3GPP TSG-RAN WG2 Meeting #127bis R2-24xxxxx

Hefei, China, 14-18 October 2024

Source: Session Chair (MediaTek)

Title: Report from session on positioning and sidelink relay

# 4 EUTRA Rel-17 and earlier

Only essential corrections. No documents should be submitted to 4. Please submit to 4.x

## 4.3 Positioning corrections Rel-16 and earlier

(LTE\_NavIC-Core, LTE TEI16 Positioning), REL-15 and Earlier WIs related to positioning are in scope but not listed explicitly (long list).

Tdoc Limitation: 1 tdoc

[R2-2408774](C:\\Users\\mtk16923\\Documents\\3GPP Meetings\\202410 - RAN2_127bis, Hefei\\Extracts\\R2-2408774 Correction to the need code in AssistanceDataSIBelement-r15.docx" \o "C:\Users\mtk16923\Documents\3GPP Meetings\202410 - RAN2_127bis, Hefei\Extracts\R2-2408774 Correction to the need code in AssistanceDataSIBelement-r15.docx) Correction to the need code of AssistanceDataSIBelement Huawei, HiSilicon CR Rel-15 37.355 15.3.0 0521 - F LCS\_LTE\_acc\_enh-Core

* Not pursued

Discussion:

Chair thought we had behaviour for segmentationInfo and ciphering key in the procedural text.

Huawei points out that the WI code should include NR also.

Nokia agree with the chair that section 7.3 explains the segmentationInfo and cipheringKeyData; for the expirationTime, they see that it is covered under valueTag, but it can be discussed if something should be added.

Qualcomm agree that the procedural text for the two fields is there; for the second change, they see that the expirationTime was introduced for long-term SIBs so the UE does not need to check the value tag at each instance, and they think this is already clear from the text. In any case they think the expiration time cannot be handled in the way described by the CR; it depends on the content of the posSIB.

CATT think the first issue is covered in the procedural text, so maybe no correction is needed. For the second issue, they think the valueTag field description is clear enough.

Ericsson agree with Qualcomm and think the current specification is correct. They do not see that the change is highly essential.

Huawei are OK not to pursue the correction in light of the comments, but they think some clarification could be helpful for implementation.

Intel agree with other comments about the first change, but for expirationTime they think the current description is not completely clear in case expirationTime is absent and some clarification would be useful.

Nokia think the expirationTime was added for data that change infrequently, and they are not sure it will be present in all cases where valueTag is present. Qualcomm think the intention was that they are tied together.

Qualcomm and Ericsson understand that if the expirationTime is not there, the UE relies on the valueTag.

Intel think the UE may rely on an expirationTime previously transmitted. They think there are several cases and we do not need to capture everything, but we should reach a common understanding.

Ericsson think the values will not be changed frequently. Intel tend to agree with Ericsson and think once the network configures the valueTag/expirationTime, it should keep using them.

Agreement:

RAN2 understand that if the valueTag is present while the expirationTime is absent, the UE relies on the valueTag to detect changes in the content of the posSIB.

[R2-2408775](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408775%20Correction%20to%20the%20need%20code%20in%20AssistanceDataSIBelement-r16.docx) Correction to the need code of AssistanceDataSIBelement Huawei, HiSilicon CR Rel-16 37.355 16.13.0 0522 - A LCS\_LTE\_acc\_enh-Core

* Not pursued

[R2-2408776](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408776%20Correction%20to%20the%20need%20code%20in%20AssistanceDataSIBelement-r17.docx) Correction to the need code of AssistanceDataSIBelement Huawei, HiSilicon CR Rel-17 37.355 17.8.0 0523 - A LCS\_LTE\_acc\_enh-Core

* Not pursued

[R2-2408777](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408777%20Correction%20to%20the%20need%20code%20in%20AssistanceDataSIBelement-r18.docx) Correction to the need code in AssistanceDataSIBelement-r18 Huawei, HiSilicon CR Rel-18 37.355 18.3.0 0524 - A LCS\_LTE\_acc\_enh-Core

* Not pursued

# 5 NR Rel-15 and Rel-16

Essential corrections only.

Tdoc Limitation: 2 tdocs in total for all sub agenda items NOTE: some agenda items have additional Tdoc limits.

In case a correction need to be reflected in both NR TS and LTE TS, the corrections should be submitted under one single AI (so the NR and LTE correction can be treated together), the sub-Ais below this

## 5.3 NR Positioning Support

(NR\_newRAT-Core; leading WG: RAN1; REL-15; started: Mar. 17; closed: Jun. 19: WID: [RP-191971](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_85/Docs/RP-191971.zip))

(NR\_pos-Core; leading WG: RAN1; REL-16; started: Mar 19; target; Jun 20; WID: [RP-200218](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_87e/Docs/RP-200218.zip)).

(NR TEI16 Positioning)

Stage 2 corrections shall be discussed with the specification rapporteur (Sven Fischer sfischer@qti.qualcomm.com) before submission. Stage 2 CRs not discussed with the specification rapporteur will not be treated.

Tdoc Limitation: 1 tdoc

[R2-2408213](C:\\Users\\mtk16923\\Documents\\3GPP Meetings\\202410 - RAN2_127bis, Hefei\\Extracts\\R2-2408213 Correction on UE capability of supporting NavIC in A-GNSS positioning (R16).docx" \o "C:\Users\mtk16923\Documents\3GPP Meetings\202410 - RAN2_127bis, Hefei\Extracts\R2-2408213 Correction on UE capability of supporting NavIC in A-GNSS positioning (R16).docx) Correction on GNSS-AlmanacSupport and GNSS-UTC-ModelSupport in A-GNSS positioning ZTE Corporation CR Rel-16 37.355 16.13.0 0516 - F NR\_pos-Core

* Agreed in principle

Discussion:

CATT agree with the intention of the CR, but they wonder about the ASN.1 change; they think it should be model-8-r16 instead of model-8-v16xy. Chair notes that previous changes used -v16xy; ZTE confirm they have checked this.

Huawei are fine in general but wonder about interoperability: Before this change, the network should assume that the UE supporting NavIC supports these features, and after the change the UE may indicate that it does not support them.

ZTE understand that a UE supporting NavIC and almanac shall support model 8.

Qualcomm indicate that the original intention was that the UE could support non-native almanac and ephemeris, but they are not aware of any implementation that does it. So in theory you could support NavIC with a GPS-formatted almanac, but they think this is more a theoretical concern.

Huawei think the LMF should assume that the UE supports model 8 if it supports NavIC, and this CR enables the non-native almanac case. ZTE indicate that the intention of the CR is to give the UE the option of supporting model 8 or not, and they do not see a logical problem.

ZTE agree an updated network facing a legacy UE may not provide the almanac.

Huawei think the non-native case is very rare or theoretical, and the general assumption will be that the UE supports native almanac.

ZTE think this is a general issue for mandatory capabilities.

CATT wonder what a legacy network will do; they assume it will assume the UE supports the almanac. If we take the CR, the UE can report not supporting almanac and the network will (presumably) not provide the almanac to that UE, and from a service perspective this may not be the right behaviour, so they think the CR is not required from a service perspective.

ZTE think the CR is required because support of model 8 is expected to be the default behaviour, using similar logic as for other GNSSs.

Huawei think this was a mistake at the introduction of the feature, but the default UE behaviour should be to support the almanac, and the CR is only useful for the non-native case.

Nokia also understand that a NavIC UE with almanac shall support model 8, and we forgot to introduce the signalling; for the LMF behaviour, it may need to fall back to an alternative method or a different GNSS if it thinks the UE does not support the almanac.

Ericsson think there are other places where the UE can indicate support of model 8. ZTE think these places refer to different system support.

Qualcomm agree that this change is essential, because without it we have inconsistent treatment of the GNSSs.

Intel think if we introduce the signalling, the LMF has to rely on the signalling. So they do not see a difference if the CR is introduced or not except to introduce a burden.

Ericsson are OK with the CR for spec consistency, but they wonder if we should do it only from Rel-18. ZTE think it should be from the introduction of NavIC in Rel-16.

CATT think the description of the UTC model can be added because there are no ASN.1 interoperability issues, but for the almanac they tend to agree with Intel and Huawei that the server will already assume the almanac is supported, and therefore they see no issue that requires introducing the capability. They see the impact as providing a mechanism for saying “please do not provide the almanac data”.

Qualcomm also think we need to go back to Rel-16, noting that LPP is basically feature-based rather than release-based. They note that it is not an ASN.1 change except for the meaning of the bit. They assume the server will treat the UE as supporting almanac for NavIC in a sensible way.

ZTE think if the network takes such assumptions, we should not have any of these capability bits.

Agreement:

RAN2 understand that the server should assume that a UE supporting NavIC and almanac supports model 8, irrespective of whether something is signalled for this support.

[R2-2408214](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408214%20Correction%20on%20UE%20capability%20of%20supporting%20NavIC%20in%20A-GNSS%20positioning%20(R17).docx) Correction on GNSS-AlmanacSupport and GNSS-UTC-ModelSupport in A-GNSS positioning ZTE Corporation CR Rel-17 37.355 17.8.0 0517 - A NR\_pos-Core

* Agreed in principle

[R2-2408215](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408215%20Correction%20on%20UE%20capability%20of%20supporting%20NavIC%20in%20A-GNSS%20positioning%20(R18).docx) Correction on GNSS-AlmanacSupport and GNSS-UTC-ModelSupport in A-GNSS positioning ZTE Corporation CR Rel-18 37.355 18.3.0 0518 - A NR\_pos-Core

* Agreed in principle

# 6 NR Rel-17

Essential corrections only. Editorial/clarifications should be sent to be reviewed and approved by spec rapporteurs prior to submission. Editorials should only be submitted by spec rapporteurs.

## 6.2 NR Sidelink relay

(NR\_SL\_Relay-Core; leading WG: RAN2; REL-17; WID: [RP-212601](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_93e/Docs/RP-212601.zip))

Tdoc Limitation: 1 tdoc

RLC channel definitions – CRs discussed jointly

[R2-2408269](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408269.docx) Correction on PC5/Uu RLC channel and RLC channel Xiaomi, Apple, Nokia, OPPO CR Rel-17 38.322 17.4.0 0061 - F NR\_SL\_relay\_enh-Core

* Not pursued

[R2-2408270](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408270.docx) Correction on PC5/Uu RLC channel and RLC channel Xiaomi, Apple, Nokia, OPPO CR Rel-18 38.322 18.1.0 0062 - A NR\_SL\_relay\_enh-Core

* Not pursued

[R2-2408663](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408663%20Clarification%20on%20defination%20of%20Relay%20RLC%20channel%20(Rel-17%2038.300CR).docx) Clarification on definition of PC5 and Uu Relay RLC channel Huawei, HiSilicon CR Rel-17 38.300 17.10.0 0915 - F NR\_SL\_relay-Core

* Not pursued

[R2-2408664](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408664%20Clarification%20on%20defination%20of%20Relay%20RLC%20channel%20(Rel-18%2038.300CR).docx) Clarification on definition of PC5 and Uu Relay RLC channel Huawei, HiSilicon CR Rel-18 38.300 18.3.0 0916 - A NR\_SL\_relay-Core

* Not pursued

Discussion:

Huawei understand that the parallel discussion in IAB concluded that the note on BH RLC channels should be kept.

