3GPP TSG-RAN WG2 Meeting #120 DRAFT\_ R2-2213007

Toulouse, France, November, 2022

Agenda Item: 9.7

Source: Session chair (Huawei)

Title: Report from MBS breakout session

## Offline discussions

Pre-meeting discussions:

* [Pre120][600] Organizational - MBS session

Scope:

* + - Share plans and list of ongoing email discussions for MBS session
    - Share meeting notes and agreements for review and endorsement
* [Pre120][602][MBS-R17] RRC corrections (Huawei)

Scope: Summarize papers in [R2-2211302](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211302%20Corrections%20to%20TS%2038.331%20on%20Multicast%20MRB%20Handling.docx), [R2-2211303](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211303%20Corrections%20to%20TS%2038.331%20on%20Broadcast%20Aspects.docx), [R2-2211359](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211359%20Discussion%20about%20RAN2%20Impacts%20of%20Multicast%20HARQ%20Feedback%20by%20DCI%20format%204_1.docx), [R2-2211365](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211365_CR3589_38331_RRC%20Corrections%20on%20MBS.docx), [R2-2211385](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211385-MBSr17-CR.docx), [R2-2211511](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211511%20Corrections%20on%20RRC.docx), [R2-2211868](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211868%20Discussion%20on%20MBS%20SPS%20configuration.docx), [R2-2211869](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211869%20Corrections%20on%20MBS%20SPS%20configuration.docx), [R2-2212784](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212784%20Clarification%20on%20security%20configuration.docx), [R2-2212928](C:\\Users\\Dwx974486\\Documents\\3GPP\\Extracts\\R2-2212928 CR to TS 38.331 on MBS neighbour cell list.docx" \o "C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212928 CR to TS 38.331 on MBS neighbour cell list.docx) (in preparation for AT-meeting offline e-mail discussion)

* [Pre120][603][MBS-R17] MAC corrections (ASUSTeK)

Scope: Summarize papers in [R2-2211301](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211301%2038.321%20corrections%20for%20MBS%20v5.0.docx), [R2-2211366](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211366%20CR1455_38321_MAC%20Corrections%20on%20MBS.docx), [R2-2211509](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211509%20Corrections%20on%20MAC.docx)/[R2-2212957](C:\\Users\\Dwx974486\\Documents\\3GPP\\Extracts\\R2-2212957 Corrections on MAC.docx" \o "C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212957 Corrections on MAC.docx), [R2-2211593](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211593%20MBS%20DRX.docx), [R2-2211870](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211870%20Discussion%20on%20MBS%20DRX%20and%20SPS%20issues.docx), [R2-2212056](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212056%20MBS%20PTP%20Retx.docx), [R2-2212108](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212108%2038.321%20Draft%20CR%20(Rel17)%20Multicast%20HARQ%20feedback%20enabling%20and%20disabling.docx) (in preparation for AT-meeting offline e-mail discussion)

* [Pre120][604][eMBS] Summary of AI 8.11.4 RAN sharing scenarios (CATT)

Scope: Summarize all papers in AI 8.11.4 and propose replies to RAN3 LS

Kicked-off together with a meeting start:

* [AT120][600] Organizational - MBS session

Scope:

* + - Share plans and list of ongoing email discussions for MBS session
    - Share meeting notes and agreements for review and endorsement
* [AT120][601][MBS-R17] In-principle agreed CRs

Scope:

* + - Flag in-principle agreed CRs
    - Attempt to resolve the flags, if any
* [AT120][602][MBS-R17] RRC corrections (Huawei)

Scope: Discuss and propose resolutions for papers in [R2-2211302](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211302%20Corrections%20to%20TS%2038.331%20on%20Multicast%20MRB%20Handling.docx), [R2-2211303](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211303%20Corrections%20to%20TS%2038.331%20on%20Broadcast%20Aspects.docx), [R2-2211359](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211359%20Discussion%20about%20RAN2%20Impacts%20of%20Multicast%20HARQ%20Feedback%20by%20DCI%20format%204_1.docx), [R2-2211365](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211365_CR3589_38331_RRC%20Corrections%20on%20MBS.docx), [R2-2211385](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211385-MBSr17-CR.docx), [R2-2211511](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211511%20Corrections%20on%20RRC.docx), [R2-2211868](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211868%20Discussion%20on%20MBS%20SPS%20configuration.docx), [R2-2211869](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211869%20Corrections%20on%20MBS%20SPS%20configuration.docx), [R2-2212784](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212784%20Clarification%20on%20security%20configuration.docx), [R2-2212928](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212928%20CR%20to%20TS%2038.331%20on%20MBS%20neighbour%20cell%20list.docx)

Outcome: Report in R2-2213101

Deadline: Report available: 0700 UTC, 16 November

* [AT120][603][MBS-R17] MAC corrections (ASUSTeK)

