3GPP TSG-RAN WG2 Meeting #113-e R2-210xxxx

**Online, January 25th – February 5th 2021**

**Agenda item: 6.14.1**

**Source: Apple**

**Title: Summary of [AT113-e][111][eMIMO] Corrections (Apple)**

**Document for: Discussion and Decision**

# Introduction

This document contains the summary of documents from agenda item 6.14.1 (“eMIMO - SpCell BFR”, and “eMIMO – other”) as per below excerpt from the session chair minutes:

* [AT113-e][111][eMIMO] Corrections (Apple)

Scope:

- Discuss revisions of [R2-2101365](file:///C:\Data\3GPP\RAN2\Docs\R2-2101365.zip), [R2-2101366](file:///C:\Data\3GPP\RAN2\Docs\R2-2101366.zip), [R2-2101367](file:///C:\Data\3GPP\RAN2\Docs\R2-2101367.zip) and reply LS to RAN1

- Discuss revision of [R2-2101485](file:///C:\Data\3GPP\Extracts\R2-2101485.doc)

Intended outcome: rapporteur's summary in R2-2102025 and agreeable CRs in R2-2102026, R2-2102027, R2-2102028 and R2-2102030; draft reply LS in R2-2102029

Deadline (for companies' feedback): Tuesday 2021-02-02 11:00 UTC

Deadline (for summary, CRs and LS): Tuesday 2021-02-02 17:00 UTC

CRs listed as "can be agreed as is" in R2-2102025 and not challenged until Wednesday 2021-02-03 11:00 UTC will be declared as agreed by the session chair. For the other ones, the discussion will continue online.

# Contact Points

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

|  |  |  |
| --- | --- | --- |
| Company | Name | Email Address |
| Nokia | Tero Henttonen | tero.henttonen@nokia.com |
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# Discussion

## Topic 1: SpCell BFR

Following agreements were made online, and the corresponding CRs and draft LS need to be discussed offline.

Agreements:

1. Introduce the dedicated UE capability for the R16 SpCell BFR enhancement.
2. The capability of R16 enhanced SpCell BFR is UE specific capability.
3. New configuration should be introduced to enable/disable the enhanced SpCell BFR procedure.

### 38.306 CR

[R2-2101365](file:///C:\Data\3GPP\RAN2\Docs\R2-2101365.zip) 38.306 CR on SpCell BFR Apple CR Rel-16 38.306 16.3.0 0506 - F NR\_eMIMO-Core

* Ericsson supports the CR but has some comments on the ASN.1 aspect, e.g. for the naming convention. Same view from Xiaomi
* Revised in R2-2102026
* Continue in offline 111

R2-2102026 38.306 CR on SpCell BFR Apple CR Rel-16 38.306 16.3.0 0506 1 F NR\_eMIMO-Core

The change in the draft CR is updated as below.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 4.2.6 MAC parameters  |  |  |  |  |  | | --- | --- | --- | --- | --- | | ***spCellBFREnh-r16***  Indicates whether the UE supports to use BFR MAC CE to indicate the SpCell BFR via the SpCell CBRA-BFR procedure as specified in TS 38.321 [8]. | UE | No | No | No | |

##### Q1: Do you agree with the change and the draft 38.306 CR?

|  |  |  |
| --- | --- | --- |
| Company | Agree? (Yes or No) | Comments |
| OPPO | Yes |  |
| Nokia, Nokia Shanghai Bell | Agree with changes | Two comments:  - The field name should be changed (see comments to RRC below)  - The description is a bit repetitive and could be improved: We have two alternative proposals for this:  1) "Indicates whether the UE supports sending BFR MAC CE via MsgA or Msg3 for SpCell BFR procedure using CBRA as specified in TS 38.321 [8]."  OR  2) " Indicates whether the UE supports being configured with *spCell-BFR-CBRA-r16*" |
| LG | Agree with changes | We think the field name should be descriptive and intuitive, as like Nokia's suggestion. Regarding the description, we prefer 1) in Nokia's suggestion. |
| Ericsson | Agree with changes | Same comments as Nokia with slight preference for alternative 2.  The title of the CR should not contain the name of the specification. |
| ZTE | Agree with changes | Agree with Ericsson , the second alternative is preference to us. |
| Samsung | Agree with changes | We think Nokia’s alternative 1 can be simplified as below.  "Indicates whether the UE supports sending BFR MAC CE ~~via MsgA or Msg3~~ for SpCell BFR ~~procedure using CBRA~~ as specified in TS 38.321 [8]." |
| Xiaomi | Agree with changes | 1. To align with the field naming convention, we could use “enhancedSpCellBFR-r16”. 2. According to the 38.321, the BFR MAC CE is to indicate the SpCell beam failure, not SpCell BFR. Nokia’s 1) seems ok to us. 3. In the cover page, “Impact Analysis” should be within the “Summary of Change”. |
| CATT | Yes | We think Nokia alt. 1 or Samsung proposed simplification are both fine. |
| Qualcomm | Agree with changes | Slightly prefer to Nokia’s alternative 2. |

### 38.331 CR

[R2-2101366](file:///C:\Data\3GPP\RAN2\Docs\R2-2101366.zip) RRC CR on SpCell BFR Apple CR Rel-16 38.331 16.3.1 2407 - F NR\_eMIMO-Core

* Revised in R2-2102027
* Continue in offline 111

R2-2102027 RRC CR on SpCell BFR Apple CR Rel-16 38.331 16.3.1 2407 1 F NR\_eMIMO-Core

The changes in the draft CR are updated as below.

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##### Q2: Do you agree with the change and the draft 38.331 CR?

|  |  |  |
| --- | --- | --- |
| Company | Agree? (Yes or No) | Comments |
| OPPO | Yes |  |
| Nokia, Nokia Shanghai Bell | Agree with changes | Three comments:  - The field name *spCellBFREnh-r16* does not follow RRC naming conventions (hyphen is needed after acronyms) and the "Enh" in the name is really non-descriptive, so better use (e.g.) *spCell-BFR-CBRA-r16* instead (for both configuration and capability)  - The need code should be Need R, otherwise the field is used once and then discarded (and it's not possible to release it, either)  - The field description should align with what is put to 38.306:  "Indicates that UE is configured to send BFR MAC CE via MsgA or Msg3 to indicate the SpCell BFR for the BFR procedure using CBRA as specified in TS38.321 [3]." |
| LG | Agree with changes | We think the field name should be descriptive and intuitive and the description should be aligned with the description in 38.306. |
| Ericsson | Agree with changes | Agree with Nokia's comments.  The title of the CR should not contain the name of the specification. |
| ZTE | Agree with changes | Agree with Nokia’s comments |
| Samsung | Agree with changes | Agree with Nokia's comments.  One minor comment is that the redundant comma should be deleted in the CR for completeness.  ]],  [[  SpCellBFREnh-r16 ENUMERATED {true} OPTIONAL, -- Need N  ]]  ...  [[  SpCellBFREnh-r16 ENUMERATED {supported} OPTIONAL,  ]], |
| Xiaomi | Agree with changes | Agree with Nokia’s comments. If SpCell is used as the starting word for the field, it should be “spcell” not “spCell”.  In the cover page, “Impact Analysis” should be within the “Summary of Change”. |
| CATT | Yes |  |
| Qualcomm | Agree with changes | Agree with Nokia’s comments. |

### 38.321 CR

[R2-2101367](file:///C:\Data\3GPP\RAN2\Docs\R2-2101367.zip) MAC CR on SpCell BFR Apple CR Rel-16 38.321 16.3.0 1030 - F NR\_eMIMO-Core

* Revised in R2-2102028
* Continue in offline 111

R2-2102028 MAC CR on SpCell BFR Apple CR Rel-16 38.321 16.3.0 1030 1 F NR\_eMIMO-Core

The changes in the draft CR are updated as below.

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| 5.1.3a MSGA transmission |
| 5.1.4 Random Access Response reception |

##### Q3: Do you agree with the change and the draft 38.321 CR?

|  |  |  |
| --- | --- | --- |
| Company | Agree? (Yes or No) | Comments |
| OPPO | No | Not sure whether this capability needs to be reflected in MAC, the field description is clear enough i.e., if UE does not support this feature, it will not be executed. |
| Nokia, Nokia Shanghai Bell | Agree with changes | Some small comments:  - Field name should be aligned with RRC (see above)  - The value is "true" and not "TRUE" and text could just say "*spCell-BFR-CBRA-r16* with value *true* is configured" (to align with other similar text in MAC). Note also that this is the configuration parameter, not the capability (i.e. OPPO is correct that we don't refer to capabilities in MAC but can refer to configurations) |
| LG | Agree with changes | In the MAC specification, the release number, i.e., "-r16", is not specified for parameter. "-r16" should be removed. |
| Ericsson | Agree with changes | Agree with Nokia's and LG's comments.  The title of the CR should not contain the name of the specification.  Regarding Oppo's comment: We should indeed refer to the RRC parameter and not the capability. There is no need to mention the capability as the network will not configure the parameter to *true* unless the UE has signalled the capability. |
| ZTE | Agree with changes | Agree with Ericsson , if the enable flag is introduced , anyway, MAC spec shall reflect it correspondingly. |
| Samsung | Agree with changes | We can simply say “and if spCell-BFR-CBRA is configured”.  No need to say ‘set to TRUE’ as there is only one value |
| Xiaomi | Agree with changes | Agree with the comments from Nokia, LG and Samsung.  In the cover page, “Impact Analysis” should be within the “Summary of Change”. |
| CATT | Yes | And we agree Ericsson’s comment as that is what we normally do. |
| Qualcomm | Agree with changes | Agree with comments from Nokia. |

### Draft LS Reply

[R2-2101856](file:///C:\Data\3GPP\RAN2\Docs\R2-2101856.zip) DRAFT LS Reply to RAN1 on CBRA based Beam Failure Recovery Apple LS out Rel-16 NR\_eMIMO-Core To:RAN1

* Revised in R2-2102029
* Continue in offline 111

R2-2102029 DRAFT LS Reply to RAN1 on CBRA based Beam Failure Recovery Apple LS out Rel-16 NR\_eMIMO-Core To:RAN1

The draft LS Reply is updated as below:

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##### Q4: Do you agree with the content of the draft LS reply?

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| --- | --- | --- |
| Company | Agree? (Yes or No) | Comments |
| OPPO | Yes |  |
| Nokia, Nokia Shanghai Bell | Partly | Instead of just sending the RAN 2 agreements without explanations, it would be better to make the text clearer e.g. as follows:  "...made the following conclusions:  - The R16 SpCell BFR procedure is configured to be used by the UE (via field *spCell-BFR-CBRA-r16*)  - A new per-UE capability *spCell-BFR-CBRA-r16* is introduced for indicating support for the R16 SpCell BFR enhancement. |
| LG | Yes |  |
| Ericsson | Well... | Not sure an LS is needed, but if we agree to send it, Nokia's comments should be taken into account. |
| ZTE | Not sure | We are not sure as well since we introduce the capability and enable flag which is triggered by RAN1 actually. |
| Samsung | Not sure | Same view with Ericsson. |
| Xiaomi | Not sure | We share the same view with Nokia and Ericsson. |
| CATT | Note sure |  |
| Qualcomm |  | The LS is not needed. |

## Topic 2: Correction on PUCCH group for enhanced PUCCH Spatial Relation

[R2-2101485](file:///C:\Data\3GPP\Extracts\R2-2101485.doc) Correction on PUCCH group for enhanced PUCCH Spatial Relation Huawei, HiSilicon CR Rel-16 38.321 16.3.0 1034 - F NR\_eMIMO-Core

- Nokia thinks we could refer to actual IE in RRC. Huawei is fine

- Intel thinks we also need to check the coversheet

* Revised in R2-2102030
* Continue in offline 111

R2-2102030 Correction on PUCCH group for enhanced PUCCH Spatial Relation Huawei, HiSilicon CR Rel-16 38.321 16.3.0 1034 1 F NR\_eMIMO-Core

**Summary of change:** Correct “PUCCH group” in the description of enhanced PUCCH spatial relation activation/deactivation MAC CE to “PUCCH resource group”.

And the change is copied below.

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|  |

##### Q5: Do you agree with the change and the draft CR?

|  |  |  |
| --- | --- | --- |
| Company | Agree? (Yes or No) | Comments |
| OPPO | No | We would suggest to directly use the IE in 38.331 |
| Nokia, Nokia Shanghai Bell | Partly | **Content:** The comment we made online was that the reference could be to the actual RRC field name, e.g. like this:  "If the indicated PUCCH Resource is configured as part of a PUCCH Resource Group (configured via *resourceGroupToAddModList-r16* as specified in TS 38.331 [5])  **Inter-operability analysis:** Please don't use "if not agreed, consequences if not approved remain" - that usually just hides what really happens. E.g. this would make the consequences clearer:  *If UE is implemented according to this CR and network is not, the UE may use different PUCCH resources that network assumes after the UE has received the enhanced PUCCH spatial relation activation/deactivation MAC CE.*  *If network is implemented according to this CR and UE is not, the UE may use different PUCCH resources that network assumes after the UE has received the enhanced PUCCH spatial relation activation/deactivation MAC CE.* |
| LG | No | We think the actual RRC IE should be used, i.e., *pucch-ResourceGroupId*. |
| Ericsson | Agree |  |
| ZTE | No strong view | Think Nokia’s suggestion make sense to us. |
| Samsung | No strong view | Think Nokia’s suggestion make sense to us. |
| Xiaomi |  | We slightly prefer Nokia’s changes. |
| CATT | No strong view. |  |
| Qualcomm | Agree | The original draft CR is enough. |

# Conclusions