**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) |
| Title | **Packet birth rate for the downstream scenario** |
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| Re: | [TGD document #753r17] |
| Abstract | [This document proposes values for the packet birth rate to be used in downstream scenario] |
| Purpose | [The proposal in this document is to be used to set the packet birth rate in the downstream scenario] |
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**Introduction**

The current value of the packet birth rate to be used in the downstream scenario is ***1 packet every 30 min***.

As described in the footnote 4: “***In a PAN coord to device unicast communication, the PAN coord shall send a packet to every devices (M-1) alternately***”

Accordingly, does ***1 packet every 30 min*** mean:

1. The PAN coordinator generates 1 packet every 30 min for one of the devices? In this case, the simulation would last at least 30 min\*(M-1), so that every device receives at least one packet each.
2. The PAN coordinator generates 1 packet for 1 particular device every 30 min? In this case, the packet birth rate would be (M-1) packets every 30 min, which will be very high in the 10000 nodes-scenario.

**Proposal**

We propose to use one of the following options of the packet birth rate for the downstream scenario:

1. The PAN coordinator generates packets for 10% of the devices within 30 minutes

🡺 ***packet birth rate = (M-1)/10 packets every 30 min***

1. The PAN coordinator generates a packet to all devices within a longer period of X min 🡺 ***packet birth rate = (M-1) packets every X min (E.g. X = 60, 120, …)***