**3GPP TSG-RAN WG4 Meeting # 104-bis-e R4-** **22xxxxx**

**Electronic Meeting, 10– 19 October 2022**

**Agenda item:** 4.6.6

**Source:** vivo

**Title:** WF on eDRX and RRM measurement relaxations requirements for Redcap UE

**Document for:** Approval

# Topic #1: Extended DRX enhancements

### Sub-topic 1-1 Maintenance on eDRX requirements for Redcap

**Issue 1-1-1: Issue when UE transitions from measurements within PTW and to measurements outside PTW or vice versa during one measurement period**

* Proposals
  + Option 1: When UE transitions from measurements within PTW and to measurements outside PTW or vice versa during one measurement period, the UE measurement requirements apply based on the longer measurement requirements before or after the transition. (Huawei Nokia Apple vivo xiaomi Ericsson oppo)
  + Option 2: Not necessary to have option 1 (MTK)

*Tentative agreements:*

*Candidate options:*

*Recommendations for 2nd round: continue discussion*

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| **Company** | **Comments** |
| Huawei | Support option 1.  Thanks for the comments pointing out the existing requirements during 1st round discussion. However we think the existing requirements don’t cover the case in this issue. In this case, both eDRX\_IDLE/eDRX\_Inactive cycle length and PTW configuration are not changed. The change is T which may be different within PTW and outside PTW as per RAN2 agreement (where PTW configuration is unchanged). |
| Apple | Fine with option 1. |
| vivo | OK with option 1 |
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# Topic #2: RRM measurement relaxations

### Sub-topic 2-1 Remaining issues on RRM measurment relaxation for Redcap

**Issue 2-1-1: Clarification on RRM relaxation applying conditions**

* Proposals
  + Option 1: For the issue 2-1-3 in [R4-2215162], option 3 can be considered and the wording of option 3 could be updated. (vivo Apple xiaomi Ericsson oppo)
    - Note: option 3 is “If the UE is configured with and has fulfilled the stationary and not-at-cell-edge criteria in sections 4.2B.2.10.3 and 4.2B.2.11.3 and if UE has failed to meet the S-criterion, then the UE shall not relax measurements on any of the neighbour cells”.
  + Option 2: RAN4 to proceed along option 1 for Issue 2-1-3, i.e. UE shall not relax measurements on any of the neighbour cells in case UE has failed to meet the S criterion. (Nokia)
  + Option 3: If the UE is configured with and has fulfilled multiple relaxation criteria that allows the UE to not measure for 4 hours and if UE has failed to meet the S-criterion, then the UE shall not relax measurements on any of the neighbour cells. (Ericsson Apple CMCC vivo xiaomi Ericsson)
  + Option 4: For option 3, if the UE has satisfied not at cell edge criterion but not criterion S then the NW may need to adapt the threshold to make them aligned (MTK)

*Tentative agreements:*

*Candidate options:*

*Recommendations for 2nd round:*

*Could company check whether can compromise to option 1 (or option 3 as backup)?*

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| **Company** | **Comments** |
| Apple | Fine with option 1 and 3. |
| vivo | Ok with option 1 or 3. |
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**Issue 2-1-2: RRM measurement relaxation for SDT at inactive state**

* Proposals
  + Option 1: RRM relaxation of neighbour cell measurements is allowed for SDT at inactive state and depends on whether configured relaxation criteria are met, e.g. whether single stationary criterion is met, single low mobility criterion is met, or stationary not-at-cell-edge criteria are met. (Nokia)
  + Option 2: option 1 is not necessary (Apple vivo Intel)
  + Option 3: Up to UE implementation (MTK)

*Tentative agreements:*

*Candidate options:*

*Recommendations for 2nd round: suggest if there is no consensus at 2nd round the issue could be closed without any agreement.*

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| **Company** | **Comments** |
| Apple | Support option 2. |
| vivo | Ok with option 2 |
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# Topic #3 Others

### Sub-topic 3-1 On offset to transmit CD-SSB and NCD-SSB at different times

**Issue 3-1-1: Issue when NCD-SSB time offset = 5ms**

* Proposals
  + Option 1: RAN4 to consider sharing mechanism to define the measurement requirement when the NCD-SSB offset configured with 5ms. (xiaomi)
  + Option 2: RAN4 to consider the scenario NCD-SSB time offset = 5ms and CD-SSB in a different BWP to NCD-SSB with MG for CD-SSB being applied. RAN4 to not further treat the scenario with NCD-SSB offset = 5ms, as there is no specification impact. Network can select appropriate MG configuration based on gap offset and MGTA to preclude UE having to drop MG assisted CD-SSB inter-frequency measurements. (Nokia)
  + Option 3: In RedCap, RAN4 to define UE behaviour when the MG and the SMTC meets the proximity condition with the time distance = 4ms; When the SMTC for intra-frequency layer is fully-partially overlapping with the MG due to NCD-SSB offset, UE is required to perform intra-frequency measurement and drop the configured MG. (Ericsson)
  + Option 4: Not necessary to consider this scenario (Huawei Apple Xiaomi oppo)

*Tentative agreements:*

*Candidate options:*

*Recommendations for 2nd round:*

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| **Company** | **Comments** |
| Huawei | Option 4.  We understand that the intention of option 3 is to clarify UE’s behavior when NCD-SSB is 5ms and Gap is configured. However Network can control the gap configuration, NCD-SSB/CD-SSB periodicity and offset between NCD and CD-SSB. The fully-partial overlapping case can be avoided, e.g., network configures 20ms offset. The configuration is up to network.  We think option2 has the similar view as option 4. |
| Apple | Support option 4, same comment as in 1st round. |
| vivo | Support option 4. |
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# Reference