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# Modal verbs terminology

In the present document "shall", "shall not", "should", "should not", "may", "need not", "will", "will not", "can" and "cannot" are to be interpreted as described in clause 3.2 of the <u>ETSI Drafting Rules</u> (Verbal forms for the expression of provisions).

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# Foreword

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  - 1 presented to TSG for information;
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  - 3 or greater indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

In the present document, certain modal verbs have the following meanings:

- shall indicates a mandatory requirement to do something
- shall not indicates an interdiction (prohibition) to do something
- NOTE 1: The constructions "shall" and "shall not" are confined to the context of normative provisions, and do not appear in Technical Reports.
- NOTE 2: The constructions "must" and "must not" are not used as substitutes for "shall" and "shall not". Their use is avoided insofar as possible, and they are not used in a normative context except in a direct citation from an external, referenced, non-3GPP document, or so as to maintain continuity of style when extending or modifying the provisions of such a referenced document.
- should indicates a recommendation to do something
- should not indicates a recommendation not to do something
- may indicates permission to do something
- **need not** indicates permission not to do something
- NOTE 3: The construction "may not" is ambiguous and is not used in normative elements. The unambiguous constructions "might not" or "shall not" are used instead, depending upon the meaning intended.
- **can** indicates that something is possible
- cannot indicates that something is impossible

NOTE 4: The constructions "can" and "cannot" shall not to be used as substitutes for "may" and "need not".

- will indicates that something is certain or expected to happen as a result of action taken by an agency the behaviour of which is outside the scope of the present document
- will not indicates that something is certain or expected not to happen as a result of action taken by an agency the behaviour of which is outside the scope of the present document
- **might** indicates a likelihood that something will happen as a result of action taken by some agency the behaviour of which is outside the scope of the present document

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**might not** indicates a likelihood that something will not happen as a result of action taken by some agency the behaviour of which is outside the scope of the present document

In addition:

- is (or any other verb in the indicative mood) indicates a statement of fact
- is not (or any other negative verb in the indicative mood) indicates a statement of fact

NOTE 5: The constructions "is" and "is not" do not indicate requirements.

# 1 Scope

The present document defines User Equipment (UE) policies that are used to configure the UE for Vehicle-to-Everything (V2X) services in 5G System (5GS) based on the architectural requirements defined in 3GPP TS 23.287 [2].

The protocol aspects for V2X services in 5G System (5GS) are described in 3GPP TS 24.587 [3].

# 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 23.287: "Architecture enhancements for 5G System (5GS) to support Vehicle-to-Everything (V2X) services".
- [3] 3GPP TS 24.587: "Vehicle-to-Everything (V2X) services in 5G System (5GS); Stage 3".
- [4] 3GPP TS 24.501: "Non-Access-Stratum (NAS) protocol for 5G System (5GS); Stage 3".
- [5] ISO TS 17419 ITS-AID AssignedNumbers : <u>http://standards.iso.org/iso/ts/17419/TS17419%20Assigned%20Numbers/TS17419\_ITS-</u> AID\_AssignedNumbers.pdf
- [6] ITU-T Recommendation E.212: "The international identification plan for public networks and subscriptions", 2016-09-23.
- [7] 3GPP TS 23.032: "Universal Geographical Area Description (GAD)".
- [8] IEEE 1609.3 2016: "IEEE Standard for Wireless Access in Vehicular Environments (WAVE) --Networking Services".
- [9] ISO 29281-1 2013: "Intelligent transport systems -- Communication access for land mobiles (CALM) -- Non-IP networking -- Part 1: Fast networking & transport layer protocol (FNTP)".
- [10] ETSI EN 302 636-3 v1.2.1: "Intelligent Transport Systems (ITS); Vehicular Communications; GeoNetworking; Part 3: Network Architecture".
- [11] 3GPP TS 24.526: "UE policies for 5G System (5GS); Stage 3".
- [12] 3GPP TS 38.331: "NR; Radio Resource Control (RRC) protocol specification".
- [13] 3GPP TS 36.101: "Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) radio transmission and reception".
- [14] 3GPP TS 38.101-1: "NR; User Equipment (UE) radio transmission and reception; Part 1: Range 1 Standalone".
- [15] 3GPP TS 38.101-2: "NR; User Equipment (UE) radio transmission and reception; Part 2: Range 2 Standalone".
- [16] 3GPP TS 36.331: "Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC) protocol specification".

[17]

3GPP TS 23.003: "Numbering, addressing and identification".

# 3 Definitions of terms and abbreviations

### 3.1 Terms

For the purposes of the present document, the terms 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].

example: text used to clarify abstract rules by applying them literally.

For the purposes of the present document, the following terms and definitions given in 3GPP TS 24.587 [3] apply:

E-UTRA-PC5

NR-PC5

V2X service identifier

# 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].

V2X Vehicle-to-Everything V2XP V2X Policy

4 Descriptions of UE policies for V2X

## 4.1 Overview

The V2XP in 5GS include:

- UE policies for V2X communication over PC5 (see clause 4.2); and
- UE policies for V2X communication over Uu (see clause 4.3).

The V2XP can be delivered from the PCF to the UE. The UE policy delivery procedure is specified in 3GPP TS 24.501 [4].

# 4.2 UE policies for V2X communication over PC5

The UE policies for V2X communication over PC5 are defined in clause 5.2.3 of 3GPP TS 24.587 [3].

NOTE: The generic description of the UE policies for V2X communication over PC5 are specified in 3GPP TS 23.287 [2].

### 4.3 UE policies for V2X communication over Uu

The UE policies for V2X communication over Uu are defined in clause 5.2.4 of 3GPP TS 24.587 [3].

NOTE: The generic description of the UE policies for V2X communication over Uu are specified in 3GPP TS 23.287 [2].

# 5 Encoding of UE policies for V2X

### 5.1 Overview

The UE policies for V2X are provided to the UE in a V2X policy (V2XP) UE policy part using the UE policy delivery service as specified in 3GPP TS 24.501 [4] annex D.

# 5.2 Encoding of V2X policy (V2XP) UE policy part

### 5.2.1 General

The purpose of the V2XP is to indicate UE policies for V2X communication over PC5 and UE policies for V2X communication over Uu.

The V2XP is encoded as shown in figures 5.2.1.1 to 5.2.1.3 and table 5.2.1.1 according to the UE policy part top level format (see annex D of 3GPP TS 24.501 [4]).









Figure 5.2.1.3: V2XP info

Table 5.2.1.1: V2XP information format

UE policy part type field is set to '0011' (=V2XP) as specified in 3GPP TS 24.501 [4] annex D. UE policy part contents length field indicate the length of the V2XP contents in octets. V2XP contents (octets 4 to x) V2XP contents consist of 1 or more V2XP info(s) (see figure 5.2.1.2). V2XP info type (bit 1 to 4 of octet k) shall be set according to the following: Bits 4 3 2 1 0 0 0 1 UE policies for V2X communication over PC5 0 0 1 0 UE policies for V2X communication over Uu All other values are reserved. Bits 8 to 5 of octet k are spare and shall be encoded as zero. Length of V2XP info contents (octets k+1 to k+2) indicates the length of the V2XP info contents field. V2XP info contents (octets k+3 to I) can be UE policies for V2X communication over PC5 (see clause 5.3.1) or UE policies for V2X communication over Uu (see clause 5.4.1).

# 5.3 Encoding of UE policies for V2X communication over PC5

### 5.3.1 General

The UE policies for V2X communication over PC5 are coded as shown in figures 5.3.1.1 and table 5.3.1.1.

8	7	6	5	4	3	2	1	_						
0	0 0 0 0 V2XP info type = {UE policies for Spare V2X communication over PC5}													
	Length of V2XP info contents													
								octet k+3						
	Validity timer													
VSITP	0	0	0	0	0	0	0	octet k+8						
MRI	Spare	Spare	Spare	Spare	Spare	Spare	Spare							
								octet k+9						
	:	Served by	y E-UTR	A or serve	ed by NR									
								octet o1						
	Note	erved by		and not	oon od b			octet o1+1						
	NOL S	served by	E-UIKA	and not	Served D	y INK		octet o2						
								octet (o2+1)						
V2X se	ervice ide	ntifier to	PC5 RAT	(s) and T	x profiles	s mappin	a rules	00101 (0211)						
				(-)			3	octet o3*						
-								octet o124						
			Privacy	/ config				(see NOTE)						
								octet o4						
								octet o4+1						
	V2X c	communic	cation ov	er PC5 in	E-UTRA	-PC5		octet o5						
	V2X communication over PC5 in NR-PC5													
	VZ.		inication	over PC:	III NR-P	65		octet I						
L														

NOTE: The field is placed immediately after the last present preceding field.

### Figure 5.3.1.1: V2XP Info = {UE policies for V2X communication over PC5}

### Table 5.3.1.1: V2XP Info = {UE policies for V2X communication over PC5}

·····											
V2XP info type (bit 1 to 4 of octet k) shall be set to "0001" (UE policies communication over PC5)	s for V2X										
Length of Length of V2XP info contents (octets k+1 to k+2) indicates the length of V2XP info contents.											
Validity timer: The validity timer field provides the expiration time of validity of the UE communication over PC5. The validity timer field is a binary coded rep UTC time, in seconds since midnight UTC of January 1, 1970 (not con seconds).	presentation of a										
V2X service identifier to PC5 RAT(s) and Tx profiles mapping rules in	dicator										
(VSITPMRI) The VSITPMRI bit indicates presence of the V2X service identifier to I Tx profiles mapping rules field. Bit	PC5 RAT(s) and										
<ul> <li>8</li> <li>0 V2X service identifier to PC5 RAT(s) and Tx profiles mapping rule:</li> <li>1 V2X service identifier to PC5 RAT(s) and Tx profiles mapping rule:</li> </ul>											
Served by E-UTRA or served by NR: The served by E-UTRA or served by NR field is coded according to fig table 5.3.1.2, and contains configuration parameters for V2X commun when the UE is served by E-UTRA or served by NR.											
Not served by E-UTRA and not served by NR: The not served by E-UTRA and not served by NR field is coded accor figure 5.3.1.6 and table 5.3.1.6, and contains configuration parameters communication over PC5 when the UE is not served by E-UTRA or N	s for V2X										
V2X service identifier to PC5 RAT(s) and Tx profiles mapping rules: The V2X service identifier to PC5 RAT(s) and Tx profiles mapping rule according to figure 5.3.1.12 and table 5.3.1.12, and contains a list of V identifier to PC5 RAT(s) and Tx profiles mapping rules.											
Privacy config: The Privacy config field is coded according to figure 5.3.1.15 and table contains configuration parameters for privacy configuration.	e 5.3.1.15, and										
V2X communication over PC5 in E-UTRA-PC5: The V2X communication over PC5 in E-UTRA-PC5 field is coded accerting figure 5.3.1.19 and table 5.3.1.19, and contains configuration parameter communication over PC5 in E-UTRA-PC5.											
V2X communication over PC5 in NR-PC5: The V2X communication over PC5 in NR-PC5 field is coded according figure 5.3.1.31 and table 5.3.1.31, and contains configuration parameter communication over PC5 in NR-PC5.											
If the length of V2XP info contents field indicates a length bigger than figure 5.3.1.1, receiving entity shall ignore any superfluous octets loca the V2XP info contents.											
<u>8 7 6 5 4 3 2 1</u>	octet k+9										
Length of served by E-UTRA or served by NR contents	octet k+10										
	octot k 11										

Figure 5.3.1.2: Served by E-UTRA or served by NR

Authorized PLMN and RATs combinations

octet k+11

octet o1



Authorized PLMN and RATs combinations: The authorized PLMN and RATs combinations field is coded according to figure 5.3.1.3 and table 5.3.1.3.

If the length of served by E-UTRA or served by NR contents field indicates a length bigger than indicated in figure 5.3.1.2, receiving entity shall ignore any superfluous octets located at the end of the served by E-UTRA or served by NR contents.



#### Table 5.3.1.3: Authorized PLMN and RATs combinations

Authorized PLMN and RATs combination: The authorized PLMN and RATs combination field is coded according to figure 5.3.1.4 and table 5.3.1.4.



