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

**Athens, 27th Feb – 3rd March 2023**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network | **X** | Core Network |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | UE capability for NCD SSB for REDCAP for SDT | | | | | | | | | |
|  |  | | | | | | | | | |
| ***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 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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***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. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1. Specify a UE capability for supporting NCD-SSB for redcap UE for SDT.   **Impact analysis**  Impacted 5G architecture options:  SA  Impacted functionality:  REDCAP, SDT  Inter-operability:  TBD. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | xx | | | | | | | | |
|  | |  | | | | | | | | |
| ***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:*** | |  | | | | | | | | |

|  |
| --- |
| First change |

4.2.21.2 General parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Definitions for parameters** | **Per** | **M** | **FDD-TDD DIFF** |
| ***ncdSSB-RedCapInitialBWP-SDT-r17***  Indicates that the UE supports the use of NCD-SSB in RedCap-specific initial DL BWP 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 |