TSGS#28(05)0297

Source: SA5 (Telecom Management)

Title: CR 32643-4-5 UTRAN network resources IRP - 32804 RET antennas Requirements

Document for: Approval

Agenda Item: 7.5.3

Doc-1st-Level	Spec__#_	CR__#	R	Phase	Subject	Cat	Ver-Cur	Doc-2nd-Level	Workitem
SP-050297	32.643	0024	-	Rel-6	Corrections to UTRAN CORBA SS for implementation	F	6.4.0	S5-056341	OAM-NIM
SP-050297	32.644	0017	-	Rel-6	Add ExternalRncFunction Object Class - Align with the IS in TS 32.622	F	6.1.0	S5-058423	OAM-NIM
SP-050297	32.645	0021	-	Rel-5	utranNrm Attribute Name Correction	F	5.6.0	S5-058420	OAM-NIM
SP-050297	32.645	0022	-	Rel-6	utranNrm Attribute Name Correction	A	6.3.0	S5-058421	OAM-NIM
SP-050297	32.645	0023	-	Rel-6	Corrections to XML schema definition	F	6.3.0	S5-058441	OAM-NIM
SP-050297	32.804	0002	-	Rel-6	Incorporation of agreed revisions from RAN3 review published in R3-041655	F	6.1.0	S5-058449	OAM-NIM

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CHANGE REQUEST

⌘ **32.643** **CR** **0024** ⌘**rev** **-** ⌘ Current version: **6.4.0** ⌘

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Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☒ Core Network ☐

Title:	⌘	Corrections to UTRAN CORBA SS for implementation
Source:	⌘	SA5 (islip@lucent.com
Work item code:	⌘	OAM-NIM
Date:	⌘	13/05/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction 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.

Use one of the following releases:
Ph2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*
Rel-7 *(Release 7)*

Reason for change:	⌘	Correct CORBA SS does not have an "integer" type.
Summary of change:	⌘	Correct SS mapping tables for the following attributes of AntennaFunction retTiltValue compassDirection maxTiltValue minTiltValue mechanicalOffset height to map to an IDL short. Integer not being a valid CORBA SS type
Consequences if not approved:	⌘	Inability to directly implement as currently specified.

Clauses affected:	⌘	5.2.7

Other specs affected:	⌘	Y	N	
			X	Other core specifications
			X	Test specifications
			X	O&M Specifications

⌘

Other comments: ⌘

Change in Clause 12.3

5.2.7 IOC AntennaFunction

NRM Attributes of IOC antennaFunction in 3GPP TS 32.642 [4]	SS Attributes	SS Type	Support Qualifier	Read	Write
antennaFunctionId	antennaId	string	O	M	-
retUtranCellList	retUtranCellList	GenericNetworkResourceIRPSystem::AttributeTypes::MOReferenceSet	O	M	M
retTiltValue	retTiltValue	~~integer~~short	O	M	M
compassDirection	compassDirection	~~integer~~short	O	M	M
maxTiltValue	maxTiltValue	~~integer~~short	O	M	M
minTiltValue	minTiltValue	~~integer~~short	O	M	M
mechanicalOffset	mechanicalOffset	~~integer~~short	O	M	M
retGroupName	retGroupName	string	O	M	M
height	height	~~integer~~short	O	M	M

NOTE: For all support qualifiers with the value “O”, see attribute constraints in 3GPP TS 32.642 [4].

End of Change in Annex 5.2.7
End of Document

Annex B (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
Dec 2004	S_26	SP-040810	017	--	Correct IDL compilation error	6.2.0	6.3.0
Dec 2004	S_26	SP-040810	018	--	Correct IDL compilation error and change name of retAntennaList	6.2.0	6.3.0
Mar 2005	S_27	SP-050048	021	--	Align with SA2’s 23.221, for allowing only CS CN in a PLMN	6.3.0	6.4.0
Mar 2005	S_27	SP-050048	022	--	Add missing definition of IOC ExternalRncFunction	6.3.0	6.4.0
Mar 2005	S_27	SP-050048	023	--	Corrections to UTRAN NRM CORBA Solutions set mapping errors	6.3.0	6.4.0

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CHANGE REQUEST

⌘ **32.645** CR **0021** ⌘rev **-** ⌘ Current version: **5.6.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☒ Core Network ☐

Title:	⌘	utranNrm Attribute Name Correction
Source:	⌘	SA5 (mohanr@lucent.com)
Work item code:	⌘	OAM-NIM
Date:	⌘	13/05/2005
Category:	⌘	**F**
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction 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.

Use one of the following releases:

Ph2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*
Rel-7	*(Release 7)*

Reason for change:	⌘	Attribute name for `primaryCpichTxPower` is not aligned with the IS.
Summary of change:	⌘	Changed `primaryCpichTxPower` to `primaryCpichPower`
Consequences if not approved:	⌘	The schema file will be error prone and won't reflect the contents in the IS.

Clauses affected:	⌘	Annex A, Annex B

Other specs affected:	⌘	Y	N		
			X	Other core specifications	⌘
			X	Test specifications	
		X		O&M Specifications	Rel-6 32.645

Other comments:	⌘	

Change in Clause Annex A

Annex A (normative): Configuration data file NRM-specific XML schema (file name "utranNrm.xsd")

The following XML schema utranNrm.xsd is the NRM-specific schema for the UTRAN Network Resources IRP NRM defined in 3GPP TS 32.642 [1]:

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

<!--
  3GPP TS 32.645 UTRAN Network Resources IRP
  Bulk CM Configuration data file NRM-specific XML schema
  utranNrm.xsd
-->

<schema
  targetNamespace=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.645#utranNrm"
  elementFormDefault="qualified"
  xmlns="http://www.w3.org/2001/XMLSchema"
  xmlns:xn=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.625#genericNrm"
  xmlns:un=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.645#utranNrm"
  xmlns:gn=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.655#geranNrm"
>

  <import
    namespace=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.625#genericNrm"
  />
  <import
    namespace=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.655#geranNrm"
  />

  <!-- UTRAN Network Resources IRP NRM attribute related XML types -->

  <simpleType name="localCellId">
    <restriction base="integer">
      <minInclusive value="0"/>
      <maxInclusive value="268435455"/>
    </restriction>
  </simpleType>

  <simpleType name="cId">
    <restriction base="integer">
      <minInclusive value="0"/>
      <maxInclusive value="65535"/>
    </restriction>
  </simpleType>

  <simpleType name="uarfcnDl">
    <restriction base="integer">
      <minInclusive value="0"/>
      <maxInclusive value="16383"/>
    </restriction>
  </simpleType>

  <simpleType name="uarfcnUl">
    <restriction base="integer">
      <minInclusive value="0"/>
      <maxInclusive value="16383"/>
    </restriction>
  </simpleType>
```

```
<simpleType name="primaryScramblingCode">
  <restriction base="integer">
    <minInclusive value="0"/>
    <maxInclusive value="511"/>
  </restriction>
</simpleType>

<simpleType name="primaryCpichTxPower">
  <restriction base="decimal">
    <fractionDigits value="1"/>
    <minInclusive value="-10"/>
    <maxInclusive value="+50"/>
  </restriction>
</simpleType>

<simpleType name="maximumTransmissionPower">
  <restriction base="decimal">
    <fractionDigits value="1"/>
    <minInclusive value="0"/>
    <maxInclusive value="50"/>
  </restriction>
</simpleType>

<simpleType name="primarySchPower">
  <restriction base="decimal">
    <fractionDigits value="1"/>
    <minInclusive value="-35"/>
    <maxInclusive value="+15"/>
  </restriction>
</simpleType>

<simpleType name="secondarySchPower">
  <restriction base="decimal">
    <fractionDigits value="1"/>
    <minInclusive value="-35"/>
    <maxInclusive value="+15"/>
  </restriction>
</simpleType>

<simpleType name="bchPower">
  <restriction base="decimal">
    <fractionDigits value="1"/>
    <minInclusive value="-35"/>
    <maxInclusive value="+15"/>
  </restriction>
</simpleType>

<simpleType name="lac">
 <union>
  <simpleType>
   <restriction base="integer">
    <minInclusive value="1"/>
    <maxInclusive value="65533"/>
   </restriction>
  </simpleType>
  <simpleType>
   <restriction base="integer">
    <minInclusive value="65535"/>
    <maxInclusive value="65535"/>
   </restriction>
  </simpleType>
 </union>
</simpleType>

<simpleType name="rac">
  <restriction base="integer">
    <minInclusive value="0"/>
    <maxInclusive value="255"/>
  </restriction>
</simpleType>

<simpleType name="sac">
  <restriction base="integer">
    <minInclusive value="0"/>
    <maxInclusive value="65535"/>
  </restriction>
</simpleType>
```

```
<complexType name="uraList">
  <sequence>
    <element name="ura" minOccurs="1" maxOccurs="8">
      <simpleType>
        <restriction base="integer">
          <minInclusive value="0"/>
          <maxInclusive value="65535"/>
        </restriction>
      </simpleType>
    </element>
  </sequence>
</complexType>

<!-- UTRAN Network Resources IRP NRM class associated XML elements -->

<element
  name="RncFunction"
  substitutionGroup="xn:ManagedElementOptionallyContainedNrmClass"
>
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="userLabel" minOccurs="0"/>
                <element name="mcc" minOccurs="0"/>
                <element name="mnc" minOccurs="0"/>
                <element name="rncId" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="un:UtranCell"/>
            <element ref="un:IubLink"/>
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element
  name="NodeBFunction"
  substitutionGroup="xn:ManagedElementOptionallyContainedNrmClass"
>
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="userLabel" minOccurs="0"/>
                <element name="nodeBFunctionIubLink" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element name="UtranCell">
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="userLabel" minOccurs="0"/>
```

```
                <element name="cId" type="un:cId" minOccurs="0"/>
                <element
                  name="localCellId"
                  type="un:localCellId"
                  minOccurs="0"
                />
                <element
                  name="uarfcnUl"
                  type="un:uarfcnUl"
                  minOccurs="0"
                />
                <element
                  name="uarfcnDl"
                  type="un:uarfcnDl"
                  minOccurs="0"
                />
                <element
                  name="primaryScramblingCode"
                  type="un:primaryScramblingCode"
                  minOccurs="0"
                />
                <element
                  name="primaryCpich~~Tx~~Power"
                  type="un:primaryCpich~~Tx~~Power"
                  minOccurs="0"
                />
                <element
                  name="maximumTransmissionPower"
                  type="un:maximumTransmissionPower"
                  minOccurs="0"
                />
                <element
                  name="primarySchPower"
                  type="un:primarySchPower"
                  minOccurs="0"
                />
                <element
                  name="secondarySchPower"
                  type="un:secondarySchPower"
                  minOccurs="0"
                />
                <element name="bchPower"
                  type="un:bchPower"
                  minOccurs="0"
                />
                <element name="lac" type="un:lac" minOccurs="0"/>
                <element name="rac" type="un:rac" minOccurs="0"/>
                <element name="sac" type="un:sac" minOccurs="0"/>
                <element name="uraList" type="un:uraList" minOccurs="0"/>
                <element name="utranCellIubLink" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="un:UtranRelation"/>
            <element ref="gn:GsmRelation"/>
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element name="IubLink">
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="userLabel" minOccurs="0"/>
                <element name="iubLinkUtranCell" minOccurs="0"/>
                <element name="iubLinkNodeBFunction" minOccurs="0"/>
              </all>
            </complexType>
          </element>
```

```
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element name="UtranRelation">
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="adjacentCell" minOccurs="0"/>
                <element
                  name="uarfcnUl"
                  type="un:uarfcnUl"
                  minOccurs="0"
                />
                <element
                  name="uarfcnDl"
                  type="un:uarfcnDl"
                  minOccurs="0"
                />
                <element
                  name="primaryScramblingCode"
                  type="un:primaryScramblingCode"
                  minOccurs="0"
                />
                <element
                  name="primaryCpich~~Tx~~Power"
                  type="un:primaryCpich~~Tx~~Power"
                  minOccurs="0"
                />
                <element name="lac" type="un:lac" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element
  name="ExternalUtranCell"
  substitutionGroup="xn:SubNetworkOptionallyContainedNrmClass"
>
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="userLabel" minOccurs="0"/>
                <element name="cId" type="un:cId" minOccurs="0"/>
                <element name="mcc" minOccurs="0"/>
                <element name="mnc" minOccurs="0"/>
                <element name="rncId" minOccurs="0"/>
                <element
                  name="uarfcnUl"
                  type="un:uarfcnUl"
                  minOccurs="0"
                />
                <element
                  name="uarfcnDl"
                  type="un:uarfcnDl"
                  minOccurs="0"
                />
                <element
```

```
                  name="primaryScramblingCode"
                  type="un:primaryScramblingCode"
                  minOccurs="0"
                />
                <element
                  name="primaryCpichTxPower"
                  type="un:primaryCpichTxPower"
                  minOccurs="0"
                />
                <element name="lac" type="un:lac" minOccurs="0"/>
                <element name="rac" type="un:rac" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