Figure 5.3.1.4: Authorized PLMN and RATs combination

PLMN ID: The PLMN ID field is coded according to figure 5.3.1.5 and table 5.3.1.5. E-UTRA-PC5 indicator when served by E-UTRA or served by NR (EPIEN): The EPIEN bit indicates whether the UE is authorized to use V2X communication over E-UTRA-PC5 in the PLMN indicated by the PLMN ID field when served by E-UTRA or served by NR. Bit 8 0 Not authorized 1 Authorized NR-PC5 indicator when served by E-UTRA or served by NR (NPIEN): The NPIEN bit indicates whether the UE is authorized to use V2X communication over NR-PC5 in the PLMN indicated by the PLMN ID field when served by E-UTRA or served by NR. Bit 7 0 Not authorized 1 Authorized	
E-UTRA-PC5 indicator when served by E-UTRA or served by NR (EPIEN): The EPIEN bit indicates whether the UE is authorized to use V2X communication over E-UTRA-PC5 in the PLMN indicated by the PLMN ID field when served by E-UTRA or served by NR. Bit 8 0 Not authorized 1 Authorized NR-PC5 indicator when served by E-UTRA or served by NR (NPIEN): The NPIEN bit indicates whether the UE is authorized to use V2X communication over NR-PC5 in the PLMN indicated by the PLMN ID field when served by E-UTRA or served by NR. Bit 7 0 Not authorized	PLMN ID:
The EPIEN bit indicates whether the UE is authorized to use V2X communication over E-UTRA-PC5 in the PLMN indicated by the PLMN ID field when served by E-UTRA or served by NR. Bit 8 0 Not authorized 1 Authorized NR-PC5 indicator when served by E-UTRA or served by NR (NPIEN): The NPIEN bit indicates whether the UE is authorized to use V2X communication over NR-PC5 in the PLMN indicated by the PLMN ID field when served by E-UTRA or served by NR. Bit 7 0 Not authorized	The PLMN ID field is coded according to figure 5.3.1.5 and table 5.3.1.5.
The EPIEN bit indicates whether the UE is authorized to use V2X communication over E-UTRA-PC5 in the PLMN indicated by the PLMN ID field when served by E-UTRA or served by NR. Bit 8 0 Not authorized 1 Authorized NR-PC5 indicator when served by E-UTRA or served by NR (NPIEN): The NPIEN bit indicates whether the UE is authorized to use V2X communication over NR-PC5 in the PLMN indicated by the PLMN ID field when served by E-UTRA or served by NR. Bit 7 0 Not authorized	
E-UTRA-PC5 in the PLMN indicated by the PLMN ID field when served by E-UTRA or served by NR. Bit 8 0 Not authorized 1 Authorized NR-PC5 indicator when served by E-UTRA or served by NR (NPIEN): The NPIEN bit indicates whether the UE is authorized to use V2X communication over NR-PC5 in the PLMN indicated by the PLMN ID field when served by E-UTRA or served by NR. Bit 7 0 Not authorized	
served by NR. Bit 8 0 Not authorized 1 Authorized NR-PC5 indicator when served by E-UTRA or served by NR (NPIEN): The NPIEN bit indicates whether the UE is authorized to use V2X communication over NR-PC5 in the PLMN indicated by the PLMN ID field when served by E-UTRA or served by NR. Bit 7 0 Not authorized	
Bit 8 0 Not authorized 1 Authorized NR-PC5 indicator when served by E-UTRA or served by NR (NPIEN): The NPIEN bit indicates whether the UE is authorized to use V2X communication over NR-PC5 in the PLMN indicated by the PLMN ID field when served by E-UTRA or served by NR. Bit 7 0 Not authorized	, , , , , , , , , , , , , , , , , , ,
<ul> <li>8</li> <li>0 Not authorized</li> <li>1 Authorized</li> <li>NR-PC5 indicator when served by E-UTRA or served by NR (NPIEN): The NPIEN bit indicates whether the UE is authorized to use V2X communication over NR-PC5 in the PLMN indicated by the PLMN ID field when served by E-UTRA or served by NR. Bit</li> <li>7</li> <li>0 Not authorized</li> </ul>	
<ul> <li>0 Not authorized</li> <li>1 Authorized</li> <li>NR-PC5 indicator when served by E-UTRA or served by NR (NPIEN): The NPIEN bit indicates whether the UE is authorized to use V2X communication over NR-PC5 in the PLMN indicated by the PLMN ID field when served by E-UTRA or served by NR. Bit</li> <li>7</li> <li>0 Not authorized</li> </ul>	
<ol> <li>Authorized</li> <li>NR-PC5 indicator when served by E-UTRA or served by NR (NPIEN): The NPIEN bit indicates whether the UE is authorized to use V2X communication over NR-PC5 in the PLMN indicated by the PLMN ID field when served by E-UTRA or served by NR. Bit</li> <li>7</li> <li>0 Not authorized</li> </ol>	
NR-PC5 indicator when served by E-UTRA or served by NR (NPIEN): The NPIEN bit indicates whether the UE is authorized to use V2X communication over NR-PC5 in the PLMN indicated by the PLMN ID field when served by E-UTRA or served by NR. Bit <b>7</b> 0 Not authorized	
The NPIEN bit indicates whether the UE is authorized to use V2X communication over NR-PC5 in the PLMN indicated by the PLMN ID field when served by E-UTRA or served by NR. Bit 7 0 Not authorized	1 Authorized
The NPIEN bit indicates whether the UE is authorized to use V2X communication over NR-PC5 in the PLMN indicated by the PLMN ID field when served by E-UTRA or served by NR. Bit 7 0 Not authorized	NR-PC5 indicator when served by E-LITRA or served by NR (NPIEN):
NR-PC5 in the PLMN indicated by the PLMN ID field when served by E-UTRA or served by NR. Bit 7 0 Not authorized	, , , , , , , , , , , , , , , , , , ,
served by NR. Bit 7 0 Not authorized	
Bit 7 0 Not authorized	
0 Not authorized	
1 Authorized	0 Not authorized
	1 Authorized

Table 5.3.1.4: Authorized PLMN and RATs combination

8	7	6	5	4	3	2	1	
	MCC	digit 2			MCC	digit 1		octet k+17
	MNC	digit 3			MCC	digit 3		octet k+18
	MNC	digit 2			MNC	digit 1		octet k+19

#### Figure 5.3.1.5: PLMN ID

#### Table 5.3.1.5: PLMN ID

Mobile country code (MCC): The MCC field is coded as in ITU-T Recommendation E.212 [6], annex A.

Mobile network code (MNC):

The coding of MNC field is the responsibility of each administration but BCD coding shall be used. The MNC shall consist of 2 or 3 digits. If a network operator decides to use only two digits in the MNC, MNC digit 3 shall be coded as "1111".



NOTE: The field is placed immediately after the last present preceding field.

#### Figure 5.3.1.6: Not served by E-UTRA and not served by NR

V2X communication over PC5 when not served by E-UTRA and not served by NR
indicator (VPNENNI):
The VPNENNI bit indicates whether the UE is authorized to use V2X communication
over PC5 when not served by E-UTRA and not served by NR.
Bit 1
0 Not authorized
1 Authorized
E-UTRA-PC5 indicator when not served by E-UTRA and not served by NR (PEINENN):
The EPINENN bit indicates whether the UE is authorized to use V2X communication
over E-UTRA-PC5 when not served by E-UTRA and not served by NR.
Bit
8
0 Not authorized
1 Authorized
NR-PC5 indicator when not served by E-UTRA and not served by NR (NPINENN):
The NPINENN bit indicates whether the UE is authorized to use V2X communication
over NR-PC5 when not served by E-UTRA and not served by NR.
Bit
7
0 Not authorized
1 Authorized
E-UTRA radio parameters per geographical area list:
If EPINENN bit is set to "Authorized", the E-UTRA radio parameters per geographical area list field is present otherwise the E-UTRA radio parameters per geographical area
list field is absent. It is coded according to figure 5.3.1.7 and table 5.3.1.7.
NR radio parameters per geographical area list:
If NPINENN bit is set to "Authorized", the NR radio parameters per geographical area
list field is present otherwise the NR radio parameters per geographical area list field is
absent. It is coded according to figure 5.3.1.7 and table 5.3.1.7.
If the length of not served by E-UTRA and not served by NR contents field indicates a
length bigger than indicated in figure 5.3.1.6, receiving entity shall ignore any
superfluous octets located at the end of the not served by E-UTRA and not served by NR contents.

### Table 5.3.1.6: Not served by E-UTRA and not served by NR

	8	7	6	5	4	3	2	1				
T	Long	th of rod	lio porom	otoro por	accarool	hingl are	a liat aan	tonto	octet o1+4			
	Leng	jin or rau	lio param	eters per	geograpl	lical ale	a list con	lenis	octet o1+5			
		Radio	naramet	tors nor a	geographi	cal area	info 1		octet (01+6)*			
		Rauk	paramet	ters per (	geographi				octet o6*			
		Radio	naramet	ters ner d	geographi	cal area	info 2		octet (06+1)*			
		Ruur	paramet		geographi		1110 2		octet o7*			
									octet (07+1)*			
		Radio	naramet	ters ner d	geographi	cal area	info n		octet (08+1)*			
		Rauk	paramet		geographi				octet o121*			
	Figure 5.3.1.7: Radio parameters per geographical a											

Figure 5.3.1.7: Radio parameters per geographical area list















Figure 5.3.1.9: Geographical area



Table 5.3.1.9: Geographical area





Latitude: The latitude field is coded according to clause 6.1 of 3GPP TS 23.032 [7]. Longitude: The longitude field is coded according to clause 6.1 of 3GPP TS 23.032 [7].



Figure 5.3.1.11: Radio parameters



Radio parameters contents: In E-UTRA radio parameters per geographical area list, radio parameters are defined as *SL-V2X-Preconfiguration* in clause 9 of 3GPP TS 36.331 [16]. In NR radio parameters per geographical area list, radio parameters are defined as *SL-PreconfigurationNR* in clause 9.3 of 3GPP TS 38.331 [12].

8	7	6	5	4	3	2	1						
								octet o2+1					
Leng	Length of V2X service identifier to PC5 RAT(s) and Tx profiles mapping rules contents												
								octet (o2+3)*					
V2X sei	rvice ide	ntifier to F	PC5 RAT	(s) and T	Tx profiles	mapping	g rule 1	octet o10*					
								octet (o10+1)*					
V2X se	rvice ide	ntifier to F	PC5 RAT	(s) and T	x profiles	mapping	g rule 2	octet o11*					
								octet (o11+1)*					
								actation 10*					
								octet o12* octet (o12+1)*					
V2X se	rvice ide	ntifier to F	PC5 RAT	(s) and T	x profiles	mapping	g rule n						
								octet o3*					

Figure 5.3.1.12: V2X service identifier to PC5 RAT(s) and Tx profiles mapping rules

#### Table 5.3.1.12: V2X service identifier to PC5 RAT(s) and Tx profiles mapping rules

V2X service identifier to PC5 RAT(s) and Tx profiles mapping rule: The V2X service identifier to PC5 RAT(s) and Tx profiles mapping rule field is coded according to figure 5.3.1.13 and table 5.3.1.13.



#### Figure 5.3.1.13: V2X service identifier to PC5 RAT(s) and Tx profiles mapping rule

#### Table 5.3.1.13: V2X service identifier to PC5 RAT(s) and Tx profiles mapping rule

V2X service identifiers: The V2X service identifiers field is coded according to figure 5.3.1.14 and table 5.3.1.14.
Broadcast and groupcast mode NR-PC5 Tx profile indicator (BGNTI) The BGNTI bit indicates presence of the broadcast and groupcast mode NR-PC5 Tx profile field. Bit <b>3</b>
<ul> <li>broadcast and groupcast mode NR-PC5 Tx profile field is absent</li> <li>broadcast and groupcast mode NR-PC5 Tx profile field is present</li> </ul>
If the PC5 RAT field is set to "E-UTRA-PC5", then the BGNTI bit is set to "broadcast and groupcast mode NR-PC5 Tx profile field is absent". If the PC5 RAT field is set to "NR-PC5" or "Both E-UTRA-PC5 and NR-PC5", then the BGNTI bit can be set to "broadcast and groupcast mode NR-PC5 Tx profile field is absent" or "broadcast and groupcast mode NR-PC5 Tx profile field is present".
PC5 RAT(s): The PC5 RAT(s) field indicates the PC5 RAT(s) mapped to the V2X service identifiers. <b>Bits</b> 2 1
0 0 E-UTRA-PC5
0 1 NR-PC5
1 0 Both E-UTRA-PC5 and NR-PC5 All other values are spare.
If the PC5 RAT field is set to "E-UTRA-PC5" or "Both E-UTRA-PC5 and NR-PC5", the length of E-UTRA-PC5 Tx profiles field and the E-UTRA-PC5 Tx profiles field are present otherwise the length of E-UTRA-PC5 Tx profiles field and the E-UTRA-PC5 Tx profiles field are absent. If the PC5 RAT field is set to a spare value, the receiving entity shall ignore the V2X service identifier to PC5 RAT(s) and Tx profiles mapping rule.
E-UTRA-PC5 Tx profiles: The E-UTRA-PC5 Tx profiles field is coded as <i>v2x-TxProfileList</i> in clause 9.3.2 of 3GPP TS 36.331 [16].
Broadcast and groupcast mode NR-PC5 Tx profile field: The broadcast and groupcast mode NR-PC5 Tx profile field indicates NR Tx profile corresponding to the NR-PC5 for broadcast mode V2X communication over PC5 and groupcast mode V2X communication over PC5.
If the length of V2X service identifier to PC5 RAT(s) and Tx profiles mapping rule contents field indicates a length bigger than indicated in figure 5.3.1.13, receiving entity shall ignore any superfluous octets located at the end of the V2X service identifier to PC5 RAT(s) and Tx profiles mapping rule contents.

