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3GPP TSG RAN Meeting #92e RP-211159

Electronic Meeting, Jun. 14-18, 2021

Discussion on working scope for EN-DC TRP TRS measurement

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Document for: Discussion & Decision

Agenda Item: 9.7.4.2

Background

- In RAN #91e meeting, a new WID on NR FR1 TRP TRS was approved in [RP-210807].
- In RAN4 #99e meeting, an LS from GSMA was received [R4-2108729], with some questions and suggestions on FR1 TRP TRS test methods to 3GPP. Among them, the following configuration for EN-DC is suggested by GSMA:

It would be appreciated if the following items could be included in the 3GPP work:

- Measure TRP for both LTE and NR with a 50%-50% equal power sharing between LTE and NR (simultaneous or one by one)

- There were some discussions in RAN4#99e meeting in terms of the suggestions from GSMA LS. The following aspects have been captured in the agreed WF [R4-2108620]:

- **For EN-DC, whether two RATs need to be measured**
  - FFS whether both LTE and NR should be measured under EN-DC mode.
  - Clarification from RAN Plenary on whether LTE measurement under EN-DC mode is within the scope of the WID is helpful.
  - This topic is related to the Tx power configuration of EN-DC, suggest to make decision on EN-DC power splitting first

RAN4 Views on EN-DC measurement

- In RAN4#99e, several options were proposed and discussed:
  - Option 1: measure both LTE and NR for EN-DC combinations
    - The major consideration is other SDOs (e.g. ETSI for RED harmonized standards) will rely on the methodology defined here and may define later on additional requirements for LTE
  - Option 2: only measure NR for EN-DC combinations
    - This is based on the WID restriction of the applicability of requirements to NR only, thus only NR should be measured
  - Option 3: if 50%-50% is used (i.e. maximum UL power is 20dBm for LTE), then both LTE and NR should be measured

- Given LTE measurement is not clear stated in the WID, clarification on the working scope of WID from RAN plenary is needed.

WID scope on EN-DC measurement-Proposal

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- From EN-DC OTA measurement and specification development perspective, several aspects need to be considered
    - Measurement time
        - OTA measurement is time consuming, especially for EN-DC with many combinations.
    - Antenna performance
        - Consider whether there is difference for LTE-only and LTE-under-EN-DC
    - Impacts for other SDOs in the industry
- The fixed-power-splitting approach has been agreed for EN-DC, there is no dynamic power sharing between LTE and NR.
- Some initial demonstration results show that the LTE-only and LTE-under-EN-DC have the same antenna performance.
    - Based on the measurement results from three 5G UEs, the maximum LTE B3 performance difference is 0.3dB.
- With the above considerations, we think the following action should be done in RAN:

Proposal: RAN plenary should clarify the whether LTE OTA measurement is within EN-DC TRP TRS measurement scope, the revised WID is needed if consensus is reached.

THANK YOU.
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