**3GPP TSG-RAN** **WG2 Meeting #111-e R2-200xxxx**

**Electronic, 17th – 28th August 2020**

**Agenda Item: 6.1.2**

**Source: Huawei, HiSilicon**

**Title: Summary of offline 018 UE cap MR-DC Power Class**

**Document for: Discussion and decision**

# Introduction

This document summarizes the following offline discussion for MR-DC Power Class.

* [AT111-e][018][NR16] UE cap MR-DC Power Class (Huawei)

Scope: Treat R2-2007112, R2-2007113, R2-2007114, R2-2008077, R2-2008078 (proponents to drive),

Deadlines:

Phase I: solution selection, Wednesday 2020-08-19 07:00 UTC

Phase II: CR details,Friday 2020-08-21 07:00 UTC

# Discussion

## Background

In RP-201392 it is requested RAN2 to introduce new capability signalling for the below case:

*RAN4 has discussed an ambiguity that may arise in regard to the output power available on individual carriers when the UE is configured with an MR-DC configuration. Depending on UE implementation, in some circumstances a UE reporting PC2 for an NR band and PC2 for the MR-DC band combination may provide PC2 in NR part (single NR band or intra-band NR CA) of the MR-DC combination, whereas in other cases the UE would provide PC3 in the NR part of the MR-DC combination.* *It is ambiguous to the network whether PC2 or PC3 is applicable in the NR part of the MR-DC band combination. To resolve this, RAN#88e agreed that a new power class capability signalling for Rel-16 should be introduced in addition to the existing MR-DC power class.*

*RAN respectfully requests RAN2 to develop new power class UE capability signalling applicable for the NR part of the MR-DC band combination.* *This is in addition to the MR-DC power class, i.e. indicates that UE supports the newly indicated power class for the NR part of the MR-DC band combination also in addition the indicated power class for the MR-DC band combination. The value range for the signalled power class values is { pc1, pc2, pc3, pc5 }.*

## Phase I discussion: Option selection

There are two options to capture the signalling based on contributions:

* Option 1: per BC reporting [1][2]
* Option 2: per band per BC reporting [1][2][3]

It would be good to try to have a consensus to adopt one option, and discuss details.

**Q1. Which option is preferred?**

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| --- | --- | --- |
| **Company** | **Option 1/Option 2** | **Comments** |
| ZTE | Option 2 | Our understanding is that for the BC that supports PC2, currently there is only one NR band, thus both options can work , but we think the option 2 is more consistent with RAN4’s understanding. |
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## Phase II discussion: CR details

To be updated after Phase I discussion

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# Reference

1. R2-2008077 Introduction of new PowerClass for NR part in MR-DC Huawei, HiSilicon, CMCC
2. R2-2008078 Introduction of new PowerClass for NR part in MR-DC Huawei, HiSilicon, CMCC
3. [R2-2007112](file:///D:\\Documents\\3GPP\\tsg_ran\\WG2\\TSGR2_111-e\\Docs\\R2-2007112.zip" \o "D:Documents3GPPtsg_ranWG2TSGR2_111-eDocsR2-2007112.zip) Discussion on UE capability for power class for NR band in MR-DC combination Apple
4. [R2-2007113](file:///D:\\Documents\\3GPP\\tsg_ran\\WG2\\TSGR2_111-e\\Docs\\R2-2007113.zip" \o "D:Documents3GPPtsg_ranWG2TSGR2_111-eDocsR2-2007113.zip) UE capability for power class for NR band in MR-DC combination Apple
5. [R2-2007114](file:///D:\\Documents\\3GPP\\tsg_ran\\WG2\\TSGR2_111-e\\Docs\\R2-2007114.zip" \o "D:Documents3GPPtsg_ranWG2TSGR2_111-eDocsR2-2007114.zip) UE capability for power class for NR band in MR-DC combination Apple