Editor's note: size and format of the broadcast and groupcast mode NR-PC5 Tx profile field is FFS.







V2X service identifier: The V2X service identifier field contains a binary coded V2X service identifier as specified in ISO TS 17419 ITS-AID AssignedNumbers [5].



#### Figure 5.3.1.15: Privacy config

#### Table 5.3.1.15: Privacy config

V2X services requiring privacy: The V2X services requiring privacy field is coded according to figure 5.3.1.16 and table 5.3.1.16.

Privacy timer:

The privacy timer field contains binary encoded duration, in units of seconds, after which the UE shall change the source Layer-2 ID self-assigned by the UE while performing transmission of V2X communication over the PC5 when privacy is required.

If the length of privacy config contents field indicates a length bigger than indicated in figure 5.3.1.15, receiving entity shall ignore any superfluous octets located at the end of the privacy config contents.



Figure 5.3.1.16: V2X services requiring privacy

#### Table 5.3.1.16: V2X services requiring privacy

V2X service requiring privacy: The V2X service requiring privacy field is coded according to figure 5.3.1.17 and table 5.3.1.17.



Figure 5.3.1.17: V2X service requiring privacy



V2X service identifiers: The V2X service identifiers field is coded according to figure 5.3.1.14 and table 5.3.1.14. Geographical areas: The geographical areas field is coded according to figure 5.3.1.18 and table 5.3.1.18.

If the length of V2X service requiring privacy contents field indicates a length bigger than indicated in figure 5.3.1.17, receiving entity shall ignore any superfluous octets located at the end of the V2X service requiring privacy contents.



Figure 5.3.1.18: Geographical areas

 Table 5.3.1.18: Geographical areas

0.	Geographical area: The geographical area field is coded according to figure 5.3.1.9 and table 5.3.1.9.										
8 Lengtł	octet o4+1 octet o4+2 octet o4+3										
DDL2II	VSIEF MRI	VSAPI	PPMR	0 Spare	0 Spare	0 Spare	0 Spare	0Clel 04+3			
V2>	< service	identifier	to destin	ation laye	er-2 ID m	apping ru	ules	octet o4+4 octet o26 octet (o26+1)*			
		PPPF	o to PDB	mapping	rules			octet o27*			
V2X	service id	dentifier to	o V2X E-	UTRA fre	equency i	mapping	rules	octet o120* (see NOTE) octet o28*			
	octet o106* (see NOTE)										
	octet o29* octet o107* (see NOTE)										
								octet (o107+2)* = octet o5*			

NOTE: The field is placed immediately after the last present preceding field.

#### Figure 5.3.1.19: V2X communication over PC5 in E-UTRA-PC5

### Table 5.3.1.19: V2X communication over PC5 in E-UTRA-PC5

Default destination layer-2 ID indicator (DDL2II): The DDL2II bit indicates presence of the default destination layer-2 ID field. Bit 8 0 Default destination laver-2 ID field is absent Default destination layer-2 ID field is present 1 V2X service identifier to V2X E-UTRA frequency mapping rules indicator (VSIEFMRI): The VSIEFMRI bit indicates presence of the V2X service identifier to V2X E-UTRA frequency mapping rules field. Bit 7 0 V2X service identifier to V2X E-UTRA frequency mapping rules field is absent 1 V2X service identifier to V2X E-UTRA frequency mapping rules field is present V2X services authorized for PPPR indicator (VSAPI): The VSAPI bit indicates presence of the V2X services authorized for PPPR field. Bit 6 0 V2X services authorized for PPPR field is absent 1 V2X services authorized for PPPR field is present PPPP to PDB mapping rules indicator (PPMRI): The PPMRI bit indicates presence of the PPPP to PDB mapping rules filed. Bit 5 0 PPPP to PDB mapping rules field is absent PPPP to PDB mapping rules field is present 1 V2X service identifier to destination layer-2 ID mapping rules: The V2X service identifier to destination layer-2 ID mapping rules field is coded according to figure 5.3.1.20 and table 5.3.1.20. PPPP to PDB mapping rules: The PPPP to PDB mapping rules field is coded according to figure 5.3.1.22 and table 5.3.1.22. V2X service identifier to V2X E-UTRA frequency mapping rules: The V2X service identifier to V2X E-UTRA frequency mapping rules field is coded according to figure 5.3.1.24 and table 5.3.1.24. V2X services authorized for PPPR: The V2X services authorized for PPPR field is coded according to figure 5.3.1.29 and table 5.3.1.29. Default destination layer-2 ID: The default destination layer-2 ID field is a binary coded layer 2 identifier. If the length of V2X communication over PC5 in E-UTRA-PC5 contents field indicates a length bigger than indicated in figure 5.3.1.19, receiving entity shall ignore any superfluous octets located at the end of the V2X communication over PC5 in E-UTRA-PC5contents.

	8	7	6	5	4	3	2	1	
Γ									octet o4+4
	Lengt	h of V2X	service id		to destina ontents	ation layer	-2 ID ma	apping	octet o4+5
			:		- 11			.1	octet (04+6)*
	VZX	service	Identifier	to destin	ation lay	er-2 ID ma	apping ri	ue 1	octet o19*
	V2X	service	identifier	to destin	ation lay	er-2 ID ma	apping ru	ule 2	octet (019+1)*
-									octet o20* octet (o20+1)*
									00101 (020+1)
L									octet o21*
	V2X	service	identifier	to destin	ation lay	er-2 ID ma	apping ru	ule n	octet (o21+1)*
					_				octet o26*

#### Figure 5.3.1.20: V2X service identifier to destination layer-2 ID mapping rules

#### Table 5.3.1.20: V2X service identifier to destination layer-2 ID mapping rules

V2X service identifier to destination layer-2 ID mapping rule: The V2X service identifier to destination layer-2 ID mapping rule field is coded according to figure 5.3.1.21 and table 5.3.1.21.



Figure 5.3.1.21: V2X service identifier to destination layer-2 ID mapping rule

#### Table 5.3.1.21: V2X service identifier to destination layer-2 ID mapping rule

V2X service identifiers: The V2X service identifiers field is coded according to figure 5.3.1.14 and table 5.3.1.14.

Destination layer-2 ID: The destination layer-2 ID field is a binary coded layer 2 identifier.

If the length of V2X service identifier to destination layer-2 ID mapping rule contents field indicates a length bigger than indicated in figure 5.3.1.21, receiving entity shall ignore any superfluous octets located at the end of the V2X service identifier to destination layer-2 ID mapping rule contents.



#### Figure 5.3.1.22: PPPP to PDB mapping rules

Table 5.3.1.22: PPPP to PDB mapping rules

PPPP to PDB mapping rule: The PPPP to PDB mapping rule field is coded according to figure 5.3.1.23 and table 5.3.1.23.



### Figure 5.3.1.23: PPPP to PDB mapping rule



ProSe per-packet priority (PPPP): The PPPP field is a ProSe per-packet priority value. Bits **3 2 1** 0 0 0 PPPP value 1 0 0 1 PPPP value 2 0 1 0 PPPP value 3 0 1 1 PPPP value 4 1 0 0 PPPP value 5 1 0 1 PPPP value 5 1 0 1 PPPP value 6 1 1 0 PPPP value 7 1 1 1 PPPP value 8 Packet delay budget (PDB): The PDB field indicates binary encoded the packet delay budget value in miliseconds

to which the ProSe per-packet priority value indicated by the PPPP field is mapped.

8	7	6	5	4	3	2	1	
								octet o120*
Length	of V2X s	service ide			JTRA free	quency m	napping	
			rules c	ontents				octet (0120+2)*
								octet (o120+3)*
V2X	service id	dentifier to	o V2X E-	UTRA fre	equency r	napping	rule 1	
								octet o33*
								octet (o33+1)*
V2X	service id	dentifier to	o V2X E-	UTRA fre	equency r	napping	rule 2	
								octet o34*
								octet (o34+1)*
								octet o35*
								octet (o35+1)*
V2X	service id	dentifier to	5 V2X E-	UIRA fre	equency r	napping	rule n	
								octet o28*

#### Figure 5.3.1.24: V2X service identifier to V2X E-UTRA frequency mapping rules

#### Table 5.3.1.24: V2X service identifier to V2X E-UTRA frequency mapping rules

V2X service identifier to V2X E-UTRA frequency mapping rule: The V2X service identifier to V2X E-UTRA frequency mapping rule is coded according to figure 5.3.1.25 and table 5.3.1.25.



#### Figure 5.3.1.25: V2X service identifier to V2X E-UTRA frequency mapping rule

#### Table 5.3.1.25: V2X service identifier to V2X E-UTRA frequency mapping rule

V2X service identifiers: The V2X service identifiers field is coded according to figure 5.3.1.14 and table 5.3.1.14.

V2X E-UTRA frequencies with geographical areas list: The V2X E-UTRA frequencies with geographical areas list field is coded according to figure 5.3.1.26 and table 5.3.1.26.

If the length of V2X service identifier to V2X E-UTRA frequency mapping rule contents field indicates a length bigger than indicated in figure 5.3.1.25, receiving entity shall ignore any superfluous octets located at the end of the V2X service identifier to V2X E-UTRA frequency mapping rule contents.

8	7	6	5	4	3	2	1	
								octet o39+1
Leng	th of V2>	(E-UTRA	frequen	cies with	geograph	hical are	as list	
			cont	tents				octet o39+2
								octet (o39+3)*
V	2X E-UT	RA frequ	encies w	ith geogr	aphical a	reas info	1	
								octet o40*
								octet (040+1)*
V	2X E-UT	RA frequ	encies w	ith geogr	aphical a	reas info	2	
								octet o41*
								octet (041+1)*
								octet o42*
								octet (042+1)*
V	2X E-UT	RA frequ	encies w	ith geogr	aphical a	reas info	n	
								octet o34*



#### Table 5.3.1.26: V2X E-UTRA frequencies with geographical areas list

V2X E-UTRA frequencies with geographical areas info: The V2X E-UTRA frequencies with geographical areas info field is coded according to figure 5.3.1.27 and table 5.3.1.27.



#### Figure 5.3.1.27: V2X E-UTRA frequencies with geographical areas info

#### Table 5.3.1.27: V2X E-UTRA frequencies with geographical areas info

#### V2X E-UTRA frequencies:

The V2X E-UTRA frequencies field is coded according to figure 5.3.1.28 and table 5.3.1.28.

Geographical areas:

The geographical areas field is coded according to figure 5.3.1.18 and table 5.3.1.18.

If the length of V2X E-UTRA frequencies with geographical areas info contents field indicates a length bigger than indicated in figure 5.3.1.27, receiving entity shall ignore any superfluous octets located at the end of the V2X E-UTRA frequencies with geographical areas info contents.



Figure 5.3.1.28: V2X E-UTRA frequencies

#### Table 5.3.1.28: V2X E-UTRA frequencies

V2X E-UTRA frequency: V2X E-UTRA frequency is coded according to the EARFCN value defined in 3GPP TS 36.101 [13].



### Figure 5.3.1.29: V2X services authorized for PPPR

#### Table 5.3.1.29: V2X services authorized for PPPR

V2X service authorized for PPPR: The V2X services authorized for PPPR field is coded according to figure 5.3.1.30 and table 5.3.1.30.







V2X service identifiers:								
The V2X service identifiers field is coded according to figure 5.3.1.14 and								
table 5.3.1.14.								
ProSe per-packet reliability (PPPR):								
The PPPR field is a ProSe per-packet reliability value.								
Bits								
321								
000 PPPR value 1								
0 0 1 PPPR value 2								
010 PPPR value 3								
011 PPPR value 4								
100 PPPR value 5								
101 PPPR value 6								
1 1 0 PPPR value 7								
1 1 1 PPPR value 8								
If the length of V2X service authorized for PPPR contents field indicates a length bigger								
than indicated in figure 5.3.1.30, receiving entity shall ignore any superfluous octets								
located at the end of the V2X service authorized for PPPR contents.								

