[104-e-NR-5G\_V2X-01]: PS-1: SL max data rate – till 1/28, with potential CRs till 2/2– Jeongho (Samsung)

* Editorial changes for FD-OCC, CSI-RS resources, reference in SCI fields, MCS threshold for SL PT-RS can be discussed in the CR preparation.

In this email thread, RAN1 will discuss to confirm the overhead value for the SL max data rate.

***Issue#1: Confirm the overhead values for SL max data rate***

* [5, Samsung], [7, Ericsson]
* In TS38.306, there are brackets for the overhead value in calculation of SL max data rate. RAN1 needs to confirm those values.
* It is recommended to remove brackets.
* A draft LS can be seen in the same folder of this document.

Proposal

The following text proposal is adopted for TS38.306 and send an LS to RAN2 to inform.

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| 4.1.5 Supported max data rate for SLFor NR sidelink, the approximate data rate is computed as follows.$$data rate (in Mbps)=10^{-6}⋅v\_{Layers}⋅Q\_{m}⋅f⋅R\_{max}⋅\frac{N\_{PRB}^{BW,μ}⋅12}{T\_{s}^{μ}}⋅\left(1-OH\right)$$whereinRmax = 948/1024,$v\_{Layers}$ is the the maximum number of supported layers for sidelink transmission (or reception) given by UE capability on supporting rank 2 PSSCH transmission and higher layer parameter *rankTwoReception*,$Q\_{m}$ is the maximum supported modulation order between 6 or 8 given by higher layer parameter *sl-Tx-256QAM* and *sl-Tx-256QAM*,$f$ is the scaling factor for sidelink transmission and reception given by higher layer parameter *scalingFactorTxSidelink* and *scalingFactorRxSidelink* respectively, as specified in TS 36.331 [17] and TS 38.331 [9], and can take the values 1, 0.8, 0.75, and 0.4. is the numerology (as defined in TS 38.211 [6]) is the average OFDM symbol duration in a subframe for numerology , i.e. . Note that normal cyclic prefix is assumed.$N\_{PRB}^{BW,μ}$ is the maximum possible RB allocation in bandwidth BW for PSSCH, where BW is the UE supported maximum bandwidth in the given band or band combination,$OH$ is the overhead and takes the following values0.23, for frequency range FR1 for SL0.25, for frequency range FR2 for SL |

Each company is encouraged to provide the views on the above issue and proposal.

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| Company | Views |
| Sharp | Fine with the proposal. |
| vivo | We are fine to confirm the RAN1 working assumption, but please note that RAN1 cannot agree on a TP of RAN2 spec. We can only inform RAN2 about RAN1’s decision and leave the spec change to RAN2. |
| ZTE,Sanechips | OK with typo correction, prefer to capture it in the reply LS$Q\_{m}$ is the maximum supported modulation order between 6 or 8 given by higher layer parameter *sl-Tx-256QAM* and *sl-Rx-256QAM*, |
| Ericsson | Fine with the proposal and the corresponding LS to RAN2.  |
| NEC | Ok  |
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***Issue#Editorial:***

The following issues will be treated in CR preparation session.

