3GPP TSG-RAN WG2 #112 electronic R2-20xxxxx

Electronic Meeting, Nov 2-13, 2020

Agenda Item: 5.4.3

Source: ZTE, Sanechips

Title: Summary of offline [AT112-e][012][NR15] UE caps II (ZTE)

Document for: Discussion, Decision

# 1 Introduction

This contribution summarizes the following discussion:

* [AT112-e][012][NR15] UE caps II (ZTE)

Treat R2-2008710, R2-2009238, R2-2009239, R2-2009162, R2-2009163, R2-2009516, R2-2009517, R2-2010537, R2-2010536, R2-2010541, R2-2010540, R2-2009944

 Intended outcome: Intermediate: Determine agreeable parts. Final: For agreeable parts, agreed CRs.

 Deadline: Intermediate deadline(s) by Rapporteur, Final: Discussion stop at Wed Nov 11, 1200 UTC

**Contact from companies**

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# Discussion

## 2.1 Part 1: Intended to determine agreeable parts

Part 1 discussion is focusing on reaching conclusion whether the proposals/CRs can be agreed in principle, and Part 2 discussion would then focus on detailed changes for those agreeable contributions.

### 2.1.1 Clarify UE capability in case of cross-carrier operation

[R2-2008710](file:///D%3A%5C%5CDocuments%5C%5C3GPP%5C%5Ctsg_ran%5C%5CWG2%5C%5CTSGR2_112-e%5C%5CDocs%5C%5CR2-2008710.zip%22%20%5Co%20%22D%3ADocuments3GPPtsg_ranWG2TSGR2_112-eDocsR2-2008710.zip) LS on Interpretation of UE Features in Case of Cross-Carrier Operation (R1-2007334; contact: ZTE) RAN1 LS in Rel-15 NR\_newRAT-Core To:RAN2

[R2-2009238](file:///D%3A%5C%5CDocuments%5C%5C3GPP%5C%5Ctsg_ran%5C%5CWG2%5C%5CTSGR2_112-e%5C%5CDocs%5C%5CR2-2009238.zip%22%20%5Co%20%22D%3ADocuments3GPPtsg_ranWG2TSGR2_112-eDocsR2-2009238.zip) CR to clarify UE capability in case of cross-carrier operation ZTE Corporation, Sanechips, Ericsson CR Rel-15 38.306 15.11.0 0418 - F NR\_newRAT-Core

[R2-2009239](file:///D%3A%5C%5CDocuments%5C%5C3GPP%5C%5Ctsg_ran%5C%5CWG2%5C%5CTSGR2_112-e%5C%5CDocs%5C%5CR2-2009239.zip%22%20%5Co%20%22D%3ADocuments3GPPtsg_ranWG2TSGR2_112-eDocsR2-2009239.zip) CR to clarify UE capability in case of cross-carrier operation ZTE Corporation, Sanechips, Ericsson CR Rel-16 38.306 16.2.0 0419 - A NR\_newRAT-Core

**Q1 Do companies agree with the CRs above?**

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| **Company** | **Agree?****(Yes or No)** | **Comments** |
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### 2.1.2 Correction to BWP capability descriptions

[R2-2009162](file:///D%3A%5C%5CDocuments%5C%5C3GPP%5C%5Ctsg_ran%5C%5CWG2%5C%5CTSGR2_112-e%5C%5CDocs%5C%5CR2-2009162.zip%22%20%5Co%20%22D%3ADocuments3GPPtsg_ranWG2TSGR2_112-eDocsR2-2009162.zip) Correction to BWP capability descriptions Nokia, Nokia Shanghai Bell CR Rel-15 38.306 15.11.0 0416 - F NR\_newRAT-Core

[R2-2009163](file:///D%3A%5C%5CDocuments%5C%5C3GPP%5C%5Ctsg_ran%5C%5CWG2%5C%5CTSGR2_112-e%5C%5CDocs%5C%5CR2-2009163.zip%22%20%5Co%20%22D%3ADocuments3GPPtsg_ranWG2TSGR2_112-eDocsR2-2009163.zip) Correction to BWP capability descriptions Nokia, Nokia Shanghai Bell CR Rel-16 38.306 16.2.0 0417 - A NR\_newRAT-Core

**Q2 Do companies agree with the CRs above?**

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| **Company** | **Agree?****(Yes or No)** | **Comments** |
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### 2.1.3 Correction of the description of ue-SpecificUL-DL-Assignment

