![Coretech Innovations logo]

EEBUS hub

EEBUS-Hub LPC

Limitation of Power Consumption Using
EEBUS-Hub
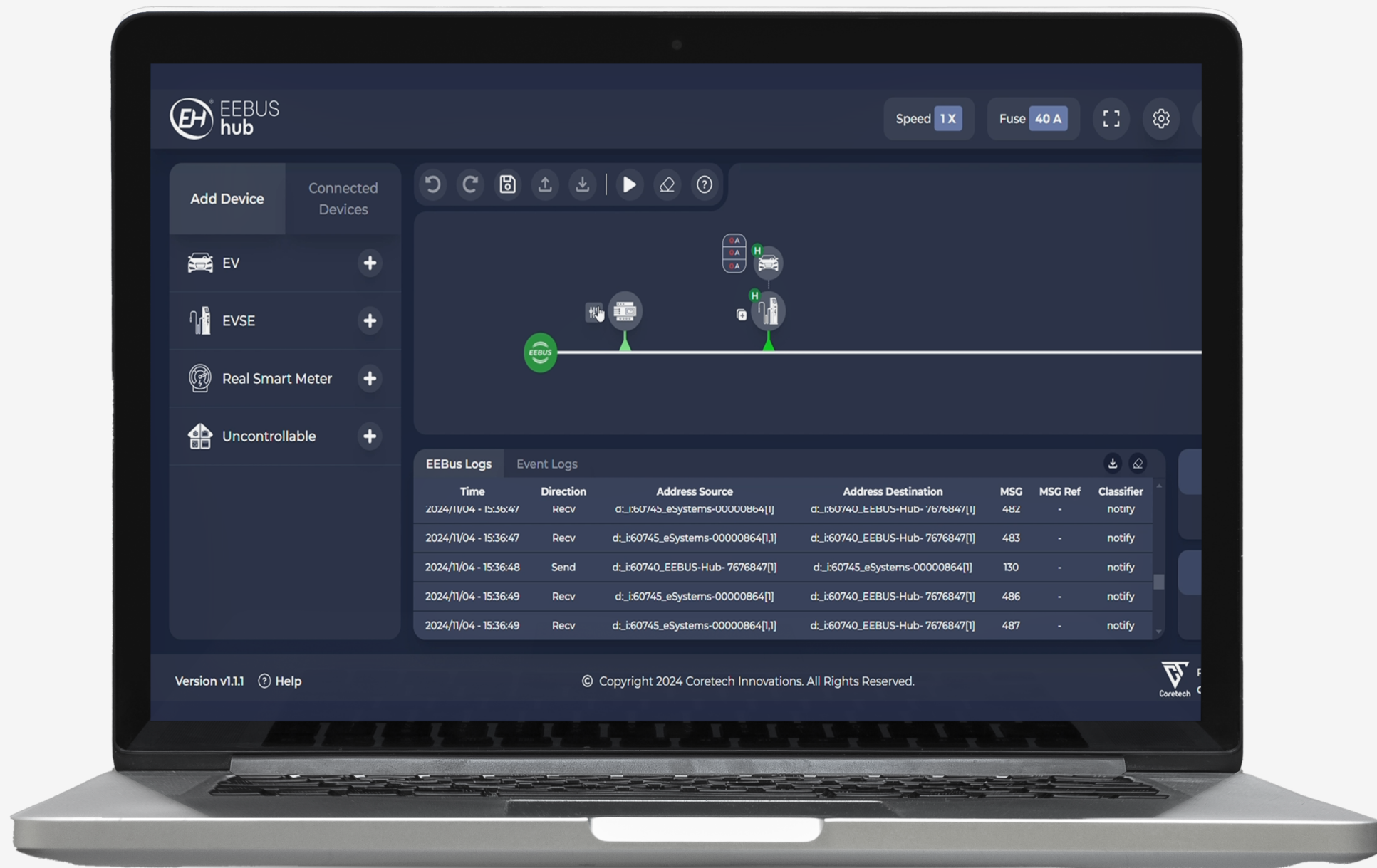
EEBUS-Hub now supports the EEBUS LPC (Limitation of Power Consumption) use case in both server and client modes! This enhancement ensures that your device's **§ 14a** compliance is achieved faster and more efficiently, accelerating interoperability testing and enabling the development of diverse and complex scenarios. Additionally, EEBUS-Hub allows you to seamlessly integrate test scenarios into CICD environments.

