3GPP TSG-RAN WG1 Meeting #104-e R1-21xxxxx

e-Meeting, January 25th – February 5th, 2021

Agenda Item: 6.2.1

Source: Moderator (Ericsson)

Title: FL summary for Multi-TB issues for Rel-16 LTE-MTC

Document for: Discussion, Decision

# 1 Introduction

This document provides a summary of the following RAN1 email discussion.

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| [104-e-LTE-eMTC5-02] Multi-TB issues – Johan (Ericsson)   * Issue #1: Clarification of DCI definition for SPS validation ([R1-2100561](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_104-e/Docs/R1-2100561.zip)) * Issue #2: Clarification of multicast scheduling gap definition ([R1-2100761](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_104-e/Docs/R1-2100761.zip), [R1-2101279](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_104-e/Docs/R1-2101279.zip)) * Discussion and decision by 1/29, TPs by 2/5 |

# Issue #1: Clarification of DCI definition for SPS validation

Contribution [1] discusses the need for clarification of the DCI definition for SPS validation for the case when the Rel-16 LTE-MTC multi-TB scheduling feature is configured and presents a TP for 36.213.

**Question: Companies are invited to comment below on the 36.213 TP in [1] for clarification of the DCI definition for SPS validation when multi-TB scheduling is configured.**

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| **Company** | **Comments** |
| Qualcomm | We think the only necessary change is to change the 4-bit HPN field to 3 bits for TDD, the other changes are not needed. For example, this change:  - if *ce-PDSCH-MultiTB-Config* is configured, the ‘New data indicator’ in ‘Scheduling TBs for Unicast’ field in DCI format 6-1A is set to ‘0’;otherwise, the new data indicator field in DCI format 6-1A is set to '0'.  - if *ce-PUSCH-MultiTB-Config* is configured, the ‘New data indicator’ in ‘Scheduling TBs for Unicast’ field in DCI format 6-0A is set to ‘0’;otherwise, the new data indicator field in DCI format 6-0A is set to '0'.  Is not needed, since indeed DCI format 6-1A has an NDI field when a single TB is scheduled:  - If one TB is scheduled  - 5 bits set to zero  - HARQ process number – 3 bits  - New data indicator – 1 bit  So, the only change would be :   |  |  |  | | --- | --- | --- | |  | **DCI format 6-0A** | **DCI format 6-1A** | | **HARQ process number** | set to '000' | FDD: set to '000'  TDD: set to '0000’ if *ce-PDSCH-MultiTB-Config* is not configured, ‘000’ otherwise. | |
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# Issue #2: Clarification of multicast scheduling gap definition

Contributions [2] and [3] discuss clarification of the definition of scheduling gaps for Rel-16 LTE-MTC multi-TB scheduling for multicast SC-PTM transmission and present three alternative TPs for 36.213. Two of the TPs assume that the scheduling gap should be in terms of BL/CE BL subframes, and the third TP assumes that the scheduling gap should be in terms of absolute subframes. The TPs also address the indentation issue discussed in the previous RAN1 meeting [4].

**Question: Should the scheduling gap for multi-TB multicast transmission be in terms of BL/CE DL subframes or absolute subframes?**

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| **Company** | **Comments** |
| Qualcomm | Although we have no strong view, we think the current spec already captures the gap being in absolute subframes. About the large corrections in [2], we think the current spec (with indentation issue resolved) may be enough to describe the behavior. |
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# References

1. [R1-2100561](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_104-e/Docs/R1-2100561.zip), “Corrections on scheduling enhancement for MTC”, ZTE

1. [R1-2100761](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_104-e/Docs/R1-2100761.zip), “Corrections on multicast gap in Multiple TB”, Lenovo, Motorola Mobility

1. [R1-2101279](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_104-e/Docs/R1-2101279.zip), “Corrections on multi-TB scheduling for eMTC”, Huawei, HiSilicon

1. [R1-2009295](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_104-e/Docs/R1-2009295.zip), “FL summary for Multi-TB issues for Rel-16 LTE-MTC”, Moderator (Ericsson)