**3GPP TSG RAN Meeting #98-e RP-222331**

**Electronic Meeting, December 12-16, 2022**

## Status Report to TSG

**Agenda item:** 9.3.2.1

|  |  |
| --- | --- |
| **WI / SI Name** | Further NR Mobility Enhancements |
| included in this status report | Study Item: No | Core part: Yes | Performance part:Yes | Testing part:No |
| **Acronym** | NR\_mob\_enh2 |
| **Unique ID** | 940098 |
| **TSG Tdoc of latest approved WI/SI description (if any)** | RP-222332 |
| **Target Completion Date****(indicate if changed)** | Study Item: N/A | Core part: 12/2023 | Performance part: 06/2024 | Testing part: N/A |
| **Overall Completion level** | Study Item: N/A | Core part:35% | Performance Part: 0% | Testing part: N/A |

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 WG2 |
| **Rapporteur** | **Name** | Li-Chuan Tseng |
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## 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#110bis-e (Oct. 2022, Electronic)**

L1 enhancements for inter-cell beam management

* For Rel-18 L1/L2 mobility, L1 intra-frequency measurement for candidate cell is supported
	+ At least the following aspects are for RAN1 further study:
		- RAN1 assumes Rel-17 ICBM CSI measurement as starting point.
		- Whether and how to apply relaxation for the restrictions imposed on the Rel-17 intra-frequency L1 non-serving cell measurement defined in 9.13.2 of TS38.133, where RAN4 impact is foreseen, e.g.
			* SFN offset alignment compared with serving cell
			* BWP setting, i.e. non-serving cell SSB should be covered by serving cell active BWP
			* Introduction of symbol level gap or SMTC for larger Rx timing difference (i.e. larger than CP length)
		- Commonality with intra-frequency L3 measurement
		- Commonality with L1 inter-frequency measurement for measurement configuration
* Send an LS to RAN4 (CC RAN2)
	+ RAN1 to ask RAN4 if the restriction on e.g., SFN offset alignment, BWP setting and Rx timing difference, etc, described in 9.13.2 of TS38.133 for intra-frequency L1 non-serving measurement can be relaxed or not.
	+ RAN1 assumes Rel-17 ICBM CSI measurement as starting point.
* For Rel-18 L1/L2 mobility,
	+ SSB is supported for L1 intra-frequency measurement
	+ SSB is supported for L1 inter-frequency measurement if inter-frequency L1 measurements are supported
* Further study the following L1 measurement RS for candidate cell
	+ CSI-RS for tracking, beam management, CSI and mobility, CSI-IM, which is for L1 intra-frequency and L1 inter-frequency (if supported)
* For candidate cell measurement for Rel-18 L1/L2 mobility,
	+ L1-RSRP is supported for intra-frequency candidate cell measurement.
	+ Further study the following measurement quantities for candidate cell measurement
		- L1-RSRP for inter-frequency (if supported)
		- L1-SINR for intra-frequency and inter-frequency (if supported)
* FFS: to assess the use case and the benefit of UL measurement instead of/in addition to DL L1 measurement, which includes:
	+ How the UL measurement result is used, e.g. handover decision
	+ Signals/channels used for UL measurement, e.g. SRS
	+ Spec impact including other WGs, e.g. definition of gNB measurement, interface to transfer RS configuration or measurement results
	+ Note: The next discussion will take place based on companies’ contribution in future meeting.
* For Rel-18 L1/L2 mobility, further study the potential RAN1 spec impact of L1 inter-frequency measurement
	+ The definition and scenarios of L1 inter-frequency measurement is determined by RAN4, and RAN1 assumes at least the following until receiving their confirmation
		- The scenarios not included in intra-frequency are regarded as inter-frequency, which includes at least the following scenarios:
			* The frequency of the measured RS not covered by any of the active BWPs of SpCell and Scells configured for a UE, but covered by some of the configured BWPs of SpCell and Scells configured for a UE.
			* The frequency of the measured RS not covered by any of the configured BWPs of SpCell and Scells configured for a UE
	+ At least the following aspect is studied:
		- Commonality with L1 intra-frequency measurement for measurement configuration
* Send an LS to RAN4 (CC RAN2)
	+ RAN1 would like to confirm our understanding that the supported scenarios not included in intra-frequency are regarded as inter-frequency, which includes at least the following scenarios:
		- The frequency of the measured RS not covered by any of the active BWPs of SpCell and Scells configured for a UE, but covered by some of the configured BWPs of SpCell and Scells configured for a UE.
		- The frequency of the measured RS not covered by any of the configured BWPs of SpCell and Scells configured for a UE
	+ It is RAN1 understanding that the introduction of measurement gap and SMTC for L1 inter-frequency measurement, if any, is expected to be a RAN4 issue
	+ Note: this content is included in the LS agreed for intra-frequency L1 measurement
* For L1 measurement report for Rel-18 L1/L2 mobility, further study the following mechanisms:
	+ Report as UCI on PUCCH or PUSCH
		- Periodic report on PUCCH, semi-persistent report on PUCCH/PUSCH, and aperiodic report on PUSCH
		- Potential enhancements to Rel-17 ICBM report format to accommodate Rel-18 scenarios, e.g.
			* Inter-frequency measurement, if supported
			* Increasing the maximum number of reported beams, which is 4 for Rel-17 ICBM
			* Flexible size beam report, e.g., two-part UCI (e.g., the 1st part contains the best beam/cell and the number (e.g., N) of reported beams/cells, the 2nd part contains the rest (N-1) beams/cells
			* Reducing the reporting overhead by e.g. choosing beams/cells per frequency or across frequencies to report (FFS how)
	+ Report on MAC CE
		- Both gNB scheduled and/or UE initiated (if supported) report are studied
* RAN1 to further study if the beam indication of candidate cell(s) L1/L2 mobility should be designed for a specific TCI framework below, and their potential RAN1 spec impact.
	+ **Option A**:  Beam indication for Rel-18 L1/L2 mobility is designed based on Rel-17 TCI framework mechanism
	+ **Option B**: Beam indication for Rel-18 L1/L2 mobility is designed based on Rel-15 TCI framework mechanism
	+ **Option C**: Beam indication for Rel-18 L1/L2 mobility is designed based on both Rel-15 and Rel-17 TCI framework mechanisms
* Send an LS to RAN2/RAN3 asking the clarification on intra-/inter-DU scenario:
	+ RAN1 has started the discussion on the configuration for L1 measurement and TCI states for candidate cells. Regarding the following RAN2 agreements captured in RAN2 LS ([R1-2208331](file:///C%3A%5CUsers%5Cmtk81332%5CAppData%5CLocal%5CMicrosoft%5CWindows%5CINetCache%5CContent.Outlook%5CDocs%5CR1-2208331.zip)/R2-2209257), it is not clear for RAN1 which kind of information/configuration for candidate cell(s) are available at a serving cell for inter-DU case for Rel-18 L1/L2 mobility. Thus, companies have different understanding on the implication of the sentence “as much commonality as reasonable” in the LS.
		- The design for intra-DU and inter-DU L1/L2-based mobility should share as much commonality as reasonable. FFS which aspects need to be different.
	+ RAN1 respectfully asks RAN2 and RAN3 if the serving DU knows the measurement RS configuration and TCI state configuration of cells served by another DU.
* Send an LS to RAN2, 3 and 4 to inform them of the agreements under A.I 9.12.1 and A.I. 9.12.2.
* If the LS related proposal under A.I 9.12.1 and 9.12.2 are agreed, the contents are also included.
* From RAN1 perspective, the following scenarios can be considered for Rel-18 L1/L2 mobility for beam indication timing. This will be updated depending on further RAN1 assessment and RAN2 decision on the time chart
	+ Scenario 1: Beam indication before cell switch command
	+ Scenario 2: Beam indication together with cell switch command
	+ Scenario 3: Beam indication after cell switch command
* Interested companies are encouraged to further study the validity of the scenarios and the potential spec impact.
* Interested companies are encouraged to perform technical analysis of the cell switch command from a RAN1 point of view, e.g.
	+ Necessary information included in the command, which is relevant for RAN1 discussion
	+ Necessary number of bits for the information
	+ L1 impact or concern to use DCI or MAC CE for L1/L2 cell switch command
* RAN1 to further study the potential RAN1 enhancements and spec impact to perform at least the following procedures prior to the reception of L1/L2 cell switch command aiming at the reduction of handover delay / interruption
	+ DL synchronization for candidate cell(s)
	+ TRS tracking for candidate cell(s)
	+ CSI acquisition for candidate cell(s)
	+ Activation/Selection of TCI states for candidate cell(s), if feasible
	+ Note: Uplink synchronization aspect will not be discussed under this A.I.
	+ FFS: Whether the above procedures prior to the reception of L1/L2 cell switch command can be performed on candidate cell when it is deactivated SCell (if defined in RAN2)
* Detailed discussion will be commenced after receiving RAN2 LS.

Timing advance management to reduce latency

* Support TA acquisition of candidate cell(s) before cell switch command is received in L1/L2 based mobility.
	+ FFS: whether this can be applied to candidate cell when it is deactivated SCell (if defined in RAN2).
* On mechanism to acquire TA of the candidate cells, the following solutions can be further studied:
	+ RACH-based solutions
		- e.g., PDCCH ordered RACH, UE-triggered RACH, higher layer triggered RACH from NW other than L3 HO cmd
	+ RACH-less solutions
		- e.g., SRS based TA acquisition, Rx timing difference based, RACH-less mechanism as in LTE, UE based TA measurement (including UE based TA measurement with one TAC from serving cell)
* For TA acquisition of a candidate cell before cell switch command is received, study at least the following alternatives of associating TA/TAG to candidate cell:
	+ Alt1: Associate TA/TAG and candidate cell implicitly, e.g.,
		- the association between TA/TAG and TCI states can be configured
	+ Alt2: Associate TA/TAG and candidate cell explicitly, e.g.,
		- the association is provided as a part of candidate cell(s) configuration
		- the association between TA/TAG and SSB(s)/TRS(s) is provided as a part of candidate cell(s) configuration

**RAN1#111(Nov.2022, Toulouse, France)**

L1 enhancements for inter-cell beam management

* For Rel-18 LTM, L1 inter-frequency measurement is supported from RAN1 point of view.
* Regarding the potential RAN1 enhancements to reduce the handover delay / interruption for Rel-18 LTM
	+ Support at least DL synchronization for candidate cell(s) based on at least SSB before cell switch command
		- Further study the necessary mechanism, e.g. signaling and UE capability
* For L1 measurement report for Rel-18 L1/L2 mobility, if UE event triggered report for L1 measurement is supported based on further study
	+ - At least the following aspects may be considered
			* How to define UE event and exact definition of events,
			* Report container
			* Resource allocation/assignment for UE event triggered report
			* Necessity of indication to gNB when the condition UE event is met, and how
			* Necessity to define the condition to start/stop the reporting,
			* Contents of the report/reporting format, PCI, RS ID, measurement result etc.
			* The interaction with filtered L1 measurement results (if supported)
			* Support of simultaneous configuration of both UE event triggered and any of periodic/semi-persistence/aperiodic reporting, and solutions when both of them are configured.
			* Report destination, whether the report is sent to serving cell only or can be sent to one or more candidate cell(s).
			* Benefit when L3 measurement is involved
* Send an LS to RAN2, 3 and 4 to inform them of the agreements under A.I 9.12.1 and A.I. 9.12.2 at RAN1#111.
* For candidate cell measurement for Rel-18 LTM,
	+ SSB based L1-RSRP is supported for intra-frequency measurement
	+ SSB based L1-RSRP is supported for inter-frequency measurement from RAN1 point of view
	+ FFS: L1-SINR, CSI-RS based L1-RSRP
* The beam indication of candidate cell(s) for Rel-18 LTM should be designed based on the following:
	+ Beam indication for Rel-18 LTM is designed based on Rel-17 unified TCI framework, if both serving cell and candidate cell support Rel-17 unified TCI framework
	+ FFS: whether/how to design mechanism for Beam indication for Rel-18 LTM when at least one from serving cell and candidate cell supports only Rel-15 TCI framework.
	+ Note: How and whether to indicate the new serving cell(s) and timing for beam indication are separately discussed
* For gNB scheduled L1 measurement report for Rel-18 LTM, report as UCI is supported
	+ Semi-persistent report on PUSCH, and aperiodic report on PUSCH are supported
		- FFS: periodic and semi-persistent PUCCH
	+ In a single report instance, report for serving cell and candidate cell(s) for intra-frequency and/or inter-frequency can be included.
* For beam indication timing for Rel-18 LTM,
	+ Support Scenario 2: Beam indication together with cell switch command,
		- For Rel-17 unified TCI framework,
			* Beam indication indicates TCI state for each target serving cell
	+ FFS: Scenario 1: Beam indication before cell switch command
	+ FFS: Scenario 3: Beam indication after cell switch command
* FFS: Activation of TCI state(s) of target serving and/or candidate cell(s).

