**3GPP TSG-RAN WG4 Meeting # 112 *R4-2411836***

**Maastricht, Netherlands, August 19 – 23, 2024**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.101-3** | **CR** | **<CR#>** | **rev** | **-** | **Current version:** | **18.6.0** |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network |  |

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| ***Title:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | ZTE Corporation, Sanechips | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | DC\_R19\_xBLTE\_yBNR-Core | | | | |  | ***Date:*** | | | 2024-08-07 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-19 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Introduce the following band combination.   * DC\_7C-20A\_n28A   Note that the fallback band combinations have already been supported in the current spec. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Introduce the inter-band EN-DC configuration within FR1 for DC\_7C-20A\_n28A. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The mentioned new configuration for three-band EN-DC will not be supported in Rel-19. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.5B.4.2, 7.3B.2.3.5.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | | **X** |  | Test specifications | | | | TS/TR ... CR ... 38.521-3 | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

### *<< Start of changes >>*

#### 5.5B.4.2 Inter-band EN-DC configurations within FR1 (three bands)

Table 5.5B.4.2-1: Inter-band EN-DC configurations within FR1 (three bands)

| **EN-DC**  **configuration** | **Uplink EN-DC**  **configuration**  **(NOTE 1)** |
| --- | --- |
| Unchanged configurations omitted | |
| DC\_7A\_n1A-n8A | DC\_7A\_n1A  DC\_7A\_n8A |
| DC\_7A-7A\_n1A-n8A | DC\_7A\_n1A  DC\_7A\_n8A |
| DC\_7A\_n1A-n28A | DC\_7A\_n1A  DC\_7A\_n28A |
| DC\_7C\_n1A-n28A | DC\_7A\_n1A  DC\_7A\_n28A  DC\_7C\_n1A  DC\_7C\_n28A |
| DC\_7A\_n1A-n40A | DC\_7A\_n1A  DC\_7A\_n40A |
| DC\_7A\_n1A-n75A | DC\_7A\_n1A |
| DC\_7A\_n1A-n78A5, 14  DC\_7C\_n1A-n78A5 | DC\_7A\_n1A  DC\_7A\_n78A14  DC\_7C\_n1A  DC\_7C\_n78A |
| DC\_7A\_n1A-n78(2A)5  DC\_7C\_n1A-n78(2A)5 | DC\_7A\_n1A  DC\_7A\_n78A  DC\_7C\_n1A  DC\_7C\_n78A |
| DC\_7A-7A\_n1A-n78A5, 14 | DC\_7A\_n1A  DC\_7A\_n78A14 |
| DC\_7A\_n2A-n66A | DC\_7A\_n2A  DC\_7A\_n66A |
| DC\_7A\_n2A-n71A | DC\_7A\_n2A  DC\_7A\_n71A |
| DC\_7A\_n2A-n77A | DC\_7A\_n2A  DC\_7A\_n77A |
| DC\_7A\_n2A-n78A | DC\_7A\_n2A  DC\_7A\_n78A |
| DC\_7A\_n3A-n78A  DC\_7C\_n3A-n78A | DC\_7A\_n3A  DC\_7A\_n78A  DC\_7C\_n3A  DC\_7C\_n78A |
| DC\_7A\_n3A-n78(2A)  DC\_7C\_n3A-n78(2A) | DC\_7A\_n3A  DC\_7A\_n78A  DC\_7C\_n3A  DC\_7C\_n78A |
| DC\_7A\_n5A-n40A | DC\_7A\_n5A DC\_7A\_n40A |
| DC\_7A\_n5A-n78A14  DC\_7C\_n5A-n78A14 | DC\_7A\_n5A  DC\_7C\_n5A  DC\_7A\_n78A14  DC\_7C\_n78A14 |
| DC\_7A\_n7A-n78A5 | DC\_7A\_n78A  DC\_7A\_n7A2 |
| DC\_7A\_n7A-n78(2A) | DC\_7A\_n78A  DC\_7A\_n7A2 |
| DC\_7A-8A\_n1A  DC\_7A-8B\_n1A | DC\_7A\_n1A  DC\_8A\_n1A |
| DC\_7A-7A-8A\_n1A  DC\_7A-7A-8B\_n1A | DC\_7A\_n1A  DC\_8A\_n1A |
| DC\_7A-8A\_n3A | DC\_7A\_n3A  DC\_8A\_n3A |
| DC\_7A-8A\_n7A | DC\_7A\_n7A  DC\_8A\_n7A |
| DC\_7A-8A\_n20A | DC\_7A\_n20A  DC\_8A\_n20A |
| DC\_7A-8A\_n28A | DC\_7A\_n28A  DC\_8A\_n28A |
| DC\_7A-7A-8A\_n28A | DC\_7A\_n28A  DC\_8A\_n28A |
| DC\_7A-8A\_n40A | DC\_7A\_n40A  DC\_8A\_n40A |
| DC\_7A\_n8A-n40A | DC\_7A\_n8A  DC\_7A\_n40A |
| DC\_7A-8A\_n77A5 | DC\_7A\_n77A  DC\_8A\_n77A |
| DC\_7A-8A\_n78A5, 14 | DC\_7A\_n78A14  DC\_8A\_n78A14 |
| DC\_7A-8A\_n78(2A) | DC\_7A\_n78A  DC\_8A\_n78A |
| DC\_7A-7A-8A\_n78A5, 14 | DC\_7A\_n78A14  DC\_8A\_n78A14 |
| DC\_7A-7A\_n8A-n78A5, 14 | DC\_7A\_n8A  DC\_7A\_n78A14 |
| DC\_7A-8B\_n78A5, 14  DC\_7A-7A-8B\_n78A5, 14 | DC\_7A\_n78A14  DC\_8A\_n78A14  DC\_8B\_n78A |
| DC\_7A\_n8A-n78A5, 14 | DC\_7A\_n8A  DC\_7A\_n78A14 |
| DC\_7A-12A\_n2A | DC\_7A\_n2A  DC\_12A\_n2A |
| DC\_7A-12A\_n2(2A) | DC\_7A\_n2A  DC\_12A\_n2A |
| DC\_7A-12A\_n25A | DC\_7A\_n25A  DC\_12A\_n25A |
| DC\_7A-12A\_n66A | DC\_7A\_n66A  DC\_12A\_n66A |
| DC\_7A-12A\_n77A | DC\_7A\_n77A  DC\_12A\_n77A |
| DC\_7A-12A\_n77(2A) | DC\_7A\_n77A  DC\_12A\_n77A |
