3GPP TSG-RAN WG3 Meeting #123 R3-240840

**Athens, GR, 26 Feb – 01 Mar, 2024**

**Agenda Item: 9.1.12.1**

**Source: Huawei**

**Title: Summary of offline discussions on CB: # 13\_R18ES**

**Document for: Discussion and approval**

# Introduction

This contribution discusses the following CB:

**CB: # 13\_R18ES**

**- Check details in** [**R3-240839**](Inbox\R3-240839.zip)

**- Check other corrections**

(moderator - HW)

Summary of offline disc [R3-240840](Inbox\R3-240840.zip)

# 2 For the Chairman’s Notes

**Proposal 1: Agree the F1AP CR in R3-240839 (revision of R3-240407)**

**Proposal 2: Agree the TS 38.470 CR in R3-240976 (revision of R3-240228)**

**Proposal: Common understanding is that the existing procedure texts (see below) already cover the SSB already activated case.**

* If *Cells to be Activated List Item* IE is contained in the GNB-CU CONFIGURATION UPDATE message and the indicated cells are already activated, the gNB-DU shall update the cell information received in *Cells to be Activated List Item* IE

# 3 Discussion

## 3.1 Inter-node beam activation

|  |  |  |
| --- | --- | --- |
| [R3-240407](Docs\R3-240407.zip) | Correction of SSBs activation and deactivation for network energy saving (Huawei, ZTE, CATT, Qualcomm Incorporated) | CR1306r, TS 38.473 v18.0.0, Rel-18, Cat. F  NBC CR  E///: Support it   * Add E///, Nok as co-source * Describe abnormal cases   Rev in [R3-240839](Inbox\R3-240839.zip) |

**Proposal: To be reviewed in the draft folder. Add Sam/NEC/E///Nok as co-source.**

* Revert the changes of the SSBs within the cell to be Activated List, and update the semantic descriptions.

|  |  |  |
| --- | --- | --- |
| [R3-240130](Docs\R3-240130.zip) | Beam deactivation for NES (NEC) | discussion |
| [R3-240131](Docs\R3-240131.zip) | Beam deactivation for NES (NEC) | CR1256r, TS 38.473 v18.0.0, Rel-18, Cat. F |

* Add Beam Deactivation Assistance Information in gNB-CU Configuration Update procedure.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 9.3.1.xxx Beam Deactivation Assistance Information This IE provides assistance information for the beam deactivation actions for gNB-DU for network energy saving.   | IE/Group Name | Presence | Range | IE type and reference | Semantics description | | --- | --- | --- | --- | --- | | Load threshold | O |  | INTEGER (0..100) | Indicates the traffic load in percent that DU to deactivate some SSB beams. | | Time to trigger beam deactivation | O |  | ENUMERATED (ms0, ms40, ms64, ms80, ms100, ms128, ms160, ms256, ms320, ms480, ms512, ms640, ms1024, ms1280, ms2560, ms5120, ...) | Indicates the duration during which load threshold should be satisfied in order to trigger deactivation. | | Deactivation hysteresis | O |  | INTEGER (0..30) | This parameter is used within the entry and leave condition of an event triggered beam deactivation condition. The actual value is field value \* 1 ms. | | Deactivation timer | O |  | INTEGER (0..5) | Indicates the duration during which beam to stay in deactivated. The actual value is field value \* 1 minutes. | |

Proposal: No consensus.

|  |  |  |
| --- | --- | --- |
| [R3-24](Docs\\R3-240672.zip)[0672](Docs\\R3-240672.zip) | Correction on F1AP SSB Activation in proceudal text. (Ericsson) | CR1350r, TS 38.473 v18.0.0, Rel-18, Cat. F |

* In case that the SSB beams requested to be activated by gNB-CU are already activated, the gNB-DU consider and include the SSB beams in the *Cells with SSBs Activated List* IE in the GNB-CU CONFIGURATION UPDATE ACKNOWLEDGE message.

|  |
| --- |
| * If the requested SSB beams in the *SSBs within the cell to be Activated List* IE are already activated, the gNB-DU includes the SSB beams in the *Cells with SSBs Activated List* IE in the GNB-CU CONFIGURATION UPDATE ACKNOWLEDGE message. |

Proposal: common understanding is that the existing procedure texts (see below) already cover the SSB already activated case.