Timing advance management to reduce latency

* On mechanism to acquire TA of the candidate cell(s) in Rel-18 LTM, at least support PDCCH ordered RACH.
	+ The PDCCH order is only triggered by source cell
	+ FFS: the details including content of DCI, RACH resource configuration, RAR transmission mechanism, etc.
	+ Note: any other RACH-based solutions are for discussion separately
* Support TA acquisition of candidate cell(s) before cell switch command is received in L1/L2 based mobility.
	+ FFS: whether this can be applied to candidate cell when it is deactivated SCell (if defined in RAN2)
* For PDCCH ordered RACH in LTM, at least the following enhancements are supported
	+ Introduce indication of candidate cell and/or RO of candidate cell in DCI
	+ configuration of RACH resource for candidate cell(s) is provided prior to the PDCCH order
	+ FFS: whether/how to transmit RAR
* On whether RAR is needed for PDCCH ordered RACH for a candidate cell in LTM, the following alternatives are considered for further study
	+ Alt 1: RAR is needed
	+ Alt 2: RAR is not needed
		- Note: If Alt 2 is supported, TA value of candidate cell is indicated in cell switch command
	+ Alt 3: whether RAR is needed can be configured
* TA updating (i.e. re-acquisition of TA) for candidate cell can be triggered by NW.
	+ same triggering mechanism reuse the initial TA acquisition, i.e., PDCCH order triggered RACH in a candidate cell

#### 2.1.2 Remaining Open issues

L1 enhancements for inter-cell beam management

* The necessary mechanism, e.g., signaling and UE capability to support DL synchronization for candidate cells before cell switch command.
* Whether and how to support UE event triggered report for L1 measurement, e.g., exact definition of events, report container, resource allocation for UE event triggered report, interaction with filtered L1 measurement results, etc.
* FFS: L1-SINR, CSI-RS based L1-RSRP for candidate cell measurement for LTM.
* Whether/how to design mechanism for Beam indication for Rel-18 LTM when at least one from serving cell and candidate cell supports only Rel-15 TCI framework.
* FFS: periodic and semi-persistent PUCCH for L1 measurement report.
* FFS: Scenario 1(Beam indication before cell switch command), Scenario 3(Beam indication after cell switch command) for beam indication timing.
* FFS: Activation of TCI state(s) of target serving and/or candidate cell(s).
* FFS: to assess the use case and the benefit of UL measurement instead of/in addition to DL L1 measurement

Timing advance management to reduce latency

* Details to support PDCCH ordered RACH to acquire TA of the candidate cells(s).
* Whether TA acquisition of candidate cell(s) before cell switch command can be supported when the candidate cell is deactivated SCell.
* Whether/how to transmit RAR for PDCCH ordered RACH in LTM.

## 2.2 RAN2

#### 2.2.1 Agreements

**RAN2 #119bis-e (Oct. 2022, Electronic)**

L1/L2-based inter-cell mobility

* No security update support in Rel-18 with L1/L2 based mobility.
* FFS whether ASN.1 decoding and validity/compliance check of candidate cell configuration are performed upon reception of the candidate cells configuration. FFS if this need to be specified.
* For UE processing, the following (not exhaustive) is assumed to be performed after receiving the cell switch command:
	+ MAC/RLC reset (when configured)
	+ RF retuning (e.g. needed for inter-frequency), baseband retuning
* R2 assumes that the following items may be discussed by RAN1 and RAN4 (and may be scenario specific):
	+ Whether to perform DL synchronization to candidate/target cell before receiving the cell switch command. R2 assumes this is feasible at least for the case that the target cell is already an active serving cell.
	+ Whether to support of performing TRS tracking and CSI measurement of candidate/target cell before/by cell switch command
* L1L2 based mobility supports the following CA scenarios:
	+ PCell change without SCell change
	+ PCell change with SCell change
* Support NR-DC scenario in L1L2 based mobility, at least for the PSCell change without MN involvement case, i.e. intra-SN.
* A L1/L2 inter-cell mobility candidate (target) configuration is received within an RRC message before the L1/L2 dynamic switch is triggered.
* RAN2 continues the discussion on the RRC models by focusing on Model 1 and Model 2 and stage-3 details.
	+ a.Model 1: One *RRCReconfiguration* message (or FFS *RRCReconfiguration* IEs) for each candidate target configuration
	+ b. Model 2: One *CellGroupConfig* IE (FFS additional IEs) for each candidate target configuration
* RAN2 to use “LTM” as term for the L1/L2-triggered mobility.
* Use the term “cell switch” for the procedure of triggering change of cells via the LTM feature
* Use the term “Subsequent” LTM for the case when cell switch between L1/L2 mobility candidates is done without RRC reconfiguration in between.
* RAN2 assumes that sequential L1L2 cell change between Candidates without RRC reconfiguration can be supported.
* RAN2 assumes that candidate cell configuration can only be modified / released by Network (FFS later whether some optimization should be applied e.g. for release).
* For L1L2 mobility will support that candidate configurations are delta configurations on top of a reference configuration. FFS if the reference configuration is a separate reference configuration or e.g. the current configuration.
* For L1L2 mobility, Target Pcell/SCell can be current SCell/PCell, i.e., current SCell/PCell can be configured as candidates.
* FFS how the UE determine the BWPs (for DL and UL) to be used upon the execution of L1/L2 inter-cell mobility
* RAN2 assumes L1/2 mobility trigger information is conveyed in a MAC CE, FFS if the MAC CE or a DCI is used for the actual triggering.
* RAN2 assumes the MAC CE for L1/2 mobility trigger contains at least a candidate configuration index.
* FFS if it should be possible to perform SCell activation/deactivation (amongst SCells associated with the candidate configuration) simultaneously with L1 L2 mobility trigger MAC CE (if so, FFS how this is determined).
* RAN2 assumes that both RACH-based (CFRA, CBRA) and RACH-less procedures for L1 L2 mobility switch may be supported. RACH-less if the UE doesn’t need to acquire TA during the cell switch. RAN2 understands that the feasibility of RACH-less may depend on RAN1, and expect that RAN1 is working on this.
* RAN2 assumes RACH resource for CFRA for L1 L2 dynamic switch may be provided in RRC configuration (or potentially by MAC CE FFS).
* FFS if the MAC CE can indicate TCI state(s) (or other beam info) to activate for the target Cell(s), dep on RAN1 progress.
* R2 assumes that at L1L2 cell switch: Whether the UE performs partial or full MAC reset (FFS what partial reset is, e.g. to avoid data loss), re-establish RLC, perform data recovery with PDCP is explicitly controlled by the network. R2 assumes that this can be configured by RRC. FFS if MAC CE indication(s) is/are needed.
* RAN2 assumes that RAN1 will drive discussions on L1 measurement enhancements, if any. If RAN1 identifies the need for e.g. event reporting, filtering etc, RAN2 can then be involved if needed.
* Inter-freq L1L2 mobility: R2 Confirms that For L1L2 mobility inter-freq scenarios in general should be supported (including mobility to inter-frequency cell that is not a current serving cell), including the support of inter-frequency L1 measurements, if feasible by R4 and R1.
* RAN2 assumes that whether to use the unified TCI framework as the baseline for beam indication for L1L2 mobility is up to RAN1 (RAN2 observes that L1/L2 mobility need to support inter-freq cases).
* We send an LS to RAN1 and RAN4

NR-DC with selective activation of cell groups

* Baseline procedure to support subsequent secondary cell group change (FFS if UE keeps all configurations or if those are indicated by the network, FFS support of nested configs):
	+ a. Step 1: when the execution condition of a CPC candidate PScell is met, a UE performs the execution of CPC towards this candidate PScell.
	+ b. Step 2: After finishing the PSCell addition or change, the UE doesn’t release conditional configuration of other candidate PSCells for subsequent CPC, the UE continues evaluating the execution conditions of other candidate PScells.
	+ c. Step 3: When the execution condition of a candidate PScell is met, the UE performs the execution of CPC towards this candidate PSCell.
* Confirm that “CPA” selective activation of cell groups will be supported for this WI objective
* Confirm that we aim to support delta configuration, i.e. that there need to be a known reference.
* RAN2 aim to support selective activation of cell groups without RRC reconfiguration with respect to security (FFS, need to consult with SA3 at some point in time).

**RAN2#120(Nov.2022, Toulouse, France)**

L1/L2 Triggered Mobility

* RAN2 assumes that LTM (intra DU and inter DU) is network-controlled mobility where the control is from the source, i.e. measurements (L1 measurements) are configured in the UE from the source Cell, and the decision to switch cell is by the source cell, and enhancements considered for LTM before cell switch, e.g. pre-synchronization, TA handling, target beam mgmt (to the extent it is supported) may be by the source cell. RAN2 understands that this may require cooperation source DU CU target DU and/or OAM coord. RAN2 don’t see any blocking issue to share information between DUs but the support of this is in RAN3 domain. RAN2 see no necessity for a direct inter-DU-interface to support this.
* Include a procedure in the MTK stage-2 offline (e.g. acc to proposal and comments)
* RAN2 to confirm that the CellGroupConfig IE is (mandatory) needed within an LTM candidate cell configuration.
* The RadioBearerConfig IE can be optionally supported in an LTM candidate configuration
* The MeasConfig IE can be optionally supported in an LTM candidate configuration.
* The OtherConfig IE is not required to be part of the LTM candidate cell configuration.
* The LTM candidate cell configuration should be designed as a To AddMod/ToRelease structure.
* The LTM candidate cell configuration ASN.1 structure comprises at least a CellGroupConfig IE and a configuration ID.
* The MAC CE agreed to carry LTM related information for cell switch is used for LTM triggering of the cell switch.
* LTM cell switch is supervised by a timer
* UE arrival in the target cell need to be indicated (somehow)
* RAN2 to have the mindset to have a common design for partial MAC reset for different cell change cases in intra-DU scenario (as far as reasonable)
* The summary in [R2-2213336] could be considered as the starting point for partial reset in intra-DU.
* Permanent Identities such as PCI will not be used in L1 L2 signalling, instead L1 L2 signalling will use temporary identities configured by RRC.

NR-DC with selective activation of cell groups

Delta configuration

* A UE stores the reference configuration as a separate configuration.
* The reference configuration is managed separately
* Remove: “the order in which the sk-counter values are used upon successive S-KgNB change depend on the order in which PSCells are selected by the UE (i.e. the sk-counter value used is not monotonically incremented as specified in TS 33.501).”
* Remove: - the other security input e.g., HFN, Bearer, Direction etc. may be reused e.g., when HFN is reset to 0 e.g., due to refresh of S-KgNB.
* Change last paragraph in actions into: “If SA3 consider the existing handling of sk-counter/ S-KgNB in the above scenarios not acceptable, RAN2 kindly asks SA3 to provide requirements for a solution.”
* With these changes the LS out is approved, in R2-2213337

CHO with target SCG / candidate SCG(s)

* Execution order: the UE doesn’t execute CPC/CPA unless CHO condition is fulfilled (regardless parallel or sequential evaluation)

#### 2.2.2 Remaining Open issues

L1/L2 based inter-cell mobility

* FFS whether ASN.1 decoding and validity/compliance check of candidate cell configuration are performed upon reception of the candidate cells configuration. FFS if this need to be specified.
* FFS if it should be possible to perform SCell activation/deactivation (amongst SCells associated with the candidate configuration) simultaneously with L1 L2 mobility trigger MAC CE (if so, FFS how this is determined).
* FFS how the UE determine the BWPs (for DL and UL) to be used upon the execution of L1/L2 inter-cell mobility
* Procedure of LTM cell switch to be supervised by a timer.
* How to indicate UE arrival in the target cell.
* The determination of whether to reset L2: Determination based on configuration vs. explicit command by MAC CE.
* Partial MAC reset in intra-DU.
* Security concerns for LTM when using L1/L2 signalling in L1 measurement report or LTM trigger command.

