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1 Scope

The present document specifies the protocols:

- for V2X authorization between the UE and the V2X control function (over the V3 interface);
- for V2X communication among the UEs (over the PC5 interface); and
- for V2X communication between the UE and the V2X application server (over the LTE-Uu interface).

The present document defines the associated procedures for V2X authorization and V2X communication.

The present document also defines the message format, message contents, error handling and system parameters applied by the protocols for V2X.

The present document is applicable to:

- the UE;
- the V2X control function; and
- the V2X application server.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

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[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 23.285: "Architecture enhancements for V2X services".

[3] 3GPP TS 24.385: "V2X services Management Object (MO)".

[4] 3GPP TS 24.334: "Proximity-services (ProSe) User Equipment (UE) to Proximity-services (ProSe) Function Protocol aspects; Stage 3".

[5] IEEE 1609.3 2016: "IEEE Standard for Wireless Access in Vehicular Environments (WAVE) -- Networking Services".

[6] ISO 29281-1 2013: "Intelligent transport systems -- Communication access for land mobiles (CALM) -- Non-IP networking -- Part 1: Fast networking & transport layer protocol (FNTP)".

[7] ETSI EN 302 636-5 (all parts) v1.2.1: "Intelligent Transport Systems (ITS); Vehicular Communications; GeoNetworking; Part 5: Transport Protocols".

[8] 3GPP TS 36.323: "Packet Data Convergence Protocol (PDCP) specification".

[9] 3GPP TS 23.122: "Non-Access-Stratum (NAS) functions related to Mobile Station (MS) in idle mode".

[10] 3GPP TS 36.304: "Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) procedures in idle mode".