Samsung would prefer to handle the subject jointly with IAB. In their understanding, the IAB conclusion was that the note was OK and they would like to align.

Ericsson agree with Huawei’s intention to keep the note (aligned with IAB), but they do not want to change the definition; we should understand the RLC channels as being logical connections between the entities, and as long as we have a common understanding there is no problem.

Nokia see that the note clearly mentions the RLC channel between two entities, but clarifies the RLC channel between two nodes. So they would prefer to remove the NOTE and then think about adjusting the definition.

ZTE think considering the IAB conclusion, we should keep NOTE 2. They understand that IAB did not want to change the definition. They do not see a need to differentiate RLC channel and PC5 relay RLC channel.

Apple think we do not really have a definition of RLC channel in 38.300, and they find the outcome of Huawei’s change to be unclear. They agree with Nokia that we could start by removing the NOTE.

Xiaomi understand Huawei’s intention is to have some alignment between specifications; their view is that the NOTE is not correct as it is, because of the confusion between internal and external channels.

Huawei think we borrowed the RLC channel concept from IAB, and we should not repeat IAB’s discussion on whether the NOTE is correct. They understand that figure 6.1-1 in 38.300 aligns with the text of 38.322 and we can work from that.

Samsung think we are not going to change the IAB definition, and accordingly we should not change our definition. They see the NOTEs as useful clarification with minimal risk of real confusion, but if we are going to change something we should change the NOTEs.

Ericsson have a similar understanding that this NOTE was modelled on IAB, and we should follow the IAB conclusion; they would like to emphasise that the RLC channels are logical links and they see no risk of misinterpretation, e.g., in applying a configuration to the wrong type of channel.

Nokia think in IAB the intention was to align the figure in 38.300 with the understanding in the RLC spec, and we have a different starting point. They suggest looking back to the original IAB CR, where the intention was to describe an internal RLC channel between two logical entities; here they see that we want to clarify an external RLC channel.

Huawei agree the risk of confusion is minimal, and if we can confirm a common understanding, they would be OK with not changing the spec.

Ericsson do not see the external/internal distinction as being very clear and think the configuration cannot be misunderstood.

Nokia think the NOTE can be kept, but they do not think we should add more text for the N3C case.

Huawei think we could change the NOTE according to Ericsson’s proposal under Rel-18: “If SRAP as defined in TS 38.351 [9] is configured as in TS 38.331 [5], an RLC channel refers to either a PC5 Relay RLC channel or a Uu Relay RLC channel”.

Samsung think the change to “if SRAP is configured” does not make much difference, and there is no risk of confusion; they think no change is needed but we could take a clarification in the minutes.

Agreement:

For a relay UE, the intention of NOTE 2 in 38.322 section 4.2.1 is that SRAP is mapped to a Uu relay RLC channel or a PC5 relay RLC channel according to which link is in use. For a remote UE, SRAP is mapped to a PC5 relay RLC channel.

Other CRs

[R2-2407996](C:\\Users\\mtk16923\\Documents\\3GPP Meetings\\202410 - RAN2_127bis, Hefei\\Extracts\\38331_CR4977_(Rel-17)_R2-2407996 Clarification on the L2 U2N Remote UE Measurement.docx" \o "C:\Users\mtk16923\Documents\3GPP Meetings\202410 - RAN2_127bis, Hefei\Extracts\38331_CR4977_(Rel-17)_R2-2407996 Clarification on the L2 U2N Remote UE Measurement.docx) Clarification on the L2 U2N Remote UE Measurement CATT CR Rel-17 38.331 17.10.0 4977 - F NR\_SL\_relay-Core

* Agreed in principle

[R2-2407997](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\38331_CR4978_(Rel-18)_R2-2407997_Clarification%20on%20the%20L2%20U2N%20Remote%20UE%20Measurement.docx) Clarification on the L2 U2N Remote UE Measurement CATT CR Rel-18 38.331 18.3.0 4978 - A NR\_SL\_relay-Core

* Agreed in principle

[R2-2408877](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408877%20-%2038.331_CR5049_Rel17_Correction%20on%20SL%20Relay%20Measurement.docx) Correction on the SL Relay Measurement Ericsson CR Rel-17 38.331 17.10.0 5049 - F NR\_SL\_relay-Core

* Postponed

Discussion:

Apple think the change is OK, but the RAN box should not be checked on the coversheet.

Samsung think it is editorial and could be merged into a rapporteur CR. Nokia think changing from “should” to “shall” is not mandatory.

Huawei think if it changes UE behaviour, there is an NBC concern, but they think there is no other realistic implementation option.

Ericsson think this discussion confirms that everyone understands “shall” is right in principle.

CATT note that the filtering parameters are OPTIONAL in ASN.1, and they wonder what happens if they are not there. Huawei think we may not have spec coverage of this case.

[R2-2408878](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408878%20-%2038.331_CR5050_Rel18Mirror_Correction%20on%20SL%20Relay%20Measurement.docx) Correction on the SL Relay Measurement Ericsson CR Rel-18 38.331 18.3.0 5050 - A NR\_SL\_relay-Core

* Postponed

[R2-2408886](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408886%20-%20RRC%20correction%20on%20NR%20sidelink%20discovery%20R17.docx) RRC correction on NR sidelink discovery Philips International B.V. CR Rel-17 38.331 17.10.0 5051 - F NR\_SL\_relay-Core

* Huawei, HiSilicon to be source (rapporteur CR)
* Merged into R2-2409260

Discussion:

Chair wonders if the RAN box should be unticked. Apple agree.

CATT think it should be cat D. Nokia also think it is editorial.

Samsung think in the main session this would be included in a rapporteur CR; it should at least be cat D.

Huawei note that there is no rapporteur CR for this spec this time.

[R2-2408887](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408887%20-%20RRC%20correction%20on%20NR%20sidelink%20discovery%20R18.docx) RRC correction on NR sidelink discovery Philips International B.V. CR Rel-18 38.331 18.3.0 5052 - A NR\_SL\_relay-Core

* Huawei, HiSilicon to be source (rapporteur CR)
* Merged into R2-2409261

[R2-2409054](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2409054_38331_CR5070_%20Correction%20on%20field%20description%20of%20reportOnLeave%20for%20U2N%20Relay_R17.docx) Correction on field description of reportOnLeave for U2N Relay OPPO CR Rel-17 38.331 17.10.0 5070 - F NR\_SL\_relay-Core

* Merged into R2-2409260

Discussion:

Nokia do not agree with the change because the procedural text is clear, and they think similar changes have not been made in earlier releases because they do not change UE behaviour.

OPPO found that there is no specific mention of the relay case in the procedural text, so they wonder if the behaviour is really clear.

Huawei think it is clear in the procedural text related to relay measurements, so they agree with Nokia.

ZTE think there is a similar issue in reportConfigNR.

Agreement:

Relay editorial changes are merged into a rapporteur CR that is agreed in principle this meeting. Rapporteur (Huawei) is asked to coordinate with spec rapporteur (Ericsson) towards next meeting to determine if they should be merged into a single spec rapporteur CR.

[R2-2409117](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2409117_38331_CR5080_%20Correction%20on%20field%20description%20of%20reportOnLeave%20for%20U2N%20Relay.docx) Correction on field description of reportOnLeave for U2N Relay OPPO CR Rel-18 38.331 18.3.0 5080 - A NR\_SL\_relay-Core

* Merged into R2-2409261

R2-2409260 Miscellaneous CR for Rel-17 SL relay Huawei, HiSilicon, Philips International B.V., OPPO CR Rel-17 38.331 17.10.0 5086 - F NR\_SL\_relay-Core

* Agreed in principle

R2-2409261 Miscellaneous CR for Rel-17 SL relay Huawei, HiSilicon, Philips International B.V., OPPO CR Rel-18 38.331 18.3.0 5087 - A NR\_SL\_relay-Core

* Agreed in principle

## 6.4 NR positioning enhancements

(NR\_pos\_enh-Core; leading WG: RAN1; REL-17; WID: [RP-210903](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_91e/Docs/RP-210903.zip))

Tdoc Limitation: 1 tdoc

[R2-2408778](C:\\Users\\mtk16923\\Documents\\3GPP Meetings\\202410 - RAN2_127bis, Hefei\\Extracts\\R2-2408778 Correction to MAC for R17 POS-r17.docx" \o "C:\Users\mtk16923\Documents\3GPP Meetings\202410 - RAN2_127bis, Hefei\Extracts\R2-2408778 Correction to MAC for R17 POS-r17.docx) Correction to MAC for R17 POS Huawei, HiSilicon CR Rel-17 38.321 17.10.0 1948 - F NR\_pos\_enh-Core

* Agreed in principle

Discussion:

CATT note that the affected network should be RAN, not CN

Nokia note that the interoperability is a bit unclear.

Ericsson think the procedure is mainly for SDT; they think contention resolution when the UE is transmitting SRSp, but without SDT ongoing, is unlikely.

Huawei think any RACH that happens in RRC\_INACTIVE could invoke this procedure and it should not affect SRSp transmission.

CATT note that per stage 2, positioning can trigger the RACH procedure, and if contention resolution fails, the UE will ignore the TA; so they see that the CR is correct.

Samsung agree with Huawei and CATT and think if the contention resolution fails, the TA received is not for this UE and could lead the UE to transmit SRS with a wrong TA.

Ericsson thought that RACH for positioning was new in Rel-18, when the UE resumes while preconfigured with SRS. In Rel-17, they understand that it will only happen because of SDT.

Huawei indicate that RA-SDT could also trigger RACH, and there could be an RRCResumeRequest as well. They understand that we considered this case in other places.

Ericsson would like to check further. After some offline checking they are OK with the CR.

[R2-2408779](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408779%20Correction%20to%20MAC%20for%20R17%20POS-r18.docx) Correction to MAC for R17 POS Huawei, HiSilicon CR Rel-18 38.321 18.3.0 1949 - A NR\_pos\_enh-Core

* Agreed in principle

[R2-2409078](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2409078%20catF.docx) Corrections related to posSIB segmentation Ericsson CR Rel-17 37.355 17.8.0 0525 - F NR\_pos\_enh-Core

* Not pursued

Discussion:

Qualcomm think this is down to implementation and the spec is not broken. They agree that it makes sense for an implementation to do this, but as spec language it is vague.

Huawei agree that nothing is broken, and they note that the limitation is in PDCP (not RRC).

