3GPP TSG-RAN WG2 Meeting #109 electronic [R2-2001661](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001661.zip)

**24 Feb – 6 Mar 2020**

Source: RAN2 Vice Chairman (Nokia)

Title: Minutes LTE legacy, LTE TEI16 and NR/LTE Rel-16 Mobility topics

General

See [R2-2002046](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002046.zip) for detailed guidance on e-meeting methods.

Recording of voice or video at meetings is not used in 3GPP. This applies also to this e-Meeting. At this e-Meeting, no specific actions are taken to prevent the recording of web conferences. Companies that have concerns related to recordings, if any, may express those by email in the main meeting organizational thread [AT109e][000].

Organizational:

* LSs – contact companies should flag LSs that need presenting. Otherwise we will directly note them. See each session guidelines for how to present LSs.
* Running CRs will be endorsed to be used as baseline and moved to email discussion. Further agreements will be captured on that baseline CR and further comments can only be provided online. Rapporteurs should flag if there is a big issue that needs to be discussed before the meeting
* Only Email discussions and summary discussions will be treated during web conferences, unless specifically announced before the web conference. Topics handled in web conferences will also be indicated clearly in the meeting notes.
* All organization emails and notes will be shared over the following email discussion throughout the two meeting weeks:
* [AT109e][200] Organizational Tero – LTE legacy, LTE Rel-16 and LTE/NR mobility

Scope:

* + - Share plans for the meetings and list of ongoing email discussions for the sessions related to following agenda items: 4.5 LTE corrections, 6.9 NR Mobility, 7.3 EUTRA Mobility, 7.4 EUTRA high-speed, 7.5 LTE TEI16, 7.8 LTE DL Mimo, 7.9 LTE Terrestrial Broadcast
    - Share meetings notes and agreements for review and endorsement
    - Treat flagged LSs (if any), respond to questions related to them and identify if response LSs are needed for the flagged LSs

Intended outcome (for LS discussion):

* + - Agreements on how to proceed with any given LS (e.g. whether dedicated email discussion is needed to discuss the response LS)
    - Updated meeting notes based on web conferences and email discussions

Deadline for providing comments to LSs:

* + - Company inputs: Tuesday, Feb. 25th 15:00 CET
    - Discussions on LSs: Wednesday, Feb. 26th 15:00 CET (one day after comment deadline)

Schedule/Plan:

**LTE legacy and LTE Rel-16 topics**

All are only treated over email – no web conference is planned.

* Treated only flagged LS (**Email discussion**: 200)
* CRs are agreed over email where possible, but some aspects may be postpone to next meeting as well.

**LTE/NR mobility**

Tuesday February 25th, 15:30 – 17:30 CET

* Treat only flagged LS (indicated in **email discussion** **200**)
* Endorse all email discussion outcomes
* Endorse CRs without presentation and give revised numbers and move them to email discussions
* Treat ongoing email discussions on open issues from **email discussions** [108#66] and [108#67]
* UE capability email discussion 108#45 may be handled if time allows

Tuesday, March 3rd 05:30– 6:30 CET

* Treat any remaining email discussions from RAN2#108
* If seen necessary and time allows, most important topics from email discussions **209-217** may also be treated selectively (to be announced prior to the web conference)

List of offline email discussions:

*NOTE: The official kickoff date for these email discussions are Monday 24th, however the rapporteurs can send them before this date and companies are welcome to participate before (but do not have to until the official kick off on Monday, Feb. 24th)*

**NOTE: the email discussion deadlines are meant to allow at least all regions to have one day to comment (other than weekend) and also give rapporteurs time to update their proposals before the meeting)**

LTE Legacy

* [AT109e][201][LTE15] Agreeing to simple LTE Rel-15 CRs (RAN2 VC)

Scope:

* + - Agree to CRs in [R2-2000636](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000636.zip), [R2-2000663](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000663.zip), [R2-2000680](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000680.zip), [R2-2000685](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000685.zip), [R2-2000761](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000761.zip), [R2-2002056](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002056.zip) and [R2-2001158](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001158.zip).

Intended outcome:

* + - Agreeable CRs (by each CR proponent)
    - Summary of discussions (by email rappporteur), including list of CRs that require further discussion in this meeting (and are moved to discussion **202**)

Deadline for providing comments and for rappporteur inputs:

* + - Companies input: Thursday, Feb. 27th 17:00 CET
    - Rapporteur summary: Friday, Feb. 28th 17:00 CET (one day for rapporteur to make conclusions)
    - Updated CRs from each CR proponent: Monday Mar. 2nd 17:00 CET
    - Comments on CR wording: Tuesday, March 3rd by 17:00 CET (i.e. one day to provide comments to the updated CR)
* Summary in [R2-2001743](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001743.zip)
* [AT109e][202][LTE15] Discuss remaining LTE Rel-15 CRs (RAN2 VC)

Scope:

* + - Discuss the CRs [R2-2001139](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001139.zip), [R2-2001156](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001156.zip), [R2-2001157](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001157.zip), [R2-2001508](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001508.zip), [R2-2001347](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001347.zip) and [R2-2001351](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001351.zip) over offline (email) discussion to solicit opinions from companies on the proposals and CR correctness.
    - Handle any CRs from discussion **201** that are deemed require further discussion

Intended outcome:

* + - Whether any of the CRs can be agreed?
    - For CRs that cabn be agreed, final CRs (by CR proponents)
    - Summary of discussions (by email rappporteur)

Deadline for providing comments and for rappporteur inputs:

* + - Companies input: Thursday, Feb. 27th 17:00 CET
    - Rapporteur summary: Friday, Feb. 28th 17:00 CET (one day for rapporteur to make conclusions)
    - Updated CRs from each CR proponent: Monday Mar. 2nd 17:00 CET
    - Comments on CR wording: Tuesday, March 3rd by 17:00 CET (i.e. one day to provide comments to the updated CR)
* Summary in [R2-2001744](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001744.zip)
* [AT109e][203][LTE15] LTE pre-Rel-15 CRs on CA (Nokia)

Scope:

* + - Discuss the topics identified in [R2-2001134](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001134.zip)
    - Discuss which (if any) of the CRs [R2-2001135](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001135.zip), [R2-2001136](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001136.zip), [R2-2001137](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001137.zip), [R2-2001138](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001138.zip) are needed.
    - Discuss the CRs [R2-2001140](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001140.zip), [R2-2001141](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001141.zip), [R2-2001142](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001142.zip) to determine whether the proposed interpretation is correct and how should a correction (if needed) be captured

Intended outcome:

* + - Set of proposals with consensus (aim to agree to those over email), including the correct interpretation to both sets of CRs (by email rappporteur)

Deadline for providing comments and for rappporteur inputs:

* + - Companies input: Wednesday, Feb. 26th 17:00 CET
    - Rapporteur proposals: Thursday, Feb. 27th 17:00 CET (one day for rapporteur to make conclusions)
    - Updated CRs from each CR proponent: Friday Feb 28th 17:00 CET
    - Comments on the CR wording: Monday, March 2nd by 17:00 CET (i.e. one day to provide comments to the updated CR)
* Summary in [R2-2001736](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001736.zip)

LTE Rel-16

* [AT109e][204][LTE16] Agreeable CRs for LTE High-speed performance enhancement (NTT DOCOMO)

Scope:

* + - Agree to CRs in [R2-2002048](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002048.zip) and [R2-2002050](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002050.zip).

Intended outcome:

* + - Agreed CRs for the LTE High-speed performance enhancement WID

Deadline for providing comments and for rappporteur inputs:

* + - Companies input: Wednesday, Feb. 26th 18:00 CET
    - Rapporteur proposals: Thursday, Feb. 27th 18:00 CET (one day for rapporteur to create final CR proposals)
    - Final CRs provided latest on Tuesday, March 3rd by 12:00 CET (can be agreed earlier if converged)
* [AT109e][205][LTE16] Agreeing to simple LTE Rel-16 CRs (RAN2 VC)

Scope:

* + - Agree to CRs in [R2-2000180](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000180.zip), [R2-2001410](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001410.zip), [R2-2001408](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001408.zip), [R2-2001409](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001409.zip), [R2-2002075](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002075.zip) and [R2-2002078](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002078.zip).
    - If issues are found in any CR, they may be moved to discussion **206**.

Intended outcome:

* + - Agreeable CRs (by each CR proponent)
    - Summary of discussions (by email rappporteur).

Deadline for providing comments and for rappporteur inputs:

* + - Companies input: Thursday, Feb. 27th 17:00 CET
    - Rapporteur summary: Friday, Feb. 28th 17:00 CET (one day for rapporteur to make conclusions)
    - Updated CRs from each CR proponent: Monday Mar. 2nd 17:00 CET
    - Comments on CR wording, Tuesday, March 3rd by 17:00 CET
* Summary in [R2-2001745](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001745.zip)
* [AT109e][206][LTE16] CR discussion on Rel-16 early security activation (Ericsson)

Scope:

* + - Discuss the CRs [R2-2000987](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000987.zip) and [R2-2000988](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000988.zip) over offline (email) discussion to solicit opinions from companies on the proposals and CR correctness.
    - Handle any CRs from discussion **205** that are deemed require further discussion

Intended outcome:

* + - Discuss the CRs and check for correctness and impact to other RRC CRs.
    - If the CRs can be agreed, provide final CRs (by CR proponents)
    - Summary of discussions (by email rappporteur)

Deadline for providing comments and for rappporteur inputs:

* + - Companies input: Thursday, Feb. 27th 17:00 CET
    - Rapporteur summary: Friday, Feb. 28th 17:00 CET (one day for rapporteur to make conclusions)
    - Updated CRs from each CR proponent: Monday Mar. 2nd 17:00 CET
    - Comments on CR wording: Tuesday, March 3rd by 17:00 CET
* [AT109e][207][LTE16] Agreeable CRs for DL MIMO enhancements for LTE (Huawei)

Scope:

* + - Discuss CRs in [R2-2001031](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001031.zip), [R2-2001079](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001079.zip), [R2-2001405](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001405.zip) and [R2-2001406](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001406.zip)
    - Providing agreeable to RAN2 CRs for the WID

Intended outcome:

* + - Agreed CRs for the DL MIMO enhancements WID

Deadline for providing comments and for rappporteur inputs:

* + - Companies input: Wednesday, Feb. 26th 18:00 CET
    - Rapporteur proposals: Thursday, Feb. 27th 18:00 CET (one day for rapporteur to create final CR proposals)
    - Final CRs provided latest on Tuesday, March 3rd by 08:00 CET (can be agreed earlier if converged)
* [AT109e][208][LTE R16] Agreeable CRs for LTE-based 5G Terrestrial Broadcast (Qualcomm)

Scope:

* + - Discuss CRs in [R2-2000436](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000436.zip), [R2-2000437](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000437.zip) and [R2-2001407](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001407.zip)
    - Providing agreeable to RAN2 CRs for the WID

Intended outcome:

* + - Agreed CRs for the Further performance enhancement for LTE-based 5G Terrestrial Broadcast WID

Deadline for providing comments and for rappporteur inputs:

* + - Companies input: Wednesday, Feb. 26th 18:00 CET
    - Rapporteur proposals: Thursday, Feb. 27th 18:00 CET (one day for rapporteur to create final CR proposals)
    - Final CRs provided latest on Tuesday, March 3rd by 08:00 CET (can be agreed earlier if converged)

LTE/NR Mobility

* [AT109e][209][MOB] Closing UP issues (PDCP/RLC/MAC) and discussing remaining open items for DAPS (LGE)

Scope:

* + - Agreeing on the proposals as per [R2-2001532](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001532.zip) and [R2-2002099](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002099.zip).
    - Discuss open items as per [R2-2001532](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001532.zip) and [R2-2002099](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002099.zip) to seek companies feedback on open issues of UP for DAPS.

Intended outcome:

* + - Proposals with consensus that can be incorporated (if needed) in the running CR(s) (aim to agree to those over email)
    - List of remaining open issues that need to be pursued in next meeting (if any).
    - Issues that should no longer be pursued

Deadline for providing comments and for rappporteur inputs:

* + - Companies input: Wednesday, Feb. 26th 17:00 CET
    - Rapporteur proposals (including CR changes): Thursday, Feb. 27th 17:00 CET
    - Comments on proposals: Monday March 2nd by 12:00 CET
* Summary in [R2-2002165](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002165.zip)
* [AT109e][210][MOB] RRC procedural issues and remaining open items for DAPS CP (Huawei)

Scope:

* + - Agreeing on the proposals as per [R2-2002033](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002033.zip) and any topics identified in 108#66 ([R2-2000461](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000461.zip)).
    - Discuss open items as per [R2-2002033](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002033.zip) and [R2-2000461](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000461.zip) to seek companies feedback on open issues of RRC for DAPS.

Intended outcome:

* + - Proposals with consensus that can be incorporated (if needed) in the running CR(s) (aim to agree to those over email)
    - List of remaining open issues that need to be pursued in next meeting (if any).
    - Issues that should no longer be pursued

Deadline for providing comments and for rappporteur inputs:

* + - Companies input: Thursday, Feb. 27th 3:00 CET
    - Rapporteur proposals (including CR changes): Friday, Feb. 28th 12:00 CET
    - Comments on proposals: Monday March 2nd by 17:00 CET
* Summary in [R2-2002207](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002207.zip)
* [AT109e][211][MOB] UE capabilities for DAPS and CHO (Intel)

Scope:

* + - Agreeing on the proposals as per 108#45 outcome in [R2-2000459](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000459.zip) and [R2-2002041](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002041.zip).
    - Discuss open items as per [R2-2002041](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002041.zip) to seek companies feedback on open issues of UE capabilities for DAPS and CHO.

Intended outcome:

* + - List of basic UE capabilities for DAPS and CHO,including basic ASN.1 structure (if possible)
    - List of remaining open issues for UE capabilities (e.g. topics dependent on other WG input)
    - If needed, draft LS to be sent to RAN1/4 containing RAN2 decisions on UE capabilities

Deadline for providing comments and for rappporteur inputs:

* + - Companies input: Thursday, Feb. 27th 3:00 CET
    - Rapporteur proposals: Friday, Feb. 28th 12:00 CET
    - Comments on proposals: Monday March 2nd by 17:00 CET
* Summary in [R2-2001727](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001727.zip)
* [AT109e][212][MOB] CHO configuration and execution details (Intel)

Scope:

* + - Agreeing on the proposals as per [R2-2002040](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002040.zip).
    - Discuss open items as per [R2-2002040](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002040.zip) to seek companies feedback on open issues.

Intended outcome:

* + - Proposals with consensus that can be incorporated (if needed) in the running CR(s) (aim to agree to those over email)
    - List of remaining open issues that need to be pursued in next meeting (if any).
    - Issues that should no longer be pursued

Deadline for providing comments and for rappporteur inputs:

* + - Companies input: Thursday, Feb. 27th 3:00 CET
    - Rapporteur proposals: Friday, Feb. 28th 12:00 CET
    - Comments on proposals: Monday March 2nd by 17:00 CET
* Summary in [R2-2001728](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001728.zip)
* [AT109e][213][MOB] CHO failure handling (Nokia)

Scope:

* + - Agreeing on the proposals as per [R2-2002016](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002016.zip).
    - Discuss open items as per [R2-2002016](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002016.zip) to see if there are any remaining open issues for CHO failure handling.

Intended outcome:

* + - Proposals with consensus that can be incorporated (if needed) in the running CR(s) (aim to agree to those over email)
    - List of remaining open issues that need to be pursued in next meeting (if any).
    - Issues that should no longer be pursued

Deadline for providing comments and for rappporteur inputs:

* + - Companies input: Thursday, Feb. 27th 3:00 CET
    - Rapporteur proposals: Friday, Feb. 28th 12:00 CET
    - Comments on proposals: Monday March 2nd by 17:00 CET
* Summary in [R2-2001742](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001742.zip)

NR Mobility

* [AT109e][214][NR MOB] Finalization of T312 for fast handover failure recovery (Samsung)

Scope:

* + - Agreeing on the proposals as per [R2-2002070](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002070.zip).
    - Discuss open items as per [R2-2002070](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002070.zip) to seek companies feedback on open issues NR T312.

Intended outcome:

* + - Proposals with consensus that can be incorporated (if needed) in the running CR(s) (aim to agree to those over email)
    - List of remaining open issues that need to be pursued in next meeting (if any).
    - Issues that should no longer be pursued

Deadline for providing comments and for rappporteur inputs:

* + - Companies input: Thursday, Feb. 27th 3:00 CET
    - Rapporteur proposals: Friday, Feb. 28th 12:00 CET
    - Comments on proposals’ wording, Monday March 2nd by 17:00 CET
* Summary in [R2-2002187](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002187.zip)
* [AT109e][215][NR MOB] Finalization of CPC and discussing remaining open issues (CATT)

Scope:

* + - Agreeing on the proposals as per [R2-2000901](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000901.zip) (as much as possible).
    - Discuss open items as per [R2-2000901](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000901.zip) to seek companies feedback on open issues for CPC.

Intended outcome:

* + - Proposals with consensus that can be incorporated (if needed) in the running CR(s) (aim to agree to those over email)
    - List of remaining open issues that need to be pursued in next meeting (if any).
    - Issues that should no longer be pursued

Deadline for providing comments:

* + - Companies input: Thursday, Feb. 27th 3:00 CET
    - Rapporteur proposals: Friday, Feb. 28th 12:00 CET
    - Comments on proposals’ wording, Monday March 2nd by 17:00 CET
* Summary in [R2-2001747](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001747.zip)
* [AT109e][216][NR MOB] Discussion on MBB handover for NR Rel-16 (Samsung)

Scope:

* + - Discuss the proposals in contributions [R2-2001520](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001520.zip), [R2-2001530](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001530.zip), [R2-2001531](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001531.zip), [R2-2001540](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001540.zip) and [R2-2001543](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001543.zip) to see if anything can be agreed (partly already discussed in RAN2#108 without reaching consensus to introduce the feature, also discussed in RAN#86 with conclusion that WG needs to decide).

Intended outcome:

* + - Conclusion on what (if anything) can be agreed, with set of proposals that have consensus (aim to agree to those over email)

Deadline for providing comments and for rappporteur inputs:

* + - Companies input: Thursday, Feb. 27th 3:00 CET
    - Rapporteur proposals: Friday, Feb. 28th 12:00 CET
    - Comments on rapporteur proposals: Monday March 2nd by 17:00 CET
* Summary in [R2-2001730](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001730.zip)
* [AT109e][217][NR MOB] Finalization of CPC and discussion on CRs (CATT)

Scope:

* + - Agreeing to baseline CR(s) for CPC functionality based on latest agreements
    - Capture the agreements from discussion 215 to CR

Intended outcome:

* + - Baseline CPC CR(s)
    - Agreeable CR(s) capturing the Rel-16 CPC feature

Deadline for providing comments:

* + - Companies input: Thursday, Feb. 27th 8:00 CET
    - Revised CR: Friday, Feb. 28th 12:00 CET
    - Incorporating agreements from the email discussion 215: Tuesday March 3rd by 17:00 CET

CR finalization

* [AT109e][218][NR MOB] Stage-2 CR (Intel)

Intended outcome: Agreed 38.300 CR for NR mobility (including T312, CPAC)

Deadline for companies' feedback on the CR: Wednesday 2020-03-04 12:00 CET

Deadline for rapporteur's version for agreement (only essential corrections allowed after this): Friday 2020-03-05 12:00 CET

Final Deadline for CR to be submitted to RANP: Friday 2020-03-06 10:00 CET

* Final CR can be provided in [R2-2001748](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001748.zip)
* [AT109e][219][NR MOB] RRC CR (Intel)

Intended outcome: Agreed 38.331 CR for NR mobility (including T312, CPAC)

Deadline for companies' feedback on the CR: Wednesday 2020-03-04 12:00 CET

Deadline for rapporteur's version for agreement (only essential corrections allowed after this): Friday 2020-03-05 12:00 CET

Final Deadline for CR to be submitted to RANP: Friday 2020-03-06 10:00 CET

* Final CR can be provided in [R2-2001749](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001749.zip)
* [AT109e][220][LTE MOB] Stage-2 CR (China Telecom)

Intended outcome: Agreed 36.300 CR for NR mobility

Deadline for companies' feedback on the CR: Wednesday 2020-03-04 12:00 CET

Deadline for rapporteur's version for agreement (only essential corrections allowed after this): Friday 2020-03-05 12:00 CET

Final Deadline for CR to be submitted to RANP: Friday 2020-03-06 10:00 CET

* Final CR can be provided in [R2-2001752](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001752.zip)
* [AT109e][221][LTE MOB] RRC CR (Ericsson)

Intended outcome: Agreed 36.331 CR for LTE mobility WID (including DAPS and CHO) and agreed 36.331 CR for NR mobility WID (including CPC + T312 impacts to LTE)

Deadline for companies' feedback on the CR: Wednesday 2020-03-04 12:00 CET

Deadline for rapporteur's version for agreement (only essential corrections allowed after this): Friday 2020-03-06 12:00 CET

Final Deadline for CR to be submitted to RANP: Monday 2020-03-09 14:00 CET

* Final CR for LTE mobility can be provided in [R2-2001753](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001753.zip)
* Final CR for NR mobility can be provided in [R2-2001761](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001753.zip)
* [AT109e][222][MOB] PDCP CRs for LTE and NR (Huawei)

Intended outcome: Agreed 36.323 and 38.323 CR for LTE and NR mobility

Deadline for companies' feedback on the CR: Wednesday 2020-03-04 12:00 CET

Deadline for rapporteur's version for agreement (only essential corrections allowed after this): Friday 2020-03-05 12:00 CET

Final Deadline for CR to be submitted to RANP: Friday 2020-03-06 10:00 CET

* Final CRs can be provided in [R2-2001750](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001750.zip) (NR) and [R2-2001754](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001754.zip) (LTE)
* [AT109e][223][MOB] MAC CRs for LTE and NR (vivo)

Intended outcome: Agreed 36.321 and 38.321 CR for LTE and NR mobility

Deadline for companies' feedback on the CR: Wednesday 2020-03-04 12:00 CET

Deadline for rapporteur's version for agreement (only essential corrections allowed after this): Friday 2020-03-05 12:00 CET

Final Deadline for CR to be submitted to RANP: Friday 2020-03-06 10:00 CET

* Final CRs can be provided in [R2-2001751](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001751.zip) (NR) and [R2-2001755](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001755.zip) (LTE)

Proposed Post-meeting email discussions (To be confirmed)

* [Post109e][NR MOB] LS to RAN3 on prohibition of CPC + CHO (Nokia)

Intended outcome: Agreed LS to RAN3 to inform them of RAN2 decision to disallow simultaneous usage of CPC and CHO for the same UE.

Deadline: Short (1-week)

* Final LS can be provided in R2-2001764
* [Post109e][NR MOB] Resolving open issues for DAPS (NN)

Intended outcome: Attempting to resolving remaining open issues for CPC.

Deadline: Long (until next meeting)

* [Post109e][NR MOB] Resolving open issues for CHO (NN)

Intended outcome: Attempting to resolving remaining open issues for CPC.

