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| --- | --- | --- |
| **Company** | **Comment** | **Rapp Response**  |
| OPPO | 5.22.1.13> else if one or more HARQ retransmissions are selected and the selected resource pool is not Dedicated SL-PRS resource pool and no resources were selected for more than one transmission opportunities:This addition would lead to consequence that **if MCSt is used, there is no chance for UE to enter into the HARQ re-transmission branch**, which is wrong, since based on the NOTE below, there is for sure a case where even if MCSt is used, HARQ re-transmission is also usedNOTE 3Aa: For Multi-consecutive slots transmission as specified in clause 8.1.4 of TS 38.214 [7], during resource (re)selection, leave it to UE implementation, regarding whether to calculate the number of HARQ retransmissions from the allowed numbers based on the number of MCSt transmissions, or the number of slot(s) within Multi-consecutive slots transmission.And thus the following part is confusing, since for MCSt, the decision of N (see the following note) and the decision of HARQ re-transmission number is two independent decisions, now seems we mix them together?6> randomly select the time and frequency resources for one transmission opportunity from, or for more than one opportunities corresponding to the selected number of HARQ retransmissions (if MAC entity decides a number of consecutive slots for Multi-consecutive slots transmission other than SL-PRS larger than 1), the resources indicated by the physical layer as specified in clause 8.1.4 of TS 38.214 [7] which occur within the SL DRX Active time, if configured, as specified in clause 5.28.2 of the destination UE selected for indicating to the physical layer the SL DRX Active time above, according to the amount of selected frequency resources, the remaining PDB of SL data available in the logical channel(s), and the remaining SL-PRS delay budget of the SL-PRS transmission(s), if available, allowed on the carrier. NOTE 3Ae: MAC entity, based on UE implementation, decides whether to indicate the number of consecutive slots for Multi-consecutive slots transmission as specified in clause 8.1.4 of TS 38.214 [7] larger than 1. | For now, I have the same view as OPPO on the two corrections below. Let's also look at the views of other companies (including the proponents). |
| OPPO | 5.22.1.1NOTE 3B8: UE is not expected to be (pre-)configured with both random selection and sl-NRPSSCH-EUTRA-ThresRSRP-List in the same resource pool applies only to NR SL normal resource pool. This does not apply to the NR SL exceptional pool.It seems more a restriction to be captured by RRC? But no strong view, if we go with MAC, some minor rewording. | I also prefer to resolve this restriction issue in RRC. Therefore, in the normative text, I did not modify the part of the procedure in which the UE performs random selection-based resource selection in Co-Ex. However, wouldn't it be better to indicate the exceptional pool-related part as a NOTE in MAC even if the restriction is resolved in RRC? If companies prefer not to mention anything about this part in the MAC, I can remove the suggested NOTE. |
| OPPO |  |  |
| CATT/CICTCI | Regarding the first comment from OPPO, we understand that HARQ retransmissions can also be selected in the first branch by saying:6> randomly select the time and frequency resources for one transmission opportunity, or for more than one opportunities (if MAC entity decides a number of consecutive slots for Multi-consecutive slots transmission other than SL-PRS larger than 1)Even if MCSt is used, HARQ retransmissions are also allowed to be selected based on the above revision. However, if the high-light part below is not added in the second (HARQ retransmission) branch, the UE behavior is unclear, e.g., how many HARQ retransmissions should be selected in the first branch and how many for the second branch.3> else if one or more HARQ retransmissions are selected and the selected resource pool is not Dedicated SL-PRS resource pool and no resources were selected for more than one transmission opportunities:Hope the above explanation can address OPPO’s concern and we prefer to keep the green high-light part above. [OPPO] thanks for the feedback. Please note that the part used for initial Tx resource selection and Re-Tx resource selection is a bit different, e.g., there is some additional restriction to the Re-Tx resource selection (but not for the initial-Tx resource selection part)7> randomly select the time and frequency resources for one or more transmission opportunities from the available resources which occur within the SL DRX Active time, if configured, as specified in clause 5.28.2 of the destination UE selected for indicating to the physical layer the SL DRX Active time above, and the pool(s) in which all RB sets with Sidelink consistent LBT failure detected and not cancelled and the resources of which the lowest sub-channel includes intra cell guard band PRBs if *sl-transmissionStructureForPSCCHandPSSCH* is set to 'contiguousRB' are excluded, if configured, according to the amount of selected frequency resources, the selected number of HARQ retransmissions and the remaining PDB of SL data available in the logical channel(s) allowed on the carrier, and/or the latency requirement of the triggered SL-CSI reporting, and the remaining SL-PRS delay budget of the SL-PRS transmission(s), if available, by ensuring the minimum time gap between any two selected resources in case that PSFCH is configured for this pool of resources, and that a retransmission resource can be indicated by the time resource assignment of a prior SCI according to clause 8.3.1.1 of TS 38.212 [9];So relying on the part for initial-Tx only is not feasible.[CATT/CICTCI]: Thanks OPPO for the feedback. The discussion seems to be clearer. Indeed, there are some different restrictions for the legacy retransmission part as high-lighted above, where* Restriction 1 “the selected number of HARQ retransmissions” can be selected in initial-TX part, as we explained before.
