**3GPP TSG-RAN WG2 Meeting #115e R2-21xx**

**Electronic, 9 – 27 August 2021**

**Agenda item: 6.1.4.4**

**Source: Qualcomm Incorporated**

**Title: [AT115-e][030][NR15NR16] Idle Inactive (Qualcomm)**

**Document for: Discussion and decision**

# Introduction

RAN2 Chair decided to use the following offline to treat the Rel-16 corrections for Idle and Inactive procedures.

* [AT115-e][030][NR15NR16] Idle Inactive (Qualcomm)

Scope: Determine agreeable parts and agree CRs, Await on-line for R2-2106959, R2-2107088, R2-2107402, R2-2107403, R2-2108841, Treat R2-2108364, R2-2108365, R2-2108481, R2-2107263, R2-2108362

Intended outcome: Report, Agreed CRs.

Deadline: Schedule 1

The list of the contributions submitted to the Agenda Item “5.4.4 Idle/inactive mode procedures” for Rel-15 corrections is as follows:

[R2-2108364](file:///D:/Documents/3GPP/tsg_ran/WG2/RAN2/2108_R2_115-e/Docs/R2-2108364.zip) Clarification of barring when TAC is missing in RAN sharing Qualcomm Incorporated CR Rel-15 38.304 15.7.0 0216 - F NR\_newRAT-Core

[R2-2108365](file:///D:/Documents/3GPP/tsg_ran/WG2/RAN2/2108_R2_115-e/Docs/R2-2108365.zip) Clarification of barring when TAC is missing in RAN sharing Qualcomm Incorporated CR Rel-16 38.304 16.5.0 0217 - A NR\_newRAT-Core

[R2-2108481](file:///D:/Documents/3GPP/tsg_ran/WG2/RAN2/2108_R2_115-e/Docs/R2-2108481.zip) Cell barring due to SIB1 acquisition failure Lenovo, Motorola Mobility discussion Rel-15 NR\_newRAT-Core

[R2-2107263](file:///D:/Documents/3GPP/tsg_ran/WG2/RAN2/2108_R2_115-e/Docs/R2-2107263.zip) Corrections to intra-frequency cell reselection for MIB, SIB1 acquisition failure and TAC absence in SIB1 Lenovo, Motorola Mobility CR Rel-16 38.331 16.5.0 2716 - F NR\_unlic-Core, NG\_RAN\_PRN-Core

Moved from 6.1.4.1.3, Wrong Wi-codes

The list of the contributions submitted to the Agenda Item “6.1.4.4 Idle/inactive mode procedures” and the initial online discussion and outcome are as follows:

RRM Relaxation

On-line

[R2-2106959](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_115-e\Docs\R2-2106959.zip) LS on RRM relaxation in power saving (R4-2108230; contact: CATT, Ericsson) RAN4 LS in Rel-16 NR\_UE\_pow\_sav-Core To:RAN2

* Noted

[R2-2107402](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_115-e\Docs\R2-2107402.zip) Discussion on LS from RAN4 on RRM relaxation in power saving vivo, Huawei, HiSilicon, Qualcomm discussion Rel-16 NR\_UE\_pow\_sav-Core

* Noted

[R2-2108236](file:///D:/Documents/3GPP/tsg_ran/WG2/RAN2/2108_R2_115-e/Docs/R2-2108236.zip) Addressing inconsistency for RRM measurement rules Ericsson CR Rel-16 38.304 16.5.0 0214 - F NR\_UE\_pow\_sav-Core

=> Revised in R2-2108841

[R2-2108841](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_115-e\Docs\R2-2108841.zip) Addressing inconsistency for RRM measurement rules Ericsson, CATT CR Rel-16 38.304 16.5.0 0214 1 F NR\_UE\_pow\_sav-Core

* Noted

[R2-2107088](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_115-e\Docs\R2-2107088.zip) Correction on RRM relaxation of higher priority frequencies OPPO CR Rel-16 38.304 16.5.0 0212 - F NR\_UE\_pow\_sav-Core

* Noted

DISCUSSION

- MTK agree with vivo and think 1h is long enough. Samsung also support vivo. Huawei think that this just follows how it was done for NB-IoT (24h). ZTE support vivo technically but tend to agree that this is R4 domain. LG support vivo view, think we need to understand reason for R4 LS.