</schema>
```

End of Change in Clause Annex A

Change in Clause Annex B

Annex B (informative): XML schema electronic files

The electronic files corresponding to the normative XML schemas defined in the present document are available in native form in the following archive:

http://www.3gpp.org/ftp/specs/archive/32_series/32.645/schema/32645-5~~6~~70-XMLSchema.zip

Change in Clause Annex B
End of Document

Annex C (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Jun 2004	S_24	SP-040259	008	--	Removal of XML schema URI dependencies	5.4.0	5.5.0
Jun 2004	S_24	SP-040258	009	--	Correction of the annex related to XML schema electronic files publication	5.4.0	5.5.0
Jun 2004	S_24	SP-040254	010	--	The specification does not support all UMTS frequency bands	5.4.0	5.5.0
Sep 2004	S_25	SP-040592	012	--	Correction of the XML code – Reinsertion of “targetNamespace=”	5.5.0	5.6.0

CR-Form-v7.1

CHANGE REQUEST

⌘ **32.645** **CR** **0022** ⌘ **rev** **-** ⌘ Current version: **6.3.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☒ Core Network ☐

Title:	⌘	utranNrm Attribute Name Correction
Source:	⌘	SA5 (mohanr@lucent.com)
Work item code:	⌘	OAM-NIM
Date:	⌘	13/05/2005
Category:	⌘	**A**
Release:	⌘	Rel-6

Use one of the following categories:
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Use one of the following releases:
Ph2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*
Rel-7 *(Release 7)*

Reason for change:	⌘	Attribute name for `primaryCpichTxPower` is not aligned with the IS.
Summary of change:	⌘	Changed `primaryCpichTxPower` to `primaryCpichPower`
Consequences if not approved:	⌘	The schema file will be error prone and won't reflect the contents in the IS.

Clauses affected:	⌘	Annex A, Annex B

Other specs affected: ⌘	Y	N	
		X	Other core specifications
		X	Test specifications
		X	O&M Specifications

⌘

Other comments: ⌘

Change in Clause Annex A

Annex A (normative): Configuration data file NRM-specific XML schema (file name "utranNrm.xsd")

The following XML schema utranNrm.xsd is the NRM-specific schema for the UTRAN Network Resources IRP NRM defined in 3GPP TS 32.642 [1]:

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

<!--
  3GPP TS 32.645 UTRAN Network Resources IRP
  Bulk CM Configuration data file NRM-specific XML schema
  utranNrm.xsd
-->

<schema
  targetNamespace=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.645#utranNrm"
  elementFormDefault="qualified"
  xmlns="http://www.w3.org/2001/XMLSchema"
  xmlns:xn=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.625#genericNrm"
  xmlns:un=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.645#utranNrm"
  xmlns:gn=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.655#geranNrm"
  xmlns:sm=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.675#stateManagementIRP"
>

  <import
    namespace=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.625#genericNrm"
  />
  <import
    namespace=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.655#geranNrm"
  />
  <import
    namespace=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.675#stateManagementIRP"
  />

  <!-- UTRAN Network Resources IRP NRM attribute related XML types -->

  <simpleType name="localCellId">
    <restriction base="integer">
      <minInclusive value="0"/>
      <maxInclusive value="268435455"/>
    </restriction>
  </simpleType>

  <simpleType name="cId">
    <restriction base="integer">
      <minInclusive value="0"/>
      <maxInclusive value="65535"/>
    </restriction>
  </simpleType>

  <simpleType name="uarfcnAnyMode">
    <restriction base="integer">
      <minInclusive value="0"/>
      <maxInclusive value="16383"/>
    </restriction>
  </simpleType>

  <simpleType name="primaryScramblingCode">
```

```
  <restriction base="integer">
    <minInclusive value="0"/>
    <maxInclusive value="511"/>
  </restriction>
</simpleType>

<simpleType name="primaryCpichTxPower">
  <restriction base="decimal">
    <fractionDigits value="1"/>
    <minInclusive value="-10"/>
    <maxInclusive value="+50"/>
  </restriction>
</simpleType>

<simpleType name="maximumTransmissionPower">
  <restriction base="decimal">
    <fractionDigits value="1"/>
    <minInclusive value="0"/>
    <maxInclusive value="50"/>
  </restriction>
</simpleType>

<simpleType name="primarySchPower">
  <restriction base="decimal">
    <fractionDigits value="1"/>
    <minInclusive value="-35"/>
    <maxInclusive value="+15"/>
  </restriction>
</simpleType>

<simpleType name="secondarySchPower">
  <restriction base="decimal">
    <fractionDigits value="1"/>
    <minInclusive value="-35"/>
    <maxInclusive value="+15"/>
  </restriction>
</simpleType>

<simpleType name="bchPower">
  <restriction base="decimal">
    <fractionDigits value="1"/>
    <minInclusive value="-35"/>
    <maxInclusive value="+15"/>
  </restriction>
</simpleType>

<simpleType name="lac">
 <union>
  <simpleType>
   <restriction base="integer">
    <minInclusive value="1"/>
    <maxInclusive value="65533"/>
   </restriction>
  </simpleType>
  <simpleType>
   <restriction base="integer">
    <minInclusive value="65535"/>
    <maxInclusive value="65535"/>
   </restriction>
  </simpleType>
 </union>
</simpleType>

<simpleType name="rac">
  <restriction base="integer">
    <minInclusive value="0"/>
    <maxInclusive value="255"/>
  </restriction>
</simpleType>

<simpleType name="sac">
  <restriction base="integer">
    <minInclusive value="0"/>
    <maxInclusive value="65535"/>
  </restriction>
</simpleType>

<complexType name="uraList">
```

```
  <sequence>
    <element name="ura" minOccurs="1" maxOccurs="8">
      <simpleType>
        <restriction base="integer">
          <minInclusive value="0"/>
          <maxInclusive value="65535"/>
        </restriction>
      </simpleType>
    </element>
  </sequence>
</complexType>

<simpleType name="cellMode">
  <restriction base="string">
    <enumeration value="FDDMode"/>
    <enumeration value="3-84McpsTDDMode"/>
    <enumeration value="1-28McpsTDDMode"/>
  </restriction>
</simpleType>

<simpleType name="cellParameterId">
  <restriction base="integer">
    <minInclusive value="0"/>
    <maxInclusive value="127"/>
  </restriction>
</simpleType>

<simpleType name="primaryCcpchPower">
  <restriction base="decimal">
    <fractionDigits value="1"/>
    <minInclusive value="-15"/>
    <maxInclusive value="+40"/>
  </restriction>
</simpleType>

<simpleType name="dwPchPower">
  <restriction base="decimal">
    <fractionDigits value="1"/>
    <minInclusive value="-15"/>
    <maxInclusive value="+40"/>
  </restriction>
</simpleType>

<simpleType name="schPower">
  <restriction base="decimal">
    <fractionDigits value="1"/>
    <minInclusive value="-35"/>
    <maxInclusive value="+15"/>
  </restriction>
</simpleType>

<complexType name="timeSlotList">
  <sequence>
    <element name="timeSlot" maxOccurs="15">
      <complexType>
        <all>
          <element name="timeSlotId" minOccurs="1">
            <simpleType>
              <restriction base="integer">
                <minInclusive value="0"/>
                <maxInclusive value="14"/>
              </restriction>
            </simpleType>
          </element>
          <element name="timeSlotDirection" minOccurs="1">
            <simpleType>
              <restriction base="string">
                <enumeration value="UL"/>
                <enumeration value="DL"/>
              </restriction>
            </simpleType>
          </element>
          <element name="timeSlotStatus" minOccurs="1">
            <simpleType>
              <restriction base="string">
                <enumeration value="Active"/>
                <enumeration value="Not-Active"/>
              </restriction>
```

```
            </simpleType>
          </element>
        </all>
      </complexType>
    </element>
  </sequence>
</complexType>
<simpleType name="antennaId">
  <restriction base="integer">
    <minInclusive value="0"/>
    <maxInclusive value="268435455"/>
  </restriction>
</simpleType>

<simpleType name="retTiltValue">
  <restriction base="decimal">
    <fractionDigits value="1"/>
    <minInclusive value="0"/>
    <maxInclusive value="360"/>
  </restriction>
</simpleType>

<complexType name="retUtranCellList">
  <sequence>
    <element name="utranCell">
      <simpleType>
        <restriction base="string">
          <minInclusive value="0"/>
          <maxInclusive value="268435455"/>
        </restriction>
      </simpleType>
    </element>
  </sequence>
</complexType>

<simpleType name="compassDirection">
  <restriction base="integer">
    <minInclusive value="0"/>
    <maxInclusive value="360"/>
  </restriction>
</simpleType>

<simpleType name="maxTiltValue">
  <restriction base="decimal">
    <fractionDigits value="1"/>
    <minInclusive value="0"/>
    <maxInclusive value="360"/>
  </restriction>
</simpleType>

<simpleType name="minTiltValue">
  <restriction base="decimal">
    <fractionDigits value="1"/>
    <minInclusive value="0"/>
    <maxInclusive value="360"/>
  </restriction>
</simpleType>

<simpleType name="mechanicalOffset">
  <restriction base="decimal">
    <fractionDigits value="1"/>
    <minInclusive value="0"/>
    <maxInclusive value="360"/>
  </restriction>
</simpleType>

<simpleType name="retGroupName">
  <restriction base="string">
    <minInclusive value="0"/>
    <maxInclusive value="80"/>
  </restriction>
</simpleType>

<simpleType name="height">
  <restriction base="integer">
    <minInclusive value="0"/>
    <maxInclusive value="36000000"/>
  </restriction>
```

```
</simpleType>

<!-- UTRAN Network Resources IRP NRM class associated XML elements -->

<element
  name="RncFunction"
  substitutionGroup="xn:ManagedElementOptionallyContainedNrmClass"
>
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="userLabel" minOccurs="0"/>
                <element name="mcc" minOccurs="0"/>
                <element name="mnc" minOccurs="0"/>
                <element name="rncId" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="un:UtranCell"/>
            <element ref="un:IubLink"/>
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element
  name="NodeBFunction"
  substitutionGroup="xn:ManagedElementOptionallyContainedNrmClass"
>
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="userLabel" minOccurs="0"/>
                <element name="nodeBFunctionIubLink" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element name="UtranCell">
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="userLabel" minOccurs="0"/>
                <element name="cId" type="un:cId" minOccurs="0"/>
                <element
                  name="localCellId"
                  type="un:localCellId"
                  minOccurs="0"
                />
                <element
                  name="uarfcnUl"
                  type="un:uarfcnAnyMode"
                  minOccurs="0"
                />
```

```
                <element
                  name="uarfcnDl"
                  type="un:uarfcnAnyMode"
                  minOccurs="0"
                />
                <element
                  name="primaryScramblingCode"
                  type="un:primaryScramblingCode"
                  minOccurs="0"
                />
                <element
                  name="primaryCpich~~Tx~~Power"
                  type="un:primaryCpich~~Tx~~Power"
                  minOccurs="0"
                />
                <element
                  name="maximumTransmissionPower"
                  type="un:maximumTransmissionPower"
                  minOccurs="0"
                />
                <element
                  name="primarySchPower"
                  type="un:primarySchPower"
                  minOccurs="0"
                />
                <element
                  name="secondarySchPower"
                  type="un:secondarySchPower"
                  minOccurs="0"
                />
                <element name="bchPower" type="un:bchPower" minOccurs="0"/>
                <element name="cellMode" type="un:cellMode" minOccurs="0"/>
                <element name="uarfcn" type="un:uarfcnAnyMode" minOccurs="0"/>
                <element
                  name="cellParameterId"
                  type="un:cellParameterId"
                  minOccurs="0"
                />
                <element
                  name="primaryCcpchPower"
                  type="un:primaryCcpchPower"
                  minOccurs="0"
                />
                <element
                  name="dwPchPower"
                  type="un:dwPchPower"
                  minOccurs="0"
                />
                <element
                  name="timeSlotList"
                  type="un:timeSlotList"
                  minOccurs="0"
                />
                <element name="schPower" type="un:schPower" minOccurs="0"/>
                <element name="lac" type="un:lac" minOccurs="0"/>
                <element name="rac" type="un:rac" minOccurs="0"/>
                <element name="sac" type="un:sac" minOccurs="0"/>
                <element name="uraList" type="un:uraList" minOccurs="0"/>
                <element name="utranCellIubLink" minOccurs="0"/>
                <element name="retAntennaList" type="un:retAntennaList" minOccurs="0"/>
                <element
                   name="operationalState"
                   type="sm:operationalStateType"
                   minOccurs="0"
                />
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="un:UtranRelation"/>
            <element ref="gn:GsmRelation"/>
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>
```

```
<element name="IubLink">
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="userLabel" minOccurs="0"/>
                <element name="iubLinkUtranCell" minOccurs="0"/>
                <element name="iubLinkATMChannelTerminationPoint" minOccurs="0"/>
                <element name="iubLinkNodeBFunction" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element name="UtranRelation">
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="adjacentCell" minOccurs="0"/>
                <element name="cellMode" type="un:cellMode" minOccurs="0"/>
                <element
                  name="uarfcnUl"
                  type="un:uarfcnAnyMode"
                  minOccurs="0"
                />
                <element
                  name="uarfcnDl"
                  type="un:uarfcnAnyMode"
                  minOccurs="0"
                />
                <element
                  name="primaryScramblingCode"
                  type="un:primaryScramblingCode"
                  minOccurs="0"
                />
                <element
                  name="primaryCpichTxPower"
                  type="un:primaryCpichTxPower"
                  minOccurs="0"
                />
                <element name="lac" type="un:lac" minOccurs="0"/>
                <element name="uarfcn" type="un:uarfcnAnyMode" minOccurs="0"/>
                <element
                  name="cellParameterId"
                  type="un:cellParameterId"
                  minOccurs="0"
                />
                <element
                  name="primaryCcpchPower"
                  type="un:primaryCcpchPower"
                  minOccurs="0"
                />
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>
```

```
<element
  name="ExternalUtranCell"
  substitutionGroup="xn:SubNetworkOptionallyContainedNrmClass"
>
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="userLabel" minOccurs="0"/>
                <element name="cId" type="un:cId" minOccurs="0"/>
                <element name="mcc" minOccurs="0"/>
                <element name="mnc" minOccurs="0"/>
                <element name="rncId" minOccurs="0"/>
                <element name="cellMode" type="un:cellMode" minOccurs="0"/>
                <element
                  name="uarfcnUl"
                  type="un:uarfcnAnyMode"
                  minOccurs="0"
                />
                <element
                  name="uarfcnDl"
                  type="un:uarfcnAnyMode"
                  minOccurs="0"
                />
                <element
                  name="primaryScramblingCode"
                  type="un:primaryScramblingCode"
                  minOccurs="0"
                />
                <element
                  name="primaryCpichTxPower"
                  type="un:primaryCpichTxPower"
                  minOccurs="0"
                />
                <element name="uarfcn" type="un:uarfcnAnyMode" minOccurs="0"/>
                <element
                  name="cellParameterId"
                  type="un:cellParameterId"
                  minOccurs="0"
                />
                <element
                  name="primaryCcpchPower"
                  type="un:primaryCcpchPower"
                  minOccurs="0"
                />
                <element name="lac" type="un:lac" minOccurs="0"/>
                <element name="rac" type="un:rac" minOccurs="0"/>
                <element name="controllingRnc" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element
  name="Antenna"
  substitutionGroup="xn:ManagedElementOptionallyContainedNrmClass"
>
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="antennaId" type="un:antennaId" minOccurs="0"/>
                <element name="retUtranCellList" type="un:retUtranCellList" minOccurs="0"/>
                <element name="retTiltValue" type="un:retTiltValue" minOccurs="0"/>
```

```
                <element name="compassDirection" type="un:compassDirection" minOccurs="0"/>
                <element name="maxTiltValue" type="un:maxTiltValue" minOccurs="0"/>
                <element name="minTiltValue" type="un:minTiltValue" minOccurs="0"/>
                <element name="mechanicalOffset" type="un:mechanicalOffset" minOccurs="0"/>
                <element name="retGroupName" type="un:retGroupName" minOccurs="0"/>
                <element name="height" type="un:height" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element
  name="ExternalRncFunction"
  substitutionGroup="xn:SubNetworkOptionallyContainedNrmClass"
>
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="userLabel" minOccurs="0"/>
                <element name="mcc" minOccurs="0"/>
                <element name="mnc" minOccurs="0"/>
                <element name="rncId" minOccurs="0"/>
                <element name="controlledCellList" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

</schema>
```

End of Change in Clause Annex A

Change in Clause Annex B

Annex B (informative): XML schema electronic files

The electronic files corresponding to the normative XML schemas defined in the present document are available in native form in the following archive:

http://www.3gpp.org/ftp/specs/archive/32_series/32.645/schema/32645-6~~3~~4 0-XMLSchema.zip

Change in Clause Annex B
End of Document

Annex C (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Jun 2002	S_16	SP-020298	--	--	Submitted to TSG SA #16 for Information	1.0.0	
Sep 2002	S_17	SP-020462	--	--	Submitted to TSG SA #17 for Approval	2.0.0	5.0.0
Jun 2003	S_20	SP-030283	001	--	Deletion of UTRAN attribute relationType in XML Schema	5.0.0	5.1.0
Jun 2003	S_20	SP-030287	002	--	Correction of UTRAN NRM XML schema namespace URIs	5.0.0	5.1.0
Jun 2003	S_20	SP-030288	003	--	Generic NRM XML schema dependencies removal	5.0.0	5.1.0
Jun 2003	S_20	SP-030285	004	--	Remove UTRAN NRM XML schema duplicate MOC attribute XML declarations	5.0.0	5.1.0
Sep 2003	S_21	SP-030418	005	--	Inclusion of External BSS Function in GERAN XML Schema – impacts on 32.645 (UTRAN XML Schema) - Alignment with 32.652/655	5.1.0	5.2.0
Oct 2003	--	--	--	--	Attached to this TS the normative XML schema electronic files corresponding to Sept 2003 TS 32.645	5.2.0	5.2.1
Dec 2003	S_22	SP-030646	006	--	Correction of the number of possible URAs from 1 to 8	5.2.1	5.3.0
Mar 2004	S_23	SP-040131	007	--	Add the capability to contain instances of VsDataContainer to some MOs - Align with the IS 32.642	5.3.0	5.4.0
Jun 2004	S_24	SP-040259	008	--	Removal of XML schema URI dependencies	5.4.0	5.5.0
Jun 2004	S_24	SP-040258	009	--	Correction of the annex related to XML schema electronic files publication	5.4.0	5.5.0
Jun 2004	S_24	SP-040254	010	--	The specification does not support all UMTS frequency bands	5.4.0	5.5.0
Jun 2004	S_24	SP-040256	011	--	Add XML definitions for support of TDD modes	5.5.0	6.0.0
Sep 2004	S_25	SP-040592	013	--	Correction of the XML code – Reinsertion of the closing tag	6.0.0	6.1.0
Sep 2004	S_25	SP-040595	014	--	Include ATM in CM UTRAN network resources IRP XML Schema definition	6.0.0	6.1.0
Sep 2004	S_25	SP-040587	015	--	Add support for Remote control of Electrical Tilting (RET) antenna to the Bulk CM XSD file	6.0.0	6.1.0
Dec 2004	S_26	SP-040810	016	--	Add operationalState to the UtranCell – Align with the IS in 32.642	6.1.0	6.2.0
Mar 2005	S_27	SP-050048	020	--	Add missing definition of IOC ExternalRncFunction	6.2.0	6.3.0

CR-Form-v7.1

CHANGE REQUEST

⌘ 32.644 CR 0017 ⌘rev - ⌘ Current version: 6.1.0 ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network X Core Network X

Title:	⌘	Add ExternalRncFunction Object Class - Align with the IS in TS 32.622
Source:	⌘	SA5 (clemens.suerbaum@siemens.com)
Work item code:	⌘	OAM-NIM
Date:	⌘	13/05/2005
Category:	⌘	F
Release:	⌘	Rel-6

Use one of the following categories:
- ***F*** *(correction)*
- ***A*** *(corresponds to a correction 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.

Use one of the following releases:

Ph2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*
Rel-7	*(Release 7)*

Reason for change:	⌘	Alignment with introduction of IOC *ExternalRncFunction* and attribute *controllingRnc* into 32.642
Summary of change:	⌘	Introduction of MOC *ExternalRncFunction* and its supporting definitions
Consequences if not approved:	⌘	CMIP Solution Set not aligned with Information Service

Clauses affected:	⌘	1, 4.2.1, 4.2.2.6, 4.2.2.8 (new), 5, 6

Other specs affected: ⌘	Y	N	
		X	Other core specifications
		X	Test specifications
		X	O&M Specifications

⌘

Other comments: ⌘

Change in Clause 1

1 Scope

The present document specifies the Common Management Information Protocol (CMIP) Solution Set (SS) for the UTRAN Network Resource Integration Reference Point (IRP): Network Resource Model defined in 3GPP TS 32.642 [4].

In detail:

- Clause 4 contains an introduction to some concepts that are the base for some specific aspects of the CMIP interfaces.
- Clause 5 contains the GDMO definitions for the Alarm Management over the CMIP interfaces
- Clause 6 contains the ASN.1 definitions supporting the GDMO definitions provided in clause 5.

This Solution Set specification is related to 3GPP TS 32.642 V6.4~~3~~.X.

End of Change in Clause 1

Change in Clause 4.2.1

4.2.1 Mapping of Information Object Classes

The following table maps the information object classes defined in the UTRAN Network Resource Model onto the equivalent MOCs of the CMIP Solution Set.

