**3GPP TSG-RAN** **WG2 Meeting #111-e R2-200xxxx**

**Electronic, 17th – 28th August 2020**

**Agenda Item: 5.4.1.5**

**Source: Huawei, HiSilicon**

**Title: Summary of offline 008 – NR UAI**

**Document for: Discussion and decision**

# Introduction

This document summarizes the following offline discussion.

UE assistance information

* [AT111-e][008][NR15] NR UAI (Huawei)

 Scope: Treat [R2-2007792](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2007792.zip), [R2-2007793](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2007793.zip), [R2-2007794](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2007794.zip), [R2-2007795](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2007795.zip), [R2-2006986](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2006986.zip), [R2-2006987](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2006987.zip), [R2-2006997](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2006997.zip), [R2-2006998](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2006998.zip) (proponents to drive)

 Part 1: Decision whether to make corrections, identify agreeable parts. Identify Controversial issues for on-line treatment (if any).

 Deadline: Aug 20, 0900 UTC.

 Part 2: For agreeable parts, continuation to agree CRs.

 Deadline: Aug 26, 0900 UTC.

To be noted, the paper R2-2006997 and R2-2006998 are also included in offline discussion [AT111-e][042][NR15], and I understand these two papers are more suitable to be discussed in offline-042. Thus, these two papers are not included in this email discussion.

# Discussion

## Condition of stopping overheating prohibit timer (R2-2007792/R2-2007793)

The CR [1][2] proposes to that on condition of receiving *overheatingAssistanceConfig* set to release, the overheating prohibit timer T345 should be stopped.

In current specification, the overheating prohibit timer T345 is stopped upon initiating the connection re-establishment and resume procedures. However, if the *overheatingAssistanceConfig* is set to release, the overheating prohibit timer is not valid anymore, thus it should be stopped in the UE side.

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| T345 | Upon transmitting *UEAssistanceInformation* message with *overheatingAssistance* | Upon initiating the connection re-establishment procedure, upon initiating the connection resumption procedure, and upon receiving *overheatingAssistanceConfig* set to *release.* | No action. |

**Q1. Do companies agree the intention and proposed changes of this CR?**

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| **Company** | **Agree / Disagree** | **Comments** |
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## UE assistance information transmission upon reconfiguration with sync (R2-2007794/R2-2007795, R2-2006986/R2-2006987)

The CRs [3][4] and [5][6] propose to clarify the UE assistance information transmission upon reconfiguration with sync. The proposed changes in these CRs are summarised as below:

Issue 1: In clause 5.3.5.3, after UE performs reconfiguration with sync, UE initiate transmission of a *UEAssistanceInformation* message in accordance with clause 5.7.4.3. However, in clause 5.7.4.3, UE sets the corresponding contents only if there is an initiation according to 5.7.4.2, without including 5.3.5.3. This may lead to inaccuracy UE assistance information. (Discussed in CRs [3][4] and [5][6])

Issue 2: After UE performs reconfiguration with sync, the UE is not restricted to send the UE assistance information with same value. However, if the UE initiates the transmission of UE assistance information message, the corresponding prohibit timer should be started or restarted which is aligned with clause 5.7.4.2. (Discussed in CRs [3][4] and [5][6])

Issue 3: After UE performs reconfiguration with sync, UE can trigger transmission of a *UEAssistanceInformation* message that was transmitted during the last 1 second before handover. Based on the current description in the specification, the following erroneous case may happen:

* UE transmits *UEAssistanceInformation* message with delay budget report during the last 1 second before handover, which satisfies condition of “if the UE transmitted a *UEAssistanceInformation* message during the last 1 second”
* UE is configured to be able to transmit overheating assistance in the target gNB, which satisfies condition of “and the UE is still configured to provide UE assistance information”
* UE can initiate the transmission of a *UEAssistanceInformation* with clause 5.7.4.3, UE transmit overheating assistance information to the target gNB but it is not transmitted to the source gNB and UE may even not have any preference for overheating.

To avoid the erroneous case above, UE can only transmit the UEAssistanceInformation with the type (i.e. delay budget report, overheating) that was transmitted during the last 1 second before handover and still configured to be able to transmit in the target gNB. (Discussed in CRs [3][4])

**Q2. Do companies agree the identified issue 1, 2 and 3 above?**

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| **Company** | **Agree / Disagree** | **Comments** |
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**Q3. If the identified issues above are valid, do companies agree the proposed changes in CRs [3][4](Huawei) or [5][6] (CATT)?**

For Issue 1&2, both Huawei CRs and CATT CRs give the possible changes, companies are invited to provide the preference or comments on the CRs.

For Issue 3, Huawei CRs give the possible changes, companies are invited to provide the comments on the CRs.

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| **Company** | **Agree / Disagree** | **Comments** |
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# Conclusion

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# Reference

1. R2-2007792 Correction on condition of stopping overheating prohibit timer Huawei, HiSilicon CR Rel-15 38.331 15.10.0 1905 - F NR\_newRAT-Core
2. R2-2007793 Correction on condition of stopping overheating prohibit timer Huawei, HiSilicon CR Rel-16 38.331 16.1.0 1906 - A NR\_newRAT-Core
3. R2-2007794 Correction on UE assistance information transmission for handover case Huawei, HiSilicon CR Rel-15 38.331 15.10.0 1907 - F NR\_newRAT-Core
4. R2-2007795 Correction on UE assistance information transmission for handover case Huawei, HiSilicon CR Rel-16 38.331 16.1.0 1908 - A NR\_newRAT-Core
5. R2-2006986 Further correction on UEAssistanceInformation upon reconfiguration with sync CATT CR Rel-15 38.331 15.10.0 1759 - F NR\_newRAT-Core
6. R2-2006987 Further correction on UEAssistanceInformation upon reconfiguration with sync CATT CR Rel-16 38.331 16.1.0 1760 - F NR\_newRAT-Core