

EV Charging Emulator

For IEC 61851, DIN70121 and ISO/IEC15118

Monitoring Interface

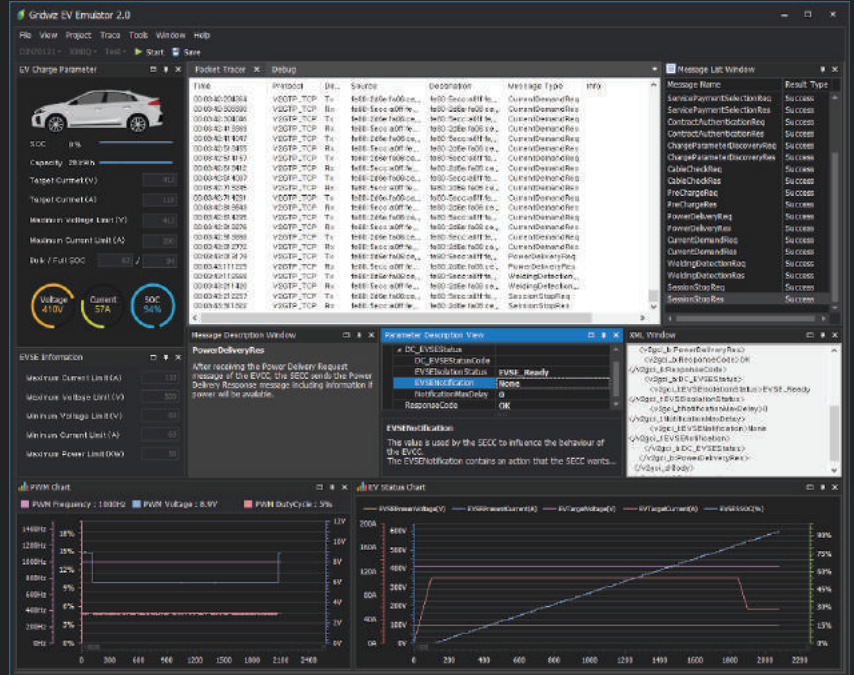
The Gridwiz EV Charging emulator is the ISO/IEC 15118 based charging system.

This system consists of EV emulating software, control box with inlet, PLC mode for EVCC and EVSE parts for reference testing.

User can configure initial values of EV's battery status and monitor PWM signals as well as charging status. All the result can be exported to HTML and PDF file format. For the power delivery, it has the electric load which can be adjustable.

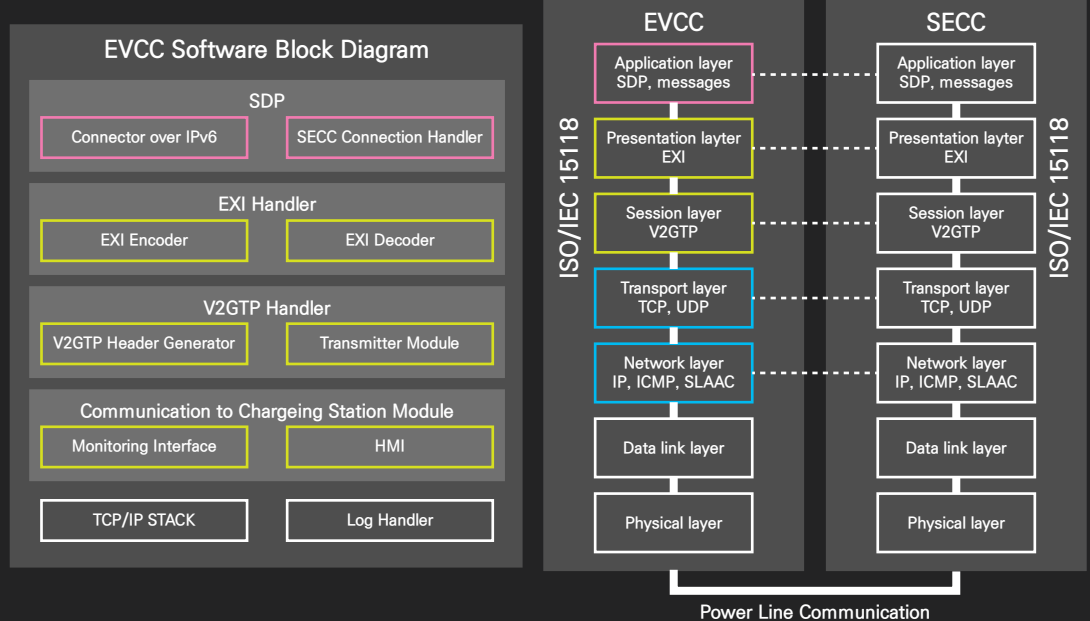
EV emulator supports a positive and negative common scenario and tests communication in various environments.

Especially it can test real car communications with a demo test scenario of various EVs(Spark EV, BMW i3, IONIQ and etc.).



Software Architecture

- ◆ EV side SLAC implementation
- ◆ ISO/IEC 15118 EV Charging Protocol Stack
- ◆ UI interface of Charging Status and Error Monitoring



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Charging Scenario

ISO/IEC 15118 EV Charging test with charging Scenario

- ◆ Supported App Protocol
- ◆ Session Setup
- ◆ Service Discovery
- ◆ Service and Payment selection
- ◆ Contract authentication (cyclic)
- ◆ Charge parameter discovery (cyclic)
- ◆ Cable check (cyclic)
- ◆ Precharge (cyclic)
- ◆ Power Delivery
- ◆ Current Demand (cyclic)
- ◆ Power Delivery
- ◆ Session Stop



Hardware

- ◆ Emulation System
- ◆ CPU: intel core i3
- ◆ RAM: 8GB
- ◆ Charging Controller
- ◆ Combo Type1 or Type2 Inlet
- ◆ Detecting PWM signal (IEC61851)
- ◆ Peripheral I/F
- ◆ PLC modem for EVCC
- ◆ Support HomePlug Green PHYTM
- ◆ Common console for UI
- ◆ AC/DC Load
- ◆ AC/DC Power supply (for BPT, optional)

Software

- ◆ EV charging status monitoring
- ◆ PWM and EV status chart
- ◆ Real time Message tracer
- ◆ Configurable EV characteristic
- ◆ Test report generation
- ◆ Real EV profile