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1 Scope

The present document defines Management Object (MO) that is used to configure the UE for V2X services.

The MO is compatible with the OMA Device Management (DM) protocol specifications, version 1.2 and upwards, and is defined using the OMA DM Device Description Framework (DDF) as described in the Enabler Release Definition OMA-ERELED-DM-V1_2 [3].

The MO consists of relevant parameters for provisioning and authorization of V2X communication at the UE.

The protocol aspects for V2X are described in 3GPP TS 24.386 [4].

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 21.905: "Vocabulary for 3GPP Specifications".
- [2] 3GPP TS 23.285: "Architecture enhancements for V2X services".
- [3] OMA-ERELED-DM-V1_2: "Enabler Release Definition for OMA Device Management".
- [4] 3GPP TS 24.386: "User Equipment (UE) to V2X control function; protocol aspects; Stage 3".
- [5] OMA-TS-DM_Protocol-V1_2: "OMA Device Management Protocol".
- [6] ISO 8601:2004: "Data elements and interchange formats -- Information interchange -- Representation of dates and times".
- [7] 3GPP TS 23.003: "Numbering, addressing and identification".
- [8] 3GPP TS 36.331: "Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC) protocol specification".
- [9] 3GPP TS 23.032: "Universal Geographical Area Description (GAD)".
- [10] ISO TS 17419 ITS-AID AssignedNumbers :
http://standards.iso.org/iso/ts/17419/TS17419%20Assigned%20Numbers/TS17419_ITS-AID_AssignedNumbers.pdf
- [11] 3GPP TS 36.101: "Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) radio transmission and reception".
- [12] 3GPP TS 23.303: "Proximity-based Services (ProSe); Stage 2".
- [13] 3GPP TS 36.300: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access (E-UTRAN); Overall description; Stage 2".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TR 21.905 [1] and the following apply.

A term defined in the present document takes precedence over the definition of the same term, if any, in 3GPP TR 21.905 [1].

For the purposes of the present document, the following terms and definitions given in 3GPP TS 23.003 [7] apply:

TMGI

For the purposes of the present document, the following terms and definitions given in 3GPP TS 24.386 [4] apply:

Not served by E-UTRAN for V2X communication

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1] and the following apply.

An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in 3GPP TR 21.905 [1].

DDF	Device Description Framework
MO	Management Object
PDB	Packet Delay Budget
PPPP	ProSe Per-Packet Priority
SAI	Service Area Identifier
SDP	Session Description Protocol
V2X	Vehicle-to-Everything

4 V2X Communication Provisioning MO

4.1 Overview

The V2X communication provisioning MO is used to manage the V2X configuration parameters in a UE supporting 3GPP TS 24.386 [4].

The MO identifier is: urn:oma:mo:ext-3gpp-V2X-communication-provisioning:1.0.

The OMA DM access control list (ACL) property mechanism (see OMA-ERELED-DM-V1_2 [3]) can be used to grant or deny access rights to OMA DM servers in order to modify nodes of the V2X communication provisioning MO.

In order to request provisioning of the V2X communication provisioning MO, the UE includes in the Package 1 (see OMA-TS-DM_Protocol-V1_2 [5]) a Generic Alert message (along with other commands):

- with the "Type" element set to "urn:oma:mo:ext-3gpp-V2X-communication-provisioning:1.0";
- with the "LocURI" element (inside the "Source" element) set to the address of the V2X communication provisioning MO as specified by OMA-TS-DM_Protocol-V1_2 [5]; and
- without the "Data" element.

The V2X communication provisioning MO consists of the nodes described in figure 4.1-1.

NOTE: In this release of the document, charging configuration parameters in the V2X communication provisioning MO are not specified.

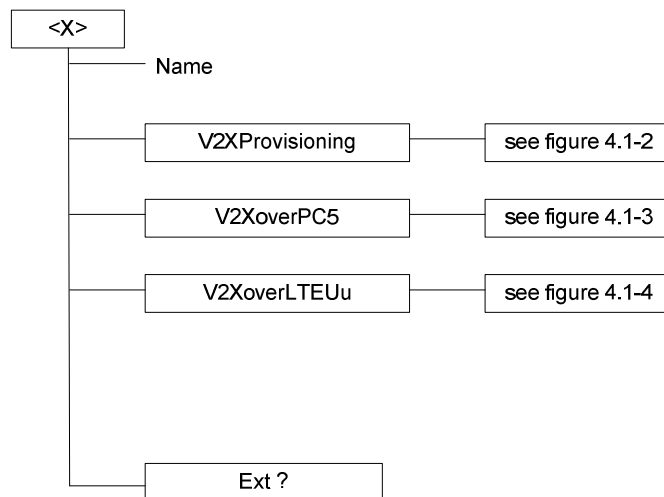


Figure 4.1-1: The V2X communication provisioning MO (part 1)

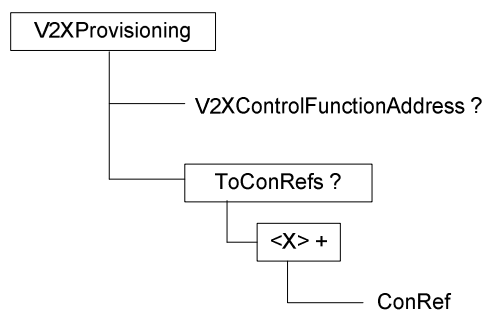


Figure 4.1-2: The V2X communication provisioning MO (part 2)

