**IEEE P802.15**

**Wireless Personal Area Networks**

|  |  |  |
| --- | --- | --- |
| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) | |
| Title | **/ Technical Guidance Document: Methodology in Subsection 1** | |
| Date Submitted | [February 16, 2014] | |
| Source | Soo-Young Chang (SYCA), Jaehwan Kim (ETRI), and Sangsung Choi (ETRI) | Voice: [ +1 530 574 2741 ] Fax: [ ] E-mail: [ sychang@ecs.csus.edu ] |
| Re: | [TG10 TGD] | |
| Abstract | [Methodology in Subsection 1 of the TGD - Working document] | |
| Purpose | [Sub-document of TGD] | |
| Notice | This document has been prepared to assist the IEEE P802.15. 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. | |

# Overview

(Last paragraph of Subsection 1)

***Methodology***

The methodology is based on a consensus approach to defining a minimal set of features, characteristics, performance and constraints to be considered when making a proposal.

This document provides:

* A functional view of the L2R characteristics, in the form of specific parameters which define externally verifiable performance and interoperability considerations;
* Performance requirements which characterize the Layer 2 routing with any required MAC information elements.

In preparing proposals, this can be used as a framework to produce a concise summary of the characteristics of each given proposal, and will allow the group to see the similarities and differences in submitted proposals.

# Definitions

# Abbreviation and acronyms

# General requirements

## Summary of PAR

### Scope

### Purpose

## High level requirements

## Application requirements matrix

## Defined Behaviors Should Support the Following in 802.15.4

# Functional requirements

## Mesh Topology Discovery

## Mesh Routing Protocol

## Extensible Mesh Routing Architecture

## Mesh Broadcast Data Delivery

## Mesh Unicast Data Delivery

## Mesh Network Size

## Mesh Security

## Routing Metrics

### Radio-Aware

### Device-Aware

### Network-Aware

### Bridge-Aware

## Discovery and Association with a L2R network

## Changes to the MAC and PHY

# Performance requirements

## Required memory resource

## Calculation cost

## Energy consumption

## Control traffic overhead

## Route acquisition time

## Recovery time of link failure

## Scalability to network size

## End to End packet loss rate

## End to End data throughput and delay

## Life time of battery operated network

# Regulatory Considerations/Aspects