3GPP TSG-RAN WG2 Meeting #109bis-e [R2-2003801](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003801.zip)

**Electronic, 20 April – 30 April 2020**

**Agenda Item: 8.1**

**Source: Vice Chairman (Nokia)**

**Title: Report on LTE legacy, LTE TEI16 and NR/LTE Rel-16 Mobility topics**

**General**

# 2 General

**Instructions - General**

Priority: In such cases that prioritization is needed, essential maintenance corrections has highest priority, followed by R16 Closing of WI Open Issues, followed by R16 Corrections / Stage-3 review solutions.

Incoming LS’es are handled. As usual it is up to session chair which ones to treat (and related tdocs).

R15 and earlier: For R15 and earlier releases, documents on important and urgent issues shall be submitted and treated. No text enhancements without behavioural or functional change.

R16 Open Issues, Stage-3 review: R16 Input to R2#109bis-e to focus on issues: WI open issues and Stage-3 review issues. It is important that you work with WI rapporteurs and WI CR rapporteurs on Open issues.

R16 Email Discussions to R2#109bis-e: No tdocs except email discussions will be treated on topics that are treated in email discussion. You need to participate in email discussions and contribute your views there. An unresolved issue that seems to require discussion and separate treatment can be assigned to a company, and this company can then submit one tdoc on this issue that do not count against tdoc limitation. Other companies are encouraged to cooperate with the assigned company rather than submitting own input. This is applicable both to e.g. ASN.1 review category 2 or 3 issues and/or issues relating to other specifications.

R16 Small Corrections, non-RRC: For small non-controversial corrections, please if possible contact the CR Rapporteur directly to include the correction. The CR Rapporteur can list the contributing company name within brackets on the explanatory parts of the CR cover sheet, for proper credit (however for changes commented by multiple companies the rapporteur may choose to not do this). If required due to US EAR, such communication can use the official R2 email discussion [Post109bis-e#53]. For RRC Small Corrections, please for RRC rapporteurs ASN.1 category 0/1 instructions.

R16 CRs: No company specific CRs. For all R16 WIs, “big” CRs similar to running CRs per WI and TS are maintained by current/previous running CR rapporteurs. Companies may input TPs or draft CRs, to be merged into the big CRs if agreed. R16 CRs do not need an impact analysis.

R16 TEI: Low priority for new proposals. Most likely no new proposal will be treated.

R16 UE capabilities: On L1 and Radio features, RAN2 waits for feature list input from RAN1 and RAN4. Can anyway evolve running CRs to the extent possible/reasonable, e.g. on R2 feature scope.

R17: Will not be treated

**Instructions - Summary of tdocs**

In particular for R16, for AIs where tdoc submission is expected, the Intention is to treat summaries that summarize contents of submitted tdocs rather than submitted tdocs. Tdocs that are covered by a summary are to be noted if the summary is treated.

Where indicated in the agenda or later in chair notes, the tdocs submitted to a sub-agenda item or on a specific sub-topic, are summarized in a summary tdoc by an appointed rapporteur. It is the task of the rapporteur to reflect submitted proposals in a neutral way, group, merge and structure to facilitate easy treatment. There may be email discussion checking for each summary that may start as soon as there is a first summary draft, e.g. before submission. When such email discussion takes place during the tdoc review week it is considered a) the purpose is mainly to check correctness and get immediate comments/suggestions b) ambition level is best effort.

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| **Guidance on RAN2 RRC Activities before, during and after April meeting**  NR and EUTRA follows the same principal planning for RRC CRs and ASN.1 review. [R2-2001709](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2001709.zip) contains an endorsed high level overview plan. Some more details are provided here. Even further details will be provided by the RRC TS Rapporteurs.   1. **General principles** 2. Until April meeting, we will run both ASN.1 Review and WI-specific email discussions in parallel. 3. The ASN.1 Review will be kicked-off as soon as Rel-16 spec is available. Detailed guidance for the ASN.1 review process will be provided by the RRC specification Rapporteurs 4. **UE capabilities** are discussed as covered by specific WI discussions. It is not planned to include UE capabilities for ASN.1 review for April. RIL issues can still be considered best effort for the WIs that included some UE capability contents in the March specifications. 5. **After April meeting**, RAN2 expects to have the following RRC CRs:    1. The ASN.1 Review file, with RILs (as usual after ASN.1 review). This is a “mega-CR”, covering the complete Rel-16 RRC specification.    2. One RRC CR per WI (assumption), including contents for closing WI open issues, and Category 3 issues, which are WI specific (see below) . RIL items/comments are added in the ASN.1 Review file to refer to the tdoc number of the WI specific CRs. The intention is that RIL issues of the ASN.1 review file shall indicate all RRC changes, also the ones done in WI-specific CRs. 6. **Issue classification**   For reference, below there is an Issue Classification (similar to what RAN2 has used earlier in ASN.1 reviews), but now with **guidance** on during which April meeting sessions to handle each issue during RAN2 April 2020 meeting:   1. **Trivial** e.g. editorials, commas, colon, misspelling, missing/ double spaces, italics etc. 2. **Minor** e.g. quite straightforward changes e.g. correction/ addition of specification references or sub-clauses 3. **ASN.1 session** **issue** e.g. ASN.1 issue e.g. related to need codes, extensibility, alternative encoding, ASN.1/ guidelines, general protocol (consistency) issue or issue affecting more than one WI 4. **WI session issue i**.e. an issue that is not purely ASN.1 but has some impact on functionality but only affecting a single WI.   Issues of class 0 and 1 are provided to ASN.1 review moderator, who captures changes within ASN.1 review file with best effort i.e. not highest priority in accordance with guidance provided at ASN.1 review kick-off. This is applicable also to issues found in WI-specific discussions.   1. **WI specific email discussions before April meeting** 2. Each WI RRC Rapporteur is expected to progress known RRC open issues (FFSs, Editor’s Notes etc) in WI-specific RAN2 email discussions until RAN2 April meeting. 3. The result is submitted in WI-specific RRC draft CRs to RAN2 April meeting. 4. Main focus is to resolve the already known open issues, but if discovered, companies may also raise new major functional issues. 5. The open issues managed in these discussions are managed by WI RRC rapporteur. No ASN.1 review RIL handling are used in these email discussions. Note that it is still important to take note of such open issues in the ASN.1 review work to avoid double work. Open issues lists should be made available. Note that Class 0, 1, and 2 issues, if discussed, shall be forwarded to RRC TS rapporteurs / ASN.1 session, for capture in the ASN.1 review file. 6. If a Class 3 issue cannot be resolved during the email discussion, it may be left open or one company can be assigned to address the issue in the meeting by tdoc (without counting towards tdoc limitation) 7. **ASN.1 Review until April meeting** 8. ASN.1 review on the full RRC March specifications will be kicked off when RRC specifications are published. 9. The details on the ASN1 Review process (entering RILs, formats, macros, reporting Class 0/Class 1 issues etc) will be provided before the ASN.1 Review is kicked-off. 10. Companies are asked to provide Class 2 issues and Class 3 issues discussed in the ASN.1 review email discussion via RILs, in the same way as usual.     1. For WIs without RRC email discussion, class 3 issues are raised during ASN.1 review e-mail (for WIs with RRC email discussion, such issues are preferably handled within concerned e-mail as open issue without RIL) 11. If an ASN.1 review issue Class 2 or 3 is not resolved during the email discussion, it may be left open or one company can be assigned to address the issue in the meeting by tdoc (without counting towards tdoc limitation) 12. **Sessions in RAN2 April meeting** 13. **WI-specific sessions**     1. WI-specific RRC draft CRs and Class 3 issues will be handled at WI-specific sessions.     2. As a result of the session, the **session minutes** indicates per RRC issue/change whether        1. the RRC change is to be inserted into the ASN.1 Review file (following the process for inserting into the ASN.1 review file, i.e. with a RIL comment) or        2. the RRC change remains in the (WI-specific) CR A RIL item/comment is added to the ASN.1 Review, to refer to the tdoc number of the (WI-specific) CR. Note that RIL issues from WI specific discussions that are decided in WI specific session may be added to the ASN.1 review file after agreement.     3. WI RRC Rapporteur is responsible for and coordinates the insertion of RILs related to WI specific CR into the ASN.1 Review file with the ASN.1 Review Moderator. 14. **ASN.1 Review sessions (separate for NR and LTE)**     1. The ASN.1 Review sessions (for NR and LTE) will handle Class 2 issues (according to ASN.1 review process). 15. **Actions expected by companies before April meeting** 16. Contribute WI specific open issues to the WI specific email discussions. Note that these emails aim to handle class 3 type of issues. 17. Contribute to the ASN.1 Review (focus should be on issues **essential to freeze the ASN.1** i.e. ensure that signaling is complete, extensible, releasable, and that associated handling seems clear and complete.)     1. Enter RIL issues for Class 2 issues and, for WIs without RRC e-mail discussion, Class 3 issues.     2. For class 3 issues specific to single WI, avoid double work (e.g. coordinate with WI-specific RRC Rapporteur). (WI/functional open issues and their resolutions are only referred to in ASN.1 review file after agreement.) 18. Report Class 0 and Class 1 issues, to be included in ASN.1 Review File (ASN.1 Review Moderator is responsible). The actual update of the ASN.1 Review file might be postponed until after April RAN2 meeting (not critical activity) |

Note: Time Budget Comments remain in this document only for reference. They are not applicable for R2 109bis-e.

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 [AT109bis-e][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:
* [AT109bis-e][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, 7.0.x ASN.1 and UE capabilities for LTE Rel-16, 7.3 EUTRA Mobility, 7.4 EUTRA high-speed, 7.5 LTE Other, 7.6 TEI16, 7.8 LTE DL MIMO and 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, Apr 21st 12:00 UTC
    - Discussions on LSs: Wednesday, Apr. 22nd 12:00 UTC (one day after comment deadline)

Status: Started

**Web Conference Schedule**

Note that this schedule is indicative and can change. Changes to the schedule will be announced with notice of at least 24h.

Note: Web conferences handled in this document highlighted in yellow.

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| **Time Zone UTC** | **Web Conference R2 Main** | **Web Conference R2 BO1** | **Web Conference R2 BO2** |
| **Monday 20** |  |  |  |
| 12:00 – 13:30 | [6.0.1] NR ASN.1 review | [6.2] NR Unlic (Diana) | [4.1][4.2] IoT R15 and earlier (Brian/Emre)  [7.1][7.2] IoT R16 (Brian/Emre) |
| 13:30 – 15:00 | [6.10] DC/CA enh | [4.4 ] LTE Pos R15 and earlier (Nathan)  [5.2.3] NR Pos Corrections (Nathan)  [6.8] NR Pos (Nathan) | [6.12] SON/MDT in NR (Hu Nan) |
| **Tuesday 21** |  |  |  |
| 12:00 – 13:30 | [6.1] NR IAB | [6.18] PRN (Sergio)  [6.15] CLI (Sergio) | [7.0.1] LTE ASN.1 review (not NB-ioT/MTC) |
| 13:30 – 15:00 | [6.7][6.22] I-IoT, URLLC | [6.4] NR V2X (Kyeongin)  [4.3] LTE V2X R15 and earlier (Kyeongin) | [6.9][7.3] NR & LTE mobility enhancements (Tero) |
| **Wednesd 22** |  |  |  |
| 12:00 – 13:30 | [5.4] NR CP corrections | [6.11] NR power saving (Diana) | [6.8] NR Pos (Nathan) |
| 13:30 – 15:00 | [6.0.1] NR ASN.1 review | [6.13] 2 step RACH [1] (Diana) | [7.1][7.2] IoT R16 (Brian/Emre) |
| **Thursday 23** |  |  |  |
| 04:00 – 05:30 | [6.21] On dem SI in connected  [6.19] NR Inc LS  [6.20] NR TEI16 | [6.4] NR V2X (Kyeongin) | [6.9][7.3] NR & LTE mobility enhancements (Tero) |
| **Friday 24** |  |  |  |
| 04:00 – 05:30 | [6.0.1] NR ASN.1 review | [6.16] eMIMO (Sergio) | [7.1][7.2] IoT R16 [5] (Brian/Emre) |

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| **Time Zone UTC** | **Web Conference R2 Main** | **Web Conference R2 BO1** | **Web Conference R2 BO2** |
| **Monday 27** |  |  |  |
| 13:00 – 14:30 | [6.1] NR IAB or  [5] NR corrections | [6.11] NR power saving (Diana)  [6.13] 2 step RACH (Diana) | [6.9][7.3] NR & LTE mobility enhancements (Tero) |
| 14:30 – 16:00 | [6.0.1] NR ASN.1 review | [6.2] NR Unlic (Diana) | [6.18] PRN (Sergio) |
| **Tuesday 28** |  |  |  |
| 13:00 – 14:30 | [6.10] DC/CA enh | [6.4] NR V2X (Kyeongin) | [7.1][7.2] IoT R16 (Brian/Emre) |
| 14:30 – 16:00 | [6.7][6.22] I-IoT, URLLC | [6.4] NR V2X (Kyeongin) | [7.0.1] LTE ASN.1 review |
| **Wednesd 29** |  |  |  |
| 13:00 – 14:30 | [6.0.1] NR ASN.1 review | [6.16] eMIMO (Sergio) | [7.1][7.2] IoT R16 (Brian/Emre) |
| 14:30 – 16:00 | [6.0.2] UE cap maybe  TBD | [6.12] SON/MDT in NR (Hu Nan) | [4.4][5.4][6.8][7.7][6.20] Positioning (Nathan) |
| **Thursday 30** |  |  |  |
| 03:30-05:00 | [6.0.1, 7.0.1] NR and EUTRA ASN.1 review | TBD | [7.1][7.2] IoT R16 (Brian/Emre) (if needed) |

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

**These topics are all only treated over email – no web conference is planned (see discussions 201-203).**

* Only flagged LSs treated (flagging to be done via **Email discussion** 200)
* CRs are agreed in principle over email where possible.

