**3GPP TSG-RAN WG4 Meeting # 110bis R4-2306590**

**Changsha, China, 15th – 19th April, 2024**

**Title:** WF on 4Tx SRS issues

**Agenda Item:** 6.1.4

**Source:** vivo

**Document for:** Approval

# Background

An issue has been raised for ΔPPowerClass for 4Tx for SRS antenna switching in [1]. A set of tentative solutions were raised in [2] with an accompanying draft CR in [3]. However, no agreements have been reached so far and it is decided that May meeting will be last meeting to treat this issue in Rel-18 as documented in Chair’s notes:

*Chair: The deadline to address this issue is May meeting 2024 (RAN4#111).*

# Way Forward

**Proposal:** Companies are encouraged to consider the following options for ΔPPowerClass for SRS antenna switching for 4Tx.

**Option 1:** Combine the ΔPPowerClass and ΔTRxSRS to achieve the needed backoff with some flexibility for 4Tx.

* Details and related issues according to [1] and [2]
* Pros: Leaving the flexibility for UE implementation, while do not restrict the UL power;
* Cons: Complicated; Network not aware of power class used for sounding SRS; It allows unnecessary relaxation for certain architectures.

**Option 2:** Using fixed ΔPPowerClass for 4Tx based on the minimum capability architecture, i.e. 4\*23 dBm.

* Define 3dB for t2ry, 6dB for t1ry, for all cases without considering other architectures.
* Pros: Simple and power achievable irrespective of architectures. Network aware of power class used for sounding SRS.
* Cons: Unnecessarily restrict output power for architectures with at least a 26dBm RF chain.

**Option 3:** Keep it as it is and do not define new requirements for 4Tx. (Default)

* Current wording already provide a 3dB value for PC1.5 which would imply a 26dBm RF chain should be used for 4Tx SRS antenna switching, and might be problematic for 4\*23dBm architecture.
* No dedicated conformance testing for this part.

**Option 4:** Other solutions or variants of previous solutions not precluded.

# References

1. R4-2400341, Delta PpowerClsss for 4Tx for SRS antenna switching, Nokia, RAN4#110
2. R4-2404658, 4Tx power degradation for SRS antenna switching, vivo, RAN4#110bis
3. R4-2404659, Draft CR for 4Tx power degradation for SRS antenna switching, vivo, RAN4#110bis