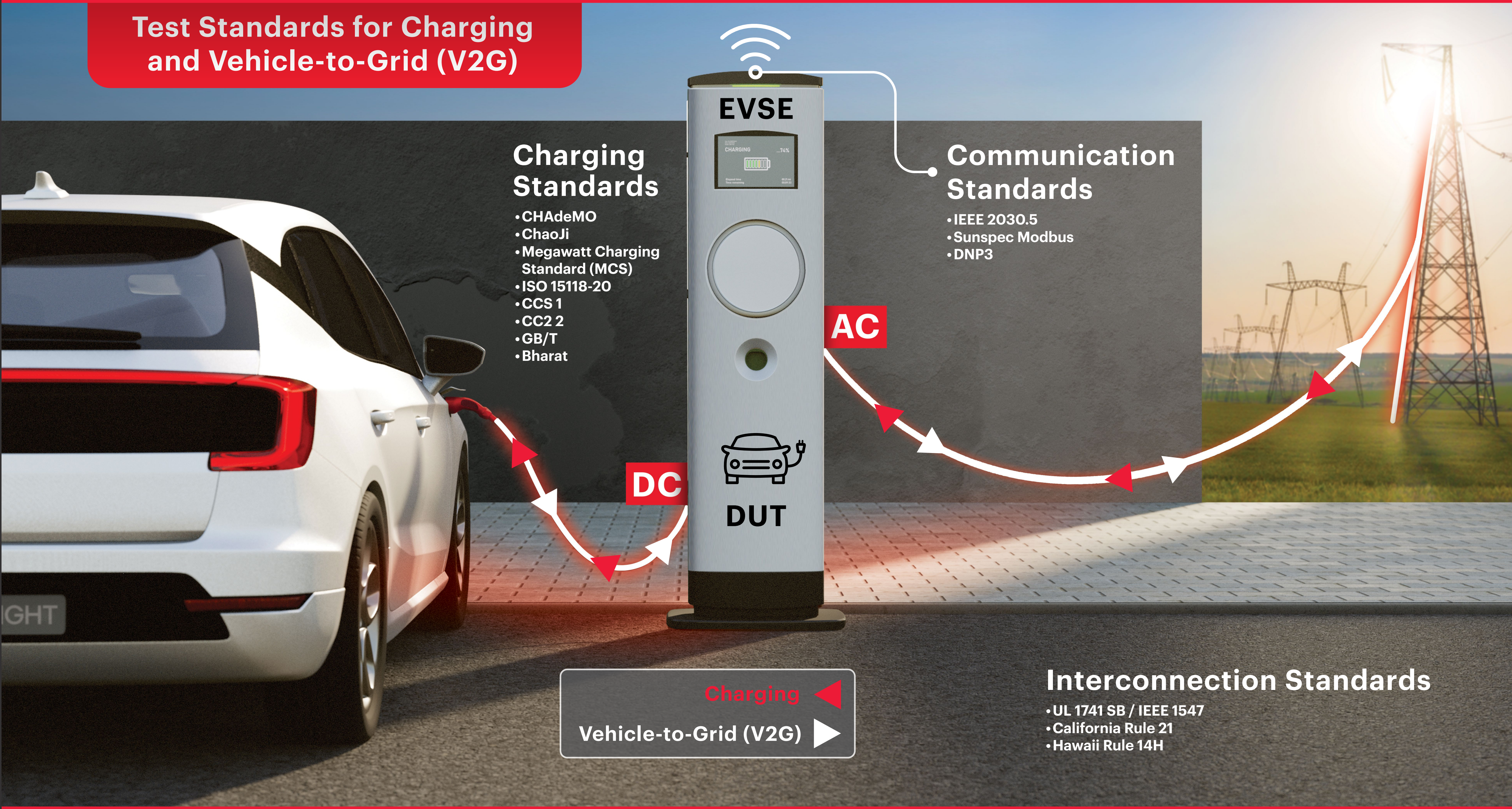
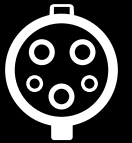
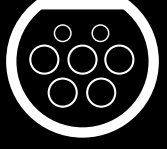
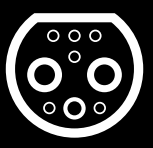