- CATT think this is in R4 domain it is not R2 domain to decide whether 1h is enough.

- Oppo think R4 has discussed this for two meetings, and think R2 need to follow R4.

- Apple support Ericsson/CATT,

- Xiaomi think R2 may need to change.

- Nokia think the LS is straightforward.

- Chair proposes that R2 follow the request from R4.

- vivo cannot accept this. Ericsson think that vivo should discuss 1h or not this should be changed in R4.

* R2 to follow the request from R4
* Progress the CRs offline, and reply LS if agreeable.

[R2-2107403](file:///D:/Documents/3GPP/tsg_ran/WG2/RAN2/2108_R2_115-e/Docs/R2-2107403.zip) [Draft] Reply LS to RAN4 on RRM relaxation in power saving vivo LS out Rel-16 NR\_UE\_pow\_sav-Core To:RAN4

Reselection

[R2-2108362](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_115-e\Docs\R2-2108362.zip) Clarification of access restrictions during cell re-selection Qualcomm Incorporated CR Rel-16 38.304 16.5.0 0215 - F NR\_newRAT-Core, NG\_RAN\_PRN-Core

This document will capture feedback from companies on above contributions and Rel-16 CR for RRM relaxation in order to determine agreeable CRs or parts.

|  |  |
| --- | --- |
| Company | Contact Name, Email |
| Nokia | Jarkko Koskela (jarkko.t.koskela@nokia.com) |
| Ericsson | Mattias Bergström (mattias.a.bergstrom@ericsson.com) |
| Vivo | Chenli (chenli5g@vivo.com) |
| Lenovo | Hyung-Nam Choi (hchoi5@lenovo.com) |
| Xiaomi | Xiaofei Liu(liuxiaofei@xiaomi.com) |
| Huawei | Brian Martin ([brian.alexander.martin@huawei.com](mailto:brian.alexander.martin@huawei.com)) |
| ZTE | LiuJing (liu.jing30@zte.com.cn) |
| OPPO | [fanjiangsheng@oppo.com](mailto:fanjiangsheng@oppo.com) |
| ZTE(Yuan) | GaoYuan (gao.yuan66@zte.com.cn) |
| CATT | Jing Liang ([liangjing@catt.cn](mailto:liangjing@catt.cn)) |
| Intel | sudeep.k.palat@intel.com |
| Samsung | Sangyeob Jung (sy0123.jung@samsung.com) |
| Apple | Zhibin Wu (zhibin\_wu@apple.com) |

# Rel-15 Corrections

[R2-2108364](file:///D:/Documents/3GPP/tsg_ran/WG2/RAN2/2108_R2_115-e/Docs/R2-2108364.zip) Clarification of barring when TAC is missing in RAN sharing Qualcomm Incorporated CR Rel-15 38.304 15.7.0 0216 - F NR\_newRAT-Core

[R2-2108365](file:///D:/Documents/3GPP/tsg_ran/WG2/RAN2/2108_R2_115-e/Docs/R2-2108365.zip) Clarification of barring when TAC is missing in RAN sharing Qualcomm Incorporated CR Rel-16 38.304 16.5.0 0217 - A NR\_newRAT-Core

Reason for change:

When the condition for missing TAC applies, the UE “shall exclude the barred cell as a candidate for cell selection/reselection for 300 seconds” as captured in Section 5.3.1.However, if the UE bars the cell for the above reason and later selects another PLMN which broacasts a TAC, the UE should not wait until the end of 300 seconds since the barring condition is no longer applicable.

