3GPP TSG-RAN WG4 Meeting #111 R4-2409544

Fukuoka City, Fukuoka, Japan, 20th – 24th May, 2024

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** |  | **rev** | **1** | **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 |  | Radio Access Network | **X** | Core Network |  |

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|  | | | | | | | | | | |
| ***Title:*** | Draft CR to TS 38.108: Introduction of regenerative payload | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, HiSilicon, Nokia | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_NTN\_Ph3-Core | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-19 |
|  | *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:*** | | Draft CR reflecting proposed updates for Rel-19 regenerative payload in SAN RF specification. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | * Updated scope to clarify on regenerative and non-regenerative payload. * Updated definitions, to align with (non-)regenerative payload (instead of bend pipe, or NTN payload RF). | | | | | | | | |
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| ***Consequences if not approved:*** | | Rel-19 regenerative payload would not be properly reflected in the specification. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 1, 3.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS 38.101-1 | | |
| ***affected:*** | | **X** |  | Test specifications | | | | TS 38.181 | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | |  | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

*------------------------------ Modified section ----------------------------------*

# 1 Scope

The present document establishes the minimum RF characteristics and minimum performance requirements of NR Satellite Access Node (SAN).

NOTE: This version of specification supports SAN with transparent payload, as well as SAN with regenerative payload.

*------------------------------ Next modified section ----------------------------------*

# 3 Definitions, symbols and abbreviations

## 3.1 Definitions

*------------------------------ Unchanged part omitted ----------------------------------*

**SAN transponder:** part of the SAN permitting to receive, channelize and transmit signals within an allocated bandwidth.

**satellite:** A space-borne vehicle embarking a transparent payload, or a regenerative payload telecommunication transmitter, placed into Low-Earth Orbit (LEO) or Geostationary Earth Orbit (GEO).

**Satellite Access Node**: node providing NR user plane and control plane protocol terminations towards NTN Satellite capable UE, and connected via the NG interface to the 5GC. It encompasses a transparent payload on board a NTN platform, with satellite gateway and gNB functions, or a regenerative payload on board a NTN platform and a satellite gateway.

**satellite-gateway:** An earth station or gateway is located at the surface of Earth, and providing sufficient RF power and RF sensitivity for accessing to the satellite.

*------------------------------ End of modified section -------------------------*