**3GPP TSG-RAN WG1 Meeting #108-e R1-220xxxx**

**e-Meeting, February 21st - March 3rd, 2022**

**Agenda Item: 7.2.1**

**Source: Moderator (ZTE)**

**Title: Summary of preparation phase email discussion for Rel-16 2-step RACH**

**Document for: Discussion**

# Introduction

This document contains the summary of issues related to the maintenance of Rel-16 2-step RACH WI in RAN1#108-e meeting. The following email discussion is initiated to collect companies’ views:

[108-e-Prep-AI7.2.1] Preparation phase for Rel-16 NR 2-step RACH maintenance

# Preparation phase discussion

The following 2 CRs are submitted to the maintenance of Rel-16 2-step RACH in RAN1#108-e.

|  |  |  |  |
| --- | --- | --- | --- |
| Issue # | Description | Affected spec | TDoc # |
| 1 | In TS38.213 section 6, it is mentioned that the PDCCH reception that determines the completion of CBRA procedure is described in clause 5.1.5[11, TS38.321], but the quoted clause is for 4 step RACH only, it’s suggested to add clause 5.1.4a for 2 step RACH as well.Note: these 2 contributions are for Rel-16 and Rel-17 specs respectively.  | TS38.213 | R1-2201065 vivoR1-2201066 vivo |

To share the views on the necessity of the above issues, please fill in ‘Yes/No/Editorial’ to the table below. If it’s considered as Editorial, please also indicate whether you agree with the editorial change.

|  |  |  |
| --- | --- | --- |
| Company | Issue #1 | Comments |
| Qualcomm | Editorial | OK with the editorial changes for TS 38.213 suggested in R1-2201065/6. |
| vivo | Editorial |  |
| Intel | Editorial | Can be considered as alignment CR.  |
|  |  |  |

# Summary

The outcome of email discussion will be updated later.

Any other comments?

|  |  |
| --- | --- |
| Company | Comment |
|  |  |
|  |  |
|  |  |

# References

1. R1-2201065 Draft CR on BFR with 2-step RACH (Rel-16) vivo
2. R1-2201066 Draft CR on BFR with 2-step RACH (Rel-17) vivo

# Appendix

List of proposals in the submitted contributions.

|  |  |
| --- | --- |
| TDoc | Proposals |
| R1-2201065, vivo | ***Reason for change:*** The PDCCH reception that determines the completion of the contention based random access procedure for 4-step RACH and 2-step RACH is described in section 5.1.5 and 5.1.4a of 38.321 respectively. However, this PDCCH reception is said to be also described in section 5.1.5 of 38.321 for 2-step RACH, which is wrong.***Summary of change:*** Clarify that MsgB reception for completion of the CBRA is described in 5.1.4a of 38.321 instead of section 5.1.5 where Msg4 is described.***Consequences if not approved:*** The PDCCH reception that determines the completion of the contention based random access procedure for 2-step RACH is assumed to be described in section 5.1.5 of 38.321, which is wrong.========CR to Rel-16 TS38.213=======**6 Link recovery procedures**\*\*\* *Unchanged text* *omitted* \*\*\*For the PCell or the PSCell, if BFR MAC CE [11, TS 38.321] is provided in Msg3 or MsgA of contention based random access procedure, and if a PUCCH resource is provided with *PUCCH-SpatialRelationInfo*, after 28 symbols from the last symbol of the PDCCH reception that determines the completion of the contention based random access procedure as described in clause 5.1.5 or clause 5.1.4a of [11, TS38.321], the UE transmits the PUCCH on a same cell as the PRACH transmission using- a same spatial filter as for the last PRACH transmission - a power determined as described in clause 7.2.1 with $q\_{u}=0$, $q\_{d}=q\_{new}$, and $l=0$, where $q\_{new}$is the SS/PBCH block index selected for the last PRACH transmission.\*\*\* *Unchanged text* *omitted* \*\*\* |
| R1-2201066, vivo | ***Reason for change:*** The PDCCH reception that determines the completion of the contention based random access procedure for 4-step RACH and 2-step RACH is described in section 5.1.5 and 5.1.4a of 38.321 respectively. However, this PDCCH reception is said to be also described in section 5.1.5 of 38.321 for 2-step RACH, which is wrong.***Summary of change:*** Clarify that MsgB reception for completion of the CBRA is described in 5.1.4a of 38.321 instead of section 5.1.5 where Msg4 is described.***Consequences if not approved:*** The PDCCH reception that determines the completion of the contention based random access procedure for 2-step RACH is assumed to be described in section 5.1.5 of 38.321, which is wrong.========CR to Rel-17 TS38.213=======**6 Link recovery procedures**\*\*\* *Unchanged text* *omitted* \*\*\*For the PCell or the PSCell, if BFR MAC CE [11, TS 38.321] is provided in Msg3 or MsgA of contention based random access procedure, and if a PUCCH resource is provided with *PUCCH-SpatialRelationInfo*, after 28 symbols from the last symbol of the PDCCH reception that determines the completion of the contention based random access procedure as described in clause 5.1.5 or clause 5.1.4a of [11, TS38.321], the UE transmits the PUCCH on a same cell as the PRACH transmission using- a same spatial filter as for the last PRACH transmission - a power determined as described in clause 7.2.1 with $q\_{u}=0$, $q\_{d}=q\_{new}$, and $l=0$, where $q\_{new}$is the SS/PBCH block index selected for the last PRACH transmission.\*\*\* *Unchanged text* *omitted* \*\*\* |