**3GPP TSG RAN WG1 Meeting #102-e R1-200xxxx**

**E-meeting, August 17–28, 2020**

**Agenda Item: 6.2.2**

**Source: Moderator (Huawei)**

**Title: Text Proposal for Issue#4 in [102-e-LTE-NB\_IoTenh3-02]**

**Document for: Discussion and Decision**

# Introduction

This contribution provides the text proposal for Issue#1 of the following email discussion:

[102-e-LTE-NB\_IoTenh3-02] Clarification on sequence-group hopping and NPDSCH/NPDCCH interference randomization – Xiang (Huawei)

* Issue#3: Sequence-group hopping
* Issue#4: NPDSCH/NPDCCH interference randomization
* Discussions/Agreement by 8/21, TPs by 8/28

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| ***Reason for change:*** | 1. In the discussion of the WI, it was assumed to re-use legacy NPDCCH/NPDSCH transmission schemes. However, some places in the spec are overlooked with the introduction of PUR-RNTI, such as the interference randomization. |
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| ***Summary of change:*** | 1. Add “PUR-RNTI” in NPDSCH/NPDCCH interference randomization. 2. Change “or” to “/”, and add some line breaks for better readability |
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| ***Consequences if not approved:*** | 1. Interference randomization does not apply to NPDSCH/NPDCCH related to PUR. |
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| ***Clauses affected:*** | 10.2.3.4, 10.2.5.5 of TS 36.211 |

# Text Proposal

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| ------------------------------------- Start of Text Proposal for TS 36.211-------------------------------  ------------------------------------------- Unchanged parts omitted --------------------------------------  10.2.3 Narrowband physical downlink shared channel  10.2.3.4 Mapping to resource elements  …  For frame structure type 1,   * for NPDSCH associated with C-RNTI when *interferenceRandomisationConfig* is used according to [11],or * for NPDSCH associated with RA-RNTI, TC-RNTI or P-RNTI and transmitted in an NB-IoT carrier configured by *SystemInformationBlockType22-NB*, or * for NPDSCH associated with C-RNTI in an NB-IoT carrier configured by *SystemInformationBlockType22-NB* when *RadioResourceConfigDedicted-NB* is not configured by higher layer, or * for NPDSCH associated with PUR-RNTI/G-RNTI/SC-RNTI, or   for frame structure type 2,   * for for NPDSCH not carrying the BCCH,   define as the block of complex-valued symbols mapped to subframe number and radio frame number .  …  10.2.5 Narrowband physical downlink control channel  10.2.5.5 Mapping to resource elements  …  For frame structure type 1,   * for NPDCCH associated with RA-RNTI, TC-RNTI or * for P-RNTI and transmitted in an NB-IoT carrier configured by *SystemInformationBlockType22-NB,* or * for NPDCCH associated with C-RNTI in an NB-IoT carrier configured by *SystemInformationBlockType22-NB* when *RadioResourceConfigDedicted-NB* is not configured by higher layer, or * for NPDCCH associated with PUR-RNTI/G-RNTI/SC-RNTI, or * for NPDCCH associated with C-RNTI when *interferenceRandomisationConfig* is used according to [11], or   for frame structure type 2,  each complex-valued symbol , shall be multiplied with ,where  -------------------------------------------- Unchanged parts omitted -------------------------------------  ---------------------------------------------- End of Text Proposal ---------------------------------------- |

# Reference

1. [R1-2005471](C:\\Users\\wanshic\\OneDrive - Qualcomm\\Documents\\Standards\\3GPP Standards\\Meeting Documents\\TSGR1_102\\Docs\\R1-2005471.zip) Remaining issues for transmission in preconfigured UL resources for NB-IoT ZTE

1. [R1-2005556](C:\\Users\\wanshic\\OneDrive - Qualcomm\\Documents\\Standards\\3GPP Standards\\Meeting Documents\\TSGR1_102\\Docs\\R1-2005556.zip) PUR maintenance issues for Rel-16 NB-IoT Ericsson

1. [R1-2005816](C:\\Users\\wanshic\\OneDrive - Qualcomm\\Documents\\Standards\\3GPP Standards\\Meeting Documents\\TSGR1_102\\Docs\\R1-2005816.zip) Corrections regarding RAN2 LS reply on PUR Huawei, HiSilicon

1. [R1-2006189](C:\\Users\\wanshic\\OneDrive - Qualcomm\\Documents\\Standards\\3GPP Standards\\Meeting Documents\\TSGR1_102\\Docs\\R1-2006189.zip) Maintenance on PUR Qualcomm Incorporated
2. [R1-2006419](file:///C:\Users\wanshic\OneDrive%20-%20Qualcomm\Documents\Standards\3GPP%20Standards\Meeting%20Documents\TSGR1_102\Docs\R1-2006419.zip) Corrections on transmission in preconfigured UL resources for NB-IoT Huawei, HiSilicon