**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) |
| Title | Draft text of MAC individual frame format for TG8 |
| Date Submitted | March 12, 2015 |
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| Re: | Draft text of MAC individual frame format for 802.15.8 |
| Abstract | This is the work in progress text of the MAC component for IEEE 802.15.8 group for PAC. |
| Purpose | This document provides the details of draft text to IEEE 802.15.8 |
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| Patent Policy | The contributor is familiar with the IEEE-SA Patent Policy and Procedures:<http://standards.ieee.org/guides/bylaws/sect6-7.html#6> and<http://standards.ieee.org/guides/opman/sect6.html#6.3>.Further information is located at <http://standards.ieee.org/board/pat/pat-material.html> and<http://standards.ieee.org/board/pat>. |

1. MAC protocol
	1. MPDU formats

----------------------------- Beginning of Text ------------------------------------

(Copied from IEEE 802.15.4 2011 release, clause 5.2.2, and then modified for PAC)

5.2.2 Format of individual frame types

**5.2.2.2 Data frame format**

The data frame shall be formatted as illustrated in Figure 46.



**Figure 46—Data frame format**

**5.2.2.2.1 Data frame MHR fields**

The Frame Type field shall contain the value that indicates a data frame, as shown in Table 2. The Security Enabled field shall be set to one if security is enabled and the Frame Version field is not zero. All other fields in the Frame Control field shall be set appropriately according to the intended use of the data frame.

The Sequence Number field shall contain the current value of *macDSN*.

The addressing fields shall comprise the destination address fields and the source address fields, dependent on the settings in the Frame Control field.

The Auxiliary Security Header field, if present, shall contain the information required for security processing of the data frame, as specified in TBD.

**5.2.2.2.2 Data Payload field**

The payload of a data frame shall contain the sequence of octets that the next higher layer has requested the MAC sublayer to transmit.

**5.2.2.3 Acknowledgment frame format**

The acknowledgment frame shall be formatted as illustrated in Figure 47.



**Figure 47—Acknowledgment frame format**

The Frame Type field shall contain the value that indicates an acknowledgment frame, as shown in Table 2. If the acknowledgment frame is being sent in response to a received data request command, the PD sending the acknowledgment frame shall determine whether it has data pending for the recipient. If the device can determine this before sending the acknowledgment frame, as described in TBD, it shall set the Frame Pending field according to whether there is pending data. Otherwise, the Frame Pending field shall be set to one. If the acknowledgment frame is being sent in response to either a data frame or another type of MAC command frame, the device shall set the Frame Pending field to zero. All other fields in the Frame Control field shall be set to zero and ignored on reception.

The Sequence Number field shall contain the value of the sequence number received in the frame for which the acknowledgment is to be sent.

**5.2.2.4 MAC command frame format**

The MAC command frame shall be formatted as illustrated in Figure 48.

**Figure 48—MAC command frame format**

**5.2.2.4.1 MAC command frame MHR fields**

The Frame Type field shall contain the value that indicates a MAC command frame, as shown in Table 2. If the frame is to be secured, the Security Enabled field shall be set to one and the frame secured according to the process described in TBD. Otherwise the Security Enabled field shall be set to zero. All other fields in the Frame Control field shall be set appropriately according to the intended use of the MAC command frame.

The Sequence Number field shall contain the current value of *macDSN*.

The addressing fields shall comprise the destination address fields and the source address fields, dependent on the settings in the Frame Control field.

The Auxiliary Security Header field, if present, shall contain the information required for security processing of the MAC command frame, as specified in TBD.

**5.2.2.4.2 Command Frame Identifier field**

The Command Frame Identifier field identifies the MAC command being used. Valid values of the Command Frame Identifier field are defined in Table TBD in subclause TBD.

**5.2.2.4.3 Command Payload field**

The Command Payload field contains the MAC command itself. The formats of the individual commands are described in TBD.

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