**3GPP TSG-RAN WG4 Meeting #94-e *R4-2002747***

**Electronic meeting, 24 February – 6 March 2020**

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| *CR-Form-v12.0* | | | | | | | | |
| **DRAFT CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.101-1** | **CR** |  | **rev** | **-** | **Current version:** | **16.2.0** |  |
|  | | | | | | | | |
| *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:*** | draftCR to 38.101-1 on NR-U band paln in 5GHz | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_unlic-Core | | | | |  | ***Date:*** | | | 2020-02-24 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | BB | B | | | | | ***Release:*** | | | Rel-16 |
|  | *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-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | In RAN4#90 meeting, it was agreed for NR unlicensed operation, band 46 is re-farmed as band n46 as shown in table below.   |  |  |  |  | | --- | --- | --- | --- | | NR operating band | Uplink (UL) operating band BS receive / UE transmit  FUL,low – FUL,high | Downlink (DL) operating band BS transmit / UE receive  FDL,low – FDL,high | Duplex Mode | | n46 | 5150 MHz – 5925 MHz | 5150 MHz – 5925 MHz | TDD |   It was also agreed to define 10 MHz, 20MHz, 40 MHz, 60 MHz, 80MHz CBW for band n46. | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Summary of change:*** | Band n46 has been included in Table 5.2-1(NR operating bands in FR1) and Table 5.3.5-1(BS channel bandwidths and SCS per operating band in FR1) in TS 38.104. | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Consequences if not approved:*** | Bands n46 won’t be included in specifications. | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Clauses affected:*** | 6.2B.5.1.1 | | | | | | | | | |
|  |  | | | | | | | | | |
|  | **Y** | | **N** |  | | | |  | | |
| ***Other specs*** |  | | **x** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** |  | | **x** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** |  | | **x** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  |  | | | | | | | | | |
| ***Other comments:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***This CR's revision history:*** |  | | | | | | | | | |

*----------------------------start of the change----------------------------------------------*

## 5.2 Operating bands

NR is designed to operate in the FR1 operating bands defined in Table 5.2-1.