Deadline: Long (until next meeting)

* [Post109e][NR MOB] Resolving open issues for CPC (NN)

Intended outcome: Attempting to resolving remaining open issues for CPC.

Deadline: Long (until next meeting)

# 4 EUTRA corrections Rel-15 and earlier

See Appendix A for reference to Work items, work item codes and WIDs.

No documents should be submitted to 4. Please submit to 4.x

NOTE For R2 109e for R15 and earlier releases, only documents on important and urgent issues shall be submitted and treated. No text enhancements without behavioural or functional change.

## 4.5 Other LTE corrections Rel-15 and earlier

Documents in this agenda item will be handled in a break out session.

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponement of some items to next meeting. No web conference is planned for this agenda item.

Summary document to be provided by the RAN2 VC (Nokia).

[R2-2002087](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002087.zip) Summary of LTE contributions in AI 4.5 Summary rapporteur (RAN2 vice-chair) discussion

**=> To be discussed in separate email discussions**

**S1\_AGREE: Contributions proposed for easy agreement in summary document:**

Proposal in summary document:

***Proposal S1\_1:*** *Agree to CRs in* [*R2-2000636*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000636.zip)*,* [*R2-2000663*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000663.zip)*,* [*R2-2000680*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000680.zip)*,* [*R2-2000685*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000685.zip)*,* [*R2-2000761*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000761.zip)*,* [*R2-2002056*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002056.zip) *and* [*R2-2001158*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001158.zip)*.*

RRC:

[R2-2000636](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000636.zip) Clarification on default configuration and SRB1 for UP-EDT and RRC\_INACTIVE Huawei, HiSilicon CR Rel-15 36.331 15.8.0 4104 4 F LTE\_eMTC4-Core, NB\_IOTenh2-Core, LTE\_5GCN\_connect-Core R2-1916356

* See R2-2001743
* Revised in R2-2001723

[R2-2001723](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000636.zip) Clarification on default configuration and SRB1 for UP-EDT and RRC\_INACTIVE Huawei, HiSilicon CR Rel-15 36.331 15.8.0 4104 5 F LTE\_eMTC4-Core, NB\_IOTenh2-Core, LTE\_5GCN\_connect-Core R2-2000636

* Agreed

[R2-2000680](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000680.zip) Correction on cellReselectionSubPriority Nokia, Nokia Shanghai Bell CR Rel-15 36.331 15.8.0 4194 - F NR\_newRAT-Core

* See R2-2001743
* Merged into R2-2002114

[R2-2000685](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000685.zip) Correction on LTE early measurement MediaTek Inc., Nokia, Nokia Shanghai Bell, Ericsson CR Rel-15 36.331 15.8.0 4195 - F LTE\_euCA-Core

* See R2-2001743
* Revised in R2-2001724

[R2-2001724](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000685.zip) Correction on LTE early measurement MediaTek Inc., Nokia, Nokia Shanghai Bell, Ericsson CR Rel-15 36.331 15.8.0 4195 1 F LTE\_euCA-Core R2-2000685

* Agreed

[R2-2000761](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000761.zip) Corrections to T312 and Discovery Signals measurement Lenovo, Motorola Mobility CR Rel-15 36.331 15.8.0 4198 - F HetNet\_eMOB\_LTE-Core, LTE\_SC\_enh\_L1-Core, TEI15

* See R2-2001743
* Revised in R2-2001725

[R2-2000761](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000761.zip) Corrections to T312 and Discovery Signals measurement Lenovo, Motorola Mobility CR Rel-15 36.331 15.8.0 4198 1 F HetNet\_eMOB\_LTE-Core, LTE\_SC\_enh\_L1-Core, TEI15 R2-2000761

[R2-2002056](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002056.zip) Correction to full configuration Google Inc. CR Rel-15 36.331 15.8.0 4151 3 F LTE\_QMC\_Streaming-Core

* Agreed

[R2-2001158](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001158.zip) Minor corrections collected by Rapporteur Samsung Telecommunications CR Rel-15 36.331 15.8.0 4211 - F TEI15

* See R2-2001743
* Revised in R2-2002114

R2-2002114 Minor corrections collected by Rapporteur Samsung Telecommunications CR Rel-15 36.331 15.8.0 4211 1 F TEI15 R2-2001158

* Revised in R2-2001762

**R2-2001762** Minor corrections collected by Rapporteur Samsung Telecommunications CR Rel-15 36.331 15.8.0 4211 2 F TEI15 R2-2002114

* Agreed

Stage-2:

[R2-2000663](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000663.zip) Missing QCI to CAPC mapping Nokia, Nokia Shanghai Bell CR Rel-16 36.300 16.0.0 1240 4 F LTE\_unlic-Core R2-1913983

* See R2-2001743
* Revised in R2-2001722

[R2-2001722](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000663.zip) Missing QCI to CAPC mapping Nokia, Nokia Shanghai Bell CR Rel-16 36.300 16.0.0 1240 5 F LTE\_unlic-Core [R2-2000663](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000663.zip)

* Agreed
* All of the above documents under S1\_AGREE are handled in offline email discussion [201]
* [AT109e][201][LTE15] Agreeing to simple LTE Rel-15 CRs (RAN2 VC)

Scope:

* + - Agree to CRs in [R2-2000636](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000636.zip), [R2-2000663](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000663.zip), [R2-2000680](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000680.zip), [R2-2000685](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000685.zip), [R2-2000761](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000761.zip), [R2-2002056](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002056.zip) and [R2-2001158](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001158.zip).

Intended outcome:

* + - Agreeable CRs (by each CR proponent)
    - Summary of discussions (by email rappporteur), including list of CRs that require further discussion in this meeting (and are moved to discussion **202**)

Deadline for providing comments and for rappporteur inputs:

* + - Companies input: Thursday, Feb. 27th 17:00 CET
    - Rapporteur summary: Friday, Feb. 28th 17:00 CET (one day for rapporteur to make conclusions)
    - Updated CRs from each CR proponent: Monday Mar. 2nd 17:00 CET
    - Comments on CR wording: Tuesday, March 3rd by 17:00 CET (i.e. one day to provide comments to the updated CR)

R2-2001743 Report of [AT109e][201][LTE15] Agreeing to simple LTE Rel-15 CRs (RAN2 VC) Nokia (RAN2 VC)

* Noted

Agreements [AT109e][201][LTE15]

* Revise the CR R2-2000663 according to comments in R2-2001722.
* Revise the CR R2-2000636 according to comments in R2-2001723.
* The CR R2-2000680 will be merged to rapporteur CR R2-2002114 with proposed changes
* Revise the CR R2-2000686 according to comments in R2-2001724.
* Revise the CR R2-2000761 according to comments in R2-2001725.
* Agree to the CR in R2-2002056.
* Revise the CR R2-2001158 according to comments in R2-2002114
* Related to discussions [201] and [003]: During the discussion  [003] it was agreed that the documents R2-2002143 and R2-2001612 will be merged to the LTE RRC rapporteur CR (R2-2002114).

**S1\_DISC: Contributions proposed for discussion in summary document:**

Proposal in summary document:

***DISC S1\_1:*** *Discuss the CRs* [*R2-2001139*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001139.zip)*,* [*R2-2001156*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001156.zip)*,* [*R2-2001157*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001157.zip)*,* [*R2-2001508*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001508.zip)*,* [*R2-2001347*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001347.zip) *and* [*R2-2001351*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001351.zip) *over offline (email) discussion to solicit opinions from companies on the proposals and CR correctness.*

Handling of assistance information: Already discussed in RAN2#108, CRs postponed. At least CR checking is required.

[R2-2001156](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001156.zip) Correction of UE assistance information Samsung Telecommunications CR Rel-15 36.331 15.8.0 4210 - F TEI15, NR\_newRAT-Core

* Agreed

[R2-2001157](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001157.zip) Correction of UE assistance information Samsung Telecommunications CR Rel-16 36.331 15.8.0 4164 2 A TEI15, NR\_newRAT-Core R2-1916490

* Postponed

Addition of missing guidline for maximum number of PDCP SDUs per TTI for DL categories 22-26: Requires at least checking of the proposed numbers.

[R2-2001139](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001139.zip) Inclusion of Maximum Number of PDCP SDUs per TTI for DL Categories 22-26 Nokia, Nokia Shanghai Bell CR Rel-15 36.306 15.7.0 1736 - F LTE\_1024QAM\_DL-Core, TEI15

* See R2-2001744
* Revised in R2-2001726

[R2-2001744](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001139.zip) Inclusion of Maximum Number of PDCP SDUs per TTI for DL Categories 22-26 Nokia, Nokia Shanghai Bell CR Rel-15 36.306 15.7.0 1736 1 F LTE\_1024QAM\_DL-Core, TEI15 R2-2001139

* Agreed

Changing whether UE information availability indications in Msg5 are indicated in case UE is connected to 5GC:

[R2-2001508](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001508.zip) Correction on the content of RRCConnectionReconfigurationComplete message Google Inc. CR Rel-15 36.331 15.8.0 4224 - F LTE\_5GCN\_connect-Core

* See R2-2001744
* Not pursued

Clarification to RLC out-of-order delivery configuration introduced in Rel-15: Does the configuration apply to only PDCP duplication or also to other cases?

[R2-2001347](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001347.zip) The problem of LTE RLC out-of-order delivery configuration Samsung discussion LTE\_HRLLC

* See R2-2001744
* Noted

[R2-2001351](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001351.zip) CR on RLC OutOfOrderDelivery configuration Samsung CR Rel-15 36.331 15.8.0 4217 - F LTE\_HRLLC

* See R2-2001744
* Not pursued
* All of the above documents under S1\_DISC are handled in offline email discussion [202]
* [AT109e][202][LTE15] Discuss remaining LTE Rel-15 CRs (RAN2 VC)

Scope:

* + - Discuss the CRs [R2-2001139](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001139.zip), [R2-2001156](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001156.zip), [R2-2001157](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001157.zip), [R2-2001508](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001508.zip), [R2-2001347](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001347.zip) and [R2-2001351](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001351.zip) over offline (email) discussion to solicit opinions from companies on the proposals and CR correctness.
    - Handle any CRs from discussion **201** that are deemed require further discussion

Intended outcome:

* + - Whether any of the CRs can be agreed?
    - For CRs that can be agreed, final CRs (by CR proponents)
    - Summary of discussions (by email rappporteur)

Deadline for providing comments and for rappporteur inputs:

* + - Companies input: Thursday, Feb. 27th 17:00 CET
    - Rapporteur summary: Friday, Feb. 28th 17:00 CET (one day for rapporteur to make conclusions)
    - Updated CRs from each CR proponent: Monday Mar. 2nd 17:00 CET
    - Comments on CR wording: Tuesday, March 3rd by 17:00 CET (i.e. one day to provide comments to the updated CR)

R2-2001744 Report of [AT109e][202][LTE15] Discuss remaining LTE Rel-15 CRs (RAN2 VC) Nokia (RAN2 VC)

* Noted

**Agreements [AT109e][202][LTE15]**

* Agree to the CRs R2-2001726 and R2-2001156
* The CR R2-2001508 is not pursued (can be revisited if issues are identified)
* The CRs R2-2001347 and R2-2001351 are not pursued (can be revisited if issues are identified).

**S2\_DISC: Pre-rel-15 contributions proposed for discussion in summary document:**

Proposals in summary document:

***DISC S2\_1:*** *Discuss which interpretation in* [*R2-2001134*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001134.zip) *is correct, whether a clarification CR is needed and from which release onwards. After that is decided, determine which of the CRs* [*R2-2001135*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001135.zip)*,* [*R2-2001136*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001136.zip)*,* [*R2-2001137*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001137.zip)*,* [*R2-2001138*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001138.zip) *are needed.*

***DISC S2\_2:*** *Discuss the CRs* [*R2-2001140*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001140.zip)*,* [*R2-2001141*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001141.zip)*,* [*R2-2001142*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001142.zip) *to determine if the interpretation is correct and how a correction should be captured (if needed).*

Pre-Rel-15 CA: Are intra-band non-contiguous CA capabilities treated similarly as intra-band contiguous CA or as inter-band CA?

[R2-2001134](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001134.zip) Interpretation of UE capabilities for non-contiguous intra-band CA Nokia, Nokia Shanghai Bell discussion Rel-12 LTE\_CA-Core, TEI12

* See R2-2001736
* Noted

[R2-2001135](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001135.zip) Clarification to UE capabilities for non-contiguous intra-band CA Nokia, Nokia Shanghai Bell CR Rel-12 36.331 12.18.0 4206 - F LTE\_CA-Core, TEI12

* Postponed

[R2-2001136](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001136.zip) Clarification to UE capabilities for non-contiguous intra-band CA Nokia, Nokia Shanghai Bell CR Rel-13 36.331 13.15.0 4207 - A LTE\_CA-Core, TEI12

* Postponed

[R2-2001137](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001137.zip) Clarification to UE capabilities for non-contiguous intra-band CA Nokia, Nokia Shanghai Bell CR Rel-14 36.331 14.13.0 4208 - A LTE\_CA-Core, TEI12

* Postponed

[R2-2001138](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001138.zip) Clarification to UE capabilities for non-contiguous intra-band CA Nokia, Nokia Shanghai Bell CR Rel-15 36.331 15.8.0 4209 - A LTE\_CA-Core, TEI12

* Postponed

Pre-Rel-15 CA: How to interpret the “mandatory” aspect of the HARQ ACK codebook capabilities – do all UEs support both capabilities?

[R2-2001140](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001140.zip) Clarification on codebook-HARQ-ACK-r13 capability for CA with more than 5CCs Nokia, Nokia Shanghai Bell CR Rel-13 36.306 13.12.0 1737 - F LTE\_CA\_enh\_b5C-Core Late

* Postponed

[R2-2001141](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001141.zip) Clarification on codebook-HARQ-ACK-r13 capability for CA with more than 5CCs Nokia, Nokia Shanghai Bell CR Rel-14 36.306 14.11.0 1738 - A LTE\_CA\_enh\_b5C-Core Late

* Postponed

[R2-2001142](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001142.zip) Clarification on codebook-HARQ-ACK-r13 capability for CA with more than 5CCs Nokia, Nokia Shanghai Bell CR Rel-15 36.306 15.7.0 1739 - A LTE\_CA\_enh\_b5C-Core Late

* Postponed
* All of the above documents under S2\_DISC are handled in email discussion 203
* [AT109e][203][LTE15] LTE pre-Rel-15 CRs on CA (Nokia)

Scope:

* + - Discuss the topics identified in [R2-2001134](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001134.zip)
    - Discuss which (if any) of the CRs [R2-2001135](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001135.zip), [R2-2001136](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001136.zip), [R2-2001137](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001137.zip), [R2-2001138](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001138.zip) are needed.
    - Discuss the CRs [R2-2001140](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001140.zip), [R2-2001141](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001141.zip), [R2-2001142](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001142.zip) to determine whether the proposed interpretation is correct and how should a correction (if needed) be captured

Intended outcome:

* + - Set of proposals with consensus (aim to agree to those over email), including the correct interpretation to both sets of CRs (by email rappporteur)

Deadline for providing comments and for rappporteur inputs:

* + - Companies input: Wednesday, Feb. 26th 17:00 CET
    - Rapporteur proposals: Thursday, Feb. 27th 17:00 CET (one day for rapporteur to make conclusions)
    - Updated CRs from each CR proponent: Friday Feb 28th 17:00 CET
    - Comments on the CR wording: Monday, March 2nd by 17:00 CET (i.e. one day to provide comments to the updated CR)

R2-2001736 Report of [AT109e][203][LTE15] LTE pre-Rel-15 CRs on CA (Nokia) Nokia (RAN2 VC)

* Noted

**Agreements [AT109e][203][LTE15]**

**For R2-2001134:**

* RAN2 notes the following observations on differences of UE capabilities for intra-band contiguous and non-contiguous CA:

**- Intra-band contiguous CA capabilities are all contained within a single band entry of a band combination, while intra-band non-contiguous CA capabilities require at least two band entries.**

**- For intra-band contiguous carriers, UE band combination capabilities specify that UE supports any ordering of the capabilities.**

**- (Based on TS36.101): The ordering of intra-band non-contiguous entries is relevant for the support of BCS.**

**- (Based on TS36.101): The ordering of BCS is not directly related to the MIMO capabilities.**

**FFS: if UE supports (2, 4) MIMO layers with CA\_xA\_xA, it will also support (4, 2) MIMO layers with CA\_xA\_xA.**

* The CRs in R2-2001135, R2-2001136, R2-2001137, R2-2001138 are postponed.
* The CRs in R2-2001140, R2-2001141, R2-2001142 are postponed to next meeting.

**S3\_NR: Contributions proposed to be treated together with the equivalent topic in NR session:**

Proposals in summary document:

***Proposal S3\_1:*** *Treat these contributions jointly with corresponding contributions from NR session.*

[R2-2000965](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000965.zip) Discussion on security requirement for UE capability enquiry Huawei, HiSilicon discussion Rel-15 TEI15, LTE-L23

[R2-2001096](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001096.zip) Security requirement for UE capability enquiry for LTE Intel Corporation, NTT DoCoMo, Apple CR Rel-15 36.331 15.8.0 4041 3 C TEI15 R2-1914745

=> Revised in [R2-2002094](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002094.zip)

[R2-2002094](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002094.zip) Security requirement for UE capability enquiry for LTE Intel Corporation, NTT DoCoMo, Apple, Ericsson CR Rel-15 36.331 15.8.0 4041 4 C TEI15 R2-1914745

[R2-2001604](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001604.zip) Unsecured UE capability handling NTT DOCOMO INC. CR Rel-15 36.300 15.8.0 1269 - F LTE\_euCA-Core

[R2-2001614](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001614.zip) Unsecured UE capability handling NTT DOCOMO INC. CR Rel-15 36.331 15.8.0 4226 - F LTE\_euCA-Core, LTE\_5GCN\_connect-Core

* All of the above documents under S3\_NR are handled in NR discussion (see AI 5.4.1.1)

# 6 Rel-16 NR Work Items

## 6.9 NR mobility enhancements

(NR\_Mob\_enh-Core; leading WG: RAN2; REL-16; started: Jun 18; target; Mar 20; WID: [RP-192277](file:///C:\Data\3GPP\archive\TSGR\TSGR_83\Docs\RP-190489.zip)). Documents in this agenda item will be handled in a break out session

No documents should be submitted to 6.9.

Treated together with 7.3,

Joint 6.9 and 7.3 Time budget: 3 TU

Joint 6.9 and 7.3 Tdoc Limitation: 12 tdocs

This agenda item will utilize a summary document procedure for some sub-agenda items to facilitate treatment of topics during the e-meeting, which may lead to postponement of some topics to next meeting.

A web conference may be used for handling some of the discussions in this WI.

### 6.9.1 Organisational

*Including incoming LSs, running CRs, rapporteur inputs, etc*

*Including outcome of email discussion [108#62][NR Mob] Running Stage-2 CR (Intel)*

*Including CHO part of the outcome of email discussion [108#66][LTE NR Mob] Open issues for LTE and NR mobility (Intel)*

*Including NR part of the outcome of email discussion [108#45][LTE NR Mob] UE feature list for LTE and NR mobility (Intel)*

*A web conference may be used to treat some topics in this agenda item.*

Noted

[R2-2000015](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000015.zip) Reply LS to RAN1&4 on UE capabilities on DAPS HO (R1-1913581; contact: Intel) RAN1 LS in Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core To:RAN2 Cc:RAN4

* Not flagged
* Noted

[R2-2000037](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000037.zip) Reply to LS on UE capabilities on DAPS HO (R4-1915781; contact: Qualcomm) RAN4 LS in Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core To:RAN2 Cc:RAN1

* Not flagged
* Noted

[R2-2000071](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000071.zip) Reply LS to LS on AS key derivation for conditional handover (S3-194447; contact: Apple) SA3 LS in Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core To:RAN2 Cc:RAN3

* Not flagged
* Noted

By Web Conf

*Stage-2 running CR for NR mobility (outcome of 108#62):*

[R2-2000460](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000460.zip) Running CR for the introduction of NR mobility enhancement Intel Corporation CR Rel-16 38.300 16.0.0 0172 2 B NR\_Mob\_enh-Core R2-1913995

* Endorsed as running CR

*RRC running CR for NR mobility (outcome of 108#34):*

[R2-2001271](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001271.zip) RRC running CR for introduction of NR mobility enhancement [108#34] Intel Corporation CR Rel-16 38.331 15.8.0 1478 - B NR\_Mob\_enh-Core

* Endorsed as running CR

*List of open issues in LTE/NR mobility WID (report of 108#66):*

[R2-2000461](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000461.zip) Report of [108#66][LTE NR Mob] Open issues for LTE and NR mobility Intel Corporation discussion Rel-16 LTE\_feMob-Core, NR\_Mob\_enh-Core

Discussion:

* Intel indicates that some DAPS proposals are under offline emails in this discussion

P13

* Nokia wonders if also CPC is considered here – is this only for CHO? Intel clarifies only CHO so far, but in 108#67 most companies want to avoid CHO+CPC so total number should be 8 at most. CATT agrees this is the majority view for CPC.
* Charter wonders if we consider both intra- and inter-frequency: Can we have 8+0, 0+8 or 4+4, i.e. any combination that is 8 at most? OPPO thinks we should first decide whether to support CHO+CPC. Intel thinks we still have limitation on measurements by RAN4 and they will decide on that.

P6

* LGE wonders if Need M can be used. Chair asks to discuss that offline.

P4

* Mtek thinks this is already being discussed in offline so we don’t need to agree to it yet.

P37

* Ericsson thinks there have not been good arguments for this proposal. Similar to A3+A5. Intel indicates 12 companies opposed this and 2 companies wished to support it. A3+A5 didn’t require changes, this requires additional changes. Apple would also think this could be done in Rel-16. Samsung would also like to support this in Rel-16., i.e. not have P37. Google also thinks we should remove P37.
* Ericsson could be fine to limit to e.g. intra-node handovers. Qualcomm doesn’t see a motivation to support this. Could also affect CHO failure handling.
* Intel points out that we agreed UE would discard CHO configurations upon HO and this would change that.

**Agreements for CHO**

MeasId aspects

Proposal 2. measID and reportConfig associated with CHO config shall be removed when CHO configuration is autonomously removed.;

Proposal 7. For the same candidate target cell, allows 1 execution condition with 2 trigger events and corresponding 2 measIDs;

RRC configuration

Proposal 34. Upon reception of RRCReconfiguration message with CHO configuration, the UE shall generate RRCReconfigurationResponse message and delivery it to low layer (same handling as legacy HO command), no matter whether CHO condition is met immedicately or not.

Proposal 12. CHO configuration stored in UE shall be removed by the UE when entering IDLE or INACTIVE;

Proposal 13. The max number of CHO candidate cells is 8; Send LS to RAN4 to inform our conclusion.

