**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) | |
| Title | **MAC simulation scenarios** | |
| Date Submitted | January 15, 2013 | |
| Source | Sunggeun Jin (ETRI) | E-Mail: [sgjin@etri.re.kr] |
| Re: | MAC simulation scenarios | |
| Abstract | This is a proposal for the MAC simulation scenarios in TGD | |
| Purpose |  | |
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## System-level simulation (MAC)

MAC simulation scenarios may provide network topologies and metrics in order to compare MAC performances.

### Scenarios & parameters for just PDs

<Simulation condition >

|  |  |
| --- | --- |
| PD deployment | All PDs are randomly scattered with uniform distribution in a ‘D’ by ‘D’ region. D indicates a distance in units of meter. |
| Data rate | Basic data rate may be applied |
| Number of PDs | > 0 |
| Channel model | Channel model may or may not be applied |

<Performance Metric>

* Average discovery time depending on the number of PDs

### Scenarios & parameters for PD links

<Simulation condition>

|  |  |
| --- | --- |
| PD deployment | All PDs are randomly scattered with uniform distribution in a ‘D’ by ‘D’ region. D indicates a distance in units of meter. |
| Data rate | All data rates, which PHY may support, may be applied |
| Number of PDs | > 0 |
| Channel model | Channel model may or may not be applied |

<Performance Metric>

* Throughput depending on the number of PDs (bps)
* Transmission delay (sec.)
* Fairness index (TBD)