**3GPP TSG-WG RAN4 Meeting #98-e *R4-2100331***

**Electronic meeting, 25th January – 5th February, 2021**

**Source:** Huawei, HiSilicon

**Title:** TP for TR 37.717-11-21: DC\_3A-7A-8A-40A\_n1A-n78A/DC\_3A-7A-8A-40C\_n1A-n78A

**Agenda Item:** 9.7.2

**Document for:** Approval

# Introduction

The WID for NR DC was updated in RAN #90e meeting[1]. This contribution provides a TP for TR 37.717-11-21 to finish the UE RF requirements for the band combination.

# References

[1] RP-202292, “New WID on DC of x bands (x=1,2,3,4) LTE inter-band CA (xDL/1UL) and 2 bands NR inter-band CA (2DL/1UL)”, LG Electronics

# Text Proposal

**<TP for TR 37.717-11-21>**

9.x DC\_3-7-8-40\_n1-n78

9.x.1 Operating bands for DC

**Table 8.x.1-1: DC band combination of LTE 2DL/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\_3A-7A-8A-40A\_n1A-n78A  DC\_3A-7A-8A-40C\_n1A-n78A | n1 | 1920 MHz | – | 1980 MHz | 2110 MHz | – | 2170 MHz | FDD |
| 3 | 1710 MHz | – | 1785 MHz | 1805 MHz | – | 1880 MHz | FDD |
| 7 | 2500 MHz | – | 2570 MHz | 2620 MHz | – | 2690 MHz | FDD |
| 8 | 880 MHz | – | 915 MHz | 925 MHz | – | 960 MHz | FDD |
| 40 | 2300 MHz | – | 2400 MHz | 2300 MHz | – | 2400 MHz | TDD |
| n78 | 3300 MHz | – | 3800 MHz | 3300 MHz | – | 3800 MHz | TDD |

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

**Table 8.x.2-1: Supported bandwidths per DC band combination of LTE 2DL/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\_3A-7A-8A-40A\_n1A-n78A | DC\_3A\_n1A  DC\_3A\_n78A  DC\_7A\_n1A  DC\_7A\_n78A  DC\_8A\_n1A  DC\_8A\_n78A  DC\_40A\_n1A  DC\_40A\_n78A | 3 | 15 | Yes | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  | 220 |
| 7 | 15 | Yes | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 8 | 15 | Yes | Yes |  |  |  |  |  |  |  |  |  |  |  |
| 40 | 15 | Yes | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| n1 | 15 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |
| 30 |  | Yes | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |
| 60 |  | Yes | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |
| n78 | 15 |  | Yes | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |
| 30 |  | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 60 |  | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| DC\_3A-7A-8A-40C\_n1A-n78A | DC\_3A\_n1A  DC\_3A\_n78A  DC\_7A\_n1A  DC\_7A\_n78A  DC\_8A\_n1A  DC\_8A\_n78A  DC\_40A\_n1A  DC\_40A\_n78A | 3 | 15 | Yes | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  | 240 |
| 7 | 15 | Yes | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 8 | 15 | Yes | Yes |  |  |  |  |  |  |  |  |  |  |  |
| 40 | See CA\_3C Bandwidth Combination Set 0 in Table 5.6A.1-1 | | | | | | | | | | | | | |
| n1 | 15 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |
| 30 |  | Yes | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |
| 60 |  | Yes | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |
| n78 | 15 |  | Yes | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |
| 30 |  | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 60 |  | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

9.x.3 Co-existence studies

Co-existence studies of DC\_3-7-8-40\_n1-n78 and protected bands are already covered in the constituent fall-back modes.

9.x.4 ∆TIB and ∆RIB values

The ΔTIB,c and ΔRIB,c values of DC\_3-7-8-40\_n1-n78 are given in the tables below reusing the values for DC\_1-3-7-8-40\_n78.

**Table 8.x.4-1: ΔTIB,c**

|  |  |  |
| --- | --- | --- |
| **Inter-band DC Configuration** | **E-UTRA and NR Band** | **ΔTIB,c [dB]** |
| DC\_3-7-8-40\_n1-n78 | n1 | 0.6 |
| 3 | 0.6 |
| 7 | 0.5 |
| 8 | 0.6 |
| 40 | 0.31 |
| n78 | 0.81 |
| NOTE 1: Only applicable for UE supporting inter-band carrier aggregation with uplink in one E-UTRA band and without simultaneous Rx/Tx. | | |
|  | | |

**Table 8.x.4-2: ΔRIB,c**

| **Inter-band DC Configuration** | **E-UTRA and NR Band** | **ΔRIB,c [dB]** |
| --- | --- | --- |
| DC\_3-7-8-40\_n1-n78 | n1 | 0.2 |
| 3 | 0.2 |
| 7 | 0 |
| 8 | 0.2 |
| 40 | 0.41 |
| n78 | 0.51 |
| NOTE 1: Only applicable for UE supporting inter-band carrier aggregation with uplink in one E-UTRA band and without simultaneous Rx/Tx. | | |
|  | | |

9.x.5 MSD

All MSD requirements for DC\_3-7-8-40\_n1-n78 are already covered by constituent fallback modes. No additional MSD requirement is needed.

**<End of TP >**