NR-DC with selective activation of cell groups

* Whether to define a term for NR-DC with selective activation of cell group and what the term is.
* Whether to support selective activation for MCG.
* How many subsequent conditional changes are targeted, and potential impacts.
* Security issues, LS sent to SA3 asking the existing handling of sk-counter/ S-KgNB is applicable when UE continues switching between the candidate target PSCells multiple times.

CHO with target SCG / candidate SCG(s)

* Overall procedures.

## 2.3 RAN3

#### 2.3.1 Agreements

**RAN3 #117b-e (Oct. 2022, Electronic)**

Signaling support for L1/L2 based inter-cell mobility

* During L1/L2 handover configuration, the gNB-CU sends the suggested candidate cell(s) to the gNB-DU in UE Context Modification Request procedure, FFS in one message or multiple messages.
* The gNB-DU may accept the target cells of L1/L2 handover and responds to the gNB-CU with the access control result in UE Context Modification Response message(s). gNB-DU may accept all or part of the target candidate cells.
* gNB-DU initiated L1/L2 handover configuration is not allowed.
* The UE sends the lower-layer measurement report to the gNB-DU and the gNB-DU triggers UE mobility to a target candidate cell.
* WA: The gNB-DU indicates the gNB-CU about the UE successful access to the target cell by Access Success message.
* The following previous agreements for intra-DU case are confirmed to be also applicable for inter-DU case:
	+ 1.Both intra- DU and intra-CU inter-DU scenarios are supported for L1/L2 mobility.
	+ 2.RAN3 will study the signaling impacts on below use cases following to RAN2 prioritization:
		- Stand alone
		- Carrier Aggregation (Change of PCell)
		- NR-DC (Change of PCell at MN, Change of PScell at SN)
	+ 3.RAN3 will aim for a single solution for network signaling design on L1/L2 based inter-cell mobility to support all agreed scenarios. The details of solution are FFS.
	+ 5.RAN3 focuses on the network-controlled procedure for L1/L2 based inter-cell mobility.
	+ 7.The configuration of candidate target cell(s) for L1/L2 mobility is initiated by the gNB-CU. Details are FFS.
* For inter-DU inter-cell mobility, the UE Context Setup procedure is reused for handover configuration.

Selective activation of cell groups

* RAN3 considers the Inter-CU and Intra-CU cases with equal priority, and studies both the F1 and Xn signaling aspects. It can be revisited based on RAN2 progress. [last meeting’s WA turned into agreement]
* WA: RAN3 will work to enable both indirect and direct early data forwarding in Selective Activation. At this moment, RAN3 does not foresee any scenarios where direct forwarding is not feasible/desired.
* WA (up to RAN2’s discussion): RAN3 assumes the last serving (source) PSCell may remain prepared within the prepared cells for Selective Activation.
* WA: Enhance signalling for Selective Activation.

Support CHO in NR-DC

* There is a need to discuss the avoidance of unnecessary signaling between MN and target SN for CHO + MR-DC.
* Early Data Forwarding optimizations with involvement of the target SCG(s) in Rel-18 will be supported.
* Focus on optimizing duplicated data forwarding scenario.
* There is no issue to identify the same target candidate SN by the source in case direct data forwarding is used on all the forwarding paths/target MNs.
* WA: both direct and indirect data forwarding will be supported.

**RAN3 #118 (Nov. 2022, Toulouse, France)**

Signaling support for L1/L2 based inter-cell mobility

* CU suggest the candidate cell(s) to DU, “gNB-DU can suggest candidate cells after the gNB-CU initiates the L1/L2 inter-cell mobility configuration” is with low priority.
* CU can update the suggested candidate cells.
* For intra-DU case, the gNB-DU indicates the gNB-CU about the UE successful access to the target cell by Access Success message.
* For inter-DU case, the target gNB-DU indicates the gNB-CU about the UE successful access to the target cell by Access Success message.

Selective activation of cell groups

Support CHO in NR-DC

* Direct data forwarding is supported by current specification, FFS on further signalling enhancement.
* Optimization on indirect data forwarding is by network implementation.
* RAN3 acknowledges unnecessary signaling exchange between MN and the target SN would cause inefficiency and extra latency for CHO + NR-DC, the solution is FFS.
* The issue on new problem of CHO with multiple SCGs at the target side is FFS.
* WA: In CHO with (multiple) SCG configuration, the (candidate) SN can acknowledge whether it has direct data forwarding path with source SN. If existed, it can assign the same data forwarding address for multiple data forwarding paths, otherwise, it is up to the candidate SN implementation.

#### 2.3.2 Remaining Open issues

Signaling support for L1/L2 based inter-cell mobility

* FFS for intra-DU L1/L2 mobility, the gNB-CU may use the UE Context Modification procedure to modify or release the prepared cells resources in the gNB-DU (incl. the source cell). Details are pending to RAN2.
* The following open issues on user plane handling in intra-DU L1/L2 mobility as well as inter-DU case are raised for further study:
	+ a) F1-U UL/DL TEID handling as in intra-DU legacy HO.
	+ b) DDDS on F1-U
	+ c) E1 impact, such as setup, update or remove resources at gNB-CU-UP
	+ d) Data forwarding

Selective activation of cell groups

* Scenario for Selective Activation (for example CPA, MN-initiated CPC, SN-initiated CPC).
* FFS on any optimizations to the signalling.

Support CHO in NR-DC

* FFS: Reuse the same design principle for CHO with one target SCG and with multiple target SCGs.
* FFS further signalling enhancement for data forwarding.
* Solutions to reduce unnecessary signaling exchange between MN and the target SN.
* The issue on new problem of CHO with multiple SCGs at the target side is FFS.

## 2.4 RAN4

#### 2.4.1 Agreements

**RAN4 #104bis-e (Oct. 2022, Electronic)**

* WF on L1/L2 inter-cell mobility approved in [1]
* WF on improvement on FR2 SCell/SCG setup/resume approved in [2]

On L1/L2 based inter-cell mobility

* Start discussions from single active panel in FR2
	+ further discuss whether to consider simultaneous multi-panel in FR2.
* For SSB L1-RSRP measurement, follow the definition of L3 measurement:
	+ A measurement is defined as a SSB based intra-frequency L1 measurement provided the center frequency and SCS of the SSB of the neighbor cell is the same as SSB of the serving cell indicated in ServingCellConfigCommon
		- Note: RAN4 will revisit the definition based on RAN1/2 conclusion.

**RAN4 #105 ((Nov.2022, Toulouse, France))**

* WF on L1/L2 inter-cell mobility approved in [3]
* WF on improvement on FR2 SCell/SCG setup/resume approved in [4]
* LS on improvement in FR2 SCell/SCG setup/resume delay [5]
* Reply LS on L1 intra- and inter- frequency measurement and configurations for L1/L2-based inter-cell mobility [6]

On study of improvement on FR2 Scell/SCG setup/resume

* Enhancements on UE behavior in IDLE/INACTIVE mode are not in the scope
* The following aspects can be further studied
	+ Using measurement results obtained during IDLE/INACTIVE mode for measurements during RRC connection procedure
		- Note: enhancements on IDLE/INACTIVE mode measurements are not in the scope

On L1/L2 based inter-cell mobility

* L1 intra-frequency and inter-frequency measurement definition
	+ Inform RAN1 that the L1 intra-frequency measurement definition is the same as that for L3 intra-frequency measurement.
	+ RAN4 confirms that the supported scenarios not included in intra-frequency are regarded as inter-frequency for L1 measurement.
	+ RAN4 recommends RAN1 to use the same definition as RAN4.
* Introduce requirements for inter-frequency cell switch
	+ Which scenarios to define cell switch requirements is up to RAN4 discussion.
	+ FFS: whether to support inter-frequency L1-RSRP measurement.
* Transmit timing accuracy requirements for any uplink transmission after cell switch should follow existing requirements.
* For SSB based L1 measurements in the two Scenarios in Question 2 of RAN1 LS, it can be intra-frequency or inter-frequency L1-RSRP measurement depending on whether SSB of neighbour cell has the same centre frequency and SCS as serving cell or not. If SSB of neighbour cell has the same centre frequency and SCS as serving cell, then this scenario is the intra-frequency L1 measurement. Otherwise, it is the inter-frequency L1 measurement.

#### 2.4.2 Remaining Open issues

Study of improvement on FR2 Scell/SCG setup/resume

* Further study how to use measurement results obtained during IDLE/INACTIVE mode for measurements during RRC connection procedure
* Validation of measurement results obtained during IDLE/INACTIVE mode
* Scope of the study regarding CA/DC
	+ whether target cell in FR1 needs to be considered
	+ whether intra-band CA/DC is one of the target scenarios

L1/L2 based inter-cell mobility

* RRM requirements to specify
	+ Specify L1/L2 inter-cell mobility delay and analyse each component of L1/L2 inter-cell mobility delay.
	+ Discuss whether and how to specify L1-RSRP measurement delay requirements (after the procedure and supported scenario is clear)
	+ Discuss whether and how to specify Timing management requirements (wait for RAN1/2 input)
	+ Discuss whether and how to specify Timing requirements
	+ Identify other potential RRM requirements to specify
* Scenarios
	+ Whether to consider simultaneous Rx/Tx with both source cell and target cell
	+ Definition of intra-frequency cell switch
	+ Whether to cover inter-frequency L1-RSRP measurement
	+ Whether to support L1 measurement on multiple cells with PCI different from serving cell
	+ Definition of synchronous and non-synchronous
	+ Whether to cover non-synchronous scenarios
* Measurement accuracy
	+ Further discuss the side condition for intra-frequency L1-RSRP measurement accuracy requirements
	+ Further discuss whether and how to define Inter-frequency L1-RSRP measurement accuracy requirements

NR-DC with selective activation of cell groups

* RRM requirements for subsequent CPAC (Waiting for RAN2 input)

CHO with target SCG / candidate SCG(s)

* RRM requirements for CHO with CPAC (Waiting for RAN2 input)

## 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 SAx/CTs

#### 3.1.1 Agreements with cross-TSG impacts

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

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

## 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.

1. R4-2217259 WF on L1/L2 inter-cell mobility, MediaTek inc.
2. R4-2217260 WF on improvement on FR2 SCell/SCG setup/resume, apple
3. R4-2220403 WF on L1/L2 inter-cell mobility, MediaTek inc.
4. R4-2220415 WF on improvement on FR2 SCell/SCG setup/resume, apple, MediaTek Inc.
5. R4-2220734 LS on improvement in FR2 SCell/SCG setup/resume delay, MediaTek Inc.
6. R4-2220733 Reply LS on L1 intra- and inter- frequency measurement and configurations for L1/L2-based inter-cell mobility, CATT

