3GPP TSG-RAN WG2 #113bis-e R2-210xxxx

Electronic meeting, 12th April – 20th April 2021

Agenda Item: 8.17

Source: Ericsson

Title: Summary of [AT113bis-e][034][1024QAM]

Document for: Discussion, Decision

# 1 Introduction

This document is to handle the following email discussion:

* [AT113bis-e][034][1024QAM] (Ericsson)

 Scope: Take into account relevant tdocs. Progress RAN2 configuration CR (not UE cap). Can consider whether to send LS.

 Intended outcome: Agreed in principle CR. If applicable, approved LS out.

 Deadline: Deadline for Comments Mon April 19. Allow for checking until EOM.

Regarding the deadlines, I would like to set the following deadline for providing comment:

- Deadline on **Monday April 19 1200 UTC** to agree the CRs (where applicable) and final check.

# 2 Contact information

|  |  |
| --- | --- |
| Company (Name) | Email |
| Nokia  | Tero.Henttonen@nokia.com |
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| Huawei, HiSilicon | zhaoli8@huawei.com |
| Ericsson | antonino.orsino@ericsson.com |

# 3 Discussion

According to the LS received in [R2-2102619](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_113bis-e/Docs/R2-2102619.zip) it is quite clear that what RAN1 is asking us is to introduce basically three new RRC parameters:

- A new mcs-Table-r17 field in PDSCH-Config IE

- A new mcs-TableDCI-1-2-r17 field in PDSCH-Config IE

- A new cqi-Table-r17 in CSI-ReportConfig IE

However, from the current RRC specification, the field cqi-Table within CSI-ReportConfig IE has a spare value that can be used and there is not really needed to introduce a new field.

Further, even if RAN1 is asking RAN2 to call the codepoint for the cqi-Table-r17 as “1024qam”, it would be good to align the terminology with respect to that one that we have since Rel-15 and thus have “table4” as name of the codepoint instead.

This of course mean that RAN1 should be informed about this small changes since their specification(s) may need to be updated. On top of this, it would be also good to inform RAN4 that RAN2 work may be done (except for capabilities), if we are able to endorse the RRC CR in this meeting.

Given this, and taking the CR in [R2-2103665](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_113bis-e/Docs/R2-2103665.zip) as baseline for discussions, we would like to ask the following two questions to companies:

**Question 1**: Do company agree with the changes proposed in CRs [R2-2103665](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_113bis-e/Docs/R2-2103665.zip) for introducing DL 1024QAM in NR?

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| Company  | Agree (y/n) | Comments |
| Nokia, Nokia Shanghai Bell | yes | Proponent  |
| OPPO | Yes but | We are general fine but with several comments as following:1, for the CQI table within CSI-ReportConfig , it would safer to introduce a new IE if we want to endorse the Rel-17 CR now since we never know whether this spare value will be spended for Rel-16 spec or not. Or alternatively we can choose not to endorse the CR now till the end of Rel-17.2, in the RAN1 LS, the parameter table show parameter mcs-Table-r17 is only applicable for DCI format 1\_1, however in the field description, DCI format 1\_0 is also covered i.e. it is not aligned with RAN1’s agreement3, parameter ***mcs-Table*** and mcs-Table-r17 are exclusive with each other w.r.t. DCI format 1\_1, but not for DCI format 1\_0, so the field description should be corrected in this aspect. ***mcs-TableDCI-1-2***  and **mcs-TableDCI-1-2-v17xy** are exclusive with each other for sure. On the other hand both IEs are optional, so technically it can be left for network’s implementation, or?4, Just wonder which suffix should be used, r17 or V17xy? |
| Huawei, HiSilicon | See comments | 1. We think we should use r17 instead of v17xy for the two new MCS tables as the new tables do not need to work on top of the original tables.
2. Based on RAN1 LS, the new MCS tables apply to DCI 1-1/1-2 with CRC scrambled by C-RNTI and CS-RNTI, this should be reflected in the field description.
3. As the legacy IEs and new IEs are all optional, it is more reasonable to restric the NW from simultaneous configuraiton of legacy and new IEs instead of requiring the UE to ignore the legacy IE when configured simultaneously.
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| Ericsson | Yes | We do not think that creating a new cqi-Table field is needed when the existing one should be reused. At the end the spare value that is there is not exclusively for Rel-16 and we see quite difficult that we are going to introduce a new CQI table in Rel-16.For the fact that mcs-Table-r17 is only applicable to DCI format 1\_1, we think that this is correct and thus should be reflected in the CR.Regarding the suffix, we still think that the new field are somehow an extension of the existing one and this is way we chose to use “v17xy”. However, we can go with majority view as far as is clear that the network shall not configure both existing and new field together.For the comment related to add in the field description “CRC scrambled by C-RNTI and CS-RNTI”, we are wondering if this is really needed. At the end, there is the RAN1 reference in the field description and this should be more than enough.  |

**Question 2**: Do company agree to send an LS to RAN1 and RAN2 to inform RAN1 about the changes made by RAN2 to the RRC parameters requested by RAN1 and to inform RAN1/RAN4 about the RAN2 progresses (please check [R2-2103666](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_113bis-e/Docs/R2-2103666.zip) as reference when providing comments)?

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| Company  | Agree (y/n) | Comments |
| Nokia, Nokia Shanghai Bell | yes | One possible thing that could perhaps be added to the LS would be to remind RAN1/4 to provide the UE capabilities to the feature to RAN2 on time (this is anyway expected but a reminder doesn't hurt since this WI ended early). For example: "*RAN2 would also like to request RAN1/4 to provide RAN2 with the UE capability information for this feature once it's available so those can be taken into account in RAN2 work.*"  |
| OPPO |  | It depends on whether new cqi-Table-r17 is introduced or not. Otherwise we don’t see it is necessary to have this LS. |
| Huawei, HiSilicon | No | We don’t think a LS is needed as in RAN1 spec, they already use table 4 for the CQI table with 1024QAM entries. And there is no need to inform RAN1 how we made the changes to the RRC parameters as what we changed is totally the same as the request from RAN1 LS. So the point here is whether it is needed to inform RAN1 we endorse the CR, from our perspective, this is also not necessary.  |
| Ericsson | Yes | We think that an LS is beneficial because we can inform RAN1 and RAN4 that we endorsed the CRs in RAN2 (same as RAN1 did to us).We can also inform RAN1 that we did not implemented a new cqi-Table-r17 but we rather used the old one. Further we also need to clarify that the value of the cqi-Table-r17 is not “1024qam” as requsted by “table4”. This is something that we typically do to keep a sort of alignment between RAN2 and RAN1 specifications.Also, we agree with Nokia comment that an LS is also beneficial to inform RAN1 and RAN4 that RAN2 is expecting the UE capabilities, if these two WGs decide to have some.  |

# Conclusion

Based on the discussion in the previous sections we propose the following:

# References