Scope: Discuss and propose resolutions for papers in [R2-2211301](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211301%2038.321%20corrections%20for%20MBS%20v5.0.docx), [R2-2211366](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211366%20CR1455_38321_MAC%20Corrections%20on%20MBS.docx), [R2-2211509](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211509%20Corrections%20on%20MAC.docx)/[R2-2212957](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212957%20Corrections%20on%20MAC.docx), [R2-2211593](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211593%20MBS%20DRX.docx), [R2-2211870](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211870%20Discussion%20on%20MBS%20DRX%20and%20SPS%20issues.docx), [R2-2212056](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212056%20MBS%20PTP%20Retx.docx), [R2-2212108](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212108%2038.321%20Draft%20CR%20(Rel17)%20Multicast%20HARQ%20feedback%20enabling%20and%20disabling.docx)

Outcome: Report in R2-2213102

Deadline: Report available: 0700 UTC, 16 November

*TBD: Kicked-off after the online session on Wednesday:*

* *[AT120][605][MBS-R17] RRC CR (Huawei)*

*Scope: Update RRC CR based on the agreements*

*Outcome: Agreeable CR*

*Deadline: CR available: 0700 UTC, Friday 18 November*

* *[AT120][606][MBS-R17] MAC CR (OPPO)*

*Scope: Update MAC CR based on the agreements*

*Outcome: Agreeable CR*

*Deadline: CR available: 0700 UTC, Friday 18 November*

## 2.4 Instructions

Rel-17 CR

*Chair: Note that for R2 120, Rel-17 is still in heightened maintenance mode, i.e. with merged CRs, mega CRs, and CR rapporteurs still asked to maintain their responsibilities, e.g. to facilitate editorials and text enhancements. Rel-17 may go to normal mode (separate CRs, CR rapporteurs released from their duties, high bar for text enhancements), in 2023 Q1*

General, all correction CRs / draft CRs:

1. Rapporteurs of Rel-17 WI CRs are asked to continue their volunteer responsibility.

2. Unless otherwise explicitly agreed/indicated, max one Cat F CR per TS per WI shall be produced as outcome of the meeting. Exception: CRs with release independence, NBC CRs, if any, may need to be in a separate CR per WI (decided case by case). Note that Impact analysis is required per CR.

Tdoc limitations

Tdoc limitations doesn’t apply to Rapporteur Input, i.e.

- Assigned summary rapporteur input of the summary.

- Email / offline discussions outcomes by discussion rapporteur,

- WI rapporteurs input for WI planning etc,

- TS rapporteur input for TS maintenance

- For a CR rapporteur, i.e. an Assigned Rapporteur for a CR to a TS for a WI, One Rapporteur CR for editorials, text enhancements, smaller corrections (at this time applicable to Rel-17).

- Contact Company of a LSin that triggers RAN2 action may submit one tdoc to facilitate the LS reply. This only applies to one of the contact companies in case there are several (default the first).

Tdoc limitations doesn’t apply to Input created at the meeting, revisions, assigned documents etc.

Tdoc limitations doesn’t apply to shadow / mirror CRs (Cat A), or In-Principle Agreed CRs.

Tdoc limitations applies to all other submitted tdocs.

Rel-17 UE capabilities

For NR UE capabilities the following applies:

1: As previously, work on mega CRs (one mega CR for TS 38.306 and one for TS 38.331). This work is done under Agenda Item AI 6.0.2

2: Coordinate centrally incorporation in CRs of RAN1 / RAN4 features for all Rel17 WIs. This work is done under Agenda Item AI 6.0.2 and changes are done directly to the mega CRs. There could be exceptions, case by case, where RAN1 / RAN4 features are treated under a WI-specific Agenda Item instead.

3 At the end of R2 120, endorsed WI specific UE capability CRs will be merged into the mega CRs, and the mega CRs will be provided to TSG RAN. Any exception to this need to be decided case by case.

## 6.1 NR Multicast

(NR\_MBS-Core; leading WG: RAN2; REL-17; WID: RP-201038)

Tdoc Limitation: 3 tdocs

It is encouraged to contribute with draft CRs or provide TP(s) for the affected specifications in the Annex of the contribution to facilitate the inclusion in the rapporteur CR.

### 6.1.0 In-principle Agreed CRs

Including also endorsed UE capabilities draft CRs.

Not counted towards Tdoc limitation.