Table : Mapping of IOCs

IS IOC	CMIP SS MOC
RncFunction	rncFunctionR55
NodeBFunction	nodeBFunction
UtranCell	utranCellR0610
IubLink	iubLinkR0600
UtranRelation	utranRelationR0600
ExternalUtranCell	externalUtranCellR0600
AntennaFunction	antennaFunctionR0610
ExternalRncFunction	externalRncFunction

End of Change in Clause 4.2.1

Change in Clause 4.2.2.6

4.2.2.6 Attribute Mapping of the IOC *ExternalUtranCell*

IS Attribute	CMIP SS Attribute	Support Qualifier	Read Qualifier	Write Qualifier
externalUtranCellId	externalUtranCellId	M	M	--
userLabel	userLabel	M	M	M
cId	cIdR55	M	M	M
mcc	mcc	M	M	M
mnc	mnc	M	M	M
rncId	rncIdR55	M	M	M
cellMode	cellMode	M	M	--
uarfcnUl	uarfcnUl	O	M	M
uarfcnDl	uarfcnDl	O	M	M
primaryScramblingCode	primaryScramblingCode	O	M	M
primaryCpichPower	primaryCpichPower	O	M	M
uarfcn	uarfcn	O	M	M
cellParameterId	cellParameterId	O	M	M
primaryCcpchPower	primaryCcpchPower	O	M	M
lac	lac	M	M	M
rac	rac	M	M	M
controllingRnc	controllingRnc	O	M	--

End of Change in Clause 4.2.2.6

New Clause 4.2.2.8

4.2.2.8 Attribute Mapping of the IOC *ExternalRncFunction*

IS Attribute	CMIP SS Attribute	Support Qualifier	Read Qualifier	Write Qualifier
externalRncFunctionId	externalRncFunctionId	M	M	--
userLabel	userLabel	M	M	M
mcc	mcc	M	M	M
mnc	mnc	M	M	M
rncId	rncIdR55	M	M	M
controlledCellList	controlledCellList	O	M	--

End of New Clause 4.2.2.8

Change in Clause 4.2.3

4.2.3 Mapping of Name Containments

IS Name Containment	CMIP SS Name Binding
rncFunction-managedElement	rncFunctionR55-managedElement
nodeBFunction-managedElement	nodeBFunction-managedElement
utranCell-rncFunction	utranCellR0610-rncFunctionR55
utranRelation-utranCell	utranRelationR0600-utranCellR0610
externalUtranCell-subNetwork	externalUtranCellR06200-subNetworkR60
iubLink-rncFunction	iubLink-rncFunctionR55
gsmRelation-utranCell	gsmRelation-utranCellR0610
antennaFunction-managedElement	antennaFunctionR0610-managedElement
externalRncFunction-subNetwork	externalRncFunction-subNetworkR60

End of New Clause 4.2.3

Change in Clause 5

-- 5 GDMO Definitions

```
--Please do not remove the "—" in front of the headline numbering, as it is the CMIP code
--for a comment. This way the whole chapter can be put directly into a compiler.
```

-- 5.1 Managed Object Classes

-- 5.1.1 rncFunction

```
rncFunctionR55 MANAGED OBJECT CLASS
   DERIVED FROM
      "3GPP TS 32.624": managedFunction;
   CHARACTERIZED BY
      rncFunctionBasicPackage,
      rncFunctionHandoverPackageR55,
      "3GPP TS 32.111-4": x721AlarmNotificationsPackage;
   CONDITIONAL PACKAGES
      "Rec. M.3100: 1995":createDeleteNotificationsPackage
          PRESENT IF
             "the objectCreation and the objectDeletion notifications defined in
              ITU-T Rec. X.721 are supported by an instance of this class.",
      "Rec. M.3100: 1995":attributeValueChangeNotificationPackage
          PRESENT IF
             "the attributeValueChange notification defined in ITU-T Rec. X.721
              is supported by an instance of this class.";
REGISTERED AS {ts32-644ObjectClass 8};
```

-- 5.1.2 utranCell

```
utranCellR0610 MANAGED OBJECT CLASS
   DERIVED FROM
      "3GPP TS 32.624": managedFunction;
   CHARACTERIZED BY
      utranCellBasicPackage,
      utranCellHandoverPackageR0600,
      utranCellAssociationPackage,
      "3GPP TS 32.111-4": x721AlarmNotificationsPackage;
   CONDITIONAL PACKAGES
      utranFDDCellHandoverPackage
         PRESENT IF
           "FDD handover attributes are supported by an instance of this class.",
      utran1-28McpsTDDCellHandoverPackage
         PRESENT IF
           "1.28 Mcps TDD handover attributes are supported by an instance of this class.",
      utran3-84McpsTDDCellHandoverPackage
```

```
      PRESENT IF
        "3.84 Mcps TDD handover attributes are supported by an instance of this class.",
    "Rec. M.3100: 1995":createDeleteNotificationsPackage
        PRESENT IF
          "the objectCreation and the objectDeletion notifications defined in
           ITU-T Rec. X.721 are supported by an instance of this class.",
    "Rec. M.3100: 1995":attributeValueChangeNotificationPackage
        PRESENT IF
          "the attributeValueChange notification defined in ITU-T Rec. X.721
           is supported by an instance of this class.",
    "Rec. M.3100: 1995":stateChangeNotificationPackage
        PRESENT IF
          "the stateChange notification defined in ITU-T Rec. X.721
           is supported by an instance of this class",
    "3GPP TS 32.674": operationalStateAttributePackage
      PRESENT IF
        "instances of this MOC support the operationalState attribute." ,
    utranCellRetPackageR0610
      PRESENT IF
        "instances of this MOC support the retAntennaFunctionList attribute.";
REGISTERED AS {ts32-644ObjectClass 20610};
```

-- 5.1.3 utranRelation

```
utranRelationR0600 MANAGED OBJECT CLASS
   DERIVED FROM
      "Rec. X.721 | ISO/IEC 10165-2 : 1992":top;
   CHARACTERIZED BY
      utranRelationBasicPackageR0600,
      utranRelationAssociationPackage;
   CONDITIONAL PACKAGES
      utranRelationFDDHandoverPackage
          PRESENT IF
            "FDD handover attributes are supported by an instance of this class.",
      utranRelationTDDHandoverPackage
          PRESENT IF
            " TDD handover attributes are supported by an instance of this class.",
      "Rec. M.3100: 1995": createDeleteNotificationsPackage
          PRESENT IF
            "The objectCreation and the objectDeletion notifications defined in
             ITU-T Rec. X.721 are supported by an instance of this class.",
      "Rec. M.3100: 1995": attributeValueChangeNotificationPackage
          PRESENT IF
            "The attributeValueChange notification defined in ITU-T Rec. X.721
             is supported by an instance of this class.";
REGISTERED AS {ts32-644ObjectClass 30600};
```

-- 5.1.4 externalUtranCell

```
externalUtranCellR06200 MANAGED OBJECT CLASS
   DERIVED FROM
      "3GPP TS 32.624": managedFunction;
   CHARACTERIZED BY
      externalUtranCellPackageR0600;
   CONDITIONAL PACKAGES
      externalUtranFDDCellHandoverPackage
          PRESENT IF
            "FDD handover attributes are supported by an instance of this class.",
      externalUtranTDDCellHandoverPackage
          PRESENT IF
            " TDD handover attributes are supported by an instance of this class.",
      controllingRncPackageexternalUtranCellAssociationPackage
          PRESENT IF
            "an instance supports it.",
      "Rec. M.3100: 1995":createDeleteNotificationsPackage
          PRESENT IF
            "the objectCreation and the objectDeletion notifications defined in
             ITU-T Rec. X.721 are supported by an instance of this class.",
      "Rec. M.3100: 1995":attributeValueChangeNotificationPackage
          PRESENT IF
            "the attributeValueChange notification defined in ITU-T Rec. X.721
             is supported by an instance of this class.";
REGISTERED AS {ts32-644ObjectClass 406200};
```

-- 5.1.5 iubLink

```
iubLinkR0600 MANAGED OBJECT CLASS
   DERIVED FROM
      "3GPP TS 32.624": managedFunction;
   CHARACTERIZED BY
      iubLinkBasicPackage,
      iubLinkAssociationPackage,
      "3GPP TS 32.111-4": x721AlarmNotificationsPackage;
   CONDITIONAL PACKAGES
      iubLink2aTMChannelTerminationPointAssociationPackage
          PRESENT IF
             "the Transport Network NRM IRP (TS 32.714) is supported",
      "Rec. M.3100: 1995":createDeleteNotificationsPackage
          PRESENT IF
             "the objectCreation and the objectDeletion notifications defined in
              ITU-T Rec. X.721 are supported by an instance of this class.",
      "Rec. M.3100: 1995":attributeValueChangeNotificationPackage
          PRESENT IF
             "the attributeValueChange notification defined in ITU-T Rec. X.721
              is supported by an instance of this class.";
REGISTERED AS {ts32-644ObjectClass 50600};
```

-- 5.1.6 nodeBFunction

```
nodeBFunction MANAGED OBJECT CLASS
   DERIVED FROM
      "3GPP TS 32.624": managedFunction;
   CHARACTERIZED BY
      nodeBFunctionBasicPackage,
      nodeBFunctionAssociationPackage,
      "3GPP TS 32.111-4": x721AlarmNotificationsPackage;
   CONDITIONAL PACKAGES
      "Rec. M.3100: 1995":createDeleteNotificationsPackage
          PRESENT IF
             "the objectCreation and the objectDeletion notifications defined in
              ITU-T Rec. X.721 are supported by an instance of this class.",
      "Rec. M.3100: 1995":attributeValueChangeNotificationPackage
          PRESENT IF
             "the attributeValueChange notification defined in ITU-T Rec. X.721
              is supported by an instance of this class.";
REGISTERED AS {ts32-644ObjectClass 6};
```

-- 5.1.7 antennaFunction

```
antennaFunctionR0610 MANAGED OBJECT CLASS
   DERIVED FROM
      "3GPP TS 32.624": managedFunction;
   CHARACTERIZED BY
      antennaFunctionBasicPackageR0610,
      "3GPP TS 32.111-4": x721AlarmNotificationsPackage;
   CONDITIONAL PACKAGES
      "Rec. M.3100: 1995":createDeleteNotificationsPackage
          PRESENT IF
             "the objectCreation and the objectDeletion notifications defined in
              ITU-T Rec. X.721 are supported by an instance of this class.",
      "Rec. M.3100: 1995":attributeValueChangeNotificationPackage
          PRESENT IF
             "the attributeValueChange notification defined in ITU-T Rec. X.721
              is supported by an instance of this class.",
      antennaFunctionOptionalPackageR0610
          PRESENT IF
             "the optional attributes are supported by an instance of this class.";
REGISTERED AS {ts32-644ObjectClass 70610};
```

-- 5.1.8 externalRncFunction

```
externalRncFunction MANAGED OBJECT CLASS
   DERIVED FROM
      "3GPP TS 32.624": managedFunction;
   CHARACTERIZED BY
      externalRncFunctionBasicPackage;
   CONDITIONAL PACKAGES
```

```
      "Rec. M.3100: 1995":createDeleteNotificationsPackage
            PRESENT IF
               "the objectCreation and the objectDeletion notifications defined in
                ITU-T Rec. X.721 are supported by an instance of this class.",
      "Rec. M.3100: 1995":attributeValueChangeNotificationPackage
            PRESENT IF
               "the attributeValueChange notification defined in ITU-T Rec. X.721
                is supported by an instance of this class.",
      externalRncFunctionOptionalPackageexternalRncFunctionAssociationPackage
            PRESENT IF
               "an instance supports it";
REGISTERED AS {ts32-644ObjectClass 80620};
```

-- 5.2 Packages

-- 5.2.1 rncFunctionHandoverPackage

```
rncFunctionHandoverPackageR55 PACKAGE
   BEHAVIOUR
      rncFunctionHandoverPackageR55Behaviour;
   ATTRIBUTES
      mcc           GET-REPLACE,
      mnc           GET-REPLACE,
      rncIdR55      GET-REPLACE;
REGISTERED AS {ts32-644Package 14};

rncFunctionHandoverPackageR55Behaviour BEHAVIOUR
DEFINED AS
   "This package contains all new attributes defined for UTRAN handover management.
    These attributes are introduced in R4.";
```

-- 5.2.2 utranCellHandoverPackage

```
utranCellHandoverPackageR0600 PACKAGE
   BEHAVIOUR
      utranCellHandoverPackageR0600Behaviour;
   ATTRIBUTES
      cIdR55                        GET-REPLACE,
      localCellIdR55                GET-REPLACE,
      maximumTransmissionPower      GET-REPLACE,
      cellMode                      GET,
      lac                           GET-REPLACE,
      rac                           GET-REPLACE,
      sac                           GET-REPLACE,
      uraList                       GET-REPLACE;
REGISTERED AS {ts32-644Package 20600};

utranCellHandoverPackageR0600Behaviour BEHAVIOUR
DEFINED AS
   "This package contains the attributes of utranCell required for handover management
    in the FDD mode, the 1.28 Mcps TDD mode and the 3.84 Mcps TDD mode.";
```

-- 5.2.3 utranRelationBasicPackage

```
utranRelationBasicPackageR0600 PACKAGE
   BEHAVIOUR
      utranRelationBasicPackageR0600Behaviour;
   ATTRIBUTES
      utranRelationId      GET,
      cellMode             GET;
REGISTERED AS {ts32-644Package 30600};

utranRelationBasicPackageR0600Behaviour BEHAVIOUR
DEFINED AS
   "The package contains the attributes of utranRelation required for the relation from utranCell
    to utranCell or externalUtranCell in the FDD mode, the 1.28 Mcps TDD mode and the 3.84 Mcps TDD
    mode. Note: In handover relation terms, the cell containing the UTRAN Relation object is the
    source cell for the handover. The cell referred to in the UTRAN relation object is the target
    cell for the handover. This defines a one-way handover relation where the direction is from
    source cell to target cell.";
```

-- 5.2.4 utranRelationAssociationPackage

```
utranRelationAssociationPackage PACKAGE
   BEHAVIOUR
      utranRelationAssociationPackageBehaviour;
   ATTRIBUTES
      adjacentCell      GET-REPLACE;
REGISTERED AS {ts32-644Package 4};

utranRelationAssociationPackageBehaviour BEHAVIOUR
DEFINED AS
   "This package contains all attributes implementing associations related to an utranRelation";
```

-- 5.2.5 externalUtranCellPackage

```
externalUtranCellPackageR0600 PACKAGE
   BEHAVIOUR
      externalUtranCellPackageR0600Behaviour;
   ATTRIBUTES
      externalUtranCellId        GET,
      cIdR55                     GET-REPLACE,
      mcc                        GET-REPLACE,
      mnc                        GET-REPLACE,
      rncIdR55                   GET-REPLACE,
      cellMode                   GET,
      lac                        GET-REPLACE,
      rac                        GET-REPLACE;
REGISTERED AS {ts32-644Package 50600};

externalUtranCellPackageR0600Behaviour BEHAVIOUR
DEFINED AS
   "This Managed Object Class represents a radio cell controlled by another IRPAgent.";
```

-- 5.2.6 rncFunctionBasicPackage

```
rncFunctionBasicPackage PACKAGE
   BEHAVIOUR
      rncFunctionBasicPackageBehaviour;
   ATTRIBUTES
      rncFunctionId      GET;
REGISTERED AS {ts32-644Package 6};

rncFunctionBasicPackageBehaviour BEHAVIOUR
DEFINED AS
   "The MOC rncFunction represents UMTS RNC function.";
```

-- 5.2.7 utranCellBasicPackage

```
utranCellBasicPackage PACKAGE
   BEHAVIOUR
      utranCellBasicPackageBehaviour;
   ATTRIBUTES
      utranCellId   GET;
REGISTERED AS {ts32-644Package 7};

utranCellBasicPackageBehaviour BEHAVIOUR
DEFINED AS
   "This managed object class represents the radio cell controlled by a RNC.";
```

-- 5.2.8 utranCellAssociationPackage

```
utranCellAssociationPackage PACKAGE
   BEHAVIOUR
      utranCellAssociationPackageBehaviour;
   ATTRIBUTES
      utranCell2iubLink      GET;
REGISTERED AS {ts32-644Package 8};

utranCellAssociationPackageBehaviour BEHAVIOUR
DEFINED AS
   "This package contains the pointer attributes that implement associations related to utranCell.";
```

-- 5.2.9 iubLinkBasicPackage

```
iubLinkBasicPackage PACKAGE
   BEHAVIOUR
      iubLinkBasicPackageBehaviour;
   ATTRIBUTES
      iubLinkId      GET;
REGISTERED AS {ts32-644Package 9};

iubLinkBasicPackageBehaviour BEHAVIOUR
DEFINED AS
   "This managed object class models the Iub Link between a Node-B and a RNC.";
```

-- 5.2.10 iubLinkAssociation

```
iubLinkAssociationPackage PACKAGE
   BEHAVIOUR
      iubLinkAssociationPackageBehaviour;
   ATTRIBUTES
      iubLink2nodeBFunction      GET,
      iubLink2utranCell          GET;
REGISTERED AS {ts32-644Package 10};

iubLinkAssociationPackageBehaviour BEHAVIOUR
DEFINED AS
   "The attribute 'iubLink2NodeBFunction' points to the nodeBFunction instance which this
    iubLink instance connects to. The attribute ‘iubLink2utranCell’ points to a list of
    utranCell instances which attach to the nodeBFunction this iubLink connects to.";
```

-- 5.2.11 nodeBFunctionBasicPackage

```
nodeBFunctionBasicPackage PACKAGE
   BEHAVIOUR
      nodeBFunctionBasicPackageBehaviour;
   ATTRIBUTES
      nodeBFunctionId      GET;
REGISTERED AS {ts32-644Package 11};

nodeBFunctionBasicPackageBehaviour BEHAVIOUR
DEFINED AS
   "This managed object class represents the NodeB functionality.";
```

-- 5.2.12 nodeBFunctionAssociationPackage

```
nodeBFunctionAssociationPackage PACKAGE
   BEHAVIOUR
      nodeBFunctionAssociationPackageBehaviour;
   ATTRIBUTES
      nodeB2iubLink      GET;
REGISTERED AS {ts32-644Package 12};

nodeBFunctionAssociationPackageBehaviour BEHAVIOUR
DEFINED AS
   "The attribute 'nodeB2iubLink' points to the iubLink instance
    which connects to this nodeBFunction instance directly.";
```

-- 5.2.13 utranFDDCellHandoverPackage

```
utranFDDCellHandoverPackage PACKAGE
   BEHAVIOUR
      utranFDDCellHandoverPackageBehaviour;
   ATTRIBUTES
      uarfcnUl                GET-REPLACE,
      uarfcnDl                GET-REPLACE,
      primaryScramblingCode   GET-REPLACE,
      primaryCpichPower       GET-REPLACE,
      primarySchPower         GET-REPLACE,
      secondarySchPower       GET-REPLACE,
      bchPower                GET-REPLACE;
REGISTERED AS {ts32-644Package 130600};

utranFDDCellHandoverPackageBehaviour BEHAVIOUR
```

```
DEFINED AS
   "This package contains the attributes of UtranCell required for handover management
    in the FDD mode.";
```

-- 5.2.14 utran1-28McpsTDDCellHandoverPackage

```
utran1-28McpsTDDCellHandoverPackage PACKAGE
   BEHAVIOUR
      utran1-28McpsTDDCellHandoverPackageBehaviour;
   ATTRIBUTES
      uarfcn                GET-REPLACE,
      cellParameterId       GET-REPLACE,
      primaryCcpchPower     GET-REPLACE,
      dwPchPower            GET-REPLACE,
      timeSlotList          GET-REPLACE;
REGISTERED AS {ts32-644Package 140600};

utran1-28McpsTDDCellHandoverPackageBehaviour BEHAVIOUR
DEFINED AS
   "This package contains the attributes of UtranCell required for handover management
    in the 1.28 Mcps TDD mode.";
```

-- 5.2.15 utran3-84McpsTDDCellHandoverPackage

```
utran3-84McpsTDDCellHandoverPackage PACKAGE
   BEHAVIOUR
      utran3-84McpsTDDCellHandoverPackageBehaviour;
   ATTRIBUTES
      uarfcn                GET-REPLACE,
      cellParameterId       GET-REPLACE,
      primaryCcpchPower     GET-REPLACE,
      schPower              GET-REPLACE,
      timeSlotList          GET-REPLACE;
REGISTERED AS {ts32-644Package 150600};

utran3-84McpsTDDCellHandoverPackageBehaviour BEHAVIOUR
DEFINED AS
   "This package contains the attributes of utranCell required for handover management
    in the 3.84 Mcps TDD mode.";
```

-- 5.2.16 utranRelationFDDHandoverPackage

```
utranRelationFDDHandoverPackage PACKAGE
   BEHAVIOUR
      utranRelationFDDHandoverPackageBehaviour;
   ATTRIBUTES
      uarfcnUl              GET,
      uarfcnDl              GET,
      primaryScramblingCode GET,
      primaryCpichPower     GET,
      lac                   GET;
REGISTERED AS {ts32-644Package 160600};

utranRelationFDDHandoverPackageBehaviour BEHAVIOUR
DEFINED AS
   "This package contains the attributes of an utranRelation required for FDD handover management.";
```

-- 5.2.17 utranRelationTDDHandoverPackage

```
utranRelationTDDHandoverPackage PACKAGE
   BEHAVIOUR
      utranRelationTDDHandoverPackageBehaviour;
   ATTRIBUTES
      uarfcn                GET,
      cellParameterId       GET,
      primaryCcpchPower     GET,
      lac                   GET;
REGISTERED AS {ts32-644Package 170600};

utranRelationTDDHandoverPackageBehaviour BEHAVIOUR
DEFINED AS
   "This package contains the attributes of an utranRelation required for TDD handover management.";
```

-- 5.2.18 externalUtranFDDCellHandoverPackage

```
externalUtranFDDCellHandoverPackage PACKAGE
   BEHAVIOUR
      externalUtranFDDCellHandoverPackageBehaviour;
   ATTRIBUTES
      uarfcnUl                 GET-REPLACE,
      uarfcnDl                 GET-REPLACE,
      primaryScramblingCode    GET-REPLACE,
      primaryCpichPower        GET-REPLACE;
REGISTERED AS {ts32-644Package 180600};

externalUtranFDDCellHandoverPackageBehaviour BEHAVIOUR
DEFINED AS
   "This package contains the attributes of externalUtranCell required
    for FDD handover management.";
```

-- 5.2.19 externalUtranTDDCellHandoverPackage

```
externalUtranTDDCellHandoverPackage PACKAGE
   BEHAVIOUR
      externalUtranTDDCellHandoverPackageBehaviour;
   ATTRIBUTES
      uarfcn               GET-REPLACE,
      cellParameterId      GET-REPLACE,
      primaryCcpchPower    GET-REPLACE;
REGISTERED AS {ts32-644Package 190600};

externalUtranTDDCellHandoverPackageBehaviour BEHAVIOUR
DEFINED AS
   "This package contains the attributes of externalUtranCell required
    for TDD handover management.";
```

-- 5.2.20 iubLink2aTMChannelTerminationPointAssociationPackage

```
iubLink2aTMChannelTerminationPointAssociationPackage PACKAGE
   BEHAVIOUR
      iubLink2aTMChannelTerminationPointAssociationPackageBehaviour;
   ATTRIBUTES
      iubLink2aTMChannelTerminationPoint     GET;
REGISTERED AS {ts32-644Package 200600};

iubLink2aTMChannelTerminationPointAssociationPackageBehaviour BEHAVIOUR
DEFINED AS
   "This package contains the attribute iubLink2aTMChannelTerminationPoint pointing to the
    ATMChannelTerminationPoint instances associated to this IubLink.";
```

-- 5.2.21 utranCellRetPackage

```
utranCellRetPackageR0610 PACKAGE
   BEHAVIOUR
      utranCellRetPackageR0610Behaviour;
   ATTRIBUTES
      retAntennaFunctionListR0610        GET-REPLACE ADD-REMOVE
      ;
REGISTERED AS {ts32-644Package 210610};

utranCellRetPackageR0610Behaviour BEHAVIOUR
DEFINED AS
   "This package contains the attributes of utranCell related to RET.";
```

-- 5.2.22 antennaFunctionBasicPackage

```
antennaFunctionBasicPackageR0610 PACKAGE
   BEHAVIOUR
      antennaFunctionBasicPackageR0610Behaviour;
   ATTRIBUTES
      antennaFunctionIdR0610        GET
      ;
REGISTERED AS {ts32-644Package 220610};

antennaFunctionBasicPackageR0610Behaviour BEHAVIOUR
```

```
DEFINED AS
   "This package contains the attribute antennaFunctionId and possibly mandatory attributes of
antennaFunction.";
```

-- 5.2.23 antennaFunctionOptionalPackage

```
antennaFunctionOptionalPackageR0610 PACKAGE
   BEHAVIOUR
      antennaFunctionOptionalPackageR0610Behaviour;
   ATTRIBUTES
      retUtranCellListR0610        GET-REPLACE,
      retTiltValueR0610            GET-REPLACE,
      compassDirectionR0610        GET-REPLACE,
      maxTiltValueR0610            GET-REPLACE,
      minTiltValueR0610            GET-REPLACE,
      mechanicalOffsetR0610        GET-REPLACE,
      retGroupNameR0610            GET-REPLACE,
      heightR0610                  GET-REPLACE
      ;
REGISTERED AS {ts32-644Package 230610};

antennaFunctionOptionalPackageR0610Behaviour BEHAVIOUR
DEFINED AS
   "This package contains the optional attributes of antennaFunction except antennaFunctionId.";
```

-- 5.2.24 ~~controllingRncPackage~~externalUtranCellAssociationPackage

```
~~controllingRncPackage~~externalUtranCellAssociationPackage PACKAGE
   BEHAVIOUR
      ~~controllingRncPackage~~externalUtranCellAssociationPackageBehaviour;
   ATTRIBUTES
      controllingRnc               GET-REPLACE;
      ~~;~~
REGISTERED AS {ts32-644Package 240620};

~~controllingRncPackage~~externalUtranCellAssociationPackageBehaviour BEHAVIOUR
DEFINED AS
   "This package contains the ~~optional~~ attribute controllingRnc.";
```

-- 5.2.25 externalRncFunctionBasicPackage

```
externalRncFunctionBasicPackage PACKAGE
   BEHAVIOUR
      externalRncFunctionBasicPackageBehaviour;
   ATTRIBUTES
      externalRncFunctionId        GET,
      mcc                          GET-REPLACE,
      mnc                          GET-REPLACE,
      rncIdR55                     GET-REPLACE;
      ~~;~~
REGISTERED AS {ts32-644Package 250620};

externalRncFunctionBasicPackageBehaviour BEHAVIOUR
DEFINED AS
   "This package contains the mandatory attributes of MOC externalRncFuntion.";
```

-- 5.2.26 ~~externalRncFunctionOptionalPackage~~externalRncFunctionAssociationPackage

```
~~externalRncFunctionOptionalPackage~~externalRncFunctionAssociationPackage PACKAGE
   BEHAVIOUR
      ~~externalRncFunctionOptionalPackage~~externalRncFunctionAssociationPackageBehaviour;
   ATTRIBUTES
      controlledCellList           GET;
      ~~;~~
REGISTERED AS {ts32-644Package 260620};

~~externalRncFunctionOptionalPackage~~externalRncFunctionAssociationPackageBehaviour BEHAVIOUR
DEFINED AS
```

```
   "This package contains the optional attribute of MOC externalRncFuntion.";
```

-- 5.3 Attributes

-- 5.3.1 mcc

```
mcc ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.MobileCountryCode;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      mccBehaviour;
REGISTERED AS {ts32-644Attribute 1};

mccBehaviour BEHAVIOUR
DEFINED AS
   "Mobile Country Code, MCC. It is a part of the PLMN Id (Ref. 3 GPP TS 23.003).";
```

-- 5.3.2 mnc

```
mnc ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.MobileNetworkCode;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      mncBehaviour;
REGISTERED AS {ts32-644Attribute 2};

mncBehaviour BEHAVIOUR
DEFINED AS
   "Mobile Network Code, MNC. It is a part of the PLMN Id (Ref. 3 GPP TS 23.003).";
```

-- 5.3.3 rncId

```
rncIdR55 ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.RncId;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      rncIdR55Behaviour;
REGISTERED AS {ts32-644Attribute 31};

rncIdR55Behaviour BEHAVIOUR
DEFINED AS
   "Unique RNC ID (Ref. 3 GPP TS 23.003).";
```

-- 5.3.4 cId

```
cIdR55 ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.CId;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      cIdR55Behaviour;
REGISTERED AS {ts32-644Attribute 32};

cIdR55Behaviour BEHAVIOUR
DEFINED AS
   "cId is the identifier of a cell in one RNC (Ref. 3 GPP TS 25.401).";
```

-- 5.3.5 localCellId

```
localCellIdR55 ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
```

```
      TS32-644TypeModule.LocalCellId;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      localCellIdR55Behaviour;
REGISTERED AS {ts32-644Attribute 33};

localCellIdR55Behaviour BEHAVIOUR
DEFINED AS
   "Local Cell id is used to uniquely identify the set of resources defined in a Node B
    to support a cell (as defined by a Cid Ref. 3 GPP TS 25.401). It must be unique in
    Node B at a minimum, but may be unique in UTRAN. It can be used to tie the cell in the
    RNC to a specific set of resources in the Node B.";
```

-- 5.3.6 uarfcnUl

```
uarfcnUl ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.UarfcnUl;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      uarfcnUlBehaviour;
REGISTERED AS {ts32-644Attribute 6};

uarfcnUlBehaviour BEHAVIOUR
DEFINED AS
   "The UL UTRA absolute Radio Frequency Channel number in an FDD mode cell,
     UARFCN (Ref. 3 GPP TS 25.433).""";
```

-- 5.3.7 uarfcnDl

```
uarfcnDl ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.UarfcnDl;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      uarfcnDlBehaviour;
REGISTERED AS {ts32-644Attribute 7};

uarfcnDlBehaviour BEHAVIOUR
DEFINED AS
   "The DL UTRA absolute Radio Frequency Channel number in an FDD mode cell,
     UARFCN (Ref. 3 GPP TS 25.433).";
```

-- 5.3.8 primaryScramblingCode

```
primaryScramblingCode ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.PrimaryScramblingCode;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      primaryScramblingCodeBehaviour;
REGISTERED AS {ts32-644Attribute 8};

primaryScramblingCodeBehaviour BEHAVIOUR
DEFINED AS
   "The primary DL scrambling code used by the FDD mode cell (Ref. 3 GPP TS 25.433).";
```

-- 5.3.9 primaryCpichPower

```
primaryCpichPower ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.PrimaryCpichPower;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      primaryCpichPowerBehaviour;
REGISTERED AS {ts32-644Attribute 9};

primaryCpichPowerBehaviour BEHAVIOUR
```

```
DEFINED AS
   "The power of the primary CPICH channel in the FDD mode cell (Ref. 3 GPP TS 25.433).";
```

-- 5.3.10 maximumTransmissionPower

```
maximumTransmissionPower ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.MaximumTransmissionPower;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      maximumTransmissionPowerBehaviour;
REGISTERED AS {ts32-644Attribute 10};

maximumTransmissionPowerBehaviour BEHAVIOUR
DEFINED AS
   "The maximum transmission power of a cell, DL Power (Ref. 3 GPP TS 25.433).";
```

-- 5.3.11 primarySchPower

```
primarySchPower ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.PrimarySchPower;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      primarySchPowerBehaviour;
REGISTERED AS {ts32-644Attribute 11};

primarySchPowerBehaviour BEHAVIOUR
DEFINED AS
   "The power of the primary synchronisation channel in the FDD mode cell,
    DL Power (Ref. 3 GPP TS 25.433).";
```

-- 5.3.12 secondarySchPower

```
secondarySchPower ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.SecondarySchPower;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      secondarySchPowerBehaviour;
REGISTERED AS {ts32-644Attribute 12};

secondarySchPowerBehaviour BEHAVIOUR
DEFINED AS
   "The power of the secondary synchronisation channel in the FDD mode cell,
    DL Power (Ref. 3 GPP TS 25.433).";
```

-- 5.3.13 bchPower

```
bchPower ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.BchPower;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      bchPowerBehaviour;
REGISTERED AS {ts32-644Attribute 13};

bchPowerBehaviour BEHAVIOUR
DEFINED AS
   "The power of the broadcast channel in the FDD mode cell (Ref. 3 GPP TS 25.433).";
```

-- 5.3.14 lac

```
lac ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.LocationAreaCode;
   MATCHES FOR
```

```
      EQUALITY;
   BEHAVIOUR
      lacBehaviour;
REGISTERED AS {ts32-644Attribute 14};

lacBehaviour BEHAVIOUR
DEFINED AS
   "Location Area Code, LAC (Ref. 3 GPP TS 23.003)";
```

-- 5.3.15 rac

```
rac ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.Rac;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      racBehaviour;
REGISTERED AS {ts32-644Attribute 15};

racBehaviour BEHAVIOUR
DEFINED AS
   "Routing Area Code, RAC (Ref. 3 GPP TS 23.003)";
```

-- 5.3.16 sac

```
sac ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.Sac;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      sacBehaviour;
REGISTERED AS {ts32-644Attribute 16};

sacBehaviour BEHAVIOUR
DEFINED AS
   "Service Area Code, RAC (Ref. 3 GPP TS 23.003)";
```

-- 5.3.17 ura

-- Void.

-- 5.3.18 utranRelationId

```
utranRelationId ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.GeneralObjectId;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      utranRelationIdBehaviour;
REGISTERED AS {ts32-644Attribute 18};

utranRelationIdBehaviour BEHAVIOUR
DEFINED AS
   "This attribute identifies an utranRelation object.";
```

-- 5.3.19 relationType

-- Void.

