**3GPP TSG-RAN5 Meeting #92-e *R5-21xxxx***

**Electronic Meeting, 16th August – 27th August 2021**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.508-2** | **CR** | **-** | **rev** | **-** | **Current version:** | **17.1.0** |  |
|  | | | | | | | | |
| *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 |  | Radio Access Network |  | Core Network |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Additional of ICS for NSA DC for option 4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Bureau Veritas, CMCC | | | | | | | | | |
| ***Source to TSG:*** | R5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GS\_NR\_LTE-UEConTest | | | | |  | ***Date:*** | | | 2021-08-20 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | F |  | | | | | ***Release:*** | | | Rel-17 |
|  | *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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Some of the NE-DC option 4 ICS are missing in the 38.508-2. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | * Added “Inter-Band NE-DC within FR1” and “Inter-Band NE-DC including FR2” Table A.4.1-4: NSA DC UE Radio Technologies; * Updated clause A.4.3.2B title to cover NE-DC; * Added sub-clause A.4.3.2B.3 for NE-DC Physical Layer Baseline Implementation Capabilities | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | NE-DC PICS declaration will keep missing in test specification | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | A.4.1, A.4.3.2B, A.4.3.2B.3(New) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 changes}

## A.4.1 UE Implementation Types

Table A.4.1-1: UE Radio Technologies

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Item | | UE Radio Technologies | | Ref. | | Release | | Mnemonic | | Comments | |
| 1 | | NR FDD | | 38.101-1 | | Rel-15 | | pc\_nrFDD | |  | |
| 2 | | NR TDD | | 38.101-1,  38.101-2 | | Rel-15 | | pc\_nrTDD | |  | |
| 3 | | NR sidelink | | 38.101-1 | | Rel-16 | | pc\_nrSL | |  | |

Table A.4.1-2: UE general functionality

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Item | UE Functionality | Ref. | Release | Mnemonic | Comments |
| 1 | Multiple NR FDD bands | 38.101-1, 5.2 | Rel-15 | pc\_nrFDD\_MultiBand |  |
| 2 | Multiple NR TDD bands | 38.101-1, 5.2,  38.101-2, 5.2 | Rel-15 | pc\_nrTDD\_MultiBand |  |
| 3 | NR SUL | 38.101-1 | Rel-15 | pc\_nrSUL |  |
| 4 | NR SDL | 38.101-1 | Rel-15 | pc\_nrSDL |  |
| 5 | Multiple NR SUL bands | 38.101-1, 5.2 | Rel-15 | pc\_nrSUL\_MultiBand |  |
| 6 | Multiple NR SDL bands | 38.101-1, 5.2 | Rel-15 | pc\_nrSDL\_MultiBand |  |
| 7 | Frequency range FR1 | 38.101-1, 5.1 | Rel-15 | pc\_nrFR1 |  |
| 8 | Frequency range FR2 | 38.101-2, 5.1 | Rel-15 | pc\_nrFR2 |  |

Table A.4.1-3: RAN-CN Interface Options

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Item | UE support of RAN-CN Interface Options | Ref. | Release | Mnemonic | Comments |
| 1 | NG-RAN NR | 38.300 | Rel-15 | pc\_NG\_RAN\_NR | Option 2 |
| 2 | EN-DC | 37.340 | Rel-15 | pc\_EN\_DC | Option 3 |
| 3 | NE-DC | 37.340 | Rel-15 | pc\_NE\_DC | Option 4 |
| 4 | NG-RAN E-UTRA | 38.300 | Rel-15 | pc\_NG\_RAN\_EUTRA | Option 5 |
| 5 | NGEN-DC | 37.340 | Rel-15 | pc\_NGEN\_DC | Option 7 |

Table A.4.1-4: NSA DC UE Radio Technologies

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Item | NSA UE Radio Technologies | Ref. | Release | Mnemonic | Comments |
| 1 | Intra-Band Contiguous EN-DC | 38.101-3, 5.5B.2 | Rel-15 | pc\_IntraBand\_Contiguous\_ENDC |  |
| 2 | Intra-Band Non-Contiguous EN-DC | 38.101-3, 5.5B.3 | Rel-15 | pc\_IntraBand\_Non\_Contiguous\_ENDC |  |
| 3 | Inter-Band EN-DC within FR1 | 38.101-3, 5.5B.4 | Rel-15 | pc\_InterBand\_ENDC\_WithinFR1 |  |
| 4 | Inter-Band EN-DC including FR2 | 38.101-3, 5.5B.5 | Rel-15 | pc\_InterBand\_ENDC\_IncludingFR2 |  |
| 5 | Inter-band EN-DC including FR1 and FR2 | 38.101-3, 5.5B.6 | Rel-15 | pc\_InterBand\_ENDC\_IncludingFR1\_FR2 |  |
| 6 | Inter-band NR-DC between FR1 and FR2 | 38.101-3, 5.5B.7 | Rel-15 | pc\_InterBand\_NRDC\_BetweenFR1\_FR2 |  |
| 7 | Inter-Band NE-DC within FR1 | 38.101-3, 5.5B.4a | Rel-15 | pc\_InterBand\_NEDC\_WithinFR1 |  |
| 8 | Inter-Band NE-DC including FR2 | 38.101-3, 5.5B.5a | Rel-15 | pc\_InterBand\_NEDC\_IncludingFR2 |  |