[R2-2211657](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211657%20MBS%20corrections%20for%2038.304.docx) MBS corrections for 38.304 CATT, Samsung, Nokia, Nokia Shanghai Bell, ZTE, Sanechips CR Rel-17 38.304 17.2.0 0297 1 F NR\_MBS-Core [R2-2210881](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2210881%20MBS%20corrections%20for%2038.304.docx)

[R2-2211762](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211762%20MBS%20corrections%20for%20RRC.docx) MBS corrections for RRC Huawei, HiSilicon CR Rel-17 38.331 17.2.0 3500 3 F NR\_MBS-Core [R2-2210883](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2210883%20MBS%20corrections%20for%20RRC.docx)

[R2-2211888](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211888%2038.306%20CR%20for%20MBS%20UE%20capability%20corrections.docx) 38.306 CR for MBS UE capability corrections MediaTek inc. draftCR Rel-17 38.306 17.2.0 F NR\_MBS-Core [R2-2210876](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2210876%2038.306%20CR%20for%20MBS%20UE%20capability%20corrections.docx)

[R2-2211889](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211889%2038.331%20CR%20for%20MBS%20UE%20capability%20corrections.docx) 38.331 CR for MBS UE capability corrections MediaTek inc. draftCR Rel-17 38.331 17.2.0 F NR\_MBS-Core [R2-2210877](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2210877%2038.331%20CR%20for%20MBS%20UE%20capability%20corrections.docx)

[R2-2211981](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211981%20MBS%20corrections%20for%2038.323.docx) MBS corrections for 38.323 Xiaomi CR Rel-17 38.323 17.2.0 0102 3 F NR\_MBS-Core [R2-2210874](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2210874%20MBS%20corrections%20for%2038.323.docx)

[R2-2212501](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212501%20CR%2038300%20MBS.docx) Corrections on MBS Nokia, Nokia Shanghai Bell CR Rel-17 38.300 17.2.0 0564 2 F NR\_MBS-Core [R2-2211024](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211024%20CR%2038300%20MBS_v03.docx)

### 6.1.1 Organizational

LS ins etc.

[R2-2211151](file:///C:\Users\Dwx974486\Documents\3GPP\TSGR2\TSGR2_120\docs\R2-2211151.zip) LS on the RRC parameter for multicast HARQ-ACK feedback (R1-2210703; contact: Huawei) RAN1 LS in Rel-17 NR\_MBS-Core To:RAN2

### 6.1.2 Stage-2 corrections

### 6.1.3 CP corrections

Including corrections to TS 38.331, TS 38.304, features / UE caps developed in RAN2 (complementary to AI 6.0.2).

**Online discussion**

R2-2213101 Report of [AT120][602][MBS-R17] RRC corrections Huawei discussion Rel-17 NR\_MBS-Core

[R2-2211510](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211510%20Discussion%20on%20MCCH%20information%20acquisition%20for%20MBS%20broadcast.docx) Discussion on MCCH information acquisition for MBS broadcast Huawei, CBN, HiSilicon discussion Rel-17 NR\_MBS-Core

[R2-2211974](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211974%20SNPN%20and%20MBS.docx) SNPN and MBS broadcast Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_MBS-Core

[R2-2212121](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212121%20Discussion%20on%20Group%20Paging.docx) Discussion on Group Paging Samsung R&D Institute India discussion Rel-17

[R2-2212272](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212272%20Clarification%20for%20MCCH%20acquisition.docx) Clarification for MCCH acquisition Ericsson, Qualcomm, MediaTek inc., CATT, Nokia, Nokia Shanghai Bell, Google Inc. CR Rel-17 38.331 17.2.0 3687 - F NR\_MBS-Core, NR\_redcap-Core

*Discussed in the past, treated only if time allows*

[R2-2212271](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212271%20RedCap%20CFR%20for%20MBS%20broadcast.docx) RedCap CFR for MBS broadcast Ericsson, Qualcomm Incorporated discussion Rel-17 NR\_MBS-Core, NR\_redcap-Core

**Papers below discussed based on the offline report in R2-2213101**

[R2-2211302](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211302%20Corrections%20to%20TS%2038.331%20on%20Multicast%20MRB%20Handling.docx) Corrections to TS 38.331 on Multicast MRB Handling CATT, CBN CR Rel-17 38.331 17.2.0 3578 - F NR\_MBS-Core

[R2-2211303](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211303%20Corrections%20to%20TS%2038.331%20on%20Broadcast%20Aspects.docx) Corrections to TS 38.331 on Broadcast Aspects CATT, CBN CR Rel-17 38.331 17.2.0 3579 - F NR\_MBS-Core

[R2-2211359](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211359%20Discussion%20about%20RAN2%20Impacts%20of%20Multicast%20HARQ%20Feedback%20by%20DCI%20format%204_1.docx) Discussion about RAN2 Impacts of Multicast HARQ Feedback by DCI format 4\_1 vivo Mobile Com. (Chongqing) discussion Rel-17 NR\_MBS-Core

*(moved from 6.1.1)*

[R2-2211365](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211365_CR3589_38331_RRC%20Corrections%20on%20MBS.docx) RRC Corrections on MBS vivo Mobile Com. (Chongqing) CR Rel-17 38.331 17.2.0 3589 - F NR\_MBS-Core

