3GPP TSG-RAN WG2 #116bis-e Tdoc R2-21xxxxx

Electronic meeting, 2022-01-17 - 2022-01-25

Agenda Item: 8.11.1

Source: Ericsson

Title: 38.331 RAT-dependent positioning running CR (Ericsson)

Document for: Discussion, Decision

# 1 Introduction

# 1 Introduction

This document is to collect comments for the following email discussion:

* [Post116bis-e][631][POS] 38.331 RAT-dependent positioning running CR (Ericsson)

      Scope: Check and endorse the running CR considering decisions of RAN2#116bis-e.

      Intended outcome: Endorsed CR

      Deadline:  Friday 2022-01-28 0800 UTC

# 2 Contact Information

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# 3 Comments

**Please provide the comments on the CR here:**

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| Company | Comments |
| Intel |  srs-PosRRC-InactiveConfig-r17 SRS-PosRRC-InactiveConfig-r17 OPTIONAL -- Need REricsson: yes good to use the setup structure.SRS-PosRRC-InactiveConfig-r17 ::= SEQUENCE { srs-Config-r17 SRS-Config OPTIONAL, -- Need R bwp-r17 BWP OPTIONAL, -- Need R srs-TimeAlignmentTimer-r17 ENUMERARED {FFS align with SDT} OPTIONAL, -- Need R increaseThresh-r17 RSRP-ChangeThresh-r17, decreaseThresh-r17 RSRP-ChangeThresh-r16 OPTIONAL -- Need R}5.X  Timing alignment validation for SRS for Positioning transmission in RRC InactiveEricsson: in LTE; PUR Validity has been captured in RRC. We can revisit this and see where it can be captured best. |
| vivo | Tend to capture the description related to validity determination in MAC (i.e., 38.321) and refine or remove 5.X.Ericsson: in LTE; PUR Validity has been captured in RRC. We can revisit this and see where it can be captured best.Regarding the UE behavior upon initiation of the RRC resume procedure, suggest the following description:1> if the UE has stored *srs-PosRRC-InactiveConfig*: 2> if the resume procedure is initiated in a cell that is different from the cell in which the UE received the stored *srs-PosRRC-InactiveConfig*: 3> release the stored *srs-PosRRC-InactiveConfig*;Ericsson: We need to agree if we can use the term stored here. As it is not pre-configured or multiple Config etc; but rather a configuration in RRC Release which UE shall apply immediately after transiting to RRC Inactive. The term could be simply “configured” instead of stored.Besides, introduce the following RRC behavior to align with MAC behavior when TA timer expires:Upon receiving a positioning SRS configuration for RRC\_INACTIVE release request from lower layers, the UE shall:1. release the stored *srs-PosRRC-InactiveConfig*.

Ericsson: Thanks will update.Regarding the ASN.1:We are wondering whether a single RSRP threshold is enough, that is, the configuration is considered to be valid when the RSRP ranges from RSRP0-threshold to RSRP0+threshold.Ericsson: Ok we can align with SDT and have only one theresholdAlso, we would like to ask if other RRC related changes are discussed in this post email discussion in addition to the pos SRS for RRC\_INACTIVE?Ericsson: Yes, we will capture the RAN1 parameter list and other agreements seperetely. It is not yet decided on the post email discussion but we can check in the reflector if it is announced.[vivo2]: Regarding the field description of BWP IE, the following should be added to reflect RAN1 agreement:BWP configuration for SRS for Positioning during the RRC\_INACTIVE state. This field is absent if UE is configured with an SRS for Positioning associated with the initial UL BWP and transmitted, during the RRC\_INACTIVE state, inside the initial UL BWP with the same CP and SCS as configured for initial UL BWP.Ericsson: Ok. |
| OPPO | * The following agreement has not been capatured, SRS configuration as well as TA timer (*SRS-PosRRC-InactiveConfig*) should be released upon RRC resume is initiated for SDT in another cell.

*Proposal 4 When cell reselection is performed and UE initiates RRC resume procedure to the cell which is different from the cell in which the SRSp is configured, the TA timer configuration for SRS should be released.**Proposal 5 (modified) The SRSp configuration is released when the UE sends RRCResumeRequest to a cell other than the cell where it is released to RRC\_INACTIVE state.*1> if the UE performs connection resumption in a different cell than the cell where *srs-PosRRC-InactiveConfig* for positioning was configured;2> stop the *srs-timeAlignmentTimer*, if running;2> release the configured srs-PosRRC-InactiveConfig.Editor’s Note: FFS if the TA timer configuration is invalidated upon any cell reselection.* For the RSRP threshold, we prefer to align with SDT CR, i.e. single RSRP threshold is configured.

