**3GPP TSG- Meeting #**

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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:***  |  |
|  |  |
| ***Source to WG:*** |  |
| ***Source to TSG:*** | S5 |
|  |  |
| ***Work item code:*** |  |  | ***Date:*** |  |
|  |  |  |  |  |
| ***Category:*** |  |  | ***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 canbe 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:*** | SectorEquipmentFunction and AntennaFunction yang definitions require updates to address comments from code moderator. |
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| ***Summary of change:*** | Module names and TS ref updated. |
|  |  |
| ***Consequences if not approved:*** | Inconsistency with other yang modules. |
|  |  |
| ***Clauses affected:*** | 7.4, Forge |
|  |  |
|  | **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:*** | Forge MR link: <https://forge.3gpp.org/rep/sa5/MnS/-/merge_requests/1864> at commit 0caafbbf6244236f2d486f46925b7a16a6b2129f |
|  |  |
| ***This CR's revision history:*** |  |

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| **1st Change** |

## 7.4 YANG Definitions for NR and NG-RAN

YANG definitions are specified in 3GPP Forge, refer to clause 4.4 of TS 28.623 [106] for the Forge location.

Directory: yang-models

Files:

\_3gpp-eqp-antennafunction.yang

\_3gpp-eqp-sectorequipmentfunction.yang

\_3gpp-nr-nrm-beam.yang

\_3gpp-nr-nrm-bwp.yang

\_3gpp-nr-nrm-bwpset.yang

\_3gpp-nr-nrm-cco.yang

\_3gpp-nr-nrm-cesmanagementfunction.yang

\_3gpp-nr-nrm-commonbeamformingfunction.yang

\_3gpp-nr-nrm-cpciconfigurationfunction.yang

\_3gpp-nr-nrm-danrmanagementfunction.yang

\_3gpp-nr-nrm-desmanagementfunction.yang

\_3gpp-nr-nrm-dlbofunction.yang

\_3gpp-nr-nrm-dmrofunction.yang

\_3gpp-nr-nrm-dpciconfigurationfunction.yang

\_3gpp-nr-nrm-drachoptimizationfunction.yang

\_3gpp-nr-nrm-ecmappingrule.yang

\_3gpp-nr-nrm-ep.yang

\_3gpp-nr-nrm-eutrancellrelation.yang

\_3gpp-nr-nrm-eutranetwork.yang

\_3gpp-nr-nrm-eutranfreqrelation.yang

\_3gpp-nr-nrm-eutranfrequency.yang

\_3gpp-nr-nrm-externalamffunction.yang

\_3gpp-nr-nrm-externalenbfunction.yang

\_3gpp-nr-nrm-externaleutrancell.yang

\_3gpp-nr-nrm-externalgnbcucpfunction.yang

\_3gpp-nr-nrm-externalgnbcuupfunction.yang

\_3gpp-nr-nrm-externalgnbdufunction.yang

\_3gpp-nr-nrm-externalnrcellcu.yang

\_3gpp-nr-nrm-externalservinggwfunction.yang

\_3gpp-nr-nrm-externalupffunction.yang

\_3gpp-nr-nrm-gnbcucpfunction.yang

\_3gpp-nr-nrm-gnbcuupfunction.yang

\_3gpp-nr-nrm-gnbdufunction.yang

\_3gpp-nr-nrm-nrcellcu.yang

\_3gpp-nr-nrm-nrcelldu.yang

\_3gpp-nr-nrm-nrcellrelation.yang

\_3gpp-nr-nrm-nrfreqrelation.yang

\_3gpp-nr-nrm-nrfrequency.yang

\_3gpp-nr-nrm-nrnetwork.yang

\_3gpp-nr-nrm-nroperatorcelldu.yang

\_3gpp-nr-nrm-nrsectorcarrier.yang

\_3gpp-nr-nrm-ntnfunction.yang

\_3gpp-nr-nrm-operatordu.yang

\_3gpp-nr-nrm-rimrsset.yang

\_3gpp-nr-nrm-rrmpolicy.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 [45] 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.

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| **2nd Change** |

\*\*\* yang-models/\_3gpp-eqp-antennafunction.yang~~yang-models/\_3gpp-common-antennafunction.yang~~ \*\*\*

<CODE BEGINS>

module \_3gpp-eqp-antennafunction {

 yang-version 1.1;

 namespace "urn:3gpp:sa5:\_3gpp-eqp-antennafunction";

 prefix "ant3gpp";

 import \_3gpp-common-yang-types { prefix types3gpp; }

 import \_3gpp-common-managed-function { prefix mf3gpp; }

 import \_3gpp-common-managed-element { prefix me3gpp; }

 import \_3gpp-common-top { prefix top3gpp; }

 organization "3GPP SA5";

 contact "https://www.3gpp.org/DynaReport/TSG-WG--S5--officials.htm?Itemid=464";

 description "Defines the YANG mapping of the Antenna Function Information

 Object Class (IOC) that is part of the Generic Network Resource Model (NRM).

