**3GPP TSG RAN meeting #92e RP-21xxxx**

**Electronic Meeting, June 14-18, 2021**

## Status Report to TSG

**Agenda item:** 9.7.1.3

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **WI / SI Name** |  | | | | |
| included in this status report | Study Item:  No | Core part:  Yes | Performance part:  Yes | | Testing part:  No |
| **Acronym** | NR\_SL\_enh | | | | |
| **Unique ID** | 860042 | | | | |
| **TSG Tdoc of latest approved WI/SI description (if any)** | RP-202846 | | | | |
| **Target Completion Date**  **(indicate if changed)** | Study Item:  mm/yyyy | Core part: 03/2022 | Performance part: 09/2022 | Testing part: mm/yyyy | |
| **Overall Completion level** | Study Item:  xx % | Core part:  45% | Performance Part:  0% | Testing part: xx% | |

Note: Overall completion level percentage numbers should use one of the colors below:

* xx%: Normal progress, no RAN plenary action needed
* xx%: Progress behind schedule, may need RAN plenary intervention. If so, SR should clearly define requested action
* xx%: Progress critically behind, RAN plenary shall intervene. SR should define requested action

**Source:**

|  |  |  |
| --- | --- | --- |
| **Leading WG** | | RAN WG1 |
| **Rapporteur** | **Name** | Seungmin Lee |
| **Company** | LG Electronics |
| **Email** | edison.lee@lge.com |

## 1 Work plan related evaluation

|  |  |
| --- | --- |
| **Do you want to modify the time budget for this WI/SI compared to what was endorsed at the last RAN meeting?** | No |

*If you answered No: Then please remove the Excel file from the zip file of this status report.*

*If you answered Yes: Then please fill out the attached Excel template to request a modification of the time budgets for your WI /SI. The Excel table has to be filled out for all affected RAN WGs and up to the target date of the WI/SI. The basis are the endorsed time budgets of the last RAN meeting. Please highlight all changes of the values.  
 One time unit (TU) corresponds to ~ 2 hours in the meeting.  
 If this status report covers a WI with Core and Performance part, then please have one line for each in the attached Excel table.  
 Note: If no Excel table is attached, then this means no time budget change.*

**Additional explanations/motivations for the time budget changes in the attached Excel table:**

## 2. Detailed progress in RAN WGs since last TSG meeting (for all involved WGs)

NOTE: Agreements and Open issues impacted cross-TSG aspects shall be explicitly highlighted

## 2.1 RAN1

#### 2.1.1 Agreements

**RAN1#104bis-e**

Regarding resource allocation for power saving, the following agreements and conclusion were made:

* Conclusion on resource selection window of periodic-based partial sensing operation
  + In periodic-based partial sensing,
    - It is not necessary to further discuss whether or not to introduce a threshold to re-define T1 and T2.
* Agreement on sensing occasions of periodic-based partial sensing operation
  + In periodic-based partial sensing,
    - For the set of Preserve values, down-select to one of the following in RAN1#105-e
      * Alt.1: Preserve corresponds to all values from the configured set *sl-ResourceReservePeriodList*
      * Alt.2: A set of Preserve values is (pre-)configured and includes up to the full set of values from the configured set *sl-ResourceReservePeriodList*
        + FFS if support multiple sets of Preserve values based on one or more metrics
        + FFS whether/how to restrict the set of values
    - For the k value, down-selection to one of the following in RAN1#105-e (further refinement of each of the alternatives is possible)
      * Alt 1: Option 1 as in RAN1#104-e
      * Alt 2: A modified Option 5 as in RAN1#104-e, where the modification is such that it also includes option 1
        + FFS how to (pre-)configure (e.g. including bitmap), whether a maximum number of k values is needed, and whether it can be up to UE implementation to select a k value based on the (pre-)configuration
      * FFS details, e.g., sensing before the resource (re)selection trigger or the first slot of the set of Y candidate slots subject to processing time restriction, etc.
    - Note: companies are encouraged to provide more evaluations
* Agreement on conditions for UE to perform periodic-based partial sensing operation
  + When periodic-based partial sensing is potentially performed by UE in a mode 2 Tx resource pool provided by higher layer, at least all of the followings are met:
    - Periodic reservation for another TB (*sl-MultiReserveResource*) is enabled for the resource pool
    - The resource pool is (pre-)configured to enable partial sensing
    - Partial sensing configured by higher layer in the UE

Regarding inter-UE coordination for mode 2 enhancements, the following agreements were made:

* Agreement on inter-UE coordination schemes
  + Support the following schemes of inter-UE coordination in Mode 2:
    - Inter-UE Coordination Scheme 1:
      * The coordination information sent from UE-A to UE-B is the set of resources preferred and/or non-preferred for UE-B’s transmission
        + FFS details including a possibility of down-selection between the preferred resource set and the non-preferred resource set, whether or not to include any additional information other than indicating time/frequency of the resources within the set in the coordination information
      * FFS condition(s) in which Scheme 1 is used
    - Inter-UE Coordination Scheme 2:
      * The coordination information sent from UE-A to UE-B is the presence of expected/potential and/or detected resource conflict on the resources indicated by UE-B’s SCI
        + FFS details including a possibility of down-selection between the expected/potential conflict and the detected resource conflict
      * FFS condition(s) in which Scheme 2 is used
* Agreement on conditions for UEs to be UE-A(s)/UE-B(s) for inter-UE coordination
  + Study further to determine the conditions for UEs to be UE-A(s)/UE-B(s) for inter-UE coordination:
    - Details include applicable scenario(s)/inter-UE coordination scheme(s)
    - E.g., only UE(s) among the intended receiver(s) of UE-B can be a UE-A, any UE can be a UE-A, high-layer configured, etc.
      * Including the possibility of being subject to certain conditions and/or capability
* Agreement on UE-B’s behaviour of using inter-UE coordination information
  + When UE-B receives the inter-UE coordination information from UE-A, consider at least one of the following options (with details FFS including possibly down-selecting/merging one or more of the options below, applicable scenario(s)/condition(s) for each option, UE behavior) for UE-B’s to take it into account in the resource (re)-selection for its own transmission
    - For scheme 1:
      * Option 1-1: UE-B’s resource(s) to be used for its transmission resource (re)-selection is based on both UE-B’s sensing result (if available) and the received coordination information
      * Option 1-2: UE-B’s resource(s) to be used for its transmission resource (re)-selection is based only on the received coordination information
      * Option 1-3: UE-B’s resource(s) to be re-selected based on the received coordination information
      * Option 1-4: UE-B’s resource(s) to be used for its transmission resource (re)-selection is based on the received coordination information
    - For scheme 2:
      * Option 2-1: UE-B can determine resource(s) to be re-selected based on the received coordination information
      * Option 2-2: UE-B can determine a necessity of retransmission based on the received coordination information

**RAN1#105-e**

Regarding resource allocation for power saving, the following agreements were made:

* Agreement on sensing occasions of periodic-based partial sensing operation
  + For the set of Preserve values in periodic-based partial sensing,
    - If no (pre-)configuration (i.e., by default), Preserve corresponds to all values from the (pre-)configured set *sl-ResourceReservePeriodList*.
    - Otherwise, a single set of Preserve values can be (pre-)configured, where the set of Preserve values are restricted to a subset of the (pre-)configured set *sl-ResourceReservePeriodList*
      * This is per mode 2 Tx resource pool (pre-)configuration
      * A UE by implementation may also monitor other *sl-ResourceReservePeriodList* values not part of the restricted subset
        + In particular, the UE may additionally monitor occasions corresponding to P\_RSVP\_Tx