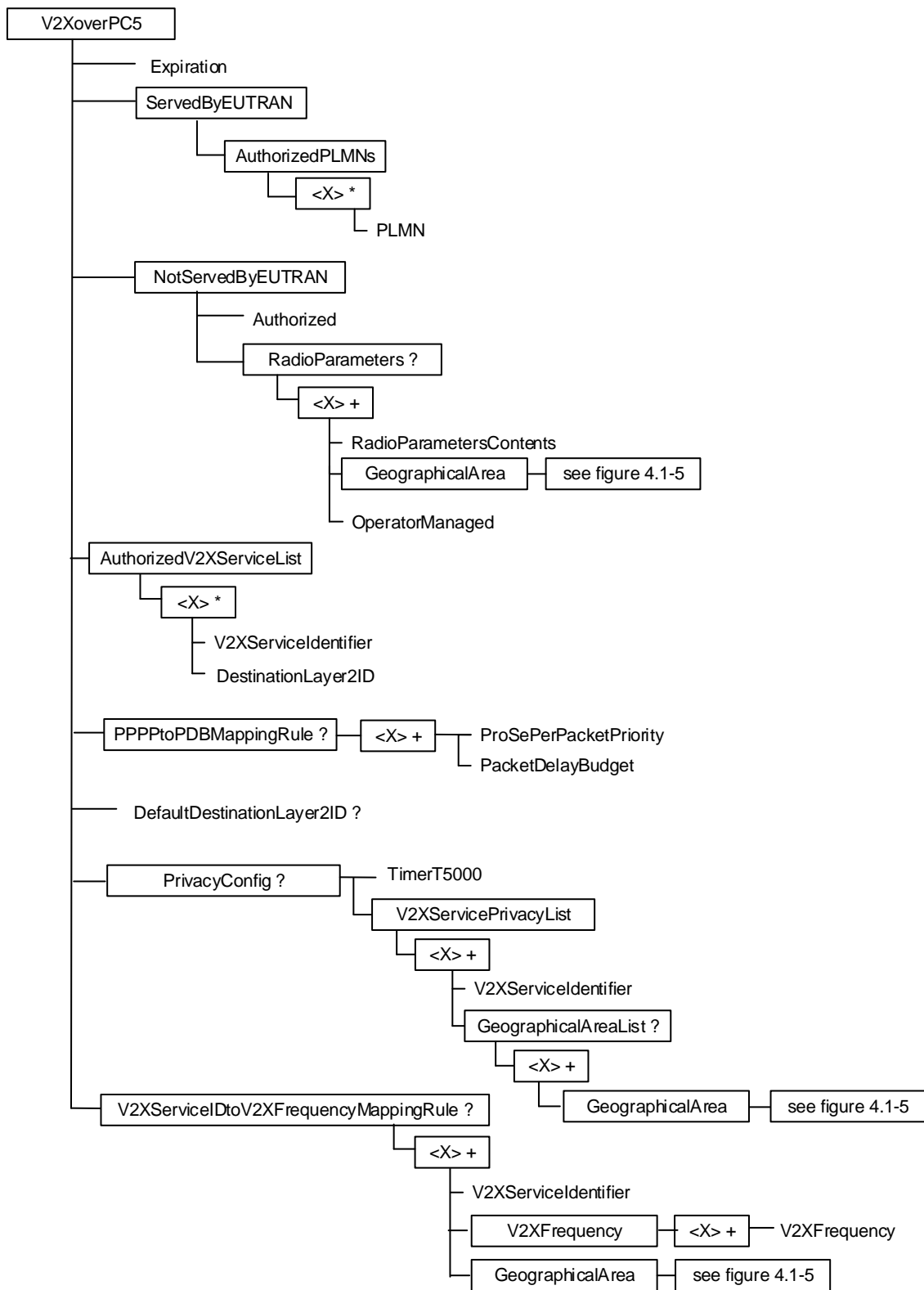


Figure 4.1-3: The V2X communication provisioning MO (part 3)

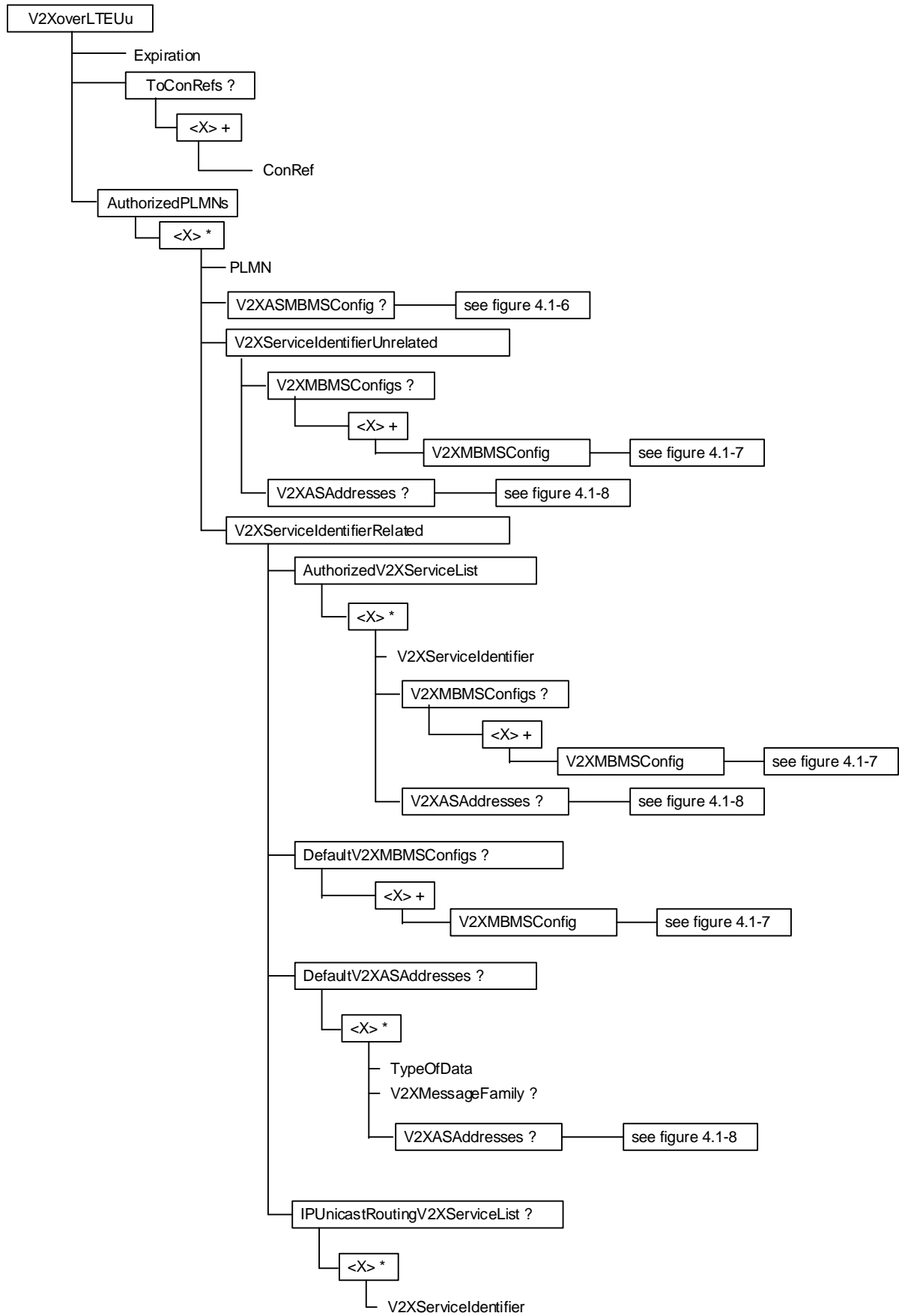


Figure 4.1-4: The V2X communication provisioning MO (part 4)

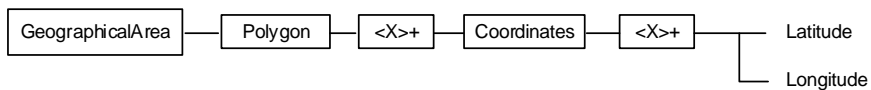


Figure 4.1-5: The V2X communication provisioning MO (part 5)

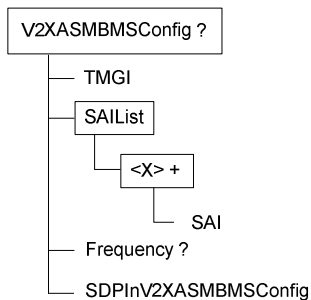


Figure 4.1-6: The V2X communication provisioning MO (part 6)

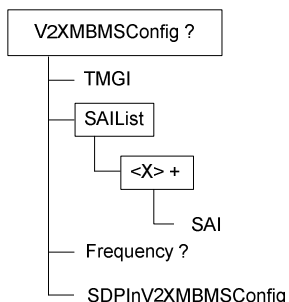


Figure 4.1-7: The V2X communication provisioning MO (part 7)

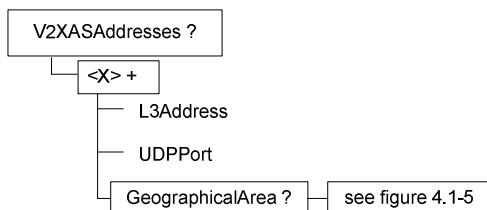


Figure 4.1-8: The V2X communication provisioning MO (part 8)

5 MO configuration parameters

5.1 General

This clause describes the configuration parameters of the V2X communication provisioning MO.