**RAN1#110bis-e (Oct. 2022, Electronic)**

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| [R1-2208383](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2208383.zip) | Latency Reduction and Target TA Determination for L1/L2 Mobility | FUTUREWEI |
| [R1-2208406](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2208406.zip) | L1 enhancements for inter-cell beam management | Huawei, HiSilicon |
| [R1-2208407](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2208407.zip) | Timing advance management to reduce latency | Huawei, HiSilicon |
| [R1-2208500](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2208500.zip) | Discussion on L1 enhancements for L1/L2-based inter-cell mobility | Nokia, Nokia Shanghai Bell |
| [R1-2208501](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2208501.zip) | Discussion on timing advance management for L1/L2-based inter-cell mobility | Nokia, Nokia Shanghai Bell |
| [R1-2208509](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2208509.zip) | L1 enhancements for inter-cell beam management | ZTE |
| [R1-2208510](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2208510.zip) | Enhancements on TA management to reduce latency | ZTE |
| [R1-2208570](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2208570.zip) | Discussion on L1 enhancements for inter-cell beam management | Spreadtrum Communications |
| [R1-2208571](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2208571.zip) | Discussion on timing advance management to reduce latency | Spreadtrum Communications |
| [R1-2208664](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2208664.zip) | Discussion on L1 enhancements for L1/L2 mobility | Vivo |
| [R1-2208665](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2208665.zip) | Discussion on TA management for L1/L2 moblity | Vivo |
| [R1-2208679](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2208679.zip) | L1 enhancements to inter-cell beam management | Ericsson |
| [R1-2208747](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2208747.zip) | L1 enhancements for inter-cell beam management | Lenovo |
| [R1-2208748](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2208748.zip) | Timing advancement management for L1L2 mobility | Lenovo |
| [R1-2208805](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2208805.zip) | Discussions on Inter-cell beam management enhancement | OPPO |
| [R1-2208806](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2208806.zip) | Discussions on Timing Advance Management | OPPO |
| [R1-2208884](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2208884.zip) | On Intercell beam management enhancement for NR mobility enhancement | Google |
| [R1-2208885](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2208885.zip) | On TA management for NR mobility enhancement | Google |
| [R1-2208905](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2208905.zip) | Enhancements on inter-cell beam management for mobility | LG Electronics |
| [R1-2208958](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2208958.zip) | On L1 enhancements for inter-cell beam management | CATT |
| [R1-2208959](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2208959.zip) | On timing advance management to reduce latency | CATT |
| [R1-2209024](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209024.zip) | Views on L1 enhancements for inter-cell beam management | Fujitsu |
| [R1-2209073](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209073.zip) | L1 Enhancements for Inter-cell Beam Management | Intel Corporation |
| [R1-2209074](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209074.zip) | On Timing Advance Management | Intel Corporation |
| [R1-2209203](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209203.zip) | L1 enhancements for inter-cell beam management | InterDigital, Inc. |
| [R1-2209204](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209204.zip) | Timing advance management to reduce latency | InterDigital, Inc. |
| [R1-2209268](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209268.zip) | Discussion on L1 enhancements and Dynamic switch mechanism | Xiaomi |
| [R1-2209269](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209269.zip) | Discussion on Timing advance management | Xiaomi |
| [R1-2209359](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209359.zip) | Discussion on L1 enhancements for inter-cell beam management | CMCC |
| [R1-2209360](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209360.zip) | Discussion on timing advance management to reduce latency | CMCC |
| [R1-2209428](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209428.zip) | Discussion on L1 enhancements for inter-cell beam management | NEC |
| [R1-2209498](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209498.zip) | L1 enhancements for inter-cell beam management | MediaTek Inc. |
| [R1-2209499](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209499.zip) | UL Timing management to reduce handover latency | MediaTek Inc. |
| [R1-2209542](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209542.zip) | Timing advance management to reduce latency | Ericsson |
| [R1-2209603](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209603.zip) | On L1 enhancements for inter-cell mobility | Apple |
| [R1-2209604](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209604.zip) | Timing advance management to reduce mobility latency | Apple |
| [R1-2209754](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209754.zip) | On L1 enhancements for inter-cell beam management | Samsung |
| [R1-2209755](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209755.zip) | Non-serving cell TA management for NR mobility enhancement | Samsung |
| [R1-2209923](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209923.zip) | Discussion on L1 enhancements for inter-cell mobility | NTT DOCOMO, INC. |
| [R1-2209924](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209924.zip) | Timing advance enhancement for inter-cell mobility | NTT DOCOMO, INC. |
| [R1-2210008](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2210008.zip) | L1 Enhancements for Inter-Cell Beam Management | Qualcomm Incorporated |
| [R1-2210009](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2210009.zip) | TA management to reduce latency for L1/L2 based mobility | Qualcomm Incorporated |
| [R1-2210200](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2210200.zip) | Timing advance alignment with low latency | Rakuten Symphony |
| [R1-2210265](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2210265.zip) | RAN1 Work Plan for Rel-18 Further NR Mobility Enhancements WI | MediaTek Inc., Apple |
| [R1-2210390](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2210390.zip) | Moderator summary on timing advance management: Round 1 | Moderator (CATT) |
| [R1-2210414](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2210414.zip) | FL summary 1 on L1 enhancements for inter-cell beam management | Moderator (Fujitsu) |
| [R1-2210612](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2210612.zip) | FL summary 2 on L1 enhancements for inter-cell beam management | Moderator (Fujitsu) |
| [R1-2210675](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2210675.zip) | FL summary 3 on L1 enhancements for inter-cell beam management | Moderator (Fujitsu) |
| [R1-2210695](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2210695.zip) | Session notes for 9.12 (Further NR mobility enhancements) | Ad-Hoc Chair (CMCC) |
| [R1-2210725](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2210725.zip) | FL final summary on L1 enhancements for inter-cell beam management | Moderator (Fujitsu) |
| [R1-2210726](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2210726.zip) | DRAFT LS on L1 intra- and inter- frequency measurement and configurations for L1/L2-based inter-cell mobility | Fujitsu, CATT |
| [R1-2210727](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2210727.zip) | LS on L1 intra- and inter- frequency measurement and configurations for L1/L2-based inter-cell mobility | RAN1, Fujitsu, CATT |
| R1-2210791 | DRAFT LS on L1 intra- and inter- frequency measurement and configurations for L1/L2-based inter-cell mobility | Fujitsu, CATT |

**RAN1#111(Nov.2022, Toulouse, France)**

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| [R1-2210853](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2210853.zip) | Comparison of TA acquisition schemes for L1/L2 Mobility | FUTUREWEI |
| [R1-2210897](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2210897.zip) | L1 enhancements for inter-cell beam management | Huawei, HiSilicon |
| [R1-2210898](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2210898.zip) | Timing advance management to reduce latency | Huawei, HiSilicon |
| [R1-2210942](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2210942.zip) | L1 enhancements for inter-cell beam management | ZTE |
| [R1-2210943](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2210943.zip) | Enhancements on TA management to reduce latency | ZTE |
| [R1-2211028](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2211028.zip) | Discussion on L1 enhancements for L1/L2 mobility | Vivo |
| [R1-2211029](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2211029.zip) | Discussion on TA management for L1/L2 Mobility | Vivo |
| [R1-2211053](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2211053.zip) | L1 enhancements to inter-cell beam management | Ericsson |
| [R1-2211083](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2211083.zip) | Views on L1 enhancements for inter-cell beam management | Fujitsu |
| [R1-2211130](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2211130.zip) | On Intercell beam management enhancement for NR mobility enhancement | Google |
| [R1-2211131](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2211131.zip) | On TA management for NR mobility enhancement | Google |
| [R1-2211180](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2211180.zip) | Discussion on L1 enhancements for inter-cell beam management | CATT |
| [R1-2211181](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2211181.zip) | Discussion on timing advance management to reduce latency | CATT |
| [R1-2211250](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2211250.zip) | Discussion on L1 enhancements for inter-cell beam management | Spreadtrum Communications |
| [R1-2211251](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2211251.zip) | Discussion on timing advance management to reduce latency | Spreadtrum Communications |
| [R1-2211297](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2211297.zip) | L1 enhancements for inter-cell beam management | Lenovo |
| [R1-2211298](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2211298.zip) | Timing advancement management for L1L2 mobility | Lenovo |
| [R1-2211306](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2211306.zip) | Discussion on L1 enhancements for L1/L2-triggered mobility | Nokia, Nokia Shanghai Bell |
| [R1-2211307](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2211307.zip) | Discussion on timing advance management for L1/L2-triggered mobility | Nokia, Nokia Shanghai Bell |
| [R1-2211322](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2211322.zip) | L1 enhancements for inter-cell beam management | InterDigital, Inc. |
| [R1-2211323](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2211323.zip) | Timing advance management to reduce latency | InterDigital, Inc. |
| [R1-2211346](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2211346.zip) | Discussion on L1 enhancements for inter-cell beam management | Xiaomi |
| [R1-2211347](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2211347.zip) | Discussion on Timing advance management | Xiaomi |
| [R1-2211418](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2211418.zip) | L1 Enhancements for Inter-cell Beam Management | Intel Corporation |
| [R1-2211419](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2211419.zip) | On Timing Advance Management | Intel Corporation |
| [R1-2211440](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2211440.zip) | Discussions on Inter-cell beam management enhancement | OPPO |
| [R1-2211441](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2211441.zip) | Discussions on Timing Advance Management | OPPO |
| [R1-2211553](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2211553.zip) | Timing advance management for L1/L2 Mobility | Ericsson |
| [R1-2211702](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2211702.zip) | Discussion on L1 enhancements for inter-cell beam management | CMCC |
| [R1-2211703](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2211703.zip) | Discussion on timing advance management to reduce latency | CMCC |
| [R1-2211753](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2211753.zip) | Discussion on L1 enhancements for inter-cell beam management | NEC |
| [R1-2211832](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2211832.zip) | L1 enhancements to inter-cell beam management | Apple |
| [R1-2211833](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2211833.zip) | Timing advance management to reduce latency | Apple |
| [R1-2211873](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2211873.zip) | Enhancements on inter-cell beam management for mobility | LG Electronics |
| [R1-2212004](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2212004.zip) | Discussion on L1 enhancements for inter-cell mobility | NTT DOCOMO, INC. |
| [R1-2212005](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2212005.zip) | Timing advance enhancement for inter-cell mobility | NTT DOCOMO, INC. |
| [R1-2212068](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2212068.zip) | On L1 enhancements for inter-cell beam management | Samsung |
| [R1-2212069](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2212069.zip) | Candidate cell TA acquisition for NR L1/L2 mobility enhancement | Samsung |
| [R1-2212140](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2212140.zip) | L1 Enhancements for Inter-Cell Beam Management | Qualcomm Incorporated |
| [R1-2212141](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2212141.zip) | TA management to reduce latency for L1/L2 based mobility | Qualcomm Incorporated |
| [R1-2212235](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2212235.zip) | L1 enhancements for inter-cell beam management | MediaTek Inc. |
| [R1-2212239](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2212239.zip) | UL Timing management to reduce handover latency | MediaTek Inc. |
| [R1-2212321](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2212321.zip) | Reduced latency for inter-cell beam management | Rakuten Symphony |
| [R1-2212689](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2212689.zip) | Moderator summary on Timing advance management: Round 1 | Moderator (CATT) |
| [R1-2212741](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2212741.zip) | FL summary 1 on L1 enhancements for inter-cell beam management | Moderator (Fujitsu) |
| [R1-2212815](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2212815.zip) | Moderator summary on Timing advance management: Round 2 | Moderator (CATT) |
| R1-2212850 | Session notes for 9.12 (Further NR mobility enhancements) | Ad-Hoc Chair (CMCC) |
| [R1-2212858](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2212858.zip) | FL summary 2 on L1 enhancements for inter-cell beam management | Moderator (Fujitsu) |
| [R1-2212863](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_111/Docs/R1-2212863.zip) | Moderator summary on Timing advance management: Round 3 | Moderator (CATT) |
| R1-2212946 | Final FL summary on L1 enhancements for inter-cell beam management | Moderator (Fujitsu) |
| R1-2212947 | DRAFT LS on RAN1 agreements for L1/L2-based inter-cell mobility | Fujitsu, CATT |
| R1-2212948 | LS on RAN1 agreements for L1/L2-based inter-cell mobility | RAN1, Fujitsu, CATT |