Table 5.2-1: NR operating bands in FR1

|  |  |  |  |
| --- | --- | --- | --- |
| NR operating band | Uplink (UL) *operating band* BS receive / UE transmit  FUL\_low  – FUL\_high | Downlink (DL) *operating band* BS transmit / UE receive  FDL\_low – FDL\_high | Duplex Mode |
| n1 | 1920 MHz – 1980 MHz | 2110 MHz – 2170 MHz | FDD |
| n2 | 1850 MHz – 1910 MHz | 1930 MHz – 1990 MHz | FDD |
| n3 | 1710 MHz – 1785 MHz | 1805 MHz – 1880 MHz | FDD |
| n5 | 824 MHz – 849 MHz | 869 MHz – 894 MHz | FDD |
| n7 | 2500 MHz – 2570 MHz | 2620 MHz – 2690 MHz | FDD |
| n8 | 880 MHz – 915 MHz | 925 MHz – 960 MHz | FDD |
| n12 | 699 MHz – 716 MHz | 729 MHz – 746 MHz | FDD |
| n14 | 788 MHz – 798 MHz | 758 MHz – 768 MHz | FDD |
| n18 | 815 MHz – 830 MHz | 860 MHz – 875 MHz | FDD |
| n20 | 832 MHz – 862 MHz | 791 MHz – 821 MHz | FDD |
| n25 | 1850 MHz – 1915 MHz | 1930 MHz – 1995 MHz | FDD |
| n28 | 703 MHz – 748 MHz | 758 MHz – 803 MHz | FDD |
| n29 | N/A | 717 MHz – 728 MHz | SDL |
| n303 | 2305 Mhz – 2315 MHz | 2350 MHz – 2360 MHz | FDD |
| n34 | 2010 MHz – 2025 MHz | 2010 MHz – 2025 MHz | TDD |
| n38 | 2570 MHz – 2620 MHz | 2570 MHz – 2620 MHz | TDD |
| n39 | 1880 MHz – 1920 MHz | 1880 MHz – 1920 MHz | TDD |
| n40 | 2300 MHz – 2400 MHz | 2300 MHz – 2400 MHz | TDD |
| n41 | 2496 MHz – 2690 MHz | 2496 MHz – 2690 MHz | TDD |
| n46 | 5150 MHz – 5925 MHz | 5150 MHz – 5925 MHz | TDD10,11 |
| n48 | 3550 MHz – 3700 MHz | 3550 MHz – 3700 MHz | TDD |
| n50 | 1432 MHz – 1517 MHz | 1432 MHz – 1517 MHz | TDD1 |
| n51 | 1427 MHz – 1432 MHz | 1427 MHz – 1432 MHz | TDD |
| n65 | 1920 MHz – 2010 MHz | 2110 MHz – 2200 MHz | FDD4 |
| n66 | 1710 MHz – 1780 MHz | 2110 MHz – 2200 MHz | FDD |
| n70 | 1695 MHz – 1710 MHz | 1995 MHz – 2020 MHz | FDD |
| n71 | 663 MHz – 698 MHz | 617 MHz – 652 MHz | FDD |
| n74 | 1427 MHz – 1470 MHz | 1475 MHz – 1518 MHz | FDD |
| n75 | N/A | 1432 MHz – 1517 MHz | SDL |
| n76 | N/A | 1427 MHz – 1432 MHz | SDL |
| n77 | 3300 MHz – 4200 MHz | 3300 MHz – 4200 MHz | TDD |
| n78 | 3300 MHz – 3800 MHz | 3300 MHz – 3800 MHz | TDD |
| n79 | 4400 MHz – 5000 MHz | 4400 MHz – 5000 MHz | TDD |
| n80 | 1710 MHz – 1785 MHz | N/A | SUL |
| n81 | 880 MHz – 915 MHz | N/A | SUL |
| n82 | 832 MHz – 862 MHz | N/A | SUL |
| n83 | 703 MHz – 748 MHz | N/A | SUL |
| n84 | 1920 MHz – 1980 MHz | N/A | SUL |
| n86 | 1710 MHz – 1780 MHz | N/A | SUL |
| n89 | 824 MHz – 849 MHz | N/A | SUL |
| n90 | 2496 MHz – 2690 MHz | 2496 MHz – 2690 MHz | TDD5 |
| n91 | 832 MHz – 862 MHz | 1427 MHz – 1432 MHz | FDD9 |
| n92 | 832 MHz – 862 MHz | 1432 MHz – 1517 MHz | FDD9 |
| n93 | 880 MHz – 915 MHz | 1427 MHz – 1432 MHz | FDD9 |
| n94 | 880 MHz – 915 MHz | 1432 MHz – 1517 MHz | FDD9 |
| n958 | 2010 MHz – 2025 MHz | N/A | SUL |
| NOTE 1: UE that complies with the NR Band n50 minimum requirements in this specification shall also comply with the NR Band n51 minimum requirements.  NOTE 2: UE that complies with the NR Band n75 minimum requirements in this specification shall also comply with the NR Band n76 minimum requirements.  NOTE 3: Uplink transmission is not allowed at this band for UE with external vehicle-mounted antennas.  NOTE 4: A UE that complies with the NR Band n65 minimum requirements in this specification shall also comply with the NR Band n1 minimum requirements.  NOTE 5: Unless otherwise stated, the applicability of requirements for Band n90 is in accordance with that for Band n41; a UE supporting Band n90 shall meet the requirements for Band n41.  NOTE 6: A UE that supports NR Band n66 shall receive in the entire DL operating band.  NOTE 7: A UE that supports NR Band n66 and CA operation in any CA band shall also comply with the minimum requirements specified for the DL CA configurations CA\_n66B and CA\_n66(2A) in the current version of the specification.  NOTE 8: This band is applicable in China only.  NOTE 9: Variable duplex operation does not enable dynamic variable duplex configuration by the network, and is used such that DL and UL frequency ranges are supported independently in any valid frequency range for the band.  NOTE 10: This band is restricted to operations with shared spectrum access.  NOTE 11: Minimum requirements for Band n46 do not apply for carriers assigned in the range 5350-5470 MHz | | | |

### *-----------------------------Next change----------------------------------------------*

### 5.3.5 UE channel bandwidth per operating band

The requirements in this specification apply to the combination of channel bandwidths, SCS and operating bands shown in Table 5.3.5-1. The transmission bandwidth configuration in Table 5.3.2-1 shall be supported for each of the specified channel bandwidths. The channel bandwidths are specified for both the TX and RX path.

