3GPP TSG-RAN WG2 Meeting#113-e Draft\_R2-2102153

Online, 25th Jan. - 5th Feb. 2021

Agenda Item: 7.3.3

Source: Huawei

Title: Summary of [AT113-e][303][NBIOT/eMTC R16] PUR corrections (Huawei)

Document for: Discussion and Decision

# Introduction

This document is for the following offline discussion on PUR corrections, phase Week 1:

* [AT113-e][303][NBIOT/eMTC R16] PUR corrections (Huawei)

 **Scope:**

Week 1:

 1) Try to achieve agreeable proposals based on [R2-2101033](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_113-e/Docs/R2-2101033.zip).

 2) Check if there is sufficient support to pursue [R2-2101085](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_113-e/Docs/R2-2101085.zip) and/or [R2-2101551](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_113-e/Docs/R2-2101551.zip) and collect initial comments.

 Week 2:

1. Agree the CRs.
2. NOTE that the Week 2 discussion may be branched in case CRs are needed based on [R2-2101085](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_113-e/Docs/R2-2101085.zip) and [R2-2101551](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_113-e/Docs/R2-2101551.zip).

 **Intended outcome:**

 Week 1: Report in R2-2102153

 Week 2: Agreed CRs

 **Deadline:**

 Week 1: Jan 27 1100 UTC

 Week 2: Feb 04 1100 UTC

# Discussion

## R2-2101033 on TA reference

In [R2-2101033](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_113-e/Docs/R2-2101033.zip), (N)RSRP based TA validation and (N)RSRP reference update for PUR was discussed. Regarding the cases in which the TA should be considered as (re-)validated and the (N)RSRP reference be updated, the following summary was made:

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| The following cases to consider TA to be (re-)validated and update the (N)RSRP reference were mentioned in the discussion:

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| Case # | Description | Whether to update the (N)RSRP reference |
| Case 1 | PUR TA timer is (re-)started if RSRP based TA validation is configured | Yes or acceptable (5 companies) |
| Case 2 | RSRP threshold is configured | Yes (5 companies) |
| Case 3 | RSRP threshold is reconfigured | Yes (3 companies)No (2 companies) |
| Case 4 | When TA value is updated by TAC MAC CE or DCI as specified in TS 36.212 | Yes (5 companies) |
| Case 5 | If PUR transmission is acknowledged by the NW, i.e. upon reception of L1 signalling (even if TA is not updated) or RRC release message followed by PUR transmission (even if PUR configuration is not updated) | Yes (1 company) |

Based on above summary, regarding in which cases to update (N)RSRP reference, the following is proposed:**Proposal 1: In case (N)RSRP based validation is configured, the (N)RSRP reference needs to be updated in the following cases:*** PUR TA timer is (re-)started
* RSRP reference is configured
* TA value is updated by TAC MAC CE or (N)PDCCH indicates timing advance adjustment as specified in TS 36.212

**Proposal 2: FFS whether the (N)RSRP reference needs to be updated in case (N)RSRP threshold is reconfigured.** |

According to above summary, it seems all companies think that the (N)RSRP reference needs to be updated in the cases listed in Proposal 1.

**Question 1. Companies who do not agree with above proposal 1 are invited to provide their concerns.**

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| ***Company name*** | ***Concerns if any*** |
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In case (N)RSRP threshold is reconfigured, 3 companies think that (N)RSRP reference needs to be updated, while 2 companies disagree. Thus in Proposal 2 it was propose to further discuss the case.

**Question 2. In case (N)RSRP threshold is reconfigured, do you think TA should be considered as (re-)validated and the (N)RSRP reference updated?**

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| ***Company name*** | ***Opinion*** | ***Comments*** |
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Based on the discussion in [R2-2101033](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_113-e/Docs/R2-2101033.zip) and the above proposals 1 and 2, two CRs were submitted.

