**3GPP TSG RAN WG2 Meeting #129 R2-250xxxx
Athens, Greece, 17th – 21th February, 2025**

**Agenda item: 8.5.1**

**Source: Ericsson**

**Title: Comments to 38.331 CR for NES**

**Document for: Discussion and Decision**

# 1 Introduction

This is a summary document on collection of comments to TS 38.331 CR during below running CR discussion:

* **[POST129][102][NES] (Ericsson)**

 **Scope:** Capture all agreements in 38.331 running CR and identify stage 3 open issues.

 **Intended outcome:** Endorsed 38.331 running CR in R2-2501462 (including editor’s notes for stage 3 open issues).

**Deadline: Long email discussion**

DL to endorse the running CR is 21st March 2025. Please provide your comments early so there is time to resolve when needed. Last comments to take into account should be uploaded by 23:59 UTC 19th March. Later comments are taken into account by best effort.

# 2 Contact Points

Respondents to the email discussion are kindly asked to fill in the following table.

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| --- | --- | --- |
| Company | Name | Email Address |
| Ericsson | Helka-Liina Määttänen | Helka-liina.maattanen@ericsson.com |
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# 3 Discussion

Please provide your comments early so there is time to resolve.

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| **Company** | **Detailed comments** | **Rapporteur response** |
| Xiaomi001 | This field description should highlight it is for UE supports on-demand SIB1 and ignore *intraFreqNeighCellList* IE. | [Rapporteur] in v01 I added that this is for UE supporting OD-SIB1. The running CR draft for 304 captures:If dedicated inter-frequency and/or intra-frequecy excluded cell lists are provided in system information, the OD-SIB1 UE ignores *intraFreqExcludedCellList / interFreqExcludedCellList* and doesn’t consider the cell(s) in the dedicated lists as candidates for cell reselection.Hence no need to capture twice. |
| Xiaomi002 | Same comments as xiaomi001. | [Rapporteur] in v01 I added that this is for UE supporting OD-SIB1. The running CR draft for 304 captures:If dedicated inter-frequency and/or intra-frequecy excluded cell lists are provided in system information, the OD-SIB1 UE ignores *intraFreqExcludedCellList / interFreqExcludedCellList* and doesn’t consider the cell(s) in the dedicated lists as candidates for cell reselection.Hence no need to capture twice. |
| Xiaomi003 | SIB1-RequestConfig-r19 ::= SEQUENCE { rach-OccasionsSIB1 SEQUENCE { ssb-perRACH-Occasion ENUMERATED {oneEighth, oneFourth, oneHalf, one, two, four, eight, sixteen} } OPTIONAL, -- Need R sib-RequestPeriod ENUMERATED {one, two, four, six, eight, ten, twelve, sixteen} OPTIONAL, -- Need R sib1-RequestResources SEQUENCE (SIZE (1..maxSIB1-Message)) OF SI-RequestResources}SI-RequestResources ::= SEQUENCE { ra-PreambleStartIndex INTEGER (0..63), ra-AssociationPeriodIndex INTEGER (0..15) OPTIONAL, -- Need R ra-ssb-OccasionMaskIndex INTEGER (0..15) OPTIONAL -- Need R}I think there is no consensus about the RACH parameters for OD-SIB1 in RAN2. And RAN2 also did not receive the parameters list from RAN1.It is too early to define these parameters in running CR. | [Rapporteur] RAN1 did provide parameter list, tdoc number R1-2501645 is reflected on the running CR cover page. |
| OPPO001 | 1> if the access is for a cell in which OD-SIB1 is enabled:2> if the UE is in RRC\_IDLE or in RRC\_INACTIVE, or if the UE is in RRC\_CONNECTED while *T311* is running; and3> consider the cell as barred if the UE fails to acquire OD-SIB1;[OPPO] Most of the intention here have been covered by 5.2.2.5. The change, if any needed, can be relocated to 5.2.2.5, considering this clause starts with ‘Upon receiving the SIB1 the UE shall:’ | [Rapporteur] I agree with you that as this clause starts with “Upon receiving SIB1” this may not be the best place. However, feature-specific barring procedural text was removed from 5.2.2.5 in the latest 38331-i40 version of the spec, and hence given the current spec structure, 5.2.2.2 does not seem to be the best place for capturing this aspect.One option could be to move it under 5.2.2.3.3x Request for on demand SIB1Waiting for other views. |
