IEEE P802.15
Wireless Personal Area Networks

Project	IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs)
Title	**Blink Frame Specification and Format Overview**
Date	December 22, 2009
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Re:	Blink frame specification as suggested for inclusion with IEEE 802.15.4e draft
Abstract	This document provides suggested specification text for the so-called blink frame, including example format encodings, to be included with the forthcoming IEEE 802.15.4e pre-draft. This document is consistent with the relevant sections of 08/848r4 and 09/233r11.
Purpose	Make everyone happy, promote peace and prosperity on earth, and foster collaboration, not virtual warfare
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Release	The contributor acknowledges and accepts that this contribution becomes the property of IEEE and may be made publicly available by P802.15.

Editorial note RS:
Text below on blink frame based on email received from Dalibor Pokrajac as of Monday November 30, 2009, 3:44pm EST.

§7.2.2.TG4f Blink frame format {TG4f format}

The blink frame shall be formatted as illustrated in Figure {xxx}:

octets: 1/2	1	0/2	0/8	0/5/6/10/14	variable	0/2
Frame control	Sequence number	Destination PAN Identifier	Source Address	Auxiliary Security Header	Frame Payload	FCS
		Adddressing fields				
MHR					MAC payload	MFR

The order of the fields of the blink frame shall conform to the order of the general MAC frame as illustrated in Figure 43.

§7.2.2.TG4f.1 Blink frame MHR fields

The MHR for a blink frame shall contain the Short Frame Control Field, the Sequence Number Field, and optionally the Destination PAN Id and/or the Source Address field.

In the Short Frame Control Field, the Frame Type shall contain the value that indicates a blink frame, as shown in Table {xxx}.

bits: 0	1	2	3	4	5	6	7
0	1	sFCF=1	Security	Source addressing mode	Destination PAN Identifier	1	Frame version

If protection is used for the wake-up frame, the Security Enabled subfield shall be set to one.

The Frame Version subfield of the Short Frame Control Field shall be set to the value zero, indicating a TG4e frame version, as shown in Table {xxx}.

The Sequence Number field shall be set to the current value of *macDSN*.

The Destination PAN Identifier field, if present, shall contain the PAN Identifier of the device receiving the blink frame. The Source Address field, if present, shall contain the extended address of the device originating the blink frame. All other addressing fields shall be omitted. The presence of these addressing fields shall be indicated by the Destination PAN Identifier subfield and the Source Addressing subfield of the Short Frame Control field, respectively (present if set; absent otherwise).

§7.2.2.TG4f.2 Blink frame payload field

The blink frame payload field is an optional sequence specified to be transmitted by the next higher layer. The set of octets contained in *macBlinkPayload* shall be copied into this field.

NOTE - The payload field, if present, may include information, including the encoding of an alternative identifier for the originating device. The details of this encoding are outside scope of this specification.

Annex M.x.y – blink frame {*Editorial note: informal description*}

The Blink Frame provides a mechanism for an 802.15.4 device to communicate its ID (i.e. the EUI-64 Source Address) and/or an alternate ID (in payload), and optionally additional payload data to other 802.15.4 devices without prior association and without an acknowledgement. The frame can be used by "transmit only" devices to co-exist within an 802.15.4 network, utilizing Aloha protocol. Any 802.15.4 devices that are not interested in this Blink Frame have an opportunity to reject the frame at early stage during frame processing and not burden the MAC or higher communication layers with this, potentially high volume, data traffic.

Frame format of blink frame with various addressing field options (informative)