3GPP TSG-RAN WG2 #118e R2-2206401

2022 eMeeting, 09th May – 20th May, 2022

Agenda Item: 6.22.3.1

Source: Intel

**Title: Report of [AT118-e][069][MGE] Pre-configured MG (Intel)**

Document for: Discussion and decision

# 1 Introduction

This is report for the following AT118-e mail discussion.

* [AT118-e][060][MGE] Pre-configured MG (Intel)

Scope: Progress remaining issues and attempt to converge. Treat R2-2205292, R2-2205241, R2-2205378. For Pre-configured Gap and PRS, await Pos session progress (check W2).

Intended outcome: Report with agreements, TP if needed.

Deadline: CB W2 TUE

Deadline – Please provide comments before W2 Monday May 16th 1000 UTC

# 2 Contact Points

Respondents to the email discussion are kindly asked to fill in the following table.

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| --- | --- | --- |
| Company | Name | Email Address |
| Intel (Rapp) | Candy Yiu | Candy.yiu@intel.com |
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# 3 Discussion

## 3.1 How to distinguish network controlled pre-configured gap with empty deactivated MG list vs UE autonomous activation

In the current 38.331, the *deactivatedMeasGapList-r17* in the *BWP-DownlinkDedicated* is used to indicate the gaps to be deactivated upon switching to the BWP:

deactivatedMeasGapList-r17 SEQUENCE (SIZE (1..maxNrofGapId-r17)) OF MeasGapId-r17 OPTIONAL, -- Cond PreConfigMG

|  |
| --- |
| ***deactivatedMeasGapList***  Indicates a list of gap IDs where the corresponding pre-configured measurement gaps (i.e. the gaps configured with *preConfigInd*) are deactivated upon the switch to this BWP. |

Multiple papers [1-3] point out how to distinguish network controlled pre-configured gap with empty deactivated MG list (all gaps are active) vs the network is not signaling gap status per BWP (i.e. UE autonomous activation/deactivation is used). There are two possible solution:

* Option 1: allow size zero for deactivated MG list. When network controlled pre-configured gap is used, network will signal size zero deactivated MG list to UE when all gaps are active for all BWP [1,3]
* Option 2: network signal both activated and deactivated status [1,2,3]

**Question 1: Which option does company prefer to distinguish network controlled pre-configured gap with empty deactivated MG list vs UE autonomous activation?**

* **Option 1: allow size zero for deactivated MG list. When network controlled pre-configured gap is used, network will signal size zero deactivated MG list to UE when all gaps are active for all BWP [1,3]**
* **Option 2: network signal both activated and deactivated status [1,2,3]**

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| --- | --- | --- |
| **Company** | **Option** | **Comments** |
| MediaTek | Option 2 | Option 2 is cleaner and more straightforward.  We proposed to add a bitmap to indicate the activated/deactivated status of all pre-configured MG(s) as in R2-2205241. |
| Xiaomi | Option 2 | Option 2 is a straightforward method. A bit string can be used to indicate the activated or deactivated status. |
| Huawei, HiSilicon | Option 2 | We proposed in our paper to change deactivatedMeasGapList-r17 to a bit string indicating the activated or deactivated status of all pre-configured gaps in each BWP configuration and Scell configuration.  With this, the open issue of whether the deactivated list can be set to size (0) does not exist. |
| Nokia | Option 2 |  |
| Qualcomm | Option 2 |  |
| Apple | Option 2 | Option 2 is cleaner. |
| LGE | Option 2 | We also prefer to use a bit string to indicate explicitly the activated/de-activated status for each gap. |
| Ericsson | Option 2 | We support MediaTek and Huawei’s intentions (bitmap). |
| CATT |  | No strong view. But we wonder if the size of the bitmap is 16 if the maximum number of gap ID is 16. |
| ZTE | Option 2 |  |
| Samsung | Option 2 |  |
| Intel | Option 2 |  |
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Summary: All 12 companies prefer option 2. Therefore, we propose RAN2 to agree network signal both activated and deactivated status.

**Proposal: Network signal activated/deactivated of pre-configured gap status in *deactivatedMeasGapList*.**

# 4 Conclusions

**Proposal: Network signal activated/deactivated of pre-configured gap status in *deactivatedMeasGapList*.**

# 5 References

[1] R2-2205292 [H650][M604] Discussion on *deactivatedMeasGapList* and conditional presence of gap ID Huawei, HiSilicon, Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_MG\_enh-Core

[2] R2-2205241 [H650][H651][M602][M603] Correction on pre-configured MG MediaTek Inc. draftCR Rel-17 38.331 17.0.0 F NR\_MG\_enh-Core Late

[3] R2-2205378 Resolving FFS on pre-MG Samsung discussion