5.2 Node: <X>

This node acts as a placeholder for one or more accounts for a fixed node.

- Occurrence: OneOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

This node is mandatory if the UE supports the UE role specified in 3GPP TS 24.386 [4].

NOTE: One node is normally used. More nodes are only used in case the terminal supports multiple UICCs.

5.3 <X>/Name

This node contains a name for the V2X configuration parameters.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: <User displayable name>

5.4 Configuration parameters for V2X provisioning

5.4.1 <X>/V2XProvisioning

The V2XProvisioning node contains the configuration parameters for V2X provisioning.

- Occurrence: One
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.4.2 <X>/V2XProvisioning/V2XControlFunctionAddress

The V2XControlFunctionAddress leaf indicates the V2X control function address.

- Occurrence: ZeroOrOne
- Format: chr
- Access Types: Get, Replace
- Values: an FQDN or an IP address

5.4.3 <X>/V2XProvisioning/ToConRefs

The ToConRefs node is used to allow application to refer to a collection of connectivity definitions. Several connectivity parameters can be listed for a given application under this node.

This node contains configuration parameters for establishment of the PDN connection for reaching the V2X control function.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.4.4 <X>/V2XProvisioning/ToConRefs/<X>

This run-time node acts as a placeholder for each reference to connectivity parameters.

- Occurrence: OneOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.4.5 <X>/V2XProvisioning/ToConRefs/<X>/ConRef

The ConRef leaf indicates a specific linkage to connectivity parameters.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: <A network access point object>

5.5 Configuration parameters for V2X communication over PC5

5.5.1 <X>/V2XoverPC5

The V2XoverPC5 node contains the configuration parameters for V2X communication over PC5.

- Occurrence: One
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.5.2 <X>/V2XoverPC5/Expiration

The Expiration leaf indicates the expiration time of validity of the configuration parameters for V2X communication over PC5.

- Occurrence: One
- Format: int

- Access Types: Get, Replace
- Values: a 40 bits unsigned integer value indicating a UTC time, in seconds since midnight UTC of January 1, 1970 (not counting leap seconds).

5.5.3 <X>/V2XoverPC5/ServedByEUTRAN

The ServedByEUTRAN node contains the configuration parameters for V2X communication over PC5 when the UE is served by E-UTRAN for V2X communication.

- Occurrence: One
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.5.4 <X>/V2XoverPC5/ServedByEUTRAN/AuthorizedPLMNs

The AuthorizedPLMNs node contains a list of PLMNs in which the UE is authorized to use V2X communication over PC5 when the UE is served by E-UTRAN for V2X communication.

- Occurrence: One
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.5.5 <X>/V2XoverPC5/ServedByEUTRAN/AuthorizedPLMNs/<X>

This node acts as a placeholder for a PLMN in which the UE is authorized to use V2X communication over PC5 when the UE is served by E-UTRAN for V2X communication.

- Occurrence: ZeroOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.5.6 <X>/V2XoverPC5/ServedByEUTRAN/AuthorizedPLMNs/<X>/PLMN

The PLMN leaf indicates a PLMN code of a PLMN in which the UE is authorized to use V2X communication over PC5 when the UE is served by E-UTRAN for V2X communication.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: <PLMN code>

The format of the PLMN code is defined by 3GPP TS 23.003 [7].

5.5.7 <X>/V2XoverPC5/NotServedByEUTRAN

The NotServedByEUTRAN node contains the configuration parameters for V2X communication over PC5 when the UE is not served by E-UTRAN for V2X communication.

- Occurrence: One
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.5.8 <X>/V2XoverPC5/NotServedByEUTRAN/Authorized

The Authorized leaf indicates whether the UE is authorized to use V2X communication over PC5 when the UE is not served by E-UTRAN for V2X communication.

- Occurrence: One
 - Format: bool
 - Access Types: Get, Replace
 - Values: 0, 1
- 0 Indicates that the UE is not authorized to use V2X communication over PC5 when the UE is not served by E-UTRAN for V2X communication.
- 1 Indicates that the UE is authorized to use V2X communication over PC5 when the UE is not served by E-UTRAN for V2X communication.

5.5.9 <X>/V2XoverPC5/NotServedByEUTRAN/RadioParameters

The RadioParameters node contains sets of radio parameters for V2X communication over PC5 applicable when the UE is not served by E-UTRAN for V2X communication and is located in a geographical area.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.5.10 <X>/V2XoverPC5/NotServedByEUTRAN/RadioParameters/<X>

This node acts as a placeholder for one set of radio parameters for V2X communication over PC5 applicable when the UE is not served by E-UTRAN for V2X communication and is located in a given geographical area.

- Occurrence: OneOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

The radio parameters indicated in the RadioParametersContents child node apply for V2X communication over PC5 when the UE is not served by E-UTRAN for V2X communication and is located in geographical area indicated by the GeographicalArea child node.

5.5.11 <X>/V2XoverPC5/NotServedByEUTRAN/RadioParameters/<X>/RadioParametersContents

The RadioParametersContents leaf indicates the radio parameters for V2X communication over PC5.

- Occurrence: One

- Format: bin
- Access Types: Get, Replace
- Values: <RadioParametersContents>

The RadioParameterContents is defined as *SL-V2X-Preconfiguration* in clause 9 of 3GPP TS 36.331 [8].

5.5.12 <X>/V2XoverPC5/NotServedByEUTRAN/RadioParameters/<X>/GeographicalArea

The GeographicalArea node contains a geographical area description.

- Occurrence: One
- Format: node
- Access Types: Get, Replace
- Values: N/A

The UE is located in geographical area indicated by this node, if the UE is located in geographical area indicated by the Polygon child node.

5.5.13 <X>/V2XoverPC5/NotServedByEUTRAN/RadioParameters/<X>/GeographicalArea/Polygon

The Polygon node contains polygon geographical area descriptions.

- Occurrence: One
- Format: node
- Access Types: Get, Replace
- Values: N/A

The UE is located in geographical area indicated by this node, if the UE is located in polygon geographical area indicated by at least one child node.

5.5.14 <X>/V2XoverPC5/NotServedByEUTRAN/RadioParameters/<X>/GeographicalArea/Polygon/<X>

This node acts as a placeholder for a polygon geographical area description.

- Occurrence: OneOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

The UE is located in polygon geographical area indicated by this node, if the UE is located inside a polygon described by the Coordinates child node.

5.5.15 <X>/V2XoverPC5/NotServedByEUTRAN/RadioParameters/<X>/GeographicalArea/Polygon/<X>/Coordinates

The Coordinates node contains coordinates of a polygon geographical area description.

- Occurrence: One

- Format: node
- Access Types: Get, Replace
- Values: N/A

The UE is located inside a polygon described by this node, if the UE is located in a polygon outlines of which are formed by coordinates indicated by the child nodes.

5.5.16 <X>/V2XoverPC5/NotServedByEUTRAN/RadioParameters/<X>/GeographicalArea/Polygon/<X>/Coordinates/<X>

This node acts as a placeholder for a coordinate.

- Occurrence: OneOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

NOTE: The upper limit of 15 specified in 3GPP TS 23.032 [9] for the number of points in a polygon shape does not apply to the number of coordinates in a geographical area described as a polygon for V2X communication over PC5.

5.5.17 <X>/V2XoverPC5/NotServedByEUTRAN/RadioParameters/<X>/GeographicalArea/Polygon/<X>/Coordinates/<X>/Latitude

The Latitude leaf indicates a latitude of a coordinate.