 Copyright 2025, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI,

 TTA, TTC). All rights reserved.";

 reference "3GPP TS 28.541 5G Network Resource Model (NRM)";

 revision 2025-08-12 { reference "CR1580"; }

 revision 2025-03-27 { reference "Initial revision"; }

 grouping AntennaFunctionGrp {

 description "Represents the AntennaFunction.";

 uses mf3gpp:ManagedFunctionGrp;

 leaf beamTilt {

 description "The beam tilt of the wanted antenna beam

 in the vertical plane. A positive value on the

 beamtilt indicates an antenna beam direction below the

 vertical plane.";

 units degree;

 type types3gpp:TenthOfDegrees;

 }

 leaf bearing {

 description "The bearing in degrees that the antenna is pointing in.

 AllowedValues: See \"Antenna bearing\" in 3GPP TS 25.463.";

 reference "3GPP TS 25.463, UTRAN Iuant interface:

 Remote Electrical Tilting (RET)

 antennas Application Part (RETAP) signalling";

 type types3gpp:TenthOfDegrees;

 }

 leaf elevation {

 description "The elevation the antenna function should have,

 based on World Geodetic System (1984 version) global

 reference frame (WGS 84). Positive values correspond to

 meters above sea level, negative values correspond to meters

 below sea level. If empty, value is not defined.";

 type types3gpp:Altitude;

 }

 leaf horizBeamWidth {

 description "The 3 dB power beamwidth of the antenna pattern

 in the horizontal plane.

 A value of 360 indicates an omnidirectional antenna.

 Note: The value of this attribute has no operational impact

 on the network, e.g. the NE behaviour is not affected by the

 value setting of this attribute.

 Note as well that this attribute is not supported over the

 Iuant interface according to 3GPP TS37.466.

 A single integral value corresponding to an angle in degrees

 between 0 and 360.";

 reference "3GPP TS 37.466, Iuant interface: Application part";

 type types3gpp:TenthOfDegrees;

 }

 leaf latitude {

 description "Latitude of transmitter antenna position.

 Positive value means north, negative value means south.

 Specification: WGS 84

 Allowed Values: { -90.000000..90.000000 }";

 units degree;

 type types3gpp:Latitude;

 }

 leaf longititude {

 description "Longitude of transmitter antenna position.

 Positive value means east, negative value means west.

 Specification: WGS 84

 Allowed Values: { -180.000000..180.000000 }";

 units degree;

 type types3gpp:Longitude;

 }

 leaf maxAzimuthValue {

 description "The maximum amount of change of azimuth the RET

 system can support. This is the change in degrees clockwise

 from bearing.

 Note: The value of this attribute has no operational impact

 on the network, e.g. the NE behaviour is not affected by the

 value setting of this attribute.

 Note as well that this attribute is not supported over the

 Iuant interface according to Ref. 3GPP TS 37.466.

 A single decimal value corresponding to an angle in degrees

 between 0 and 360 with a resolution of 0.1 degrees.";

 reference "3GPP TS 37.466, Iuant interface: Application part";

 units degree;

 type decimal64 {

 range "0..360";

 fraction-digits 1;

 }

 }

 leaf minAzimuthValue {

 description "The minimum amount of change of azimuth the RET

 system can support. This is the change in degrees clockwise

 from bearing.

 Note: The value of this attribute has no operational impact

 on the network, e.g. the NE behaviour is not affected by the

 value setting of this attribute.

 Note as well that this attribute is not supported over the

 Iuant interface according to Ref. 3GPP TS 37.466.

 A single decimal value corresponding to an angle in degrees

 between 0 and 360 with a resolution of 0.1 degrees.";

 reference "3GPP TS 37.466, Iuant interface: Application part";

 units degree;

 type decimal64 {

 range "0..360";

 fraction-digits 1;

 }

 }

 leaf-list referencedBy {

 description "This attribute contains the DNs of one or more objects

 that refer to this object.

 In the case of AntennaFunction, these referring objects may

 include DNs of SectorEquipmentFunction instances if associations

 between them and the AntennaFunction exist.

 Note: referencedBy is a DN datatype and so can reference an MOI

 under a different ME";

 config false;

 type types3gpp:DistinguishedName;

 }

 leaf retGroupName {

 description "The group name is a textual, alpha-numeric string to

 define a logical grouping of antennas which may be in different cells.