- [4, Intel]: FD-OCC

- [6, Sharp]: CSI-RS resources

- [8, Nokia, NSB]: Reference in SCI fields

- (If agreed in MIMO session for UL PT-RS) [3, LG] MCS threshold for SL PT-RS

# Reference

1. R1-2100135 Draft TP on physical strucutre for NR sidelink OPPO
2. R1-2100410 Maintenance on physical layer structure for NR sidelink vivo
3. R1-2100514 Discussion on essential corrections in physical layer structure LG Electronics
4. R1-2100629 Correction to FD-OCC for PSCCH Intel Corporation
5. R1-2101174 Maintenance for NR Sidelink Physical Layer Structure Samsung
6. R1-2101532 Remaining issues on physical layer structure and procedures for NR sidelink Sharp
7. R1-2101709 Draft\_CR\_TS38.306 Ericsson
8. R1-2101760 Remaining details for Physical layer structure for sidelink Nokia, Nokia Shanghai Bell
9. R1-2100136 Remaining open issues and corrections for physical layer procedure OPPO
10. R1-2100335 Discussion and TPs on physical layer procedures in NR V2X CATT, GOHIGH
11. R1-2100516 Discussion on essential corrections in physical layer procedure LG Electronics
12. R1-2100631 Corrections to sidelink procedures Intel Corporation
13. R1-2100735 Remaining issues on physical layer procedures for NR sidelink Fujitsu
14. R1-2100800 Remaining issues on sidelink physical layer procedure Spreadtrum Communications
15. R1-2101344 Remaining Issues of Sidelink Physical Layer Procedures Apple
16. R1-2101438 Remaining Issues in Physical Layer Procedure Qualcomm Incorporated
17. R1-2101583 Maintenance for sidelink physical layer procedure NTT DOCOMO, INC.
18. R1-2101649 Remaining issues on type-1 HARQ-ACK codebook considering multiple sidelink reosurce pools ASUSTeK
19. R1-2101650 Remaining issues on sidelink procedure ASUSTeK
20. R1-2101733 Correction on determination of PSFCH resources based on a set of configured PRBs Huawei, HiSilicon
21. R1-2100137 Remaining open issues and corrections for mode 1 and mode 2 RA OPPO
22. R1-2100204 Remaining details of sidelink resource allocation mode 2 Huawei, HiSilicon
23. R1-2100334 Discussion and TPs on resource allocation in NR V2X CATT, GOHIGH
24. R1-2100411 Maintenance on resource allocation mechanisms for NR sidelink vivo
25. R1-2100515 Discussion on essential corrections in resource allocation for Mode 1 and 2 LG Electronics
26. R1-2100630 Corrections to Mode-2 resource allocation Intel Corporation
27. R1-2100734 A remaining issue on Mode-1 resource allocation for NR sidelink Fujitsu
28. R1-2100799 Remaining issues in NR sidelink mode 2 resource allocation Spreadtrum Communications
29. R1-2100937 Remaining issues on mode1 ZTE, Sanechips
30. R1-2100938 The slot set for SL resource allocation procedure ZTE, Sanechips
31. R1-2100945 Remaining issues on resource allocation mode 2 NEC
32. R1-2101073 Remaining issues on resource allocation mode 2 for NR V2X ETRI
33. R1-2101175 Draft CR on Sidelink Physical Duration to Logical Slot Conversion Samsung
34. R1-2101176 Maintenance for NR Sidelink Mode 2 Operation Samsung
35. R1-2101345 Remaining Issue of Mode 1 Resource Allocation Apple
36. R1-2101346 Remaining Issues of Mode 2 Resource Allocation Apple
37. R1-2101436 Remaining Issues in Mode 1 Resource Allocation Qualcomm Incorporated
38. R1-2101437 Remaining Issues in Mode 2 Resource Allocation Qualcomm Incorporated
39. R1-2101533 Remaining issues on resource allocation for NR sidelink Sharp
40. R1-2101571 Remaining issues on sidelink mode 2 ASUSTeK
41. R1-2101581 Maintenance for resource allocation mechanism mode 1 NTT DOCOMO, INC.
42. R1-2101582 Maintenance for sidelink synchronization and mode 2 NTT DOCOMO, INC.
43. R1-2101759 Remaining details for Resource allocation for sidelink - Mode 2 Nokia, Nokia Shanghai Bell
44. R1-2100333 Discussion and TPs on sidelink synchronization mechanism and physical layer structure in NR V2X CATT, GOHIGH
45. R1-2100412 Maintenance on NR sidelink synchronization and procedures vivo
46. R1-2100936 Remaining issues on sidelink synchronization ZTE, Sanechips
47. R1-2101534 Remaining issues on synchronization mechanism for NR sidelink Sharp
48. R1-2101732 Correction on PSBCH payload generation Huawei, HiSilicon
49. R1-2101707 Draft\_CR\_TS38.212 Ericsson
50. R1-2101708 Draft\_CR\_TS38.213 Ericsson