| OPPO002 | 1> if the access is for a cell in which OD-SIB1 is enabled:2> if the UE is in RRC\_IDLE or in RRC\_INACTIVE, or if the UE is in RRC\_CONNECTED while *T311* is running; and3> consider the cell as barred if the UE fails to acquire OD-SIB1;[OPPO] Given 5.2.2.3.1 that**1> if the UE is in RRC\_IDLE or in RRC\_INACTIVE; or****1> if the UE is in RRC\_CONNECTED while T311 is running:**There is no need for this part | [Rapporteur] I’m moving this procedure to 5.2.2.3.3x and seems only the last line is needed. |
| OPPO003 | UL-WUS-Config-r19 ::= { rsrp-ThresholdSSB-r19 RSRP-Range OPTIONAL, -- Need R prach-RootSequenceIndex-r19 CHOICE { l839 INTEGER (0..837), l139 INTEGER (0..137) } OPTIONAL, -- Need R msg1-SubcarrierSpacing-r19 ENUMERATED {kHz1dot25, kHz5, kHz15, kHz30, kHz60, kHz120, spare1, spare2} OPTIONAL, -- Need R sib1-tdd-UL-DL-ConfigurationCommon-r19 TDD-UL-DL-ConfigCommon OPTIONAL, -- Cond TDD sib1-restrictedSetConfig-r19 ENUMERATED {unrestrictedSet, restrictedSetTypeA, restrictedSetTypeB} OPTIONAL, -- Need R offsetToCarrier INTEGER (0..2199) OPTIONAL, -- Need R absoluteFrequencyPointA ARFCN-ValueNR OPTIONAL, -- Need R  p-Max P-Max OPTIONAL, -- Need R ss-PBCH-BlockPower INTEGER (-60..50) OPTIONAL, -- Need R sib1-RequestConfig-r19 SIB1-RequestConfig-r19 OPTIONAL -- Need R}[OPPO] Based on R1 RRC para listsib1-tdd-UL-DL-ConfigurationCommon -r19, ss-PBCH-BlockPower are per [SIB1-RequestConfig]offsetToCarrier, absoluteFrequencyPointA, p-Max are per [frequencyInfoUL]would it be better to relocate the field? | [Rapporteur] RAN1 gives parameter list but the signaling structure is not set in stone by it. Especially first version can be taken more like indicative as long as the functionality is what is suppose to be.The reason why I did differently is that those two parameters indicated to [SIB1-RequestConfig] seem to functionally fit better here.For [frequencyInfoUL], it is not clear if it is really needed or feasible. RRC has IE by that name and this seems to be quite different in content. It may be that it makes sense to make separate IE for this type of parameters but maybe slightly different name and maybe including also other parameters.I suggest companies check with their RAN1 delegates about these points. For the running CR there is editor’s note to point out these open issues for the structure. (And the structure is anyway not final until end of the release). |
| OPPO004 | UL-WUS-Config-r19 ::= { rsrp-ThresholdSSB-r19 RSRP-Range OPTIONAL, -- Need R prach-RootSequenceIndex-r19 CHOICE { l839 INTEGER (0..837), l139 INTEGER (0..137) } OPTIONAL, -- Need R msg1-SubcarrierSpacing-r19 ENUMERATED {kHz1dot25, kHz5, kHz15, kHz30, kHz60, kHz120, spare1, spare2} OPTIONAL, -- Need R sib1-tdd-UL-DL-ConfigurationCommon-r19 TDD-UL-DL-ConfigCommon OPTIONAL, -- Cond TDD sib1-restrictedSetConfig-r19 ENUMERATED {unrestrictedSet, restrictedSetTypeA, restrictedSetTypeB} OPTIONAL, -- Need R offsetToCarrier INTEGER (0..2199) OPTIONAL, -- Need R absoluteFrequencyPointA ARFCN-ValueNR OPTIONAL, -- Need R  p-Max P-Max OPTIONAL, -- Need R ss-PBCH-BlockPower INTEGER (-60..50) OPTIONAL, -- Need R sib1-RequestConfig-r19 SIB1-RequestConfig-r19 OPTIONAL -- Need R}[OPPO] quite some fields miss suffix | [Rapporteur] Fixed in v01 |
| vivo001 | **Editorial correction 1**=> It should be ‘Rel-19’ in the cover page, not Rel-18.**Editorial correction 2**pagingAdaptation-NS-r19 ENUMERATED {eigth,four, two, one}=> It should be eight.**Editorial correction 3**pagingAdaptationNAndPagingFrameOffset CHOICE { oneT NULL, halfT INTEGER (0..1), quarterT INTEGER (0..3), oneEighthT INTEGER (0..7), oneSixteenthT INTEGER (0..15), oneThirtyTwothT INTEGER (0..15) }oneThirtyTwothT => oneThirtySecondT15 => 31 | [Rapporteur] Fixed in v02 |
| vivo002 | **5.2.2.3.1 Acquisition of MIB and SIB1**‘…3> if ssb-SubcarrierOffset indicates OD-SIB1 is transmitted in the cell (TS 38.213 [13]) and if SIB1 acquisition is required for the UE: 4>perform the actions as specified in clause 5.2.2.3.3x;…’[vivo] We understand the Rapporteur wants to express that the cell supports OD-SIB1 by saying ‘ if ssb-SubcarrierOffset indicates OD-SIB1 is transmitted in the cell’. However, this expression may let the reader think the cell is indicating that OD-SIB1 is being broadcasted by ssb-SubcarrierOffset. Besides, the ‘ssb-SubcarrierOffset’ of a NCD-SSB alone cannot reflect that the cell supports OD-SIB1. The UE needs to have a UL-WUS configuration corresponding to the PCI and frequency of the NCD-SSB to know the cell supports OD-SIB1.So, we suggest to reword it like:2> else if *SIB1* acquisition is required for the UE and *ssb-SubcarrierOffset* indicates that *SIB1* is not scheduled in the cell:3> if the UE has stored a valid UL-WUS configuration correspongding to the PCI and frequency of this cell, and if SIB1 acquisition is required for the UE:  | [Rapporteur] Thank you. This part is updated in v02 based on Fujistu’s suggestion(i.e. not exactly it, see comments therein). |