**LTE ASN.1 review (other than NB-IoT and MTC)**

**Tuesday April 21st, 12:00 – 13:30 UTC**

* Treat outcome of email discussion [post109bis-e#52] [Post109bis-e#52][ASN.1] 36331 ASN.1 review EUTRA (Samsung)
* Go through selected review issues (starting from the most important one)
* Assign offline email discussions to resolve remaining ASN.1 issues until 2nd week (i.e. deadline: Tuesday April 28th)

**Tuesday April 28th, 14:30 – 16:00 UTC**

* Endorse outcome of concluded offline email discussions
* Go through remaining review issues (starting from the most important one)
* Determine how to resolve remaining ASN.1 issues (i.e. can some be postponed to next meeting or handled during the remaining two days)

**LTE/NR mobility**

**Tuesday April 21st, 13:30 – 15:00 UTC**

* Treat flagged LS (i.e. according to flagging done in **email discussion** **200**)
* Handle email discussion outcomes as follows:
  + [Post109bis-e#11][MOB] Resolving open issues for DAPS (Intel)
  + If time allows, start also [Post109bis-e#12][MOB] Resolving open issues for CHO (Nokia)

**Thursday, April 23rd 04:00– 5:30 UTC**

* Handle email discussion outcomes as follows:
  + [Post109bis-e#12][MOB] Resolving open issues for CHO (Nokia)
  + If time allows, start also [Post109bis-e#13][NR MOB] Resolving open issues for CPC (CATT)
* If time allows, most important topics from ongoing offline email discussionsmay also be treated selectively (to be announced prior to the web conference)

**Monday, April 27th, 13:30 – 15:00 UTC**

* Handle (if needed) the remainder of [Post109bis-e#13][NR MOB] Resolving open issues for CPC (CATT)
* If time allows, most important topics from ongoing offline email discussionsmay also be treated selectively (to be announced prior to the web conference)
* UE capability discussion may be discussed if time allows

**List of offline email discussions:**

*NOTE: The official kickoff date for these email discussions are Monday 20th, 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, April 20th)*

**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**

* [AT109bis-e][201][LTE15] Simple LTE legacy CRs (RAN2 VC)

Scope:

* + - Attempt to agree to CRs in [R2-2003451](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003451.zip), [R2-2003452](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003452.zip), [R2-2003453](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003453.zip), [R2-2003232](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003232.zip), [R2-2003233](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003233.zip), [R2-2002619](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002619.zip) and [R2-2002620](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002620.zip).

Intended outcome:

* + - Discussion summary in [R2-2003841](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003841.zip) (by email rapporteur), including list of CRs are agreed or moved to discussion **202** (for further discussion)
    - Agreeable CRs (by each CR proponent)

Deadline for providing comments and for rapporteur inputs:

* + - Initial deadline (for companies' feedback): Wednesday 2020-04-22 16:00 UTC
    - Initial deadline (for rapporteur's summary in [R2-2003841](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003841.zip)): Thursday 2020-04-23 10:00 UTC
    - Proposed agreements in [R2-2003841](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003841.zip) indicated for email agreement and not challenged until Thursday 2020-04-23 22:00 UTC will be declared as agreed by the session chair.

Status: Started

* [AT109bis-e][202][LTE15] Other LTE legacy CRs (RAN2 VC)

Scope:

* + - Discuss the CRs in [R2-2003147](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003147.zip), [R2-2003148](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003148.zip), [R2-2003149](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003149.zip), [R2-2003150](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003150.zip), [R2-2003151](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003151.zip) and [R2-2003548](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003548.zip), [R2-2003549](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003549.zip), [R2-2003550](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003550.zip), [R2-2003551](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003551.zip), [R2-2003552](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003552.zip), [R2-2003553](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003553.zip), [R2-2003554](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003554.zip), to determine what to capture in specifications and from which release onwards.
    - Discuss the CRs [R2-2003152](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003152.zip), [R2-2003153](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003153.zip), [R2-2003154](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003154.zip) to determine if the interpretation is correct and how a correction should be captured (if needed).
    - Handle any CRs from discussion **201** as necessary

Intended outcome:

* + - Discussion summary in [R2-2003841](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003841.zip), detailing which CRs (if any) can be agreed and recording the summary of offline discussions comments
    - For CRs that can be agreed, final CRs (by CR proponents)

Deadlines for providing comments and for rapporteur inputs:

* + - Initial deadline (for companies' feedback): Thursday 2020-04-23 12:00 UTC
    - Initial deadline (for rapporteur's summary in [R2-2003841](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003841.zip)): Friday 2020-04-24 08:00 UTC
    - Proposed agreements in [R2-2003841](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003841.zip) indicated for email agreement and not challenged until Tuesday 2020-04-28 12:00 UTC will be declared as agreed by the session chair.

Status: Started

**LTE Rel-16**

* [AT109bis-e][203][LTE16] LTE Rel-16 CR discussion (RAN2 VC)

Scope:

* + - Covering discussion of contributions in AIs 7.4, 7.5, 7.6, 7.8 and 7.9
    - Discuss whether the CRs in [R2-2003546](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003546.zip), [R2-2003547](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003547.zip) can be endorsed as baseline for UE capabilities of DL MIMO efficiency enhancements for LTE.
    - Discuss if the intent of [R2-2002888](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002888.zip) is agreeable. If needed, provided updated revision to CR [R2-2002887](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002887.zip).
    - Discuss which approach can resolve the identified problem: Re-interpretation of existing signalling ([R2-2003545](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003545.zip)) or addition of new signalling ([R2-2003364](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003364.zip)).

Intended outcome:

* + - Discussion summary document in [R2-2003842](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003842.zip), detailing which CRs can be agreed in principle and summary of offline discussion comments
    - Final versions of in-principle agreeable CRs (by each CR proponent)

Deadlines for providing comments and for rapporteur inputs:

* + - Initial deadline (for companies' feedback): Thursday 2020-04-23 12:00 UTC
    - Initial deadline (for rapporteur's summary in [R2-2003842](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003842.zip)): Friday 2020-04-24 08:00 UTC
    - Proposed agreements in [R2-2003842](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003842.zip) indicated for email agreement and not challenged until Tuesday 2020-04-28 12:00 UTC will be declared as agreed by the session chair.

Status: Started

**LTE ASN.1 review**

* [AT109bis-e][204][LTE ASN1] LTE general ASN.1 discussion (Samsung)

Scope:

* + - General ASN.1 issue discussion covering AI 7.0.1 according to ASN.1 review issue list.
    - Flagging issues for discussion during the LTE ASN.1 web conference session(s) via email before the session(s)

Intended outcome:

* + - Discussion summary document in [R2-2003843](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003843.zip), detailing the proposals for ASN.1 issue resolution (including ASN.1 changes).
    - Combined CR with the agreed changes on general ASN.1 for LTE

Deadline for providing comments and for rapporteur inputs:

* + - Flagging review issues for discussion in the 1st ASN.1 session: Tuesday Apr. 21st, 8:00 UTC
    - Flagging review issues for discussion in the 2nd ASN.1 session: Mondday Apr. 27th, 8:00 UTC
    - Initial deadline (for rapporteur's summary in [R2-2003843](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003843.zip)): Friday 2020-04-24 08:00 UTC
    - Proposed agreements in [R2-2003843](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003843.zip) indicated for email agreement and not challenged until Tuesday 2020-04-28 12:00 UTC will be declared as agreed by the session chair.

Status: Started

* [AT109bis-e][210][MOB ASN1] ASN.1 discussion for LTE and NR mobility (Intel/Ericsson)

Scope:

* + - Handling per-WI issues raised in ASN.1 review, including handling contributions submitted to the meeting on ASN.1 issues.
    - Flagging issues for discussion during Web conference (for either the 1st or 2nd week Web conferences)

Intended outcome:

* + - Discussion summary document in [R2-2003844](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003844.zip), including proposals for ASN.1 issue resolution (including ASN.1 changes) and summary of discussions.
    - CR issues to be handled via CR email discussions

Deadline for providing comments and for rapporteur inputs:

* + - Flagging review issues for the ASN.1 discussion: Wednesday Apr. 22nd, 08:00 UTC
    - Initial deadline (for companies' feedback): Thursday 2020-04-23 12:00 UTC
    - Initial deadline (for rapporteur's summary in [R2-2003844](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003844.zip)): Friday 2020-04-24 12:00 UTC
    - Proposed agreements in [R2-2003844](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003844.zip) indicated for email agreement and not challenged until Monday 2020-04-27 12:00 UTC will be declared as agreed by the session chair.

Status: Not yet started (to be done Monday Apr. 20th)

**LTE/NR Mobility**

* [AT109bis-e][205][MOB] Flagging and discussion of DAPS UP open issues for PDCP/RLC/MAC (Huawei)

Scope:

* + - Companies flagging critical DAPS UP issues requiring Web conference discussion
    - Discuss the remaining UP open issues identified in email discussion report of Post109#11 in [R2-2003371](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003371.zip).

Intended outcome:

* + - Discussion summary document in [R2-2003845](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003845.zip), including resolutions to open issues and identification of non-critical issues that should no longer be pursued in Rel-16

Deadlines for flagging issues for Web conference discussion:

* + - Flagging of issues for the Web conference: Tuesday 2020-04-21 10:00 UTC
    - Rapporteur summary: Tuesday 2020-04-21 11:30 UTC

Deadlines for providing comments and for rapporteur inputs:

* + - Initial deadline (for companies' feedback): Thursday 2020-04-23 10:00 UTC
    - Initial deadline (for rapporteur's summary in [R2-2003845](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003845.zip)): Friday 2020-04-24 08:00 UTC
    - Proposed agreements in [R2-2003845](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003845.zip) indicated for email agreement and not challenged until Tuesday 2020-04-28 12:00 UTC will be declared as agreed by the session chair.

Status: Started

* [AT109bis-e][206][MOB] Flagging and discussion of DAPS CP open issues for RRC (Intel)

Scope:

* + - Companies flagging critical DAPS CP issues requiring Web conference discussion
    - Discuss the remaining CP/RRC open issues identified in email discussion report of Post109#11 in [R2-2003371](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003371.zip).

Intended outcome:

* + - Discussion summary document in [R2-2003846](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003846.zip), including resolutions to open issues and identification of non-critical issues that should no longer be pursued in Rel-16

Deadlines for flagging issues for Web conference discussion:

* + - Flagging of issues for the Web conference: Tuesday 2020-04-21 10:00 UTC
    - Rapporteur summary: Tuesday 2020-04-21 11:30 UTC

Deadlines for providing comments and for rapporteur inputs:

* + - Initial deadline (for companies' feedback): Thursday 2020-04-23 12:00 UTC
    - Initial deadline (for rapporteur's summary in [R2-2003846](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003846.zip)): Friday 2020-04-24 08:00 UTC
    - Proposed agreements in [R2-200384](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003842.zip)6 indicated for email agreement and not challenged until Tuesday 2020-04-28 12:00 UTC will be declared as agreed by the session chair.

Status: Started

* [AT109bis-e][207][MOB] Resolution to open issues for CHO (Nokia)

Scope:

* + - Discuss the remaining open issues identified in email discussion report of Post109#12 in [R2-2003105](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003105.zip).

Intended outcome:

* + - Discussion summary document in [R2-2003847](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003847.zip)
    - Agreeable proposals for closing critical open issues (if possible).
    - Non-critical issues that should no longer be pursued in Rel-16

Deadlines for providing comments and for rapporteur inputs:

* + - Initial deadline (for companies' feedback): Thursday 2020-04-23 12:00 UTC
    - Initial deadline (for rapporteur's summary in [R2-200384](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003842.zip)7): Friday 2020-04-24 12:00 UTC
    - Proposed agreements in [R2-2003847](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003847.zip) indicated for email agreement and not challenged until Tuesday 2020-04-28 12:00 UTC will be declared as agreed by the session chair.

Status: Started

**NR Mobility**

* [AT109bis-e][208][NR MOB] Finalization of T312 for fast handover failure recovery (Samsung)

Scope:

* + - Discuss the topics raised by contributions in AI 6.9.3.2 to see which issues need to be resolved in Rel-16.

Intended outcome:

* + - Discussion summary document in [R2-2003848](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003848.zip)
    - Agreeable proposals for closing critical open issues (if possible).
    - Non-critical issues that should no longer be pursued in Rel-16

Deadlines for providing comments and for rapporteur inputs:

* + - Initial deadline (for companies' feedback): Thursday 2020-04-23 12:00 UTC
    - Initial deadline (for rapporteur's summary in [R2-2003848](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003848.zip)): Friday 2020-04-24 12:00 UTC
    - Proposed agreements in [R2-2003848](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003848.zip) indicated for email agreement and not challenged until Tuesday 2020-04-28 12:00 UTC will be declared as agreed by the session chair.