* If *Cells to be Activated List Item* IE is contained in the GNB-CU CONFIGURATION UPDATE message and the indicated cells are already activated, the gNB-DU shall update the cell information received in *Cells to be Activated List Item* IE

|  |  |  |
| --- | --- | --- |
| [R3-240742](Docs\R3-240742.zip) | Correction on XnAP for NES (ZTE, China Unicom) | CR1224r, TS 38.423 v18.0.0, Rel-18, Cat. F |

* To change the description of ‘*NR Cells and SSBs* IE’ in a more accurate way, e.g., CHOICE *Served Cells To Activate* IE set to ‘*NR Cells and SSBs*’.

|  |
| --- |
| * If the CHOICE *Served Cells To Activate* IE is set to ‘*NR Cells and SSBs’* in the CELL ACTIVATION REQUEST message |

Proposal: seems not needed. Can ask XnAP spec rapporteur if needed.

|  |  |  |
| --- | --- | --- |
| [R3-240229](Docs\\R3-240229.zip) | Correction on beam activation for network energy saving in XnAP (Samsung) | CR1142r, TS 38.423 v18.0.0, Rel-18, Cat. F |

* Remove the text “Otherwise, the NG-RAN node2 shall, if supported, activate all the SSB beams in the cell.”
* Change the presence of *SSBs to be Activated List* IE and *SSBs Activated* *List* IE from optional to mandatory.

Proposal: CR is noted.

|  |  |  |
| --- | --- | --- |
| [R3-240671](Docs\R3-240671.zip) | Correction on ASN.1 code related to Network Energy Saving (Ericsson) | CR1349r, TS 38.473 v18.0.0, Rel-18, Cat. F |

Proposal: CR is merged.

Stage 2 CRs

|  |  |  |
| --- | --- | --- |
| [R3-240743](Docs\R3-240743.zip) | Correction on 38.470 for NES (ZTE, Huawei, China Unicom) | CR0136r, TS 38.470 v18.0.0, Rel-18, Cat. F |

* With the gNB-CU Configuration Update function, energy saving with cell activation/deactivation and beam activation can be supported as defined in TS 38.300 [8]. The gNB-CU Configuration Update function also allows to inform the allowed cells for the gNB-DU to deactivate the SSB beams. The gNB-DU Configuration Update function allows to inform the deactivated SSB beams due to network energy saving. The gNB-DU Configuration Update function also allows to send the information of a mobile IAB-MT from the co-located mobile IAB-DU to the gNB-CU.

|  |  |  |
| --- | --- | --- |
| [R3-240228](Docs\R3-240228.zip) | Correction on beam activation/deactivation for network energy saving (Samsung, Ericsson) | CR0126r, TS 38.470 v18.0.0, Rel-18, Cat. F  Ok |

* The gNB-CU Configuration Update function may activate SSB beams of cells. The gNB-CU Configuration Update function may indicate the cells where the gNB-DU is allowed to deactivate the SSB beams.

Proposal: Agree the revision of R3-240228

## 3.2 Cell DTX/DRX

|  |  |  |
| --- | --- | --- |
| [R3-240184](Docs\R3-240184.zip) | Leftover issues on cell DTXDRX for Rel-18 NES (CATT) | discussion |
| [R3-240185](Docs\R3-240185.zip) | Cell DTXDRX activation NR\_38.473(Rel-18) (CATT) | CR1270r, TS 38.473 v18.0.0, Rel-18, Cat. F |

|  |
| --- |
| The overall procedure of cell DTX/DRX activation or deactivation:  **Step 1: The gNB-DU determines to use or stop using cell DTX/DRX for a specific cell**   * The gNB-DU sends the requirement of cell DTX/DRX activation or deactivation to the gNB-CU via GNB-DU CONFIGURATION UPDATE message. The DU further indicates the cell DTX/DRX type (i.e., only DTX, only DRX or both DTX and DRX) required to be used.   **Step 2: If using cell DTXDRX, the gNB-CU carries out necessary handovers or remove serving cell for UE**   * If the requirement of cell DTX/DRX activation is received from the gNB-DU, the gNB-CU can carry out the legacy handovers, configure NES CHO or releasing the NES cell to the unsuitable UEs. * Then the gNB-CU sends an indication to the gNB-DU for allowing cell DTXDRX activation via GNB-CU CONFIGURATION UPDATE message.   **Step 3: The gNB-DU activates or deactivates cell DTX/DRX**  When the gNB-DU receives the indication from the gNB-CU for allowing activation of cell DTXDRX, it configures/activates cell DTX/DRX to UEs and send L1 signal to trigger NES CHO if necessary. |

Proposal: No consensus.