| DC\_7A\_n12A-n77A | DC\_7A\_n12A  DC\_7A\_n77A |
| DC\_7A-12A\_n78A | DC\_7A\_n78A  DC\_12A\_n78A |
| DC\_7A-12A\_n78(2A) | DC\_7A\_n78A  DC\_12A\_n78A |
| DC\_7A\_n12A-n78A | DC\_7A\_n12A  DC\_7A\_n78A |
| DC\_7A-13A\_n25A  DC\_7C-13A\_n25A | DC\_7A\_n25A  DC\_13A\_n25A |
| DC\_7A-7A-13A\_n25A | DC\_7A\_n25A  DC\_13A\_n25A |
| DC\_7A-13A\_n66A  DC\_7C-13A\_n66A | DC\_7A\_n66A  DC\_13A\_n66A |
| DC\_7A-7A-13A\_n66A | DC\_7A\_n66A  DC\_13A\_n66A |
| DC\_7A-20A\_n1A  DC\_7C-20A\_n1A | DC\_7A\_n1A  DC\_7C\_n1A  DC\_20A\_n1A |
| DC\_7A-20A\_n3A  DC\_7C-20A\_n3A | DC\_7A\_n3A  DC\_7C\_n3A  DC\_20A\_n3A |
| DC\_7A-20A\_n8A | DC\_7A\_n8A  DC\_20A\_n8A |
| DC\_7A-20A\_n28A16,20  DC\_7C-20A\_n28A16,20 | DC\_7A\_n28A  DC\_20A\_n28A |
| DC\_7A-20A\_n78A5  DC\_7A-20A\_n78C5 | DC\_7A\_n78A  DC\_20A\_n78A |
| DC\_7A-7A-20A\_n78A5 | DC\_7A\_n78A  DC\_20A\_n78A |
| DC\_7A-20A\_n78(2A)5 | DC\_7A\_n78A  DC\_20A\_n78A |
| DC\_7A\_n25A-n66A | DC\_7A\_n25A DC\_7A\_n66A |
| DC\_7A-7A\_n25A-n66A | DC\_7A\_n25A DC\_7A\_n66A |
| DC\_7C\_n25A-n66A | DC\_7A\_n25A DC\_7A\_n66A |
| DC\_7A\_n25A-n71A | DC\_7A\_n25A  DC\_7A\_n71A |
| DC\_7A-25A\_n77A  DC\_7C-25A\_n77A | DC\_7A\_n77A  DC\_25A\_n77A |
| DC\_7A-7A-25A\_n77A | DC\_7A\_n77A  DC\_25A\_n77A |
| DC\_7A-25A-25A\_n77A  DC\_7C-25A-25A\_n77A | DC\_7A\_n77A  DC\_25A\_n77A |
| DC\_7A-7A-25A-25A\_n77A | DC\_7A\_n77A  DC\_25A\_n77A |
| DC\_7A-25A\_n78A  DC\_7C-25A\_n78A | DC\_7A\_n78A  DC\_25A\_n78A |
| DC\_7A-7A-25A\_n78A | DC\_7A\_n78A  DC\_25A\_n78A |
| DC\_7A-25A-25A\_n78A  DC\_7C-25A-25A\_n78A | DC\_7A\_n78A  DC\_25A\_n78A |
| DC\_7A-7A-25A-25A\_n78A | DC\_7A\_n78A  DC\_25A\_n78A |
| DC\_7A-26A\_n78A  DC\_7C-26A\_n78A | DC\_7A\_n78A  DC\_26A\_n78A |
| DC\_7A-26A\_n78(2A)  DC\_7C-26A\_n78(2A) | DC\_7A\_n78A  DC\_26A\_n78A |
| DC\_7A\_n26A-n78A  DC\_7A\_n26A-n78(2A) | DC\_7A\_n26A DC\_7A\_n78A |
| DC\_7C\_n26A-n78A  DC\_7C\_n26A-n78(2A) | DC\_7A\_n26A  DC\_7C\_n26A  DC\_7A\_n78A  DC\_7C\_n78A |
| DC\_7A-28A\_n1A | DC\_28A\_n1A  DC\_7A\_n1A |
| DC\_7A-7A-28A\_n1A | DC\_28A\_n1A  DC\_7A\_n1A |
| DC\_7A-28A\_n2A | DC\_7A\_n2A  DC\_28A\_n2A |
| DC\_7A-28A\_n3A  DC\_7C-28A\_n3A | DC\_7A\_n3A  DC\_7C\_n3A  DC\_28A\_n3A |
| DC\_7A-28A\_n5A6  DC\_7C-28A\_n5A6 | DC\_7A\_n5A  DC\_7C\_n5A  DC\_28A\_n5A |
| DC\_7A-28A\_n7A | DC\_7A\_n7A2  DC\_28A\_n7A |
| DC\_7A-28A\_n20A | DC\_7A\_n20A  DC\_28A\_n20A |
| DC\_7A\_n28A-n40A | DC\_7A\_n28A  DC\_7A\_n40A |
| DC\_7A-28A\_n40A | DC\_7A\_n40A  DC\_28A\_n40A |
| DC\_7A-28A\_n66A  DC\_7C-28A\_n66A | DC\_7A\_n66A  DC\_28A\_n66A |
| DC\_7A-28A\_n78A5,14  DC\_7C-28A\_n78A5,14  DC\_7A-28A\_n78(2A)5,14  DC\_7C-28A\_n78(2A)5,14 | DC\_7A\_n78A14  DC\_7C\_n78A14  DC\_28A\_n78A14 |
| DC\_7A\_n28A-n78A5,14  DC\_7C\_n28A-n78A14 | DC\_7A\_n28A  DC\_7A\_n78A14  DC\_7C\_n28A  DC\_7C\_n78A14 |
| DC\_7A-29A\_n78A  DC\_7C-29A\_n78A | DC\_7A\_n78A |
| DC\_7A-7A-29A\_n78A | DC\_7A\_n78A |
| DC\_7A-32A\_n1A | DC\_7A\_n1A |
| DC\_7A-32A\_n3A  DC\_7C-32A\_n3A | DC\_7A\_n3A |
| DC\_7A-32A\_n8A | DC\_7A\_n8A |
| DC\_7A-32A\_n28A | DC\_7A\_n28A |
| DC\_7A-32A\_n78A | DC\_7A\_n78A |
| DC\_7A-40A\_n1A  DC\_7A-40C\_n1A | DC\_7A\_n1A  DC\_40A\_n1A |
| DC\_7A\_n40A-n77A | DC\_7A\_n40A  DC\_7A\_n77A |
| DC\_7A\_n40A-n77(2A) | DC\_7A\_n40A  DC\_7A\_n77A |
| DC\_7A-7A\_n40A-n77A | DC\_7A\_n40A  DC\_7A\_n77A |
| DC\_7A-7A\_n40A-n77(2A) | DC\_7A\_n40A  DC\_7A\_n77A |
| DC\_7A-40A\_n78A  DC\_7A-40C\_n78A | DC\_7A\_n78A  DC\_40A\_n78A |
| DC\_7A-40A\_n78(2A)  DC\_7A-40C\_n78(2A) | DC\_7A\_n78A  DC\_40A\_n78A |
| DC\_7A\_n40A-n78A  DC\_7A\_n40A-n78C | DC\_7A\_n40A  DC\_7A\_n78A |
| DC\_7A-7A\_n40A-n78A  DC\_7A-7A\_n40A-n78C | DC\_7A\_n40A  DC\_7A\_n78A |
| DC\_7A\_n40A-n105A | DC\_7A\_n40A  DC\_7A\_n105A |
| DC\_7A-46A\_n78A3  DC\_7A-46C\_n78A3  DC\_7A-46D\_n78A3  DC\_7A-46E\_n78A3 | DC\_7A\_n78A |
| DC\_7A-66A\_n2A  DC\_7A-66A\_n2(2A) | DC\_7A\_n2A  DC\_66A\_n2A |
| DC\_7A-66A\_n5A  DC\_7C-66A\_n5A  DC\_7A-66A-66A\_n5A  DC\_7C-66A-66A\_n5A  DC\_7A-7A-66A\_n5A  DC\_7A-7A-66A-66A\_n5A | DC\_7A\_n5A  DC\_66A\_n5A |
| DC\_7A-66A\_n7A | DC\_7A\_n7A2  DC\_66A\_n7A |
