3GPP TSG RAN WG2 Meeting #116b-e R2-220xxxx

**Electronic meeting, 17-25 January 2022**

**Agenda item:** 8.11.1

**Source:** Intel Corporation

**Title:** Report of email discussion [Post116bis-e][629][POS] 38.305 RAT-dependent positioning running CR (Intel)

**Document for:**  Discussion and decision

# Introduction

This is the report of following offline discussion:

* [Post116bis-e][629][POS] 38.305 RAT-dependent positioning running CR (Intel)

Scope: Check and endorse the running CR considering decisions of RAN2#116bis-e.

Intended outcome: Endorsed CR

Deadline: Friday 2022-01-28 0800 UTC

**CR review**: Companies are invited to provide comments/suggestions in the summary documents; Please do not add your comments/suggestions in the running CRs directly;

Rapporteur would like to set an early deadline for companies to provide initial comments in order to reserve time for further updates/discussion.

Deadline for initial comments (from companies): Thursday 2022-01-27 0700 UTC;

# Annex: companies’ point of contact

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| --- | --- | --- |
| **Company** | **Point of contact** | **Email address** |
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# Discussion

## 3.1 Discussion

**Discussion point 3.1: Companies are invited to provide view on running TS38.305 CR ?**

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| **Company’s name** | **Section** | **Identified issues** | **Change suggestion** |
| Qualcomm | 3.2 | Editorial | Abbreviation SDT is nowhere used  [Rapp] Removed in v01. |
| 6.2.2 | PRS Processing Window has no definition. | PRS Processing Window is a new feature, specifically for positioning methods requiring DL-PRS and therefore, should have a definition in 38.305?  [Rapp] Added  **PRS Processing Window (PPW):** The PRS Processing Window is configured by the network to a UE for NR DL-PRS measurements without measurement gap. |
| 7.3.2 | Description creates dependency between different features: "If a scheduled location time is provided in step 1, the LMF may provide pre-configured assistance data with a validity area to the UE ahead of time…" | Keep assistance data and location measurements separate; keep assistance data and validity area separate.  "If a scheduled location time is provided in step 1, the LMF schedule location measurements by the UE to occur at or near to the scheduled location time."  Assistance data delivery is already covered by the previous sentence.  This whole section is Service Layer Support (i.e., method independent) and not only for NR RAT-dependent methods.  LPP features should be described in 8.x.3 for each applicable positioning method.  [Rapp] Updated in v01.. Captured as  The LMF may provide the DL-PRS assistance data (with associated validity criteria) to the UE (before or during an ongoing LPP positioning session), to be then utilized for potential positioning measurements at a future time. |
| 7.3.3 | Same as in 7.3.2 above. | In addition, not all MO-LR service types require location estimate and/or assistance.  LPP features may be better put into 8.x.3.  [Rapp] Updated in v01.. Captured as  The LMF may provide the DL-PRS assistance data (with associated validity criteria) to the UE (before or during an ongoing LPP positioning session), to be then utilized for potential positioning measurements at a future time. |
| 7.4.1.x | Measurement gap activation via LMF | "The gNB may activate the pre-configurated measurement gap upon receiving the request from a UE or LMF."  Question:  Is the LMF activation of measurement gaps only for pre-configured measurement gaps? It's not clear to me from the RAN1 LS.  [Rapp] Good question, I think the LMF may activate the measurement even if there is no preconfigured MG. But we need to discuss this. Added it as open issue. |
| 7.4.1.z | Periodic Tx TEG reporting/TEG change procedure | According to RAN1 LS in R2-2200092: "It is up to RAN2 to decide how to indicate the change of the Tx TEG association during the configured period (e.g., using the timestamps)".  The procedure mentions "periodic report of UE TxTEG association", but what is needed seems an a-periodic report (i.e., a report when the TEG association has changed). Or what is the purpose of periodically reporting the same information?  [Rapp] Good question, RAN1 only agreed periodic report. I added this as an open issue. |
