**3GPP TSG-RAN** **WG2 Meeting #118-e R2-200xxxx**

**Electronic, 2nd – 13rd November 2020**

**Agenda Item: 5.1.4.1.1**

**Source: Huawei, HiSilicon**

**Title: Summary of [AT118-e][015][NR1516] p-MaxEutra and p-NR-FR1 (Huawei)**

**Document for: Discussion and decision**

# Introduction

This document summarizes the following offline discussion for Rel-15 UE capability corrections.

[AT118-e][015][NR1516] p-MaxEutra and p-NR-FR1 (Huawei)

Scope: Treat R2-2204411, R2-2204648, R2-2204453, R2-2205404, R2-2205513, R2-2204649

Ph1 Determine agreeable parts, Ph2 approve reply LS (offline, CB online only if necessary).

Intended outcome: Report, Approved LS out

Deadline: Schedule 1

# Contact from companies

|  |  |
| --- | --- |
| Company | Email |
| OPPO | qianxi.lu@oppo.com |
| vivo | wenjuan.pu@vivo.com |
| Nokia | amaanat.ali@nokia.com |
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# Discussion

## Background: LSs from other groups

In [1] RAN5 askes RAN1, RAN2 and RAN4 on whether the specifications require that the IEs p-MaxEUTRA and p-NR-FR1 are always configured by the network when UE works in EN-DC connectivity mode.

In [2] RAN1 replied the below

*There is no specified UE behavior in existing RAN1 specifications for the case where FR1-FR1 EN-DC is configured but p-MaxEUTRA or p-NR-FR1 is not configured. RAN1 may discuss potential action, if any, after RAN2/4 responses are received.*

In [3] RAN4 replied the below:

*For UEs supporting dynamic power sharing, RAN4 understanding is there is no specified UE behavior when the network does not configure p-MaxEUTRA or p-NR-FR1. It is up to RAN1 to confirm if this is a valid configuration. RAN4 will further discuss whether ‘infinity’ could be used as default value if these two parameters are not configured, and whether and how to capture this in the specification.*

*For UEs not supporting dynamic power sharing, RAN4 understanding is the UE’s transmitted power is not fully specified by RAN4. It is up to RAN1 to decide if p-MaxEUTRA or p-NR-FR1 should be configured by the network or if default values are needed.*

## Discussion: draft LS reply from RAN2

In [4] the LS contact proposed a draft reply as below, as according to the replies from RAN1 and RAN4, there seems no clear clue on whether there is any default value to be defined, or there is a mandated requirement to always configure both.

*RAN2 would like to confirm that RAN2 specifications don’t require that p-MaxEUTRA and p-NR-FR1 are always configured by the network when UE works in EN-DC connectivity mode. There is also no default value specified for these two IEs in case these two IEs are not configured. In case RAN1/4 agreed additional requirements for these two IEs, RAN2 can update RAN2 specifications accordingly.*

In [6] the LS draft reply is as below, the first part is similar as [4] and the major difference is to require the network to always configure both fields in real deployment, and indicate this to RAN5. The detailed reasoning is described in [5].

*According to RAN2 specification TS 36.331 and TS 38.331, there is no restriction that requires the network to always provide p-MaxEUTRA and p-NR-FR1 IEs to EN-DC UEs, and RAN2 specification does not specify the default value and expected UE behaviour if the field is not provided.*

*However, from RAN2 perspective, in real deployment, the network always configure p-MaxEUTRA and p-NR-FR1 fields when the UE is configured with EN-DC. So RAN2 sees no need to specify default values for these fields, and no need to discuss and specify UE behaviour for the scenario where p-MaxEUTRA and p-NR-FR1 are not configured.*

**Q1-1 Do companies agree that in real deployment the network always configure p-MaxEUTRA and p-NR-FR1, and agree to indicate this to RAN5?**

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| --- | --- | --- |
| **Company** | **Yes/No** | **Comments** |
| OPPO | Yes |  |
| vivo | Not sure |  |
| Nokia | No | Those are optional IEs and the network is not required to configure them. Although it seems in RAN1 specifications there is no explicit behavior but in RAN4 specifications there is an understanding that if p-MaxEUTRA or p-NR FR1 are not present the UE’s power class capability applies. |
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**Q1-2 Do companies have any preference on [4] or [6], and any suggestions to the LS wording?**

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| **Company** | **Preference on [4] or [6]?** | **Wording suggestions** |
| OPPO | [6] | **Since [4] seems to promote the further discussion on the case where the parameter is absent.** |
| vivo | [4] | Power control scheme is defined in RAN1 specs, so it would better to let RAN1 to confirm whether these two IEs shall be mandatorily configured. |
| Nokia | [4] | [4] reflects the situation correctly from RAN2 perspective so it should be used as baseline. |
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# Reference

1. R2-2204411 LS on configuration of p-MaxEUTRA and p-NR-FR1 (R5-217995; contact: Huawei) RAN5 LS in Rel-15 NR\_newRAT-Core To:RAN1, RAN2, RAN4
2. R2-2204453 Reply LS on configuration of p-MaxEUTRA and p-NR-FR1 (R1-2202769; contact: Huawei) RAN1 LS in Rel-15 NR\_newRAT-Core To:RAN5 Cc:RAN2, RAN4
3. R2-2204504 Reply LS on configuration of p-MaxEUTRA and p-NR-FR1 (R4-2206567; contact: Huawei) RAN4 LS in Rel-15 NR\_newRAT-Core To:RAN5 Cc:RAN1, RAN2
4. R2-2205513 Draft reply LS on configuration of p-MaxEUTRA and p-NR-FR1 Huawei, HiSilicon LS out Rel-15 NR\_newRAT-Core To:RAN5 Cc:RAN1, RAN4
5. R2-2204648 Discussion on configuration of p-MaxEUTRA and p-NR-FR1 ZTE Corporation, Sanechips discussion Rel-15 NR\_newRAT-Core R2-2202655
6. R2-2204649 [Draft] Reply LS on configuration of p-MaxEUTRA and p-NR-FR1 ZTE Corporation LS out Rel-15 NR\_newRAT-Core To:RAN5 Cc:RAN1, RAN4