**3GPP TSG-SA5 Meeting #130e *S5-202271***

**e-meeting 20-28 April 2020**

|  |
| --- |
| *CR-Form-v11.4* |
| **CHANGE REQUEST** |
|  |
|  | **28.541** | **CR** | **0281** | **rev** | **1** | **Current version:** | **16.4.1** |  |
|  |
| *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)*.* |
|  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **X** | Core Network |  |

|  |
| --- |
|  |
| ***Title:***  | Update Clause 4.2.1.2 Inheritance UML diagram |
|  |  |
| ***Source to WG:*** | Huawei |
| ***Source to TSG:*** | S5 |
|  |  |
| ***Work item code:*** | NETSLICE-5GNRM |  | ***Date:*** | 2020-04-10 |
|  |  |  |  |  |
| ***Category:*** | **A** |  | ***Release:*** | Rel-16 |
|  | *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-12 (Release 12)**Rel-13 (Release 13)Rel-14 (Release 14)Rel-15 (Release 15)Rel-16 (Release 16)* |
|  |  |
| ***Reason for change:*** | Following issues are observed for the first inheritance UML diagram in clause 4.2.1.2:1. <<ProxyClass>> inherited from concrete <<IOC>>, e.g. CellRelation<<ProxyClass>> inherit from ManagedFunction<<IOC>>;
2. As defined in TS 28.622, ManagedFunction represent a telecommunication function, it is confuse that CellRelation and FrequencyRelation inherited from ManagedFunction. Also in TS 28.658, the EutranRelation is inherited from TOP IOC.
3. There is no definition for CellRelation<<ProxyClass>> and FrequencyRelation<<ProxyClass>>
 |
|  |  |
| ***Summary of change:*** | Update the inheritance UML diagram in Class 4.2.1.2 |
|  |  |
| ***Consequences if not approved:*** | The inheritance UML diagram is wrong |
|  |  |
| ***Clauses affected:*** | 4.2.1.2, C.4.3, D.4.3,E.5.2.21,E.5.22 |
|  |  |
|  | **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:*** |  |

|  |
| --- |
| **1st Change** |

#### 4.2.1.2 Inheritance











Figure 4.2.1.2-1: Inheritance Hierarchy

|  |
| --- |
| **2nd Change** |

## C.4.3 XML schema "nRNrm.xsd"

<?xml version="1.0" encoding="UTF-8"?>

<!--

 3GPP TS 28.541 NR Network Resource Model

 XML schema definition

 nrNrm.xsd

-->

<schema xmlns="http://www.w3.org/2001/XMLSchema"

xmlns:xn="http://www.3gpp.org/ftp/specs/archive/28\_series/28.623#genericNrm"

xmlns:nn="http://www.3gpp.org/ftp/specs/archive/28\_series/28.541#nrNrm"

xmlns:en="http://www.3gpp.org/ftp/specs/archive/28\_series/28.659#eutranNrm"

xmlns:epc="http://www.3gpp.org/ftp/specs/archive/28\_series/28.709#epcNrm"

xmlns:sm="http://www.3gpp.org/ftp/specs/archive/28\_series/28.626#stateManagementIRP"

xmlns:ngc="http://www.3gpp.org/ftp/specs/archive/28\_series/28.541#ngcNrm"

xmlns:sp="http://www.3gpp.org/ftp/specs/archive/28\_series/28.629#sonPolicyNrm"

targetNamespace="http://www.3gpp.org/ftp/specs/archive/28\_series/28.541#nrNrm" elementFormDefault="qualified">

<import namespace="http://www.3gpp.org/ftp/specs/archive/28\_series/28.623#genericNrm"/>

<import namespace="http://www.3gpp.org/ftp/specs/archive/28\_series/28.709#epcNrm"/>

<import namespace="http://www.3gpp.org/ftp/specs/archive/28\_series/28.626#stateManagementIRP"/>

<import namespace="http://www.3gpp.org/ftp/specs/archive/28\_series/28.541#ngcNrm"/>

<import namespace="http://www.3gpp.org/ftp/specs/archive/28\_series/28.629#sonPolicyNrm"/>

<simpleType name="GnbId">

 <restriction base="unsignedLong">

 <maxInclusive value="4294967295"/>

 </restriction>

</simpleType>

<simpleType name="GnbIdLength">

 <restriction base="integer">

 <minLength value="22"/>

 <maxLength value="32"/>

 </restriction>

</simpleType>

<simpleType name="Nci">

 <restriction base="unsignedLong">

 <maxInclusive value="68719476735"/>

 </restriction>

</simpleType>

<simpleType name="Pci">

 <restriction base="unsignedShort">

 <maxInclusive value="503"/>

 <!-- Minimum value is 0, maximum value is 3x167+2=503 -->

 </restriction>

</simpleType>

<simpleType name="NrTac">

 <restriction base="unsignedLong">

 <maxInclusive value="16777215"/>

 <!--5G TAC is 3-octets length -->

 </restriction>

</simpleType>

<simpleType name="GnbDuId">

 <restriction base="unsignedLong">

 <maxInclusive value="68719476735"/>

 <!-- Minimum value is 0, maximum value is 2^36-1=68719476735 -->

 </restriction>

</simpleType>

<simpleType name="GnbCuupId">

 <restriction base="unsignedLong">

 <maxInclusive value="68719476735"/>

 <!-- Minimum value is 0, maximum value is 2^36-1=68719476735 -->

 </restriction>

</simpleType>

<simpleType name="GnbName">

 <restriction base="string">

 <minLength value="1"/>

 <maxLength value="150"/>

 </restriction>

</simpleType>

<simpleType name="CyclicPrefix">

 <restriction base="integer">

 <enumeration value="15"/>

 <enumeration value="30"/>

 <enumeration value="60"/>

 <enumeration value="120"/>

 </restriction>

</simpleType>

<simpleType name="QuotaType">

 <restriction base="string">

 <enumeration value="STRICT"/>

 <enumeration value="FLOAT"/>

 </restriction>

</simpleType>

<simpleType name="CellState">

 <restriction base="string">

 <enumeration value="IDLE"/>

 <enumeration value="INACTIVE"/>

 <enumeration value="ACTIVE"/>

 </restriction>

</simpleType>

<simpleType name="BwpContext">

 <restriction base="string">

 <enumeration value="DL"/>

 <enumeration value="UL"/>

 <enumeration value="SUL"/>

 </restriction>

</simpleType>

<simpleType name="IsInitialBwp">

 <restriction base="string">

 <enumeration value="INITIAL"/>

 <enumeration value="OTHER"/>

 </restriction>

</simpleType>

<simpleType name="qOffsetRangeList">

 <restriction base="string">

 <enumeration value="dB-24"/>

 <enumeration value="dB-22"/>

 <enumeration value="dB-20"/>

 <enumeration value="dB-18"/>

 <enumeration value="dB-16"/>

 <enumeration value="dB-14"/>

 <enumeration value="dB-12"/>

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 <enumeration value="dB18"/>

 <enumeration value="dB20"/>

 <enumeration value="dB22"/>

 <enumeration value="dB24"/>

 </restriction>

</simpleType>

<simpleType name="cellReselectionPriority">

 <restriction base="unsignedLong">

 <minInclusive value="0"/>

 <maxInclusive value="16"/>

 <!--Value 0 means lowest priority-->

 </restriction>

</simpleType>

<simpleType name="cellReselectionSubPriority">

 <restriction base="unsignedLong">

 <minInclusive value="0"/>

 <maxInclusive value="16"/>

 <!--Value 0 means lowest priority-->

 </restriction>

</simpleType>

<simpleType name="PMaxRangeType">

 <restriction base="short">

 <minInclusive value="-30"/>

 <maxInclusive value="33"/>

 </restriction>

</simpleType>

<simpleType name="qOffsetFreq">

 <restriction base="short">

 <minInclusive value="-24"/>

 <maxInclusive value="24"/>

 </restriction>

</simpleType>

<simpleType name="qQualMin">

 <restriction base="integer">

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</simpleType>

<simpleType name="qRxLevMin">

 <restriction base="integer">

 <minInclusive value="-140"/>

 <maxInclusive value="-44"/>

 </restriction>

</simpleType>

<simpleType name="Thresxhighp">

 <restriction base="integer">

 <minInclusive value="0"/>

 <maxInclusive value="62"/>

 </restriction>

</simpleType>

<simpleType name="Threshxhighq">

 <restriction base="integer">

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<simpleType name="Threshxlowp">

