**3GPP TSG-RAN WG2 Meeting #109e R2-200xxxx**

**E-meeting, February 24 – March 6, 2020**

**Agenda item:**6.7.4 (NR\_IIOT-Core)

**Source:** LG Electronics Inc.

**Title:** Discussion on PDCP duplication enhancements

**Document for:** Information

# 1. Introduction

This document is to facilitate the discussion on AT109e#037 PDCP Duplication Enhancement for IIOT.

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| * [AT109e][037][IIOT] PDCP Duplication Enhancements (LG)   Scope: Treat summary on PDCP Duplication Enhancements.  Intended outcome: Resolve issues, Describe Open Issues accurately.  Deadline: Mar 3 1200 CET (conclusions on “easy agreements” by Feb 27 1200 CET) |

The discussion should be based on the summary document submitted to this meeting.

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| R2-2001286 Summary of PDCP duplication enhancements LG Electronics Inc. report Rel-16 NR\_IIOT-Core Late |

This document tries to make easy agreements and resolve open issues identified in the R2-2001286.

# 2. Potential easy agreements

Potential agreements 1

- Rel-16 PDCP duplication is applied to SRBs.

- For SRBs, all secondary RLC entities are activated when configured.

- MAC CE based activation/deactivation of PDCP duplication is not supported for SRBs.

**Question 1: Are companies ok with the potential agreements 1?**

|  |  |  |
| --- | --- | --- |
| Company | Yes/No | Comments |
| Nokia | Yes |  |
|  |  |  |

**Proposal 1:**

Potential agreements 2

- When a secondary RLC entity is deactivated (but PDCP duplication is still activated), the UE shall discard duplicated PDCP PDUs in the deactivated secondary RLC entity.

**Question 2: Are companies ok with the potential agreements 2?**

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| --- | --- | --- |
| Company | Yes/No | Comments |
| Nokia | Yes |  |
|  |  |  |

**Proposal 2:**

# 3. Open issues

Open issue 1

Can the Rel-15 Duplication MAC CE be used for Rel-16 Duplication configuration?

- Option 1: Rel-15 MAC CE can be used for Rel-16 Duplication configuration.

- Option 2: Rel-15 MAC CE can be used for Rel-16 Duplication configuration only when the number of leg = 2.

- Option 3: Rel-15 MAC CE is not used for Rel-16 Duplication configuration.

- Option 4: Rel-15 MAC CE is used to activate/deactivate PDCP duplication, and Rel-16 MAC CE is used to activate/deactivate RLC entities.

**Question 3: Which option do you prefer in open issue 1?**

|  |  |  |
| --- | --- | --- |
| Company | Preferred option | Comments |
| Nokia | 1 | Rel-15 MAC CE can be used in the following way:   * Activation: Reset to initial state * Deactivation: deactivate PDCP duplication (switch off all secondary RLC entities) |
|  |  |  |

**Proposal 3:**

Open issue 2

If Rel-15 MAC CE can be used for Rel-16 Duplication configuration, what if Rel-15 MAC CE indicates “duplication activation”?

- Option 1: All secondary RLC entities are activated.

- Option 2: All secondary RLC entities are set to initial state configured by RRC.

**Question 4: Which option do you prefer in open issue 2?**

|  |  |  |
| --- | --- | --- |
| Company | Preferred option | Comments |
| Nokia | 2 | The secondary RLC entities should go to initial state in an absolute manner, when “activation” command is received with Rel-15 MAC CE. |
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**Proposal 4:**

Open issue 3

What if Rel-16 MAC CE indicates all secondary RLC entities are deactivated?

- Option 1: Deactivate PDCP duplication.

- Option 2: PDCP duplication is kept activated, but only primary RLC entity is used for transmission.

**Question 5: Which option do you prefer in open issue 3?**

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| --- | --- | --- |
| Company | Preferred option | Comments |
| Nokia | 1 |  |
|  |  |  |

**Proposal 5:**

Open issue 4

How to set DRBdup ID in Rel-16 MAC CE?

- Option 1: 5bits full DRB ID is included.

- Option 2: 3~4bits indexed DRB ID is included (similar to Rel-15).

**Question 6: Which option do you prefer in open issue 4?**

|  |  |  |
| --- | --- | --- |
| Company | Preferred option | Comments |
| Nokia | 1/2 | No strong view from our side. |
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**Proposal 6:**

# 4. Summary