**IEEE VT/ITS Standards, Projects, and Other Projects (As of August 2021)**

T. M. Kurihara, VT/ITS Standards Committee

Published Standards

[IEEE 1609.0-2013 - IEEE Guide for Wireless Access in Vehicular Environments (WAVE) - Architecture](https://standards.ieee.org/standard/1609_0-2013.html)

...a basic service set. Standards Committee **VT/ITS** - Intelligent Transportation Systems Status Superseded Superseded by...

[IEEE 1609.0-2019 - IEEE Guide for Wireless Access in Vehicular Environments (WAVE) Architecture](https://standards.ieee.org/standard/1609_0-2019.html)

...a basic service set. Standards Committee **VT/ITS** - Intelligent Transportation Systems Status Active Board Approval...

[IEEE 1609.11-2010 - IEEE Standard for Wireless Access in Vehicular Environments (WAVE)-- Over-the-Air Electronic Payment Data Exchange Protocol for Intelligent Transportation Systems (ITS)](https://standards.ieee.org/standard/1609_11-2010.html)

...using the payment service. Standards Committee **VT/ITS** - Intelligent Transportation Systems Status Inactive-Reserved Board...

[IEEE 1609.12-2012 - IEEE Standard for Wireless Access in Vehicular Environments (WAVE) - Identifier Allocations](https://standards.ieee.org/standard/1609_12-2012.html)

...in the WAVE standards. Standards Committee **VT/ITS** - Intelligent Transportation Systems Status Superseded Superseded by...

[IEEE 1609.12-2016 - IEEE Standard for Wireless Access in Vehicular Environments (WAVE) - Identifier Allocations](https://standards.ieee.org/standard/1609_12-2016.html)

...WAVE standards is specified. Standards Committee **VT/ITS** - Intelligent Transportation Systems Status Superseded Superseded by...

[IEEE 1609.12-2019 - IEEE Standard for Wireless Access in Vehicular Environments (WAVE)--Identifiers](https://standards.ieee.org/standard/1609_12-2019.html)

...WAVE systems are indicated. Standards Committee **VT/ITS** - Intelligent Transportation Systems Status Active Board Approval...

[IEEE 1609.2-2006 - IEEE Trial-Use Standard for Wireless Access in Vehicular Environments - Security Services for Applications and Management Messages](https://standards.ieee.org/standard/1609_2-2006.html)

...the core security functions. Standards Committee **VT/ITS** - Intelligent Transportation Systems Status Inactive-Withdrawn Superseded...

[IEEE 1609.2-2013 - IEEE Standard for Wireless Access in Vehicular Environments — Security Services for Applications and Management Messages](https://standards.ieee.org/standard/1609_2-2013.html)

...the core security functions. Standards Committee **VT/ITS** - Intelligent Transportation Systems Status Superseded Superseded by...

[IEEE 1609.2-2016 - IEEE Standard for Wireless Access in Vehicular Environments--Security Services for Applications and Management Messages](https://standards.ieee.org/standard/1609_2-2016.html)

...the core security functions. Standards Committee **VT/ITS** - Intelligent Transportation Systems Status Active Amendment 1609...

[IEEE 1609.2.1-2020 - IEEE Standard for Wireless Access in Vehicular Environments (WAVE)--Certificate Management Interfaces for End Entities](https://standards.ieee.org/standard/1609_2_1-2020.html)

...to authorize application activities. Standards Committee **VT/ITS** - Intelligent Transportation Systems Status Active Board Approval...

[IEEE 1609.2a-2017 - IEEE Standard for Wireless Access in Vehicular Environments--Security Services for Applications and Management Messages - Amendment 1](https://standards.ieee.org/standard/1609_2a-2017.html)

...the core security functions. Standards Committee **VT/ITS** - Intelligent Transportation Systems Status Active Board Approval...

[IEEE 1609.2b-2019 - IEEE Standard for Wireless Access in Vehicular Environments--Security Services for Applications and Management Messages - Amendment 2--PDU Functional Types and Encryption Key Management](https://standards.ieee.org/standard/1609_2b-2019.html)

...functions are also defined. Standards Committee **VT/ITS** - Intelligent Transportation Systems Status Active Board Approval...

[IEEE 1609.3-2007 - IEEE Trial-Use Standard for Wireless Access in Vehicular Environments (WAVE) - Networking Services](https://standards.ieee.org/standard/1609_3-2007.html)

...services within WAVE devices. Standards Committee **VT/ITS** - Intelligent Transportation Systems Status Superseded Superseded by...

[IEEE 1609.3-2010 - IEEE Standard for Wireless Access in Vehicular Environments (WAVE) - Networking Services](https://standards.ieee.org/standard/1609_3-2010.html)

...WAVE devices are provided. Standards Committee **VT/ITS** - Intelligent Transportation Systems Status Superseded Corrigendum 1609...

[IEEE 1609.3-2010/Cor 1-2012 - IEEE Standard for Wireless Access in Vehicular Environments (WAVE)--Networking Services Corrigendum 1: Miscellaneous Corrections](https://standards.ieee.org/standard/1609_3-2010-Cor1-2012.html)

...addressed in this corrigendum. Standards Committee **VT/ITS** - Intelligent Transportation Systems Status Superseded Board Approval...