Status: Not yet started

* [AT109bis-e][209][NR MOB] Resolution to remaining open issues of CPC (CATT)

Scope:

* + - Identify if any critical issues are remaining for the CPC based on this meeting’s contributions and attempt to identify company views to those

Intended outcome:

* + - Discussion summary document in [R2-2003849](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003849.zip), including agreeable proposals for closing critical open issues (if possible) and list of non-critical issues that should no longer be pursued in Rel-16
    - The proposed agreements in [R2-2003849](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003849.zip) will be handled in the Monday 2020-04-27 Web conference session

Deadlines for providing comments and for rapporteur inputs:

* + - Initial deadline (for companies' feedback): Thursday 2020-04-23 12:00 UTC
    - Initial deadline (for rapporteur's summary in [R2-2003849](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003849.zip)): Friday 2020-04-24 12:00 UTC

Status: Not yet started

**CR finalization (some scope changes may still occur during 1st meeting week)**

* [AT109bis-e][211][NR MOB] RRC CR (Intel)

Scope:

* + - NR mobility RRC CR capturing NR DAPS, NR CHO and CPC changes agreed in this meeting

Intended outcome:

* + - In-principle agreed 38.331 CR for NR mobility
    - If needed, in-principle agreed 36.331 CR for NR mobility (mainly due to T312 and CPC)
    - Final CRs can be provided in [R2-2003850](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003850.zip) (NR RRC) and [R2-2003851](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003851.zip) (LTE RRC)

Deadlines for providing comments and for rapporteur inputs:

* + - Deadline for companies' feedback: Wednesday 2020-04-29 10:00 UTC
    - Deadline for rapporteur's version for agreement: Thursday 2020-04-30 10:00 UTC

Status: Not yet started

* [AT109bis-e][212][LTE MOB] RRC CR (Ericsson)

Scope:

* + - LTE mobility RRC CR capturing DAPS and CHO changes agreed in this meeting

Intended outcome:

* + - In-principle agreed 36.331 CR for LTE mobility
    - Final CR can be provided in [R2-2003852](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003852.zip) (LTE RRC)

Deadlines for providing comments and for rapporteur inputs:

* + - Deadline for companies' feedback: Wednesday 2020-04-29 10:00 UTC
    - Deadline for rapporteur's version for agreement: Thursday 2020-04-30 10:00 UTC

Status: Not yet started

* [AT109bis-e][213][MOB] PDCP CRs for LTE and NR (Huawei)

Scope:

* + - PDCP CRs for LTE and NR DAPS corrections agreed in this meeting

Intended outcome:

* + - In-principle agreed 36.323 and 38.323 CR for LTE and NR mobility based on changes agreed in this meeting
    - Final CRs can be provided in [R2-2003853](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003853.zip) (NR PDCP) and [R2-2003854](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003854.zip) (LTE PDCP)

Deadlines for providing comments and for rapporteur inputs:

* + - Deadline for companies' feedback: Wednesday 2020-04-29 10:00 UTC
    - Deadline for rapporteur's version for agreement: Thursday 2020-04-30 10:00 UTC

Status: Not yet started

* [AT109bis-e][214][MOB] MAC CRs for LTE and NR (vivo)

Scope:

* + - MAC CRs for LTE and NR DAPS corrections agreed in this meeting

Intended outcome:

* + - In-principle agreed 36.321 and 38.323 C1 for LTE and NR mobility based on changes agreed in this meeting
    - Final CRs can be provided in [R2-2003855](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003855.zip) (NR MAC) and [R2-2003856](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003856.zip) (LTE MAC)

Deadlines for providing comments and for rapporteur inputs:

* + - Deadline for companies' feedback: Wednesday 2020-04-29 10:00 UTC
    - Deadline for rapporteur's version for agreement: Thursday 2020-04-30 10:00 UTC

Status: Not yet started

**Tentative Post-meeting email discussions (to be clarified during the meeting)**

* [Post109bis-e][NR MOB] Stage-2 CR (Intel)

Intended outcome: 38.300 CR for NR mobility WI (including T312, CPC) based on updates from RAN2#109bis-e

Deadline: Long (until next meeting)

* [Post109bis-e][LTE MOB] Stage-2 CR (China Telecom)

Intended outcome: 36.300 CR for LTE mobility WI based on updates from RAN2#109bis-e

Deadline: Long (until next meeting)

* [Post109bis-e][NR MOB] Stage-2 CR for CPC (CATT)

Intended outcome: 37.340 CR for NR mobility on CPC based on updates from RAN2#109bis-e

Deadline: Long (until next meeting)

* [Post109bis-e][NR MOB] UE capabilities for NR mobility (Intel)

Intended outcome: Discuss remaining issues with UE capabilities for NR mobility based on RAN1 input and updates from RAN2#109bis-e (if any)

Deadline: Long (until next meeting)

* [Post109bis-e][LTE MOB] UE capabilities for NR mobility (China Telecom)

Intended outcome: Discuss remaining issues with UE capabilities for LTE mobility based on RAN1 input and updates from RAN2#109bis-e (if any)

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 109bis-e 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.

A web conference may be used for handling some of the discussions in this WI, and a summary document may be provided by the session chair.

By Email

[R2-2003841](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003841.zip) Summary of LTE contributions in AI 4.5 Nokia (RAN2 VC) discussion Late

* [AT109bis-e][201][LTE15] Simple LTE legacy CRs (RAN2 VC)

Scope:

* + - Attempt to agree to CRs in [R2-2003451](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003451.zip), [R2-2003452](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003452.zip), [R2-2003453](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003453.zip), [R2-2003232](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003232.zip), [R2-2003233](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003233.zip), [R2-2002619](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002619.zip) and [R2-2002620](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002620.zip).

Intended outcome:

* + - Discussion summary in [R2-2003841](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003841.zip) (by email rapporteur), including list of CRs are agreed or moved to discussion **202** (for further discussion)
    - Agreeable CRs (by each CR proponent)

Deadline for providing comments and for rapporteur inputs:

* + - Initial deadline (for companies' feedback): Wednesday 2020-04-22 16:00 UTC
    - Initial deadline (for rapporteur's summary in [R2-2003841](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003841.zip)): Thursday 2020-04-23 10:00 UTC
    - Proposed agreements in [R2-2003841](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003841.zip) indicated for email agreement and not challenged until Thursday 2020-04-23 22:00 UTC will be declared as agreed by the session chair.

Status: Not yet started (to be done Monday Apr. 20th)

* [AT109bis-e][202][LTE15] Other LTE legacy CRs (RAN2 VC)

Scope:

* + - Discuss the CRs in [R2-2003147](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003147.zip), [R2-2003148](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003148.zip), [R2-2003149](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003149.zip), [R2-2003150](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003150.zip), [R2-2003151](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003151.zip) and [R2-2003548](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003548.zip), [R2-2003549](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003549.zip), [R2-2003550](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003550.zip), [R2-2003551](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003551.zip), [R2-2003552](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003552.zip), [R2-2003553](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003553.zip), [R2-2003554](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003554.zip), to determine what to capture in specifications and from which release onwards.
    - Discuss the CRs [R2-2003152](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003152.zip), [R2-2003153](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003153.zip), [R2-2003154](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003154.zip) to determine if the interpretation is correct and how a correction should be captured (if needed).
    - Handle any CRs from discussion **201** as necessary

Intended outcome:

* + - Discussion summary in [R2-2003841](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003841.zip), detailing which CRs (if any) can be agreed and recording the summary of offline discussions comments
    - For CRs that can be agreed, final CRs (by CR proponents)

Deadlines for providing comments and for rapporteur inputs:

* + - Initial deadline (for companies' feedback): Thursday 2020-04-23 12:00 UTC
    - Initial deadline (for rapporteur's summary in [R2-2003841](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003841.zip)): Friday 2020-04-24 08:00 UTC
    - Proposed agreements in [R2-2003841](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003841.zip) indicated for email agreement and not challenged until Tuesday 2020-04-28 12:00 UTC will be declared as agreed by the session chair.

Status: Not yet started (to be done Monday Apr. 20th)

Pre-Rel-15 topics:

Rel-10/12 non-contiguous intra-band CA capabilities:

[R2-2003147](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003147.zip) Clarification to UE capabilities for non-contiguous intra-band CA Nokia, Nokia Shanghai Bell CR Rel-12 36.331 12.18.0 4247 - F LTE\_CA-Core, TEI12

[R2-2003148](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003148.zip) Clarification to UE capabilities for non-contiguous intra-band CA Nokia, Nokia Shanghai Bell CR Rel-13 36.331 13.15.0 4248 - A LTE\_CA-Core, TEI12

[R2-2003149](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003149.zip) Clarification to UE capabilities for non-contiguous intra-band CA Nokia, Nokia Shanghai Bell CR Rel-14 36.331 14.14.0 4249 - A LTE\_CA-Core, TEI12

[R2-2003150](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003150.zip) Clarification to UE capabilities for non-contiguous intra-band CA Nokia, Nokia Shanghai Bell CR Rel-15 36.331 15.9.0 4250 - A LTE\_CA-Core, TEI12

[R2-2003151](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003151.zip) Clarification to UE capabilities for non-contiguous intra-band CA Nokia, Nokia Shanghai Bell CR Rel-16 36.331 16.0.0 4251 - A LTE\_CA-Core, TEI12

[R2-2003548](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003548.zip) Clarification on UE capability for intra-band non-continuous CA Huawei, Hisilicon CR Rel-10 36.331 10.22.0 4273 - F LTE\_CA-Core

[R2-2003549](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003549.zip) Clarification on UE capability for intra-band non-continuous CA Huawei, Hisilicon CR Rel-11 36.331 11.19.0 4274 - A LTE\_CA-Core

[R2-2003550](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003550.zip) Clarification on UE capability for intra-band non-continuous CA Huawei, Hisilicon CR Rel-12 36.331 12.18.0 4275 - F LTE\_CA-Core

[R2-2003551](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003551.zip) Clarification on UE capability for intra-band non-continuous CA Huawei, Hisilicon CR Rel-13 36.331 13.15.0 4276 - A LTE\_CA-Core

[R2-2003552](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003552.zip) Clarification on UE capability for intra-band non-continuous CA Huawei, Hisilicon CR Rel-14 36.331 14.14.0 4277 - A LTE\_CA-Core

[R2-2003553](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003553.zip) Clarification on UE capability for intra-band non-continuous CA Huawei, Hisilicon CR Rel-15 36.331 15.9.0 4278 - A LTE\_CA-Core

[R2-2003554](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003554.zip) Clarification on UE capability for intra-band non-continuous CA Huawei, Hisilicon CR Rel-16 36.331 16.0.0 4279 - A LTE\_CA-Core

* Handled in email discussion [202]

Rel-13 CA codebook support:

[R2-2003152](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003152.zip) Clarification on codebook-HARQ-ACK-r13 capability for CA with more than 5CCs Nokia, Nokia Shanghai Bell, Qualcomm Incorporated CR Rel-13 36.306 13.12.0 1747 - F LTE\_CA\_enh\_b5C-Core

[R2-2003153](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003153.zip) Clarification on codebook-HARQ-ACK-r13 capability for CA with more than 5CCs Nokia, Nokia Shanghai Bell, Qualcomm Incorporated CR Rel-14 36.306 14.11.0 1748 - A LTE\_CA\_enh\_b5C-Core

[R2-2003154](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003154.zip) Clarification on codebook-HARQ-ACK-r13 capability for CA with more than 5CCs Nokia, Nokia Shanghai Bell, Qualcomm Incorporated CR Rel-15 36.306 15.8.0 1749 - A LTE\_CA\_enh\_b5C-Core

[R2-2003155](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003155.zip) Clarification on codebook-HARQ-ACK-r13 capability for CA with more than 5CCs Nokia, Nokia Shanghai Bell, Qualcomm Incorporated CR Rel-16 36.306 16.0.0 1750 - A LTE\_CA\_enh\_b5C-Core

* Handled in email discussion [202]

Rel-14 Autonomous measurement gap release:

[R2-2003451](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003451.zip) Correction on autonomous measurment gap release Huawei, HiSilicon CR Rel-14 36.331 14.14.0 4267 - F LTE\_meas\_gap\_enh

[R2-2003452](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003452.zip) Correction on autonomous measurment gap release Huawei, HiSilicon CR Rel-15 36.331 15.9.0 4268 - A LTE\_meas\_gap\_enh

[R2-2003453](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003453.zip) Correction on autonomous measurment gap release Huawei, HiSilicon CR Rel-16 36.331 16.0.0 4269 - A LTE\_meas\_gap\_enh

* Handled in email discussion [201]

Minor changes by RRC rapporteur:

[R2-2003232](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003232.zip) Minor changes collected by Rapporteur Samsung Telecommunications draftCR Rel-14 36.331 14.14.0 F MBMS\_LTE\_enh2-Core

[R2-2003233](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003233.zip) Minor changes collected by Rapporteur Samsung Telecommunications draftCR Rel-15 36.331 15.9.0 F MBMS\_LTE\_enh2-Core, TEI15

* Handled in email discussion [201]

Rel-15 topics:

[R2-2002619](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002619.zip) Correction on SRB duplication OPPO CR Rel-15 36.323 15.5.0 0280 - F LTE\_HRLLC

[R2-2002620](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002620.zip) Correction on SRB duplication OPPO CR Rel-16 36.323 16.0.0 0281 - A LTE\_HRLLC

* Handled in email discussion [201]

Segmentation of warning area coordinates in LTE and NR

[R2-2003569](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003569.zip) Discussion on Need code for CMAS Huawei, HiSilicon discussion Rel-15 TEI15

[R2-2003570](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003570.zip) Correction on Need code for CMAS Huawei, HiSilicon draftCR Rel-15 36.331 15.9.0 F TEI15

[R2-2003571](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003571.zip) Correction on Need code for CMAS Huawei, HiSilicon draftCR Rel-16 36.331 16.0.0 A TEI15

[R2-2003572](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003572.zip) Correction on Need code for CMAS Huawei, HiSilicon draftCR Rel-15 38.331 15.9.0 F TEI15

[R2-2003573](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003573.zip) Correction on Need code for CMAS Huawei, HiSilicon draftCR Rel-16 38.331 16.0.0 A TEI15

* All of these contributions are handled jointly with NR in AI 5.4.1.5

*Withdrawn*

[R2-2003390](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003390.zip) Minor changes collected by Rapporteur Samsung Telecommunications draftCR Rel-14 36.331 14.14.0 F MBMS\_LTE\_enh2-Core Late Withdrawn

[R2-2003391](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003391.zip) Minor changes collected by Rapporteur Samsung Telecommunications draftCR Rel-15 36.331 15.9.0 F MBMS\_LTE\_enh2-Core, TEI15 Late Withdrawn

# 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). 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,

A web conference may be used for handling some of the discussions in this WI, and summary document may be provided for some agenda items under 6.9.

