3GPP TSG-RAN WG2 #109-e Tdoc R2-200xxxx

Electronic meeting, 24th February – 6th March, 2020

**Title: [DRAFT]** Reply LS on Handling of Fallbacks for combined contiguous and non-contiguous CA or DC configurations in FR2

**Response to:** LS on Handling of Fallbacks for combined contiguous and non-contiguous CA or DC configurations in FR2 (R4-1910239)

**Release:** Rel-15

**Work Item:** NR\_newRAT-Core

**Source:** MediaTek Inc. [To be RAN WG2]

**To:** RAN WG4

**Cc:** -

**Contact Person:**

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**Attachments:** -

**1. Overall Description:**

RAN2 would like to thank RAN4 for their LS on handling of fallbacks for combined contiguous and non-contiguous CA or DC configurations in FR2. Below is an excerpt from the minutes from RAN2#109-e:

* Chair’s decided way forward

**R2 assume to follow R4 decision to not support all fall-backs.**

**Send an LS to R4 with questions to understand more detailed requirements for a solution, and understand better what R4 actually means with not supporting all fallbacks.**

**Next Q expect to agree on the solution (solution could cover impact in R4 and R2).**

During discussion of “not support all fallbacks”, there were concerns raised by companies on the increase of network computation complexity and the increase of UE capability signalling due to reverting current implicit fallback support. Please also note the fallback support exemption for non-contiguous band combination described in Annex.

Q1: What is RAN4’s motivation/benefit for “not support all fallbacks”?

Q2: On the request to “not supporting all fallbacks for FR2”, which of below options is RAN4’s expectation:

1. Fallback support of a FR2 band combination is defined in TS38.101-2 and other undefined fallback is not supported. In this case, fallback support is not only based on RAN2 specifications and capability report but also RAN4 specification.
2. Fallback support of a band combination is completely based on RAN2 specifications and capability report regardless of RAN4 specification. In this case, RAN2 specifications and capability report needs to provide complete information on supported fallbacks.

For three meeting, RAN2 has analysed a set of solutions to accommodate the suggested change of RAN4 agreement. The discussion is still on-going and multiple companies support the solution ([R2-2000600](ftp://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_109_e/Docs/R2-2000600.zip)) to introduce a new separate list for *exceptional* band combinations (i.e. with fallback exceptions) upon NW enabling. The high level concept of the solution is described below.

|  |
| --- |
| * Step 1: NW side indicates with 1-bit in the *UECapabilityEnquiry* message asking UE to report the band combinations with fallback exceptions. * Step 2: UE reports the band combinations with fallback exceptions in a separate band combination container *supportedBandCombinationList-FR2CAFallbackException* together with one bit indication. |

Q3: From RAN4 point of view, what is the criteria to consider a band combination “exceptional”? How will those “exceptional” band combination(s) be captured in the RAN4 specifications?

Q4: If an “exceptional” band combination is captured in the RAN4 specifications, does RAN4 foresee an “exceptional” band combination to become normal band combination in the future?

**2. Actions:**

**To RAN4:** RAN2 respectfully asks RAN4 to provide answers to the above questions.

**3. Date of Next TSG-RAN WG2 Meetings:**

TSG-RAN WG2 Meeting #109bis 2020-04-20 to 2020-04-24 Sapporo, JP

TSG-RAN WG2 Meeting #110 2019-05-25 to 2019-05-29 Athens, GR

**4.**

**Annex:**

RAN2 would like to highlight one aspect in the definition of fallback band combinations as excerpted from TS 38.306 below:

“An intra-band non-contiguous band combination is not considered to be a fallback band combination of an intra-band contiguous band combination”.

For the fallbacks from the intra-band contiguous CA, all of the fallback combinations result in intra-band contiguous CA, i.e. by removing the lowest CC or highest CC from a contiguous block of carriers. As given by the definition, an intra-band non-contiguous CA is not a fallback of a contiguous block, and hence not implicitly supported by the UE.