 <restriction base="integer">

 <minInclusive value="0"/>

 <maxInclusive value="62"/>

 </restriction>

</simpleType>

<simpleType name="Threshxlowq">

 <restriction base="integer">

 <minInclusive value="0"/>

 <maxInclusive value="62"/>

 </restriction>

</simpleType>

<simpleType name="Treselectionnr">

 <restriction base="integer">

 <minInclusive value="0"/>

 <maxInclusive value="7"/>

 </restriction>

</simpleType>

<simpleType name="Treselectionnrsfhigh">

 <restriction base="string">

 <enumeration value="25"/>

 <enumeration value="50"/>

 <enumeration value="75"/>

 <enumeration value="100"/>

 </restriction>

</simpleType>

<simpleType name="Treselectionnrsfmedium">

 <restriction base="string">

 <enumeration value="25"/>

 <enumeration value="50"/>

 <enumeration value="75"/>

 <enumeration value="100"/>

 </restriction>

</simpleType>

<simpleType name="Absolutefrequencyssb">

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<simpleType name="Ssbsubcarrierspacing">

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 <restriction base="integer">

 <minInclusive value="1"/>

 <maxInclusive value="256"/>

 </restriction>

</simpleType>

<simpleType name="beamType">

 <restriction base="string">

 <enumeration value="SSB-BEAM"/>

 </restriction>

</simpleType>

<simpleType name="beamAzimuth">

 <restriction base="integer">

 <minInclusive value="-1800"/>

 <maxInclusive value="1800"/>

 </restriction>

</simpleType>

<simpleType name="beamTilt">

 <restriction base="integer">

 <minInclusive value="-900"/>

 <maxInclusive value="900"/>

 </restriction>

</simpleType>

<simpleType name="beamHorizWidth">

 <restriction base="integer">

 <minInclusive value="0"/>

 <maxInclusive value="3599"/>

 </restriction>

</simpleType>

<simpleType name="beamVertWidth">

 <restriction base="integer">

 <minInclusive value="0"/>

 <maxInclusive value="1800"/>

 </restriction>

</simpleType>

<simpleType name="coverageShapeType">

 <restriction base="integer">

 <minInclusive value="0"/>

 <maxInclusive value="65535"/>

 </restriction>

</simpleType>

<simpleType name="resourceType">

 <restriction base="string">

 <enumeration value="PRB"/>

 <enumeration value="RRC"/>

 <enumeration value="DRB"/>

 </restriction>

</simpleType>

<complexType name="LocalEndPoint">

 <sequence>

 <element name="ipv4Address" type="string"/>

 <element name="ipv6Address" type="string"/>

 <element name="ipv6Prefix" type="string"/>

 <element name="vlanId" type="integer"/>

 </sequence>

</complexType>

<complexType name="RemoteEndPoint">

 <sequence>

 <element name="ipv4Address" type="string"/>

 <element name="ipv6Address" type="string"/>

 <element name="ipv6Prefix" type="string"/>

 </sequence>

</complexType>

<complexType name="blackListEntry">

 <sequence minOccurs="0" maxOccurs="1007" >

 <element name="pci" type="en:Pci" maxOccurs="504"/>

 </sequence>

</complexType>

<complexType name="blackListEntryIdleMode">

 <sequence minOccurs="0" maxOccurs="1007" >

 <element name="pci" type="en:Pci" maxOccurs="504"/>

 </sequence>

</complexType>

<complexType name="PLMNIdList">

 <sequence>

 <element name="pLMNId" type="en:PLMNId" maxOccurs="6"/>

 <!-- The first pLMNId of the pLMNIdList is primary PLMN id -->

 </sequence>

</complexType>

<complexType name="cellIndividualOffset">

 <sequence>

 <element name="rsrpOffsetSSB" type="qOffsetRangeList"/>

 <element name="rsrqOffsetSSB" type="qOffsetRangeList"/>

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 <element name="rsrpOffsetCSI-RS" type="qOffsetRangeList"/>

 <element name="rsrqOffsetCSI-RS" type="qOffsetRangeList"/>

 <element name="sinrOffsetCSI-RS" type="qOffsetRangeList"/>

 </sequence>

 </complexType>

 <complexType name="PLMNInfoType">

 <sequence>

 <element name="pLMNId" type="en:PLMNId"/>

 <element name="sNSSAI" type="ngc:SNssai" minOccurs="0"/>

 </sequence>

</complexType>

 <complexType name="PLMNInfoListType">

 <sequence>

 <element name="pLMNInfo" type="PLMNInfoType" minOccurs="1"/>

 </sequence>

</complexType>

<element name="GNBDUFunction" substitutionGroup="xn:ManagedElementOptionallyContainedNrmClass">

 <complexType>

 <complexContent>

 <extension base="xn:NrmClass">

 <sequence>

 <element name="attributes">

 <complexType>

 <all>

 <!-- Inherited attributes from ManagedFunction -->

 <element name="userLabel" type="string" minOccurs="0"/>

 <element name="vnfParametersList" type="xn:vnfParametersListType" minOccurs="0"/>

 <element name="peeParametersList" type="xn:peeParametersListType" minOccurs="0"/>

 <element name="priority" type="integer" minOccurs="0"/>

 <element name="measurements" type="xn:MeasurementTypesAndGPsList" minOccurs="0"/>

 <!--End of inherited attributes from ManagedFunction-->

 <element name="gnbId" type="nn:GnbId"/>

 <element name="gnbIdLength" type="nn:GnbIdLength"/>

 <element name="gnbDUId" type="nn:GnbDuId"/>

 <element name="gnbDuName" type="nn:GnbName" minOccurs="0"/>

 <element name="x2Blacklist" type="xn:dnList" minOccurs="0"/>

 <element name="x2Whitelist" type="xn:dnList" minOccurs="0"/>

 <element name="xnBlacklist" type="xn:dnList" minOccurs="0"/>

 <element name="xnWhitelist" type="xn:dnList" minOccurs="0"/>

 <element name="x2XnHOBlackList" type="xn:dnList" minOccurs="0"/>

 <element name="aggressorSetID" type="nn:AggressorSetID"/>

 <element name="victimSetID" type="nn:VictimSetID"/>

 </all>

 </complexType>

 </element>

 <choice minOccurs="0" maxOccurs="unbounded">

 <element ref="nn:NRCellDU"/>

 <element ref="nn:BWP"/>

 <element ref="nn:NRSectorCarrier"/>

 <element ref="nn:EP\_F1C"/>

 <element ref="nn:EP\_F1U"/>

 </choice>

 <choice minOccurs="0" maxOccurs="unbounded">

 <element ref="xn:MeasurementControl"/>

 </choice>

 </sequence>

 </extension>

 </complexContent>

 </complexType>

</element>

<element name="GNBCUCPFunction" substitutionGroup="xn:ManagedElementOptionallyContainedNrmClass">

 <complexType>

 <complexContent>

 <extension base="xn:NrmClass">

 <sequence>

 <element name="attributes">

 <complexType>

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 <!-- Inherited attributes from ManagedFunction -->

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 <element name="vnfParametersList" type="xn:vnfParametersListType" minOccurs="0"/>

 <element name="peeParametersList" type="xn:peeParametersListType" minOccurs="0"/>

 <element name="priority" type="integer" minOccurs="0"/>

 <element name="measurements" type="xn:MeasurementTypesAndGPsList" minOccurs="0"/>

