**3GPP TSG-RAN WG3 #112-e R3-212746**

**Online, 17th – 27th May 2021**

Title: Summary of offline discussion on Aerial feature

Source: Ericsson

Agenda Item: 9.3.8.1

Document for: Approval

# Introduction

**CB: # 114\_AerialAuthInfo**

**- try to clarify usage?**

**- From which release should this apply?**

**- draft an LS to SA2 etc.?**

(E/// - moderator)

Summary of offline disc [R3-212746](file:///C%3A%5CUsers%5C5088196%5CDownloads%5CInbox%5CR3-212746.zip)

# For the Chairman’s Notes

Propose the following:

R3-20xxxa, R3-20xxxc merged

R3-20xxxc rev [in xxxg] – agreed

R3-20xxxd rev [in xxxh] – agreed

R3-20xxxe rev [in xxxi] – agreed

R3-20xxxf rev [in xxxj] – endorsed

Propose to capture the following:

**Agreement text…**

**Agreement text…**

**WA: carefully crafted text…**

Issue 1: no consensus

**Issue 2: issue is acknowledged; need to further check the impact on xxx. May be possible to address with a pure st2 change. To be continued…**

# Discussion

## Issue 1

From Release 15 LTE Aerial feature has been introduced, moreover SA2 starts discussing further support of Unmanned Aerial Vehicles in R17. Though SA2’s LS [1] assumes that the LTE aerial feature has been fully supported already. After further dig, a possible gap remains between SA2 and RAN3 regarding the work on Option with ng-eNB connecting 5GC. By adopting the changes proposed in [2][3], the aerial feature can be naturally propagated to NG interface for the above Option with existing support of LTE RRC. This can be helpful to bring UAV to NR in the next step of RAN work.

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| Company | Comment |
| E/// | The support of Aerial feature in such scenario does not concern SA2 although the work is foreseen in RAN3, which will fill the gap for support of full LTE aerial feature. |
| NTTDOCOMO | Proponent. Agree with E///. |
| ZTE | In our understanding, the ng-eNB should be in the scope of NR. However, there is no NR UAV related WI for RAN3 in Release 15/16/17. Hence, maybe this modification should be done in the future release. |
| Nokia | SA2 clearly know there is no support for aerial feature when ng-eNB connects with 5GC, since it is SA2 spec (e.g. 23.501, 23.502, etc) does not support aerial feature (if you compare the SA2 LTE spec 23.401 describes the support for aerial feature).  |
| Huawei | Agree with Nokia. As commented online, it is clear that SA2 is working on the support of UAV for R17, i.e. only a R17 5G network could have UAV register info, we don’t see any gap here. |
| Qualcomm | We support the rationale here to reach at least parity of 5GS with respect to EPS. We suggest that best way forward is to send an LS to SA2 to clarify situation, noting following points (this is rough): RAN3 discussed that aerial features were introduced in EPC/RAN for E-UTRA in rel-15. RAN3 assumes that a UE that can connect to either EPC or 5GC via E-UTRA may already have the relevant subscription information. Hence ask SA2 if they have any plans to provide support for aerial subscription handling in 5GC for E-UTRA connected UEs, and if so in which release. |
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## Issue 2

If companies acknowledge the need as mentioned in Issue 1, in which release should we start the changes?

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| Company | Comment |
| E/// | Considering Aerial feature is supported from R15, we suggest having the UE subscription info sent to ng-eNB as early as possible, i.e., R15. |
| NTTDOCOMO | Rel-15. |
| Nokia | Current 5GC does not support aerial feature. So this shall be discussed in SA2. In case SA2 agree to add it, RAN3 can discuss the CR. It has more impact to SA2 than RAN3. |
| Huawei  | As commented above, if SA2 completed their work in R17, they could send us an LS, so RAN3 could continue the RAN part work, i.e. as Nokia commented, this shall be discussed in SA2. |
| Qualcomm | We actually don’t see any dependency between SA2’s work in rel-17 and this, because as mentioned above, the feature already exists in RRC, and the subscription support already exists if the operator has a common HSS+UDM. However this still needs propagation in 5GC, so we suggest to ask SA2, and leave the issue of release to them.  |
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## Issue 3

If companies have doubt on the gap between RAN3 and SA2, should we send an LS to SA2 as some bridging?

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| Company | Comment |
| E/// | Some concern was raised about lack of UE subscription in 5GC. Then an LS is a straight-forward way provided companies have different understanding on the scope. |
| NTTDOCOMO | Okay to send an LS to SA2. |
| Nokia | No. As we commented on issue 1, SA2 clearly know no aerial feature support in 5GC.  |
| Huawei | Agree with Nokia, no LS is needed. |
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# Conclusion, Recommendations

If needed

# References

1. R3-212176, Support of Aerial feature, Ericsson, Qualcomm Incorporated, Intel Corporation, NTT DOCOMO, INC., AT&T, Verizon Wireless
2. R3-212177, Introduction of Aerial authorization information, Ericsson, Qualcomm Incorporated, Intel Corporation, NTT DOCOMO, INC., AT&T, Verizon Wireless
3. R3-212178, Introduction of Aerial authorization information, Ericsson, Qualcomm Incorporated, Intel Corporation, NTT DOCOMO, INC., AT&T, Verizon Wireless