-- 5.3.20 adjacentCell

```
adjacentCell ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.GeneralObjectPointer;
   MATCHES FOR
      EQUALITY;
```

```
   BEHAVIOUR
      adjacentCellBehaviour;
REGISTERED AS {ts32-644Attribute 20};

adjacentCellBehaviour BEHAVIOUR
DEFINED AS
   "Pointer to UTRAN cell or external UTRAN cell. Distinguished name of the corresponding object.";
```

-- 5.3.21 externalUtranCellId

```
externalUtranCellId ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.GeneralObjectId;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      adjacentCellBehaviour;
REGISTERED AS {ts32-644Attribute 21};

externalUtranCellIdBehaviour BEHAVIOUR
DEFINED AS
   "This attribute identifies an externalUtranCell object.";
```

-- 5.3.22 rncFunctionId

```
rncFunctionId ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.GeneralObjectId;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      rncFunctionIdBehaviour;
REGISTERED AS {ts32-644Attribute 22};

rncFunctionIdBehaviour BEHAVIOUR
DEFINED AS
   "This attribute names an instance of the 'rncFunction' object class.";
```

-- 5.3.23 utranCellId

```
utranCellId ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.GeneralObjectId;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      utranCellIdBehaviour;
REGISTERED AS {ts32-644Attribute 23};

utranCellIdBehaviour BEHAVIOUR
DEFINED AS
   "This attribute names an instance of the 'utranCell' object class.";
```

-- 5.3.24 utranCell2iubLink

```
utranCell2iubLink ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.GeneralObjectPointer;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      utranCell2iubLinkBehaviour;
REGISTERED AS {ts32-644Attribute 24};

utranCell2iubLinkBehaviour BEHAVIOUR
DEFINED AS
   "This attribute points to the iubLink instance connecting to this utranCell.";
```

-- 5.3.25 iubLinkId

```
iubLinkId ATTRIBUTE
```

```
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.GeneralObjectId;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      iubLinkIdBehaviour;
REGISTERED AS {ts32-644Attribute 25};

iubLinkIdBehaviour BEHAVIOUR
DEFINED AS
   "This attribute names an instance of the 'iubLink' object class.";
```

-- 5.3.26 iubLink2nodeBFunction

```
iubLink2nodeBFunction ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.GeneralObjectPointer;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      iubLink2nodeBFunctionBehaviour;
REGISTERED AS {ts32-644Attribute 26};

iubLink2nodeBFunctionBehaviour BEHAVIOUR
DEFINED AS
   "This attribute points to the nodeBFunction instance which this iubLink instance
    connects directly to.";
```

-- 5.3.27 iubLink2utranCell

```
iubLink2utranCell ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.GeneralObjectPointerList;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      iubLink2utranCellBehaviour;
REGISTERED AS {ts32-644Attribute 27};

iubLink2utranCellBehaviour BEHAVIOUR
DEFINED AS
   "This attribute points from an iubLink instance to a list of utranCell instance";
```

-- 5.3.28 nodeBFunctionId

```
nodeBFunctionId ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.GeneralObjectId;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      nodeBFunctionIdBehaviour;
REGISTERED AS {ts32-644Attribute 28};

nodeBFunctionIdBehaviour BEHAVIOUR
DEFINED AS
   "This attribute names an instance of the 'nodeBFunction' object class.";
```

-- 5.3.29 nodeB2iubLink

```
nodeB2iubLink ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.GeneralObjectPointer;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      nodeB2iubLinkBehaviour;
REGISTERED AS {ts32-644Attribute 29};

nodeB2iubLinkBehaviour BEHAVIOUR
DEFINED AS
   "This attribute points to the IubLink instance which connects to the
    related nodeBFunction instance directly.";
```

-- 5.3.30 uraList

```
uraList ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.UraList;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      uraListBehaviour;
REGISTERED AS {ts32-644Attribute 30};

uraListBehaviour BEHAVIOUR
DEFINED AS
   "List of UTRAN Registration Area, URA (Ref. 3 GPP TS 25.331)";
```

-- 5.3.31 uarfcn

```
uarfcn ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.Uarfcn;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      uarfcnBehaviour;
REGISTERED AS {ts32-644Attribute 310600};

uarfcnBehaviour BEHAVIOUR
DEFINED AS
   "The UTRA absolute Radio Frequency Channel number in a TDD mode cell,
    UARFCN (Ref. 3 GPP TS 25.433).";
```

-- 5.3.32 cellParameterId

```
cellParameterId ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.CellParameterId;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      cellParameterIdBehaviour;
REGISTERED AS {ts32-644Attribute 320600};

cellParameterIdBehaviour BEHAVIOUR
DEFINED AS
   "The [3.84 Mcps TDD - Code Groups, Scrambling Codes, Midambles and Toffset]
   [1.28 Mcps TDD - SYNC-DL and SYNC-UL sequences, the scrambling codes
   and the midamble codes] of the cell (Ref. 3GPP TS 25.433).";
```

-- 5.3.33 primaryCcpchPower

```
primaryCcpchPower ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.PrimaryCcpchPower;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      primaryCcpchPowerBehaviour;
REGISTERED AS {ts32-644Attribute 330600};

primaryCcpchPowerBehaviour BEHAVIOUR
DEFINED AS
   "The power of the primary CCPCH channel in the TDD cell (Ref. 3GPP TS 25.433).";
```

-- 5.3.34 dwPchPower

```
dwPchPower ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.DwPchPower;
   MATCHES FOR
      EQUALITY;
```

```
   BEHAVIOUR
      dwPchPowerBehaviour;
REGISTERED AS {ts32-644Attribute 340600};

dwPchPowerBehaviour BEHAVIOUR
DEFINED AS
   "The power that shall be used for transmitting the DwPCH in a 1.28 Mcps TDD Mode cell.
   (Ref. 3GPP TS 25.433).";
```

-- 5.3.35 timeSlotList

```
timeSlotList ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.TimeSlotList;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      timeSlotListBehaviour;
REGISTERED AS {ts32-644Attribute 350600};

timeSlotListBehaviour BEHAVIOUR
DEFINED AS
   "This attribute defines the time slot list configuration information
   in the 1.28 Mcps TDD or 3.84 Mcps TDD cell,and it is a set which
   contains 7 (for 1.28 Mcps TDD cell) or 15 (for 3.84 Mcps TDD cell) items,
   within each item there are three parts: timeSlotId, timeSlotDirection,
   timeSlotStatus (Ref. 3GPP TS 25.433 [5]).";
```

-- 5.3.36 schPower

```
schPower ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.SchPower;
   MATCHES FOR
        EQUALITY;
   BEHAVIOUR
        schPowerBehaviour;
REGISTERED AS {ts32-644Attribute 360600};

schPowerBehaviour BEHAVIOUR
DEFINED AS
   "The power of the synchronisation channel in 3.84 Mcps TDD cell. (Ref. 3GPP TS 25.433).";
```

-- 5.3.37 cellMode

```
cellMode ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.CellMode;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      cellModeBehaviour;
REGISTERED AS {ts32-644Attribute 370600};

cellModeBehaviour BEHAVIOUR
DEFINED AS
   "This attribute is multivalued and indicates the modes (FDD mode, 1.28McpsTDD mode, 3.84Mcps).";
```

-- 5.3.38 iubLink2aTMChannelTerminationPoint

```
iubLink2aTMChannelTerminationPoint ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.GeneralObjectPointerList;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      iubLink2aTMChannelTerminationPointBehaviour;
REGISTERED AS {ts32-644Attribute 380600};

iubLink2aTMChannelTerminationPointBehaviour BEHAVIOUR
DEFINED AS
   "The attribute iubLink2aTMChannelTerminationPoint points to the ATMChannelTerminationPoint
    instances associated to the IubLink holding this attribute.";
```

-- 5.3.39 retAntennaFunctionList

```
retAntennaFunctionListR0610 ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.GeneralObjectPointerList;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      retAntennaFunctionListR0610Behaviour;
REGISTERED AS {ts32-644Attribute 390610};

retAntennaFunctionListR0610Behaviour BEHAVIOUR
DEFINED AS
   "The attribute retAntennaFunctionListR0610 points to the antennaFunction
    instance(s) associated to the utranCell holding this attribute.";
```

-- 5.3.40 antennaFunctionId

```
antennaFunctionIdR0610 ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.GeneralObjectId;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      antennaFunctionIdR0610Behaviour;
REGISTERED AS {ts32-644Attribute 400610};

antennaFunctionIdR0610Behaviour BEHAVIOUR
DEFINED AS
   "This attribute names an instance of the ‘antennaFunctionIdR0610’ object class.";
```

-- 5.3.41 retUtranCellList

```
retUtranCellListR0610 ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.GeneralObjectPointerList;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      retUtranCellListR0610Behaviour;
REGISTERED AS {ts32-644Attribute 410610};

retUtranCellListR0610Behaviour BEHAVIOUR
DEFINED AS
   "This attribute retUtranCellList points to the utranCell instance(s( associated to the
    antennaFunction holding this attribute. i.e. to the utranCells(s) which are supported
    by the antenna.";
```

-- 5.3.42 retTiltValue

```
retTiltValueR0610 ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.Angle;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      retTiltValueR0610Behaviour;
REGISTERED AS {ts32-644Attribute 420610};

retTiltValueR0610Behaviour BEHAVIOUR
DEFINED AS
   "This attribute represents the tilt value of the antenna that has been made
    using electrical means (i.e. using RET).";
```

-- 5.3.43 compassDirection

```
compassDirectionR0610 ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.Angle;
   MATCHES FOR
```

```
      EQUALITY;
   BEHAVIOUR
      compassDirectionR0610Behaviour;
REGISTERED AS {ts32-644Attribute 430610};

compassDirectionR0610Behaviour BEHAVIOUR
DEFINED AS
   "This attribute represents the compass direction in degrees (magnetic) that the
    antenna is pointing in.";
```

-- 5.3.44 maxTiltValue

```
maxTiltValueR0610 ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.Angle;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      maxTiltValueR0610Behaviour;
REGISTERED AS {ts32-644Attribute 440610};

maxTiltValueR0610Behaviour BEHAVIOUR
DEFINED AS
   "This attribute represents the maximum amount of tilt the RET system can support.";
```

-- 5.3.45 minTiltValue

```
minTiltValueR0610 ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.Angle;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      minTiltValueR0610Behaviour;
REGISTERED AS {ts32-644Attribute 450610};

minTiltValueR0610Behaviour BEHAVIOUR
DEFINED AS
   "This attribute represents the minimum amount of tilt the RET system can support. ";
```

-- 5.3.46 mechanicalOffset

```
mechanicalOffsetR0610 ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.Angle;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      mechanicalOffsetR0610Behaviour;
REGISTERED AS {ts32-644Attribute 460610};

mechanicalOffsetR0610Behaviour BEHAVIOUR
DEFINED AS
   "This attribute represents a non-adjustable tilt value, which is imparted to the antenna due to
the physical installation. The actual tilt at any point in time is the summation of mechanicalOffset
and retTiltValue.";
```

-- 5.3.47 retGroupName

```
retGroupNameR0610 ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.RetGroupName;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      retGroupNameR0610Behaviour;
REGISTERED AS {ts32-644Attribute 470610};

retGroupNameR0610Behaviour BEHAVIOUR
DEFINED AS
   "This attribute provides the possibility to define a logical grouping of antennas which may be in
different cells.";
```

-- 5.3.48 height

```
heightR0610 ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.Height;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      heightR0610Behaviour;
REGISTERED AS {ts32-644Attribute 480610};

heightR0610Behaviour BEHAVIOUR
DEFINED AS
   "This attribute represents the height of an antenna above sea level.";
```

-- 5.3.49 controllingRnc

```
controllingRnc ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.ControllingRnc;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      controllingRncBehaviour;
REGISTERED AS {ts32-644Attribute 490620};

controllingRncBehaviour BEHAVIOUR
DEFINED AS
   "This attribute represents ExternalUtranCell capability to identify one related
    ExternalRncFunction. It contains one ExternalRncFunction's DN.";
```

-- 5.3.50 controlledCellList

```
controlledCellList ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.ControlledCellList;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      controlledCellListBehaviour;
REGISTERED AS {ts32-644Attribute 500620};

controlledCellListBehaviour BEHAVIOUR
DEFINED AS
   "This attribute represents represents the capability to identify the set of related
    ExternalUtranCell. It contains the set of ExternalUtranCell's DNs..";
```

-- 5.3.51 externalRncFunctionId

```
externalRncFunctionId ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.GeneralObjectId;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      externalRncFunctionIdBehaviour;
REGISTERED AS {ts32-644Attribute 510620};

externalRncFunctionIdBehaviour BEHAVIOUR
DEFINED AS
   "This attribute names an instance of the ExternalRncFunction object class.";
```

-- 5.4 Name Binding

-- 5.4.1 rncFunction - managedElement

```
rncFunctionR55-managedElement NAME BINDING
   SUBORDINATE OBJECT CLASS
      rncFunctionR55;
   NAMED BY SUPERIOR OBJECT CLASS
```

```
      "3GPP TS 32.624": managedElement;
   WITH ATTRIBUTE
      rncFunctionId;
   BEHAVIOUR
      rncFunctionR55-managedElementBehaviour;
   CREATE
      WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
   DELETE
      ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-644NameBinding 15};

rncFunctionR55-managedElementBehaviour BEHAVIOUR
DEFINED AS
   "The name binding represents a relationship in which a managedElement contains
    and controls a rncFunctionR55. When automatic instance naming is used, the choice
    of name bindings is left as a local matter.";
```

-- 5.4.2 nodeBFunction - managedElement

```
nodeBFunction-managedElement NAME BINDING
   SUBORDINATE OBJECT CLASS
      nodeBFunction;
   NAMED BY SUPERIOR OBJECT CLASS
      "3GPP TS 32.624": managedElement;
   WITH ATTRIBUTE
      nodeBFunctionId;
   BEHAVIOUR
      nodeBFunction-managedElementBehaviour;
   CREATE
      WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
   DELETE
      ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-644NameBinding 2};

nodeBFunction-managedElementBehaviour BEHAVIOUR
DEFINED AS
   "The name binding represents a relationship in which a managedElement contains
    and controls a nodeBFunction. When automatic instance naming is used, the choice
    of name bindings is left as a local matter.";
```

-- 5.4.3 utranCell - rncFunction

```
utranCellR0610-rncFunctionR55 NAME BINDING
   SUBORDINATE OBJECT CLASS
      utranCellR0610;
   NAMED BY SUPERIOR OBJECT CLASS
      rncFunctionR55;
   WITH ATTRIBUTE
      utranCellId;
   BEHAVIOUR
      utranCellR0610-rncFunctionR55Behaviour;
   CREATE
      WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
   DELETE
      ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-644NameBinding 30610};

utranCellR0610-rncFunctionR55Behaviour BEHAVIOUR
DEFINED AS
   "The name binding represents a relationship in which a rncFunctionR55 contains
    and controls an utranCell. When automatic instance naming is used, the choice
    of name bindings is left as a local matter.";
```

-- 5.4.4 utranRelation - utranCell

```
utranRelationR0600-utranCellR0610 NAME BINDING
   SUBORDINATE OBJECT CLASS
      utranRelationR0600;
   NAMED BY SUPERIOR OBJECT CLASS
      utranCellR0610;
   WITH ATTRIBUTE
      utranRelationId;
   BEHAVIOUR
      utranRelationR0600-utranCellR0610Behaviour;
```

```
   CREATE
      WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
   DELETE
      ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-644NameBinding 40610};

utranRelationR0600-utranCellR0610Behaviour BEHAVIOUR
DEFINED AS
   "The name binding represents a relationship in which an utranCell contains
    and controls an utranRelation. When automatic instance naming is used, the choice
    of name bindings is left as a local matter.";
```

-- 5.4.5 externalUtranCell - subNetwork

```
externalUtranCellR06200-subNetworkR60 NAME BINDING
   SUBORDINATE OBJECT CLASS
      externalUtranCellR06200;
   NAMED BY SUPERIOR OBJECT CLASS
      "3GPP TS 32.624": subNetworkR60;
   WITH ATTRIBUTE
      externalUtranCellId;
   BEHAVIOUR
      externalUtranCellR0600-subNetworkR60Behaviour;
   CREATE
      WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
   DELETE
      ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-644NameBinding 506200};

externalUtranCellR0600-subNetworkR60Behaviour BEHAVIOUR
DEFINED AS
   "The name binding represents a relationship in which a subNetworkR60 contains
   and controls an externalUtranCellR06200. When automatic instance naming is used, the choice
   of name bindings is left as a local matter.";
```

-- 5.4.6 vsDataContainer - rncFunction

-- Void.

-- 5.4.7 vsDataContainer - nodeBFunction

-- Void.

-- 5.4.8 vsDataContainer - utranCell

-- Void.

-- 5.4.9 vsDataContainer - utranRelation

-- Void.