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| [R2-2209394](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209394.zip) | Open Issues on Target Performance Enhancements | CATT |
| [R2-2209395](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209395.zip) | Discussion on RRC Configuration for L1L2 Mobility | CATT |
| [R2-2209396](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209396.zip) | Discussion on Dynamic Switch Mechanism | CATT |
| [R2-2209397](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209397.zip) | Discussion on L1 inter-cell beam measurement and indication | CATT |
| [R2-2209398](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209398.zip) | Consideration on Selective Activation of Cell Groups in NR-DC | CATT |
| [R2-2209480](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209480.zip) | Enhancements to improve performance for L1 L2 mobility | Vivo |
| [R2-2209481](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209481.zip) | RRC configurations of candidate target cell for L1/L2 mobility | Vivo |
| [R2-2209482](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209482.zip) | Discussion on dynamic switch for L1 L2 mobility | Vivo |
| [R2-2209483](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209483.zip) | Discussion on L1 measurements and beam indication | Vivo |
| [R2-2209484](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209484.zip) | Discussion on NR-DC with selective activation cell of groups | Vivo |
| [R2-2209524](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209524.zip) | RRC configuration and modelling for L1/L2 mobility | Huawei, HiSilicon |
| [R2-2209525](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209525.zip) | Solutions for dynamic cell switch in L1/L2 mobility | Huawei, HiSilicon |
| [R2-2209546](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209546.zip) | Discussion on scenarios for dynamic switch | SHARP Corporation |
| [R2-2209589](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209589.zip) | Discussion on NR-DC with selective activation cell of groups | NTT DOCOMO, INC. |
| [R2-2209590](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209590.zip) | Discussion on some issues in L1L2 mobility | NTT DOCOMO, INC. |
| [R2-2209594](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209594.zip) | Further mobility enhancements for NR-DC | Vodafone |
| [R2-2209600](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209600.zip) | Discussion on latency model of L1 L2 mobility | Intel Corporation |
| [R2-2209601](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209601.zip) | Discussion on configurations for multiple candidate cells of L1 L2 mobility | Intel Corporation |
| [R2-2209602](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209602.zip) | Discussion on synchronization enhancements for dynamic switch | Intel Corporation |
| [R2-2209603](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209603.zip) | Discussion on enhancements to L1 measurements | Intel Corporation |
| [R2-2209604](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209604.zip) | Discussion on NR-DC with selective activation cell of groups | Intel Corporation |
| [R2-2209625](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209625.zip) | Latency reduction for synchronization procedure for L1/L2 mobility | OPPO |
| [R2-2209626](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209626.zip) | Discussion on measurement related issue of L1/L2 mobility | OPPO |
| [R2-2209627](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209627.zip) | Open issues on dynamic switching for L1/L2 mobility | OPPO |
| [R2-2209628](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209628.zip) | Discussion on configuration related issues for L1/L2 mobility | OPPO |
| [R2-2209629](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209629.zip) | Discussion on selective activation of SCGs for NR-DC | OPPO |
| [R2-2209685](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209685.zip) | Selective activation of cell groups in NR-DC | Qualcomm Incorporated |
| [R2-2209701](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209701.zip) | L1/L2 Mobility Considerations | Qualcomm Incorporated |
| [R2-2209722](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209722.zip) | Discussion of the major delay components and possible solutions | Futurewei |
| [R2-2209723](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209723.zip) | Dynamic RRC pre-configuration for L1L2 mobility | Futurewei |
| [R2-2209724](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209724.zip) | Discussion on L1/L2 Mobility operations | Futurewei |
| [R2-2209786](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209786.zip) | Viewing SpCell/SCell dynamic switch as an intra-DU L2/L1 handover | Apple |
| [R2-2209787](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209787.zip) | Conditional handover and other critical aspects in L2/L1 mobility | Apple |
| [R2-2209788](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209788.zip) | Description of a Reference Config for multi-SN handling | Apple |
| [R2-2209789](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209789.zip) | Security from UE mobility across SNs and limiting SN changes to within a single MN | Apple |
| [R2-2209854](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209854.zip) | Discussion on L1 L2 mobility procedure | ASUSTeK |
| [R2-2209869](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209869.zip) | RRC Modeling for Candidate Cells in L1/L2 Inter-cell Mobility | Samsung |
| [R2-2209870](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209870.zip) | L1/L2 signalling for inter-cell mobility | Samsung |
| [R2-2209871](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209871.zip) | Considerations on the L1 Measurement and Report | Samsung |
| [R2-2209872](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209872.zip) | Considerations on Subsequent CPAC after SCG Change | Samsung |
| [R2-2209929](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209929.zip) | Target Performance Enhancements for L1L2-based Inter-cell Mobility | MediaTek Inc. |
| [R2-2209930](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209930.zip) | RRC Configurations for L1L2-based Inter-cell Mobility | MediaTek Inc. |
| [R2-2209931](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209931.zip) | Cell Switch for L1L2-based Inter-cell Mobility | MediaTek Inc. |
| [R2-2209932](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209932.zip) | RAN2 Aspects of L1 Enhancements for L1L2-based Inter-cell Mobility | MediaTek Inc. |
| [R2-2209941](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209941.zip) | RRC configuration for lower layer based mobility | Lenovo |
| [R2-2209942](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209942.zip) | Lower layer based dynamic mobility | Lenovo |
| [R2-2209950](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209950.zip) | Discussion on SCG selective activation | Lenovo |
| [R2-2209974](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209974.zip) | Discussion on NR-DC with selective activation cell of groups | Spreadtrum Communications |
| [R2-2209977](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209977.zip) | Discussion on L1/L2 based inter-cell mobility | Spreadtrum Communications |
| [R2-2209992](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209992.zip) | Discussion on the issue of L1 enhancements for ICBM | Spreadtrum Communications |
| [R2-2210055](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210055.zip) | Latency reduction required for high performance beam | Xiaomi |
| [R2-2210056](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210056.zip) | Selection between Model 1 and Model 2 for candidate cell configuration | Xiaomi |
| [R2-2210057](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210057.zip) | Discussion on inter-cell beam management | Xiaomi |
| [R2-2210058](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210058.zip) | Discussion on the dynamic switching procedure | Xiaomi |
| [R2-2210065](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210065.zip) | Considerations on reducing HO interruption time | Samsung |
| [R2-2210073](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210073.zip) | Further analysis on the solution aspects for selective activation | Nokia, Nokia Shanghai Bell |
| [R2-2210106](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210106.zip) | Consideration on L1/L2 based inter-cell mobility | Fujitsu |
| [R2-2210107](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210107.zip) | Configuration and maintenance for multiple candidate target cells | Fujitsu |
| [R2-2210156](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210156.zip) | Discussion on NR-DC with selective activation cell of groups | CMCC |
| [R2-2210163](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210163.zip) | Considerations on target performance enhancements | CMCC |
| [R2-2210164](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210164.zip) | Considerations on RRC related issues | CMCC |
| [R2-2210165](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210165.zip) | Considerations on dynamic switch | CMCC |
| [R2-2210166](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210166.zip) | Potential solutions for L1 measurements | CMCC |
| [R2-2210171](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210171.zip) | Discussion on candidate cell configuration and maintenance | ZTE Corporation, Sanechips |
| [R2-2210172](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210172.zip) | Discussion on dynamic switch for L1L2 mobility | ZTE Corporation, Sanechips |
| [R2-2210173](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210173.zip) | Discussion on inter-cell L1 measurements | ZTE Corporation, Sanechips |
| [R2-2210174](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210174.zip) | Discussion on NR-DC with selective activation of the cell groups | ZTE Corporation, Sanechips |
| [R2-2210192](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210192.zip) | Target enhancements and latency model for L1/2 triggered handover | Interdigital, Inc. |
| [R2-2210193](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210193.zip) | RRC Support for L1/2 Triggered Handover | Interdigital, Inc. |
| [R2-2210194](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210194.zip) | L1/2 handover trigger | Interdigital, Inc. |
| [R2-2210230](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210230.zip) | Framework fulfilling WID Objectives | Lenovo |
| [R2-2210231](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210231.zip) | Mobility procedural delegation to lower layers | Lenovo |
| [R2-2210308](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210308.zip) | NR-DC with selective activation | Ericsson |
| [R2-2210329](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210329.zip) | [Post119-e][048][feMob] Candidate target configurations for L1/L2 mobility | Ericsson |
| [R2-2210330](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210330.zip) | Enhancements on delay components for L1/L2 inter-cell mobility | Ericsson |
| [R2-2210331](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210331.zip) | Execution procedure for L1/L2 based inter-cell mobility | Ericsson |
| [R2-2210332](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210332.zip) | L1 measurements and beam indication for L1/L2 based inter-cell mobility | Ericsson |
| [R2-2210333](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210333.zip) | RRC aspects of L1/L2 based inter-cell mobility | Ericsson |
| [R2-2210349](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210349.zip) | On Interruption Time Reduction in LLM | Nokia, Nokia Shanghai Bell |
| [R2-2210350](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210350.zip) | On RRC Configuration Options for LLM | Nokia, Nokia Shanghai Bell |
| [R2-2210351](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210351.zip) | On Dynamic Switching in LLM | Nokia, Nokia Shanghai Bell |
| [R2-2210352](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210352.zip) | On Configuration of Inter-Cell LLM | Nokia, Nokia Shanghai Bell |
| [R2-2210398](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210398.zip) | Considerations on possible restrictions in RRC configuration | NEC |
| [R2-2210399](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210399.zip) | Basic considerations on dynamic switch | NEC |
| [R2-2210400](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210400.zip) | Possible flows of selective SCG activation | NEC |
| [R2-2210401](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210401.zip) | Consideration on selective SCG activation | NEC |
| [R2-2210444](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210444.zip) | Discussion on RRC model for L1L2 mobility | LG Electronics |
| [R2-2210445](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210445.zip) | Discussion on dynamic switch for L1L2 mobility | LG Electronics |
| [R2-2210451](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210451.zip) | Measurements for L1/L2 mobility | InterDigital, Inc. |
| [R2-2210452](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210452.zip) | Selective activation of cell groups | InterDigital, Inc. |
| [R2-2210470](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210470.zip) | Consideration for Target Performance Enhancements of L1/L2 mobility | Sharp |
| [R2-2210471](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210471.zip) | RRC Configurations of L1/L2 mobility | Sharp |
| [R2-2210472](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210472.zip) | Inter-cell beam management enhancements for L1/L2 mobility | Sharp |
| [R2-2210473](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210473.zip) | Discussion of selective activation | Sharp |
| [R2-2210488](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210488.zip) | Discussion on NR-DC with selective activation of the cell groups | Xiaomi |
| [R2-2210500](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210500.zip) | RAN2 Work Plan for Rel-18 Further NR Mobility Enhancements WI | MediaTek Inc., Apple |
| [R2-2210516](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210516.zip) | Discussion on selective SCG activation | MediaTek Inc. |
| [R2-2210561](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210561.zip) | Signaling structure with flexibility and efficiency | LG Electronics |
| [R2-2210581](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210581.zip) | Selective Cell Group Activation | LG Electronics |
| [R2-2210590](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210590.zip) | Discussion on TA for candidate cell for L1L2 mobility | LG Electronics Inc. |
| [R2-2210616](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210616.zip) | Further Considerations on L1/L2 Signaling Based Mobility | ZTE Corporation,Sanechips |
| [R2-2210617](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210617.zip) | Discussion on NR-DC with selective activation of the cell groups | China Telecom |
| [R2-2210671](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210671.zip) | Discussion on NR-DC with selective activation of the cell groups | DENSO CORPORATION |
| [R2-2210722](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210722.zip) | Target Performance Enhancements and supported scenarios | Huawei, HiSilicon |
| [R2-2210723](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210723.zip) | L1 measurement and beam indication for L1L2 mobility | Huawei, HiSilicon |
| [R2-2210724](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210724.zip) | NR-DC with selective activation of cell groups | Huawei, HiSilicon |
| [R2-2210762](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210762.zip) | Consideration on L1L2 mobility | KDDI Corporation |
| [R2-2210824](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210824.zip) | Report of [AT119bis-e][023][feMob] Terminology (Nokia) | Nokia |
| [R2-2211000](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2211000.zip) | LS on L1 measurement, beam indication, RRC, and dynamic cell switching | RAN2 |
| [R2-2211061](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2211061.zip) | LS on RAN2 agreements about L1/L2-triggered mobility (LTM) | RAN2 |

