**3GPP TSG-RAN WG4 Meeting # 111 R4-240xxxx**

**Fukuoka City, Fukuoka, Japan, 20th – 24th May 2024**

**Agenda item:** 7.25.2

**Source:** Moderator (Ericsson)

**Title:** Topic summary for [111][333] NR\_DSS\_enh

**Document for:** Information

# Introduction

This document is the TDocs summary for [111][333] NR\_DSS\_enh with the following topic covered:

* Topic 1: NR PDCCH repetition in symbols with LTE CRS REs (AI 7.25.1)

The moderator suggests discussing all issues offline and then confirm them in the online session. Companies are encouraged to share views offline towards all submitted draft CRs.

# Topic #1: NR PDCCH reception in symbols with LTE CRS REs

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| [**R4-2407016**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_111/Docs/R4-2407016.zip) | MediaTek inc. | Simulation results submission |
| [**R4-2407262**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_111/Docs/R4-2407262.zip) | Apple | Simulation results submission |
| [**R4-2408060**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_111/Docs/R4-2408060.zip) | Nokia | [**Observation 1:** The simulation parameters for FDD and TDD test cases have been differentiated in RAN4#110bis.](file:///C:\Users\esihaji\AppData\Local\Temp\df943bfe-bf29-4132-904d-3bbb92eb2040_R4-2408060.zip.040\R4-2408060%20Enhancement%20of%20NR%20Dynamic%20Spectrum%20Sharing%20UE%20Demodulation%20Performance%20Requirements.docx#_Toc166491113)  [Proposal 1: RAN4 to finalize the PDCCH requirements for Rel-18 Enhanced Dynamic Spectrum Sharing, both for FDD and TDD, in RAN4#111 based on the simulation results collected from interested companies in RAN4#111.](file:///C:\Users\esihaji\AppData\Local\Temp\df943bfe-bf29-4132-904d-3bbb92eb2040_R4-2408060.zip.040\R4-2408060%20Enhancement%20of%20NR%20Dynamic%20Spectrum%20Sharing%20UE%20Demodulation%20Performance%20Requirements.docx#_Toc166491114)  [**Observation 2:** In the draft big CR of Rel-18 eDSS endorsed in RAN4#110bis, there is an inconsistency in the structure of the sections used for TDD and FDD. The one used for TDD provide a better structure and complete information, which would benefit the reader.](file:///C:\Users\esihaji\AppData\Local\Temp\df943bfe-bf29-4132-904d-3bbb92eb2040_R4-2408060.zip.040\R4-2408060%20Enhancement%20of%20NR%20Dynamic%20Spectrum%20Sharing%20UE%20Demodulation%20Performance%20Requirements.docx#_Toc166491115)  [Proposal 2: RAN4 to align the structure of the sections of TDD and FDD in the formal big CR in RAN4#111, in which the current structure of sections for TDD can be applied in a similar fashion to the sections for FDD.](file:///C:\Users\esihaji\AppData\Local\Temp\df943bfe-bf29-4132-904d-3bbb92eb2040_R4-2408060.zip.040\R4-2408060%20Enhancement%20of%20NR%20Dynamic%20Spectrum%20Sharing%20UE%20Demodulation%20Performance%20Requirements.docx#_Toc166491116) |
| [**R4-2408061**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_111/Docs/R4-2408061.zip) | Nokia | Simulation results submission |
| [**R4-2408677**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_111/Docs/R4-2408677.zip) | Qualcomm India Pvt Ltd | Simulation results submission |
| [**R4-2408750**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_111/Docs/R4-2408750.zip) | Ericsson | Proposal 1: Align the PDCCH configuration parameter and value with clause: 5.2.2.1.18 Minimum requirement for PDSCH CRS interference mitigation under NR-LTE coexistence scenario.  Proposal 2: Align the structure and description with clause 5.3.2.1.1, 5.3.2.1.2 and 5.3.2.1.3 |
| R4-2408751 | Ericsson | Simulation results collection |
| [**R4-2408752**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_111/Docs/R4-2408752.zip) | Ericsson | Simulation results submission |
| [**R4-2409013**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_111/Docs/R4-2409013.zip) | Huawei,HiSilicon | Proposal 1: Confirm test cases in Table 2-1 for requirements definition. |
| [**R4-2409088**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_111/Docs/R4-2409088.zip) | ZTE Corporation, Sanechips | Simulation results submission |

