3GPP RAN WG2 Meeting #119bis-e draft - R2-2210812

E-Meeting October 10-19, 2022

Agenda Item: 6.20.2

Source: ZTE Corporation (rapporteur)

Title: [DRAFT] Report of [AT119bis-e][203][71 GHz] Corrections to 71 GHz (ZTE)

Document for: Discussion, Decision

# Introduction

This document is to kick off the following email discussion:

* [AT119bis-e][203][71 GHz] Corrections to 71 GHz (ZTE)

      Scope: Discuss the documents marked for this discussion under AI 6.20.x and provide agreeable versions of CRs (if any) for endorsement.

 Intended outcome: Report in in [R2-2210812](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2210812.zip).

 Deadline: Deadline 2 (report) / Deadline 3 (CRs)

# Contact information

Respondents to the email discussion are kindly asked to fill in the following table.

|  |  |
| --- | --- |
| Company | Contact details |
| Ericsson | min.w.wang@ericsson.com |
| ZTE | eswar.vutukuri@zte.com.cn |
| LGE | gyeongcheol.lee@lge.com |
| Intel | seau.s.lim@intel.com |
| Google | frankwu@google.com |
| vivo | yitao.mo@vivo.com |
| Nokia | jarkko.t.koskela@nokia.com |
| Qualcomm | oozturk@qti.qualcomm.com |
| Huawei, HiSilicon | tao.cai@huawei.com |
|  |  |

# Discussion

## CP changes

In [1], a number of changes were proposed with the following reasons:

1. Some features introduced in shared spectrum in FR1 (such as CAPC, LSB of ssb-SubcarrierOffset and intraCellGuardBandsDL-List, intraCellGuardBandsUL-List etc) are not applicable to FR2-2 and hence a clarification is needed for these.
2. In the field description of channelAccessMode, when channel access mode is configured as dynamic, the referenced clauses in the RAN1 specs are incorrect.
3. *~~According to RAN1’s LS (R1-2208231), channelAccessMode2 is expected to be configured in the region where LBT is mandated this is not captured currently.~~*
4. To make specs clearer, for *co\_DurationList*, the maximum value for other SCS should also be clarified.
5. *CO-DurationPerCell should be CO-DurationsPerCell.*

Apart from the change related to the RAN1 LS (i.e., 3. Above), do companies think other changes are okay?

|  |
| --- |
| Q1: Do companies agree with changes 1), 2), 4) and 5) in [1] ?  |
| Company | Agree/Disagree/Comments | Comments |
| Ericsson | agree | Changes are not essential, but it is fine. |
| ZTE | agree | Proponent |
| LGE | Agree | Fine to have this change. |
| Intel | Agree |  |
| Google | Agree |  |
| vivo | Agree |  |
| Nokia | Agree | Not essential but fine to have |
| Qualcomm | Agree | Good to have clarity in the specs |
| Huawei, HiSilicon | Agree |  |
| OPPO | Agree |  |
| **Summary:** * **All companies agree with the changes 1, 2, 4 and 5 in** [**R2-2209651**](file:///C%3A%5Cevutukuri%5Cwork%5C5G%5CRAN2%5Cdocs%5CR2-2209651.zip)

**Proposals:** * **Proposal 1: Changes 1, 2, 4 and 5 in** [**R2-2209651**](file:///C%3A%5Cevutukuri%5Cwork%5C5G%5CRAN2%5Cdocs%5CR2-2209651.zip) **are agreeable (merge them into the combined CR)**
 |

In [3], it was pointed out that the FR2-2 related preference indication configurations should be released upon RRC resume, but this is not done in the RRC today. The following configurations are proposed to be released upon RRC Resume:

* *maxBW-PreferenceConfigFR2-2*
* *maxMIMO-LayerPreferenceConfigFR2-2*
* *minSchedulingOffsetPreferenceConfigExt*

We can check if companies agree with this change.

|  |
| --- |
| Q2: Do companies agree that *maxBW-PreferenceConfigFR2-2, maxMIMO-LayerPreferenceConfigFR2-2, minSchedulingOffsetPreferenceConfigExt* should be released upon RRC Resume as proposed in [3]?  |
| Company | Agree/Disagree/Comment | Comments |
| Ericsson | agree |  |
| ZTE | agree |  |
| LGE | Agree |  |
| Intel | Agree |  |
| Google | Agree | Proponent |
| vivo | Agree |  |
| Nokia | Agree |  |
| Qualcomm | Agree |  |
| Huawei, HiSilicon | Agree |  |
| OPPO | Agree |  |
| **Summary:** * **All companies agree with the changes in** [R2-2210727](file:///C%3A%5Cevutukuri%5Cwork%5C5G%5CRAN2%5Cdocs%5CR2-2210727.zip)

**Proposals:** **Proposal 2: Changes in** [R2-2210727](file:///C%3A%5Cevutukuri%5Cwork%5C5G%5CRAN2%5Cdocs%5CR2-2210727.zip) **are agreeable (merge them into the combined CR)** |

Finally, during the online discussion we discussed the RAN1 LS in R1-2208231 and the following was agreed:

* Use text saying “The network configures this field if channel access procedures are required for the serving cell band within this region.” to description of channelAccessMode-2. Can clarify whether this is only used in common signalling (e.g. ServingCellConfigCommon(SIB))
* Offline discussion [203] to handle the CR details

|  |
| --- |
| Q3: Do companies have any final comments to the wording of the text agreed above?  |
| Company | Comments |
| Ericsson |  |
| ZTE | No strong view, but we just wanted to point out that the standard language we use in RRC is: “The network always configures *xxx ...*  if yyy …”The above online text may be slightly misleading in that it may be misinterpreted as: “the network configures this only if channel access procedures are required for the region”.However, I guess the network can also configure this even if the regulatory requirements don’t need it (it is up to network in this case). So perhaps we should use standard RRC language rather than introducing new phrases ??  |
| Nokia | ZTE has good point. Better to stick to regular sentence structures. |
| Qualcomm | Also agree with ZTE, even though it is not in NW’s best interest to configure this when regulations don’t ask for it. “Always configures” should solve that. One more complication is that “serving cell band” is ambigious. We have DL and UL frequencies for a cell and each can have a list of bands. I don’t have a good solution. Maybe just use “required for this serving cell by regulations”, which will also cover the “region”. |
| Huawei, HiSilcon | Agree to use the standard langurage.  |
| OPPO | Agree to use standard language |
| **Summary:** * **Seems there is support to try to stick with standard language used in RRC and no opposition for this approach.**
* **Also it seems referring to the “band” may be ambiguous as pointed out above by one company – so we can try to avoid the use of “band” in the final text (as below)**

**Proposals:** * **Proposal 3: Adopt the following wording for the text in the field descriptions:**

***“The network always configures this field if channel access procedures are required for the serving cell within this region by regulations.”*** |

One related issue is whether we should capture this only for common signalling IEs (ServingCellConfigCommon and ServingCellConfigCommonSIB) or should the change be also captured for the dedicated IE in *ServingCellConfig?*

Since the UE configuration can be resulting from any of these IEs it seems logical to clarify this in all places. Companies can comment whether this is agreeable or not.

|  |
| --- |
| Q4: Do companies agree that the text according to Q3 should be captured for the field description of channelAccessMode2 in *ServingCellConfig, ServingCellConfigCommon and ServingCellConfigCommonSIB*? |
| Company | Yes/No  | Comments (if the answer is No, please clarify which IEs it should be captured for and why) |
| Ericsson | Yes |  |
| ZTE | Yes | All signalling options are feasible, so, the text should apply to all IEs used to configure channelAccessMode2.  |
| LGE | Yes |  |
| Intel | Yes |  |
| Google | Yes |  |
| vivo | No | In the case where LBT is required in a region, we fail to see the motivation of indicating *channelAccessMode2* via the *servingCellConfig* IE. Specifically, all the UEs need to know that LBT is performed by the gNB. No UE is exceptional. That is no different UE-specific configuration is allowed in this case. So, using *ServingCellConfigCommon* or *ServingCellConfigCommonSIBI* indicating *channelAccessMode2* is sufficient, similarly to the SSB burst indication and RO configuration case. If we add additional clarification for *channelAccessMode2* in *servingCellConfig*, then it seems the NW has to repeatedly indicate *channelAccessMode2* via both *servingCellConfig(SIB)* and *servingCellConfig*, leading to unnecessary signaling overhead. |
| Nokia | Yes |  |
| Qualcomm | Yes | The IE is in both places so should be clarified in both. |
| Huawei, HiSilicon | Yes |  |
| OPPO | Yes |  |
| **Summary:** * **Except one company everyone agree that we should capture this for common and dedicated IEs**
* **Although it is likely that the indication is set in a common way, dedicated signalling is not precluded in such regions. Since any signalling in dedicated IE will override the common signalling, the rapporteur thinks that it is correct to clarify in all places.**

**Proposals:** * **Proposal 4: The text according to P3 should be captured for the field description of *channelAccessMode2* in *ServingCellConfig*, *ServingCellConfigCommon* and *ServingCellConfigCommonSIB***
 |

## UP changes

In [2], it was pointed out that for shared spectrum channel access in FR2-2, a new table including channel access type is introduced, which is different with operation in shared spectrum channel access in FR1. In addition, channel access mode is optionally configured. Only when it is configured, ChannelAccess-Cpext field in successRAR is present. The current description for this in the MAC spec is not correct and needs to be updated hence.

We can check if companies agree with this reasoning and the proposed change.

|  |
| --- |
| Q5: Do companies agree with the correction to the description of the ChannelAccess-CPext field as proposed in [2]?  |
| Company | Agree/Disagree/Comment | Comments |
| Ericsson | disagree | Sufficient to refer to RAN1 spec where the channel access mode will be checked. Whether and how channel access/LBT is performed is invisible to the MAC layer. MAC layer shall not check this.  |
| ZTE | Agree (proponent) | It would have been okay if we only used a reference to the RAN1 specs for this in the first place. However, currently there is already some description for this in MAC spec. Either we could remove this and just use a reference or we should make this referenced text accurate as proposed in the CR. Otherwise, the text in the MAC spec is inaccurate.  |
| LGE | Comments | We think that “ChannelAccess-CPext” is RAN1 parameter and the current wording in the MAC spec would be enough. If this much detail is needed, RAN1 spec should be updated and it would be sufficient to just refer RAN1 spec from MAC specification perspective.The problem is that 38.212 already updated this point clearly, but the 38.213 is not yet updated as this CR concerned as shown below. So, we wonder whether RAN1 spec needs to be updated like this CR indicated instead of updating MAC spec.

|  |
| --- |
| **38.212**- ChannelAccess-CPext – 2 bits indicating combinations of channel access type and CP extension as defined in Table 7.3.1.1.1-4, or Table 7.3.1.1.1-4A if *channelAccessMode-r16* = "*semiStatic*" is provided, for operation in a cell with shared spectrum channel access in frequency range 1; 2 bits indicating channel access type as defined in Table 7.3.1.1.1-4B if *ChannelAccessMode2-r17* is provided for operation in a cell in frequency range 2-2; 0 bit otherwise**38.213**The ChannelAccess-CPext field indicates a channel access type and CP extension for operation with shared spectrum channel access [15, TS 37.213] as defined in Table 7.3.1.1.1-4 in [5, TS 38.212] or Table 7.3.1.1.1-4A in [5, TS 38.212] if channelAccessMode = "semiStatic" is provided. |

 |
| Intel | Disagree, but no strong view | The current text already refers to the RAN1 specs and we also think that it is enough. We do not see a strong need to update. |
| Google | Disagree | It is sufficient to refer to the RAN1 specs. |
| vivo | No strong view |  |
| Nokia | Disagree | We think generally we should not duplicate UE behaviour text in multiple specifications. And as in this case it should be sufficient to refer to RAN1 specs – MAC should not be aware of LBT behaviour |
| Qualcomm | Agree | The current MAC text is not correct so good to clarify. Either we remove text completely and refer to RAN1 specs or make it more complete. |
| Huawei, HiSilicon | Disagree | Not sure the current MAC text is incorrect. If we really want to change, removing text completely is preferred.  |
| OPPO | Disagree |  |
| **Summary:** * **7 Companies disagree with the change and/or think current MAC spec is fine as is**
* **One company pointed out that changes may be needed in RAN1 specs instead**
* **2 companies supported the changes and think the current MAC spec is wrong/misleading**
* **It seems it is hard to agree this and rapporteur thinks it is not a critical issue as long as RAN1 specs are correct (may be companies can tidy up RAN1 specs if this is needed)**

**Proposals:** * **Proposal 5: Changes in** [R2-2209652](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209652.zip) **are not pursued**
 |

# Conclusions

The following proposals are made:

**Proposal 1: Changes 1, 2, 4 and 5 in R2-2209651 are agreeable (merge them into the combined CR)**

**Proposal 2: Changes in R2-2210727 are agreeable (merge them into the combined CR)**

**Proposal 3: For the R2-2209318 (RAN1 LS), adopt the following wording for the text in the field descriptions:**

***“The network always configures this field if channel access procedures are required for the serving cell within this region by regulations.”***

**Proposal 4: The text according to P3 should be captured for the field description of *channelAccessMode2* in *ServingCellConfig*, *ServingCellConfigCommon* and *ServingCellConfigCommonSIB***

**Proposal 5: Changes in R2-2209652 are not pursued**

# References

1. R2-2209651 CP corrections for NR operation to 71GHz ZTE Wistron Telecom AB CR Rel-17 38.331 17.2.0 3499 - F NR\_ext\_to\_71GHz-Core

1. [R2-2209652](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119bis-e/Docs/R2-2209652.zip) UP corrections for NR operation to 71GHz ZTE Wistron Telecom AB CR Rel-17 38.321 17.2.0 1414 - F NR\_ext\_to\_71GHz-Core

1. R2-2210727 Release FR2-2 related preference indication configurations in RRC resume Google Inc. CR Rel-17 38.331 17.2.0 3564 - F NR\_ext\_to\_71GHz-Core