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| 20. 5G V2X with NR Sidelink WIWID [5G\_V2X\_NRSL]: [RP-191723](http://www.3gpp.org/ftp/tsg_ran/TSG_RAN/TSGR_85/Docs/RP-191723.zip) (target: RAN #88-e) [TU: 1 (1)] |
| 20.1. General*Time plan, skeletons, BLs* |
| [R3-203038](docs%5CR3-203038.zip) | Support of NR V2X over S1 (Huawei, LG Electronics, Ericsson, CATT) | CR1709r9, TS 36.413 v16.1.0, Rel-16, Cat. B |
| [R3-203040](docs%5CR3-203040.zip) | Support of NR V2X over NG (LG Electronics, Ericsson, Huawei, CATT) | CR0168r9, TS 38.413 v16.1.0, Rel-16, Cat. B |
| [R3-203043](docs%5CR3-203043.zip) | Support of NR V2X SIB in gNB-DU (Ericsson) | CR0065r5, TS 38.470 v16.1.0, Rel-16, Cat. B |
| [R3-203044](docs%5CR3-203044.zip) | Support of NR V2X over X2 (CATT, Huawei, Ericsson, LG Electronics) | CR1369r11, TS 36.423 v16.1.0, Rel-16, Cat. B |
| [R3-203045](docs%5CR3-203045.zip) | Support of NR V2X over Xn (Ericsson, LG Electronics, CATT, Huawei) | CR0151r12, TS 38.423 v16.1.0, Rel-16, Cat. B |
| [R3-203046](docs%5CR3-203046.zip) | Support of NR V2X over F1 (Huawei, LG Electronics, Ericsson, CATT) | CR0432r10, TS 38.473 v16.1.0, Rel-16, Cat. B |
| [R3-203557](docs%5CR3-203557.zip) | (TP for TR 37.985) Updates of RAN3 progress on V2X (Huawei) | pCR |
|  **CB: # 1100\_Email\_V2X\_BL\_CRs****- Endorse BL CRs****(HW)****Summary of offline****Endorsed BL CRs** |
| 20.2. Signaling Support for NR Sidelink |
| 20.2.1. V2X Service Authorization**QUOTA: 1 (was 2)***Including UE SL AMBR*Two separate IEs on V2X Services Authorized (NR V2X Services Authorized IE and LTE V2X Services Authorized IE), for V2X Services Authorization, on NG, S1, Xn, X2, and F1 (for mode 1, FFS for mode 2)RAN3 agreed to support implicit cross-RAT authorization (as in the current BL CR)Introduce two IEs, i.e., NR UE Sidelink Aggregate Maximum Bit Rate IE and LTE UE Sidelink Aggregate Maximum Bit Rate IE, for UE Sidelink AMBR5GC provides alternative QoS profile to NG-RAN*Discussion seems to have concluded* |
| 20.2.2. V2X Support over F1**QUOTA: 2**The sidelink resource pool is configured in the gNB-DU by OAMFor mode 1 (all types) DU is responsible for SL resource allocationMode 2 SL resources are configured by DUDU is responsible for LTE V2X sidelink resource allocation Mode 3 (SPS scheduling)RAN3 understands that no explicit indication about UE type (P-UE vs. V-UE) is needed on F1WA: re-use UE Context Setup/Modification for sidelink resource requestgNB-DU encodes the V2X SIBgNB-DU System Information IE can be re-used to pass V2X SIBs from gNB-DU to gNB-CU, which shall include SIBX, SIBY, SIBZ (final Naming and number are pending to RAN2 CR).Introduce the UEAssistanceInformationEUTRA IE in the CU to DU RRC Information IE.RAN3 first waits for RAN2’s reply, and then decides on the transmission of the sidelink resource request from CU to DU, i.e., whether RRC container or parallel IEs in F1 message.SL DRB setup/ modification/release shall be considered for a RRC connected UE. As a baseline, SL DRB parameters include SL DRB ID, SL DRB QoS, PC5 QoS flow mapped to the SL DRB, RLC mode (for SL unicast only), PDCP SN size (for SL unicast only). We can keep an eye on RAN2’s progress and add other parameters if needed.How to configure the mapping of Destination L2 IDs and Tx profiles has no RAN3 specification impact, e.g., direct OAM configuration to DU can be used.