| 7.x.2 | Editor's Note on MO-LR has been deleted, but procedure has not been updated. | Add possibility for MO-LR in procedure; a simple proposal is described in R2-2200964, section 7.  [Rapp] Added in v01  The LPP Request Assistance Data message for On-Demand PRS may also be sent in an MO-LR location service request message. |
| 7.x.2 | Step 2b of the procedure is not restricted to LPP Location Information Transfer (up to LMF). | Replace Step 2b with "Possible LPP Procedure" which includes LPP Location Information Transfer, LPP Capability Transfer and LPP Assistance Data Transfer. A proposal is described in R2-2200964, section 7.  [Rapp] Added in v01 |
| 7.x.2 | Step 2a is not restricted to pre-defined configurations only. | Delete " if the UE has pre-defined PRS configurations".  [Rapp] We have agreed  *If the LMF indicates predefined configurations, the UE can request them via LPP RequestAssistanceData.*  Should not step 2a be restricted based on this agreements?  I left a open issue on this, and remove it for now. |
| 8.10.2 | Available On-Demand-DL-PRS-Configurations missing in Table 8.10.2.1-1.  First path RSRP missing in Table 8.10.2.2-1 | [Rapp] Added in v01 |
| 8.11.2 | Available On-Demand-DL-PRS-Configurations missing in Table 8.11.2.1-1.  Spatial direction information for UE-assisted missing in Table 8.11.2.1-1.  Expected Angle Assistance missing in Table 8.11.2.1-1.  PRS priority list missing in Table 8.11.2.1-1. | [Rapp] Added in v01 |
| 8.12.2 | Available On-Demand-DL-PRS-Configurations missing in Table 8.12.2.1-1. | [Rapp] Added in v01 |
| Nokia | 3.1 | The definitions for the different TEG are still unclear. The emphasis seems to be about the association with certain measurement but still does not explain the relation to the resources involved and what reference is for the “error difference”. It is also not intuitive what the “group” in TEG refers to.  Agree with Qualcomm that we need a definition for PRS processing window. | We propose getting further clarifications on the definition from RAN1 and so add this to the open issues list.  [Rapp] Added in open issue list in section 3.2 |
| 6.2.1 | Signalling of UE Tx TEG is described in RRC protocol section 6.2.2. Similarly, we should describe UE Rx and UE RxTx TEG function in LPP section 6.2.1. Likewise, the TRP Rx, TRP RxTx and TRP Tx functions needs to be described in appropriate protocol sections. | [Rapp] I did not add it for LPP because it is the nature way for LPP to configure/report positioning related information. We should not expose all details in stage 2. For RRC, only few functions are related to positioning, that’s why I added them. |
| 7.4.1.x | LMF activating pre-configured measurement gaps was not agreed in RAN2 even though the RAN1 LS R2-2200074 mentioned “RAN1 also agreed MG activation request to the gNB by the LMF in RAN1#106bis-e”. Also, it is strange to talk about LMF activation of pre-configured MG in the RRC procedure description showing only RRC call flow. | LMF sending activation request to gNB should be put on the open issues list to get further clarifications from RAN1  [Rapp] RAN1 has agreed this. DO not see why RAN2 need to repeat the discussion. And therefore I did not capture it as open issue. I added LMF in the figure in v01, but the NRPPa details should be decided by RAN3. I added EN for it, and also capture this as open issue although RAN3 need to resolve it. |
| 7.4.1 | RRC procedure names should be aligned with what is specified in the RRC running CR. Also, “RRC message for UE Tx TEG” is not a procedure. The UE Tx TEG signaling via RRC must be clarified that it is for UL-TDOA only. | [Rapp] Updated the EN as  Editor's Note: FFS on RRC name and procedure for UE TxTEG;.. |
| 8.10.2.x | For multi-RTT, gNB to LMF measurement results table should show UL SRS RSPP (path power) and LoS/NLoS indicators?  LMF to gNB information transfer table should show Expected AoA/ZoA and Expected AoA/ZoA Uncertainty? | [Rapp] Assume this could be added by RAN3, or add upon RAN3 has conclusion.  Added it as open issue to be resolved by RAN3. |
| 8.11.x | For DL-TDOA, LMF to UE information transfer table should show Expected Angle and uncertainty and PRS subset information. | [Rapp]Added based on Sven’s comments |
| 8.13.2.x | For UL-TDOA, gNB to LMF measurement results transfer table should show LoS/NLoS indictors  LMF to gNB information transfer table should show Expected AoA/ZoA and uncertainty | [Rapp] Assume this could be added by RAN3, or add upon RAN3 has conclusion.  Added it as open issue to be resolved by RAN3. |
| 8.14.2.x | For UL-AoA, gNB to LMF measurement results table should show LoS/NLoS Indicators  LMF to gNB information transfer table should show Expected AoA/ZoA and uncertainty | [Rapp] Assume this could be added by RAN3, or add upon RAN3 has conclusion.  Added it as open issue to be resolved by RAN3. |
| CATT | 3.1 | **UE Tx Timing Error Group (UE Tx TEG)**: A UE Tx TEGis associated with the transmissions of one or more UL SRS resources for the positioning purpose, which have the Tx timing error difference within a certain margin. | **UE Tx Timing Error Group (UE Tx TEG)**: A UE Tx TEGis associated with the transmissions of one or more UL SRS resources the positioning, which have the Tx timing error difference within a certain margin.  [Rapp] The updated sentence seems not correct sentence. No change for now. . |
| 7.4.1.x | The gNB may activate the pre-configurated measurement gap upon receiving the request from a UE or LMF. | The gNB may activate/deactivate the pre-configurated measurement gap upon receiving the request from a UE or LMF.  [Rapp] Updated in v01.. . |
| 7.4.1.x | 4. Based on the quest from the UE in step 3 or the request from the LMF, the gNB sends DL MAC CE Activation/Deactivation command contained an ID to activate the associated measurement gap; | Do we have any agreement that for UE initiated pos MG activation or deactivation, there should be an DL MAC CE as response?  Further, the step 3and step 4 are activation/deactivation procedure, which are MAC related, but not RRC procedure. We are wondering if it is proper to capture it as here.  [Rapp] Added “may” in v01.. . We need to show the procedure somewhere.  Further, on the procedure of RRC pre-configuration of the pos MG(s) and/or the PPW, we are also wondering whether need to be captured here. From our perspective, it is similar like R16 posSRS configuration which is enabled via the RRCReconfiguration message, but we did not capture the posSRS configuration procedure in TS38.305 in R16.  [Rapp] Good point. Added open issue on this. |
| 7.4.1.y | 3. Based on the quest from the LMF, the gNB sends DL MAC CE Activation/Deactivation command contained an ID to activate the associated PRS processing window; | Not sure how many PPW are configured. FFS the ID part.  [Rapp] Added as open issue |
| Figure 7.x.2-1: Procedures to support On-Demand PRS transmission |  | RAN2 agreed the on-demand PRS request via MO-LR, which is not captured currently.  [Rapp]Added based on Sven’s comments |
| 7.x.2 | 6. LMF provides the updated PRS configuration used for PRS transmission via LPP Provide Assistance Data message to the UE. | We didn’t find P6 “ for on-demand PRS, posSI cannot be the response for on-demand PRS request” in the existing agreement. Could you please double confirm?  [Rapp]It is not agreements, I have captured it as issue need to be confirmed in 634; And left an EN here.  Editor's Note: Step 6, FFS on whether posSIB can be the response or not.. |
| Ericsson | Figure 7.x.2-1: Procedures to support On-Demand PRS transmission | Issue 1. Below agreement is not captured.  Agreement  LPP signalling supports index-based and explicit request of DL-PRS parameters from the UE. The UE is not required to implement requesting explicit parameters and the LMF is not required to grant them if the UE does request. | Resolution Proposed for issue 1.  [Rapp] Seems suggestion is missing?  [Rapp] Updated in v01 as  The On-Demand PRS request can be the request for a defined PRS configuration with PRS configuration ID or explicit parameter for PRS configuration and may be a request for PRS transmission or change to the PRS transmission characteristics for positioning measurements.    Step 7: During an LPP session UE may request either explictly requesting specific PRS characterisctis with desired value or using a pre-defined index; in such case the steps from 3 to 6 may be repeated. |
| Ericsson | Definition section | Issue 2: Definition of pre-configure needs to be updated as per below agreement.  Proposal 3: Pre-configured DL-PRS assistance data can consist of multiple instances, where each instance is applicable to a different area within the network. | Resolution:  **Pre-configured assistance data**: Refers to the DL-PRS assistance data (with associated validity criteria) that can be provided to the UE (before or during an ongoing LPP positioning session), to be then utilized for potential positioning measurements at a future time (e.g. for deferred MT-LR). Pre-configured DL-PRS assistance data may consist of multiple instances, where each instance is applicable to a different area within the network.  [Rapp] Added in v01 |
| Huawei, HiSilicon | 3.1 | Definition for TEG | We just need to copy and paste the R1 agreements on the definition for all kinds of TEG into the definition, currently, there are some misalignments   * **UE Tx ‘timing error group’ (UE Tx TEG):** A UE Tx TEG is associated with the transmissions of one or more UL SRS resources for the positioning purpose, which have the Tx timing errors within a certain margin. * **TRP Tx ‘timing error group’ (TRP Tx TEG):** A TRP Tx TEG is associated with the transmissions of one or more DL PRS resources, which have the Tx timing errors within a certain margin. * **UE Rx ‘timing error group’ (UE Rx TEG):** A UE Rx TEG is associated with one or more DL measurements, which have the Rx timing errors within a certain margin. * **TRP Rx ‘timing error group’ (TRP Rx TEG):** A TRP Rx TEG is associated with one or more UL measurements, which have the Rx timing errors within a margin. * **UE RxTx ‘timing error group’ (UE RxTx TEG):** A UE RxTx TEG is associated with one or more UE Rx-Tx time difference measurements, and one or more UL SRS resources for the positioning purpose, which have the ‘Rx timing errors+Tx timing errors’ within a certain margin. * **TRP RxTx ‘timing error group’ (TRP RxTx TEG):** A TRP RxTx TEG is associated with one or more gNB Rx-Tx time difference measurements and one or more DL PRS resources, which have the ‘Rx timing errors+Tx timing errors’ within a certain margin.   [Rapp] Added as open issue. |
|  | 6.2.2 | RRC\_INCTIVE postioning | We need to mention that the RRC can provide positioning SRS configuration to UE for posSRS transmission in RRC\_INACTIVE. The previous text can be used for RRC\_CONNECTED  [Rapp]Added in v01 as  The RRC protocol for NR is also used to configure UEs with a sounding reference signal (SRS) for SRS transmission in RRC\_INACTIVE to support NG-RAN measurements for NR positioning. |
|  | 6.3.1 | NRPPa | We think the NRPPa change can include TRP information of the neighbouring cells, PRS configuration request, etc. I wonder whether we should capture it or we should let R3 to provide a TP.  If we want R3 to provide the TP, this has to be made clear to R3 such that we can avoid what has happened for R1 stage2 procedure text.  [Rapp]Capture this as R3 issue. |
|  | 6.4 | LPP PDU/LCS message transfer in RRC\_INACTIVE | We think at least this should be captured since it is different from the legacy spec by SDT transport.  For the stage2 INACTIVE procedure, we agree that this can be left for SA2 to decide.  [Rapp]It has been captured as open issue on how to catpure INACTIVE in Stage 2. |
|  | 7.3.2 | Preconfigured AD with validity area for scheduled location time | Description for preconfigured AD with validity area can be decoupled with that for scheduled location time. Current text reads like the preconfigured AD is only for scheduled location time  [Rapp]Updated based on Sven’s comments |
|  | 7.3.2 | Scheduled location time for NRPPa | SA2 text has agreed that scheduled location time does not need to be sent to NG-RAN  [Rapp]Did not get the comments, so far in stage 2, we only capture “If scheduled location time is provided in step 1, the LMF may schedule location measurements by the NG-RAN to occur at or near to the scheduled location time.”, we did not capture LMF to send location time to NG-RAN. |
|  | 7.3.3 | Preconfigured AD with validity area for scheduled location time | Same as above  [Rapp]Updated based on Sven’s comments |
|  | 7.3.3 | Scheduled location time for NRPPa | Same as above  [Rapp]Did not get the comments, so far in stage 2, we only capture “If scheduled location time is provided in step 1, the LMF may schedule location measurements by the NG-RAN to occur at or near to the scheduled location time.”, we did not capture LMF to send location time to NG-RAN. |
|  | 7.4.1.y | The pre-configured PRS processing window procedure is used by the network to provide PRS processing window for NR DL-PRS measurements. | This sentence might be too generic. To make it more specific, maybe we can say that “The pre-configured PRS processing window procedure is used by the network for PRS measurement in the UE without measurement gap”  [Rapp] Updated in v01 as  The pre-configured PRS processing window procedure is used by the network to provide PRS processing window for NR DL-PRS measurements in the UE without measurement gap. |