**RAN2#120(Nov.2022, Toulouse, France)**

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| R2-2211154 | LS on L1 intra- and inter- frequency measurement and configurations for L1/L2-based inter-cell mobility (R1-2210727; contact: CATT) | RAN1 |
| R2-2211194 | Enhancements on Latency Components for L1L2-triggered Mobility | MediaTek Inc. |
| R2-2211195 | Procedures of L1L2-triggered Mobility | MediaTek Inc. |
| R2-2211196 | RRC Aspects of L1L2-triggered Mobility | MediaTek Inc. |
| R2-2211197 | Cell Switch in L1L2-triggered Mobility | MediaTek Inc. |
| R2-2211200 | [Draft] Reply LS on L1 measurement and configurations for L1L2-based inter-cell mobility | CATT, Fujitsu |
| R2-2211201 | Discussion on RAN1 LS on measurement and configurations for L1L2-based inter-cell mobility | CATT, Fujitsu |
| R2-2211202 | On Procedure Descriptions | CATT |
| R2-2211203 | Discussion on RRC Aspects for LTM | CATT |
| R2-2211204 | Discussion on Dynamic Switch Mechanism | CATT |
| R2-2211205 | Discussion on Selective Activation of Cell Groups in NR-DC | CATT |
| R2-2211206 | Discussion on CHO including target MCG and candidate SCGs | CATT |
| R2-2211254 | Open issues on Characteristics and Scenarios | CATT |
| R2-2211393 | MAC\_RLC Reset and BWP Handling for LTM | Samsung Electronics Co., Ltd |
| R2-2211456 | Discussion on configurations for multiple candidate cells of L1 L2 mobility | Intel Corporation |
| R2-2211457 | Discussion on MAC related enhancements for LTM | Intel Corporation |
| R2-2211458 | Discussion on selective activation of cell groups | Intel Corporation |
| R2-2211459 | Discussion on latency model of L1 L2 mobility | Intel Corporation |
| R2-2211460 | Procedure descriptions of LTM | Intel Corporation |
| R2-2211461 | Discussion on CHO including candidate SCGs | Intel Corporation |
| R2-2211466 | Discussion on MAC partial reset | KDDI Corporation |
| R2-2211467 | Early TA work in R1 R2 R3 and R4 | Lenovo |
| R2-2211484 | Improve Handover Performance with LTM | Vivo |
| R2-2211485 | Procedure of L1/2 Triggered Mobility | Vivo |
| R2-2211486 | Configurations of Candidate Cell for LTM | Vivo |
| R2-2211487 | Trigger and Execution of LTM | Vivo |
| R2-2211488 | Discussion on NR-DC with selective activation cell of groups | Vivo |
| R2-2211489 | Discussion on CHO with CPAC | Vivo |
| R2-2211498 | Configuration maintenance and update for subsequent HOs | Futurewei |
| R2-2211499 | Discussion on dynamic cell switch for L1L2 Mobility | Futurewei |
| R2-2211519 | Performance Enhancements for L1/L2 Triggered Mobility | Rakuten Symphony |
| R2-2211520 | Discussion on RACH-less Handover for L1/L2 Triggered Mobility | Rakuten Symphony |
| R2-2211641 | Procedure descriptions of LTM procedure | Huawei, HiSilicon |
| R2-2211642 | Solutions to cell switch in LTM | Huawei, HiSilicon |
| R2-2211643 | CHO including candidate SCGs for CPC/CPA | Huawei, HiSilicon |
| R2-2211652 | Performance Enhancements for L1/L2 Triggered Mobility | Rakuten Symphony |
| R2-2211707 | Viewing SpCell/SCell dynamic switch as an intra-DU L2/L1 handover | Apple |
| R2-2211708 | Conditional handover for L2/L1 mobility | Apple |
| R2-2211709 | DU aspects for LTM and MAC CE contents | Apple |
| R2-2211710 | A sample Reference Config approach that also solves security reuse | Apple |
| R2-2211711 | Dissecting the UE processing for RRC LTM config | Apple |
| R2-2211780 | 38.300 running CR for introduction of NR further mobility enhancements | MediaTek Inc. |
| R2-2211793 | Discussion on overall procedure for LTM | ZTE Corporation, Sanechips |
| R2-2211794 | Discussion on candidate cell configuration and maintenance | ZTE Corporation, Sanechips |
| R2-2211795 | Discussion on dynamic cell switch | ZTE Corporation, Sanechips |
| R2-2211796 | Discussion on NR-DC with selective activation of the cell groups | ZTE Corporation, Sanechips |
| R2-2211797 | Discussion on CHO with candidate SCGs | ZTE Corporation, Sanechips |
| R2-2211810 | Discussion on L1L2-triggered mobility | ASUSTeK |
| R2-2211827 | RRC aspects of L1/L2 triggered mobility | Fujitsu |
| R2-2211828 | Cell switch for L1/L2 triggered mobility | Fujitsu |
| R2-2211846 | RRC aspects of L1/L2 triggered mobility | Fujitsu |
| R2-2211847 | Cell switch for L1/L2 triggered mobility | Fujitsu |
| R2-2211861 | Discussion on general pocedure for LTM | OPPO |
| R2-2211862 | Discussion on measurement related issues for LTM | OPPO |
| R2-2211863 | Open issues on dynamic switching for LTM | OPPO |
| R2-2211864 | Discussion on configuration related issues for LTM | OPPO |
| R2-2211865 | Discussion on selective activation of SCGs for NR-DC | OPPO |
| R2-2211866 | Discussions on CHO including target MCG and candidate SCGs | OPPO |
| R2-2211886 | Discussion on L2 reset for subsequent LTM | NEC |
| R2-2211985 | The scenarios supported for LTM | Xiaomi |
| R2-2211986 | The expected RAN3 impacts | Xiaomi |
| R2-2211987 | Discussion on the cell switch procedure | Xiaomi |
| R2-2212022 | Discussion on SCG selective activation | Lenovo |
| R2-2212028 | RRC configuration for LTM | Lenovo |
| R2-2212029 | Analysis on CHO with candidate SCG | Lenovo |
| R2-2212068 | LTM target performance enhancement | Huawei, HiSilicon |
| R2-2212069 | Configuration of candidate target configurations (pre-configurations) for LTM | Huawei, HiSilicon |
| R2-2212070 | NR-DC selective activation of SCG | Huawei, HiSilicon |
| R2-2212103 | Discussion on configuration management and procedure aspects of selective activation | Nokia, Nokia Shanghai Bell |
| R2-2212160 | Discussion on NR-DC with SCG selective activation | Spreadtrum Communications |
| R2-2212161 | Discussion on CHO with CPAC in NR-DC | Spreadtrum Communications |
| R2-2212166 | Discussion on L1L2 triggered mobility | Spreadtrum Communications |
| R2-2212167 | Discussion on RRC configuration for L1L2 triggered mobility | Spreadtrum Communications |
| R2-2212245 | Characteristics and scenarios of LTM | Qualcomm Inc. |
| R2-2212246 | RRC Aspects of LTM | Qualcomm Inc. |
| R2-2212247 | Dynamic cell switch | Qualcomm Inc. |
| R2-2212261 | Further Analysis on Interruption Time Reduction in LTM | Nokia, Nokia Shanghai Bell |
| R2-2212262 | Considerations on LTM Procedure Description | Nokia, Nokia Shanghai Bell |
| R2-2212263 | Considerations on RRC Configuration in LTM | Nokia, Nokia Shanghai Bell |
| R2-2212264 | Considerations on Cell Switch Triggering in LTM | Nokia, Nokia Shanghai Bell |
| R2-2212265 | On Conditional Handover with Candidate SCGs for CPAC | Nokia, Nokia Shanghai Bell |
| R2-2212291 | LTM characteristics and scenarios | Interdigital, Inc. |
| R2-2212292 | LTM Overall Procedure | Interdigital, Inc. |
| R2-2212293 | RRC Support for LTM | Interdigital, Inc. |
| R2-2212294 | LTM trigger | Interdigital, Inc. |
| R2-2212407 | Selective activation of cell groups | InterDigital, Inc. |
| R2-2212408 | CHO with associated SCG | InterDigital, Inc. |
| R2-2212435 | Discussion on RRC aspects for LTM | Ericsson |
| R2-2212436 | Discussion on the execution of LTM cell switch | Ericsson |
| R2-2212437 | Description of overall LTM procedure | Ericsson |
| R2-2212438 | Qualitative analysis on what to include in the RRC model for LTM | Ericsson |
| R2-2212467 | NR-DC with selective activation | Ericsson |
| R2-2212468 | CHO with candidate SCGs | Ericsson |
| R2-2212479 | CHO including target MCG and multiple target SCGs | Qualcomm Incorporated |
| R2-2212483 | Selective activation of cell groups in NR-DC | Qualcomm Incorporated |
| R2-2212502 | Selective Cell Group Activation | LG Electronics Inc. |
| R2-2212503 | Discussion on CHO with CPAC | LG Electronics Inc. |
| R2-2212538 | Discussions on RRC aspects in LTM | NEC |
| R2-2212539 | Procedure aspect of cell switch | NEC |
| R2-2212540 | Discussions on selective SCG activation | NEC |
| R2-2212546 | Discussion on dynamic cell switch | LG Electronics |
| R2-2212553 | Further Considerations on Expectation of Enhancement for LTM | ZTE Corporation,Sanechips |
| R2-2212555 | Remaining issues for Characteristics and Scenarios of LTM | Sharp |
| R2-2212556 | RRC Configurations of LTM | Sharp |
| R2-2212557 | Cell Switch for LTM | Sharp |
| R2-2212558 | Discussion of selective activation | Sharp |
| R2-2212599 | RRC Modeling for Candidate Cells in LT | Samsung |
| R2-2212600 | Considerations on the Cell Switch for LTM | Samsung |
| R2-2212601 | Considerations on Subsequent CPAC after SCG Change | Samsung |
| R2-2212620 | Discussion on NR-DC with selective activation cell of groups | CMCC |
| R2-2212633 | Discussion on CHO including target MCG and candidate SCGs for CPC/CPA | CMCC |
| R2-2212654 | Discussion on RRC configurations of LTM | Xiaomi |
| R2-2212655 | Discussion on NR-DC with selective activation of the cell groups | Xiaomi |
| R2-2212656 | Discussion on CHO including target MCG and candidate SCGs for CPAC | Xiaomi |
| R2-2212664 | Discussion on CHO with candidate SCG | MediaTek Inc. |
| R2-2212671 | Discussion on selective SCG activation | MediaTek Inc. |
| R2-2212706 | Considerations on characteristics and scenarios | CMCC |
| R2-2212707 | Considerations on procedure of LTM | CMCC |
| R2-2212708 | Considerations on RRC related issue | CMCC |
| R2-2212709 | Considerations on cell switch | CMCC |
| R2-2212755 | Discussion on TA of candidate cells for LTM | LG Electronics Inc. |
| R2-2212815 | Discussion on potential aspects for enhancement on LTM | Samsung |
| R2-2212818 | Considerations on CHO with CPA/CPC | Samsung |
| R2-2212822 | Discussion on NR-DC with selective activation of the cell groups | DENSO CORPORATION |
| R2-2212865 | Discussion on security issue in cell switch | NTT DOCOMO INC. |
| R2-2212918 | Signaling structure and handling of candidate cells upon LTM | LG Electronics |
| R2-2212988 | Reply LS on L1 measurement and configurations for LTM | RAN2 |
| R2-2213292 | 38.300 running CR for introduction of NR further mobility enhancements | MediaTek Inc. |
| R2-2213332 | 38.300 running CR for introduction of NR further mobility enhancements | MediaTek Inc. |
| R2-2213334 | LS on security for selective SCG activation | Huawei, HiSilicon |
| R2-2213335 | Report of #033 on Partial MAC reset for intra-DU LTM | vivo |
| R2-2213336 | Potential Partial MAC Reset for intra-DU LTM | vivo, MediaTek, Xiaomi |
| R2-2213337 | LS on security for selective SCG activation | RAN2 |