FFS whether the monitoring can be mandatory

* + For the k value in periodic-based partial sensing for resource (re)selection,
    - By default, the UE monitors the most recent sensing occasion for a given reservation periodicity before the resource (re)selection trigger slot n or the first slot of the set of Y candidate slots subject to processing time restriction.
    - If (pre-)configured, UE additionally monitors periodic sensing occasions that correspond to a set of values which can be (pre-)configured with at least one value
      * (Working assumption) Possible values correspond to the most recent sensing occasion for a given reservation periodicity before the resource (re)selection trigger slot n or the first slot of the set of Y candidate slots, and the last periodic sensing occasion prior to the most recent one for the given reservation periodicity are included.
      * FFS: whether/which other values and details of the (pre-)configuration (e.g. max number of values or sensing occasions)
      * FFS: whether a value denotes a specific occasion to monitor or the earliest occasion to start the monitoring.
    - FFS relationship between periodic-based partial sensing occasions and SL-DRX
    - Note:
      * This is for the case when the resource (re)selection triggering slot n is expected by UE
  + In periodic-based partial sensing for resource (re)selection, the UE at least monitors in periodic sensing occasion(s) for a given reservation periodicity before the first slot of the selected Y candidate slots subject to processing time restriction for the identification of candidate resources.
    - The processing time restriction includes *Tproc,0SL* and *Tproc,1SL*.
    - Aspects relating to sensing during SL DRX are to be discussed separately
  + Relationship to re-evaluation and pre-emption operation for periodic-based partial sensing to be discussed separately
    - FFS details including whether monitoring of periodic sensing occasions between triggering slot n and the first slot of the selected Y candidate slots subject to processing time restriction is performed as part of resource (re)selection or re-evaluation and pre-emption checking
* Agreement on random resource selection
  + For random resource selection,
    - Reuse the maximum distance separation of 32 logical slots for a HARQ retransmission resource reserved by a prior SCI for the same TB, which was defined in R16 for full sensing operation.
    - SL HARQ feedback enabled transmission is supported (FFS applicable conditions if any)
      * The minimum HARQ feedback time gap (Z) shall be respected between any two selected resources of a TB where a HARQ feedback for the first of these resources is expected.
  + FFS the impact of resource collision when random resource selection is performed by a UE which does not perform sensing / re-evaluation and pre-emption checking in a resource pool with mixed RA schemes (e.g. for low priority or any priority transmissions).
    - Including study potential solution(s) if the impact is not negligible (e.g. threshold based, raising priority, minimum time gap, pattern based, a priori SCI reserving initial transmissions, resource pool partitioning, and etc.).
* Agreement on sensing occasions of contiguous partial sensing operation
  + In contiguous partial sensing for resource (re)selection, TA and TB values can be zero, positive or negative
    - TA and TB values or range depend on different operating scenarios or conditions (e.g., periodic/aperiodic traffic, predictability of triggering slot n, remaining PDB, re-evaluation/pre-emption checking, HARQ feedback, CBR/CR parameter, power saving, etc)
      * FFS details
    - FFS: details of how periodic-based partial sensing and contiguous partial sensing are used for re-evaluation and pre-emption checking. Including how to reduce UE’s power consumption (caused by additional sensing operation of re-evaluation/pre-emption) after its resource selection, with the considerations of different operating scenarios or conditions (e.g., pre-emption enabled/disabled, HARQ-ACK enabled/disabled, etc).

#### 2.1.2 Remaining Open issues

The followings are the remaining open issues:

* Physical layer aspects on resource allocation to reduce UE’s power consumption including;
  + Details of partial sensing based resource selection and random resource selection
  + Details and condition(s) in which re-evaluation and pre-emption can be performed by UEs performing sensing
  + Whether/how to support congestion control for power saving resource allocation schemes
  + Impacts of sidelink DRX on physical layer, if any
* Physical layer aspects on solution(s) on the enhancement(s) in mode 2 for enhanced reliability and reduced latency

## 2.2 RAN2

#### 2.2.1 Agreements

**RAN2#113bis-e**

Regarding sidelink DRX, the following agreements and working assumptions were made:

* Agreement on details of SL DRX timer
  + The following parameters are supported as part of the SL DRX configuration for all cast types: sl-drx-StartOffset, sl-drx-Cycle, sl-drx-onDurationTimer, and sl-drx-SlotOffset.
  + The RX UE determines the symbol/slot/subframe associated with the start of the DRX cycle using the configured sl-drx-Cycle, sl-drx-StartOffset. FFS on details.
  + The RX UE starts the sl-drx-onDurationTimer after sl-drx-slotOffset from the beginning of the subframe.
  + The RX UE’s active time includes the time in which sl-drx-on-DurationTimer is running.
  + For unicast, the TX UE behaviors should be specified to keep aligned with the RX UE regarding the DRX Active time. FFS the specific Spec impacts needed at the TX side.
  + For unicast, the RX UE maintains a separate SL inactivity timer for each pair of src/dest L2 ID.
  + For unicast, the SL inactivity timer value may take into consideration the QoS. Whether any specification impacts are needed is FFS.
  + For unicast, RX UE starts/restarts the inactivity timer with the value configured for that pair of src/dest L2 ID.
  + For unicast, the RX UE (re)starts the inactivity timer upon reception of a new SL data transmission from the RX UE perspective for that pair of src/dest L2 ID.
  + For unicast, the RX UE (re)starts the inactivity timer based on information in SCI (SCI1+SCI2). FFS if the MAC layer can stop the inactivity timer.
  + For unicast, the RX UE (re)starts the inactivity timer in the first slot after SCI (SCI1+SCI2) reception.
  + For unicast, the TX UE maintains a timer corresponding to the SL Inactivity timer in the RX UE for each pair of src/dest L2 ID, and uses the timer as part of criterion for determining the allowable transmission time for the RX UE.
  + For unicast, the TX UE (re)starts its timer corresponding to the SL inactivity timer at the RX UE at the slot following an SCI transmission indicating a new data transmission. FFS the specific spec impacts needed at the TX side.
  + SL Inactivity timer is supported for groupcast. FFS on the scenarios where it is supported.
  + SL Inactivity timer is not supported for broadcast transmissions.
  + The RX UE is active on sidelink (monitors SCI1+SCI2) as long as at least one of the SL inactivity timers associated with unicast or groupcast (if supported) is running.
  + As a baseline, agreements 7-13 inclusive are applied to SL inactivity timer for groupcast, with the difference that “src/dest L2 ID pair” is replaced with “groupcast L2 destination ID or src/dest L2 id pair” (dependent on the conclusion of proposal 17). Any specific handling which may be needed for synchronization of inactivity timers for the groupcast case is FFS.
  + SL HARQ RTT timer and SL HARQ retransmission timer are maintained per SL HARQ process at the RX UE.
  + Working assumption: SL HARQ RTT timer can be derived from the retransmission resource timing when the SCI indicates a retransmission resource. FFS whether explicitly configured SL HARQ RTT timer may be still required. If big problem is identified next meeting, we can revisit it.
  + The value(s) of the SL HARQ RTT Timer, when explicitly configured and not determined via SCI (if agreed to do so), is determined by UE or NW implementation.
  + For unicast, sidelink retransmission timer can be supported for at least some cases of HARQ disabled transmissions. FFS whether HARQ RTT is supported or not.
  + For transmissions with HARQ feedback, the RX UE starts the SL HARQ RTT timer in the symbol/slot following the end of PSFCH transmission.
  + If the RX UE does not transmit PSFCH for a HARQ enabled transmission (e.g. due to UL/SL prioritization) the RX UE still starts the HARQ RTT timer in the symbol/slot following the end of PSFCH resource.
  + For cases where there is some uncertainty in the timing of a retransmission for a HARQ process (e.g. due to no retransmission resource indicated in the SCI, or possible reselection by the TX UE) the RX UE uses a configured retransmission timer.
  + Retransmission timer can be started upon expiry of the HARQ RTT timer.
  + The value(s) of the SL retransmission timer can be determined by UE or NW implementation.
  + The SL active time of the RX UE includes the time in which any of its applicable sl-drx-OnDuration(s), sl-DRXInactivityTimer(s), or sl-drx-RetransmissionTimer(s) are running.
  + Working assumption: The slots when the UE is expected CSI report following a CSI request is considered as SL active time.
  + RAN2 assumes LCP enhancements for ensuring a TX UE transmits data in the active time of an RX UE are needed. FFS on the resource (re)selection enhancements (e.g. limiting the resources to the active time for peer UE).
* Agreement on alignment between Uu DRX and SL DRX
  + Alignment of Uu DRX and SL DRX for unicast is supported. FFS on how alignment is achieved.
  + Alignment of Uu DRX and SL DRX for groupcast and broadcast is supported. FFS on whether new mechanisms are needed.
  + Alignment of Uu DRX and SL DRX for UE in RRC CONNECTED shall be a baseline.
  + The alignment of Uu DRX and SL DRX of the same UE shall be considered.