Summary of changes:

Add a Note that the UE may (re)-select a cell when the cell was barred due to missing TAC but afterwards the UE selects a PLMN which does broadcast a TAC.

Rapporteur comment:

We are the proponent. This problem was observed in the field where RAN sharing for NR is employed. Since AS does not provide TAC related information to NAS, PLMN selection may result in a PLMN without TAC and the corresponding barring. It should be noted that AS has no control over NAS in selecting a PLMN other than providing the list of PLMNs from SIB1. Another possible solution could be to specify where AS reports the associated TACs to NAS and NAS considers this in PLMN selection. However, this will bring too much impact to the AS and NAS specifications. Therefore, we are proposing to leave this to the UE implementation by a Note.

**Q1: Do you agree with the changes in the CR? If not, please provide comments/justification.**

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| --- | --- | --- |
| **Company** | **Response** | **Comments** |
| Nokia | No | Barring is not lasting always 300 seconds but it is up to UE implementation how long it lasts and at maximum 300 seconds. |
| Ericsson | Agree, with comments.. | We think it is already allowed to do what the CR suggests:  For RAN sharing, a **physical** cell can have multiple **logical** cells. The UE may end up barring one of those logical cells if the TAC is missing. But that does not forbid the UE from selecting the other logical cell to see if a TAC is provided.  But we understand that the spec is not crystal clear on this and some change like QC suggestsion would be good, but perhaps some clarification would be good:  NOTE 2: If barring of a cell is triggered by the condition of trackingAreaCode not being provided, as specified in [3], the UE can re-evaluate the barring condition again due to selection of another PLMN. |
| Vivo | - | We think the current specification doesn’t prevent the UE to re-select. If companies agree the speicifcaqtion is not clear enough, we are fine to add this note. |
| Lenovo |  | Isn’t it that upon PLMN selection the UE does not preserve any restrictions wrt barring time from the previously registered PLMN?  Not sure whether such clarification is needed to be specified in the specs. |
| MediaTek | - | The intended behavior is reasonable but somehow could be covered by UE implementation. We do not really see the need to have a NOTE but okay if majority prefers. |
| Xiaomi | - | In our understanding, for the sharing RAN, this issue indeed exists if the barring time is fixed 300s and we are fine with this added note.  In R2-2108481, the barring time in the case of SIB1 acquisition failure is considered to be changed into “up to 300 seconds” to align with LTE ehavior , if the correction is accepted, the barring time will be up to UE implementation. And the case of TAC absence was agreed to be the same as SIB acquisition failure, thus the barring time will possibly be up to UE implementation.  Anyway, we think if the barring time is fixed, this clarification would be good to avoid long time limitation on a cell when the barring condition changes. |
| Huawei, HiSilicon | maybe | The current specification requires barring for 300s in this case, not “up to 300s” as suggested above. There is also currently no indication that this restriction is lifted upon PLMN selection, as suggested above. We would therefore be OK to either add a note as proposed by this CR, or to add this case in the CR R2-2108481 |
| OPPO | Maybe No | In our understanding, cell selection/reselection is after PLMN selection procedure, once another PLMN is selected, any AS limitation during previous PLMN should be removed. On top of this, we don’t think something is broken here. |
| ZTE(Yuan) | Agree with the intention | We understand it is better to say UE **may** exclude the barred cell as a candidate for cell selection/reselection for 300 seconds if the cell is barred due to not being broadcast, which can also be merged with Lenovo’s proposed change below ([R2-2108481](file:///D:/Documents/3GPP/tsg_ran/WG2/RAN2/2108_R2_115-e/Docs/R2-2108481.zip)) for th case when a cell is barred due to UE not being able to acquire SIB1.  ----------------suggested change-----------------  - If the cell is to be treated as if the cell status is “barred” due to being unable to acquire the *MIB or the SIB1 or the trackingAreaCode is not provided for the selected PLMN nor the registered PLMN nor PLMN of the equivalent PLMN list*:  - the UE may exclude the barred cell as a candidate for cell selection/reselection for up to 300 seconds.  - the UE may select another cell on the same frequency if the selection criteria are fulfilled.  ----------------- suggested change ---------------- |
| CATT | Maybe | We agree with the intention that whether the 300s should be continue after registered to another PLMN should be clarified. And we are also fine to add a note to clarify this if majority prefers. |
| Intel |  | We also agree with others that this is already possible. The NOTE is also not changing UE normative behaviour anyway. |
| Samsung | No | We also agree with others that this is already possible. |
| Apple | Agree | We are fine to have a NTOE for clarification. Logically, cells belong to different PLMNs are considered separately in cell barring procedures. |