[R2-2009516](file:///D%3A%5C%5CDocuments%5C%5C3GPP%5C%5Ctsg_ran%5C%5CWG2%5C%5CTSGR2_112-e%5C%5CDocs%5C%5CR2-2009516.zip%22%20%5Co%20%22D%3ADocuments3GPPtsg_ranWG2TSGR2_112-eDocsR2-2009516.zip) Correction of the description of ue-SpecificUL-DL-Assignment Apple CR Rel-15 38.306 15.11.0 0430 - F NR\_newRAT-Core

[R2-2009517](file:///D%3A%5C%5CDocuments%5C%5C3GPP%5C%5Ctsg_ran%5C%5CWG2%5C%5CTSGR2_112-e%5C%5CDocs%5C%5CR2-2009517.zip%22%20%5Co%20%22D%3ADocuments3GPPtsg_ranWG2TSGR2_112-eDocsR2-2009517.zip) Correction of the description of ue-SpecificUL-DL-Assignment Apple CR Rel-16 38.306 16.2.0 0431 - A NR\_newRAT-Core

**Q3 Do companies agree with the CRs above?**

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| **Company** | **Agree?****(Yes or No)** | **Comments** |
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### 2.1.4 Correction to the use of simultaneous CSI-RS resources

[R2-2010537](file:///D%3A%5C%5CDocuments%5C%5C3GPP%5C%5Ctsg_ran%5C%5CWG2%5C%5CTSGR2_112-e%5C%5CDocs%5C%5CR2-2010537.zip%22%20%5Co%20%22D%3ADocuments3GPPtsg_ranWG2TSGR2_112-eDocsR2-2010537.zip) Correction to the use of simultaneous CSI-RS resources Ericsson CR Rel-15 38.306 15.11.0 0455 - F NR\_newRAT-Core

[R2-2010536](file:///D%3A%5C%5CDocuments%5C%5C3GPP%5C%5Ctsg_ran%5C%5CWG2%5C%5CTSGR2_112-e%5C%5CDocs%5C%5CR2-2010536.zip%22%20%5Co%20%22D%3ADocuments3GPPtsg_ranWG2TSGR2_112-eDocsR2-2010536.zip) Correction to the use of simultaneous CSI-RS resources Ericsson CR Rel-16 38.306 16.2.0 0454 - A NR\_newRAT-Core

**Q4 Do companies agree with the CRs above?**

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| **Company** | **Agree?****(Yes or No)** | **Comments** |
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### 2.1.5 Correction to pdcch-MonitoringSingleOccasion

[R2-2010541](file:///D%3A%5C%5CDocuments%5C%5C3GPP%5C%5Ctsg_ran%5C%5CWG2%5C%5CTSGR2_112-e%5C%5CDocs%5C%5CR2-2010541.zip%22%20%5Co%20%22D%3ADocuments3GPPtsg_ranWG2TSGR2_112-eDocsR2-2010541.zip) Correction to pdcch-MonitoringSingleOccasion Ericsson CR Rel-15 38.306 15.11.0 0459 - F NR\_newRAT-Core

[R2-2010540](file:///D%3A%5C%5CDocuments%5C%5C3GPP%5C%5Ctsg_ran%5C%5CWG2%5C%5CTSGR2_112-e%5C%5CDocs%5C%5CR2-2010540.zip%22%20%5Co%20%22D%3ADocuments3GPPtsg_ranWG2TSGR2_112-eDocsR2-2010540.zip) Correction to pdcch-MonitoringSingleOccasion Ericsson CR Rel-16 38.306 16.2.0 0458 - A NR\_newRAT-Core

**Q5 Do companies agree with the CRs above?**

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| **Company** | **Agree?****(Yes or No)** | **Comments** |
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### 2.1.6 UE capability and cross-slot scheduling for Paging

[R2-2009944](file:///D%3A%5C%5CDocuments%5C%5C3GPP%5C%5Ctsg_ran%5C%5CWG2%5C%5CTSGR2_112-e%5C%5CDocs%5C%5CR2-2009944.zip%22%20%5Co%20%22D%3ADocuments3GPPtsg_ranWG2TSGR2_112-eDocsR2-2009944.zip) UE capability and cross-slot scheduling for Paging Ericsson discussion Rel-15 NR\_newRAT-Core

