3GPP TSG RAN Rel-19 workshop
Taipei, June 15 – 16, 2023
Agenda Item: 5

RWS-230357

China unicom中国联通
创新·与智慧同行

Further enhancement on CA/DC in Rel-19

China Unicom

Motivation for Rel-19 CA/DC Enhancement

China unicom中国联通
创 新 · 与 智 慧 同 行

Operator accelerate the 5G commercial deployment

- 5G commercial network will provide various spectrum resources to guarentee the better use experience of 5G users.
- The network simplification will make more radio resources which can be used in the 5G commercial deployment.
  - The carrier number will be extend to more than 2 carriers, etc. 3 carriers, 4 carriers, etc.
  - The 5G commercial terminal will support bothe FR1 and FR2.

New challenge for 5G-A evaluation

- The capability of 5G network and terminal will be improved
  - 5G network and terminal need to support more than one simutaneous carriers in different frequency band.
    - ✓ Support the FR1 and FR2 carrier to be activatied, and the radio resource can be scheduled dynamically.
    - ✓ Support the asymmetric traffic of UL and DL to satisfy the requirments of the public and industry customers.
  - Support the 5G extreme simple network will make more radio resource to be used in the 5G commercial deployment
    - ✓ 4G use 2CC CA, and more aggregated carrier will bring more overhead.
    - ✓ Support the More efficient spectrum resource utilization scheme for both the network and the terminal.

Potential Objective for Rel-19 CA/DC Enhancement

Objective：

- Single DCI functionality enhancement
  - Support the scheduling of the PUSCH/PDSCH for 4 cells with different SCS;
  - Support the FR1 and FR2 with different SCS simultaneously;
  - Other potential enhancements: TB size、HARQ.
- Two stage DCI: extend to support more than 4 carriers.
- Support the “ms-level” carrier fast handover, e.g. L1 measurement will be more appropriate to adapt for the fast channel variation.
- Enhance the configuration capability of UL and SUL carriers to satisfy the requirements of 5G network deployment.
- Support joint CSI measurement across multiple carriers.
- Support to study about the Multi-band Single Cell mechanism: How to optimize the signalling procedure for unconventional inter-frequence scenario, e.g. 2.1G/1.8G，800M/900M etc.

China unicom中国联通
创 新 · 与 智 慧 同 行

Thanks