**3GPP T****SG-RAN WG4 Meeting#98 R4-2100145**

**E-meeting, 21st Jan – 5th** **Feb, 2021**

**Title: TP to TR 37.717-21-11: DC\_20-40\_n78**

**Source: Nokia, Telefonica**

**Agenda item: 9.4.2**

**Document for: Approval**

# 1 Introduction

This contribution is a TP into TR 37.717-21-11 to introduce DC\_20-40\_n78.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Start of TP \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

## 5.X DC\_20-40\_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\_20-40\_n78 | CA\_20-40 | 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\_20A-40A\_n78A | DC\_20A\_n78A  DC\_40A\_n78A | CA\_20A-40A | n78 |

5.X.3 Co-existence studies

Based on co-existence studies of Band 20 + Band n78 captured in 37.863-01-01 there is no IMD interfering band 40

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

- 3rd order IMD generated by dual uplink of the two bands may fall into own Rx of band 20.

5.X.4 ∆TIB and ∆RIB values

It is proposed to re-use relaxation values from DC\_8-40-n78 which is very similar.

Table 5.X.4-1: ΔTIB,c

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_20-40-n78 | 20 | 0.6 |
| 40 | 0.35 |
| n78 | 0.85 |
| NOTE 5: Only applicable for UE supporting inter-band carrier aggregation with uplink in one E-UTRA band and without simultaneous Rx/Tx. | | |

**Table 5.X.4-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_20-40-n78 | 20 | 0.2 |
| 40 | 0.45 |
| n78 | 0.55 |
| NOTE 5: Only applicable for UE supporting inter-band carrier aggregation with uplink in one E-UTRA band and without simultaneous Rx/Tx. | | |

5.X.5 REFSENS requirements

It is proposed to re-use IMD3 MSD value from DC\_8-40-n78 which is very similar.

Table 5.X.5-1: 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\_20A-40A\_n78A | 20 | 856 | 5 | 25 | 815 | 19.8 | IMD3 |
| 40 | 2302.5 | 5 | 25 | 2302.5 | N/A | N/A |
| n78 | 3790 | 10 | 50 | 3790 | N/A | N/A |

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