Nokia have the same view and think it is pure implementation that needs to be coordinated between gNB and LMF vendors.

Chair wonders if it would make more sense in NRPPa.

Ericsson understand that segmentation was introduced as part of the LPP spec originally; they also think we have RRC limitations on SIB size that are used for SIB segmentation.

Nokia think we do not need to put too much of a restriction on the implementation. They also see it as an optimization.

[R2-2409175](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2409175%20CatA.docx) Corrections related to posSIB segmentation Ericsson CR Rel-18 37.355 18.3.0 0527 - A NR\_pos\_enh-Core Revised

* Revised in R2-2409177

[R2-2409177](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2409177.docx) Corrections related to posSIB segmentation Ericsson CR Rel-18 37.355 18.3.0 0527 1 A NR\_pos\_enh-Core R2-2409175

* Not pursued

Withdrawn/Not available

[R2-2409083](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2409083%20CatA.docx) Corrections related to posSIB segmentation Ericsson CR Rel-18 37.355 18.3.0 0526 - A NR\_pos\_enh-Core Withdrawn

# 7 Rel-18

## 7.2 Expanded and improved NR positioning

(NR\_pos\_enh2; leading WG: RAN1; REL-18; WID: [RP-232670](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_101/Docs/RP-232670.zip))

Time budget: 0 TU

Tdoc Limitation: 2 tdocs

### 7.2.1 Organizational

Including incoming LSs and rapporteur inputs.

LSs with “take into account” action and no related document

[R2-2407908](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2407908_R1-2407377.docx) LS on a RRC parameter needed for the sequence generation of PSCCH DMRS for a dedicated SL PRS resource pool (R1-2407377; contact: Qualcomm) RAN1 LS in Rel-18 NR\_pos\_enh2-Core To:RAN2

* Noted

Discussion:

Qualcomm indicate that this is implemented in Ericsson’s RRC CR.

[R2-2407935](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Docs\R2-2407935.zip) Reply on Clarifications of Relative Velocity (S2-2409386; contact: Nokia) SA2 LS in Rel-18 Ranging\_SL To:RAN2

* Noted

Other incoming LSs and related documents

[R2-2407904](C:\\Users\\mtk16923\\Documents\\3GPP Meetings\\202410 - RAN2_127bis, Hefei\\Docs\\R2-2407904.zip" \o "C:\Users\mtk16923\Documents\3GPP Meetings\202410 - RAN2_127bis, Hefei\Docs\R2-2407904.zip) Reply on LS on the maximum number of devices supported in SLPP (C1-245040; contact: vivo) CT1 LS in Rel-18 NR\_pos\_enh2, Ranging\_SL To:RAN2 Cc:CT4, SA2

[R2-2407981](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2407981%20Discussion%20on%20reply%20LS%20on%20the%20maximum%20number%20of%20devices%20supported%20in%20SLPP.docx) Discussion on reply LS on the maximum number of devices supported in SLPP vivo discussion Rel-18 FS\_NR\_pos\_enh2

* Noted

Discussion:

Qualcomm think this is not an SLPP issue, in that the limitation comes from NAS, and on PC5-U there is no such limitation. They understand RSPP to the LMF has this limitation already.

Huawei note that SLPP can be carried over NAS or PC5-U, with the same PDCP limitation in both cases. They think CT1’s agreement is binding on us because SLPP can be used over NAS transport.

vivo indicate that SA2 and CT1 specs clarify that PC5-U and NAS are both impacted; they agree with Huawei’s comments.

Huawei think vivo’s clarification indicates that the change makes sense; they were concerned that CT1 did not appreciate the involvement of PC5-U.

Qualcomm wonder if the limitation is on the number of UEs or the number of SLPP messages; they see that the mapping from message size to number of UEs is not very well defined. They would rather have a note indicating not to exceed the transport limit.

vivo indicate that CT1 specs mention the SLPP container and the UE restriction, and they include the limit of 63.

Intel understand that the limitation is from server perspective, and the real limitation for a single SLPP message is the transport size limit; from SLPP specification perspective, they see that the server could provide more than 63 UEs.

Huawei suggest that we add a note saying “the UE/LMF ensures that the size of the SLPP message does not exceed the maximum limitation of the transport”.

Intel are not sure that the note is needed, because of course the transmitter should not exceed the limitations of the transport it is using.

vivo think a note is essential for implementation guidance and to align specs between us and CT1.

Intel think a note in stage 2 might be enough.

Qualcomm think the limit of 63 applies to RSPP but does not need to be added to SLPP.

vivo indicate that CT1 also wrote the limit into 24.080.

Ericsson suggest we could add a note in stage 2.

CATT think a note is required, because if the SLPP layer does not follow the limitation it can constrain the RSPP layer into an impossible situation.

Intel understand that the server cannot transfer an RSPP message with more than 63 UEs, but from SLPP perspective there can be multiple RSPP messages; so they see that SLPP could provide information on more than 63 UEs and the server downselects or sends them in multiple RSPP messages.

vivo indicate that CT1 also thought maintaining 256 connections was infeasible and 64 was a more realistic maximum, noting that the previous limit for SL connections was 8.

Ericsson think we have to clarify somewhere, and they think Intel’s framing could be captured in our stage 2.

Agreement:

Draft a note in stage 2 to clarify the relationship between the number of UEs allowed in SLPP and the 63-UE limit in RSPP. Details to be concluded offline.

* [AT127bis][401][POS] Note in stage 2 on SLPP/RSPP UE limitation and LS to CT1 (vivo)

Scope: Draft the note agreed in stage 2 on the number of UEs allowed in SLPP in relation to the 63-UE limit in RSPP, along with a reply LS to CT1.

Intended outcome: Agreeable CR in R2-2409251, approvable LS in R2-2409252

Deadline: Wednesday 2024-10-16 1700 CST

[R2-2409251](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2409251%20Clarification%20on%20the%20maximum%20number%20of%20other%20UEs%20in%20sidelink%20positioning.docx) Clarification on the maximum number of other UEs in sidelink positioning vivo CR Rel-18 38.305 18.3.0 0178 - F NR\_pos\_enh2

* Agreed in principle

[R2-2409252](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Inbox\R2-2409252.zip) Reply LS on the maximum number of devices supported in SLPP RAN2 LS out Rel-18 NR\_pos\_enh2-Core To:CT1 Cc:CT4, SA2

* Approved

[R2-2407928](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2407928_R4-2410352.docx) LS on synchronization source change at the transmitting anchor UE in SL positioning (R4-2410352; contact: Ericsson) RAN4 LS in Rel-18 NR\_pos\_enh2-Core To:RAN1, RAN2

[R2-2407911](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2407911_R1-2407401.docx) Reply LS on synchronization source change at the transmitting anchor UE in SL positioning (R1-2407401; contact: Ericsson) RAN1 LS in Rel-18 NR\_pos\_enh2-Core To:RAN4 Cc:RAN2

Discussion:

Qualcomm think the RAN1 LS is a bit ambiguous, and the solution actually only applies for SL-TDOA and SL-TOA, not SL-RTT.

Huawei think we can leave the sync source change to implementation. They understand there may be some view that SL-RTT does not need the sync source information, and they are not sure if it is actually needed although they drafted a CR to introduce it.

Qualcomm understand that RAN1’s solution is not universal. Chair thinks it is separate from the question of sync source change.

CATT think the sync issue does not apply to SL-RTT. Qualcomm think a change of sync source during a measurement would affect all positioning methods including SL-RTT.

ZTE understand RAN1 indicated they do not intend to add anything more.

Intel think it is clear that RAN2 will not do anything, but we could ask RAN1 and RAN4 if they see a need to introduce sync source for SL-RTT.

ZTE understand RAN1 already agreed not to do any additional signalling for sync source indication. Chair thought this was only for sync source change.

Qualcomm indicate the sync source is not in the RAN1 parameter list. Intel understand it is there as “sync-info-for-SL-TDOA-TOA”.

[R2-2408939](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408939%20LS.docx) draft LS reply on synchronization source change at the transmitting anchor UE in SL positioning Ericsson LS out Rel-18 NR\_pos\_enh-Core To:RAN4

Agreement:

RAN2 do not intend to make any spec changes in Rel-18 to support signalling of sync source change (for any SL positioning method). Indicate this to RAN4 in the reply LS.

Indicate that RAN2 understand the RAN1 solution does not apply to SL-RTT. How much detail/analysis comes with this understanding to be determined offline.

* [AT127bis][402][POS] Reply LS on sync source change for SL positioning (Ericsson)

Scope: Draft a reply LS to RAN4/RAN1 in line with the agreements under R2-2408939.

Intended outcome: Approved LS (without CB if possible) in R2-2409253

Deadline: Wednesday 2024-10-16 1700 CST

[R2-2409253](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2409253.docx) LS reply on synchronization source change at the transmitting anchor UE in SL positioning RAN2 LS out Rel-18 NR\_pos\_enh2-Core To:RAN4, RAN1

* Delete question to RAN1 and corresponding paragraph
* Move RAN1 to Cc:
* Change “SL-TDOA and SL-TOA positioning methods” to “measurements for SL-TDOA and SL-TOA positioning methods”
* Approved with these changes as R2-2409267

Discussion:

ZTE are not comfortable with the RAN1 action, because they think it is clear that SL-RTT does not need the synchronization source. Chair understood the issue was that a change of sync source could invalidate the measurement. ZTE think we only ask the question with no indication of the motivation.

Qualcomm agree that the question is a bit out of the blue in the LS, but they understand from RAN4’s original question that the issue was whether the UE would be notified of sync source change when SL-PRS is transmitted, and RAN1’s answer was not fully responsive to this for the SL-RTT case. They think we should either answer RAN4’s question or ask if we need to introduce something for signalling the sync source in general.

Huawei also think we could be more direct about the RAN4 question. They think we could just indicate that sync source is not currently supported in our spec for SL-RTT, and we do not need to do anything special for sync source change since it can be indicated by an unsolicited SLPP message (and we do not intend to enhance this further).

Intel think it is true that we cannot guarantee an indication of sync source change and we have not taken it into account into our protocol. Regarding the liaison, they think we already mention in the text that the sync type is not there for SL-RTT, and they think we could remove the explicit question to RAN1.

ZTE agree with removing the action to RAN1 and keeping the rest of the LS. They understand that QC’s argument would also apply to SL-TOA and we may only have a solution for SL-TDOA.

Ericsson think we could indicate the information to RAN1 rather than ask a question, and we could add SL-TOA.

Qualcomm agree that there is not a solution for SL-TOA, and they are not sure that there is a real solution even for SL-TDOA. They think we could just answer the RAN4 question by saying we are not working on any solution.

Ericsson would like to understand if Qualcomm think something needs to be rephrased. Qualcomm indicate that RAN4 are not asking about positioning methods but about measurements, and they may not understand our answer in terms of methods; they would like to have a one-sentence LS saying we are not working on a solution.