EN notes and behaviour left up to UE/NW implementation

Proposal 3. The EN on FFS on Stage-3 details: whether there are issues with configuration of different events (e.g. A3+A5)., can be removed;

Proposal 11. EN in LTE CR on UE autonomous actions regarding VarMeasConfig associated to conditional handover can be removed;

Proposal 4. It is up to UE implementation whether the measurement on other candidate cell shall be continued during CHO execution period. The EN can be removed;

Proposal 5. The quantity configuration is needed for CHO for filtering purpose. The EN can be removed;

Proposal 37. Scenarios, target CHO configuration in legacy HO command or target CHO configuration in target CHO command are not supported in Rel-16.

Proposal 38. The issue, race condition on CHO is left to network implementation.

=> Can discuss if these agreements work also for CPC.

P15/16

* LGE indicates these are discussed in offline discussion. Mtek thinks we could still agree to them now. Mtek wonders if we need clarification in specs for P16.
* Huawei agrees with P16 but not P15. Unclear if UE or network or both do something to avoid this. It might be neither does anything. Intel thinks anyway we leave it, it will be either UE or NW implementation.
* Ericsson thinks we need to specify UE behaviour for PDCP re-establishment so would like to specify it for P16 as well.

P19

* Nokia wonders if this is done when DRBs are established or when HO is triggered – should only apply to the HO case. This is also discussed in one fo the offline discussions. Intel agrees that this was the intention. LGE agrees.

P42

* LGE thinks this is only for NR.

P44

* LGE wonders what is “PDCP/RLC state” and does it include RoHC and security. Intel calrifies this is counters, variables and retransmission states but not security and RoHC.
* vivo thinks we can reuse PDCP re-establishment procedure in this case. QC thinks for non-DAPS we retain legacy behaviour. OPPO thinks this may not be sufficient for security and we need to trigger PDCP re-establishment to use the source cell keys. Intel clarifies that we just revert back to old key since we don’t have key derivation.
* Apple thinks we had an earlier agreement for SRB that covers this. OPPO thinks this is different as SRBs are suspended and not established for target node. DRBs are re-established during HO.
* Samsung thinks everyone assumes PDCP re-establishment is done at HO comamnd reception. If we delay that to RACH completion, there are no problems.
* LGE thinks P28 is also associated.

P43

* Ericsson wonders if there are issues with stored RRC messages.

P24

* vivo thinks the accumulated PC commands needs to be also released.

P30-32

* vivo wonders if we autonomously releases some Need R fields.
* QC has concerns on P30 since it’s different than legacy re-establishment case. Intel thinks this is simpler because we need to do nothing here.
* OPPO has concern on P32 since network coordination may not be possible so re-establishment could be triggered. Should use non-DAPS handover in case UE capabilities are exceeded. ZTE agrees. Intel thinks this would require UE to distinguish different cases (source+ target or target only exceeds) and this is anyway an error case. Majority preferred this. OPPO thinks UE always knows which configuration exceeds the capabilities. NEC would also like to support fallback behaviour.
* Huawei wonders if legacy handling means RRC re-establishment.
* QC thinks P31 is not allowed. Network would have to send these in different TTIs. Ericsson thinks UE processes PDCP PDUs in order of SN.
* LGE wonders how RRC processing delay would work: Would we have combined processing delay for two RRC messages.
* QC thinks P30 makes the DAPS performance worse and therefore would not like to have it.

**Agreements for DAPS**

Not-supported features with DAPS

Proposal 14. EHC is not considered for DAPS.

Proposal 33. CHO+DAPS is not supported in Rel-16.

PDCP-related configuration

Proposal 22. PDCP parameters discardTimer, pdcp-SN-SizeUL, pdcp-SN-SizeDL, outOfOrderDelivery, t-Reordering and cipheringDisabled. cannot be changed for DRB with DAPS;

Proposal 19. Indication of DAPS per DRB is put under drb-ToAddModList.

Proposal 20. recoverPDCP is not applied for DAPS handover.

Proposal 40. statusReportRequired can be changed during DAPS HO as legacy HO.

Proposal 42. Same as legacy HO, Key change is optional for DAPS HO in NR.

RRC reconfiguration

Proposal 23. Full configuration is not supported for DAPS HO;

Proposal 24. all target specific configuration, PDCP (security, ROHC), SDAP, RLC, MAC and L1 shall be removed upon DAPS HO failure;

Source + target configuration

Proposal 30. Source+target configuration cannot be sent in the same RRC message for DAPS HO.

Proposal 31. If source wants to change it’s configuration during DAPS handover, the source could send two RRC messages in one TTI, i.e. DAPS handover command for target, and RRC reconfiguration message for source. But it is up to network implementation.

Proposal 32. Following legacy handling on network configuration error if network (source+target) configuration exceeds the UE capability, no specification change is needed.

Removal of editor notes:

Proposal 21. Remove the EN TBC, whether there is need to capture to avoid configuring twice during DAPS HO.

Proposal 26. For source link failure, remove EN and add release source connection in running CR.

DAPS HO failure

Proposal 27. All current triggerings (T310 expires, RACH failure, RLC failure) for RLF are applied for source in DAPS HO.

Proposal 29. Upon DAPS HO failure, source RRM configuration is reversed as legacy HO failure.

* P19 only applies for HO case
* P24: accumulated PC commands belong to L1 configuration (as in legacy)
* P32: “Legacy handling” means RRC re-establishment
* P31: RAN2 will not define combined RRC processing delay for two RRC messages in this case.
* Discuss P44 and P28 further offline in offline email discussion [210] (Huawei):

*Proposal 44. For non DAPS DRB, upon DAPS HO failure, the reverted PDCP/RLC state includes data stored in transmission and reception buffers in PDCP and RLC entities.*

* For P44, Intent is to ensure UE reverts back source cell keys for non-DAPS DRBs. Discuss offline how to handle this in Stage-3

*Proposal 28. Upon DAPS handover failure, UE reverts back to the original source configuration (including RLC and PDCP state, but do not re-establish PDCP and RLC) for the DRB that is not configured with DAPS.*

* The proposals below were not discussed online.

*DAPS - need further discussion*

*Proposal 15. Leave it to UE/network implementation (without specification impact) on the issue caused by duplicate discarding if duplication is enabled.Proposal 6. Change the need code of cho-RRCReconfig to Need S, and clarify that allow the delta signaling for cho-RRCReconfig (i.e. replace the whole field if present, or keep the stored value if absent. ) For the first configuration, it must be present;*

*Proposal 16. Before releasing the source ROHC protocol, the PDCP should decompress PDCP SDUs received from the source node and stored in the reordering buffer using the source ROHC protocol. It can be left to UE implementation.Proposal 17. Online discussion on whether second status report is needed when upper layer requests a PDCP reconfiguration with RLC entity release.*

*Proposal 18. Online discussion on whether status report is needed for RLC UM.*

*Proposal 25. Online discussion on whether explicitly capture in RRC spec, the UE shall stop RLM in source after RACH successful to garget PCell, and whether current running CR’s way has problem (it was discussed before, stopping RLM means the UE does not start T310).*

*Proposal 39. Ask RAN2 to discuss whether to explicitly capture in spec, there are two purposes for reordering, one for decompression, another for in order delivery. .*

*Proposal 41. Ask RAN2 to discuss whether moreThanonRLC (for CA duplication) can be configured together with DAPS HO.Proposal 43. reestablishPDCP is not applied for SRB in DAPS HO.*

*Proposal 45. When resume SRB upon DAPS HO failure, the old stored RRC message if any, (i.e.. the PDCP PDUs for SRB) shall be discarded. How to capture this in spec needs further discussion, e.g. change PDCP or RRC?*

*Proposal 46. For LTE, the DAPS network coordination is based on source link configuration to be used during DAPS HO, UE capabilities, maxSCH-TB-BitsDL, maxSCH-TB-BitsUL, powerCoordinationInfo within HandoverPreparationInformation message;*

*Proposal 47. For NR, the DAPS network coordination is based on source link configuration to be used during DAPS HO, UE capabilities, maxSCH-TB-BitsDL (to be redefined for NR), maxSCH-TB-BitsUL (to be redefined for NR), powerCoordinationInfo within HandoverPreparationInformation message; FFS on additional parameters*

*CHO - need further discussion*

*Proposal 1. Regarding what field name should be used cho-Config (as NR) or conditionalReconfiguration (as LTE), no change for now until we have clear view on CPC;*

*Proposal 8. T312 is not stopped upon the reception of RRC Reconfiguration with cho-Config;*

*Proposal 9. T312 is stopped upon the execution of CHO;*

*Proposal 10. CHO based RLF failure handling is also applied for RLF caused by the expiry of T312;*

*Proposal 35. Ask RAN2 to continue the discussion on “and” issue, e.g. how to improve option A, or whether Option B is chosed as solution for “and” issue.*

*Proposal 36. “And” means “Both events need to still meet the entry criteria when the second TTT expires (regardless of which event met entry condition first and whether TTT1 is the same or different than TTT2).”, e.g. the event is considered fulfilled if the leaving conditions is not fulfilled after TTT1 has expired i.e. event 1 was fulfilled at t0+TTT1 and remains fulfilled as long as after t0+TTT1 the leaving condition is not fulfilled. Then, event 2 gets fulfilled (e.g. at t0’+TTT2) AND, at that time t0+TTT2, event 1 is also fulfilled.”*

[R2-2000466](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000466.zip) Open issues in RRC CR on NR mobility Intel Corporation discussion Rel-16 NR\_Mob\_enh-Core

* Noted (not discussed online)
* The proposals below were not discussed online.

*Misc*

*Proposal 1. Keys used in source is discarded upon source release;*

*Proposal 2. Keep using “source” and “target” in the RRC specification unless it is necessary;*

*Proposal 3. CHO (MCG) + DC is allowed configuration.*

*MeasId*

*Proposal 4. Keep current sentence on the condition “if more than one triggered cell exists”.*

*Proposal 5. In 5.3.7.3, removal of CHO related measurement is handled together with the removal of VarCHO-Config when selected cell is CHO cell;*

*Proposal 6. Keep in the field description that When the network removes the stored CHO configuration for a candidate cell, the network releases the measIDs associated to the cho-ExecutionCond if it is not used by the cho-ExecutionCond of other candidate cells.*

*Processing delay*

*Proposal 7. RRC processing requirement on CHO is not captured in the table 12.1-1.*

[R2-2000463](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000463.zip) RRC running CR for introduction of NR mobility enhancement [108#66 P2] Intel Corporation draftCR Rel-16 38.331 15.8.0 B NR\_Mob\_enh-Core

* Noted (not discussed online)

[R2-2000329](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000329.zip) Major CHO issues discussed in [108#66][NR Mob] phase-2 Ericsson discussion NR\_Mob\_enh-Core

*(moved from 6.9.3.1)*

* Noted (not discussed online)
* The proposals below were not discussed online.

*Proposal 1 An event is considered to be fulfilled if all measurements after L3 filtering satisfy the entry condition during TTT1.*

*Proposal 2 If the leaving condition is fulfilled the entry condition of an event is considered to be non-fulfilled.*

*Proposal 3 CHO is executed if all events are considered fulfilled.*

*Proposal 5 Confirm that different RS types in A3 + A5 combinations are supported.*

*Proposal 6 Confirm that different measurement object in A3 + A5 combinations are supported.*

*Proposal 7 RAN2 will not add restrictions to cho-Config inclusion in RRCReconfiguration.*

*Proposal 8 The field cho-RRCReconfig is OPTIONAL with Need Code S. If cho-RRCReconfig is present, the stored value is replaced by new value. If cho-RRCReconfig is absent, the stored value is used.*

*Proposal 9 The field cho-ExecutionCond is OPTIONAL with Need Code S. If cho-ExecutionCond is present, the stored value is replaced by new value. If cho-ExecutionCond is absent, the stored value is used.*

[R2-2000330](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000330.zip) Major CHO issues not discussed in [108#66][NR Mob] Ericsson discussion NR\_Mob\_enh-Core

*(moved from 6.9.3.1)*

* Noted (not discussed online)
* The proposals below were not discussed online.

*Proposal 1 Update running CR according to the understanding that a measId with associated reportConfig whose reportType is set to cho-TriggerConfig may not have a reporting entry in VarMeasReportList.*

*Proposal 2 UE shall autonomously remove measObject(s) only associated to CHO upon suspend/release, CHO/HO execution and re-establishment.*

*Proposal 4 UE can be configured with SCG addition while monitoring CHO configurations.*

*Proposal 7 UE can be configured with cho-Config in RRCResume.*

*Proposal 3 UE can be configured with CHO while operating in MR-DC.*

*Proposal 5 Upon CHO execution the UE performs MR-DC release and the release of SN-terminated bearers.*

*Proposal 6 No RAN3 changes are introduce to support CHO configuration while operating in MR-DC.*

*UE feature list for LTE/NR mobility WID (report of 108#45) – email discussion report:*

[R2-2000459](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000459.zip) UE feature list for LTE and NR mobility Intel Corporation discussion Rel-16 LTE\_feMob-Core, NR\_Mob\_enh-Core

* Noted (not discussed online)
* The proposals below were discussed as part of offline email discussion [211].

*Proposal 1. Agree the capabilities (x1-1, x1-3, x2, x3) including the revisions as indicated in the table for NR.*

*Proposal 2. Agree the capabilities (x1-1, x1-3) including the revisions as indicated in the table for LTE.*

*Capability aspects that need further discussion*

*Proposal 3. SCells not released during DAPS HO (If SCell is supported during DAPS HO) should be counted against the total number of CCs the UE can support.*

*Proposal 4. For intra freq DAPS, the capability intra-FreqDAPS is put under bandParameter, and for bandwidthClass B/C UE, the UE supports intraF DAPS with bandwidth class A for the band against source and target.*

*Proposal 5. For inter freq DAPS, the capability inter-FreqDAPS is put under existing CA bandcombiantion, and same as CA, the CCs in the bandcombination with UL can all be source or target PCell.*

*Proposal 6. In Rel-16, DAPS HO only supports source PCell and target PCell.*

*Proposal 7. During DAPS HO, SCells (if configured in source) shall be released based on existing way, i.e. explicitly release from network using DAPS HO command.*

*Proposal 8. RAN4 capabilities are introduced as*

*Per BC: AsyncDAPS, supportedNumberTAG, singleUL-Transmission;*

*Per Band per BC: intraBandDiffSCS, intraBandIntraFreq-DAPS;*

*Proposal 9. Double check whether any capabilities have been covered by existing capability in the bandcombination;*

*Proposal 10. Per Band per BC capability is put in BandParameters*

*Proposal 11. UplinkPowerSharingDAPS-HO, pdcch-BlindDetectionMCG1-UE and pdcch-BlindDetectionMCG2-UE are introduced as per BC capabilities.*

*Discussed over email only*

*Proposal 12. The ASN.1 parts for LTE and NR in section 6 are used as baseline for further discussion.*

*UE feature list for NR mobility WID:*

[R2-2001270](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001270.zip) UE Capability for Rel-16 NR mobility enhancement Intel Corporation CR Rel-16 38.306 15.8.0 0250 - B NR\_Mob\_enh-Core

* Noted (not discussed online)

By Email

***NR\_MBB: Copy-paste of LTE Rel-14 MBB handover to NR Rel-16 in addition to DAPS?***

[R2-2001520](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001520.zip) Interruption Time Reduction in Release 16 Samsung, KT, LG Uplus, Verizon Wireless, ZTE, KDDI discussion NR\_Mob\_enh-Core

[R2-2001530](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001530.zip) RAN4 requirements on Make-Before-Break Samsung discussion NR\_Mob\_enh-Core

[R2-2001531](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001531.zip) Stage-2 details (38.300/37.340) for Make-Before-Break Samsung, ZTE discussion NR\_Mob\_enh-Core

[R2-2001540](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001540.zip) Supporting Make-Before-Break in NR Samsung, ZTE draftCR Rel-15 38.331 15.8.0 B NR\_Mob\_enh-Core

[R2-2001543](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001543.zip) Supporting Make-Before-Break in NR Samsung, ZTE draftCR Rel-15 38.306 15.8.0 B NR\_Mob\_enh-Core

* All of the above contributions under NR\_MBB are handled in email discussion 216
* [AT109e][216][NR MOB] Discussion on MBB handover for NR Rel-16 (Samsung)

Scope:

* + - Discuss the proposals in contributions [R2-2001520](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001520.zip), [R2-2001530](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001530.zip), [R2-2001531](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001531.zip), [R2-2001540](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001540.zip) and [R2-2001543](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001543.zip) to see if anything can be agreed (partly already discussed in RAN2#108 without reaching consensus to introduce the feature, also discussed in RAN#86 with conclusion that WG needs to decide).

Intended outcome:

* + - Conclusion on what (if anything) can be agreed, with set of proposals that have consensus (aim to agree to those over email)

Deadline for providing comments and for rappporteur inputs:

* + - Companies input: Thursday, Feb. 27th 3:00 CET
    - Rapporteur proposals: Friday, Feb. 28th 12:00 CET
    - Comments on rapporteur proposals: Monday March 2nd by 17:00 CET

**Proposals from offline email discussion [216]:**

**Proposal 1: Do not enhance FR2 mobility interruption in Release 16**

**Proposal 2: FR2 mobility interruption enhancement in Release 17 is up to RAN plenary.**

NOTE:Interested companies can discuss which WI is the best to handle this issue and whether WID scope needs update. The WID update, if deemed needed, will be discussed in the RAN plenary based on company input which is business as usual.

Agreements (3.3.2020)

* 1 Do not enhance FR2 mobility interruption in Release 16
* 2 FR2 mobility interruption enhancement in Release 17 is up to RAN plenary.

CR finalization

* [AT109e][218][NR MOB] Stage-2 CR (Intel)

Intended outcome: Agreed 38.300 CR for NR mobility (including T312, CPAC)

Deadline for companies' feedback on the CR: Wednesday 2020-03-04 12:00 CET

Deadline for rapporteur's version for agreement (only essential corrections allowed after this): Friday 2020-03-05 12:00 CET

Final Deadline for CR to be submitted to RANP: Friday 2020-03-06 10:00 CET

* Final CR can be provided in [R2-2001748](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001748.zip)
* [AT109e][219][NR MOB] RRC CR (Intel)

Intended outcome: Agreed 38.331 CR for NR mobility (including T312, CPAC)

Deadline for companies' feedback on the CR: Wednesday 2020-03-04 12:00 CET

Deadline for rapporteur's version for agreement (only essential corrections allowed after this): Friday 2020-03-05 12:00 CET

Final Deadline for CR to be submitted to RANP: Friday 2020-03-06 10:00 CET

* Final CR can be provided in [R2-2001749](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001749.zip)

*Withdrawn:*

[R2-2001092](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001092.zip) UE Capability for Rel-16 NR mobility enhancement Intel Corporation draftCR Rel-16 38.306 15.8.0 NR\_Mob\_enh-Core Withdrawn

[R2-2001093](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001093.zip) UE Capability for Rel-16 LTE even further mobility enhancement Intel Corporation draftCR Rel-16 36.306 15.7.0 LTE\_feMob-Core Withdrawn

[R2-2001272](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001272.zip) UE Capability for Rel-16 LTE even further mobility enhancement Intel Corporation CR Rel-16 38.331 15.8.0 1479 - B NR\_Mob\_enh-Core Withdrawn

[R2-2000462](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000462.zip) RRC running CR for introduction of NR mobility enhancement [108#34] Intel Corporation draftCR Rel-16 38.331 15.8.0 B NR\_Mob\_enh-Core Withdrawn

### 6.9.2 Reduction in user data interruption during DAPS handover

*Contributions on DAPS handovers for LTE and NR are treated jointly in under 7.3.2. Do not use this AI for any item that can be discussed jointly - This AI only addresses NR-specific topics.*

*Including remaining details (if any) on SDAP handling during DAPS handover.*

### 6.9.3 Conditional handover and fast handover failure recovery

Contributions on conditional handover for LTE and NR are treated jointly under 6.9.3 except where otherwise noted.

No documents should be submitted to 6.9.3. Please submit to 6.9.3.x

#### 6.9.3.1 Conditional handover – configuration and execution details

*This AI jointly addresses NR and LTE.*

*Including outcome of email discussion [108#34][NR Mob] Running RRC CR for CHO and DAPS (Intel)*

*Including RRC and ASN.1 details not handled in email discussions.*

*Including remaining open issues of CHO (as per email discussion [108#66]).*

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponement of some items to next meeting. A web conference may be used for some topics in this agenda item.

By Email

[R2-2000374](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000374.zip) RRC remaining issues for conditional handover configuration vivo discussion Rel-16 NR\_Mob\_enh-Core

[R2-2000375](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000375.zip) Discussion on CHO release vivo discussion Rel-16 NR\_Mob\_enh-Core R2-1914698

[R2-2000444](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000444.zip) On CHO execution triggering with two joint events Futurewei discussion Rel-16 NR\_Mob\_enh-Core

[R2-2000445](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000445.zip) Resource limitation on number of CHO candidates Futurewei discussion Rel-16 NR\_Mob\_enh-Core

[R2-2000464](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000464.zip) Remaining issues on PDCP status report for CHO Intel Corporation discussion Rel-16 LTE\_feMob-Core, NR\_Mob\_enh-Core Withdrawn

[R2-2000468](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000468.zip) "And" events for CHO Intel Corporation discussion Rel-16 LTE\_feMob-Core, NR\_Mob\_enh-Core

[R2-2000592](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000592.zip) Return CHO Configuration Apple discussion Rel-16 NR\_Mob\_enh-Core

[R2-2000653](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000653.zip) On the need of including CHO configuration in HO command OPPO discussion Rel-16 NR\_Mob\_enh-Core

[R2-2000922](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000922.zip) Further consideration on CHO compliance check failure CMCC discussion Rel-16

[R2-2000923](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000923.zip) Combination of CHO and DAPS HO CMCC discussion Rel-16

[R2-2001002](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001002.zip) On reconfigurations when CHO is prepared Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_Mob\_enh-Core R2-1913151

[R2-2001257](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001257.zip) Conventional HO overriding a CHO command ZTE Corporation, Sanechips discussion Rel-16 NR\_Mob\_enh-Core

[R2-2001258](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001258.zip) CHO triggering configuration ZTE Corporation, Sanechips discussion Rel-16 NR\_Mob\_enh-Core

[R2-2001259](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001259.zip) Applicable CHO configuration ZTE Corporation, Sanechips discussion Rel-16 NR\_Mob\_enh-Core

[R2-2001384](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001384.zip) Discussion on configuration aspect for CHO Huawei, HiSilicon, China Telecom discussion Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core R2-1915844

[R2-2001385](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001385.zip) Discussion on remaining issues for CHO Huawei, HiSilicon discussion Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core

[R2-2001534](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001534.zip) Consideration of HO Command including CHO LG Electronics Inc. discussion Rel-16 NR\_Mob\_enh-Core

[R2-2001584](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001584.zip) Further details of CHO configuration and execution China Telecom discussion Rel-16 NR\_Mob\_enh-Core

[R2-2001637](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001637.zip) Remaining issues for CHO execution Samsung R&D Institute UK discussion

[R2-2001651](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001651.zip) Autonomous release of conditional configuration Google Inc. discussion

[R2-2001654](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001654.zip) On the target to configure conditional handover Google Inc. discussion

[R2-2001649](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001649.zip) Discussion on the target to configure CHO Google Inc. discussion

*(moved from 7.3.3)*

[R2-2001650](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001650.zip) Autonomous release of CHO Google Inc. discussion

*(moved from 7.3.3)*

* All of the above documents in this AI are handled in email discussion [212]
* [AT109e][212][MOB] CHO configuration and execution details (Intel)

Scope:

* + - Agreeing on the proposals as per [R2-2002040](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002040.zip).
    - Discuss open items as per [R2-2002040](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002040.zip) to seek companies feedback on open issues of UP for DAPS.