| DC\_7A-66A-66A\_n7A | DC\_7A\_n7A2  DC\_66A\_n7A |
| DC\_7A-66A\_n12A | DC\_7A\_n12A  DC\_66A\_n12A |
| DC\_7A-66A\_n25A  DC\_7C-66A\_n25A | DC\_7A\_n25A  DC\_66A\_n25A |
| DC\_7A-7A-66A\_n25A | DC\_7A\_n25A  DC\_66A\_n25A |
| DC\_7A-66A\_n28A | DC\_7A\_n28A  DC\_66A\_n28A |
| DC\_7A-66A\_n66A  DC\_7C-66A\_n66A | DC\_7A\_n66A  DC\_66A\_n66A2 |
| DC\_7A-(n)66AA  DC\_7C-(n)66AA | DC\_7A\_n66A  DC\_(n)66AA2 |
| DC\_7A-7A-(n)66AA | DC\_7A\_n66A  DC\_(n)66AA2 |
| DC\_7A-7A-66A\_n66A | DC\_7A\_n66A  DC\_66A\_n66A2 |
| DC\_7A-66A-66A\_n66A | DC\_7A\_n66A  DC\_66A\_n66A2 |
| DC\_7A-66A-(n)66AA | DC\_7A\_n66A  DC\_(n)66AA2  DC\_66A\_n66A2 |
| DC\_7A-7A-66A-(n)66AA | DC\_7A\_n66A  DC\_(n)66AA2  DC\_66A\_n66A2 |
| DC\_7A-7A-66A-66A\_n66A | DC\_7A\_n66A  DC\_66A\_n66A2 |
| DC\_7A-66A\_n71A | DC\_7A\_n71A  DC\_66A\_n71A |
| DC\_7A-66A-66A\_n71A | DC\_7A\_n71A  DC\_66A\_n71A |
| DC\_7A\_n66A-n71A | DC\_7A\_n66A  DC\_7A\_n71A |
| DC\_7A-66A\_n77A  DC\_7C-66A\_n77A | DC\_7A\_n77A  DC\_66A\_n77A |
| DC\_7A-7A-66A\_n77A | DC\_7A\_n66A  DC\_66A\_n77A |
| DC\_7A-7A-66A\_n77(2A) | DC\_7A\_n66A  DC\_66A\_n77A |
| DC\_7A-66A\_n77(2A)  DC\_7C-66A\_n77(2A) | DC\_7A\_n66A  DC\_66A\_n77A |
| DC\_7A\_n66A-n77A  DC\_7C\_n66A-n77A | DC\_7A\_n66A  DC\_7A\_n77A |
| DC\_7A-7A\_n66A-n77A | DC\_7A\_n66A  DC\_7A\_n77A |
| DC\_7A\_n66A-n78A  DC\_7C\_n66A-n78A | DC\_7A\_n66A  DC\_7A\_n78A |
| DC\_7A-7A\_n66A-n78A | DC\_7A\_n66A  DC\_7A\_n78A |
| DC\_7A-66A\_n78A5,14  DC\_7C-66A\_n78A5,14 | DC\_7A\_n78A14  DC\_7C\_n78A  DC\_66A\_n78A14 |
| DC\_7A-66A\_n78(2A) 5,14  DC\_7C-66A\_n78(2A) 5,14 | DC\_7A\_n78A14  DC\_7C\_n78A  DC\_66A\_n78A14 |
| DC\_7A-7A-66A\_n78A5,14 | DC\_7A\_n78A14  DC\_66A\_n78A14 |
| DC\_7A-7A-66A\_n78(2A)5,14 | DC\_7A\_n78A14  DC\_66A\_n78A14 |
| DC\_7A-7A-66A-66A\_n78A | DC\_7A\_n78A  DC\_66A\_n78A |
| DC\_7A-7A-66A-66A\_n78(2A) | DC\_7A\_n78A  DC\_66A\_n78A |
| DC\_7A-66A-66A\_n78A5,14  DC\_7C-66A-66A\_n78A5,14 | DC\_7A\_n78A14  DC\_7C\_n78A  DC\_66A\_n78A14 |
| DC\_7A-66A-66A\_n78(2A) 5,14  DC\_7C-66A-66A\_n78(2A) 5,14 | DC\_7A\_n78A14  DC\_66A\_n78A14 |
| DC\_7A-71A\_n2A | DC\_7A\_n2A  DC\_71A\_n2A |
| DC\_7A-71A\_n2(2A) | DC\_7A\_n2A  DC\_71A\_n2A |
| DC\_7A-71A\_n12A | DC\_7A\_n12A |
| DC\_7A-71A\_n25A | DC\_7A\_n25A  DC\_71A\_n25A |
| DC\_7A-71A\_n66A | DC\_7A\_n66A  DC\_71A\_n66A |
| DC\_7A-71A\_n77A | DC\_7A\_n77A  DC\_71A\_n77A |
| DC\_7A-71A\_n77(2A) | DC\_7A\_n77A  DC\_71A\_n77A |
| DC\_7A\_n71A-n77A | DC\_7A\_n71A  DC\_7A\_n77A |
| DC\_7A-71A\_n78A | DC\_7A\_n78A  DC\_71A\_n78A |
| DC\_7A-71A\_n78(2A) | DC\_7A\_n78A  DC\_71A\_n78A |
| DC\_7A\_n71A-n78A | DC\_7A\_n71A  DC\_7A\_n78A |
| DC\_7A\_n75A-n78A | DC\_7A\_n78A |
| DC\_7A\_n78A-n79A24  DC\_7A\_n78A-n79C24 | DC\_7A\_n78A  DC\_7A\_n79A |
| DC\_7A-7A\_n78A-n79A24 | DC\_7A\_n78A  DC\_7A\_n79A |
| DC\_7A\_SUL\_n78A-n80A | DC\_7A\_n78A  DC\_7A\_n80A |
| DC\_7A\_n78A-n105A | DC\_7A\_n78A  DC\_7A\_n105A |
| Unchanged configurations omitted | |
| NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications.  NOTE 2: Only single switched UL is supported  NOTE 3: Restricted to E-UTRA operation when inter-band carrier aggregation is configured. The downlink operating band for Band 46 is paired with the uplink operating band (external E-UTRA band) of the carrier aggregation configuration that is supporting the configured Pcell.  NOTE 4: If a UE is configured with both NR UL and NR SUL carriers in a cell, the switching time between NR UL carrier and NR SUL carrier can be up to 140us and placed in SUL resources.  NOTE 5: Applicable for UE supporting inter-band EN-DC with mandatory simultaneous Rx/Tx capability  NOTE 6: N/A  NOTE 7: Void.  NOTE 8: Void  NOTE 9: Void  NOTE 10: The frequency range in band n1 is restricted for this band combination to 1940 - 1960 MHz for the UL and 2130-2150 MHz for the DL.  NOTE 11: The frequency range in band 3 is restricted for this band combination to 1765 - 1785 MHz for the UL and 1860-1880 MHz for the DL.  NOTE 12: The frequency range in band 42 is restricted for this band combination to 3440 - 3520 MHz.  