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IEEE 802.15-10-0872-03-004g

**IEEE P802.15  
Wireless Personal Area Networks**

Project	IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs)	
Title	Enhanced Beacon Related MAC Primitives	
Date Submitted	Nov., 2010	
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Re:		
Abstract	IEEE 802.15 Task Group TG4g Comment Resolution	
Purpose	To modify the primitives according to the modifications in the enhanced beacon and enhanced beacon request frame formats	
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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.	

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Text – General Idea of this document

Text – Alert on Cross-reference with TG4e

\*\*\*Not Part of the Draft Modification\*\*\*

General Idea:

This purpose of this document is to modify the primitives in accordance to the changes made in EB/EBR frame formats.

Modifications are mainly addition of parameters to the existing primitives.

All specification of new primitives (as in draft D2) has been removed.

The basic changes in this document:

1 MCPS-DATA.request

1.1 To send an MPM-related EBR or data

2 MCPS-BEACON-NOTIFY.indication

2.1 To send MPM-related information contained in the EB to the upper layer

3 MLME-SCAN.request

3.1 To control the MPM-related scanning process including channels selected to be scanned

4 MLME-START.request

4.1 To control the transmission of outgoing EB

This document resolves the comments with CID as below:

78,80,81,82,83,84,85,86,87,88,89,90,92,145,285,286,287,288,289,290,291,292,293,  
294,295,351,496,498,595,862,864,865,866,867,868,869,870,871,872,873,874,875,922,  
1057,1071,1140

Instructions to the editors are given in *Editorial Notes* in red font.

*Editorial note: Remove sub-clauses 7.1.5a, 7.1.11, 7.1.14.1 and all corresponding sub-sub-clauses. Replace with the following text.*

*Editorial note: Add 7.1.1.1 as the following*

7.1.1.1 MCPS-DATA.request

7.1.1.1.1 Semantics of the service primitive

***Add additional parameters to primitive:***

MCPS-DATA.request

(  
 ...  
IsCSM  
 )

***Add element in Table 41 as follows:***

Table 41 – MCPS-DATA.request parameters

Name	Type	Valid Range	Description
...			
IsCSM	Boolean	TRUE or FALSE	TRUE if the data is to be sent in CSM as specified in 6.1a, and FALSE if vice versa.

*Editorial note: Add 7.1.5.1 as the following*

7.1.5.1 MCPS-BEACON-NOTIFY.indication

7.1.5.1.1 Semantics of the service primitive

*Add additional parameters to primitive:*

MCPS-BEACON-NOTIFY.indication

(  
 ...  
CoexSpecification  
 )

*Add element in Table 54 as follows:*

Table 54 – MLME-BEACON-NOTIFY.indication parameters

Name	Type	Valid Range	Description
...			
CoexSpecification	Sets of octets	See 7.2.2.4a.2	The Coex Specification contains the information on multi-PHY management

*Editorial note: Add 7.1.11.1 as the following*

7.1.11.1 MLME-SCAN.request

7.1.11.1.1 Semantics of the service primitive

**Add additional parameters to primitive:**

MLME-SCAN.request

```
(
  ...
  ScanDurationBPAN
  ScanDurationNBPAN
  MPMScanChannels
)
```

**Add element in Table 67 as follows:**

Table 67 – MLME-SCAN.request parameters

Name	Type	Valid Range	Description
...			
ScanDurationBPAN	Integer	0-14	The maximum time spent to scan for enhanced beacon of a beacon-enabled PAN in the channel is [ <i>aBaseSuperframeDuration</i> * 2 <sup><i>n</i></sup> ] symbols, where <i>n</i> is a parameter to specify the scan duration
ScanDurationNBPAN	Integer	0-16383	The maximum time spent to scan for enhanced beacon of a non-beacon-enabled PAN in the channel is [ <i>aBaseSlotDuration</i> * <i>n</i> ] symbols, where <i>n</i> is a parameter to specify the scan duration
<u>MPMScanChannels</u>	Bitmap	<i>phyMaxSUNChannelSupported</i> + 1 bits	The specific channels where enhanced beacon is transmitted and scanned in a multi-PHY PAN. This parameter facilitates selected

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			channels for EB to be sent and scanned. A bit is set (=1) for channel(s) where the EB is sent or scanned.
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*Editorial note: Add 7.1.14.1 as the following*

7.1.14.1 MLME-START.request

7.1.14.1.1 Semantics of the service primitive

*Add additional parameters to primitive:*

MLME-START.request

```
(
...
attributeID
EnhancedBeaconOrder
OffsetTimeSlot
NBPANEnhancedBeaconOrder
)
```

*Add element in Table 108 as follows:*

Table 108 – MLME-START.request parameters

Name	Type	Valid Range	Description
...			
<u>attributeID</u>	Integer	See <b>Table 80o</b>	Determines which IEs are sent in the EB. Otherwise set to zero.
<u>EnhancedBeaconOrder</u>	Integer	0-15	Indicates how often the EB is to be transmitted in a beacon-enabled PAN. A value of 15 indicates that no enhanced beacon will be transmitted.
<u>OffsetTimeSlot</u>	Integer	1-15	Indicates the time difference between the EB and the preceding

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			periodic beacon.
<u>NBPANEnhancedBeaconOrder</u>	Integer	0-16383	Indicates how often the EB is to be transmitted in a non-beacon-enabled PAN ( <i>i.e.</i> <i>macBeaconOrder</i> = 15). A value of 16384 indicates that no enhanced beacon will be transmitted.