### 6.9.1 Organisational

Including incoming LSs, running CRs, rapporteur inputs, etc

By Web Conf

*Rapporteur input: Stage-2 corrections:*

[R2-2002744](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002744.zip) Corrections to Mobility Enhancements Nokia, Intel Corporation (Rapporteurs) CR Rel-16 38.300 16.1.0 0211 - F NR\_Mob\_enh-Core

*Rapporteur input: UE capabilities*

[R2-2003368](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003368.zip) UE Capability for Rel-16 NR mobility enhancement Intel Corporation draftCR Rel-16 38.306 16.0.0 NR\_Mob\_enh-Core [R2-2001092](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2001092.zip)

[R2-2003369](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003369.zip) UE Capability for Rel-16 NR mobility enhancement Intel Corporation draftCR Rel-16 38.331 16.0.0 NR\_Mob\_enh-Core

CR finalization

* [AT109bis-e][211][NR MOB] RRC CR (Intel)

Scope:

* + - NR mobility RRC CR capturing NR DAPS, NR CHO and CPC changes agreed in this meeting

Intended outcome:

* + - In-principle agreed 38.331 CR for NR mobility
    - If needed, in-principle agreed 36.331 CR for NR mobility (mainly due to T312 and CPC)
    - Final CRs can be provided in [R2-2003850](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003850.zip) (NR RRC) and [R2-2003851](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003851.zip) (LTE RRC)

Deadlines for providing comments and for rapporteur inputs:

* + - Deadline for companies' feedback: Wednesday 2020-04-29 10:00 UTC
    - Deadline for rapporteur's version for agreement: Thursday 2020-04-30 10:00 UTC

Status: Not yet started

### 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 shall only address NR-specific topics.

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

Tdoc Limitation per company: 1 tdoc (only for NR-specific topics like SDAP that do NOT affect LTE).

### 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 Open issues and corrections for conditional handover

This AI jointly addresses NR and LTE.

Including outcome of email discussion [Post109bis-e#12][MOB] Resolving open issues for CHO (Nokia)

Tdoc Limitation per company: 1 tdoc.

Contributions on issues already resolved by the email discussion [Post109bis-e#12][MOB] are discouraged.

By Web Conf

[R2-2003105](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003105.zip) E-mail discussion report [Post109bis-e#12][MOB] Resolving open issues for CHO Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_Mob\_enh-Core

**Proposals from the email discussion outcome:**

*Proposal 1: More than one measurement object can’t be configured for a candidate cell when 2 triggering events (MeasId) are used for CHO execution condition (condExecutionCond). Field description of condExecutionCond shall be updated accordingly.*

*Proposal 2: In Rel-16 SCG configuration in RRC Reconfiguration with conditional reconfiguration is not supported.*

*Proposal 3: Change the procedure’s name from ‘’Conditional configuration’’ to ‘’Conditional reconfiguration’’ to make it aligned with the corresponding IE.*

*Proposal 4: Discuss and decide if RRC shall be updated with: a) ‘’UE shall stop evaluating CHO execution conditions’’ or b) ‘’UE is not required to evaluate CHO execution conditions’’ to possibly extend the procedure in 5.3.5.13.5. In case of no alignment between the involved companies, capture nothing in NR/LTE RRC specification.*

*Proposal 5: Discuss and decide if the UE is allowed to evaluate the CHO execution conditions after MCG failure (the start of T316). If not, extend the RRC specification (section 5.3.10.3) with a subclause ‘6> stop conditional configuration evaluation’.*

*MCG failure and CHO:*

[R2-2002748](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002748.zip) On measurement and evaluation during CHO execution Futurewei discussion Rel-16 NR\_Mob\_enh-Core

[R2-2002900](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002900.zip) T304 running issue when CHO Execution LG Electronics Inc. discussion Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core [R2-2001535](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2001535.zip)

[R2-2002951](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002951.zip) Discussion of some remaining issues for CHO OPPO discussion Rel-16 NR\_Mob\_enh-Core

[R2-2002996](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002996.zip) Corrections to conditional reconfiguration evaluation PANASONIC R&D Center Germany draftCR Rel-16 38.331 16.0.0 A NR\_Mob\_enh-Core

[R2-2003035](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003035.zip) CHO and MR-DC operation Ericsson discussion NR\_Mob\_enh-Core

[R2-2003106](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003106.zip) MCG recovery versus recovery via CHO - Rel-16 impact Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_Mob\_enh-Core

[R2-2003260](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003260.zip) Further details of CHO configuration and execution China Telecom discussion Rel-16

[R2-2003333](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003333.zip) Clarification on source reconfigiration during CHO Samsung CR Rel-16 38.300 16.1.0 0216 - F NR\_Mob\_enh-Core

[R2-2003422](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003422.zip) Further consideration on conventional HO overriding a CHO command ZTE Corporation, Sanechips discussion Rel-16 NR\_Mob\_enh-Core

[R2-2003577](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003577.zip) Discussion on leftovers for CHO Huawei, HiSilicon discussion Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core

[R2-2003609](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003609.zip) UE configuration release in RRC reestbalishment SHARP discussion NR\_Mob\_enh-Core, LTE\_feMob-Core

* Handled in email discussion [207]

By Email

* [AT109bis-e][207][MOB] Resolution to open issues for CHO (Nokia)

Scope:

* + - Discuss the remaining open issues identified in email discussion report of Post109#12 in [R2-2003105](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003105.zip).

Intended outcome:

* + - Discussion summary document in [R2-2003847](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003847.zip)
    - Agreeable proposals for closing critical open issues (if possible).
    - Non-critical issues that should no longer be pursued in Rel-16

Deadlines for providing comments and for rapporteur inputs:

* + - Initial deadline (for companies' feedback): Thursday 2020-04-23 12:00 UTC
    - Initial deadline (for rapporteur's summary in [R2-200384](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003842.zip)7): Friday 2020-04-24 12:00 UTC
    - Proposed agreements in [R2-2003847](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003847.zip) indicated for email agreement and not challenged until Tuesday 2020-04-28 12:00 UTC will be declared as agreed by the session chair.

Status: Started

#### 6.9.3.2 Open issues and corrections for fast handover failure recovery

This AI only addresses NR.

Including corrections for T312 support.

Tdoc Limitation per company: 1 tdoc

*Corrections to T312:*

[R2-2003578](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003578.zip) Discussion on T312 support Huawei, HiSilicon discussion Rel-16 NR\_Mob\_enh-Core

[R2-2002599](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002599.zip) Discussions on VarRLF-Report Setting Quectel discussion

*Coexistence of T312, CHO and MCG failure recovery::*

[R2-2002901](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002901.zip) Failure handling of both CHO and MR-DC LG Electronics Inc. discussion Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core

[R2-2003036](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003036.zip) Failure handling interaction Ericsson discussion NR\_Mob\_enh-Core

* Handled in email discussion [208]
* [AT109bis-e][208][NR MOB] Finalization of T312 for fast handover failure recovery (Samsung)

Scope:

* + - Discuss the topics raised by contributions in AI 6.9.3.2 to see which issues need to be resolved in Rel-16.

Intended outcome:

* + - Discussion summary document in [R2-2003848](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003848.zip)
    - Agreeable proposals for closing critical open issues (if possible).
    - Non-critical issues that should no longer be pursued in Rel-16

Deadlines for providing comments and for rapporteur inputs:

* + - Initial deadline (for companies' feedback): Thursday 2020-04-23 12:00 UTC
    - Initial deadline (for rapporteur's summary in [R2-2003848](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003848.zip)): Friday 2020-04-24 12:00 UTC
    - Proposed agreements in [R2-2003848](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003848.zip) indicated for email agreement and not challenged until Tuesday 2020-04-28 12:00 UTC will be declared as agreed by the session chair.

Status: Not yet started

#### 6.9.3.3 UE capabilities for conditional handover and fast handover failure recovery

This AI jointly addresses NR and LTE.

Including any remaining UE capability aspects triggered by RAN1/4 or related to existing RAN2 UE capability discussions of CHO (for both LTE and NR WIs) and T312 support (for NR WI).

The documents in this agenda item may be deprioritized in this meeting or used as input to post-meeting email discussion(s).

Tdoc Limitation per company: 1 tdoc

[R2-2002902](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002902.zip) Consideration on CHO capability LG Electronics Inc. discussion Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core

[R2-2003037](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003037.zip) UE capabilities for CHO Ericsson discussion NR\_Mob\_enh-Core

[R2-2003579](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003579.zip) Discussion on UE capabilities for CHO and T312 Huawei, HiSilicon discussion Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core

* To be confirmed during the meeting: Handled in post-meeting email discussion

*Withdrawn*

[R2-2003028](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003028.zip) UE capabilities for CHO and NR T312 Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core Late Withdrawn

### 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 Open issues and corrections for Conditional PSCell change for intra-SN

Including outcome of email discussion [Post109bis-e#13][MOB] Resolving open issues for CPC (CATT).

Including remaining details, resolution of open issues and corrections CPC for Rel-16.

Contributions on issues already resolved by the email discussion [Post109bis-e#13][MOB] are discouraged.

Tdoc Limitation per company: 1 tdoc

Outcome of email discussion [Post109bis-e#13][MOB] Resolving open issues for CPC (CATT):

[R2-2003440](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003440.zip) Report of [post109bis-e@13][NR MOB] Resolving open issues for CPC CATT discussion Rel-16 NR\_Mob\_enh-Core Late

**Proposals from the email discussion outcome:**

*Proposal 1: The UE does not inform the MN when CPC execution condition is fulfilled and the UE starts executing CPC, when CPC configuration is provided over SRB3.*

*Proposal 2: A threshold parameter is not introduced to determine PCell quality for execution of CPC.*

*Proposal 3: Upon transmission of SCG failure information to the network, the UE stops evaluating the CPC execution criteria according to the current CPC configuration until a response is received from the network (Action 1).*

*Proposal 4: Whether the UE continue measurements for candidate PSCells upon CPC failure is left to the UE implementation.*

*Proposal 5: the content of FailureReportSCG for CPC procedure failure should include failureType, measResultFreqList and measuResultSCG-Failure. These parameters are set according to the exiting SCGFailureInformation procedure. (same as legacy)*

*Proposal 6: The inclusion of cell ID of the failed CPC execution in SCG failure information message is not an essential for CPC operation (benefit of cell ID inclusion can be considered in later release).*

*Proposal 7: Use ULInformationTransferMRDC instead of RRCReconfigurationComplete message to inform the network of CPC execution when no SRB3 is configured and the MN informs the SN, i.e. ULInformationTransferMRDC message to MN includes an embedded RRCReconfigurationComplete message to the SN. This applies to both NR MN and LTE MN. (change of previous agreement).*

[R2-2003441](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003441.zip) Draft CR for transmission of RRCReconfigurationComplete upon CPC execution CATT draftCR Rel-16 38.331 16.0.0 F NR\_Mob\_enh-Core

=> Revised in [R2-2003799](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003799.zip)

[R2-2003799](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003799.zip) Draft CR for transmission of RRCReconfigurationComplete upon CPC execution CATT draftCR Rel-16 38.331 16.0.0 F NR\_Mob\_enh-Core

[R2-2003442](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003442.zip) Draft CR for transmission of RRCReconfigurationComplete upon CPC execution CATT draftCR Rel-16 36.331 16.0.0 F NR\_Mob\_enh-Core

*Remaining issues for CPC:*

[R2-2002749](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002749.zip) Clarifications on issues of CPC-intra-SN Futurewei discussion Rel-16 NR\_Mob\_enh-Core