NOTE 13: The frequency range in band n28 is restricted for this band combination to 728 - 738 MHz for the UL and 783 - 793 MHz for the DL.  NOTE 14: Minimum requirements for PC2 are applicable for this uplink EN-DC configuration in this downlink/uplink EN-DC configuration.  NOTE 15: For UEs not indicating *interBandMRDC-WithOverlapDL-Bands-r16*, the minimum requirements for intra-band non-contiguous EN-DC apply for the Band 42/48 and Band n77/n78 combination and for the Band 2 and Band n25 combinations. For UEs not indicating *interBandMRDC-WithOverlapDL-Bands-r16*, when UE capability *interBandContiguousMRDC* is indicated, the minimum requirements for intra-band-contiguous EN-DC also should be met in addtion to intra-band non-contiguous EN-DC*.*  NOTE 16: For UEs not indicating *interBandMRDC-WithOverlapDL-Bands-r16*, the minimum requirements for inter-band EN-DC apply when the maximum power spectral density imbalance between downlink carriers contained in overlapping or partially overlapping DL bands is within 6 dB.  NOTE 17: Void.  NOTE 18: Void.  NOTE 19: The implementation with 3 low-band antennas is targeted for FWA form factor for this band combination in Release 17.  NOTE 20: For UEs not indicating *interBandMRDC-WithOverlapDL-Bands-r16*, the minimum requirements apply for synchronized DL carriers with a maximum receive time difference ≤ 3 usec between overlapping or partially overlapping DL bands contained in different cell groups.  NOTE 21: The downlink DC\_2\_n2 RESSENS requirements only apply when the band n2 downlink carrier is configured closer to the uplink operating band than the E-UTRA Band 2 downlink carrier.  NOTE 22: The frequency range in band 28 is restricted for this band combination to 703 - 733 MHz for the UL and 758 - 788 MHz for the DL.  NOTE 23: The minimum requirements apply only when there is non-simultaneous Rx/Tx operation between n77-n79 NR carriers. This restriction applies also for these carriers when applicable EN-DC configuration is part of a higher order configuration.  NOTE 24: For UEs supporting band n77, the minimum requirements apply only when there is non-simultaneous Rx/Tx operation between n78-n79 NR carriers. This restriction applies also for these carriers when applicable EN-DC configuration is part of a higher order configuration.  NOTE 25: Only applicable for UE supporting inter-band carrier aggregation without simultaneous Rx/Tx. | |

### *<<Unchanged texts are omitted>>*

###### 7.3B.2.3.5.2 MSD test points for intermodulation interference due to dual uplink operation for EN-DC in NR FR1 involving three bands

Table 7.3B.2.3.5.2-0: MSD test points for Pcell 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\_66A-(n)71AA | 66 | 1750 | 5 | 25 | 2150 | 5 | IMD4 |
|  | n71 | 678 | 10 | 10 (RBstart =0) | 632 | N/A | N/A |
| NOTE 1: For NR band, UL/DL BW and UL LCRB can be adjusted according to the supported BW and lowest SCS supported by the UE.  NOTE 2: E-UTRA carrier shall be set to min(+20 dBm, PCMAX\_L\_E-UTRA,c) and NR carrier shall be set to min(+20 dBm, PCMAX\_L,f,c,NR) as defined in clause 6.2B.4.1.3. | | | | | | | |

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 |
| *<<Unchanged texts are omitted>>* | | | | | | | |
| DC\_7A\_n1A-n28A | 7 | 2535 | 5 | 25 | 2655 | N/A | N/A |
| DC\_7C-n1A-n28A | n1 | 1950 | 5 | 25 | 2140 | N/A | N/A |
|  | n28 | N/A | 5 | N/A | 780 | 4.3 | IMD5 |
| DC\_7A\_n1A-n40A | 7 | 2540 | 5 | 25 | 2660 | N/A | N/A |
|  | n40 | 2335 | 5 | 25 | 2335 | N/A | N/A |
|  | n1 | N/A | 5 | N/A | 2130 | 15.2 | IMD3 |
| DC\_7A\_n1A-n75A | n1 | 1977.5 | 5 | 25 | 2167.5 | N/A | N/A |
|  | 7 | 2502.5 | 5 | 25 | 2622.5 | N/A | N/A |
|  | 75 | N/A | 5 | N/A | 1454.5 | 15.2 | IMD3 |
| DC\_7A\_n1A-n78A | 7 | 2520 | 5 | 25 | 2640 | N/A | N/A |
| DC\_7C\_n1A-n78A | n1 | 1970 | 5 | 25 | 2160 | N/A | N/A |
| DC\_7A\_n1A-n78(2A) | n78 | N/A | 10 | N/A | 3390 | 10.1 | IMD4 |
| DC\_7C\_n1A-n78(2A) | 7 | 2530 | 5 | 25 | 2650 | N/A | N/A |
|  | n1 | N/A | 5 | N/A | 2160 | 9.0 | IMD4 |
|  | n78 | 3610 | 10 | 50 | 3610 | N/A | N/A |
| DC\_7A\_n2A-n71A | 7 | 2530 | 5 | 25 | 2650 | N/A | N/A |
