**3GPP TSG-RAN Meeting #118 *R3-226929***

**14th – 18th November 2022**

**Toulouse, France**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **36.300** | **CR** | **-** | **rev** | **-** | **Current version:** | **17.2.0** |  |
|  | | | | | | | | |
| *For* ***[HE](http://www.3gpp.org/3G_Specs/CRs.htm" \l "_blank)******[LP](http://www.3gpp.org/3G_Specs/CRs.htm" \l "_blank)*** *on using this form: comprehensive instructions can be found at  <http://www.3gpp.org/Change-Requests>.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **x** | Core Network | **x** |

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| ***Title:*** | (BLCR to 36.300) IoT NTN enhancements | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | ZTE, Huawei, Nokia, Nokia Shanghai Bell, CATT, Ericsson | | | | | | | | | |
| ***Source to TSG:*** | R3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | IOT\_NTN\_enh | | | | |  | ***Date:*** | | | 2022-11-21 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-18 |
|  | *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:*** | | Support for IoT NTN Enhancements | | | | | | | | |
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| ***Summary of change:*** | | Add the eNB behavior to support discontinuous coverage | | | | | | | | |
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| ***Consequences if not approved:*** | | eNB behaviour when the eNB detects the UE in discontinuous coverage is not described | | | | | | | | |
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| ***Clauses affected:*** | | 23.21.3 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **x** |  | Other core specifications | | | | TS 36.413 CR 1895 | | |
| ***affected:*** | |  | **x** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **x** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Rev 0: Capture the change from R3-226925 agreed in RAN3#118. | | | | | | | | |

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### **23.21.3 Support of discontinuous coverage**

As a satellite moves on a specified orbit, for example in case of a NGSO satellite, the satellite beam(s) coverage area may move and cover different portions of a geographical area due to the orbital movement of the satellite. As a consequence, a UE located in the concerned geographical area may experience a situation of discontinuous coverage, due to e.g. a sparse satellite constellation deployment.

To enable the UE, in RRC\_IDLE, to save power during periods of no coverage, the network provides satellite assistance information (e.g. satellite ephemeris parameters, the start-time of upcoming satellite's coverage) to enable the UE to predict when coverage will be provided by upcoming satellites. Predicting out of coverage and in coverage is up to UE implementation. When out of coverage, the UE is not required to perform AS functions.

If the eNB detects that the UE is out of coverage due to discontinuous coverage, it may initiate a UE Context Release Request procedure towards the serving MME.

Editor’s note: eNB behavior for discontinuous coverage is pending conclusion in SA2.

Editor’s note: FFS whether eNB behavior for discontinuous coverage needs to be considered for earth moving cell scenario only.

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