**3GPP TSG-RAN WG2 Meeting #113bis-e DRAFT R2-210xxxx**

**Electronic meeting, 2021-04-12 – 2021-04-20**

**Title: [DRAFT]** LS on introducing extended DRX for RedCap UEs

**Response to:** -

**Release:** Release 17

**Work Item:** NR\_redcap-Core

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

**To:** SA2, CT1

**Cc:** -

**Contact Person:**

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**Send any reply LS to: 3GPP Liaisons Coordinator,** **mailto:3GPPLiaison@etsi.org**

**1. Overall Description:**

RAN2 has started work on the support of reduced capability (RedCap) NR devices, where the related study item has been concluded in TR 38.875, [v2.0.0](https://www.3gpp.org/ftp/Specs/2021-03/Rel-17/38_series/38875-h00.zip) and work has been started according to WID in [RP-210918](https://www.3gpp.org/ftp/tsg_ran/TSG_RAN/TSGR_91e/Docs/RP-210918.zip). The WID has the following objectives on introduction of extended DRX:

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| * Specify support for the following Extended DRX enhancements for RedCap UEs [RAN2, RAN3, RAN4]:
	+ Extended DRX for RRC Inactive and Idle with eDRX cycles up to 10.24 s, without using PTW and PH, and with common design (e.g. common set of eDRX values) between RRC Inactive and Idle
	+ Extended DRX for RRC Inactive and Idle with eDRX cycles up to 10485.76 s; the details of mechanisms and feasibility regarding maximum length of the extended DRX cycles for RRC Inactive and Idle need to be checked by SA2, CT1 and/or RAN4.
	+ RAN2 to decide which Node(s) configure eDRX in RRC\_Idle and RRC\_Inactive.
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RAN2 has discussed support for extended DRX for RedCap UEs during RAN2#113bis-e and has reached the following agreements and would like to ask SA2 and CT1 for feedback, if any:

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| * RAN decides and configures eDRX via RRC for RRC\_INACTIVE (FFS on the need and details of coordination with the CN)
* At least for eDRX cycle, the configurations of the eDRX for RRC\_IDLE and RRC\_INACTIVE can be different (FFS for PTW, e.g. length and starting point, when eDRX cycles are longer than 10.24s)
* RAN2 assumes that CN provides necessary assistance information on eDRX config. for RRC\_IDLE to RAN (e.g. reusing eDRX config. defined in “CN Assistance Information for RRC INACTIVE IE” for E-UTRA/5GC).
* eDRX feature, including the related parameters (i.e. PH, PTW. H-SFN) and corresponding paging operation defined for E-UTRA/5GC is used as baseline to enable eDRX >10.24sec for both RRC\_IDLE and RRC\_INACTIVE in NR/5GC.
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RAN2 would like to ask SA2 and CT1 whether it is feasible from SA2 and CT1 perspective to introduce extended DRX up to 10485.76 s in RRC\_IDLE and RRC\_INACTIVE and if feasible, to specify the necessary support.

RAN2 assumes there will be a mechanism for the CN to estimate when the UE is unreachable while it is in RRC\_INACTIVE, e.g. by RAN providing necessary information to CN.

RAN2 has discussed data buffering during eDRX in RRC\_INACTIVE and concluded that it would be reasonable if CN buffers the data during the time the UE is unreachable and provides an indication to RAN in case there is DL traffic pending towards the UE. RAN2 would like to ask SA2 whether this is feasible.

RAN2 would like SA2 and CT1 to take the above aspects into consideration in their work and further consult with RAN2 if needed.

**2. Actions:**

**To SA2 and CT1 groups:**

**ACTION: 1)** RAN2 respectfully requests SA2 and CT1 to evaluate whether it is feasible to specify extended DRX up to 10485.76 s for RRC\_IDLE and RRC\_INACTIVE and if found feasible, specify the necessary support.

 **2)** RAN2 respectfully requests SA2 and CT1 to take above information into account and provide feedback, if any.

**To SA2 group:**

**ACTION:** RAN2 respectfully requests SA2 to evaluate whether it is feasible for CN to buffer the data during extended DRX while the UE is in RRC\_INACTIVE state, and if found feasible, specify the necessary support.

**3. Date of Next RAN2 Meetings:**

3GPP RAN2#114-e 19th – 27th May 2021 Electronic Meeting

3GPP RAN2#115-e 16th – 27th August 2021 Electronic Meeting