Submitter Email: peterm34@163.com
Type of Project: New IEEE Standard
Project Request Type: Initiation / New
PAR Request Date: 30 Nov 2020
PAR Approval Date: 09 Feb 2021
PAR Expiration Date: 31 Dec 2025
PAR Status: Active

1.1 Project Number: P2979
1.2 Type of Document: Standard
1.3 Life Cycle: Full Use

2.1 Project Title: Standard for Edge Intelligent Terminal for Expressway Cooperative Transportation

3.1 Working Group: Smart Transportation enabling Terminal Working Group(CTS/SDSC/STTWG)
3.1.1 Contact Information for Working Group Chair:
   Name: Ling Wang
   Email Address: peterm34@163.com
3.1.2 Contact Information for Working Group Vice Chair:
   None

3.2 Society and Committee: IEEE Consumer Technology Society/Smart Devices Standards Committee(CTS/SDSC)
3.2.1 Contact Information for Standards Committee Chair:
   Name: Xiaohui Liu
   Email Address: xiaohui.liu@huawei.com
3.2.2 Contact Information for Standards Committee Vice Chair:
   None
3.2.3 Contact Information for Standards Representative:
   Name: Yu Yuan
   Email Address: yymedia@gmail.com

3.3 Co-Stds Committee(s):
3.3.1 IEEE Vehicular Technology Society/Automated Vehicles Standards Committee (VT/AVSC)
   Contact Information for Standards Committee Chair:
   Name: Ricardo Castro
   Email Address: ricardo.decastro@ieee.org

4.1 Type of Ballot: Individual
4.2 Expected Date of submission of draft to the IEEE SA for Initial Standards Committee Ballot: Jan 2022
4.3 Projected Completion Date for Submittal to RevCom: Oct 2022

5.1 Approximate number of people expected to be actively involved in the development of this project: 12
5.2 Scope of proposed standard: This standard defines a framework for Edge intelligent terminal (EIT) devices.
   The EIT framework defines:
   1) Use requirements for Cooperative transportation use cases in typical expressway scenarios, e.g. traffic congestion warning, road condition danger alert and emergency vehicle alerts.
   2) The design architecture and essential functionality needed to develop edge intelligence for various expressway related scenarios, including but not limited to autonomous driving remote procedure call, local storage of High Definition (HD) map static data, and fusion of map data with EIT-perceived information.
   3) The Information interface between EIT and perception equipment, cloud intelligence and vehicle intelligence to enable cloud-edge & Vehicle to Infrastructure (V2I) data interaction, autonomous driving and cooperative transportation.

5.3 Is the completion of this standard contingent upon the completion of another standard? No
5.4 Purpose: This document will not include a purpose clause.
5.5 Need for the Project: EIT devices are critical transportation Internet of Things (IOT) devices. These devices support cooperative vehicle infrastructure systems (CVIS). EIT devices are typically deployed to
facilitate static/dynamic information sharing and intelligence cooperation between vehicles, networks and clouds through high level data fusion to enable cooperative V2I & Vehicle to Vehicle (V2V) applications. CVIS are foreseen to play a critical role in future smart transportation, and its success to a great extent hinges on the edge intelligence deployed. Standard frameworks for edge intelligence terminals need to be in place to serve as common guidelines for EIT design & deployment and to enable data interaction taking place at the edge of CVIS.

EITs are expected to provide accurate and real-time road/traffic/ambient environment information of expressways to transportation authorities, vehicle OBUs (Onboard Units), HD map systems and other players of CVIS, and enhance the vehicle perception capability needed for cooperative transportation. This way the proposed work would help advance vehicular consumer electronics markets and associated services & applications.

**5.6 Stakeholders for the Standard:** Expressway Authorities, HD map Providers, Automated Driving System Developers, highway camera/radar/ambient environment sensor Manufacturers

---

**6.1 Intellectual Property**

6.1.1 Is the Standards Committee aware of any copyright permissions needed for this project? No
6.1.2 Is the Standards Committee aware of possible registration activity related to this project? No

7.1 Are there other standards or projects with a similar scope? No
7.2 Is it the intent to develop this document jointly with another organization? No

8.1 Additional Explanatory Notes: