**3GPP TSG RAN WG1 #100bis R1-** **200xxxx**

**e-Meeting, April 20th – 30th, 2020**

**Agenda item:** 6.2.2.4

**Source:** Moderator (Qualcomm Incorporated)

**Title:** Email discussion [100b-e-LTE-NB\_IoTenh3-Coex-NR-04]

**Document for:** Discussion and Decision

# Background

This document contains the discussion for the following:

[100b-e-LTE-NB\_IoTenh3-Coex-NR-04] Email approval of the reply LS for R1-2001518 for both eMTC and NB-IoT by 4/23 – Alberto (Qualcomm)

The following tdocs have been submitted to this agenda item regarding this LS:

* [R1-2001848](ftp://ftp.3gpp.org/tsg_ran/WG1_RL1/TSGR1_100b_e/Docs/R1-2001848.zip) Discussion on RAN2 LS on NR coexistence ZTE
* [R1-2002502](ftp://ftp.3gpp.org/tsg_ran/WG1_RL1/TSGR1_100b_e/Docs/R1-2002502.zip) On the LS on NR coexistence for NB-IoT/eMTC Ericsson
* [R1-2002602](ftp://ftp.3gpp.org/tsg_ran/WG1_RL1/TSGR1_100b_e/Docs/R1-2002602.zip) Draft reply LS on NR coexistence Huawei, HiSilicon
* [R1-2002175](ftp://ftp.3gpp.org/tsg_ran/WG1_RL1/TSGR1_100b_e/Docs/R1-2002175.zip) Coexistence of LTE-MTC with NR Qualcomm Incorporated
* [R1-2002177](ftp://ftp.3gpp.org/tsg_ran/WG1_RL1/TSGR1_100b_e/Docs/R1-2002177.zip) Coexistence of NB-IoT with NR Qualcomm Incorporated

# Question 1

***Question 1: For NB-IoT, which, if any, resource reservation parameters for NR are likely to be the same across different carriers?***

***Question 1.1: If some resource reservation parameters for NR can be same across different NB-IoT carriers then can all the parameters be the same for all the NB-IoT carriers configured via dedicated signalling?***

* **Ericsson:** Not all carriers have the same configuration, but not every carrier will have a different configuration – RAN2 can configure each carrier selected from a small set (e.g. two) of different configurations. Additionally, it should be possible to disable resource reservation for a given carrier.
* **ZTE:** None of the resource reservation parameters are likely to be the same for different carriers (regardless of these being configured by dedicated signaling or not).
* **Huawei:** It should be allowed that all the resource reservation parameters are different.
* **Qualcomm:** Periodicity/startPosition/subframe(slot) level resource/time domain reservation can be cell common. Bitmaps may be different for different carriers – a default parameter can be provided in SIB, which may be overridden by dedicated signaling.

**Q1-1: Is it acceptable to have common values for periodicity / startPosition / time domain reservation across different carriers?**

* + **Option 1: They are likely to be common, but they may be different.**
  + **Option 2: RAN2 can assume that these values are common.**
  + **Option 3: None of these values are likely to be common.**

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**Q1-2: Is it acceptable to have any of the following signaling optimizations?**

* + **Option 1: Override SIB parameters by unicast RRC.**
  + **Option 2: Signal a small set of configurations in SIB. Each carrier includes a pointer to one of these configurations**

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# Question 2

***Question 2: For NB-IoT and eMTC, which, if any, parameters are likely to be the same for uplink and downlink?***

* **Ericsson, ZTE:** It cannot be assumed that any parameters are likely to be the same.
* **Huawei:**
  + For NB-IoT and eMTC, periodicity / startPosition/subframeBitmap/slotBitmap may be common for uplink and downlink.
  + For eMTC, symbolBitmap may be the same for downlink and uplink.
* **Qualcomm:** It is desirable to configure uplink and downlink separately.

**Q2-1: On common values for periodicity / startPosition / subframeBitmap/slotBitmap for uplink and downlink, plus additionally symbolBitmap for eMTC:**

* + **Option 1: They are likely to be common, but they may be different.**
  + **Option 2: RAN2 can assume that these values are common.**
  + **Option 3: None of these values are likely to be common.**

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# Question 3

***Question 3: For NB-IoT and eMTC, which, if any, parameters are likely to be the same in neighbour cells on the same carrier frequency?***

* **Ericsson, ZTE:** It cannot be assumed that any parameters are likely to be the same.
* **Huawei:** If the same SSB pattern is configured in neighbor cells, resource reservation are the same in the same carrier frequency.
* **Qualcomm:** In some cases, the same resource reservation may be present in the same carrier frequency, but it should be possible to override (e.g. with delta configuration)

**Q3-1: Can parameters be common across neighbor cells?**

* + **Option 1: They are likely to be common, but they may be different.**
  + **Option 2: They may be common depending on the deployment and configurations.**
  + **Option 3: None of these values are likely to be common.**

**In all cases, RAN2 should provide signaling support to indicate different patterns.**

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# Draft LS response <To be drafted after receiving responses>