**3GPP TSG RAN WG1 #106-e R1-210xxxx**

**e-Meeting, August 16th – 27th, 2021**

**Agenda item:** 7.2.6

**Source:** Moderator (vivo)

**Title:** Summary of [106-e-NR-eMIMO-04]

**Document for:** Discussion and Decision

# Introduction

This contribution summaries discussion of email thread [106-e-NR-eMIMO-04] MB.3 (conflict between default and updated spatial relation for multi-CC) triggered by the draft CR in [1].

There are views expressed during the preparation phase that default spatial relation is defined/configured per CC, and including a CC with a default spatial relation in a CC list is an error case.

Two cases exist for simultaneous configuration of CC\_list and default beam operation.

* Case1: Simultaneous configuration of *enableDefaultBeamPL-ForSRS* and *simultaneousTCI-UpdateList1/ simultaneousTCI-UpdateList2;*
* Case2: Simultaneous configuration of *enableDefaultBeamPL-ForSRS* and *simultaneousSpatial-UpdatedList1*/*simultaneousSpatial-UpdatedList*

We may need to first clarify understanding on current specification before further discussion.

# Views on Case1

Please share your views for case1 in the following table.

|  |
| --- |
| Questions for view sharing:1. Do you think it is allowed by current specification to “simultaneously configure *enableDefaultBeamPL-ForSRS* and *simultaneousTCI-UpdateList1/simultaneousTCI-UpdateList2*” for a UE?
2. If answer to above is no, please clarify why this is not allowed?
 |
| Apple | 1. Yes. The two RRC parameters can be simultaneously configured. But default beam is a per-CC feature and simultaneous spatial relation info update is a cross-CC feature.
 |
| DOCOMO | 1. Yes. In that case, SRS spatial relation in each CC is derived from PDCCH TCI state in each CC, and PDCCH TCI state in each CC is derived from *simultaneousTCI-UpdateList1/simultaneousTCI-UpdateList2.*
 |
| Samsung | 1. Yes. We have same view with Apple for two RRC parameters.
 |
| Ericsson | Yes, the two RRC parameters can be simultaneously configured. The case with undefined UE behavior is if *enableDefaultBeamPL-ForSRS* is configured, and an explicit update of the *spatialRelationInfo* is performed.  |
| Lenovo/MotM | Yes. If both parameters are configured, the spatial relation for SRS is determined by the PDCCH TCI state in each CC, and the PDCCH TCI state in each CC is determined by *simultaneousTCI-UpdateList1/simultaneousTCI-UpdateList2.* |
| OPPO | Yes, they can be configured at the same time. But the parameter *enableDefaultBeamPL-ForSRS* configure the UE behavior on one individual CC. and *simultaneousTCI-UpdateList1* configures across-CC behavior |
| Qualcomm | Yes. Same view as Apple.  |
| LG | Yes.  |
| ZTE | Yes |
| Huawei, HiSilicon | Yes |
| CATT | Yes |

# Views on Case2

Please share your views for case2 in the following table.

|  |
| --- |
| Questions for view sharing:1. Do you think it is necessary to refine current specification to “simultaneously configure *enableDefaultBeamPL-ForSRS* and *simultaneousSpatial-UpdatedList1*/*simultaneousSpatial-UpdatedList*” for a UE?
2. If answer to above is no, please clarify your rationale.
 |
| Apple | 1. No.
2. In our view, specification change should provide justification.
 |
| DOCOMO | 1. No, it is not necessary.
2. We don’t see any benefit to support this, compared to the feature we already have (i.e. *enableDefaultBeamPL-ForSRS* + *simultaneousTCI-UpdateList1/ simultaneousTCI-UpdateList2* in section 2)*.*
 |
| Samsung | 1. No.
2. For changing the SRS default beam, it is enough to use case1 which is already defined in the current spec.
 |
| Ericsson | 1. No
2. The specification is correct.
 |
| Lenovo/MotM | 1. No.
2. *simultaneousTCI-UpdateList1/ simultaneousTCI-UpdateList2* are configured for simultaneous MAC CE based SRS spatial relation update across CCs, the CC configured with *enableDefaultBeamPL-ForSRS* shall not be contained in either CC list.
 |
| OPPO | 1. No
2. The current specification is clear sufficiently.
 |
| Qualcomm | No, spec is clear. |
| LG | 1. Not needed
2. Same view as DOCOMO/Samsung.
 |
| ZTE | We are open to have further discussion. Based on our initial views, the current spec seems to be fine as mentioned by DOCOMO. |
| Huawei, HiSilicon | No, similar view as DCM |
| CATT | No.  |

# Conclusion

TBD

# References

**[1]** [R1-2107988](file:///C%3A%5CUsers%5CPeng%20SUN%5CAppData%5CLocal%5CDocs%5CR1-2107988.zip) Draft CR on spatial relation update across CCs for SRS vivo