**3GPP TSG RAN2 #121 R2-23xxxxx**

**Athens, Greece, 27th Feb – 3rd Mar, 2023**

**Agenda Item:**  **XX.YY**

**Source: Huawei (email rapporteur)**

**Title:** **Report of [Post120][313][UAV] Interference Control for UAVs (Huawei)**

**Document for: Discussion and Decision**

# 1 Introduction

This is the report of the email discussion[Post120][313]:

* [Post120][313][UAV] Interference Control for UAVs (Huawei)

Scope: Discuss the following aspects:

- Number of triggering cells: Scenarios (e.g. inter-RAT), possible modification compared to LTE baseline (need, motivation, option, benefit/drawback). Applicability to FR1/FR2 and need for ignoring mechanism (e.g. one cell is particularly strong). Discuss need for alternative mechanisms (number of changed cell, prohibit timer etc.

- CellsTriggeredList: possible modification compared to the LTE baseline (Motivation, options, claimed benefits and possible drawbacks). E.g. numberOfTriggeringCellsForLeaving.

Output: set of agreeable proposals

Deadline: Long - Kick off: Jan 9th, Deadline for company inputs Jan, 20th. Inactive Period January 23 to 27. Comments on rapporteur summary Jan. 30th to February 3rd

All the relevant documents from previous RAN2 meetings have been taken into account, nevertheless for the sake of progress we should focus a bit, and not all the proposals submitted in the past are in the scope of this email discussion. So please do not “expand” the scope of this email discussion. Please remember to justify your answer with clear motivations, expected gains/drawback, etc. Where applicable, rather than copying a lot of explanatory text, you can reference your (or somebody else) paper if needed.

Companies are invited to put their comment in the file and change the file name in the folder according to the convention below:

File\_v00\_Rapp

File\_v01\_company1

File\_v02\_company2

…

File location:

hyperlink

PS: As a reminder, I copy here the latest agreement relevant to this email discussion. The purpose of *numberOfTriggeringCells* mechanism is to limit the interference caused by too many (measurement) reports.

Agreement in RAN2#119bis:

1. As in LTE, as a baseline, events A3, A4 and A5 can be configured with the configured number of cells (numberofTriggeringCells)

Companies providing input to this email discussion are invited to leave contact information below.

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| **Company** | **Name** | **Email Address** |
| Rapporteur | Simone Provvedi | Simone.provvedi@huawei.com |
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# 2 Discussion

## 2.1 Applicability to the inter-RAT scenario

RAN2 should decide if the Number of triggering cells mechanism should be extended to apply to the inter-RAT scenario, i.e. event B1 and B2 triggering. How likely is that the UE will move at the border between LTE and NR? And what should we do in that case? If the Number of triggering cells mechanism is used, would this affect negatively the mobility, in particular the inter-RAT HO?

**Q1: Do you think that the Number of triggering cells mechanism should be extended to apply to the inter-RAT scenario, i.e. event B1 and B2 triggering?**

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## 2.2 Applicability to FR1/FR2

RAN2 should decide if the applicability of Number of triggering cells mechanism should be restricted to FR1 only.

**Q2: Do you think that the applicability of Number of triggering cells mechanism should be restricted to FR1 only? Why yes/why not?**

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## 2.3 Need for ignoring or bypassing the Number of triggering cells mechanism

RAN2 should decide if there is a need for ignoring or bypassing the Number of triggering cells mechanism, once configured (e.g. for the case of strong DL interference from some neighbour cells, or the UE altitude is too high/not too high, or…).

**Q3: Do you think that the there is a need for the UE to ignore or bypass the Number of triggering cells mechanism, once configured, in some cases? If yes, in which cases and why?**

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## 2.4 Need for introducing an alternative mechanism to the Number of triggering cells one.

RAN2 should discuss if there is a need for an alternative mechanism to the Number of triggering cells one (need, motivation, options, benefit/drawback). In particular it has been mentioned as alternative a mechanism based on

“Number of changed cells”.

**Q4: Do you see the need for an alternative mechanism to the Number of triggering cells one? In particular what is your opinion on a mechanism based on “Number of changed cells”?**

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## 2.5Need for introducing a prohibit timer.

RAN2 should discuss if there is a need for a prohibit timer mechanism. What would be the motivation, the expected gains and drawbacks. Should this be introduced in coexistence or as an alternative to the baseline CellsTriggered mechanism?

**Q5: Do you see the need for introducing a prohibit timer mechanism?**

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## 2.6 reportOnLeave.

RAN2 should discuss the reportOnLeave mechanism.

Is the LTE baseline suitable/sufficient? If not, which of the following enhancements will make sense to introduce and why? Indicate possible gains and drawbacks in your view. In particular your opinion is welcome on the following:

1. Introduce a numberOfTriggeringCellsForLeaving
2. The UE should not report a cell leaving if that cell was not reported joining previously.
3. Measurement report when the number of cells in *cellsTriggeredList* becomes smaller than a threshold

**Q6: Do you see the need to enhance the reportOnLeave mechanism? Please comment on the possible enhancements listed above.**

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## 2.7 Use of “beams” vs “cells” for interference control.

RAN2 should discuss the possible use of “beams” vs “cells” for interference control. Will this increase the number of reports, and therefore the interference, or rather the opposite? How would that work? What are the possible gains and drawbacks?

**Q7: Do you see the need to use of “beams” instead of “cells” for interference control?**

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# 3 Conclusions and Proposals

[To be added later by the rapporteur]

# 4 References

[you can add if needed]