3GPP TSG-RAN WG1 Meeting #104bis-e Tdoc R1-21xxxxx

e-Meeting, 19th – 28th May, 2021

Agenda Item: 7.2.2

Source: Moderator (Ericsson)

Title: Feature lead summary for Maintenance of UL Signals and Channels

Document for: Discussion, Decision

# 1 Introduction

This document contains a summary of proposals related to UL Signals and Channels made under the agenda item 7.2.2 "Maintenance of NR-based Access to Unlicensed Spectrum." Only one issue is identified.

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| **#** | **Issue** | **Contribution(s)** |
| UL-01 | Clarification of size of initial UL BWP | [1]: R1-2105805 |

# 2 Issue UL-01: Clarification of size of initial UL BWP

The following description of the issue is provided in [1],

"As agreed at RAN1#101 e-meeting, the initial UL BWP size should be 20 MHz. Unless the specification ensures the above, there is a possibility of interlaced PUCCH more than 20 MHz bandwidth. For example, when the initial UL BWP is of size 100 MHz, a cell-specific PUCCH (i.e., a PUCCH configured by SIB1) is mapped in entire 100 MHz, which is not an expected behavior. Further, in TS37.213, and further clarified in the agreed CR (R1-2104070) at RAN1#104bis e-meeting, it is clearly stated that a PUCCH should be mapped to single RB-set."

A CR to 38.213 Section 12 is proposed in [1] and is copied in Section 2.1 below for convenience.

It is the moderator's understanding that the context of this change should be restricted to the *initialUplinkBWP* of a PCell (*initialULBWP* within *BWP-UplinkCommon* configured by SIB1). It should not apply to the *initialUplinkBWP* for a SCell/PSCell provided by dedicated signaling (*initialUplinkBWP* within *BWP-UplinkDedicated*), since in that case the UE would be provided dedicated PUCCH resources for which the RB set index for PUCCH is configured. Ideally this distinction should have been capatured by RAN2 based on the LS that RAN1 sent to RAN2 in RAN1#101-e (see [2]); however, RAN2 chose to only note this LS without taking action.

The moderator's recommendation is to discuss the following revised wording for the CR proposed in [1].

For operation with shared spectrum channel access, a UE does not expect the ~~a~~ BWP configured by parameter *initialUplinkBWP* provided in *BWP-UplinkCommon* by SIB1 ~~is~~ to be mapped to more than one RB set.

## 2.1 CR to 38.213 proposed in [1]:

----------------------------------------------------- CR to 38.213, Section 12 ---------------------------------------------------

12 Bandwidth part operation

If the UE is configured with a SCG, the UE shall apply the procedures described in this clause for both MCG and SCG

- When the procedures are applied for MCG, the terms 'secondary cell', 'secondary cells' , 'serving cell', 'serving cells' in this clause refer to secondary cell, secondary cells, serving cell, serving cells belonging to the MCG respectively.

- When the procedures are applied for SCG, the terms 'secondary cell', 'secondary cells', 'serving cell', 'serving cells' in this clause refer to secondary cell, secondary cells (not including PSCell), serving cell, serving cells belonging to the SCG respectively. The term 'primary cell' in this clause refers to the PSCell of the SCG.

A UE configured for operation in bandwidth parts (BWPs) of a serving cell, is configured by higher layers for the serving cell a set of at most four bandwidth parts (BWPs) for receptions by the UE (DL BWP set) in a DL bandwidth by parameter *BWP-Downlink* or by parameter *initialDownlinkBWP* with a set of parameters configured by *BWP-DownlinkCommon* and *BWP-DownlinkDedicated*, and a set of at most four BWPs for transmissions by the UE (UL BWP set) in an UL bandwidth by parameter *BWP-Uplink* or by parameter *initialUplinkBWP* with a set of parameters configured by *BWP-UplinkCommon* and *BWP-UplinkDedicated*.

For operation with shared spectrum channel access, a UE does not expect a BWP configured by parameter *initialUplinkBWP* is mapped to more than one RB set.

If a UE is not provided *initialDownlinkBWP*, an initial DL BWP is defined by a location and number of contiguous PRBs, starting from a PRB with the lowest index and ending at a PRB with the highest index among PRBs of a CORESET for Type0-PDCCH CSS set, and a SCS and a cyclic prefix for PDCCH reception in the CORESET for Type0-PDCCH CSS set; otherwise, the initial DL BWP is provided by *initialDownlinkBWP*. For operation on the primary cell or on a secondary cell, a UE is provided an initial UL BWP by *initialUplinkBWP*. If the UE is configured with a supplementary UL carrier, the UE can be provided an initial UL BWP on the supplementary UL carrier by *initialUplinkBWP*.

-------------------------------------------------------------- End CR --------------------------------------------------------------

# References

1. R1-2105805, "Initial UL BWP size restriction for NR-U," Sharp, LGE, RAN1#105-e, May 2021.
2. R1-2005016, " LS to RAN2 on initial BWP for NR-U," RAN1, RAN1#101-e, May 2020.