**3GPP TSG-RAN** **WG2 Meeting #109bis-e R2-200xxxx**

**Electronic, April 20 – 30, 2020**

**Source: Qualcomm Incorporated**

**Title: Summary of email discussion [AT109bis-e][014][NR15] UE Cap Miscellaneous I**

**Document for: Decision**

**Agenda Item: 6.19**

# Introduction

This document summarizes the following email discussion.

(The chairman notes listed Tdoc R2-2002679, which is unrelated to UE capability. It was corrected to R2-2002579 below.)

* [AT109bis-e][014][NR15] UE Cap Miscellaneous I (Qualcomm, ZTE, Mediatek, Huawei)

Scope: Treat [R2-2002571](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002571.zip), [R2-2002572](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002572.zip), [R2-2002696](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002696.zip), [R2-2002578](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002578.zip), [R2-2002579](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002579.zip), [R2-2002724](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002724.zip), [R2-2003463](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003463.zip), [R2-2003464](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003464.zip)

Part 1: Determine which issues that need resolution, find agreeable proposals. Deadline: April 23 0700 UTC

Part 2: For the parts that are agreeable, discussion will continue to agree on CRs.

# Discussion: Part 1 (by April 23 0700 UTC)

It is proposed to try to come to a set of agreeable proposals out of the documents listed above.

## Corrections on the number of DRBs ([R2-2002571](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002571.zip), [R2-2002572](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002572.zip))

These CRs try to clarify the UE minimum requirement for the number of DRBs.

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| --- | --- | --- |
| **Company name** | **Support / Not support** | **Comments** |
| Qualcomm Incorporated | Support (proponent) |  |
| Intel | Support |  |
| Samsung | Support (proponent) | Instead of updating the existing definition, we could consider adding additional row for RLC bearers like below:   | Parameter | Description | Value | | --- | --- | --- | | #DRBs | The number of DRB IDs that a UE shall support. | 16 per UE.  ~~NOTE:       8 per MAC entity with duplication.~~ | | #RLC Bearers | The number of RLC bearers that a UE shall support. | 16 per UE.  NOTE:    8 per MAC entity with PDCP duplication. | |
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## CR on unnecessary FRx differentiation ([R2-2002696](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002696.zip))

This CR tries to clarify that FRx differentiation is not necessary for those “per RF band” capabilities because frequency band itself indicates the frequency range.

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| **Company name** | **Support / Not support** | **Comments** |
| Qualcomm Incorporated | Not support | It is our understanding that xDD diff and FRx diff columns in 38.306 are meant to indicate if the UE is allowed to indicate different capabilities, i.e. to indicate UE requirement, as opposed to indicate whether the RRC signalling uses the “diff” format. Changing “yes” to “no” imposes new requirement for the UE to implement and test those features on par for FR1 and FR2. |
| Nokia | Not support | We had a different understanding than Qualcomm initially but would like to understand if the capabilities under discussion will create a inconsistency in UE requirements? If yes, then we do not support. |
| Intel | Neutral | In our view even if the UE is allowed to indicate diff capabilities, the corresponding IEs should be defined, and in that sense the CR is correct. We also have more such paramters in per-BC which do not have the IEs for the UE to provide differing XDD/FRX capabilities. We would like to see RAN2’s opinion in this and if corrections are needed, then the others have to be corrected as well. |
| Samsung | Not support | This column of FRx diffenciation (i.e. FR1-FR2 DIFF) is used to indicate the functional explanation, that is, this column is not related to the actual signaling where this parameter located. |

## Signalling of NR-DC only band combination ([R2-2002578](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002578.zip))

This document tries to obtain RAN2’s confirmation that the current UE capability signalling allows the UE to indicate band combinations supported with NR-DC, but not with NR CA.

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| **Company name** | **Agree / Disagree** | **Comments** |
| Qualcomm Incorporated | Agree (proponent) |  |
| Nokia | Agree |  |
| Intel | Agree, but | We wonder if there are any network implementations that might be impacted by this. |
| Samsung | Agree |  |

## Clarification on supported NR-DC cell grouping ([R2-2002579](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002579.zip))

This CR tries to clarify the supported cell grouping for NR-DC in release-15.

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| **Company name** | **Support / Not support** | **Comments** |
| Qualcomm Incorporated | Support (proponent) |  |
| Nokia | Support, but… | This is correct but is this clarification really required if that was obvious from RAN4 specifications as we understand it. |
| Intel | Ok | If RAN2 wants the clarification. |
| Samsung | Support, but | We have same view with Nokia. |

## Correction to need code for *capabilityRequestFilterCommon* ([R2-2002724](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002724.zip))

This CR tries to clarify the UE behaviour when the UE capability filter *capabilityRequestFilterCommon* absent.

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| **Company name** | **Support / Not support** | **Comments** |
| Qualcomm Incorporated | Support |  |
| Nokia | Support, but… | The problem makes sense but 3 immediate questions:  Q1: Why is standalone impacted? The filter is for MR DC only  Q2: Why would a network not send it? Isn't it bad network implementation?  Q3: If Q2 is yes, then is a clarification really needed or maybe we just clarify that the network is expected to set that otherwise UE behavior is unspecified? |
| Intel | Support |  |
| Samsung | Neutral | We are not sure this change is really needed. From our understanding, filters are not applied if this *capabilityRequestFilterCommon* field is absent. |

## Correction to *RequestedCapabilityCommon* ([R2-2003463](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003463.zip), [R2-2003464](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003464.zip))

This CR tries to clarify that the requirement that the UE capability filters are set consistently also applies to the following UE capability filters as well, *UE-CapabilityRequestFilterCommon* in 38.331 and *requestedCapabilityCommon* in 36.331.

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| **Company name** | **Support / Not support** | **Comments** |
| Qualcomm Incorporated | Support |  |
| Nokia | Support |  |
| Intel | Support |  |
| Samsung | Support |  |

**Proposal 1: xxxx**

# Discussion: Part 2

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# Conclusion

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# Reference

[1]