**3GPP TSG-RAN WG4 Meeting #97-e R4-2014931**

**Online, 2nd Nov-13th Nov, 2020**

**Source:** KDDI

**Title:** TP for TR 37.717-11-21: DC\_18A\_n3A-n41A

**Agenda item:** 10.7.2

**Document for:** Approval

1. Introduction

This contribution is a text proposal for TR 37.717-11-21 to include DC\_18A\_n3A-n41A according to the request in [1].

2. Reference

1. RP-201477, New WID on Dual Connectivity (DC) of x bands (x=1,2,3,4) LTE inter-band CA (xDL/1UL) and 2 bands NR inter-band CA (2DL/1UL).

3. Text Proposal

**<Start of Text Proposal>**

6.x DC\_18\_n3-n41

6.x.1 Operating bands for DC

**Table 6.x.1-1: DC band combination of LTE 1DL/1UL + NR 2DL/1UL**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **E-UTRA and NR DC Band** | **E-UTRA and NR Band** | **Uplink (UL) band** | | | **Downlink (DL) band** | | | **Duplex**  **mode** |
| **BS receive / UE transmit** | | | **BS transmit / UE receive** | | |
| **FUL\_low – FUL\_high** | | | **FDL\_low – FDL\_high** | | |
| DC\_18A\_n3A-n41A | 18 | 815 MHz | – | 830 MHz | 860 MHz | – | 875 MHz | FDD |
| n3 | 1710 MHz | – | 1785 MHz | 1805 MHz | – | 1880 MHz | FDD |
| n41 | 2496 MHz | – | 2690 MHz | 2496 MHz | – | 2690 MHz | TDD |

6.x.2 Channel bandwidths per operating band for DC

**Table 6.x.2-1: Supported bandwidths per DC band combination of LTE 1DL/1UL + NR 2DL/1UL**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | | **DC operating / channel bandwidth [MHz]** | | | | | | | | | | | | | | | |
| **E-UTRA and NR DC Configuration** | **UL Configuration** | **E-UTRA and NR Band** | | **SCS (kHz)** | **5** | **10** | **15** | **20** | **25** | **30** | **40** | **50** | **60** | **70** | **80** | **90** | **100** | **Maximum aggregated bandwidth**  **[MHz]** |
| DC\_18A\_n3A-n41A | DC\_18A\_n3A  DC\_18A\_n41A | 18 | | 15 | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |  | 155 |
| n3 | | 15 | Yes | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |  |
| 30 |  | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |  |
| 60 |  | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |  |
| n41 | | 15 |  | Yes | Yes | Yes |  | Yes | Yes | Yes |  |  |  |  |  |
| 30 |  | Yes | Yes | Yes |  | Yes | Yes | Yes | Yes |  | Yes | Yes | Yes |
| 60 |  | Yes | Yes | Yes |  | Yes | Yes | Yes | Yes |  | Yes | Yes | Yes |

6.x.3 Co-existence studies

Based on the co-existence studies of DC\_18A-n3A and DC\_18A-n41, impact on own Rx of 3rd band is as follows.

- 2nd and 3rd order IMD generated by dual uplink of Band 18 + Band n3 may also fall into own Rx of band n41.

- 2nd order IMD generated by dual uplink of Band 18 + Band n41 may also fall into own Rx of band n3.

6.x.4 ∆TIB and ∆RIB values

ΔTIB,c and ΔRIB,c values for DC\_18A\_n3A-n41A are shown in the following tables.

**Table 6.x.4-1: ΔTIB,c**

| **Inter-band DC Configuration** | **E-UTRA and NR Band** | **ΔTIB,c [dB]** |
| --- | --- | --- |
| DC\_18\_n3-n41 | 18 | 0.3 |
| n3 | 0.5 |
| n41 | 0.3 |

**Table 6.x.4-2:** **ΔRIB,c**

| **Inter-band DC Configuration** | **E-UTRA and NR Band** | **ΔRIB,c [dB]** |
| --- | --- | --- |
| DC\_18\_n3-n41 | 18 | 0 |
| n3 | 0 |
| n41 | 0 |

6.x.5 MSD

Table 6.x.5-1 shows the required MSD:

**Table 6.x.5-1: MSD exception for Scell due to dual uplink operation for EN-DC\_18A\_n3A-n41A**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| DC bands | UL DC | IMD | | UL Fc  (MHz) | UL BW (MHz) | UL  RB # | DL Fc  (MHz) | DL BW  (MHz) | MSD  (dB) |
| DC\_18A\_n3A-n41A | 18 | IMD2 | |fB18 +fn3| | 820 | 5 | 25 | 865 | 5 | **N/A** |
| n3 | 1720 | 5 | 25 | 1815 | 5 |
| n41 | 2540 | 5 | 25 | 2540 | 5 | **29.41** |
| 18 | IMD2 | |fB18 -fn41| | 820 | 5 | 25 | 865 | 5 | **N/A** |
| n41 | 2655 | 5 | 25 | 2655 | 5 |
| n3 | 1740 | 5 | 25 | 1835 | 5 | **28.2** |
| Note1: This band is subject to IMD3 also which MSD is not specified | | | | | | | | | |

**<End of Text Proposal>**