| vivo003 | **5.2.2.3.3x Request for on demand SIB1**2> trigger the lower layer to initiate the Random Access procedure on normal uplink in accordance with TS 38.321 [3] using the PRACH preamble(s) and PRACH resource(s) in *sib1-RequestConfig* corresponding to the SIB1 message that the UE requires to operate within the cell;[vivo] When the UE perform cell reselection to the NES cell from cell A, it cannot differentiate whether the RACH resource for OD-SIB1 request is on NUL or SUL of the NES cell, which is transparent to the UE. When the UE has camped on the NES cell, if WUS resources are only configured on NUL, then the UE has no way to perform OD-SIB1 request SUL.To sum up, we don’t observe the need to emphasize ‘on normal uplink’. | [Rapporteur] In **5.2.2.3.3 Request for on demand system information** and **5.2.2.3.3a Request for on demand positioning system information** the procedural text says in some cases “on normal uplink” and in some cases “on supplementary uplink. I can put editor’s note on this. |
| vivo004 | **5.2.2.3.3x Request for on demand SIB1**2> if acknowledgement for on demand SIB1 request is received from lower layers:3> acquire the requested SIB1 message(s) as defined in clause 5.2.2.3.1, immediately;[vivo] For OD-SIB1 reception，the UE behaviors are different from legacy, considering the Starting point and the reception window is introduced in RAN1. The yellow highlighted text should refer to an FFS RAN1 spec, rather than clause 5.2.2.3.1.  | [Rapporteur] Ok, I’m adding FFS and Editor’s note on this  |
| vivo005 | **5.2.2.4.2 Actions upon reception of the *SIB1***1> if the access is for a cell in which OD-SIB1 is enabled:2> if the UE is in RRC\_IDLE or in RRC\_INACTIVE, or if the UE is in RRC\_CONNECTED while *T311* is running; and3> consider the cell as barred if the UE fails to acquire OD-SIB1;Editor’s note: FFS e.g. on potential further procedure text on number of RACH attempts or OD-SIB1 window[vivo] This part is better to be moved to 5.2.2.3.3x. | [Rapporteur] I’m moving this procedure to 5.2.2.3.3x and seems only the last line is needed. |
| vivo006 | **5.2.2.5 Essential system information missing**NOTE x: The *SIBxx* is essential for OD-SIB1 access. If UE is unable to acquire the *SIBxx* for OD-SIB1 access, the action is up to UE implementation (e.g., cell re-selection to other cells).[vivo] We think OD-SIB1 feature is different from NTN/ATG. NTN/ATG needs SIB19/22 to function properly. However, if SIBxx is not provided, the UE can always camp on the current cell or reselect to normal cell. Therefore, we do not think the NOTE x is needed.[Fujitsu] Same understanding with vivo. If the UE is not able to acquire the SIBxx, the UE does not know whether the cell is OD-SIB1 cell. Then legacy barring mechanism can work. | [Rapporteur] As several companies have commented that this note is not needed, I’m removing it but I add editor’s note. |
| Fujitsu001 | **Editorial**5.2.2.3.3x Request for on demand SIB13> acquire the requested SIB1 message(s) as defined in clause 5.2.2.3.1, immediately;[Fujitsu] It should be removed. | [Rapporteur] Fixed in v02 |
| Fujitsu002 | **5.2.2.3.1 Acquisition of MIB and SIB1**3> if ssb-SubcarrierOffset indicates OD-SIB1 is transmitted in the cell (TS 38.213 [13]) and if SIB1 acquisition is required for the UE:[Fujitsu] Same view with vivo 002. In addition, necessity of SIB1 acquisition is already indicated in “>2”, it could be modified as follow:2> else if *SIB1* acquisition is required for the UE and *ssb-SubcarrierOffset* indicates that *SIB1* is not scheduled in the cell:3> if the UE has stored a valid version of *ul-WUS-Config* ~~UL-WUS configuration~~ corresponding to the PCI and frequency of this cell~~, and if SIB1 acquisition is required for the UE~~:[Fujitsu] If the above is allowed, a duplicated text of OD-SIB1 request would be changed below.5.2.2.3.3x Request for on demand SIB1The UE shall, while SDT procedure is not ongoing:1. ~~if SIB1 is provided on-demand and the UE has a stored valid version of~~ *~~ul-WUS-Config~~* ~~for this cell~~