8	7	6	5	4	3	2	1			
		X comm						octet o5+1		
Len	octet o5+2									
DDL2I	VSINF	PDBGI	0	0	0	0	0	octet 05+2		
BI	MRI		Spare	Spare	Spare	Spare	Spare			
	octet (o5+4)*									
V2										
	octet o45*									
	rvice iden	ntifier to d	estinatio	n laver-2	ID for bro	adcast n	nanning	octet o108 (see NOTE)		
VZA 36			rul				napping	(SECINOTE)		
								octet o46		
								octet o46+1		
V2X se	rvice iden	tifier to d		•	ID for gro	oupcast n	napping			
			ru	es				octet o47		
V2Y	convico i	dentifier t	o docting	tion lavo	r 2 ID for	unicast i	nitial	octet o47+1		
VZA	Service			apping ru		unicasti	nillai	octet o48		
		oigi	laining in	appingre				octet o48+1		
V2>	( service	identifier	to PC5 C	QoS para	meters m	apping ru	ules			
	octet o49									
	octet o49+1									
	actat aE0									
	octet o50 octet (o50+1)*									
	2 0.	ault desti		,	0. 0.0000			octet (050+3)*		
								octet o93 (see		
		NR-PC	5 unicast	security	policies			NOTE)		
								octet o84		
V2X c	ervice id	entifier to	default r	node of c	ommunio	ration ma	nnina	octet (084+1)		
v 2 A 3			rul		omnum		Philip	octet o85		
	10100									
	PC5 DR	X configu	ration fo	r broadca	ast and g	roupcast		octet (085+1)*		
								octet o123* =		
								octet I		

NOTE: The field is placed immediately after the last present preceding field. Figure 5.3.1.31: V2X communication over PC5 in NR-PC5 Table 5.3.1.31: V2X communication over PC5 in NR-PC5

Default destination layer-2 ID for broadcast indicator (DDL2IBI): The DDL2IBI bit indicates presence of the default destination layer-2 ID for broadcast field. Bit 8 Default destination layer-2 ID for broadcast field is absent 0 1 Default destination layer-2 ID for broadcast field is present V2X service identifier to V2X NR frequency mapping rules indicator (VSINFMRI): The VSINFMRI bit indicates presence of the V2X service identifier to V2X NR frequency mapping rules field. Bit 7 V2X service identifier to V2X NR frequency mapping rules field is absent 0 V2X service identifier to V2X NR frequency mapping rules field is present 1 PC5 DRX configuration for broadcast and groupcast indicator (PDBGI): The PDBGI bit indicates presence of the PC5 DRX configuration for broadcast and groupcast field. Bit 6 0 PC5 DRX configuration for broadcast and groupcast field is absent PC5 DRX configuration for broadcast and groupcast field is present 1 V2X service identifier to V2X NR frequency mapping rules: The V2X service identifier to V2X NR frequency mapping rules field is coded according to figure 5.3.1.32 and table 5.3.1.32. V2X service identifier to destination layer-2 ID for broadcast mapping rules: The V2X service identifier to destination layer-2 ID for broadcast mapping rules field is coded according to figure 5.3.1.37 and table 5.3.1.37. V2X service identifier to destination layer-2 ID for groupcast mapping rules: The V2X service identifier to destination layer-2 ID for groupcast mapping rules field is coded according to figure 5.3.1.39 and table 5.3.1.39. V2X service identifier to destination layer-2 ID for unicast initial signalling mapping rules: The V2X service identifier to destination layer-2 ID for unicast initial signalling mapping rules field is coded according to figure 5.3.1.41 and table 5.3.1.41. V2X service identifier to PC5 QoS parameters mapping rules: The V2X service identifier to PC5 QoS parameters mapping rules field is coded according to figure 5.3.1.43 and table 5.3.1.43. AS configuration: The AS configuration field is coded according to figure 5.3.1.46a and table 5.3.1.46a. Default destination layer-2 ID for broadcast: The default destination layer-2 ID for broadcast field is a binary coded layer 2 identifier. NR-PC5 unicast security policies: The NR-PC5 unicast security policies field is coded according to figure 5.3.1.50 and table 5.3.1.50. V2X service identifier to default mode of communication mapping rules: The V2X service identifier to default mode of communication mapping rules is coded according to figure 5.3.1.53 and table 5.3.1.53. PC5 DRX configuration for broadcast and groupcast The PC5 DRX configuration for broadcast and groupcast field indicates the PC5 DRX configuration for broadcast and groupcast when not served by E-UTRA and not served by NR, and is coded according to figure 5.3.1.x and table 5.3.1.x. If the length of V2X communication over PC5 in NR-PC5 contents field indicates a length bigger than indicated in figure 5.3.1.31, receiving entity shall ignore any superfluous octets located at the end of the V2X communication over PC5 in NR-PC5 contents.

8	7	6	5	4	3	2	1	
Lena	th of V2X s	ervice ide	entifier to	V2X NR	frequenc	v mappir	na rules	octet o5+4
				tents		,	9	octet o5+5
								octet (05+6)*
`	/2X servic	e identifie	r to V2X	NR frequ	iency map	ping rule	e 1	
								octet o51*
, I.		a idaatifia				un inn an an de		octet (o51+1)*
	/2X servic	e identifie	r to v2X	INR frequ	iency map	ping ruie	θZ	octet o52*
								octet (052+1)*
								00101 (00211)
								octet o53*
								octet (o53+1)*
Ň	/2X servic	e identifie	r to V2X	NR frequ	iency map	ping rule	e n	
								octet o45*

Figure 5.3.1.32: V2X service identifier to V2X NR frequency mapping rules

#### Table 5.3.1.32: V2X service identifier to V2X NR frequency mapping rules

V2X service identifier to V2X NR frequency mapping rule: The V2X service identifier to V2X NR frequency mapping rule is coded according to figure 5.3.1.33 and table 5.3.1.33.



Figure 5.3.1.33: V2X service identifier to V2X NR frequency mapping rule

#### Table 5.3.1.33: V2X service identifier to V2X NR frequency mapping rule

V2X service identifiers: The V2X service identifiers field is coded according to figure 5.3.1.14 and table 5.3.1.14. V2X NR frequencies with geographical areas list: The V2X NR frequencies with geographical areas list field is coded according to figure 5.3.1.34 and table 5.3.1.34.

If the length of V2X service identifier to V2X NR frequency mapping rule contents field indicates a length bigger than indicated in figure 5.3.1.33, receiving entity shall ignore any superfluous octets located at the end of the V2X service identifier to V2X NR frequency mapping rule contents.

8	7	6	5	4	3	2	1			
								octet o54+1		
Length	octet o54+2									
								octet (054+2)*		
	V2X NF	R frequen	cies with	geograp	hical area	as info 1		00101 (054+3)		
				9009. op				octet o55*		
	octet (055+1)*									
	V2X NR frequencies with geographical areas info 2									
								octet o56*		
								octet (056+1)*		
			••					octet o57*		
								octet (057+1)*		
	V2X NF	R frequen	cies with	geograp	hical area	as info n				
		1	-	5 5 1		-		octet o52*		
		4 04.14			al a a sudd		ا م ما با م	areas l'at		

Figure 5.3.1.34: V2X NR frequencies with geographical areas list

#### Table 5.3.1.34: V2X NR frequencies with geographical areas list

V2X NR frequencies with geographical areas info: The V2X NR frequencies with geographical areas info field is coded according to figure 5.3.1.35 and table 5.3.1.35.



#### Figure 5.3.1.35: V2X NR frequencies with geographical areas info

#### Table 5.3.1.35: V2X NR frequencies with geographical areas info

#### V2X NR frequencies:

The V2X NR frequencies field is coded according to figure 5.3.1.36 and table 5.3.1.36.

Geographical areas:

The geographical areas field is coded according to figure 5.3.1.18 and table 5.3.1.18.

If the length of V2X NR frequencies with geographical areas info contents field indicates a length bigger than indicated in figure 5.3.1.35, receiving entity shall ignore any superfluous octets located at the end of the V2X NR frequencies with geographical areas info contents.



#### Figure 5.3.1.36: V2X NR frequencies

#### Table 5.3.1.36: V2X NR frequencies

V2X NR frequency: V2X NR frequency is coded according to the NR-ARFCN value defined in 3GPP TS 38.101-1 [14] and 3GPP TS 38.101-2 [15].



#### Figure 5.3.1.37: V2X service identifier to destination layer-2 ID for broadcast mapping rules

#### Table 5.3.1.37: V2X service identifier to destination layer-2 ID for broadcast mapping rules

V2X service identifier to destination layer-2 ID for broadcast mapping rule: The V2X service identifier to destination layer-2 ID for broadcast mapping rule field is coded according to figure 5.3.1.38 and table 5.3.1.38.



Figure 5.3.1.38: V2X service identifier to destination layer-2 ID for broadcast mapping rule

#### Table 5.3.1.38: V2X service identifier to destination layer-2 ID for broadcast mapping rule

V2X service identifiers: The V2X service identifiers field is coded according to figure 5.3.1.14 and table 5.3.1.14.									
Destination layer-2 ID for broadcast: The destination layer-2 ID for broadcast field is a binary coded layer 2 identifier.									
If the length of V2X service identifier to destination layer-2 ID for broadcast mapping rule contents field indicates a length bigger than indicated in figure 5.3.1.38, receiving entity shall ignore any superfluous octets located at the end of the V2X service identifier to destination layer-2 ID for broadcast mapping rule contents.									
8	7	6	5	4	3	2	1	_	

	octet o46+1
Length of V2X service identifier to destination layer-2 ID for groupcast mapping rules contents	octet o46+2
	octet (046+3)*
V2X service identifier to destination layer-2 ID for groupcast mapping	1 1 00t
rule 1	octet o63* octet (o63+1)*
V2X service identifier to destination layer-2 ID for groupcast mapping	
rule 2	octet o64*
	octet (064+1)*
	octet o65*
	octet (065+1)*
V2X service identifier to destination layer-2 ID for groupcast mapping	
rule n	octet o47*

#### Figure 5.3.1.39: V2X service identifier to destination layer-2 ID for groupcast mapping rules

#### Table 5.3.1.39: V2X service identifier to destination layer-2 ID for groupcast mapping rules

V2X service identifier to destination layer-2 ID for groupcast mapping rule: The V2X service identifier to destination layer-2 ID for groupcast mapping rule field is coded according to figure 5.3.1.40 and table 5.3.1.40.


Figure 5.3.1.40: V2X service identifier to destination layer-2 ID for groupcast mapping rule

### Table 5.3.1.40: V2X service identifier to destination layer-2 ID for groupcast mapping rule

			s field is	coded ac	cording to	o figure 5	5.3.1.14 an	d
	tion layer stination la				d is a bina	ary code	d layer 2 id	entifier.
If the length of V2X service identifier to destination layer-2 ID for groupcast mapping rule contents field indicates a length bigger than indicated in figure 5.3.1.40, receiving entity shall ignore any superfluous octets located at the end of the V2X service identifier to destination layer-2 ID for groupcast mapping rule contents.								
8	7	6	5	Л	3	2	1	

0 1	0 5	4	5	~		
						octet o47+1
Length of V2X ser	vice identifier to	destinat	ion layer-	2 ID for i	unicast	
initia	I signalling map	ping rule	es content	S		octet o47+2
						octet (047+3)*
V2X service ide	ntifier to destinat	ion laye	r-2 ID for	unicast i	nitial	
	signalling ma	pping ru	le 1			octet o66*
						octet (066+1)*
V2X service ide	ntifier to destinat	ion laye	r-2 ID for	unicast i	nitial	. ,
	signalling map	pping ru	le 2			octet o67*
	• • •					octet (o67+1)*
						. ,
						octet o68*
						octet (068+1)*
V2X service ide	ntifier to destinat	ion lave	r-2 ID for	unicast i	nitial	, , , , , , , , , , , , , , , , , , , ,
	signalling ma	-				octet o48*

# Figure 5.3.1.41: V2X service identifier to destination layer-2 ID for unicast initial signalling mapping rules

## Table 5.3.1.41: V2X service identifier to destination layer-2 ID for unicast initial signalling mapping rules

V2X service identifier to destination layer-2 ID for unicast initial signalling mapping rule: The V2X service identifier to destination layer-2 ID for unicast initial signalling mapping rule field is coded according to figure 5.3.1.42 and table 5.3.1.42.



Figure 5.3.1.42: V2X service identifier to destination layer-2 ID for unicast initial signalling mapping rule

## Table 5.3.1.42: V2X service identifier to destination layer-2 ID for unicast initial signalling mapping rule

V2X service identifiers: The V2X service identifiers field is coded according to figure 5.3.1.14 and table 5.3.1.14.