Qualcomm think the SL-RTD-Info provides the synchronisation difference between two UEs, and if we indicate a sync source change it is not clear which UE it applies to.

Ericsson suggest that we indicate that we only provide the RTD info, which applies to TDOA and TOA but not for RTT, and we have not provided any signalling mechanism to define a sync source change.

Intel understand that RAN1 are clear that the RTD info is used for TDOA and TOA, and they have no strong view on whether we indicate any RAN2 status to other WGs.

ZTE think the LS is being used for two purposes, to answer the RAN4 question and to indicate something where RAN2 think RAN1 may have overlooked a parameter. They think it is clear about these purposes without the RAN1 question, and they would be OK with the current text without the RAN1 question.

CATT understand from the RAN1 reply LS that there may be a mistake or omission, because it says RAN1 have introduced a solution for the sync reference source, but in our protocol only the TDOA and TOA measurements support the reference indication, and we should indicate this.

### 7.2.2 Stage 2

Impact to 38.300, 37.340, and 38.305. Minor and editorial issues should be coordinated with the appropriate spec rapporteur and merged into a miscellaneous CR. Larger issues can be discussed based on contributions/individual CRs.

This agenda item may be handled at lower priority.

[R2-2408216](C:\\Users\\mtk16923\\Documents\\3GPP Meetings\\202410 - RAN2_127bis, Hefei\\Extracts\\R2-2408216 Correction on assistance data transfer in SL positioning for stage-2.docx" \o "C:\Users\mtk16923\Documents\3GPP Meetings\202410 - RAN2_127bis, Hefei\Extracts\R2-2408216 Correction on assistance data transfer in SL positioning for stage-2.docx) Correction on assistance data transfer in SL positioning for stage-2 ZTE Corporation CR Rel-18 38.305 18.3.0 0175 - F NR\_pos\_enh2

* Changes to section 8.15 are agreeable
* Changes to section 7.3A and 7.12 are not agreeable
* Agreed in principle with these changes as R2-2409259

Discussion:

Qualcomm are OK with the changes in 8.15, but for the other sections they think it overloads the description; the intention is just to show a typical positioning call flow, not to include all possibilities.

ZTE think this is the only signalling with the issue of bidirectionality. Qualcomm agree technically but think we do not need to describe all possibilities; they think SA2 has covered more possibilities.

Huawei think the current spec is not completely clear on how SLPP supports NRPPa-like functionality; they would like it to be shown somehow in the call flows.

ZTE thought this was the clearer approach as compared to updating the figures.

Huawei note that there are typos in the figures anyway, e.g., “Request Request”. Qualcomm are not sure if the figures are from the spec. ZTE indicate they copied pictures from the spec.

MediaTek have some sympathy for the principle but wonder if it can be compressed into fewer notes.

Huawei think we can handle this in a future meeting.

Nokia have some sympathy for Qualcomm’s comment and think we do not want to get over-detailed.

[R2-2409259](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2409259%20Correction%20on%20assistance%20data%20transfer%20in%20SL%20positioning%20for%20stage-2.docx) Correction on assistance data transfer in SL positioning for stage-2 ZTE Corporation CR Rel-18 38.305 18.3.0 0175 1 F NR\_pos\_enh2

* Agreed in principle

[R2-2408721](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408721%20stage2.docx) DRX and PRS alignment for positioning Sony, Ericsson, Intel Corporation CR Rel-18 38.305 18.3.0 0176 - F NR\_pos\_enh2-Core

* Not pursued

Discussion:

Ericsson indicate that we only document the UE-side solution, and they think it is useful to document that there is also a solution from the network side.

Huawei wonder if it is technically feasible for the network to do this, since it does not know which PRS the UE is using. Ericsson understand that the gNB knows from the LMF along with the validity area configuration.

Huawei understand that the validity area is configured in LPP. Sony indicate that it is NRPPa.

Huawei think the PRS information in NRPPa is non-UE-associated (TRP information exchange).

Samsung are not sure the gNB has full ability to align the DRX given that some aspects come from the CN, and they share Huawei’s view.

Ericsson understand that the PRS configuration is cell-specific, and the gNB is aware of it at this level. To Samsung’s point, Ericsson understand that the gNB is in control of the DRX and there should be no problem with the CN aspects.

Qualcomm think that even if there is a way to do this alignment, it can only be for the serving cell, not with the neighbour cells, so they see it as not particularly useful and they think putting the sentence in stage 2 suggests that we have a solution that we do not fully have. They also note that the gNB has implementation freedom to configure DRX anyway.

Huawei think even if we are only talking about cell-specific DRX alignment with cell-specific PRS, the application is limited, and the proposed procedure cannot address DRX configured by NAS.

CATT agree with Huawei that the gNB paging cycle can be controlled by the gNB, but the CN paging DRX is out of the gNB’s control, so they see that it is hard for the gNB to align.

Ericsson indicate that the feature is directed to RRC\_INACTIVE, so it is gNB paging that is relevant, and if the UE went to RRC\_IDLE the CN DRX would apply.

Sony understand that the proposal just says the gNB “can” do this, and the gNB certainly knows its own PRS configuration and may know other cells’.

Qualcomm think this is not relevant for stage 2 since it is purely up to gNB implementation with no standardized impact.

[R2-2409161](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2409161%20SRS.docx) Correction of Pre-configuration SRS activation Ericsson CR Rel-18 38.305 18.3.0 0177 - F NR\_pos\_enh2-Core

* Not pursued

Discussion:

Qualcomm wonder why it is only there for the configuration procedure and not also for activation where the same step applies (section 7.14.4).

Huawei think it is technically right but the level of detail is not essential in stage 2.

Ericsson see it as stage 2/stage 3 alignment, and the concerned INM is in RAN2 responsibility.

Samsung think it just adds more information to the spec and is helpful to understand the activation procedure, so they think it is OK to capture.

ZTE indicate that the current stage 2 does not usually indicate specific signalling names; they wonder how much stage 3 detail we should add to the stage 2 procedures.

Nokia note that RAN3 gave us this section and they think it should be discussed and checked there. Huawei agree, and they think RAN3 can address whether it is detailed enough.

Ericsson think the issue is that the container contents are under RAN2 control, but they agree with ZTE that we may not need to call out the specific message name.

Huawei recall that we did not make an agreement on INMs, but RAN3 had already agreed that part when they sent us the text of the section.

Ericsson do not see why we need to block the change here if it is technically correct, even though RAN3 drafted the original text. Qualcomm wonder if the spec is wrong, since we should be focussing on essential corrections rather than clarifications.

Intel tend to agree with Qualcomm that we should only agree CRs where something is wrong, and they do not see this as a correction.

### 7.2.3 SLPP corrections

Impact to 38.355. Minor and editorial issues should be coordinated with the spec rapporteur and merged into a miscellaneous CR. Larger issues can be discussed based on contributions/individual CRs.

[R2-2408973](file:///C:\\Users\\mtk16923\\Documents\\3GPP%20Meetings\\202410%20-%20RAN2_127bis,%20Hefei\\Extracts\\R2-2408973%20Miscellaneous%20corrections%20to%20SLPP%20specification.docx" \o "C:Usersmtk16923Documents3GPP Meetings202410 - RAN2_127bis, HefeiExtractsR2-2408973 Miscellaneous corrections to SLPP specification.docx) Miscellaneous corrections to SLPP specification Intel Corporation draftCR Rel-18 38.355 18.3.0 F NR\_pos\_enh2-Core

* First change (degree resolution for horizontal/vertical/range accuracy fields) to be removed
* Change to category D
* Agreed in principle with these changes as R2-2409254

Discussion:

Qualcomm think the first change is not correct; it introduces degree resolution for the accuracy fields, which are actually defined with a bitmap. They understand that no change is needed for these fields.

CATT think the remaining changes are editorial and it should be cat D.

[R2-2409254](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2409254%20Miscellaneous%20corrections%20to%20SLPP%20specification.docx) Miscellaneous corrections to SLPP specification Intel Corporation CR Rel-18 38.355 18.3.0 0011 - D NR\_pos\_enh2-Core

* Agreed in principle

[R2-2407944](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2407944%20Corrections%20of%20location%20TimeStamp,%20RSTD%20and%20RTOA%20report.docx) Corrections of location time stamp, RSTD and RTOA report CATT CR Rel-18 38.355 18.3.0 0008 - F NR\_pos\_enh2-Core

* First introduction of timestamp is agreeable; description to be changed to refer to “location information” instead of “location estimate”
* Double brackets around the introduced timestamp field
* Second introduction of timestamp is not agreeable
* Changes of OPTIONAL fields to mandatory to be done in field descriptions instead
* Revised in R2-2409255

Discussion:

CATT indicate that the third and fourth changes (optional to mandatory fields) could be done in the field description to avoid an NBC change.

vivo are fine with the first change, think changes 3 and 4 should be BC, but for change 2 they think the timestamp with the location is not needed since it does not address the situation of a moving anchor UE; the issue should be to assure that the assistance data and measurement come close together in time.

Huawei wonder if the first and second changes are in the RAN1 parameter list, and on the second change, they are not sure what can be done if the anchor UE moves.

Qualcomm agree in principle with the first change, but they think there are a lot of measurements where it is missing. On the second change they agree with Huawei that there is no clear way to handle an anchor that moved. For the third and fourth changes they think nothing is broken and the reporting UE will always include them; they can accept a note if others want it.

CATT agree that for the second change there is no matching guidance in the RAN1 parameter list, so we would need to notify RAN1 if we need it. About handling of the moving anchor UE, they think this is one of the motivations for SL positioning (e.g., vehicles moving) and so the case is valid, but again an LS to RAN1 is needed.

Huawei understand that the location information is mainly for the UE-based case and for an RSU, which does not move.

Qualcomm agree with CATT’s point about the possibility of an anchor moving, but they do not see that the timestamp solves anything; the velocity of the anchor would also be needed.

CATT think if the anchor is moving, the timestamp allows the target UE to calculate its location taking the timestamp into account.

Intel have a similar understanding to Qualcomm and think unless the anchor UE can provide a new location, the target UE does not know what the timestamp means about its location. They also understand that the timestamps are not in the RAN1 parameter list, and they would prefer to follow RAN1.

Ericsson think the description of the timestamp is unclear, and they think it should be discussed first in RAN1.

CATT think if we do not include the timestamp, we assume that the target UE always has the latest location.

Intel think newer assistance information will replace older assistance information anyway. CATT are concerned that assistance data might be received out of order due to SL communication delays.

Huawei note that we support reliable transport, so out-of-order delivery should not be an issue.

Qualcomm think location reporting always have a timestamp, so the first change makes sense.

Intel think we can take the first change, but we need double brackets for the extension. Qualcomm think we need it for all measurements, as well as for the location estimate.

