[100b-e-NR-5G\_V2X\_NRSL-PHYstructure-02]

Email discussion/approval on resource pool configuration - subchannel size and resource pool size

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- A. Whether/how to introduce additional subchannel size and whether the number of PRBs configured for a resource pool should be integer multiple of sub-channel size

 till 4/24, with potential TP till 4/29 – Jeongho (SS)

This document has the following questions.

- A. Whether the number of PRBs configured for a resource pool should be integer multiple of sub-channel size?

- B. Whether/which new numbers is defined for a subchannel size?

# **A. Whether the number of PRBs configured for a resource pool should be integer multiple of sub-channel size?**

Based on the submitted contributions, there are the following alternatives and supporting companies.

* Alt A-1. All numbers of PRBs can be configured and a UE is not expected to use the last subchannel in Rel-16.
  + [vivo], [OPPO], [Sony], [MediaTek], [TCL], [Apple], [Panasonic], [Qualcomm]
* Alt A-2. All number of PRBs can be configured and a different size is used for the last subchannel.
  + [LGE], [Intel], [NTT DCM](assume the same PRBs for TBS determination)
* Alt A-3. Use only integer multiple of subchannel for the resource pool size.

Based on the contributions, the following proposal can be made.

*Proposal 1. For the size of resource pool, numbers of PRBs can be configured and a UE is not expected to use the last subchannel in Rel-16.*

Please share your views if Proposal 1 is agreeable or, if not, please share your views on the reason why it is not workable.

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| **Company** | **Views** |
| NTT DOCOMO | We are supportive of Alt A-2 and Alt A-3, but Alt A-1 is unclear for us.  Let us ask question for Alt A-1: When all numbers of PRBs are (pre-)configured and the PRBs are not a multiple of sub-channel size, does UE need to do something on the remaining PRBs? Does not do anything? If UE does not anything, what is the motivation of Alt A-1? |
| Huawei, HiSilicon | The important point is to avoid PRB wastage in NR V2X, where the cost of doing so is not only in % spectral efficiency, but also in comparisons to other technologies. As we stated in the last meeting, we open to any reasonable solution. We are aware that various configuration options can be used so that not all cases have lost PRBs. But, the assumption we make is that any company wishing to include a configuration which would discard PRBs should have a way to explain how they will reclaim them for some other purpose, before proposal 1 can be considered.  PS. The proposal as written does not seem to operate. |
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# **B. Whether/which new numbers is defined for a subchannel size?**

Based on the submitted contributions, there are the following alternatives and supporting companies.

* Alt B-1. Introduce 11, 12, 13, 17, 19, 27, 53 PRBs as new subchannel sizes
  + [Huawei, HiSilicon]
* Alt B-2. Introduce 4,5,6 as new subchannel size
  + [LGE], [Ericsson], [Spreadtrum], [NEC]
* Alt B-3. No need to define a new size for a subchannel.

Please share your views on this issue and the reason of your views.

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| **Company** | **Views** |
| NTT DOCOMO | Support Alt B-3.  We would like to support Alt B-2, while we are not sure whether decoding performance of PSCCH/2nd-stage SCI is sufficient. In addition, when sufficient PSCCH/2nd-stage SCI could lead to quite small number of REs for SL-SCH. If multiple sub-channels are used in typical case, the motivation of Alt B-2 will be lost. |
| Huawei, HiSilicon | We are open to any reasonable solution: B-1, B-2, or something else. The purpose of our proposal was to show one simple (we hope) way that PRB loss can be avoided without impact on sensing procedures, UE complexity, etc. |
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