Destination layer-2 ID for unicast initial signalling: The destination layer-2 ID for unicast initial signalling field is a binary coded layer 2 identifier.

If the length of V2X service identifier to destination layer-2 ID for unicast initial signalling mapping rule contents field indicates a length bigger than indicated in figure 5.3.1.42, receiving entity shall ignore any superfluous octets located at the end of the V2X service identifier to destination layer-2 ID for unicast initial signalling mapping rule contents.

8	7	6	5	4	3	2	1	
	() (0) (			505.0	•			octet o48+1
Lengti	n of V2X	service in		o PC5 Q ontents	oS paran	neters ma	pping	octet o48+2
		i de retifierr						octet (048+3)*
V2X	service	laentiner	10 PC5 G	los parai	meters m	apping ru	lie 1	octet o70*
								octet (o70+1)*
V2X	service	Identifier		los parai	meters m	apping ru	lie 2	octet o71*
								octet (o71+1)*
			-					octet o72*
								octet (o72+1)*
V2X	service	Identifier	to PC5 C	loS para	meters m	apping ru	ile n	octet o49*

Figure 5.3.1.43: V2X service identifier to PC5 QoS parameters mapping rules

### Table 5.3.1.43: V2X service identifier to PC5 QoS parameters mapping rules

V2X service identifier to PC5 QoS parameters mapping rule: The V2X service identifier to PC5 QoS parameters mapping rule field is coded according to figure 5.3.1.46 and table 5.3.1.46.

### Figure 5.3.1.44: void

### Table 5.3.1.44: void

Figure 5.3.1.45: void

8	7	6	5	4	3	2	1	_		
l an ath										
Length	Length of V2X service identifier to PC5 QoS parameters mapping rule contents									
		V2	X servic	e identifie	ers			a atat a 74		
GFBRI	MFBRI	PLAMB	RI	0	0	0	0	octet o74 octet o74+1		
	IVII BIXI	RI		Spare	Spare	Spare	Spare			
			P	QI				octet o74+2		
		Gua	aranteed	flow bit r	ate			octet (074+3)*		
								octet (074+5)*		
		M	avimum f	low bit ra	to			octet (o94)* (see NOTE)		
		IVIC			lite			NOTE)		
								octet (094+2)*		
		Per-link a	aaroaata	maximu	m hit rate			octet (o95)* (see NOTE)		
		NOTE)								
	octet (095+2)*									
Range								octet (o96)* (see NOTE)		
	octet (096+2)* =									
								octet o71*		

### Table 5.3.1.45: void

NOTE: The field is placed immediately after the last present preceding field.

### Figure 5.3.1.46: V2X service identifier to PC5 QoS parameters mapping rule

Table 5.3.1.46: V2X service identifier to PC5 QoS parameters mapping rule

V2X service identifiers: The V2X service identifiers field is coded according to figure 5.3.1.14 and table 5.3.1.14. Guaranteed flow bit rate indicator (GFBRI): The GFBRI bit indicates presence of guaranteed flow bit rate field. Bit 8 0 Guaranteed flow bit rate field is absent Guaranteed flow bit rate field is present 1 Maximum flow bit rate indicator (MFBRI): The MFBRI bit indicates presence of maximum flow bit rate field. Bit 7 0 Maximum flow bit rate field is absent 1 Maximum flow bit rate field is present Per-link aggregate maximum bit rate indicator (PLAMBRI): The PLAMBRI bit indicates presence of per-link aggregate maximum bit rate field. Bit 6 0 Per-link aggregate maximum bit rate field is absent 1 Per-link aggregate maximum bit rate field is present Range indicator (RI): The RI bit indicates presence of range field. Bit 5 0 Range field is absent 1 Range field is present

PQI:	
Bits	
87654321	
00000000	Reserved
00000001	
to Spare	
00010100	
00010101	PQI 21
00010110	PQI 22
00010111	PQI 23
00011000	
to Spare	
00110110	
00110111	PQI 55
00111000	PQI 56
00111001	PQI 57
00111010	PQI 58
00111011	PQI 59
00111100	
to Spare	
01011001	
01011010	PQI 90
01011011	PQI 91
01011100	
to Spare	
01111111	
10000000	
	-specific PQIs
1111110	
11111111	Reserved
	es a PQI value (excluding the reserved PQI values) that it does not
	UE shall choose a PQI value from the set of PQI values defined in this
	otocol (see 3GPP TS 23.287 [2]) and associated with:
	burce type, if the V2X service identifier to PC5 QoS parameters sludes the guaranteed flow bit rate field; and
	resource type, if the V2X service identifier to PC5 QoS parameters es not include the guaranteed flow bit rate field.
mapping rule do	es not include the guaranteed now bit fate new.

The UE shall use this chosen PQI value for internal operations only. The UE shall use the received PQI value in subsequent V2X communication over PC5 signalling procedures.

Guaranteed flow	
	flow bit rate field indicates guaranteed flow bit rate for both sending
	d contains one octet indicating the unit of the guaranteed flow bit rate
followed by two	octets containing the value of the guaranteed flow bit rate.
	anteed flow bit rate:
Bits	
87654321	
00000000	value is not used
00000001	value is incremented in multiples of 1 Kbps
0 0 0 0 0 0 1 0 0 0 0 0 0 0 1 1	value is incremented in multiples of 4 Kbps
00000100	value is incremented in multiples of 16 Kbps value is incremented in multiples of 64 Kbps
00000100	value is incremented in multiples of 256 Kbps
00000110	value is incremented in multiples of 1 Mbps
00000111	value is incremented in multiples of 4 Mbps
00001000	value is incremented in multiples of 16 Mbps
00001001	value is incremented in multiples of 64 Mbps
00001010	value is incremented in multiples of 256 Mbps
00001011	value is incremented in multiples of 1 Gbps
00001100	value is incremented in multiples of 4 Gbps
00001101	value is incremented in multiples of 16 Gbps
00001110	value is incremented in multiples of 64 Gbps
00001111	value is incremented in multiples of 256 Gbps
00010000	value is incremented in multiples of 1 Tbps
00010001	value is incremented in multiples of 4 Tbps
00010010	value is incremented in multiples of 16 Tbps
00010011	value is incremented in multiples of 64 Tbps
00010100	value is incremented in multiples of 256 Tbps
00010101	value is incremented in multiples of 1 Pbps
00010110	value is incremented in multiples of 4 Pbps
00010111	value is incremented in multiples of 16 Pbps
00011000	value is incremented in multiples of 64 Pbps
00011001	value is incremented in multiples of 256 Pbps
	all be interpreted as multiples of 256 Pbps in this version of the
protocol.	
Value of the run	renteed flow hit rate is himpy coded value of the guaranteed flow hit
value of the gua	ranteed flow bit rate is binary coded value of the guaranteed flow bit

Value of the guaranteed flow bit rate is binary coded value of the guaranteed flow bit rate in units defined by the unit of the guaranteed flow bit rate.

The maximum flow bit rate field indicates maximum flow bit rate for both sending and						
receiving and contains one octet indicating the unit of the maximum flow bit rate followed by two octets containing the value of the maximum flow bit rate.						
<b>6</b> -1						
n of the						
m flow bit rota						
m flow bit rate						
in units defined by the unit of the maximum flow bit rate.						

Per-link aggregate maximum bit rate: The per-link aggregate maximum bit rate field indicates per-link aggregate maximum bit rate for both sending and receiving and contains one octet indicating the unit of the perlink aggregate maximum bit rate followed by two octets containing the value of the perlink aggregate maximum bit rate. Unit of the per-link aggregate maximum bit rate: Bits 87654321 00000000 value is not used 00000001 value is incremented in multiples of 1 Kbps value is incremented in multiples of 4 Kbps 00000010 00000011 value is incremented in multiples of 16 Kbps 00000100 value is incremented in multiples of 64 Kbps 00000101 value is incremented in multiples of 256 Kbps 00000110 value is incremented in multiples of 1 Mbps value is incremented in multiples of 4 Mbps 00000111 00001000 value is incremented in multiples of 16 Mbps 00001001 value is incremented in multiples of 64 Mbps 00001010 value is incremented in multiples of 256 Mbps 00001011 value is incremented in multiples of 1 Gbps value is incremented in multiples of 4 Gbps 00001100 00001101 value is incremented in multiples of 16 Gbps 00001110 value is incremented in multiples of 64 Gbps 00001111 value is incremented in multiples of 256 Gbps value is incremented in multiples of 1 Tbps 00010000 value is incremented in multiples of 4 Tbps 00010001 00010010 value is incremented in multiples of 16 Tbps value is incremented in multiples of 64 Tbps 00010011 value is incremented in multiples of 256 Tbps 00010100 00010101 value is incremented in multiples of 1 Pbps value is incremented in multiples of 4 Pbps 00010110 00010111 value is incremented in multiples of 16 Pbps 00011000 value is incremented in multiples of 64 Pbps value is incremented in multiples of 256 Pbps 00011001 Other values shall be interpreted as multiples of 256 Pbps in this version of the protocol. Value of the per-link aggregate maximum bit rate is binary coded value of the per-link aggregate maximum bit rate in units defined by the unit of the per-link aggregate maximum bit rate. Range The range field indicates a binary encoded value of the range in meters. If the length of V2X service identifier to PC5 QoS parameters mapping rule contents field indicates a length bigger than indicated in figure 5.3.1.46, receiving entity shall ignore any superfluous octets located at the end of the V2X service identifier to PC5 QoS parameters mapping rule contents. 8 7 6 5 4 3 2 1



Figure 5.3.1.46a: AS configuration

### Table 5.3.1.46a: AS configuration

SLRB mapping rules:

The SLRB mapping rules field is coded according to figure 5.3.1.47 and table 5.3.1.47.

If the length of AS configuration contents field indicates a length bigger than indicated in figure 5.3.1.46a, receiving entity shall ignore any superfluous octets located at the end of the AS configuration contents.



Figure 5.3.1.47: SLRB mapping rules

Table 5.3.1.47: SLRB mapping rules

SLRB mapping rule: The SLRB mapping rule field is coded according to figure 5.3.1.48 and table 5.3.1.48.

8	7	6	5	4	3	2	1	
	_							octet o75+1
	L	ength of	SLRB ma	apping ru	le conten	ts		
								octet o75+2
								octet o75+3
			PC5 Qo	S profile				
								octet o78
			Length	of SLRB				octet o78+1
								octet o78+2
								octet o78+3
			SL	.RB				
								octet o76

Figure 5.3.1.48: SLRB mapping rule

#### Table 5.3.1.48: SLRB mapping rule

PC5 QoS profile: The PC5 QoS profile field is coded according to figure 5.3.1.49 and table 5.3.1.49. SLRB SLRB is defined as *SL-PreconfigurationNR* in clause 9.3 of 3GPP TS 38.331 [12]. If the length of SLRB mapping rule contents field indicates a length bigger than indicated in figure 5.3.1.48, receiving entity shall ignore any superfluous octets located at the end of the SLRB mapping rule contents.

8	7	6	5	4	3	2	1	_
	octet o75+3							
	octet o75+4							
GFBRI	MFBRI	PLAMB	RI	PLOI	AWI	MDBVI	0	octet o73+5
		RI	P				Spare	octet o75+6
			1	SI.				0010107010
		0		a				octet (075+7)*
		Gu	aranteed	flow bit r	ate			octet (075+9)*
								octet o97* (see
		Ma	aximum f	low bit ra	te			NOTE)
								octet (097+2)*
	ſ	Per-link a	aareaate	maximu	m bit rate	2		octet o98* (see NOTE)
		0	99.094.0			-		
								octet (098+2)* octet 099* (see
			Rar	nge				NOTE)
								octet (099+1)*
0	0	0	0	0	P	riority lev	el	octet o100*
Spare	Spare	Spare	Spare	Spare				(see NOTE)
	octet o101* (see NOTE)							
	octet (0101+1)* octet 0102*							
	(see NOTE)							
	octet (0102+1)*							
								= octet o78*

NOTE: The field is placed immediately after the last present preceding field.

