**3GPP TSG RAN WG1 #122bis R1-25nnnnn**

**Prague, Czech Republic, October 13th –17th, 2025**

**Source: Ad-Hoc Chair (AT&T)**

**Title: Session Notes of AI 9.6**

**Agenda Item: 9.6**

**Document for: Endorsement**

### 9.6 UE features for NR mobility enhancements Phase 4

**Proposal: Adopt the following changes highlighted in chromatic fonts, while keeping the yellow highlighting, if any, as shown**

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| 63. NR\_Mob\_Ph4 | 63-1 | NW triggered ~~intra-frequency~~ L1-RSRP measurement based on periodic CSI-RS (s) for L1-L2 Triggered Mobility (LTM) procedure | 1. Support of intra-frequency L1- RSRP measurement and reporting based on periodic CSI-RS(s) of candidate cell(s)  1a. Support of inter-frequency L1- RSRP measurement and reporting based on periodic CSI-RS(s) of candidate cell(s)  2. Maximum number of RRC configured candidate cells for ~~intra-frequency~~ L1-RSRP measurement on CSI-RS resource  3. Support of up to L candidate cells and M beams in one report where a CRI-RSRP pair is used for each beam report for ~~intra-frequency~~ L1-RSRP measurement  4. Maximum number of LTM CSI report configs using periodic CSI-RS as measurement resource | 45-1 | Yes | No | NW triggered ~~intra-frequency~~ L1-RSRP measurement based on periodic CSI-RS (s) for L1-L2 Triggered Mobility (LTM) procedure is not supported | Per BC | n/a | n/a | n/a | Component 2 candidate values: {1,2,3,4,5,6,7,8}  Component 3 candidate values:  L: {1, 2,3,4}  M: {1, 2,3,4}  M × L: {1,2,3,4, 6, 8, 9, 12, 16}  Component 4 candidate values:  Aperiodic: {0,1,2,3,4}  Periodic: {1,2,3,4}  Semi-persistent: {0,1,2,3,4} | Optional with capability signaling |

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| 63. NR\_Mob\_Ph4 | 63-2 | NW triggered ~~intra-frequency~~ L1-RSRP measurement based on semi-persistent CSI-RS (s) for L1-L2 Triggered Mobility (LTM) procedure | 1. Support of intra-frequency L1- RSRP measurement and reporting based on semi-persistent CSI-RS(s) of candidate cell(s)  1a. Support of inter-frequency L1- RSRP measurement and reporting based on semi-persistent CSI-RS(s) of candidate cell(s)  2. Maximum number of LTM CSI report configs using semi-persistent CSI-RS as measurement resource | 63-1 | Yes | No | NW triggered ~~intra-frequency~~ L1-RSRP measurement based on semi-persistent CSI-RS (s) for L1-L2 Triggered Mobility (LTM) procedure is not supported | Per BC | n/a | n/a | n/a | Component 2 candidate values:  Aperiodic: {0,1,2,3,4}  Semi-persistent: {0,1,2,3,4}  ~~Note: For component 4, the UE must support a non-zero value for at least one of aperiodic and semi-persistent~~ | Optional with capability signaling |

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| 63. NR\_Mob\_Ph4 | 63-6 | ~~Intra-frequency~~ CSI-RS and CSI-IM measurement and CSI reporting for cell indicated in CSC MAC CE after reception of LTM CSC MAC CE based on periodic CSI-RS and CSI-IM resource | 1. Support of CSI-RS and CSI-IM measurement and CSI reporting after reception of LTM CSC MAC CE based on periodic CSI-RS(s) and CSI-IM resources of cell indicated in CSC MAC CE  3. Maximum number of CSI-RS resources for CMR associated with CSI report configuration for a candidate cell  4. Max number of ports of CSI-RS resource(s) associated with a CSI report configuration for CSI reporting for a candidate cell  5. Maximum number of ports in one NZP CSI-RS resource  6. Max rank for CSI reporting for a candidate cell  7. Maximum number of CSI-IM resources for interference measurement associated with CSI report configuration for a candidate cell | ~~FFS~~ RAN2 FG for LTM in Rel-18 | Yes | No | ~~Intra-frequency~~ Periodic CSI-RS and CSI-IM measurement and CSI reporting for cell indicated in CSC MAC CE after reception of LTM CSC MAC CE is not supported | Per band | n/a | n/a | n/a | Component 3 candidate values: {1,2,3,4,5,6,7,8}  Component 4 candidate values: {1,2,4,8,12,16,24,32,48,64,128}  Component 5 candidate values: {1, 2, 4, 8, 12, 16, 24, 32}  Component 6 candidate values: {1,2,3,4,5,6,7,8}  Component 7 candidate values: {1,2,3,4,5,6,7,8} | Optional with capability signaling |