**RAN2#114-e**

Regarding sidelink DRX, the following agreements were made:

* Agreement on details of SL DRX configuration for SL unicast
  + In SL unicast, for DRX configuration of each direction where one UE as Tx-UE and the other UE as Rx-UE, support signalling exchange including both 1) Signaling-1: signalling from RX-UE to TX-UE, and 2) Signaling-2: signalling from TX-UE to RX-UE.
  + For SL unicast, Tx-UE centric DRX configuration based on the assistance information from Rx-UE is agreed as baseline.
  + In SL unicast, for DRX configuration of each direction where one UE as Tx-UE and the other as Rx-UE, signaling-1 (Rx->Tx) is carried via a new PC5-RRC message, from Rx-UE to Tx-UE.
  + In SL unicast, for DRX configuration of the direction where one UE as Tx-UE and the other as Rx-UE, signaling-2 (Tx->Rx) is carried via RRCReconfigurationSidelink, to deliver DRX configuration from Tx-UE to Rx-UE.
  + In SL unicast, for DRX configuration of each direction where one UE as Tx-UE and the other UE as Rx-UE, when Tx-UE is in-coverage and in RRC\_CONNECTED state, Tx-UE may report the information received in signaling-1 (Rx->Tx) to the serving network.
  + In SL unicast, for DRX configuration of each direction where one UE as Tx-UE and the other as Rx-UE, when Tx-UE is in-coverage and in RRC\_CONNECTED state, Tx-UE may obtain DRX configuration from dedicated RRC to generate signalling-2 (Tx->Rx).
  + In SL unicast, for DRX configuration of each direction where one UE as Tx-UE and the other as Rx-UE, when Rx-UE is in-coverage and in RRC\_CONNECTED state, Rx-UE report the DRX configuration received in signalling-2 (Tx->Rx) to the serving network.
* Agreement on details of SL-specific DRX timer in Uu
  + SL-specific drx-onDurationTimer is not introduced in Uu.
  + SL-specific drx-InactivityTimer is not introduced in Uu.
  + For Tx UE configured with sidelink resource allocation mode 1, it should start or restart the Uu drx-InactivityTimer if the UE receives a PDCCH indicating a new SL transmission.
  + SL-specific drx-HARQ-RTT-Timer and SL-specific drx-RetransmissionTimer should be introduced in Uu, which are maintained based on sidelink process.
  + When sl-PUCCH-Config is configured, SL-specific drx-HARQ-RTT-Timer and SL-specific drx-RetransmissionTimer should be maintained for UE configured with sidelink resource allocation mode 1.
  + Adopt the following definitions of SL-specific drx-HARQ-RTT-Timer and drx-RetransmissionTimer (the detailed name of the timers can be further discussed):
    - drx-RetransmissionTimerSL (per Sidelink process): the maximum duration until a grant for SL retransmission is received;
    - drx-HARQ-RTT-TimerSL (per Sidelink process): the minimum duration before a SL retransmission grant is expected by the MAC entity.
  + When sl-PUCCH-Config is configured (and the PUCCH is transmitted), the UE should start the SL-specific drx-HARQ-RTT-Timer in Uu for the corresponding SL HARQ process in the first slot after the end of the corresponding transmission carrying the SL HARQ feedback via the PUCCH.
* Agreement on details of SL DRX configuration for SL groupcast/broadcast
  + WA: RAN2 assumes that the V2X layer of Rx UE passes the PC5 QoS parameters together with the corresponding destination layer-2 ID(s) for reception to the AS layer, as per TR 23.776 conclusion, and will further discuss SL DRX design based on this working assumption. RAN2 does not need to send LS to SA2 to clarify this issue.
  + For GC/BC, DRX cycle should take at least QoS requirement into consideration.
  + For GC/BC, DRX cycle(s) is configured per QoS profile. FFS on the need of down-select one DRX cycle from available DRX cycles for a specific L2 DST ID if UE has multiple QoS profiles for same DST L2 ID.
  + For GC/BC, DRX cycle is configured per QoS profile.
  + For GC/BC, RAN2 understands that sl-drx-startoffset does not take QoS requirement into consideration.
  + For GC/BC, For GC/BC, sl-drx-startoffset is set based on DST L2 ID.
* Agreement on alignment between Uu DRX and SL DRX
  + Alignment of Uu DRX and SL DRX for UE may comprise the full overlapping between Uu DRX and SL DRX in time.
  + Alignment of Uu DRX and SL DRX for UE may comprise the partial overlapping between Uu DRX and SL DRX in time.
  + For at least SL RX-UEs in RRC CONNECTED, the alignment of Uu DRX and SL DRX is up to gNB. FFS for SL TX-UE.
  + RAN2 to down-scope alignment of Uu DRX and SL DRX for UEs in RRC IDLE and RRC INACTIVE from Rel-17.
  + In case of Mode 1 scheduling, the alignment of Uu DRX of Tx UE and SL DRX of Rx UE shall be considered. FFS on how alignment is achieved.
* Agreement on geolocation based SL DRX operation
  + Geolocation based SL DRX is not supported in Rel-17.

