**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

|  |  |
| --- | --- |
| ***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.
 |
|  |  |
| ***Summary of change:*** | 1. Add “PUR-RNTI” in NPDSCH/NPDCCH interference randomization.
2. Change “or” to “/”, and add some line breaks for better readability
 |
|  |  |
| ***Consequences if not approved:*** | 1. Interference randomization does not apply to NPDSCH/NPDCCH related to PUR.
 |
|  |  |
| ***Clauses affected:*** | 10.2.3.4, 10.2.5.5 of TS 36.211 |

# Text Proposal

|  |
| --- |
| ------------------------------------- Start of Text Proposal for TS 36.211-------------------------------------------------------------------------- Unchanged parts omitted --------------------------------------10.2.3 Narrowband physical downlink shared channel10.2.3.4 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 $\left⌊n\_{s}/2\right⌋$ and radio frame number .…10.2.5 Narrowband physical downlink control channel10.2.5.5 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 Remaining issues for transmission in preconfigured UL resources for NB-IoT ZTE

1. R1-2005556 PUR maintenance issues for Rel-16 NB-IoT Ericsson

1. R1-2005816 Corrections regarding RAN2 LS reply on PUR Huawei, HiSilicon

1. R1-2006189 Maintenance on PUR Qualcomm Incorporated
2. [R1-2006419](file:///C%3A%5CUsers%5Cwanshic%5COneDrive%20-%20Qualcomm%5CDocuments%5CStandards%5C3GPP%20Standards%5CMeeting%20Documents%5CTSGR1_102%5CDocs%5CR1-2006419.zip) Corrections on transmission in preconfigured UL resources for NB-IoT Huawei, HiSilicon