 <!--End of inherited attributes from ManagedFunction-->

 <element name="gnbId" type="nn:GnbId" />

 <element name="gnbIdLength" type="nn:GnbIdLength"/>

 <element name="gnbCuName" type=" nn:GnbName" minOccurs="0"/>

 <element name="pLMNId" type="en:PLMNId" />

 <element name="x2Blacklist" type="xn:dnList" minOccurs="0"/>

 <element name="x2Whitelist" type="xn:dnList" minOccurs="0"/>

 <element name="xnBlacklist" type="xn:dnList" minOccurs="0"/>

 <element name="xnWhitelist" type="xn:dnList" minOccurs="0"/>

 <element name="x2XnHOBlackList" type="xn:dnList" minOccurs="0"/>

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 </all>

 </complexType>

 </element>

 <choice minOccurs="0" maxOccurs="unbounded">

 <element ref="nn:NRCellCU"/>

 <element ref="nn:EP\_F1C"/>

 <element ref="nn:EP\_E1"/>

 <element ref="nn:EP\_XnC"/>

 <element ref="nn:EP\_X2C"/>

 <element ref="nn:EP\_NgC"/>

 <element ref="xn:VsDataContainer"/>

 </choice>

 <choice minOccurs="0" maxOccurs="unbounded">

 <element ref="xn:MeasurementControl"/>

 </choice>

 </sequence>

 </extension>

 </complexContent>

 </complexType>

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 <element name="peeParametersList" type="xn:peeParametersListType" minOccurs="0"/>

 <element name="priority" type="integer" minOccurs="0"/>

 <element name="measurements" type="xn:MeasurementTypesAndGPsList" minOccurs="0"/>

 <!--End of inherited attributes from ManagedFunction-->

 <element name="gNBCUUPId" type="nn:GnbCuupId "/>

 <element name="pLMNInfoList" type="PLMNInfoListType"/> <element name="gNBId" type="nn:GnbId"/>

 <element name="gnbIdLength" type="nn:GnbIdLength"/>

 </all>

 </complexType>

 </element>

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 <element ref="nn:EP\_E1"/>

 <element ref="nn:EP\_F1U"/>

 <element ref="nn:EP\_XnU"/>

 <element ref="nn:EP\_NgU"/>

 <element ref="nn:EP\_X2U"/>

 <element ref="nn:EP\_S1U"/>

 <element ref="xn:VsDataContainer"/>

 </choice>

 <choice minOccurs="0" maxOccurs="unbounded">

 <element ref="xn:MeasurementControl"/>

 </choice>

 </sequence>

 </extension>

 </complexContent>

 </complexType>

</element>

<element name="NRCellCU">

 <complexType>

 <complexContent>

 <extension base="xn:NrmClass">

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 <element name="vnfParametersList" type="xn:vnfParametersListType" minOccurs="0"/>

 <element name="peeParametersList" type="xn:peeParametersListType" minOccurs="0"/>

 <element name="priority" type="integer" minOccurs="0"/>

 <element name="measurements" type="xn:MeasurementTypesAndGPsList" minOccurs="0"/>

 <!--End of inherited attributes from ManagedFunction-->

 <element name="nCGI" type="nn:Ncgi"/>

 <element name="pLMNIdList" type="en:PLMNIdList"/>

 <element name="sNSSAIList" type="ngc:SnssaiList" minOccurs="0"/>

 <element name="nRFrequencyRef" type="xn:dn" minOccurs="0"/>

 </all>

 </complexType>

 </element>

 <choice minOccurs="0" maxOccurs="unbounded">

 <element ref="xn:VsDataContainer"/>

 <element ref="nRCellRelation"/>

 <element ref="nRFreqRelation"/>

 <element ref="eUtranCellRelation"/>

 <element ref="eUtranFreqRelation"/>

 </choice>

 <choice minOccurs="0" maxOccurs="unbounded">

 <element ref="xn:MeasurementControl"/>

 </choice>

 <choice minOccurs="0" maxOccurs="1">

 <element ref="sp:EnergySavingProperties"/>

 <element ref="sp:ESPolicies"/>

 </choice>

 <choice minOccurs="0" maxOccurs="unbounded">

 <element ref= "RRMPolicyRatio"/>

 </choice>

 </sequence>

 </extension>

 </complexContent>

 </complexType>

</element>

<element name="NRCellDU">

 <complexType>

 <complexContent>

 <extension base="xn:NrmClass">

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 <element name="attributes">

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 <!-- Inherited attributes from ManagedFunction -->

 <element name="userLabel" type="string" minOccurs="0"/>

 <element name="vnfParametersList" type="xn:vnfParametersListType" minOccurs="0"/>

 <element name="peeParametersList" type="xn:peeParametersListType" minOccurs="0"/>

 <element name="priority" type="integer" minOccurs="0"/>

 <element name="measurements" type="xn:MeasurementTypesAndGPsList" minOccurs="0"/>

 <!--End of inherited attributes from ManagedFunction-->

 <element name="nCGI" type="nn:Ncgi" minOccurs="0"/>

 <element name="operationalState" type="sm:operationalStateType" minOccurs="0"/>

 <element name="administrativeState" type="sm:administrativeStateType" minOccurs="0"/>

 <element name="cellState" type="nn:CellState"/>

 <element name="pLMNIdList" type="en:PLMNIdList"/>

 <element name="sNSSAIList" type="ngc:SnssaiList" minOccurs="0"/>

 <element name="nRpci" type="nn:Pci" />

 <element name="nRTac" type="nn:NrTac" />

 <element name="arfcnDL" type="integer"/>

 <element name="arfcnUL" type="integer" minOccurs="0"/>

 <element name="arfcnSUL" type="integer" minOccurs="0"/>

 <element name="bSChannelBwDL" type="integer"/>

 <element name="bSChannelBwUL" type="integer" minOccurs="0"/>

 <element name="bSChannelBwSUL" type="integer" minOccurs="0"/>

 <element name="nRFrequencyRef" type="xn:dn" minOccurs="0"/>

 <element name="nRSectorCarrierRef" type="xn:dn" minOccurs="0"/>

 <element name="bWPRef" type="xn:dn" minOccurs="0"/>

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 <choice minOccurs="0" maxOccurs="unbounded">

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 </choice>

 <choice minOccurs="0" maxOccurs="unbounded">

 <element ref="xn:MeasurementControl"/>

 </choice>

 <choice minOccurs="0" maxOccurs="1">

 <element ref="sp:EnergySavingProperties"/>

 <element ref="sp:ESPolicies"/>

 </choice>

 <choice minOccurs="0" maxOccurs="unbounded">

 <element ref="RRMPolicyRatio"/>

 </choice>

 </sequence>

 </extension>

 </complexContent>

 </complexType>

</element>

<element name="NRSectorCarrier">

 <complexType>

 <complexContent>

 <extension base="xn:NrmClass">

 <sequence>

 <element name="attributes">

 <complexType>

 <all>

 <!-- Inherited attributes from ManagedFunction -->

 <element name="userLabel" type="string" minOccurs="0"/>

 <element name="vnfParametersList" type="xn:vnfParametersListType" minOccurs="0"/>

 <element name="peeParametersList" type="xn:peeParametersListType" minOccurs="0"/>

 <element name="priority" type="integer" minOccurs="0"/>

 <element name="measurements" type="xn:MeasurementTypesAndGPsList" minOccurs="0"/>

 <!--End of inherited attributes from ManagedFunction-->

 <element name="txDirection" type="nn:TxDirection"/>

 <element name="configuredMaxTxPower" type="integer"/>

 <element name="arfcnDL" type="integer" minOccurs="0"/>

 <element name="arfcnUL" type="integer" minOccurs="0"/>

 <element name="bSChannelBwDL" type="integer" minOccurs="0"/>

 <element name="bSChannelBwUL" type="integer" minOccurs="0"/>

 <element name="sectorEquipmentFunctionRef" type="xn:dn" minOccurs="0"/>

 </all>

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 <element name="measurements" type="xn:MeasurementTypesAndGPsList" minOccurs="0"/>

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 <element name="adjacentNRCellRef" type="xn:dn" minOccurs="0"/>

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 <element name="qOffserFreq" type="nn:qOffserFreq" minOccurs="0"/>

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 <element name="threshXLowQ" type="en:threshxlowp" minOccurs="0"/>

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

## D.4.3 OpenAPI document "nrNrm.yaml"

openapi: 3.0.1

info:

 title: NR NRM

 version: 16.4.0

 description: >-

 OAS 3.0.1 specification of the NR NRM

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externalDocs:

 description: 3GPP TS 28.541 V16.4.0; 5G NRM, NR NRM

 url: http://www.3gpp.org/ftp/Specs/archive/28\_series/28.541/

paths: {}

components:

 schemas:

#-------- Definition of types-----------------------------------------------------

