**333GPP TSG RAN2 #121 R2-23xxxxx**

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

**Agenda Item:**  **8.13.5 SON for NRU**

**Source: Ericsson (email rapporteur)**

**Title:** **[AT121][802][R18 SON/MDT] SON for NR (Ericsson) Discussion on how to clarify random access attempt**

**Document for: Discussion and Decision**

# 1 Introduction

This is the email report of [AT121][802]:

* **[AT121][802][R18 SON/MDT] SON for NR (Ericsson)**

Discussion on how to clarify random access attempt

 Intended outcome: Report in R2-2302070

 Deadline: 23:23 Athens local, Thursday March 2nd

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

|  |  |  |
| --- | --- | --- |
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# 2 Discussion

## 2.1 Clarification on Random Access attempts

During the online session two different views on UE behaviour on considering the number of random access attempt and logging the attempted random access information is discussed. In general, there are the following options:

a) A random-access is considered as attempted whenever PHY tries to transmit a preamble, irrespective of whether the LBT is successful or not

b) A random-access attempt is considered as attempted only if the PHY layer actually transmitted the preamble, i.e., successful LBT

Proponents of the option (b) believe that counting the random access attempts failed due to LBT as a random access attempt, may result in collecting huge amount of information in the RA report which may be wasteful for the UE memory.

The disadvantage of this solution might be that UE needs to change the legacy procedure in logging random access attempt to exclude logging the attempts which are failed due to the LBT operation. Given that the complexity and implementation of this solution is not properly verified, a third option could be to postpone this discussion to the next meeting, so companies have enough time to verify the complexity of each approach.

Proponents of option (a) think that by limiting the number of RA attempts to 200, the concern raised by the proponents of option (b) can be easily resolved. Therefore the following question is proposed.

**Question: Which of the following options do companies agree?**

**a) A random-access is considered as attempted whenever PHY tries to transmit a preamble, irrespective of whether the LBT is successful or not**

**b) A random-access attempt is considered as attempted only if the PHY layer actually transmitted the preamble, i.e., successful LBT**

**c) Postpone the discussion to the next meeting as complexity analysis is required for each approach.**

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| --- | --- | --- |
| Company | Option (a, b, c) | Comment |
| Ericsson | C | We slightly prefer option 1, as we can limit the number of LBT failures to 200, to address the concern of other companies on the size of the RA report, we are open to discuss the second option in the next meeting, possibly with a better complexity analysis of excluding some RA attempts. |
| Xiaomi | C |  |
| Lenovo | C |  |
| Huawei, HiSilicon | C | Per RA attempt reporting should be carefully checked as some solutions may lead to significant overhead in Uu interface, and thus make the feature less attractive. So we think the discussion on possible solutions can be postponed to give companies more time to check issues. |
| Qualcomm | C |  |
| CATT | C |  |
| Sharp  | C |  |
| Nokia | B | It is not a RA issue if the UE cannot transmit due to LBT. |
| CMCC | C |  |
| Samsung | C | We are ok to postpone the discussion to next meeting if companies prefer to have more time to check. |

# 3 Conclusion

[To be added]

# 4 References