**Summary:**

**Proposal:**

[R2-2108481](file:///D:/Documents/3GPP/tsg_ran/WG2/RAN2/2108_R2_115-e/Docs/R2-2108481.zip) Cell barring due to SIB1 acquisition failure Lenovo, Motorola Mobility discussion Rel-15 NR\_newRAT-Core

Proposal:

RAN2 is asked to allow the UE to lift the fixed cell barring time of 300 seconds and ignore the setting of field *intraFreqReselection* in MIB in case of SIB1 acquisition failure.

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Summary of changes:

The text in red is added:

- If the cell is to be treated as if the cell status is “barred” due to being unable to acquire the *MIB or the SIB1*:

- the UE may exclude the barred cell as a candidate for cell selection/reselection for up to 300 seconds.

- the UE may select another cell on the same frequency if the selection criteria are fulfilled.

Rapporteur comment:

As discussed in the paper, there is a history of the changes for barring due to missing SIB1. The text in red above was removed so that the UE does not ignore MIB IFRI. It was also agreed that the “UE shall” bar when SIB1 is missing. However, it is logical that the UE should not be forced to bar a cell for 300 seconds when SIB1 is missing. In general, “shall” should apply when there is an explicit barring from the network e.g. via Ies in SIB1 and “may” should apply when it is due to unexpected events, e.g. missing MIB or SIB1, so that the UE can try again to remedy the unexpected event. This principle was followed in LTE and in NR Rel-15 until recently.

**Q2: Do you agree with the proposal and the change? If not, please provide comments/justification.**

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| --- | --- | --- |
| **Company** | **Response** | **Comments** |
| Nokia | No | UE is allowed already since UTRA times to lift barring earlier than 300 seconds has elapsed. Spec says “up to 300 seconds” not “for 300 seconds”. |
| Ericsson | Yes | We are OK to align NR ehavior with LTE ehavior. |
| Vivo | No | We have similar understanding as Nokia. Besides, “may” is applied here, then, we donot see problem for the current specification. |
| Lenovo | Yes | Proponent. This is to address network deployments in which only few cells on a single frequency provide coverage, e.g. in public safety. We see no impacts to existing UE implementations for commercial networks which already applies the fixed barring time of 5min. |
| MediaTek | Yes | We can change the design to align with original intention, and also align with LTE. However, it seems not so critical as SIB1 failure is not common. |
| Xiaomi | Yes, but | We are okay to align with LTE ehavior.  And for the case of TAC absence, as it has been agreed to be treated in the same way as SIB1 acquisition failure, we wonder if there also needs to add this case in this CR. |
| Huawei, HiSilicon | no | It is not as simple as aligning with LTE – the UE in NR needs to follow IFRI in the MIB in this case – the CR therefore adds some inconsistency for SIB1 failure in that the proposed change allows intra-frequency reselection even if IFRI is set to “not allowed”. Some more careful checking is needed on the CR for this change and the change suggested in Q1. We are not against making clarifications but we think the proposed change adds problems. |
| OPPO | Maybe | We’re fine to align NR spec with LTE for this issue, but as mentioned by other company, we should also check whether the change may cause NBC issue. |
| ZTE(Yuan) | Agree with the intention | We understand the proposed change can be updated a little bit to also cover the issue mentioned by QC:  ----------------suggested change-----------------  - If the cell is to be treated as if the cell status is “barred” due to being unable to acquire the *MIB or the SIB1 or the trackingAreaCode is not provided for the selected PLMN nor the registered PLMN nor PLMN of the equivalent PLMN list*:  - the UE may exclude the barred cell as a candidate for cell selection/reselection for up to 300 seconds.  - the UE may select another cell on the same frequency if the selection criteria are fulfilled.  ----------------- suggested change ---------------- |
| CATT | Yes |  |
| Intel | Yes | Firstly, we should agree on the UE behaviour – we agree (and from the comments, perhaps others as well?), that UE should be able to reselect the cell without waiting for 300s. Then, whether the current specifications allows that – with the last change that removed that text, it seems UE is now required to bar for 300s and we are OK to correct it. |
| Samsung | No | It has been discussed before, and agreed to apply IFRI bit in MIB in case of SIB1 acquisition failure in NR in the sense that the location of IFRI bit in NR is different from LTE. With this change, it may cause functional change on UE side. |
| Apple | Yes | We are fine to align to LTE spec |

