3GPP TSG RAN meeting #103
Maastricht, Netherlands, March 18-21, 2024

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Agenda Item: 9.1.4.5

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Views on Demod Topics for Release 19

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Summary

- Rel-19 Priorities for Demod Topics
  - Performance Enhancements for 8Rx
- Other Demod topics
  - Channel model with spatial components for performance testing

Rel-19 Priorities for Demod Topics

Motivation and Objectives

- UE performance requirements enhancements for 8Rx
  - 8Rx requirements target FWA devices were introduced in Rel-18
  - Demod requirements were introduced only for the baseline scenarios
  - Demod requirements for more complex environments such as intra/inter-cell interference were not defined due to lack of time
    - Left-over from Rel-18, useful test scenarios for enhanced performance
  - Objectives:
    - Introduce UE performance requirements with inter-cell and intra-cell inter-user interference for 8Rx

Other Demod Topics

Objectives

- Study on channel model with spatial components for demod tests
  - We are interested in a comprehensive study on channel models with spatial components that could be used in the future (6G) for demod testing and even RAN1 evaluations
  - Study should focus on the limitations of current models and benefits of testing UEs with more complex channel models
    - Objectives of RAN4 performance tests are to check that the UE demodulation algorithms are properly implemented, not to assess the absolute/relative performance of different features (e.g. MIMO schemes)
      - Performance evaluation of features is a RAN1 issue
    - So far there has been no data/evidence shown that current data do not actually test the UE implementation
      - For example, UEs perform very poorly in the field even though they pass demod tests for a certain feature
  - Simple use of current CDL models is very difficult (results do not easily converge), some simplification/adaptation is needed to enable TE implementations and performance studies/alignment in RAN4
  - RAN4 should study whether more advanced channel models(e.g. with spatial components) bring benefits to demod testing and can be used in conducted/OTA environments

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