Figure 5.3.1.49:PC5 QoS profile

## Table 5.3.1.49:PC5 QoS profile

Guaranteed flow bit rate indicator (GFBRI): The GFBRI bit indicates presence of guaranteed flow bit rate field. Bit 8 0 Guaranteed flow bit rate field is absent Guaranteed flow bit rate field is present 1 Maximum flow bit rate indicator (MFBRI): The MFBRI bit indicates presence of maximum flow bit rate field. Bit 0 Maximum flow bit rate field is absent Maximum flow bit rate field is present 1 Per-link aggregate maximum bit rate indicator (PLAMBRI): The PLAMBRI bit indicates presence of per-link aggregate maximum bit rate field. Bit 6 Per-link aggregate maximum bit rate field is absent 0 Per-link aggregate maximum bit rate field is present 1 Range indicator (RI): The RI bit indicates presence of range field. Bit 5 0 Range field is absent Range field is present 1 Priority level octet indicator (OPLI): The OPLI bit indicates presence of the octet of the priority level field. Bit 0 The octet of the priority level is absent 1 The octet of the priority level is present Averaging window indicator (AWI): The AWI bit indicates presence of averaging window field. Bit 3 0 Averaging window field is absent Averaging window field is present 1 Maximum data burst volume indicator (MDBVI): The MDBVI bit indicates presence of maximum data burst volume field. Bit 2 0 Maximum data burst volume field is absent Maximum data burst volume field is present 1

PQI:	
Bits	
87654321	
00000000	Reserved
0000001	
to Spare	
00010100	
	PQI 21
00010110	PQI 22
00010111	PQI 23
00011000	
to Spare	
00110110	
00110111	PQI 55
00111000	PQI 56 PQI 57
0 0 1 1 1 0 0 1 0 0 1 1 1 0 1 0	PQI 57 PQI 58
00111010	PQI 58
00111100	FQ159
to Spare	
01011001	
01011010	POI 90
01011011	PQI 91
01011100	
to Spare	
01111111	
10000000	
to Operator-	specific PQIs
11111110	
11111111	Reserved

If the UE receives a PQI value (excluding the reserved PQI values) that it does not understand, the UE shall choose a PQI value from the set of PQI values defined in this version of the protocol (see 3GPP TS 23.287 [2]) and associated with:

- GBR resource type, if the PC5 QoS profile includes the guaranteed flow bit rate field; and

- non-GBR resource type, if the PC5 QoS profile does not include the guaranteed flow bit rate field.

The UE shall use this chosen PQI value for internal operations only. The UE shall use the received PQI value in subsequent V2X communication over PC5 signalling procedures.

Guaranteed flow	
	flow bit rate field indicates guaranteed flow bit rate for both sending
	d contains one octet indicating the unit of the guaranteed flow bit rate
followed by two	octets containing the value of the guaranteed flow bit rate.
	anteed flow bit rate:
Bits	
87654321	
00000000	value is not used
00000001	value is incremented in multiples of 1 Kbps
0 0 0 0 0 0 1 0 0 0 0 0 0 0 1 1	value is incremented in multiples of 4 Kbps
00000100	value is incremented in multiples of 16 Kbps value is incremented in multiples of 64 Kbps
00000100	value is incremented in multiples of 256 Kbps
00000110	value is incremented in multiples of 1 Mbps
00000111	value is incremented in multiples of 4 Mbps
00001000	value is incremented in multiples of 16 Mbps
00001001	value is incremented in multiples of 64 Mbps
00001010	value is incremented in multiples of 256 Mbps
00001011	value is incremented in multiples of 1 Gbps
00001100	value is incremented in multiples of 4 Gbps
00001101	value is incremented in multiples of 16 Gbps
00001110	value is incremented in multiples of 64 Gbps
00001111	value is incremented in multiples of 256 Gbps
00010000	value is incremented in multiples of 1 Tbps
00010001	value is incremented in multiples of 4 Tbps
00010010	value is incremented in multiples of 16 Tbps
00010011	value is incremented in multiples of 64 Tbps
00010100	value is incremented in multiples of 256 Tbps
00010101	value is incremented in multiples of 1 Pbps
00010110	value is incremented in multiples of 4 Pbps
00010111	value is incremented in multiples of 16 Pbps
00011000	value is incremented in multiples of 64 Pbps
00011001	value is incremented in multiples of 256 Pbps
	all be interpreted as multiples of 256 Pbps in this version of the
protocol.	
Value of the run	renteed flow hit rate is himpy coded value of the guaranteed flow hit
value of the gua	ranteed flow bit rate is binary coded value of the guaranteed flow bit

Value of the guaranteed flow bit rate is binary coded value of the guaranteed flow bit rate in units defined by the unit of the guaranteed flow bit rate.

The maximum flow bit rate field indicates maximum flow bit rate for both sending and						
receiving and contains one octet indicating the unit of the maximum flow bit rate followed by two octets containing the value of the maximum flow bit rate.						
<b>6</b> -1						
n of the						
m flow bit rota						
m flow bit rate						
in units defined by the unit of the maximum flow bit rate.						

Per-link aggregate maximum bit rate: The per-link aggregate maximum bit rate field indicates per-link aggregate maximum bit rate for both sending and receiving and contains one octet indicating the unit of the perlink aggregate maximum bit rate followed by two octets containing the value of the perlink aggregate maximum bit rate. Unit of the per-link aggregate maximum bit rate: Bits 87654321 00000000 value is not used 00000001 value is incremented in multiples of 1 Kbps 00000010 value is incremented in multiples of 4 Kbps 00000011 value is incremented in multiples of 16 Kbps 00000100 value is incremented in multiples of 64 Kbps 00000101 value is incremented in multiples of 256 Kbps 00000110 value is incremented in multiples of 1 Mbps 00000111 value is incremented in multiples of 4 Mbps 00001000 value is incremented in multiples of 16 Mbps 00001001 value is incremented in multiples of 64 Mbps 00001010 value is incremented in multiples of 256 Mbps 00001011 value is incremented in multiples of 1 Gbps 00001100 value is incremented in multiples of 4 Gbps 00001101 value is incremented in multiples of 16 Gbps 00001110 value is incremented in multiples of 64 Gbps 00001111 value is incremented in multiples of 256 Gbps 00010000 value is incremented in multiples of 1 Tbps 00010001 value is incremented in multiples of 4 Tbps 00010010 value is incremented in multiples of 16 Tbps 00010011 value is incremented in multiples of 64 Tbps 00010100 value is incremented in multiples of 256 Tbps 00010101 value is incremented in multiples of 1 Pbps 00010110 value is incremented in multiples of 4 Pbps 00010111 value is incremented in multiples of 16 Pbps 00011000 value is incremented in multiples of 64 Pbps 00011001 value is incremented in multiples of 256 Pbps Other values shall be interpreted as multiples of 256 Pbps in this version of the protocol. Value of the per-link aggregate maximum bit rate is binary coded value of the per-link aggregate maximum bit rate in units defined by the unit of the per-link aggregate maximum bit rate. Range: The range field indicates a binary encoded value of the range in meters. Priority level: The Priority level field contains a ProSe per-packet priority value. Bits 321 000 PPPP value 1 0 0 1 PPPP value 2 010 PPPP value 3 0 1 1 PPPP value 4 100 PPPP value 5 101 PPPP value 6 110 PPPP value 7 111 PPPP value 8 Averaging window: The averaging window field indicates a binary representation of the averaging window for both sending and receiving in milliseconds. Maximum data burst volume: The maximum data burst volume field indicates a binary representation of the maximum data burst volume for both sending and receiving in octets.

If the length of PC5 QoS profile contents field indicates a length bigger than indicated in figure 5.3.1.49, receiving entity shall ignore any superfluous octets located at the end of the PC5 QoS profile contents.



Figure 5.3.1.50: NR-PC5 unicast security policies

### Table 5.3.1.50: NR-PC5 unicast security policies

NR-PC5 unicast security policy: The NR-PC5 unicast security policy field is coded according to figure 5.3.1.51 and table 5.3.1.51.



Figure 5.3.1.51: NR-PC5 unicast security policy



V2X service identifiers: The V2X service identifiers field is coded according to figure 5.3.1.14 and table 5.3.1.14. Security policy: The security policy field is coded according to figure 5.3.1.52 and table 5.3.1.52 Geographical areas: The geographical areas field is coded according to figure 5.3.1.18 and table 5.3.1.18. If the length of NR-PC5 unicast security policy contents field indicates a length bigger than indicated in figure 5.3.1.51, the receiving entity shall ignore any superfluous octets located at the end of the NR-PC5 unicast security policy contents.

8	7	6	5	4	3	2	1	
0	Signallir	ig cipherir	ng policy	0	Sign	alling inte	grity	octet o89+1
spare				spare	prot	ection po	licy	
0	User	plane ciph	nering	0	User	plane inte	grity	octet o89+2
spare		policy		spare	prot	ection po	licy	
Figure 5.3.1.52: Security policy								

Figure 5.3.1.52: Security policy

Signalling integrity protection policy (octet o89+1, bit 1 to 3): Bits
3       2       1         0       0       0       Signalling integrity protection not needed         0       0       1       Signalling integrity protection preferred         0       1       0       Signalling integrity protection required         0       1       1       0         1       1       0       Spare         1       1       0
1 1 1 Reserved
If the UE receives a signalling integrity protection policy value that the UE does not understand, the UE shall interpret the value as 010 "Signalling integrity protection required".
Signaling ciphering policy (octet o89+1, bit 5 to 7): Bits
76500001Signalling ciphering preferred010010011toSpare
1 1 0 1 1 1 Reserved
If the UE receives a signalling ciphering policy value that the UE does not understand, the UE shall interpret the value as 010 "Signalling ciphering required".
Bit 4 and 8 of octet o89+1 are spare and shall be coded as zero.
User plane integrity protection policy (octet o89+2, bit 1 to 3): Bits
3       2       1         0       0       0       User plane integrity protection not needed         0       0       1       User plane integrity protection preferred         0       1       0       User plane integrity protection required         0       1       1       to         to       Spare       1       1
1 1 0 1 1 1 Reserved
If the UE receives a user plane integrity protection policy value that the UE does not understand, the UE shall interpret the value as 010 "User plane integrity protection required".
User plane ciphering policy (octet o89+2, bit 5 to 7): Bits
7       6       5         0       0       User plane ciphering not needed         0       1       User plane ciphering preferred         0       1       0         0       1       0         0       1       1         to       Spare         1       1
1 1 1 Reserved
If the UE receives a user plane ciphering policy value that the UE does not understand, the UE shall interpret the value as 010 "User plane ciphering required".
Bit 4 and 8 of octet o89+2 are spare and shall be coded as zero.

### Table 5.3.1.52: Security policy



#### Figure 5.3.1.53: V2X service identifier to default mode of communication mapping rules

#### Table 5.3.1.53: V2X service identifier to default mode of communication mapping rules

V2X service identifier to default mode of communication mapping rule: The V2X service identifier to default mode of communication mapping rule field is coded according to figure 5.3.1.54 and table 5.3.1.54.



Figure 5.3.1.54: V2X service identifier to default mode of communication mapping rule

### Table 5.3.1.54: V2X service identifier to default mode of communication mapping rule

V2X service identifiers: The V2X service identifiers field is coded according to figure 5.3.1.14 and table 5.3.1.14. Default mode of communication (DMC): The DMC field indicates the default mode of communication. Bits 21 0 0 unicast 0 1 groupcast 1 0 broadcast 1 1 spare If the DMC field is set to a spare value, the receiving entity shall ignore the V2X service identifier to default mode of communication mapping rule. If the length of V2X service identifier to default mode of communication mapping rule contents field indicates a length bigger than indicated in figure 5.3.1.54, receiving entity shall ignore any superfluous octets located at the end of the V2X service identifier to default mode of communication mapping rule contents.

### Table 5.3.1.54: V2X service identifier to default mode of communication mapping rule

The	X service identifiers: e V2X service identifiers field is coded according to figure 5.3.1.14 and le 5.3.1.14.
The Bits <b>2 1</b> 0 0 0 1 1 0	-
	ne DMC field is set to a spare value, the receiving entity shall ignore the V2X service ntifier to default mode of communication mapping rule.
cor sha	the length of V2X service identifier to default mode of communication mapping rule intents field indicates a length bigger than indicated in figure 5.3.1.54, receiving entity all ignore any superfluous octets located at the end of the V2X service identifier to ault mode of communication mapping rule contents.



### Table 5.3.1.55: PC5 DRX configuration for broadcast and groupcast

PC5 QoS profile to PC5 DRX cycle mapping rules: The PC5 QoS profile to PC5 DRX cycle mapping rules field is coded according to figure 5.3.1.56 and table 5.3.1.56.

If the length of PC5 DRX configuration for broadcast and groupcast contents field indicates a length bigger than indicated in figure 5.3.1.55, receiving entity shall ignore any superfluous octets located at the end of the PC5 DRX configuration for broadcast and groupcast contents.