[R2-2002800](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002800.zip) CPC with SRB3 Configuration Apple discussion NR\_Mob\_enh-Core

[R2-2002903](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002903.zip) Left Issues for CPC in R16 LG Electronics Inc. discussion Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core [R2-2001536](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2001536.zip)

[R2-2003038](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003038.zip) Remaining issues for conditional PSCell change Ericsson discussion NR\_Mob\_enh-Core

[R2-2003100](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003100.zip) Remaining issues for CPC Lenovo, Motorola Mobility discussion Rel-16

[R2-2003107](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003107.zip) On how to close the open issues for Conditional PSCell Change Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_Mob\_enh-Core

[R2-2003327](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003327.zip) Discussion on CPC configuration handling during SCG Release Samsung discussion NR\_Mob\_enh-Core

[R2-2003423](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003423.zip) Remaining issues for CPC ZTE Corporation, Sanechips discussion Rel-16 NR\_Mob\_enh-Core

[R2-2003580](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003580.zip) Discussion the transaction id issues for CPAC Huawei, HiSilicon discussion Rel-16 NR\_Mob\_enh-Core

* Some contributions may be handled in email discussion [209]

By Email

* [AT109bis-e][209][NR MOB] Resolution to remaining open issues of CPC (CATT)

Scope:

* + - Identify if any critical issues are remaining for the CPC based on this meeting’s contributions and attempt to identify company views to those

Intended outcome:

* + - Discussion summary document in [R2-2003849](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003849.zip), including agreeable proposals for closing critical open issues (if possible) and list of non-critical issues that should no longer be pursued in Rel-16
    - The proposed agreements in [R2-2003849](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003849.zip) will be handled in the Monday 2020-04-27 Web conference session

Deadlines for providing comments and for rapporteur inputs:

* + - Initial deadline (for companies' feedback): Thursday 2020-04-23 12:00 UTC
    - Initial deadline (for rapporteur's summary in [R2-2003849](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003849.zip)): Friday 2020-04-24 12:00 UTC

Status: Not yet started

#### 6.9.4.2 UE capabilities for Conditional PSCell change for intra-SN

Including any remaining UE capability aspects of Conditional PSCell change for intra-SN (for NR WI).

The documents in this agenda item may be deprioritized in this meeting or used as input to post-meeting email discussion(s).

Tdoc Limitation per company: 1 tdoc

[R2-2002904](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002904.zip) Consideration on CPC capability LG Electronics Inc. discussion Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core

[R2-2003039](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003039.zip) UE capabilities for conditional PSCell change Ericsson discussion NR\_Mob\_enh-Core

[R2-2003581](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003581.zip) Discussion on UE capabilities for CPC Huawei, HiSilicon discussion Rel-16 NR\_Mob\_enh-Core

* To be confirmed during the meeting: Handled in post-meeting email discussion

*Withdrawn*

[R2-2003029](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003029.zip) UE capabilities for CPC Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_Mob\_enh-Core Late

### 6.9.5 ASN.1 review of mobility WIs for NR RRC

Including documents related to Class 3 ASN.1 review issues.

This agenda item focuses on **NR RRC** aspects of both LTE and NR mobility WIs – LTE RRC aspects of both LTE and NR mobility WIs should be submitted to 7.3.4. Do not submit contributions on WI-specific open issues that are not captured in the current NR RRC to this agenda item.

[R2-2003326](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003326.zip) [S350] Discussion on radio bearer handling in DAPS Samsung discussion NR\_Mob\_enh-Core

[R2-2003424](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003424.zip) [Z255] Correction for Pcell change in case of CPC ZTE Corporation, Sanechips discussion Rel-16 NR\_Mob\_enh-Core

[R2-2003664](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003664.zip) [H223] Correction on TAG configuration applied to target cell Huawei, HiSilicon discussion Rel-16 NR\_Mob\_enh-Core

* Handled in email discussion [210]

By Email

* [AT109bis-e][210][MOB ASN1] ASN.1 discussion for LTE and NR mobility (Intel/Ericsson)

Scope:

* + - Handling per-WI issues raised in ASN.1 review, including handling contributions submitted to the meeting on ASN.1 issues.
    - Flagging issues for discussion during Web conference (for either the 1st or 2nd week Web conferences)

Intended outcome:

* + - Discussion summary document in [R2-2003844](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003844.zip), including proposals for ASN.1 issue resolution (including ASN.1 changes) and summary of discussions.
    - CR issues to be handled via CR email discussions

Deadline for providing comments and for rapporteur inputs:

* + - Flagging review issues for the ASN.1 discussion: Wednesday Apr. 22nd, 08:00 UTC
    - Initial deadline (for companies' feedback): Thursday 2020-04-23 12:00 UTC
    - Initial deadline (for rapporteur's summary in [R2-2003844](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003844.zip)): Friday 2020-04-24 12:00 UTC
    - Proposed agreements in [R2-2003844](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003844.zip) indicated for email agreement and not challenged until Monday 2020-04-27 12:00 UTC will be declared as agreed by the session chair.

Status: Not yet started (to be done Monday Apr. 20th)

# 7 Rel-16 LTE Work Items

Documents in these agenda items will be handled in break out sessions

## 7.0 LTE Rel-16 General

### 7.0.1 ASN.1 review

By Email

* [AT109bis-e][204][LTE ASN1] LTE general ASN.1 discussion (Samsung)

Scope:

* + - General ASN.1 issue discussion covering AI 7.0.1 according to ASN.1 review issue list.
    - Flagging issues for discussion during the LTE ASN.1 web conference session(s) via email before the session(s)

Intended outcome:

* + - Discussion summary document in [R2-2003843](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003843.zip), detailing the proposals for ASN.1 issue resolution (including ASN.1 changes).
    - Combined CR with the agreed changes on general ASN.1 for LTE

Deadline for providing comments and for rapporteur inputs:

* + - Flagging review issues for discussion in the 1st ASN.1 session: Tuesday Apr. 21st, 8:00 UTC
    - Flagging review issues for discussion in the 2nd ASN.1 session: Mondday Apr. 27th, 8:00 UTC
    - Initial deadline (for rapporteur's summary in [R2-2003843](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003843.zip)): Friday 2020-04-24 08:00 UTC
    - Proposed agreements in [R2-2003843](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003843.zip) indicated for email agreement and not challenged until Tuesday 2020-04-28 12:00 UTC will be declared as agreed by the session chair.

Status: Started

Scope clarifications

This e-mail concerns the general issues i.e. of class 2 type, and is handled in two parts:

* + **Part 1 (deadline Thu 23 Apr 12.00 UCT)**: main intention is to determine the issues requiring further discussion. Companies are requested to use the **flagging** procedure (see below) if they have a concern regarding the way forward for issues marked as PropAgree, PropReject, PropNoAct, PropTDoc
    - For PropTDoc, assigned company must distribute TDoc by deadline of part 2
  + **Part 2 (deadline Thu 27 Apr 8.00 UCT)**: Discussion of the way forward for issues with status DiscMail (possibly after flagging)

Flagging procedure:

If a company has concerns with the proposed way forward, flag the concerned RIL by sending a mail to

* the Chairman
* the Rapporteurs (Håkan/ Himke)
* cc 3GPP RAN2 mail list

**Mail format:**

Subject field:     **[LTE Rel-16] 36331 RIL FLAGGING: <RIL-id>**

Mail body:           Please provide the reason for flagging

By Web Conf

Including outcome of the email discussion [Post109bis-e#52][ASN.1] RRC ASN.1 review LTE specific (Samsung)

[R2-2003231](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003231.zip) General ASN.1 issues for 36.331 Rel-16 (S001- S006) Samsung Telecommunications discussion Rel-16 Late

[R2-2003234](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003234.zip) ASN.1 Review file (LTE) Samsung Telecommunications draftCR Rel-16 36.331 16.0.0 F TEI16 Late

[R2-2003235](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003235.zip) LTE Rel-16 ASN.1 Review, Class 0 and Class 1 issues Samsung Telecommunications report Rel-16 Late

DiscMeet

*S044: The need of measObjectID range extension*

* ??ToDisc

*S046: Threshold itself can be encoded by EUTRA as the event is encoded by EUTRA.*

* Discussed together with B002

Flagged RILs (class 2 issues)

**Huawei:** *H136, H140 (No need for the -r16 suffix in the CHOICE entries):*

*we agree with the rapporteur PropReject but we want to highlight this means that we add back ‘-r16’  suffix everywhere it has been omitted*

* ??ToDisc

**Huawei:** *H148 (nrsrqResult should be removed as there is no measurements required defined for inter-frequency cell in TS 36.133):*

*we do not agree with rapporteur PropReject we think this should be discussed in NB-IOT specific session*

* ??ToDisc

**Huawei:** *H115 (Most parameters have no field description. Need to be added)*

*we do not agree with rapporteur PropTdoc. we propose to change to PropNoAct*

*This should be captured by the eMTC RRC CR rapporteur based on the RAN1 spreadsheet in email discussion [AT109bis-e][408][eMTC]  36.331 CR*

* ??ToDisc

**Qualcomm:** *H162, H163 (it is strange to have setup/release containing 2 optional Ies, looking at previous release extensions they simply use ENUMERATED {on}): Do not agree with PropAgree. See comment in the ASN.1 review file (Qualcomm v17)*

* ??ToDisc

**Qualcomm:** *Z256 (Considering triggerCondition and condReconfigurationToApply is mandatory present when a condReconfigurationId is being added, the need code of the two IEs should be conditional and need ON.): Editorial suggestion compared to suggested change: both OPTIONAL need to be deleted as well from the fields, and in conditional presence, add optional before need ON.*

* ??ToDisc

**Qualcomm:** *B003 (It looks quite odd why a single spare has been added for mcch-RepetitionPeriod-r16 (spare7), mcch-ModificationPeriod-r16 (spare5), subcarrierSpacingMBMS-r16 (spare4) although the respective value range (power of 2) allow more spares. So, either more spares should be added to fill the entire value range or the single spares should be removed. However, due the fact that the IE MBSFN-AreaInfo-r16 also contains extension marker, the single spares can be removed from the respective value ranges and further extensions can be added using NCE.):*

*Unclear what “as suggested” means. Does that include suggested in comment v17 as the status was given in v18?*

* ??ToDisc

**Qualcomm:** *H136, H140 (No need for the -r16 suffix in the CHOICE entries.): Disagree with rapp’s suggestion to reject. Agree with suggested change by Huawei.*

* ??ToDisc

**Qualcomm:** *N010 (Missing optionality and 1-bit field, which means it’s never encoded. Better use BOOLEAN.): I am still not convinced by the argument about not having Need OR on higher level due to extension marker overhead, because there are just too many existing fields already with need OR, so the likelihood of needing to include only this r16 new field and none of the other in the extension groups is very low. My understanding is if any of the following highlighted Need OR parameters is to be included, then the extension overhead is already included. May be I am missing something and if so could you kindly elaborate?*

|  |
| --- |
| *RadioResourceConfigCommonSCell-r10 ::=  SEQUENCE {*  *-- DL configuration as well as configuration applicable for DL and UL*  *<<skip>>*  *}                                                                     OPTIONAL,   -- Need OR*  *...,*  *[[  ul-CarrierFreq-v1090               ARFCN-ValueEUTRA-v9e0           OPTIONAL    -- Need OP*  *]],*  *[[  rach-ConfigCommonSCell-r11          RACH-ConfigCommonSCell-r11     OPTIONAL,   -- Cond ULSCell*  *prach-ConfigSCell-r11              PRACH-Config                    OPTIONAL,   -- Cond UL*  *tdd-Config-v1130                   TDD-Config-v1130                OPTIONAL,   -- Cond TDD2*  *uplinkPowerControlCommonSCell-v1130*  *UplinkPowerControlCommonSCell-v1130         OPTIONAL    -- Cond UL*  *]],*  *[[  pusch-ConfigCommon-v1270        PUSCH-ConfigCommon-v1270            OPTIONAL    -- Need OR*  *]],*  *[[  pucch-ConfigCommon-r13             PUCCH-ConfigCommon      OPTIONAL,   -- Cond UL*  *uplinkPowerControlCommonSCell-v1310*  *UplinkPowerControlCommonSCell-v1310    OPTIONAL    -- Cond UL*  *]],*  *[[  highSpeedConfigSCell-r14        HighSpeedConfigSCell-r14            OPTIONAL,   -- Need OR*  *prach-Config-v1430             PRACH-Config-v1430                  OPTIONAL,   -- Cond UL*  *ul-Configuration-r14               SEQUENCE {*  *ul-FreqInfo-r14                    SEQUENCE {*  *ul-CarrierFreq-r14                 ARFCN-ValueEUTRA-r9         OPTIONAL,   -- Need OP*  *ul-Bandwidth-r14                   ENUMERATED {n6, n15,*  *n25, n50, n75, n100}   OPTIONAL,   -- Need OP*  *additionalSpectrumEmissionSCell-r14     AdditionalSpectrumEmission*  *},*  *p-Max-r14                          P-Max                          OPTIONAL,   -- Need OP*  *soundingRS-UL-ConfigCommon-r14      SoundingRS-UL-ConfigCommon,*  *ul-CyclicPrefixLength-r14           UL-CyclicPrefixLength,*  *prach-ConfigSCell-r14                  PRACH-ConfigSCell-r10     OPTIONAL,   -- Cond TDD-OR-NoR11*  *uplinkPowerControlCommonPUSCH-LessCell-v1430*  *UplinkPowerControlCommonPUSCH-LessCell-v1430    OPTIONAL    -- Need OR*  *}                                                                 OPTIONAL,   -- Cond ULSRS*  *harq-ReferenceConfig-r14                   ENUMERATED {sa2,sa4,sa5}   OPTIONAL,       -- Need OR*  *soundingRS-FlexibleTiming-r14           ENUMERATED {true}           OPTIONAL        -- Need OR*  *]],*  *[[  mbsfn-SubframeConfigList-v1430      MBSFN-SubframeConfigList-v1430        OPTIONAL -- Need ON*  *]],*  *[[  uplinkPowerControlCommonSCell-v1530    UplinkPowerControlCommon-v1530      OPTIONAL -- Need ON*  *]],*  *[[*  *highSpeedConfigSCell-v16xy          HighSpeedConfigSCell-v16xy       OPTIONAL -- Need OR*  *]]*  *}* |

