**3GPP TSG-RAN WG2 Meeting #113bis electronic R2-21xxxxx**

**Online, April 12 – April 20, 2021**

**Agenda item: 6.1.4.4**

**Source: Huawei (Rapporteur)**

**Title: Discussion summary of [AT113bis-e][024][NR16] Idle Inactive**

**Document for: Discussion and Decision**

# Introduction

This document provides the discussion summary of the following at-meeting offline discussion:

* [AT113bis-e][024]NR16] Idle Inactive (Huawei)

 Scope: Treat R2-2102930, R2-2103168, R2-2102910

 Phase 1, determine agreeable parts, Phase 2, for agreeable parts Work on CRs.

 Intended outcome: Report and Agreed-in-principle CRs, if any

 Deadline: Schedule A

The list of the involved contributions in this offline discussion are as follows:

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| [**R2-2102910**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113bis-e/Docs/R2-2102910.zip) | Discussion on RNA configuration for UE in SNPN AM | Samsung Electronics Co., Ltd |
| [**R2-2102930**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113bis-e/Docs/R2-2102930.zip) | Removal of duplicated statements related to IFRI handling | LG Electronics France |
| [**R2-2103168**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113bis-e/Docs/R2-2103168.zip) | CR on the missing definition of Available SNPN in TS 38.304 | Huawei, HiSilicon |

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# Discussion

## 2.1 R2-2102910 Discussion on RNA configuration for UE in SNPN AM

The reason for change, the specific change proposed and consequence if not approved for the draft CR part in the Tdoc [R2-2102910](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113bis-e/Docs/R2-2102910.zip) are summarized as follows, with some observations/proposals included in the discussion to support the proposed change:

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| **Reason for Change**The UE operating in SNPN AM should use the PLMN ID associated to the registered SNPN if PLMN ID is absent in ran-NotificationAreaInfo as there is no registered PLMN ID.**Specific change proposed**Update the field description that the UE in SNPN AM uses the PLMN ID associated to the registered SNPN if PLMN ID is absent in ran-NotificationAreaInfo.**Consequence of not having the change**Wrong RNA update procedure is triggered by UE.**Impacted TS:**TS 38.331 |

**Question 1:** Can the change proposed in [R2-2102910](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113bis-e/Docs/R2-2102910.zip) be agreed?

* Option 1: Yes, the change can be directly agreed w/o revision.
* Option 2: Yes, intention of the change is agreeable, but some revisions are needed. If this option is selected, please provide the specific revision you think is needed.
* Option 3: No, the CR is not needed. Please clarify the reason, if this option is selected.

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| **Company** | **Option selected** | **Comments, if Option 2/3 is selected** |
| Lenovo | Option 2 | The intention is agreeable but there are following problems if PLMN-identity is present in SNPN:* PLMN id alone is not sufficient as an SNPN id is uniquely identified by the combination of PLMN-id + NID.
* The PLMN-identity refers to equivalent PLMNs but in SNPN no equivalent SNPNs are supported in Rel-16.

So, we need to clarify that PLMN-Identity shall not be present for SNPN. |
| Nokia | Option 2 | Wording may be improved: If the field is absent the UE not in SNPN AM uses the ID of the registered PLMN. If the field is absent the UE in SNPN AM uses the ID associated to the registered SNPN. |
| Samsung (Proponent) | Option 1/2 | 1/ Regarding Lenovo's comment, we have different understanding on the issue on absence/inclusion of PLMN-Identity for SNPN in RNA configuration i.e. * If UE (re-)selects a cell within/outside the configured RNA but the cell does not broadcast the registered SNPN, UE will trigger SNPN selection. So, nothing seems broken.
* If UE (re-)selects a cell outside the configured RNA but the cell broadcasts the registered SNPN, UE will trigger RNAU.