#### 2.2.2 Remaining Open issues

The followings are the remaining open issues:

* Protocol layer aspects on resource allocation to reduce UE’s power consumption
* Protocol layer aspects on sidelink DRX for broadcast, groupcast, and unicast including;
  + Details of timer and configuration of sidelink DRX
  + Details of mechanism aiming to align sidelink DRX wake-up time among the UEs communicating with each other
  + Details of mechanism aiming to align sidelink DRX wake-up time with Uu DRX wake-up time in an in-coverage UE
* Protocol layer aspects on solution(s) on the enhancement(s) in mode 2 for enhanced reliability and reduced latency

## 2.3 RAN3

#### 2.3.1 Agreements

#### 2.3.2 Remaining Open issues

## 2.4 RAN4

#### 2.4.1 Agreements

#### 2.4.2 Remaining Open issues

## 2.5 RAN5

#### 2.5.1 Agreements

#### 2.5.2 Remaining Open issues

#### 2.5.3 Remaining Open issues with cross-WG dependencies

## 2.6 RAN6

#### 2.6.1 Agreements

#### 2.6.2 Remaining Open issues

## 3. Detailed progress in SA/CT WGs since last TSG meeting (for all involved WGs)

NOTE: This section only needs to be filled in for WI/SIs where there is a corresponding relevant WI/SI in SA/CT.

## 3.1 SA2

#### 3.1.0 SA2 eV2XARC\_Ph2 status – general

SA2 has progressed normative work on eV2XARC\_Ph2 (Architecture enhancements for 3GPP support of advanced V2X services – Phase 2) to specify support of QoS aware NR PC5 power efficiency for pedestrian UEs in TS 23.287 based on the conclusions defined in clause 7.2 of TR 23.776.

The completion level of eV2XARC\_Ph2 is 70%.

#### 3.1.1 Agreements with cross-TSG impacts

The three CRs to TS 23.287 were approved at SA2#145E (17 – 28 May, 2021): S2-2105136, S2-2105135, S2-2103932

#### 3.1.2 Remaining Open issues with cross-TSG impacts

NOTE: This section should also flag any critical dependencies that need TSG attention.

Among the approved CRs to TS 23.287, S2-2105135 includes the following Editor's notes that have RAN2 dependencies.

*Editor's note: The PC5 DRX configuration will be determined by RAN WGs. Its detail (e.g. mapping information for PC5 DRX parameters) and the reference to RAN specification will be added when defined in RAN WGs.*

*Editor's note: For unicast when the UE is "not served by E-UTRA" and "not served by NR", whether the provisioned PC5 DRX configuration is needed is pending on RAN WG2 decision.*

*Editor's note: The reference to RAN specification and information taken into account in the AS layer will be finalized when the PC5 DRX operations are defined in RAN WGs.*

The exception sheet to shift completion date to SA#93 (September 2021) was also approved at SA2#145E: S2-2103934, including the following tasks within work which are not complete:

* Details of PC5 DRX configuration (e.g. mapping information for PC5 DRX parameters) by coordinating with RAN2.
* For unicast when the UE is "not served by E-UTRA" and "not served by NR", whether the provisioned PC5 DRX configuration is needed is pending on RAN2 decision.
* Whether the V2X layer exposes transmission schedule information to the V2X application layer and what is the content for the transmission schedule information based on the applied PC5 DRX information/parameters provided by the AS layer to the V2X layer to be defined in RAN2.

Further normative work to resolve the Editor's notes and the uncompleted task is expected in SA2#146E (16 – 27 August 2021) e.g., based on the RAN2 agreements on sidelink DRX made at RAN2#114-e (19 – 27 May 2021).

Related to the open issues with RAN2 dependencies described above, the issue(s) not yet agreed/finalized in RAN2 (e.g. the second bullet in the exception sheet) requires early decisions during RAN2#115-e for the successful completion of SA2 normative work on eV2XARC\_Ph2 in Q3 because SA2#146E and RAN2#115-e have fully overlapping dates.

## 3.2 CT WGs

#### 3.2.0 CT WGs eV2XARC\_Ph2 status – general

To progress stage-3 normative work on PC5 DRX operation as per stage-2 requirements, new WID on CT aspects of Architecture enhancements for 3GPP support of advanced V2X services – Phase 2 (eV2XARC\_Ph2) was agreed in CT1#130-e (20 – 28 May, 2021) - C1-213662.

## 4. References

NOTE: This can be e.g. a list of all related Tdocs in the affected WGs since last TSG, references to LSs, produced TRs/TSs, the work/study item description or status reports of previous TSGs.

17.05.2021 minor adaptations for RAN #92e

28.01.2021 minor adaptations for RAN #91e

09.11.2020 minor adaptations for RAN #90e

31.08.2020 minor adaptations for RAN #89e

20.04.2020 minor adaptations for RAN #88e

18.02.2020 minor adaptations for RAN #87e

14.11.2019 minor adaptations for RAN #86

18.08.2019 minor adaptations for RAN #85

12.05.2019 minor adaptations for RAN #84

27.02.2019 minor adaptations for RAN #83

21.11.2018 completion levels with colours added (for RAN #82)

v04.81 31.07.2018 simplification of template and addition of cross-TSG aspects (for RAN #81)

v04.80 21.05.2018 minor adaptations for RAN #80

v04.79 26.02.2018 minor adaptations for RAN #79

v04.78 18.11.2017 minor adaptations for RAN #78

v04.77 06.08.2017 minor adaptations for RAN #77

v04.76 15.05.2017 minor adaptations for RAN #76

v04.75 31.01.2017 minor adaptations for RAN #75

v04.74 28.10.2016 minor adaptations for RAN #74

v04.73 01.09.2016 adaptations for RAN #73 (time units in extra Excel table, RAN6 reporting included)

v04.72 26.05.2016 adaptations for RAN #72 (introduction of NR & GERAN TUs)

v04.71 10.02.2016 minor adaptations for RAN #71

v04.70 30.10.2015 minor adaptations for RAN #70

v04.69 12.08.2015 minor adaptations for RAN #69

v04.68 21.05.2015 minor adaptations for RAN #68

v04.67 01.02.2015 minor adaptations for RAN #67

v04.66 16.11.2014 minor adaptations for RAN #66

v04.65 16.08.2014 minor adaptations for RAN #65

v04.64 22.05.2014 minor adaptations for RAN #64

v04.63 24.01.2014 restructuring for RAN #63 to cover Core & Perf. in one doc file