Intended outcome:

* + - Proposals with consensus that can be incorporated (if needed) in the running CR(s) (aim to agree to those over email)
    - List of remaining open issues that need to be pursued in next meeting (if any).
    - Issues that should no longer be pursued

Deadline for providing comments and for rappporteur inputs:

* + - Companies input: Thursday, Feb. 27th 3:00 CET
    - Rapporteur proposals: Friday, Feb. 28th 12:00 CET
    - Comments on proposals: Monday March 2nd by 17:00 CET

R2-2001743 R2-2001728 Report of [AT109e][212][MOB] CHO configuration and execution details (Intel) Intel

* Noted

**Agreements [AT109e][212][MOB]**

* 1:The UE shall autonomously remove measObject(s) only associated to CHO when CHO configuration is autonomously removed;
* 2: consider event satisfies entry condition during TTT as fulfilled and consider event satisfies leaving condition during TTT as not fulfilled. Only both events fulfilled starts CHO. Agree the text proposal shown as below:
* 5: The field cho-ExecutionCond is OPTIONAL, Need S.
* 6: The UE needs to have valid cho-ExecutionCond when CHO configuration is configured.
* 7: CHO (MCG) can work together with MR-DC, i.e. receive CHO when MR-DC is configured, and receive SCG addition when CHO condition is configured.
* 9: Do not introduce CHO candidate cell index for conventional handover;
* 10: Do not change the running CR unless there is clear majority on the new signalling structure ( CHO execution condition shall be defined based on the existing measID+additional a3-Offset or a5-Threshold in CHO-ExecutionCond);
* 11: Do not introduce multiple CHO execution conditions (using “or”) of a single candidate cell;
* 12: Do not introduce measurement results (including beam level results) in HO complete message;
* 13: RRCReject message in resonse to an RRCReconfigurationComplete message for CHO is not allowed;
* 14: Do not introduce serving radio link status information in measurement report;
* 15: Do not introduce return CHO;
* 16: Do not introduce CHO configuration in resume message;
* 18: T312 is not stopped upon the reception of RRC Reconfiguration with cho-Config; Do not need additional change.
* 19: T312 is stopped upon the execution of CHO; Do not need to change specification.
* 20: CHO based RLF failure handling is also applied for RLF caused by the expiry of T312; Do not need to change specification.
* RAN2 assumes that the UE does not apply CHO configuration when a new execution condition is met during HO/CHO. FFS whether and how this can be captured in RRC CR (not done for the CRs submitted to RANP).
* The resolution of following proposals are postponed to next meeting:

*Proposal 3: Only same measurement object is allowed for a candidate cell when 2 trigger events are configured for the execution condition for the candidate cell.*

*Proposal 8: CHO (MCG) configuration contains SCG configuration and clarify in the specification only PCell can be candidate cell.*

The following issues are not explicitly agreed but are assumed to have been all resolved or are not aligned with agreements (can be only revisited if issues are found)

*2.1 Issue 2: [1] raised for A3/A5 combination, whether original agreements “same RS type” for multiple trigger events is still valid or not*

*2.4 Issue 3 [21]: to reverse the agreements, the UE shall not autonomously remove CHO configuration upon successful HO;*

*2.7 [4] raised issue on UE context discard upon successful reestablishment or CHO*

*2.9 [10] UE reports the CHO reconfiguration failure related information to the network side, e.g. the failure indication, the failure target cell ID, the specific failure configuration..*

*2.11 [12] ask RAN2 to define a list of reconfigurations that require and do not require coordination with the target cell. A corresponding signalling is expected to be designed by RAN3*

*2.13 Issue 1: continue the measurement reporting after receiving cho-config [25]*

*2.13 Issue 2: Modification of the measurement configuration in cho-config [25]*

*2.13 Issue 3: Leaving condition based CHO reporting to allow the network to de-configure the CHO candidate(s) [25]*

*2.13 Issue 4: handling when multiple cells meet the execution condition [26]*

*UE should ignore the difference of the measurement results derived from different rsType when more than one candidate cells meet each execution condition*

*The UE should evaluate candidate cells based on the RSRP, when more than one candidate cells meet each CHO execution condition, independent of the trigger quantity configured for them*

*The UE should ignore the number difference between different rsType when evaluates the number of the beam above the threshold if multiple cells meet each CHO execution condition*

*2.3 Issue, whether the restriction on cho-RRCReconfig should be captured in the procedure or as field description*

*2.14 Issue 1: the UE should only derive/update the security keys when conditional handover is being executed;*

*2.15 issue 1: whether CHO is supported for NR-U, and if yes whether introduce a new event based on the channel occupancy;*

#### 6.9.3.2 Conditional handover – failure handling

*This AI jointly addresses NR and LTE.*

*Including open issues and details on CHO failure handling not handled in email discussions*

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponement of some items to next meeting. A web conference may be used for some topics in this agenda item.

By Email

[R2-2000331](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000331.zip) CHO and re-establishment procedure Ericsson discussion NR\_Mob\_enh-Core

[R2-2000376](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000376.zip) Discussion on the CHO during failure handling vivo discussion Rel-16 NR\_Mob\_enh-Core

[R2-2001003](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001003.zip) On T312 in Conditional PSCell change or handover Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_Mob\_enh-Core

[R2-2001105](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001105.zip) Avoid consecutive CHO failure Beijing Xiaomi Software Tech discussion

[R2-2001106](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001106.zip) Discussion on the use case of CHO failure recovery Beijing Xiaomi Software Tech discussion

[R2-2001260](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001260.zip) Discussion on fast RLF recovery when applying CHO and fast MCG recovery ZTE Corporation, Sanechips discussion Rel-16 NR\_Mob\_enh-Core

* All of the above documents in this AI are handled in offline email discussion [213]
* [AT109e][213][MOB] CHO failure handling (Nokia)

Scope:

* + - Agreeing on the proposals as per [R2-2002016](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002016.zip).
    - Discuss open items as per [R2-2002016](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002016.zip) to see if there are any remaining open issues for CHO failure handling.

Intended outcome:

* + - Proposals with consensus that can be incorporated (if needed) in the running CR(s) (aim to agree to those over email)
    - List of remaining open issues that need to be pursued in next meeting (if any).
    - Issues that should no longer be pursued

Deadline for providing comments and for rappporteur inputs:

* + - Companies input: Thursday, Feb. 27th 3:00 CET
    - Rapporteur proposals: Friday, Feb. 28th 12:00 CET
    - Comments on proposals: Monday March 2nd by 17:00 CET

R2-2001742 Report from [AT109e][213][MOB] CHO failure handling Nokia

* Noted

**Agreements [AT109e][213][MOB]**

* 1: Conditional handover procedure after RLF or HOF/CHOF relies on the legacy T304. No need to introduce a new timer.
* 2: Failure recovery via CHO in Rel-16 is applicable only to RLF, Intra-RAT Handover Failure or Intra-RAT Conditional Handover Failure. Procedure for attemptCHO in 5.3.7.3 of TS 38.331 is updated with a condition as shown below
* *1> If the cell selection is triggered by detecting radio link failure of the MCG,  re-configuration with sync failure of the MCG, and*

#### 6.9.3.3 Conditional handover – other aspects

*This AI jointly addresses NR and LTE.*

*Including remaining open issues for measurements for CHO.*

*Including discussion on UE capabilities for CHO.*

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponement of some items to next meeting. A web conference may be used for some topics in this agenda item.

By Email

[R2-2000332](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000332.zip) Other aspects of CHO Ericsson discussion NR\_Mob\_enh-Core

[R2-2000377](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000377.zip) Discussion on simultaneous connectivity in CHO vivo discussion Rel-16 NR\_Mob\_enh-Core R2-1914701

[R2-2000855](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000855.zip) Measurement reporting while CHO is configured PANASONIC R&D Center Germany discussion R2-1915541

[R2-2000899](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000899.zip) Further Discussion on Cell Evaluation for CHO Cell Selection CATT discussion Rel-16 NR\_Mob\_enh-Core

[R2-2000918](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000918.zip) Discussion on CHO for DC scenarios CMCC discussion Rel-16 Revised

[R2-2001004](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001004.zip) On serving cell’s radio link status reporting for CHO preparation Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_Mob\_enh-Core

[R2-2001305](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001305.zip) Timing of Key Derivation in Conditional Handover Futurewei discussion Rel-16 NR\_Mob\_enh-Core

[R2-2001306](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001306.zip) Draft LS on the Timing of AS Key Derivation in Conditional Handover Futurewei discussion Rel-16 NR\_Mob\_enh-Core

[R2-2001386](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001386.zip) Discussion on combination of simultaneous connectivity and CHO Huawei, HiSilicon discussion Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core R2-1915846

[R2-2001535](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001535.zip) T304 Running Issue When CHO Execution LG Electronics Inc. discussion Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core

[R2-2001537](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001537.zip) Measurement ID Handling for CHO and CPC LG Electronics Inc. discussion Rel-16 NR\_Mob\_enh-Core R2-1916205

[R2-2001545](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001545.zip) CHO in NR-U LG Electronics Inc. discussion

[R2-2001553](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001553.zip) Discussion on CHO for DC scenarios CMCC discussion Rel-16 [R2-2000918](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000918.zip)

* All of the above documents in this AI are handled in email discussions
* UE capabilities for CHO are included in email discussion [211], other aspects of CHO are included in email discussion [209].

#### 6.9.3.4 Fast handover failure recovery

This AI only addresses NR.

*Including outcome of email discussion [108#16][NR Mob] T312 for PCell and PSCell (Samsung) and any remaining Stage-3 details of T312 support.*

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponement of some items to next meeting. No web conference is planned for this agenda item.

By Email

[R2-2000652](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000652.zip) Discussion on CHO impact on T312 OPPO discussion Rel-16 NR\_Mob\_enh-Core

[R2-2000928](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000928.zip) T312 handling in NR Sharp discussion

[R2-2001609](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001609.zip) Discussion on T312 support in CHO events Samsung discussion Rel-16 NR\_Mob\_enh-Core

[R2-2001623](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001623.zip) Introduction of T312 for NR PSCell in (NG)EN-DC Samsung CR Rel-16 36.331 15.8.0 4227 - B NR\_Mob\_enh-Core

* All of the above documents in this AI are handled in email discussion [214]
* [AT109e][214][NR MOB] Finalization of T312 for fast handover failure recovery (Samsung)

Scope:

* + - Agreeing on the proposals as per [R2-2002070](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002070.zip).
    - Discuss open items as per [R2-2002070](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002070.zip) to seek companies feedback on open issues NR T312.

Intended outcome:

* + - Proposals with consensus that can be incorporated (if needed) in the running CR(s) (aim to agree to those over email)
    - List of remaining open issues that need to be pursued in next meeting (if any).
    - Issues that should no longer be pursued

Deadline for providing comments and for rappporteur inputs:

* + - Companies input: Thursday, Feb. 27th 3:00 CET
    - Rapporteur proposals: Friday, Feb. 28th 12:00 CET
    - Comments on proposals’ wording, Monday March 2nd by 17:00 CET

R2-2002187 Offline discussion 214: Fast handover failure recovery Samsung

* Conclusion:

Proposal#1: Proposals in [[R2-2000928](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000928.zip)] is agreeable to all companies.

Proposal#2: Agree Alt 1 from [[R2-2001623](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001623.zip)]

* Noted

**Agreements [AT109e][214][MOB]**

* =>The CR in R2-2002188 is endorsed and will be captured in LTE RRC CR for NR mobility in email discussion [221].

#### 6.9.3.5 Conditional handover - beam specific aspects

This AI only addresses NR.

Including *discussion on beam-related aspects for CHO. No new proposals should be provided, and any contributions should provide TPs illustrating the required Stage-3 specification changes.*

#### 6.9.3.6 Summary documents for conditional handover and fast handover failure recovery

Summary documents for Ais 6.9.3.1, 6.9.3.2, 6.9.3.3, 6.9.3.4 and 6.9.3.5 should be submitted under this AI.

Summary document of 6.9.3.1 to be provided by Intel.

Summary document of 6.9.3.2 to be provided by Nokia.

Summary document of 6.9.3.3 to be provided by Intel.

Summary document of 6.9.3.4 to be provided by Samsung.

No summary document of 6.9.3.5 is provided in absence of contributions.

[R2-2002040](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002040.zip) Summary of CHO in AI 6.9.3.1 and 6.9.3.3 Intel discussion Rel-16 LTE\_feMob-Core, NR\_Mob\_enh-Core

* Noted

**Proposals in summary document:**

*Agreements proposed to be agreed in this meeting (from all sub-topics)*

*Proposal S4\_1::The UE shall autonomously remove measObject(s) only associated to CHO upon suspend/release, CHO/HO execution and re-establishment;*

*Open items proposed to be further discussed in this meeting (from all sub-topics)*

*DISC S1\_1:For “and” condition, further discussion on which option should be selected, Option A, B, C, D or E.*

*DISC S1\_2:Further discussion on whether different measurement object in A3+A5 combination is supported or not.*

*DISC S2\_1:To discuss whether the UE shall stop the evaluating the execution condition during legacy HO/CHO. Or the UE shall not apply CHO configuration when a new execution condition is met during HO/CHO;*

*DISC S3\_2: to discuss whether the cho-ExecutionCond is also OPTIONAL, Need S?*

*DISC S3\_3: should we allow CHO configuration without cho-ExecutionCond?*

*DISC S5\_1: to discuss whether CHO (MCG) can work together with MR-DC, i.e. receive CHO when MR-DC is configured, and receive SCG addition WHEN CHO condition is configured;*

*DISC S5\_2:To discuss whether CHO (MCG) configuration can contain SCG configuration or not; If yes, we need to clarify only Pcell can be candidate cell.*

*Issues to be covered by other email discusions and should be treated based on email discussion report:*

*Proposal 2-1: CHO+legacy HO command should be discussed based on email discussion 108#66;*

*Proposal 4-1: Handling of measID/reportConfig when the CHO configurations are autonomously released by the UE should be discussed based on email discussion 108#66;*

*Proposal 5-1: CHO+CPC should be discussed based on email discussion 108#67;*

*Proposal 8-1: The maximum candidate cells should be discussed based on email discussion 108#66;*

*Proposal 10-1: The support of CHO+DAPS should be discussed based on email discussion 108#66;*

*Proposal 12-1: The support of CHO+T312 should be discussed based on email discussion 108#66;*

*Rel-16 Mob can work without these optimization, and proposed not be treated* *in this meeting:*

*Optimization S16\_1:Discuss whether signalling optimization on legacy HO command is needed or not based on the solution if the network wants to trigger a conventional handover to one of the configured CHO candidate cells, one target cell indication (e.g. candidate cell index) can be included in the conventional HO command to trigger the CHO execution of the indicated candidate cell.*

*Optimization S16\_2:Discuss whether CHO execution condition is defined based on the existing measID+additional a3-Offset or a5-Threshold in CHO-ExecutionCond, i.e. we do not need to introduce cho-trigger event in reportConfig.*

*Optimization S16\_3:Discuss whether multiple CHO execution condition (using or) of a single candidate cell is allowed.*

*Optimization S16\_4:Discuss whether introduce measurements results (including beam level results) in HO complete message.*

*Optimization S16\_5:Discuss whether an RRCReject is allowed in response to an RRCReconfigurationComplete upon CHO execution.*

*Optimization S16\_6:Discuss whether add serving radio link status information in measurement report.*

*Optimization S16\_7:Discuss whether return CHO is supported or not;*

*Optimization S16\_8:To discuss whether CHO can be configured in the resume message;*

*Open items proposed not be treated:*

*2.1 Issue 2: [1] raised for A3/A5 combination, whether original agreements “same RS type” for multiple trigger events is still valid or not*

*2.4 Issue 3 [21]: to reverse the agreements, the UE shall not autonomously remove CHO configuration upon successful HO;*

*2.7 [4] raised issue on UE context discard upon successful reestablishment or CHO*

*2.9 [10] UE reports the CHO reconfiguration failure related information to the network side, e.g. the failure indication, the failure target cell ID, the specific failure configuration..*

*2.11 [12] ask RAN2 to define a list of reconfigurations that require and do not require coordination with the target cell. A corresponding signalling is expected to be designed by RAN3*

*2.13 Issue 1: continue the measurement reporting after receiving cho-config [25]*

*2.13 Issue 2: Modification of the measurement configuration in cho-config [25]*

*2.13 Issue 3: Leaving condition based CHO reporting to allow the network to de-configure the CHO candidate(s) [25]*

*2.13 Issue 4: handling when multiple cells meet the execution condition [26]*

*UE should ignore the difference of the measurement results derived from different rsType when more than one candidate cells meet each execution condition*

*The UE should evaluate candidate cells based on the RSRP, when more than one candidate cells meet each CHO execution condition, independent of the trigger quantity configured for them*

*The UE should ignore the number difference between different rsType when evaluates the number of the beam above the threshold if multiple cells meet each CHO execution condition*

*2.3 Issue, whether the restriction on cho-RRCReconfig should be captured in the procedure or as field description*

*2.14 Issue 1: the UE should only derive/update the security keys when conditional handover is being executed;*

*2.15 issue 1: whether CHO is supported for NR-U, and if yes whether introduce a new event based on the channel occupancy;*

[R2-2002016](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002016.zip) CHO failure handling Nokia discussion Rel-16 NR\_Mob\_enh-Core

* Noted

**Proposals in summary document:**

*Agreements proposed to be agreed in this meeting (from all sub-topics)*

*Proposal S2\_1: Do not introduce a new timer to control the conditional handover procedure after RLF or HOF/CHOF.*

*Proposal S4\_1: Ensure DataInactivityTimer is stopped when CHO execution is triggered. Check whether the existing RRC CR needs to be updated accordingly.*

*Proposal S5\_1: Do not consider in Rel-16 additional scenarios where failure recovery via CHO can be applied.*

*Open items proposed to be further discussed in this meeting (from all sub-topics)*

*DISC S6\_1: Discuss further which solution shall be chosen in case of PCell’s failure when both recovery via CHO and fast MCG recovery are configured.*

[R2-2002070](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002070.zip) Summary of AI 6.9.3.4 (Fast handover failure recovery) Samsung discussion Rel-16 NR\_Mob\_enh-Core

* Noted

**Proposals in summary document:**

*Recommended Proposal#1: RAN2 is requested to agree the proposals in [*[*R2-2000928*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000928.zip)*] and adopt in running CR the proposed TP.*

*Recommended Proposal#2: RAN2 is requested to quickly check the two alternatives proposed in [*[*R2-2001623*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001623.zip)*] and agree one of them.*

*Recommended Proposal#3: RAN2 is requested to discuss the two proposals in [*[*R2-2001609*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001609.zip)*].*

*Open items proposed to be further discussed in this meeting*

*DISC S1\_1: Whether configuration of T312 in the CHO event configuration is allowed? If allowed, then the trigger condition to start T312.*

### 6.9.4 Conditional PSCell addition/change

No documents should be submitted to 6.9.4. Please submit to 6.9.4.x

#### 6.9.4.1 Conditional PSCell change for intra-SN

*Including outcome of email discussion [108#67][NR Mob] Resolving open issues in CPAC and creating TP (CATT). Including remaining details of SN-initiated procedures (other cases are not considered in Rel-16).*

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponement of some items to next meeting. No web conference is planned for this agenda item.

By Web Conf

[R2-2000900](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000900.zip) Report on email discussion [108#67][NR Mob] Resolving open issues in CPAC and creating TP (CATT) CATT discussion Rel-16 NR\_Mob\_enh-Core

=> Revised in [R2-2002089](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002089.zip)

[R2-2002089](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002089.zip) Report on email discussion [108#67][NR Mob] Resolving open issues in CPAC and creating TP (CATT) CATT discussion Rel-16 NR\_Mob\_enh-Core

Discussion

P5:

* Nokia has concerns on this as MN should know. CATT clarifies that in offline discussion this has been discussed and there are still comments so it could be also considered later.

P4:

* Futurewei has some concenrs on this. Could also fall back to source. CATT clarifies that this follows the legacy procedures. LGE and Nokia also agree. Nokia thinks the open issue is in the content of SCG failure message. Futurewei thinks procedures should still allow trying for new target.

P7

* LGE thinks CPC cannot use all the same IEs, such as triggering time.

**Agreements (3.3.2020)**

1) Similar to CHO, the following applies to CPC-intra-SN configuration

- Reuse the RRCReconfiguration/RRCConnectionReconfiguration procedure to signal CPC-intra-SN configuration to UE.

- The MN is not allowed to alter any content of the configuration from the SN which is carried in an RRC container.

- Multiple candidate PSCells can be sent in either one or multiple RRC messages.

- Use add/mod list + release list to configure multiple candidate PSCells.

- CPC-intra-SN execution condition and/or candidate PSCell configuration can be updated by the SN (i.e. by modifying the existing CPC-intra-SN configuration).

2) Once the CPC-intra-SN procedure is executed successfully, the UE releases all CPC-intra-SN configurations stored on the UE side.

3) Upon the successful completion of conventional PSCell change procedure, the UE releases all CPC-intra –SN configurations.

4) The SCG failure information procedure can be used for CPC-intra-SN procedure failure (due to RLF, T304-like timer expiry or compliance check failure).

6) If SRB3 is not configured, the UE first informs the MN that the message has been received. Then the UE needs to provide the CPC complete message to the SN via the MN upon CPC execution.

7) CPC reuses the IE defined for CHO. The field name of the IE could be changed to reflect that the IE is used for both CHO and CPC.

* P4: FFS on SCG failure reporting contents. Discuss CPC failure separately.
* P7: The details of the signalling can be discussed and there can be some differences.

FFS: 5) In case of SRB3, the MN is not informed of CPC-intra-SN execution by the UE.

