Companies are to share their inputs on the excel spreadsheet in [/tsg\_ran/WG1\_RL1/TSGR1\_106-e/Inbox/drafts/8.1.2.1/PUCCH&PUSCH/RRC/](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_106-e/Inbox/drafts/8.1.2.1/PUCCH%20%26%20PUSCH/RRC) herein.

## Inputs on initial version

Please share your inputs, if any, in the following table

Table 1 Inputs: Initial version

|  |  |
| --- | --- |
| **Company** | **Input** |
| Apple | * **MappingPattern: It seems we have not agreed this is configured by RRC**

Mod: Please see the agreement copied by SS. There is aan agreement on that. * **FFS: PUCCH-SpatialRelationInfo (without referenceSignal) or PUCCH-PowerControlSetInfo (new IE): I am not sure whether we have agreed that “from RAN1 point of view, one possible example is to reuse PUCCH-SpatialRelationInfo except for the referenceSignal”. In our view, it can be as follows:**
	+ **PUCCH-PowerControlSetInfo; whether to reuse legacy structure or create new structure is up to RAN2; candidate value: similar to PUCCH-spatialRelationInfo without referenceSignal**

Mod: the use of PUCCH-SpatialrelationInfo was mentioned as an example in the agreement. There is no direct agreement to conclude the RRC parameter here. That’s why FFS is mentioned. * **SecondTPCFieldDCI-x-y: In our view, one RRC parameter per UL channel seems to be enough.**

Mod: It is the same parameter but copied only for valid DCI formats. This is similar to many other cases that DCI formats are referred in the RRC IE.  |
| Samsung | For ‘MappingPattern’, we think new RRC is needed because there are the agreements as follows:**Agreement** **Confirm the following Working Assumption** (with small correction of typo and clarification on UE capability in RED):* For beam mapping /power control parameter set mapping for PUCCH repetitions,
	+ For M-TRP PUCCH Scheme 1 in FR1, it is possible to configure either cyclic mapping or sequential mapping of power control parameter sets over PUCCH repetitions (similar to spatial relation info’s over PUCCH repetitions).
	+ For M-TRP PUCCH Scheme 3, reuse the same methods as Scheme 1 (by replacing slots with sub-slots) for beam mapping or power control ~~resource~~ parameter set mapping ~~to sub-slots~~.
	+ The support of cyclic mapping can be optional UE feature for the cases when the number of repetitions is larger than 2.

**Agreement****Confirm the following working assumption** (with removing the last bullet):For single DCI based M-TRP PUSCH repetition Type A and B, it is possible to configure either cyclic mapping or sequential mapping of UL beams.* The support of cyclic mapping can be optional UE feature for the cases when the number of repetitions is larger than 2.
* FFS: Support of half-half mapping.
* FFS: Additional considerations on mapping patterns (including required beam switching gaps)

In this agreement, either cyclic mapping or sequential mapping of UL beams should be configured and new RRC is required for this. Therefore, ‘MappingPattern’ for PUCCH/PUSCH is required as FL’s suggestion. |
| Ericsson | One general comment regarding description of the RRC parameters. In several rows, the current version uses the term ‘per-TRP’. Since we do not define the term TRP in RAN1 specs for MIMO features (which is also true for NR Rel-16 multi-TRP features), we suggest not to use the term ‘per TRP’ in the description. Otherwise, RAN2 may use ‘per-TRP’ in the field descriptions of 38.331. Perhaps, what we can do is the following:-> for RRC parameters related to PUSCH transmission, we can use the term ‘per SRS resource set’.-> for RRC parameters related to PUCCH transmissions, we can use either ‘per spatial relation’ or ‘per power control parameter set.We are also open to using other terminology instead of ‘per-TRP’Mod: yes, you have a valid point. Per-TRP was mentioned to make the wording simple. Using a general text without doing heavy changes should be ok. Please check the update.  |
| Futurewei | Agree with Ericsson’s comment. The term mTRP may also be avoided in the Description fields. Question: are the parameters only for intra-cell mTRP? If yes, maybe we can leaverage CORESET pool indexes.Mod: the parameters are for mTRP PUCCH and PUSCH repeittions. Intra-cell restrictions or CORESETPoolIndex restrictions have not discussed. If the framework of mTRP PUCCH and PUSCH does not conflict with other parameters like CORESETPoolIndex, there is no issue with configuraing them together. Also for the 2nd TRP’s configuration parameters, the design in the spreadsheet seems to imply that each parameter is added side-by-side with existing parameters in the existing IEs. Though RAN2 is likely to adopt this, RAN2 may alternatively create new IEs (e.g., PUSCH-Powercontrol2) with the 2nd TRP’s parameters in them. We think it is better to leave the options for them.Mod: RAN2 will anyways do their job on keeping our suggestion or changing it, and we only need to provide guidance based on RAN1 discussions. Most of the parameters are only reflecting the agremeents in RAN1, where extensions are most having same information as existing parameters, in that sense, nothing wrong with mentioning ‘2”.  |
| ZTE | We share the similar view with E/// and FW on the term of ‘per-TRP’. To reach the more exact wording, we suggest to use the following on top of E///’s version:-> for RRC parameters related to PUSCH transmission, we can use the term ‘per SRS resource set’.-> for RRC parameters related to PUCCH transmissions, we can use either ‘per spatial relation (in FR2)’ or ‘per power control parameter set (in FR1)’.Mod: okOn ‘MappingPattern’, it is better to respectively design this IE for PUCCH, DG PUSCH and CG PUSCH in MTRP operation.Mod: it is mentioned in the excel already. For PUCCH: in PUCCH-ConfigFor DG PUSCH: in PUSCH-ConfigFor CG PUSCH: in ConfiguredGrantConfigOn ‘FFS: sri-PUSCH-MappingToAddModList2 or sri-resource-setId’, *PUSCH-PowerControl* can be the RAN2 Parant IE for this parameter.Mod: the FFS is inline with Ran1 agremeent as we mention the examples, we discussed in RAN1. FFS can be decided in RAN2.  |
| Mod #1 | Please refer to the Moderator comments under company inputs. Based on E/// and ZTE, text clarifications are added on ‘per-TRP’. The RRC parameter list with the update is in v2, |

## Inputs on version 2

Please share your inputs, if any, in the following table

Table 1 Inputs: Second version

|  |  |
| --- | --- |
| **Company** | **Input** |
| Apple | * MappingPattern: Thanks Samsung for sharing the agreements, but still we did not find anything to say that this is configured by RRC. In our view, this should be configured by DCI to avoid some cases without UL transmission for a beam, otherwise its benefit is questionable. At least at current stage, a bracket should be added for MappingPattern.
* SecondTPCFieldDCI-x-y: Thanks FL for clarification, but there is no agreement that this is configured per DCI format. At least at current stage, we should use a general parameter per channel with description that RAN1 would further discuss whether separate parameters are needed for different DCI formats.
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|  |  |
|  |  |