**IEEE P802.15**

**Wireless Personal Area Networks**

|  |  |
| --- | --- |
| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) |
| Title |  |
| Date Submitted | May 16, 2013 (r0)May 16, 2013 (r2) |
| Source | 802.15.8 Technical Editor:Seung-Hoon Park (Samsung)Byung-Jae Kwak (ETRI)  | E-Mail:[shannon.park@samsung.com][bjkwak@etri.re.kr] |
| Re: |  |
| Abstract | This is the draft version of 802.15.8 PAC Framework Document. |
| Purpose | This document provides the framework from which the draft PAC specification will be developed. The document provides an outline of each the functional blocks that will be a part of the final specification. The document is intended to reflect the working consensus of the group on the broad outline for the draft specification. As such it is expected to begin with minimal detail reflecting agreement on specific techniques and highlighting areas on which agreement is still required. It may also begin with an incomplete feature list with additional features added as they are justified. The document will evolve over time until it includes sufficient detail on all the functional blocks and their inter-dependencies so that work can begin on the draft specification itself. |
| Notice | This document does not represent the agreed views of the IEEE 802.15 Working Group or IEEE 802.15.8 Task Group. It represents only the views of the participants listed in the “Source(s)” field above. It is offered as a basis for discussion and is not binding on the contributing individual(s) or organization(s). The material in this document is subject to change in form and content after further study. The contributor(s) reserve(s) the right to add, amend or withdraw material contained herein. |
| Release | The contributor acknowledges and accepts that this contribution becomes the property of IEEE and may be made publicly available by P802.15. |
| 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>. |

Table of Contents

[1. Overview 3](#_Toc356531360)

[2. Definitions 3](#_Toc356531361)

[3. Abbreviations and acronyms 3](#_Toc356531362)

[4. General descriptions 3](#_Toc356531363)

[4.1. Concepts and architecture 3](#_Toc356531364)

[4.2. Topology 3](#_Toc356531365)

[4.3. Reference model 3](#_Toc356531366)

[5. MAC layer 3](#_Toc356531367)

[5.1. MPDU structure 3](#_Toc356531368)

[5.2. Multiple access 3](#_Toc356531369)

[5.3. Synchronization procedure 3](#_Toc356531370)

[5.4. Discovery procedure 3](#_Toc356531371)

[5.5. Peering procedure 3](#_Toc356531372)

[5.6. Scheduling 3](#_Toc356531373)

[5.7. QoS 3](#_Toc356531374)

[5.8. Interference management 3](#_Toc356531375)

[5.9. Transmit power control 3](#_Toc356531376)

[5.10. Multicast 4](#_Toc356531377)

[5.11. Broadcast 4](#_Toc356531378)

[5.12. Multi-hop operation 4](#_Toc356531379)

[5.13. Relative positioning 4](#_Toc356531380)

[5.14. Power management 4](#_Toc356531381)

[5.15. Security 4](#_Toc356531382)

[5.16. Coexistence 4](#_Toc356531383)

[5.17. Higher layer interaction 4](#_Toc356531384)

[6. Physical layer 4](#_Toc356531385)

[6.1. Channelization 4](#_Toc356531386)

[6.1.1. Operating frequency bands 4](#_Toc356531387)

[6.2. Duplex schemes 4](#_Toc356531388)

[6.3. Multiplex schemes 4](#_Toc356531389)

[6.4. Frame structure 4](#_Toc356531390)

[6.4.1. Discovery frame structure 4](#_Toc356531391)

[6.4.2. Data frame structure 4](#_Toc356531392)

[6.5. Modulation and coding scheme (MCS) 4](#_Toc356531393)

[6.5.1. Data rates 4](#_Toc356531394)

[6.6. Multiple antennas 4](#_Toc356531395)

# Overview

The 802.15.8 specification shall be developed according to the P802.15.8 Peer Aware Communication (PAC) project authorization request (PAR), document number 15-12-0063r2 and Five Criteria (5c), document number 15-12-0064r1, which were approved by the IEEE-SA in March of 2012.

# Definitions

# Abbreviations and acronyms

PD PAC Device

# General descriptions

This clause provides the basic framework of PDs. The framework serves as a guideline in developing the functionalities of PDs and their interactions specified in detail in the subsequent clauses.

## Concepts and architecture

368r1 (wait for a revision)

392r1

380r2 [1,2]

369r1

## Topology

368r1

380r2[1,2]

## Reference model

368r1

396r1

# MAC layer

395r1 [4.3]

## MPDU structure

368r1

380r2

395r1 [5.2]

## Multiple access

e.g. Contention-based access, Contention-free access

368r1

392r1

395r1 [6.2]

373r1

## Synchronization procedure

368r1

396r1

392r1

380r2

373r1

## Discovery procedure

368r1

396r1

392r1

380r2

395r1 [6.3.1]

## Peering procedure

396r1

392r1

380r2

395r1 [6.3.2]

## Scheduling

368r1

392r1

380r2

395r1 [6.3.3]

## QoS

## Interference management

368r1

380r2

## Transmit power control

380r2

## Multicast

380r2

388r0

## Broadcast

## Multi-hop operation

388r0

## Relative positioning

## Power management

## Security

388r0

## Coexistence

392r1

## Higher layer interaction

# Physical layer

## Channelization

### Operating frequency bands

369r1

384r0

395r1 [7.1.1]

392r1 [6.1.1]

382r0 [6.1.1]

278r2

## Duplex schemes

369r1

392r1

395r1 [7.2]

373r1

## Multiplex schemes

(e.g. CDMA, OFDMA)

369r1

392r1

395r1 [7.3]

## Frame structure

392r1 (rm 805)

278r2

648r0

### Discovery frame structure

370r0

384r0

### Data frame structure

369r1

## Modulation and coding scheme (MCS)

369r1

278r2

382r0 [6.5]

384r0

### Data rates

278r2

382r0 [6.5]

## Multiple antennas

369r1

## Bit interleaver

369r1

## Scrambling

369r1

Note: take care of Seung-Hoon’s doc, too.