

IEEE Standards & Conformity Assessment Update

DC Quick Charging – IEEE 2030.1.1

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Why support IEEE P2030.1.1?

- Clear safety and interoperability standards are crucial for the continued growth of the electric vehicle (EV) market.
- The need for standards is becoming even more important as high-power chargers (150-350kW) are entering the market, bringing new safety risks.
- There is no standard meeting the requirements of the CHAdeMO community in North America, despite CHAdeMO being the most widely deployed DC fast charging protocol in North America (and the world).
- CHAdeMO is officially recognised as an international DC charging standard by IEC, but IEC is not widely recognized in North America, which tends to follow standards set out by IEEE, SAE, CSA and other organizations.
- SAE J1772 is limited to US and European models that follow the Combined Charging System (CCS), leaving out CHAdeMO and Tesla models.

Why support IEEE P2030.1.1?

- Due to the lack of a working CHAdeMO standard in North America, current network operators rely on charger manufacturers to demonstrate UL certification (which covers only electrical safety) and CHAdeMO certification separately.
- To achieve CHAdeMO certification, manufacturers have to undergo certification testing with third-party certification labs in either Japan (JET or UL Japan), Europe (TUV or IDIADA) or Taiwan (TERTEC). **There are no accredited labs for certifying CHAdeMO in North America**, which is inconvenient and expensive for local stakeholders.
- In fact, **not all buyers require CHAdeMO certification**, leading to potential safety and communication issues occurring in the field and damaging the reputation of EVs in the marketplace. Local authorities (AHJs) rarely if ever verify CHAdeMO compliance, since it is not a North American standard.

Why support IEEE P2030.1.1?

- Given the absence of a standard meeting the requirements of the CHAdeMO community in North America, IEEE along with CHAdeMO stakeholders developed the IEEE 2030.1.1 standard in 2015.
- The next steps are to:
 - Establish a conformity assessment test procedure (certification program) for IEEE2030.1.1, to enable manufacturers to have their chargers tested and certified locally in North America, at one of the accredited NRTLs
 - Revise 2030.1.1 to include V2X, ultra-rapid charging, smart charging, etc.
- The goals are to:
 - Reduce compliance and therefore charging infrastructure costs
 - Provide a smoother and faster certification process benefitting local manufacturers and network operators, local authorities, etc.
 - Help authorities, charger network operators, etc. verify compliance to the standard.
 - Ensure that the standard evolves to meet the specific needs of the North American EV community

Certification process

- All of the required technical information for having a charger certified will be available from IEEE, after signing NDA, or directly from CHAdeMO (membership required).
- Testing can be done at one of several IEEE recognized test laboratories and/or NRTLs.
- **CHAdeMO protocol testing** will also be available through this process, eliminating the need for any further tests. Goal is to test compliance to all safety, operational and communication standards and protocols at one place.
- Upon verification of testing results, IEEE will issue the conformance certificate, and provide the manufacturer with a license to use the “IEEE certified” logo.
- All certified chargers will be listed on the IEEE registry
- CHAdeMO members can also use CHAdeMO logo.



How can you support IEEE 2030.1.1?

- Join the IEEE EV Charging (EVC) Conformity Assessment Steering Committee (CASC), a forum for the dissemination of best practices and shared discussions on issues of conformance and certification of EV chargers
- Contribute to CASC pilot testing program
 - We need partners to provide chargers (on loan) to be tested to the requirements of the standard.
- Join the IEEE 2030.1.1 revision working group

For more information:

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