* Restriction 2 “by ensuring the minimum time gap between any two selected resources in case that PSFCH is configured for this pool of resources” is not applicable to MCSt transmissions since we only support MCSt in a pool without PSFCH resources.
* Restriction 3 “that a retransmission resource can be indicated by the time resource assignment of a prior SCI according to clause 8.3.1.1 of TS 38.212 [9]”, we are also fine with adding this part in the first branch.

With the above explanation, we understand it is feasible to rely on the first branch to perform MCSt transmission and the UE behaviour is pretty clear. In contrast, if the second branch is also used to select HARQ retransmissions, we see more issues since it is more complicated and it is hard to determine how many transmissions should be selected in the first branch and how many for the second branch. |  |
| Sharp | We believe OPPO and CATT both agree there might be HARQ retransmissions for MCSt of a single TB/MAC PDU. In our understanding, adding the text “corresponding to the selected number of HARQ retransmissions” aims to address OPPO’s first comment that the addition of text “no resources were selected for more than one transmission opportunities” actually leads to situation that MCSt cannot enter HARQ retransmission loop, i.e. selecting all the resources for initial transmission and HARQ retransmissions in the first loop. If OPPO holds the opinion that the text “corresponding to the selected number of HARQ retransmissions” is confusing, we propose our previous version as follows,6> randomly select the time and frequency resources for one transmission opportunity from, or for more than one opportunities ~~corresponding to the selected number of HARQ retransmissions~~ (if MAC entity decides a number of consecutive slots for Multi-consecutive slots transmission other than SL-PRS larger than 1),[…]3> else if one or more HARQ retransmissions are selected and the selected resource pool is not Dedicated SL-PRS resource pool and the number of selected transmission opportunities is less than the selected number of HARQ retransmissions if MAC entity decides a number of consecutive slots for Multi-consecutive slots transmission other than SL-PRS larger than 1 ~~no resources were selected for more than one transmission opportunities~~ :[…]With above case, UE firstly selects the number of more than one transmission opportunities (n\_MCSt) and secondly selects remaining resources if n\_HARQ>n\_MCSt. That is, in a word, to allow to enter HARQ retransmission loop for MCSt case if resources are not enough in the first loop (branch 6>).Regarding CATT’s original version, we think it is not clear enough. Specifically, without allowing to enter the HARQ retransmission loop, the UE has to select all the resources (n\_HARQ) in the first loop (6>), while whether the UE selects n\_MCSt resources or n\_HARQ resources is ambiguous, which is the motivation for the addition of the text “corresponding to the selected number of HARQ retransmissions”.[OPPO] thanks for this comment. For the idea that “**secondly selects remaining resources if n\_HARQ>n\_MCSt**”, it seems limited to one of the implementation in the following NOTE, but not the other. Since if we go with the other approach, HARQ Re-Tx may still happen in case of n\_HARQ (e.g., = 2) < n\_MCTs (e.g., = 4), right?NOTE 3Aa: For Multi-consecutive slots transmission as specified in clause 8.1.4 of TS 38.214 [7], during resource (re)selection, leave it to UE implementation, regarding whether to calculate the number of HARQ retransmissions from the allowed numbers based on the number of MCSt transmissions, or the number of slot(s) within Multi-consecutive slots transmission. |  |
| Huawei, HiSilicon | Regarding NOTE 3B8, the description is on "configuration" and it should be, typically, captured in RRC spec. We thus prefer not to add this NOTE in MAC spec. It can be up to discussion whether we add a description in RRC or not. In the original meeting agreement for this restriction, it was said " we don’t need to capture them in the spec. We can leave them into NW implementation".  | Thanks for the comment.Ok. I will remove the NOTE in the final version.  |
| Rapporteur | * Regarding the MCSt correction.