**Summary:**

**Proposal:**

[R2-2107263](file:///D:/Documents/3GPP/tsg_ran/WG2/RAN2/2108_R2_115-e/Docs/R2-2107263.zip) Corrections to intra-frequency cell reselection for MIB, SIB1 acquisition failure and TAC absence in SIB1 Lenovo, Motorola Mobility CR Rel-16 38.331 16.5.0 2716 - F NR\_unlic-Core, NG\_RAN\_PRN-Core

Reason for change:

For MIB, SIB1 acquisition failure and TAC absence in SIB1 the UE actions with regards to intra-frequency reselection in accordance with the setting of field *intraFreqReselection* in MIB are specified in both TS 38.331 and TS 38.304. However, such duplication is not needed and should be avoided.

Furthermore, for SIB1 acquisition failure and TAC absence in SIB1 the UE actions with regards to intra-frequency reselection when field *intraFreqReselection* is set to *notAllowed* is not aligned with the latest version of TS 38.304. This may cause some confusion which specification takes precedence.

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Summary of changes:

In 5.2.2.4.1, 5.2.2.4.2, 5.2.2.5 the UE actions with regards to intra-frequency reselection in accordance with the setting of field *intraFreqReselection* in MIB have been replaced by the action below:

*perform cell re-selection to other cells on the same frequency as the barred cell as specified in TS 38.304 [20].*

Rapporteur comment:

Agree that the duplicate descriptions in 38.331 for barring are unnecessary and can lead to confusion. It will be cleaner and easier for future changes if such behavior is only described in 38.304. Note that the change here for “missing SIB1” will also depend on the outcome of the above discussion for [R2-2108481](file:///D:/Documents/3GPP/tsg_ran/WG2/RAN2/2108_R2_115-e/Docs/R2-2108481.zip).

**Q3: Do you agree with the changes in the CR? If not, please provide comments/justification.**

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| **Company** | **Response** | **Comments** |
| Nokia | Fine to have | We have proposed to remove duplication earlier but it was not agreed. We are fine to remove it now. |
| Ericsson | Yes |  |
| vivo | Yes |  |
| Lenovo | Yes | Proponent |
| MediaTek | Yes |  |
| Xiaomi | Yes, but | We agree that the behaviour in 38.331 and 38.304 should be aligned, thus we are fine to remove the duplicate descriptions in 38.331.  But as the UE actions upon reception of MIB/SIB1 is decoupled with the cell selection and reselection procedure, thus the action description “perform cell re-selection” seems improper.We’d like to change “perform” into “consider” as following.  *~~perform~~ consider cell re-selection to other cells on the same frequency as the barred cell as specified in TS 38.304 [20]* |
| Huawei, HiSilicon | maybe | The change should be considered along with Q1 and Q2. In principle the removal of duplication is not essential to have, but if we are correcting the behavior in 38.304 we can consider doing the job “properly” and having this at the same time – care should be taken not to end up with misalignment. |
| OPPO | Yes |  |
| ZTE | Yes |  |
| CATT | Yes | It seems have some duplication between 38.331 and 38.304. |
| Intel | OK |  |
| Samsung | Maybe | It seems not essential correction. |
| Apple | No strong view |  |