v03.62 11.11.2013 section 1.2.3 adapted for RAN #62

v03 11.08.2013 section 1.2.3 added on time budget

v02 07.05.2010 history added, some spelling corrections

v01 13.11.2009 First version of the template

**RAN1#104bis-e**

1. R1-2102323 Sidelink resource allocation to reduce power consumption Huawei, HiSilicon
2. R1-2102324 Inter-UE coordination in sidelink resource allocation Huawei, HiSilicon
3. R1-2102361 Sidelink resource allocation for power saving Nokia, Nokia Shanghai Bell
4. R1-2102362 Inter-UE coordination in mode 2 sidelink resource allocation Nokia, Nokia Shanghai Bell
5. R1-2102411 Power saving mechanism in NR sidelink OPPO
6. R1-2102412 Inter-UE coordination in mode 2 of NR sidelink OPPO
7. R1-2102413 Wake up signal for NR sidelink OPPO
8. R1-2102467 Discussion on sidelink resource allocation for power saving Spreadtrum Communications
9. R1-2102468 Discussion on inter-UE coordination in sidelink resource allocation Spreadtrum Communications
10. R1-2102539 Resource allocation for sidelink power saving vivo
11. R1-2102540 Discussion on mode-2 enhancements vivo
12. R1-2102541 Other aspects on SL enhancements vivo
13. R1-2102575 Considerations on partial sensing in NR V2X CAICT
14. R1-2102576 Considerations on mode 2 enhancements CAICT
15. R1-2102606 Discussion on resource allocation for power saving CATT, GOHIGH
16. R1-2102607 Discussion on inter-UE coordination in mode 2 enhancement CATT, GOHIGH
17. R1-2102608 Considerations on other aspects of NR mode2 enhancements CATT, GOHIGH
18. R1-2102690 Discussion on Mode 2 enhancements MediaTek Inc.
19. R1-2102708 Discussion on sidelink power saving MediaTek Inc.
20. R1-2102719 Considerations on partial sensing and DRX in NR sidelink Fujitsu
21. R1-2102720 Considerations on inter-UE coordination for mode 2 enhancements Fujitsu
22. R1-2102780 Power consumption reduction for sidelink resource allocation FUTUREWEI
23. R1-2102781 Discussion on techniques for inter-UE coordination FUTUREWEI
24. R1-2102797 Discussion on resource allocation for power saving Zhejiang Lab
25. R1-2102798 Inter-UE coordination for mode 2 enhancements Zhejiang Lab
26. R1-2102811 NR Sidelink Resource Allocation for UE Power Saving Fraunhofer HHI, Fraunhofer IIS
27. R1-2102812 Resource Allocation Enhancements for Mode 2 Fraunhofer HHI, Fraunhofer IIS
28. R1-2102826 Inter-UE coordination for enhanced resource allocation Mitsubishi Electric RCE
29. R1-2102897 Discussion on resource allocation for power saving CMCC
30. R1-2102898 Discussion on enhancements for mode-2 resource allocation CMCC
31. R1-2102921 Discussion on the inter-UE coordination ZTE
32. R1-2102965 Discussion on sidelink resource allocation enhancement for power saving Xiaomi
33. R1-2102966 Discussion on inter-UE coordination Xiaomi
34. R1-2102967 Discssion on other design aspects for sidelink enhancement Xiaomi
35. R1-2103048 Sidelink power saving solutions Intel Corporation
36. R1-2103049 Inter-UE coordination solutions for sidelink resource allocation mode-2 Intel Corporation
37. R1-2103121 Discussion on Sidelink Resource Allocation for Power Saving Apple
38. R1-2103122 Discussion on Inter-UE Coordination Apple
39. R1-2103123 Network Assisted Resource Selection Apple
40. R1-2103184 Power Savings for Sidelink Qualcomm Incorporated
41. R1-2103185 Reliability and Latency Enhancements for Mode 2 Qualcomm Incorporated
42. R1-2103256 On Resource Allocation Enhacements Samsung
43. R1-2103257 On Resource Allocation for Power Saving Samsung
44. R1-2103258 On Inter-UE Coordination for Mode2 Enhancements Samsung
45. R1-2103259 On Sidelink Issues and RAN1 Impacts Samsung
46. R1-2103271 Inter-UE coordination for mode 2 enhancement ITL
47. R1-2103272 Discussion on Sidelink Resource Allocation for Power Saving Panasonic Corporation
48. R1-2103314 Discussion on sidelink resource allocation for power saving Sony
49. R1-2103315 Discussion on reliability and latency enhancements for mode 2 Sony
50. R1-2103331 Discussion on resource allocation for power saving ETRI
51. R1-2103332 Discussion on mode 2 enhancements ETRI
52. R1-2103378 Discussion on resource allocation for power saving LG Electronics
53. R1-2103379 Discussion on inter-UE coordination for Mode 2 enhancements LG Electronics
54. R1-2103392 Physical layer impacts of sidelink DRX Huawei, HiSilicon
55. R1-2103416 On Resource Allocation for Power Saving in NR Sidelink Convida Wireless
56. R1-2103417 On Inter-UE Coordination for Mode 2 Enhancements Convida Wireless
57. R1-2103483 Discussion on resource allocation for power saving Sharp
58. R1-2103484 Discussion on inter-UE coordination for Mode 2 enhancements Sharp
59. R1-2103517 Discussion on resource allocation for power saving NEC
60. R1-2103518 Discussion on mode 2 enhancements NEC
61. R1-2103537 Sidelink resource allocation for power saving InterDigital, Inc.
62. R1-2103538 On Inter-UE coordination for Mode 2 enhancement InterDigital, Inc.
63. R1-2103539 On gNB-designated resources for inter-UE coordination InterDigital, Inc.
64. R1-2103548 Sidelink resource allocation for power saving Lenovo, Motorola Mobility
65. R1-2103549 Discussion on inter-UE coordination for Mode 2 enhancements Lenovo, Motorola Mobility
66. R1-2103592 Discussion on sidelink resource allocation for power saving NTT DOCOMO, INC.
67. R1-2103593 Resource allocation for reliability and latency enhancements NTT DOCOMO, INC.
68. R1-2103605 Inter-UE coordination for Mode 2 enhancements Panasonic Corporation
69. R1-2103635 Discussion on resource allocation for power saving Hyundai Motors
70. R1-2103636 Discussion on mode 2 enhancements Hyundai Motors
71. R1-2103640 Discussion on partial sensing and SL DRX impact ASUSTeK
72. R1-2103648 Discussion on V2X mode 2 enhancements ASUSTeK
73. R1-2103663 Resource allocation for power saving with partial sensing in NR sidelink enhancement ITL
74. R1-2103704 Resource allocation procedures for power saving Ericsson
75. R1-2103705 Mode 2 enhancements using Inter-UE coordination Ericsson
76. R1-2103706 Additional considerations for resource allocation procedures Ericsson
77. R1-2103710 Discussion on resource allocation for power saving ZTE, Sanechips
78. R1-2103711 Discussion on remaining issues for sidelink evaluation methodology ZTE, Sanechips
79. R1-2104090 FL summary for AI 8.11.1.1 – resource allocation for power saving (1st check point) Moderator (OPPO)
80. R1-2104091 FL summary for AI 8.11.1.1 – resource allocation for power saving (2nd check point) Moderator (OPPO)
81. R1-2104092 FL summary for AI 8.11.1.1 – resource allocation for power saving (3rd check point) Moderator (OPPO)
82. R1-2104093 FL summary for AI 8.11.1.1 – resource allocation for power saving (final) Moderator (OPPO)
83. R1-2104103 Feature lead summary for AI 8.11.1.2 Inter-UE coordination for Mode 2 enhancements Moderator (LG Electronics)
84. R1-2104148 Moderator summary of Email discussion/approval to reply LS in R1-2100021 Moderator (ZTE)

