**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) | |
| Title | TG3d Applications Requirements Document (ARD) | |
| Date Submitted | [May, 2014] | |
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| Re: |  | |
| Abstract | The ARD contains descriptions on applications and use cases with performance and functional requirements | |
| Purpose | Supporting document for the development of the amendment 3d of IEEE 802.15.3 | |
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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. | |

Document Overview

The ARD contains descriptions on applications and use cases with performance and functional requirements. The document will serve as a base line for all other supporting documente developed within TG3d:

* the Channel Modeling Document (CMD)
* Technical Requirements Document (TRD)
* Evaluation Criteria Document (ECD)
* Call for Proposals (CfP)

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| **List of contributors** | |
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# Definitions:

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# Scope

The amendment 3d to IEEE 802.15.3 defines a wireless switched point-to-point physical layer to IEEE Std. 802.15.3 operating at PHY data rates of 100 Gbps with fallback solutions at lower data rates. The purpose is to provide a standard for low complexity, low cost, low power consumption, and high data rate wireless connectivity among devices. Data rates will be high enough to satisfy a set of consumer multimedia industry needs, and to support emerging wireless switched point-to-point applications in

* data centers-
* wireless backhaul/fronthaul
* intra-device communication and
* kiosk downloading.

The commonality of all these applications is their point-to-point character with known positons of transmit and receiving anetnnas and the option to switch between different links.

# Methodology

The descriptions of the applications and use cases with performance and functional requirements as listed in Section 2 are described in chapters 4 to 7 separately for each application using the following structure:

1. *Description of the operational environment* (including a meaningful graphic and a statement on the operations under LOS/NLOS/OLOS conditions)

2. *Definition of a typical transmission range*

3. *Description of the conditions to achive th*e *Target data rate*

4. *Specific issues with respect to regulation*

5. *Specific requirements with respect to the MAC* (e.g. supporting 48/64 bit MAC adreseses, issues with respect to bridging)

6. *Other issues*

# Kiosk Downloading

## 4.1 Description of the operational environment

xxx

## 4.2 Definition of a typical transmission range

xxx

## 4.3 Description of the conditions to achive the Target data rate

xxx

## 4.4 Specific issues with respect to regulation

xxx

## 4.5 Specific requirements with respect to the MAC

## 4.6 Other issues

xxx

# Intra-Device Communication

## 5.1 Description of the operational environment

xxx

## 5.2 Definition of a typical transmission range

xxx

## 5.3 Description of the conditions to achive the Target data rate

xxx

## 5.4 Specific issues with respect to regulation

xxx

## 5.5 Specific requirements with respect to the MAC

xxx

## 5.6 Other issues

xxx

# Backhauling/Fronthauling

## 6.1 Description of the operational environment

xxx

## 6.2 Definition of a typical transmission range

xxx

## 6.3 Description of the conditions to achive the Target data rate

xxx

## 6.4 Specific issues with respect to regulation

xxx

## 6.5 Specific requirements with respect to the MAC

xxx

## 6.6 Other issues

xxx

# Data Center

## 7.1 Description of the operational environment

xxx

## 7.2 Definition of a typical transmission range

xxx

## 7.3 Description of the conditions to achive the Target data rate

xxx

## 7.4 Specific issues with respect to regulation

xxx

## 7.5 Specific requirements with respect to the MAC

## xxx

## 7.6 Other issues

xxx