- Occurrence: One
- Format: bin
- Access Types: Get, Replace
- Values: <Latitude>

The latitude is defined in subclause 6.1 of 3GPP TS 23.032 [9].

5.5.18 <X>/V2XoverPC5/NotServedByEUTRAN/RadioParameters/<X>/GeographicalArea/Polygon/<X>/Coordinates/<X>/Longitude

The Longitude leaf indicates a longitude of a coordinate.

- Occurrence: One
- Format: bin
- Access Types: Get, Replace
- Values: <Longitude>

The longitude is defined in subclause 6.1 of 3GPP TS 23.032 [9].

5.5.19 <X>/V2XoverPC5/NotServedByEUTRAN/RadioParameters/<X>/OperatorManaged

The OperatorManaged leaf indicates whether the radio parameters are "operator managed" or "non-operator managed".

- Occurrence: One

- Format: bool
- Access Types: Get, Replace
- Values: 0, 1
 - 0 Indicates that the radio parameters are "non-operator managed".
 - 1 Indicates that the radio parameters are "operator managed".

5.5.20 <X>/V2XoverPC5/AuthorizedV2XServiceList

The AuthorizedV2XServiceList node contains V2X services authorized for V2X communication over PC5.

- Occurrence: One
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.5.21 <X>/V2XoverPC5/AuthorizedV2XServiceList/<X>

This node acts as a placeholder for a V2X service authorized for V2X communication over PC5.

- Occurrence: ZeroOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

The DestinationLayer2ID child node contains the layer 2 ID for V2X communication over PC5 to be used for V2X messages of V2X service with V2X service identified indicated by the V2XServiceIdentifier child node.

5.5.22 <X>/V2XoverPC5/AuthorizedV2XServiceList/<X>/V2XServiceIdentifier

The V2XServiceIdentifier leaf indicates a V2X service identifier.

- Occurrence: One
- Format: int
- Access Types: Get, Replace
- Values: an integer between 0 and 4294967295.

V2X service identifiers are listed in ISO TS 17419 ITS-AID AssignedNumbers [10].

5.5.23 <X>/V2XoverPC5/AuthorizedV2XServiceList/<X>/DestinationLayer2ID

The DestinationLayer2ID leaf indicates a layer 2 ID for V2X communication over PC5.

- Occurrence: One
- Format: bin
- Access Types: Get, Replace
- Values: layer 2 identifier

The format of the DestinationLayer2ID is defined by 3GPP TS 36.300 [13].

5.5.24 <X>/V2XoverPC5/PPPPtoPDBMappingRule

The PPPtoPDBMappingRule node contains the mapping rules between the ProSe Per-Packet Priority (PPPP) and Packet Delay Budget (PDB) for V2X communication over the PC5.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.5.25 <X>/V2XoverPC5/PPPPtoPDBMappingRule/<X>

This interior node acts as a placeholder for one or more mapping rules for V2X communication over the PC5.

- Occurrence: OneOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.5.26 <X>/V2XoverPC5/PPPPtoPDBMappingRule/<X>/ ProSePerPacketPriority

The ProSePerPacketPriority leaf indicates the ProSe Per-Packet Priority value (as specified in 3GPP TS 23.303 [12]) configured by the mapping rule.

- Occurrence: One
- Format: int
- Access Types: Get, Replace
- Values: 1-8

5.5.27 <X>/V2XoverPC5/PPPPtoPDBMappingRule/<X>/ PacketDelayBudget

The PacketDelayBudget leaf indicates the Packet Delay Budget value in milliseconds to which the ProSe Per-Packet Priority value associated to the same mapping rule is mapped.

- Occurrence: One
- Format: int
- Access Types: Get, Replace
- Values: 1-65535

5.5.27A <X>/V2XoverPC5/DefaultDestinationLayer2ID

The DefaultDestinationLayer2ID leaf indicates a default destination Layer-2 ID for V2X communication over PC5.

- Occurrence: ZeroOrOne
- Format: bin

- Access Types: Get, Replace
- Values: layer 2 identifier

5.5.28 Void

5.5.29 <X>/V2XoverPC5/PrivacyConfig

The PrivacyConfig node contains the configuration parameters for privacy of V2X communication over PC5.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.5.30 <X>/V2XoverPC5/PrivacyConfig/TimerT5000

The TimerT5000 leaf indicates the duration, in units of seconds, after which the UE shall change the source Layer-2 ID and source IP address (for IP data) self-assigned by the UE while performing transmission of V2X communication over the PC5 when privacy is required.

- Occurrence: One
- Format: int
- Access Types: Get, Replace
- Values: 1-65535

5.5.31 <X>/V2XoverPC5/PrivacyConfig/V2XServicePrivacyList

The V2XServicePrivacyList node contains the V2X service identifiers of the V2X services which require privacy for V2X communication over PC5.

- Occurrence: One
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.5.32 <X>/V2XoverPC5/PrivacyConfig/V2XServicePrivacyList/<X>

This node acts as a placeholder for a V2X service which requires privacy for V2X communication over PC5.

- Occurrence: ZeroOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.5.33 <X>/V2XoverPC5/PrivacyConfig/V2XServicePrivacyList/<X>/V2XServiceIdentifier

This node is the same as the node defined in subclause 5.5.22.

5.5.34 <X>/V2XoverPC5/PrivacyConfig/V2XServicePrivacyList/<X>/ GeographicalAreaList

The GeographicalAreaList node contains the geographical area(s) in which the V2X service identified by the associated V2X service identifier requires privacy for V2X communication over PC5.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.5.35 <X>/V2XoverPC5/PrivacyConfig/V2XServicePrivacyList/<X>/ GeographicalAreaList/<X>

This node acts as a placeholder for a geographical area in which the V2X service identified by the associated V2X service identifier requires privacy for V2X communication over PC5.

- Occurrence: ZeroOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.5.36 <X>/V2XoverPC5/PrivacyConfig/V2XServicePrivacyList/<X>/ GeographicalAreaList/<X>/GeographicalArea

The GeographicalArea node contains a geographical area description.

- Occurrence: One
- Format: node
- Access Types: Get, Replace
- Values: N/A

The UE is located in geographical area indicated by this node, if the UE is located in geographical area indicated by the Polygon child node.

5.5.37 <X>/V2XoverPC5/PrivacyConfig/V2XServicePrivacyList/<X>/ GeographicalAreaList/<X>/GeographicalArea/Polygon

This node and its descendants are the same as the node defined in subclause 5.5.13.

5.5.38 <X>/V2XServiceIDtoV2XFrequencyMappingRule

The V2XServiceIDtoV2XFrequencyMappingRule contains the mapping rules between the V2X service identifier and V2X frequency for V2X communication over the PC5.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.5.39 <X>/V2XServiceIDtoV2XFrequencyMappingRule/<X>

This interior node acts as a placeholder for one or more mapping rules for V2X communication over the PC5.

- Occurrence: OneOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.5.40 <X>/V2XServiceIDtoV2XFrequencyMappingRule/<X>/V2XServiceIdentifier

This node is the same as the node defined in subclause 5.5.22.

5.5.41 <X>/V2XServiceIDtoV2XFrequencyMappingRule/<X>/V2XFrequency

The V2XFrequency node contains the V2X frequency to which the V2X service identifier value associated to the same mapping rule is mapped.

- Occurrence: One
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.5.42 <X>/V2XServiceIDtoV2XFrequencyMappingRule/<X>/V2XFrequency/<X>

This interior node acts as a placeholder for one or more V2X frequencies used for V2X communication over the PC5.