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| **Observation 1**: The UE is required to support K0>0 for DL PDSCH, but the UE may not have IOT tested this, and logs show that (some) REL-15 UEs do not support *dl-SchedulingOffset-PDSCH-TypeA* or *dl-SchedulingOffset-PDSCH-TypeB*.**Observation 2**: Rel-15 supports the default configurations**Observation 3**: Default PDSCH time domain resource allocation B for Paging and System Information includes both K0 = 0 and 1.Therefore it should be assumed that the UE supports K0 = 0 and 1 for Paging and System Information, even when the UE does not indicate support for *dl-SchedulingOffset-PDSCH-TypeA* or *dl-SchedulingOffset-PDSCH-TypeB*:**Proposal 1**: RAN2 to confirm that Rel-15 UE supports K0 = 0 and 1 for Paging and System Information.In case proposal 1 is agreeable, it can be discussed further if a clarification is needed (e.g. clarify that the UE supports the default configuration independent from the IOT capability signalling). In case proposal 1 is not agreeable, RAN2 should discuss if legacy UE supports K0 values in the *pdsch-TimeDomainAllocationList* provided in *pdsch-ConfigCommon* in SIB1 that have not been IOT tested by the UE, but the UE is only paged with K0=0 in the Paging PDCCH. This would enable the NW to use cross-slot scheduling for UEs that have indicated to support it, while using legacy scheduling for UEs that did not indicate support. But then *dl-SchedulingOffset-PDSCH-TypeA* and *dl-SchedulingOffset-PDSCH-TypeB* should be added to the *UERadioPagingInformation* message.  |

| ***dl-SchedulingOffset-PDSCH-TypeA***Indicates whether the UE supports DL scheduling slot offset (K0) greater than 0 for PDSCH mapping type A. | UE | Yes | Yes | Yes |
| --- | --- | --- | --- | --- |
| ***dl-SchedulingOffset-PDSCH-TypeB***Indicates whether the UE supports DL scheduling slot offset (K0) greater than 0 for PDSCH mapping type B. | UE | Yes | Yes | Yes |

**Q6-1 Do companies agree that “the UE supports K0 = 0 and 1 for Paging and System Information, even when the UE does not indicate support for *dl-SchedulingOffset-PDSCH-TypeA* or *dl-SchedulingOffset-PDSCH-TypeB*?”**

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| **Company** | **Agree?****(Yes or No)** | **Comments** |
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**Q6-2 If companies agree with Q6-1, do companies agree that “a clarification is needed (e.g. clarify that the UE supports the default configuration independent from the IOT capability signalling).”**

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| **Company** | **Agree?****(Yes or No)** | **Comments** |
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**Q6-3 If companies disagree with Q6-1, do companies agree that some spec modification is needed, e.g “add *dl-SchedulingOffset-PDSCH-TypeA* and *dl-SchedulingOffset-PDSCH-TypeB* to the UERadioPagingInformation message.”**

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| **Company** | **Agree?****(Yes or No)** | **Comments** |
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## 2.2 Part 2: Intended to progress discussion on agreeable parts

