**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) |
| Title | Comment resolutions for r2-0060, r2-0062, r2-0067, r2-0222, r2-0301, r2-0306, r2-0341, r2-0346, r2-0114 |
| Date Submitted | [October 2019] |
| Source | Aditya V. Padaki (Samsung Research America)Benjamin Rolfe (BCA)Billy Verso (Decawave) |  |
| Re: | Re: |  |
| Abstract | Text for possible inclusion in IEEE 802.15.4z MAC |
| Purpose | Provision of the text to facilitate its incorporation into the draft text of the IEEE 802.15.4z standard currently under development in the 802.15 TG4z. |
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***Goal of this submission:***

*The objective of this submission is to provide comment resolutions*

*This document addresses the following comments:*

Comment resolutions for r2-0060, r2-0062, r2-0067, r2-0222, r2-0301, r2-0306, r2-0341, r2-0346, r2-0114

**r2-0067**

Accept. New figure is provided to Billy.

**r2-0222**

*Revise. Change page 36, starting line 7 to*

The encoding of characters into the Additional Info field follows UTF-8.

**r2-0301**

Revise. Change page 78 line 1-4 as

Initiator: a ranging device that sends ranging ancillary information.

Responder: a ranging device that receives ranging ancillary information.

**r2-0306**

Accept.

**r2-0341**

*Add the following lines on page 78 on line 10 after “… retransmissions.”*

The nest higher layer may use Ranging/Ancillary Message sequence number field of the RAICT IE to keep track of multiple messages.

**r2-0346**

Accept.

*Question to Billy: Do we need to add a line that explicitly tells that all the entries of RxOnTimes in the list are chronological and are not sorted?*

**r2-0114**

Revise.

*Insert the following lines on page 108, after line 12.*

Generating a list for enumerations for the Status parameter is optional.

**r2-0060**; **r2-0062**

*Please include the following text instead of the existing one in section 6.2.1*

* + 1. Beacon-enabled ranging with ERDEV

Support of beacon-enabled ranging for an enhanced ranging device (ERDEV) is optional. The ranging time structure for beacon-enabled ERDEV is shown in Figure 1. The ranging time structure is characterized by repeating ranging beacons, where a ranging beacon is an Enhanced Beacon frame containing the Ranging Descriptor IE (RD IE) specified in 7.4.4.51.

The beacon interval of the ranging time structure is the time between two ranging beacons. The ranging time structure is comprised of the ranging management period and the ranging period. The ranging management period is comprised of ranging beacon slots (RBS). Each RBS has a duration specified in the ranging beacon (in multiples of the ranging scheduling time units (RSTU) defined in 6.9.1.5). The RBS duration needs to be sufficient to allow transmission of a ranging beacon. The ranging period consists of one or more ranging slots (see 6.9.7). The RD IE in the ranging beacon conveys the beacon interval value, information on the usage of the Ranging Management Period, and the beginning of the Ranging Period.

The ranging management period may have one or more ranging contention access period(s) (RCAP) and one or more ranging contention free period(s) (RCFP). Each RCFP and RCAP is one or more RBS. The RCAP and RCFP may be interleaved in the ranging management period. The ranging management period may or may not be present in a given beacon interval. The channel access for slots in a RCAP is contention based and for slots in RCFP is schedule based.

The ranging period is structured as defined in 6.9.7.2 and 6.9.7.3The ranging period begins with a ranging control message (RCM), which configures the ranging period. The ranging period may have more than one RCM. The ranging period may last until the next ranging beacon or could end before the next ranging beacon. The ranging period may or may not be present in a given beacon interval.

RCAP

RCFP

. . .

RCAP

RCFP

RCM

RCM

. . .

Beacon Interval

Ranging Management Period

Ranging Period

Ranging Beacon

**Figure 1—Ranging time structure for beacon-enabled ranging with ERDEV**