**3GPP TSG-RAN WG4 Meeting # 111 R4-240xxxx**

**Fukuoka City, Fukuoka, Japan, May 20 – 24, 2024**

**Agenda item:** X.Y.Z

**Source:** Moderator (MTK)

**Title:** NR\_LTE\_Rel-18\_feature\_list: NR\_ MG\_enh2

**Document for:** Information

1. NR\_MG\_enh2

Oneline agreements (Tuesday)

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| **UE features****Issue 2-3-2: Additional UE capability for scheduling restriction of case a-1*** Proposals
	+ Option 1: Introduce an E-UTRA FG x-z for scheduling restriction due to mixed numerology.
* Agreement: Introduce an E-UTRA FG x-z for scheduling restriction due to mixed numerology.

**Issue 2-3-4: Update FG 32-5 description.**

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| 32. NR\_MG\_enh2 | 32-5 | Inter-RAT EUTRAN measurement without gap and within active DL BWP | Support of inter-RAT EUTRAN measurements without gap when CRS is contained within UE’s active DL BWP |  |

* Proposals
	+ Option 1: Support of inter-RAT EUTRAN measurements without gap when CRS is completely contained within UE’s active DL BWP.
* Agreement:
	+ Support of inter-RAT EUTRAN measurements without gap when CRS is completely contained within UE’s active DL BWP.
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Table 1: Rel-18 NR UE features for NR\_MG\_enh2 WI.

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| **Index** | **Feature group** | **Components** | **Prerequisite feature groups** | **Need for the gNB to know if the feature is supported** | **Applicable to the capability signalling exchange between UEs (V2X WI only)”.** | **Consequence if the feature is not supported by the UE** | **Type** | **Need of FDD/TDD diff** | **Need of FR1/FR2 diff** | **Capability interpretation for mixture of FDD/TDD and/or FR1/FR2** | **Note** | **Mandatory/Optional** |
| 32-1 | Concurrent gaps with Pre-MG in a FR | Support of multiple per-UE (or per-FR) measurement gap patterns with at least one per-UE (or per-FR) Pre-MG. Details in Clause [9.1.x.2] of TS 38.133.  | 19-3-x and 19-2x = 1 or 2  | Yes | No | UE behaviour is undefined if the network configures concurrent MGs where at least one of the gaps is a Pre-MG | Per UE | No | No | N.A |  | Optional with capability signalling  |
| 32-2 | Support for dynamic collisions | Support RRM requirements for handling dynamic collisions between a Pre-MG and another measurement gap or Pre-MG. | 32-1 | Yes | No | UE is not expected to meet RRM requirements for dynamic collisions | Per UE | No | No | N.A |  | Optional with capability signalling  |
| 32-3 | Concurrent gaps with NCSG in a FR | Support of multiple per-UE (or per-FR) measurement gap patterns with at least one per-UE (or per-FR) NCSG. Details in clause [9.1.y.2] of TS 38.133.  | 19-1 and 19-2 | Yes | No | UE behaviour is undefined if the network configures concurrent MGs where at least one of the gaps is a NCSG | Per UE | No | No | N.A |  | Optional with capability signalling  |
| 32-4 | Inter-RAT EUTRAN measurements without gap and outside active DL BWP | Support inter-RAT EUTRAN measurements outside active DL BWP for nogap-noncsg  | 19-1b | Yes | NA | UE does not meet the requirements of inter-RAT EUTRAN measurements without gap in TS 38.133 and the UE behavior is unknown to network | Per UE | No | No | N.A |  | Optional with capability signalling |
| 32-5 | Inter-RAT EUTRAN measurement without gap and within active DL BWP | Support of inter-RAT EUTRAN measurements without gap when CRS is completely contained within UE’s active DL BWP |  | Yes | No | Measurement gap will be needed for inter-RAT EUTRAN measurements | Per UE | No | FR1 only | N.A |  | Optional with capability signalling |
| 32-6 | Effective measurement window for inter-RAT EUTRAN measurements | Support configuration of effective measurement window for inter-RAT EUTRAN measurements, including offset, duration and periodicity.  | 32-4 or 32-5 | Yes | No | UE is not allowed to cause scheduling restriction defined in TS 38.133 for 32-6 or 32-7 | Per UE | No | No | N.A | * A bitmap for 6 effective measurement window (EMW) patterns defined in TS 38.133.
* #0 and #1 are mandatory, if UE supports EMW feature.

Other patterns are optionalNote: If UE supports 32-6 or 32-7 and UE requires scheduling restriction, UE should support this FG | Optional with capability signalling |
| 32-7 | Simultaneous reception of NR data and EUTRAN CRS with different numerology | Support concurrent inter-RAT measurement on EUTRAN cell in non-DSS with CRS and PDCCH or PDSCH reception from the serving cell with a different numerology |  32-4 or 32-5 | Yes | No | scheduling restriction is applicable | Per UE | No | FR1 only | N.A |  | Optional with capability signalling |

Table 2: Rel-18 LTE UE features for NR\_MG\_enh2 WI.

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| **Index** | **Feature group** | **Components** | **Prerequisite feature groups** | **Need for the gNB to know if the feature is supported** | **Applicable to the capability signalling exchange between UEs (V2X WI only)”.** | **Consequence if the feature is not supported by the UE** | **Type** | **Need of FDD/TDD diff** | **Need of FR1/FR2 diff** | **Capability interpretation for mixture of FDD/TDD and/or FR1/FR2** | **Note** | **Mandatory/Optional** |
| x-y | interRAT-NeedForInterruptionNR-r18 | Support of inter-RAT NR measurements without gap with or without interruption when the interRAT-NeedForGapsNR-r16 is false.Note: This feature already has a defined UE capability: ‘interRAT-NeedForInterruptionNR-r18’. The intention of adding this FG is only keep consistency between 38.822 and 36.306. | interRAT-NeedForGapsNR-r16 | Yes | NA | The UE does not support inter-RAT NR measurements without gap with or without interruption for performing inter-RAT NR measurement without gap | [Per target band per BC]Note: the same granularity as interRAT-NeedForGapsNR-r16 | No | No | NA | Candidate value: “{no-gap-with-interruption, no-gap-no-interruption}” | Optional with capability signalling |
| x-z | Simultaneous reception of EUTRAN data and NR SSB with different numerology | Support concurrent inter-RAT measurement on NR cell in non-DSS with SSB and PDCCH or PDSCH reception from the serving cell with a different numerology | x-y | Yes | NA | scheduling restriction is applicable | Per UE | No | FR1 only | NA |  | Optional with capability signalling |