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1. R1-2104176 Sidelink resource allocation for power saving Nokia, Nokia Shanghai Bell
2. R1-2104177 Inter-UE coordination in mode 2 sidelink resource allocation Nokia, Nokia Shanghai Bell
3. R1-2104192 Power consumption reduction for sidelink resource allocation FUTUREWEI
4. R1-2104193 Discussion on techniques for inter-UE coordination FUTUREWEI
5. R1-2104236 Sidelink resource allocation to reduce power consumption Huawei, HiSilicon
6. R1-2104237 Inter-UE coordination in sidelink resource allocation Huawei, HiSilicon
7. R1-2104385 Resource allocation for sidelink power saving vivo
8. R1-2104386 Discussion on mode-2 enhancements vivo
9. R1-2104440 Discussion on sidelink resource allocation for power saving Spreadtrum Communications
10. R1-2104441 Discussion on inter-UE coordination in sidelink resource allocation Spreadtrum Communications
11. R1-2104457 Inter-UE Coordination for Mode 2 Enhancements Kyocera Corporation
12. R1-2104489 Discussion on resource allocation for power saving CATT, GOHIGH
13. R1-2104490 Discussion on inter-UE coordination in mode 2 enhancement CATT, GOHIGH
14. R1-2104560 NR Sidelink Resource Allocation for UE Power Saving Fraunhofer HHI, Fraunhofer IIS
15. R1-2104561 Resource Allocation Enhancements for Mode 2 Fraunhofer HHI, Fraunhofer IIS
16. R1-2104630 Discussion on resource allocation for power saving CMCC
17. R1-2104631 Discussoin on reliability and latency enhancements for mode-2 resource allocation CMCC
18. R1-2104693 Power Savings for Sidelink Qualcomm Incorporated
19. R1-2104694 Reliability and Latency Enhancements for Mode 2 Qualcomm Incorporated
20. R1-2104706 Discussion on resource allocation for power saving Zhejiang Lab
21. R1-2104707 Inter-UE coordination schemes in mode 2 Zhejiang Lab
22. R1-2104724 Considerations on partial sensing in NR V2X CAICT
23. R1-2104725 Considerations on mode 2 enhancements CAICT
24. R1-2104755 Power saving mechanisms in NR sidelink OPPO
25. R1-2104756 Inter-UE coordination in mode 2 of NR sidelink OPPO
26. R1-2104869 Sidelink resource allocation for power saving Lenovo, Motorola Mobility
27. R1-2104870 Discussion on inter-UE coordination for Mode 2 enhancements Lenovo, Motorola Mobility
28. R1-2104926 Sidelink Power Saving Schemes Intel Corporation
29. R1-2104927 Inter-UE Coordination Schemes for Sidelink Communication Intel Corporation
30. R1-2105066 Considerations on partial sensing and DRX in NR Sidelink Fujitsu
31. R1-2105067 Considerations on inter-UE coordination for mode 2 enhancements Fujitsu
32. R1-2105070 Discussion on Sidelink Resource Allocation for Power Saving Panasonic Corporation
33. R1-2105126 On Sidelink Resource Allocation for Power Saving Apple
34. R1-2105127 On Inter-UE Coordination Apple
35. R1-2105177 Discussion on sidelink resource allocation for power saving Sony
36. R1-2105178 Discussion on inter-UE coordination for Mode 2 enhancements Sony
37. R1-2105200 Discussion on the inter-UE coordination ZTE
38. R1-2105203 Consolidation of agreements on sidelink evaluation methodology update for power saving LG Electronics
39. R1-2105204 Discussion on resource allocation for power saving LG Electronics
40. R1-2105205 Discussion on inter-UE coordination for Mode 2 enhancements LG Electronics
41. R1-2105228 Discussion on resource allocation for power saving ETRI
42. R1-2105229 Discussion on inter-UE coordination for Mode 2 enhancements ETRI
43. R1-2105253 Discussion on resource allocation for power saving NEC
44. R1-2105254 Discussion on mode 2 enhancements NEC
45. R1-2105270 Inter-UE coordination for enhanced resource allocation Mitsubishi Electric RCE
46. R1-2105333 On Resource Allocation Enhacements Samsung
47. R1-2105334 On Resource Allocation for Power Saving Samsung
48. R1-2105335 On Inter-UE Coordination for Mode2 Enhancements Samsung
49. R1-2105380 Discussion on sidelink power saving MediaTek Inc.
50. R1-2105393 Discussion on Mode 2 enhancements MediaTek Inc.
51. R1-2105544 Discussion on sidelink resource allocation enhancement for power saving Xiaomi
52. R1-2105545 Discussion on inter-UE coordination Xiaomi
53. R1-2105598 NR SL Resource Allocation for Power Saving Convida Wireless
54. R1-2105599 NR SL Inter-UE Coordination for Mode 2 Enhancements Convida Wireless
55. R1-2105614 Discussion on resource allocation for power saving ZTE, Sanechips
56. R1-2105615 Discussion on resource allocation for power saving Hyundai Motors
57. R1-2105616 Discussion on inter-UE coordination for Mode 2 enhancements Hyundai Motors
58. R1-2105645 Discussion on resource allocation for power saving Sharp
59. R1-2105646 Discussion on inter-UE coordination for Mode 2 enhancements Sharp
60. R1-2105650 Inter-UE coordination for Mode 2 enhancements Panasonic Corporation
61. R1-2105651 Resource allocation for power saving with partial sensing in NR sidelink enhancement ITL
62. R1-2105659 Inter-UE coordination for mode 2 enhancements ITL
63. R1-2105674 Sidelink resource allocation for power saving InterDigital, Inc.
64. R1-2105675 On inter-UE coordination for Mode 2 enhancement InterDigital, Inc.
65. R1-2105718 Discussion on sidelink resource allocation for power saving NTT DOCOMO, INC.
66. R1-2105719 Resource allocation for reliability and latency enhancements NTT DOCOMO, INC.
67. R1-2105845 Discussion on partial sensing and SL DRX impact ASUSTeK
68. R1-2105848 Discussion on V2X mode 2 enhancements ASUSTeK
69. R1-2105866 Further discussion on power saving for sidelink ROBERT BOSCH GmbH
70. R1-2105881 Discussion on inter-UE coordination for sidelink mode-2 ROBERT BOSCH GmbH
71. R1-2105893 Resource allocation procedures for power saving Ericsson
72. R1-2105894 Feasibility and benefits of mode 2 enhancements for inter-UE coordination Ericsson
73. R1-2105982 Reliability and Latency Enhancements for Mode 2 Qualcomm Incorporated
74. R1-2106030 FL summary for AI 8.11.1.1 – resource allocation for power saving (1st check point) Moderator (OPPO)
75. R1-2106031 FL summary for AI 8.11.1.1 – resource allocation for power saving (2nd check point) Moderator (OPPO)
76. R1-2106032 FL summary for AI 8.11.1.1 – resource allocation for power saving (final check point) Moderator (OPPO)
77. R1-2106033 FL summary for AI 8.11.1.1 – resource allocation for power saving (final EOM) Moderator (OPPO)
78. R1-2106062 Feature lead summary for AI 8.11.1.2 Inter-UE coordination for Mode 2 enhancements Moderator (LG Electronics)
79. R1-2106067 Resource allocation for sidelink power saving vivo
80. R1-2106098 Discussion on resource allocation for power saving LG Electronics
81. R1-2106122 Discussion on resource allocation for power saving ZTE, Sanechips
82. R1-2106135 Moderator Summary #1 of email discussion or approval to reply LS in R1-2100021 Moderator (ZTE)
83. R1-2106188 Feature lead summary#2 for AI 8.11.1.2 Inter-UE coordination for Mode 2 enhancements Moderator (LG Electronics)
84. R1-2106200 Discussion on mode-2 enhancements vivo
85. R1-2106284 Feature lead summary#3 for AI 8.11.1.2 Inter-UE coordination for Mode 2 enhancements Moderator (LG Electronics)
86. R1-2106338 Feature lead summary#4 for AI 8.11.1.2 Inter-UE coordination for Mode 2 enhancements Moderator (LG Electronics)