In addition, we agree that in general NW will not include the PLMN identity for SNPN when configuring RNA as there is no concept of equivalent SNPNs, but we are not sure whether we should specify NW SHALL NOT include the PLMN-Identity for SNPN in RNA configuration at this late stage as nothing is broken on this aspect. We are open to hear other companies' views on this. We are fine with the suggestion from Nokia.  |
| Ericsson | Option 2 | We share Samsung’s understanding. The reason for including the PLMN ID is to handle the case when the RNA spans an area handled by different equivalent PLMNs. Since the concept of equivalent networks is not supported for SNPNs there is no need to include the SNPN ID in the RNA configuration for UEs in SNPN access mode. Also, including the PLMN ID would not make much sense since SNPN ID = PLMN ID + NID, i.e. the NID part would still be missing. We think the field descriptions should be corrected to:***plmn-Identity***PLMN Identity to which the cells in *ran-Area/ran-AreaCells* belong. If the field is absent the UE uses the ID of the registered PLMN. The field is not applicable/not included for UE in SNPN AM (for UEs in SNPN AM the *ran-Area/ran-AreaCells* always belongs to the registered SNPN). |
| Qualcomm | Option 2 | Agree with Ericsson comment and suggestion. |
| Apple | Option 2 | Agree with Ericsson |
| ZTE | Option 2 | We understand that this CR is for the RNA configuration, and we agree with Ericsson comment and suggestion.However, we also notice that there are some minors in other places, e.g.  in the field description of "uac-BarringForCommon" and description part of UAC-BarringPerPLMN-List, only the PLMN was mentioned, though these parameters are also for the SNPN. We are not sure whether the similar change can also be included in this CR. |
| Huawei, HiSilicon | Option 2 | The change proposed in this CR is generally acceptable to us. In addition, some editorial revisions need to be done as follows:* change “SNPN AM” to “SNPN access mode”;
* change “… or the UE in SNPN uses…” to “… or the UE in SNPN access mode uses…”.
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| MediaTek | Option 2 | Intention is okay. Same editorial comment as Huawei. |
| Intel | option 2 | We agree a clarification could be helpful. We prefer the text proposed by Nokia. We are also OK to clarify that PLMN is not included for SNPN in the sentence. |
| CATT | Option 2 | Agree with Lenovo and Ericsson |
| vivo | Option 2 | Agree with the suggestion by Ericsson. |

## 2.2 R2-2102930 Removal of duplicated statements related to IFRI handling

The reason for change, the specific change proposed and consequence if not approved for the CR [R2-2102930](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113bis-e/Docs/R2-2102930.zip) are summarized as follows:

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| **Reason for Change**The clause 5.3.1 on “Cell status and cell reservations”, there exist duplicate statements related to the case of intraFreqReselection set to “not allowed”, as highlightes in yellow and green below: - If the field *intraFreqReselection* in *MIB* message is set to "not allowed":- If the cell operates in licensed spectrum, or if this cell belongs to a PLMN which is indicated as being equivalent to the registered PLMN or the selected PLMN of the UE, or if this cell belongs to the registered SNPN or the selected SNPN of the UE:- the UE shall not re-select a cell on the same frequency as the barred cell;- else:- the UE may select to another cell on the same frequency if reselection criteria are fulfilled.- The UE shall exclude the barred cell and, if the cell operates in licensed spectrum or if this cell belongs to a PLMN which is indicated as being equivalent to the registered PLMN, also the cells on the same frequencyas a candidate for cell selection/reselection for 300 seconds.The green part is redundant because the yellow part already specifices excactly the same behaviors, and hence shall be removed.**Specific changes proposed**Duplicated statements related to the case of intraFreqReselection set to “not allowed” highlighted in green in the Reason for change is removed.**Consequence of not having the change**Dplicate conditions related to the case of intraFreqReselection set to “not allowed” remain, which possibly increases inconsistency in the future.**Impacted TS:**TS 38.304 |

**Question 2:** Can the change proposed in [R2-2102930](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113bis-e/Docs/R2-2102930.zip) be agreed?

* Option 1: Yes, the CR can be directly agreed w/o revision.
* Option 2: Yes, intention of the CR is agreeable, but some revisions are needed. If this option is selected, please provide the specific revision you think is needed.
* Option 3: No, the CR is not needed. Please clarify the reason, if this option is selected.