*B). Need further discussions*

*1) RLF on PCell: In case of RLF on PCell during the execution of CPC-intra-SN, same operation applies as for conventional PSCell change, i.e. The UE stops the ongoing CPC-intra-SN procedure even if the UE supports fast MCG recovery and the UE performs RRC reestablishment procedure.*

*2). Reception of RRC messages from the MN: to discuss on how to handle RRC message reception from the MN while CPC-intra-SN is executed:*

*Option 1: While executing CPC procedure, the UE continues to receive and process RRC reconfiguration from the MN. If received during the CPC execution, the UE stops the ongoing CPC procedure if the UE receives*

*- 1). PCell change*

*- 2). Conventional PSCell change*

*- 3). SCG release*

*Option 2: While executing CPC procedure, the UE continues to receive RRC reconfiguration from the MN. However, the UE should finalise the ongoing CPC execution before processing the RRC message received from the MN.*

*Option 3: The same UE behaviour as in the conventional PSCell change i.e. no specific UE requirement.*

*3). Simultaneous support of CHO and CPC: support of CHO and CPC-intra-SN configuration simultaneously is not considered in Rel-16 due to limited time.*

*4). FFS on message formatting on how to provide the CPC complete message to the SN via the MN upon CPC execution (when SRB1 is used for CPC configuration).*

*Option 1: In both cases (at the reception of CPC configuration and upon the execution of CPC procedure) the complete message to MN includes an embedded complete message to the SN.*

*Option 2: only the complete message exchanged via SRB1 at CPC execution includes an embedded message to the SN.*

By Email

[R2-2000446](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000446.zip) Failure and validation handling on intra-SN CPC Futurewei discussion Rel-16 NR\_Mob\_enh-Core

[R2-2000447](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000447.zip) Fast Pcell RLF recovery during intra-SN CPC Futurewei discussion Rel-16 NR\_Mob\_enh-Core

[R2-2000554](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000554.zip) Remaining Issues and TP on Simultaneous CHO and CPC Configurations InterDigital discussion Rel-16 NR\_Mob\_enh-Core

[R2-2000560](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000560.zip) Failure Recovery for Conditional Pscell change Nokia, Nokia Shanghai Bell discussion Rel-16

[R2-2000606](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000606.zip) Discussion on open issues in PSCell change Apple discussion Rel-16 NR\_Mob\_enh-Core

[R2-2001005](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001005.zip) On MN-initiated reconfigurations during conditional PSCell change Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_Mob\_enh-Core

[R2-2001006](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001006.zip) On informing the MN about CPC execution Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_Mob\_enh-Core

[R2-2001007](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001007.zip) On avoiding simultaneous CHO and CPC Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_Mob\_enh-Core

[R2-2001008](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001008.zip) Draft LS on avoiding simultaneous CHO and CPC Nokia, Nokia Shanghai Bell LS out Rel-16 NR\_Mob\_enh-Core To:RAN WG3

[R2-2001103](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001103.zip) Remaining issues for CPC-intra-SN in NR Potevio Company Limited discussion Rel-16 NR\_Mob\_enh-Core

[R2-2001150](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001150.zip) Remaining issues on failure handling for conditional PSCell change Qualcomm Incorporated discussion

[R2-2001151](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001151.zip) Remaining issues on RRC message handling for conditional PSCell change Qualcomm Incorporated discussion

[R2-2001163](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001163.zip) Remaining issues concerning conditional change (mostly PSCell) Samsung Telecommunications discussion Rel-16 NR\_Mob\_enh-Core

[R2-2001387](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001387.zip) Discussion on leftovers for CPAC Huawei, HiSilicon discussion Rel-16 NR\_Mob\_enh-Core

[R2-2001388](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001388.zip) Discussion on failure handling for MR-DC for CHO Huawei, HiSilicon discussion Rel-16 NR\_Mob\_enh-Core

[R2-2001536](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001536.zip) Transaction ID Issue in CPC LG Electronics Inc. discussion Rel-16 NR\_Mob\_enh-Core

[R2-2001538](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001538.zip) Consideration of SCG failure with CPC LG Electronics Inc. discussion Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core R2-1916207

[R2-2000333](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000333.zip) Remaining open issues for conditional PSCell change Ericsson discussion Rel-16 NR\_Mob\_enh-Core

*(moved from 6.9.4)*

* All of the above documents in this AI are handled in email discussion [215]
* [AT109e][215][NR MOB] Finalization of CPC and discussing remaining open issues (CATT)

Scope:

* + - Agreeing on the proposals as per [R2-2000901](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000901.zip) (as much as possible).
    - Discuss open items as per [R2-2000901](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000901.zip) to seek companies feedback on open issues for CPC.

Intended outcome:

* + - Proposals with consensus that can be incorporated (if needed) in the running CR(s) (aim to agree to those over email)
    - List of remaining open issues that need to be pursued in next meeting (if any).
    - Issues that should no longer be pursued

Deadline for providing comments:

* + - Companies input: Thursday, Feb. 27th 3:00 CET
    - Rapporteur proposals: Friday, Feb. 28th 12:00 CET
    - Comments on proposals’ wording, Monday March 2nd by 17:00 CET

[R2-2001747](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001747.zip) Report of [AT109e][212][MOB] CHO configuration and execution details (Intel) CATT

* Most proposals treated online (3.3.2020)

**Proposals from offline email discussion [215]:**

Agreements proposed to be agreed in this meeting (easy agreements)

Proposals from 108#67[2]:

*1) Similar to CHO, the following applies to CPC-intra-SN configuration*

*- Reuse the RRCReconfiguration/RRCConnectionReconfiguration procedure to signal CPC-intra-SN configuration to UE.*

*- The MN is not allowed to alter any content of the configuration from the SN which is carried in an RRC container.*

*- Multiple candidate PSCells can be sent in either one or multiple RRC messages.*

*- Use add/mod list + release list to configure multiple candidate PSCells.*

*- CPC-intra-SN execution condition and/or candidate PSCell configuration can be updated by the SN (i.e. by modifying the existing CPC-intra-SN configuration).*

*2) Once the CPC-intra-SN procedure is executed successfully, the UE releases all CPC-intra-SN configurations stored on the UE side.*

*3) Upon the successful completion of conventional PSCell change procedure, the UE releases all CPC-intra –SN configurations.*

*4) The SCG failure information procedure can be used for CPC-intra-SN procedure failure (due to RLF, T304-like timer expiry or compliance check failure).*

*5) In case of SRB3, the MN is not informed of CPC-intra-SN execution by the UE.*

*6) If SRB3 is not configured, the UE first informs the MN that the message has been received. Then the UE needs to provide the CPC complete message to the SN via the MN upon CPC execution.*

*7) CPC reuses the IE defined for CHO. The field name of the IE could be changed to reflect that the IE is used for both CHO and CPC.*

**Agreements (3.3.2020)**

Proposals from offline discussion [AT1092] [215]:

S1\_1: While executing CPC procedure, the UE continues to receive RRC reconfiguration from the MN. However, the UE should finalise the ongoing CPC execution before processing the RRC message received from the MN (same as in the conventional PSCell change). i.e. legacy behaviour and no specific UE requirement.

S1\_2: As in legacy PSCell change, the UE sends RRCReconfigurationComplete to the MN at execution of CPC when no SRB3 is configured and the MN informs the SN. i.e the complete message to MN includes an embedded complete message to the SN.

S1\_3: The UE sends RRCReconfigurationComplete to the MN at configuration of CPC when no SRB3 is configured and the MN informs the SN. i.e. the complete message to the MN includes an embedded complete message to the SN.

S1\_5:

* Nokia wonders if we should inform RAN3 about this decision since they are not working on CPC anymore. Intel agrees.
* Ericsson thinks this LS is not needed. RAN3 can read our agreements. Nokia thinks we don’t normally assume this but send an LS.
* Samsung thinks having UE requirement is not needed.

**Agreements (3.3.2020)**

S1\_4. Upon RLF on PCell during the execution of Conditional PSCell change for intra-SN change without MN involvement, the UE supports the Rel-16 MR-DC procedures, i.e. performs connection re-establishment procedure without any fast MCG link recovery.

S1\_5: Support of CHO and CPC-intra-SN configuration simultaneously is not considered in Rel-16. Leave it up to the network solution to ensure there is no simultaneous CHO and CPC configuration.

S2\_6: Reconfirm the use of SCG failure information upon declaring SCG failure in the procedure of the conditional PSCell change.

* S1\_5: UE may treat this as an error case (and trigger re-establishment). We do not specify UE behaviour but will specify that if CHO is configured, network should not configure CPC.
* Up to RAN3 howto ensure no simultaneous CHO+CPC (e.g. OAM, etc.).
* RAN2 assumes this issue can be raised by companies in RAN3.
* Chair will ask RAN3 chair if this would require LS (assumption is no).

S3\_11/12:

* OPPO wonders if we have the same agreement for CHO that UE checks the validity immedaitely. CATT thinks both of the proposals go together.
* Samsung thinks that if we send Complete-message, we also check the compliance of both parts. So embedded message is only sent if the compliance is checked. Nokia agrees but could align with CHO. Intel thinks there is no real problem as re-establishment will occur if the SN configuration is invalid. Ericsson agrees and thinks the compliance is for the source part.

Agreements (3.3.2020)

S2\_7. When the conditional PSCell configuration received over SRB3 is invalid, UE initiates SCG failure information procedure to report to the MN about the SN change failure due to invalid configuration (legacy procedure).

S2\_9. Like CHO, UE shall follow the below procedures for handling the T310 and T304 timers during conditional PSCell addition/change procedure for EN-DC, NGEN-DC, NR-DC cases:

• UE shall not stop MN T310 or SN T310 and shall not start T304 when it receives configuration of a CPC-intra-SN

• The timer T310 (SN only in case of SN Change) is stopped and timer T304-like is started when the UE begins execution of a CPC-intra-SN.

S3\_11. UE checks the validity of conditional PSCell change execution criteria configuration immediately on receiving the conditional PSCell change RRC Reconfiguration message, either embedded in the MN RRC message over SRB1 or received over SRB3 (same as CHO).

S3\_12. Introduce no specification changes regarding compliance checking of embedded Reconfiguration message containing configuration of conditional PSCell candidate (same as for CHO).

* S3\_11: Change execution criteria refers to the measID used for triggering CPC.

Discussion

S2\_8

* FW prefers option 2 since PCell connection may still be good so re-establishment is not needed. That would cause service interruption. vivo thinks MCG+SCG configuration exceeds UE capabilities, so error could be from MN or SN so it’s better to use option 1.
* Intel thinks we consider this as network error so don’t need to optimize for such rare cases. It also aligns with MR-DC error handling. Nokia, Samsung and QC agree.

Open items proposed to be further discussed in this meeting from offline discussion[AT1092] [215]:

*S2\_8). Discuss the UE behaviour when the conditional PSCell configuration received over SRB1 is invalid, i.e. UE cannot comply with the embedded PSCell configuration for intra-SN Change,*

*Option 1: UE performs connection re-establishment procedure or actions upon going to RRC\_IDLE (legacy procedure).*

*Option 2: UE performs SCG failure information, like in SRB3 case*

* Agree to the option 1

**Agreements (3.3.2020)**

S2\_8. If UE cannot comply with the embedded PSCell configuration for intra-SN Change, UE performs connection re-establishment procedure or actions upon going to RRC\_IDLE (legacy procedure).

* The following open issues are postponed to next meeting:

*S3\_14: discuss whether the UE should stop evaluating the measId associated with the CPC, after sending SCG failure information.*

*S3\_10: The UE shall inform the MN when CPC execution condition is fulfilled and the UE starts executing CPC, irrespective whether SRB3 is configured or not.*

*S3\_15: When CPC-intra-SN is configured, if the UE is failed to access a candidate PSCell, the UE need not suspend SCG transmission for all SRBs and DRB, and reset SCG MAC.*

*S3\_16: During the CPC-intra-SN execution on a candidate PSCell, the UE continues the measurement configured for CPC-intra-SN target selection and execution.*

*S3\_18: For CPAC failure report, the SCG failure information message including the ID(s) of CPC execution failed cell(s).*

*S3\_19: If there is no SRB3, the UE sends an RRC message via SRB1 to inform the SN of CPC execution, and the RRC message doesn’t need to set transaction Id for responding to MN e.g. ULInformationTransferMRDC.*

* The following issues are not going to be discussed during Rel-16 work.

*S3\_13: postpone discussion to future release on whether a threshold parameter should be added to determine PCell quality and CPC is performed only when the Pcell quality is above the configured threshold.*

*S3\_17: postpone discussion to future release on whether the UE need not report the failure information of the first failed target PSCell, if access to one target PSCell failed and there is another qualified target PSCell for the UE to perform CPC right way.*

* The agreements wil be incorporated into baseline CRs in offline email discussion [217]
* [AT109e][217][NR MOB] Finalization of CPC and discussion on CRs (CATT)

Scope:

* + - Agreeing to baseline CR(s) for CPC functionality based on latest agreements
    - Capture the agreements from discussion 215 to CR

Intended outcome:

* + - Baseline CPC CR(s)
    - Agreeable CR(s) capturing the Rel-16 CPC feature

Deadline for providing comments:

* + - Companies input: Thursday, Feb. 27th 8:00 CET
    - Revised CR: Friday, Feb. 28th 12:00 CET
    - Incorporating agreements from the email discussion 215: Tuesday March 3rd by 17:00 CET
* The agreements wil be incorporated into baseline CRs in offline email discussion [217]

*(moved from 6.9.4.1)*

* Revised in R2-2002248

[R2-2002248](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001043.zip) Stage-3 CR for Conditional PSCell Change for intra-SN without MN involvement CATT CR Rel-16 38.331 15.8.0 1470 1 B NR\_Mob\_enh-Core R2-2001043

*(moved from 6.9.4.1)*

* Revised in R2-2001757

[R2-2001757](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001043.zip) Stage-3 CR for Conditional PSCell Change for intra-SN without MN involvement CATT CR Rel-16 38.331 15.8.0 1470 2 B NR\_Mob\_enh-Core R2-2002248

*(moved from 6.9.4.1)*

* Endorsed as outcome of offline email discussion [217]

*(moved from 6.9.4.1)*

* Revised in R2-2002237

[R2-2002237](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001044.zip) Stage-2 CR for Conditional PSCell Change for intra-SN without MN involvement CATT CR Rel-16 37.340 16.0.0 0181 1 B NR\_Mob\_enh-Core R2-2001044

* Revised in R2-2002237 -> R2-2001756 (CR#0181 rev2)

[R2-2001756](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001044.zip) Stage-2 CR for Conditional PSCell Change for intra-SN without MN involvement CATT CR Rel-16 37.340 16.0.0 0181 2 B NR\_Mob\_enh-Core R2-2002237

*(moved from 6.9.4.1)*

* Endorsed as outcome of offline email discussion [217]

*(moved from 6.9.4.1)*

* Revised in R2-2001758

[R2-2001758](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001045.zip) Stage-3 CR for Conditional PSCell Change for intra-SN without MN involvement CATT CR Rel-16 36.331 15.8.0 4203 1 B NR\_Mob\_enh-Core **R2-200175**8

* Endorsed as outcome of offline email discussion [217]

#### 6.9.4.2 Summary documents for conditional handover and fast handover failure recovery

The summary document for AI 6.9.4.1 should be submitted under this AI.

Summary document of 6.9.4.2 to be provided by NN.

[R2-2000901](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000901.zip) Summary document for conditional PSCell change for Intra-SN CATT discussion Rel-16 NR\_Mob\_enh-Core Late

* Noted

Proposals in summary document:

***Agreements proposed to be agreed in this meeting (easy agreements)***

*S1\_1: While executing CPC procedure, the UE continues to receive RRC reconfiguration from the MN. However, the UE should finalise the ongoing CPC execution before processing the RRC message received from the MN (same as in the conventional PSCell change). i.e. legacy behaviour and no specific UE requirement.*

*S1\_2: As in legacy PSCell change, the UE sends RRCReconfigurationComplete to the MN at execution of CPC when no SRB3 is configured and the MN informs the SN. i.e the complete message to MN includes an embedded complete message to the SN.*

*S1\_4. Upon RLF on PCell during the execution of Conditional PScell change for intra-SN change without MN involvement, the UE supports the Rel-16 MR-DC procedures, i.e. performs connection re-establishment procedure without any fast MCG link recovery,*

*S3\_11. UE checks the validity of conditional PSCell change execution criteria configuration immediately on receiving the conditional PSCell change RRC Reconfiguration message, either embedded in the MN RRC message over SRB1 or received over SRB3 (same as CHO).*

*S3\_12. Introduce no specification changes regarding compliance checking of embedded Reconfiguration message containing configuration of conditional PSCell candidate (same as for CHO).*

***Open items proposed to be further discussed in this meeting***

*S1\_3: Discuss message formatting for RRCReconfigurationComplete to the MN at configuration of CPC when no SRB3 is configured.*

* *Option 1: the complete message to MN includes an embedded complete message to the SN .*
* *Option 2: the complete message to MN does not include an embedded complete message to the SN.*

*S1\_5: Discuss how to handle the simultaneous CHO and CPC configurations.*

*Option 1: Leave it up to the network implementation (OAM) to ensure there is no simultaneous CHO and CPC configurations (majority opinion from the email discussion 108#67).*

*Option 2: Let RAN3 to consider a simple per UE based solution to ensure there is no simultaneous CHO and CPC configurations.*

*Option 3: Specify UE behaviour such that the UE should prioritise CHO over CPC configuration at the UE.*

*S2\_6: Reconfirm the use of SCG failure information upon declaring SCG failure in the procedure of the conditional PSCell change.*

*S2\_7. When the conditional PSCell configuration received over SRB3 is invalid, UE initiates SCG failure information procedure to report to the MN about the SN change failure due to invalid configuration (legacy procedure).*

*S2\_8). When the conditional PSCell configuration received over SRB1 is invalid, i.e. UE cannot comply with the embedded PSCell configuration for intra-SN Change, UE performs connection re-establishment procedure or actions upon going to RRC\_IDLE (legacy procedure).*

*S2\_9. Like CHO, UE shall follow the below procedures for handling the T310 and T304 timers during conditional PSCell addition/change procedure for EN-DC, NGEN-DC, NR-DC cases:*

1. *UE shall not stop MN T310 or SN T310 and shall not start T304 when it receives configuration of a CPC-intra-SN*
2. *The timer T310 (SN only in case of SN Change) is stopped and timer T304-like is started when the UE begins execution of a CPC-intra-SN.*

***Open items can be discussed later***

*S3\_10: The UE shall inform the MN when CPC execution condition is fulfilled and the UE starts executing CPC, irrespective whether SRB3 is configured or not.*

*S3\_13: a threshold parameter is added to determine PCell quality and CPC is performed only when the PCell quality is above the configured threshold.*

*S3\_14: After sending SCG failure information, the UE stop evaluating the measId associated with the CPC.*

*S3\_15: When CPC-intra-SN is configured, if the UE is failed to access a candidate PSCell, the UE need not suspend SCG transmission for all SRBs and DRB, and reset SCG MAC.*

*S3\_16: During the CPC-intra-SN execution on a candidate PSCell, the UE continues the measurement configured for CPC-intra-SN target selection and execution.*

*S3\_17: If access to one target PSCell failed and there is another qualified target PSCell for the UE to perform CPAC right way, the UE need not report the failure information of the first failed target PSCell.*

*S3\_18: For CPAC failure report, the SCG failure information message including the ID(s) of CPAC execution failed cell(s).*

*S3\_19: If there is no SRB3, the UE sends an RRC message via SRB1 to inform the SN of CPC execution, and the RRC message doesn’t need to set transaction Id for responding to MN e.g. ULInformationTransferMRDC.*

***Related to capturing in RRC***

*S4\_20: To reflect that SPCell change is the only supported use case, adopt the name CondSPCellChange and also reflect in field names that configuration concerns a list of SPCell candidates:*

*S4\_21: Clarify that network includes reconfigurationWithSync/ mobilityControlInfo in the container comprising the conditional SPCell configuration*

*S4\_22: On the radio interface, do not distinguish whether candidate concerns PCell or PSCell. Distinguish PCell or PSCell candidates within the variables in order to simplify the procedural specification.*

## 7.3 Even further mobility enhancement in E-UTRAN

(LTE\_feMob-Core; leading WG: RAN2; REL-16; started: Jun 18; target; Mar 20; WID: [RP-190921](file:///C:\Data\3GPP\TSGR\TSGR_84\docs\RP-190921.zip))

Tdoc Limitation: see 6.9 above.

No documents should be submitted to 6.9.

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponement of some items to next meeting. A web conference may be used for this agenda.

A web conference may be used for handling some of the discussions in this WID.

### 7.3.1 Organizational

Including incoming LSs and rapporteur inputs (if any)

*Including outcome of email discussion [108#63][LTE Mob] Running Stage-2 CR (China Telecom)*

*Including DAPS part of the outcome of email discussion [108#66][LTE NR Mob] Open issues for LTE and NR mobility (Intel)*

Including LTE part of the outcome of email discussion [108#45][LTE NR Mob] UE feature list for LTE and NR mobility (Intel).

A web conference is planned for this agenda item.

Noted

[R2-2000024](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000024.zip) Reply LS on uplink TDM pattern for LTE DAPS based enhanced make-before-break HO (R1-1913686; contact: Intel) RAN1 LS in Rel-16 LTE\_feMob-Core To:RAN2 Cc:RAN3, RAN4

* Not flagged
* Noted

By Web Conf

*The follwowing are expected to be handled via web conference:*

*RRC running CR for LTE mobility (outcome of 108#35):*

[R2-2001129](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001129.zip) Introduction of Even futher Mobility enhancement in E-UTRAN Ericsson India Private Limited CR Rel-16 36.331 15.8.0 4205 - B LTE\_feMob-Core

* Endorsed as running CR

*Stage-2 running CR for LTE mobility (outcome of 108#63):*

[R2-2001653](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001653.zip) 36300 CR for LTE feMob ChinaTelecom CR Rel-16 36.300 16.0.0 1270 - B LTE\_feMob

* Endorsed as running CR

*UE feature list for LTE mobility WID (for report of 108#45, see NR mobility WID):*

[R2-2001473](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001473.zip) UE Capability for Rel-16 LTE even further mobility enhancement Intel Corporation CR Rel-16 36.306 15.7.0 1742 - B LTE\_feMob-Core

*(moved from 6.9.1)*

* Noted (not discussed online), discussed as part of offline email discussion [211].

CR finalization

* [AT109e][220][LTE MOB] Stage-2 CR (China Telecom)

Intended outcome: Agreed 36.300 CR for NR mobility

Deadline for companies' feedback on the CR: Wednesday 2020-03-04 12:00 CET

Deadline for rapporteur's version for agreement (only essential corrections allowed after this): Friday 2020-03-05 12:00 CET

Final Deadline for CR to be submitted to RANP: Friday 2020-03-06 10:00 CET

* Final CR can be provided in [R2-2001752](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001752.zip)
* [AT109e][221][LTE MOB] RRC CR (Ericsson)

Intended outcome: Agreed 36.331 CR for LTE mobility

Deadline for companies' feedback on the CR: Wednesday 2020-03-04 12:00 CET

Deadline for rapporteur's version for agreement (only essential corrections allowed after this): Friday 2020-03-05 12:00 CET

Final Deadline for CR to be submitted to RANP: Friday 2020-03-06 10:00 CET

* Final CR can be provided in [R2-2001753](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001753.zip)
* [AT109e][222][MOB] PDCP CRs for LTE and NR (Huawei)

Intended outcome: Agreed 36.323 and 38.323 CR for LTE and NR mobility

Deadline for companies' feedback on the CR: Wednesday 2020-03-04 12:00 CET

Deadline for rapporteur's version for agreement (only essential corrections allowed after this): Friday 2020-03-05 12:00 CET

Final Deadline for CR to be submitted to RANP: Friday 2020-03-06 10:00 CET

* Final CRs can be provided in [R2-2001750](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001750.zip) (NR) and [R2-2001754](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001754.zip) (LTE)
* [AT109e][223][MOB] MAC CRs for LTE and NR (vivo)

Intended outcome: Agreed 36.321 and 38.321 CR for LTE and NR mobility

Deadline for companies' feedback on the CR: Wednesday 2020-03-04 12:00 CET

Deadline for rapporteur's version for agreement (only essential corrections allowed after this): Friday 2020-03-05 12:00 CET

Final Deadline for CR to be submitted to RANP: Friday 2020-03-06 10:00 CET

* Final CRs can be provided in [R2-2001751](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001751.zip) (NR) and [R2-2001755](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001755.zip) (LTE)

*Withdrawn:*

[R2-2001579](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001579.zip) Running 36300 CR for LTE feMob ChinaTelecom draftCR Rel-16 36.300 16.0.0 B LTE\_feMob Withdrawn

[R2-2000334](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000334.zip) Running CR for Introduction of Even futher Mobility enhancement in E-UTRAN Ericsson draftCR Rel-16 36.331 15.8.0 LTE\_feMob-Core Withdrawn

### 7.3.2 Reduction in user data interruption for dual active protocol stack (DAPS) handover

DAPS handovers for LTE and NR are treated jointly in under this AI.