ZTE note that LPP on Uu says the timestamp is for the location estimate. Qualcomm indicate that on Uu only the location estimate is in the common IEs, and the other fields are in method-specific IEs.

CATT wonder if we should send an LS to RAN1.

Intel and Qualcomm think the timestamp is out of RAN1 scope.

Ericsson think the second timestamp is more of an optimization.

* [AT127bis][403][POS] CR on SLPP timestamps and mandatory field presence (CATT)

Scope: Update the CR in R2-2407944 in line with agreements of this meeting.

Intended outcome: Agreeable (in principle) CR in R2-2409255

Deadline: Wednesday 2024-10-16 1700 CST

[R2-2409255](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2409255%20Corrections%20of%20location%20TimeStamp,%20RSTD%20and%20RTOA%20report.docx) Corrections of location time stamp, RSTD and RTOA report CATT CR Rel-18 38.355 18.3.0 0008 1 F NR\_pos\_enh2-Core

* ASN.1 tabs to be replaced with spaces
* Agreed in principle with this change, as R2-2409268

Discussion:

Intel note that there are tabs in the ASN.1 instead of spaces.

[R2-2408513](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408513_(CR%2038355-i30).docx) Missing additional measurements for SL-TDOA and SL-TOA Qualcomm Incorporated CR Rel-18 38.355 18.3.0 0009 - F NR\_pos\_enh2-Core

* Postponed

Discussion:

CATT do not find the additional measurements in the parameter list, and they think the existing spec is in line with RAN1 conclusions. Qualcomm agree there is nothing in the parameter list, but they understand that the LS received from RAN1 this meeting points out that there is a capability with no signalling for this feature, which implies that they want us to add it.

Ericsson wonder what the source of the additional measurements was; they understand that it came from RAN2 discussion and think this should be indicated in the CR. Qualcomm think it is the same feature we have in LPP, and RAN1 intended the same thing for sidelink positioning.

vivo think the current spec supports reporting four measurements, and if Qualcomm are correct we would need to revise the parent IE as well. They also think the request number should include 1 (currently 2 to 4).

Huawei think RAN1 introduced the capability, and this probably means they wanted us to do something, but the safe option is still to check with RAN1. They also wonder if there is an agreement to include RSRPP in the additional measurements, and in general they think the details need some checking.

CATT understand the additional measurement is based on a different resource ID, and additional paths are based on the same resource ID, and the RAN1 LS mentions additional paths but not additional measurements. So they think it is a bit unclear if RAN1 really wanted additional measurements.

Intel think the proposal makes sense but are OK to check with RAN1.

* [AT127bis][404][POS] LS to RAN1 on additional measurements in SL positioning (Qualcomm)

Scope: Draft an LS to RAN1 to confirm if additional measurements are to be supported for SL-TOA and SL-TDOA, and if so, what the detailed contents should be.

Intended outcome: Approved LS (without CB if possible) in R2-2409256

Deadline: Wednesday 2024-10-16 1700 CST

[R2-2409256](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2409256.docx) LS on Additional Measurements for SL-TDOA and SL-TOA Qualcomm Incorporated LS out Rel-18 NR\_pos\_enh2-Core To:RAN1

* Approved (email discussion [AT127bis][404])

[R2-2408790](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408790%20Correction%20on%20SLPP.docx) Correction on SLPP Huawei, HiSilicon CR Rel-18 38.355 18.3.0 0010 - F NR\_pos\_enh2

* Change from “transmission” to “reception” is agreeable
* Changes related to sync source are not agreeable
* Agreed in principle with these changes, as R2-2409257

Discussion:

CATT agree with the change from “transmission” to “reception”.

[R2-2409257](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2409257%20Correction%20on%20SLPP.docx) Correction on SLPP Huawei, HiSilicon CR Rel-18 38.355 18.3.0 0010 1 F NR\_pos\_enh2

* Agreed in principle

### 7.2.4 LPP corrections

Impact to 37.355. Minor and editorial issues should be coordinated with the running CR rapporteur and merged into a miscellaneous CR. Larger issues can be discussed based on contributions/individual CRs.

[R2-2408217](C:\\Users\\mtk16923\\Documents\\3GPP Meetings\\202410 - RAN2_127bis, Hefei\\Extracts\\R2-2408217 Correction on remaining issues in LPP.docx" \o "C:\Users\mtk16923\Documents\3GPP Meetings\202410 - RAN2_127bis, Hefei\Extracts\R2-2408217 Correction on remaining issues in LPP.docx) Correction on remaining issues in LPP ZTE Corporation CR Rel-18 37.355 18.3.0 0520 - F NR\_pos\_enh2

* Not pursued

Discussion:

Qualcomm think the first change (new location type) is incorrect because a PRU will always receive a UE-assisted request; it will never receive a request for a location estimate in this format. The second change (mandatory PRU location) they think is a sensible implementation but not strictly necessary for CPP; they think this can be left to implementation.

CATT disagree with the first change because they understand that the PRU will never be used to provide its estimated location for A-GNSS. For the second change, they think there is a case where the measurements have changed but the location has not, and in this case the network can provide the measurements without the location.

ZTE think the target UE has to get the PRU information, and the spec should reflect this; otherwise the IE can be meaningless.

Huawei agree that the PRU is not used for GNSS, so they think the handling of the location estimate can be based on implementation and the first change is not correct. On the second change they understand the intention but do not see it as essential.

Ericsson are fine with the first change; they understand the network can request both measurements and location estimate while the PRU is using GNSS to determine its location, and they think this is in line with the intention of the change. For the second change, they are OK but note that the “shall” shall be “should”.

ZTE indicate that there is no guidance saying the PRU cannot support GNSS, and if this is the case it should be captured somewhere.

Qualcomm agree that a PRU can support GNSS, but the server cannot request a GNSS location estimate from the PRU.

CATT understand that the PRU can be asked to report its location, but it will never be asked for the additional GNSS information to accompany its location.

Nokia think we assume the PRU location is in some sense “known”, and they wonder if there is any spec restriction on requesting a location estimate from the PRU. Qualcomm think there is no such restriction, but the new location type does not make sense with this request.

ZTE wonder if the PRU can be requested to perform any positioning method.

CATT think the PRU could be stationary, and the LMF should not have to provide the location every time.

Qualcomm think the second change could also be done with “Cond NotSameAsPrev”, but in any case they think the spec is not broken if the field is not mandatory.

ZTE think there is a problem if the LMF does not provide the location the first time. Ericsson think this is a network implementation issue.

CATT agree with Ericsson and think this is consistent with how we have used Need ON in other places like the transaction ID.

### 7.2.5 RRC corrections

Impact to 38.331 and 38.306. Minor and editorial issues should be coordinated with the running CR rapporteur and merged into a miscellaneous CR. Larger issues can be discussed based on contributions/individual CRs.

CRs

[R2-2408935](file:///C:\\Users\\mtk16923\\Documents\\3GPP%20Meetings\\202410%20-%20RAN2_127bis,%20Hefei\\Extracts\\R2-2408935%20RRCCR.docx" \o "C:Usersmtk16923Documents3GPP Meetings202410 - RAN2_127bis, HefeiExtractsR2-2408935 RRCCR.docx) Miscellaneous RRC Positioning Correction Ericsson CR Rel-18 38.331 18.3.0 5061 - F NR\_pos\_enh2-Core

* Agreed in principle

[R2-2407945](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2407945%20Correction%20of%20SL%20CBR%20Range%20and%20level%20parameters%20and%20activation%20of%20srs-PosRRC-InactiveValidityAreaNonPreConfig.docx) Correction of SL CBR Range and level parameters and activation of srs-PosRRC-InactiveValidityAreaNonPreConfig CATT CR Rel-18 38.331 18.3.0 4975 - F NR\_pos\_enh2-Core

* Not pursued (issue from the second change can be addressed with a CR next meeting)

Discussion:

CATT indicate that an NBC CR may be needed for extending the CBR range.

Huawei understand that even with an NBC change, it would be messy, and the way forward from the post-meeting discussion last meeting was to do nothing and accept that the network cannot configure the maximum number of CBR levels.

Ericsson agree with Huawei that since we did not make the IE extensible, the ASN.1 impact is unfortunate; they consider that multiple CBR levels may map to the same transmission characteristics.

CATT think if we do not change the upper limit from 7 to 8, we need to let RAN1 know.

CATT indicate that the second change (on non-preconfigured validity area) also applies to the resume cause.

Ericsson think the wording of the second change is not quite correct; it should be “request” rather than “activation”. They understand that the request could come from upper layers and this may be why we did not include it before.

Huawei agree with Ericsson and think we do not need an RRC message to request activation in the non-preconfigured case since it should be activated immediately.

Samsung understand that the intention of the CR is not for activation of non-preconfigured SRS but activation of semi-persistent SRS that is valid in the current validity area, and they think this is new functionality that was not agreed before.

CATT indicate when the event is triggered, the UE should send a request for semi-persistent SRS.

Huawei think the use of SP-SRS can be similar to Rel-17, but they think there has been no agreement on using RRC for an activation request. CATT wonder how the activation can be done and how the gNB knows that the SRS should be activated. Samsung understand that the LMF can request the activation of SP-SRS via NRPPa, and the UE can trigger the LMF to recognise that SP-SRS is needed.

CATT think Samsung’s suggestion does not work for deferred MT-LR where positioning is triggered by events that are known only to the UE.

Ericsson think the UE could trigger an MO-LR; they think some discussion is needed and this is new functionality.

Huawei think the SP-SRS can be treated in the same way as periodic SRS, using existing RRC functionality. Qualcomm understand that it cannot activate the periodic SRS but needs to send a new configuration.

Qualcomm understand that there is no clear mechanism for activating periodic or SP-SRS in a new positioning session.

CATT indicate that for a triggering event on the UE side, the UE needs to send an activation request, for either the periodic or SP cases. Huawei agree and think the UE will request, and it is up to the network whether to configure periodic or SP.

Samsung think SP-SRS in RRC\_INACTIVE is already there in Rel-17, and they wonder how it is activated in this case. Qualcomm recall that this was discussed but there was never an agreement to have an UL MAC CE for the request, so the only way to activate it is via the LMF.

Qualcomm think the change in the CR is actually something we previously decided not to have.

Ericsson and Qualcomm think the existing requirements for resume due to the need of SRSp cover this case.

CATT think in the existing requirements, the condition should be for configuration or activation, rather than just for configuration (the field name already indicates that this is what we intended).

Chair suggests that the phrase “if the resumption of the RRC connection is triggered due to the need for SRS for positioning configuration” could be improved by adding “or activation”. Ericsson note that the coversheet would need revision too, and they are not sure that there is a need for activation in the non-preconfigured case.

Huawei suggest the general wording “SRS for positioning transmission”.

Agreements:

Do not extend the CBR range or SL-PRS-TxConfigIndexList; notify RAN1 of our decision.