1>~~2>~~ trigger the lower layer to initiate the Random Access procedure on normal uplink in accordance with TS 38.321 [3] using the PRACH preamble(s) and PRACH resource(s) in *sib1-RequestConfig* corresponding to the SIB1 message that the UE requires to operate within the cell;1>~~2>~~ if acknowledgement for on demand SIB1 request is received from lower layers:2>~~3>~~ acquire the requested SIB1 message(s) as defined in clause 5.2.2.3.1, immediately; | [Rapporteur] Thank you for the suggestion, I adopted almost this, but I simply say “for this cell”. If there is consensus this is not enough, the PCI and freq indication can be added.For change in 5.2.2.3.3x: These procedures should be kept as 2 and 3 level procedures1>~~2>~~ if acknowledgement for on demand SIB1 request is received from lower layers:2>~~3>~~ acquire the requested SIB1 message(s) as defined in clause 5.2.2.3.1, immediately; Since it follows:1> if cell reselection occurs while waiting for the acknowledgment for SIB1 request from lower layers:2> reset MAC; |
| CATT001 | ***od-SIB1-CellConfigList*** Provides a configuration to request SIB1 for neighbor cells“for current serving cell” should be added here. | [Rapporteur] In v01 it is:***od-SIB1-CellConfigList*** Provides a configuration to request SIB1 for serving cell and neighbor cells.Perhaps this is enough? |
| CATT002 | pagingAdaptationPei-Config=>pagingAdaptationPEI-Config | [Rapporteur] Fixed in v02 |
| CATT003 | Do we need to introduce a separate *pei-ConfigBWP* for paging adaptation? according to the agreement,* Introduce a separate PEI configuration.
 | [Rapporteur] Adding this as new open issue to be discussed. Thanks! |
| CATT004  |