*So, my suggestion in v17 was as follows:*

*[[*

*~~highSpeedConfigSCell-v16xy          HighSpeedConfigSCell-v16xy~~     highSpeedEnhMeasFlagSCell-r16       ENUMERATED {true}   OPTIONAL -- Need OR*

*]]*

*~~HighSpeedConfigSCell-v16xy ::=  SEQUENCE {~~*

*~~highSpeedEnhMeasFlagSCell-r16       ENUMERATED {true}~~*

*~~}~~*

*However, if the conclusion is to add optionality for the lower level field just so that it is encoded, then* ***it should be Enumerated {true} Need OR, instead of Boolean mandatory*** *because otherwise the field description needs to be updated to say when set to TRUE (and there is no meaning of FALSE).*

* ??ToDisc

**Qualcomm: *H157 (*** *Should describe the conditional presence using conditional presence****):*** *Suggest to change to class 3. Reason below.*

***lte-M***

*Indicates the UE is category M. This field is included only when the UE is connected to 5GC.*

*My understanding of the proposed status means the following change (red text):*

|  |
| --- |
| *5.3.3.4          Reception of the RRCConnectionSetup by the UE*  *NOTE 1:  Prior to this, lower layer signalling is used to allocate a C-RNTI. For further details see TS 36.321 [6];*  *The UE shall:*  *<<skip>>*  *1>  set the content of RRCConnectionSetup**Complete message as follows:*  *<<skip>>*  *2> if the UE is connected to EPC:*  *3>  except for NB-IoT:*  *<<skip>>*  *3>  for NB-IoT:*   * *4>  if the UE has radio link failure information available in VarRLF-Report-NB and if the RPLMN is included in plmn-IdentityList stored in VarRLF-Report:*   *5> include rlf-InfoAvailable;*   * *4>  if the UE has ANR measurements results available in VarANR-MeasReport-NB and if the RPLMN is included in plmn-IdentityList stored in VarANR-MeasReport-NB:*   *5> include anr-InfoAvailable;*  *3>  include dcn-ID if a DCN-ID value (see TS 23.401 [41]) is received from upper layers;*  *2> <<insert somewhere here “else” (i.e., UE is connected to 5GC) and UE is a cat M UE then include lte-M indication>>*  *2> except for NB-IoT:*  *3>  if the UE supports storage of mobility history information and the UE has mobility history information available in VarMobilityHistoryReport:*   * *4>  include the mobilityHistoryAvail;*   *3>  if the SIB2 contains idleModeMeasurements, and the UE has idle/inactive measurement information concerning cells other than the PCell available in VarMeasIdleReport:*   * *4>  include the idleMeasAvailable;*   *3>  if upper layers indicate that access to RLOS is initiated (see TS 23.401 [41] subclause 4.3.8.3):*   * *4>  set rlos-Request to true;*   *2> if UE needs UL gaps during continuous uplink transmission:*  *3>  include ue-CE-NeedULGaps;*  *2> for NB-IoT:*  *3>  if the UE supports serving cell idle mode measurements reporting and servingCellMeasInfo is present in SystemInformationBlockType2-NB:*   * *4>  set the measResultServCell to include the measurements of the serving cell;*   *NOTE 2: The UE includes the latest results of the serving cell measurements as used for cell selection/ reselection evaluation, which are performed in accordance with the performance requirements as specified in TS 36.133 [16].*  *2> if connecting as an IAB-node:*  *3>  include iab-NodeIndication;*  *1>  submit the RRCConnectionSetupComplete message to lower layers for transmission;*  *1>  the procedure ends.* |

*As the exact wording for the statement above may need some polishing by eMTC folks, it is better handled in eMTC ASN.1 session.*

* ??Class 3 issue, handled in MTC discussion

**Nokia: *N011 (****The outer SEQUENCE is unnecessary since only one field is contained.****):*** *Disagree with conclusion: If the outer field name encodes information, it is better captured in the file description of the contained field. It’s not good to create unnecessary SEQUENCEs for this purpose.*

* ??ToDisc

**OPPO: *B002 (****The description is not fully clear. Instead of referring to the c1/c2-Threshold IEs the actual IE SL-CBR-r16 should be used.****):***

*we do not agree with rapporteur PropAgree.*

*As mentioned in details in [204], the inter-RAT sidelink measurement configuration and report framework needs to be considered as a whole.*

*As we claimed in [204]:*

*The two are related to one question we raised in the ASN.1 review of 38.331, under O310, which is commonly applicable to 38.331 and 36.331 since it relates to inter-RAT sidelink measurement configuration and report. If this method is adopted, the change on B002/S046 is not needed, i.e., the side-effect due to B-series type method can be avoided.*

***[Description]****: For inter-RAT CBR measurement configuration and reporting,, e.g., for the UE camped on Uu RAT-1, is configured to perform measurement on PC5 RAT-2 – we have two alternatives:*

* *Alt-1 (adopted by the running CR): Similar to Uu interface B-series measurement, i.e., UE camped on Uu RAT-1 to perform measurement on Uu RAT-2, via configuration / report via messages defined based on RAT-1, another series of measurement can be defined, in order for UE camped on Uu RAT-1 to perform measurement on PC5 RAT-2, via configuration / report via messages defined based on RAT-1.*
* *Alt-2: Similar to the introduction of ULInformationTransferMRDC, which is used for UE camped on Uu RAT-1 to perform measurement on Uu RAT-2, via configuration / report via messages defined based on RAT-2, included in ULInformationTransferMRDC as a container. Please note that by using this method, the impact to UE internal variable (e.g., VarMeasConfig) is also avoided.*

*Considering the ASN.1 impact from Alt-1, Alt-2 is more preferred, due to the avoidance of ASN.1 impact. And according to the running CR, even in Alt-1, one needs to rely on container to carry LTE RRC configuration on resource pool for measurement configuration and threshold configuration.*

***[Proposed Change]****: 1. Rely on container-based method for inter-RAT PC5-related measurement / report configuration, and 2. Report inter-RAT PC5-related measurement result in ULInformationTransferMRDC message.*

*We bring a discussion paper and draft-CRs for that R2-2002626/2627/2628.*

* ??Class 3 issue, handled in V2X discussion

*Withdrawn*

[R2-2003389](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003389.zip) General ASN.1 issues for 36.331 Rel-16 (S001- S006) Samsung Telecommunications discussion Rel-16 Late Withdrawn

[R2-2003392](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003392.zip) ASN.1 Review file (LTE) Samsung Telecommunications draftCR Rel-16 36.331 16.0.0 F TEI16 Late Withdrawn

[R2-2003393](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003393.zip) LTE Rel-16 ASN.1 Review, Class 0 and Class 1 issues Samsung Telecommunications report Rel-16 Late Withdrawn

### 7.0.2 Features and UE capabilities

LS from RAN1 on UE feature lists for LTE (NTT DOCOMO)

[R2-2002550](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002550.zip) LS on Rel-16 RAN1 UE features lists for LTE (R1-2001486; contact: NTT DOCOMO)         RAN1  LS in    Rel-16   LTE\_eMTC5-Core, NB\_IOTenh3-Core, LTE\_DL\_MIMO\_EE-Core, LTE\_terr\_bcast-Core     To:RAN2; Cc:RAN4

(moved from 6.0.3)

## 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)

No documents should be submitted to 7.3.

Treated together with 6.9,

A web conference may be used for handling some of the discussions in this WI, and summary document may be provided for some agenda items under 7.3.

### 7.3.1 Organizational

Including incoming LSs and rapporteur inputs (if any).

By Web Conf

*Rapporteur input: Stage-2 corrections:*

[R2-2003777](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003777.zip) Correction on introduction of DAPS handover China Telecommunications CR Rel-16 36.300 16.1.0 1279 - B LTE\_feMob Late

[R2-2003262](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003262.zip) 36300CR for Introduction of Even futher Mobility enhancement in E-UTRAN ChinaTelecom CR Rel-16 36.300 16.1.0 1278 - B LTE\_feMob

*Rapporteur input: UE capabilities*

[R2-2003263](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003263.zip) UE Capability for Rel-16 LTE even further mobility enhancement ChinaTelecom CR Rel-16 36.306 16.0.0 1751 - B LTE\_feMob Late

[R2-2003370](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003370.zip) UE Capability for Rel-16 LTE even further mobility enhancement Intel Corporation draftCR Rel-16 36.331 16.0.0 LTE\_feMobs-Core

CR finalization

* [AT109bis-e][212][LTE MOB] RRC CR (Ericsson)

Scope:

* + - LTE mobility RRC CR capturing DAPS and CHO changes agreed in this meeting

Intended outcome:

* + - In-principle agreed 36.331 CR for LTE mobility
    - Final CR can be provided in [R2-2003852](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003852.zip) (LTE RRC)

Deadlines for providing comments and for rapporteur inputs:

* + - Deadline for companies' feedback: Wednesday 2020-04-29 10:00 UTC
    - Deadline for rapporteur's version for agreement: Thursday 2020-04-30 10:00 UTC

Status: Not yet started

### 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 Open issues and corrections for user plane aspects of DAPS HO

Including document on user plane-related open issues and corrections for DAPS HO.

*Including UP-related outcome of email discussion [Post109bis-e#11][MOB] Resolving open issues for DAPS (Intel)*

Contributions on issues already resolved by the email discussion Post109bis-e#11][MOB] are discouraged.

Tdoc Limitation per company: 1 tdoc

By Web Conf

*Including UP-related outcome of email discussion [Post109bis-e#11][MOB] Resolving open issues for DAPS (Intel)*

[R2-2003371](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003371.zip) Report of 109b#11 open issues on DAPS Intel Corporation discussion Rel-16 LTE\_feMob-Core, NR\_Mob\_enh-Core

**Proposals to be discussed:**

**MAC**

*Proposal S2.1-1: All the functions in Figure 4.2.2-1 will be supported by the source and target MAC entity in DAPS HO.*

*Proposal S2.1-2: UE switches the UL PDCP data transmission upon successful RACH procedure (i.e. Msg.B for 2-step RACH).*

*Proposal S3.7-2: Forbid data transmission of non-DAPS DRBs in MSG3:*

*Proposal S3.9: Follow proposal S2.1-1, RACH is allowed to source after RACH towards target is successful.*

**RLC**

*Proposal S2.6-2: Keep original agreement that RLC UM (UL/DL) with PDCP SN number continuity is supported for DAPS.*

**PDCP: Status report**

*Proposal S2.2-1-1: The PDCP status report for DL UM DRBs is needed for DAPS HO.*

*Proposal S2.2-2-1: The second PDCP status report for DL UM DRBs is not needed for DAPS HO.*

*Proposal S3.2: PDCP status report for UM is mandatory for DAPS capable UE.*

*Proposal S3.12: Do not introduce special handling on PDCP status report to support DAPS HO.*

**PDCP: Reordering**

*Proposal S2.6-5-1: Reordering\_PDCP\_RX\_COUNT used for AM DRB reordering is needed for DAPS DRB.*

*Proposal S2.6-5-2: Last\_Submitted\_PDCP\_RX\_SN and Reordering\_PDCP\_RX\_COUNT used for AM DRB reordering are needed for DAPS DRB.*

*Proposal S2.6-5-3: Reordering\_PDCP\_RX\_COUNT is set to the COUNT value associated to RX\_HFN and Next\_PDCP\_RX\_SN upon PDCP reconfiguration for LTE UM DRB and LTE AM DRB without reordering from normal PDCP to DAPS PDCP.*

*Proposal S2.6-5-4: Last\_Submitted\_PDCP\_RX\_SN is set to [(Next\_PDCP\_RX\_SN-1) modulo (Maximum\_PDCP\_SN+1)] upon PDCP reconfiguration for LTE UM DRB from normal PDCP to DAPS PDCP.*

*Proposal S2.6-5-5: For the change from DAPS PDCP to the normal PDCP upon the source release, the reordering function is still maintained.*

**PDCP: Discard**

*Proposal S2.6-3: Do not introduce discard indication in source from PDCP to RLC upon UL switching.*

*Proposal S3.7-3: Discard timer is maintained during DAPS HO:*

**PDCP: Others**

*Proposal S2.3-5-2: For DAPS HO, capture PDCP handling for SRB in PDCP specification, the detailed text can be further discussed when capture it in PDCP specification.*