- Occurrence: OneOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.5.43 <X>/V2XServiceIDtoV2XFrequencyMappingRule/<X>/V2XFrequency/<X>/V2XFrequency

The V2XFrequency leaf indicates the V2X frequency used for V2X communication over PC5.

- Occurrence: One
- Format: int
- Access Types: Get, Replace
- Values: <V2XFrequency>

The V2XFrequency is defined as *ARFCN-ValueEUTRA* in clause 6.3.4 of 3GPP TS 36.331 [8].

5.5.44 <X>/V2XServiceIDtoV2XFrequencyMappingRule/<X>/ GeographicalArea

The GeographicalArea node contains a geographical area description.

- Occurrence: One
- Format: node
- Access Types: Get, Replace
- Values: N/A

The UE is located in geographical area indicated by this node, if the UE is located in geographical area indicated by the Polygon child node.

5.5.45 <X>/V2XServiceIDtoV2XFrequencyMappingRule/<X>/ GeographicalArea/Polygon

This node and its descendants are the same as the node defined in subclause 5.5.13.

5.6 Configuration parameters for V2X communication over LTE-Uu

5.6.1 <X>/V2XoverLTEUu

The V2XoverLTEUu node contains the configuration parameters for V2X communication over LTE-Uu.

- Occurrence: One
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.6.2 <X>/V2XoverLTEUu/Expiration

The Expiration leaf indicates the expiration time of validity of the configuration parameters for V2X communication over LTE-Uu.

- Occurrence: One
- Format: int
- Access Types: Get, Replace
- Values: a 40 bits unsigned integer value indicating a UTC time, in seconds since midnight UTC of January 1, 1970 (not counting leap seconds).

5.6.3 <X>/V2XoverLTEUu/ToConRefs

The ToConRefs node is used to allow application to refer to a collection of connectivity definitions. Several connectivity parameters can be listed for a given application under this node.

This node contains configuration parameters for establishment of the PDN connection for reaching the V2X application server.

- Occurrence: ZeroOrOne

- Format: node
- Access Types: Get, Replace
- Values: N/A

5.6.4 <X>/V2XoverLTEUu/ToConRefs/<X>

This run-time node acts as a placeholder for each reference to connectivity parameters.

- Occurrence: OneOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.6.5 <X>/V2XoverLTEUu/ToConRefs/<X>/ConRef

The ConRef leaf indicates a specific linkage to connectivity parameters.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: <A network access point object>

5.6.6 <X>/V2XoverLTEUu/AuthorizedPLMNs

The AuthorizedPLMNs node contains a list of PLMNs in which the UE is authorized to use V2X communication over LTE-Uu.

- Occurrence: One
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.6.7 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>

This node acts as a placeholder for a PLMN in which the UE is authorized to use V2X communication over LTE-Uu.

- Occurrence: ZeroOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.6.8 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/PLMN

The PLMN leaf indicates a PLMN code of a PLMN in which the UE is authorized to use V2X communication over LTE-Uu.

- Occurrence: One
- Format: chr

- Access Types: Get, Replace
- Values: <PLMN code>

The format of the PLMN code is defined by 3GPP TS 23.003 [7].

5.6.9 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/V2XASMBMSConfig

The V2XASMBMSConfig node contains an MBMS configuration for receiving V2X application server information using MBMS in the PLMN in which this authorization policy applies.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.6.10 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/V2XASMBMSConfig/ TMGI

The TMGI leaf indicates a TMGI for receiving V2X application server information using MBMS in the PLMN in which this authorization policy applies.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: <TMGI>

The format of the TMGI is defined by 3GPP TS 23.003 [7].

5.6.11 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/V2XASMBMSConfig/ SAIList

The SAIList node contains a list of Service Area Identifiers (SAIs) for receiving V2X application server information using MBMS in the PLMN in which this authorization policy applies.

- Occurrence: One
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.6.12 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/V2XASMBMSConfig/ SAIList/<X>

This interior node acts as a placeholder for one or more SAI(s) for receiving V2X application server information using MBMS in the PLMN in which this authorization policy applies.

- Occurrence: OneOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.6.13 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/V2XASMBMSConfig/ SAIList/<X>/SAI

The SAI leaf indicates an SAI for receiving V2X application server information using MBMS in the PLMN in which this authorization policy applies.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: <SAI>

The format of the SAI is defined by 3GPP TS 23.003 [7].

5.6.14 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/V2XASMBMSConfig/ Frequency

The Frequency leaf indicates a frequency for receiving V2X application server information using MBMS in the PLMN in which this authorization policy applies.

- Occurrence: ZeroOrOne
- Format: chr
- Access Types: Get, Replace
- Values: <EARFCN>

The format of the EARFCN is defined by 3GPP TS 36.101 [11].

5.6.15 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/V2XASMBMSConfig/ SDPInV2XASMBMSConfig

The SDPInV2XASMBMSConfig leaf indicates an SDP for receiving V2X application server information using MBMS in the PLMN in which this authorization policy applies.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: <SDPInV2XASMBMSConfig>

The format of the SDPInV2XASMBMSConfig is defined by 3GPP TS 24.386 [4].

5.6.16 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierUnrelated

The V2XServiceIdentifierUnrelated node contains parameters related to V2X services not identified by a V2X service identifier.

- Occurrence: One
- Format: node
- Access Types: Get, Replace
- Values: N/A

The V2XMBMSConfigs child node describes one or more MBMS configurations for receiving a V2X message using V2X communication over LTE-Uu applicable when the V2X message is of a V2X service not identified by a V2X service identifier.

Absence of the V2XMBMSConfigs child node indicates that the UE cannot receive the V2X messages of V2X services not identified by a V2X service identifier using V2X communication over LTE-Uu using MBMS.

The V2XASAddresses child node contains the V2X application server addresses for transport of a V2X message using V2X communication over LTE-Uu applicable when the V2X message is of a V2X service not identified by a V2X service identifier.

Absence of the V2XASAddresses child node indicates that the UE cannot receive the V2X messages of V2X services not identified by a V2X service identifier using V2X communication over LTE-Uu using unicast and that the UE cannot send V2X messages of V2X services not identified by a V2X service identifier using V2X communication over LTE-Uu.

5.6.17 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierUnrelated/V2XMBMSConfigs

The V2XMBMSConfig node contains one or more MBMS configurations for receiving V2X messages using MBMS in the PLMN in which this authorization policy applies.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.6.18 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierUnrelated/V2XMBMSConfigs/<X>

This node acts as a placeholder for one or more MBMS configurations for receiving V2X messages using MBMS in the PLMN in which this authorization policy applies.

- Occurrence: OneOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.6.19 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierUnrelated/V2XMBMSConfigs/<X>/V2XMBMSC onfig

The V2XMBMSConfig node contains an MBMS configuration for receiving V2X messages using MBMS in the PLMN in which this authorization policy applies.

- Occurrence: One
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.6.20 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierUnrelated/V2XMBMSConfigs/<X>/V2XMBMSC onfig/TMGI

The TMGI leaf indicates a TMGI for receiving V2X messages using MBMS in the PLMN in which this authorization policy applies.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: <TMGI>

The format of the TMGI is defined by 3GPP TS 23.003 [7].

5.6.21 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierUnrelated/V2XMBMSConfigs/<X>/V2XMBMSC onfig/SAIList

The SAIList node contains a list of Service Area Identifiers (SAIs) for receiving V2X messages using MBMS in the PLMN in which this authorization policy applies.