-- 5.4.10 iubLink - rncFunction

```
iubLinkR0600-rncFunctionR55 NAME BINDING
   SUBORDINATE OBJECT CLASS
      iubLinkR0600;
   NAMED BY SUPERIOR OBJECT CLASS
      rncFunctionR55;
   WITH ATTRIBUTE
      iubLinkId;
   BEHAVIOUR
      iubLinkR0600-rncFunctionR55Behaviour;
   CREATE
      WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
   DELETE
      ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-644NameBinding 100600};

iubLinkR0600-rncFunctionR55Behaviour BEHAVIOUR
```

```
DEFINED AS
   "The name binding represents a relationship in which a rncFunctionR55 contains
    and controls a iubLinkR0600. When automatic instance naming is used, the choice
    of name bindings is left as a local matter.";
```

-- 5.4.11 gsmRelation - utranCell

```
gsmRelation-utranCellR0610 NAME BINDING
   SUBORDINATE OBJECT CLASS
      "3GPP TS 32.654": gsmRelation;
   NAMED BY SUPERIOR OBJECT CLASS
      utranCellR0610;
   WITH ATTRIBUTE
      "3GPP TS 32.654": gsmRelationId;
   BEHAVIOUR
      gsmRelation-utranCellR0610Behaviour;
   CREATE
      WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
   DELETE
      ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-644NameBinding 110610};

gsmRelation-utranCellR0610Behaviour BEHAVIOUR
DEFINED AS
   "The name binding represents a relationship in which an utranCell contains
    and controls a gsmRelation. When automatic instance naming is used, the choice
    of name bindings is left as a local matter.";
```

-- 5.4.12 antennaFunctionR0610 - managedElement

```
antennaFunctionR0610-managedElement NAME BINDING
   SUBORDINATE OBJECT CLASS
      antennaFunctionR0610;
   NAMED BY SUPERIOR OBJECT CLASS
      "3GPP TS 32.624": managedElement;
   WITH ATTRIBUTE
      antennaFunctionIdR0610;
   BEHAVIOUR
      antennaFunctionR0610-managedElementBehaviour;
   CREATE
      WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
   DELETE
      ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-644NameBinding 200610};

antennaFunctionR0610-managedElementBehaviour BEHAVIOUR
DEFINED AS
   "The name binding represents a relationship in which a managedElement contains
    and controls a antennaFunctionR0610. When automatic instance naming is used, the choice
    of name bindings is left as a local matter.";
```

-- 5.4.13 externalRncFunction~~antennaFunctionR0610~~ - subNetwork

```
externalRncFunction-subNetworkR60 NAME BINDING
   SUBORDINATE OBJECT CLASS
      externalRncFunction;
   NAMED BY SUPERIOR OBJECT CLASS
      "3GPP TS 32.624": subNetworkR60;
   WITH ATTRIBUTE
      externalRncFunctionId;
   BEHAVIOUR
      externalRncFunction-subNetworkR60Behaviour;
   CREATE
      WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
   DELETE
      ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-644NameBinding 130620};

externalRncFunction-subNetworkR60Behaviour BEHAVIOUR
DEFINED AS
   "The name binding represents a relationship in which a subNetworkR60 contains
    and controls a externalRncFunction. When automatic instance naming is used, the choice
    of name bindings is left as a local matter.";
```

End of Change in Clause 5

Change in Clause 6

6 ASN.1 Definitions

```
TS32-644TypeModule {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0) umts-Operation-
Maintenance(3) ts32-644(644) informationModel(0) asn1Module(2) version10610(10610)}


DEFINITIONS IMPLICIT TAGS ::=
BEGIN

--EXPORTS everything

IMPORTS

GeneralObjectId, GeneralObjectPointer, GeneralObjectPointerList
   FROM TS32-624TypeModule {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0)
   umts-Operation-Maintenance(3) ts32-624(624) informationModel(0) asn1Module(2) version1(1)}

MobileCountryCode, MobileNetworkCode, LocationAreaCode
   FROM GSM1220TypeModule {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0)
   gsm-Operation-Maintenance(3) gsm-12-20(20) informationModel(0) asn1Module(2)
   asn1TypeModule(0)};


-- 3GPP TS 32.644 related Object Identifiers

baseNodeUMTS           OBJECT IDENTIFIER ::= {itu-t(0) identified-organization(4) etsi(0)
                                              mobileDomain(0) umts-Operation-Maintenance(3)}

ts32-644               OBJECT IDENTIFIER ::= {baseNodeUMTS ts32-644(644)}
ts32-644InfoModel      OBJECT IDENTIFIER ::= {ts32-644 informationModel(0)}

ts32-644ObjectClass    OBJECT IDENTIFIER ::= {ts32-644InfoModel managedObjectClass(3)}
ts32-644Package        OBJECT IDENTIFIER ::= {ts32-644InfoModel package(4)}
ts32-644Parameter      OBJECT IDENTIFIER ::= {ts32-644InfoModel parameter(5)}
ts32-644NameBinding    OBJECT IDENTIFIER ::= {ts32-644InfoModel nameBinding(6)}
ts32-644Attribute      OBJECT IDENTIFIER ::= {ts32-644InfoModel attribute(7)}
ts32-644Action         OBJECT IDENTIFIER ::= {ts32-644InfoModel action(9)}
ts32-644Notification   OBJECT IDENTIFIER ::= {ts32-644InfoModel notification(10)}


-- Start of 3GPP SA5 own definitions

Angle ::= INTEGER (0..359)

BchPower ::= INTEGER

CellMode ::= ENUMERATED
   {
   fddMode                 (0),
   one-28McpsTDDMode       (1),
   three-84McpsTDDMode     (2)
   }

CellParameterId ::= INTEGER (0..127)

CId ::= INTEGER

ControlledCellList ::= GeneralObjectPointerList

ControllingRnc ::= GeneralObjectPointer

DwPchPower ::= INTEGER (-150..400)

Height ::= INTEGER

Lac ::= INTEGER

LocalCellId ::= INTEGER
```

```
MaximumTransmissionPower ::= INTEGER

PrimaryCcpchPower ::= INTEGER (-150..400)

PrimaryCpichPower ::= INTEGER

PrimarySchPower ::= INTEGER

PrimaryScramblingCode ::= INTEGER

Rac ::= INTEGER

RetGroupName ::= GraphicString

RncId ::= INTEGER

Sac ::= INTEGER

SchPower ::= INTEGER (-350..150)

SecondarySchPower ::= INTEGER

TimeSlotDirection ::= ENUMERATED
   {
   ul      (0),
   dl      (1)
   }

TimeSlotId ::= INTEGER

TimeSlotList ::= SET OF SEQUENCE
   {
   timeSlotId             TimeSlotId,    -- range of timeSlotId: (0…6 ),
                                         -- when applied to 1.28Mcps TDD Mode Cell
                                         -- range of timeSlotId: (0…14),
                                         -- when applied to 3.84Mcps TDD Mode Cell
   timeSlotDirection      TimeSlotDirection,
   timeSlotStatus         TimeSlotStatus
   }

TimeSlotStatus ::= ENUMERATED
   {
   active        (0),
   not-active    (1)
   }

Uarfcn ::= INTEGER

UarfcnDl ::= INTEGER

UarfcnUl ::= INTEGER

UraList ::= SET OF INTEGER

END -- of TS32-644TypeModule
```

End of Change in Clause 6

Change in Annex A

Annex A (informative):
List of assigned Object Identifiers

This annex provides a list with all object identifiers that have been assigned in TS 32.644 in Release 5 up to V5.6.0 and in Release 6 up to the latest version. These object identifiers shall not be assigned to new objects.

Basic Object Name	Name and OID of the current TS Version	Name and OIDs of previous TS Versions
Managed Object Classes		
rncFunction	Name: rncFunctionR55 OID : ts32-644ObjectClass 8	Name: rncFunction OID : ts32-644ObjectClass 1
utranCell	Name: utranCellR0610 OID : ts32-644ObjectClass 20610	Name: utranCellR55 OID : ts32-644ObjectClass 9 Name: utranCellR54 OID : ts32-644ObjectClass 7 Name: utranCell OID : ts32-644ObjectClass 2 Name: utranCellR0600 OID : ts32-644ObjectClass 20600
utranRelation	Name: utranRelationR0600 OID : ts32-644ObjectClass 30600	Name: utranRelation OID : ts32-644ObjectClass 3
externalUtranCell	Name: externalUtranCellR06200 OID : ts32-644ObjectClass 406200	Name: externalUtranCellR0506 OID : ts32-644ObjectClass 40506 Name: externalUtranCell OID : ts32-644ObjectClass 4 Name: externalUtranCellR0600 OID : ts32-644ObjectClass 40600
iubLink	Name: iubLinkR0600 OID : ts32-644ObjectClass 50600	Name: iubLink OID : ts32-644ObjectClass
nodeBFunction	Name: nodeBFunction OID : ts32-644ObjectClass 6	--
antennaFunction	Name: antennaFunctionR0610 OID : ts32-644ObjectClass 70610	--
externalRncFunction	Name: externalRncFunction OID : ts32-644ObjectClass 80620	--
Packages		
rncFunctionHandoverPackage	Name: rncFunctionHandoverPackageR55 OID : ts32-644Package 14	Name: rncFunctionHandoverPackage OID : ts32-644Package 1
utranCellHandoverPackage	Name: utranCellHandoverPackageR0600 OID : ts32-644Package 20600	Name: utranCellHandoverPackageR55 OID : ts32-644Package 15 Name: utranCellHandoverPackageR54 OID : ts32-644Package 13 Name: utranCellHandoverPackage OID ts32-644Package 2
utranRelationBasicPackage	Name: utranRelationBasicPackageR0600 OID : ts32-644Package 30600	Name: utranRelationBasicPackage OID : ts32-644Package 3
utranRelationAssociationPackage	Name: utranRelationAssociationPackage OID ts32-644Package 4	--
externalUtranCellPackage	Name: externalUtranCellPackageR0600 OID : ts32-644Package 50600	Name: externalUtranCellPackageR0506 OID : ts32-644Package 50506 Name: externalUtranCellPackage OID : ts32-644Package 5
rncFunctionBasicPackage	Name: rncFunctionBasicPackage OID : ts32-644Package 6	--
utranCellBasicPackage	Name: utranCellBasicPackage OID : ts32-644Package 7	--
utranCellAssociationPackage	Name: utranCellAssociationPackage OID : ts32-644Package 8	--
utranCellRetPackage	Name: utranCellRetPackageR0610 OID : ts32-644Package 210610	
iubLinkBasicPackage	Name: iubLinkBasicPackage OID : ts32-644Package 9	--
iubLinkAssociationPackage	Name: iubLinkAssociationPackage OID : ts32-644Package 10	--
nodeBFunctionBasicPackage	Name: nodeBFunctionBasicPackage OID : ts32-644Package 11	--

nodeBFunctionAssociationPackage	Name: nodeBFunctionAssociationPackage OID : ts32-644Package 12	--
utranFDDCellHandoverPackage	Name: utranFDDCellHandoverPackage OID : ts32-644Package 130600	--
utran1-28McpsTDDCellHandoverPackage	Name: utran1-28McpsTDDCellHandoverPackage OID : ts32-644Package 140600	--
utran3-84McpsTDDCellHandoverPackage	Name: utran3-84McpsTDDCellHandoverPackage OID : ts32-644Package 150600	--
utranRelationFDDHandoverPackage	Name: utranRelationFDDHandoverPackage OID : ts32-644Package 160600	--
utranRelationTDDHandoverPackage	Name: utranRelationTDDHandoverPackage OID : ts32-644Package 170600	--
externalUtranFDDCellHandoverPackage	Name: externalUtranFDDCellHandoverPackage OID : ts32-644Package 180600	--
externalUtranTDDCellHandoverPackage	Name: externalUtranTDDCellHandoverPackage OID : ts32-644Package 190600	--
iubLink2aTMChannelTerminationPointAssociationPackage	Name: iubLink2aTMChannelTerminationPointAssociationPackage OID : ts32-644Package 200600	--
antennaFunctionBasicPackage	Name: antennaFunctionBasicPackageR0610 OID : ts32-644Package 220610	--
antennaFunctionOptionalPackage	Name: antennaFunctionOptionalPackageR0610 OID : ts32-644Package 230610	--
~~controllingRncPackage~~externalUtranCellAssociationPackage	Name: ~~controllingRncPackage~~externalUtranCellAssociationPackage OID : ts32-644Package 240620	--
externalRncFunctionBasicPackage	Name: externalRncFunctionBasicPackage OID : ts32-644Package 250620	--
~~externalRncFunctionOptionalPackage~~externalRncFunctionAssociationPackage	Name: ~~externalRncFunctionOptionalPackage~~externalRncFunctionAssociationPackage OID : ts32-644Package 260620	--
Actions		
Notifications		
Attributes		
Mcc	Name: mcc OID : ts32-644Attribute 1	--
Mnc	Name: mnc OID : ts32-644Attribute 2	--
rncId	Name: rncIdR55 OID : ts32-644Attribute 31	Name: rncId OID : ts32-644Attribute 3
cId	Name: cIdR55 OID : ts32-644Attribute 32	Name: cId OID : ts32-644Attribute 4
localCellId	Name: localCellIdR55 OID : ts32-644Attribute 33	Name: localCellId OID : ts32-644Attribute 5
uarfcnUl	Name: uarfcnUl OID : ts32-644Attribute 6	--
uarfcnDl	Name: uarfcnDl OID : ts32-644Attribute 7	--
primaryScramblingCode	Name: primaryScramblingCode OID : ts32-644Attribute 8	--
primaryCpichPower	Name: primaryCpichPower OID : ts32-644Attribute 9	--
maximumTransmissionPower	Name: maximumTransmissionPower OID : ts32-644Attribute 10	--
primarySchPower	Name: primarySchPower OID : ts32-644Attribute 11	--
secondarySchPower	Name: secondarySchPower OID : ts32-644Attribute 12	--
bchPower	Name: bchPower OID : ts32-644Attribute 13	--
Lac	Name: lac OID : ts32-644Attribute 14	--
Rac	Name: rac OID : ts32-644Attribute 15	--
Sac	Name: sac OID : ts32-644Attribute 16	--

Ura	--	Name: ura OID : ts32-644Attribute 17
utranRelationId	Name: utranRelationId OID : ts32-644Attribute 18	--
relationType	--	Name: relationType OID : ts32-644Attribute 19
adjacentCell	Name: adjacentCell OID : ts32-644Attribute 20	--
externalUtranCellId	Name: externalUtranCellId OID : ts32-644Attribute 21	--
rncFunctionId	Name: rncFunctionId OID : ts32-644Attribute 22	--
utranCellId	Name: utranCellId OID : ts32-644Attribute 23	--
utranCell2iubLink	Name: utranCell2iubLink OID : ts32-644Attribute 24	--
iubLinkId	Name: iubLinkId OID : ts32-644Attribute 25	--
iubLink2nodeBFunction	Name: iubLink2nodeBFunction OID : ts32-644Attribute 26	--
iubLink2utranCell	Name: iubLink2utranCell OID : ts32-644Attribute 27	--
nodeBFunctionId	Name: nodeBFunctionId OID : ts32-644Attribute 28	--
nodeB2iubLink	Name: nodeB2iubLink OID : ts32-644Attribute 29	--
uraList	Name: uraList OID : ts32-644Attribute 30	--
Uarfcn	Name: uarfcn OID : ts32-644Attribute 310600	--
cellParameterId	Name: cellParameterId OID : ts32-644Attribute 320600	--
primaryCcpchPower	Name: primaryCcpchPower OID : ts32-644Attribute 330600	--
dwPchPower	Name: dwPchPower OID : ts32-644Attribute 340600	--
timeSlotList	Name: timeSlotList OID : ts32-644Attribute 350600	--
schPower	Name: schPower OID : ts32-644Attribute 360600	--
cellMode	Name: cellMode OID : ts32-644Attribute 370600	--
iubLink2aTMChannelTerminationPoint	Name: iubLink2aTMChannelTerminationPoint OID : ts32-644Attribute 380600	--
retAntennaFunctionList	Name: retAntennaFunctionListR0610 OID : ts32-644Attribute 390610	--
antennaFunctionId	Name: antennaFunctionIdR0610 OID : ts32-644Attribute 400610	--
retUtranCellList	Name: retUtranCellListR0610 OID : ts32-644Attribute 410610	--
retTiltValue	Name: retTiltValueR0610 OID : ts32-644Attribute 420610	--
compassDirection	Name: compassDirectionR0610 OID : ts32-644Attribute 430610	--
maxTiltValue	Name: maxTiltValueR0610 OID : ts32-644Attribute 440610	--
minTiltValue	Name: minTiltValueR0610 OID : ts32-644Attribute 450610	--
mechanicalOffset	Name: mechanicalOffsetR0610 OID : ts32-644Attribute 460610	--
retGroupName	Name: retGroupNameR0610 OID : ts32-644Attribute 470610	--
height	Name: heightR0610 OID : ts32-644Attribute 480610	--
controllingRnc	Name: controllingRnc OID : ts32-644Attribute 490620	--

controlledCellList	Name: controlledCellList OID : ts32-644Attribute 500620	--
externalRncFunctionId	Name: externalRncFunctionId OID : ts32-644Attribute 510620	--
Parameters		
Name Bindings		
rncFunction-managedElement	Name: rncFunctionR55-managedElement OID : ts32-644NameBinding 15	Name: rncFunction-managedElement OID : ts32-644NameBinding 1
nodeBFunction-managedElement	Name: nodeBFunction-managedElement OID : ts32-644NameBinding 2	--
utranCell-rncFunction	Name: utranCellR0610-rncFunctionR55 OID : ts32-644NameBinding 30610	Name: utranCellR55-rncFunctionR55 OID : ts32-644NameBinding 17 Name: utranCellR54-rncFunction OID : ts32-644NameBinding 12 Name: utranCell-rncFunction OID : ts32-644NameBinding 3 Name: utranCellR0600-rncFunctionR55 OID : ts32-644NameBinding 30600
utranRelation-utranCell	Name: utranRelationR0600-utranCellR0610 OID : ts32-644NameBinding 40610	Name: utranRelation-utranCellR55 OID : ts32-644NameBinding 18 Name: utranRelation-utranCellR54 OID : ts32-644NameBinding 13 Name: utranRelation-utranCell OID : ts32-644NameBinding 4 Name: utranRelationR0600-utranCellR0600 OID : ts32-644NameBinding 40600
externalUtranCell - subNetwork	Name: externalUtranCellR0600-subNetworkR60 OID : ts32-644NameBinding 506200	Name: externalUtranCellR0506-subNetwork OID : ts32-644NameBinding 50506 Name: externalUtranCell-subNetwork OID : ts32-644NameBinding 5 Name: externalUtranCellR0600-subNetwork OID : ts32-644NameBinding 50600
vsDataContainer-rncFunction	--	Name: vsDataContainer-rncFunction OID : ts32-644NameBinding 6
vsDataContainer-nodeBFunction	--	Name: vsDataContainer-nodeBFunction OID : ts32-644NameBinding 7
vsDataContainer-utranCell	--	Name: vsDataContainer-utranCell OID : : ts32-644NameBinding 8
vsDataContainer-utranRelation	--	Name: vsDataContainer-utranRelation OID : ts32-644NameBinding 9
iubLink-rncFunction	Name: iubLinkR0600-rncFunctionR55 OID : ts32-644NameBinding 100600	Name: iubLink-rncFunctionR55 OID : ts32-644NameBinding 16 Name: iubLink-rncFunction OID : ts32-644NameBinding 10
gsmRelation-utranCell	Name: gsmRelation-utranCellR0610 OID : ts32-644NameBinding 110610	Name: gsmRelation-utranCellR55 OID : ts32-644NameBinding 19 Name: gsmRelation-utranCellR54 OID : ts32-644NameBinding 14 Name: gsmRelation-utranCell OID : ts32-644NameBinding 11 Name: gsmRelation-utranCellR0600 OID : ts32-644NameBinding 110600
antennaFunctionR0610-managedElement	Name: antennaFunctionR0610-managedElement OID : ts32-644NameBinding 200610	--
externalRncFunction-subNetwork	Name: externalRncFunction-subNetworkR60 OID : ts32-644NameBinding 130620	--