- To be updated after discussion on part 1 -

# 3 Conclusion

- To be updated after discussion on part 1 -

# 4 References

1. [R2-2008710](file:///D%3A%5C%5CDocuments%5C%5C3GPP%5C%5Ctsg_ran%5C%5CWG2%5C%5CTSGR2_112-e%5C%5CDocs%5C%5CR2-2008710.zip%22%20%5Co%20%22D%3ADocuments3GPPtsg_ranWG2TSGR2_112-eDocsR2-2008710.zip) LS on Interpretation of UE Features in Case of Cross-Carrier Operation (R1-2007334; contact: ZTE) RAN1 LS in Rel-15 NR\_newRAT-Core To:RAN2
2. [R2-2009238](file:///D%3A%5C%5CDocuments%5C%5C3GPP%5C%5Ctsg_ran%5C%5CWG2%5C%5CTSGR2_112-e%5C%5CDocs%5C%5CR2-2009238.zip%22%20%5Co%20%22D%3ADocuments3GPPtsg_ranWG2TSGR2_112-eDocsR2-2009238.zip) CR to clarify UE capability in case of cross-carrier operation ZTE Corporation, Sanechips, Ericsson CR Rel-15 38.306 15.11.0 0418 - F NR\_newRAT-Core
3. [R2-2009239](file:///D%3A%5C%5CDocuments%5C%5C3GPP%5C%5Ctsg_ran%5C%5CWG2%5C%5CTSGR2_112-e%5C%5CDocs%5C%5CR2-2009239.zip%22%20%5Co%20%22D%3ADocuments3GPPtsg_ranWG2TSGR2_112-eDocsR2-2009239.zip) CR to clarify UE capability in case of cross-carrier operation ZTE Corporation, Sanechips, Ericsson CR Rel-16 38.306 16.2.0 0419 - A NR\_newRAT-Core
4. [R2-2009162](file:///D%3A%5C%5CDocuments%5C%5C3GPP%5C%5Ctsg_ran%5C%5CWG2%5C%5CTSGR2_112-e%5C%5CDocs%5C%5CR2-2009162.zip%22%20%5Co%20%22D%3ADocuments3GPPtsg_ranWG2TSGR2_112-eDocsR2-2009162.zip) Correction to BWP capabiltiy descriptions Nokia, Nokia Shanghai Bell CR Rel-15 38.306 15.11.0 0416 - F NR\_newRAT-Core
5. [R2-2009163](file:///D%3A%5C%5CDocuments%5C%5C3GPP%5C%5Ctsg_ran%5C%5CWG2%5C%5CTSGR2_112-e%5C%5CDocs%5C%5CR2-2009163.zip%22%20%5Co%20%22D%3ADocuments3GPPtsg_ranWG2TSGR2_112-eDocsR2-2009163.zip) Correction to BWP capabiltiy descriptions Nokia, Nokia Shanghai Bell CR Rel-16 38.306 16.2.0 0417 - A NR\_newRAT-Core
6. [R2-2009516](file:///D%3A%5C%5CDocuments%5C%5C3GPP%5C%5Ctsg_ran%5C%5CWG2%5C%5CTSGR2_112-e%5C%5CDocs%5C%5CR2-2009516.zip%22%20%5Co%20%22D%3ADocuments3GPPtsg_ranWG2TSGR2_112-eDocsR2-2009516.zip) Correction of the description of ue-SpecificUL-DL-Assignment Apple CR Rel-15 38.306 15.11.0 0430 - F NR\_newRAT-Core
7. [R2-2009517](file:///D%3A%5C%5CDocuments%5C%5C3GPP%5C%5Ctsg_ran%5C%5CWG2%5C%5CTSGR2_112-e%5C%5CDocs%5C%5CR2-2009517.zip%22%20%5Co%20%22D%3ADocuments3GPPtsg_ranWG2TSGR2_112-eDocsR2-2009517.zip) Correction of the description of ue-SpecificUL-DL-Assignment Apple CR Rel-16 38.306 16.2.0 0431 - A NR\_newRAT-Core
8. [R2-2010537](file:///D%3A%5C%5CDocuments%5C%5C3GPP%5C%5Ctsg_ran%5C%5CWG2%5C%5CTSGR2_112-e%5C%5CDocs%5C%5CR2-2010537.zip%22%20%5Co%20%22D%3ADocuments3GPPtsg_ranWG2TSGR2_112-eDocsR2-2010537.zip) Correction to the use of simultaneous CSI-RS resources Ericsson CR Rel-15 38.306 15.11.0 0455 - F NR\_newRAT-Core
9. [R2-2010536](file:///D%3A%5C%5CDocuments%5C%5C3GPP%5C%5Ctsg_ran%5C%5CWG2%5C%5CTSGR2_112-e%5C%5CDocs%5C%5CR2-2010536.zip%22%20%5Co%20%22D%3ADocuments3GPPtsg_ranWG2TSGR2_112-eDocsR2-2010536.zip) Correction to the use of simultaneous CSI-RS resources Ericsson CR Rel-16 38.306 16.2.0 0454 - A NR\_newRAT-Core
10. [R2-2010541](file:///D%3A%5C%5CDocuments%5C%5C3GPP%5C%5Ctsg_ran%5C%5CWG2%5C%5CTSGR2_112-e%5C%5CDocs%5C%5CR2-2010541.zip%22%20%5Co%20%22D%3ADocuments3GPPtsg_ranWG2TSGR2_112-eDocsR2-2010541.zip) Correction to pdcch-MonitoringSingleOccasion Ericsson CR Rel-15 38.306 15.11.0 0459 - F NR\_newRAT-Core
11. [R2-2010540](file:///D%3A%5C%5CDocuments%5C%5C3GPP%5C%5Ctsg_ran%5C%5CWG2%5C%5CTSGR2_112-e%5C%5CDocs%5C%5CR2-2010540.zip%22%20%5Co%20%22D%3ADocuments3GPPtsg_ranWG2TSGR2_112-eDocsR2-2010540.zip) Correction to pdcch-MonitoringSingleOccasion Ericsson CR Rel-16 38.306 16.2.0 0458 - A NR\_newRAT-Core
12. [R2-2009944](file:///D%3A%5C%5CDocuments%5C%5C3GPP%5C%5Ctsg_ran%5C%5CWG2%5C%5CTSGR2_112-e%5C%5CDocs%5C%5CR2-2009944.zip%22%20%5Co%20%22D%3ADocuments3GPPtsg_ranWG2TSGR2_112-eDocsR2-2009944.zip) UE capability and cross-slot scheduling for Paging Ericsson discussion Rel-15 NR\_newRAT-Core