**3GPP TSG RAN WG1 #101 R1-2004713**

**e-Meeting, May 25th – June 5th, 2020**

**Agenda item:** 7.2.6.1

**Source:** Moderator (Samsung)

**Title:** Feature lead summary for MU-MIMO CSI thread #2

**Document for:** Discussion and Decision

1. Introduction

Based on the discussion during the preparation phase summarized in [1] and the Phase-2 instruction from the MIMO chairman, the following issue is to be discussed in thread #2 for MU CSI:

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| *Discuss the following issue:*1. *Examine when the UE reports useless information (bitmap and reference amplitude are reported even if LCC is absent) for 3 out of 8 supported parameter combinations and whether this optimization is significantly beneficial and should be addressed by specification*
2. *If so, modify the definition of to ensure that a UE can report one NZC per polarization for rank . Two alternatives to be discussed are:*
	1. *Alt 1:*
	2. *Alt 2:*
3. *Possible conclusion*
	1. *There is no consensus in supporting the proposals in N.1, N.2, N.3, N.4-1a/2a/2b, N.5, N.6, and N.7 as summarized in Table 2 [of [1]]*
 |

Issue 3 (“possible conclusion”) has been discussed at length in Phase-1 and the content has been agreeable to the group. Therefore, the group is to focus on issues 1 and 2 which are pertinent to N.4-1b.

It is quite apparent that issue 1 and 2 are inter-dependent. Whether issue 2 needs to be discussed depends on whether the problem raised in issue 1 requires spec-based solution(s). Conversely, the need for spec-based solution(s) in issue 1 should be based on the assessment of the two alternatives given in issue 2 (Alt1 and Alt2 for the value of *x*) since only such alternatives are to be considered if a spec-based solution is to be adopted. Therefore, issue 1 and 2 cannot be decoupled and should be decided jointly.

In addition, given that proposal N.4-1b is non-essential and an optimization, more stringent assessment based on a properly identified core issue should be made. In this case, the core issue is precisely *the absence of LCC with the presence of bitmap and reference amplitude in an instant of eType-II CSI reporting*. To assess the seriousness of this core issue, each interested company is encouraged to:

1. state the scenarios in which the core issue occurs,
2. assess the importance of each of those scenarios,
3. assess the benefit of the two alternatives, and
4. state whether a spec-based solution is justified and, if so, which one
5. Summary

Interested companies are to provide their abridged views in the following table.

Table 1 Abridged views

|  |  |
| --- | --- |
| **Company** | **Position** |
| **Spec-based solution not needed** | **Spec-based solution needed: Alt 1** | **Spec-based solution needed: Alt 2** |
|  |  |  |  |
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|  |  |  |  |

In the table below, interested companies are to provide more detailed views based on the four points in section 1.

Table 2 More detailed views

|  |  |
| --- | --- |
| **Company** | **Comment** |
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1. Conclusion

Based on the above inputs and discussion, the following **FL proposals** are made:

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| 1. The following is to be captured as a conclusion:
	1. *There is no consensus in supporting the proposals in N.1, N.2, N.3, N.4-1a/2a/2b, N.5, N.6, and N.7 as summarized in Table 2 of [1] (R1-2003880)*
2. …
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# References

1. R1-2003880 Feature lead summary for MU-MIMO CSI Moderator (Samsung)