8	7	6	5	4	3	2	1	
								octet o85+3
Length	of PC5 C	oS profil	e to PC5	DRX cyc	le mappi	ng rules o	contents	
								octet o85+4
								octet (085+5)*
	PC5 Q	oS profile	e to PC5 I	JRX cycl	e mappir	ng rule 1		
								octet o124*
	<b>B0-</b> 0	o "						octet (0124+1)*
	PC5 Q	oS profile	e to PC5 I	JRX cycl	e mappir	ng rule 2		
								octet o125*
								octet (0125+1)*
			•					
								octet o126*
	<b>B0-</b> 0	o <i>"</i>						octet (0126+1)*
	PC5 Q	oS profile	e to PC5 I	JRX cycl	e mappir	ng rule n		
L								octet o123*

Figure 5.3.1.56: PC5 QoS profile to PC5 DRX cycle mapping rules



PC5 QoS profile to PC5 DRX cycle mapping rule: The PC5 QoS profile to PC5 DRX cycle mapping rule field is coded according to figure 5.3.1.57 and table 5.3.1.57.







PC5 QoS profile: The PC5 QoS profile field is coded according to figure 5.3.1.49 and table 5.3.1.49. PC5 DRX cycle If the length of PC5 QoS profile to PC5 DRX cycle mapping rule contents field indicates a length bigger than indicated in figure 5.3.1.z, receiving entity shall ignore any superfluous octets located at the end of the PC5 QoS profile to PC5 DRX cycle mapping rule contents.

Editor's note: Size and format of the PC5 DRX cycle is FFS.

## 5.4 Encoding of UE policies for V2X communication over Uu

### 5.4.1 General

The UE policies for V2X communication over Uu are coded as shown in figures 5.4.1.1 and table 5.4.1.1.



NOTE: The field is placed immediately after the last present preceding field.

Figure 5.4.1.1: V2XP Info = {UE policies for V2X communication over Uu}

### Table 5.4.1.1: V2XP Info = {UE policies for V2X communication over Uu}

	V2XP info type (bit 1 to 4 of octet k) shall be set to "0010" (UE policies for V2X communication over Uu)								
	Length of V2XP info contents (octets k+1 to k+2) indicates the length of V2XP info contents.								
T C U	Validity timer The validity timer field provides the expiration time of validity of the UE policies for V2X communication over Uu. The validity timer field is a binary coded representation of a UTC time, in seconds since midnight UTC of January 1, 1970 (not counting leap seconds).								
Т р	V2X service identifier to PDU session parameters mapping rules indicator (VPSPI) The VPSPI bit indicates presence of the V2X service identifier to PDU session parameters mapping rules field. Bit								
0	<ul> <li>V2X service identifier to PDU session parameters mapping rules field is absent</li> <li>V2X service identifier to PDU session parameters mapping rules field is present</li> </ul>								
Т В 7 0	PLMN infos indicator (APII) The PII bit indicates presence of the PLMN infos field. Bit 7 0 PLMN infos field is absent								
1	1 PLMN infos field is present								
Т	X service identifier to PDU session parameters mapping rules e V2X service identifier to PDU session parameters mapping rules field is code cording to figure 5.4.1.17 and table 5.4.1.17.	ed							
Т	MN infos e PLMN infos field is coded according to the figure 5.4.1.2 and table 5.4.1.2 ar ntains a list of PLMNs in which the UE is configured to use V2X communicatio I.								
fi	he length of V2XP info contents field indicates a length bigger than indicated in ure 5.4.1.1, receiving entity shall ignore any superfluous octets located at the e V2XP info contents.								
-	8 7 6 5 4 3 2 1								
	Length of PLMN infos contents								
	octet o29								
	PLMN info 1	+2							

Figure 5 4 1 2: DI MN infec	
	octet I*
PLMN info n	octet (09+1)*
	octet o9*
	octet (08+1)*
	octet o8*
PLMN info 2	
	octet (07+1)*
PLMN info 1	octet o7
DI MNI info 1	octet o29+2
-	octet o29+1
Length of PLMN infos contents	00lel 029

### Figure 5.4.1.2: PLMN infos

### Table 5.4.1.2: PLMN infos

PLMN info	
The PLMN info field is coded according to figure 5.4.1.3 and table 5.4.1.3.	



NOTE: The field is placed immediately after the last present preceding field.

### Figure 5.4.1.3: PLMN info

#### Table 5.4.1.3: PLMN info

PLMN IDs The PLMN IDs field is coded according to figure 5.4.1.4 and table 5.4.1.4. V2X service identifier unrelated info indicator (VSIUII) The VSIUII bit indicates presence of the V2X service identifier unrelated info field. Bit 8 V2X service identifier unrelated info field is absent 0 V2X service identifier unrelated info field is present 1 V2X service identifier related info indicator (VSIRII) The VSIRII bit indicates presence of the V2X service identifier related info field. Bit 7 V2X service identifier related info field is absent 0 V2X service identifier related info field is present 1 V2X service identifier unrelated info The V2X service identifier unrelated info field is coded according to figure 5.4.1.6 and table 5.4.1.6, and contains information for V2X services not identified by V2X service identifiers, applicable in a PLMN indicated in the PLMN IDs field. V2X service identifier related info The V2X service identifier related info field is coded according to figure 5.4.1.9 and table 5.4.1.9, and contains information for V2X services identified by V2X service identifiers, applicable in a PLMN indicated in the PLMN IDs field. If the length of PLMN info contents field indicates a length bigger than indicated in figure 5.4.1.3, receiving entity shall ignore any superfluous octets located at the end of the PLMN info contents.



### Figure 5.4.1.4: PLMN IDs

### Table 5.4.1.4: PLMN IDs

PLMN ID
The PLMN ID field is coded according to figure 5.4.1.5 and table 5.4.1.5.

8	7	6	5	4	3	2	1	
	MCC	digit 2			MCC	digit 1		octet o7+8
	MNC	digit 3			MCC	digit 3		octet o7+9
	MNC	digit 2			MNC	digit 1		octet o7+10

Figure 5.4.1.5: PLMN ID

### Table 5.4.1.5: PLMN ID

Mobile country code (MCC) The MCC field is coded as in ITU-T Recommendation E.212 [6], annex A. Mobile network code (MNC) The coding of MNC field is the responsibility of each administration but BCD coding shall be used. The MNC shall consist of 2 or 3 digits. If a network operator decides to use only two digits in the MNC, MNC digit 3 shall be coded as "1111".



Figure 5.4.1.6: V2X service identifier unrelated info



V2X AS address indicator (VAAI) The VAAI bit indicates presence of the V2X AS address field. Bit 1 0 V2X AS address field is absent 1 V2X AS address field is present V2X AS addresses The V2X AS addresses field is coded according to figure 5.4.1.7 and table 5.4.1.7. If the length of V2X service identifier unrelated info contents field indicates a length bigger than indicated in figure 5.4.1.6, receiving entity shall ignore any superfluous octets located at the end of the V2X service identifier unrelated info contents.



Figure 5.4.1.7: V2	2X AS addresses
--------------------	-----------------

Table 5.4.1.7: V2X AS addresses

V2X AS address The V2X AS address field is coded according to figure 5.4.1.8 and table 5.4.1.8.

8	7	6	5	4	3	2	1			
					contents			octet o12+1		
	octet o12+2									
14.4.1										
I4AI	I6AI	FI	UPUTI	TPBTI	UPDTI	GAI	0 Spare	octet o12+3		
							opure	octet (012+4)*		
			IPv4 a	ddress						
								octet (o12+7)*		
								octet o31*		
			IPv6 a	ddress				(see NOTE)		
								octet (o31+15)*		
								octet o32*		
			FQ	DN				(see NOTE)		
								(000		
								octet o15*		
								octet o33*		
		UDP	port for u	iplink trar	nsport			(see NOTE)		
								octet (o33+1)*		
								octet o34*		
		TCP por	t for bidir	ectional	transport			(see NOTE)		
	· · · · · · · · · · · · · · · · · · ·									
								octet (o34+1)*		
								octet o35*		
UDP port for downlink transport								(see NOTE)		
								octet (o35+1)*		
								octet o36*		
	(see NOTE)									
			Geograpl		-			()		
								octet o13*		

NOTE: The field is placed immediately after the last present preceding field.

Figure 5.4.1.8: V2X AS address

### Table 5.4.1.8: V2X AS address

IPv4 Address Indicator (I4AI) The I4AI bit indicates presence of the IPv4 address field. Bit 8 0 IPv4 address field is absent IPv4 address field is present 1 IPv6 Address Indicator (I6AI) The I6AI bit indicates presence of the IPv6 address field. Bit 0 IPv6 address field is absent 1 IPv6 address field is present FQDN Indicator (FI) The FI bit indicates presence of the FQDN field. Bit 6 0 FQDN field is absent 1 FQDN field is present UDP Port for Uplink Transport Indicator (UPUTI) The UPUI bit indicates presence of the UDP port for uplink transport field. Bit 5 0 UDP port for uplink transport field is absent 1 UDP port for uplink transport field is present TCP Port for Bidirectional Transport Indicator (TPBTI) The TPBTI bit indicates presence of the TCP port for bidirectional transport field. Bit 0 TCP port for bidirectional transport field is absent TCP port for bidirectional transport field is present 1 UDP Port for Downlink Transport Indicator (UPUTI) The UPUTI bit indicates presence of the UDP port for downlink transport field. Bit 3 UDP port for downlink transport field is absent 0 UDP port for downlink transport field is present 1 Geographical Area Indicator (GAI) The GAI bit indicates presence of the geographical area field. Bit 2 0 geographical area field is absent geographical area field is present 1 IPv4 address (NOTE 2) The IPv4 address field contains an IPv4 address of a V2X application server. IPv6 address (NOTE 2) The IPv6 address field contains an IPv6 address of a V2X application server. FQDN (NOTE 2) The FQDN field contains an FQDN of a V2X application server. The first octet of the FQDN field indicates length of the FQDN and the remaining octets of the FQDN field contain the FQDN. UDP port for uplink transport (NOTE 1) The UDP port for uplink transport field indicates binary coded UDP port to be used for uplink transport. TCP port for bidirectional transport (NOTE 1) The TCP port for bidirectional transport field indicates binary coded TCP port to be used for bidirectional transport.

UDP port for downlink transport (NOTE 1) The UDP port for downlink transport field indicates binary coded UDP port to be used for downlink transport.

Geographical area

The Geographical area field is coded according to figure 5.4.1.15 and table 5.4.1.15, and contains a list of points of a polygon.

If the length of V2X AS address contents field indicates a length bigger than indicated in figure 5.4.1.8, receiving entity shall ignore any superfluous octets located at the end of the V2X AS address contents.

NOTE 1:	The UDP port for uplink transport field, the TCP port for bidirectional
	transport field, and the UDP port for downlink transport field are absent
	when the V2X AS address is present in the V2X service identifier unrelated
	info.
NOTE 2:	One of the IPv4 address field, the IPv6 address field or the FQDN field is
	present.



NOTE: The field is placed immediately after the last present preceding field.

Figure 5.4.1.9: V2X service identifier related info

V2X service infos indicator (VSII)
The VSII bit indicates presence of the V2X service infos field.
Bit
8
0 V2X service infos field is absent
1 V2X service infos field is present
Default V2X AS address infos indicator (DVAAII)
The AVSII bit indicates presence of the default V2X AS address infos field.
Bit
0 Default V2X AS address infos field is absent
1 Default V2X AS address infos field is present
V2X service infos
The V2X service infos field is coded according to figure 5.4.1.10 and table 5.4.1.10 and
indicates a list of V2X service identifier to V2X application server address mapping
rules.
Default V2X AS address infos
The default V2X AS address infos field is coded according to figure 5.4.1.13 and
table 5.4.1.13 and indicates default V2X application server addresses for the unicast
V2X communication over Uu.
If the length of V2X service identifier related info contents field indicates a length bigger
than indicated in figure 5.4.1.9, receiving entity shall ignore any superfluous octets
located at the end of the V2X service identifier related info contents.

### Table 5.4.1.9: V2X service identifier related info

8	7	6	5	4	3	2	1	
								octet o30+3
	L	_ength of	V2X ser	vice info	s contents			octet o30+4
								octet o30+5
		,	V2X serv	rice info ?	1			octet o20
								octet (o20+1)*
		,	V2X serv	rice info 2	2			
								_octet o21* octet (o21+1)*
								00101 (02111)
								octet o22*
		,	V2X serv	vice info r	n			octet (o22+1)*
			v 2/ ( 001 v					octet o18*

Figure 5.4.1.10: V2X service infos

### Table 5.4.1.10: V2X service infos

V2X service info The V2X service info field is coded according to figure 5.4.1.11 and table 5.4.1.11.