End of Change in Annex A

End of Document

Annex B (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Jun 2001	S_12	SP-010283	--	--	Approved at TSG SA #12 and placed under Change Control	2.0.0	4.0.0
Sep 2001	S_13	SP-010478	001	--	Correction due to TS renumbering	4.0.0	4.1.0
Sep 2002	--	--	--	--	Cosmetics/Styles	4.1.0	4.1.1
Dec 2002	S_18	SP-020749	007	--	Alignment of the CMIP SS with the Rel-5 version of the IS in 32.642	4.1.1	5.0.0
Jun 2003	S_20	SP-030283	003	--	Removal of relationType	5.0.0	5.1.0
Sep 2003	S_21	SP-030420	004	--	Correction of wrong attribute name	5.1.0	5.2.0
Dec 2003	S_22	SP-030646	009	--	Correction of the number of possible URAs from 1 to 8	5.2.0	5.3.0
Dec 2003	S_22	SP-030642	010	--	Add notifications to functional objects - Align with 32.642 (IS)	5.2.0	5.3.0
Mar 2004	S_23	SP-040132	011	--	Correction of OIDs of the MOCs, packages and attributes affected by the change from ura to uraList	5.3.0	5.4.0
Jun 2004	S_24	SP-040255	012	--	Correction of type of the attributes cId, localCellId and rncId	5.4.0	5.5.0
Jun 2004	S_24	SP-040254	013	--	The specification does not support all UMTS frequency bands	5.4.0	5.5.0
Sep 2004	S_25	SP-040591	014	--	Correction of the types of the attributes cId, localCellId and rncId	5.5.0	5.6.0
Dec 2004	S_26	SP-040810	015	--	Add support for the TDD mode, the state change notification and ATM management – Align with 32.642	5.6.0	6.0.0
Mar 2005	S_27	SP-050048	016	--	Add RET support – Align with 32.642 Configuration Management UTRAN network resources IRP NRM	6.0.0	6.1.0

CR-Form-v7.1

CHANGE REQUEST

⌘ **32.645** **CR** **0023** ⌘**rev** **-** ⌘ Current version: **6.3.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ [ ] ME [ ] Radio Access Network [X] Core Network [ ]

Title: ⌘ Corrections to XML schema definition

Source: ⌘ SA5 (islip@lucent.com)

Work item code: ⌘ OAM-NIM ***Date:*** ⌘ 13/05/2005

Category: ⌘ **F** ***Release:*** ⌘ Rel-6

Use one of the following categories:
- ***F*** *(correction)*
- ***A*** *(corresponds to a correction 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.

Use one of the following releases:

Ph2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*
Rel-7	*(Release 7)*

Reason for change: ⌘ UTRAN NRM's XML is not well formed and hence not usable

Summary of change: ⌘ Corrects xsd to make well formed and aligns with solution set definitions for tilt values

Re names Antenna to AntennaFunction to align with the IS.

Removes the AntennaId definition is not needed as AntennaFunction is an extension of the xn:NrmClass.

Change constraints on retGroupName to be a length of 80 which is suited to string types

Change name of retAntennaList to be retAntennaFunctionList

Define a new common type "angleValue" with a maximum value which align with IS.

Amend definitions to use the "angleValue" definition for retTiltValue, maxTiltValue, minTiltValue and mechanicalOffset

Change definition of compass direction to be a short

remove the minimum value restriction on "height"

Consequences if not approved: ⌘ XML is not well formed.

Inconsistency with the Information service specification

Clauses affected: ⌘ Annex A, Annex B

	Y	N		
Other specs affected: ⌘		N	Other core specifications	⌘
		N	Test specifications	
		N	O&M Specifications	

Other comments: ⌘

Change in Annex A

Annex A (normative): Configuration data file NRM-specific XML schema (file name "utranNrm.xsd")

The following XML schema utranNrm.xsd is the NRM-specific schema for the UTRAN Network Resources IRP NRM defined in 3GPP TS 32.642 [1]:

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

<!--
  3GPP TS 32.645 UTRAN Network Resources IRP
  Bulk CM Configuration data file NRM-specific XML schema
  utranNrm.xsd
-->

<schema
  targetNamespace=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.645#utranNrm"
  elementFormDefault="qualified"
  xmlns="http://www.w3.org/2001/XMLSchema"
  xmlns:xn=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.625#genericNrm"
  xmlns:un=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.645#utranNrm"
  xmlns:gn=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.655#geranNrm"
  xmlns:sm=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.675#stateManagementIRP"
>

  <import
    namespace=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.625#genericNrm"
  />
  <import
    namespace=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.655#geranNrm"
  />
  <import
    namespace=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.675#stateManagementIRP"
  />

  <!-- UTRAN Network Resources IRP NRM attribute related XML types -->

  <simpleType name="localCellId">
    <restriction base="integer">
      <minInclusive value="0"/>
      <maxInclusive value="268435455"/>
    </restriction>
  </simpleType>

  <simpleType name="cId">
    <restriction base="integer">
      <minInclusive value="0"/>
      <maxInclusive value="65535"/>
    </restriction>
  </simpleType>

  <simpleType name="uarfcnAnyMode">
    <restriction base="integer">
      <minInclusive value="0"/>
      <maxInclusive value="16383"/>
    </restriction>
  </simpleType>

  <simpleType name="primaryScramblingCode">
    <restriction base="integer">
      <minInclusive value="0"/>
      <maxInclusive value="511"/>
```

```
    </restriction>
  </simpleType>

  <simpleType name="primaryCpichTxPower">
    <restriction base="decimal">
      <fractionDigits value="1"/>
      <minInclusive value="-10"/>
      <maxInclusive value="+50"/>
    </restriction>
  </simpleType>

  <simpleType name="maximumTransmissionPower">
    <restriction base="decimal">
      <fractionDigits value="1"/>
      <minInclusive value="0"/>
      <maxInclusive value="50"/>
    </restriction>
  </simpleType>

  <simpleType name="primarySchPower">
    <restriction base="decimal">
      <fractionDigits value="1"/>
      <minInclusive value="-35"/>
      <maxInclusive value="+15"/>
    </restriction>
  </simpleType>

  <simpleType name="secondarySchPower">
    <restriction base="decimal">
      <fractionDigits value="1"/>
      <minInclusive value="-35"/>
      <maxInclusive value="+15"/>
    </restriction>
  </simpleType>

  <simpleType name="bchPower">
    <restriction base="decimal">
      <fractionDigits value="1"/>
      <minInclusive value="-35"/>
      <maxInclusive value="+15"/>
    </restriction>
  </simpleType>

  <simpleType name="lac">
   <union>
    <simpleType>
     <restriction base="integer">
      <minInclusive value="1"/>
      <maxInclusive value="65533"/>
     </restriction>
    </simpleType>
    <simpleType>
     <restriction base="integer">
      <minInclusive value="65535"/>
      <maxInclusive value="65535"/>
     </restriction>
    </simpleType>
   </union>
  </simpleType>

  <simpleType name="rac">
    <restriction base="integer">
      <minInclusive value="0"/>
      <maxInclusive value="255"/>
    </restriction>
  </simpleType>

  <simpleType name="sac">
    <restriction base="integer">
      <minInclusive value="0"/>
      <maxInclusive value="65535"/>
    </restriction>
  </simpleType>

  <complexType name="uraList">
    <sequence>
      <element name="ura" minOccurs="1" maxOccurs="8">
        <simpleType>
```

```
        <restriction base="integer">
          <minInclusive value="0"/>
          <maxInclusive value="65535"/>
        </restriction>
      </simpleType>
    </element>
  </sequence>
</complexType>

<simpleType name="cellMode">
  <restriction base="string">
    <enumeration value="FDDMode"/>
    <enumeration value="3-84McpsTDDMode"/>
    <enumeration value="1-28McpsTDDMode"/>
  </restriction>
</simpleType>

<simpleType name="cellParameterId">
  <restriction base="integer">
    <minInclusive value="0"/>
    <maxInclusive value="127"/>
  </restriction>
</simpleType>

<simpleType name="primaryCcpchPower">
  <restriction base="decimal">
    <fractionDigits value="1"/>
    <minInclusive value="-15"/>
    <maxInclusive value="+40"/>
  </restriction>
</simpleType>

<simpleType name="dwPchPower">
  <restriction base="decimal">
    <fractionDigits value="1"/>
    <minInclusive value="-15"/>
    <maxInclusive value="+40"/>
  </restriction>
</simpleType>

<simpleType name="schPower">
  <restriction base="decimal">
    <fractionDigits value="1"/>
    <minInclusive value="-35"/>
    <maxInclusive value="+15"/>
  </restriction>
</simpleType>

<complexType name="timeSlotList">
  <sequence>
    <element name="timeSlot" maxOccurs="15">
      <complexType>
        <all>
          <element name="timeSlotId" minOccurs="1">
            <simpleType>
              <restriction base="integer">
                <minInclusive value="0"/>
                <maxInclusive value="14"/>
              </restriction>
            </simpleType>
          </element>
          <element name="timeSlotDirection" minOccurs="1">
            <simpleType>
              <restriction base="string">
                <enumeration value="UL"/>
                <enumeration value="DL"/>
              </restriction>
            </simpleType>
          </element>
          <element name="timeSlotStatus" minOccurs="1">
            <simpleType>
              <restriction base="string">
                <enumeration value="Active"/>
                <enumeration value="Not-Active"/>
              </restriction>
            </simpleType>
          </element>
        </all>
```

```
        </complexType>
      </element>
    </sequence>
  </complexType>
  <simpleType name="antennaId">
    <restriction base="integer">
      <minInclusive value="0"/>
      <maxInclusive value="268435455"/>
    </restriction>
  </simpleType>

  <simpleType name="angleValue">
    <restriction base="short">
      <minInclusive value="0"/>
      <maxInclusive value="3600"/>
    </restriction>
  </simpleType>


  <simpleType name="retTiltValue">
    <restriction base="decimal">
      <fractionDigits value="1"/>
      <minInclusive value="0"/>
      <maxInclusive value="360"/>
    </restriction>
  </simpleType>

  <complexType name="retUtranCellList">
    <sequence>
      <element name="utranCell">
        <simpleType>
          <restriction base="string">
            <minInclusive value="0"/>
            <maxInclusive value="268435455"/>
          </restriction>
        </simpleType>
      </element>
    </sequence>
  </complexType>

  <simpleType name="compassDirection">
    <restriction base="shortinteger">
      <minInclusive value="0"/>
      <maxInclusive value="360"/>
    </restriction>
  </simpleType>

  <simpleType name="maxTiltValue">
    <restriction base="decimal">
      <fractionDigits value="1"/>
      <minInclusive value="0"/>
      <maxInclusive value="360"/>
    </restriction>
  </simpleType>

  <simpleType name="minTiltValue">
    <restriction base="decimal">
      <fractionDigits value="1"/>
      <minInclusive value="0"/>
      <maxInclusive value="360"/>
    </restriction>
  </simpleType>

  <simpleType name="mechanicalOffset">
    <restriction base="decimal">
      <fractionDigits value="1"/>
      <minInclusive value="0"/>
      <maxInclusive value="360"/>
    </restriction>
  </simpleType>


  <simpleType name="retGroupName">
    <restriction base="string">
      <minInclusive value="0"/>
      <maxInclusive maxLength value="80"/>
    </restriction>
  </simpleType>
```

```
  <simpleType name="height">
    <restriction base="integer">
      <minInclusive value="0"/>
      <maxInclusive value="36000000"/>
    </restriction>
  </simpleType>

  <!-- UTRAN Network Resources IRP NRM class associated XML elements -->

  <element
    name="RncFunction"
    substitutionGroup="xn:ManagedElementOptionallyContainedNrmClass"
  >
    <complexType>
      <complexContent>
        <extension base="xn:NrmClass">
          <sequence>
            <element name="attributes" minOccurs="0">
              <complexType>
                <all>
                  <element name="userLabel" minOccurs="0"/>
                  <element name="mcc" minOccurs="0"/>
                  <element name="mnc" minOccurs="0"/>
                  <element name="rncId" minOccurs="0"/>
                </all>
              </complexType>
            </element>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element ref="un:UtranCell"/>
              <element ref="un:IubLink"/>
              <element ref="xn:VsDataContainer"/>
            </choice>
          </sequence>
        </extension>
      </complexContent>
    </complexType>
  </element>

  <element
    name="NodeBFunction"
    substitutionGroup="xn:ManagedElementOptionallyContainedNrmClass"
  >
    <complexType>
      <complexContent>
        <extension base="xn:NrmClass">
          <sequence>
            <element name="attributes" minOccurs="0">
              <complexType>
                <all>
                  <element name="userLabel" minOccurs="0"/>
                  <element name="nodeBFunctionIubLink" minOccurs="0"/>
                </all>
              </complexType>
            </element>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element ref="xn:VsDataContainer"/>
            </choice>
          </sequence>
        </extension>
      </complexContent>
    </complexType>
  </element>

  <element name="UtranCell">
    <complexType>
      <complexContent>
        <extension base="xn:NrmClass">
          <sequence>
            <element name="attributes" minOccurs="0">
              <complexType>
                <all>
                  <element name="userLabel" minOccurs="0"/>
                  <element name="cId" type="un:cId" minOccurs="0"/>
                  <element
                    name="localCellId"
                    type="un:localCellId"
                    minOccurs="0"
```

```
        />
        <element
          name="uarfcnUl"
          type="un:uarfcnAnyMode"
          minOccurs="0"
        />
        <element
          name="uarfcnDl"
          type="un:uarfcnAnyMode"
          minOccurs="0"
        />
        <element
          name="primaryScramblingCode"
          type="un:primaryScramblingCode"
          minOccurs="0"
        />
        <element
          name="primaryCpichTxPower"
          type="un:primaryCpichTxPower"
          minOccurs="0"
        />
        <element
          name="maximumTransmissionPower"
          type="un:maximumTransmissionPower"
          minOccurs="0"
        />
        <element
          name="primarySchPower"
          type="un:primarySchPower"
          minOccurs="0"
        />
        <element
          name="secondarySchPower"
          type="un:secondarySchPower"
          minOccurs="0"
        />
        <element name="bchPower" type="un:bchPower" minOccurs="0"/>
        <element name="cellMode" type="un:cellMode" minOccurs="0"/>
        <element name="uarfcn" type="un:uarfcnAnyMode" minOccurs="0"/>
        <element
          name="cellParameterId"
          type="un:cellParameterId"
          minOccurs="0"
        />
        <element
          name="primaryCcpchPower"
          type="un:primaryCcpchPower"
          minOccurs="0"
        />
        <element
          name="dwPchPower"
          type="un:dwPchPower"
          minOccurs="0"
        />
        <element
          name="timeSlotList"
          type="un:timeSlotList"
          minOccurs="0"
        />
        <element name="schPower" type="un:schPower" minOccurs="0"/>
        <element name="lac" type="un:lac" minOccurs="0"/>
        <element name="rac" type="un:rac" minOccurs="0"/>
        <element name="sac" type="un:sac" minOccurs="0"/>
        <element name="uraList" type="un:uraList" minOccurs="0"/>
        <element name="utranCellIubLink" minOccurs="0"/>
        <element name="retAntennaFunctionList" type="un:retAntennaList" minOccurs="0"/>
        <element
           name="operationalState"
           type="sm:operationalStateType"
           minOccurs="0"
        />
      </all>
    </complexType>
  </element>
  <choice minOccurs="0" maxOccurs="unbounded">
    <element ref="un:UtranRelation"/>
    <element ref="gn:GsmRelation"/>
    <element ref="xn:VsDataContainer"/>
```