- Occurrence: One
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.6.22 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierUnrelated/V2XMBMSConfigs/<X>/V2XMBMSC onfig/SAIList/<X>

This interior node acts as a placeholder for one or more SAI(s) for receiving V2X messages using MBMS in the PLMN in which this authorization policy applies.

- Occurrence: OneOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.6.23 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierUnrelated/V2XMBMSConfigs/<X>/V2XMBMSC onfig/SAIList/<X>/SAI

The SAI leaf indicates an SAI for receiving V2X messages using MBMS in the PLMN in which this authorization policy applies.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace

- Values: <SAI>

The format of the SAI is defined by 3GPP TS 23.003 [7].

5.6.24 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierUnrelated/V2XMBMSConfigs/<X>/V2XMBMSC onfig/Frequency

The Frequency leaf indicates a frequency for receiving V2X messages using MBMS in the PLMN in which this authorization policy applies.

- Occurrence: ZeroOrOne
- Format: chr
- Access Types: Get, Replace
- Values: <EARFCN>

The format of the EARFCN is defined by 3GPP TS 36.101 [11].

5.6.25 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierUnrelated/V2XMBMSConfigs/<X>/V2XMBMSC onfig/ SDPInV2XMBMSConfig

The SDPInV2XMBMSConfig leaf indicates an SDP for receiving V2X messages using MBMS in the PLMN in which this authorization policy applies.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: <SDPInV2XMBMSConfig>

The format of the SDPInV2XMBMSConfig is defined by 3GPP TS 24.386 [4].

5.6.26 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierUnrelated/V2XASAddresses

The V2XASAddresses node contains V2X server addresses for transport of V2X messages.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.6.27 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierUnrelated/V2XASAddress/<X>

This node acts as a placeholder for a V2X server address applicable in a geographical area.

- Occurrence: OneOrMore
- Format: node

- Access Types: Get, Replace
- Values: N/A

If the GeographicalArea child node is included, the V2X server address indicated in the L3Address child node and UDPPort child node is applicable when the UE is located in geographical area indicated by the GeographicalArea child node.

If the GeographicalArea child node is not included, the V2X server address indicated in the L3Address child node and UDPPort child node is not restricted to a geographical area.

5.6.28 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierUnrelated/V2XASAddress/<X>/L3Address

The L3Address leaf indicates a IP address or FQDN of the V2X application server.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: an FQDN or an IP address.

5.6.29 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierUnrelated/V2XASAddress/<X>/UDPPort

The UDPPort leaf indicates a UDP port of the V2X application server.

- Occurrence: One
- Format: int
- Access Types: Get, Replace
- Values: integer between 0 and 65535

5.6.30 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierUnrelated/V2XASAddress/<X>/ GeographicalArea

The GeographicalArea node contains a geographical area description.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

The UE is located in geographical area indicated by this node, if the UE is located in geographical area indicated by the Polygon child node.

5.6.31 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierUnrelated/V2XASAddress/<X>/GeographicalAr ea/Polygon

This node and its descendants are the same as the node defined in subclause 5.5.13.

5.6.32 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierRelated

The V2XServiceIdentifierRelated node contains parameters related to V2X services identified by a V2X service identifier.

The AuthorizedV2XServiceList child node indicates parameters related to V2X services identified by a particular V2X service identifier.

The DefaultV2XMBMSConfigs child node and the DefaultV2XASAddresses child node indicate parameters related to a V2X service identified by a V2X service identifier for which the AuthorizedV2XServiceList child node does not contain the parameters.

- Occurrence: One
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.6.33 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierRelated/AuthorizedV2XServiceList

The AuthorizedV2XServiceList node contains V2X services identified by a V2X service identifier, authorized for V2X communication over LTE-Uu.

- Occurrence: One
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.6.34 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierRelated/AuthorizedV2XServiceList/<X>

This node acts as a placeholder for a V2X service identified by a V2X service identifier, authorized for V2X communication over LTE-Uu.

- Occurrence: ZeroOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

The V2XMBMSConfigs child node describes one or more MBMS configuration(s) for receiving a V2X message using V2X communication over LTE-Uu applicable when the V2X message is of a V2X service with the V2X service identifier indicated by the V2XServiceIdentifier child node.

Absence of the V2XMBMSConfigs child node indicates that the UE cannot receive the V2X messages of the V2X service with the V2X service identifier indicated by the V2XServiceIdentifier child node using V2X communication over LTE-Uu using MBMS.

The V2XASAddresses child node contains the V2X application server addresses for transport of a V2X message using V2X communication over LTE-Uu applicable when the V2X message is of a V2X service with the V2X service identifier indicated by the V2XServiceIdentifier child node.

Absence of the V2XASAddresses child node indicates that the UE cannot receive the V2X messages of the V2X service with the V2X service identifier indicated by the V2XServiceIdentifier child node using V2X communication

over LTE-Uu using unicast and that the UE cannot send V2X messages of the V2X service with the V2X service identifier indicated by the V2XServiceIdentifier child node using V2X communication over LTE-Uu.

5.6.35 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierRelated/AuthorizedV2XServiceList/<X>/ V2XServiceIdentifier

This node is the same as the node defined in subclause 5.5.22.

5.6.36 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierRelated/AuthorizedV2XServiceList/<X>/ V2XMBMSConfigs

The V2XMBMSConfig node contains one or more MBMS configurations for receiving V2X messages using MBMS in the PLMN in which this authorization policy applies.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.6.37 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierRelated/AuthorizedV2XServiceList/<X>/ V2XMBMSConfigs/<X>

This node acts as a placeholder for one or more MBMS configurations for receiving V2X messages using MBMS in the PLMN in which this authorization policy applies.

- Occurrence: OneOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.6.38 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierRelated/AuthorizedV2XServiceList/<X>/V2XMB MSConfigs/<X>/ V2XMBMSConfig

The V2XMBMSConfig node contains an MBMS configuration for receiving V2X messages using MBMS, for the associated V2X service identifier, in the PLMN in which this authorization policy applies.

- Occurrence: One
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.6.39 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/
 V2XServiceIdentifierRelated/AuthorizedV2XServiceList/<X>/V2XMB
 MSConfigs/<X>/
 V2XMBMSConfig/TMGI

The TMGI leaf indicates a TMGI for receiving V2X messages using MBMS, for the associated V2X service identifier, in the PLMN in which this authorization policy applies.

- Occurrence: ZeroOrOne
- Format: chr
- Access Types: Get, Replace
- Values: <TMGI>

The format of the TMGI is defined by 3GPP TS 23.003 [7].

5.6.40 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/
 V2XServiceIdentifierRelated/AuthorizedV2XServiceList/<X>/V2XMB
 MSConfigs/<X>/
 V2XMBMSConfig/SAIList

The SAIList node contains a list of Service Area Identifiers (SAIs) for receiving V2X messages using MBMS, for the associated V2X service identifier, in the PLMN in which this authorization policy applies.

- Occurrence: One
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.6.41 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/
 V2XServiceIdentifierRelated/AuthorizedV2XServiceList/<X>/V2XMB
 MSConfigs/<X>/
 V2XMBMSConfig/SAIList/<X>

This interior node acts as a placeholder for one or more SAI(s) for receiving V2X messages using MBMS, for the associated V2X service identifier, in the PLMN in which this authorization policy applies.