 This attribute permits the definition of a logical grouping

 of the antennas. This may be defined either at

 installation time, or by management activity";

 type string;

 }

 leaf retTiltValue {

 description "The electrical tilt setting of the antenna, \"Tilt value\" in

 3GPP TS 37.466.";

 reference "3GPP TS 37.466, Iuant interface: Application part";

 type types3gpp:TenthOfDegrees;

 }

 leaf vertBeamWidth {

 description "The 3 dB power beamwidth of the antenna pattern in

 the vertical plane.

 The value of this attribute has no operational impact on

 the network, e.g. the NE behaviour is not affected by the

 value setting of this attribute.

 This attribute is not supported over the Iuant interface

 according to Ref. 3GPP TS 37.466.";

 reference "3GPP TS 37.466, Iuant interface: Application part";

 units degree;

 type uint32 {

 range "0..180";

 }

 }

 leaf-list theCellList {

 description "This attribute contains the DNs of EUtranGenericCell

 or UtranGenericCell if associations between them exist.

 This attribute contains the DNs of GSMCellPart if association

 between them exist. ";

 config false;

 status deprecated;

 type types3gpp:DistinguishedName;

 }

 }

 augment "/me3gpp:ManagedElement" {

 list AntennaFunction {

 key id;

 uses top3gpp:Top\_Grp;

 description "This MOI represents an array of radiating elements that

 may be tilted to adjust the RF coverage of a cell(s).";

 container attributes {

 uses AntennaFunctionGrp;

 }

 uses mf3gpp:ManagedFunctionContainedClasses;

 }

 }

}

<CODE ENDS>

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| --- |
| **3rd Change** |

\*\*\* yang-models/\_3gpp-eqp-sectorequipmentfunction.yang~~yang-models/\_3gpp-common-sectorequipmentfunction.yang~~ \*\*\*

<CODE BEGINS>

module \_3gpp-eqp-sectorequipmentfunction {

 yang-version 1.1;

 namespace "urn:3gpp:sa5:\_3gpp-eqp-sectorequipmentfunction";

 prefix "scteqp3gpp";

 import \_3gpp-common-yang-types { prefix types3gpp; }

 import \_3gpp-common-managed-function { prefix mf3gpp; }

 import \_3gpp-common-managed-element { prefix me3gpp; }

 import \_3gpp-common-top { prefix top3gpp; }

 organization "3GPP SA5";

 contact "https://www.3gpp.org/DynaReport/TSG-WG--S5--officials.htm?Itemid=464";

 description "Defines the YANG mapping of the Sector Equipment Function

 Information Object Class (IOC) that is part of the Generic Network Resource

 Model (NRM).

 Copyright 2025, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI,

 TTA, TTC). All rights reserved.";

 reference "3GPP TS 28.541 5G Network Resource Model (NRM)";

 revision 2025-08-12 { reference "CR1580"; }

 revision 2025-05-06 { reference "Initial revision"; }

 grouping SectorEquipmentFunctionGrp {

 description "Represents the SectorEquipmentFunction.";

 uses mf3gpp:ManagedFunctionGrp;

 leaf confOutputPower {

 description "It defines the allowed total power to use for all

 cells together in this sector.

 It may be set by the operator and/or limited by HW limitation

 or licensed power, e.g.: 20, 40, 60, 80,120 watts";

 type uint32;

 }

 leaf-list fqBandList {

 description "The list of frequency bands/ranges supported by the

 hardware associated with the SectorEquipmentFunction. The

 earfcnDl and earfcnUl or earfcn of cells associated with the

 SectorEquipmentFunction must be assigned one of the specified

 frequency range values within the supported range.

 Valid frequency bands/ranges may be found in 3GPP TS 25.104 (UTRA),

 36.104 (E-UTRA) and 38.104 (NR).

 AllowedValues:

 Operating band id or supported frequency tuple

 <UL,DL,mode> expressed as a string.

 Examples for NR:

 Bands: {'n1', 'n12'}

 Frequencies: {'1920–1980, 2110–2170, FDD', '699–716, 729–746, FDD'}";

 config false;

 type string;

 }

 leaf-list referencedBy {

 description "This attribute contains the DNs of one or more objects

 that refer to this object.

 In the case of SectorEquipmentFunction , these referring objects

 may include Cells, NRSectorCarriers if associations between them

 and the SectorEquipmentFunction exist.

 Note: referencedBy is a DN datatype and so can reference an MOI

 under a different ME";

 config false;

 type types3gpp:DistinguishedName;

 }

 }

 augment "/me3gpp:ManagedElement" {

 list SectorEquipmentFunction {

 key id;

 uses top3gpp:Top\_Grp;

 description "This IOC represents a set of cells within a geographical

 area that has common functions relating to AntennaFunction, TMAFunction

 and supporting equipment, such as power amplifier.";

 container attributes {

 uses SectorEquipmentFunctionGrp;

 }

 uses mf3gpp:ManagedFunctionContainedClasses;

 }

}

}

<CODE ENDS>