### Table 5.4.1.11: V2X service info

V2X service identifiers The V2X service identifiers field is coded according to figure 5.4.1.12 and table 5.4.1.12 and indicates a list of V2X service identifier. V2X AS addresses indicator (VAAI) The AVSII bit indicates presence of the V2X AS addresses field. Bit 8 0 V2X AS addresses field is absent V2X AS addresses field is present 1 V2X AS addresses The V2X AS addresses field is coded according to figure 5.4.1.7 and table 5.4.1.7 and indicates V2X application server addresses for V2X services identified by the V2X service identifiers indicated in the V2X service identifiers field. If the length of V2X service info contents field indicates a length bigger than indicated in figure 5.4.1.11, receiving entity shall ignore any superfluous octets located at the end of the V2X service info contents.

8	7	6	5	4	3	2	1	
			o)/ ·					octet o20+3
	Le	ngth of V	2X servic	ce identifi	ers conte	ents		octet o20+4
								octet o20+5
		V2	2X service	e identifie	er 1			octet o20+8
								octet (o20+9)*
		V2	2X service	e identifie	er 2			octet (o20+12)*
								octet (o20+13)*
								octet (o20+n*4)*
								octet
		V2	2X service	e identifie	er n			(o20+1+n*4)*
								octet o23*

### Figure 5.4.1.12: V2X service identifiers

### Table 5.4.1.12: V2X service identifiers

V2X service identifier The V2X service identifier field contains a binary coded V2X service identifier as specified in ISO TS 17419 ITS-AID AssignedNumbers [5].



Figure 5.4.1.13: Default V2X AS address infos

Table 5.4.1.13: Default V2X AS address infos

Default V2X AS address info The default V2X AS address info field is coded according to figure 5.4.1.14 and table 5.4.1.14.



NOTE: The field is placed immediately after the last present preceding field.

### Figure 5.4.1.14: Default V2X AS address info

Table 5.4.1.14: Default	V2X AS address info
-------------------------	---------------------

Type of Data (TD)
The type of data bit indicates type of data.
Bit
8 0 non-IP
1 IP
If the type of data bit is set to "non-IP", then the V2X message family field is present
otherwise the V2X message family field is absent.
V2X message family
Bits
87654321
0 0 0 0 0 0 1 IEEE 1609, see IEEE 1609.3 [8]
0 0 0 0 0 1 0 ISO, see ISO 29281-1 [9]
0 0 0 0 0 1 1 ETSI-ITS, see ETSI EN 302 636-3 [10]
All other values are spare.
V2X AS addresses
The V2X AS addresses field is coded according to figure 5.4.1.7 and table 5.4.1.7 and
indicates V2X application server addresses for type of data identified by the TD bit and
the V2X message family (if the type of data is non-IP).
If the length of default V2X AS address info contents field indicates a length bigger than
indicated in figure 5.4.1.14, receiving entity shall ignore any superfluous octets located
at the end of the default V2X AS address info contents.

8	7	6	5	4	3	2	1	
			•					octet o36
	L	ength of	Geograp	phical are	a content	ts		octet o36+1
								octet 036+2
			Coord	inate 1				
								octet o36+7
			<b>•</b> •					octet (036+8)*
			Coord	inate 2				octet (o36+13)*
								octet (036+13)
								,
								octet (o36-
								5+6*n)*
			Coord	inate n				octet (036-
			Coord	maten				4+6*n)*
								octet
								(o36+1+6*n) *
								= octet o13*



Table 5.4.1.15:	Geographical area
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Coordina The coor		eld is cod	ed accor	ding to fi	gure 5.4.	1.16 and	table 5	.4.1.16.		
8	7	6	5	4	3	2	1	_		
			Lati	tude				octet o36+8 octet o36+10		
	Longitude									
I		F	igure 5.	4.1.16:	Coordin	ate area	a	_octet o36+13		

Table 5.4.1.16: Coordinate area

Latitude The latitude field is coded according to clause 6.1 of 3GPP TS 23.032 [7]. Longitude

The longitude field is coded according to clause 6.1 of 3GPP TS 23.032 [7].

8	7	6	5	4	3	2	1	
Length	of \/2X s	arvica ida	ntifier to		sion para	matars r	manning	octet k+9
Lengur	51 VZX 30		rules co		sion para	meters	napping	octet k+10
V2X s	ervice id	entifier to	PDU se	ssion par	ameters r	napping	rule 1	octet k+11
				50.011 p.d.				octet o2
V2X s	ervice id	entifier to	PDU sea	ssion par	ameters r	napping	rule 2	octet (o2+1)*
								octet o3*
								octet (o3+1)*
								octet o4*
V2X s	ervice id	entifier to	PDU se	ssion par	ameters r	napping	rule n	octet (o4+1)*
.2/(0	0.1100 10		. 20 000	beleit pui				octet o1*

Figure 5.4.1.17: V2X service identifier to PDU session parameters mapping rules

### Table 5.4.1.17: V2X service identifier to PDU session parameters mapping rules

V2X service identifier to PDU session parameters mapping rule The V2X service identifier to PDU session parameters mapping rule field is coded according to figure 5.4.1.18 and table 5.4.1.18.

	octet o2+1
Length of V2X service identifier to PDU session parameters mapping	
rule contents	octet o2+2
	octet o2+3
V2X service identifiers	
	octet o28
	octet o28+1
Length of route selection descriptor list	
	octet o28+2
	octet (o28+3)*
Route selection descriptor list	
	octet o3*

Figure 5.4.1.18: V2X service identifier to PDU session parameters mapping rule





8	7	6	5	4	3	2	1	
								octet o28+3
		Length o	of route so	election d	lescriptor			
								octet o28+4
	Prece	edence va	alue of ro	oute selec	tion desc	riptor		octet o28+5
								octet o28+6
	Leng	gth of rou	ite select	ion descr	iptor cont	tents		
								octet o28+7
								octet o28+8
		Route se	election d	escriptor	contents			
								octet o29
		Eiguro 5	1 1 20-	Pouto	soloctio	n doscr	intor	

Figure 5.4.1.20: Route selection descriptor

### Table 5.4.1.18: V2X service identifier to PDU session parameters mapping rule

V2X service identifiers The V2X service identifiers field is coded according to figure 5.4.1.12 and table 5.4.1.12 and indicates a list of V2X service identifier. Route selection descriptor contents (octets o28+8 to o29) The route selection descriptor contents field is of variable size and contains a variable number (at least one) of route selection descriptor components. Each route selection descriptor component shall be encoded as a sequence of a one octet route selection descriptor component type identifier and a route selection descriptor component value field. The route selection descriptor component type identifier shall be transmitted first. Route selection descriptor component type identifier Bits 87654321 00000001 SSC mode type 00000010 S-NSSAI type 00000100 DNN type PDU session type type 00001000 00010000 Transport layer protocol type All other values are spare. If received, they shall be ignored. For "SSC mode type", the route selection descriptor component value field shall be encoded as a one octet SSC mode field. The bits 8 through 4 of the octet shall be spare, and the bits 3 through 1 shall be encoded as the value part of the SSC mode information element defined in clause 9.11.4.16 of 3GPP TS 24.501 [4]. The "SSC mode type" route selection descriptor component shall not appear more than once in the route selection descriptor. For "S-NSSAI type", the route selection descriptor component value field shall be encoded as a sequence of a one octet S-NSSAI length field and an S-NSSAI value field of a variable size. The S-NSSAI value shall be encoded as the value part of the S-NSSAI information element defined in clause 9.11.2.8 of 3GPP TS 24.501 [4]. For "DNN type", the route selection descriptor component value field shall be encoded as a sequence of a one octet DNN length field and a DNN value field of a variable size. The DNN value contains an APN as defined in 3GPP TS 23.003 [17]. For "PDU session type type", the route selection descriptor component value field shall be encoded as a one octet PDU session type field. The bits 8 through 4 of the octet shall be spare, and the bits 3 through 1 shall be encoded as the value part of the PDU session type information element defined in clause 9.11.4.11 of 3GPP TS 24.501 [4]. The "PDU session type type" route selection descriptor component shall not appear more than once in the route selection descriptor. For "Transport layer protocol type", the route selection descriptor component value field shall be encoded as: Bits 87654321 00000001 UDP 00000010 TCP All other values are spared. The "Transport layer protocol type" route selection descriptor component appears only when the "PDU session type type" appears and the PDU session type value is set to "IPv4", "IPv6" or "IPv4v6". It shall not appear more than once in the route selection descriptor. If the length of V2X service identifier to PDU session parameters mapping rule contents field indicates a length bigger than indicated in figure 5.4.1.18, receiving entity shall ignore any superfluous octets located at the end of the V2X service identifier to PDU session parameters mapping rule contents.

## Annex A (informative): Change history

Change history										
Date	Meeting	TDoc	CR	Rev	Cat	Subject/Comment	New version			
2019-05	CT1#117	C1-193478				Draft skeleton provided in C1-193478 by the rapporteur.	0.0.0			
2019-05	CT1#117					Implementing the following p-CR agreed by CT1: C1-193479	0.1.0			
2019-09	CT1#119					Implementing the following p-CRs agreed by CT1: C1-194553, C1-194847, C1-194849 and C1-194850	0.2.0			
2019-10	CT1#120					Implementing the following p-CRs agreed by CT1: C1-196493	0.3.0			
2019-12	CT#86	CP-193157				Presentation for information at TSG CT	1.0.0			
2019-12	CT#86	CP-193290				A title corrected	1.0.1			
2020-03	CT1#122- e					Implementing the following p-CR agreed by CT1: C1-200652, C1-200933 and C1-200936	1.1.0			
2020-03	CT-87e	CP-200174				Presentation for approval at TSG CT	2.0.0			
2020-03	CT-87e					Version 16.0.0 created after approval	16.0.0			
2020-06	CT-88e	CP-201116	0001	2	В	NR PC5 unicast security policy provisioning	16.1.0			
2020-06	CT-88e	CP-201116	0002	1	F	Clarifications on the V2X policies regarding QoS	16.1.0			
2020-06	CT-88e	CP-201116	0003	1	В	Update to the V2X policies regarding RAN parameters	16.1.0			
2020-06	CT-88e	CP-201116	0004	1	С	Correction of coding of configuration of PC5 RAT selection and Tx profiles	16.1.0			
2020-06	CT-88e	CP-201116	0005	1	F	Correction of coding of configuration of default mode of communication	16.1.0			
2020-06	CT-88e	CP-201116	0006	1	F	Correction of PC5 RAT names	16.1.0			
2020-06	CT-88e	CP-201116	0007	1	F	Correction of coding of PC5 QoS mapping configuration	16.1.0			
2020-06	CT-88e	CP-201116	8000	1	F	Correction in coding of PC5 QoS profile	16.1.0			
2020-06	CT-88e	CP-201116	0009	1	F	Correction of coding of validity timers	16.1.0			
2020-06	CT-88e	CP-201116	0010	1	F	Remove IP address from privacy timer	16.1.0			
2020-09	CT-89e	CP-202248	0013	3	F	Update configuration parameters over Uu to meet stage2 requirements	16.2.0			
2020-09	CT-89e	CP-202158	0014		F	Corrections in V2XP UE policy part	16.2.0			
2020-09	CT-89e	CP-202158	0017		F	Correction of V2XP statement	16.2.0			
2020-09	CT-89e	CP-202158	0018		F	Removal of V2X policy for EPC interworking	16.2.0			
2020-09	CT-89e	CP-202041	0019	2	F	Adding the flag indicating the optional PPPP to PDB mapping rules	16.2.0			
2020-09	CT-89e	CP-202039	0020	3	F	Radio parameters for UE neither served by E-UTRA nor served by NR	16.2.0			
2020-12	CT-90e	CP-203189	0015	1	F	Corrections in UE policies for V2X communication over PC5	16.3.0			
2020-12	CT-90e	CP-203189	0016	1	F	Corrections in UE policies for V2X communication over Uu	16.3.0			
2020-12	CT-90e	CP-203189	0021	1	F	Update RAT selection rule	16.3.0			
2020-12	CT-90e	CP-203189	0022	1	F	V2X service identifier	16.3.0			
2020-12	CT-90e	CP-203189	0023	1	F	Some corrections on UE policies for V2X communication over PC5	16.3.0			
2021-03	CT#91e	CP-210108	0024		F	Removal of Tx Profile for NR PC5	16.4.0			
2022-03	CT#95e	CP-220254	0025	1	B	NR-PC5 Tx profiles	17.0.0			
2022-03	CT#95e	CP-220254	0025	-	B	Adding the PC5 DRX configuration for broadcast and groupcast to the UE policies for V2X communication over PC5	17.0.0			

# History

Document history		
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