**3GPP TSG-RAN WG2 Meeting #130 DRAFT R2-2504740**

Malta, 19th – 23rd May 2025

**Agenda item: 8.20.1**

**Source: Apple**

**Title: Summary of [AT130][206][NR\_Others] CSSF enhancements**

**WID: NR\_RRM\_Ph5-Core**

**Document for: Discussion and Decision**

# Introduction

This document aims to provide the way forwards for the following offline discussion:

* [AT130][206][NR\_Others] CSSF enhancements (Apple)

Intended outcome: agreeable proposals on RRC signalling in R2-2504740 (if needed)

Deadline: Before Friday CB

# Discussion

RAN2 had an initial discussion on enabling/disabling of LP-WUS based on the proposals from contribution R2-2503809 and R2-2503900. Below is the related excerpt from the chairman notes:

## RAN4 LS

RAN4 LS in [1] on CSSF optimization requests RAN2 to consider the signalling design to support it:

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AI-generated content may be incorrect.

RAN2 signalling design include two parts:

1) Introduce the UE specific configuration to enable/disable this CSSF enhancement.

|  |
| --- |
| **RAN2#130 agreements:**   * **Introduce the UE specific RRC configuration (per UE) to enable/disable the CSSF optimization feature.** |

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2) Consider how to indicate the SCC to be measured per band for serving and neighbour measurement.

=> Discussion in [AT130][206] offline.

## How to indicate the SCC to be measured?

**Two alternatives:**

* Alternative 1: Introduce new RRC configuation to indicate which SCC to be measured.
  + RRC signaling:  New SCC indication needs to be introduced in measurement configuration.
  + UE operation:     UE just perform the measurement on the indicated SCC.

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* Alternative 2: The SCC to be measured is indicated by the SCC configured with the SS-RSRP based measurement report configuration.
  + RRC siganling: No new RRC signaling needs to be introduced.
  + UE operation:
    - UE just performs the measurement on the SCC configured with the SS-RSRP based measurement report configuration.
    - If mulitple SCCs of one band are configured with such measurement reporting, the selected SCC is up to UE implementation.

(NOTE: In existing design, the report config is used to indicated which SCC to perform neigbhor measurement. When the CSSF enhancement is enabled, the report config is used to indicate the SCC for neigbhor and serving measurement.)

**The potential WF:**

* + Agree Alternative 2 to design the RRC configuration for CSSF enhancement.

**Company view on the WF**

* + HW, ZTE, OPPO, CATT, Apple, QC, vivo are OK with it.
  + Nokia and Ericsson need to check RAN4’s view.

## Way forwards

**WF:**

* + Agree Alternative 2 to design the RRC configuration for CSSF enhancement.
  + Postmeeting email discussion for RRC CR preparation.

**Alternative WF:**

* + Send LS to RAN4 with both alternatives, and let RAN4 to decide which one is adopted.
  + RAN2 prepare RRC CRs for both alternatives in next RAN2 meeting.
  + RAN2 approve the RRC CR based on RAN4 decision in next RAN2 meeting.

# Conclusions

Based on the inputs from companies, the following proposals are made:

**WF:**

* + Agree Alternative 2 to design the RRC configuration for CSSF enhancement.
  + Postmeeting email discussion for RRC CR preparation.

**Alternative WF:**

* + Send LS to RAN4 with both alternatives, and let RAN4 to decide which one is adopted.
  + RAN2 prepares RRC CRs for both alternatives in next RAN2 meeting.
  + RAN2 approve the RRC CR based on RAN4 decision.

# References

1. R2-2501739, LS on CSSF optimization for NR RRM Phase 5, RAN4 LS
2. R2-2503579 Consideration on CSSF optimization CATT discussion
3. R2-2503814 RAN2 impact on CSSF optimization Apple, Ericsson discussion
4. R2-2503942 Discussion on CSSF optimization and Rx BSF optimization for NR RRM ph5 Huawei, HiSilicon

# Annex

RAN