No documents should be submitted to 7.3.2. Please submit to 7.3.2.x.

#### 7.3.2.1 User plane aspects of DAPS HO

No documents should be submitted to 7.3.2.1. Please submit to 7.3.2.1.x.

##### 7.3.2.1.1 PDCP/RLC aspects of DAPS HO

DAPS impacts to PDCP/RLC for LTE and NR are treated jointly under this AI. SDAP-specific aspects should be submitted to 6.9.2.

*Including the outcome of email discussion [108#64][LTE NR Mob] Running CRs for LTE and NR PDCP on mobility (Huawei)*

*Including details on when/whether PDCP status reporting is triggered during DAPS procedure.*

*Note: Handling of EHC with DAPS to be done when the IioT WID has progressed more.*

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponement of some items to next meeting. A web conference may be used for some topics in this agenda item.

By Web Conf

*Report of email discussion [108#64][LTE NR Mob] Running CRs for LTE and NR PDCP on mobility (Huawei)*

[R2-2001646](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001646.zip) Running CR for 38.323 on supporting DAPS handover Huawei, HiSilicon, Mediatek Inc. CR Rel-16 38.323 15.6.0 0042 - B LTE\_feMob-Core

* Endorsed as running CR

[R2-2001647](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001647.zip) Running CR for 36.323 on supporting DAPS handover Huawei, HiSilicon, Mediatek Inc. CR Rel-16 36.323 15.5.0 0279 - B LTE\_feMob-Core

* Endorsed as running CR

Taking output of 108#66 into account:

[R2-2000730](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000730.zip) Draft CR for 38.323 based on email discussion#66 output Huawei, HiSilicon draftCR Rel-16 38.323 15.6.0 B LTE\_feMob-Core

[R2-2000731](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000731.zip) Draft CR for 36.323 based on email discussion#66 output Huawei, HiSilicon draftCR Rel-16 36.323 15.5.0 B LTE\_feMob-Core

By Email

[R2-2000124](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000124.zip) PDCP status reporting in target cell at DAPS handover Ericsson discussion Rel-16 NR\_Mob\_enh-Core

[R2-2000128](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000128.zip) Switch of UL data during DAPS handover with 2-step RA or RACH-less access Ericsson discussion Rel-16 NR\_Mob\_enh-Core

[R2-2000378](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000378.zip) Release of the source ROHC upon the source link release vivo discussion Rel-16 LTE\_feMob-Core

[R2-2000379](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000379.zip) PDCP status report for RLC UM vivo discussion Rel-16 LTE\_feMob-Core

[R2-2000383](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000383.zip) Header compression after PDCP reordering vivo discussion Rel-16 LTE\_feMob-Core

[R2-2000384](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000384.zip) Issue on the uplink duplicated PDCP SDUs vivo discussion Rel-16 LTE\_feMob-Core

[R2-2000465](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000465.zip) Remaining issues on PDCP status report for DAPS Intel Corporation discussion Rel-16 LTE\_feMob-Core, NR\_Mob\_enh-Core

[R2-2000694](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000694.zip) PDCP Status Report for DAPS Handover ETRI discussion Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core

[R2-2000707](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000707.zip) Resetting UL PDCP SN for RLC UM in DAPS NEC discussion Rel-16 LTE\_feMob-Core

[R2-2000708](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000708.zip) PDCP anchor relocation in DAPS NEC discussion Rel-16 LTE\_feMob-Core

[R2-2000729](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000729.zip) Discussion on ROHC failure issue Huawei, HiSilicon discussion Rel-16 LTE\_feMob-Core

[R2-2000732](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000732.zip) Draft CR for 38.323 on ROHC failure issue Huawei, HiSilicon draftCR Rel-16 38.323 15.6.0 B LTE\_feMob-Core

[R2-2000738](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000738.zip) Leftover issues on DAPS PDCP Samsung discussion LTE\_feMob

[R2-2000896](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000896.zip) UDC Impacts of DAPS CATT discussion Rel-16 LTE\_feMob-Core

[R2-2001425](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001425.zip) Discussion of PDCP status report and UL switching for DAPS HO CMCC. discussion Rel-16 LTE\_feMob-Core

[R2-2001503](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001503.zip) Need of discard indication LG Electronics Inc. discussion NR\_Mob\_enh-Core, LTE\_feMob-Core

[R2-2001504](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001504.zip) Discussion on consecutive ROHC failure during DAPS HO LG Electronics Inc. discussion NR\_Mob\_enh-Core, LTE\_feMob-Core

[R2-2001505](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001505.zip) Handling of stroed PDCP PDUs for DAPS LG Electronics Inc. discussion NR\_Mob\_enh-Core, LTE\_feMob-Core

[R2-2001507](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001507.zip) Discussion on PDCP status report LG Electronics Inc. discussion NR\_Mob\_enh-Core, LTE\_feMob-Core

[R2-2001583](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001583.zip) DAPS configuration related issues for disscussion China Telecom discussion Rel-16 LTE\_feMob-Core

[R2-2001639](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001639.zip) Discussion on status reporting for UM DRB upon DAPS handover SHARP Corporation discussion Rel-16 LTE\_feMob-Core

[R2-2001152](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001152.zip) Remaining open issues on DAPS HO Qualcomm Incorporated discussion

*(moved from 6.9.2)*[*R2-2000591*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000591.zip) Open issues on Mobility Enhancement Apple discussion Rel-16 NR\_Mob\_enh-Core

*(moved from 6.9.3)*

* All of the above documents in this AI are handled in email discussion 209 – see below.

*Withdrawn:*

[R2-2000727](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000727.zip) Running CR for 38.323 on supporting DAPS handover Huawei, HiSilicon, Mediatek Inc. draftCR Rel-16 38.323 15.6.0 B LTE\_feMob-Core Withdrawn

[R2-2000728](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000728.zip) Running CR for 36.323 on supporting DAPS handover Huawei, HiSilicon, Mediatek Inc. draftCR Rel-16 36.323 15.5.0 B LTE\_feMob-Core Withdrawn

##### 7.3.2.1.2 MAC and UL transmission aspects of DAPS HO

*Including the outcome of email discussion [108#65][LTE NR Mob] Running MAC CRs for LTE and NR (vivo)*

*Note: Handling the FFS on Msg.B details to be done when the 2-step RACH has progressed more.*

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponement of some items to next meeting. A web conference may be used for some topics in this agenda item.

By Web Conf

*Outcome of email discussion [108#65][LTE NR Mob] Running MAC CRs for LTE and NR (vivo)*

[R2-2000373](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000373.zip) Report of EmailDisc-65 on MAC open issues for mobility enh. vivo (rapporteur) discussion Rel-16 NR\_Mob\_enh-Core

*CRs as per outcome of email discussion [108#65][LTE NR Mob] Running MAC CRs for LTE and NR (vivo)*

[R2-2000371](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000371.zip) Running 36.321 CR for LTE feMob vivo (rapporteur) CR Rel-16 36.321 15.8.0 1463 - B LTE\_feMob-Core

* Endorsed as running CR

[R2-2000372](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000372.zip) Running 38.321 CR for NR mobility enh. vivo (rapporteur) CR Rel-16 38.321 15.8.0 0687 - B NR\_Mob\_enh-Core

* Endorsed as running CR

By Email

[R2-2000736](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000736.zip) The source MAC LCP procedure for DAPS handover Samsung discussion LTE\_feMob

* All of the above documents in this AI are handled in email discussion 209 – see below.

##### 7.3.2.1.3 Summary documents for UP aspects of DAPS HO

Summary documents for Ais 7.3.2.1.1 and 7.3.2.1.2 are treated under this AI.

Summary document of 7.3.2.1.1 to be provided by NN.

Summary document of 7.3.2.1.2 to be provided by NN.

[R2-2001532](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001532.zip) Summary document for PDCP/RLC aspects of DAPS HO LG Electronics Inc. discussion NR\_Mob\_enh-Core, LTE\_feMob-Core Late

* Noted

**Proposals in summary document:**

*Proposal S1\_1: The PDCP status report for UM DRBs is introduced for uplink.*

*Proposal S2\_1: The PDCP status report is triggered when releasing the source link.*

*Proposal S3\_1: The PDCP entity decompresses the stored PDCP PDUs received from the source cell before releasing the ROHC function and security function associated with the source cell.*

*Proposal S7\_1: Following issues are not discussed in the e-meeting.*

* *Issue on the uplink duplicated PDCP SDUs*
* *Resetting of UL PDCP SN for UM DRBs*
* *Need of discard indication*
* *PDCP anchor relocation in DAPS*
* *How to handle the PDCP state variables*
* *Need of indication of DAPS handover execution to the source just before the initial UL transmission in the target or upon uplink data switching*

*DISC S1\_1: Discuss whether the PDCP status report for UM DRBs is introduced for downlink.*

*DISC S2\_1: Discuss whether the PDCP status report is triggered for UM DRBs when releasing the source link.*

*DISC S3\_1: Discuss whether it can be resolved by UE implementation that the PDCP entity decompresses the stored PDCP PDUs received from the source cell before releasing the ROHC function and security function associated with the source cell.*

*DISC S4\_1. RAN2 decides whether the consecutive ROHC decompression failure should be resolved by UE/network implementation or not. If the consecutive ROHC decompression failure cannot be resolved by UE/network implementation, the detailed solution can be discussed by the offline discussion or email discussion.*

*DISC S5\_1. RAN2 discuss whether two reordering functions are needed or not.*

*DISC S6\_1. RAN2 discuss whether and what will specify UDC for DAPS HO. The offline or email discussion can be used to potentially reach an agreeable set of CR proposals.*

[R2-2002099](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002099.zip) Summary of DAPS MAC vivo discussion Rel-16 LTE\_feMob-Core

*(moved from 7.3.2.1.2)*

* Noted

Proposals in summary document:

*DISC S1\_1: RAN2 to confirm the understanding that whether the LogicalChannelConfig of non-DAPS DRBs from the source MAC entity should be released during DAPS handover.*

* *If yes. Whether need any further clarification in RRC.*
* *If no; The source MAC entity selects only the logical channels corresponding to DAPS DRBs when the LCP procedure is applied, and the LCHs corresponding to non-DAPS DRBs should not be considered for LCP procedure of the source MAC entity during DAPS handover*
* All of the contributions in the AIs 7.3.2.1.1 and 7.3.2.1.2 are handled in email discussion 209 (LGE)
* [AT109e][209][MOB] Closing UP issues (PDCP/RLC/MAC) and discussing remaining open items for DAPS (LGE)

Scope:

* + - Agreeing on the proposals as per [R2-2001532](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001532.zip) and [R2-2002099](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002099.zip).
    - Discuss open items as per [R2-2001532](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001532.zip) and [R2-2002099](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002099.zip) to seek companies feedback on open issues of UP for DAPS.

Intended outcome:

* + - Proposals with consensus that can be incorporated (if needed) in the running CR(s) (aim to agree to those over email)
    - List of remaining open issues that need to be pursued in next meeting (if any).
    - Issues that should no longer be pursued

Deadline for providing comments and for rappporteur inputs:

* + - Companies input: Wednesday, Feb. 26th 17:00 CET
    - Rapporteur proposals (including CR changes): Thursday, Feb. 27th 17:00 CET
    - Comments on proposals: Monday March 2nd by 12:00 CET

[R2-2002165](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002165.zip) Outcome of offline discussion 209 for closing UP issues (PDCP/RLC/MAC) and discussing remaining open items for DAPS LG Electronics Inc. (summary rapporteur)

* Noted

**Agreements [AT109e][209][MOB]**

* 2. The second PDCP status report is introduced for AM DRBs, and the text proposal in Annex A is used as baseline.
* 3. How to handle the stored PDCP PDUs received from the source cell when releasing the source cell is specified using NOTE in the PDCP specification.
* 4. The target cell always transmits the PDCP PDUs containing IR packet until releasing the source cell.
* 5. RAN2 do not specify two reordering functions in PDCP.
* 6. In Rel-16, DAPS HO is not supported for DRBs configured with UDC.
* 7. The LogicalChannelConfig of non-DAPS DRBs is maintained in the source MAC entity during DAPS HO if the RLC entity configured with non-DAPS performs the re-establishment upon receiving the HO command
* Above agreements will be implemented in the PDCP CRs for DAPS

#### 7.3.2.2 Control plane aspects of DAPS HO

*No documents should be submitted to 7.3.2.2. Please submit to 7.3.2.2.x.*

##### 7.3.2.2.1 RRC procedures during DAPS HO

*Including outcome of email discussion [108#35][LTE Mob] Running RRC CR (Ericsson)*

*Including any remaining RRC configuration and procedural details, e.g. fallback to source cell when target cell fails, handling of source/target RRC configuration during DAPS.*

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponement of some items to next meeting. A web conference may be used for some topics in this agenda item.

By Email

[R2-2000125](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000125.zip) Open issues at fallback to source cell at DAPS handover Ericsson discussion Rel-16 NR\_Mob\_enh-Core

[R2-2000127](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000127.zip) RRC signalling of DAPS handover per DRB Ericsson discussion Rel-16 NR\_Mob\_enh-Core

[R2-2000129](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000129.zip) Subsequent RRC procedures after DAPS handover Ericsson discussion Rel-16 NR\_Mob\_enh-Core

[R2-2000313](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000313.zip) Security Key Handling for DAPS Handover MediaTek Inc. discussion

[R2-2000380](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000380.zip) Failure handling of the non-DAPS DRB vivo discussion Rel-16 LTE\_feMob-Core R2-1914704

[R2-2000381](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000381.zip) Clarification on stopping the source link failure vivo discussion Rel-16 LTE\_feMob-Core

[R2-2000382](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000382.zip) Single or two RRC messages for DAPS handover vivo discussion Rel-16 LTE\_feMob-Core

[R2-2000467](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000467.zip) Remaining issues on RLM after RACH for DAPS Intel Corporation discussion Rel-16 LTE\_feMob-Core, NR\_Mob\_enh-Core

[R2-2000656](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000656.zip) Non-DAPS DRB handling upon DAPS HO failure OPPO discussion Rel-16 LTE\_feMob-Core

[R2-2000657](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000657.zip) Source RLF handling during DAPS HO OPPO discussion Rel-16 LTE\_feMob-Core

[R2-2000733](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000733.zip) Discussion on fallback to source cell Huawei, HiSilicon discussion Rel-16 LTE\_feMob-Core

[R2-2000898](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000898.zip) Remaining RRC configuration details for DAPS CATT discussion Rel-16 LTE\_feMob-Core

[R2-2001506](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001506.zip) Handling of DAPS HO failure LG Electronics Inc. discussion NR\_Mob\_enh-Core, LTE\_feMob-Core

[R2-2001640](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001640.zip) State variables of SRB PDCP for the target in NR SHARP Corporation discussion Rel-16 LTE\_feMob-Core

[R2-2001641](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001641.zip) Clarification of implementation order of Reconfiguration with sync and AS Security key update procedures SHARP Corporation discussion Rel-16 LTE\_feMob-Core

[R2-2001642](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001642.zip) Non-DAPS DRB handling at DAPS handover failure SHARP Corporation discussion Rel-16 LTE\_feMob-Core

[R2-2000126](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000126.zip) DAPS handover without key change Ericsson discussion Rel-16 NR\_Mob\_enh-Core

*(moved from 6.9.2)*

[R2-2001149](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001149.zip) Source connection handling during DAPS HO Qualcomm Incorporated discussion

*(moved from 6.9.2)*

* All of the above documents in this AI are handled in email discussion 210 (Huawei)
* [AT109e][210][MOB] RRC procedural issues and remaining open items for DAPS CP (Huawei)

Scope:

* + - Agreeing on the proposals as per [R2-2002033](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002033.zip) and any topics identified in 108#66 ([R2-2000461](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000461.zip)).
    - Discuss open items as per [R2-2002033](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002033.zip) and [R2-2000461](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000461.zip) to seek companies feedback on open issues of RRC for DAPS.

Intended outcome:

* + - Proposals with consensus that can be incorporated (if needed) in the running CR(s) (aim to agree to those over email)
    - List of remaining open issues that need to be pursued in next meeting (if any).
    - Issues that should no longer be pursued

Deadline for providing comments and for rappporteur inputs:

* + - Companies input: Thursday, Feb. 27th 3:00 CET
    - Rapporteur proposals (including CR changes): Friday, Feb. 28th 12:00 CET
    - Comments on proposals: Monday March 2nd by 17:00 CET

[R2-2002207](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002207.zip) Report of [AT109e][210][MOB] RRC procedural issues and remaining open items for DAPS CP (Huawei) Huawei, HiSilicon

* Noted

**Agreements [AT109e][210][MOB]**

* 1: Upon DAPS handover failure, UE reverts back to the source configuration prior to the reception of the handover command (including RLC and PDCP state) for the DRB that is not configured with DAPS.
* 2: For non DAPS DRB, upon DAPS HO failure, the reverted PDCP/RLC state includes data stored in transmission and reception buffers in PDCP and RLC entities prior to the reception of the handover command.
* 3: For non DAPS DRB, upon DAPS HO failure, the reverted source configuration also includes SDAP (for NR) configuration and logical channel configuration.
* 4: If the data is reverted for non-DAPS DRBs in case of DAPS HO failure, the data stored in transmission and reception buffers should NOT be discarded.
* 5: RRC re-establishment shall not be triggered due to source link RLF after successful RA and before the release of source link.
* 7: for NR, the state variables of the target SRB PDCP should be set to the latest ones kept in the source SRB PDCP if security key is unchanged.
* 9: for SRBs and non-DAPS DRBs, the PDCP COUNT is maintained when DAPS HO without key change and also at fallback to source cell when DAPS handover is performed without key change.
* Above agreements will be implemented in the CRs for DAPS
* The following proposals are postponed to next meeting:

*Proposal 10: RAN2 to discuss “whether and how to specify UE reverts back source cell keys for non-DAPS DRBs”*

*Proposal 6: RAN2 to discuss “move the setup of SRB for target from Reconfiguration with sync section into SRB modification section” in RRC running CR.*

*Proposal 8: RAN2 discuss “ for DAPS DRBs, the same RoHC context shall be applied for both the source and target link when DAPS handover is performed without key change”.*

##### 7.3.2.2.2 UE capabilities for DAPS HO

*Including UE capability coordination and remaining details of UE capability definitions .*

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponement of some items to next meeting. A web conference may be used for some topics in this agenda item.

By Email

[R2-2000123](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000123.zip) Capability coordination for DAPS handover Ericsson discussion Rel-16 NR\_Mob\_enh-Core

[R2-2000537](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000537.zip) UE capability co-ordination signalling aspects for DAPS HO Qualcomm Inc, Google Inc, Apple Inc, MediaTek Inc, Charter Communications discussion Rel-16 LTE\_feMob-Core R2-1914804

[R2-2000654](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000654.zip) Discussion on UE capabilities for DAPS HO OPPO discussion Rel-16 LTE\_feMob-Core R2-1915162

[R2-2000655](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000655.zip) Further considerations on capability coordination OPPO discussion Rel-16 LTE\_feMob-Core R2-1915155

[R2-2000734](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000734.zip) Discussion on SCell handling during DAPS HO Huawei, HiSilicon discussion Rel-16 LTE\_feMob-Core

[R2-2000735](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000735.zip) Discussion on UE capability coordination for DAPS HO Huawei, HiSilicon discussion Rel-16 LTE\_feMob-Core

[R2-2000759](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000759.zip) Remaining issues on capability coordination for DAPS NEC discussion Rel-16 LTE\_feMob-Core

[R2-2000897](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000897.zip) Further Discussion on Capability Coordination for DAPS CATT discussion Rel-16 LTE\_feMob-Core

[R2-2001153](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001153.zip) UE capability handling for DAPS Nokia Italy discussion Rel-16

[R2-2001164](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001164.zip) Capability coordination for DAPS Samsung Telecommunications discussion Rel-16 LTE\_feMob-Core Late

[R2-2001261](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001261.zip) Remaining issues on UE capability coordination for DAPS HO ZTE Corporation, Sanechips discussion Rel-16 LTE\_feMob-Core

[R2-2001539](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001539.zip) Handling Excess of UE Capability in DAPS HO LG Electronics Inc. discussion Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core R2-1916210

* All of the above documents in this AI are handled in email discussion [211] (Intel)
* [AT109e][211][MOB] UE capabilities for DAPS and CHO (Intel)

Scope:

* + - Agreeing on the proposals as per 108#45 outcome in [R2-2000459](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000459.zip) and [R2-2002041](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002041.zip).
    - Discuss open items as per [R2-2002041](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002041.zip) to seek companies feedback on open issues of UE capabilities for DAPS.

Intended outcome:

* + - List of basic UE capabilities for DAPS and CHO,including basic ASN.1 structure (if possible)
    - List of remaining open issues for UE capabilities (e.g. topics dependent on other WG input)
    - If needed, draft LS to be sent to RAN1/4 containing RAN2 decisions on UE capabilities

Deadline for providing comments and for rappporteur inputs:

* + - Companies input: Thursday, Feb. 27th 3:00 CET
    - Rapporteur proposals: Friday, Feb. 28th 12:00 CET
    - Comments on proposals: Monday March 2nd by 17:00 CET

[R2-2001727](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001727.zip) Report of [AT109e][211][MOB] UE capabilities for DAPS and CHO (Intel) Intel Corporation

* Noted

**Agreements [AT109e][211][MOB] (**[R2-2001727](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001727.zip)**)**

* 1: Agree the capabilities (x1-1, x1-3, x2, x3) including the revisions as indicated in the table for NR. May be revised based on further inputs
* 2: Agree the capabilities (x1-1, x1-3) including the revisions as indicated in the table for LTE. May be revised based on further inputs
* 3: Intra freq DAPS can be supported for bandwidthClass B/C and above UE (e.g. bandwidthClass B/C UE, the UE supports intraF DAPS with bandwidth class A for the band against source and target). The capability intra-FreqDAPS is put under bandParameter.
* 4: For inter freq DAPS, the capability inter-FreqDAPS is specified per BC (for intra band, inter band cases). .It is put under existing CA bandcombiantion, and same as CA, the CCs in the bandcombination with UL can all be source or target PCell.
* 5: Below RAN4 capabilities are introduced as baseline, and may be revised if more inputs are received from RAN4.