- Occurrence: OneOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.6.42 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/
 V2XServiceIdentifierRelated/AuthorizedV2XServiceList/<X>/V2XMB
 MSConfigs/<X>/
 V2XMBMSConfig/SAIList/<X>/SAI

The SAI leaf indicates an SAI for receiving V2X messages using MBMS, for the associated V2X service identifier, in the PLMN in which this authorization policy applies.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: <SAI>

The format of the SAI is defined by 3GPP TS 23.003 [7].

5.6.43 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierRelated/AuthorizedV2XServiceList/<X>/V2XMB MSConfigs/<X>/ V2XMBMSConfig/Frequency

The Frequency leaf indicates a frequency for receiving V2X messages using MBMS, for the associated V2X service identifier, in the PLMN in which this authorization policy applies.

- Occurrence: ZeroOrOne
- Format: chr
- Access Types: Get, Replace
- Values: <EARFCN>

The format of the EARFCN is defined by 3GPP TS 36.101 [11].

5.6.44 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierRelated/AuthorizedV2XServiceList/<X>/V2XMB MSConfigs/<X>/ V2XMBMSConfig/SDPInV2XMBMSConfig

The SDPInV2XMBMSConfig leaf indicates an SDP for receiving V2X messages using MBMS, for the associated V2X service identifier, in the PLMN in which this authorization policy applies.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: <SDPInV2XMBMSConfig>

The format of the SDPInV2XMBMSConfig is defined by 3GPP TS 24.386 [4].

NOTE: The V2X message family information is not included in the SDPInV2XMBMSConfig contained in this leaf since the SDPInV2XMBMSConfig is associated with a V2X service identifier.

5.6.45 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierRelated/AuthorizedV2XServiceList/<X>/ V2XASAddresses

This node and its descendants are the same as the node defined in subclause 5.6.26.

5.6.46 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierRelated/DefaultV2XMBMSConfigs

The V2XMBMSConfig node contains one or more default MBMS configurations for receiving V2X messages using MBMS in the PLMN in which this authorization policy applies.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.6.47 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierRelated/DefaultV2XMBMSConfigs/<X>

This node acts as a placeholder for one or more default MBMS configurations for receiving V2X messages of V2X services with a V2X service identifier using MBMS in the PLMN in which this authorization policy applies.

- Occurrence: OneOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.6.48 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierRelated/DefaultV2XMBMSConfigs/<X>/ V2XMBMSConfig

The V2XMBMSConfig node contains a default MBMS configuration for receiving V2X messages of V2X services with a V2X service identifier using MBMS, in the PLMN in which this authorization policy applies.

- Occurrence: One
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.6.49 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierRelated/DefaultV2XMBMSConfigs/<X>/ V2XMBMSConfig/TMGI

The TMGI leaf indicates a TMGI for receiving V2X messages of V2X services with a V2X service identifier using MBMS, in the PLMN in which this authorization policy applies.

- Occurrence: ZeroOrOne
- Format: chr
- Access Types: Get, Replace
- Values: <TMGI>

The format of the TMGI is defined by 3GPP TS 23.003 [7].

5.6.50 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierRelated/DefaultV2XMBMSConfigs/<X>/ V2XMBMSConfig/SAIList

The SAIList node contains a list of Service Area Identifiers (SAIs) for receiving V2X messages of V2X services with a V2X service identifier using MBMS, in the PLMN in which this authorization policy applies.

- Occurrence: One
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.6.51 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierRelated/DefaultV2XMBMSConfigs/<X>/ V2XMBMSConfig/SAIList/<X>

This interior node acts as a placeholder for one or more SAI(s) for receiving V2X messages of V2X services with a V2X service identifier using MBMS, in the PLMN in which this authorization policy applies.

- Occurrence: OneOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.6.52 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierRelated/DefaultV2XMBMSConfigs/<X>/ V2XMBMSConfig/SAIList/<X>/SAI

The SAI leaf indicates an SAI for receiving V2X messages of V2X services with a V2X service identifier using MBMS, in the PLMN in which this authorization policy applies.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: <SAI>

The format of the SAI is defined by 3GPP TS 23.003 [7].

5.6.53 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierRelated/DefaultV2XMBMSConfigs/<X>/ V2XMBMSConfig/Frequency

The Frequency leaf indicates a frequency for receiving V2X messages of V2X services with a V2X service identifier using MBMS, in the PLMN in which this authorization policy applies.

- Occurrence: ZeroOrOne
- Format: chr
- Access Types: Get, Replace

- Values: <EARFCN>

The format of the EARFCN is defined by 3GPP TS 36.101 [11].

5.6.54 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierRelated/DefaultV2XMBMSConfigs/<X>/ V2XMBMSConfig/SDPInV2XMBMSConfig

The SDPInV2XMBMSConfig leaf indicates an SDP for receiving V2X messages of V2X services with a V2X service identifier using MBMS, in the PLMN in which this authorization policy applies.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: <SDPInV2XMBMSConfig>

The format of the SDPInV2XMBMSConfig is defined by 3GPP TS 24.386 [4].

5.6.55 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierRelated/ DefaultV2XASAddresses

The V2XASAddresses node contains default V2X server addresses for transport of V2X messages.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.6.56 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierRelated/ DefaultV2XASAddresses/<X>

This node acts as a placeholder for default V2X server addresses for transport of V2X messages.

- Occurrence: OneOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.6.57 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierRelated/ DefaultV2XASAddresses/<X>/TypeOfData

The TypeOfData node indicates type of data of V2X message.

- Occurrence: One
- Format: int
- Access Types: Get, Replace

- Values: 0, 1
- 0 IP type of data.
- 1 non-IP type of data.

5.6.58 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierRelated/ DefaultV2XASAddresses/<X>/V2XMessageFamily

The V2XMessageFamily node indicates V2X message family of V2X message of non-IP type of data.

- Occurrence: ZeroOrOne
- Format: int
- Access Types: Get, Replace
- Values: <a V2X message family as specified in 3GPP TS 24.386 [4] subclause 7.1>

5.6.59 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierRelated/DefaultV2XASAddresses/<X>/ V2XASAddresses

This node and its descendants are the same as the node defined in subclause 5.6.26.

5.6.60 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierRelated/IPUnicastRoutingV2XServiceList

The IPUnicastRoutingV2XServiceList node contains V2X services identified by a V2X service identifier, authorized for V2X communication over LTE-Uu using existing unicast routing.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.6.61 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierRelated/IPUnicastRoutingV2XServiceList/<X>

This node acts as a placeholder for a V2X service identified by a V2X service identifier, authorized for V2X communication over LTE-Uu using existing unicast routing.

- Occurrence: ZeroOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.6.62 <X>/V2XoverLTEUu/AuthorizedPLMNs/<X>/ V2XServiceIdentifierRelated/IPUnicastRoutingV2XServiceList/<X> V2XServiceIdentifier

This node is the same as the node defined in subclause 5.5.22.