 GnbId:

 type: string

 GnbIdLength:

 type: integer

 minimum: 22

 maximum: 32

 GnbName:

 type: string

 maxLength: 150

 GnbDuId:

 type: number

 minimum: 0

 maximum: 68719476735

 GnbCuUpId:

 type: number

 minimum: 0

 maximum: 68719476735

 Sst:

 type: integer

 maximum: 255

 Snssai:

 type: object

 properties:

 sst:

 $ref: '#/components/schemas/Sst'

 sd:

 type: string

 SnssaiList:

 type: array

 items:

 $ref: '#/components/schemas/Snssai'

 Mnc:

 type: string

 pattern: '[0-9]{3}|[0-9]{2}'

 PlmnId:

 type: object

 properties:

 mcc:

 $ref: 'genericNrm.yaml#/components/schemas/Mcc'

 mnc:

 $ref: '#/components/schemas/Mnc'

 PlmnIdList:

 type: array

 items:

 $ref: '#/components/schemas/PlmnId'

 PlmnInfo:

 type: object

 properties:

 plmnId":

 $ref: '#/components/schemas/PlmnId'

 snssai:

 $ref: '#/components/schemas/Snssai'

 PlmnInfoList:

 type: array

 items:

 $ref: '#/components/schemas/PlmnInfo'

 NrPci:

 type: integer

 maximum: 503

 NrTac:

 type: integer

 maximum: 16777215

 Tai:

 type: object

 properties:

 plmnId:

 $ref: '#/components/schemas/PlmnId'

 nrTac:

 $ref: '#/components/schemas/NrTac'

 BackhaulAddress:

 type: object

 properties:

 gnbId:

 $ref: '#/components/schemas/GnbId'

 tai:

 $ref: "#/components/schemas/Tai"

 MappingSetIDBackhaulAddress:

 type: object

 properties:

 setID:

 type: integer

 backhaulAddress:

 $ref: '#/components/schemas/BackhaulAddress'

 CellState:

 type: string

 enum:

 - IDLE

 - INACTIVE

 - ACTIVE

 CyclicPrefix:

 type: string

 enum:

 - '15'

 - '30'

 - '60'

 - '120'

 TxDirection:

 type: string

 enum:

 - DL

 - UL

 - DL and UL

 BwpContext:

 type: string

 enum:

 - DL

 - UL

 - SUL

 IsInitialBwp:

 type: string

 enum:

 - INITIAL

 - OTHER

 - SUL

 QuotaType:

 type: string

 enum:

 - STRICT

 - FLOAT

 RrmPolicyMember:

 type: object

 properties:

 plmnId:

 $ref: '#/components/schemas/PlmnId'

 snssai:

 $ref: '#/components/schemas/Snssai'

 RrmPolicyMemberList:

 type: array

 items:

 $ref: '#/components/schemas/RrmPolicyMember'

 LocalAddress:

 type: object

 properties:

 ipv4Address:

 $ref: 'genericNrm.yaml#/components/schemas/Ipv4Addr'

 ipv6Address:

 $ref: 'genericNrm.yaml#/components/schemas/Ipv6Addr'

 vlanId:

 type: integer

 minimum: 0

 maximum: 4096

 port:

 type: integer

 minimum: 0

 maximum: 65535

 RemoteAddress:

 type: object

 properties:

 ipv4Address:

 $ref: 'genericNrm.yaml#/components/schemas/Ipv4Addr'

 ipv6Address:

 $ref: 'genericNrm.yaml#/components/schemas/Ipv6Addr'

 CellIndividualOffset:

 type: object

 properties:

 rsrpOffsetSSB:

 type: integer

 rsrqOffsetSSB:

 type: integer

 sinrOffsetSSB:

 type: integer

 rsrpOffsetCSI-RS:

 type: integer

 rsrqOffsetCSI-RS:

 type: integer

 sinrOffsetCSI-RS:

 type: integer

 QOffsetRange:

 type: integer

 enum:

 - -24

 - -22

 - -20

 - -18

 - -16

 - -14

 - -12

 - -10

 - -8

 - -6

 - -5

 - -4

 - -3

 - -2

 - -1

 - 0

 - 24

 - 22

 - 20

 - 18

 - 16

 - 14

 - 12

 - 10

 - 8

 - 6

 - 5

 - 4

 - 3

 - 2

 - 1

 QOffsetRangeList:

 type: object

 properties:

 rsrpOffsetSSB:

 $ref: '#/components/schemas/QOffsetRange'

 rsrqOffsetSSB:

 $ref: '#/components/schemas/QOffsetRange'

 sinrOffsetSSB:

 $ref: '#/components/schemas/QOffsetRange'

 rsrpOffsetCSI-RS:

 $ref: '#/components/schemas/QOffsetRange'

 rsrqOffsetCSI-RS:

 $ref: '#/components/schemas/QOffsetRange'

 sinrOffsetCSI-RS:

 $ref: '#/components/schemas/QOffsetRange'

 QOffsetFreq:

 type: number

 TReselectionNRSf:

 type: integer

 enum:

 - 25

 - 50

 - 75

 - 100

 SsbPeriodicity:

 type: integer

 enum:

 - 5

 - 10

 - 20

 - 40

 - 80

 - 160

 SsbDuration:

 type: integer

 enum:

 - 1

 - 2

 - 3

 - 4

 - 5

 SsbSubCarrierSpacing:

 type: integer

 enum:

 - 15

 - 30

 - 120

 - 240

 CoverageShape:

 type: integer

 maximum: 65535

 DigitalTilt:

 type: integer

 minimum: -900

 maximum: 900

 DigitalAzimuth:

 type: integer

 minimum: -1800

 maximum: 1800

#-------- Definition of abstract IOCs --------------------------------------------

 RrmPolicy\_-Attr:

 type: object

 properties:

 resourceType:

 type: string

 rRMPolicyMemberList:

 $ref: '#/components/schemas/RrmPolicyMemberList'

#-------- Definition of concrete IOCs --------------------------------------------

 SubNetwork-Single:

 allOf:

 - $ref: 'genericNrm.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 $ref: 'genericNrm.yaml#/components/schemas/SubNetwork-Attr'

 - $ref: 'genericNrm.yaml#/components/schemas/SubNetwork-ncO'

 - type: object

 properties:

 SubNetwork:

 $ref: '#/components/schemas/SubNetwork-Multiple'

 ManagedElement:

 $ref: '#/components/schemas/ManagedElement-Multiple'

 NRFrequency:

 $ref: '#/components/schemas/NRFrequency-Multiple'

 ExternalGnbCuCpFunction:

 $ref: '#/components/schemas/ExternalGnbCuCpFunction-Multiple'

 ExternalENBFunction:

 $ref: '#/components/schemas/ExternalENBFunction-Multiple'

 EUtranFrequency:

 $ref: '#/components/schemas/EUtranFrequency-Multiple'

 ManagedElement-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 $ref: 'genericNRM.yaml#/components/schemas/ManagedElement-Attr'

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedElement-ncO'

 - type: object

 properties:

 GnbDuFunction:

 $ref: '#/components/schemas/GnbDuFunction-Multiple'

 GnbCuUpFunction:

 $ref: '#/components/schemas/GnbCuUpFunction-Multiple'

 GnbCuCpFunction:

 $ref: '#/components/schemas/GnbCuCpFunction-Multiple'

 GnbDuFunction-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-Attr'

 - type: object

 properties:

 gnbDuId:

 $ref: '#/components/schemas/GnbDuId'

 gnbDuName:

 $ref: '#/components/schemas/GnbName'

 gnbId:

 $ref: '#/components/schemas/GnbId'

 gnbIdLength:

 $ref: '#/components/schemas/GnbIdLength'

 aggressorSetID:

 type: integer

 victimSetID:

 type: integer

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-ncO'

 - type: object

 properties:

 RRMPolicyRatio:

 $ref: '#/components/schemas/RRMPolicyRatio-Multiple'

 NrCellDu:

 $ref: '#/components/schemas/NrCellDu-Multiple'

 Bwp-Multiple:

 $ref: '#/components/schemas/Bwp-Multiple'

 NrSectorCarrier-Multiple:

 $ref: '#/components/schemas/NrSectorCarrier-Multiple'

 EP\_F1C:

 $ref: '#/components/schemas/EP\_F1C-Single'