**Summary:**

**Proposal:**

1. Rel-16 Corrections

**RRM Relaxation:**

During the first RAN2#115e online session, it was agreed that **“R2 to follow the request from R4”.** There were two CRs which were based on following RAN4 request:

[R2-2108841](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_115-e\Docs\R2-2108841.zip) Addressing inconsistency for RRM measurement rules Ericsson, CATT CR Rel-16 38.304 16.5.0 0214 1 F NR\_UE\_pow\_sav-Core

[R2-2107088](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_115-e\Docs\R2-2107088.zip) Correction on RRM relaxation of higher priority frequencies OPPO CR Rel-16 38.304 16.5.0 0212 - F NR\_UE\_pow\_sav-Core

It was also captured in the Chair Notes to “progress the CRs offline, and reply LS if agreeable”. It would be natural to use one of these CRs as baseline and improve if needed. The main difference between these two CRs seems to be that R2-2108841 allows relaxed measurements for higher priority frequencies even when *highPriorityMeasRelax* is not *true* and Srxlev and Squal are not above a threshold.

**Q4: Which CR, R2-2108841 or R2-2107088, should be used as baseline? Neither is also an acceptable response.**

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| **Company** | **Response** | **Comments** |
| Nokia | [R2-2107088](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_115-e\Docs\R2-2107088.zip) | CR seems to be according to LS from RAN4 |
| Ericsson | [R2-2108841](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_115-e\Docs\R2-2108841.zip) | The difference between the CRs is that the OPPO CR has the if-statement on if Srxlev is larger than the threshold. But that info is already present in the RAN4 specs and hence superfluous. We should not duplicate spec text. |
| Vivo | None | We are not objecting the request from RAN4. But if we only adopted the change for low mobility scenario, there will be un-resonable ehavior for RRM relaxation:  for high priority frequencies, when Srxlev > SnonIntraSearchP and Squal > SnonIntraSearchQ and the UE is configured with *highPriorityMeasRelax*:   * When low mobility criterion is fulfilled, the relaxation is K2\*Thigher\_priority\_search = 1Hour\*Nlayers. * But when low mobility and non-at-cell-edge criterion is fulfilled, the relaxation is 1Hour (<=1Hour\*Nlayers), which captured in RAN2 and RAN4 specification.   It means measurement when one criterion (low mobility) is fulfilled has more relaxation than the measurement when both criterion (low mobility and not-at-cell-edge) are fulfilled.  In this way, even UE in idle mode is configured for two relaxation criteria, but considering the above behavior, the UE will evaluate only one criterion (i.e. low mobility), while the UE will never evaluate the other criteria (i.e. not at cell edge). It means the not-at-cell-edge criterion is useless in Rel-16.  If we really want to make the change in RAN2, we think the behavior when two criteria are configured should be also changed accordingly.  Thus, we prefer either to discuss the change on both scenarios (one criterion mentioned by RAN4 LS, and another scenario with both criteria), or to reply LS to RAN4 to ask them the above issue.  Before addressing our concern above, we cannot accept the CR to only change the scenario with one criterion (i.e. low mobility). |
| MediaTek | None | (Agree with vivo) |
| Xiaomi | See comments | Actually, we think RAN2 can make a change to respond RAN4 LS, since the relaxed method now is not aligned between RAN2 and RAN4 (i.e. RAN2 perform relaxed measurements every 1 hour and RAN4 intend to perform relaxed measurements every 1 \* Nlayer hour). However, as vivo mentioned, If we really want to make the change in RAN2, we think the behavior when both two criteria are configured should be also changed accordingly. Not just the first case. |
| Huawei, HiSilicon | neither | Agree with Vivo. |