**• Per BC: AsyncDAPS, supportedNumberTAG, singleUL-Transmission;**

**• Per Band per BC: intraBandDiffSCS, intraFreq-DAPS;**

* 6: Reuse CA capability supportedNumberTAG for DAPS handover.
* 7: Per Band per BC capability (intraBandDiffSCS, intraFreq-DAPS) is put in BandParameters.
* 8: Baseline is UplinkPowerSharingDAPS-HO, pdcch-BlindDetectionMCG1-UE and pdcch-BlindDetectionMCG2-UE are introduced as per BC capabilities. May be revised if more inputs are received from RAN1., .e.g. on whether pdcch-BlindDetectionMCG1-UE and pdcch-BlindDetectionMCG2-UE can be per UE as DC.
* 9: pdcch-BlindDetectionSource, pdcch-BlindDetectionTarget and supportedNumberTAG(>=2) are mandatory with capability for DAPS capable UE. FFS on intraFreqDAPS, uplinkPowerSharing and Sync-DAPS.
* 10: As agreed in RAN4, intraBandDiffSCS is different for intra/inter DAPS, i.e. separate capability.
* 11: Agree the ASN.1 part in section 7 as baseline for LTE and NR.
* 12: Source decides source configuration to be used during DAPS handover and the restriction in target; target determines the target configuration based on received source configuration to be used during DAPS HO and UE capabilities, and generates the DAPS handover command and the target node sends the DAPS handover command to the source node in the X2/Xn HANDOVER REQUEST ACKNOWLEDGE which transparently forwards it to the UE.
* 13: Same as legacy reconfiguration procedure, modification of target configuration can be sent in the same message for source release;
* 15 For LTE, the DAPS network coordination is based on source link configuration to be used during DAPS HO, UE capabilities, maxSCH-TB-BitsDL, maxSCH-TB-BitsUL, powerCoordinationInfo within HandoverPreparationInformation message;
* 16:For NR, the DAPS network coordination is based on source link configuration to be used during DAPS HO, UE capabilities, maxSCH-TB-BitsDL (to be redefined for NR), maxSCH-TB-BitsUL (to be redefined for NR), powerCoordinationInfo within HandoverPreparationInformation message; To discuss whether coordination on maxSCH-TB-BitsDL, maxSCH-TB-BitsUL are needed.
* 19: SCells are released in HO command, and not configured in HO command. To clarify this in UE capability,i.e. intra/inter-F DAPS capability indicates that the UE can only do DAPS handover with source and target PCell and no SCells. There should no other specification impact.
* Above agreements will be implemented in the CRs for DAPS when the CRs including the capabilities are created
* The following proposal is not discussed in Rel-16:

*Proposal 18: Scells not released (regardless of activated/deactivated) during DAPS HO shall be counted against the total number of CCs the UE can support.*

* The following proposals are postponed to next meeting

*Proposal 14: Further discussion on whether same as legacy HO, in HO preparation procedure, source only provides a single source configuration to target.*

*Proposal 17: Consider in next meeting that to support dynamic power sharing whether the UE needs to report the PH value of Pcell of one MAC entity to the another MAC entity during DAPS HO and how.*

##### 7.3.2.2.3 Summary documents for CP aspects of DAPS HO

Summary documents for AIs 7.3.2.2.1 and 7.3.2.2.2 should be submitted under this AI.

Summary document of 7.3.2.2.1 to be provided by NN.

Summary document of 7.3.2.2.2 to be provided by NN.

[R2-2002033](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002033.zip) Summary on RRC procedures during DAPS HO Huawei, HiSilicon discussion Rel-16 LTE\_feMob-Core

* Noted

**Proposals in summary document:**

*Agreements proposed to be agreed in this meeting (from all sub-topics)*

*Proposal S1\_1: Upon DAPS handover failure, UE reverts back to the source configuration prior to the reception of the handover command (including RLC and PDCP state, but do not re-establish PDCP and RLC) for the DRB that is not configured with DAPS.*

*Proposal S1\_2: For non DAPS DRB, upon DAPS HO failure, the reverted PDCP/RLC state includes data stored in transmission and reception buffers in PDCP and RLC entities prior to the reception of the handover command.*

*Proposal S1\_3: For non DAPS DRB, upon DAPS HO failure, the reverted source configuration also includes SDAP (for NR) configuration and logical channel configuration.*

*Open items proposed to be further discussed in this meeting (from all sub-topics)*

*DISC S1\_1: RAN2 to discuss “If the data is reverted for non-DAPS DRBs, the data should be discarded for UM DRBs in order to transmit/receive a new data immediately.”*

*DISC S2\_1: RRC re-establishment shall not be triggered due to source link RLF after successful RA and before the release of source link.*

*DISC S3\_1: If the DAPS configuration is included in DRB-ToAddMod, RAN2 should then clarify if it is part of the DRB configuration (i.e. not a “one-shot” parameter) and then can be configured prior to the handover.*

*DISC S3\_2: RAN2 should confirm whether AS security key update procedure is implemented before reconfiguration with sync procedure or not.*

*DISC S3\_3: If reconfiguration with sync procedure is performed before AS security key update procedure, SRB PDCP entity for the target should be re-established at SRB addition/modification procedure to apply the new keys.*

*DISC S4\_1: RAN2 discuss how to model “for NR, the state variables of the target SRB PDCP should be set to the latest ones kept in the source SRB PDCP if security key is unchanged”.*

*DISC S4\_2: RAN2 discuss “ for DAPS DRBs, the same RoHC context shall be applied for both the source and target link when DAPS handover is performed without key change”.*

*DISC S4\_3: RAN2 discuss “ for SRBs and non-DAPS DRBs, the PDCP COUNT is maintained when DAPS HO without key change and also at fallback to source cell when DAPS handover is performed without key change”.*

*Proposals that can be revisited if no agreement is made based on 108#66 output*

*REVI S1\_1: RAN2 to discuss whether to re-establish PDCP/RLC entities of non DAPS DRB in case of DAPS HO failure.*

*REVI S3\_1: RAN2 discuss if the following solution can be adopted for source configuration change, i.e. the DAPS handover command is an RRCReconfiguration message including a container which includes the RRCReconfiguration message for the target configuration.*

[R2-2002041](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002041.zip) Summary of DAPS UE capabilities for DAPS HO in AI 7.3.2.2.2 Intel discussion Rel-16 LTE\_feMob-Core, NR\_Mob\_enh-Core

* Revised in [R2-2002101](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002101.zip)

[R2-2002101](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002101.zip) Summary of DAPS UE capabilities for DAPS HO in AI 7.3.2.2.2 Intel discussion Rel-16 LTE\_feMob-Core, NR\_Mob\_enh-Core

* Noted

**Proposals in summary document:**

*Issues to be covered by other email discusions and should be treated based on email discussion report:*

*Proposal 1-1: The issue on intra/inter freq DAP capability should be discussed based on email discussion 108#45;*

*Proposal 1-2: The issue on how to capture RAN1/4 DAPS capability should be discussed based on email discussion 108#45;*

*Proposal 2-1: The mechanisms on capability coordination, LTE DC based or MR DC based should be discussed based on email discussion 108#66;*

*Proposal 2-2: The issue how to handle the case if source+target configuration exceeds the UE capability should be discussed based on email discussion 108#66;*

*Proposal 3-1: The issue on the handling of source configuration change should be discussed based on email discussion 108#66;*

*Proposal 4-1: The issue on how to handle the scells during DAPS HO should be discussed based on email discussion 108#45;*

*Agreements proposed to be agreed in this meeting (from all sub-topics)*

*Proposal S2\_1: Same as legacy HO, Source decides source configuration to be used in target and the restriction in target; target determines the target configuration and generates the DAPS handover command and the target node sends the DAPS handover command to the source node in the X2/Xn HANDOVER REQUEST ACKNOWLEDGE which transparently forwards it to the UE.*

*Proposal S2\_2: Same as legacy reconfiguration procedure, modification of target configuration can be sent in the same message for source release;*

*Open items proposed to be further discussed in this meeting (from all sub-topics)*

*DISC S1\_1: Discuss in a new email discussion on the issue Mandatory/optional of DAPS capabilities;*

*DISC S2\_1:Discuss in a new email discussion on the issue for LTE and/or NR whether/how the UE needs to report the PH value of SpCell of one MAC entity to the other MAC entity during DAPS HO;*

#### 7.3.2.3 Other aspects of DAPS HO

*Including any other open aspects of DAPS HO not covered by the other agenda items (for both LTE and NR).*

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponement of some items to next meeting. No web conference is planned for this agenda item.

No summary document of 7.3.2.3 is provided in absence of contributions.

### 7.3.3 Conditional handover

*Contributions on conditional handover for LTE and NR are treated jointly in under 6.9.3. Do not use this AI for any item that can be discussed jointly.*

## 7.4 Further performance enhancement for LTE in high speed scenario

(LTE\_high\_speed\_enh2-Core; leading WG: RAN4; REL-16; started: Jun 18; target; Sep 19; WID: RP-181482)

Time budget: 0 TU. Final CR agreements.

Only final CR update is expected for this AI and the CR agreement will be treated only over email. No web conference is planned for this agenda item.

By Email

[R2-2002048](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002048.zip) Introduction of RRC parameters and UE capabilities for enhanced high speed scenario NTT DOCOMO INC, CR Rel-16 36.331 15.8.0 4095 3 B LTE\_high\_speed\_enh2-Core R2-1913059 Late

* Revised in R2-2002173

[R2-2002173](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002048.zip) Introduction of RRC parameters and UE capabilities for enhanced high speed scenario NTT DOCOMO INC, CR Rel-16 36.331 15.8.0 4095 4 B LTE\_high\_speed\_enh2-Core R2-2002048

* Agreed

[R2-2002050](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002050.zip) Introduction of UE capabilities for further performance enhancement for LTE in high speed scenario in Rel-16 CMCC, Huawei, HiSilicon, NTT DOCOMO INC. CR Rel-16 36.306 15.7.0 1712 3 B LTE\_high\_speed\_enh2-Core R2-1913066 Late

* Revised in R2-2002174

[R2-2002174](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002050.zip) Introduction of UE capabilities for further performance enhancement for LTE in high speed scenario in Rel-16 CMCC, Huawei, HiSilicon, NTT DOCOMO INC. CR Rel-16 36.306 15.7.0 1712 4 B LTE\_high\_speed\_enh2-Core R2-2002050

* Agreed
* All of the above documents in this AI are handled in email discussion [204] (NTT DOCOMO)
* [AT109e][204][LTE16] Agreeable CRs for LTE High-speed performance enhancement (NTT DOCOMO)

Scope:

* + - Agree to CRs in [R2-2002048](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002048.zip) and [R2-2002050](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002050.zip).

Intended outcome:

* + - Agreed CRs for the LTE High-speed performance enhancement WID

Deadline for providing comments and for rappporteur inputs:

* + - Companies input: Wednesday, Feb. 26th 18:00 CET
    - Rapporteur proposals: Thursday, Feb. 27th 18:00 CET (one day for rapporteur to create final CR proposals)
    - Final CRs provided latest on Tuesday, March 2nd by 12:00 CET (can be agreed earlier if converged)

**Agreements [AT109e][204][LTE16]**

* Agree to the the CRs R2-2002173 and R2-2002174
* The WID is complete and CRs are submitted to RAN#87-e

## 7.5 Other LTE Rel-16 WIs

This agenda item is to be used for LSs and documents relating to Rel-16 LTE but for which there is no existing RAN WI/SI (e.g. LSs from CT/SA requesting RAN2 action) or for which there is no allocated RAN2 time.

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponement of some items to next meeting. A web conference may be used for some topics in this agenda item.

Summary document of 7.5 and 7.6 to be provided by RAN2 VC (Nokia).

By Email

RLOS indicator: CRs agreed in principle in RAN2#107, only CR correctness needs to be checked:

[R2-2000180](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000180.zip) Introduction of RLOS support indicator and RLOS request indicator Qualcomm Incorporated CR Rel-16 36.331 15.8.0 4049 2 B PARLOS R2-1911503

* Agreed

Proposal in summary document:

***Proposal S1\_1:*** *Agree to CRs in* [*R2-2002048*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002048.zip)*,* [*R2-2002050*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002050.zip)*,* [*R2-2000180*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000180.zip)*,* [*R2-2001410*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001410.zip)*,* [*R2-2001408*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001408.zip)*,* [*R2-2001409*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001409.zip)*,* [*R2-2002075*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002075.zip) *and* [*R2-2002078*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002078.zip)

* See summary document issues in AI 7.6

## 7.6 LTE TEI16 enhancements

Small Technical Enhancements to LTE. TEI should be predominantly within a single WG and fully completed within the same quarter in all affected WGs. RAN2 impact of RAN1/4-led TEI shall be limited to RRC signalling of configuration parameters and UE capabilities (no MAC impact, no RRC procedural impact, etc). Please also see RP-191602 endorsed at RAN#84.

Time budget: 1 TU

This agenda item will utilize a summary document to facilitate treatment of topics during the e-meeting. This may lead to postponement of some items to next meeting. A web conference may be used for some topics in this agenda item.

Summary document of 7.5 and 7.6 to be provided by RAN2 VC (Nokia).

By Email

[R2-2002088](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002088.zip) Summary of LTE contributions in AIs 7.5 and 7.6 Summary rapporteur (RAN2 vice-chair) discussion

***Proposal S2\_1:*** *Postpone discussion on LS* [*R2-2000090*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000090.zip) *until input contributions are received in RAN2.*

* See LS in AI 6.19

**S1\_AGREE: Contributions proposed for easy agreement in summary document:**

Proposal in summary document:

***Proposal S1\_1:*** *Agree to CRs in* [*R2-2002048*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002048.zip)*,* [*R2-2002050*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002050.zip)*,* [*R2-2000180*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000180.zip)*,* [*R2-2001410*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001410.zip)*,* [*R2-2001408*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001408.zip)*,* [*R2-2001409*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001409.zip)*,* [*R2-2002075*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002075.zip) *and* [*R2-2002078*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002078.zip)

Wideband PRG (RAN1 TEI16): CRs agreed in principle in RAN2#107bis, only CR correctness needs to be checked:

[R2-2001408](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001408.zip) Introduction of wideband PRG size Huawei, HiSilicon CR Rel-16 36.306 15.7.0 1741 - B TEI16

* Agreed

[R2-2001409](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001409.zip) Introduction of wideband PRG size Huawei, HiSilicon CR Rel-16 36.331 15.8.0 4220 - B TEI16

* Agreed

UDC reconfiguration at re-establishment: CRs agreed in principle in RAN2#107bis, only CR correctness needs to be checked:

[R2-2001410](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001410.zip) UDC reconfiguration for RRC connection re-establishment case Huawei, HiSilicon CR Rel-16 36.331 15.8.0 4221 - C TEI16

* See R2-2001745
* Revised in [R2-2001737](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001410.zip)

[R2-2001737](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001410.zip) UDC reconfiguration for RRC connection re-establishment case Huawei, HiSilicon CR Rel-16 36.331 15.8.0 4221 1 C TEI16 R2-2001410

* Agreed

Non-3GPP paging correction: CR agreed in principle in RAN2#107bis, some corrections based on RRC per-merge exercise in 108#28, only CR correctness needs to be checked:

[R2-2002075](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002075.zip) Correction on non-3GPP paging Huawei, HiSilicon CR Rel-16 36.331 15.8.0 4172 2 C LTE\_5GCN\_connect-Core, TEI16 R2-1916316 Late

* See R2-2001745
* Revised in [R2-2001738](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001410.zip)

[R2-2001738](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002075.zip) Correction on non-3GPP paging Huawei, HiSilicon CR Rel-16 36.331 15.8.0 4172 3 C LTE\_5GCN\_connect-Core, TEI16 R2-2002075

* Agreed

Correction to usage of H1/H2 events: CR agreed in principle in RAN2#107bis, some corrections based on RRC per-merge exercise in 108#28, only CR correctness needs to be checked:

[R2-2002078](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002078.zip) Correction on H1 and H2 events Samsung Electronics CR Rel-16 36.331 15.8.0 4103 2 C LTE\_Aerial-Core, TEI16 R2-1913989 Late

* Agreed
* All of the above documents under S1\_AGREE in this AI are handled in email discussion 205
* [AT109e][205][LTE16] Agreeing to simple LTE Rel-16 CRs (RAN2 VC)

Scope:

* + - Agree to CRs in [R2-2002048](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002048.zip), [R2-2002050](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002050.zip), [R2-2000180](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000180.zip), [R2-2001410](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001410.zip), [R2-2001408](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001408.zip), [R2-2001409](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001409.zip), [R2-2002075](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002075.zip) and [R2-2002078](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2002078.zip).
    - If issues are found in any CR, they may be moved to discussion **206**.

Intended outcome:

* + - Agreeable CRs (by each CR proponent)
    - Summary of discussions (by email rappporteur).

Deadline for providing comments and for rappporteur inputs:

* + - Companies input: Thursday, Feb. 27th 17:00 CET
    - Rapporteur summary: Friday, Feb. 28th 17:00 CET (one day for rapporteur to make conclusions)
    - Updated CRs from each CR proponent: Monday Mar. 2nd 17:00 CET
    - Comments on CR wording, Tuesday, March 3rd by 17:00 CET

R2-2001745 Report of [AT109e][205][LTE16] Agreeing to simple LTE Rel-16 CRs (RAN2 VC) Nokia (RAN2 VC)

* **Noted**

**Agreements [AT109e][205][LTE16]**

* The CRs R2-2000180, R2-2001408, R2-2001409, R2-2001737, R2-2001738 and R2-2002078 are agreed.

**S2: Topics requiring (some) discussion in summary document:**

Proposal in summary document:

***Proposal S2\_2:*** *Discuss the proposals in* [*R2-2001165*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001165.zip) *in the next RAN2 meeting based on concrete inputs for Rel-16 capabilities, including CR proposals.*

UE capability request principles: whether to extend the usage of “request-response” – mechanism more in Rel-16 LTE?

[R2-2001165](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001165.zip) Whether to continue R15 general principle to limit UE capability size Samsung Telecommunications discussion Rel-16 TEI16

* Postponed to next RAN2 meeting (to have more concrete proposals)

**S2\_DISC:**

***DISC S2\_1:*** *Discuss and agree to the CRs* [*R2-2000987*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000987.zip) *and* [*R2-2000988*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000988.zip) *over offline (email) discussion.*

Early security activation for resume (intent agreed in RAN2#108): CR correctness needs to be checked:

[R2-2000987](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000987.zip) Early security re-activation at RRC Connection Resume Ericsson, Qualcomm Inc., LG Electronics Inc., Sierra Wireless, Turkcell CR Rel-16 36.331 15.8.0 4167 1 B TEI16 R2-1915796

* See R2-2001763
* Revised in R2-2001731

[R2-2001731](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000987.zip) Early security re-activation at RRC Connection Resume Ericsson, Qualcomm Inc., LG Electronics Inc., Sierra Wireless, Turkcell CR Rel-16 36.331 15.8.0 4167 2 B TEI16 R2-2000987

* Agreed

[R2-2000988](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000988.zip) Early security re-activation at RRC Connection Resume Ericsson, Qualcomm Inc., LG Electronics Inc., Sierra Wireless, Turkcell CR Rel-16 36.306 15.7.0 1723 1 B TEI16 R2-1915797

* See R2-2001763
* Revised in R2-2001732

[R2-2001732](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000988.zip) Early security re-activation at RRC Connection Resume Ericsson, Qualcomm Inc., LG Electronics Inc., Sierra Wireless, Turkcell CR Rel-16 36.306 15.7.0 1723 2 B TEI16 R2-2000988

* Agreed
* The above documents under S2\_DISC in this AI are handled in email discussion 206
* [AT109e][206][LTE16] CR discussion on Rel-16 early security activation (Ericsson)

Scope:

* + - Discuss the CRs [R2-2000987](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000987.zip) and [R2-2000988](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000988.zip) over offline (email) discussion to solicit opinions from companies on the proposals and CR correctness.
    - Handle any CRs from discussion **205** that are deemed require further discussion

Intended outcome:

* + - Discuss the CRs and check for correctness and impact to other RRC CRs.
    - If the CRs can be agreed, provide final CRs (by CR proponents)
    - Summary of discussions (by email rappporteur)

Deadline for providing comments and for rappporteur inputs:

* + - Companies input: Thursday, Feb. 27th 17:00 CET
    - Rapporteur summary: Friday, Feb. 28th 17:00 CET (one day for rapporteur to make conclusions)
    - Updated CRs from each CR proponent: Monday Mar. 2nd 17:00 CET
    - Comments on CR wording: Tuesday, March 3rd by 17:00 CET

R2-2001733 Report of [AT109e][206][LTE16] CR discussion on Rel-16 early security activation (Ericsson)

* **Revised in R2-2001763 (to reflect late comments)**

R2-2001763 Report of [AT109e][206][LTE16] CR discussion on Rel-16 early security activation (Ericsson) R2-2001733

* **Noted**

**Agreements [AT109e][206][LTE16]**

* For early security reactivation for EPC, DRBs are resumed upon receiving RRCConnectionResume. TS 36.331 CR is updated to reflect this.
* The CRs R2-2001731 and R2-2001732 are agreed.

## 7.8 DL MIMO efficiency enhancements for LTE

(LTE\_DL\_MIMO\_EE-Core; leading WG: RAN1; REL-16;target; March-20; WID: RP-182901)

Time budget: 0.5 TU

This agenda item will focus on providing the baseline CRs for the WID and will only be treated over email. No web conference is planned for this agenda item.

