MSDU format

***Change the text of clause 5.1.4 as follows:***

~~This standard is part of the IEEE 802 family of LAN standards, and as such all MSDUs are LLC PDUs as defined in ISO/IEC 8802-2: 1998.~~ Logical Link Control (LLC) sublayer entities use the MAC sublayer service to exchange PDUs with peer LLC sublayer entities. These PDUs are termed MAC sublayer SDUs (MSDUs) when sent to the MAC sublayer. There are two LLC sublayer protocols used (see IEEE Std 802-2014 (Overview and Architecture)); LLC Protocol Discrimination (LPD) (see ISO/IEC 8802-2:1998) and EtherType Protocol Discrimination (EPD) (see IEEE Std 802.3-2012). LPD is used for transmission of all IEEE Std 802.11 MSDUs with the exception of the 5.9 GHz bands where EPD is used (see Annex E.2.3 and Annex E.2.4).

When LPD is used, in order to achieve interoperability, implementers are recommended to apply the procedures described in ISO/IEC Technical Report 11802-5:1997(E) (previously known as IEEE Std 802.1H-1997 [B21]), along with a selective translation table (STT) that handles a few specific network protocols, with specific attention to the operations required when passing MSDUs to or from LANs or operating system components that use the Ethernet frame format (EPD). Note that such translations might be required in a STA.

***Change the text in the LLC sublayer boxes in Figures 5.1 and 5.2 from “LLC/SNAP” to***

***“LPD / EPD in 5.9 GHz”. There are 4 such changes.***

***Change the text of Annexes E.2.3 and E.2.4 as follows:***

**E.2.3 5.9 GHz band in the United States (5.850–5.925 GHz)**

STAs operating under the behavior limits set 17 in Table D-2 (Behavior limits sets) are required to be registered with the FCC ULS. The registration includes the following:

— Classification by coverage size, which is defined by EIRP, and

— Identification of channels the STA is permitted to use.

A STA shall be classified for operation in this band by their maximum transmit power capability, as listed in Table D-3 (Maximum STA transmit power classification for the 5.85–5.925 GHz band in the United States) in D.2.2 (Transmit power levels). A STA shall be compliant with the spectral emission requirements for their class listed in D.2.3 (Transmit spectrum mask).

A STA shall have dot11OCBActivated set to true.

EPD as defined in IEEE Std 802-2014 (Overview and Architecture) shall be used for transmission of all MSDUs.

**E.2.4 5.9 GHz band in Europe (5.855–5.925 GHz)**

A STA shall have dot11OCBActivated set to true.

EPD as defined in IEEE Std 802-2014 (Overview and Architecture) shall be used for transmission of all MSDUs.

**Annex W**

(informative)

**Mesh BSS operation**

**W.1 Clarification of mesh Data frame format**

***Change the text of Annex W.1 as follows:***

In a mesh Data frame containing a single MSDU, the Mesh Control field is placed immediately before the Data (PDU) in the encrypted Frame Body. The Data (PDU) is comprised of an LLC sublayer header and the higher layer data. The LLC sublayer header conforms to LPD for all transmissions except those in the 5.9 GHz bands which conform to EPD. ~~comprises the LLC/SNAP headers and the higher layer data.~~This is shown in the example frame format for a CCMP-128-encrypted mesh Data frame containing a single MSDU in Figure W-1 (Format of a CCMP-128-encrypted mesh Data frame containing a single MSDU).