**3GPP TSG RAN WG1 #104-e R1-20xxxxx**

**e-Meeting, January 25th – February 5th, 2021**

**Agenda Item: 7.2.11**

**Source: Moderator (AT&T)**

**Title: Summary of email discussion/approval [104-e-NR-UEFeatures-MobEnh-01]**

**Document for:** **Discussion/Decision**

# Introduction

This document presents the summary of email discussion/approval [104-e-NR-UEFeatures-MobEnh-01] during RAN1 #104-e. According to the Chairman’s Notes:

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| [104-e-NR-UEFeatures-MobEnh-01] Email discussion/approval of whether to change the prerequisites of FGs 21-2, 21-2a, 21-2b to include FG 21-1b and update the description with “for inter-frequency DAPS HO” , till 1/29 (Ralf, AT&T)   * Any necessary alignments between RAN1 and RAN2 (e.g., changing the type of FG 21-1a to “Per Band/per BC”) can be handled in email discussion/approval [104-e-NR-UEFeatures-LS] |

The following was discussed and agreed during RAN1 #104-e within the scope of [104-e-NR-UEFeatures-MobEnh-01]. All proposals are based on the latest RAN1 UE features list for Rel-16 NR in [1].

# Summary of email discussion/approval [104-e-NR-UEFeatures-MobEnh-01]

The following changes highlighted in red below were proposed by Apple in [2].

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 21-1a | Intra-frequency DAPS HO | Support of  intra-frequency DAPS-HO     1. Support of simultaneous DL reception of PDCCH and PDSCH from source and target cell in DAPS-HO 2. Support of PDCCH blind decoding capability in the first MCG and second MCG. 3. Support of cancelling UL transmission to the source cell for intra-frequency DAPS-HO | DAPS  (Note: RAN2 feature) | Yes | N/A | The network cannot configure UE with intra-frequency DAPS HO | Per Band/per BC | No | N/A | N/A |  | Optional with capability signalling |
| 21-1b | Inter-frequency DAPS HO | Support of  inter-frequency DAPS-HO    1) Support of simultaneous DL reception of PDCCH and PDSCH from source and target cell in DAPS-HO    2) Support of PDCCH blind decoding capability in the first MCG and second MCG. | DAPS  (Note: RAN2 feature) | Yes | N/A | The network cannot configure UE with inter-frequency DAPS HO | Per BC | No | N/A | N/A |  | Optional with capability signalling |
| 21-2 | Semi-static UL power sharing mode 1 for DAPS HO | Support of semi-static power sharing mode1 between source and target cells of same FR for inter-frequency DAPS HO | DAPS, 21-1b  (Note: RAN2 feature) | Yes | N/A | UE is not expected to simultaneously transmit PRACH/PUSCH/PUCCH/SRS to source and target cell that overlap in time domain | Per BC | No | N/A | N/A |  | Optional with capability signalling |
| 21-2a | Semi-static UL power sharing mode 2 for DAPS HO | Support of semi-static power sharing mode 2 between source and target cells of same FR for inter-frequency DAPS HO | 21-2, 21-1b | Yes | N/A |  | Per BC | No | N/A | N/A | only applicable to DAPS HO in synchronous scenarios | Optional with capability signalling |
| 21-2b | Dynamic UL power sharing for DAPS HO | Support of dynamic power sharing between source and target cells of same FR for inter-frequency DAPS HO  1) T\_offset | 21-2, 21-1b | Yes | N/A |  | Per BC | No | N/A | N/A | Candidate values for (1) are {short, long} | Optional with capability signalling |
| 21-2d | UL transmission cancellation | Indicates support of cancelling UL transmission to the source cell for inter-frequency DAPS-HO | 21-1b | Yes | N/A | UE does not support scheduling of overlapping PUSCH/PUCCH/SRS transmissions to source and target cells for inter-frequency DAPS-HO | per band combination | No | N/A | N/A |  | Optional with capability signalling |

Companies are invited to express their views in the table below.

Whether to change the type of FG 21-1a to “Per Band/per BC”

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| --- | --- |
| Company | Comments/Questions/Suggestions |
| Apple | We support to change the FG21-1a to Per Band/per BC to align with RAN2 agreements, and to avoid confusion for implementation. |
| Ericsson | The RAN2 specs are normative – there is no need to update the RAN1 documents, the RAN1 feature list should not be used for implementation. |
| Nokia, NSB | It is true that RAN1 feature list is not normative, but in practice it is frequently used for reference, especially as we do not have yet a document similar to 38.822 that includes the FG numbers. Hence we are OK to update this information here. |
| Huawei, HiSilicon | Ok with the change. |
| Samsung | Support the change. |
| Qualcomm | We are fine with the change to align with RAN2 agreements. |
| ZTE | We share the same view that RAN2 specs are normative for UE capability. But we are also fine to update the RAN1 feature list to make it more clear since it is usually used for reference as pointed out by Nokia. In RAN2#111, it was agreed to change the type from ‘per band’ to ‘per FS’ for intra-frequency handover as shown below and the agreement was also sent to RAN1 via an LS (R1-2007517). Therefore, we can change the type for FG 21-2a to ‘per FS’ instead of ‘per band/per BC’.  **Agreements**  **2: define a new featureSetCombinationDAPS to indicate DAPS UE capability.**  **6: UE reports support for intra-frequency DAPS “per FS”.** |

Whether to change the prerequisites of FGs 21-2, 21-2a, 21-2b to include FG 21-1b and update the description with “for inter-frequency DAPS HO”

|  |  |
| --- | --- |
| Company | Comments/Questions/Suggestions |
| Apple | We support the updates to make it clear for implementation that UL power sharing modes are only applicable to inter-frequency DAPS HO. |
| Ericsson | Support |
| Nokia, NSB | We support the FL proposal. |
| Huawei, HiSilicon | Ok with the change. |
| Samsung | Support the change. |
| Qualcomm | We support the updates. |
| ZTE | We support the proposed updates to align with the current RAN1 spec. |

# Conclusion

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# References

1. R1-2009585, Updated RAN1 UE features list for Rel-16 NR, Moderators (AT&T, NTT DOCOMO, INC.)
2. R1-2101342, Discussions on NR Rel-16 UE features, Apple