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Use Case Demo Setup

User — REST API / LPC queries — **EEBUS-Hub Energy Guard** — EEBUS — **EVSE** → **EVSim**

Controllable Device Reaction (DUT)

User
1. Active Power / Consumption Limit → **EEBUS-Hub Energy Guard**
2. Limit Data / Power limit + Duration → **EVSE** → **EVSim**
3. Response ACCEPT / REJECT ←
4. Action response ←
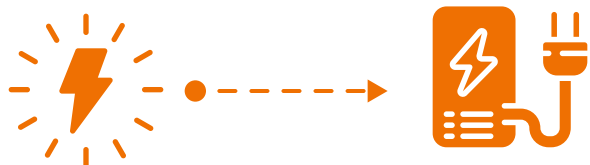
Controllable Device Reaction (DUT)

Description

Simulate sending EEBUS LPC command using EEBUS-Hub energy guard and visualize the response of the controllable system (DUT)

The controllable system in this demo is a **3-phase wallbox charger** with the following current limitations:

- Minimum: **6A** per phase (4,140 W on all phases)
- Maximum: **16A** per phase (11,040 W on all phases)

1

Less Than
4140 W
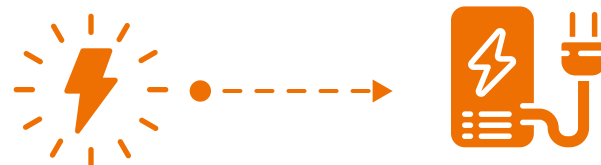

Apply power limit less than **4140 W** and observe the Wallbox's reaction

Example One

2

4140w - 11000w

Apply power limits within the allowed limits and observe the Controllable Device Reaction
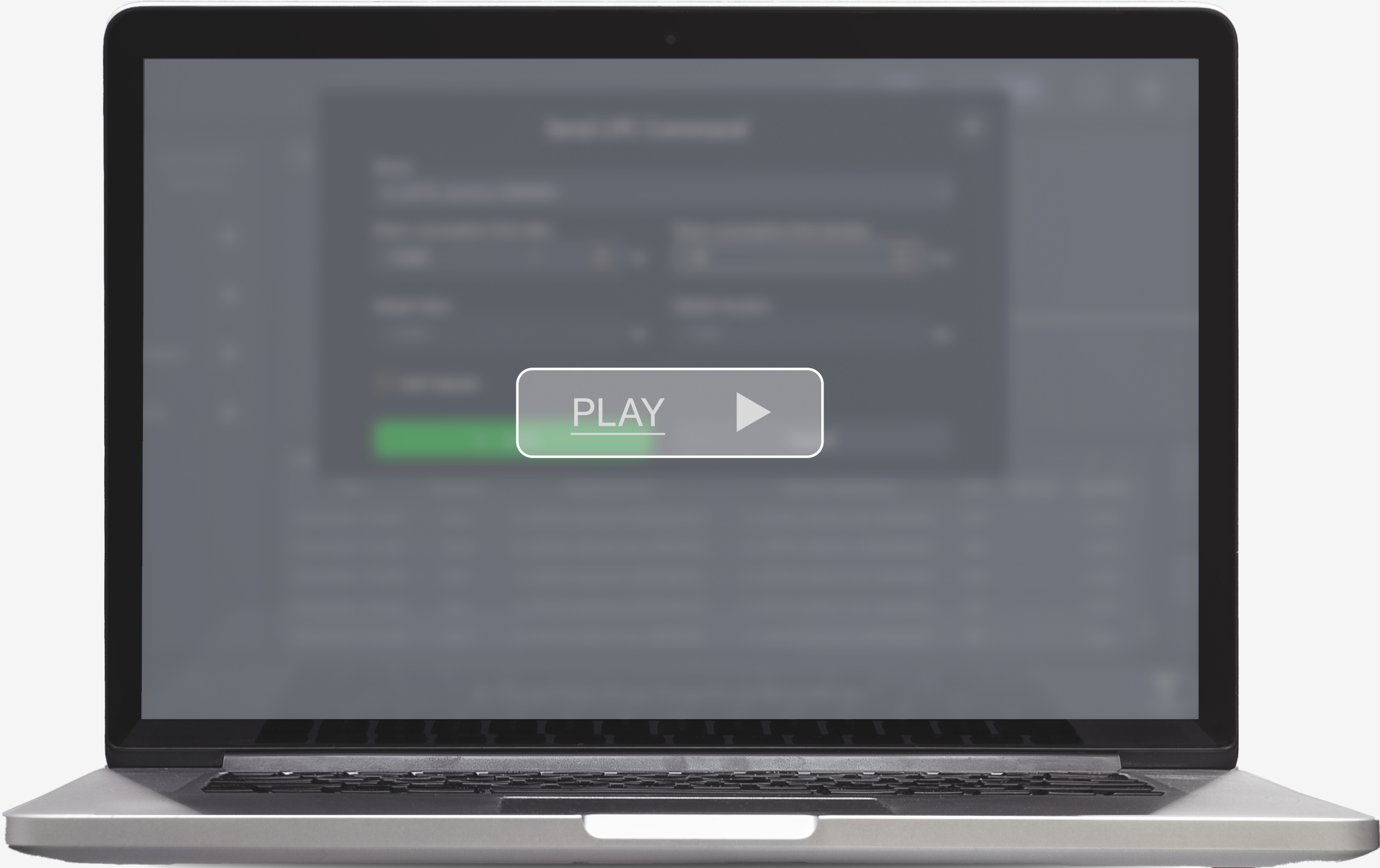
Example Two