*Proposal S2.6-1: Leave the issue on uplink duplicated PDCP SDUs to RAN3.*

*Proposal S2.6-4: Leave the disucssion on PDCP anchor relocation in DAPS to RAN3.*

**PDCP: RoHC**

*Proposal S2.3-5-1: For DAPS DRBs, keep original agreements,i.e. separate RoHC context shall be applied for the source and target link even if DAPS handover is performed without key change*

**Further discussion needed:**

*Further discussion:*

**MAC: PHR reporting**

*Disc S2.3-7: To be discussed whether to support PHR reporting in another node;*

***Option 1****: reuse LTE and NR PHR MAC CE (NR: Multiple Entry PHR MAC CE in Figure 6.1.3.9-1; LTE: DC PHR MAC CE in Figure 6.1.3.6b-1;) 8 companies*

***Option 2:*** *new MAC CE to support PHR reporting in another node;*

***Option 3:*** *do not support PHR reporting in another node; 7 companies*

**PDCP: IR packet transmission**

*Disc S2.2-3-1: To be discussed whether to capture in the PDCP specification that “the target cell maintain the IR state in U-mode and O-Mode during DAPS handover”*

*Disc S2.2-3-2: Do not capture in the PDCP specification that “the source cell maintain the IR state in U-mode and O-Mode during DAPS handover”*

*Remaining UP issues*

[R2-2002590](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002590.zip) Open issues for user plane aspects of DAPS HO Ericsson discussion Rel-16 NR\_Mob\_enh-Core

*Proposal 1 Introduce support for PDCP status reporting for DRBs mapped on RLC UM during a DAPS handover.*

*Proposal 2 Only uplink transmission of PDCP Status Report for DRBs mapped on RLC UM need to be supported.*

*Proposal 3 Introduce a new field for configuration of the second (secondary) PDCP Status Report, thus only the first (primary) PDCP Status Report (sent at UL transmission switch) is configured with StatusReportRequired.*

*Proposal 4 No need to specify support for a secondary PDCP Status Report for a DAPS bearer mapped on RLC UM.*

*Proposal 5 When a UE uses 2-step RA to access the target cell during a DAPS HO, reception of a subsequent downlink assignment PDCCH transmission addressed to the UE’s C-RNTI in the target cell and successful decoding of the transport block transmitted on the allocated PDSCH resources and processing of an Absolute Timing Advance Command MAC CE included in the transport block triggers the UE to switch the UL DRB transmissions to the target cell.*

*Proposal 6 During DAPS handover, in the case of fallback from 2-step RA to 4-step RA when the UE used a CFRA preamble in the MsgA transmission, the UE switches the UL DRB transmissions from the source cell to the target cell upon reception of a MsgB containing a fallbackRAR MAC subPDU matching the UE’s preamble transmission.*

*Proposal 7 During DAPS handover, in the case of fallback from 2-step RA to 4-step RA when the UE used a CBRA preamble in the MsgA transmission in the target cell, the UE switches the UL DRB transmissions from the source cell to the target cell upon reception of a Msg4 addressed to the UE’s TC-RNTI including an UL grant for a new transmission.*

*Proposal 8 Capture the switch of UL DRB transmission during DAPS handover through the above indicated amendment to section 5.3.5.3 in TS 38.331. This covers both the case where 4-step RA is used and the case where 2-step RA is used.*

*Proposal 9 The combination of DAPS handover and RACH-less access in the target cell should be supported in LTE.*

*Proposal 10 During DAPS handover, the UE only reports the power headroom of the target PCell in the PHR sent to the target node (and similarly for the PHR sent to the source node).*

[R2-2003330](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003330.zip) On Remaining Issues for DAPS UP Nokia, Nokia Shanghai Bell discussion Rel-16

*Proposal 1: For downlink, maintaining the header compression protocol IR state in U-mode and O-mode during DAPS handover is up to source and target cells.*

*Proposal 2: RAN2 to discuss the feasibility of potential solution of mandating the source and target cells to send IR packets during DAPS handover if same security key is re-used.*

*Proposal 3: RAN2 to confirm the original agreement that RLC UM (UL/DL) with PDCP SN number continuity is supported for DAPS.*

*Proposal 4: Do not support PHR reporting in another node for DAPS HO.*

[R2-2002874](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002874.zip) Remaining user plane issues of DAPS vivo discussion Rel-16 LTE\_feMob-Core

*Observation 1: The multiple entry PHR should be reported at the addition of the target PCell.*

*Observation 2: In the multiple entry PHR of NR, the specification needs to clarify whether the field “PH (Type 1, PCell)” refers to the source PCell or the target PCell.*

*Observation 3: In the Dual Connectivity PHR of LTE, the specification needs to clarify whether the field “PH (Type 1, PCell)”, the field “PH (Type 2, PCell)” and the field “PH (Type 2, PSCell)” refers to the source PCell or the target PCell.*

*Proposal 1: The target PCell of the DAPS handover is considered as the PSCell for the PHR report.*

*Proposal 2: The UL RLC UM entity is always configured when the PDCP status report is configured for the RLC UM DRB.*

*Proposal 3: The current PDCP status report format is reused for the RLC UM.*

*RoHC handling:*

[R2-2003045](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003045.zip) Discussion on transmitting ROHC IR packets in target during DAPS HO Huawei, HiSilicon, Vivo, Oppo, NEC, Apple, NTT DOCOMO INC., China Telecom discussion Rel-16 LTE\_feMob-Core

*Observation 1: according to RAN3 BL CR, all downlink SDUs should be forwarded to target from source, and source can inform discarding of already successfully transmitted SDUs, which helps target to refresh storage buffer and determine which SDUs should be sent to UE.*

*Observation 2: RAN2 agree to introduce a PDCP status report for DAPS AM DRB, it can also help target determine the first SDU which should be sent to UE.*

*Observation 3: due to transmission delay of PDCP status report and continuous downlink transmission of data from source, the first several PDCP PDUs will be discarded, which means this duplicate discarding makes ROHC context totally missing in UE side.*

*Observation 4: for U-mode and O-mode ROHC compressor can enter into FO state from IR state without any ACK received, so specification intervention is still needed.*

*Observation 5: since ROHC context has been established in UE for source, and data from source may not be much after random access towards target is completed, it can be left up to ROHC protocol to fall back to IR state if needed.*

*Proposal 1: RAN2 confirm to specify “For downlink, the ROHC protocol of the target cell maintains the IR state if operating in U-mode and O-mode during DAPS handover.”*

*Proposal 2: If companies don’t prefer to get specific ROHC mode involved, RAN2 to specify “For downlink, the ROHC protocol of the target cell maintains the IR state during DAPS handover.”*

[R2-2003665](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003665.zip) RoHC handling for inter-gNB and intra-gNB DAPS handover SHARP Corporation discussion Rel-16 LTE\_feMob-Core

[R2-2002589](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002589.zip) RoHC handling during DAPS handover without key change Ericsson discussion Rel-16 NR\_Mob\_enh-Core [R2-2000126](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2000126.zip)

*(moved from 6.9.1)*

[R2-2002863](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002863.zip) Discussion on consecutive ROHC failure LG Electronics Inc. discussion NR\_Mob\_enh-Core

*(moved from 6.9.1)*

[R2-2002864](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002864.zip) Handling of compressed PDCP SDUs stored in reception buffer LG Electronics Inc. discussion LTE\_feMob-Core

*PDCP status reporting*

[R2-2002608](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002608.zip) PDCP Status Reporting enhancements for DAPS DRBs Qualcomm India Pvt Ltd discussion Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core

[R2-2002737](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002737.zip) PDCP Status Report for UM DRBs in DAPS HO MediaTek Inc. discussion

[R2-2002953](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002953.zip) Discussion on PDCP status report for UM DRB OPPO discussion Rel-16 NR\_Mob\_enh-Core

*Security aspects*

[R2-2002997](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002997.zip) Handling of security issue for DAPS without key change NEC discussion Rel-16 LTE\_feMob-Core

[R2-2003042](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003042.zip) Discussion on DAPS HO without key change Huawei, HiSilicon discussion Rel-16 NR\_Mob\_enh-Core

*(moved from 6.9.1)*

*Other:*

[R2-2002799](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002799.zip) Non-DAPS DRB Handling when fallback to source Apple discussion NR\_Mob\_enh-Core

*(moved from 6.9.1)*

* Handled in email discussion [205]

By Email

* [AT109bis-e][205][MOB] Flagging and discussion of DAPS UP open issues for PDCP/RLC/MAC (Huawei)

Scope:

* + - Companies flagging critical DAPS UP issues requiring Web conference discussion
    - Discuss the remaining UP open issues identified in email discussion report of Post109#11 in [R2-2003371](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003371.zip).

Intended outcome:

* + - Discussion summary document in [R2-2003845](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003845.zip), including resolutions to open issues and identification of non-critical issues that should no longer be pursued in Rel-16

Deadlines for flagging issues for Web conference discussion:

* + - Flagging of issues for the Web conference: Tuesday 2020-04-21 10:00 UTC
    - Rapporteur summary: Tuesday 2020-04-21 11:30 UTC

Deadlines for providing comments and for rapporteur inputs:

* + - Initial deadline (for companies' feedback): Thursday 2020-04-23 10:00 UTC
    - Initial deadline (for rapporteur's summary in [R2-2003845](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003845.zip)): Friday 2020-04-24 08:00 UTC
    - Proposed agreements in [R2-2003845](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003845.zip) indicated for email agreement and not challenged until Tuesday 2020-04-28 12:00 UTC will be declared as agreed by the session chair.

Status: Started

CR finalization

*Updated CRs for MAC and PDCP:*

[R2-2002868](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002868.zip) CR on 36.321 for LTE feMob vivo CR Rel-16 36.321 16.0.0 1468 - F LTE\_feMob-Core

[R2-2002869](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002869.zip) CR on 38.321 for NR mobility enhancement vivo CR Rel-16 38.321 16.0.0 0710 - F NR\_Mob\_enh-Core

[R2-2003043](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003043.zip) PDCP CR on correction and outcome of [Post109bis-e#11] for DAPS handover Huawei, HiSilicon, Mediatek Inc. CR Rel-16 38.323 16.0.0 0045 - C NR\_Mob\_enh-Core

*(moved from 6.9.1)*

[R2-2003044](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003044.zip) PDCP CR on correction and outcome of [Post109bis-e#11] for DAPS handover Huawei, HiSilicon, Mediatek Inc. CR Rel-16 36.323 16.0.0 0282 - C LTE\_feMob-Core

*(moved from 6.9.1)*

* Handled in email discussion [213] and [214]
* [AT109bis-e][213][MOB] PDCP CRs for LTE and NR (Huawei)

Scope:

* + - PDCP CRs for LTE and NR DAPS corrections agreed in this meeting

Intended outcome:

* + - In-principle agreed 36.323 and 38.323 CR for LTE and NR mobility based on changes agreed in this meeting
    - Final CRs can be provided in [R2-2003853](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003853.zip) (NR PDCP) and [R2-2003854](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003854.zip) (LTE PDCP)

Deadlines for providing comments and for rapporteur inputs:

* + - Deadline for companies' feedback: Wednesday 2020-04-29 10:00 UTC
    - Deadline for rapporteur's version for agreement: Thursday 2020-04-30 10:00 UTC

Status: Not yet started

* [AT109bis-e][214][MOB] MAC CRs for LTE and NR (vivo)

Scope:

* + - MAC CRs for LTE and NR DAPS corrections agreed in this meeting

Intended outcome:

* + - In-principle agreed 36.321 and 38.323 C1 for LTE and NR mobility based on changes agreed in this meeting
    - Final CRs can be provided in [R2-2003855](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003855.zip) (NR MAC) and [R2-2003856](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003856.zip) (LTE MAC)

Deadlines for providing comments and for rapporteur inputs:

* + - Deadline for companies' feedback: Wednesday 2020-04-29 10:00 UTC
    - Deadline for rapporteur's version for agreement: Thursday 2020-04-30 10:00 UTC

Status: Not yet started

#### 7.3.2.2 Open issues and corrections for control plane aspects of DAPS HO

Including document on control plane-related open issues and corrections for DAPS HO other than UE capabilities.

*Including CP-related outcome of email discussion [Post109bis-e#11][MOB] Resolving open issues for DAPS (Intel).*

Contributions on issues already resolved by the email discussion Post109bis-e#11][MOB] are discouraged.

