**3GPP TSG-RAN WG2 Meeting #123 *R2-230xxxx***

**Toulouse, France, 21– 25 August 2023**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.306** | **CR** | **draft** | **rev** | **-** | **Current version:** | **17.5.0** |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network | **X** | Core Network |  |

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|  | | | | | | | | | | |
| ***Title:*** | 38.306 running CR for mobile IAB capabilities | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Nokia, Nokia Shanghai Bell | | | | | | | | | |
| ***Source to TSG:*** | R2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_mobile\_IAB-Core | | | | |  | ***Date:*** | | | 2023-09-22 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-18 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Introducing Rel-18 mobile IAB feature to 38.306. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1. *mobile-IAB-r18* capability added to 4.2.15.2 2. Add note to 4.2.15.9 and 4.2.15.10 to indicate that MR-DC and NR-DC related parameters shall be ignored by an IAB node indicating *mobile-IAB-r18*. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Mobile IAB feature cannot be supported. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.2.15.2  4.2.15.8  4.2.15.9  4.2.15.10 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS/TR 38.331 CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

*First Modified Subclause*

#### 4.2.15.2 General Parameters

| Definitions for parameters | Per | M | FDD-TDD  DIFF | FR1-FR2  DIFF |
| --- | --- | --- | --- | --- |
| ***bh-RLF-DetectionRecovery-Indication-r17***  Indicates whether the IAB-MT supports BH RLF detection indication and BH RLF recovery indication handling as specified in TS 38.340 [23] | IAB-MT | No | No | No |
| ***bh-RLF-Indication-r16***  Indicates whether the IAB-MT supports BH RLF indication handling as specified in TS 38.331 [9] and in TS 38.340 [23] | IAB-MT | No | No | No |
| ***directSN-AdditionFirstRRC-IAB-r16***  Indicates whether the IAB-MT supports direct SN addition in the first RRC connection reconfiguration after RRC connection establishment. | IAB-MT | No | No | No |
| ***mobile-IAB-r18***  Indicates whether the IAB-MT supports mobile IAB functionality as specified in TS 38.300 [28]. A mobile IAB-MT set this field to *supported* but shall not indicate support of *f1c-OverEUTRA-r16, scg-DRB-NR-IAB-r16, interNR-MeasEUTRA-IAB-r16, f1c-OverNR-RRC-r17,* and *simultaneousRxTx-IAB-MultipleParents-r17*c. | IAB-MT | No | No | No |

Editor's Note: FFS whether to keep mobile-IAB-r18 capability, e.g. based on RAN3 Xn signalling design. If capability is not needed based on RAN3 agreements, RAN2 should also clarify with SA2 the intention of “for a MBSR node to operate as a MBSR” from clause 5.35A.1 of TS 23.501.

*Next Modified Subclause*

#### 4.2.15.8 MeasAndMobParameters Parameters

| Definitions for parameters | Per | M | FDD-TDD  DIFF | FR1-FR2  DIFF |
| --- | --- | --- | --- | --- |
| *eventA-MeasAndReport*  Indicates whether the IAB-MT supports NR measurements and events A triggered reporting as specified in TS 38.331 [9]. | IAB-MT | Yes | Yes | No |
| ***handoverInterF***  Indicates whether the IAB-MT supports inter-frequency HO. It indicates the support for inter-frequency HO from the corresponding duplex mode if this capability is included in fdd-Add-UE-NR-Capabilities or tdd-Add-UE-NR-Capabilities. It indicates the support for inter-frequency HO from the corresponding frequency range if this capability is included in fr1-Add-UE-NR-Capabilities or fr2-Add-UE-NR-Capabilities. | IAB-MT | No | Yes | Yes |
| ***mfbi-IAB-r16***  Indicates whether the IAB-MT supports multiple frequency band indication. | IAB-MT | No | No | No |
| ***intraAndInterF-MeasAndReport***  Indicates whether the IAB-MT supports NR intra-frequency and inter-frequency measurements and at least periodical reporting. | IAB-MT | Yes | Yes | No |

Editor's Note: MeasAndMobParameters may be updated later, e.g. based on input from RAN4.

#### 4.2.15.9 MR-DC Parameters

| Definitions for parameters | Per | M | FDD-TDD  DIFF | FR1-FR2  DIFF |
| --- | --- | --- | --- | --- |
| ***f1c-OverEUTRA-r16***  Indicates whether the IAB-MT supports F1-C signalling over *DLInformationTransfer* and *ULInformationTransfer* messages via MN when IAB-MT operates in EN-DC mode, as specified in TS 36.331 [17]. | IAB-MT | No | No | No |
| ***scg-DRB-NR-IAB-r16***  Indicates whether the IAB-MT supports SCG DRB with NR PDCP when IAB-MT operates in EN-DC mode. | IAB-MT | No | No | No |
| ***interNR-MeasEUTRA-IAB-r16***  Indicates whether the IAB-MT supports NR measurement and reports while in EUTRA connected and event B1-based measurement and reports while in EUTRA connected. | IAB-MT | No | No | No |

NOTE: In this release of the specification, if an IAB-node indicates support for *mobile-IAB-r18*, MR-DC parameters shall be ignored.

#### 4.2.15.10 NRDC Parameters

| Definitions for parameters | Per | M | FDD-TDD  DIFF | FR1-FR2  DIFF |
| --- | --- | --- | --- | --- |
| ***f1c-OverNR-RRC-r17***  Indicates whether the IAB-MT supports F1-C signalling over DLInformationTransfer and ULInformationTransfer messages via MN when IAB-MT operates in NR-DC and MN is the non-F1-termination node or via SN when IAB-MT operates in NR-DC and SN is the non-F1-termination node, as specified in TS 38.401 [33] and TS 37.340 [7]. | IAB-MT | No | No | No |
| ***simultaneousRxTx-IAB-MultipleParents-r17***  Indicates the support of simultaneous transmission and reception of an IAB-node from multiple parent nodes. | BC | No | No | No |

NOTE: In this release of the specification, if an IAB-node indicates support for *mobile-IAB-r18*, NR-DC parameters shall be ignored.

*End of Changes*

# Annex: Relevant agreements

Relevant agreements are shown below.

Rel-18 mobile IAB WI [RP-222671](https://www.3gpp.org/ftp/tsg_ran/TSG_RAN/TSGR_97e/Docs/RP-222671.zip):

* + The mobility of dual-connected IAB-nodes is down-prioritized.

RAN2#119bis:

* UE capability signalling is the baseline to let CU know that the MT is a “mobile-IAB” type. FFS early mobile-IAB indication, e.g. in Msg5.

RAN2#121bis:

* R2 clarifies that A donor broadcasting the “supporting mobile-IAB” indication first checks the UE capability of an IAB node before configuring child nodes for the IAB node or sending a handover request for the node, no impact to RAN2 TS.