Ericsson: Ok |
| Huawei, HiSilicon | 1/ On the field description for resourceType, we think it can be captured as “when SRS config is included in RRCRelease with suspendConfig, the resourceType should not be set as “aperiodic””Ericsson: But the current description is generic. If we happen to use any other msg then RRCRelease; then we will always have to update this. But this can be revisited; and if really necessary can be done.2/ We think it is better not to use the IE BWP to configure offsetToPointA, SCS and CP type. In the IE BWP, there is locationAndBandwidth, but the Bandwidth here is not needed. Bandwidht is configured under the SRS configuration. We prefer to configure offsetToPointA, SCS and CP type in separate fields. Ericsson: ok, I have added Editor’s note. “To check whether locationAndBandwidth from BWP is not to be used and if separate offsetToPointA is preferred. ” Main thing is that UE should get reference to RB0. How to get that? In connected mode we have dedicated BWP ID; when UE switches to inactive BWP info would be needed to know where to transmit UL SRS. While looking at offseToPointA; only for DL it is currently specified in TS 38.331 whereas asbsoulte frequency number is uded in UL.3/ for SDT, the increase and decrease thresh has been captured as a single threshold in the MAC specEricsson: Ok; lets go with single thereshold.4/ additional spectrum emmmsion can be removed since there is no spec impactsEricsson: it was just to show the beggning of section.5/ TA validation is captured in the MAC spec for SDT. We think this should be the same for INACTIVE SRS, same view as Intel above. Ericsson: In LTE it was captured in RRC: PUR Validity. We can check this again.  |
| CATT | 1. In RAN1 LS, the IE for SRS for positioning for UEs in RRC\_INACTIVE state was assumed.

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| * RAN1 assumes that

SRS for positioning for UEs in RRC\_INACTIVE state is configured using the *SRS-PosResourceSet* IE |

Thus, only SRS for positioning needs to be included in *RRCRelease* message. In addition, if “Need R” is used for *srs-Config-r17*, only a list of SRS for positioning for UEs in RRC\_INACTIVE state is enough.Thus, propose to change the IE SRS-Config as follows: srs-Config-r17 ~~SRS-Config~~ SEQUENCE (SIZE(1..maxNrofSRS-PosResourceSets-r16)) OF SRS-PosResourceSet-r16 OPTIONAL, -- Need REricsson: I think we need both resourceSet and Resource; using only list of resourceSet does not allow configuration of resources. So we define the list of resourceSet and resources; Or we use SRS-Config. 2.The following description needs to be moved under *RRCRelease-IEs* field descriptions***srs-PosRRCInactiveConfig***SRS for positioning confifuration during RRC Inactive State.Ericsson: ok3. We are wondering why the agreements on pre-configured Measurement Gap is not captured. Ericsson: This will be captured separately along with RAN1 parameter list |
| Ericsson | The logic below can be updatedFrom::5.X Timing alignment validation for SRS for Positioning transmission in RRC InactiveThe UE shall: 1> if *srs-timeAlignmentTimer* is not configured or *srs-TimeAlignmentTimer* is running; or1> if *RSRP-ChangeThreshold* is not configured or the following conditions are fulfilled:2> if the serving cell RSRP has not increased by more than *increaseThresh* compared to the stored serving cell reference RSRP value; and2> if the serving cell RSRP has not decreased by more than *decreaseThresh* compared to the stored serving cell reference RSRP value, 3> consider the Timing Advance value for SRS for Positioning transmission to be valid1> else2> consider the SRS for positioning configuration in RRC Inactive state to be invalid. To::1> if *srs-timeAlignmentTimer* is configured and *srs-TimeAlignmentTimer* is running; 2> if *RSRP-ChangeThreshold* is configured and the following conditions are fulfilled:3> if the serving cell RSRP has not increased by more than *changeThresh* compared to the stored serving cell reference RSRP value; and3> if the serving cell RSRP has not decreased by more than *changeThresh* compared to the stored serving cell reference RSRP value; 4> consider the Timing Advance value for SRS for Positioning transmission to be valid;2> else:3> consider the SRS for positioning configuration in RRC Inactive state to be invalid.  |
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# Conclusion

In the previous sections we made the following observations: