**Discussion on RRC parameters for Rel-17 mTRP BM**

Please share your comments on the RRC parameters for Rel-17 mTRP BM in the following table. The initial list of parameters for discussion can be found in

<https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_106-e/Inbox/drafts/8.1.2.3/RRC>

**Table 1. Comments on initial version of RRC parameters for Rel-17 mTRP BM**

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| **Company** | **Comments** |
| Apple | * beamFailureDetectionResourceList1, beamFailureDetectionResourceList2: According to the discussion in last meeting, we have not decided whether to use RRC or MAC CE to configure BFD RS.
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| OPPO | 1. Share the same understanding as Apple, the method for explicit BFD RS is not decided yet. Therefore, we should not include the RRC parameters “beamFailureDetectionResourceList1” and “beamFailureDetectionResourceList2” now.
2. Regarding the RRC parameter for SR request of mTRP BFR: the description is kind of misleading. That SR configuration is used for mTRP BFR, but it might not dedicated for mTRP BFR only. Second comment is that we agreed that we can configure 2 PUCCH-SR for mTRP BFR. One understanding for that is two SR configurations would be configured for mTRP BFR since according to the RAN2 specification, one SR configuration can be associated with up to one PUCCH resource in one BWP. So suggest to update the RRC description as follows:

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| --- | --- | --- | --- |
| schedulingRequestIDForMTRPBFR | new R17 | ~~dedicated~~ schedule request configuration(s) for MTRP BFR. | One SchedulingRequestId or two SchedulingRequestIds |

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| ZTE | Firstly, we share the same views with Apple and OPPO that we should not include the RRC parameters “beamFailureDetectionResourceList1” and “beamFailureDetectionResourceList2”. Then, ‘resourcesForChannelMeasurement2’ is a little bit confusing, and seems to add another ‘resourcesForChannelMeasurement’ in CSI-ReportConfig as a new CSI resource setting. It so, it is not aligned with already agreement. In our views, we do not need to introduce any new RRC parameters for periodic and semi-persistent RSs for group based reporting due to the fact that from signaling perspective, we have already supported more than one RS set in a setting as follows.CSI-ResourceConfig ::= SEQUENCE { csi-ResourceConfigId CSI-ResourceConfigId, csi-RS-ResourceSetList CHOICE { nzp-CSI-RS-SSB SEQUENCE { nzp-CSI-RS-ResourceSetList SEQUENCE (SIZE (1..maxNrofNZP-CSI-RS-ResourceSetsPerConfig)) OF NZP-CSI-RS-ResourceSetId OPTIONAL, -- Need R csi-SSB-ResourceSetList SEQUENCE (SIZE (1..maxNrofCSI-SSB-ResourceSetsPerConfig)) OF CSI-SSB-ResourceSetId OPTIONAL -- Need R }, csi-IM-ResourceSetList SEQUENCE (SIZE (1..maxNrofCSI-IM-ResourceSetsPerConfig)) OF CSI-IM-ResourceSetId },  bwp-Id BWP-Id, resourceType ENUMERATED { aperiodic, semiPersistent, periodic }, ...}Considering that maxNrofNZP-CSI-RS-ResourceSetsPerConfig = 16 and maxNrofCSI-SSB-ResourceSetsPerConfig =1, we only need to raise the upper bound for CSI-RS resource set in 38.214 (FYI, ‘For periodic and semi-persistent CSI Resource Settings, the number of CSI-RS Resource Sets configured is limited to S=1.’ in TS 38.214 Section 5.2.1.2) and change ‘maxNrofCSI-SSB-ResourceSetsPerConfig’ to 2. Alternatively, we can add ‘nzp-CSI-RS-SSB2’ in CSI-ResourceConfig. |
| Mod | @All: based on comments from Apple, OPPO and ZTE, the list is updated in v01 for further discussion. In the updated list:* As suggested by Apple, OPPO and ZTE, “beamFailureDetectionResourceList1” and “beamFailureDetectionResourceList2” are removed from the list.
* Regarding the second comment from OPPO, the parameter is updated accordingly.
* “ResourcesForChannelMeasurement2” is also removed from the list according to ZTE’s comment.
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| Qualcomm | For the two TRP specific candidate beam thresholds below, suggest to have a common threshold for both TRPs. We didn’t see the use case for different quality thresholds. Also, suggest to remove “SSB” from the threshold name, i.e. define a single rsrp-ThresholdBFR-r17 for both TRPs. Because rsrp-ThresholdSSB in R15 is for PCell CFRA based BFR, while candidate beam for mTRP BFR is reported in MAC-CE similar to SCell BFR in R16, which uses rsrp-ThresholdBFR-r16.rsrp-ThresholdSSBBFR1rsrp-ThresholdSSBBFR2 |
| ZTE2 | Thanks for Moderator’s efforts and considering our comments. If removing “ResourcesForChannelMeasurement2” and just being based on the existing CSI framework, in our views, we should suggest RAN2 change ‘maxNrofCSI-SSB-ResourceSetsPerConfig’ to 2 from 1 as we mentioned before. Consideration on backward compatibility, if any, can be up to RAN2.

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| maxNrofCSI-SSB-ResourceSetsPerConfig | existing |   | Maximum number of CSI-SSB-Resouce set per CSI-ResourceConfig | {2} |  | per CSI-ResourceConfig | UE-specific  |

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| Apple2 | For schedulingRequestIDForMTRPBFR, we suggest we remove or add a bracket for “or two SchedulingRequestsIds” in its range of “One SchedulingRequestId or two SchedulingRequestIds”. We have agreed TRP-specific BFR is based on SCell BFR framework, where only 1 SR is configured. So the “two SchedulingRequestsIds” needs new agreement. |
| vivo | For TRP specific candidateBeamResourceList, whether it should be mandatorily configured for MTRP BFR is still under discussion and no agreement has been achieved. Therefore, we modify the comment for the RRC parameters, e.g., candidateBeamResourceList1 and candidateBeamResourceList2 as follows:

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| --- | --- |
| Parameter name in the spec |  Comment |
| candidateBeamResourceList1 | FFS: This parameter should be mandatorily configured with at least 1 resource when M-TRP BFR is configured for the same DL BWP. NOTE: FFS if this parameter is needed in Rel.17 M-TRP BFR. That is, whether Rel.17 M-TRP BFR should reuse candidateBeamResourceList (Rel.16 parameter), or introduce a new parameter candidateBeamResourceList1.  |
| candidateBeamResourceList1 | FFS: This parameter should be mandatorily configured with at least 1 resource when M-TRP BFR is configured for the same DL BWP |

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| Mod2 | Thanks all for your comments. The list is updated in v02 with the following revision:@QC: “new beam identification threshold for TRP 2” is removed. Whether different or same candidate beam threshold is applied to both TRPs can be discussed further.@ZTE: We are not sure whether the extension to the value of current parameter, i.e. changing of ‘maxNrofCSI-SSB-ResourceSetsPerConfig’ to 2, can be reflected in this list. Anyway, such suggestion to RAN2 is needed. One possible way is to include that in the LS to RAN2 as one of the agreements of RAN1. And this can be done later. @Apple: The value range of “schedulingRequestIDForMTRPBFR” is revised according to your suggestion.@vivo: The comments for “candidateBeamResourceList1” and “candidateBeamResourceList2” are revised in v02. |