- Rapporteur view on the 1st correction (“corresponding to the selected number of HARQ retransmissions”): RAN2 has never agreed on a resource selection procedure that considers “the number of consecutive slots” and “the number of HARQ retransmissions” together. SHARP's proposed text seems to be a new issue that requires a RAN2 agreement. Additionally, it seems that no company except proponent agrees with the text. Therefore, it is difficult to include this text in the final CR.- Rapporteur view on the 2nd correction (“no resources were selected for more than one transmission opportunities”): As you know, the legacy resource selection procedure is separated into the initial transmission resource loop and HARQ retransmission resource loop. However, when reflecting the MCSt operation, the HARQ retransmission resource was selected from the initial transmission loop, breaking the logic of the legacy resource selection operation. Rapporteur has considered a TP to reflect MCSt behavior while maintaining the logic of legacy resource selection, but has not yet found a suitable solution other than the CATT proposal. Therefore, how about first reflecting the CATT proposed TP in the CR at this meeting, and preparing a TP (If there is a suitable solution) that can support MCSt operation while maintaining the logic of legacy resource selection at the next meeting? [OPPO] thanks for the further view. As replied to CATT above, we feel that the current way (ignore the Re-Tx loop) is not correct. We agree with using a DP/TP to clarify this issue next meeting. But tend to avoid agree with the CR this meeting, i.e., no need to agree on something we have not reach consensus (given the limited time). We can list the options next meeting for companies to share view and to conclude.[CATT/CICTCI]: We share the same view as the rapporteur. Hope our previous feedback can address OPPO’s concern.[Rapporteur] Even though the email discussion deadline is approaching, there still seems to be a GAP between companies on this issue. This issue was first raised at this meeting, and it seems undesirable to urgently reflect the agreement in the CR while the technical concern is still unresolved. Therefore, as OPPO (WI Rapporteur) suggested, it seems to be the right decision to provide companies with time to think about a stable solution to this issue and proceed with discussions based on the prepared solution at the next meeting. I would appreciate it if the proponent (CATT) would consider this. |  |
| vivo | Regarding the MCSt 1st correction, we have an understanding that for approach 2, the selected “the number of consecutive slots” actually equals to [the selected “the number of HARQ retransmissions” +1], and thus agrees with CATT TP’s intention. However, RAN2 does not have an agreement on that, and not to add (“corresponding to the selected number of HARQ retransmissions”) is also fine without disrupting the implementation. Therefore, we do not have a strong view on whether we should have the 1st correction or not. For the 2nd correction, we feel sympathy having it right at the place where CATT proposed. Because the PHY layer provides candidate MCSt resource to the MAC layer for resource selection, which means the MAC selects the re-tx resources along with the init-tx resource from the candidate MCSt resource all at once, rather than selecting them separately as the legacy way for licensed band operation (The UE firsts select init-tx resource and then enters re-tx resource selection loop). Yet, maybe there’s some better wording. It still reads a bit weird to us. | TP for this issue will not be included in CR. After further consideration of the three solutions below and other options raised through discussion, this issue will be re-discussed at the next meeting based on contributions.Solution-1: do not use the Re-Tx loop (CATT)Solution-2: use the Re-Tx loop, only for the case where n\_HARQ > n\_MCSt (Sharp)Solution-3: use the Re-Tx loop, similar to legacy, i.e., n\_HARQ > 1 (OPPO) |
| Apple | 5.22.1.1. the change for MCSt, I have the same understanding with OPPO that number of slots in multi-slot MCSt are not directly linked to number of HARQ retransmissions. So, we at least need remove *“Corresondings to the selected number of HRQ…*”.We would like to have the similar text in Re-Tx branch too and we oppose the CATT change to add the extra condition “and no resources were selected for more than one transmission opportunities“ for Re-Tx branch. This note is too restrictive and put unnecessy restraints for UE implementation. In overall, the UE implementation shall be able to decide whether/how to use multiple MCSt transmissions to cover the total number of HARQ transmissions, w/ or w/o incombinaiton with single-slot transmissions.If there is confusion about how Muti-slot and HARQ Re-Tx are entangled and how to considered both together, we can add a NOTE to say that this is up to UE implementation.Also, for the new text before the comma “,”, the word “from” needs to moved after comma. Also, I do not think it is good to put a “()” around the if condition “if MAC entity decides a number of consecutive slots for Multi-consecutive slots transmission other than SL-PRS larger than 1 “, the parenesis can be removed.  | TP for this issue will not be included in CR. After further consideration of the three solutions below and other options raised through discussion, this issue will be re-discussed at the next meeting based on contributions.Solution-1: do not use the Re-Tx loop (CATT)Solution-2: use the Re-Tx loop, only for the case where n\_HARQ > n\_MCSt (Sharp)Solution-3: use the Re-Tx loop, similar to legacy, i.e., n\_HARQ > 1 (OPPO) |
| Apple | Regarding NOTE 3B8, we prefer to put this in RRC spec. |  |
| Apple | In change of 5.22.1.2b,There is quite a duplication of the text in regards of legacy case because for the legacy case and for “when SCS of NR SL is (pre-)configured as μ = 0” case, UE behavior are basically the same. Then, we should simply change the text ordering as below:2> If *sl-NRPSSCH-EUTRA-ThresRSRP-List* is configured by the RRC and when SCS of NR SL is (pre-)configured as *μ* = 1: 3> randomly select the time and frequency resources in the second of NR SL slots of NR SL slots overlapping with an LTE SL subframe to which the selected transmission resources belongs, or select the time and frequency resources in the first of NR SL slots overlapping with an LTE SL subframe for one transmission opportunity from the available resources indicated by the physical layer as specified in clause 8.1.4 of TS 38.214 [7] excluding the conflict resource(s) for the removed resource, according to the amount of selected frequency resources, the selected number of HARQ retransmissions and the remaining PDB of either SL data available in the logical channel(s), and the remaining SL-PRS delay budget for SL-PRS transmission, if available, by ensuring the minimum time gap between any two selected resources of the selected sidelink grant in case that PSFCH is configured for this pool of resources, and that a resource can be indicated by the time resource assignment of an SCI for a retransmission according to clause 8.3.1.1 of TS 38.212 [9].2> else: <keep the legacy text>Also, “resources in the second of NR SL slots of NR SL slots “, duplicate “NR SL slot” needs to be removed. | In order to have the same structure as scheme 1, I prefet to keep the current structure for now. Typo fixed in V03. |
| Apple | For the NOTE 6 added based on ZTE discussion paper, we think there are So many “and”in this NOTE. How about using the text below instead“If RRC indicates the MAC layer to use the legacy carrier in Sidelink CA PDCP duplication for backwards-compatibility, it is up to….”Also, need to add “the” before “legacy carrier” | Thanks for your suggestion. Text has been updated based on your suggestion.  |
| Apple  | For the text adopted from 7594, prefer to keep the style used in the TP in 7594 for the change in 5.22.1.1.… |  |
| Apple | For the change in 5.22.1.11The MAC entity shall perform the TX carrier (re-)selection as specified in in clause 5.22.1.1, such as TX carrier (re-)selection for the logical channel when TX carrier (re-)selection for a Sidelink Inter-UE Coordination Request MAC CE, and/or a condition-based Sidelink Inter-UE Coordination Information MAC CE, and/or a Sidelink DRX Command MAC CE is triggered.First, “as specified in in clause 5.22.1.1” part is confusing, the Tx carrier selection procedure is specified in 5.22.1.11. nor in 5.22.1.1. We need to remove this part. Maybe we can simply say Second, “a condition-based Sidelink Inter-UE Coordination Information MAC CE”. There is no such a term defined anywhere in MAC spec, and the MAC CE format does not indicate whether it is condition-based or not. So, we need to rephrase this.Finally, the procedure change below only covers the “DRX and IUC request“ MAC CE, but not IUC-info CE. So, we need discuss whether IUC-info triggered by a condition can really be free to choose a carrier based on CBR-logics. Maybe we can leave this part to next meeting for further discuss.2> else if Tx carrier (re-)selection is triggered, for a Sidelink DRX Command MAC CE or a Sidelink Inter-UE Coordination Request MAC CE:3> select any pool of resources among the pools of resources except the pool(s) in *sl-BWP-DiscPoolConfig*, *sl-BWP-DiscPoolConfigCommon*, *sl-BWP-PoolConfigA2X* or *sl-BWP-PoolConfigCommonA2X*, if configured or SL-PRS dedicated resource pool, if configured. | “as specified in in clause 5.22.1.1” has been removed in V03.And condition based IUC MAC CE has been removed in the V03. If necessary, I will submit a CR to the next meeting using appropriate wording. |