

3GPP TSG RAN Rel-19 workshop

RWS-230249

Taipei, June 15 - 16, 2023

Agenda Item:

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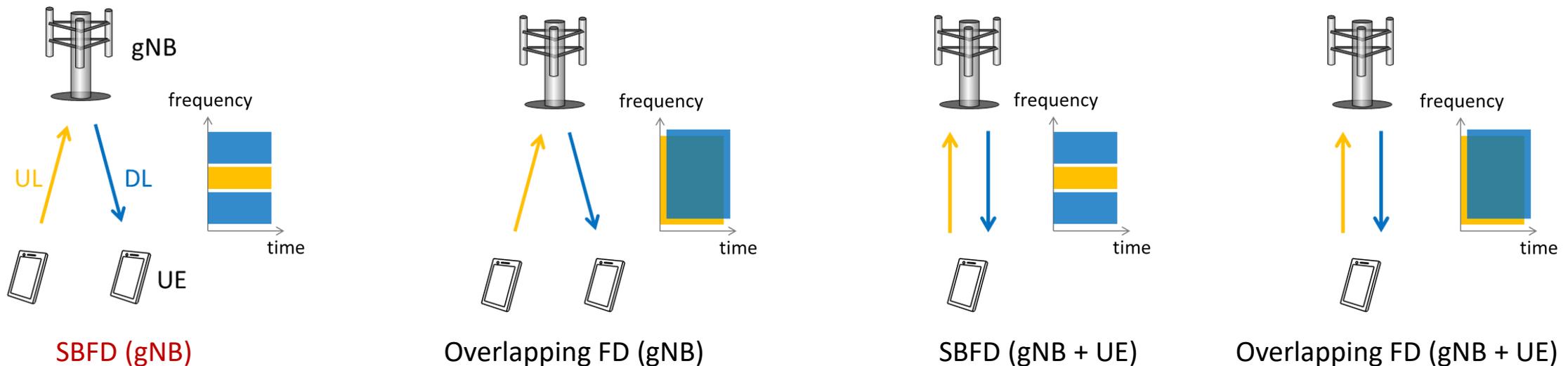
Document for:

Discussion

Evolution of NR duplex operation

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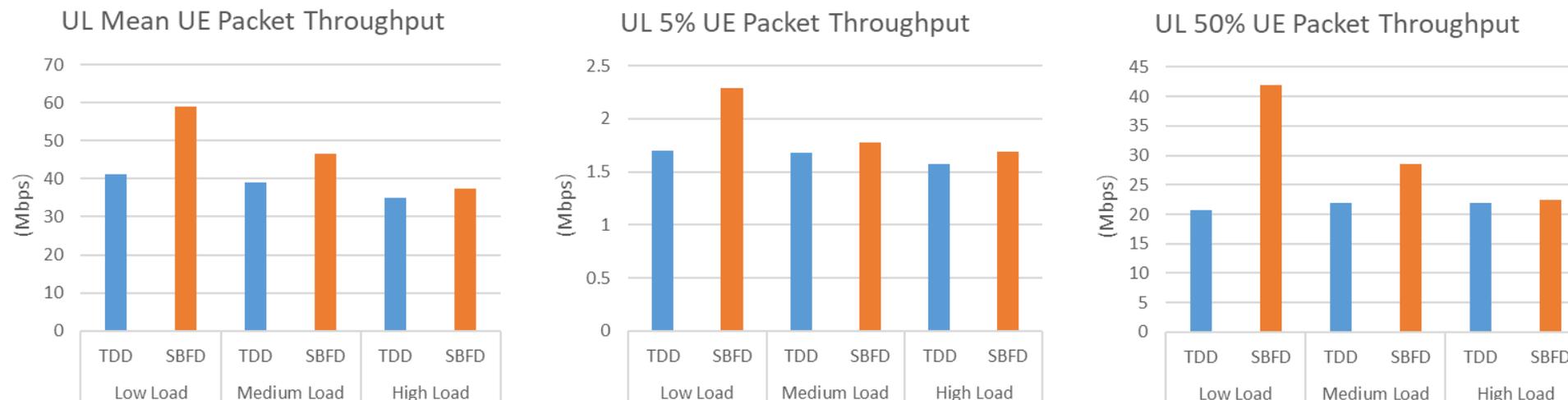
- Full duplex (FD) realizes efficient and flexible UL and DL resource configuration with providing following benefits, and hence it can be one of advanced features towards “6G”
 - Beneficial for adaptation to DL and UL traffic fluctuation, e.g., UL heavy traffic
 - Beneficial for lower latency and coverage improvement by exploiting increased UL time resources
- Following options can be considered for duplex evolution, and Sub-band non-overlapping full duplex (SBFD) at gNB, which is the initial step toward realizing FD, is under study in Rel-18 (Study on evolution of NR duplex operation)



■ Expected outcome of Rel-18 study on SBF D at gNB:

- Evaluation of SBF D operation is on going and we expect to find following points.
 - » Interference modeling (e.g., self-interference, inter-sector interference, and inter-site interference) and corresponding performance are essential factors to determine the target scenario/use case of SBF D operation
 - E.g., performance gain from SBF D can be expected for certain conditions, e.g., low traffic load and large inter-sector isolation.

■ We expect to observe benefits of SBF D from Rel-18 study, and hence we propose to start normative work on SBF D at gNB in Rel-19 so that 3GPP can move forward to realize FD operation towards “6G”



Example of SLS evaluation results for FR1 Urban macro

■ Proposed scope of the normative work on SBFDD at gNB

• Rel-19 : Scope of WI: SBFDD at gNB

- » Introduction of SBFDD operation
 - SBFDD DL/UL subband time and frequency configuration/indication
 - UE behavior in SBFDD DL/UL subband
 - Resource allocation enhancement for DL/UL channels/signals
 - Collision handling for DL/UL collision in SBFDD symbol
- » Enhancement/Introduction of interference handling
 - Introduction of gNB-to-gNB CLI measurement and reporting
 - Enhancement of UE-to-UE CLI measurement and reporting, e.g.,
 - ✓ L1/L2 CLI measurement and reporting
 - ✓ Subband level CLI measurement and reporting
 - ✓ Beam level CLI measurement and reporting

■ Proposal for study on other options

- Rel-20 (and onwards):
 - » Further study/discuss evolution of duplex, e.g., SBFDD operation at both gNB and UE, and overlapping full duplex

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