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| 63. NR\_Mob\_Ph4 | 63-6a | ~~Intra-frequency~~ CSI-RS and CSI-IM measurement and CSI reporting for cell indicated in CSC MAC CE after reception of LTM CSC MAC CE based on semi-persistent CSI-RS and CSI-IM resource | 1. Support of CSI-RS and CSI-IM measurement and CSI reporting after reception of LTM CSC MAC CE based on ~~periodic~~ semi-persistent CSI-RS(s) and CSI-IM resources of cell indicated in CSC MAC CE  3. Maximum number of CSI-RS resources for CMR associated with CSI report configuration for a candidate cell  4. Max number of ports of CSI-RS resource(s) associated with a CSI report configuration for CSI reporting for a candidate cell  5. Maximum number of ports in one NZP CSI-RS resource  6. Max rank for CSI reporting for a candidate cell  7. Maximum number of CSI-IM resources for interference measurement associated with CSI report configuration for a candidate cell | ~~FFS~~ 63-6 | Yes | No | ~~Intra-frequency~~ Semi-persistent CSI-RS and CSI-IM measurement and CSI reporting for cell indicated in CSC MAC CE after reception of LTM CSC MAC CE is not supported | Per band | n/a | n/a | n/a | Component 3 candidate values: {1,2,3,4,5,6,7,8}  Component 4 candidate values: {1,2,4,8,12,16,24,32,48,64,128}  Component 5 candidate values: {1, 2, 4, 8, 12, 16, 24, 32}  Component 6 candidate values: {1,2,3,4,5,6,7,8}  Component 7 candidate values: {1,2,3,4,5,6,7,8} | Optional with capability signaling |

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| 63. NR\_Mob\_Ph4 | 63-7 | ~~Intra-frequency~~ CSI-RS and CSI-IM measurement for candidate cell before reception of LTM CSC MAC CE based on periodic CSI-RS(s) and CSI-IM resources of candidate cells | 1. Support of intra-frequency CSI-RS and CSI-IM measurement before reception of CSC MAC CE based on periodic CSI-RS(s) and CSI-IM resources of candidate cells  1a. Support of inter-frequency CSI-RS and CSI-IM measurement before reception of CSC MAC CE based on periodic CSI-RS(s) and CSI-IM resources of candidate cells  2. Maximum number of RRC configured candidate cells for CSI measurement before LTM CSC MAC CE  3. Maximum number of RRC configured CSI-RS resources across candidate cells RRC configured for CSI measurement before LTM CSC MAC CE  4. Max number of ports of CSI-RS resource(s) associated with a CSI report configuration for CSI reporting for a candidate cell  5. Maximum number of ports in one NZP CSI-RS resource associated with a CSI report configuration for CSI reporting for a candidate cell  6. Maximum number of RRC configured CSI-IM resources across candidate cells RRC configured for CSI measurement before LTM CSC MAC CE | 63-6 | Yes | No | ~~Intra-frequency~~ Periodic CSI-RS and CSI-IM measurement for candidate cell before reception of LTM CSC MAC CE is not supported | Per BC | n/a | n/a | n/a | Component 2 candidate values: {1,2,3,4,5,6,7,8}  Component 3 candidate values: {1,2,...64}  Component 4 candidate values: {1,2,4,8,12,16,24,32,48,64,128}  Component 5 candidate values: {1,2,4,8,12,16,24,32}  Component 6 candidate values: {1,2,…64} | Optional with capability signaling |