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| RAN2#127bis agreement:* NES UEs should be allowed to reselect to cells that are prevented from legacy UEs (e.g. by excluded cell list, reselection priorities).

RAN2#128 agreement:* Introduce new IntraFreqExcludedCellList-NES / InterFreqExcludedCellList-NES IEs enable proper reselection behaviour of legacy and NES UEs.
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Based on above agreement, it could be concluded that the NES cell will be included in legacy IntraFreqExcludedCellList and InterFreqExcludedCellList, then the legacy UE will not perform cell reselect to NES Cell. While NES cell will apply the new  *intraFreqODSIB1-ExcludedCellList/ interFreqODSIB1-ExcludedCellList*, and the NES Cell UE will ignore the legacy list. That’s the reason to introduce new NES cell specific excluded Cell list.So, it is suggested to add below description to *interFreqExcludedCellList*. The similar revision to *intraFreqExcludedCellList* is also needed.

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| *interFreqExcludedCellList*List of exclude-listed inter-frequency neighbouring cells. It include the inter-frequency neighbouring NES Cells if available. |

 | [Rapporteur] Firs, I think there is issue with terminology of “NES cell”, as NES is a collection of features. Second, isn’t it just a list of to be excluded cells by UE support OD-SIB1? I don’t see this is correct addition however we can discuss further if needed. Nothing added in v02 for this. |
| CATT 005 | 2> else if *SIB1* acquisition is required for the UE and *ssb-SubcarrierOffset* indicates that *SIB1* is not scheduled in the cell:3> if ssb-SubcarrierOffset indicates OD-SIB1 is transmitted in the cell (TS 38.213 [13]) and if SIB1 acquisition is required for the UE:4>perform the actions as specified in clause 5.2.2.3.3x;3> else:4> perform the actions as specified in clause 5.2.2.5.There is no agreement for the highlighted part. So far, the ssb-SubcarrierOffset is not used to indicate whether OD-SIB1 is transmitting or not.According to RAN1 agreement, it is only used to indicate the Cell is NES Cell by K\_SSB > 23 for FR1 and K\_SSB >11 for FR2.  | [Rapporteur] It was also my intention to try to say this is OD-SIB1 cell and not about the transmission status. I see now this is misleading as pointed out also by Vivo ja Fujitsu. This part is updated in v02 based on Fujistu’s suggestion. |
| HW001 | PCI list was not yet agreed to be included in the WUS config, we suggest to remove the SEQUENCE part: physCellIdList-r19 SEQUENCE (SIZE (1..maxCells)) OF PhysCellId OPTIONAL, -- Need R | [Rapporteur] Ok, I can remove and add Editor’s note |
| HW002 | 5.2.2.3.1 3> if ssb-SubcarrierOffset indicates OD-SIB1 is transmitted in the cell (TS 38.213 [13]) and if SIB1 acquisition is required for the UE:Two comments:* This is for UEs supporting OD-SIB1
* Our understanding is that *ssb-SubcarrierOffset* cannot indicate OD-SIB1, the only indication is by WUS config based on current RAN1 and RAN2 agreements.
 | [Rapporteur] It was also my intention to try to say this is OD-SIB1 cell and not about the transmission status. I see now this is misleading as pointed out also by Vivo ja Fujitsu. This part is updated in v02 based on Fujistu’s suggestion. |
| HW003 | 5.2.2.4.21> if the access is for a cell in which OD-SIB1 is enabled:2> if the UE is in RRC\_IDLE or in RRC\_INACTIVE, or if the UE is in RRC\_CONNECTED while *T311* is running; and3> consider the cell as barred if the UE fails to acquire OD-SIB1;* Reference to 304 should be added
