**3GPP TSG-RAN WG2 #130DocNumber**

**St. Julian’s, Malta, May 19th – 23rd, 2025**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  |  | **CR** |  | **rev** |  | **Current version:** |  |  |
|  | | | | | | | | |
| *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:*** | Introduction of the inband operation for NTN IoT in NR NTN | | | | | | | | | |
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| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NTNNBIoT\_inbandNTNNR | | | | |  | ***Date:*** | | | 22 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | |  |
|  | *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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | RAN4 has introduced support for inband operation mode for NTN NB-IoT in NR NTN since Release 18. In R4-2503035, RAN4 has informed RAN2 and stated the following condition:   * In Rel-18, UE is only required to support the same operation mode for anchor and non-anchor carriers. | | | | | | | | |
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| ***Summary of change:*** | | A new note is added to describe that the same operation mode for anchor and non-anchor carrier is supported in NTN for this release of the specification. | | | | | | | | |
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| ***Consequences if not approved:*** | | The supported operation mode deployments for IoT NTN are unclear.  **Impact analysis**  Impacted functionality:  NB-IoT operation in NR NTN.  Inter-operability:  There are no inter-operability issues foreseen. | | | | | | | | |
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| ***Clauses affected:*** | | 2, 5.5a | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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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| START OF CHANGE |

[XX] 3GPP TS 36.102: "Evolved Universal Terrestrial Radio Access Network (E-UTRAN); User Equipment (UE) radio transmission and reception for satellite access".

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| END OF CHANGE |

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| START OF CHANGE |

**Table 5.5a-1: Anchor and non-anchor carrier deployment combinations in FDD**

|  | ***Anchor Carrier*** | | | |
| --- | --- | --- | --- | --- |
|  | ***In-band*** | ***Guard-band*** | ***Standalone*** |
| **Non-Anchor Carrier** | **In-band** | Valid (Note 1) | Valid (Note 1) | Valid (Note 2, Note 3) |
| **Guard-band** | Valid (Note 1) | Valid (Note 1, Note 4) | Valid (Note 2, Note 3) |
| **Standalone** | Valid (Note 2, Note 3) | Valid (Note 2, Note 3) | Valid (Note 2, Note 4) |

NOTE 1: Both carriers associated with the same LTE cell.

NOTE 2: Total frequency span to not exceed 20MHz and both anchor and non-anchor carriers synchronised.

NOTE 3: Not applicable to SC-PTM reception.

NOTE 4: In NTN, deployment combinations with the same operation mode for anchor carrier and non-anchor carrier are supported in this release of the specification (see TS 36.102 [XX]).

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| END OF CHANGE |