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| 63. NR\_Mob\_Ph4 | 63-7a | ~~Intra-frequency~~ CSI-RS and CSI-IM measurement for candidate cell before reception of LTM CSC MAC CE based on semi-persistent CSI-RS(s) and CSI-IM resources of candidate cells | 1. Support of intra-frequency CSI-RS and CSI-IM measurement before reception of CSC MAC CE based on semi-persistent CSI-RS(s) and CSI-IM resources of candidate cells  1a. Support of inter-frequency CSI-RS and CSI-IM measurement before reception of CSC MAC CE based on semi-persistent CSI-RS(s) and CSI-IM resources of candidate cells  2. Maximum number of RRC configured candidate cells for CSI measurement before LTM CSC MAC CE  3. Maximum number of RRC configured CSI-RS resources across candidate cells RRC configured for CSI measurement before LTM CSC MAC CE  4. Max number of ports of CSI-RS resource(s) associated with a CSI report configuration for CSI reporting for a candidate cell  5. Maximum number of ports in one NZP CSI-RS resource associated with a CSI report configuration for CSI reporting for a candidate cell  6. Maximum number of RRC configured CSI-IM resources across candidate cells RRC configured for CSI measurement before LTM CSC MAC CE | 63-6a | Yes | No | ~~Intra-frequency~~ Semi-persistent CSI-RS and CSI-IM measurement for candidate cell before reception of LTM CSC MAC CE is not supported | Per BC | n/a | n/a | n/a | Component 2 candidate values: {1,2,3,4,5,6,7,8}  Component 3 candidate values: {1,2,...64}  Component 4 candidate values: {1,2,4,8,12,16,24,32,48,64,128}  Component 5 candidate values: {1,2,4,8,12,16,24,32}  Component 6 candidate values: {1,2,...64} | Optional with capability signaling |

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| 63. NR\_Mob\_Ph4 | 63-10 | ~~Intra-frequency~~ CSI-RS~~-RS~~ measurement and CSI reporting without CSI-IM reception | 1. Support of CSI-RS measurement and CSI reporting for candidate cells without CSI-IM resource configuration | 63-6 or 63-6a or 63-7 or 63-7a or 63-11 | Yes | No | ~~Intra-frequency~~ CSI-RS~~-RS~~ measurement and CSI reporting without CSI-IM reception is not supported | Per band | n/a | n/a | n/a |  | Optional with capability signaling |
| 63. NR\_Mob\_Ph4 | 63-11 | Intra-frequency CSI-RS and CSI-IM measurement and CSI reporting for a target cell after reception of Handover Command based on periodic CSI-RS resource | 1. Support of CSI-RS and CSI-IM measurement and CSI reporting after Handover Command based on periodic CSI-RS(s) of a target cell  2. Maximum number of CSI-RS resources for CMR associated with CSI report configuration for a target cell  3. Max number of ports of CSI-RS resource(s) associated with a CSI report configuration for CSI reporting for a target cell  4. Maximum number of ports in one NZP CSI-RS resource  5. Max rank for CSI reporting for a target cell  6. Maximum number of CSI-IM resources for interference measurement associated with CSI report configuration for a target cell | RAN2 related FG | Yes | No | Intra-frequency periodic CSI-RS and CSI-IM measurement and CSI reporting for a target cell after reception of Handover Command is not supported | Per band | n/a | n/a | n/a | Component 2 candidate values: {1,2,3,4,5,6,7,8}  Component 3 candidate values: {1,2,4,8,12,16,24,32,48,64,128}  Component 4 candidate values: {1, 2, 4, 8, 12, 16, 24, 32}  Component 5 candidate values: {1,2,3,4,5,6,7,8}  Component 6 candidate values: {1,2,3,4,5,6,7,8} | Optional with capability signaling |

R1-2506943 UE features for NR mobility enhancements phase 4 Huawei, HiSilicon

R1-2507039 Discussion on UE features for NR mobility enhancements Phase 4 ZTE Corporation, Sanechips

R1-2507076 NR mobility enhancements Phase 4 UE features Nokia

R1-2507128 Discussion on UE features for NR mobility enhancements Phase 4 CATT

R1-2507162 Discussion on UE features for NR mobility enhancements OPPO

R1-2507273 Remaining issues on UE features for Rel-19 LTM Samsung

R1-2507475 UE features for NR mobility enhancements phase 4 Ericsson

R1-2507741 Summary of UE features for NR mobility enhancements Phase 4 Moderator (AT&T)

R1-2507799 Discussion on UE features for NR mobility enhancemens Phase4 NTT DOCOMO, INC.