Tdoc Limitation per company: 1 tdoc

By Web Conf

*Including CP-related outcome of email discussion [Post109bis-e#11][MOB] Resolving open issues for DAPS (Intel).*

[R2-2003371](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003371.zip) Report of 109b#11 open issues on DAPS Intel Corporation discussion Rel-16 LTE\_feMob-Core, NR\_Mob\_enh-Core

**Proposals to be discussed:**

*Proposal S2.4: T312 in source is stopped upon executing a reconfiguration with sync even if DAPS is configured; No specificiation impact.*

*Proposal S2.6-5-6: Do not introduce bye message from UE to the source upon UL switching.*

*Proposal S3.1: LTE DAPS+ LTE RACH-less is not allowed.*

**RRC impacts affecting ASN.1 review:**

***MAC/RLC/PDCP configuration***

*RRC S2.2-1: Condition for statusReportRequired should be changed to Rlc-AM-UM “For RLC AM or RLC UM ( if dapsConfig is configured for this bearer), the field is optionally present, need R. Otherwise, the field is absent.”.*

*RRC S2.3-2: moreThanoneRLC is not applied for DAPS HO, remove the EN “FFS on moreThanonRLC in pdcp-Config” and clarify in the field description “This field is not present if dapsConfig is configured for this bearer.”*

*RRC S2.3-5-3: For DAPS HO, reestablishPDCP is not needed for SRB, no matter whether key is changed or not.*

***RLM operation***

*RRC S2.3-1: Do not capture in specification “stop RLM in source after RACH successful to target PCell”, and remove the EN “TBC on how/whether to capture stop RLM in source after RACH successful to target PCell”.*

*RRC S3.3: Agree below RRC changes:*

*3> consider radio link failure to be detected for the source MCG i.e. source RLF;*

*~~4~~3> suspend all DRBs in the source;*

*~~4~~3> release the source connection.*

***RRC terminology***

*RRC S2.3-3: Agree below principle on the terminoligy and to be confirmed in ASN.1 review, e.g. whether to change source/target to source/target MCG;*

***Case 1*** *L1 configuration: “source or target" should be used since it is cell specific configuration;*

***Case*** *2 MAC/RLC/PDCP (Key, security/ROHC)/SDAP configuration: “source or target" could be used since they are common for all cells of source or target;*

***Case*** *3 C-RNTI, timers (e.g. T301, T310, T311) and constants (e.g. N310, N311): “source/target SpCell” should be used since it is PCell configuration;*

***Case*** *4 BCCH/MIB (5.3.5.5.2): “source/target SpCell” should be used since it is PCell configuration;*

***Case*** *5 RLF, and “revert back to the configuration used in source PCell”: “source/target SpCell” should be used since we only RLF in PCell instead of SCells;*

***Case*** *6 “revert back to the configuration used in source PCell”: “source PCell” could be used as legacy;*

***Case*** *7 SRB/DRB, RRM: “source or target" could be used since they are common for all cells of source or target;*

***UL PC***

*RRC S2.5-1: To capture RAN1 parameters p-DAPS-FR1, p-DAPS-FR2 and UplinkPowerSharingDAPS-HO-mode and name them as “p-DAPS-Source, p-DAPS-Target and UplinkPowerSharingDAPS-HO-mode”*

*RRC S2.5-2: powerControlMode in HO preparation message ischanged to ENUMERATED {semi-static-mode1, semi-static-mode2, dynamic }*

***UL Tx switching***

*RRC S3.4-1: Do not add 2> If dapsConfig is configured for any DRB when capturing UL switching indication in RRC;*

*RRC S3.4-2: To discuss whether to UL switching indication in RRC as*

*3> for each DRB configured with dapsConfig, request uplink data switching to the PDCP entity, as specified in TS 38.323 [5];*

***DRB/SRB handling***

*RRC S2.3-8-1: When resume SRB upon DAPS HO failure, the old stored RRC message if any, (i.e.. the PDCP PDUs for SRB) shall be discarded;*

*RRC S3.5: Do not try to align the handling of SRB and non-DAPS DRB upon receiving DAPS HO command and upon fallback;*

*RRC S3.6: Change the handling on SRB for DAPS based on the below order:*

1. *Regardless of security key change,*

* *Establish a PDCP entity for the target with state variables continuation as specified in TS 38.323 [5], with the same configuration, the state variables and security configuration as the PDCP entity for the source;*

1. *If reestablishPDCP for SRB is configured(i.e. security key change)*

* *The state variables will be reset by PDCP re-establishement.*

1. *Otherwise, the state variables are left as those of the source due to no PDCP re-establishment and it implies the case without security key change*

*RRC S3.7-1: For non-DAPS DRB handling, do not agree that PDCP only reestablishment when RACH is successfully completed in target:*

**Further discussion proposed:**

***Source cell handling during DAPS HO***

*Disc S2.3-6: To be discussed whether source can provide both original and downgrade source configuration to target;*

*RRC S3.11: To discuss whether Network can trigger the subsequent HO after a DAPS HO before source cell has been released. If yes, whether source is released in the new HO command.*

*Disc S3.8: To discuss whether the coordination on maxSCH-TB-BitsDL, maxSCH-TB-BitsUL is needed for NR since for NR the supported max DL/UL data rate for each CC can be derived from the L1 parameters included in the FeatureSet (according to the calculation defined in 38.306 4.1)*

*RRC S3.10: To discuss whether a new bit in RRC is needed to control second PDCP status report.*

*CR based on email discussion outcome:*

[R2-2003372](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003372.zip) 38.331 CR on NR MOB Intel Corporation draftCR Rel-16 38.331 16.0.0 NR\_Mob\_enh-Core

[R2-2002860](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002860.zip) Clean up the terminology for RRC and PDCP LG Electronics Inc, Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core

[R2-2002591](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002591.zip) Subsequent RRC Procedures after DAPS handover Ericsson discussion Rel-16 NR\_Mob\_enh-Core

[R2-2002875](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002875.zip) Remaining control plane issues of DAPS vivo discussion Rel-16 LTE\_feMob-Core

[R2-2002952](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002952.zip) Correction on DAPS HO OPPO draftCR Rel-16 38.331 16.0.0 F NR\_Mob\_enh-Core

[R2-2003046](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003046.zip) Discussion on control plane aspects of DAPS HO Huawei, HiSilicon discussion Rel-16 LTE\_feMob-Core

[R2-2003108](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003108.zip) Remaining control plane issues for DAPS Nokia, Nokia Shanghai Bell discussion Rel-16 LTE\_feMob-Core

[R2-2003502](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003502.zip) Discussion on network coordination and PHR report for DAPS HO CMCC. discussion Rel-16 LTE\_feMob-Core

[R2-2003530](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003530.zip) Indication of DAPS Handover Execution to the Source ETRI discussion Rel-16 LTE\_feMob-Core, NR\_Mob\_enh-Core

* Handled in email discussion [206]
* [AT109bis-e][206][MOB] Flagging and discussion of DAPS CP open issues for RRC (Intel)

Scope:

* + - Companies flagging critical DAPS CP issues requiring Web conference discussion
    - Discuss the remaining CP/RRC open issues identified in email discussion report of Post109#11 in [R2-2003371](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003371.zip).

Intended outcome:

* + - Discussion summary document in [R2-2003846](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003846.zip), including resolutions to open issues and identification of non-critical issues that should no longer be pursued in Rel-16

Deadlines for flagging issues for Web conference discussion:

* + - Flagging of issues for the Web conference: Tuesday 2020-04-21 10:00 UTC
    - Rapporteur summary: Tuesday 2020-04-21 11:30 UTC

Deadlines for providing comments and for rapporteur inputs:

* + - Initial deadline (for companies' feedback): Thursday 2020-04-23 12:00 UTC
    - Initial deadline (for rapporteur's summary in [R2-2003846](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003846.zip)): Friday 2020-04-24 08:00 UTC
    - Proposed agreements in [R2-200384](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003842.zip)6 indicated for email agreement and not challenged until Tuesday 2020-04-28 12:00 UTC will be declared as agreed by the session chair.

Status: Started

#### 7.3.2.3 UE capabilities for DAPS HO

*Including any UE capability aspects triggered by RAN1/4 or related to existing RAN2 UE capability discussions of DAPS (for both LTE and NR).*

*The documents in this agenda item may be deprioritized in this meeting or used as input to post-meeting email discussion(s).*

Tdoc Limitation per company: 1 tdoc

[R2-2002592](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002592.zip) Inter-node signalling for DAPS handover Ericsson discussion Rel-16 NR\_Mob\_enh-Core

[R2-2002905](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002905.zip) Consideration on DAPS Capability LG Electronics Inc. discussion Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core

[R2-2003047](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003047.zip) Discussion on open issues for UE capability coordination Huawei, HiSilicon discussion Rel-16 LTE\_feMob-Core

[R2-2003367](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003367.zip) Discussion on capabilities for MOB Intel Corporation discussion Rel-16 LTE\_feMob-Core, NR\_Mob\_enh-Core

* To be confirmed during the meeting: Handled in post-meeting email discussion

Withdrawn:

[R2-2003030](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003030.zip) UE capabilities for DAPS Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_Mob\_enh-Core, LTE\_feMob-Core Late

### 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.*

Tdoc Limitation per company: 0 tdoc.

### 7.3.4 ASN.1 review of mobility WIs for LTE RRC

*Including documents related to Class 3 ASN.1 review issues.*

*This agenda item focuses on* ***LTE RRC*** *aspects of both LTE and NR mobility WIs – NR RRC aspects of both LTE and NR mobility WIs should be submitted to 6.9.5. Do not submit contributions on WI-specific open issues that are not captured in the current LTE RRC to this agenda item.*

[R2-2003040](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003040.zip) Correction CR for conditional handover including RIL E901 Ericsson CR Rel-16 36.331 16.0.0 4243 - F LTE\_feMob-Core

* Handled in email discussion [210] (see AI 6.9.5)

## 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.

This item is 100%

Only documents related to Class 3 ASN.1 review issues should be submitted.

This agenda item will be treated fuily over email - No web conference is planned for this agenda item.

## 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.

Including documents related to Class 3 ASN.1 review issues.

A joint summary document of 7.5 and 7.6 may be provided by session chair.

## 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

Including documents related to Class 3 ASN.1 review issues. New TEI16 proposals are discouraged and may be deprioritized in this meeting.

A joint summary document of 7.5 and 7.6 may be provided by session chair.

By Email

[R2-2003842](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003842.zip) Summary of LTE contributions in AIs 7.4, 7.5, 7.6, 7.8 and 7.9 Nokia (RAN2 vice-chair) discussion Late

* [AT109bis-e][203][LTE16] LTE Rel-16 CR discussion (RAN2 VC)

Scope:

* + - Covering discussion of contributions in AIs 7.4, 7.5, 7.6, 7.8 and 7.9
    - Discuss whether the CRs in [R2-2003546](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003546.zip), [R2-2003547](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003547.zip) can be endorsed as baseline for UE capabilities of DL MIMO efficiency enhancements for LTE.
    - Discuss if the intent of [R2-2002888](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002888.zip) is agreeable. If needed, provided updated revision to CR [R2-2002887](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002887.zip).
    - Discuss which approach can resolve the identified problem: Re-interpretation of existing signalling ([R2-2003545](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003545.zip)) or addition of new signalling ([R2-2003364](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003364.zip)).

Intended outcome:

* + - Discussion summary document in [R2-2003842](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003842.zip), detailing which CRs can be agreed in principle and summary of offline discussion comments
    - Final versions of in-principle agreeable CRs (by each CR proponent)

Deadlines for providing comments and for rapporteur inputs:

* + - Initial deadline (for companies' feedback): Thursday 2020-04-23 12:00 UTC
    - Initial deadline (for rapporteur's summary in [R2-2003842](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003842.zip)): Friday 2020-04-24 08:00 UTC
    - Proposed agreements in [R2-2003842](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003842.zip) indicated for email agreement and not challenged until Tuesday 2020-04-28 12:00 UTC will be declared as agreed by the session chair.

Status: Not yet started (to be done Monday Apr. 20th)

RLC out-of-order delivery:

[R2-2002887](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002887.zip) CR on RLC out-of-order delivery configuration Samsung, LG Electronics Inc., Nokia, Nokia Shanghai Bell, Intel, Apple CR Rel-16 36.331 16.0.0 4240 - F TEI16

[R2-2002888](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002888.zip) LTE RLC out-of-order delivery configuration Samsung, LG Electronics Inc., Nokia, Nokia Shanghai Bell, Intel, Apple discussion TEI16

* Handled in email discussion [203]

## 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 item is 100%

This agenda item will be treated fuily over email - No web conference is planned for this agenda item.

Only documents related to Class 3 ASN.1 review issues should be submitted.

By Email

UE capabilities for the DL MIMO WI:

[R2-2003546](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003546.zip) Introduction of UE capabilities for DL MIMO efficiency enhancement Huawei, Hisilicon CR Rel-16 36.331 16.0.0 4272 - F LTE\_DL\_MIMO\_EE-Core

[R2-2003547](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003547.zip) Introduction of UE capabilities for DL MIMO efficiency enhancement Huawei, Hisilicon CR Rel-16 36.306 16.0.0 1756 - F LTE\_DL\_MIMO\_EE-Core

* Handled in email discussion [203]

## 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 item is 100%

This agenda item will be treated fuily over email - No web conference is planned for this agenda item.

Only documents related to Class 3 ASN.1 review issues should be submitted.

By Email

Handling of 0.37 kHz SCS configuration:

[R2-2003364](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003364.zip) Correction on the configuration of subframe #0 and #5 for MCH in MBMS dedicated cell Qualcomm Technologies Int CR Rel-16 36.331 16.0.0 4259 - F LTE\_terr\_bcast-Core

[R2-2003544](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003544.zip) Discussion on MCCH configuration for 0.37kHz SCS Huawei, Hisilicon discussion

[R2-2003545](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003545.zip) Clarification on MCCH configuration for 0.37kHz SCS Huawei, Hisilicon CR Rel-16 36.331 16.0.0 4271 - F LTE\_terr\_bcast-Core

* Handled in email discussion [203]