```
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element name="IubLink">
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="userLabel" minOccurs="0"/>
                <element name="iubLinkUtranCell" minOccurs="0"/>
                <element name="iubLinkATMChannelTerminationPoint" minOccurs="0"/>
                <element name="iubLinkNodeBFunction" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element name="UtranRelation">
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="adjacentCell" minOccurs="0"/>
                <element name="cellMode" type="un:cellMode" minOccurs="0"/>
                <element
                  name="uarfcnUl"
                  type="un:uarfcnAnyMode"
                  minOccurs="0"
                />
                <element
                  name="uarfcnDl"
                  type="un:uarfcnAnyMode"
                  minOccurs="0"
                />
                <element
                  name="primaryScramblingCode"
                  type="un:primaryScramblingCode"
                  minOccurs="0"
                />
                <element
                  name="primaryCpichTxPower"
                  type="un:primaryCpichTxPower"
                  minOccurs="0"
                />
                <element name="lac" type="un:lac" minOccurs="0"/>
                <element name="uarfcn" type="un:uarfcnAnyMode" minOccurs="0"/>
                <element
                  name="cellParameterId"
                  type="un:cellParameterId"
                  minOccurs="0"
                />
                <element
                  name="primaryCcpchPower"
                  type="un:primaryCcpchPower"
                  minOccurs="0"
                />
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="xn:VsDataContainer"/>
```

```
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element
  name="ExternalUtranCell"
  substitutionGroup="xn:SubNetworkOptionallyContainedNrmClass"
>
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="userLabel" minOccurs="0"/>
                <element name="cId" type="un:cId" minOccurs="0"/>
                <element name="mcc" minOccurs="0"/>
                <element name="mnc" minOccurs="0"/>
                <element name="rncId" minOccurs="0"/>
                <element name="cellMode" type="un:cellMode" minOccurs="0"/>
                <element
                  name="uarfcnUl"
                  type="un:uarfcnAnyMode"
                  minOccurs="0"
                />
                <element
                  name="uarfcnDl"
                  type="un:uarfcnAnyMode"
                  minOccurs="0"
                />
                <element
                  name="primaryScramblingCode"
                  type="un:primaryScramblingCode"
                  minOccurs="0"
                />
                <element
                  name="primaryCpichTxPower"
                  type="un:primaryCpichTxPower"
                  minOccurs="0"
                />
                <element name="uarfcn" type="un:uarfcnAnyMode" minOccurs="0"/>
                <element
                  name="cellParameterId"
                  type="un:cellParameterId"
                  minOccurs="0"
                />
                <element
                  name="primaryCcpchPower"
                  type="un:primaryCcpchPower"
                  minOccurs="0"
                />
                <element name="lac" type="un:lac" minOccurs="0"/>
                <element name="rac" type="un:rac" minOccurs="0"/>
                <element name="controllingRnc" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element
  name="AntennaFunction"
  substitutionGroup="xn:ManagedElementOptionallyContainedNrmClass"
>
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
```

```
            <element name="attributes" minOccurs="0">
              <complexType>
                <all>
                  <element name="antennaId" type="un:antennaId" minOccurs="0"/>
                  <element name="retUtranCellList" type="un:retUtranCellList" minOccurs="0"/>
                  <element name="retTiltValue" type="un:angleValueretTiltValue" minOccurs="0"/>
                  <element name="compassDirection" type="un:compassDirection" minOccurs="0"/>
                  <element name="maxTiltValue" type="un:angleValuemaxTiltValue" minOccurs="0"/>
                  <element name="minTiltValue" type="un:angleValueminTiltValue" minOccurs="0"/>
                  <element name="mechanicalOffset" type="un:angleValuemechanicalOffset"
minOccurs="0"/>
                  <element name="retGroupName" type="un:retGroupName" minOccurs="0"/>
                  <element name="height" type="un:heightinteger" minOccurs="0"/>
                </all>
              </complexType>
            </element>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element ref="xn:VsDataContainer"/>
            </choice>
          </sequence>
        </extension>
      </complexContent>
    </complexType>
  </element>

  <element
    name="ExternalRncFunction"
    substitutionGroup="xn:SubNetworkOptionallyContainedNrmClass"
  >
    <complexType>
      <complexContent>
        <extension base="xn:NrmClass">
          <sequence>
            <element name="attributes" minOccurs="0">
              <complexType>
                <all>
                  <element name="userLabel" minOccurs="0"/>
                  <element name="mcc" minOccurs="0"/>
                  <element name="mnc" minOccurs="0"/>
                  <element name="rncId" minOccurs="0"/>
                  <element name="controlledCellList" minOccurs="0"/>
                </all>
              </complexType>
            </element>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element ref="xn:VsDataContainer"/>
            </choice>
          </sequence>
        </extension>
      </complexContent>
    </complexType>
  </element>

</schema>
```

End of Change in Annex A

Change in Annex B

Annex B (informative): XML schema electronic files

The electronic files corresponding to the normative XML schemas defined in the present document are available in native form in the following archive:

http://www.3gpp.org/ftp/specs/archive/32_series/32.645/schema/32645-6420-XMLSchema.zip

End of Change in Annex B
End of Document

Annex C (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Jun 2002	S_16	SP-020298	--	--	Submitted to TSG SA #16 for Information	1.0.0	
Sep 2002	S_17	SP-020462	--	--	Submitted to TSG SA #17 for Approval	2.0.0	5.0.0
Jun 2003	S_20	SP-030283	001	--	Deletion of UTRAN attribute relationType in XML Schema	5.0.0	5.1.0
Jun 2003	S_20	SP-030287	002	--	Correction of UTRAN NRM XML schema namespace URIs	5.0.0	5.1.0
Jun 2003	S_20	SP-030288	003	--	Generic NRM XML schema dependencies removal	5.0.0	5.1.0
Jun 2003	S_20	SP-030285	004	--	Remove UTRAN NRM XML schema duplicate MOC attribute XML declarations	5.0.0	5.1.0
Sep 2003	S_21	SP-030418	005	--	Inclusion of External BSS Function in GERAN XML Schema – impacts on 32.645 (UTRAN XML Schema) - Alignment with 32.652/655	5.1.0	5.2.0
Oct 2003	--	--	--	--	Attached to this TS the normative XML schema electronic files corresponding to Sept 2003 TS 32.645	5.2.0	5.2.1
Dec 2003	S_22	SP-030646	006	--	Correction of the number of possible URAs from 1 to 8	5.2.1	5.3.0
Mar 2004	S_23	SP-040131	007	--	Add the capability to contain instances of VsDataContainer to some MOs - Align with the IS 32.642	5.3.0	5.4.0
Jun 2004	S_24	SP-040259	008	--	Removal of XML schema URI dependencies	5.4.0	5.5.0
Jun 2004	S_24	SP-040258	009	--	Correction of the annex related to XML schema electronic files publication	5.4.0	5.5.0
Jun 2004	S_24	SP-040254	010	--	The specification does not support all UMTS frequency bands	5.4.0	5.5.0
Jun 2004	S_24	SP-040256	011	--	Add XML definitions for support of TDD modes	5.5.0	6.0.0
Sep 2004	S_25	SP-040592	013	--	Correction of the XML code – Reinsertion of the closing tag	6.0.0	6.1.0
Sep 2004	S_25	SP-040595	014	--	Include ATM in CM UTRAN network resources IRP XML Schema definition	6.0.0	6.1.0
Sep 2004	S_25	SP-040587	015	--	Add support for Remote control of Electrical Tilting (RET) antenna to the Bulk CM XSD file	6.0.0	6.1.0
Dec 2004	S_26	SP-040810	016	--	Add operationalState to the UtranCell – Align with the IS in 32.642	6.1.0	6.2.0
Mar 2005	S_27	SP-050048	020	--	Add missing definition of IOC ExternalRncFunction	6.2.0	6.3.0

CR-Form-v7.1

CHANGE REQUEST

⌘ **32.804** **CR** **0002** ⌘ **rev** **-** ⌘ Current version: **6.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☒ Core Network ☐

Title:	⌘	Incorporation of agreed revisions from RAN3 review published in R3-041655
Source:	⌘	SA5 (adrian.neal@vodafone.com)
Work item code:	⌘	OAM-NIM
Date:	⌘	13/05/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction 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.

Use one of the following releases:
Ph2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*
Rel-7 *(Release 7)*

Reason for change:	⌘	Accepted accuracy and consistency proposals from the RAN3 review must be incorporated in order to prevent divergence, instability or misalignment between the SA5 and RAN3 RETdocuments .
Summary of change:	⌘	Annex B: Future Requirements has been removed. References to RAN3 Iuant Specifications have been added. The abbreviations table has been updated. Duplicated information in one requirement has been deleted. Editorial updates have been made to the Contents page and Annex C.
Consequences if not approved:	⌘	Information irrelevant to Release 6 will remain in this Release 6 TR, Potential misalignment between RAN3 and SA5 RET documentation

Clauses affected:	⌘	Contents page, Sections 1,2, 3.3, 4.4, Annex B, Annex C.			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

Change in Section 1

1 Scope

The present document defines the requirements for the network wide control of RET antennas via the Itf-N.
Two example types of RET antennas are those that are tilted using a mechanical tilting mechanism and those that use a phased array.

The control of RET antennas has been studied in 3GPP RAN3 with an approved work item for "Remote Control of Electrical Tilting Antennas" provided in RP-030193 at RAN#19 in March 2003, producing TR 25.802 [1].

The RET control mechanism makes use of the Iuant interface, which is defined in the following set of specifications for General Aspects and Principles [8], Layer 1 [9], Signalling Transport [10], and Remote Electrical Tilting (RET) Antennas Application Part (RETAP) Signalling [11].

The ability to control Antenna tilt permits cell size to be adjusted, thereby permitting control of up and downlink throughput.

The ability to control Antenna tilts remotely from a network management system permits a network wide perspective to be obtained and for settings to be adjusted in response to predicted population movements, or in response to performance monitoring data to help make the best use of the available radio access network.

Figure 1 shows the main Network Elements (NEs) and depicts the two system contexts A and B where the IRPagent may be located either in the Element Manager (EM), or within the Network Element (NE).

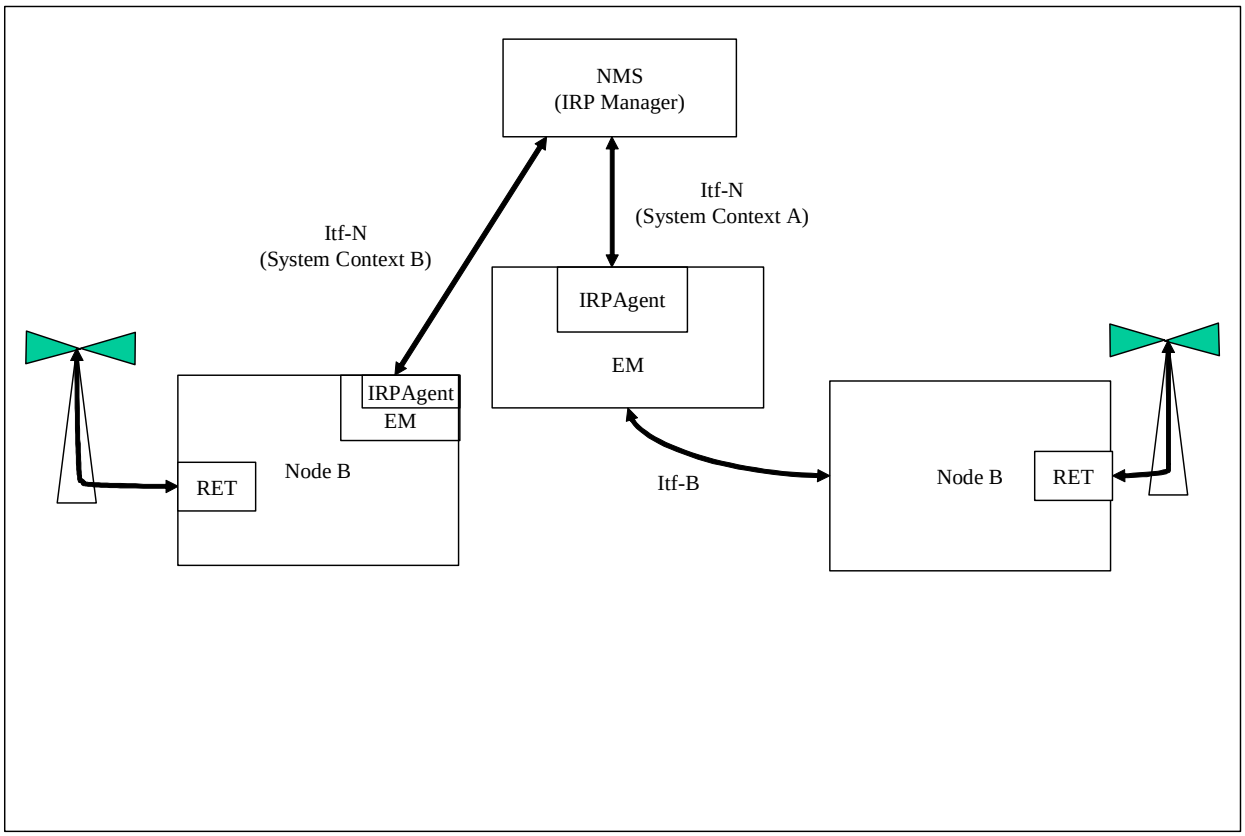

Figure 1

Change in Section 2

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 TR 25.802: "Remote control of electrically tilting antennas".

[2] 3GPP TS32.401: "Telecommunication management; Performance Management (PM); Concept and requirements".

[3] 3GPP TS 32.403: "Telecommunication management; Performance Management (PM); Performance measurements".

[4] 3GPP TS32.411: "Telecommunication management; Performance Management (PM) Integration Reference Point (IRP): Requirements".

[5] 3GPP TS32.412: "Telecommunication management; Performance Management (PM) Integration Reference Point (IRP): Information Service (IS)".

[6] 3GPP TS 32.413: "Telecommunication management; Performance Management (PM) Integration Reference Point (IRP): Common Object Request Broker Architecture (CORBA) Solution Set (SS)".

[7] 3GPP TS 32.102: "Telecommunication management; Architecture".

[8] 3GPP TS 25.460: "UTRAN Iuant Interface: General Aspects and Principles".

[9] 3GPP TS 25.461: "UTRAN Iuant Interface: Layer 1".

[10] 3GPP TS 25.462: "UTRAN Iuant Interface: Signalling Transport".

[11] 3GPP TS 25.463: "UTRAN Iuant Interface: Remote Electrical Tilting (RET) Antennas Application Part (RETAP) Signalling".

Change in Section 3.3

3.3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

AISG	Antenna Interface Standards Group (http://www.aisg.org.uk/)
Itf-N	Interface N between a network or service management OSF and NE OSFs (TS 32.102 [7])
LNA	Low Noise Amplifier
OSF	Operations System Functions
OSS	Operations Support System
RDN	Relative Distinguished Name
RET	Remote Electrical Tilting
RNS	Radio Network Sub-system
TMA	Tower Mounted Amplifier
TT	Tower Top
UTC	Universal Time Co-ordinated

Change in Section 4.4

4.4 Maintenance

1) The IRPManager shall be able to cause the tilting mechanism to be exercised such that the complete range of tilt is exercised. At the end of the exercise the tilt will be set to a defined value.

2) It shall be permitted that settings may be provided by localised maintenance staff using a local craft terminal. Indications of local work shall be provided to remote operation support systems.

3) All locally applied settings will be sent to an IRPManager. There will not be any concurrency /resource protection or complex resource locks being used, in terms of any conflicts between local settings and IRPManager settings, the last valid configuration parameter received will persist.

4) It shall be possible at the time of a RET installation for the maintenance staff to configure a compass direction which indicates the direction the antenna faces. ~~An IRPManager shall be able to obtain this compass direction setting.~~

5) It shall be possible to log the RET changes.

Change in Annex B

Annex B:
~~Future requirements~~Void

~~This annex is a place holder for requirements which are not within the scope of RET for 3GPP Release 6.~~

~~These are provided since considerations for them may ease the future evolution of RET control.~~

~~a)It shall be possible to relate the both Tilt angle and amplifier gain settings in a way which allows them to be applied as collections of values, which are configured at (as near as possible) the same time.~~

~~b)It shall be possible to define a number of pre-defined antenna profiles which may be activated at particular times of day (using UTC).~~

~~Editor's Note: This requirement is FFS. Whether this applies to manager or agent is FFS.~~

~~c)The interface will permit several configuration profiles per day to be supported; e.g. it is considered that 4 profiles would be sufficient but absolute number is likely to vary on a case by case basis.~~

~~Editor's Note: This requirement is FFS.~~

~~d)It shall be possible to log the RET changes made using a local craft terminal.~~

~~f)~~a) ~~Address the impact of failures. Use back-up manag reducing Itf-N signalling.~~

~~e)ement systems ?~~

~~Consideration to delegating control to Node B software:~~
~~aiding network resilience.~~