[R2-2211385](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211385-MBSr17-CR.docx) Correction to harq-FeedbackEnablerMulticast Qualcomm Incorporated CR Rel-17 38.331 17.2.0 3592 - F NR\_MBS-Core

[R2-2211511](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211511%20Corrections%20on%20RRC.docx) Corrections on RRC Huawei, CBN, HiSilicon CR Rel-17 38.331 17.2.0 3607 - F NR\_MBS-Core

[R2-2211868](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211868%20Discussion%20on%20MBS%20SPS%20configuration.docx) Discussion on MBS SPS configuration ASUSTeK discussion Rel-17 NR\_MBS-Core

[R2-2211869](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211869%20Corrections%20on%20MBS%20SPS%20configuration.docx) Corrections on MBS SPS configuration ASUSTeK CR Rel-17 38.331 17.2.0 3651 - F NR\_MBS-Core

[R2-2212784](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212784%20Clarification%20on%20security%20configuration.docx) Clarification on security configuration Google Inc. CR Rel-17 38.331 17.2.0 3735 - F NR\_MBS-Core

[R2-2212928](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212928%20CR%20to%20TS%2038.331%20on%20MBS%20neighbour%20cell%20list.docx) CR to TS 38.331 on MBS neighbour cell list ZTE, Sanechips CR Rel-17 38.331 17.2.0 3755 - F NR\_MBS-Core

### 6.1.4 UP corrections

Including corrections to MAC, PDCP, RLC and SDAP.

**Online discussion**

R2-2213102 Report of [AT120][603][MBS-R17] MAC corrections ASUSTeK discussion Rel-17 NR\_MBS-Core

*Discussed in the past, treated only if time allows*

[R2-2211594](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211594%20PDCP%20Initialisation.docx) PDCP Initialisation Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_MBS-Core

**Papers below discussed based on the offline report in R2-2213102**

[R2-2211301](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211301%2038.321%20corrections%20for%20MBS%20v5.0.docx) Corrections for MBS OPPO, Nokia, Nokia Shanghai Bell, Huawei, HiSilicon, LG Electronics Inc, vivo, Xiaomi CR Rel-17 38.321 17.2.0 1454 - F NR\_MBS-Core

[R2-2211366](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211366%20CR1455_38321_MAC%20Corrections%20on%20MBS.docx) MAC Corrections on MBS vivo Mobile Com. (Chongqing) CR Rel-17 38.321 17.2.0 1455 - F NR\_MBS-Core

[R2-2211509](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211509%20Corrections%20on%20MAC.docx) Corrections on MAC Huawei, CBN, HiSilicon CR Rel-17 38.321 17.2.0 1463 - F NR\_MBS-Core

=> Revised in [R2-2212957](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212957%20Corrections%20on%20MAC.docx)

[R2-2212957](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212957%20Corrections%20on%20MAC.docx) Corrections on MAC Huawei, CBN, HiSilicon CR Rel-17 38.321 17.2.0 1463 1 F NR\_MBS-Core

[R2-2211593](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211593%20MBS%20DRX.docx) DRX Corrections Nokia, Ericsson, Nokia Shanghai Bell, Qualcomm Incorporated discussion Rel-17 NR\_MBS-Core

[R2-2211870](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211870%20Discussion%20on%20MBS%20DRX%20and%20SPS%20issues.docx) Discussion on MBS DRX and SPS issues ASUSTeK discussion Rel-17 NR\_MBS-Core

[R2-2212056](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212056%20MBS%20PTP%20Retx.docx) UE not supporting PTP retransmission via C-RNTI Samsung discussion Rel-17

[R2-2212108](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212108%2038.321%20Draft%20CR%20(Rel17)%20Multicast%20HARQ%20feedback%20enabling%20and%20disabling.docx) Multicast HARQ feedback enabling and disabling Samsung R&D Institute India draftCR Rel-17 38.321 17.2.0 F NR\_MBS\_enh-Core

## 8.11 Enhancements of NR Multicast and Broadcast Services

(NR\_MBS\_enh-Core; leading WG: RAN2; REL-18; WID: RP-221458)

Time budget: 0.5 TU

Tdoc Limitation: 2 tdocs

### 8.11.1 Organizational

LS in, rapporteur input etc.