|  | n2 | 1900 | 5 | 25 | 1980 | N/A | N/A |
|  | n71 | N/A | 5 | N/A | 630 | 28.7 | IMD2 |
| DC\_7A\_n2A-n77A | 7 | 2550 | 5 | 25 | 2685 | N/A | N/A |
|  | n2 | 1870 | 5 | 25 | 1950 | 8.6 | IMD4 |
|  | n77 | 3525 | 10 | 50 | 3525 | N/A | N/A |
|  | 7 | 2525 | 5 | 25 | 2645 | N/A | N/A |
|  | n2 | 1900 | 5 | 25 | 1980 | N/A | N/A |
|  | n77 | 3775 | 10 | 50 | 3775 | 4.2 | IMD5 |
| DC\_7A\_n2A-n78A | 7 | 2550 | 5 | 25 | 2685 | N/A | N/A |
|  | n2 | N/A | 5 | N/A | 1950 | 8.6 | IMD4 |
|  | n78 | 3525 | 10 | 50 | 3525 | N/A | N/A |
|  | 7 | 2525 | 5 | 25 | 2645 | N/A | N/A |
|  | n2 | 1900 | 5 | 25 | 1980 | N/A | N/A |
|  | n78 | N/A | 10 | N/A | 3775 | 4.2 | IMD5 |
| DC\_7A\_n3A-n78A | 7 | 2560 | 5 | 25 | 2680 | N/A | N/A |
| DC\_7C\_n3A-n78A | n3 | 1730 | 5 | 25 | 1825 | N/A | N/A |
| DC\_7A\_n3A-n78(2A) | n78 | N/A | 10 | N/A | 3390 | 16.1 | IMD3 |
| DC\_7C\_n3A-n78(2A) | 7 | 2565 | 5 | 25 | 2685 | N/A | N/A |
|  | n3 | N/A | 5 | N/A | 1820 | 15.6 | IMD3 |
|  | n78 | 3310 | 10 | 50 | 3310 | N/A | N/A |
| DC\_7A\_n8A-n40A | 7 | 2530 | 5 | 25 | 2650 | N/A | N/A |
|  | n8 | 905 | 5 | 25 | 950 | N/A | N/A |
|  | n40 | N/A | 5 | N/A | 2345 | 3.0 | IMD5 |
| DC\_7A-8A\_n3A | n3 | 1735 | 5 | 25 | 1830 | N/A | N/A |
|  | 7 | 2530 | 10 | 50 | 2650 | N/A | N/A |
|  | 8 | N/A | 5 | N/A | 940 | 18.0 | IMD3 |
| DC\_7A-8A\_n3A | n3 | 1780 | 5 | 25 | 1875 | N/A | N/A |
|  | 8 | 890 | 5 | 25 | 935 | N/A | N/A |
|  | 7 | N/A | 10 | N/A | 2670 | 29.0 | IMD2+IMD33 |
| DC\_7A-8A\_n20A | 7 | N/A | 5 | N/A | 2640 | 21.1 | IMD34,15 |
|  | 8 | 900 | 5 | 25 | 945 | N/A | N/A |
|  | n20 | 840 | 5 | 25 | 799 | N/A | N/A |
|  | 7 | 2503 | 5 | 25 | 2623 | N/A | N/A |
|  | n20 | 859 | 5 | 25 | 818 | N/A | N/A |
|  | 8 | N/A | 5 | N/A | 933 | 4.4 | IMD5 |
| DC\_7A-8A\_n77A | 7 | 2520 | 5 | 25 | 2640 | N/A | N/A |
|  | 8 | N/A | 5 | N/A | 940 | 3.1 | IMD5 |
|  | n77 | 3310 | 10 | 50 | 3310 | N/A | N/A |
|  | 7 | 2530 | 5 | 25 | 2650 | N/A | N/A |
|  | 8 | N/A | 5 | N/A | 940 | 30.5 | IMD2 |
|  | n77 | 3470 | 10 | 50 | 3470 | N/A | N/A |
|  | 7 | N/A | 5 | N/A | 2650 | 28 | IMD2 |
|  | 8 | 895 | 5 | 25 | 940 | N/A | N/A |
|  | n77 | 3545 | 10 | 50 | 3545 | N/A | N/A |
| DC\_7A-8A\_n78A | 7 | 2530 | 5 | 25 | 2650 | N/A | N/A |
| DC\_7A-8B\_n78A | 8 | N/A | 5 | N/A | 940 | 30.5 | IMD2 |
| DC\_7A-7A-8B\_n78A | n78 | 3470 | 10 | 50 | 3470 | N/A | N/A |
|  | 7 | 2520 | 5 | 25 | 2640 | N/A | N/A |
|  | 8 | N/A | 5 | N/A | 940 | 3.1 | IMD5 |
|  | n78 | 3310 | 10 | 50 | 3310 | N/A | N/A |
|  | 7 | N/A | 5 | N/A | 2650 | 28 | IMD2 |
|  | 8 | 895 | 5 | 25 | 940 | N/A | N/A |
|  | n78 | 3545 | 10 | 50 | 3545 | N/A | N/A |
| DC\_7A\_n8A-n78A | 7 | 2555 | 5 | 25 | 2675 | N/A | N/A |
| n8 | 900 | 5 | 25 | 945 | N/A | N/A |
| n78 | N/A | 10 | N/A | 3455 | 28.5 | IMD2 |
| 7 | 2555 | 5 | 25 | 2675 | N/A | N/A |
| n8 | N/A | 5 | N/A | 945 | 29.7 | IMD2 |
| n78 | 3500 | 10 | 50 | 3500 | N/A | N/A |
| DC\_7A-12A\_n2A | 7 | 2502.5 | 5 | 25 | 2622.5 | N/A | N/A |
| DC\_7A-12A\_n2(2A) | 12 | N/A | 5 | N/A | 731.5 | 5.3 | IMD5 |
|  | n2 | 1907.5 | 5 | 25 | 1987.5 | N/A | N/A |
|  | 7 | N/A | 5 | N/A | 2621 | 30.8 | IMD2 |
|  | 12 | 713.5 | 5 | 25 | 743.5 | N/A | N/A |
|  | n2 | 1907.5 | 5 | 25 | 1987.5 | N/A | N/A |
| DC\_7A-12A\_n25A | 7 | 2502.5 | 5 | 25 | 2622.5 | N/A | N/A |
|  | 12 | N/A | 5 | N/A | 731.5 | 5.3 | IMD5 |
|  | n25 | 1907.5 | 5 | 25 | 1987.5 | N/A | N/A |
|  | 7 | N/A | 5 | N/A | 2622.5 | 30.8 | IMD2 |
|  | 12 | 713.5 | 5 | 25 | 743.5 | N/A | N/A |
|  | n25 | 1907.5 | 5 | 25 | 1987.5 | N/A | N/A |
| DC\_7A-12A\_n66A | 7 | 2515 | 5 | 25 | 2635 | N/A | N/A |
|  | 12 | N/A | 5 | N/A | 742 | 31 | IMD2 |
|  | n66 | 1773 | 5 | 25 | 2173 | N/A | N/A |
| DC\_7A\_n12A-n77A | 7 | 2565 | 5 | 25 | 2685 | N/A | N/A |
|  | n12 | N/A | 5 | N/A | 740 | 30.8 | IMD2 |
|  | n77 | 3305 | 10 | 50 | 3305 | N/A | N/A |
|  | 7 | 2505 | 5 | 25 | 2625 | N/A | N/A |
|  | n12 | 702 | 5 | 25 | 732 | N/A | N/A |
|  | n77 | N/A | 10 | N/A | 3909 | 16.0 | IMD3 |
| DC\_7A-12A\_n77A  DC\_7A-12A\_n77(2A) | 7 | N/A | 5 | N/A | 2662 | 29.6 | IMD21 |