**MAC CR: R2-2101035**

**Question 3. Based on reply to Questions 1 and 2, companies are invited to provide initial comments on MAC CR** **R2-2101035.**

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| ***Company name*** | ***Comments*** |
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**RRC CR: R2-2101034**

**Question 4. Based on reply to Questions 1 and 2, companies are invited to provide initial comments on RRC CR R2-2101034.**

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| ***Company name*** | ***Comments*** |
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## R2-2101085 on Drb-ContinueROHC for UP-PUR

In [R2-2101085](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_113-e/Docs/R2-2101085.zip), it was proposed to clarify that the field drb-ContinueROHC is optionally present if the UE supports UP-EDT or UP transmission using PUR, for the following reason:

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| ***Reason for change:***“*For UP-PUR transmission, it is supposed that the UE would continue the header compression protocol context for the DRBs configured with the header compression protocol, if drb-ContinueROHC has been provided in immediately preceding RRC connection release message. However, the condition tag “UP-EDT” for drb-ContinueROHC in the RRCConnectionRelease message restricts that this field can be only optionally present in the case of UP-EDT. As a result, the network cannot provide drb-ContinueROHC to a PUR-capable UE, making the UE always reset the header compression protocol context for DRB(s) in the PUR transmission procedure.*” |

**Question 5. Do you agree with the intention of CR R2-2101085?**

* **Yes, any initial comment on CR R2-2101085?**
* **No, why?**

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| ***Company name*** | ***Yes/No?*** | ***Comments*** |
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## R2-2101551 on pur-TimeAlignmentTimer

In [R2-2101551](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_113-e/Docs/R2-2101551.zip), it was proposed to clarify that if pur-TimeAlignmentTimer is not present the value of infinity shall be used:

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| ***Reason for change:***RAN2 made the following agreements on how *pur-TimeAlignmentTimer* is configured for PUR:* Configuration for TA validation criteria is provided in dedicated RRC signaling.
	+ It should be possible to disable each or all of the optional TA validation criteria (i.e., TA timer, (N)RSRP change) via RRC signaling.
* A new TA timer is defined for UEs configured with D-PUR in idle mode.
	+ The (re)starting times for TA timer need to be aligned between UE and eNB. The details of the mechanism are FFS.
	+ TA timer is restarted after TA is updated.
	+ The value range for the TA timer is FFS. Value of “infinity” is possible.
* PUR TA timer is configurable up to hour(s) level, disabled/infinity is possible.
	+ Exact values FFS.
* TA timer range is multiple of PUR periodicities, e.g. 1,…, 8.
	+ FFS on exact values and whether offset is applied so that e.g. retransmissions are covered.
* For both NB-IoT and eMTC, the value range of pur-TimeAlignmentTimer-r16 is INTEGER (1..8), i.e. 1~8 \* PUR periodicity.

 Even though it was agreed that it should be possible to have the value “infinity” for the TA timer, i.e., *pur-TimeAlignmentTimer*, it is not clear whether/how this agreement has been captured in the specifications. |

**Question 6. Do you agree with the intention of CR R2-2101551?**

* **Yes, any initial comment on CR R2-2101551?**
* **No, why?**

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| ***Company name*** | ***Yes/No?*** | ***Comments*** |
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# Summary

TBD

# Conclusion

This offline discussion focused on PUR corrections

**TBD**

# References

1. R2-2101033, “Summary of email discussion [351] (N)RSRP reference for TA validation for PUR”, Huawei, RAN2#113e, Online
2. R2-2101034, “Clarification on the (N)RSRP reference for TA validation for PUR”, Huawei, HiSilicon, RAN2#113e, Online
3. R2-2101035, “Clarification on the (N)RSRP reference for TA validation for PUR”, Huawei, HiSilicon, RAN2#113e, Online
4. R2-2101085, “Correction on Drb-ContinueROHC for UP-PUR”, vivo, RAN2#113e, Online
5. R2-2101551, “Correction to timing alignment validation for transmission using PUR”, Ericsson, RAN2#113e, Online

# Contact delegates

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| --- | --- | --- |
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