[R2-2211157](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211157_R3-225987.docx) Reply LS on FS\_5MBS\_Ph2 progress (R3-225987; contact: Huawei) RAN3 LS in Rel-18 FS\_5MBS\_Ph2, NR\_MBS\_enh-Core To:SA2, RAN2 Cc:RAN1

[R2-2211168](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211168_R3-226084.docx) LS on resource efficiency for MBS reception in RAN sharing scenario (R3-226084; contact: CATT) RAN3 LS in Rel-18 NR\_MBS\_enh To:RAN2 Cc:SA2

[R2-2212628](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212628%2038.300%20Running%20CR%20for%20MBS%20enhancements.docx) 38.300 Running CR for MBS enhancements CMCC CR Rel-18 38.300 17.2.0 0589 - B NR\_MBS\_enh-Core

* ?? To be updated with agreements from this meeting
* ?? Used as a baseline for review after the meeting (short e-mail discussion)

### 8.11.2 Multicast reception in RRC\_INACTIVE

Objective: Specify support of multicast reception by UEs in RRC\_INACTIVE state [RAN2, RAN3], PTM configuration for UEs receiving multicast in RRC\_INACTIVE state [RAN2]. Study the impact of mobility and state transition for UEs receiving multicast in RRC\_INACTIVE. (Seamless/lossless mobility is not required) [RAN2, RAN3].

Including aspects such as:

* details of PTM configuration option 1 and 2, e.g. to understand potential enhancements required for RRC state management, configuration update, notifications, service continuity, mobility, session state changes etc.
* comparison of the two options, how to address main issues of each option, mixed option considerations
* potential cross-WG impacts identification

***PTM configuration and PTM reconifguration during mobility***

*Option 1*

[R2-2211611](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211611%20Discussion%20on%20multicast%20reception%20in%20RRC_INACTIVE.docx) Discussion on multicast reception in RRC\_INACTIVE NEC Europe Ltd discussion Rel-18 NR\_MBS\_enh-Core

Proposal 1 : Using dedicated RRC signaling (e.g., RRCRelease, RRCReconfiguration) to provide multicast configuration to UE when its RRC state is switched from RRC\_CONNECTED to RRC\_INACTIVE and details FFS.

Proposal 6: Using RRCRelease carrying multicast configuration as a response to multicast request during random access procedure.

Proposal 7: RAN2 is suggested to consider the following methods for the mobility of multicast reception in RRC\_INACTIVE:

- Option 1: Use dedicated RRC signaling to provide multicast configuration list for multiple cells

- Option 2: Introduce area-specific multicast configuration

*Option 2*

[R2-2212185](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212185.docx) Multicast reception in RRC\_INACTIVE Intel Corporation discussion Rel-18 NR\_MBS\_enh-Core

Proposal 2: RAN2 to confirm that there are no security issues for Option 2, in which PTM configuration for multicast service is provided in SIB+MCCH.

Proposal 3: For multicast reception in RRC\_INACTIVE, PTM configuration is provided via SIB20 + MCCH, similarly as in broadcast reception.

Proposal 4: PTM configuration is not area specific.

Proposal 5: When the multicast session is activated, UE can receive the multicast session in RRC\_INACTIVE if the PTM configuration to be used in RRC\_INACTIVE for the session is available to the UE (e.g., the configuration was previously provided to UE via dedicated RRC signaling or via MCCH), otherwise it goes back to RRC\_CONNECTED to receive the multicast session.

*Mixed solution*

[R2-2211730](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211730_Multicast%20reception%20in%20RRC_INACTIVE%20state_v0.doc) Multicast reception in INACTIVE state Apple discussion Rel-18 NR\_MBS\_enh-Core

Proposal 1: For both options, when NW configures UE to continue the multicast reception in INACTIVE state, NW provides the PTM configuration for the activated multicast session via the RRC dedicated signaling.

Proposal 6: The UE can acquire whether the newly selected cell supports the INACTIVE multicast transmission in two options:

- Option 1: NW configures the cell list where the UE can receive the multicast reception in INACTIVE state;

- Option 2: UE acquires the information from the target cell by itself, via MCCH channel.

[R2-2212305](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212305%20Multicast%20reception%20in%20RRC_INACTIVE.docx) Multicast reception in RRC\_INACTIVE Ericsson discussion Rel-18 NR\_MBS\_enh-Core

Proposal 1: MCCH is used in case there is a need to indicate a change in PTM config, area config or session status change.

Proposal 2: In case MCCH is not configured RAN group paging can be used to indicate session status change (activation/deactivation status).

Proposal 5: RRCResumeRequest-RRCRelease sequence is not used to configure (new) configuration(s).

***State transitions***

[R2-2212521](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212521_eMBS_multicast-inactive.doc) Details of multicast reception in RRC INACTIVE Kyocera discussion Rel-18 [R2-2210428](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2210428_eMBS_multicast-inactive.doc)

Proposal 2 RAN2 should agree that the UE is allowed to stop monitoring MTCH upon reception of multicast session deactivation.

Proposal 4 RAN2 should agree that no enhancement specific to the multicast session release is needed, i.e., the UE transitions to RRC Connected by the existing (group) paging.

Proposal 5 RAN2 should confirm the baseline that the group paging can be used to inform Rel-18 UE(s) about the session activation.

