**3GPP TSG RAN WG1 Meeting #101-e R1-xxxxxx**

**E-meeting, May 25 – June 5, 2020**

**Agenda Item: 6.2.2.7**

**Source: Moderator(Huawei)**

**Title: Feature lead summary on RRC parameters of NB-IoT**

**Document for: Discussion and Decision**

# Introduction

Agreements and conclusions in previous meeting for NB-IoT are summarized in [1].

The consolidated RRC parameter list has been endorsed in last meeting [2]. And the latest CR to 36.331 was endorsed as [3].

This paper summaries the views about the alignment of RRC parameter names between RAN1 and RAN2 specs.

# Discussion

As explained in [4], there are misalignment of higher layer parameters between physical layer specs and TS 36.331 as below, and proposed to discuss and make decision on how to resolve the issue.

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| Rel-16 NB-IoT features | Parameter name used in RAN1 specs | Parameter name defined in RAN2 (36.331) |
| PUR | *npdcch-NumRepetition­s-PUR* | *npdcch-NumRepetitions*  *(npdcch-Config-r16)* |
| *npdcch-StartSF-USS-PUR* | *npdcch-StartSF-USS*  *(npdcch-Config-r16)* |
| *npdcch-Offset-USS-PUR* | *npdcch-Offset-USS*  *(npdcch-Config-r16)* |
| *pur-NPUSCH-cyclic-shift* | *npusch-CyclicShift* |
| *Delta\_f^PUR* | *npusch-SubCarrierSetIndex* |
| Multi-TB scheduling | *multi-TB-Unicast-config* | *npdsch-MultiTB-Config*  *npusch-MultiTB-Config* |
| *multi-TB-DL-Unicast-Interleaving-config* | *multiTB-Config*  *(npdsch-MultiTB-Config)* |
| *multi-TB-UL-Unicast-Interleaving-config* | *npusch-MultiTB-Config* |
| *multi-TB-HARQ-ACK-Bundling* | *harq-ACK-Bundling*  *(npdsch-MultiTB-Config)* |
| *multi-TB-SC-MTCH-scheduling-gap-config* | *multiTB-Gap* |
| NR coexistence | *valid-subframe-config-DL* | *subframeBitmap-r16*  *(dl-ResourceReservationConfig)* |
| *slot-reserved-resource-config-DL* | *slotBitmap*  *(dl-ResourceReservationConfig)* |
| *valid-subframe-config-UL* | *subframeBitmap-r16*  *(ul-ResourceReservationConfig)* |
| *slot-reserved-resource-config-UL* | *slotBitmap*  *(ul-ResourceReservationConfig)* |
| NRS presence | *nrs-NonAnchor-config* | *nrs-NonAnchorConfig-r16* |

In [5], it is proposed to identify and correct the misalignment on higher layer parameter names, which can be handled by RAN1 spec rapporteurs or in a RAN1 reflector email discussion.

There are also such kind discussion in separate AIs, such as [6][7] for group WUS, [8] for PUR, [9] for Multi-TB scheduling and [10] for Co-ex with NR.

Please input your comments regarding the following aspects

* Whether the above table has covered all the misaligned RRC parameters
* Whether to have a separate email discussion to align the RRC parameter names to RAN2 specs.
* Whether to update the RAN1 RRC parameter list according to RAN2 spec

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| --- | --- |
| Companies | Comments |
| Ericsson | It is a good idea to gather information on required parameter name corrections, and perhaps the information can be inserted in the ASN.1 column in an updated version of the L1 parameter list.  We are not sure that a formal email discussion is needed, though, since there may be more important topics to discuss in the maximum 8 email discussions for the WI. Perhaps it is enough with e.g. an informal email discussion on the RAN1 LTE reflector. |
| FUTUREWEI | No need to spend an email discussion on requesting the editors to update the RRC parameter names. Ideally a document like this one with only the misaligned parameters (and if possible, the spec sections where the misalignments exist) would be noted by the chairman at the end of the Prep phase when setting up the email discussions, with a conclusion that the editors can take this as an input when producing the editor CR for the meeting. When the editor CR is available, you can check and comment if all the necessary updates have been captured or not. Per feature (WI) rather than per sub-feature )sub-agenda) is preferred.  If you want to update the RRC spreadsheet for completeness, that is OK, but I do not want to create an expectation that each spec editor must check each relevant row of the table against the spec to determine whether or not a mismatch exists each meeting; rather it is preferable to be directly informed that the RAN2 parameter name has stabilized/changed and should be updated. |
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# Summary

# References

1. R1-1913595, “RAN1 agreements for Rel-16 Additional Enhancements for NB-IoT”, Futurewei, Reno, USA, November 2019.
2. R1-2003189, Cleaned consolidated RRC parameters list for Rel-16 LTE, Moderator (Qualcomm), e-Meeting, April 2020, RAN1#100b-e.
3. R2-2004040, Miscellaneous corrections to 36.331 for Rel-16 NB-IoT, Huawei, HiSilicon, online, April, 2020, RAN2#109b-e.
4. R1-2004292 Higher layer parameter alignment issues in Rel-16 NB-IoT enhancement ZTE
5. R1-2004660 On L1 parameter name corrections for Rel-16 NB-IoT Ericsson
6. R1-2003795 Clarification of group WUS for NB-IoT ZTE
7. R1-2004164 Corrections on UE-group wake-up signal Huawei, HiSilicon
8. R1-2003536 Corrections on transmission in preconfigured UL resources Huawei, HiSilicon
9. R1-2003537 Corrections on scheduling of multiple DL/UL transport blocks Huawei, HiSilicon
10. R1-2003538 Corrections on coexistence of NB-IoT with NR Huawei, HiSilicon