 EP\_F1U:

 $ref: '#/components/schemas/EP\_F1U-Multiple'

 GnbCuUpFunction-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-Attr'

 - type: object

 properties:

 gnbId:

 $ref: '#/components/schemas/GnbId'

 gnbIdLength:

 $ref: '#/components/schemas/GnbIdLength'

 gnbCuUpId:

 $ref: '#/components/schemas/GnbCuUpId'

 plmnInfoList:

 $ref: '#/components/schemas/PlmnInfoList'

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-ncO'

 - type: object

 properties:

 RRMPolicyRatio:

 $ref: '#/components/schemas/RRMPolicyRatio-Multiple'

 EP\_E1:

 $ref: '#/components/schemas/EP\_E1-Single'

 EP\_XnU:

 $ref: '#/components/schemas/EP\_XnU-Multiple'

 EP\_F1U:

 $ref: '#/components/schemas/EP\_F1U-Multiple'

 EP\_NgU:

 $ref: '#/components/schemas/EP\_NgU-Multiple'

 EP\_X2U:

 $ref: '#/components/schemas/EP\_X2U-Multiple'

 EP\_S1U:

 $ref: '#/components/schemas/EP\_S1U-Multiple'

 GnbCuCpFunction-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-Attr'

 - type: object

 properties:

 gnbId:

 $ref: '#/components/schemas/GnbId'

 gnbIdLength:

 $ref: '#/components/schemas/GnbIdLength'

 gnbCuName:

 $ref: '#/components/schemas/GnbName'

 plmnId:

 $ref: '#/components/schemas/PlmnId'

 x2BlackList:

 $ref: 'genericNRM.yaml#/components/schemas/DnList'

 xnWhiteList:

 $ref: 'genericNRM.yaml#/components/schemas/DnList'

 x2XnHOBlackList:

 $ref: 'genericNRM.yaml#/components/schemas/DnList'

 mappingSetIDBackhaulAddress:

 $ref: '#/components/schemas/MappingSetIDBackhaulAddress'

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-ncO'

 - type: object

 properties:

 RRMPolicyRatio:

 $ref: '#/components/schemas/RRMPolicyRatio-Multiple'

 NrCellCu:

 $ref: '#/components/schemas/NrCellCu-Multiple'

 EP\_XnC:

 $ref: '#/components/schemas/EP\_XnC-Multiple'

 EP\_E1:

 $ref: '#/components/schemas/EP\_E1-Multiple'

 EP\_F1C:

 $ref: '#/components/schemas/EP\_F1C-Multiple'

 EP\_NgC:

 $ref: '#/components/schemas/EP\_NgC-Multiple'

 EP\_X2C:

 $ref: '#/components/schemas/EP\_X2C-Multiple'

 NrCellCu-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-Attr'

 - type: object

 properties:

 cellLocalId:

 type: integer

 plmnInfoList:

 $ref: '#/components/schemas/PlmnInfoList'

 nRFrequencyRef:

 $ref: 'genericNRM.yaml#/components/schemas/Dn'

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-ncO'

 - type: object

 properties:

 RRMPolicyRatio:

 $ref: '#/components/schemas/RRMPolicyRatio-Multiple'

 NRCellRelation:

 $ref: '#/components/schemas/NRCellRelation-Multiple'

 EUtranCellRelation:

 $ref: '#/components/schemas/EUtranCellRelation-Multiple'

 NRFreqRelation:

 $ref: '#/components/schemas/NRFreqRelation-Multiple'

 EUtranFreqRelation:

 $ref: '#/components/schemas/EUtranFreqRelation-Multiple'

 NrCellDu-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-Attr'

 - type: object

 properties:

 administrativeState:

 $ref: 'genericNRM.yaml#/components/schemas/AdministrativeState'

 operationalState:

 $ref: 'genericNRM.yaml#/components/schemas/OperationalState'

 cellLocalId:

 type: integer

 cellState:

 $ref: '#/components/schemas/CellState'

 plmnInfoList:

 $ref: '#/components/schemas/PlmnInfoList'

 nrPci:

 $ref: '#/components/schemas/NrPci'

 nrTac:

 $ref: '#/components/schemas/NrTac'

 arfcnDL:

 type: integer

 arfcnUL:

 type: integer

 arfcnSUL:

 type: integer

 bSChannelBwDL:

 type: integer

 bSChannelBwUL:

 type: integer

 bSChannelBwSUL:

 type: integer

 ssbFrequency:

 type: integer

 minimum: 0

 maximum: 3279165

 ssbPeriodicity:

 $ref: '#/components/schemas/SsbPeriodicity'

 ssbSubCarrierSpacing:

 $ref: '#/components/schemas/SsbSubCarrierSpacing'

 ssbOffset:

 type: integer

 minimum: 0

 maximum: 159

 ssbDuration:

 $ref: '#/components/schemas/SsbDuration'

 nrSectorCarrierRef:

 type: array

 items:

 $ref: 'genericNRM.yaml#/components/schemas/Dn'

 bwpRef:

 type: array

 items:

 $ref: 'genericNRM.yaml#/components/schemas/Dn'

 nRFrequencyRef:

 $ref: 'genericNRM.yaml#/components/schemas/Dn'

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-ncO'

 - type: object

 properties:

 RRMPolicyRatio:

 $ref: '#/components/schemas/RRMPolicyRatio-Multiple'

 NRFrequency-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-Attr'

 - type: object

 properties:

 absoluteFrequencySSB:

 type: integer

 minimum: 0

 maximum: 3279165

 ssbSubCarrierSpacing:

 $ref: '#/components/schemas/SsbSubCarrierSpacing'

 multiFrequencyBandListNR:

 type: integer

 minimum: 1

 maximum: 256

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-ncO'

 EUtranFrequency-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-Attr'

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-ncO'

 NrSectorCarrier-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-Attr'

 - type: object

 properties:

 txDirection:

 $ref: '#/components/schemas/TxDirection'

 configuredMaxTxPower:

 type: integer

 arfcnDL:

 type: integer

 arfcnUL:

 type: integer

 bSChannelBwDL:

 type: integer

 bSChannelBwUL:

 type: integer

 sectorEquipmentFunctionRef:

 $ref: 'genericNRM.yaml#/components/schemas/Dn'

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-ncO'

 - type: object

 properties:

 CommonBeamformingFunction:

 $ref: '#/components/schemas/CommonBeamformingFunction-Single'

 Bwp-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-Attr'

 - type: object

 properties:

 bwpContext:

 $ref: '#/components/schemas/BwpContext'

 isInitialBwp:

 $ref: '#/components/schemas/IsInitialBwp'

 subCarrierSpacing:

 type: integer

 cyclicPrefix:

 $ref: '#/components/schemas/CyclicPrefix'

 startRB:

 type: integer

 numberOfRBs:

 type: integer

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-ncO'

 CommonBeamformingFunction-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - type: object

 properties:

 coverageShape:

 $ref: '#/components/schemas/CoverageShape'

 digitalAzimuth:

 $ref: '#/components/schemas/DigitalAzimuth'

 digitalTilt:

 $ref: '#/components/schemas/DigitalTilt'

 - type: object

 properties:

 Beam:

 $ref: '#/components/schemas/Beam-Multiple'

 Beam-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - type: object

 properties:

 beamIndex:

 type: integer

 beamType:

 type: string

 enum:

 - SSB-BEAM

 beamAzimuth:

 type: integer

 minimum: -1800

 maximum: 1800

 beamTilt:

 type: integer

 minimum: -900

 maximum: 900

 beamHorizWidth:

 type: integer

 minimum: 0

 maximum: 3599

 beamVertWidth:

 type: integer

 minimum: 0

 maximum: 1800

 RRMPolicyRatio-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - $ref: '#/components/schemas/RrmPolicy\_-Attr'

 - type: object

 properties:

 quotaType:

 $ref: '#/components/schemas/QuotaType'

 rRMPolicyMaxRatio:

 type: integer

 rRMPolicyMarginMaxRatio:

 type: integer

 rRMPolicyMinRatio:

 type: integer

 rRMPolicyMarginMinRatio:

 type: integer

 NRCellRelation-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - type: object

 properties:

 nRTCI:

 type: integer

 cellIndividualOffset:

 $ref: '#/components/schemas/CellIndividualOffset'

 adjacentNRCellRef:

 $ref: 'genericNRM.yaml#/components/schemas/Dn'

 nRFrequencyRef:

 $ref: 'genericNRM.yaml#/components/schemas/Dn'

 isRemoveAllowed:

 type: boolean

 isHOAllowed:

 type: boolean

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-ncO'

 EUtranCellRelation-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-Attr'

 - type: object

 properties:

 adjacentEUtranCellRef:

 $ref: 'genericNRM.yaml#/components/schemas/Dn'

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-ncO'

 NRFreqRelation-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - type: object

 properties:

 offsetMO:

 $ref: '#/components/schemas/QOffsetRangeList'

 blackListEntry:

 type: array

 items:

 type: integer

 minimum: 0

 maximum: 1007

 blackListEntryIdleMode:

 type: integer

 cellReselectionPriority:

 type: integer

 cellReselectionSubPriority:

 type: number

 minimum: 0.2

 maximum: 0.8

 multipleOf: 0.2

 pMax:

 type: integer

 minimum: -30

 maximum: 33

 qOffsetFreq:

 $ref: '#/components/schemas/QOffsetFreq'

 qQualMin:

 type: number

 qRxLevMin:

 type: integer

 minimum: -140

 maximum: -44

 threshXHighP:

 type: integer

 minimum: 0

 maximum: 62

 threshXHighQ:

 type: integer

 minimum: 0

 maximum: 31

 threshXLowP:

 type: integer

 minimum: 0

 maximum: 62

 threshXLowQ:

 type: integer

 minimum: 0

 maximum: 31

 tReselectionNr:

 type: integer

 minimum: 0

 maximum: 7

 tReselectionNRSfHigh:

 $ref: '#/components/schemas/TReselectionNRSf'

 tReselectionNRSfMedium:

 $ref: '#/components/schemas/TReselectionNRSf'

 nRFrequencyRef:

 $ref: 'genericNRM.yaml#/components/schemas/Dn'

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-ncO'

 EUtranFreqRelation-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-Attr'

 - type: object

 properties:

 eUTranFrequencyRef:

 $ref: 'genericNRM.yaml#/components/schemas/Dn'

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-ncO'

 ExternalGnbDuFunction-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-Attr'

 - type: object

 properties:

 gnbId:

 $ref: '#/components/schemas/GnbId'

 gnbIdLength:

 $ref: '#/components/schemas/GnbIdLength'

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-ncO'

 - type: object

 properties:

 EP\_F1C:

 $ref: '#/components/schemas/EP\_F1C-Multiple'

 EP\_F1U:

 $ref: '#/components/schemas/EP\_F1U-Multiple'

 ExternalGnbCuUpFunction-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-Attr'

 - type: object

 properties:

 gnbId:

 $ref: '#/components/schemas/GnbId'

 gnbIdLength:

 $ref: '#/components/schemas/GnbIdLength'

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-ncO'

 - type: object

 properties:

 EP\_E1:

 $ref: '#/components/schemas/EP\_E1-Multiple'

 EP\_F1U:

 $ref: '#/components/schemas/EP\_F1U-Multiple'

 EP\_XnU:

 $ref: '#/components/schemas/EP\_XnU-Multiple'

 ExternalGnbCuCpFunction-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - $ref: >-

 genericNRM.yaml#/components/schemas/ManagedFunction-Attr

 - type: object

 properties:

 gnbId:

 $ref: '#/components/schemas/GnbId'

 gnbIdLength:

 $ref: '#/components/schemas/GnbIdLength'

 plmnId:

 $ref: '#/components/schemas/PlmnId'

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-ncO'

 - type: object

 properties:

 ExternalNrCellCu:

 $ref: '#/components/schemas/ExternalNrCellCu-Multiple'

 EP\_XnC:

 $ref: '#/components/schemas/EP\_XnC-Multiple'

 EP\_E1:

 $ref: '#/components/schemas/EP\_E1-Multiple'

 EP\_F1C:

 $ref: '#/components/schemas/EP\_F1C-Multiple'

 ExternalNrCellCu-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-Attr'

 - type: object

 properties:

 cellLocalId:

 type: integer

 nrPci:

 $ref: '#/components/schemas/NrPci'

 plmnIdList:

 $ref: '#/components/schemas/PlmnIdList'

 nRFrequencyRef:

 $ref: 'genericNRM.yaml#/components/schemas/Dn'

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-ncO'

 ExternalENBFunction-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-Attr'

 - type: object

 properties:

 eNBId:

 type: integer

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-ncO'

 - type: object

 properties:

 ExternalEUTranCell:

 $ref: '#/components/schemas/ExternalEUTranCell-Multiple'

 ExternalEUTranCell-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-Attr'

 - type: object

 properties:

 EUtranFrequencyRef:

 $ref: 'genericNRM.yaml#/components/schemas/Dn'

 - $ref: 'genericNRM.yaml#/components/schemas/ManagedFunction-ncO'

 EP\_XnC-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/EP\_RP-Attr'

 - type: object

 properties:

 localAddress:

 $ref: '#/components/schemas/LocalAddress'

 remoteAddress:

 $ref: '#/components/schemas/RemoteAddress'

 EP\_E1-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/EP\_RP-Attr'

 - type: object

 properties:

 localAddress:

 $ref: '#/components/schemas/LocalAddress'

 remoteAddress:

 $ref: '#/components/schemas/RemoteAddress'

 EP\_F1C-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/EP\_RP-Attr'

 - type: object

 properties:

 localAddress:

 $ref: '#/components/schemas/LocalAddress'

 remoteAddress:

 $ref: '#/components/schemas/RemoteAddress'

 EP\_NgC-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/EP\_RP-Attr'

 - type: object

 properties:

 localAddress:

 $ref: '#/components/schemas/LocalAddress'

 remoteAddress:

 $ref: '#/components/schemas/RemoteAddress'

 EP\_X2C-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/EP\_RP-Attr'

 - type: object

 properties:

 localAddress:

 $ref: '#/components/schemas/LocalAddress'

 remoteAddress:

 $ref: '#/components/schemas/RemoteAddress'

 EP\_XnU-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/EP\_RP-Attr'

 - type: object

 properties:

 localAddress:

 $ref: '#/components/schemas/LocalAddress'

 remoteAddress:

 $ref: '#/components/schemas/RemoteAddress'

 EP\_F1U-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/EP\_RP-Attr'

 - type: object

 properties:

 localAddress:

 $ref: '#/components/schemas/LocalAddress'

 remoteAddress:

 $ref: '#/components/schemas/RemoteAddress'

 EP\_NgU-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/EP\_RP-Attr'

 - type: object

 properties:

 localAddress:

 $ref: '#/components/schemas/LocalAddress'

 remoteAddress:

 $ref: '#/components/schemas/RemoteAddress'

 EP\_X2U-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/EP\_RP-Attr'

 - type: object

 properties:

 localAddress:

 $ref: '#/components/schemas/LocalAddress'

 remoteAddress:

 $ref: '#/components/schemas/RemoteAddress'

 EP\_S1U-Single:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/Top-Attr'

 - type: object

 properties:

 attributes:

 allOf:

 - $ref: 'genericNRM.yaml#/components/schemas/EP\_RP-Attr'

 - type: object

 properties:

 localAddress:

 $ref: '#/components/schemas/LocalAddress'

 remoteAddress:

 $ref: '#/components/schemas/RemoteAddress'

#-------- Definition of JSON arrays for name-contained IOCs ----------------------

 SubNetwork-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/SubNetwork-Single'

 ManagedElement-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/ManagedElement-Single'

 GnbDuFunction-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/GnbDuFunction-Single'

 GnbCuUpFunction-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/GnbCuUpFunction-Single'

 GnbCuCpFunction-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/GnbCuCpFunction-Single'

 NrCellDu-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/NrCellDu-Single'

 NrCellCu-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/NrCellCu-Single'

 NRFrequency-Multiple:

 type: array

 minItems: 1

 items:

 $ref: '#/components/schemas/NRFrequency-Single'

 EUtranFrequency-Multiple:

 type: array

 minItems: 1

 items:

 $ref: '#/components/schemas/EUtranFrequency-Single'

 NrSectorCarrier-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/NrSectorCarrier-Single'