*Some issues are pending RAN2**Previous summary of offline disc.:* [*R3-202542*](docs%5CR3-202542.zip)*, noted*For the sidelink resource request from CU to DU, the existing UE Context Setup/Modification procedures will be reused.Introduce the new SidelinkUEInformation to the RRC container.Introduce the UEAssistanceInformationEUTRA IE in the CU to DU RRC Information IE.Update the SIBs naming to SIB 12, 13, and 14. PDCP SN length is removed from SL DRB QoS, and the flow list mapped to DRB is kept.Remove Range and PC5 link AMBR within PC5 QoS parameters.*The SL DRB QoS is kept as FFS**Define a new IE named PC5 link AMBR in the UE CONTEXT SETUP REQUEST message and UE CONTEXT MODIFICATION REQUEST messages with FFS**Remaining FFS for the other parameters within PC5 QoS parameters* *To be continued...* |
| [R3-203157](docs%5CR3-203157.zip) | Discussion on remaining issues on F1 (ZTE, Sanechips) | discussion |
| [R3-203239](docs%5CR3-203239.zip) | Remaining issues on F1 support for 5G sidelink resource modes (LG Electronics) | discussion |
| [R3-203240](docs%5CR3-203240.zip) | (TP for BLCR 38.473) remaining Issues on F1 (LG Electronics) | other |
| [R3-203470](docs%5CR3-203470.zip) | (TP for V2X BL CR for 38.473)SL DRB QoS (Intel Deutschland GmbH) | discussion |
| [R3-203520](docs%5CR3-203520.zip) | Further consideration on PC5 QoS Parameters over F1 (CATT) | discussion |
| [R3-203521](docs%5CR3-203521.zip) | (TP for NR BL CR for TS 38.473) PC5 QoS Parameters over F1 (CATT) | other |
| [R3-203558](docs%5CR3-203558.zip) | (TP for V2X BL CR for TS 38.473) F1 impacts for V2X (Huawei) | other |
| [R3-203559](docs%5CR3-203559.zip) | (TP for V2X BL CR for TS 38.473) New reference in DU to CU RRC Info (Huawei) | other |
| [R3-203707](docs%5CR3-203707.zip) | (TP for Support of NR V2X SIB in gNB-DU) Misc corrections for TS38.470 (Nokia, Nokia Shanghai Bell) | other |
|  **CB: # 1101\_Email\_V2X\_F1****- Topics for discussion** **- PC5 QoS parameters** **- SL DRB QoS in SL DRB configuration** **- PC5 Link Aggregated Bit Rate**  **- SL-PHY-MAC-RLC-Config and SL-ConfigDedicatedEUTRA****- Can also discuss other issues based on contributions submitted****(LG)****Summary of offline discussion****TPs for agreeable issues** |
| 20.2.3. Resource Coordination between NG-RAN Nodes for V2X Sidelink**QUOTA: 2***Taking into consideration previous RAN3 discussions*V2X frequency and bandwidth information exchanged between RAN nodes shall be supportedOn interference issue, Rel-16 does not introduce additional signaling enhancement for resource coordination between NG-RAN nodes. In Rel-16, existing solution, e.g. MR-DC coordination IE for Uu, could be used to solve the interference problem in the MN. Further check with RAN1/RAN4 whether existing solution is enough to address the interference issue in Rel-17 (pending on the Rel-17 WID in RAN) We do not exchange capability information between NG-RAN nodes.Investigate more how the exchange of V2X configuration is beneficial for mobility. Keep the FFS marks*Previous summary of offline disc.:* [*R3-202543*](docs%5CR3-202543.zip)*, noted*Resource coordination between NG-RAN nodes (cell-specific / non-cell specific) is to be discussed in Rel-17 or TEI |