**RAN3 #117b-e (Oct. 2022, Electronic)**

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| R3-225315 | LS on L1/L2-based inter-cell mobility | RAN2 |
| R3-225350 | Solutions for L1/L2 based inter-cell mobility | Ericsson |
| R3-225351 | Additions for L1/L2 based inter-cell mobility | Ericsson |
| R3-225352 | RTT issue for CHO+MR-DC | Ericsson |
| R3-225353 | Early data forwarding aspects for CHO+MR-DC | Ericsson |
| R3-225366 | (TP for CHO with NR-DC BLCR to TS 37.340/38.423/37.483) Data forwarding optimization | ZTE |
| R3-225367 | Disscussion on NR-DC with selective activation | ZTE |
| R3-225373 | Decision on selective activation of the cell groups | NEC |
| R3-225391 | [TP to BL CR to TS 38.423, CHO w/ NR-DC] Data forwarding in case of CHO with DC | Nokia, Nokia Shanghai Bell |
| R3-225392 | Data forwarding considerations for selective activation | Nokia, Nokia Shanghai Bell |
| R3-225404 | Signalling Support for L1/L2 based Inter-Cell Mobility | Qualcomm Incorporated |
| R3-225418 | Configuration and activation of multiple cell groups in NR-DC | Qualcomm Incorporated |
| R3-225419 | CHO including target MCG and candidate SCGs | Qualcomm Incorporated |
| R3-225420 | Consideration on support of intra-DU L1/L2 based Inter-Cell Mobility | China Telecommunication |
| R3-225421 | Consideration on support of Intra-CU inter-DU L1/L2 based Inter-Cell Mobility | China Telecommunication |
| R3-225422 | Consideration on data forwarding optimizations for CHO in NR-DC | China Telecommunication |
| R3-225423 | Consideration on support of selective activation of cell groups | China Telecommunication |
| R3-225493 | Discussion on L1/L2 based inter-cell mobility | Lenovo |
| R3-225494 | (TP  to TS 38.401 & TS 38.470) Support of L1/L2 based inter-cell mobility | Lenovo |
| R3-225495 | Discussion on CHO in NR-DC | Lenovo |
| R3-225496 | (TP for TS 38.473) On SCG selective activation | Lenovo |
| R3-225573 | Discussion on Intra-gNB-DU L1/L2 Inter-Cell Mobility Procedure | Nokia, Nokia Shanghai Bell |
| R3-225574 | Discussion on Additional Considerations for L1/L2 Inter-Cell Mobility | Nokia, Nokia Shanghai Bell |
| R3-225617 | Further discussion on L1/L2 mobility | CATT |
| R3-225645 | Introduction of L1/L2 handover | Huawei |
| R3-225646 | (TP for L1L2Mob BLCR for TS 38.401): Discussion on L1/L2 Mobility procedure | Huawei |
| R3-225648 | Discussion of L1/L2 based Inter-Cell Mobility | NTT DOCOMO INC. |
| R3-225649 | Discussion of selective activation | NTT DOCOMO INC. |
| R3-225664 | (TP to TS 37.340 BL CR) Data forwarding in CHO Related aspects | Huawei |
| R3-225665 | (TPs to TS 37.340, TS 38.423 BL CRs) Consideration on selective activation of SCGs | Huawei |
| R3-225712 | Considerations on CHO with multiple SCGs | Samsung |
| R3-225713 | Considerations on selective activation of the cell groups | Samsung |
| R3-225735 | Open issues for L1/L2 based inter-cell mobility | LG Electronics Inc. |
| R3-225743 | Discussion on collision between L1/L2 based mobility and L3 mobility | vivo |
| R3-225744 | Discussion on L1/L2 based mobility procedures | vivo |
| R3-225745 | Considerations on NR-DC with Selective Activation | vivo |
| R3-225762 | Discussion on L1/L2 based Inter-cell Mobility | Samsung |
| R3-225768 | Discussion on CHO with SCG | CATT |
| R3-225769 | Discussion on CHO with multiple candidate SCGs | CATT |
| R3-225770 | Discussion on NR-DC with selective activation of the cell groups | CATT |
| R3-225782 | Rel-18 Further mobility enhancement BLCR for CHO with NR-DC for XnAP | Intel Corporation |
| R3-225783 | High-level principles for L1/L2 based inter-cell mobility | Intel Corporation |
| R3-225784 | Considerations for L1/L2 based "intra-DU" mobility (including TPs for L1/L2 Mob for TS 38.401 and TS 38.473) | Intel Corporation |
| R3-225785 | Considerations on L1/L2 based "intra-CU inter-DU" mobility (including TPs for L1/L2 Mob for TS 38.401 and TS 38.473) | Intel Corporation |
| R3-225786 | Considerations on data forwarding optimization for CHO including target MCG and target SCG | Intel Corporation |
| R3-225796 | Discussion on L1/L2 based Inter-Cell Mobility | CMCC |
| R3-225815 | Discussion on L1/L2 based mobility | ZTE |
| R3-225816 | TP for L1L2Mob BL CR to TS 38.473 | ZTE |
| R3-225885 | RAN3 Work Plan for Rel-18 Further NR Mobility Enhancements WI | MediaTek Inc., Apple, Huawei |
| R3-225924 | CB: # MobilityEnh1\_L1L2Mo - Summary of email discussion | Huawei - moderator |
| R3-225925 | CB: # MobilityEnh2\_CHO - Summary of email discussion | Ericsson - moderator |
| R3-225926 | CB: # MobilityEnh3\_Others - Summary of email discussion | Nokia - moderator |
| R3-225957 | CB: # MobilityEnh1\_L1L2Mo - Summary of email discussion | Huawei - moderator |
| R3-225958 | CB: # MobilityEnh2\_CHO - Summary of email discussion | Ericsson - moderator |
| R3-225959 | CB: # MobilityEnh3\_Others - Summary of email discussion | Nokia - moderator |
| R3-226024 | Introduction of L1/L2 handover | Huawei |
| R3-226025 | (TP for L1L2Mob BLCR for TS 38.401): Inter-DU L1/L2 Mobility procedure | Huawei |
| R3-226044 | CB: # MobilityEnh1\_L1L2Mo - Summary of email discussion | Huawei - moderator |
| R3-226046 | Introduction of L1/L2 handover | Huawei |
| R3-226050 | Introduction of L1/L2 handover | Huawei |

**RAN3 #118 (Nov. 2022, Toulouse, France)**

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| R3-226104 | Introduction of L1/L2 inter-cell mobility | Huawei, Ericsson, Nokia, Nokia Shanghai Bell |
| R3-226176 | LS on L1 intra- and inter- frequency measurement and configurations for L1/L2-based inter-cell mobility | RAN1 |
| R3-226185 | LS on RAN2 agreements about L1/L2-triggered mobility (LTM) | RAN2 |
| R3-226192 | [TP to TS38423, CHO with NRDC] Data forwarding enhancements for CHO with SCG(s) kept at the target side | Nokia, Nokia Shanghai Bell |
| R3-226196 | TP (BL CR TS 38.401) Intra-gNB-DU L1/2 Triggered Mobility (LTM) Procedure | Nokia, Nokia Shanghai Bell |
| R3-226197 | Discussion on Additional Considerations for L1/2 Triggered Mobility (LTM) | Nokia, Nokia Shanghai Bell |
| R3-226227 | Additions for L1/L2 based inter-cell mobility | Ericsson, Huawei |
| R3-226230 | Solutions for L1/L2 based inter-cell mobility | Ericsson |
| R3-226231 | CHO with target SCG(s) | Ericsson |
| R3-226248 | (TP for CHO with NR-DC to TS 37.340): Early data forwarding optimization for CHO with SCG procedure | ZTE |
| R3-226257 | (TP for L1L2Mob BLCR for TS 38.401): Inter-DU L1/L2 Mobility procedure | Huawei, Ericsson |
| R3-226258 | (TP for L1L2Mob BLCR for TS 38.401): L1/L2 Inter-cell Mobility | Huawei |
| R3-226323 | (TP to CHO BL CR of 37.340) Consideration on CHO Related aspects | Huawei |
| R3-226330 | Collision between L1/L2-triggered mobility and L3 mobility | vivo |
| R3-226331 | Discussion on L1/L2-triggered mobility | vivo |
| R3-226372 | Support for L1/L2 based inter-cell mobility | NEC |
| R3-226389 | Discussion on L1/L2 based Inter-Cell Mobility | China Telecommunication |
| R3-226390 | Discussion on CHO in NR-DC | China Telecommunication |
| R3-226439 | Discussion on L1L2 based inter-cell mobility | Lenovo |
| R3-226440 | (TP to TS 38.401 & TS 38.470) Support of L1L2 based inter-cell mobility | Lenovo |
| R3-226441 | Discussion on CHO in NR-DC | Lenovo |
| R3-226526 | CHO including target MCG and candidate SCGs | Qualcomm Incorporated |
| R3-226527 | Data forwarding in LTM | Qualcomm Incorporated |
| R3-226529 | Signalling Support for L1/L2 based Inter-Cell Mobility | Qualcomm Incorporated |
| R3-226559 | Discussion on CHO with SCG and multiple SCGs | CATT |
| R3-226600 | Open issues for L1/L2 based inter-cell mobility | LG Electronics Inc. |
| R3-226601 | (TP for NR\_Mob\_enh2 BL CR for TS 38.401) Open issues for L1/L2 based inter-cell mobility | LG Electronics Inc. |
| R3-226602 | (TP for NR\_Mob\_enh2 BL CR for TS 38.473) Open issues for L1/L2 based inter-cell mobility | LG Electronics Inc. |
| R3-226636 | TP for LTM BL CR to TS 38.401 and 38.473 | ZTE |
| R3-226637 | [DRAFT] Reply LS on L1 intra- and inter- frequency measurement and configurations for L1/L2-based inter-cell mobility | ZTE |
| R3-226674 | General principles for L1/L2 based inter-cell mobility | Intel Corporation |
| R3-226675 | Discussions for L1/L2 based "intra-DU" mobility (including TPs for L1/L2 Mob for TS 38.401 and TS 38.473) | Intel Corporation |
| R3-226676 | Discussions on L1/L2 based "intra-CU inter-DU" mobility (including TPs for L1/L2 Mob for TS 38.401 and TS 38.473) | Intel Corporation |
| R3-226677 | Discussions on optimizing duplicated early data forwarding in CHO with SCG(s) | Intel Corporation |
| R3-226688 | Discussion of L1/L2 based Inter-Cell Mobility | NTT DOCOMO INC. |
| R3-226692 | (TP for L1L2 Mob BLCR for TS 38.401) Discussion about the open issues for L1L2 mobility | CATT |
| R3-226693 | Discussion on L1 measurement and TCI states transfer for inter-DU case | CATT, Fujitsu |
| R3-226694 | [Draft] Reply LS for L1L2-based inter-cell mobility | CATT, Fujitsu |
| R3-226696 | Discussion on L1/L2 based Inter-cell Mobility | Samsung |
| R3-226703 | Discussion on L1/L2 based Inter-Cell Mobility | CMCC |
| R3-226828 | CB: # 30\_MobilityEhn -L1L2mobility - Summary of email discussion | Huawei - moderator |
| R3-226829 | Reply LS on L1 intra- and inter- frequency measurement and configurations for L1/L2-based inter-cell mobility | ZTE |
| R3-226852 | (TP for L1L2Mob BLCR for TS 38.401): Inter-DU L1/L2 Mobility procedure | Huawei, Ericsson |
| R3-226868 | Additions for L1/L2 based inter-cell mobility | Ericsson, Huawei |
| R3-226876 | CB: # 32\_MobilityEnh\_CHO - Summary of email discussion | ZTE-moderator |
| R3-226913 | (TP for L1L2Mob BLCR for TS 38.401): Inter-DU L1/L2 Mobility procedure | Huawei, Ericsson |