 Bwp-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/Bwp-Single'

 Beam-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/Beam-Single'

 RRMPolicyRatio-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/RRMPolicyRatio-Single'

 NRCellRelation-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/NRCellRelation-Single'

 EUtranCellRelation-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/EUtranCellRelation-Single'

 NRFreqRelation-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/NRFreqRelation-Single'

 EUtranFreqRelation-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/EUtranFreqRelation-Single'

 ExternalGnbDuFunction-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/ExternalGnbDuFunction-Single'

 ExternalGnbCuUpFunction-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/ExternalGnbCuUpFunction-Single'

 ExternalGnbCuCpFunction-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/ExternalGnbCuCpFunction-Single'

 ExternalNrCellCu-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/ExternalNrCellCu-Single'

 ExternalENBFunction-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/ExternalENBFunction-Single'

 ExternalEUTranCell-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/ExternalEUTranCell-Single'

 EP\_E1-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/EP\_E1-Single'

 EP\_XnC-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/EP\_XnC-Single'

 EP\_F1C-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/EP\_F1C-Single'

 EP\_NgC-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/EP\_NgC-Single'

 EP\_X2C-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/EP\_X2C-Single'

 EP\_XnU-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/EP\_XnU-Single'

 EP\_F1U-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/EP\_F1U-Single'

 EP\_NgU-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/EP\_NgU-Single'

 EP\_X2U-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/EP\_X2U-Single'

 EP\_S1U-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/EP\_S1U-Single'

#-------- Definitions in TS 28.541 for TS 28.532 ---------------------------------

 resources-nrNrm:

 oneOf:

 - $ref: '#/components/schemas/SubNetwork-Single'

 - $ref: '#/components/schemas/ManagedElement-Single'

 - $ref: '#/components/schemas/GnbDuFunction-Single'

 - $ref: '#/components/schemas/GnbCuUpFunction-Single'

 - $ref: '#/components/schemas/GnbCuCpFunction-Single'

 - $ref: '#/components/schemas/NrCellCu-Single'

 - $ref: '#/components/schemas/NrCellDu-Single'

 - $ref: '#/components/schemas/NRFrequency-Single'

 - $ref: '#/components/schemas/EUtranFrequency-Single'

 - $ref: '#/components/schemas/NrSectorCarrier-Single'

 - $ref: '#/components/schemas/Bwp-Single'

 - $ref: '#/components/schemas/CommonBeamformingFunction-Single'

 - $ref: '#/components/schemas/Beam-Single'

 - $ref: '#/components/schemas/RRMPolicyRatio-Single'

 - $ref: '#/components/schemas/NRCellRelation-Single'

 - $ref: '#/components/schemas/EUtranCellRelation-Single'

 - $ref: '#/components/schemas/NRFreqRelation-Single'

 - $ref: '#/components/schemas/EUtranFreqRelation-Single'

 - $ref: '#/components/schemas/ExternalGnbDuFunction-Single'

 - $ref: '#/components/schemas/ExternalGnbCuUpFunction-Single'

 - $ref: '#/components/schemas/ExternalGnbCuCpFunction-Single'

 - $ref: '#/components/schemas/ExternalNrCellCu-Single'

 - $ref: '#/components/schemas/ExternalENBFunction-Single'

 - $ref: '#/components/schemas/ExternalEUTranCell-Single'

 - $ref: '#/components/schemas/EP\_XnC-Single'

 - $ref: '#/components/schemas/EP\_E1-Single'

 - $ref: '#/components/schemas/EP\_F1C-Single'

 - $ref: '#/components/schemas/EP\_NgC-Single'

 - $ref: '#/components/schemas/EP\_X2C-Single'

 - $ref: '#/components/schemas/EP\_XnU-Single'

 - $ref: '#/components/schemas/EP\_F1U-Single'

 - $ref: '#/components/schemas/EP\_NgU-Single'

 - $ref: '#/components/schemas/EP\_X2U-Single'

 - $ref: '#/components/schemas/EP\_S1U-Single'

|  |
| --- |
| **4th Change** |

## E.5.21 module \_3gpp-nr-nrm-nrcellrelation@2019-10-28.yang

module \_3gpp-nr-nrm-nrcellrelation {

 yang-version 1.1;

 namespace "urn:3gpp:sa5:\_3gpp-nr-nrm-nrcellrelation";

 prefix "nrcellrel3gpp";

 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; }

 import \_3gpp-nr-nrm-gnbcucpfunction { prefix gnbcucp3gpp; }

 import \_3gpp-nr-nrm-nrcellcu { prefix nrcellcu3gpp; }

 organization "3GPP SA5";

 description "Defines the YANG mapping of the NRCellRelation Information

 Object Class (IOC) that is part of the NR Network Resource Model (NRM).";

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

 revision 2020-04-23 { reference CR0281 ; }

 revision 2019-10-28 { reference S5-193518 ; }

 revision 2019-08-30 {

 description "Initial revision";

 }

 grouping NRCellRelationGrp {

 description "Represents the NRCellRelation IOC.";

 reference "3GPP TS 28.541";

 leaf nRTCI {

 description "Target NR Cell Identifier. It consists of NR Cell

 Identifier (NCI) and Physical Cell Identifier of the target NR cell

 (nRPCI).";

 type uint64;

 }

 container cellIndividualOffset {

 description "A set of offset values for the neighbour cell. Used when

 UE is in connected mode. Defined for rsrpOffsetSSB, rsrqOffsetSSB,

 sinrOffsetSSB, rsrpOffsetCSI-RS, rsrqOffsetCSI-RS and

 sinrOffsetCSI-RS.";

 reference "cellIndividualOffset in MeasObjectNR in 3GPP TS 38.331";

 leaf rsrpOffsetSsb {

 description "Offset value of rsrpOffsetSSB.";

 default 0;

 type types3gpp:QOffsetRange;

 }

 leaf rsrqOffsetSsb{

 description "Offset value of rsrqOffsetSSB.";

 default 0;

 type types3gpp:QOffsetRange;

 }

 leaf sinrOffsetSsb {

 description "Offset value of sinrOffsetSSB.";

 default 0;

 type types3gpp:QOffsetRange;

 }

 leaf rsrpOffsetCsiRs{

 description "Offset value of rsrpOffsetCSI-RS.";

 default 0;

 type types3gpp:QOffsetRange;

 }

 leaf rsrqOffsetCsiRs {

 description "Offset value of rsrqOffsetCSI-RS.";

 default 0;

 type types3gpp:QOffsetRange;

 }

 leaf sinrOffsetCsiRs {

 description "Offset value of sinrOffsetCSI-RS.";

 default 0;

 type types3gpp:QOffsetRange;

 }

 }

 leaf nRFreqRelationRef {

 description "Reference to a corresponding NRFreqRelation instance.";

 mandatory true;

 type types3gpp:DistinguishedName;

 }

 leaf adjacentNRCellRef {

 description "Reference to an adjacent NR cell (NRCellCU or

 ExternalNRCellCU).";

 mandatory true;

 type types3gpp:DistinguishedName;

 }

 leaf isRemoveAllowed {

 type boolean;

 default true;

 description "True if the ANR function in the node is allowed to remove this relation.";

 }

 leaf isHOAllowed {

 type boolean;

 default true;

 description "True if handovers are allowed over this relation.";

 }

 }

 augment /me3gpp:ManagedElement/gnbcucp3gpp:GNBCUCPFunction/nrcellcu3gpp:NRCellCU {

 list NRCellRelation {

 description "Represents a neighbour cell relation from a source cell

 to a target cell, where the target cell is an NRCellCU or

 ExternalNRCellCU instance.";

 reference "3GPP TS 28.541";

 key id;

 uses top3gpp:Top\_Grp;

 container attributes {

 uses NRCellRelationGrp;

 }

 uses mf3gpp:ManagedFunctionContainedClasses;

 }

 }

}

## E.5.22 module \_3gpp-nr-nrm-nrfreqrelation@2019-10-28.yang

module \_3gpp-nr-nrm-nrfreqrelation {

 yang-version 1.1;

 namespace "urn:3gpp:sa5:\_3gpp-nr-nrm-nrfreqrelation";

 prefix "nrfreqrel3gpp";