| ZTE(LiuJing) | See comment | The online decision is to follow the request from R4, so we are not sure we should reopen this discussion again.   * R2 to follow the request from R4 * Progress the CRs offline, and reply LS if agreeable.   We understand the issue raised by Vivo is valid, however, RAN2 is not the right place to discuss the relaxation behaviour for those cases.  So our suggestion is to send LS to RAN4 to inform our concern, and let RAN4 to decide whether to revert the conclusion for the scenario mentioned in RAN4’s LS, or to also make change to the other scenario (when both criteria are fulfulled). We can postpone the CR until receiving RAN4’s reply.  (btw, we are unclear about the background of RAN4’s discussion, but shouldn’t comments be made in RAN4 before they approved the LS?)  [vivo] Thanks for the clarification. My understanding on the discussion in RAN4 is that: they found the inconsistent issue, but they cannot get consensus to change the CR in RAN4. Then, an LS was approved to inform RAN2 such problem. I donot think the intention is to just implement the text as RAN4. Maybe companies could share their understanding.  So we are fine to either resolve this issue in RAN2 or reply LS to ask RAN4 to resolve it. |
| OPPO | R2-2107088 | The reference to Ran4 spec in R2-2108841 is not correct. |
| CATT | R2-2108841 | Share the same view with Ericsson, R2-2108841 is simple and clean. For the un-resonable behavior pointed by vivo, we prefer RAN4 to discuss and conclude it first as RAN2 decide RRM relaxation criteria while RAN4 decide how to relax RRM relaxation according to previous discussions. We would be OK though to highlight the issue to them in a reply LS. |
| Spreadtrum | Neither | Agree with Vivo. |
| Samsung | Neither or R2-2108841 | We support vivo's contribution (R2-2107402) which says:  *"It is not a reasonable relaxation method, i.e. measurement when one criterion (low mobility) is fulfilled has more relaxation than the measurement when both criterion (low mobility and not-at-cell-edge) are fulfilled"*  In the LS, we first would like to inform RAN4 of this concern. Then, if this is what RAN4 intended, we prefer R2-2108841 which is simpler but still clear. |
| Apple | [R2-2108841](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_115-e\Docs\R2-2108841.zip) | We think Ericssion CR is simply and correctly reflecting the RAN4 LS agreemetns. The problem with R2-2107088 is that it does not cover the relaxing for the case that “*highPriorityMeasRelax”* is not configured  [OPPO comments] the problem mentioned by Apple does not affect UE behavor because when “*highPriorityMeasRelax”* is not configured, UE does not do any further relaxation than Rel-15, which is also true according to 38.133. |

**Summary:**

**Proposal:**

Assuming one of the CRs above is used as a baseline, we can check if any further updates are needed or the CR can be agreed as is.

**Q5a: If R2-2108841 is used as a baseline, are there any changes needed to agree to the CR?**

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| --- | --- | --- |
| **Company** | **Response** | **Comments** |
| Apple | Yes | Thre is a problem with the text in clause 5.2.4.9.0 for the case when both "low mobility" and "not cell edge” criterias are met. In TS 38.133 it mentions 1hour after performing measurement without limiting the previous measurement is **on the corresponding frequency**. The previous measurement could be on any frequency. However, in current spec, it explicitly says “**corresponding frequency cell(s)**”. We think RAN2 spec should be aligned with RAN4 spec here. So we suggest the changes below:  if both *lowMobilityEvaluation* and *cellEdgeEvaluation* are configured:  - if the UE has performed normal intra-frequency, NR inter-frequency, or inter-RAT frequency measurements for at least TSearchDeltaP after (re-)selecting a new cell; and  - if the relaxed measurement criterion in clause 5.2.4.9.1 is fulfilled for a period of TSearchDeltaP; and  - if the relaxed measurement criterion in clause 5.2.4.9.2 is fulfilled:  - for any intra-frequency, NR inter-frequency, or inter-RAT frequency, if less than 1 hour has passed since measurements ~~of corresponding frequency cell(s)~~ for cell reselection were last performed:  - the UE may choose not to perform measurement for measurements on this frequency cell(s); |