3

Higher Than
11040 W
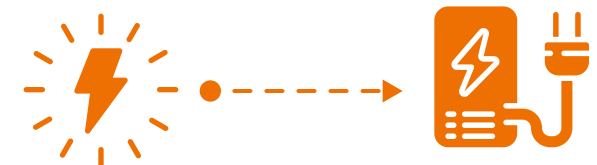
Apply power limits higher than **11040 W** and observe the the Controllable Device Reaction

Example Three
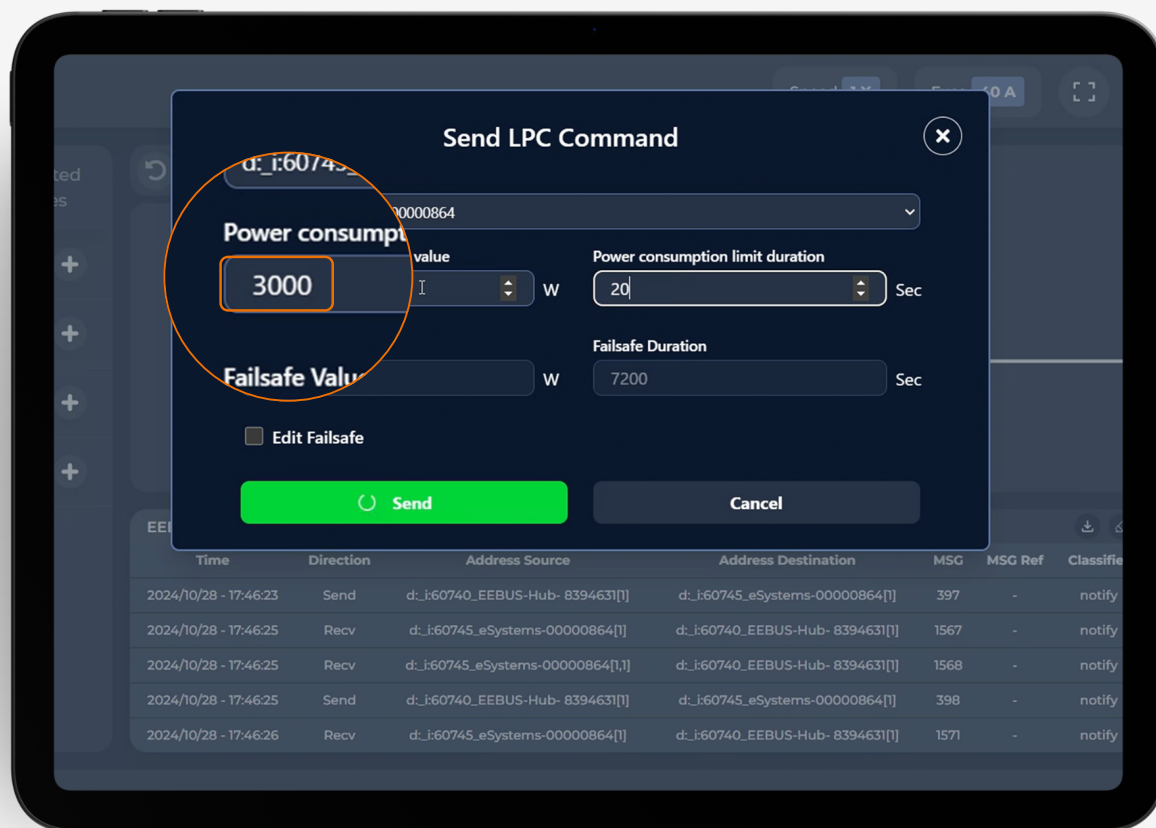
Demo

PLAY ▶

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Demo Steps In Details

Adding LPC Command

Setting Power Limit and Interval (**Example 1**)

Send LPC Command

Power consumpt...

3000 W

20 Sec

Failsafe Valu... W

Failsafe Duration

7200 Sec

Edit Failsafe

Send   Cancel

Apply power limit **3000** W for **20** sec **4.34** A per phase

EV-Simulator displays PWM of **100%**, which indicates the interruption of the charging for **20** sec as requested by the LPC command.

V2G Messages

SLAC
SECC Discovery Protocol
Supported App Protocol
Session Setup
Service Discovery
Service Detail
Payment Service Selection
Certificate Installation
Certificate Update
Payment Details
Charge Authorization
Charge Parameter Discovery
Power Delivery

CP State
PWM
SECC IPV6
SECC Port
Session ID
EVCC ID
EVSE ID
Payment Option
Energy Transfer Mode
EVSE Nominal Voltage
EVSE Max Current
Charge Progress
Charging Session

C (6 V)
100 %

Setting Power Limit and Interval (Example 2)

Send LPC Command

Power co... ems-00000864
6900 ... limit value   Power consumption limit duration
6900   W   10   Sec