In section 5.3.13.2, the activation case should be added to the condition on “if the resumption of the RRC connection is triggered due to the need for SRS for positioning configuration”. Exact wording FFS (e.g., “transmission” or adding “activation” or something else).

* [AT127bis][405][POS] LS to RAN1 on CBR range (CATT)

Scope: Draft an LS notifying RAN1 that we do not extend the CBR range or SL-PRS-TxConfigIndexList, as agreed under R2-2407945.

Intended outcome: Agreed LS (without CB if possible) in R2-2409258

Deadline: Wednesday 2024-10-16 1700 CST

[R2-2409258](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2409258%20LS%20to%20RAN1%20on%20CBR%20range.docx) LS to RAN1 on CBR range RAN2 LS out Rel-18 NR\_pos\_enh2-Core To:RAN1

* Approved (email discussion [AT127bis][405])

[R2-2408789](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408789%20Correction%20for%20positioning%20SRS%20CA%20in%20RRC_INACTIVE.docx) Correction for positioning SRS CA in RRC\_INACTIVE Huawei, HiSilicon CR Rel-18 38.331 18.3.0 5031 - F NR\_pos\_enh2

* Postponed

Discussion:

ZTE think this should wait for RAN1 guidance on whether the UE can directly use the configuration in RRC\_CONNECTED, and then we can discuss whether to include the whole configuration in the RRCRelease message.

CATT agree with the intention of the CR and understand that RAN1 already agreed that SRSp bandwidth aggregation is supported in RRC\_INACTIVE.

Ericsson understand we currently have the main carrier plus two additional carriers, and we indicate where in the BWP the carriers are transmitted; they do not see that anything is missing.

Huawei indicate that currently we only provide linkage, not actual resources. Qualcomm have the same understanding and think the reason is that we reused the Rel-17 SRS config with only one carrier.

Samsung understand Huawei’s intention, but they wonder if the network can configure more than three SRS configurations. Huawei indicate RAN1 colleagues’ guidance is for only three carriers, but we could ask RAN1 for official guidance.

ZTE would like to wait for an LS so RAN1 can indicate if we should include the whole SRS parameters in the RRCRelease configuration. Huawei think this is not RAN1 business, but they accepted asking about it in the LS; they think we do not need to wait for the response. Ericsson agree with Huawei in the sense that the configuration in connected and inactive should be decoupled.

Samsung agree that the configurations should be decoupled; they also think we need to check the field description of aggBW-InactiveConfigList. Huawei indicate that their CR still uses the Rel-17 field but adds two further carriers, so they understand that the description is still correct.

ZTE agree with the general intention but think we could have a different signalling design.

Ericsson think the CR needs some polishing and we could look further into ZTE’s approach.

Huawei think providing the resource within the linkage is not aligned with RAN1’s design.

ZTE wonder if RAN1 agreed on using the additional carriers in the validity area case. Huawei indicate this is captured in the coversheet (in very small font).

Agreement:

Configure SRS for two additional carriers in RRC\_INACTIVE for both the cases with and without validity area. Exact signalling design to be revisited next meeting.

[R2-2408864](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408864%20-%20RRC%20correction%20on%20NR%20sidelink%20positioning%20R18.docx) RRC correction on NR sidelink positioning Philips International B.V. CR Rel-18 38.331 18.3.0 4940 1 F NR\_pos\_enh2-Core R2-2407273

* Agreed in principle

Discussion:

ZTE agree with the CR.

Discussion on postponed issues

[R2-2408250](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408250%20Discussion%20on%20miscellaneous%20RRC%20issues%20for%20sidelink%20positioning.docx) Discussion on RRC miscellaneous issues for sidelink positioning vivo discussion

* Noted

Proposal 1. Capture the following conditions for UE to resume RRC connection for SL-PRS transmission as TP in Annex1.

1) UE obtains normal resource pool configuration via SIB12 while no shared SL-PRS resource pool is included;

2) The frequency on which the UE is configured to transmit SL-PRS is included in SIB23 but the SIB23 does not include sl-PosUE-SelectedConfig for the concerned frequency.

Discussion:

vivo indicate that the conditions trace to RAN2#124 agreements. They understand that the separate conditions are needed because of shared pool in SIB12 and dedicated pool in SIB23.

Huawei think this is only for resume request, and they see that if the network configures no pool at all the UE can request in RRC\_CONNECTED but does not need to trigger resume request just for this purpose.

Ericsson note that this was discussed in the ASN.1 review and the conditions were removed.

vivo wonder what a UE will do in idle/inactive if it needs SL positioning but has no SL-PRS resource pool and is not triggered to resume for any SL communication. Huawei understand that the UE needs to establish a PC5 link for SL positioning, which means it has to perform SL communication for the positioning process, so they see that such a UE will trigger resume for SL communication and can request the pool then with SUI.

vivo are concerned about a case where the UE does not resume for SL communication; Huawei think such a UE will trigger SL communication to set up the PC5 link. vivo think the UE may have pools for SL communication already and not need to resume for that purpose.

CATT wonder if the SL-PRS configuration can be broadcast in SIB or not.

Huawei understand vivo’s point but note that the rapporteur previously backed out such a proposal; they would like to hear more company input.

Ericsson think this is a bit of a corner case. vivo think it is equally a corner case for sidelink communication, and we have the condition there.

Proposal 2. RAN2 to consider how to solve the issue that UE indicates its interested frequencies indicated in SIB12 for SL-PRS transmission.

Opt1: introduce an extension of sl-PosTxInterestedFreqList;

Opt2: do not support UE request frequencies indicated in SIB12 for SL-PRS dedicatedly, no change thus is needed.

Discussion:

ZTE think the destinations for SL positioning should be a subset of the destinations for SL communication, so the interested frequencies for communication can already cover the interested frequencies for positioning.

Huawei think the issue is that the UE cannot request SL positioning on the frequencies indicated by SIB12. They think option 1 is needed.

Ericsson are fine with option 2; the request for frequencies for SL-PRS can be piggybacked on the request for communication.

vivo think the network cannot tell without the change which frequencies are for positioning. ZTE think the network can recognise whether the UE is interested in shared pools for positioning, because the pool configuration in SIB12 indicates whether it is for SL positioning or just for data communication, so when the UE requests a frequency the network knows.

vivo indicate the UE does not just request the frequency.

Philips think the UE capability indicates if the UE supports shared pool for positioning, and the configuration for the shared pool is there; they understand that the network should provide shared pools for positioning if the frequency supports them and the UE supports them, when the UE indicates interested frequencies for SL communication.

vivo think this interpretation does not solve the issue of how to indicate the requested SL-PRS characteristics on the frequency. ZTE understand that the UE’s indication of interested frequencies in SIB12 is already there. vivo indicate that this indication does not include the SL-PRS characteristics. ZTE understand that the characteristics are optional fields.

Proposal 3. RAN2 to adopt the TP in Annex2, to constrain that dedicated SL-PRS resource pool is not configured in the slot colliding with other resource pools and S-SSBs on other SL carrier(s).

Discussion:

Huawei understand that this was a RAN1 agreement and may already be captured in a RAN1 spec.

Ericsson think it is in 38.214. vivo think this is a configuration issue, and the RAN1 spec only captures the terminology. Ericsson think the text excerpts have been misunderstood and the UE behaviour is captured in 38.214. vivo checked with RAN1 colleagues and understand that the configuration restrictions are not captured there.

Huawei think it is OK to have in RRC if not already captured in RAN1/

Agreements:

Capture the following conditions for UE to resume RRC connection for SL-PRS transmission

1) UE obtains normal resource pool configuration via SIB12 while no shared SL-PRS resource pool is included;

2) The frequency on which the UE is configured to transmit SL-PRS is included in SIB23 but the SIB23 does not include sl-PosUE-SelectedConfig for the concerned frequency.

Dedicated SL-PRS resource pool is not configured in the slot colliding with other resource pools and S-SSBs on other SL carrier(s). To be checked next meeting whether this needs to be captured in a RAN2 spec.

[R2-2408940](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408940%20SLRRC.docx) Sidelink Positioning Postponed issues for RRC Ericsson discussion Rel-18 38.331 NR\_pos\_enh2-Core

Proposal 1 SL Positioning does not need separate clause for RRC Resume initiation.

Proposal 2 SL-BWP-PRS-PoolConfig field description does not include dedicated SL-PRS Resource pool

Proposal 3 Remove SIB23 from the field description of sl-TxInterestedFreqList.

Proposal 4 RAN2 to discuss the need to distinguish the purpose of interest (whether the interest is communication or positioning) while using SUI for frequency list configured from SIB12.

Proposal 5 RAN2 does not update the ASN.1 solution for CBR corrections and wait until SL resource pool extension is needed for any other purpose.

### 7.2.6 MAC corrections

Impact to 38.321. Minor and editorial issues should be coordinated with the running CR rapporteur and merged into a miscellaneous CR. Larger issues can be discussed based on contributions/individual CRs.

[R2-2408787](file:///C:\\Users\\mtk16923\\Documents\\3GPP%20Meetings\\202410%20-%20RAN2_127bis,%20Hefei\\Extracts\\R2-2408787%20Rapp%20CR%20for%20MAC%20spec%20for%20R18%20POS.docx" \o "C:Usersmtk16923Documents3GPP Meetings202410 - RAN2_127bis, HefeiExtractsR2-2408787 Rapp CR for MAC spec for R18 POS.docx) Rapporteur CR to MAC spec for R18 Positioning Huawei, HiSilicon CR Rel-18 38.321 18.3.0 1951 - F NR\_pos\_enh2

* Agreed in principle

Discussion:

Philips note that there is a missing dash in some RNTI names in the text.

ASUSTeK think some changes are also needed in section 5.8.3 for the same RNTIs and others.

CATT would prefer if we take this CR and see a new CR for the other changes.

[R2-2408351](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408351%20Correction%20on%20prioritization%20between%20SR%20and%20SL-PRS%20transmission.docx) Correction on prioritization between SR and SL-PRS transmission ASUSTeK CR Rel-18 38.321 18.3.0 1935 - F NR\_pos\_enh2

* Not pursued (can start in RAN1 if needed)

Discussion:

Huawei understand the intention but think there is no RAN1 decision on whether SR and SL-PRS can be transmitted simultaneously; they wonder if there is a similar capability for SL communication. ASUSTeK think there is a capability for the communication case.

[R2-2409158](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2409158%20MAC.docx) Correction of misplaced else condition of SL Positioning clause Ericsson CR Rel-18 38.321 18.3.0 1971 - F NR\_pos\_enh2-Core

* Agreed in principle

### 7.2.7 Corrections to other specifications

Impact to any specifications not identified above.

