**3GPP TSG-RAN WG4 #96-e R4-2010559**

**Online, 17th – 28th August, 2020**

**Source: Huawei, HiSilicon**

**Title: TP to TR 37.717-21-11 DC\_8A-40A\_n78A**

**Agenda item: 10.4.2**

**Document for: Approval**

# 1. Introduction

In this contribution, we propose a text proposal for TR 37.717-21-11 for EN-DC band combinations in Rel-17 to introduce DC\_8A-40A\_n78A.

# 2. Text Proposal

**----- Unchanged sections omitted -----**

## 5.x DC\_8-40\_n78

5.x.1 Operating bands for DC

Table 5.x.1-1: Band combinations EN-DC (three bands)

| EN-DC Band | E-UTRA Band | NR Band | Single UL allowed |
| --- | --- | --- | --- |
| DC\_8-40\_n78 | CA\_8-40 | n78 | No |

5.x.2 Configurations for DC

Table 5.x.2-1: Inter-band EN-DC configurations (three bands)

| EN-DC  configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA configuration | NR configuration |
| --- | --- | --- | --- |
| DC\_8A-40A\_n78A | DC\_8A\_n78A  DC\_40A\_n78A | CA\_8A-40A | n78 |

5.x.3 Co-existence studies

Based on co-existence studies of Band 8 + Band n78 captured in 37.863-01-01, MSD shall be considered since

- 4th order IMD of the two bands may fall into Rx frequencies of band 8

- 4th harmonic of the band 8 may fall into Rx frequencies of band n78

- 2nd order IMD of the two bands may fall into Rx frequencies of band 40, under the cases that band 40 is not in sync with band n78 in TDD configuration

And based on co-existence studies of Band 40 + Band n78 captured in 37.716-11-11, MSD shall be considered since

- 2nd and 3rd order IMD generated by dual uplink of the two bands may fall into own Rx of band 8.

- harmonic mixing generated by 2nd harmonic of n78 Tx and 3rd harmonic of band 40 Rx.

5.x.4 ∆TIB and ∆RIB values

Table 5.x.4-1: ΔTIB,c

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_8-40-n78 | 8 | 0.6 |
| 40 | 0.35 |
| n78 | 0.85 |
| NOTE 5: Only applicable for UE supporting inter-band carrier aggregation with uplink in one NR band and without simultaneous Rx/Tx. | | |

**Table 5.x.4-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_8-40-n78 | 8 | 0.2 |
| 40 | 0.45 |
| n78 | 0.55 |
| NOTE 5: Only applicable for UE supporting inter-band carrier aggregation with uplink in one NR band and without simultaneous Rx/Tx. | | |

5.x.5 REFSENS requirements

As stated in 5.x.3, for MSD requirement caused by IMDs is specified below accordingly.

Table 7.3B.2.3.5.2-1: MSD test points for Scell due to dual uplink operation for EN-DC in NR FR1 (three bands)

| NR or E-UTRA Band / Channel bandwidth / NRB / MSD | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| EN-DC Configuration | EUTRA / NR band | UL Fc  (MHz) | UL/DL BW  (MHz) | UL  LCRB | DL Fc (MHz) | MSD  (dB) | IMD order |
| DC\_8A-40A\_n78A | 8 | 905 | 5 | 25 | 950 | 30.5 | IMD2 |
| 40 | 2380 | 5 | 25 | 2380 | N/A | N/A |
| n78 | 3330 | 10 | 50 | 3330 | N/A | N/A |
| DC\_8A-40A\_n78A | 8 | 890 | 5 | 25 | 935 | 19.8 | IMD3 |
| 40 | 2320 | 5 | 25 | 2320 | N/A | N/A |
| n78 | 3705 | 10 | 50 | 3705 | N/A | N/A |
| DC\_8A-40A\_n78A | 8 | 910 | 5 | 25 | 955 | N/A | N/A |
| 40 | 2395 | 5 | 25 | 2395 | 28 | IMD2 |
| n78 | 3305 | 10 | 50 | 3305 | N/A | N/A |

Other issues mentioned in 5.x.3 had already been specified in the corresponding specs.

**----- Unchanged sections omitted -----**

# Reference