**3GPP TSG-RAN WG2 Meeting #121bis-e *R2-230xxxx***

**Electronic meeting, 17 – 26 April 2023**

**Agenda item: x.x**

**Source: Intel Corporation**

**Title: [Post121][654][IDC] Capability CRs on IDC (Intel)**

**Document for: Discussion and Decision**

# Introduction

This is the report of the following post meeting email discussion:

* [Post121][654][IDC] Capability CRs on IDC (Intel)

 Scope: Capture decisions up to this meeting and to be endorsed as the baseline CRs

 Intended outcome: Endorsable baseline CR

 Deadline: Long

Two phases below are considered for this email discussion:

Phase 1: Discussion on the pre-requisite of the capabilities; Deadline: 28th March;

Phase 2: Review of proposals and draft CRs; Deadline: 5th April.

# Contact information

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

|  |  |
| --- | --- |
| Company | Contact: Name (E-mail) |
| Intel | Yujian Zhang (yujian.zhang@intel.com) |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

# Discussion

## Phase 1

In RAN2#121 meeting, following was agreed regarding IDC UE capabilities:

* Rel-18 IDC UE capability(ies) defined in NR side is/are per UE, not FDD-TDD DIFF, not FR1-FR2 DIFF.
* In NR side, 3 capability bit is introduced for FDM, periodic pattern and autonomous denial separately.
* The pre-requisite of autonomous denial is FDM solution (R16 or R18) or periodic pattern.

The main open issues are the pre-requisite of the capabilities.

Pre-requisite of Rel-18 IDC FDM solution

In [1], it is proposed that the pre-requisite of Rel-18 IDC FDM solution is Rel-16 NR IDC (*inDeviceCoexInd-r16*). An alternative is that no pre-requisite is defined for Rel-18 IDC FDM solution.

**Question 1:** Which option do you prefer for the pre-requisite of Rel-18 IDC FDM solution?

Option a: Rel-16 NR IDC (*inDeviceCoexInd-r16*);

Option b: Rel-18 IDC FDM solution does not have pre-requisite.

|  |  |  |
| --- | --- | --- |
| **Company** | **Option a/b** | **Comments** |
| Intel | Option a | Rel-18 IDC FDM solution provides finer granularity on top of Rel-16 reporting. |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

Pre-requisite of Rel-18 IDC periodic pattern

There are three options in contributions submitted to RAN2#121 meeting regarding the pre-requisite of Rel-18 IDC periodic pattern:

1) Rel-16 NR IDC (*inDeviceCoexInd-r16*), as from [1];

2) Rel-18 affected frequency indication in LTE for (NG)EN-DC operation or the Rel-18 IDC FDM solution in NR or *inDeviceCoexInd-ENDC-r15* or Rel-16 NR IDC *(inDeviceCoexInd-r16)*, as from [2];

3) Rel-18 IDC FDM solution in NR or Rel-16 NR IDC *(inDeviceCoexInd-r16)*, as from [3].

Given that RAN2 agreed that “*LTE MN does not configure the UE with R18 NR IDC configuration*”, it is rapporteur’s understanding that option 2) can be simplified to option 3). In addition, if Option a in Question 1 is agreed, then option 1) and 3) are also equivalent.

Therefore rapporteur proposes that the pre-requisite of Rel-18 IDC periodic pattern is Rel-18 IDC FDM solution or Rel-16 NR IDC(*inDeviceCoexInd-r16*), as in option 3 above. The pre-requisite can be further simplified to Rel-16 NR IDC(*inDeviceCoexInd-r16*) if Option a in Question 1 is agreed.

**Question 2:** Do you agree with the following? If not, please indicate preferred pre-requisite of Rel-18 IDC periodic pattern.

The pre-requisite of Rel-18 IDC periodic pattern is Rel-18 IDC FDM solution or Rel-16 NR IDC (*inDeviceCoexInd-r16*).

|  |  |  |
| --- | --- | --- |
| **Company** | **Agree / Disagree** | **Comments** |
| Intel | Agree |   |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

# Conclusion

Based on the input from companies, we have the following proposals:

# References

[1] R2-2300833, Intel, “UE capabilities for IDC”

[2] R2-2301110, Xiaomi, “UE capability bits for IDC”

[3] R2-2301489, Huawei, HiSilicon, “Discussion on UE capability for IDC enhancement”