**3GPP TSG-RAN2#121R2-230xxxx**

**Athens, 27th Feb – 3rd March 2023**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | 38.306 | **CR** | xxxx | **rev** | - | **Current version:** | 17.3.0 |  |
|  |
| *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 | **X** | Core Network |  |

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| ***Title:***  | UE capability for NCD SSB for REDCAP for SDT |
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| ***Source to WG:*** | ZTE Corporation, Sanechips, Vivo, Mediatek, …  |
| ***Source to TSG:*** | R2 |
|  |  |
| ***Work item code:*** | NR\_redcap-Core  |  | ***Date:*** | 27/02/2023 |
|  |  |  |  |  |
| ***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 canbe 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-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
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| ***Reason for change:*** | 1. As explained in R2-2300556, A REDCAP UE with initial BWP having no CD-SSB may need an NCD-SSB for Tx timing and channel estimation in some deployments. Currently this is not possible to be configured for SDT. A UE capability is needed for this feature.
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| ***Summary of change:*** | 1. Specify a UE capability for supporting NCD-SSB for redcap UE for SDT.

**Impact analysis**Impacted 5G architecture options:SAImpacted functionality:REDCAP, SDTInter-operability: TBD.  |
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| ***Consequences if not approved:*** | xx  |
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| ***Clauses affected:*** | xx |
|  |  |
|  | **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:*** |  |

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| First change |

4.2.21.2 General parameters

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| **Definitions for parameters** | **Per** | **M** | **FDD-TDD DIFF** |
| ***ncdSSB-RedCapInitialBWP-SDT-r17***Indicates that the UE supports using RedCap-specific initial DL BWP associated with NCD-SSB for SDT. If absent, the UE only supports SDT in an initial DL BWP that includes the CD-SSB. The UE can include this field only if the UE supports *supportOfRedCap-r17 and ra-SDT-r17* and/or *cg-SDT-r17*. | UE | No | No |
| ***supportOf16DRB-RedCap-r17***Indicates whether the RedCap UE supports 16 DRBs. This capability is only applicable for RedCap UEs. | UE | No | No |
| ***supportOfRedCap-r17***Indicates that the UE is a RedCap UE with comprised of at least the following functional components:- Maximum FR1 RedCap UE bandwidth is 20 MHz;- Maximum FR2 RedCap UE bandwidth is 100 MHz;- Support of RedCap early indication based on Msg1, MsgA (if UE indicated support of t*woStepRACH-r16*) and Msg3 for random access;- Separate initial UL BWP for RedCap UEs;- Separate initial DL BWP for RedCap UEs;- UE-specific RRC-configured DL BWP with CD-SSB or NCD-SSB;- NCD-SSB based measurements in RRC-configured DL BWP.A RedCap UE shall set the field to *supported*. | UE | CY | No |