| 20.2.4. Support for QoS**QUOTA: 4***LS from SA2**Previous summary of offline disc.:* [*R3-194745*](https://www.3gpp.org/ftp/tsg_ran/WG3_Iu/TSGR3_105/Docs/R3-194745.zip) *(noted)**Support for alternative QoS profiles during UE mobility (previous in* [*R3-196102*](https://www.3gpp.org/ftp/tsg_ran/WG3_Iu/TSGR3_105bis/Docs/R3-196102.zip)*, noted)*NG-RAN reports the current QoS level performance only in terms of an index corresponding to one alternative QoS profile in the notification controlIf NG-RAN receives the QNC with no alternative QoS profile it behaves as in Rel-15*Previous summary of offline disc.:* [*R3-201229*](docs%5CR3-201229.zip) *(noted)**Alt. QoS: Previous summary of offline disc.:* [*R3-201195*](docs%5CR3-201195.zip) *(noted); to be continued…**Previous summary of offline disc.:* [*R3-202846*](docs%5CR3-202846.zip)*, noted*WA: go ahead with set1Liaise SA2 attaching set1 TP, mentioning that RAN3 has made the WA to proceed with st3 design as shown in the attached CRs…; please feed back if needed (Nok,HW)*Set 1:* [*R3-202847*](docs%5CR3-202847.zip)*,* [*R3-202848*](docs%5CR3-202848.zip)Technically endorsed – do not include in BL CR*Issue 1: continue the discussions on potential additions to be made to Set 1 TPs to address issues raised in* [*R3-202334*](docs%5CR3-202334.zip)*. To be continued.**Issue 2: continue the discussions on the need of an F1 CR (previous in* [*R3-202849*](docs%5CR3-202849.zip)*, noted). To be continued on this basis…* |
| [R3-203464](docs%5CR3-203464.zip) | Support for Alternative QoS Profiles (Nokia, Nokia Shanghai Bell, Ericsson, CATT, ZTE, Samsung, LGE, InterDigital, NTT Docomo INC.) | discussion |
| [R3-203465](docs%5CR3-203465.zip) | (TP for BL CR V2X for 38.413) Support for alternative QoS Profiles over NG (Nokia, Nokia Shanghai Bell, Ericsson, CATT, ZTE, Samsung, LGE, InterDigital, NTT Docomo INC. ) | other |
| [R3-203466](docs%5CR3-203466.zip) | Support for Alternative QoS Profiles (Nokia, Nokia Shanghai Bell, Ericsson, CATT, ZTE, Samsung, LGE, InterDigital, NTT Docomo INC. ) | draftCR |
| [R3-203467](docs%5CR3-203467.zip) | Support for Alternative QoS Profiles (Nokia, Nokia Shanghai Bell, Ericsson, CATT, ZTE, Samsung, LGE, InterDigital, NTT Docomo INC. ) | CR0036r, TS 38.460 v16.0.0, Rel-16, Cat. B |
| [R3-203745](docs%5CR3-203745.zip) | (TP to V2X BL CR for TS 38.423): Support of Alternative QoS profiles over Xn (Ericsson, Nokia, Nokia Shanghai Bell, CATT, ZTE, Samsung, LG Electronics, InterDigital, NTT DOCOMO INC.) | other |
| [R3-203746](docs%5CR3-203746.zip) | (TP to V2X BL CR for TS 38.473): Support of Alternative QoS profiles over F1 (Ericsson, Nokia, Nokia Shanghai Bell, CATT, ZTE, Samsung, LG Electronics, InterDigital, NTT DOCOMO INC.) | other |
| [R3-203747](docs%5CR3-203747.zip) | (TP to V2X BL CR for TS 38.470): Support of Alternative QoS profiles over F1 (Ericsson, Nokia, Nokia Shanghai Bell, CATT, ZTE, Samsung, LG Electronics, InterDigital, NTT DOCOMO INC.) | other |
| [R3-203748](docs%5CR3-203748.zip) | Introducing alternative QoS profiles to E1AP (Ericsson, Nokia, Nokia Shanghai Bell, CATT, ZTE, Samsung, LG Electronics, InterDigital, NTT DOCOMO INC.) | CR0511r, TS 38.463 v16.1.1, Rel-16, Cat. B |
| [R3-203751](docs%5CR3-203751.zip) | (TP for BL CR V2X for 38.413) Support for alternative QoS profiles over NG (Vodafone) | other |
| [R3-203638](docs%5CR3-203638.zip) | Support of Alternative QoS Profiles (Huawei, Vodafone) | draftCR |
|  **CB: # 1102\_Email\_V2X\_QoS****- Topics for discussion** **- Confirm WA?** **- Alt QoS Index in PDU Session Resource Notify Transfer** **- Can also discuss other issues based on contributions submitted****(Nokia)****Summary of offline discussion****TPs for agreeable issues** |