Table 5.3.5-1 Channel bandwidths for each NR band

|  |  | | NR band / SCS / UE Channel bandwidth | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| NR Band | SCS  kHz | 5 MHz | | 101,2 MHz | 152 MHz | 202 MHz | 252 MHz | 30 MHz | 40 MHz | 50 MHz | 60 MHz | 70 MHz | 80 MHz | 90 MHz | 100 MHz |
| n1 | 15 | Yes | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 30 |  | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 60 |  | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| n2 | 15 | Yes | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 30 |  | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 60 |  | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| n3 | 15 | Yes | | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |  |  |
| 30 |  | | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |  |  |
| 60 |  | | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |  |  |
| n5 | 15 | Yes | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 30 |  | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 60 |  | |  |  |  |  |  |  |  |  |  |  |  |  |
| n7 | 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 |  |  |  |  |  |
| n8 | 15 | Yes | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 30 |  | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 60 |  | |  |  |  |  |  |  |  |  |  |  |  |  |
| n12 | 15 | Yes | | Yes | Yes |  |  |  |  |  |  |  |  |  |  |
| 30 |  | | Yes | Yes |  |  |  |  |  |  |  |  |  |  |
| 60 |  | |  |  |  |  |  |  |  |  |  |  |  |  |
| n14 | 15 | Yes | | Yes |  |  |  |  |  |  |  |  |  |  |  |
| 30 |  | | Yes |  |  |  |  |  |  |  |  |  |  |  |
| 60 |  | |  |  |  |  |  |  |  |  |  |  |  |  |
| n18 | 15 | Yes | | Yes | Yes |  |  |  |  |  |  |  |  |  |  |
| 30 |  | | Yes | Yes |  |  |  |  |  |  |  |  |  |  |
| 60 |  | |  |  |  |  |  |  |  |  |  |  |  |  |
| n20 | 15 | Yes | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 30 |  | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 60 |  | |  |  |  |  |  |  |  |  |  |  |  |  |
| n25 | 15 | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |  |
| 30 |  | | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |  |
| 60 |  | | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |  |
| n28 | 15 | Yes | | Yes | Yes | Yes7 |  |  |  |  |  |  |  |  |  |
| 30 |  | | Yes | Yes | Yes7 |  |  |  |  |  |  |  |  |  |
| 60 |  | |  |  |  |  |  |  |  |  |  |  |  |  |
| n29 | 15 | Yes | | Yes |  |  |  |  |  |  |  |  |  |  |  |
| 30 |  | | Yes |  |  |  |  |  |  |  |  |  |  |  |
| 60 |  | |  |  |  |  |  |  |  |  |  |  |  |  |
| n30 | 15 | Yes | | Yes |  |  |  |  |  |  |  |  |  |  |  |
| 30 |  | | Yes |  |  |  |  |  |  |  |  |  |  |  |
| 60 |  | |  |  |  |  |  |  |  |  |  |  |  |  |
| n34 | 15 | Yes | | Yes | Yes |  |  |  |  |  |  |  |  |  |  |
| 30 |  | | Yes | Yes |  |  |  |  |  |  |  |  |  |  |
| 60 |  | | Yes | Yes |  |  |  |  |  |  |  |  |  |  |
| n38 | 15 | Yes | | Yes | Yes | Yes |  |  | Yes |  |  |  |  |  |  |
| 30 |  | | Yes | Yes | Yes |  |  | Yes |  |  |  |  |  |  |
| 60 |  | | Yes | Yes | Yes |  |  | Yes |  |  |  |  |  |  |
| n39 | 15 | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |  |
| 30 |  | | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |  |
| 60 |  | | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |  |
| n40 | 15 | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |
| 30 |  | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |  | Yes |  |  |
| 60 |  | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |  | Yes |  |  |
| n41 | 15 |  | | Yes | Yes | Yes |  | Yes | Yes | Yes |  |  |  |  |  |
| 30 |  | | Yes | Yes | Yes |  | Yes | Yes | Yes | Yes |  | Yes | Yes | Yes |
| 60 |  | | Yes | Yes | Yes |  | Yes | Yes | Yes | Yes |  | Yes | Yes | Yes |
| n46 | 15 |  | | Yes9 |  | Yes |  |  | Yes |  |  |  |  |  |  |
| 30 |  | | Yes9 |  | Yes |  |  | Yes |  | Yes |  | Yes |  |  |
| 60 |  | | Yes9 |  | Yes |  |  | Yes |  | Yes |  | Yes |  |  |
| n48 | 15 | Yes5 | | Yes | Yes | Yes |  |  | Yes | Yes6 |  |  |  |  |  |
| 30 |  | | Yes | Yes | Yes |  |  | Yes | Yes6 | Yes6 |  | Yes6 | Yes6,4 | Yes6 |
| 60 |  | | Yes | Yes | Yes |  |  | Yes | Yes6 | Yes6 |  | Yes6 | Yes6,4 | Yes6 |
| n50 | 15 | Yes | | Yes | Yes | Yes |  | Yes | Yes | Yes |  |  |  |  |  |
| 30 |  | | Yes | Yes | Yes |  | Yes | Yes | Yes | Yes |  | Yes3 |  |  |
| 60 |  | | Yes | Yes | Yes |  | Yes | Yes | Yes | Yes |  | Yes3 |  |  |
| n51 | 15 | Yes | |  |  |  |  |  |  |  |  |  |  |  |  |
| 30 |  | |  |  |  |  |  |  |  |  |  |  |  |  |
| 60 |  | |  |  |  |  |  |  |  |  |  |  |  |  |
| n65 | 15 | Yes | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 30 |  | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 60 |  | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| n66 | 15 | Yes | | Yes | Yes | Yes |  |  | Yes |  |  |  |  |  |  |
| 30 |  | | Yes | Yes | Yes |  |  | Yes |  |  |  |  |  |  |
| 60 |  | | Yes | Yes | Yes |  |  | Yes |  |  |  |  |  |  |
| n70 | 15 | Yes | | Yes | Yes | Yes3 | Yes3 |  |  |  |  |  |  |  |  |
| 30 |  | | Yes | Yes | Yes3 | Yes3 |  |  |  |  |  |  |  |  |
| 60 |  | | Yes | Yes | Yes3 | Yes3 |  |  |  |  |  |  |  |  |
| n71 | 15 | Yes | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 30 |  | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 60 |  | |  |  |  |  |  |  |  |  |  |  |  |  |
| n74 | 15 | Yes | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 30 |  | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 60 |  | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| n75 | 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 |  |  |  |  |  |
| n76 | 15 | Yes | |  |  |  |  |  |  |  |  |  |  |  |  |
| 30 |  | |  |  |  |  |  |  |  |  |  |  |  |  |
| 60 |  | |  |  |  |  |  |  |  |  |  |  |  |  |
| n77 | 15 |  | | Yes | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |
| 30 |  | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes4 | Yes | Yes4 | Yes |
| 60 |  | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes4 | Yes | Yes4 | Yes |
| n78 | 15 |  | | Yes | Yes | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |
| 30 |  | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes4 | Yes | Yes | Yes |
| 60 |  | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes4 | Yes | Yes | Yes |
| n79 | 15 |  | |  |  |  |  |  | Yes | Yes |  |  |  |  |  |
| 30 |  | |  |  |  |  |  | Yes | Yes | Yes |  | Yes |  | Yes |
| 60 |  | |  |  |  |  |  | Yes | Yes | Yes |  | Yes |  | Yes |
| n80 | 15 | Yes | | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |  |  |
| 30 |  | | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |  |  |
| 60 |  | | Yes | Yes | Yes | Yes | Yes |  |  |  |  |  |  |  |