 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; }

 import \_3gpp-nr-nrm-gnbcucpfunction { prefix gnbcucp3gpp; }

 import \_3gpp-nr-nrm-nrcellcu { prefix nrcellcu3gpp; }

 organization "3GPP SA5";

 description "Defines the YANG mapping of the NRFreqRelation Information

 Object Class (IOC) that is part of the NR Network Resource Model (NRM).";

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

 revision 2020-04-23 { reference CR0281 ; }

 revision 2019-10-28 { reference S5-193518 ; }

 revision 2019-06-17 {

 description "Initial revision";

 }

 grouping NRFreqRelationGrp {

 description "Represents the NRFreqRelation IOC.";

 reference "3GPP TS 28.541";

 container offsetMO {

 description "A set of offset values applicable to all measured cells

 with reference signal(s) indicated in corresponding MeasObjectNR. It

 is used to indicate a cell, beam or measurement object specific offset

 to be applied when evaluating candidates for cell re-selection or when

 evaluating triggering conditions for measurement reporting. It is

 defined for rsrpOffsetSSB, rsrqOffsetSSB, sinrOffsetSSB,

 rsrpOffsetCSI-RS, rsrqOffsetCSI-RS and sinrOffsetCSI-RS.";

 reference "offsetMO in MeasObjectNR in 3GPP TS 38.331";

 leaf rsrpOffsetSsb {

 description "Offset value of rsrpOffsetSSB.";

 default 0;

 type types3gpp:QOffsetRange;

 }

 leaf rsrqOffsetSsb {

 description "Offset value of rsrqOffsetSSB.";

 default 0;

 type types3gpp:QOffsetRange;

 }

 leaf sinrOffsetSsb {

 description "Offset value of sinrOffsetSSB.";

 default 0;

 type types3gpp:QOffsetRange;

 }

 leaf rsrpOffsetCsiRs {

 description "Offset value of rsrpOffsetCSI-RS.";

 default 0;

 type types3gpp:QOffsetRange;

 }

 leaf rsrqOffsetCsiRs {

 description "Offset value of rsrqOffsetCSI-RS.";

 default 0;

 type types3gpp:QOffsetRange;

 }

 leaf sinrOffsetCsiRs {

 description "Offset value of sinrOffsetCSI-RS.";

 default 0;

 type types3gpp:QOffsetRange;

 }

 }

 leaf-list blackListEntry {

 description "A list of Physical Cell Identities (PCIs) that are

 blacklisted in NR measurements.";

 reference "3GPP TS 38.331";

 min-elements 0;

 type uint16 { range "0..1007"; }

 }

 leaf-list blackListEntryIdleMode {

 description "A list of Physical Cell Identities (PCIs) that are

 blacklisted in SIB4 and SIB5.";

 min-elements 0;

 type uint16 { range "0..1007"; }

 }

 leaf cellReselectionPriority {

 description "The absolute priority of the carrier frequency used by the

 cell reselection procedure. Value 0 means lowest priority. The value

 must not already used by other RAT, i.e. equal priorities between RATs

 are not supported. The UE behaviour when no value is entered is

 specified in subclause 5.2.4.1 of 3GPP TS 38.304.";

 reference "CellReselectionPriority in 3GPP TS 38.331, priority in

 3GPP TS 38.304";

 type uint32;

 default 0;

 }

 leaf cellReselectionSubPriority {

 description "Indicates a fractional value to be added to the value of

 cellReselectionPriority to obtain the absolute priority of the

 concerned carrier frequency for E-UTRA and NR.";

 reference "3GPP TS 38.331";

 type uint8 { range "2 | 4 | 6 | 8"; }

 units "0.1";

 }

 leaf pMax {

 description "Used for calculation of the parameter Pcompensation

 (defined in 3GPP TS 38.304), at cell reselection to a cell.";

 reference "PEMAX in 3GPP TS 38.101";

 mandatory false;

 type int32 { range "-30..33"; }

 units dBm;

 }

 leaf qOffsetFreq {

 description "The frequency specific offset applied when evaluating

 candidates for cell reselection.";

 mandatory false;

 type types3gpp:QOffsetRange;

 default 0;

 }

 leaf qQualMin {

 description "Indicates the minimum required quality level in the cell.

 Value 0 means that it is not sent and UE applies in such case the

 (default) value of negative infinity for Qqualmin. Sent in SIB3 or

 SIB5.";

 reference "3GPP TS 38.304";

 type int32 { range "-34..-3 | 0"; }

 units dB;

 default 0;

 }

 leaf qRxLevMin {

 description "Indicates the required minimum received Reference Symbol

 Received Power (RSRP) level in the NR frequency for cell reselection.

 Broadcast in SIB3 or SIB5, depending on whether the related frequency

 is intra- or inter-frequency. Resolution is 2.";

 reference "3GPP TS 38.304";

 mandatory true;

 type int32 { range "-140..-44"; }

 units dBm;

 }

 leaf threshXHighP {

 description "Specifies the Srxlev threshold used by the UE when

 reselecting towards a higher priority RAT/frequency than the current

 serving frequency. Each frequency of NR and E-UTRAN might have a

 specific threshold. Resolution is 2.";

 reference "ThreshX, HighP in 3GPP TS 38.304";

 mandatory true;

 type int32 { range "0..62"; }

 units dB;

 }

 leaf threshXHighQ {

 description "Specifies the Squal threshold used by the UE when

 reselecting towards a higher priority RAT/frequency than the current

 serving frequency. Each frequency of NR and E-UTRAN might have a

 specific threshold.";

 reference "ThreshX, HighQ in 3GPP TS 38.304";

 mandatory true;

 type int32 { range "0..31"; }

 units dB;

 }

 leaf threshXLowP {

 description "Specifies the Srxlev threshold used by the UE when

 reselecting towards a lower priority RAT/frequency than the current

 serving frequency. Each frequency of NR and E-UTRAN might have a

 specific threshold. Resolution is 2.";

 reference "ThreshX, LowP in 3GPP TS 38.304";

 mandatory true;

 type int32 { range "0..62"; }

 units dB;

 }

 leaf threshXLowQ {

 description "Specifies the Squal threshold used by the UE when

 reselecting towards a lower priority RAT/frequency than the current

 serving frequency. Each frequency of NR and E-UTRAN might have a

 specific threshold.";

 reference "ThreshX, LowQ in 3GPP TS 38.304";

 mandatory true;

 type int32 { range "0..31"; }

 units dB;

 }

 leaf tReselectionNR {

 description "Cell reselection timer for NR.";

 reference "TreselectionRAT for NR in 3GPP TS 38.331";

 mandatory true;

 type int32 { range "0..7"; }

 units s;

 }

 leaf tReselectionNRSfHigh {

 description "The attribute tReselectionNr (parameter TreselectionNR in

 3GPP TS 38.304) is multiplied with this scaling factor if the UE is

 in high mobility state.";

 reference "Speed dependent ScalingFactor for TreselectionNR for high

 mobility state in 3GPP TS 38.304";

 mandatory true;

 type uint8 { range "25 | 50 | 75 | 100"; }

 units %;

 }

 leaf tReselectionNRSfMedium {

 description "The attribute tReselectionNr (parameter TreselectionNR in

 3GPP TS 38.304) multiplied with this scaling factor if the UE is in

 medium mobility state.";

 reference "Speed dependent ScalingFactor for TreselectionNR for medium

 mobility state in 3GPP TS 38.304";

 mandatory true;

 type uint8 { range "25 | 50 | 75 | 100"; }

 units %;

 }

 leaf nRFrequencyRef {

 description "Reference to a corresponding NRFrequency instance.";

 mandatory true;

 type types3gpp:DistinguishedName;

 }

 }

 augment /me3gpp:ManagedElement/gnbcucp3gpp:GNBCUCPFunction/nrcellcu3gpp:NRCellCU {

 list NRFreqRelation {

 description "Together with the target NRFrequency, it represents the

 frequency properties applicable to the referencing NRFreqRelation.";

 reference "3GPP TS 28.541";

 key id;

 uses top3gpp:Top\_Grp;

 container attributes {

 uses NRFreqRelationGrp;

 }

 uses mf3gpp:ManagedFunctionContainedClasses;

 }

 }

}

|  |
| --- |
| **End of Change** |