[R2-2408788](file:///C:\\Users\\mtk16923\\Documents\\3GPP%20Meetings\\202410%20-%20RAN2_127bis,%20Hefei\\Extracts\\R2-2408788%20Rapp%20CR%20for%20IDLE%20mode%20procedure%20for%20R18%20positioning.docx" \o "C:Usersmtk16923Documents3GPP Meetings202410 - RAN2_127bis, HefeiExtractsR2-2408788 Rapp CR for IDLE mode procedure for R18 positioning.docx) Rapporteur CR to IDLE mode procedure for R18 Positioning Huawei, HiSilicon CR Rel-18 38.304 18.3.0 0418 - F NR\_pos\_enh2

* Agreed in principle

[R2-2408885](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408885%20-%20Correction%20on%20NR%20sidelink%20operation%20for%20positioning%20ranging%20R18.docx) Correction on NR sidelink operation for positioning/ranging Philips International B.V. CR Rel-18 38.304 18.3.0 0420 - F NR\_pos\_enh2-Core

* Agreed in principle (for merge with R2-2408788 for next meeting)

## 7.9 Enhanced NR Sidelink Relay

(NR\_SL\_relay\_enh-Core; leading WG: RAN2; REL-18; WID: [RP-223501](http://ftp.3gpp.org/tsg_ran/TSG_RAN/TSGR_98e/Docs/RP-223501.zip))

Time budget: 0TU

Tdoc Limitation: 2 tdocs

### 7.9.1 Organizational

Including incoming LSs and rapporteur inputs.

### 7.9.2 Stage 2 corrections

Impact to 38.300. Minor and editorial issues should be coordinated with the running CR rapporteur and merged into a miscellaneous CR. Larger issues can be discussed based on contributions/individual CRs.

[R2-2408603](C:\\Users\\mtk16923\\Documents\\3GPP Meetings\\202410 - RAN2_127bis, Hefei\\Extracts\\R2-2408603_Miscellaneous corrections for SL relay.docx" \o "C:\Users\mtk16923\Documents\3GPP Meetings\202410 - RAN2_127bis, Hefei\Extracts\R2-2408603_Miscellaneous corrections for SL relay.docx) Miscellaneous corrections for SL relay ZTE Corporation, Sanechips CR Rel-18 38.300 18.3.0 0912 - F NR\_SL\_relay\_enh-Core

* First two changes to be merged into R2-2409265
* “SD-RSRP threshold” to be added to threshold description in the relay UE case in the last paragraph of 16.12.4
* Merged into R2-2409265

Discussion:

Apple think the third change about SD-RSRP threshold is not right and the current text is clear. They also think the current text for the first change (removal of “at each hop”) is clear.

Samsung think the first change is correct since there is only one hop for the remote UE.

LG think the first change is OK but for the third change the current text is clearer. ZTE think if we keep the SD-RSRP threshold for the relay UE we should add it for the remote UE too (third line of the modified paragraph).S

Huawei think the first change should refer to “RLC channels” (plural). They see the first two changes as editorial; for the third change on thresholds, they have no strong view but do not see a big problem because the stage 3 is already clear.

OPPO note that the fourth change (figure edit) is included in R2-2409094.

[R2-2408861](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408861%20-%20Correction%20on%20NR%20SL%20Multi-path%20Relay%20Operation%20R18.docx) Correction on NR SL Multi-path relay operation Philips International B.V. CR Rel-18 38.300 18.3.0 0888 1 F NR\_SL\_relay\_enh-Core R2-2407267

* Postponed

[R2-2408879](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408879_U2URelays_LocalIDAssignment.docx) U2U Relays, Local ID Assignment Ericsson discussion Rel-18

* Postponed

[R2-2409094](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2409094-draft_(Rel-18)_R2-38.300%20relay%20stage%202%20CR_rapp.docx) draft\_(Rel-18)\_R2-38.300 relay stage 2 CR\_rapp LG Electronics Inc. draftCR Rel-18 38.300 18.3.0 F NR\_SL\_relay\_enh-Core

* Revision should be a proper CR (not draftCR)
* Revised in R2-2409265 to merge changes from R2-2408603
* [AT127bis][406][Relay] Revision of 38.300 relay CR (LG)

Scope: Merge changes from R2-2408603 into R2-2409094 as discussed online, and check the resulting CR.

Intended outcome: Agreeable-in-principle CR in R2-2409265

Deadline: Wednesday 2024-10-16 1900 CST

[R2-2409265](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2409265-CR0923-(Rel-18)%20Miscellaneous%20change%20for%20SL%20Relay%20stage%202.docx) Miscellaneous and editorial changes for sidelink relay enhancement LG Electronics Inc., ZTE Corporation, Sanechips, Philips International B.V. CR Rel-18 38.300 18.3.0 0923 - F NR\_SL\_relay\_enh-Core

* Change mark to be removed on cover sheet
* Agreed in principle with this change, as R2-2409266

Withdrawn/Not available

[R2-2408611](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408611-draft_(Rel-18)_R2-38.300%20relay%20stage%202%20CR_rapp.docx) draft\_(Rel-18)\_R2-38.300 relay stage 2 CR\_rapp LG Electronics Inc. CR Rel-18 38.300 18.3.0 0913 - F NR\_SL\_relay\_enh-Core Withdrawn

### 7.9.3 Control plane corrections (including UE capabilities)

Impact to 38.331, 38.304, and 38.306. Minor and editorial issues should be coordinated with the appropriate running CR rapporteur and merged into a miscellaneous CR. Larger issues can be discussed based on contributions/individual CRs.

[R2-2408256](C:\\Users\\mtk16923\\Documents\\3GPP Meetings\\202410 - RAN2_127bis, Hefei\\Extracts\\R2-2408256 Rapp RRC CR for Rel-18 SL relay.docx" \o "C:\Users\mtk16923\Documents\3GPP Meetings\202410 - RAN2_127bis, Hefei\Extracts\R2-2408256 Rapp RRC CR for Rel-18 SL relay.docx) Miscellaneous CR for Rel-18 SL relay enhancement Huawei, HiSilicon CR Rel-18 38.331 18.3.0 4994 - F NR\_SL\_relay\_enh-Core

* Second change to be removed
* Coversheet typo to be fixed (“RRCReconfigurationSide” should be “RRCReconfigurationSidelink”)
* Agreed in principle with these changes as R2-2409262

Discussion:

Ericsson wonder if the order really matters in the first change.

ZTE are OK with the first change but think the second change may be not needed; the end-to-end SRB is only added for the U2U remote UE, not for U2U relay UE.

Huawei clarify that we need someplace to capture when there is a new remote UE SRB and the relay UE needs to derive the SRAP mapping. Apple have the same understanding and think a general reorganization is useful to clarify (in accordance with their CR in R2-2408584). Huawei understand the intention but think more time is needed to check.

ZTE wonder if the third change can be done after the Apple CR.

R2-2409262 Miscellaneous CR for Rel-18 SL relay enhancement Huawei, HiSilicon CR Rel-18 38.331 18.3.0 4994 1 F NR\_SL\_relay\_enh-Core

* Agreed in principle

[R2-2408584](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408584%20Correction%20on%20RRC_Relay_SRAP_procedure_v2.docx) Corrections on RRC SRAP configuration for L2 U2U Apple CR Rel-18 38.331 18.3.0 5018 - F NR\_SL\_relay\_enh-Core

* Postponed

Discussion:

Samsung understand that there is no technical impact, just a reorganization. They would like more time to check.

[R2-2408604](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408604_Corrections%20for%20U2U%20relay%20measurements.docx) Corrections for U2U relay measurements ZTE Corporation, Sanechips CR Rel-18 38.331 18.3.0 5022 - F NR\_SL\_relay\_enh-Core

* Postponed (revision to be seen next meeting to address the comments)

Discussion:

Chair understands that the new IEs need to be used somewhere. Nokia have the same understanding.

Huawei think “should” is used in place of “shall”.

Ericsson think some time to check a revision would be good.

[R2-2408862](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408862%20-%20RRC%20Correction%20on%20NR%20SL%20U2U%20Relay%20Operation%20R18.docx) RRC correction on NR SL U2U relay operation Philips International B.V. CR Rel-18 38.331 18.3.0 5048 - F NR\_SL\_relay\_enh-Core

* First change is agreeable
* Second change is postponed (proponent is asked to merge with the ZTE CR in R2-2408604)
* Formatting of the ASN.1 part should be in landscape mode
* Agreed in principle with these changes as R2-2409263

Discussion:

Nokia understand that this overlaps with the ZTE CR above. Huawei think this part is editorial.

Philips do not think it is editorial because the field description is wrong.

R2-2409263 RRC correction on NR SL U2U relay operation Philips International B.V. CR Rel-18 38.331 18.3.0 5048 1 F NR\_SL\_relay\_enh-Core

* Agreed in principle

[R2-2409068](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2409068.docx) Correction on sl-SFN-DFN-Offset or sl-PagingInfo-RemoteUE release Google CR Rel-18 38.331 18.3.0 5073 - F NR\_SL\_relay\_enh-Core

* Not pursued

Discussion:

CATT checked the need code and think the current procedure is OK.

ZTE think the two IEs were introduced in the positioning WI and it may need to be seen there. Chair understands the first one is positioning and the second one is relay. Huawei agree with the chair and think the current procedures are correct.

Apple think Huawei are correct and no change is needed. Qualcomm have the same view.

[R2-2409118](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2409118_38331_CR5081_%20Clarification%20for%20ul-DataSplitThreshold%20setting%20in%20multi-path%20relay.docx) Clarification for ul-DataSplitThreshold setting in multi-path relay OPPO CR Rel-18 38.331 18.3.0 5081 - F NR\_SL\_relay\_enh-Core

* Agreed in principle

Discussion:

Huawei think the change is correct.

### 7.9.4 User plane corrections (including SRAP)

Impact to 38.351, 38.321, 38.322, and 38.323. Minor and editorial issues should be coordinated with the appropriate running CR rapporteur and merged into a miscellaneous CR. Larger issues can be discussed based on contributions/individual CRs.

RLC channel definitions

[R2-2408880](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408880_PC5_UuRelayRLCChannel.docx) PC5/Uu Relay RLC Channel Definition Ericsson discussion Rel-18

* Noted

Proposal 1 For UE-to-Network Relays, need not differentiate between an RLC channel and PC5/Uu RLC channel.

Proposal 2 Update the NOTE as follows “If SRAP as defined in TS 38.351 [9] is configured as in TS 38.331 [5], an RLC channel refers to either a PC5 Relay RLC channel or a Uu Relay RLC channel”. Adopt the TP in the Annex.

Proposal 3 In MP relays with an N3C link, from a network configuration point of view, the MP Remote UE’s upper layer maps to the N3C Relay’s Uu Relay RLC channel.

Proposal 4 No need for a NOTE capturing the N3C behaviour in the 38.322 specification.

Discussion:

Ericsson think P2 is still applicable. Samsung think we should not reopen the discussion on RLC definitions/notes.

