**3GPP TSG-RAN WG2 Meeting #131bis R2-250xxxx**

**Prague, Czech Republic, Oct. 13-17, 2025**

**Agenda item: 8.11.1**

**Source: Samsung**

**Title: List of Rel-19 SBFD MAC open issues for maintenance**

**Document for: Discussion and Decision**

# Introduction

This offline discussion aims to collect and summarize Rel-19 SBFD MAC open issues/suggested resolutions for maintenance, compared to the agreed Rel-19 SBFD MAC CR [1], according to the instructions from Chairlady captured below.





As the result of this discussion, the Rapporteur will provide a summary outlining:

- the issues (if any) requiring further discussion with tdoc contributions in RAN2#131bis, and

- the non-controversial/editorial issues (if any) that will be handled by Rapporteur CR in RAN2#131bis, as well as the draft Rapporteur CR for review before submission deadline.

Kindly provide your input for this discussion, no later than **Sep. 19, 10:00 UTC**.

Please provide your contact information in the table below when responding.

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| --- | --- | --- |
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# Co-existence of SBFD and intra-DU LTM

We have agreed to support the coexistence of SBFD and intra-DU LTM in the last meeting [2], as captured below.

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| Email discussion summaryR2-2505364 Summary of [Post130][216][SBFD] Running CR for 38.331 Huawei, HiSilicon discussion Rel-19 NR\_duplex\_evo-Core* Noted

*[Proposals for easy agreement]:**[Proposal for RRC-2] Not to support that a further different SSB RSRP threshold is indicated/configured for an SSB or a group of SSBs. [13/13]**[Proposal for RRC-3] Not to pursue the further optimization of parameter signalling of SBFD RACH configuration. [11/12]**[Proposal for RRC-6] (Only) support RACH-based LTM cell change in SBFD symbols [10/11]. Add RO type indication in LTM cell switch command MAC CE.* *[Proposals for discussion]:**[Proposal for RRC-1] For the network indicating RO type, use 1 bit signalling (as in the current RRC running CR) [9/13].** Not to support that a further different SSB RSRP threshold is indicated/configured for an SSB or a group of SSBs.
* Not to pursue the further optimization of parameter signalling of SBFD RACH configuration.

DiscussionsRRC-6- Samsung object this proposal. Samsung think this should be discussed in LTM session. - InterDigital think there is majority so we can agree, think we can discuss in SBFD because it is co-existence with Rel-18 LTM. Nokia, LG E, ZTE, CATT agree. - ZTE think at least for intra-DU case we should be able to agree. QC agree with ZTE, think if we cannot conclude here it is not easy to agree in LTM session either. Ericsson, CATT agree. - Samsung also has concern because there is RAN3 impact, and it is the last meeting for the WI. ZTE think if we focus on intra-DU, then there is not additional R3 impact. - Samsung wonder if we agree which WI should handle the necessary MAC spec change. * Support co-existence of SBFD with intra-DU LTM. Whether to support the co-existence between SBFD and other LTM cases is not discussed in the Rel-19 SBFD WI.
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***Question: Do companies think additional MAC spec change(s) compared to the agreed MAC CR [1] is needed for supporting the co-existence of SBFD and intra-DU LTM? Please provide the suggested change(s) if any.***

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| **Company** | **Any change is needed? (Yes/No)** | **Suggested change(s), if any** |
| ZTE | Yes | If SBFD RO can be used when UE performs intra-DU LTM, source cell should include the RO type indicator of LTM CFRA resource in both Rel-18 LTM Cell Switch Command MAC CE and Rel-19 Enhanced LTM Cell Switch Command MAC CE. Intra-DU LTM can use both MAC CEs, if security key needs update, source cell will send Rel-19 MAC CE; if security key does not need update, source cell will send Rel-18 MAC CE.BTW, for the above spec change, there is no additional RAN3 spec impact |
| Ericsson | Yes or No | We are fine with either way, with the changes proposed by ZTE, LTM can be better supported with SBFD, without the changes, it is also workable, i.e., UE relies on dedicated RRC signaling to derive RO type. |
| IDC | Yes | Since RAN2 agreed to support co-existence of SBFD with intra-DU LTM, this agreement should be captured/specified in MAC spec.As ZTE mentioned, RO type indication can be included in the Rel-18 and Rel-19 LTM cell switch MAC CE (e.g., intra-DU LTM case) |
| Qualcomm | Yes | RO type indication can be included in the Rel-18 and Rel-19 LTM cell switch MAC CE in Rel-19 MAC specification. |
| vivo | Yes  | Share the same view as ZTE. |
| LGE | Yes, slightly | In our understanding, if the RO type can be indicated via RRC signalling (i.e., RO type indication via RACH-ConfigDedicated IE) for LTM cell switch, it could also be indicated by the LTM cell switch MAC CE with similar reason. For RAN3 impact, aligned with ZTE, i.e., there is no additional RAN3 impact for indicating RO type in LTM Cell switch MAC CE. |
| Huawei, HiSilicon | Yes with comments | The understanding during online session was to use a separate CR (not MAC running CR) to add RO type indicator in Rel-19 LTM cell change command MAC CE and it was assumed not to change Rel-18 MAC CE (contrary to what was proposed in the pre RAN2#131 RRC open issue discussion summary). Calling it Rel-18 MAC CE in a Rel-19 CR/spec seems odd, however we are fine if majority thinks Rel-18 MAC CE is to be used when security key does not need update as in ZTE comments.  |

