**3GPP TSG-RAN WG4 Meeting #112bis R4-2416878**

**Hefei, Anhui, China, 14th – 18th October, 2024**

**Title:** WF on UE report of incremental BWP switch delay for multi-carrier enhancements

**Agenda Item:** 7.3

**Source: NTT DOCOMO, INC.**

**Document for:** Approval

# Introduction

UE capability for switching between non-dormant and dormant BWPs triggered by the new DCI format 0-3 and 1-3 was introduced. The conclusion was informed to RAN4

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| RAN2 discussed the two options and concluded to down-select approach 2 because Approach 1 is a non-backward compatible change from RAN2 perspective.  RAN2 introduced a field *bwp-SwitchingMultiDormancyCC-DCI-0-3-And-1-3-r18* corresponding to RAN4 feature 38-9, and a field *scellDormancyWithinActiveTime-DCI-0-3-And-1-3-r18* corresponding to its prerequisite feature (RAN1 feature 49-9). It is up to RAN4 whether the UE shall report the same value between RAN4 features 6-3 and 38-9. |

After discussion, the original issue is resolved and new issue about incremental delay for each additional CC involved in simultaneous BWP switch is raised. The current specification for simultaneous DCI based BWP switch delay on multiple CCs is copied as follows:

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| […]  UE shall finish BWP switch within the time duration TMultipleBWPswitchDelay + Y, which is defined as:  TMultipleBWPswitchDelay = TBWPswitchDelay + D\*(N-1)  Where:  - TBWPswitchDelay is the BWP switching delay on single CC defined in Table 8.6.2-1 depending on UE capability *bwp-SwitchingDelay* [2]. TBWPswitchDelay shall be based on the smallest SCS among SCS of all involved CCs before and after BWP switch. If the BWP switch on multiple CCs results in the change of the SCS on any CC among involved CCs, TBWPswitchDelay shall be based on the smallest SCS among all SCS values of all involved CCs.  - D is the incremental delay for each additional CC involved in simultaneous BWP switch and depends on UE capability *bwp-SwitchingMultiCCs-r16* [TS 38.306, 14] for switching between non-dormant BWPs, and *bwp-SwitchingMultiDormancyCCs-r16* or *bwp-SwitchingMultiDormancyCC-DCI-0-3-And-1-3-r18* for switching between non-dormant and dormant BWPs.  […] |

If there are multiple types of BWP (non-dormant BWP and dormant BWP), it is ambiguous which value shall be applied to calculate BWP switching delay.

# Topic #1: UE capability value for multi-carrier enhancements

**Issue 1-1: Report value for FG6-3 and FG38-9**

**<Tentative Agreement>**

* UE shall report the same value between RAN4 features 6-3 and 38-9.

# Topic #2: Incremental BWP switch delay definition

**Issue 2-1: Requirements for DCI based BWP switch delay on multiple CCs**

**<Way forward>**

* Option 1: Keep current requirements.
* Option 2: Update is needed and will be discussed under Rel-18 maintenance.