|  | 12 | 708 | 5 | 25 | 738 | N/A | N/A |
|  | n77 | 3370 | 10 | 50 | 3370 | N/A | N/A |
|  | 7 | 2565 | 5 | 25 | 2685 | N/A | N/A |
|  | 12 | N/A | 5 | N/A | 740 | 30.8 | IMD2 |
|  | n77 | 3305 | 10 | 50 | 3305 | N/A | N/A |
| DC\_7A-12A\_n78A  DC\_7A-12A\_n78(2A) | 7 | N/A | 5 | N/A | 2662 | 29.6 | IMD2 |
|  | 12 | 708 | 5 | 25 | 738 | N/A | N/A |
|  | n78 | 3370 | 10 | 50 | 3370 | N/A | N/A |
|  | 7 | 2565 | 5 | 25 | 2685 | N/A | N/A |
|  | 12 | N/A | 5 | N/A | 740 | 30.8 | IMD24 |
|  | n78 | 3305 | 10 | 50 | 3305 | N/A | N/A |
| DC\_7A\_n12A-n78A | 7 | 2565 | 5 | 25 | 2685 | N/A | N/A |
|  | n12 | 710 | 5 | 25 | 740 | 30.8 | IMD24 |
|  | n78 | 3305 | 10 | 50 | 3305 | N/A | N/A |
|  | 7 | 2505 | 5 | 25 | 2625 | N/A | N/A |
|  | n12 | 673 | 5 | 25 | 732 | N/A | N/A |
|  | n78 | 3664 | 10 | 50 | 3664 | 10.3 | IMD4 |
| DC\_7A-13A\_n66A | 7 | 2520 | 5 | 25 | 2640 | N/A | N/A |
|  | 13 | N/A | 5 | N/A | 750 | 31 | IMD2 |
|  | n66 | 1770 | 5 | 25 | 2170 | N/A | N/A |
|  | 7 | N/A | 5 | N/A | 2660 | 18 | IMD3 |
|  | 13 | 780 | 5 | 25 | 749 | N/A | N/A |
|  | n66 | 1720 | 5 | 25 | 2120 | N/A | N/A |
| DC\_7A-13A\_n25A  DC\_7A-7A-13A\_n25A  DC\_7C-13A\_n25A | 7 | N/A | 10 | N/A | 2662 | 27.6 | IMD2 |
|  | 13 | 782 | 5 | 25 | 751 | N/A | N/A |
|  | n25 | 1880 | 5 | 25 | 1960 | N/A | N/A |
| DC\_7A-20A\_n1A  DC\_7C-20A\_n1A | 7 | 2510 | 10 | 50 | 2630 | N/A | N/A |
|  | 20 | N/A | 10 | N/A | 800 | 4.5 | IMD5 |
|  | n1 | 1940 | 5 | 25 | 2130 | N/A | N/A |
| DC\_7A-20A\_n3A | 7 | 2543 | 10 | 50 | 2663 | N/A | N/A |
|  | 20 | N/A | 10 | N/A | 806 | 10.5 | IMD2 |
|  | n3 | 1737 | 5 | 25 | 1832 | N/A | N/A |
|  | 7 | N/A | 10 | N/A | 2630 | 26.0 | IMD21 |
|  | 20 | 855 | 5 | 25 | 896 | N/A | N/A |
|  | n3 | 1775 | 10 | 50 | 1870 | N/A | N/A |
| DC\_7A-20A\_n8A | 7 | 2565 | 5 | 25 | 2685 | N/A | N/A |
|  | n8 | 885 | 5 | 25 | 930 | N/A | N/A |
|  | 20 | N/A | 5 | N/A | 795 | 17.4 | IMD3 |
|  | 7 | N/A | 5 | N/A | 2640 | 21.1 | IMD3 |
|  | n8 | 900 | 5 | 25 | 945 | N/A | N/A |
|  | 20 | 840 | 5 | 25 | 799 | N/A | N/A |
|  | 7 | N/A | 5 | N/A | 2624 | 18.8 | IMD3 |
|  | n8 | 910 | 5 | 25 | 955 | N/A | N/A |
|  | 20 | 857 | 5 | 25 | 816 | N/A | N/A |
| DC\_7A-20A\_n28A  DC\_7C-20A\_n28A | 20 | 842 | 5 | 25 | 801 | N/A | N/A |
|  | n28 | 728 | 5 | 25 | 783 | N/A | N/A |
|  | 7 | N/A | 10 | N/A | 2640 | 5.9 | IMD5 |
| DC\_7A-20A\_n78A  DC\_7A-7A-20A\_n78A | 7 | 2560 | 5 | 25 | 2680 | N/A | N/A |
| DC\_7A-20A\_n78(2A) | 20 | N/A | 5 | N/A | 810 | 30.5 | IMD2 |
| DC\_7A-20A\_n78C | n78 | 3370 | 10 | 50 | 3370 | N/A | N/A |
|  | 7 | 2560 | 5 | 25 | 2680 | N/A | N/A |
|  | 20 | N/A | 5 | N/A | 810 | 3.0 | IMD5 |
|  | n78 | 3435 | 10 | 50 | 3435 | N/A | N/A |
|  | 7 | N/A | 5 | N/A | 2675 | 30.8 | IMD2 |
|  | 20 | 845 | 5 | 25 | 804 | N/A | N/A |
|  | n78 | 3520 | 10 | 50 | 3520 | N/A | N/A |
| DC\_7A\_n25A-n71A | 7 | 2530 | 5 | 25 | 2650 | N/A | N/A |
|  | n25 | 1900 | 5 | 25 | 1980 | N/A | N/A |
|  | n71 | N/A | 5 | N/A | 630 | 28.7 | IMD2 |
|  | 7 | 2550 | 5 | 25 | 2670 | N/A | N/A |
|  | n25 | 1910 | 5 | 25 | 1990 | N/A | N/A |
|  | n71 | N/A | 5 | N/A | 630 | 5 | IMD5 |
| DC\_7A-25A\_n77A  DC\_7A-7A-25A\_n77A  DC\_7C-25A\_n77A  DC\_7C-25A-25A\_n77A  DC\_7A-25A-25A\_n77A  DC\_7A-7A-25A-25A\_n77A | 7 | 2550 | 5 | 25 | 2670 | N/A | N/A |
| 25 | N/A | 5 | N/A | 1950 | 8.6 | IMD4 |
| n77 | 3525 | 10 | 50 | 3525 | N/A | N/A |
| 7 | N/A | 5 | N/A | 2660 | 3.4 | IMD5 |
| 25 | 1860 | 5 | 25 | 1940 | N/A | N/A |
| n77 | 4120 | 10 | 50 | 4120 | N/A | N/A |
| DC\_7A-25A\_n78A  DC\_7A-7A-25A\_n78A  DC\_7C-25A\_n78A  DC\_7A-25A-25A\_n78A  DC\_7A-7A-25A-25A\_n78A  DC\_7C-25A-25A\_n78A | 7 | 2550 | 5 | 25 | 2670 | N/A | N/A |
| 25 | N/A | 5 | N/A | 1950 | 8.6 | IMD4 |
| n78 | 3525 | 10 | 50 | 3525 | N/A | N/A |
| DC\_7A-26A\_n78A | 7 | 2525 | 5 | 25 | 2645 | 30.1 | IMD2 |
| DC\_7C-26A\_n78A | 26 | 844 | 5 | 25 | 889 | N/A | N/A |
|  | n78 | 3489 | 10 | 50 | 3489 | N/A | N/A |
|  | 7 | 2550 | 5 | 25 | 2670 | N/A | N/A |
|  | 26 | 834 | 5 | 25 | 879 | 30.2 | IMD2 |
|  | n78 | 3429 | 10 | 50 | 3429 | N/A | N/A |