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| **Company** | **Option selected** | **Comments, if Option 2/3 is selected** |
| Lenovo | Option 3 | Concerned text is not a duplicate. It was introduced by NR-U intentionally to specify that the UE shall not bar other cells on the same frequency when the cell does not belong to an equivalent PLMN. |
| Nokia | Option 3 | Agree with Lenovo |
| LG | Option1/2 | As explained by Lenovo, the concerned text was introduced by NR-U in R2-2002385 (CR 0149). However, our point in R2-2102930 is that the condition checked by the green part is already check by the yellow part, which we see as a duplicated text. |
| Samsung | Option 3 | The intention of concerned part seems to specify HOW LONG UE needs to exclude a barred cell and if applicable the cells on the same frequency i.e. for 300 seconds. Thus, we think the current text should be kept as it is.  |
| Qualcomm | Option 3 | It is not duplication. The first part is about re-selection and the second part is about barring. So, the same condition has to be checked for both. |
| Apple | Option 2 | Literally, the text proposed to be deleted are not totally overlapping (e.g., the yellow text does not cover cell selection cases). But we are fine with some editorial changes, if possible, to improve the text to avoid duplicate texts. |
| ZTE(Yuan) | Option 3 | It is not duplication. The second part describes the length of the time period that the barred cell and/or frequency should be excluded, which adds more information compared to the first part thus cannot be considered as duplication. |
| Huawei, HiSilicon | Option 3 | Share the majority companies’ views above. This change removes the 300s timer handling, not duplicated behaviour as claimed. The yellow part describes reselection (i.e. current time) and green describes subsequent handling. So this CR introduces an unexpected functional change, and is thus unacceptable from our perspective.  |
| MediaTek | Option 3 | It is not duplication. The delete text is used to specify the intra-freq cells to be bar for 300s. |
| Ericsson | Option 3 | Similar as others we understand that the intention of green part is to specify for how all the cells on the frequency shall not be considered for cell re-selection.. PS: we wonder why "selected PLMN" is not repeated for the green part, i.e. for how long should the UE exclude a cell that belongs to the selected PLMN? |
| Intel | Option 3 | We don’t think anything is broken that should be corrected. The two sentences are not saying exactly the same thing.  |
| CATT | Option 3 | Share the majority companies’ views above. |
| vivo | Option 3 | As already clarified by above comments, we share the same view that it is not really duplicated text and nothing is broken. |

## 2.3 R2-2103168 CR on the missing definition of Available SNPN in TS 38.304

The reason for change, the specific change proposed and consequence if not approved for the CR [R2-2103168](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113bis-e/Docs/R2-2103168.zip) are summarized as follows:

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| **Reason for Change**In TS 23.122, clause 1.2, the definition of **Available SNPN** is now referencing TS 38.304, as follows:**Available SNPN:** For NG-RAN see 3GPP TS 38.304 [61].However, throughout the current TS 38.304, there has been no definition on what the so called **Available SNPN** actually is, and this means a misalignment exists for the referencing between different Specs. Such an inter-Spec referencing mislignment should be fixed, in order to avoid ambiguity caused to the readers, and hence a definition of **Available SNPN** needs to be added (similar to the definition of “Available PLMN”).**Specific changes proposed**Add the definition of “Available SNPN” in TS 38.304. **Consequence of not having the change**Definition of **Available SNPN** cannot be found in the current Spec as indicated by TS 23.122, making this definition unclear in the current Specs.**Impacted TS:**TS 38.304 |

**Question 3:** Can the change proposed in [R2-2103168](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113bis-e/Docs/R2-2103168.zip) be agreed?

* Option 1: Yes, the CR can be directly agreed w/o revision.
* Option 2: Yes, intention of the CR is agreeable, but some revisions are needed. If this option is selected, please provide the specific revision you think is needed.
* Option 3: No, the CR is not needed. Please clarify the reason, if this option is selected.

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| **Company** | **Option selected** | **Comments, if Option 2/3 is selected** |
| Lenovo | Option 1 | CR is ok to be aligned with TS 23.122. |
| Nokia | Option 1 | Agree with Lenovo |
| **LG** | Option 1 | Agree with the reason of change |
| Samsung | Option 1 | It would be good to merge it into Rap CR if any.  |
| Ericsson | Option 1 |  |
| Qualcomm | Option 1 |  |
| Apple | Option 1 |  |
| ZTE | Option 1 |  |
| Huawei, HiSilicon | Option 1 | Proponent. |
| MediaTek | Option 1 |  |
| Intel | Option 1 |  |
| CATT | Option 1 |  |
| vivo | Option 1 |  |

# Conclusions

The conclusion of the Phase-1 discussion of this offline [AT113bis-e][024]NR16] are as follows:

[TBD…]