## 3.3 NES CHO

|  |  |  |
| --- | --- | --- |
| [R3-240546](Docs\R3-240546.zip) | (TPs to 38.473 and 38.401) NES CHO awareness in source gNB (Qualcomm Technologies Int) | Discussion  E///: p1 has not been discussed in last meeting, no need to enhance as p2  SS, HW: There is no need to inform the source cell about NES CHO, P2 is not necessary  NEC: Has different understanding on p1  ZTE: Agree with majority view |

* Proposal 2: Source gNB-CU can indicate to source gNB-DU that the UE is configured with NES-specific CHO event via a NES CHO indicator in F1AP UE CONTEXT MODIFICATION REQUEST.

Discussion: No consensus.

## 3.4 Others

|  |  |
| --- | --- |
| **Company** | **Comment** |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

Moderator summary:

# 4 References

|  |  |  |
| --- | --- | --- |
| [R3-240407](Docs\\R3-240407.zip) | Correction of SSBs activation and deactivation for network energy saving (Huawei, ZTE, CATT, Qualcomm Incorporated) | CR1306r, TS 38.473 v18.0.0, Rel-18, Cat. F  NBC CR  E///: Support it   * Add E///, Nok as co-source * Describe abnormal cases   Rev in [R3-240839](Inbox\R3-240839.zip) |
| [R3-240546](Docs\R3-240546.zip) | (TPs to 38.473 and 38.401) NES CHO awareness in source gNB (Qualcomm Technologies Int) | Discussion  E///: p1 has not been discussed in last meeting, no need to enhance as p2  SS, HW: There is no need to inform the source cell about NES CHO, P2 is not necessary  NEC: Has different understanding on p1  ZTE: Agree with majority view |
| [R3-240130](Docs\R3-240130.zip) | Beam deactivation for NES (NEC) | discussion |
| [R3-240131](Docs\R3-240131.zip) | Beam deactivation for NES (NEC) | CR1256r, TS 38.473 v18.0.0, Rel-18, Cat. F |
| [R3-240184](Docs\R3-240184.zip) | Leftover issues on cell DTXDRX for Rel-18 NES (CATT) | discussion |
| [R3-240185](Docs\R3-240185.zip) | Cell DTXDRX activation NR\_38.473(Rel-18) (CATT) | CR1270r, TS 38.473 v18.0.0, Rel-18, Cat. F |
| [R3-240672](Docs\R3-240672.zip) | Correction on F1AP SSB Activation in proceudal text. (Ericsson) | CR1350r, TS 38.473 v18.0.0, Rel-18, Cat. F |
| [R3-240743](Docs\R3-240743.zip) | Correction on 38.470 for NES (ZTE, Huawei, China Unicom) | CR0136r, TS 38.470 v18.0.0, Rel-18, Cat. F |
| [R3-240228](Docs\R3-240228.zip) | Correction on beam activation/deactivation for network energy saving (Samsung, Ericsson) | CR0126r, TS 38.470 v18.0.0, Rel-18, Cat. F |
| [R3-240229](Docs\R3-240229.zip) | Correction on beam activation for network energy saving in XnAP (Samsung) | CR1142r, TS 38.423 v18.0.0, Rel-18, Cat. F |
| [R3-240742](Docs\R3-240742.zip) | Correction on XnAP for NES (ZTE, China Unicom) | CR1224r, TS 38.423 v18.0.0, Rel-18, Cat. F |
| [R3-240671](Docs\R3-240671.zip) | Correction on ASN.1 code related to Network Energy Saving (Ericsson) | CR1349r, TS 38.473 v18.0.0, Rel-18, Cat. F |