**3GPP TSG-RAN WG4 Meeting #97-e R4-20xxxxx**

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

**Source:** Samsung, KDDI

**Title:** TP for TR 37.717-11-21: DC\_41\_n41-n78

**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\_41\_n41-n78 according to the request in [1].

2. Reference

1. RP-201477, Revised 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\_41\_n41-n78

6.x.1 Operating bands for DC

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

|  |  |  |
| --- | --- | --- |
| DC Band | LTE Band  (Table 5.5-1 in TS36.101[4]) | NR Band  (Table 5.2-1 in TS38.101-1[2] and TS38.101-2[3]) |
| DC\_41\_n41-n78 | 41 | n41, n78 |

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** |
| DC\_41A\_n41A-n78A | DC\_41A\_n78A | 41 |  | Yes | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| n41 | See CA\_n41A-n78A BCS0 in Table 5.5A.3.1-1 of TS 38.101-1 | | | | | | | | | | | | | |
| n78 |

6.x.3 Co-existence studies

Co-existence studies of this 3DL/2UL DC configuration are already covered in the constituent fall-back mode.Table 6.x.3-1 summarizes the EN-DC band combinations with self-interference problems for DC\_41\_n41-n78

**Table 6.x.3-1: Summary of Self-interference analysis for DC\_41\_n41-n78 with 2 bands UL**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Downlink  band configuration** | **Uplink  DC Configuration** | **Harmonic**  **relation issues** | **intermodulation to own rx band** | **interference due to small frequency separation** | **MSD** |
| DC\_41\_n41-n78 | DC\_41\_n78 | No | IMD4 | Yes | No |

The MSD due to small frequency separation has been defined in the constituent fall-back modes DC\_41\_n78.

Since DC\_41\_n41 only apply for non-simultaneous Tx/Rx between all carriers, there is no IMD4 issue for DC\_41\_n41-n78 with UL DC\_41\_n78.

6.x.4 ∆TIB and ∆RIB values

For DC\_41\_n41-n78, the ΔTIB,c and ΔRIB,c values are reuse the values of DC\_41\_n78 as given in the tables below.

**Table 6.x.4-1: ΔTIB,c**

| **Inter-band DC Configuration** | **E-UTRA and NR Band** | **ΔTIB,c [dB]** |
| --- | --- | --- |
| DC\_41\_n41-n78 | 41 | 0.3 |
| n41 | 0.3 |
| n78 | 0.8 |

**Table 6.x.4-2:** **ΔRIB,c**

| **Inter-band DC Configuration** | **E-UTRA and NR Band** | **ΔRIB,c [dB]** |
| --- | --- | --- |
| DC\_41\_n41-n78 | 41 | 0 |
| n41 | 0 |
| n78 | 0.5 |

6.x.5 MSD

There is no additional MSD requirement for this band combination.

**<End of Text Proposal>**