**Summary:**

**Proposal:**

**Q5b: If R2-2107088 is used as a baseline, are there any changes needed to agree to the CR?**

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| --- | --- | --- |
| **Company** | **Response** | **Comments** |
| Nokia | No | We are ok with the CR |

**Summary:**

**Proposal:**

[R2-2108362](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_115-e\Docs\R2-2108362.zip) Clarification of access restrictions during cell re-selection Qualcomm Incorporated CR Rel-16 38.304 16.5.0 0215 - F NR\_newRAT-Core, NG\_RAN\_PRN-Core

Reason for change:

The CR refers to the list of previous Rel-16 NPN CRs which made unitended changes to the legacy non-NPN UE behavior. The CR attempst to correct this and make Rel-16 behavior consistent with Rel-15.

Summary of changes:

* Remove the duplicate sentence for “If the UE enters into state *any cell selection”.*
* Re-add the legacy text for “If the UE is redirected under NR control to a frequency for which the timer is running” for intra/inter-frequency case
* Clarify that the UE shall remove the limitation which triggered the timer for the limitation when “any cell selection” or “redirection” happens. The common text applies for the intra/inter-frequency as well as inter-RAT cases.

Rapporteur comment:

We are the proponent. The current Rel-16 specification is not clear on how the UE should bar cells during cell re-selection, including inter-RAT. It would be desirable to have a consistent UE behavior which is same as Rel-15 NR (and also LTE from where this was copied).

**Q6: Do you agree with the changes in the CR? If not, please provide comments/justification.**

|  |  |  |
| --- | --- | --- |
| **Company** | **Response** | **Comments** |
| Nokia | Yes | CR seems to be correcting unfortunate error. |
| Ericsson | Yes |  |
| Vivo | Yes |  |
| Lenovo | Yes | On cover page in “Impact analysis” the “Impacted functionality” should be added, e.g. “Cell barring for cell reselection”.  Furthermore, we think the “Consequences if not approved” is not correct saying:  “The UE may select cells which should be barred during cell re-selection.”  Shouldn’t it say: “UE may not perform cell reselection on the redirected intra-/inter-frequency.”? |
| MediaTek | Yes |  |
| Huawei, HiSilicon | partly | OK to remove the duplication in the first change, but it is not clear the second change is needed or correct. For cell selection case “any limitation” shall be removed (on any frequency) but for the redirection case we only condider the relevant frequency, which is already clear from the current text (i.e. “which triggered the timer” is not needed). |
| OPPO | Yes for the first change | The first change can avoid some confusion, but for the rest changes, we think the current spec is workable. Text improvement is not essential. |
| ZTE | Partly | We are OK to delete the redundant sentence. But we prefer to take the below original sentence as a separate paragraph:  If the UE enters into state any cell selection, any limitation shall be removed. If the UE is redirected under NR control to a frequency for which the timer is running, any limitation on that frequency shall be removed.  The wording “ which triggered the timer” is quite confusion and unnecessary. |
| CATT | Yes |  |
| Intel | Yes |  |
| Spreadtrum | Yes |  |
| Samsung | No strong view | Seems editorials |
| Apple | Yes |  |

**Summary:**

**Proposal:**

# Conclusion

This report captures the feedback from companies for the contributions submitted to Rel-15 and Rel-16 corrections for Idle/Inactive mode procedures and proposes the following as way-forward: