3GPP TSG-RAN WG3 Meeting #116-e R3-223763

Online, 9-19 May 2022

**Agenda item: 9.3.9**

**Source: Huawei (moderator)**

**Title: Summary of offline:** **Retrieve UE context for NPN only cell**

**Document for: Discussion and Decision**

# 1 Introduction

This paper summarizes the following email discussion:

**CB: # 58\_NPNOnlyCell**

**- Evaluate the solutions and make the decision**

(HW - moderator)

Summary of offline disc [R3-223763](Inbox\R3-223763.zip)

# 2 For the Chair’s Notes

**TBD**

# 3 Discussion (Phase 1)

Based on the previous discussions, the following issue is very clear to all companies (also captured at the previous meeting):

**The issue is acknowledged: How could the anchor NG-RAN node acquires the PCI and ARFCN information based on the first PLMN Cell ID to calculate the target key in case of the NPN-only cell?**

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| Minutes in previous meetings:  No need to involve with RAN2 with the given analysis.  Down-select the two options at the next meeting.  Option 2: Add a note “In case of NPN-only cell, it is assumed that SIB1 contains the same value included in the CellIdentity in the first entry of the NPN-IdentityInfoList also in the first entry of the PLMN-IdentityInfoList.”;  Option 4: introduce a new NR CGI IE (including the first PLMN Identity and the first NR Cell Identity in SIB1) at Xn setup/RAN configuration update message.  To be continued at this basis… |

As indicated in R3-223462, there are two options below:

* **Option 2: introduce a note in the *Served Cell Information NR* IE**
  + “NOTE 2: In case of NPN-only cells the SIB1 configuration replicates the content of the cellIdentity-r16 of the first entry in the npn-IdentityInfoList-r16 into the cellIdentity of the first entry of the plmn-IdentityInfoList.”
* **Option 4: introduce a new IE in the *Served Cell Information NR* IE**
  + “Include the NR CGI of First PLMN in the Served Cell Information NR in case of NPN-only cell.”

Also in R3-223462, it provides some pros/cons analysis.

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|  | Pros | Cons |
| Option 2 -  A new Note | * no additional IEs to be defined | * may require RAN2 work and involvement * impose restrictions on the assignment of Cell IDs |
| Option 4 - Signalling | * no RAN2 work and involvement * allow flexible assignment of Cell IDs | * new IEs to be defined over the XnAP |

The moderator understands that companies views were already collected at the previous meeting, and appreciates your further input to close this topic.

**Question 1: which option is your preferred option, or which option is not acceptable, and why?**

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| **Company** | **Comments** |
| Huawei | Option 4 is preferred as indicated in R3-223462. |
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| Moderator Summary:   * TBD. | |

If the situation is not changed compared with the previous meeting, then we can consider potential way-forward, and close this topic.

Below provides possible way-forward for your consideration:

* **WF#1**: Leave as it is (i.e. no further action)
* **WF#2**: MCC minute in Chairman notes: It is up to network implementation to determine the target key for NPN only cell case in case of UE context retrieval procedure (maybe updated based on further input)
* **WF#3**: others?

**Question: Please provide your preference of way forward, or any other suggestions to be discussed at the 2nd round.**

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| **Company** | **Comments** |
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| Moderator Summary:   * TBD. | |

# 4 Discussion (Phase 2)

# 5 Conclusions, Recommendations

TBD

# References

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| [R3-223462](Docs\R3-223462.zip) | Retrieve UE context for NPN only cell (Huawei, Deutsche Telekom, Orange, Nokia, Nokia Shanghai Bell) | Discussion  E///: Signaling solution is not acceptable  ZTE: Prefer Op2 without any signaling impact on RAN2 and RAN3  **CB: # 58\_NPNOnlyCell**  **- Evaluate the solutions and make the decision**  (HW - moderator)  Summary of offline disc [R3-223763](Inbox\R3-223763.zip) |
| [R3-223463](Docs\R3-223463.zip) | Retrieve UE context for NPN only cell (Huawei, Deutsche Telekom, Orange, Nokia, Nokia Shanghai Bell) | CR0734r3, TS 38.423 v16.9.0, Rel-16, Cat. F |
| [R3-223464](Docs\R3-223464.zip) | Retrieve UE context for NPN only cell (Huawei, Deutsche Telekom, Orange, Nokia, Nokia Shanghai Bell) | CR0816r, TS 38.423 v17.0.0, Rel-17, Cat. A |