|  | 7.1.4.y | The gNB may activate the pre-configurated PRS processing window upon receiving the request from LMF. | We should keep it consistent between 7.1.4.x and 7.1.4.y for NRPPa message. If the sentence “The gNB may activate the pre-configurated PRS processing window upon receiving the request from LMF.” is captured in 7.1.4.y, it should also be captured in 7.1.4.x  [Rapp]  It is already there  4. Based on the quest from the UE in step 3a or the request from the LMF in step 3b, the gNB may send DL MAC CE Activation/Deactivation command contained an ID to activate the associated measurement gap; |
|  | 7.1.4.y | 3. Based on the quest from the LMF, the gNB sends DL MAC CE Activation/Deactivation command contained an ID to activate the associated PRS processing window; | Request  [Rapp] Updated in v01 |
|  | 7.2.4.y | figure | If LMF request is captured, LMF and NRPPa message should be shown in the figure  [Rapp] Updated in v01 |
|  | 7.2.4.y | 3. Based on the quest from the LMF, the gNB sends DL MAC CE Activation/Deactivation command contained an ID to activate the associated PRS processing window; | Containing  [Rapp] Updated in v01 |
|  | 7.x.2 | Step0 | During the TRP information exchange procedure  [Rapp] Updated in v01 |
|  | 7.x.2 | Editorial issues | For each step, it should end with semi-colon ; rather than period.  The name of the figure can be “Procedure for on-demand PRS request”  [Rapp] Updated the figure name in v01 |
|  | 7.x.2 | Step2a  The On-Demand PRS request may be a request for PRS transmission or change to the PRS transmission characteristics for positioning measurements. | I think we can make the sentence to be more specific as “The on-demand PRS request can be the request for a defined PRS configuration with PRS configuration ID or explicit parameter for PRS configuration”  [Rapp] Updated in v01 as  The On-Demand PRS request can be the request for a defined PRS configuration with PRS configuration ID or explicit parameter for PRS configuration and may be a request for PRS transmission or change to the PRS transmission characteristics for positioning measurements. |
|  | 7.x.2 | 2b. In case of LMF-initiated On-Demand PRS or UE-initiated On-Demand PRS, the LMF may obtain measurements from the UE using some existing positioning methods to assist step 3 e.g., the LMF may obtain SSB/CSI-RS RSRP measurements (NR-ECID) or DL-PRS RSRP measurements (DL-AoD). | This is only for LMF-initiated on-demand PRS request, so UE-initiated ON-demand PRS can be removed.  [Rapp] Updated based on Sven’s comments in v01 |
|  | 7.x.2 | 4. The LMF requests the serving and non-serving gNBs/TRPs for new PRS transmission or PRS transmission with changes to the PRS configuration via NRPPa PRS CONFIGURATION REQUEST message. | Can be replaced as “TRPs”  [Rapp] Let’s keep it as it is. |
|  | 7.x.2 | 6. LMF provides the updated PRS configuration used for PRS transmission via LPP Provide Assistance Data message to the UE. | I think the updated posSIB should also be provided by the LMF to the gNBs, since posSIB is ciphered by the LMF. gNB cannot change posSIB by itself when PRS transmission changes.  [Rapp] This is related to open issue on whether posSIB can be the response. I left an EN on it  Editor's Note: Step 6, FFS on whether posSIB can be the response or not.. |
|  | 8.13.2.4/5 |  | Description for information transfer gNB and UE is not needed. For example, previously we also have PosSRS configuration sent from gNB to the UE. But that is not captured here.  [Rapp] Left it as open issue. |
| Apple | 7.4.1 |  | I think we should be a little bit more specific with “RRC message for UE TxTEG” and to add for example “reporting”, e.g. as “RRC message for UE TxTEG reporting”  [Rapp] Has left open issue “Need to align with RRC spec;”. Do not need to dig into the details for now. |
|  | 7.x.2 |  | I’m not sure the language “possible” is appropriate. How about “the LMF and the UE may exchange LPP messages…”?  [Rapp] sounds good to me, updated in v02. |
|  | 8.10.3.1.2.1 |  | I think “then” is not needed, since there is also “…future time”  [Rapp] removed “then” in vo2. |
|  | 8.11.3.1.2 |  | Same comment as above  [Rapp] removed “then” in vo2. |
|  | 8.12.3.1.2 |  | Same comment as above  [Rapp] removed “then” in vo2. |
|  | 8.13.2.5 |  | I think FFS is needed  [Rapp] Do you mean “Huawei Description for information transfer gNB and UE is not needed. For example, previously we also have PosSRS configuration sent from gNB to the UE. But that is not captured here. ” I have added FFS on it. |

## 3.2 Stage 2 open issues

**Table stage 2 open issues**

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| **Section** | **Open issues**  **Note:** Open Issues should be defined for aspects that need to be closed, important to make already agreed functionality work in a reasonable way. Not yet agreed optimizations that may not be needed shall not be listed as Open Issues. | **Related to the completion of WI?**  **The topic has to be removed from Rel-17 scope if the corresponding open issues cannot be resolved.** | **Remark** |
| **3.1** | Nokia:  The definitions for the different TEG are still unclear. The emphasis seems to be about the association with certain measurement but still does not explain the relation to the resources involved and what reference is for the “error difference”. It is also not intuitive what the “group” in TEG refers to |  | Nokia:  We propose getting further clarifications on the definition from RAN1 and so add this to the open issues list.  **Huawei**  We just need to copy and paste the R1 agreements on the definition for all kinds of TEG into the definition, currently, there are some misalignments |
| 7.4.1.x | QC:  Measurement gap activation via LMF"  The gNB may activate the pre-configurated measurement gap upon receiving the request from a UE or LMF."  Question:  Is the LMF activation of measurement gaps only for pre-configured measurement gaps? It's not clear to me from the RAN1 LS.  [Rapp] Good question, I think the LMF may activate the measurement even if there is no preconfigured MG. But we need to discuss this. Added it as open issue. | Yes | Rapp, this can be a general issue for MG. |
| 7.4.1.z | QC  Periodic Tx TEG reporting/TEG change procedure  According to RAN1 LS in R2-2200092: "It is up to RAN2 to decide how to indicate the change of the Tx TEG association during the configured period (e.g., using the timestamps)".  The procedure mentions "periodic report of UE TxTEG association", but what is needed seems an a-periodic report (i.e., a report when the TEG association has changed). Or what is the purpose of periodically reporting the same information?  [Rapp] Good question, RAN1 only agreed periodic report. I added this as an open issue. | Yes | Rapp, Would be good to understand whether the UE only needs to report upon the change or periodic although RAN1 agreed periodic reporting. |
| 7.x.2 | QC:Step 2a is not restricted to pre-defined configurations only.  Delete " if the UE has pre-defined PRS configurations". |  | [Rapp] We have agreed  *If the LMF indicates predefined configurations, the UE can request them via LPP RequestAssistanceData.*  Should not step 2a be restricted based on this agreements? |
| 7.4.1.x | Nokia  LMF activating pre-configured measurement gaps was not agreed in RAN2 even though the RAN1 LS R2-2200074 mentioned “RAN1 also agreed MG activation request to the gNB by the LMF in RAN1#106bis-e”. Also, it is strange to talk about LMF activation of pre-configured MG in the RRC procedure description showing only RRC call flow.  LMF sending activation request to gNB should be put on the open issues list to get further clarifications from RAN1  [Rapp] RAN1 has agreed this. DO not see why RAN2 need to repeat the discussion. And therefore I did not capture it as open issue. I added LMF in the figure in v01, but the NRPPa details should be decided by RAN3. I added EN for it, and also capture this as open issue although RAN3 need to resolve it. |  | RAN3 should resolve the issue on NRPPa, and RAN2 should update stage 2 accordingly.  Editor's Note: FFS on details of MAC CE, NRPPa, RRC;. |