## Open issues summary

**Issue 1-1: Align the CR structure and parameters**

*Observation: In the draft big CR of Rel-18 eDSS endorsed in RAN4#110bis, there is an inconsistency in the structure of the sections used for TDD and FDD.*

* Proposals
  + Structure:
    - Option 1: Current structure of sections for TDD can be applied in a similar fashion to the sections for FDD (Nokia, Ericsson)
  + Parameter:
    - Option 1: Align the PDCCH configuration parameter and value with clause: 5.2.2.1.18 Minimum requirement for PDSCH CRS interference mitigation under NR-LTE coexistence scenario. (Ericsson)

|  |  |  |  |
| --- | --- | --- | --- |
| PDCCH configuration | Symbols with PDCCH |  | Symbol# 2 |

* Recommended WF
  + Moderator suggests discussing it offline and get aligned.

**Issue 1-2: Test case confirmation and finalize the requirement**

* Proposals
  + Option 1: Confirm test cases in Table 2-1 for requirement definition (Huawei)
* Recommended WF
  + Confirmed since no new issue raised.
  + Finalized the requirement in RAN4 #111 based on the results collected from interested companies.

## Submitted draft CRs

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| --- | --- | --- |
| **T-doc number** | **Company** | **Comments** |
| [**R4-2407263**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_111/Docs/R4-2407263.zip) | Apple | *Moderator: to be revised to capture the requirement* |
| [**R4-2408062**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_111/Docs/R4-2408062.zip) | Nokia | *Moderator: to be revised to adopt the agreement of issue 1-1* |
| [**R4-2408638**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_111/Docs/R4-2408638.zip) | Qualcomm India Pvt Ltd | *Moderator: Check around comments* |
| R4-2408753 | Ericsson | *Moderator: For post-meeting approval* |

# Annex (suggested document status)

Since all documents submitted to this AI are discussion paper and simulation resutls, the moderator suggests all documents to be noted.

***Table 1: Tdocs status suggested by the moderator***

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Suggested status** | **Comments** |
| [**R4-2407016**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_111/Docs/R4-2407016.zip) | Noted |  |
| [**R4-2407262**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_111/Docs/R4-2407262.zip) | Noted |  |
| [**R4-2407263**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_111/Docs/R4-2407263.zip) | Revised | *Moderator: to be revised to capture the requirement* |
| [**R4-2408060**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_111/Docs/R4-2408060.zip) | Noted |  |
| [**R4-2408061**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_111/Docs/R4-2408061.zip) | Noted |  |
| [**R4-2408062**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_111/Docs/R4-2408062.zip) | Revised | *Moderator: Check around comments and revise if needed* |
| [**R4-2408638**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_111/Docs/R4-2408638.zip) | Revised | *Moderator: Check around comments and revise if needed* |
| [**R4-2408677**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_111/Docs/R4-2408677.zip) | Noted |  |
| [**R4-2408750**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_111/Docs/R4-2408750.zip) | Noted |  |
| R4-2408751 | Noted |  |
| [**R4-2408752**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_111/Docs/R4-2408752.zip) | Noted |  |
| R4-2408753 | Email approval | *Moderator: For post-meeting approval* |
| [**R4-2409013**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_111/Docs/R4-2409013.zip) | Noted |  |
| [**R4-2409088**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_111/Docs/R4-2409088.zip) | Noted |  |