**Summary**:

# Other MAC open issues for maintenance

Please share any other identified MAC open issues for maintenance, by explaining what the issue is, and the suggested change(s), including editorial improvement. Note that, as the WI has been declared complete, the Rapporteur will not consider the issue(s) involving any further functional changes, for further discussion.

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| **Company** | **Identified issues** | **Suggested change(s)** | **Rapp comment** |
| Ericsson | *sbfd-RO-Type is not included in the parameter list in clause 5.1.1* | Include *sbfd-RO-Type in the parameter list* |  |
| Ericsson | 1> if the *RO\_TYPE* is set to *2nd-RO*:2> set the *RA\_TYPE* to *4-stepRA*.The above condition highlighted in yellow is not needed/wrong.The logic is that: it can be up to gNB configuration to ensure that 2-step RA and SBFD will not be present in the same cell/BWP. | There may be several options to address the scenario, where the SBFD aware UE is configured with both 2-step RA and SBFDOption 1 – up to gNB configuration to ensure that 2-step RA and SBFD will not be present in the same cell/BWP.RAN2 can further check if some restriction text is needed in RRC.Option 2 – UE has 2-step RA and SBFD RO selected, UE falls back to 4-step RA (as captured in the rapporteur CR)Option 3 – UE has 2-step RA and SBFD RO selected, UE falls back to legacy RO. |  |
| LGE | As we commented during the CR review, it may be needed to be clarified that the highlighted preambleReceivedTargetPower should not be the value included in the *sbfd-RACH-DualConfig,* which is not used for initialization when the UE selects the 2nd-RO. 5> else (i.e., the received UL grant indicates that the corresponding PUSCH transmission is in non-SBFD symbols as specified in clause 11.1 of TS 38.213 [6]):6> indicate the preambleReceivedTargetPower and the amount of power ramping applied to the latest Random Access Preamble transmission to lower layers (i.e. (PREAMBLE\_POWER\_RAMPING\_COUNTER – 1) × PREAMBLE\_POWER\_RAMPING\_STEP + POWER\_OFFSET\_2STEP\_RA + POWER\_OFFSET\_RO\_TYPE); | If the 1st RO is selected for preamble transmission but the Msg3 PUSCH is transmitted in SBFD symbol, the *preambleReceivedTargetPower* in *sbfd-RACH-DualConfig* should be used even though it is not used for initialization. It is already captured as follows:

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| 6> else if sbfd-RACH-DualConfig (see TS 38.331 [5]) is configured for the Random Access procedure:7> indicate the preambleReceivedTargetPower included in the sbfd-RACH-DualConfig, and the amount of power ramping applied to the latest Random Access Preamble transmission to lower layers (i.e. (PREAMBLE\_POWER\_RAMPING\_COUNTER – 1) × PREAMBLE\_POWER\_RAMPING\_STEP + POWER\_OFFSET\_2STEP\_RA + POWER\_OFFSET\_RO\_TYPE). |

Therefore, for the mentioned case, similar text may be used, e.g.,

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| 5> else (i.e., the received UL grant indicates that the corresponding PUSCH transmission is in non-SBFD symbols as specified in clause 11.1 of TS 38.213 [6]):6> indicate the preambleReceivedTargetPower (not included in sbfd-RACH-DualConfig) and the amount of power ramping applied to the latest Random Access Preamble transmission to lower layers (i.e. (PREAMBLE\_POWER\_RAMPING\_COUNTER – 1) × PREAMBLE\_POWER\_RAMPING\_STEP + POWER\_OFFSET\_2STEP\_RA + POWER\_OFFSET\_RO\_TYPE); |

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**Summary**:

# Conclusions

The following issues have been identified based on the discussion.

**Issues for further discussion with tdoc contributions in RAN2#131bis:**

**…**

**Issues that will be handled by Rapporteur CR for RAN2#131bis:**

**…**

# References

1. R2-2506606 Introduction of Rel-19 Evolution of NR duplex operation (SBFD) for MAC spec, CR#2106, Samsung
2. R2-2506202 Report from session on Rel-18 MIMO, Rel-19 MIMO, LPWUS, SBFD, NR Others RAN2 Vice Chairman (CATT)