Table A.4.1-4A: SA CA UE Radio Technologies

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Item | SA UE Radio Technologies | Ref. | Release | Mnemonic | Comments |
| 1 | Intra-Band Contiguous CA within FR1 | 38.101-1, 5.5A.1 | Rel-15 | pc\_IntraBand\_Contiguous\_CA\_WithinFR1 |  |
| 2 | Intra-Band Non-contiguous CA within FR1 | 38.101-1, 5.5A.2 | Rel-16 | pc\_IntraBand\_NonContiguous\_CA\_WithinFR1 |  |
| 3 | Intra-Band Contiguous CA within FR2 | 38.101-2, 5.5A.1 | Rel-15 | pc\_IntraBand\_Contiguous\_CA\_WithinFR2 |  |
| 4 | Intra-Band Non-contiguous CA within FR2 | 38.101-2, 5.5A.2 | Rel-15 | pc\_IntraBand\_NonContiguous\_CA\_WithinFR2 |  |
| 5 | Inter-Band CA within FR1 | 38.101-1, 5.5A.3 | Rel-15 | pc\_InterBand\_CA\_WithinFR1 |  |
| 6 | Inter-Band CA within FR2 | 38.101-2, 5.5A.3 | Rel-16 | pc\_InterBand\_CA\_WithinFR2 |  |
| 7 | Inter-band CA between FR1 and FR2 | 38.101-3, 5.5A.1 | Rel-15 | pc\_InterBand\_CA\_BetweenFR1\_FR2 |  |

<Unchanged Sections Skipped>

### A.4.3.2B NR-DC, EN-DC and NE-DC Physical Layer Baseline Implementation Capabilities

#### A.4.3.2B.1 NR-DC Physical Layer Baseline Implementation Capabilities

#### A.4.3.2B.1.0 General NR-DC capabilities

<Unchanged Sections Skipped>

###### A.4.3.2B.2.3.14 Inter-band EN-DC including FR1 and FR2 (six bands)

Table A.4.3.2B.2.3.14-1: Downlink Bandwidth Class Combination capabilities for Inter-band EN-DC including FR1 and FR2, and six bands (for one or more of the supported DC configurations in Table A.4.3.2B.2.3.14-2)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item | DL inter-band EN-DC including FR1 and FR2 Bandwidth Class | Ref. | Mnemonic | Comments |
| 1 | TBD | TBD | TBD |  |

Table A.4.3.2B.2.3.14-1a: Uplink Bandwidth Class Combination capabilities for Inter-band EN-DC including FR1 and FR2, and six bands (for one or more of the supported DC configurations in Table A.4.3.2B.2.3.14-2)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item | UL inter-band EN-DC including FR1 and FR2 Bandwidth Class | Ref. | Mnemonic | Comments |
| 1 | TBD | TBD | TBD |  |

Table A.4.3.2B.2.3.14-2: Supported Inter-band EN-DC configurations including FR1 and FR2 (six bands)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| EN-DC configuration / Item | Release | Supported | Supported EN-DC Bandwidth Class(es) in UL | Supported Bandwidth Combination Set(s) |
| TBD | TBD |  |  |  |

#### A.4.3.2B.3 NE-DC Physical Layer Baseline Implementation Capabilities

##### A.4.3.2B.3.1 General NE-DC capabilities

Table A.4.3.2B.3.1-1: Uplink NE-DC capabilities (for one or more of the supported NE-DC configurations)

|  |  |  |  |
| --- | --- | --- | --- |
| Item | Bandwidth Class | Ref. | Comments |
| 1 | UL NE-DC with 2 carriers | 38.101-3, 5.5B.4a |  |

### A.4.3.2C NR SUL Physical Layer Baseline Implementation Capabilities

#### A.4.3.2C.1 General NR-DC capabilities

FFS

## {End of changes}