3GPP TSG-RAN WG2 Meeting #104 R2-18xxxxx

Spokane, USA, 12 – 16 November, 2018

Agenda Item: 10.x.x.x

Source: Qualcomm Incorporated

Title: Summary of email discussion [104#05][NR] EN-DC configurations upon re-establishment and SGC failure

Document for: Discussion, Decision

# Introduction

This offline discussion took place during RAN2#104.

[R2-1817391](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_104/Docs/R2-1817391.zip) EN-DC configurations upon re-establishment and SGC failure Qualcomm Incorporated CR Rel-15 36.331 15.3.0 3749 - F NR\_newRAT-Core

=> Offline discussion to conclude what changes are required

=> Revised in R2-1818856 (Offline discussion 29)

RAN2 could not conclude on the discussion and decided to have a follow-up email discussion.

* [104#xx][NR] EN-DC configurations upon re-establishment and SGC failure (Qualcomm)

 Intended outcome: Agreed CR

 Deadline: Monday 2018-11-26

**NOTE:** Since this is continuation of the offline discussion during RAN2#104 meeting, the email discussion rapporteur intentionally kept the comments received during the offline discussion.

# Discussion

There are configurations for LTE link for the purpose of multi-radio interworking. Handling of some of those parameters in case of RRC connection re-establishment and SCG failure, where SCG operation is halted, is not clear in the current specification.

Such parameters can be found in TS36.331 as follows.

RRCConnectionReconfiguration-v1510-IEs ::= SEQUENCE {

 nr-Config-r15 CHOICE {

 release NULL,

 setup SEQUENCE {

 endc-ReleaseAndAdd-r15 BOOLEAN,

 nr-SecondaryCellGroupConfig-r15 OCTET STRING OPTIONAL, -- Need ON

 p-MaxEUTRA-r15 P-Max OPTIONAL -- Need ON

 }

 } OPTIONAL, -- Need ON

 sk-Counter-r15 INTEGER (0.. 65535) OPTIONAL, -- Need ON

 nr-RadioBearerConfig1-r15 OCTET STRING OPTIONAL, -- Need ON

 nr-RadioBearerConfig2-r15 OCTET STRING OPTIONAL, -- Need ON

 tdm-PatternConfig-r15 CHOICE {

 release NULL,

 setup SEQUENCE {

 subframeAssignment-r15 SubframeAssignment-r15,

 harq-Offset-r15 INTEGER (0.. 9)

 }

 } OPTIONAL, -- Cond FDD-PCell

 nonCriticalExtension RRCConnectionReconfiguration-v1530-IEs OPTIONAL

}

RRCConnectionReconfiguration-v1530-IEs ::= SEQUENCE {

 securityConfigHO-v1530 SecurityConfigHO-v1530 OPTIONAL, -- Cond HO-5GC

 sCellGroupToReleaseList-r15 SCellGroupToReleaseList-r15 OPTIONAL, -- Need ON

 sCellGroupToAddModList-r15 SCellGroupToAddModList-r15 OPTIONAL, -- Need ON

 dedicatedInfoNASList-r15 SEQUENCE (SIZE(1..maxDRB-r15)) OF

 DedicatedInfoNAS OPTIONAL, -- Cond nonHO

 p-MaxUE-FR1-r15 P-Max OPTIONAL, -- Need OR

 smtc-r15 MTC-SSB-NR-r15 OPTIONAL, -- Need OP

 nonCriticalExtension SEQUENCE {} OPTIONAL

}

The handling of SCG configuration and NR radio bearer configuration is sufficiently clear in TS38.331. The proponent of the CR [R2-1817391](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_104/Docs/R2-1817391.zip) identified the following parameters to be relevant in the context of this discussion, because these configuration parameters are restricting the operation in LTE link, and necessary only when the trasmission and reception in NR link are taking place.

* tdm-PatternConfig-r15
* p-MaxEUTRA-r15
* p-MaxUE-FR1-r15
	1. RRC connection re-establishment

Companies are asked to provide their view on whether any additional handling of configuration parameters is needed.

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| --- | --- |
| Company | Comment |
| Qualcomm Incorporated(*Comment during RAN2#104*) | The handling of the following parameters should be clarified.* tdm-PatternConfig-r15
* p-MaxEUTRA-r15
* p-MaxUE-FR1-r15

For TDM pattern, it causes inter-operability issue if the UE uses the special TDM pattern while the network does not (is unable to) use the TDM pattern until the UE context is identified.TX power limitations should be lifted to improve the robustness of RRC connection re-establishment procedure. |
| Nokia(*Comment during RAN2#104*) | Agree this needs to be clarified. If during re-establishment the SCG radio configuration is released, then this should also release the constraints. |
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* 1. Accessibility check #2

Companies are asked to provide their view on whether any additional handling of configuration parameters is needed.

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| --- | --- |
| Company | Comment |
| Qualcomm Incorporated(*Comment during RAN2#104*) | The handling of the following parameters should be clarified.* p-MaxEUTRA-r15
* p-MaxUE-FR1-r15

TX power limitations should be lifted to improve the robustness of SCG failure indication procedure. |
| Nokia(*Comment during RAN2#104*) | It is fine but clarification is needed for other cases as well, at least about p-MaxEUTRA-r15 handling:What is the UE transmitted power in LTE, after EN-DC is released, if p-MaxEUTRA-r15 was provided when EN-DC was setup/modified and p-MaxEUTRA-r15 was provided?When EN-DC is released, there is no possibility for the eNB to reconfigure p-MaxEUTRA-r15 to an original value. Can we make an assumption that the UE steps back to the pMax level broadcast by the eNB or, if not broadcast, to its max power class. |
| Qualcomm Incorporated(*Comment during RAN2#104*) | To respond to Nokia.The UE should have been configured for P-max in *RadioResourceConfigCommon* (cell specific) if necessary. Otherwise the UE falls back to the TX power of UE power class. |
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* 1. Additional comment

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| Company | Comment |
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# Conclusion

# Reference

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