[IEEE 1609.3-2010/Cor 2-2014 - IEEE Standard for Wireless Access in Vehicular Environments (WAVE) -- Network Systems Corrigendum 2: Miscellaneous Corrections](https://standards.ieee.org/standard/1609_3-2010-Cor2-2014.html)

...Management Information Base annex. Standards Committee **VT/ITS** - Intelligent Transportation Systems Status Superseded Board Approval...

[IEEE 1609.3-2016 - IEEE Standard for Wireless Access in Vehicular Environments (WAVE) -- Networking Services](https://standards.ieee.org/standard/1609_3-2016.html)

...WAVE devices are provided. Standards Committee **VT/ITS** - Intelligent Transportation Systems Status Superseded Superseded by...

[IEEE 1609.3-2020 - IEEE Standard for Wireless Access in Vehicular Environments (WAVE)--Networking](https://standards.ieee.org/standard/1609_3-2020.html)

...WAVE devices are provided. Standards Committee **VT/ITS** - Intelligent Transportation Systems Status Active Board Approval...

[IEEE 1609.4-2006 - IEEE Trial-Use Standard for Wireless Access in Vehicular Environments (WAVE) - Multi-Channel Operation](https://standards.ieee.org/standard/1609_4-2006.html)

...coordination, and data transmission. Standards Committee **VT/ITS** - Intelligent Transportation Systems Status Inactive-Withdrawn Superseded...

[IEEE 1609.4-2010 - IEEE Standard for Wireless Access in Vehicular Environments (WAVE)--Multi-channel Operation](https://standards.ieee.org/standard/1609_4-2010.html)

...described in this standard. Standards Committee **VT/ITS** - Intelligent Transportation Systems Status Superseded Superseded by...

[IEEE 1609.4-2010/Cor 1-2014 - IEEE Standard for Wireless Access in Vehicular Environments (WAVE) -- Multi-channel Operation Corrigendum 1: Miscellaneous Corrections](https://standards.ieee.org/standard/1609_4-2010-Cor1-2014.html)

...during the guard interval. Standards Committee **VT/ITS** - Intelligent Transportation Systems Status Superseded Board Approval...

[IEEE 1609.4-2016 - IEEE Standard for Wireless Access in Vehicular Environments (WAVE) -- Multi-Channel Operation](https://standards.ieee.org/standard/1609_4-2016.html)

...described in this standard. Standards Committee **VT/ITS** - Intelligent Transportation Systems Status Active Corrigendum 1609...

[IEEE 1609.4-2016/Cor 1-2019 - IEEE Standard for Wireless Access in Vehicular Environments (WAVE)--Multi-Channel Operation - Corrigendum 1: Miscellaneous Corrections](https://standards.ieee.org/content/ieee-standards/en/standard/1609_4-2016-Cor1-2019.html)

...described in this standard. Standards Committee **VT/ITS** - Intelligent Transportation Systems Status Active Board Approval...

[IEEE 1609.4-2016/Cor 1-2019 - IEEE Standard for Wireless Access in Vehicular Environments (WAVE)--Multi-Channel Operation - Corrigendum 1: Miscellaneous Corrections](https://standards.ieee.org/standard/1609_4-2016-Cor1-2019.html)

...described in this standard. Standards Committee **VT/ITS** - Intelligent Transportation Systems Status Active Board Approval...

[IEEE 1616-2004 - IEEE Standard for Motor Vehicle Event Data Recorder (MVEDR)](https://standards.ieee.org/standard/1616-2004.html)

...integrated within the vehicle. Standards Committee **VT/ITS** - Intelligent Transportation Systems Status Inactive-Reserved Amendment...

[IEEE 1616a-2010 - IEEE Standard for Motor Vehicle Event Data Recorders (MVEDRs) Amendment 1: MVEDR Connector Lockout Apparatus (MVEDRCLA)](https://standards.ieee.org/standard/1616a-2010.html)

...apparatus (MVEDRCLA) by revision. Standards Committee **VT/ITS** - Intelligent Transportation Systems Status Inactive-Reserved Board...

[IEEE 2030.1.1-2015 - IEEE Standard Technical Specifications of a DC Quick Charger for Use with Electric Vehicles](https://standards.ieee.org/standard/2030_1_1-2015.html)

...provided to assist developers. Standards Committee **VT/ITS** - Intelligent Transportation Systems Status Active Board Approval...

[IEEE P1616 - IEEE Draft Standard for Motor Vehicle Event Data Recorder (MVEDR)](https://standards.ieee.org/project/1616.html)

...and personal data processing. Standards Committee **VT/ITS** - Intelligent Transportation Systems PAR Approval 2020-06...

[IEEE P2030.1.1 - IEEE Draft Standard Technical Specifications of a DC Quick and Bi-directional Charger for Use with Electric Vehicles](https://standards.ieee.org/project/2030_1_1.html)

...provided to assist developers. Standards Committee **VT/ITS** - Intelligent Transportation Systems PAR Approval 2017-09...