| n81 | 15 | Yes | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 30 |  | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 60 |  | |  |  |  |  |  |  |  |  |  |  |  |  |
| n82 | 15 | Yes | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 30 |  | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 60 |  | |  |  |  |  |  |  |  |  |  |  |  |  |
| n83 | 15 | Yes | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 30 |  | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 60 |  | |  |  |  |  |  |  |  |  |  |  |  |  |
| n84 | 15 | Yes | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 30 |  | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 60 |  | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| n86 | 15 | Yes | | Yes | Yes | Yes |  |  | Yes |  |  |  |  |  |  |
| 30 |  | | Yes | Yes | Yes |  |  | Yes |  |  |  |  |  |  |
| 60 |  | | Yes | Yes | Yes |  |  | Yes |  |  |  |  |  |  |
| n89 | 15 | Yes | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 30 |  | | Yes | Yes | Yes |  |  |  |  |  |  |  |  |  |
| 60 |  | |  |  |  |  |  |  |  |  |  |  |  |  |
| n90 | 15 |  | | Yes | Yes | Yes |  | Yes | Yes | Yes |  |  |  |  |  |
| 30 |  | | Yes | Yes | Yes |  | Yes | Yes | Yes | Yes |  | Yes | Yes | Yes |
| 60 |  | | Yes | Yes | Yes |  | Yes | Yes | Yes | Yes |  | Yes | Yes | Yes |
| n91 | 15 | Yes | | Yes8 |  |  |  |  |  |  |  |  |  |  |  |
| 30 |  | |  |  |  |  |  |  |  |  |  |  |  |  |
| 60 |  | |  |  |  |  |  |  |  |  |  |  |  |  |
| n92 | 15 | Yes | | Yes | Yes3 | Yes3 |  |  |  |  |  |  |  |  |  |
| 30 |  | | Yes | Yes3 | Yes3 |  |  |  |  |  |  |  |  |  |
| 60 |  | |  |  |  |  |  |  |  |  |  |  |  |  |
| n93 | 15 | Yes | | Yes8 |  |  |  |  |  |  |  |  |  |  |  |
| 30 |  | |  |  |  |  |  |  |  |  |  |  |  |  |
| 60 |  | |  |  |  |  |  |  |  |  |  |  |  |  |
| n94 | 15 | Yes | | Yes | Yes3 | Yes3 |  |  |  |  |  |  |  |  |  |
| 30 |  | | Yes | Yes3 | Yes3 |  |  |  |  |  |  |  |  |  |
| 60 |  | |  |  |  |  |  |  |  |  |  |  |  |  |
| n95 | 15 | Yes | | Yes | Yes |  |  |  |  |  |  |  |  |  |  |
| 30 |  | | Yes | Yes |  |  |  |  |  |  |  |  |  |  |
| 60 |  | | Yes | Yes |  |  |  |  |  |  |  |  |  |  |
| NOTE 1: 90% spectrum utilization may not be achieved for 30kHz SCS.  NOTE 2: 90% spectrum utilization may not be achieved for 60kHz SCS.  NOTE 3: This UE channel bandwidth is applicable only to downlink.  NOTE 4: This UE channel bandwidth is optional in this release of the specification.  NOTE 5: For this bandwidth, the minimum requirements are restricted to operation when carrier is configured as an SCell part of DC or CA configuration.  NOTE 6: For this bandwidth, the minimum requirements are restricted to operation when carrier is configured as an downlink SCell part of CA configuration.  NOTE 7: For the 20 MHz bandwidth, the minimum requirements are specified for NR UL carrier frequencies confined to either 713-723 MHz or 728-738 MHz.  NOTE 8: This UE channel bandwidth is applicable only to uplink.  NOTE 9: The 10 MHz channel bandwidth is only specified for the non-standalone operation and shall only apply in certain regions where the absence of non 3GPP technologies can be guaranteed on a Long-term basis in this version of specification | | | | | | | | | | | | | | | |

### *-----------------------------end of the change----------------------------------------------*