By Email

[R2-2001031](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001031.zip) Power headroom reporting for additional SRS Lenovo, Motorola Mobility discussion Rel-16

* Noted

[R2-2001079](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001079.zip) Introduction of Additional SRS Ericsson CR Rel-16 36.321 15.8.0 1461 1 B LTE\_DL\_MIMO\_EE-Core R2-1915644

* Revised in R2-2001735

[R2-2001735](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001079.zip) Introduction of Additional SRS Ericsson CR Rel-16 36.321 15.8.0 1461 2 B LTE\_DL\_MIMO\_EE-Core R2-1915644

* Agreed

[R2-2001405](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001405.zip) Introduction of DL MIMO efficiency enhancement Huawei, HiSilicon CR Rel-16 36.306 15.7.0 1740 - B LTE\_DL\_MIMO\_EE-Core

* **UE capabilities are not agreed yet in this meeting as they are pending RAN1 information**
* **Endorsed as baseline**

[R2-2001406](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001406.zip) Introduction of DL MIMO efficiency enhancement Huawei, HiSilicon CR Rel-16 36.331 15.8.0 4219 - B LTE\_DL\_MIMO\_EE-Core

* Revised in R2-2001741

[R2-2001741](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001406.zip) Introduction of DL MIMO efficiency enhancement Huawei, HiSilicon CR Rel-16 36.331 15.8.0 4219 1 B LTE\_DL\_MIMO\_EE-Core

* Agreed

**=> All of the documents in this AI are handled in email discussion 207 (Huawei)**

* [AT109e][207][LTE16] Agreeable CRs for DL MIMO enhancements for LTE (Huawei)

Scope:

* + - Discuss CRs in [R2-2001031](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001031.zip), [R2-2001079](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001079.zip), [R2-2001405](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001405.zip) and [R2-2001406](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001406.zip)
    - Providing agreeable to RAN2 CRs for the WID

Intended outcome:

* + - Agreed CRs for the DL MIMO enhancements WID

Deadline for providing comments and for rappporteur inputs:

* + - Companies input: Wednesday, Feb. 26th 18:00 CET
    - Rapporteur proposals: Thursday, Feb. 27th 18:00 CET (one day for rapporteur to create final CR proposals)
    - Final CRs provided latest on Tuesday, March 3rd by 08:00 CET (can be agreed earlier if converged)

**Agreements [AT109e][207][LTE16]**

* The CRs R2-2001741 (36.321) and R2-2001735 (36.331) are agreed and will be submitted to RAN#87-e for approval
* The CR R2-2001405 (36.306) is endorsed.
* Except for UE capabilities, the WID is completed from RAN2 viewpoint.

## 7.9 LTE-based 5G Terrestrial Broadcast

(LTE\_terr\_bcast-Core; leading WG: RAN1; REL-16; target; March-20; WID: RP-182924)

Time budget: 0.5 TU.

This agenda item will focus on providing the baseline CRs for the WID and will only be treated over email. No web conference is planned for this agenda item.

By Email

[R2-2000436](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000436.zip) Introduction of LTE-based 5G terrestrial broadcast Qualcomm Incorporated CR Rel-16 36.331 15.8.0 4190 - B LTE\_terr\_bcast-Core

* Revised in R2-2001740

[R2-2001740](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000436.zip) Introduction of LTE-based 5G terrestrial broadcast Qualcomm Incorporated CR Rel-16 36.331 15.8.0 4190 1 B LTE\_terr\_bcast-Core

* Agreed

[R2-2000437](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000437.zip) Introduction of LTE-based 5G terrestrial broadcast Qualcomm Incorporated CR Rel-16 36.306 15.7.0 1729 - B LTE\_terr\_bcast-Core

* Revised in R2-2001739

[R2-2001739](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000437.zip) Introduction of LTE-based 5G terrestrial broadcast Qualcomm Incorporated CR Rel-16 36.306 15.7.0 1729 1 B LTE\_terr\_bcast-Core

* Agreed

[R2-2001407](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001407.zip) Discussion on handling of MBSFN configuration for new numerologies Huawei, HiSilicon discussion Rel-16 LTE\_terr\_bcast-Core

* Noted (treated as part of [208])
* All of the documents in this AI are handled in email discussion 208 (Qualcomm)
* [AT109e][208][LTE R16] Agreeable CRs for LTE-based 5G Terrestrial Broadcast (Qualcomm)

Scope:

* + - Discuss CRs in [R2-2000436](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000436.zip), [R2-2000437](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2000437.zip) and [R2-2001407](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109_e/Docs/R2-2001407.zip)
    - Providing agreeable to RAN2 CRs for the WID

Intended outcome:

* + - Agreed CRs for the Further performance enhancement for LTE-based 5G Terrestrial Broadcast WID

Deadline for providing comments and for rappporteur inputs:

* + - Companies input: Wednesday, Feb. 26th 18:00 CET
    - Rapporteur proposals: Thursday, Feb. 27th 18:00 CET (one day for rapporteur to create final CR proposals)
    - Final CRs provided latest on Tuesday, March 3rd by 08:00 CET (can be agreed earlier if converged)

**Agreements [AT109e][208][LTE16]**

* The CRs R2-2001739 and R2-2001740 are agreed.

# Appendix - Additional Guidance

This subclause is not an Agenda Item. Including WI codes for Agenda Items with multiple WIs.

# EUTRA corrections Rel-15 and earlier

## Other LTE corrections Rel-15 and earlier

Includes corrections to the following WIs:

LTE WIs Rel-14 and earlier:

(LTE-L23, leading WG: RAN2, REL-8, started: Sep. 06, closed: Dec. 08, WID: [RP-080747](file:///C:\Data\3GPP\Extracts\RP-080747%20Revised%20LTE%20WID.doc))

(LTE\_CA-Core, leading WG: RAN1, REL-10, started: Dec. 09, closed: June 11, WID: [RP-100661](file:///C:\Data\3GPP\archive\TSGR\TSGR_48\Docs\RP-100661.zip))

(LTE\_UL\_MIMO-Core, leading WG: RAN1, REL-10, started: Dec.09, closed: June 11, WID: [RP-100959](file:///C:\Data\3GPP\archive\TSGR\TSGR_49\Docs\RP-100959.zip))

(LTE\_eDL\_MIMO-Core, leading WG: RAN1, REL-10, started: Dec.09, closed: March 11, WID: [RP-100196](file:///C:\Data\3GPP\archive\TSGR\TSGR_47\Docs\RP-100196.zip))

(LTE\_Relay-Core, leading WG: RAN1, REL-10, started: Dec. 09, closed: June 11, WID: [RP-110911](file:///C:\Data\3GPP\archive\TSGR\TSGR_52\Docs\RP-110911.zip))

(MBMS\_LTE\_enh-Core, leading WG: RAN2, REL-10, started: June 10, closed: March 11, WID: [RP-101244](file:///C:\Data\3GPP\archive\TSGR\TSGR_50\Docs\RP-101244.zip))

(MDT\_UMTSLTE-Core, leading WG: RAN2, REL-10, started: Dec. 09, closed: June 11, WID: [RP-100360](file:///C:\Data\3GPP\Extracts\RP-100360.doc))

(eICIC\_LTE-Core, leading WG: RAN1, REL-10, started: March 10, closed: June 11, WID: [RP-100383](file:///C:\Data\3GPP\archive\TSGR\TSGR_47\Docs\RP-100383.zip))

(SONenh\_LTE-Core, leading WG: RAN3, REL-10, started: March 10, closed: June 11, WID: [RP-101004](file:///C:\Data\3GPP\archive\TSGR\TSGR_49\Docs\RP-101004.zip))

(LTE\_CA\_enh-Core, leading WG: RAN1, REL-11, started: March 11, closed: Mar.13, WID: [RP-121999](file:///C:\Data\3GPP\archive\TSGR\TSGR_58\Docs\RP-121999.zip))

(MBMS\_LTE\_SC-Core, leading WG: RAN2, REL-11, started: June 10, closed: Sep.12, WID: [RP-120258](file:///C:\Data\3GPP\archive\TSGR\TSGR_55\Docs\RP-120258.zip))

(LTE\_eDDA-Core, leading WG: RAN2, REL-11, started: March 11, closed: Dec.12, WID: [RP-120256](file:///C:\Data\3GPP\archive\TSGR\TSGR_55\Docs\RP-120256.zip))

(LCS\_LTE-NBPS-Core, leading WG: RAN2, REL-11, started: March 09, closed: June. 13, WID: [RP-131259](file:///C:\Data\3GPP\archive\TSGR\TSGR_61\Docs\RP-131259.zip))

(eICIC\_enh\_LTE-Core, leading WG: RAN1, REL-11, started: March 11, closed: Dec. 12, WID: [RP-120860](file:///C:\Data\3GPP\archive\TSGR\TSGR_56\Docs\RP-120860.zip))

(SPIA\_IDC\_LTE-Core, leading WG: RAN2, REL-11, started: Sep.11, closed: Dec. 12, WID: [RP-111355](file:///C:\Data\3GPP\archive\TSGR\TSGR_53\Docs\RP-111355.zip))

(COMP\_LTE\_DL-Core, leading WG: RAN1, REL-11, started: Sep.11, closed: Dec.12, WID: [RP-111365](file:///C:\Data\3GPP\archive\TSGR\TSGR_53\Docs\RP-111365.zip))

(COMP\_LTE\_UL-Core, leading WG: RAN1, REL-11, started: Sep.11, closed: Dec.12, WID: [RP-111365](file:///C:\Data\3GPP\archive\TSGR\TSGR_53\Docs\RP-111365.zip))

(LTE\_TDD\_add\_subframe, leading WG: RAN1, REL-11, started: March 12; closed: Sep. 12, WID: [RP-120384](file:///C:\Data\3GPP\archive\TSGR\TSGR_55\Docs\RP-120384.zip))

(FS\_HetNet\_eMOB\_LTE, leading WG: RAN2, REL-11, started: March 11, closed: Sep. 12, WID: [RP-110709](file:///C:\Data\3GPP\Extracts\RP-110709.doc))

(LTE\_enh\_dl\_ctrl-Core, leading WG: RAN1, REL-11, started: Dec. 11, closed: Dec. 12, WID: [RP-120871](file:///C:\Data\3GPP\archive\TSGR\TSGR_56\Docs\RP-120871.zip))

(LTE\_SC\_enh\_dualC-Core, leading WG: RAN2, REL-12, started: Dec.13, closed: Dec.14, WID: [RP-141797](file:///C:\Data\3GPP\archive\TSGR\TSGR_66\Docs\RP-141797.zip))

(LTE\_SC\_enh\_L1-Core, leading WG: RAN1, REL-12, started: Dec.13, closed: Dec.14, WID: [RP-132073](file:///C:\Data\3GPP\archive\TSGR\TSGR_62\Docs\RP-132073.zip))

(MBMS\_LTE\_OS-Core, leading WG: RAN2, REL-12, started: Sep.13, closed: Dec.14, WID: [RP-140282](file:///C:\Data\3GPP\Extracts\RP-140282_RevWID_MBMS_MDT.doc))

(LTE\_NAICS-Core, leading WG: RAN1, Rel-12, started: Mar 14, closed: Dec.14, WID: [RP-140519](file:///C:\Data\3GPP\Extracts\RP-140519.doc))

(GCSE\_LTE-MBMS\_CM-Core, leading WG: RAN3, started: Sep. 14, closed: Mar. 2015, WID: [RP-141035](file:///C:\Data\3GPP\Extracts\RP-141035.doc))

(LTE\_CA\_TDD\_FDD-Core, leading WG: RAN1, REL-12, started: Jun 13, closed: Jun 14, WID: [RP-140465](file:///C:\Data\3GPP\Extracts\RP-140465%20Revised%20WID%20TDD-FDD%20joint%20operation%20including%20CA.doc))

(LCS\_BDS-LTE-Core, leading WG: RAN2, REL-12, started: Mar 13, closed: Dec 13, WID: [RP-130416](file:///C:\Data\3GPP\archive\TSGR\TSGR_59\Docs\RP-130416.zip))

(LTE\_eDL\_MIMO\_enh-Core, leading WG: RAN1, REL-12, started: Sep 12, closed: June 14, WID: [RP-121416](file:///C:\Data\3GPP\archive\TSGR\TSGR_57\Docs\RP-121416.zip))

(HetNet\_eMOB\_LTE-Core, leading WG: RAN2, REL-12, started: Dec.12, , closed: Sep 14, WID: [RP-122007](file:///C:\Data\3GPP\archive\TSGR\TSGR_58\Docs\RP-122007.zip))

(LTE\_TDD\_eIMTA-Core, leading WG: RAN1, REL-12, started: Dec 12, closed: Jun.14, WID: [RP-121772](file:///C:\Data\3GPP\archive\TSGR\TSGR_58\Docs\RP-121772.zip))

(SCM\_LTE-Core, leading WG: RAN2, REL-12, started: Mar.14, closed: Sep.14, WID: [RP-140434](file:///C:\Data\3GPP\Extracts\RP-140434_SCM%20WID.doc))

(LTE\_LAA-Core, leading WG: RAN1, REL-13; started: June 15, closed: Dec. 15, WID: [RP-151045](file:///C:\Data\3GPP\Extracts\RP-151045.doc))

(LTE\_CA\_enh\_b5C-Core, leading WG: RAN1, REL-13; started: Dec. 14, closed: Dec. 15, WID: [RP-151984](file:///C:\Data\3GPP\Extracts\RP-151984.doc))

(LTE\_SC\_PTM-Core, leading WG: RAN2, REL-13; started: June 15, closed: Dec. 15, WID: [RP-151110](file:///C:\Data\3GPP\Extracts\RP-151110%20New%20WI%20proposal%20on%20SC-PTM%20v3.doc))

(LTE\_MC\_load-Core, leading WG: RAN2, started: Mar. 15, closed: Dec. 15, WID: [RP-152181](file:///C:\Data\3GPP\Extracts\RP-152181%20Revised%20WI%20Multicarrier%20Load%20Distribution%20of%20UEs%20in%20LTE.doc))

(LTE\_dualC\_enh-Core, leading WG: RAN2, started: Mar. 15, closed: Dec. 15, WID: [RP-151739](file:///C:\Data\3GPP\archive\TSGR\TSGR_70\Docs\RP-151739.zip))

(LTE\_extDRX-Core; leading WG: RAN2; started: Mar. 15; closed: Mar. 16; WID: [RP-150493](file:///C:\Data\3GPP\Extracts\RP-150493-WID_Extended-DRX.doc))

(LTE\_EBF\_FDMIMO-Core; leading WG: RAN1; started: June. 15; closed: Dec. 15; WID: [RP-151085](file:///C:\Data\3GPP\Extracts\RP-151085%20WID_EBF_FD-MIMO.doc))

(LTE\_eMDT2-Core; leading WG: RAN2; started: Sep. 15; closed: Dec 15; WID: [RP-151611](file:///C:\Data\3GPP\Extracts\RP-151611.docx))

(LTE\_WLAN\_radio-Core, leading WG: RAN2, started: Mar. 15, closed: Mar. 16, WID: [RP-152213](file:///C:\Data\3GPP\Extracts\RP-152213%20Revised-LTE-WIFI-WI-RAN-70-v2.doc))

(LTE\_WLAN\_radio\_legacy-Core; leading WG: RAN2; started: Sep. 15; closed: Mar 15; WID: [RP-151615](file:///C:\Data\3GPP\archive\TSGR\TSGR_69\Docs\RP-151615.zip))

(LTE\_eLAA-Core; leading WG: RAN1; REL-14; started: Dec. 15; closed: Mar. 17; WID:[RP-162229](file:///C:\Data\3GPP\archive\TSGR\TSGR_74\Docs\RP-162229.zip))

(LTE\_WLAN\_aggr-Core; leading WG: RAN2; REL-14; started: Mar. 16; closed: Mar. 17; WID: [RP-160923](file:///C:\Data\3GPP\Extracts\RP-160923%20eLWA-WID.doc))

(LTE\_eMob-Core; leading WG: RAN2; REL-14; started: Mar. 16; closed: Mar. 17; WID:[RP-162503](file:///C:\Data\3GPP\Extracts\RP-162503%20Revised%20WID%20Mobility%20enhancements%20for%20LTE.docx))

(LTE\_LATRED\_L2-Core; leading WG: RAN2; REL-14; started: Mar. 16; closed: Sep. 16; WID: [RP-160667](file:///C:\Data\3GPP\Extracts\RP-160667%20L2%20New%20WID%20for%20L2%20latency%20reduction%20techniques%20for%20LTE.doc))

(MBMS\_LTE\_enh2-Core; leading WG: RAN1; REL-14; started: Mar. 16; closed: Sep. 17; WID:[RP-162231](file:///C:\Data\3GPP\Extracts\RP-162231%20updated%20WID%20eMBMS%20enhancements%20for%20LTE.doc)) (LTE\_SRS\_switch; leading WG: RAN1; REL-14; started: Mar.16: closed: Dec. 16; WID: [RP-160935](file:///C:\Data\3GPP\Extracts\RP-160935%20WI%20on%20SRS%20carrier%20switching.doc))

(LTE\_meas\_gap\_enh-Core; leading WG: RAN4; REL-14; started: Mar. 16; closed: Jun. 17; WID: [RP-160912](file:///C:\Data\3GPP\Extracts\RP-160912.doc))

(LTE\_high\_speed-Core; leading WG: RAN4; REL-14; started: Dec. 15. 16; closed: Dec. 16; WID: [RP-160172](file:///C:\Data\3GPP\archive\TSGR\TSGR_71\Docs\RP-160172.zip))

(LTE\_VoLTE\_ViLTE\_enh; leading WG: RAN2; REL-14; started: Sep. 16; closed: Mar. 17: WID: [RP-161856](file:///C:\Data\3GPP\archive\TSGR\TSGR_73\Docs\RP-161856.zip))

(LTE\_UE\_cat\_1Rx-Core; leading WG: RAN4; REL-14; started: Sep. 16; closed: Jun. 17: WID: [RP-171149](file:///C:\Data\3GPP\archive\TSGR\TSGR_76\Docs\RP-171149.zip))

(LTE\_UL\_CAP\_enh-Core; leading WG: RAN1; REL-14; started: Mar. 16; closed: Mar. 17: WID: [RP-162488](file:///C:\Data\3GPP\Extracts\RP-162488%20WID.doc))

(LTE\_eFDMIMO-Core; leading WG: RAN1; REL-14; started: Mar. 2016; closed: Mar. 17: WID: [RP-160623](file:///C:\Data\3GPP\Extracts\RP-160623%20WID_eFD-MIMO.doc))

(LTE\_MUST-Core; leading WG: RAN1; REL-14; started: Mar. 16; closed: Dec. 16: WID: [RP-161019](file:///C:\Data\3GPP\archive\TSGR\TSGR_72\Docs\RP-161019.zip))

(eDECOR-UTRA\_LTE-Core; leading WG: RAN3; REL-14; started: Dec. 16; closed: Mar. 17: WID: [RP-162543](file:///C:\Data\3GPP\archive\TSGR\TSGR_74\Docs\RP-162543.zip))

Joint UMTS/LTE WIs Rel-14 and earlier:

(SIMTC-RAN\_OC-Core, leading WG: RAN2, REL-11, started: Sep.11, closed: Sep. 12, WID: [RP-111373](file:///C:\Data\3GPP\archive\TSGR\TSGR_53\Docs\RP-111373.zip))

(eMDT\_UMTSLTE-Core, leading WG: RAN2, REL-11, started: Sep.11, closed: Dec.12, WID: [RP-121204](file:///C:\Data\3GPP\archive\TSGR\TSGR_57\Docs\RP-121204.zip))

(SONenh2\_LTE\_UTRA-Core, leading WG: RAN3, REL-11, started: Sep.11, closed: Dec.12, WID: [RP-120314](file:///C:\Data\3GPP\archive\TSGR\TSGR_55\Docs\RP-120314.zip))

(rSRVCC-GERAN, leading WG: GERAN2, REL-11, started: Sep.11, closed: Nov.13, WID: GP-111290)

(EHNB\_enh3-Core, leading WG: RAN3, REL-12, started: Sep.12, closed: Dec 13, WID: [RP-130741](file:///C:\Data\3GPP\archive\TSGR\TSGR_60\Docs\RP-130741.zip))

(UTRA\_LTE\_WLAN\_interw-Core, leading WG: RAN2, REL-12, started: Dec.13, closed: Sep.14, WID: [RP-132101](file:///C:\Data\3GPP\archive\TSGR\TSGR_62\Docs\RP-132101.zip))

(LTE\_UTRA\_IncMon-Core, leading: RAN4, REL-12, started: Dec.13, closed: Dec. 14, WID: [RP-132061](file:///C:\Data\3GPP\archive\TSGR\TSGR_62\Docs\RP-132061.zip))

(ACDC-RAN-Core; leading WG: RAN2; REL-13; started: Mar. 15; closed: Dec. 15; [RP-150662](file:///C:\Data\3GPP\Extracts\RP-150662%20RAN%20ACDC%20WID%20Rev.doc))

LTE Rel-15:

(LTE\_STTIandPT-core; leading WG: RAN1; REL-15; started: June 16; closed: Sep. 18; WID: [RP-171468](file:///C:\Data\3GPP\archive\TSGR\TSGR_76\Docs\RP-171468.zip))

(LTE\_ViLTE\_enh2-Core; leading WG: RAN2; REL-15; started: Mar. 17; closed: Sep. 18: WID: [RP-181746](file:///C:\Data\3GPP\archive\TSGR\TSGR_81\Docs\RP-181746.zip))

(LTE\_QMC\_Streaming; leading WG: RAN2; REL-15; started: Mar. 17; closed: Sep 18: WID: [RP-181640](file:///C:\Data\3GPP\archive\TSGR\TSGR_81\Docs\RP-181640.zip))

(LTE\_5GCN\_connect-Core; leading WG: RAN2; REL-15; started: Mar. 17; closed: Sep. 18: WID: [RP-181680](file:///C:\Data\3GPP\Extracts\RP-181680%20Revision%20of%20WID%20LTE-5GC.doc))

(LTE\_euCA-Core; leading WG: RAN2; REL-15; started: Mar. 17; closed: Sep. 18: WID: [RP-180561](file:///C:\Data\3GPP\archive\TSGR\TSGR_79\Docs\RP-180561.zip))

(LTE\_1024QAM\_DL-Core; leading WG: RAN1; REL-15; started: Mar. 17; closed: Mar. 18: WID: [RP-181670](file:///C:\Data\3GPP\Extracts\RP-181670%20Revised%20WI%20-%20LTE_HCS_RAN%2381.doc))

(LTE\_unlic-Core; leading WG: RAN1; REL-15; started: Mar. 17; closed: Jun. 18: WID: [RP-180402](file:///C:\Data\3GPP\archive\TSGR\TSGR_79\Docs\RP-180402.zip))

(LTE\_HRLLC-Core; leading WG: RAN1; REL-15; started: Mar. 17; closed: Sep. 18: WID: [RP-181259](file:///C:\Data\3GPP\archive\TSGR\TSGR_80\Docs\RP-181259.zip))

(LTE\_UDC-Core; leading WG: RAN2; Rel-15; started Sep 17; closed: Sep 18; WID [RP-180914](file:///C:\Data\3GPP\Extracts\RP-180914-revised%20WID_on%20UDC.doc))

(feCOMP\_LTE-Core; leading WG: RAN1; REL-15; started: Mar. 17; closed: Sep. 18: WID: [RP-182004](file:///C:\Data\3GPP\archive\TSGR\TSGR_81\Docs\RP-182004.zip))

(LTE\_Aerial-Core;leading WG: RAN2; REL-15; started: Dec. 17; closed: Sep. 18: WID:[RP-181310](file:///C:\Data\3GPP\archive\TSGR\TSGR_80\Docs\RP-181310.zip))

(LTE\_MDT\_BT\_WLAN-Core; leading WG: RAN2; REL-15; started: Dec. 17; closed: Sep. 18: WID: [RP-181743](file:///C:\Data\3GPP\archive\TSGR\TSGR_81\Docs\RP-181743.zip))

(INOBEARRAN-Core ; leading WG: RAN2; REL-15; started: Dec. 17; closed: Sep. 18: WID: [RP-182133](file:///C:\Data\3GPP\Extracts\RP-182133_INOBEARRAN_WID_v05.doc))