[IEEE P7001 - IEEE Draft Standard for Transparency of Autonomous Systems](https://standards.ieee.org/project/7001.html)

...levels of compliance determined. Standards Committee **VT/ITS** - Intelligent Transportation Systems Co-Standards Committee RAS...

Standards development projects (approved PARs) as of the July IEEE SA Governance meeting

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| P1609.13 |  | Wireless Access in Vehicular Environments - Reliable Data Transport Mechanisms for Multiple Receivers [-] | New | VT/ITS/1609\_WG | 13-Feb-20 | 31-Dec-24 |
| P1609.2 |  | Standard for Wireless Access in Vehicular Environments--Security Services for Applications and Management Messages [-] | Revision | VT/ITS/1609\_WG | 15-May-20 | 31-Dec-24 |
| P1609.20 | | Recommended practice for extending the functionality of IEEE Std 1609.2 [-] | New | VT/ITS/1609\_WG | 15-May-20 | 31-Dec-24 |
| P1616 |  | Standard for Motor Vehicle Event Data Recorder (MVEDR) [-] | Revision | VT/ITS/MVEDR-EC | 3-Jun-20 | 31-Dec-24 |
| P1920.2 |  | Standard for Vehicle to Vehicle Communications for Unmanned Aircraft Systems [-] | New | VT/ITS/V2V for Unmanned | 21-Mar-19 | 31-Dec-23 |
| P2020 |  | Standard for Automotive System Image Quality [-] | New | VT/ITS/2020\_WG\_AUTOIQ | 12-May-16 | 31-Dec-22 |
| P2030.1.1 | | Standard Technical Specifications of a DC Quick and Bi-directional Charger for Use with Electric Vehicles [-] | Revision | VT/ITS/WG-P2030.1.1 | 28-Sep-17 | 31-Dec-21 |
| P2030.1.2 | | Standard Technical Specifications for Ultra-High-Power Electric Vehicle Chargers [-] | New | VT/ITS/EVSEWG | 3-Dec-20 | 31-Dec-24 |
| P2418.4 |  | Standard for the Framework of Distributed Ledger Technology (DLT) Use in Connected and Autonomous Vehicles (CAVs) [-] | New | VT/ITS/DTLCAV WG | 14-May-18 | 31-Dec-22 |
| P2846 |  | Assumptions for Models in Safety-Related Automated Vehicle Behavior [-] | New | VT/ITS/AV Decision Making | 24-Sep-20 | 31-Dec-23 |
| P2982 |  | Millimeter-Wave Channel Sounder Verification [-] | New | VT/ITS/MMW-CSV | 10-Feb-21 | 31-Dec-25 |
| P7001 |  | Transparency of Autonomous Systems [-] | New | VT/ITS/ASV WG\_P7001 | 7-Dec-16 | 31-Dec-21 |

New IEEE VTS Standards Association (SA) Standards Committee

IEEE / VT / High Speed Train and Maglev Standard Committee (HSTMSC) is calling for new proposal of international standard, especially for the standards which related to high speed train and maglev field.

If you are interested in it, please kindly provide us the bellow documents to [cuifeng@csrzic.com](mailto:cuifeng@csrzic.com) before 20th September.

Other IEEE Standards project.

IEEE SA is committed to smart cities standardization and offers a portfolio of standards and programs to address key aspects of the smart cities framework.  
**Featured Projects**

[**IEEE P1950.1 Standard for Communications Architectural Functional Framework for Smart Cities**](https://standards.ieee.org/project/1950_1.html)

This standard specifies the architectural and functional framework for smart cities aiming to enable communications within and across smart city ecosystems.

[**IEEE P1951.1 Standard for Smart City Component Systems Discovery and Semantic Exchange of Objectives**](https://standards.ieee.org/project/1951_1.html)

This standard is focused on solving the discovery of the systems deployed in a smart city and enabling the sharing of objectives between these smart city systems to make them work towards a common goal.

[**IEEE P2413.1 Standard for a Reference Architecture for Smart City (RASC)**](https://standards.ieee.org/project/2413_1.html)

This standard provides an architectural blueprint for Smart City implementation leveraging cross-domain interaction and semantic interoperability among various domains and components of a Smart City.

[**IEEE P2784 Guide for the Technology and Process Framework for Planning a Smart City**](https://standards.ieee.org/project/2784.html)  
This guide provides a framework that outlines technologies and the processes for planning the evolution of a smart city.  
  
[**IEEE P2850 Standard for an Architectural Framework for Intelligent Cities Operation System**](https://standards.ieee.org/project/2850.html)  
This standard defines an architecture framework for a computational operation system, which is designed to enable intelligent cities.  
  
[**IEEE P2872 Standard for Interoperable and Secure Wireless Local Area Network (WLAN) Infrastructure and Architecture**](https://standards.ieee.org/project/2872.html)  
This standard describes a protocol that enables interoperable, semantically compatible connections between connected hardware (e.g. autonomous drones, sensors, smart devices, robots) and software (e.g. services, platforms, applications, AIS).