**RAN4#104bis-e (Oct. 2022, Electronic)**

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| [R4-2215359](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215359.zip) | Discussion on RRM impacts from R18 L1/L2 mobility | Intel Corporation |
| [R4-2215424](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215424.zip) | Discussion of improvement on FR2 Scell/SCG setup/resume | CATT |
| [R4-2215425](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215425.zip) | Discussion on L1/L2 based inter-cell mobility | CATT |
| [R4-2215446](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215446.zip) | Discussion on improvement on FR2 SCell/SCG setup/resume | MediaTek Inc. |
| [R4-2215447](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215447.zip) | Discussion on L1/L2 mobility | MediaTek Inc. |
| [R4-2215458](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215458.zip) | Discussion on improvement of FR2 Scell and SCG setup | Xiaomi |
| [R4-2215459](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215459.zip) | Discussion on L1/L2 based inter-cell mobility | Xiaomi |
| [R4-2215518](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215518.zip) | Discussion on FR2 SCell/SCG setup/resume | Nokia, Nokia Shanghai Bell |
| [R4-2215519](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215519.zip) | Discussion on Lower Layer Mobility, LLM | Nokia, Nokia Shanghai Bell |
| [R4-2215608](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215608.zip) | On R18 mobility enhancement - L1/L2 inter-cell mobility RRM | Apple |
| [R4-2215609](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215609.zip) | On R18 mobility enhancement - new RRM measurement during RRC connection setup | Apple |
| [R4-2215723](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215723.zip) | Discussion on FR2 SCell/SCG setup/resume | CMCC |
| [R4-2215724](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215724.zip) | Discussion on L1/L2 based inter-cell mobility | CMCC |
| [R4-2215816](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215816.zip) | Discussion on improvement on FR2 Scell SCG setup resume | OPPO |
| [R4-2215817](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215817.zip) | Discussion on L1L2 based inter-cell mobility | OPPO |
| [R4-2215862](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215862.zip) | Discussion on the improvement on FR2 SCell/SCG setup/resume | Vivo |
| [R4-2215957](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215957.zip) | Discussion on L1/L2 based inter-cell mobility | LG Electronics UK |
| [R4-2215961](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215961.zip) | Discussion on Study of improvement on FR2 SCell/SCG setup/resume | LG Electronics UK |
| [R4-2216308](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2216308.zip) | Discussion on L1/L2 based inter-cell mobility for mobility latency reduction | Huawei, HiSilicon |
| [R4-2216309](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2216309.zip) | Discussion on improvement on FR2 SCell/SCG setup/resume | Huawei, HiSilicon |
| [R4-2216342](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2216342.zip) | Discussion on Study of improvement on FR2 SCell/SCG setup/resume | Ericsson |
| [R4-2216367](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2216367.zip) | Discussion on RRM aspects in R18 L1L2 mobility | Vivo |
| [R4-2216831](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2216831.zip) | Discussion on L1/L2 based inter-cell mobility | Ericsson |
| [R4-2216867](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2216867.zip) | Enhancement of FR2 cell measurements in RRC non-connected mode | Qualcomm Incorporated |
| [R4-2216933](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2216933.zip) | Email discussion summary for [104-bis-e][222] NR\_Mob\_enh2\_part1 | Moderator (MediaTek) |
| [R4-2216934](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2216934.zip) | Email discussion summary for [104-bis-e][223] NR\_Mob\_enh2\_part2 | Moderator (Apple) |
| [R4-2217155](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2217155.zip) | Email discussion summary for [104-bis-e][222] NR\_Mob\_enh2\_part1 | Moderator (MediaTek) |
| [R4-2217156](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2217156.zip) | Email discussion summary for [104-bis-e][223] NR\_Mob\_enh2\_part2 | Moderator (Apple) |
| [R4-2217259](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2217259.zip) | WF on L1/L2 inter-cell mobility | MediaTek Inc. |
| [R4-2217260](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2217260.zip) | WF on improvement on FR2 SCell/SCG setup/resume | Apple |

**RAN4#105 (Nov. 2022, Toulouse, France)**

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| [R4-2218069](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218069.zip) | Discussion on L1/L2 inter-cell mobility delay requirements | China Telecom |
| [R4-2218070](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218070.zip) | General aspects and scenarios on L1/L2 based inter-cell mobility | China Telecom |
| [R4-2218154](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218154.zip) | Study of improvement on FR2 SCell/SCG setup/resume | Apple |
| [R4-2218155](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218155.zip) | On L1/L2 based inter-cell mobiliy - L1-RSRP measurement requirements | Apple |
| [R4-2218156](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218156.zip) | On L1/L2 based inter-cell mobiliy delay requirements | Apple |
| [R4-2218338](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218338.zip) | Discussion on L1/L2 based inter-cell mobility | Intel Corporation |
| [R4-2218397](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218397.zip) | Discussion on FR2 SCell/SCG setup/resume | CMCC |
| [R4-2218399](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218399.zip) | Discussion on L1/L2 inter-cell mobility delay requirements | CMCC |
| [R4-2218400](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218400.zip) | Discussion on general aspects for L1/L2 based inter-cell mobility | CMCC |
| [R4-2218411](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218411.zip) | Enhancement of FR2 cell measurements in RRC non-connected mode | Qualcomm Incorporated |
| [R4-2218412](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218412.zip) | General aspects and scenarios for LLM | Qualcomm Incorporated |
| [R4-2218475](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218475.zip) | Reply LS on L1 intra- and inter- frequency measurement and configurations for L1/L2-based inter-cell mobility | CATT |
| [R4-2218476](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218476.zip) | Discussion of improvement on FR2 SCell/SCG setup/resume | CATT |
| [R4-2218477](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218477.zip) | Discussion on general aspects and scenarios for L1/L2 based inter-cell mobility | CATT |
| [R4-2218569](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218569.zip) | Discussion on general aspects and scenarios for L1/L2 based inter-cell mobility | Xiaomi |
| [R4-2218570](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218570.zip) | Discussion on L1-RSRP measurement requirements for L1/L2 based inter-cell mobility | Xiaomi |
| [R4-2218571](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218571.zip) | Discussion on L1/L2 based inter-cell mobility delay | Xiaomi |
| [R4-2218572](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218572.zip) | Discussion on improvement of FR2 Scell and SCG setup | Xiaomi |
| [R4-2218600](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218600.zip) | Discussion on L1/L2 based inter-cell mobility | ZTE Corporation |
| [R4-2218685](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218685.zip) | Reply LS on L1-RSRP measurement | Apple |
| [R4-2218728](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218728.zip) | Discussion on improvement on FR2 SCell/SCG setup/resume | MediaTek inc. |
| [R4-2218729](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218729.zip) | Discussion on general aspects and scenarios of LTM | MediaTek inc. |
| [R4-2218730](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218730.zip) | Discussion on L1-RSRP measurement requirements for LTM | MediaTek inc. |
| [R4-2218731](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218731.zip) | Reply LS on L1 intra&inter- frequency measurement for L1L2-based inter-cell mobility | MediaTek inc. |
| [R4-2218732](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218732.zip) | Discussion on LTM delay requirements | MediaTek inc. |
| [R4-2218796](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218796.zip) | Discussion on the improvement on FR2 SCell/SCG setup/resume | vivo |
| [R4-2218911](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218911.zip) | Discussion on FR2 Scell/SCG setup/resume | LG Electronics UK |
| [R4-2218985](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218985.zip) | On improvement on FR2 Scell SCG setup resume | OPPO |
| [R4-2218986](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218986.zip) | On general and scenarios of L1/L2 based inter-cell mobility | OPPO |
| [R4-2218987](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218987.zip) | On L1-RSRP measurement of L1/L2 based inter-cell mobility | OPPO |
| [R4-2218988](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2218988.zip) | On L1/L2 based inter-cell mobility delay | OPPO |
| [R4-2219044](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2219044.zip) | Discussion on L1-RSRP measurement requirements | ZTE Corporation |
| [R4-2219045](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2219045.zip) | Discussion on L1/L2 inter-cell mobility delay requirements | ZTE Corporation |
| [R4-2219179](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2219179.zip) | Discussion on general aspects in R18 L1L2-triggered mobility | vivo |
| [R4-2219180](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2219180.zip) | Discussion on L1 measurements in R18 L1L2-triggered mobility | vivo |
| [R4-2219181](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2219181.zip) | Discussion on cell switch delay requirements in R18 L1L2-triggered mobility | vivo |
| [R4-2219182](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2219182.zip) | Reply LS to RAN1 on L1 intra- and inter- frequency measurement | vivo |
| [R4-2219396](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2219396.zip) | Discussion on improvement on FR2 SCell/SCG setup/resume | Huawei, HiSilicon |
| [R4-2219397](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2219397.zip) | General aspects and scenarios on L1/L2 based inter-cell mobility | Huawei, HiSilicon |
| [R4-2219398](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2219398.zip) | Discussion on L1-RSRP measurement requirements | Huawei, HiSilicon |
| [R4-2219399](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2219399.zip) | Discussion on L1/L2 inter-cell mobility delay requirements | Huawei, HiSilicon |
| [R4-2219400](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2219400.zip) | Discussion on LS on L1 intra- and inter- frequency measurement and configurations for L1/L2-based inter-cell mobility | Huawei, HiSilicon |
| [R4-2219442](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2219442.zip) | Feasible solutions for FR2 SCell/SCG setup/resume delay enhancements | Nokia, Nokia Shanghai Bell |
| [R4-2219443](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2219443.zip) | LTM general aspects and scenarios | Nokia, Nokia Shanghai Bell |
| [R4-2219444](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2219444.zip) | LTM L1-RSRP Measurement Requirements | Nokia, Nokia Shanghai Bell |
| [R4-2219445](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2219445.zip) | LTM delay requirements | Nokia, Nokia Shanghai Bell |
| [R4-2219446](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2219446.zip) | RACH-less LTM | Nokia, Nokia Shanghai Bell |
| [R4-2219649](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2219649.zip) | Discussion on study of improvement on FR2 Scell/SCG setup/Resume | Ericsson |
| [R4-2219954](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2219954.zip) | Discussion on LS response on L1 intra- and inter- frequency measurement for LTM | Ericsson |
| [R4-2219955](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2219955.zip) | On LTM general aspects and scenarios | Ericsson |
| [R4-2219956](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2219956.zip) | On L1 measurement requirements of LTM | Ericsson |
| [R4-2219957](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2219957.zip) | Discussion on L1/L2 based inter-cell mobility | Ericsson |
| [R4-2219958](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2219958.zip) | Discussion on timing aspects on L1/L2 based inter-cell mobility | Ericsson |
| [R4-2220399](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2220399.zip) | Discussion on L1-RSRP measurement requirements | ZTE Corporation |
| [R4-2220403](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2220403.zip) | WF on NR Mobility Enhancements RRM requirements – Part 1 | MediaTek |
| [R4-2220404](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2220404.zip) | Reply LS on L1 intra- and inter- frequency measurement and configurations for L1/L2-based inter-cell mobility | CATT |
| [R4-2220415](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2220415.zip) | WF on NR Mobility Enhancements RRM requirements – Part 2 | Apple, MediaTek |
| [R4-2220416](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2220416.zip) | LS on improvement in FR2 SCell/SCG setup delay | MediaTek |
| [R4-2220733](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2220733.zip) | Reply LS on L1 intra- and inter- frequency measurement and configurations for L1/L2-based inter-cell mobility | CATT |
| [R4-2220734](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_105/Docs/R4-2220734.zip) | LS on improvement in FR2 SCell/SCG setup delay | MediaTek |

 10.01.2022 minor adaptations for RAN #95e

 04.10.2021 minor adaptations for RAN #94e

 08.08.2021 minor adaptations for RAN #93e

 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