3GPP TSG-RAN WG2 Meeting #111 Electronic R2-20xxxxx

Elbonia, 17 – 28 August 2020

**Agenda item: 6.16**

**Source: Nokia, Nokia Shanghai Bell**

**Title: [AT111-e][040][TEI16] SMTC and NeedforGap Corrections (Nokia)**

**Document for: Discussion and Decision**

# 1 Introduction

This is to provide a summary of TDocs submitted for SMTC and NeedforGap under AI 6.16.

* [AT111-e][040][TEI16] SMTC and NeedforGap Corrections (Nokia)

 Scope: Treat R2-2007117, 7118, 7849, 7959

 Determine agreeable parts in a first phase, Agree CRs in a second phase

 Deadline: Aug 27 0900 UTC, Intermediate deadlines by Rapporteur if needed.

SMTC Configuration for PSCell Addition and SN Change in NR-DC

[R2-2007117](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2007117.zip) SMTC Configuration for PSCell Addition and SN Change in NR-DC Apple, MediaTek Inc., Nokia, Nokia Shanghai Bell, Qualcomm Incorporated, ZTE Corporation, Sanechips, CATT discussion Rel-16 NR\_newRAT-Core

[R2-2007118](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2007118.zip) SMTC Configuration for PSCell Addition and SN Change in NR-DC Apple, MediaTek Inc., Nokia, Nokia Shanghai Bell, Qualcomm Incorporated, ZTE Corporation, Sanechips, CATT CR Rel-16 38.331 16.1.0 1787 - F NR\_newRAT-Core

NeedForGap

[R2-2007849](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2007849.zip) Correction to gapIndication considering interFrequencyConfig-NoGap Samsung CR Rel-16 38.331 16.1.0 1929 - F TEI16

[R2-2007959](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2007959.zip) CR to 36.300 on support of NeedForGap capability Nokia, Nokia Shanghai Bell CR Rel-16 36.300 16.2.0 1311 - F NR\_newRAT-Core

Companies are invited to provide their views for each issue.

# 2 Discussion

## 2.1 Issue #1. SMTC Configuration for PSCell Addition and SN Change in NR-DC ([R2-2007117](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2007117.zip) and [R2-2007118](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2007118.zip))

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| * **Option 1:** Add the new parameter for SMTC configuration under *RRCReconfiguration* for PSCell addition and SN change

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* **Option 2:** Clarify in the field description of SMTC configuration in *secondaryCellGroup -> SpCellConfig -> reconfigurationWithSync*, to indicate it can be used for PSCell addition and SN change.

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In last RAN2 meeting, Option 2 was adopted for R15 CR in order to avoid the R15 ASN.1 impact while it may introduce the additional network complexity to provide the PSCell SMTC configuration(further details in [1]).

For Option 1, the change is aligned with EN-DC, and MN provides the SMTC configuration. The drawback is that it has ASN.1 impact. In [R2-2007117](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2007117.zip) and [R2-2007118](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2007118.zip), it is proposed to agree Option 1 for SMTC configuration in R16.

***Q1) Do companies agree Option 1 for SMTC configuration in R16 for PSCell Addition and SN Change in NR-DC?***

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| Company | Agree/Disagree | Comments (if any) |
| Huawei | Disagree | We prefer Option 2 for R16.The *smtc* is an optimization (UE can use the *smtc* in *measObjectNR* to facilitate the synchronization with target SSB or even blindly detecting the SSB on the given frequency), the network optionally carries it when it has the value.We prefer to re-use the existing *smtc* in *reconfigurationWithSync* and update the field description to include the SN change case. The timing is based on source PSCell.How to fetch the timing is based on network implementation. |
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***Q2) If the answer to Q1 is “Yes”, do you agree with the changes made in*** [***R2-2007118***](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2007118.zip)***?***

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| Company | Agree/Disagree | Comments (if any) |
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## 2.2 Issue #2. NeedForGap ([R2-2007849](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2007849.zip), [R2-2007959](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2007959.zip))

When UE reports NeedForGap for a frequency band through *gapIndication*, UE indicates either *gap* or *no-gap* for *gapIndication* (no way to indicate conditional requirement). In [R2-2007849](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2007849.zip), it is proposed to clarify that, the intended behavior on NeedForGap is to report yes (gap) if at least a single BWP requires measurement gap.

***Q3) Do companies agree to add “on at least one DL BWP” in the gapIndication field description (proposed in*** [***R2-2007849***](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2007849.zip) ***)?***

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| Company | Agree/Disagree | Comments (if any) |
| Huawei | Disagree | We don’t think the change is needed. For *needForGap* mechanism, if UE reports “no-gap”, it means gaps are not needed regardless of DL BWP. If UE reports “gap”, then it fallbacks to the inter-f measurement without gaps mechanism and other gapless scenarios defined in R15, which is out of the scope of *needForGap* and that’s when DL BWP is considered. |
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In TS 36.300, the sentence in section 10.1.*3 "UE may need measurement gaps to perform inter-RAT measurements on NR frequencies depending on the UE capability to support independent FR measurement as specified in TS 38.306."* does not cover the new introduced *NeedForGap* capability. It is noted by the contributing company that this is not correct in the scenario when UE performs FR1 inter-RAT measurement, which the measurement gaps requirement depends on *NeedForGap* capability instead of UE’s independent FR measurement capability.

***Q4) Do companies agree to modify the description in 36.300 section 10.1.3 about measurement gaps requirement for inter-RAT measurements (proposed in*** [***R2-2007959***](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2007959.zip)***)*** ***?***

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| Company | Agree/Disagree | Comments (if any) |
| Huawei | Disagree | We don’t think the change is needed. First, the original text uses “may”, which is very soft. Second, the text “Whether a measurement is non gap assisted or gap assisted depends on the UE's capability and the current operating frequency.” has already incorporated the *needForGap* mechanism, the following texts are based on the assumption that *needForGap* is reported as “need”. |
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# 3 Conclusion

TBD

# References

[1] [R2-2007117](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2007117.zip) SMTC Configuration for PSCell Addition and SN Change in NR-DC Apple, MediaTek Inc., Nokia, Nokia Shanghai Bell, Qualcomm Incorporated, ZTE Corporation, Sanechips, CATT

[2] [R2-2007118](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2007118.zip) SMTC Configuration for PSCell Addition and SN Change in NR-DC Apple, MediaTek Inc., Nokia, Nokia Shanghai Bell, Qualcomm Incorporated, ZTE Corporation, Sanechips, CATT

[3] [R2-2007849](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2007849.zip) Correction to gapIndication considering interFrequencyConfig-NoGap Samsung

[4] [R2-2007959](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2007959.zip) CR to 36.300 on support of NeedForGap capability Nokia, Nokia Shanghai Bell