**3GPP TSG RAN WG2#117-e R2-2203663**

**e-Meeting, 21st February - 3rd March, 2022 rev of R2-2203369**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Title: Reply LS on LTE User Plane Integrity Protection**

**Response to: S3-214462/R2-2200153**

**Release: 17**

**Work Item:** **UPIP\_SEC\_LTE, UPIP\_SEC\_LTE-RAN-Core**

**Source: RAN2**

**To: SA3**

**cc: RAN3, SA2**

**Contact person: Chris Pudney (Vodafone)**

**chris dot pudney at @ vodafone dot com**

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

**Attachments:** none

# 1 Overall description

RAN2 thanks SA3 for their LS in S3-214462/R3-220128. RAN2 is taking this information into account (along with the CRs agreed in SA2, CT4 and CT1), but only to the extent that is described by the WID agreed by RAN plenary in RP-213669 which, in particular, restricts the scope to EN-DC capable UEs.

In response to SA3’s request “…***to inform SA3 on their final decision with respect to which algorithm code points are to be used***”, RAN2 would like to provide the following information:

**UPIP for the EPC connected architectures uses NR PDCP and is configured in following way:**

* **(as is done for legacy LTE UE) an LTE algorithm code point is configured in field *integrityProtectionAlgorithm* in IE *SecurityAlgorithmConfig* in the TS 36.331 *SecurityModeCommand* message, and this is used to derive KUPint (and also to derive KUPEnc, as for legacy LTE UE).**
* **The NR algorithm code point (corresponding to the LTE algorithm code point used in the *SecurityModeCommand*) indicated by the *integrityProtAlgorithm* included in the *securityConfig* in the TS 38.331 *RadioBearerConfig* is used to configure the UP IP algorithm applied by NR PDCP to perform integrity protection.**
* **The *integrityProtection* indicated in *pdcp-Config* in the *DRB-ToAddMod(list)* in the TS 38.331 *RadioBearerConfig* is used to activate the UP IP for a DRB using the configured algorithm, which can be done only at DRB setup. Consequently, UP IP activation/deactivation for a DRB can be changed only by DRB-release-and-add.**

# 2 Actions

**To SA3**

**ACTION:** RAN2 respectfully requests SA3 to take the above information into account.

# 3 Dates of next TSG RAN 2 meetings

Please see the latest information on the [RAN 2 calendar](https://portal.3gpp.org/Home.aspx?tbid=380&SubTB=380#/).