Proposal 6 RAN2 should agree UE behaviour Option 1 “When the multicast session is activated, UE can receive the multicast session in RRC\_INACTIVE if the PTM configuration used in RRC\_INACTIVE for the session is available to the UE and the UE has joined the session already (e.g., configuration provided to UE via dedicated RRC signaling or via MCCH), otherwise it goes back to RRC\_CONNECTED to receive the multicast session.”

Proposal 7 RAN2 should agree UE behaviour Option 2 “When the multicast session is activated, UE is indicated by group paging whether it can receive the multicast session in RRC\_INACTIVE or not (detailed signaling FFS).”

Proposal 8 RAN2 should discuss how to enhance the group paging to page a subset of UEs, e.g., with a new UE-ID list to stay in INACTIVE for multicast session reception.

***Cell reselection***

[R2-2212176](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212176.doc) Discussion on Multicast Reception in RRC\_INACTIVE Spreadtrum Communications discussion Rel-18

Proposal 4: R17 cell reselection procedure for MBS broadcast reception can be taken as baseline for the mobility for Multicast reception in RRC\_INACTIVE state.

Proposal 5: The frequency providing Multicast service(s) in RRC\_INACTIVE state should be prioritized during the cell reselection when the Multicast capable UE is receiving Multicast service(s) in RRC\_INACTIVE state.

Proposal 6: The system information of serving cell UE camps on should contain the information of neighbour cells supporting the same Multicast service(s) in RRC\_INACTIVE state.

[R2-2211512](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211512%20Multicast%20reception%20for%20RRC_INACTIVE.docx) Multicast reception for RRC INACTIVE UE Huawei, HiSilicon discussion Rel-18 NR\_MBS\_enh-Core

Proposal 6: Dedicated frequency priority can be used as baseline for multicast frequency prioritization and further discuss whether to address the scenario where a MBS multicast service is provided in different frequencies in different cells/areas.

***L1 related***

[R2-2211299](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211299%20Discussion%20on%20multicast%20reception%20in%20RRC_INACTIVE%20state.doc) Discussion on multicast reception in RRC\_INACTIVE state OPPO discussion Rel-18 NR\_MBS\_enh

Proposal 13: Send LS to RAN1 to confirm how to configure or use CFR for multiact reception for UEs in RRC\_INACTIVE state.

Proposal 14: Send LS to RAN1 to confirm that the network will transmit the multicast data for RRC\_INACTIVE UE via beam sweeping based on SSB index like broadcast MBS.

Proposal 15: Send LS to RAN1 to confirm that DCI for R18 multicast MBS, i.e DCI for R18 multicast MBS looks like the DCI for R17 multicast MBS or DCI for R17 broadcast MBS or others.

Proposal 16: Send LS to RAN1 to confirm that the HARQ feedback for a G-RNTI should be set to disable If Multicast reception by UEs in RRC\_INACTIVE state is configured for this G-RNTI.

[R2-2212311](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212311%20PTM%20configuration%20for%20multicast%20reception%20in%20RRC_INACTIVE.doc) PTM configuration for multicast reception in RRC\_INACTIVE LG Electronics Inc. discussion Rel-18

[R2-2211243](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211243.docx) Further discussions on multicast reception in RRC\_INACTIVE CATT, CBN discussion NR\_MBS\_enh-Core

[R2-2211247](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211247%20Supporting%20Multicast%20Reception%20in%20RRC_INACTIVE%20from%20Upper%20Layer%20Aspects.docx) Supporting Multicast Reception in RRC\_INACTIVE from Upper Layer Aspects vivo Mobile Com. (Chongqing) discussion Rel-18 NR\_MBS\_enh-Core

[R2-2211248](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211248%20Supporting%20Multicast%20Reception%20in%20RRC_INACTIVE%20from%20Lower%20Layer%20Aspects.docx) Supporting Multicast Reception in RRC\_INACTIVE from Lower Layer Aspects vivo Mobile Com. (Chongqing) discussion Rel-18 NR\_MBS\_enh-Core

[R2-2211271](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211271%20Analysis%20of%20options%20for%20sendiong%20PTM%20configuration.docx) Analysis of options for sending PTM configuration TD Tech, Chengdu TD Tech discussion Rel-18

[R2-2211273](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211273%20Discussion%20on%20multicast%20reception%20in%20RRC_INACTIVE%20state.docx) Multicast reception in RRC\_INACTIVE state Chengdu TD Tech, TD Tech discussion Rel-18

[R2-2211294](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211294.doc) Discussion on Paging and PTM configuration for Multicast reception in Inactive State TCL Communication Ltd. discussion Rel-18 Late

[R2-2211300](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211300-Draft%20LS%20on%20multicast%20reception%20in%20RRC_INACTIVE.doc) LS on multicast reception in RRC\_INACTIVE OPPO LS out Rel-18 NR\_MBS\_enh To:RAN1