| 7.4.1.z | Editor's Note: FFS on RRC name and procedure for UE TxTEG;. |  | Need to align with RRC spec; |
| 8.10.2.x | Nokia  For multi-RTT, gNB to LMF measurement results table should show UL SRS RSPP (path power) and LoS/NLoS indicators?  LMF to gNB information transfer table should show Expected AoA/ZoA and Expected AoA/ZoA Uncertainty? |  | RAN3 to solve or wait for RAN3.  [Rapp] Assume this could be added by RAN3, or add upon RAN3 has conclusion. |
| 8.13.2.x | Nokia  For UL-TDOA, gNB to LMF measurement results transfer table should show LoS/NLoS indictors  LMF to gNB information transfer table should show Expected AoA/ZoA and uncertainty |  | RAN3 to solve or wait for RAN3.  [Rapp] Assume this could be added by RAN3, or add upon RAN3 has conclusion. |
| 8.14.2.x | Nokia  For UL-AoA, gNB to LMF measurement results table should show LoS/NLoS Indicators  LMF to gNB information transfer table should show Expected AoA/ZoA and uncertainty |  | RAN3 to solve or wait for RAN3.  [Rapp] Assume this could be added by RAN3, or add upon RAN3 has conclusion. |
| 7.4.1.x | CATT  Based on the quest from the UE in step 3 or the request from the LMF, the gNB sends DL MAC CE Activation/Deactivation command contained an ID to activate the associated measurement gap;  Do we have any agreement that for UE initiated pos MG activation or deactivation, there should be an DL MAC CE as response?  Further, the step 3and step 4 are activation/deactivation procedure, which are MAC related, but not RRC procedure. We are wondering if it is proper to capture it as here.  [Rapp] Added “may” in v01.. . We need to show the procedure somewhere.  Further, on the procedure of RRC pre-configuration of the pos MG(s) and/or the PPW, we are also wondering whether need to be captured here. From our perspective, it is similar like R16 posSRS configuration which is enabled via the RRCReconfiguration message, but we did not capture the posSRS configuration procedure in TS38.305 in R16. |  | FFS on whether we need to capture PPW, MG configuration procedure in stage 2 since we did not do that for posSRS. |
| 7.4.1.y | CATT  Based on the quest from the LMF, the gNB sends DL MAC CE Activation/Deactivation command contained an ID to activate the associated PRS processing window;  Not sure how many PPW are configured. FFS the ID part. | Yes | Need be discussed together with other stage 3 issues; instead of stage 2 discussion. |
| 6.3.1 | Huawei  NRPPaWe think the NRPPa change can include TRP information of the neighbouring cells, PRS configuration request, etc. I wonder whether we should capture it or we should let R3 to provide a TP.  If we want R3 to provide the TP, this has to be made clear to R3 such that we can avoid what has happened for R1 stage2 procedure text. |  | RAN3 to solve or wait for RAN3.  [Rapp] Assume this could be added by RAN3, or add upon RAN3 has conclusion. |
| 8.13.2.4/5 | Huawei Description for information transfer gNB and UE is not needed. For example, previously we also have PosSRS configuration sent from gNB to the UE. But that is not captured here. |  |  |
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# Summary report and proposals