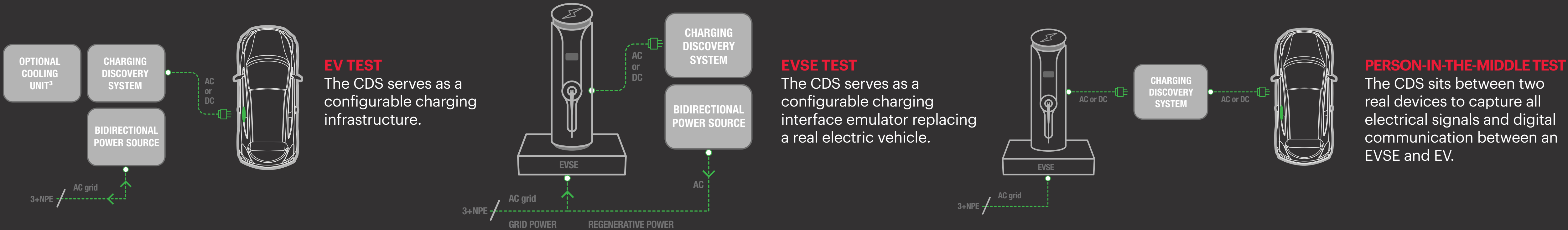
Validating E-Mobility Charging Interfaces

Power conversion takes place at various interfaces in the relatively new and evolving e-mobility ecosystem. Modern design must meet many IEC¹ and ISO² working group standards to ensure safety, efficiency, and interoperability for each electric vehicle (EV) and EVSE subsystem. Keysight’s expertise in charging, grid, storage, and battery management system (BMS) test technology helps bring your e-mobility innovations to market faster.



Keeping up with the race for range			
EV CHARGING OPTIONS ARE EVOLVING TO ADDRESS CONSUMER RANGE ANXIETY AND MAKE CHARGING POINTS MORE ACCESSIBLE			
	LEVEL 1	LEVEL 2	LEVEL 3
	AC home charging	AC home / public charging	DC fast charging / rapid charging
Voltage	120 V	240 V	≥ 480 V
Charge rate	200 km (124 miles): +/- 20 hours	200 km (124 miles): +/- 5 hours	80%* of 200 km (99 miles): +/- 30 min * Beyond 80%, charging slows down to the pace of a typical Level 2 charger.
Pros	• Least expensive	• Convenient locations	• Very efficient
Cons	• Very slow trickle	• Shortage of charge points in dense urban centers	• Costly infrastructure • Frequent use may shorten battery life
Connector Types	 SAE J1772 (N. America, Japan)		 CCS Type 1 (N. America)
	 CCS Type 2 (Europe)		 CCS Type 2 (Europe)
	 GB/T (China) Bharat (India)		 CHAdeMO (Japan)
			 Megawatt Charging System (MCS) (N. America and Europe)
			 GB/T (China) Bharat (India)
	Tesla		
	Non-Tesla cars need adapters to use Tesla's Level 2 Destination Charger. Tesla's Level 3 high-speed DC Supercharger currently can only charge Tesla cars, with limited non-Tesla pilot Supercharger sites in Australia and Europe. Tesla cars can charge at any Level 2 charging station by using a J1772 adapter.		

Ensure EV/EVSE safety, interoperability, conformance, and durability with Keysight’s Charging Discovery System (CDS) emulation technology.



www.keysight.com/find/e-mobility

Product specifications and descriptions in this document subject to change without notice.
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¹ International Electrotechnical Commission ² International Organization for Standardization ³ For emulating high-power charging stations