**3GPP TSG-RAN WG4 Meeting #112 R4-2414316**

**Maastricht, Netherlands, 19th-23rd, August, 2024**

**Title:** WF on Rel-19 non-collocated scenario

**Agenda Item:** 8.5.4

**Source:** KDDI

**Document for:** Approval

# Topic #2: Rel-19 Type 4

## Sub-topic 2-1: Rel-19 Revised WID for Type 4 EN-DC/NR-CA

< Issue 2-1: Revised WID for Type 4 >

**Way forwards:**

* RAN4 suggests to revise WID to clarify the max number of CCs for Type 4 EN-DC/NR-CA.

## Sub-topic 2-2: UE RF requirements for Type 4 EN-DC/NR-CA

< Issue 2-2-1: How to capture the power imbalance and REFSENS requirements >

**Agreement:**

* No rush to make decision on CR. Discuss it as big CR.

< Issue 2-2-2: Minimum DL frequency separation >

**Agreement:**

* Assume that Center of BWanother relative to edge of BWwanted is at least 80MHz+BWanother/2 away from the edge of the wanted CC.
* For Type 4 UE, minimum DL separation is not reflected in RAN4.

## Sub-topic 2-3: UE Capability(s)/UE behavior and BS signalling for Type 4 EN-DC/NR-CA

### < Issue 2-3-1: New UE Capability for Type 4a(6Rx/UE) and 4b(8Rx/UE) for EN-DC/NR-CA >

**Agreement:**

* Define one capability for NR CA and one UE capability for EN-DC
  + FFS on how to differentiate type 4a and 4b.

### < Issue 2-3-2: Whether to support Type 2 capability by UE having Type 4 capabilities >

**Agreement:**

* Modify last meeting’s agreements as following with yellow highlighted part.

|  |
| --- |
| RAN4#111 < Issue 2-2-2: Whether to support Type 2 capability by UE having Type 4 capabilities >  **Agreement:**   * If UE reports the Type 4 capability, Type 2 capability shall be deemed as support by default. UE still needs to report Type 2 Capability if UE supports it in order to keep backward compatibility (i.e., for legacy BS). ~~regardless of whether UE indicates Type-2 capability or not.~~   + ~~If UE reports the Type 4 capability, it is not necessary for UE to report Type 2 capabilities.~~   + ~~If the issue is identified for these bullets, RAN4 will revisit them.~~ |

### < Issue 2-3-3: New BS Signaling to switch between Type 4a/4b and Type 2 >

**Agreement:**

* No new NW signaling needed from Type-4 to Type-2 switch and *maxMIMO-layer* can be used.

### < Issue 2-3-4: New BS Signaling to switch between Type 4a/4b and Type 1 4L/CC(collocated)>

**Way Forward:**

* First, conclude discussions of whether to add new UE capability(s) for Type 4.
* And then, continue further discussion on BS signalling in the next meeting.

### < Issue 2-3-5: New BS Signaling to switch between Type 4a/4b and Type 1 6L/8L/CC(collocated) >

**Way Forward:**

* First, conclude discussions of whether to add new UE capability(s) for Type 4.
* And then, continue further discussion on BS signalling in the next meeting.

### < Issue 2-3-6: Switch between Type 4a/4b and single CC operation >

**Agreement:**

* No new BS signaling needed from Type-4 to single carrier fallback.

### < Issue 2-3-7: UE behavior during initial connection between Type 1, Type 2 and Type 4a/4b >

**Way Forward:**

* First, conclude discussions of whether to add new UE capability(s) for Type 4 and BS signaling.
* And then, continue further discussion on UE behavior in the next meeting.

### <Issue 2-3-9: When to inform RAN2 the demand on new UE capability(s) and new BS signaling>

**Way Forward:**

* Continue further discussion in the next meeting.

## Sub-topic 2-4: Other aspects (incl. clarification of contiguous LTE CCs)

< Issue 2-4-1: The number of B42 CCs for Type 4 EN-DC >

**Agreement:**

* B42: multiple contiguous CCs, all collocated
  + Based on the requested band combinations (see R4-2406628)

< Issue 2-4-2: The number of NR CCs for EN-DC and NR-CA >

**Agreement:**

* Prioritize the following number of NR CCs same as Type 2.
  + Non-collocated Type 4 EN-DC
    - n77/n78: one CC
  + Non-collocated Type 4 NR-CA
    - n77/n78: Non-contiguous two CCs, non-collocated
* If TU is remained in Rel-19, discuss other scenario(s) of the number of CCs and contiguous cases later.

## Sub-topic 2-5: LS to RAN5

< Issue 2-5-1: LS to RAN5 >

**Way Forward:**

* LS for type 4 frequency separation to RAN5 is needed. R4-2411419 is Postponed to the end of this WI.