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1. R2-2102660 Reply LS on geo-area confinement (S2-2101319; contact: LGE) SA2
2. R2-2102688 DRX Design for Sidelink Unicast CATT
3. R2-2102689 Further Study on DRX for Sidelink Groupcast/Broadcast CATT
4. R2-2102690 DRX Active Time Alignment between Uu and SL CATT
5. R2-2102691 Consideration on Resource Allocation Enhancements CATT
6. R2-2102746 Discussion on inter-UE coordination OPPO
7. R2-2102771 Further discussion on Sidelink DRX LG Electronics France
8. R2-2102772 Power efficient resource allocation LG Electronics France
9. R2-2102801 Summary of [POST113-e][703][V2X/SL] Details of Timer (InterDigital) InterDigital
10. R2-2102802 Further details on SL DRX Timers InterDigital
11. R2-2102803 On TX Centric vs RX Centric DRX Configuration Determination InterDigital
12. R2-2102804 Resource Allocation for eSL InterDigital
13. R2-2102805 Discussion on Uu DRX for SL UE InterDigital
14. R2-2102815 SL DRX Configuration Impact on RAN1 and RAN2 vivo
15. R2-2102816 SL DRX for Unicast vivo
16. R2-2102817 SL DRX for Groupcast and Broadcast vivo
17. R2-2102818 Discussion on inter-UE coordination for sidelink mode2 vivo
18. R2-2102848 Discussion on SL DRX impact on SL resource allocation mode 1 Sharp
19. R2-2102886 Discussion on DRX configuration OPPO
20. R2-2102887 Discussion on network involvement for SL related DRX OPPO
21. R2-2102888 Left issues on DRX mechanisms and granularity OPPO
22. R2-2102889 Summary of [POST113-e][704] TX UE centric or RX UE centric DRX configuration determination (OPPO) OPPO
23. R2-2102970 Resource allocation enhancement impact in RAN2 Xiaomi communications
24. R2-2102971 Discussion on sidelink DRX timer handling Xiaomi communications
25. R2-2102972 DRX coordination between Uu and Sidelink Xiaomi communications
26. R2-2102973 DRX coordination between TX and RX UE Xiaomi communications
27. R2-2102979 Discussion on Coordination between Uu DRX and SL DRX ZTE Corporation, Sanechips
28. R2-2102980 Discussion on sidelink DRX configuration for unicast ZTE Corporation, Sanechips
29. R2-2102981 Discussion on sidelink DRX configuration for groupcast and broadcast ZTE Corporation, Sanechips
30. R2-2102982 Discussion on inter-UE coordination ZTE Corporation, Sanechips
31. R2-2103003 General aspects of SL DRX Ericsson,Qualcomm Incorporated
32. R2-2103004 Alignment between SL DRX and Uu DRX Ericsson,Qualcomm Incorporated
33. R2-2103005 Interaction between partial sensing and DRX Ericsson
34. R2-2103011 NR SL DRX Fraunhofer IIS, Fraunhofer HHI
35. R2-2103040 Power Reduction for Sidelink Mode 2 Resource Allocation Fraunhofer IIS, Fraunhofer HHI
36. R2-2103041 Inter-UE Coordination for Sidelink Mode 2 Resource Allocation Fraunhofer IIS, Fraunhofer HHI
37. R2-2103068 On general SL DRX design Intel Corporation
38. R2-2103069 Discussion on SL DRX timers Intel Corporation
39. R2-2103070 On DRX wake-up time alignment Intel Corporation
40. R2-2103173 On resource allocation enhancement in Rel-17 NR eSL Huawei, HiSilicon
41. R2-2103174 Consideration on sidelink DRX for broadcast and groupcast Huawei, HiSilicon
42. R2-2103234 Discussion on HARQ RTT and Retransmission Timers for SL Unicast Spreadtrum Communications
43. R2-2103238 Discussion on resource allocation enhancement for NR sidelink Spreadtrum Communications
44. R2-2103287 Discussion on HARQ RTT and Retransmission Timer for SL DRX Fujitsu
45. R2-2103288 Alignment of sidelink DRX active time Fujitsu
46. R2-2103289 Dual-mode Configuration and Selection for NR Sidelink Fujitsu
47. R2-2103305 On the deciding entity of SL DRX configuration Nokia, Nokia Shanghai Bell
48. R2-2103306 Backward Compatibility Issue of SL DRX with Rel.16 Sidelink Nokia, Nokia Shanghai Bell
49. R2-2103400 Discussion on sidelink resource allocation enhancements Lenovo, Motorola Mobility
50. R2-2103401 SL DRX configuration for unicast Lenovo, Motorola Mobility
51. R2-2103462 Discussion on SL DRX active time for groupcast and broadcast ASUSTeK
52. R2-2103463 Discussion on MAC impact regarding Sidelink DRX ASUSTeK
53. R2-2103468 Geolocation for Sidelink DRX Nokia, Nokia Shanghai Bell, Fujitsu, Fraunhofer IIS, Fraunhofer HHI
54. R2-2103470 Coordination between Uu DRX and SL DRX Lenovo, Motorola Mobility
55. R2-2103478 SL DRX Timers Nokia, Nokia Shanghai Bell
56. R2-2103576 On detailed SL DRX model MediaTek Inc.
57. R2-2103577 On coordination between Uu DRX and SL DRX MediaTek Inc.
58. R2-2103578 Transmission of assistance information for Mode 2 enhancement MediaTek Inc.
59. R2-2103579 On SL sync search optimization MediaTek Inc.
60. R2-2103615 Discussion on Sidelink DRX Sony Europe B.V.
61. R2-2103617 Discusison on Sidelink sensing Sony Europe B.V.
62. R2-2103664 General principles for resource allocation enhancements for SL mode 2 Ericsson
63. R2-2103736 Resource Allocation Enhancements Intel Corporation
64. R2-2103741 DRX Configuration for Broadcast and Groupcast SL communication Lenovo, Motorola Mobility
65. R2-2103778 Discussion on Directional SL DRX for Unicast Qualcomm Finland RFFE Oy
66. R2-2103779 Discussion on SL DRX configuration for Groupcast & Broadcast Qualcomm Finland RFFE Oy
67. R2-2103780 Discussion on SL DRX Timers and Others Qualcomm Finland RFFE Oy
68. R2-2103852 Discussion on remaining issues on SL DRX Apple
69. R2-2103853 Discussion on RX-centric and Tx-centric in SL unicast DRX Apple, InterDigital Inc.
70. R2-2103854 Discussion on Inter-UE Coordination Apple
71. R2-2103855 Discussion on resource allocation for Pedestrian UE Apple
72. R2-2103889 Coordination between DL DRX and SL DRX Samsung
73. R2-2103891 SL DRX operation for groupcast/broadcast Samsung
74. R2-2103892 Transmission UE behaviours for SL DRX Samsung
75. R2-2103894 Rel-16 SCI information related to active time in SL DRX Samsung
76. R2-2103948 On Resource Allocation Mode 2 Enhancement for NR Sidelink Convida Wireless
77. R2-2103952 SL DRX Granularity Considerations Convida Wireless
78. R2-2103988 Resource allocation enhancements Samsung
79. R2-2104083 Remaining issues in which UE decides sidelink DRX configurations LGE, InterDigital, Huawei, ASUSTeK, Apple
80. R2-2104085 Inter-UE coordination for NR V2X LG Electronics Inc.
81. R2-2104113 Discussion on SL communication impact on Uu DRX Huawei, HiSilicon
82. R2-2104114 Consideration on the sidelink DRX for unicast Huawei, HiSilicon
83. R2-2104256 Consideration on sidelink DRX determination LG Electronics Inc.
84. R2-2104266 SL DRX enabled UE Mode 2 operation ITL
85. R2-2104285 Discussion on SL DRX configuration for Groupcast & Broadcast Qualcomm Finland RFFE Oy, Ericsson
86. R2-2104472 Summary of [706] Ericsson
87. R2-2104473 [AT113bis-e][707][V2X/SL] Uu DRX impact to support SL CATT
88. R2-2104474 [AT113bis-e][708][V2X/SL] DRX configuration for SL groupcast and broadcast ZTE