|  | 7 | 2525 | 5 | 25 | 2645 | N/A | N/A |
|  | 26 | 830 | 5 | 25 | 875 | 3.3 | IMD5 |
|  | n78 | 3350 | 10 | 50 | 3350 | N/A | N/A |
| DC\_7A\_n26A-n78A | 7 | 2550 | 5 | 25 | 2670 | N/A | N/A |
| DC\_7C\_n26A-n78A | n26 | N/A | 5 | N/A | 879 | 30.2 | IMD2 |
|  | n78 | 3429 | 10 | 50 | 3429 | N/A | N/A |
|  | 7 | 2525 | 5 | 25 | 2645 | N/A | N/A |
|  | n26 | N/A | 5 | N/A | 875 | 3.3 | IMD5 |
|  | n78 | 3350 | 10 | 50 | 3350 | N/A | N/A |
|  | 7 | 2540 | 5 | 25 | 2660 | N/A | N/A |
|  | n26 | 835 | 5 | 25 | 880 | N/A | N/A |
|  | n78 | N/A | 10 | N/A | 3375 | 29.7 | IMD2 |
|  | 7 | 2550 | 5 | 25 | 2670 | N/A | N/A |
|  | n26 | 835 | 5 | 25 | 880 | N/A | N/A |
|  | n78 | N/A | 10 | N/A | 3430 | 9.7 | IMD4 |
| DC\_7A-28A\_n1A | 7 | 2535 | 5 | 25 | 2655 | N/A | N/A |
| DC\_7A-7A-28A\_n1A | 28 | N/A | 5 | N/A | 780 | 4.3 | IMD5 |
|  | n1 | 1950 | 5 | 25 | 2165 | N/A | N/A |
|  | 7 | N/A | 5 | N/A | 2665 | 29.0 | IMD2 |
|  | 28 | 730 | 5 | 25 | 785 | N/A | N/A |
|  | n1 | 1935 | 5 | 25 | 2125 | N/A | N/A |
| DC\_7A-28A\_n2A | 7 | N/A | 10 | N/A | 2630 | 27.6 | IMD2 |
|  | 28 | 730 | 5 | 25 | 785 | N/A | N/A |
|  | n2 | 1900 | 5 | 25 | 1980 | N/A | N/A |
| DC\_7A-28A\_n3A  DC\_7C-28A\_n3A | 7 | 2543 | 5 | 25 | 2663 | N/A | N/A |
|  | 28 | N/A | 5 | N/A | 796.0 | 20.0 | IMD2 |
|  | n3 | 1747 | 5 | 25 | 1842 | N/A | N/A |
|  | 7 | N/A | 5 | N/A | 2685 | 18 | IMD3 |
|  | 28 | 745 | 5 | 25 | 800 | N/A | N/A |
|  | n3 | 1715 | 5 | 25 | 1810 | N/A | N/A |
| DC\_7A-28A\_n5A DC\_7C-28A\_n5A | 7 | 2540 | 5 | 25 | 2725 | N/A | N/A |
|  | 28 | N/A | 5 | N/A | 776 | 4.4 | IMD5 |
|  | n5 | 829 | 5 | 25 | 854 | N/A | N/A |
|  | 7 | N/A | 5 | N/A | 2630 | 5.9 | IMD5 |
|  | 28 | 730 | 5 | 25 | 785 | N/A | N/A |
|  | n5 | 840 | 5 | 25 | 874 | N/A | N/A |
| DC\_7A-28A\_n20A | 7 | N/A | 5 | N/A | 2640 | 5.9 | IMD5 |
|  | 28 | 728 | 5 | 25 | 783 | N/A | N/A |
|  | n20 | 842 | 5 | 25 | 801 | N/A | N/A |
|  | 7 | 2505 | 5 | 25 | 2625 | N/A | N/A |
|  | n20 | 859 | 5 | 25 | 818 | N/A | N/A |
|  | 28 | N/A | 5 | N/A | 787 | 17.4 | IMD3 |
| DC\_7A-28A\_n40A | 7 | N/A | 5 | N/A | 2630 | 5.9 | IMD5 |
|  | 28 | 743 | 5 | 25 | 798 | N/A | N/A |
|  | n40 | 2310 | 5 | 25 | 2310 | N/A | N/A |
| DC\_7A-28A\_n66A  DC\_7C-28A\_n66A | 7 | N/A | 10 | N/A | 2682 | 16.9 | IMD3 |
|  | 28 | 743 | 5 | 25 | 798 | N/A | N/A |
|  | n66 | 1712.5 | 5 | 25 | 2112.5 | N/A | N/A |
|  | 7 | 2543 | 5 | 25 | 2663 | N/A | N/A |
|  | 28 | N/A | 5 | N/A | 796 | 20.0 | IMD2 |
|  | n66 | 1747 | 5 | 25 | 2147 | N/A | N/A |
| DC\_7A-28A\_n78A | 7 | 2567.5 | 5 | 25 | 2687.5 | N/A | N/A |
|  | 28 | N/A | 5 | N/A | 782.5 | 28.8 | IMD2 |
|  | n78 | 3350 | 10 | 50 | 3350 | N/A | N/A |
|  | 7 | 2567.5 | 5 | 25 | 2687.5 | N/A | N/A |
|  | 28 | N/A | 5 | N/A | 782.5 | 3.0 | IMD5 |
|  | n78 | 3460 | 10 | 50 | 3460 | N/A | N/A |
|  | 7 | N/A | 5 | N/A | 2650 | 30.5 | IMD2 |
|  | 28 | 740 | 5 | 25 | 795 | N/A | N/A |
|  | n78 | 3390 | 10 | 50 | 3390 | N/A | N/A |
| DC\_7A\_n28A-n78A  DC\_7C\_n28A-n78A | 7 | 2565 | 5 | 25 | 2685 | N/A | N/A |
|  | n28 | 745 | 5 | 25 | 800 | N/A | N/A |
|  | n78 | N/A | 10 | N/A | 3310 | 29.7 | IMD2 |
|  | 7 | 2565 | 5 | 25 | 2685 | N/A | N/A |
|  | n78 | 3365 | 10 | 50 | 3365 | N/A | N/A |
|  | n28 | N/A | 5 | N/A | 800 | 28.8 | IMD2 |
| *<<Unchanged texts are omitted>>* | | | | | | | |
| DC\_71A\_n66A-n77A | 71 | 668 | 5 | 25 | 622 | N/A | N/A |
|  | n66 | 1720 | 5 | 25 | 2120 | N/A | N/A |
|  | n77 | N/A | 10 | N/A | 4108 | 15.9 | IMD34,9,11 |
|  | 71 | 690 | 5 | 25 | 644 | N/A | N/A |
|  | n66 | N/A | 5 | N/A | 2150 | 15.5 | IMD39,11 |
|  | n77 | 3530 | 10 | 50 | 3530 | N/A | N/A |
| DC\_71A\_n66A-n78A | 71 | 693 | 5 | 25 | 647 | N/A | N/A |
|  | n78 | 3546 | 10 | 50 | 3546 | N/A | N/A |
|  | n66 | N/A | 5 | N/A | 2160 | 15.5 | IMD3 |
|  | 71 | 665.5 | 5 | 25 | 619.5 | N/A | N/A |
|  | n78 | N/A | 10 | N/A | 3697.5 | 13.0 | IMD4 |
|  | n66 | 1712.5 | 5 | 25 | 2112.5 | N/A | N/A |
