**3GPP TSG-RAN WG2 Meeting #109-e-bis R2-200xxxx**

**Electronic meeting, 20 – 30 Apr 2020**

**Title:** [DRAFT]LS on Conflicting configurations

**Response to:**

**Release:** Rel-16

**Work Item:** NR\_L1enh\_URLLC-Core, NR\_eMIMO-Core, NR\_unlic-Core, others?

**Source:** [Huawei, to be changed to RAN2]

**To:** RAN1

**CC:**

**Contact Person:**

#### Name: David Lecompte

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**Attachments:** None

**1. Overall Description:**

RAN2 identified that there are additions in Rel-16 for physical layer configuration for different features/WIs that may conflict with each other and would like to raise the following questions:

**1)** **DMRS-UplinkConfig** can be extended with pi2BPSK-ScramblingID0/pi2BPSK-ScramblingID1, on the condition that "tp-pi2BPSK is included in PUSCH-Config". DMRS-UplinkConfig is use for several fields:

- in **PUSCH-Config**: dmrs-UplinkForPUSCH-MappingTypeA/B and dmrs-UplinkForPUSCH-MappingTypeA/B-ForDCI-Format0-2-r16

- in **ConfiguredGrantConfig**: for cg-DMRS-Configuration

Change to only ask what is not possible to do. Add one combination

**Q1-1)** Can pi2BPSK-ScramblingID0/pi2BPSK-ScramblingID1 be configured in the 5 above listed fields and, for each field, in **which instance of PUSCH-Config** does tp-pi2BSK need to be included for pi2BPSK-ScramblingID0/pi2BPSK-ScramblingID1to be possible? (note that in ConfiguredGrantConfig is not included in PUSCH-Config but in BWP-UplinkDedicated, where PUSCH-Config is also included).

**Q1-2)** Is the usage of pi2BPSK-ScramblingID0/pi2BPSK-ScramblingID1 in each of the 5 above listed fields (or in the ones among them in which it can be used according to the answer to Q1-1) in **PUSCH-Config** independent of its usage in the other fields or is there any constraint (e.g. can it be used in mappingTypeA and not in mappingTypeB, etc)?

**2)** **DMRS-DownlinkConfig** can be extended with dmrs-Downlink-r16. DMRS-DownlinkConfig is used for several fields in PDSCH-Config: dmrs-DownlinkForPDSCH-MappingTypeA/B and dmrs-DownlinkForPDSCH-MappingTypeA/BForDCI-Format1-2-r16.

**Q2-1)** Can dmrs-Downlink-r16 be used in the 4 above listed fields?

**Q2-2)** Is the usage of dmrs-Downlink-r16 in the 4 above fields (or in in the ones among them in which it can be used according to the answer to Q2-1) in **PUSCH-Config** fully independent of its usage in the other fields or is there any constraint (e.g. can it be used in mappingTypeA and not in mappingTypeB, etc)?

**3)** **PDSCH-TimeDomainResourceAllocation** can be extended with repetitionNumber. Meanwhile, pdsch-TimeDomainAllocationListForDCI-Format1-2-r16 was introduced in PDSCH-Config.

**Q3-1)** Should pdsch-TimeDomainAllocationListForDCI-Format1-2-r16 support the use of repetitionNumber?

**Q3-2)** If the answer to Q3-1 is yes, is the usage of repetitionNumber in pdsch-TimeDomainResourceAllocationList independent of its usage in pdsch-TimeDomainAllocationListForDCI-Format1-2-r16 fully independent or can it only be used in both or in none of them?

**4)** **PUSCH-TimeDomainResourceAllocationNew-r16** (name will have to be changed to avoid "New") was defined which includes the parameters of PUSCH-TimeDomainResourceAllocationList plus startSymbol, length and numberOfRepetitions (also, it is making mappingType and startSymbolAndLength optional). It is used in PUSCH-Config for pusch-TimeDomainAllocationListForDCI-Format0-2-r16 and pusch-TimeDomainAllocationListForDCI-Format0-1-r16 while **PUSCH-TimeDomainResourceAllocationList** is used for pusch-TimeDomainAllocationList in **PUSCH-Config** and in **PUSCH-ConfigCommon**.

**Q4-1)** Can startSymbol, length and numberOfRepetitions be used in pusch-TimeDomainAllocationList in **PUSCH-Config?** Same question for pusch-TimeDomainAllocationList in **PUSCH-ConfigCommon**?

**Q4-2)** If the answer to Q4-1 is "yes", is the usage of these 3 parameters in each the 4 above listed fields (or in in the ones among them in which it can be used according to the answer to Q4-1) fully independent of their usage in the other fields?

**5)** [Add more here if needed]

**2. Actions:**

**To RAN1:**

**ACTION:** RAN2 respectfully asks RAN1 to answer the above questions, which are necessary for RAN2 to complete the ASN.1 review of TS 38.331.

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

RAN2#110-e 01-12, June, 2020 Online

RAN2#111 24-28, August, 2020 Toulouse, France