3GPP TSG RAN WG 1 Meeting #117 R1-2405667

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

**Title: [Draft] LS on UE assistance information related to measurement occasions**

**Response to:**

**Release: Rel-19**

**Work Item: NR XR Phase 3 (NR\_XR\_Ph3-Core)**

**Source: Nokia [RAN1]**

**To: RAN4**

**Cc:**

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**Attachments:** -

# 1 Overall description

RAN1 discussed UE assistance information related to measurements occasions and related to channel conditions, traffic, UE mobility. The following agreement and conclusions were agreed:

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| **Agreement**RAN1 continues to discuss and decide whether or not to introduce new UE assistance information for solution(s) to enable Tx/Rx in gaps/restrictions that are caused by RRM measurements. At least the following UE assistance information is considered for further study:* FFS: UE assistance information related to measurement occasions:
	+ FFS: The number of needed measurement gaps/SMTC with restrictions within a time period;
	+ FFS: The maximum number or ratio of MGs/SMTC with restrictions that can be skipped within a time period;
	+ FFS: The number of required SSBs within a time period;
	+ FFS: The number of consecutive RRM measurements that can be skipped;
	+ FFS: The maximum interval between two consecutively reserved gap/restriction occasions for RRM measurements;
	+ FFS: The patterns of gap(s)/restriction(s) where skipping is feasible or acceptable;
* FFS: UE assistance information related to channel conditions:
	+ FFS: RSRP is below/above search threshold (s-MeasureConfig);
* FFS: UE assistance information related to traffic:
	+ FFS: PSI (PDU set importance);
* FFS: UE assistance information related to UE mobility:
	+ FFS: L3 parameters related to mobility, e.g., static or not

Companies are encouraged to provide additional details (e.g. how often the UE assistance info is provided, timing, applicable scenarios, performance gains, etc) on their preferred scheme.Note: From specification point of view, there is no mandated gNB behavior in response to any of the UE assistance information. RAN1 to make decision, from RAN1 perspective, in RAN1#117 on the support of UE assistance information.**Conclusion**RAN1 does not further discuss new UE assistance information related to channel conditions, traffic, UE mobility. |

Particularly, it was discussed whether impact on RRM performance from skipping measurement occasions may be reduced if UE sends additional information:

* Information about the maximum number of MGs/SMTC with restrictions that can be skipped within a time period.
* Information about the patterns of gap(s)/restriction(s) where skipping is feasible or acceptable.

However, RAN1 did not reach a consensus, in RAN1#117 on the support of UE assistance information related to measurement occasions.

RAN1 discussed the following questions:

Q1: Whether/what UE assistance information related to measurements occasions can be beneficial/feasible to reduce impact on RRM performance when skipping measurement gap and scheduling restriction?

Q2: What is the probability that UE will not meet RRM performance requirements if UE indicates at least 50% of reduction in duration of future measurement occasions and network cancels more than 50% of measurement occasions?

Q3: Is it possible for network to determine based on existing information whether or not one or more next measurement occasion(s) can be skipped for typical XR application with limited RRM performance impact?

Q4: Can UE perform RRM measurement with limited RRM performance impact based on dynamic indication from the network for measurement occasions?

# 2 Actions

**To RAN4**

**ACTION:** RAN1 kindly asks RAN4 to consider the above information into account and decide whether or not to introduce any UE assistance information related to measurement occasions.

# 3 Dates of next TSG RAN WG 1 meetings

TSG-RAN WG1 Meeting #118 19 - 23 August 2024 Maastricht, NL

TSG-RAN WG1 Meeting #118-bis 14 - 18 October 2024 China (TBC), CN