 | [Rapporteur] I’m moving this procedure to 5.2.2.3.3x and seems only the last line is needed. |
| HW004 | 5.2.2.5NOTE x: The *SIBxx* is essential for OD-SIB1 access. If UE is unable to acquire the *SIBxx* for OD-SIB1 access, the action is up to UE implementation (e.g., cell re-selection to other cells).* SIBxx is not essential since the UE might acquire the WUS config from another cell.
 | [Rapporteur] Two companies have pointed out SIbxx is not necessarily essential SI. I will remove the note but add Editor’s note so it can be discussed further if needed. |
| HW005 | 6.3.1 System information blocks- The following parameters are only for OD-SIB1 capable UEs, which ignore the legacy parameters. This needs to be reflected in field description. Reference to 304 should also be added. ***odsib1-cellReselectionPriority, odsib1-cellReselectionSubPriority***Cell reselection priorities to be considered by UEs instead of *cellReselectionPriority*, *cellReselectionSubPriority*.***intraFreqODSIB1-ExcludedCellList***List of exclude-listed intra-frequency neighbouring cells.***interFreqODSIB1-ExcludedCellList***List of exclude-listed inter-frequency neighbouring cells.***odsib1-cellReselectionPriority, odsib1-cellReselectionSubPriority***Cell reselection priorities to be considered by UEs instead of *cellReselectionPriority, cellReselectionSubPriority*. | [Rapporteur] I added references in v02. Note that 304 specified the UE ignoring the legacy parameters. It could be in either specification but not in both. |
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# 3 Conclusion

Editor’s notes collected:

5.2.2.1

Editor’s Note: FFS the text in parenthesis is pending stable agreements on acquiring SIBxx

5.2.2.3.1

Editor’s note:

FFS how to capture the UE first should acquire a valid SIB1 (e.g. via SIB1 request) for camping on an OD-SIB1 NES cell.

FFS RAN1 discussion on e.g. *ssb-SubcarrierOffset*

5.2.2.3.3x

Editor’s note:

FFS how does UE check is SIB1 is already provided.

FFS: if there is need to emphasize it is normal uplink

FFS reference for where are the details on how UE is obtaining SIB1, possibly RAN1 specification

FFS on potential further procedure text on number of RACH attempts or OD-SIB1 window

5.2.2.4.2x Actions upon reception of *SIBxx*

Editors notes: FFS depending SIBxx/UL WUS validity discussion details

5.2.2.5

Editors notes: FFS if SIBxx is essential system information

**SIBxx**

Editor’s note: Only parameters in R1-2501645 that are in own rows are implemented and not all listed e.g. in cell 17P or 21P.

FFS to group some parameters under subIEs like frequencyInfoUL

FFS to separate IE UL-WUS as own IE, for review purposes it is here now.

FFS: value for maxCells, maxSIB1-Message

FFS: optionality of the parameters as there was no input on this

FFS: “UL WUS transmission” in the field descriptions is not defined(it is used in the L1 input excel)

FFS: Whether the UL-WSU configuration applies to one cell or several cells

*DownlinkConfigCommonSIB*

Editor’s note: FFS field description for *pagingAdaptationNAndPagingFrameOffset* with respect to possible configuration restrictions. FFS: *firstPDCCH-MonitoringOccasionOfPO* for paging adaptations. FFS: Do we need to introduce a separate pei-ConfigBWP for paging adaptation?

UE-RadioPagingInfo

Editor’s note: FFS details