**3GPP TSG SA2 Meeting #152e S2-22xxxxx**

**17-26 August 2022, Electronic Meeting (revision of S2-22xxxxx)**

**Source: Xiaomi**

**Title: New WID: 5GC supporting Non-3GPP Satellite Access Network (TEI18\_5GN3SAT)**

**Document for: Approval**

**Agenda Item: 10.5**

3GPP™ Work Item Description

Information on Work Items can be found at <http://www.3gpp.org/Work-Items>
See also the [3GPP Working Procedures](http://www.3gpp.org/specifications-groups/working-procedures), article 39 and the TSG Working Methods in [3GPP TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm)

Title: 5GC supporting Non-3GPP Satellite Access Network

Acronym: TEI18\_5GN3SAT

Unique identifier:

Potential target Release: *Rel-18*

# 1 Impacts

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Affects: | UICC apps | ME | AN | CN | Others (specify) |
| Yes |  | X |  | X |  |
| No | X |  | X |  | X |
| Don't know |  |  |  |  |  |

# 2 Classification of the Work Item and linked work items

## 2.1 Primary classification

### This work item is a …

|  |  |
| --- | --- |
| X | Feature |
|  | Building Block |
|  | Work Task |
|  | Study Item |

## 2.2 Parent Work Item

|  |
| --- |
| Parent Work / Study Items  |
| Acronym | Working Group | Unique ID | Title (as in 3GPP Work Plan) |
|  |  |  |  |

## 2.3 Other related Work Items and dependencies

|  |
| --- |
| Other related Work /Study Items (if any) |
| Unique ID | Title | Nature of relationship |
| 740061 | Stage 2 of 5G System - Phase 1 | Rel-15 Stage 2 work item to specify 5GS architecture supporting Untrusted Non-3GPP access. |
| 820014  | Stage 2 of Wireless and Wireline Convergence for the 5G system architecture | Rel-16 Stage 2 work item to specify 5GS architecture enhancements supporting Trusted Non-3GPP Access. |
| 800048 | Stage 1 of 5GSAT | Service requirements of satellite access in 5G |
| 860005 | (Stage 2 of) Integration of satellite components in the 5G architecture | Baseline of 5G architecture to support satellite access |
|  |  |  |

# 3 Justification

In the existing 3GPP defined satellite access in 5GS (before Rel-18), the UE shall support NR(Satellite) to access 3GPP network via satellite, and the satellite NG-RAN is a NG-RAN which uses NR(Satellite) in providing satellite access to UEs.

There is a service requirement in Stage1 TS22.261(v18.6.1) ‘Service requirements for the 5G system’:

*“A 5G system with satellite access shall support different configurations where the radio access network is either a satellite NG-RAN or a non-3GPP satellite access network, or both.”*

How to support satellite access as non-3GPP access network in 5GS needs to be specified in Rel-18 according to the Rel-18 stage1 service requirement.

3GPP has specified untrusted non-3GPP access to 5GC since Rel-15 and trusted non-3GPP access to 5GC since Rel-16, which can be the baseline for the statellite access as non-3GPP access network in 5GS.

# 4 Objective

The objective of this work item is to:

- Add description and procedures related to support non-3GPP satellite access to 5GC including the satellite access as:

* Untrusted non-3GPP access
* Trusted non-3GPP access

For policy control (e.g. QoS) and charging purpose, the RAT Types of the untrusted/trusted satellite access to 5GC need to be specified.

Note: in this release, the N3SAT UE needs to support 5G NAS.

This work item will require 0.5 TU(s) to discuss and agree on the corresponding CRs.

# 5 Expected Output and Time scale

|  |
| --- |
| New specifications {One line per specification. Create/delete lines as needed} |
| Type  | TS/TR number | Title | For info at TSG#  | For approval at TSG# | Rapporteur |
|  |  |  |  |  |  |

|  |
| --- |
| Impacted existing TS/TR {One line per specification. Create/delete lines as needed} |
| TS/TR No. | Description of change  | Target completion plenary# | Remarks |
| TS 23.501 | Add description and architecture for non-3GPP satellite access to 5GC | SA#99 (Mar. 2023) |  |
| TS 23.502 | Add description and procedures for non-3GPP satellite access to 5GC  | SA#99 (Mar. 2023) |  |

# 6 Work item Rapporteur(s)

Chunhui Zhu (Xiaomi), zhuchunhui@xiaomi.com

# 7 Work item leadership

SA2

# 8 Aspects that involve other WGs

SA5 for charging aspects.

# 9 Supporting Individual Members

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| --- |
| Supporting IM name |
| Xiaomi |
| China Mobile |
| MATRIXX Software |
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