[R2-2211434](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211434.docx) Session state change for UEs receiving Multicast in RRC\_INACTIVE state TCL Communication Ltd. discussion

[R2-2211435](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211435.docx) PTM configuration for UEs receiving Multicast in RRC\_INACTIVE state TCL Communication Ltd. discussion

[R2-2211550](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211550-multicast-rrc-inactive.docx) Multicast reception by UEs in RRC\_INACTIVE state Qualcomm Incorporated discussion Rel-18 NR\_MBS\_enh-Core

[R2-2211880](file:///C:\Users\Dwx974486\Documents\3GPP\TSGR2\TSGR2_120\docs\R2-2211880.zip) PTM configuration option 1 CANON Research Centre France discussion Rel-18 [R2-2209533](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2209533_MBS%20pre-configuration%20and%20PTM%20configuration%20in%20RRC_INACTIVE%20state.docx) Withdrawn

[R2-2211890](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211890%20Discuss%20on%20PTM%20configuration%20delivery%20for%20multicast%20in%20RRC%20INACTIVE.docx) Discuss on PTM configuration delivery for multicast in RRC INACTIVE MediaTek inc. discussion Rel-18 NR\_MBS\_enh-Core

[R2-2211891](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211891%20Discuss%20on%20the%20notification%20for%20multicast%20in%20RRC%20INACTIVE.docx) Discuss on the notification for multicast in RRC INACTIVE MediaTek inc. discussion Rel-18 NR\_MBS\_enh-Core

[R2-2211971](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211971%20MBS%20Inactive%20Multicast%20Reception.docx) Multicast reception in RRC\_INACTIVE Nokia, Nokia Shanghai Bell discussion Rel-18 NR\_MBS\_enh-Core

[R2-2212014](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212014_PTM%20configuration%20option%201.docx) PTM configuration option 1 CANON Research Centre France discussion Rel-18 [R2-2209533](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2209533_MBS%20pre-configuration%20and%20PTM%20configuration%20in%20RRC_INACTIVE%20state.docx)

[R2-2212037](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212037%20PTM%20configuration.docx) PTM configuration for multicast reception in RRC\_INACTIVE Lenovo discussion Rel-18

[R2-2212038](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212038%20Mobility%20and%20state%20transition.docx) Mobility and state transition for multicast reception in RRC\_INACTIVE Lenovo discussion Rel-18

[R2-2212104](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212104%20Discussion%20on%20Multicast%20Reception%20in%20RRC_INACTIVE.docx) Discussion on Multicast Reception in RRC\_INACTIVE Samsung R&D Institute India discussion Rel-18

[R2-2212209](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212209%20RRC_INACTIVE%20in%20Multicast.docx) Service expectations for Multicast Sessions in RRC\_INACTIVE AT&T, FirstNet discussion Rel-18

[R2-2212310](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212310%20State%20transition%20for%20multicast%20reception%20in%20RRC_INACTIVE.doc) State transition for multicast reception in RRC\_INACTIVE LG Electronics Inc. discussion Rel-18

[R2-2212411](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212411_Ensuring%20desired%20level%20of%20reliability%20for%20an%20MBS%20session.doc) Ensuring desired level of reliability for an MBS session InterDigital, Inc. discussion Rel-18 NR\_MBS\_enh-Core

[R2-2212545](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212545%20%20PTM%20Configuration%20for%20RRC_INACTIVE%20UE.docx) PTM Configuration for RRC\_INACTIVE UE SHARP Corporation discussion

[R2-2212629](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212629%20Discussion%20on%20multicast%20reception%20in%20RRC_INACTIVE.docx) Discussion on multicast reception in RRC\_INACTIVE CMCC discussion Rel-18 NR\_MBS\_enh-Core

[R2-2212741](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212741%20Considerations%20on%20the%20multicast%20reception%20in%20RRC_INACTVE%20state.docx) Considerations on the multicast reception in RRC\_INACTVE state Xiaomi discussion Rel-18

[R2-2212896](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212896.docx) Multicast reception in RRC\_INACTIVE ASELSAN, Turkcell discussion Rel-18 NR\_MBS\_enh-Core

[R2-2212926](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212926%20Multicast%20reception%20in%20RRC_INACTIVE.doc) Multicast reception in RRC\_INACTIVE ZTE, Sanechips discussion Rel-18 NR\_MBS\_enh-Core

### 8.11.3 Shared processing for MBS broadcast and Unicast reception

Specify Uu signalling enhancements to allow a UE to use shared processing for MBS broadcast and unicast reception, i.e., ‎including UE capability and related assistance information reporting regarding simultaneous unicast reception in RRC\_CONNECTED and MBS broadcast reception from the same or different operators [RAN2]

