3GPP TSG RAN WG2 #121bis-e R2-23XXXXX

Online, 17th – 26th April 2023

**Title:** DRAFT LS on Cell DTX/DRX activation/deactivation

**Response to:**

**Release:** Release 18

**Work Item:** Netw\_Energy\_NR-Core

**Source:** Huawei [to be RAN2]

**To:** RAN1

**Cc:** RAN3

**Contact person:** Marcin Augustyniak

marcin.augustyniak @ huawei.com

**Attachments:** none

# 1 Overall description

RAN2 has discussed the topic of Cell DTX/DRX and achieved the following agreements:

|  |
| --- |
| RAN2#121   * There will be no impact to RACH, paging, and SIBs in idle/inactive for both gNB and Rel-18 and legacy UEs * Rel-18 NES capable CONNECTED UE(s) can perform RACH and receive SIBs in non-active duration of cell DTX and/or DRX (i.e., same behavior for cell DTX and cell DRX). No further enhancements for CBRA and CFRA will be pursued. * Pattern configuration for cell DRX/DTX is common for Rel-18 UEs in the cell. FFS whether we have DTX UE specific inactivity timer . FFS on configuration signaling and stage 3. * Confirm study item agreement that we can have separate DTX and DRX configuration. We will focus on designing DTX/DRX for at least single configuration. FFS whether multiple configuration of cell DTX or DRX will be supported.   RAN2#121bis-e   * A periodic cell DTX/DRX configuration is explicitly signalled to the UEs. * A periodic cell DTX/DRX pattern is configured by UE specific RRC signalling. * The Cell DTX/DRX configuration contains at least: periodicity, start slot/offset, on duration. * As a baseline Cell DTX/DRX is activated/deactivated implicitly by RRC signalling, i.e. activated immediately once configured by RRC and deactivated once the RRC configuration is released. |

In addition to the agreed dedicated RRC signalling also L1 and L2 is considered for Cell DTX/DRX activation/deactivation. For L1 signalling, if found feasible and beneficial by RAN1, it is currently left open whether dedicated or group common L1 signalling would be utilised (no consensus was reached in RAN2). L2 is currently used for UE C-DRX operation, specifically to stop the drx-onDurationTimer/drx-InactivityTimer and enter short/long cycle, but it cannot be common.

From RAN2 point of view, majority of companies see a benefit with L1 signalling for Cell DTX/DRX activation/deactivation. From some proponent companies’ perspective the key benefits being:

* Reduced signalling overhead caused by multiple dedicated RRC messages (group common signalling)
* More dynamic changing than RRC signalling (however, RAN2 did not evaluate the network energy saving gain by reducing the latency of activation/deactivation with L1 signalling for more dynamic changing)

RAN2 kindly requests RAN1 to provide information regarding **feasibility and reliability** of using dedicated and/or group common L1 signalling for Cell DTX/DRX activation and deactivation. Our question is related only to Cell DTX/DRX activation and deactivation and we would like to focus on a single Cell DTX/DRX configuration, as agreed in our previous meeting.

Once L1 signalling for activation and deactivation of Cell DTX/DRX for a single configuration is decided in RAN1 please inform us about the **decision and** **design details**.

# 2 Actions

**To RAN1**

**ACTION:** RAN2 respectfully asks RAN1 to provide information regarding feasibility and reliability of using dedicated and/or group common L1 signalling for Cell DTX/DRX activation and deactivation. Once L1 signalling for activation and deactivation of Cell DTX/DRX is decided in RAN1 please inform RAN2 about the decision and design details.

# 3 Dates of next TSG RAN WG2 meetings

TSG RAN WG2 Meeting #122 22nd - 26th May 2023 Incheon, KR

TSG RAN WG2 Meeting #123 21st – 25th August 2023 Toulouse, FR