Ericsson think the term “upper layer” is strictly wrong in this note.

Nokia think from the spec perspective, when we talk about “upper layer” it includes all of the upper layers, so they do not see a problem even though it is not the “right” upper layer.

[R2-2408936](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408936%20Discussion%20on%20RLC%20channel%20Definition%20alignment.docx) Discussion on RLC channel Definition alignment across the specs Huawei, HiSilicon discussion Rel-18 NR\_SL\_relay\_enh-Core

Proposal 1: Considering observation 1 and 2, Notes 1 and 2 in section 4.2.1 of TS 38.322 should not be deleted and taken as the way forward for aligning the “RLC Channel” definition across the specs, specially knowing that Note 1 is related to IAB and is outside the scope of the SL Relay experts to modify it.

Proposal 2: Clarify the definitions PC5 and Uu Relay RLC channel as described below in TS 38.300 as a starting point for aligning the RLC Channel definitions across the specs.

[Chair’s note: See the document for revmarked definitions proposed in P2]

Other CRs

[R2-2408374](C:\\Users\\mtk16923\\Documents\\3GPP Meetings\\202410 - RAN2_127bis, Hefei\\Docs\\R2-2408374.zip" \o "C:\Users\mtk16923\Documents\3GPP Meetings\202410 - RAN2_127bis, Hefei\Docs\R2-2408374.zip) Corrections on security for L2 U2U relay vivo CR Rel-18 38.323 18.3.0 0141 - F NR\_SL\_relay\_enh-Core

* Agreed in principle

[R2-2408662](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408662%20Correction%20to%20error%20handling%20for%20U2U%20operation.DOCX) Correction to error handling for U2U operation Huawei, HiSilicon CR Rel-18 38.351 18.2.0 0037 - F NR\_SL\_relay\_enh-Core

* “0/1/2/3 or the 5 bits LSBs” to be “0/1/2/3 or any of the 5 bits LSBs”
* “is received” should not be deleted in the fourth paragraph of section 5.4
* Agreed in principle with these changes as R2-2409264

Discussion:

Apple agree with the intention but think the change is a little complex. They understand the intention is to handle the case where the local ID is right but there is no match for the bearer ID, and they are not sure the change really fixes the problem.

Samsung agree with Apple that it may not address the problem correctly.

ZTE understand that the bearer ID without the local ID pair is meaningless, so they think maybe the change is not needed. Apple think something is needed, but with the change, it is not completely solved: we need to check if the bearer ID does not match any ID for the local pair.

Samsung think after some review of the text that it is correct. Apple want more time to check.

Apple think the phrase “any of the” could be added before “5 bits LSBs”.

ZTE wonder if the mapping should be by L2ID instead of local ID. Huawei understand that the SRAP layer uses local ID.

R2-2409264 Correction to error handling for U2U operation Huawei, HiSilicon CR Rel-18 38.351 18.2.0 0037 1 F NR\_SL\_relay\_enh-Core

* Agreed in principle

## 7.24 TEI18

Specific items may be allocated to a breakout session for treatment. Essential corrections only. No new proposals will be treated.

Time budget: 1 TU

Tdoc limitation: 2

### 7.24.1 TEI proposals by Other Groups

Items initiated by other groups that is/has been communicated by LS, where the other group indicate this is TEI18. (Specific other-group-WIs should use the R18 Other Agenda Item below).

[R2-2408933](C:\\Users\\mtk16923\\Documents\\3GPP Meetings\\202410 - RAN2_127bis, Hefei\\Extracts\\R2-2408933 LPPUP.docx" \o "C:\Users\mtk16923\Documents\3GPP Meetings\202410 - RAN2_127bis, Hefei\Extracts\R2-2408933 LPPUP.docx) Introduction of LCS User Plane Ericsson, Intel Corporation, Huawei, HiSilicon, ZTE Corporation, vivo, Qualcomm Incorporated CR Rel-18 38.305 18.3.0 0159 3 F TEI18 R2-2403538

* Revised in R2-2409394

[R2-2409394](C:\\Users\\mtk16923\\Documents\\3GPP Meetings\\202410 - RAN2_127bis, Hefei\\Extracts\\R2-2409394 LPPUP_update.docx" \o "C:\Users\mtk16923\Documents\3GPP Meetings\202410 - RAN2_127bis, Hefei\Extracts\R2-2409394 LPPUP_update.docx) Introduction of LCS User Plane Ericsson, Intel Corporation, Huawei, HiSilicon, ZTE Corporation, vivo, Qualcomm Incorporated, Samsung CR Rel-18 38.305 18.3.0 0159 4 F TEI18 R2-2408933

* Postponed

Discussion:

Nokia want to be sure this is aligned with 23.273; they understand there is an LMF-UE interface, and they think N6 should not be there. They would like some more time to review, and they have additional editorial suggestions.

CATT also wonder about figure 6.4.1-X: The N6 interface between LMF and UPF is not clear. Chair understands it is UPF-to-DN transport. Qualcomm confirm this is the intention and the underlying transport does not matter.

Qualcomm think if we do this at all, it needs to be complete, so there are more impacts than initially anticipated.

Huawei understand that the N6 interface is UPF-to-DN, and the diagram might substitute the DN for the LMF. On the protocol stack, they wonder if an LCS-UPP PDU format is described. They also think section 6.4.X needs a bit of work.

# 8 Rel-19

## 8.15 NavIC L1 SPS A-GNSS support

(Acronym\_TBD; leading WG: RAN2; REL-19; WID [RP-242414](https://www.3gpp.org/ftp/meetings_3gpp_sync/ran/docs/RP-241264.zip))

Time budget: 0 TU

Tdoc Limitation: 0 tdocs

This WI will not be treated in RAN2#127bis, therefore no contribution is expected under agenda item 8.15.

## 8.16 BDS B2b in A-GNSS

(BDS\_B2b; leading WG: RAN2; REL-19; WID [RP-242413](https://www.3gpp.org/ftp/meetings_3gpp_sync/ran/docs/RP-241264.zip))

Time budget: 0.25 TU

Tdoc Limitation: 1 tdoc

[R2-2408299](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408299%20Discussion%20on%20introduction%20of%20BDS%20B2b%20signal%20in%20A-GNSS.docx) Introduction of BDS B2b signal in A-GNSS for BDS system CAICT,CATT discussion Rel-19

* Revised in R2-2409209

[R2-2409209](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2409209%20Discussion%20on%20introduction%20of%20BDS%20B2b%20signal%20in%20A-GNSS.docx) Introduction of BDS B2b signal in A-GNSS for BDS system CAICT,CATT discussion Rel-19

* Noted

Proposal 2: RAN2 to introduce new parameters for B2b signal in the following affected IEs:

­ AlmanacReducedKeplerianSet: Add one bit to indicate health state of B2b\_I signal.

­ AlmanacMidiAlmanacSet: Add one bit to indicate health state of B2b\_I signal.

­ Iod: Add one bit B2b signal in ‘GNSS to iod Bit String(11) relation’ table.

­ BDS-ClockModel2: Add one bit to indicate group delay differential between BDS B2b and B3I signal.

­ GNSS-SignalID: Use one value to indicate the B2b I signal.

­ GNSS-SignalIDs: Use one value to indicate the B2b I signal.

Discussion:

Huawei do not find the Iod in the navigation message, so they are not sure why a bit needs to be added there. They are not sure why B2b is different in this respect.

CATT understand that the Iods are not included, but we still need to introduce the B2b signal into the iod BIT STRING relation table. Huawei are OK with this as a way forward.

Huawei are not sure that GNSS-SignalID and GNSS-SignalIDs have sufficiently informative names, although they acknowledge that the names go back a long way. They wonder if we could change to something like GNSS-ID-Type and GNSS-SignalType.

Ericsson think there is some potential for confusion, but it is probably best not to change now (they also indicate that there is already a GNSS-ID-Type). They checked the ICD document and they have the same understanding as Huawei, and suggest that we take an FFS on this parameter.

Huawei think it may be because the ICD was inherited from previous signals.

Agreements:

Introduce new parameters for B2b signal in the following affected IEs:

­ AlmanacReducedKeplerianSet: Add one bit to indicate health state of B2b\_I signal.

­ AlmanacMidiAlmanacSet: Add one bit to indicate health state of B2b\_I signal.

­ BDS-ClockModel2: Add one bit to indicate group delay differential between BDS B2b and B3I signal.

­ GNSS-SignalID: Use one value to indicate the B2b I signal.

­ GNSS-SignalIDs: Use one value to indicate the B2b I signal.

­FFS: Iod: Add one bit B2b signal in ‘GNSS to iod Bit String(11) relation’ table.

CRs treated jointy

[R2-2408792](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408792%20Introduction%20of%20BDS%20B2b%20in%20A-GNSS%20for%20TS%2038305.docx) Introduction of BDS B2b in A-GNSS for TS 38305 Huawei, HiSilicon draftCR Rel-19 38.305 18.3.0 F LCS\_BDS\_B2b\_LTE\_NR

* Noted (can see an updated non-draft CR next meeting)

[R2-2408793](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408793%20Introduction%20of%20BDS%20B2b%20in%20A-GNSS%20for%20TS%2036305.docx) Introduction of BDS B2b in A-GNSS for TS 36305 Huawei, HiSilicon draftCR Rel-19 36.305 18.0.0 F LCS\_BDS\_B2b\_LTE\_NR

* Noted (can see an updated non-draft CR next meeting)

Discussion:

No comments/concerns expressed

[R2-2408036](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408036%2037.355_(Rel-19).docx) Introduction of B2b signal in BDS system in A-GNSS CATT, CAICT draftCR Rel-19 37.355 18.3.0 B LCS\_BDS\_B2b\_LTE\_NR-Core

[R2-2408221](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408221%20Introduction%20of%20BDS%20B2b%20in%20A-GNSS%20positioning.docx) Introduction of BDS B2b in A-GNSS positioning ZTE Corporation discussion Rel-19 LCS\_BDS\_B2b\_LTE\_NR-Core

[R2-2408660](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408660%20Discussion%20on%20BDS%20B2b%20in%20A-GNSS.docx) Discussion on BDS B2b in A-GNSS NEC discussion Rel-19 LCS\_BDS\_B2b\_LTE\_NR-Core

[R2-2408791](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2408791%20Discussion%20on%20support%20of%20BDS%20B2b%20in%20A-GNSS.docx) Discussion on support of BDS B2b in A-GNSS Huawei, HiSilicon discussion Rel-19 LCS\_BDS\_B2b\_LTE\_NR

[R2-2409199](file:///C:\Users\mtk16923\Documents\3GPP%20Meetings\202410%20-%20RAN2_127bis,%20Hefei\Extracts\R2-2409199%20B2b.docx) LPP Impacts for B2b Signal addition Ericsson discussion Rel-19 LCS\_BDS\_B2b\_LTE\_NR-Core Late