**Agenda Item not treated during this meeting.**

[R2-2211272](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211272%20Simultaneous%20unicast%20and%20broadcast%20receptions.docx) Simultaneous unicast reception and MBS broadcast reception TD Tech, Chengdu TD Tech discussion Rel-18

[R2-2211304](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211304%20MBS%20reception%20interruption%20problem%20in%20LTE%20and%20NR.docx) MBS reception interruption problem in LTE and NR Chengdu TD Tech, TD Tech discussion Rel-18 Withdrawn

[R2-2211307](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211307-MBS-capability-sharing.docx) Shared processing for MBS broadcast and unicast reception Qualcomm Incorporated discussion Rel-18 NR\_MBS\_enh-Core [R2-2209448](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2209448-MBS-capability-sharing.docx)

R2-2211329 MBS reception interruption problem in LTE and NR Chengdu TD Tech, TD Tech discussion Rel-18 Withdrawn

[R2-2211330](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211330%20MBS%20reception%20interruption%20problem%20in%20LTE%20and%20NR.docx) MBS reception interruption problem in LTE and NR Chengdu TD Tech, TD Tech discussion Rel-18 Withdrawn

[R2-2211415](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211415%20MBS%20reception%20interruption%20problem%20in%20LTE%20and%20NR.docx) MBS reception interruption problem in LTE and NR TD Tech, Chengdu TD Tech discussion Rel-18

[R2-2211731](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211731_Shared%20processing%20of%20MBS%20broadcast%20and%20unicast%20reception_v0.doc) Shared processing of MBS broadcast and unicast reception Apple discussion Rel-18 NR\_MBS\_enh-Core

[R2-2212522](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212522_eMBS_shared-processing.doc) Shared processing for inter-PLMN MBS broadcast reception Kyocera discussion Rel-18 [R2-2210427](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2210427_eMBS_shared-processing.doc)

### 8.11.4 RAN sharing scenarios

Objective: Study and if necessary, specify enhancements to improve the resource efficiency for MBS reception in RAN sharing scenarios [RAN3]

This objective has no official RAN2 involvement and this AI is only to gather companies views on incoming LS from RAN3 (R3-226084), other considerations should not be contributed and will not be treated.

**Online discussion**

R2-2213103 Summary of AI 8.11.4 RAN sharing scenarios CATT discussion Rel-18 NR\_MBS\_enh-Core

**All Tdocs below treated as part of the summary document in R2-2213103**

[R2-2211244](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211244.docx) [Draft] Reply LS on resource efficiency for MBS reception in RAN sharing scenario CATT LS out NR\_MBS\_enh-Core To:RAN3 Cc:SA2

[R2-2211245](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211245.docx) Discussions on RAN3 LS on resource efficiency for MBS reception in RAN sharing scenario CATT, CBN discussion NR\_MBS\_enh-Core

[R2-2211513](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211513%20Discussion%20on%20the%20RAN3%20LS%20on%20resource%20efficiency%20for%20MBS%20reception%20in%20RAN%20sharing%20scenario.docx) Discussion on the RAN3 LS on resource efficiency for MBS reception in RAN sharing scenario Huawei, HiSilicon discussion Rel-18 NR\_MBS\_enh-Core

[R2-2211612](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211612%20Discussion%20on%20RAN%20sharing%20scenarios%20for%20MBS.docx) Discussion on RAN sharing scenarios for MBS NEC Europe Ltd discussion Rel-18 NR\_MBS\_enh-Core

[R2-2211972](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2211972%20RAN%20sharing%20and%20response%20to%20RAN3.docx) RAN sharing and response to RAN3 Nokia, Nokia Shanghai Bell discussion Rel-18 NR\_MBS\_enh-Core

[R2-2212057](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212057%20MBS%20RAN%20Sharing.docx) Discussion on RAN sharing scenario Samsung discussion Rel-18

[R2-2212306](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212306%20RAN%20sharing%20scenarios.docx) RAN sharing scenarios Ericsson discussion Rel-18 NR\_MBS\_enh-Core

[R2-2212577](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212577.docx) Discussion on RAN3 LS on MBS RAN sharing Intel Corporation discussion Rel-18 NR\_MBS\_enh-Core

[R2-2212630](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212630 Discussion%20on%20RAN3%20LS.docx) Discussion on RAN3 LS CMCC discussion Rel-18 NR\_MBS\_enh-Core

[R2-2212740](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212740%20Discussion%20on%20the%20) Discussion on the “LS on resource efficiency for MBS reception in RAN sharing scenario” from RAN3 (R3-226084) Xiaomi discussion Rel-18

[R2-2212927](file:///C:\Users\Dwx974486\Documents\3GPP\Extracts\R2-2212927%20RAN2%20on%20network%20sharing%20for%20Broadcast%20session.doc) RAN2 on network sharing for Broadcast session ZTE, Sanechips discussion Rel-18 NR\_MBS\_enh-Core