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1. R2-2104750 Leftover Issues on DRX for Sidelink Unicast CATT
2. R2-2104751 DRX Design for Sidelink Groupcast and Broadcast CATT
3. R2-2104752 [AT113bis-e][707][V2X/SL] Uu DRX Impact to Support SL CATT
4. R2-2104753 Impacts of SL DRX on Other Procedures CATT
5. R2-2104769 Discussion on network involvement for SL related DRX OPPO
6. R2-2104835 Discussion on DRX configuration and DRX timers OPPO
7. R2-2104836 Left issues on SL DRX RTT timer OPPO, Intel, Xiaomi communications
8. R2-2104841 Summary of [POST113-e][704] TX UE centric or RX UE centric DRX configuration determination (OPPO) OPPO
9. R2-2104865 Reviised Summary of [POST113-e][703][V2X/SL] Details of Timer (InterDigital) InterDigital
10. R2-2104866 Open Issues on SL DRX InterDigital
11. R2-2104867 On TX Centric vs RX Centric Approaches for DRX Configuration Determination InterDigital, Apple, Huawei
12. R2-2104868 Resource Allocation for eSL InterDigital
13. R2-2105023 Further discussion on SL DRX operation Intel Corporation
14. R2-2105024 On DRX wake-up time alignment Intel Corporation
15. R2-2105073 DRX Configuration for UC BC GC and its interaction with Sensing Lenovo, Motorola Mobility
16. R2-2105077 Discussion on SL DRX configuration ZTE Corporation, Sanechips
17. R2-2105078 Discussion on SL DRX timer ZTE Corporation, Sanechips
18. R2-2105079 Discussion on inter-UE coordination ZTE Corporation, Sanechips
19. R2-2105083 Consideration on the sidelink DRX for unicast Huawei, HiSilicon
20. R2-2105131 Discussion on RX-centric and Tx-centric in SL unicast DRX Apple, InterDigtal Inc.
21. R2-2105132 Discussion on remaining issues of SL DRX Apple
22. R2-2105133 Discussion on resource allocation enhacenmens Apple
23. R2-2105248 NR SL DRX Fraunhofer IIS, Fraunhofer HHI
24. R2-2105277 Discussion on co-existence with UEs not supporting SL DRX SHARP Corporation
25. R2-2105278 Discussion on SL DRX inactivity timer SHARP Corporation
26. R2-2105297 Further discussion on Sidelink DRX LG Electronics France
27. R2-2105351 SL DRX Configuration Impact on RAN1 and RAN2 vivo
28. R2-2105352 Left issues on SL DRX vivo
29. R2-2105353 Discussion on inter-UE coordination for sidelink mode2 vivo
30. R2-2105385 Discussion on active time regarding Sidelink DRX ASUSTeK
31. R2-2105400 Discussion on HARQ RTT and Retransmission Timer for SL DRX Fujitsu
32. R2-2105401 Alignment of sidelink DRX active time Fujitsu
33. R2-2105402 Dual-mode Configuration and Selection for NR Sidelink Fujitsu
34. R2-2105458 Coordination between Uu DRX and SL DRX Lenovo, Motorola Mobility
35. R2-2105467 Power efficient resource allocation and Inter-UE coordination LG Electronics France
36. R2-2105480 Discussion on sidelink DRX configuration Xiaomi communications
37. R2-2105484 DRX alignment between TX and RX UE Xiaomi communications
38. R2-2105485 Resource allocation enhancement impact in RAN2 Xiaomi communications
39. R2-2105493 Remaining aspects of SL DRX Ericsson
40. R2-2105494 Interaction between partial sensing and DRX Ericsson
41. R2-2105495 summary offline 706 Ericsson
42. R2-2105499 Inter-UE Coordination for Sidelink Mode 2 Resource Allocation Fraunhofer IIS, Fraunhofer HHI
43. R2-2105508 Power Reduction for Sidelink Mode 2 Resource Allocation Fraunhofer IIS, Fraunhofer HHI
44. R2-2105532 Remaining issues on DRX Timers for SL Spreadtrum Communications
45. R2-2105538 Discussion on resource allocation enhancement for NR sidelink Spreadtrum Communications
46. R2-2105553 Consideration on sidelink DRX for broadcast and groupcast Huawei, HiSilicon
47. R2-2105593 Discussion on SL communication impact on Uu DRX Huawei, HiSilicon
48. R2-2105707 Proposals for Sidelink DRX Sony
49. R2-2105708 Discusison on Sidelink sensing Sony
50. R2-2105733 Geolocation for Sidelink DRX Nokia, Nokia Shanghai Bell, Fujitsu, Fraunhofer IIS, Fraunhofer HHI
51. R2-2105775 General principles for resource allocation enhacements for SL mode 2 Ericsson
52. R2-2105824 Discussion on sidelink resource allocation enhancements Lenovo, Motorola Mobility
53. R2-2105902 Discussion on Directional SL DRX for Unicast Qualcomm Finland RFFE Oy
54. R2-2105904 Discussion on SL DRX configuration for Groupcast & Broadcast Qualcomm Finland RFFE Oy
55. R2-2105906 Discussion on SL DRX Timers and Others Qualcomm Finland RFFE Oy
56. R2-2105912 [AT113bis-e][708][V2X/SL] DRX configuration for SL CG and BG ZTE
57. R2-2105958 Further Issues on Sidelink Traffic Pattern for SL DRX Configuration Nokia, Nokia Shanghai Bell
58. R2-2106056 On the deciding entity of SL DRX configuration Nokia, Nokia Shanghai Bell
59. R2-2106067 Resource Allocation Enhancements for Reduced Power Consumption and Enhanced Reliability Intel Corporation
60. R2-2106073 Coordination between DL DRX and SL DRX Samsung Research America
61. R2-2106074 SL DRX operation for groupcast/broadcast Samsung Research America
62. R2-2106075 Resource allocation enhancements Samsung Research America
63. R2-2106172 SL DRX enabled UE Mode 2 operation ITL
64. R2-2106202 Remaining issues in which UE decides sidelink DRX configurations LGE, InterDigital, Huawei, ASUSTeK, Apple
65. R2-2106204 Consideration on SL DRX operation LG Electronics Inc.
66. R2-2106358 On Resource Allocation Mode 2 Enhancement for NR Sidelink Convida Wireless
67. R2-2106363 SL DRX Granularity Considerations Convida Wireless
68. R2-2106364 SL DRX Configuration: TX Centric or RX Centric Convida Wireless
69. R2-2106438 On detailed SL DRX model MediaTek Inc.
70. R2-2106439 On SL DRX timer operation MediaTek Inc.
71. R2-2106440 Transmission of assistance information for Mode 2 enhancement MediaTek Inc.
72. R2-2106441 On SL sync search optimization MediaTek Inc.
73. R2-2106623 [LS to RAN1 on TX-UE’s timing information] MCC