| NOTE 1: This band is subject to IMD3 also which MSD is not specified.  NOTE 2: For DC\_3A\_n3A-n77A, DC\_3A\_n3A-n78A paired with UL\_DC\_3A\_n3A, the 3rd DL bands n77/n78 are subject to IMD2 which MSD is not specified  NOTE 3: This MSD requirement apply with both IMD2 and IMD3 products should be generated.  NOTE 4: This band is subject to IMD5 also which MSD is not specified.  NOTE 5: When Band 46 have self-interference problems by dual uplink CA/EN-DC, then the requirements do not apply in exclusion zone which is frequency range within (harmonics frequency region + FHD) and IMD frequency region as follow.  IMD frequency range   |  |  |  |  | | --- | --- | --- | --- | | DL\_CA configuration | UL\_CA configuration | Exclusion zone center frequency | Exclusion zone BW | | DC\_2A-46A\_n66A | DC\_2A\_n66A | 2\*fc\_2A + fc\_n66A | 2\*BW\_2A + BW\_n66A | | DC\_2A-46A\_n66A | DC\_2A\_n66A | fc\_2A + 2\*fc\_n66A | BW\_2A + 2\*BW\_n66A | | DC\_2A-46A\_n77A | DC\_2A\_n77A | fc\_2A + fc\_n77A | BW\_2A + BW\_n77A | | DC\_2A-46A\_n77A | DC\_2A\_n77A | -fc\_2A + 2\*fc\_n77A | -BW\_2A + 2\*BW\_n77A | | DC\_13A-46A\_n77A | DC\_13A\_n77A | 2\*fc\_13A + fc\_n77A | 2\*BW\_13A + BW\_n77A | | DC\_13A-46A\_n77A | DC\_13A\_n77A | 3\*fc\_13A + fc\_n77A | 3\*BW\_13A + BW\_n77A | | DC\_13A-46A\_n2A | DC\_13A\_n2A | 2\*fc\_n2A + 2\*fc\_13A | 2\*BW\_n2A+2\*BW\_13A | | DC\_13A-46A\_n77A | DC\_13A\_n77A | -3\*fc\_13A + 2\*fc\_n77A | -3\*BW\_13A + 2\*BW\_n77A | | DC\_46A-66A\_n77A | DC\_66A\_n77A | fc\_66A + fc\_n77A | BW\_66A + BW\_n77A | | DC\_46A-66A\_n77A | DC\_66A\_n77A | -fc\_66A + 2\*fc\_n77A | -BW\_66A + 2\*BW\_n77A | | DC\_13A-46A\_n66A | DC\_13A\_n66A | 3\*fc\_13A + fc\_n66A | BW\_13A + 2\*BW\_n66A | | DC\_13A-46A\_n66A | DC\_13A\_n66A | 2\*fc\_13A + 3\*fc\_n66A | BW\_13A + 2\*BW\_n66A | | DC\_46-48A\_n66A | DC\_48A\_n66A | fc\_48A + fc\_n66A | BW\_48A + 2\*BW\_n66A | | DC\_46-48A\_n66A | DC\_48A\_n66A | 2\*fc\_48A + fc\_n66A | 2\*BW\_48A + BW\_n66A | | DC\_2A-46\_n5A | DC\_2A\_n5A | 2\*fc\_2A + 2\*fc\_n5A | BW\_2A + 2\*BW\_n5A | | DC\_2A-46\_n5A | DC\_2A\_n5A | fc\_2A + 4\*fc\_n5A | BW\_2\*2A + BW\_n5A | | DC\_46-48A\_n5A | DC\_48A\_n5A | 2\*fc\_48A + fc\_n5A | BW\_48A + 2\*BW\_n5A | | DC\_46-48A\_n5A | DC\_48A\_n5A | 2\*fc\_48A + 2\*fc\_n5A | BW\_2\*48A + BW\_n5A |   NOTE 6: For NR band, UL/DL BW and UL LCRB can be adjusted according to the supported BW and lowest SCS supported by the UE.  NOTE 7: This band is also subject to IMD2 which is not specified. The frequency range below 3400MHz in n77 is not used for this combination.  NOTE 8: Band 5 is also affected by IMD5 from UL DC\_2A\_n12A, but MSD value is not specified as there is only partial overlap of IMD5 with DL carrier.  NOTE 9: This band is subject to IMD4 also which MSD is not specified.  NOTE 10: The frequency range in band n28 is restricted for this band combination to 728 – 738 MHz for the UL and 783 – 793 MHz for the DL. This band is subject to IMD2 fall in B1 also which MSD is not specified.  NOTE 11: For a UE which supports this band combination only when the Band n77 frequency range restriction defined in NOTE 12 of Table 5.2-1 from TS 38.101-1 applies, the MSD test point(s) cannot be verified for the band combination and the test point(s) can be skipped.  NOTE 12: Applicable only if operation with 4 antenna ports is supported in the band with carrier aggregation configured.  NOTE 13: Void  NOTE 14: E-UTRA carrier shall be set to min(+20 dBm, PCMAX\_L\_E-UTRA,c) and NR carrier shall be set to min(+20 dBm, PCMAX\_L,f,c,NR) as defined in clause 6.2B.4.1.3.  NOTE 15: This band is subject to additional IMD3 for which MSD is not specified.  NOTE 16: This band is subject to IMD3 also which MSD is not specified.  NOTE 17: The frequency range in band n28 is restricted for this band combination to 728 – 738 MHz for the UL and 783 – 793 MHz for the DL.  NOTE 18: In the MSD test configuration, the IMD center does not fall into the DL victim Fc.  NOTE 19: This band is subject to 1st order triple-beat IMD3 where MSD is not specified when the UL configuration includes intra-band uplink CCs.  NOTE 20: No MSD test points are specified for this combination and verification of IMD impact is not required. | | | | | | | |

### *<< End of changes >>*