**3GPP TSG-SA5 Meeting #160 *S5-251983***

**, Sweden, 7th Apr 2025 - 11th Apr 2025**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **28.663** | **CR** | **0026** | **rev** | **1** | **Current version:** | **18.1.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **X** | Core Network |  |

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| ***Title:*** | Rel-19 CR 28.663 Update sector equipment and antenna function definitions (stage3, yang) | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson Canada Inc. | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** |  | | | | |  | ***Date:*** | | | 2025-03-28 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **C** |  | | | | | ***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)* | |
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| ***Reason for change:*** | | SectorEquipmentFunction and AntennaFunction definitions have been updated in 28.662 and scope has also been revised to include SBMA. | | | | | | | | |
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| ***Summary of change:*** | | Update scope to align with 28.662.  Add the stage3 yang definitions for the updated IOCs. | | | | | | | | |
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| ***Consequences if not approved:*** | | The stage3 would be missing. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 1, 2, A.2.2.1, A.2.2.2, Annex X (new), X.1 (new) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 28.662 CR 0015 | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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| **1st Change** |

## 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TS 21.905: "Vocabulary for 3GPP Specifications".

[2] Void

[3] 3GPP TS 32.600: "Telecommunication management; Configuration Management (CM); Concept and high-level requirements".

[4] 3GPP TS 28.662: "Generic Radio Access Network (RAN) Network Resource Model (NRM); Integration Reference Point (IRP); Information Service (IS)”.

[5] 3GPP TS 32.300: "Telecommunication management; Configuration Management (CM); Name convention for Managed Objects".

[6] 3GPP TS 32.606: "Telecommunication management; Configuration Management (CM); Basic CM Integration Reference Point (IRP); Solution Set (SS) definitions".

[7] 3GPP TS 32.616: "Telecommunication management; Configuration Management (CM); Bulk CM Integration Reference Point (IRP); Solution Set (SS) definitions".

[8] W3C REC-xml11-20060816: "Extensible Markup Language (XML) 1.1 (Second Edition)".

[9] Void.

[10] W3C XML Schema Definition Language (XSD) 1.1 Part 1: Structures.

[11] W3C XML Schema Definition Language (XSD) 1.1 Part 2: Datatypes.

[12] W3C REC-xml-names-20060816: "Namespaces in XML 1.1 (Second Edition)".

[13] 3GPP TS 28.623: "Generic network resources Integration Reference Point (IRP); Solution Set (SS) definition".

[14] 3GPP TS 28.622: "Telecommunication management; Generic Network Resource Model (NRM) Integration Reference Point (IRP); Information Service (IS)".

[x] Management and Orchestration APIs Stage 3 Repository <https://forge.3gpp.org/rep/sa5/MnS/-/tree/Tag_Rel19_SA107/>[y] IETF RFC 8528: "YANG Schema Mount".[z] 3GPP TS 28.532: “Management and Orchestration: Generic Management Services”.[a] 3GPP TS 32.160: "Management and orchestration; Management Service Template".

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| **2nd Change** |

A.2 Mapping

A.2.1 General mapping

See clause A.2.1 of [13].

A.2.2 Information Object Class (IOC) mapping

A.2.2.1 IOC SectorEquipmentFunction

**Mapping from NRM IOC SectorEquipmentFunction attributes and associations to SS equivalent MOC SectorEquipmentFunction attributes**

| **IS Attribute** | **SS Attribute** | **SS Type** |
| --- | --- | --- |
| id | id | string |
| fqBand | fqBand | short |
| eUTRANFqBands | eUTRANFqBands | GenericRanNRMAttributeTypes:: eUTRANFqBandsListType |
| frequencyBands | frequencyBands | integer |
| nRFqBands | nRFqBands | GenericRanNRMAttributeTypes:: nRFqBandsListType |
| uTRANFDDFqBands | uTRANFDDFqBands | GenericRanNRMAttributeTypes:: uTRANFDDFqBandsListType |
| uTRANTDDFqBands | uTRANTDDFqBands | GenericRanNRMAttributeTypes:: uTRANTDDFqBandsListType |
| confOutputPower | confOutputPower | Short |
| theTmaList | theTmaList | GenericNetworkResourcesIRPSystem::  AttributeTypes::MOReferenceSet |
| theAntennaList | theAntennaList | GenericNetworkResourcesIRPSystem::  AttributeTypes::MOReferenceSet |
| theCellList | relatedCellList | GenericNetworkResourcesIRPSystem::  AttributeTypes::MOReferenceSet |
| referencedBy | referencedBy | GenericNetworkResourcesIRPSystem::  AttributeTypes::MOReferenceSet |

A.2.2.2 IOC AntennaFunction

**Mapping from NRM IOC AntennaFunction attributes and associations to SS equivalent MOC AntennaFunction attributes**

| **IS Attribute** | **SS Attribute** | **SS Type** |
| --- | --- | --- |
| id | id | string |
| beamTilt | beamTilt | short |
| retTiltValue | retTiltValue | short |
| bearing | bearing | short |
| retGroupName | retGroupName | string |
| elevation | elevation | short |
| height | height | short |
| maxAzimuthValue | maxAzimuthValue | short |
| minAzimuthValue | minAzimuthValue | short |
| horizBeamwidth | horizBeamwidth | short |
| vertBeamwidth | vertBeamwidth | short |
| latitude | latitude | short |
| longitude | longitude | short |
| theCellList | relatedCellList | GenericNetworkResourcesIRPSystem::AttributeTypes::MOReferenceSet |
| referencedBy | referencedBy | GenericNetworkResourcesIRPSystem::AttributeTypes::MOReferenceSet |

NOTE: For all support qualifiers with the value "O", see attribute constraints in TS 28.622 [4].

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| **3rd Change** |

## Annex X (normative)X.1 YANG Definitions

The present clause contains the YANG definitions for the Generic Radio Access Network NRM.

The Information Service (IS) of the Generic Radio Access Network NRM is defined in 3GPP TS 28.662 [4].

Mapping rules to produce the YANG definition based on the IS are defined in 3GPP TS 32.160 [a].

YANG definitions are specified in 3GPP Forge [x].

Directory: yang-models

Files:

\_3gpp-common-antennafunction.yang

\_3gpp-common-sectorequipmentfunction.yang

Mount information

If the class ManagedElement and the underlying hierarchy is contained under a SubNetwork, the YANG module for ManagedElement shall be mounted at the mountpoint "children-of- SubNetwork" in the YANG module \_3gpp-common-subnetwork, together with the YANG modules containing IOCs that can be contained under the ManagedElement directly or under other IOCs contained by the ManagedElement.

If the class ManagedElement and the underlying hierarchy is contained under a MeContext, the YANG module for ManagedElement shall be mounted at the mountpoint "children-of-MeContext" in the YANG module \_3gpp-common-mecontext, together with the YANG modules containing IOCs that can be contained under the ManagedElement directly or under other IOCs contained by the ManagedElement.See IETF RFC 8528 [y] that describes the mechanism that adds the schema trees defined by a set of YANG modules onto a mount point defined in the schema tree in another YANG module.