5.7 <X>/Ext

The Ext is an interior node for where the vendor specific information about the V2X communication provisioning MO is being placed (vendor meaning application vendor, device vendor etc.). Usually the vendor extension is identified by vendor specific name under the ext node. The tree structure under the vendor identifier is not defined and can therefore include one or more un-standardized sub-trees.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get
- Values: N/A

Annex A (informative): V2X Communication Provisioning MO DDF

This DDF is the standardized minimal set. A vendor can define its own DDF for the complete device. This DDF can include more features than this minimal standardized version.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE MgmtTree PUBLIC "-//OMA//DTD-DM-DDF 1.2//EN"
"http://www.openmobilealliance.org/tech/DTD/dm_ddf-v1_2.dtd">

<MgmtTree>
  <VerDTD>1.2</VerDTD>
  <Man>--The device manufacturer--</Man>
  <Mod>--The device model--</Mod>

  <Node>
    <NodeName/>
    <DFProperties>
      <AccessType>
        <Get/>
      </AccessType>
      <Description>V2X Communication Provisioning</Description>
      <DFFormat>
        <node/>
      </DFFormat>
      <Occurrence>
        <OneOrMore/>
      </Occurrence>
      <DFTitle>The V2X Communication Provisioning Management Object.</DFTitle>
      <DFType>
        <DDFName/>urn:oma:mo:ext-3gpp-V2X-communication-provisioning:1.0<DDFName/>
      </DFType>
    </DFProperties>

    <Node>
      <NodeName>Name</NodeName>
      <DFProperties>
        <AccessType>
          <Get/>
        </AccessType>
        <DFFormat>
          <chr/>
        </DFFormat>
        <Occurrence>
          <One/>
        </Occurrence>
        <DFTitle>User displayable name for the node.</DFTitle>
        <DFType>
          <MIME>text/plain</MIME>
        </DFType>
      </DFProperties>
    </Node>

    <Node>
      <NodeName>V2XProvisioning</NodeName>
      <!-- The V2XProvisioning node starts here. -->
      <DFProperties>
        <AccessType>
          <Get/>
          <Replace/>
        </AccessType>
        <DFFormat>
          <node/>
        </DFFormat>
        <Occurrence>
          <One/>
        </Occurrence>
        <DFTitle>Configuration parameters for V2X provisioning.</DFTitle>
        <DFType>
          <DDFName/>
        </DFType>
      </DFProperties>

    <Node>
      <NodeName>V2XControlFunctionAddress</NodeName>
```

```

    <DFProperties>
      <AccessType>
        <Get/>
        <Replace/>
      </AccessType>
      <DFFormat>
        <chr/>
      </DFFormat>
      <Occurrence>
        <ZeroOrOne/>
      </Occurrence>
      <DFTitle>The V2X control function address.</DFTitle>
      <DFType>
        <DDFName/>
      </DFType>
    </DFProperties>
  </Node>

  <Node>
    <nodeName>ToConRefs</nodeName>
    <DFProperties>
      <AccessType>
        <Get/>
        <Replace/>
      </AccessType>
      <DFFormat>
        <node/>
      </DFFormat>
      <Occurrence>
        <ZeroOrOne/>
      </Occurrence>
      <DFTitle>collection of connectivity definitions.</DFTitle>
      <DFType>
        <DDFName/>
      </DFType>
    </DFProperties>

    <Node>
      <nodeName/>
      <DFProperties>
        <AccessType>
          <Get/>
          <Replace/>
        </AccessType>
        <DFFormat>
          <node/>
        </DFFormat>
        <Occurrence>
          <OneOrMore/>
        </Occurrence>
        <DFTitle>The name node for one or more connectivity parameters.</DFTitle>
        <DFType>
          <DDFName/>
        </DFType>
      </DFProperties>

      <Node>
        <nodeName>ConRef</nodeName>
        <DFProperties>
          <AccessType>
            <Get/>
            <Replace/>
          </AccessType>
          <DFFormat>
            <chr/>
          </DFFormat>
          <Occurrence>
            <One/>
          </Occurrence>
          <DFTitle> Linkage to connectivity parameters.</DFTitle>
          <DFType>
            <MIME>text/plain</MIME>
          </DFType>
        </DFProperties>
      </Node>
    </Node>
  </Node>
</Node>

```

```

<Node>
  <NodeName>V2XoverPC5</NodeName>
  <!-- The V2XoverPC5 node starts here. -->
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <node/>
    </DFFormat>
    <Occurrence>
      <One/>
    </Occurrence>
    <DFTitle>Configuration parameters for V2X communication over PC5.</DFTitle>
    <DFType>
      <DDFName/>
    </DFType>
  </DFProperties>

  <Node>
    <NodeName>Expiration</NodeName>
    <DFProperties>
      <AccessType>
        <Get/>
        <Replace/>
      </AccessType>
      <DFFormat>
        <int/>
      </DFFormat>
      <Occurrence>
        <One/>
      </Occurrence>
      <DFTitle>Expiration time of validity.</DFTitle>
      <DFType>
        <DDFName/>
      </DFType>
    </DFProperties>
  </Node>

  <Node>
    <NodeName>ServedByEUTRAN</NodeName>
    <DFProperties>
      <AccessType>
        <Get/>
        <Replace/>
      </AccessType>
      <DFFormat>
        <node/>
      </DFFormat>
      <Occurrence>
        <One/>
      </Occurrence>
      <DFTitle>Configuration parameters for V2X communication over PC5 when served by
E-UTRAN for V2X communication.</DFTitle>
      <DFType>
        <DDFName/>
      </DFType>
    </DFProperties>

    <Node>
      <NodeName>AuthorizedPLMNs</NodeName>
      <DFProperties>
        <AccessType>
          <Get/>
          <Replace/>
        </AccessType>
        <DFFormat>
          <node/>
        </DFFormat>
        <Occurrence>
          <One/>
        </Occurrence>
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Annex B (informative): Change history

Change history						
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	New
2016-10		-	-	-	TS skeleton generated for submission at CT1#100	0.0.0
2016-10	CT1#100	-	-	-	Implementation of C1-164497. Editorial fixes.	0.1.0
2016-11	CT1#101	-	-	-	Implementation of C1-165327, C1-165329 and C1-165390. Editorial fixes.	0.2.0
2016-11	CT-74	CP-160704			Version 1.0.0 created for presentation for information to CT plenary	1.0.0
2017-01	CT1#101bis	-	-	-	Implementation of C1-170014, C1-170096, C1-170243, C1-170339, C1-170344, C1-170348 and C1-170349.	1.1.0
2017-02	CT1#102	-	-	-	Implementation of C1-170919, C1-170922 and C1-170993. Editorial fixes.	1.2.0
2017-02	CT-75	CP-170155			Version 2.0.0 created for presentation for approval to CT plenary	2.0.0
2017-03	CT-75				Version 14.0.0 created after approval at CT-75	14.0.0
2017-06	CT-76	CP-171091	0001	1	V2X communication over LTE-Uu - configuration for existing unicast routing for V2X messages of a V2X service with a V2X service identifier	14.1.0
2017-06	CT-76	CP-171091	0002		Addition of PC5 privacy configuration parameters to V2X MO	14.1.0
2017-06	CT-76	CP-171091	0003	1	Correction of reference to the definition of RadioParameterContents	14.1.0
2017-06	CT-76	CP-171091	0004		Correction of default destination Layer-2 ID	14.1.0
2017-06	CT-76	CP-171091	0005	1	Removal of Editor's note on the destination layer 2 ID	14.1.0
2017-09	CT-77	CP-172110	0006		Supporting cross-carrier operation for V2X communication over PC5	14.2.0
2017-09	CT-77	CP-172110	0007	3	MO for service type and V2X frequency mapping rule	14.2.0
2017-12	CT-78	CP-173056	0009		Adding definition of not served by E-UTRAN for V2X communication over PC5	14.3.0
2017-12	CT-78	CP-173056	0010		Clarification on the number of coordinates in a geographical area	14.3.0

History

Document history		
V14.0.0	May 2017	Publication
V14.1.0	July 2017	Publication
V14.2.0	October 2017	Publication
V14.3.0	January 2018	Publication