**3GPP T****SG-RAN WG4 Meeting #112 R4-2413936**

**Maastricht, Netherlands, Aug 19 – Aug 23, 2024**

**Title:**  **LS on measurements without gap**

**Release:** Rel-16

**Work Item:** NR\_RRM\_enh-Core

**Source:** RAN4

**To:** RAN2

**Cc:**

**Contact Person:**

**Name:** Rafael Paiva

**E-mail:** rafael.paiva@nokia.com

**Send any reply LS to: 3GPP Liaisons Coordinator,** **mailto:3GPPLiaison@etsi.org**

**1. Overall Description:**

During Rel-18 discussion, RAN4 identified that the behaviour relative to measurements without gaps in Rel-16 was not clearly defined.

As part of this discussion, RAN2 requested information on UE behaviour when UE is reporting UE capability Rel-16 “no gap” indication in R2-2306919, which was replied with R4-2314457.

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In Rel-18, a new capability *interRAT-NeedForInterruptionNR-r18* was introduced by RAN2 to indicate whether interruption is needed when UE reports “no gap” and the following is agreed by RAN4 regarding NR measurements with NeedForGapsInfoNR-r16 and interFrequencyMeas-Nogap-r16:

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| * **LTE – NR inter-RAT measurement:**
	+ interRAT-NeedForGapsNR-r16=FALSE means that the UE support measurement without gaps
		- The UE may or may not cause interruption.
	+ if UE causes interruptions when performing measurements without gaps:
		- Support early implementation of interRAT-NeedForInterruptionNR-r18:
			* Optional since Rel-17
* **NR measurements without gaps**
	+ “no-gap” as part of NeedForGapsInfoNR-r16 means that the UE support measurement without gaps
		- The UE may or may not cause interruption.
	+ if UE causes interruptions when performing measurements without gaps:
		- Support early implementation of nr-NeedForInterruptionReport-r18:
			* Optional since Rel-17
 |

Considering the discussion, RAN4 believes that early implementation of nr-NeedForInterruptionReport-r18 and interRAT-NeedForInterruptionNR-r18 from Rel-17 is needed.

For this reason, RAN4 would like to respectfully ask RAN2 to consider early implementation of the Rel-18 features nr-NeedForInterruptionReport-r18 and interRAT-NeedForInterruptionNR-r18 starting from Rel-17.

**2. Actions:**

**To RAN2 group:**

**ACTION:**  RAN4 respectfully asks RAN2 to take the above information into account and to design early implementation of the Rel-18 features nr-NeedForInterruptionReport-r18 and interRAT-NeedForInterruptionNR-r18 starting from Rel-17.

**3. Dates of next TSG-RAN WG4 meetings:**

RAN4#112bis 14 – 18 October 2024 Hefei, CN

RAN4#113 18 – 22 November 2024 Orlando, US