3GPP TSG-RAN WG2 Meeting #110-e draft-R2-2005821

Online, June 1 – June 12 , 2020

**Agenda item: 4.2.1**

**Source: Qualcomm**

**Title: Report for [AT110-e][401][eMTC] R15 Relaxed serving cell measurement for UEs using WUS (Qualcomm)**

**Document for: Report**

# 1 Scope of the email discussion

This document contains the report for the following email discussion:

* [AT110-e][401][eMTC] R15 Relaxed serving cell measurement for UEs using WUS (Qualcomm)

Scope: Check if there is support and update based on the comments if the CRs are agreeable

Intended outcome: Report provided in R2-2005821 and, if agreeable, updated CR(s).

Deadline: Friday, June 5th 10:00 UTC

# 2 Discussion

## Early implementation of Relaxed serving cell measurement

Relaxed serving cell measurement when using WUS is introduced from Release 16. This feature has no UE capability indication and is linked to support for WUS [1]. It was agreed in RAN2#109bis-e meeting that Release 15 UE supporting WUS is permitted to use the power saving feature provided network broadcasts *numDRX-CyclesRelaxed* and the UE meets the conditions specified for relaxed serving cell measurement by RAN4 in TS 36.133.

* Early implementation of relaxed serving cell measurement by Rel-15 UEs when configured with WUS is permitted. FFS whether to agree in TEI15.

As discussed in [2], majority companies preferred Rel-15 CR as better option. The Rel-15 CR is provided in [3]. If Rel-15 CR is agreed, then Rel-16 mirror CR is needed. In addition, existing *numDRX-CyclesRelaxed-r16* needs to be update to *numDRX-CyclesRelaxed-r15*, i.e., delete *wus-Config-v16xy* and add *wus-Config-v15a0* in *RadioResourceConfigCommonSIB*. The Rel-16 text proposal is provided in [4].

**Question 1: Do companies agree Rel-15 CR provided in [3] for the relaxed serving cell measurement for Rel-15 UEs using WUS?**

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| **Company** | **Yes/No** | **Comment** |
| Huawei | No | The agreement was to make the Rel-16 feature early implementable in Rel-15, however this CR implements directly in Rel-15. We also can’t have a Cat. B CR in a closed release. |
| Ericsson | No | Agree with HW that Cat B to closed release should not be done. In this particular case the configuration is in SI and there is no UE capability thus is should be enough to have it early implementable for UEs from Rel-15 and introduce the configuration changes in Rel-16. |
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**Question 2: If answer to question is NO, please elaborate your solution.**

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| **Company** | **Comment** |
| Huawei | Rel-16 CR, separate to the main WI CR, which separates the WUS config into a separate extension, and updates the early implementation table to reference this new “standalone” WUS CR.  The Rel-16 ASN.1 would need to be updated as follows, in RadioResourceConfigCommonSIB  [[  wus-Config-v16xy WUS-Config-v16xy OPTIONAL -- Need OR  ]],  [[  highSpeedConfig-v16xy HighSpeedConfig-v16xy OPTIONAL, -- Need OR  crs-ChEstMPDCCH-ConfigCommon-r16 CRS-ChEstMPDCCH-ConfigCommon-r16 OPTIONAL, -- Need OR  ~~wus-Config-v16xy WUS-Config-v16xy OPTIONAL, -- Need OR~~  gwus-Config-r16 GWUS-Config-r16 OPTIONAL, -- Need OR  uplinkPowerControlCommon-v16xy UplinkPowerControlCommon-v16xy OPTIONAL -- Need OR  ]]  By separating the wus-Config-v16xy extension in a separate [[]] extension from other Rel-16 IEs, and placing it first in the ASN.1 structure, it is simple to implement this part only in a Rel-15 UE without having to implement other Rel-16 IEs, and maintains backwards compatibility.  This would require only a Rel-16 CR to separate the WUS IE and update the early implementation table, and would be in line with the usual LTE practice. By having a separate CR for making this change (separate to the miscellaneous RRC CR in Rel-16) it would then be possible and clear to use the usual LTE early implementation method. |
| Ericsson | We agree to have a separate Rel-16 CR with the early implementation table updated.  Huawei suggestion looks OK to us, it should be possible for the UE to only implement the SI extension for this feature. |
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Also, an LS to RAN4 is needed and draft is available in [5].

**Question 3: Do companies agree to send LS to RAN4 to inform RAN2 agreement on the implementation of relaxed serving cell measurement by Rel-15 UEs using WUS?**

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| **Company** | **Yes/No** | **Comment** |
| Huawei | No | It is needed only if we have a Rel-15 CR because RAN4 would have to implement in Rel-15. With a Rel-16 early implementable CR, as suggested above, this won’t be needed because there is no RAN4 impact – UE would clearly have to implement RAN2 and RAN4 parts to support the feature. |
| Ericsson | Depends | If it is implemented in Rel-15 specifications, then LS should be sent.  For the Rel-16 CR approach and early implementation no LS should be needed. |
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Summary: To be updated.

# 3 Conclusion

# 3 References

[1] R2-2003188 Permit early implementation of relaxed serving cell measurement.

[2] R2-2003928 Report for [AT109bis-e][413][eMTC] Mobility enhancements - Open issues (Qualcomm).

[3] R2-2004627 Relaxed serving cell measurement for UEs using WUS, CR Rel-15 36.331.

[4] R2-2004634 Relaxed serving cell measurement for UEs using WUS, draftCR Rel-16 36.331.

[5] R2-2004654 [Draft] LS on implementation of relaxed serving cell measurement by Rel-15 UEs, LS out Rel-15, To: RAN4.