Failsafe Duration
W   7200   Sec

☐ Edit Failsafe

○ Send   Cancel

Time	Direction	Address Source	Address Destination	MSG	MSG Ref	Classifi...
2024/10/28 - 17:45:03	Send	d:_i:60740_EEBUS-Hub- 8394631[1]	d:_i:60745_eSystems-00000864[1]	354	-	notify
2024/10/28 - 17:45:04	Recv	d:_i:60745_eSystems-00000864[1]	d:_i:60740_EEBUS-Hub- 8394631[1]	1396	-	notify
2024/10/28 - 17:45:04	Recv	d:_i:60745_eSystems-00000864[1,1]	d:_i:60740_EEBUS-Hub- 8394631[1]	1397	-	notify
2024/10/28 - 17:45:05	Send	d:_i:60740_EEBUS-Hub- 8394631[1]	d:_i:60745_eSystems-00000864[1]	355	-	notify
2024/10/28 - 17:45:06	Recv	d:_i:60745_eSystems-00000864[1]	d:_i:60740_EEBUS-Hub- 8394631[1]	1400	-	notify

Apply power limit **6900** W for **10** sec **10**A per phase

EV-Simulator displays PWM of **17.1%**, which indicates the reduction of charging power for **10** sec

Control Panel

V2G Messages
- SLAC
- SECC Discovery Protocol
- Supported App Protocol
- Session Setup
- Service Discovery
- Service Detail
- Payment Service Selection
- Certificate Installation
- Certificate Update
- Payment Details
- Charge Authorization
- Charge Parameter Discovery
- Power Delivery
- Charging Status

UnPlug
WM Charging
Stop
Pause
negotiate

figuration
arging Type   ISO 15118
curity Level   TLS
ment Option   Contract
rtificate Installation

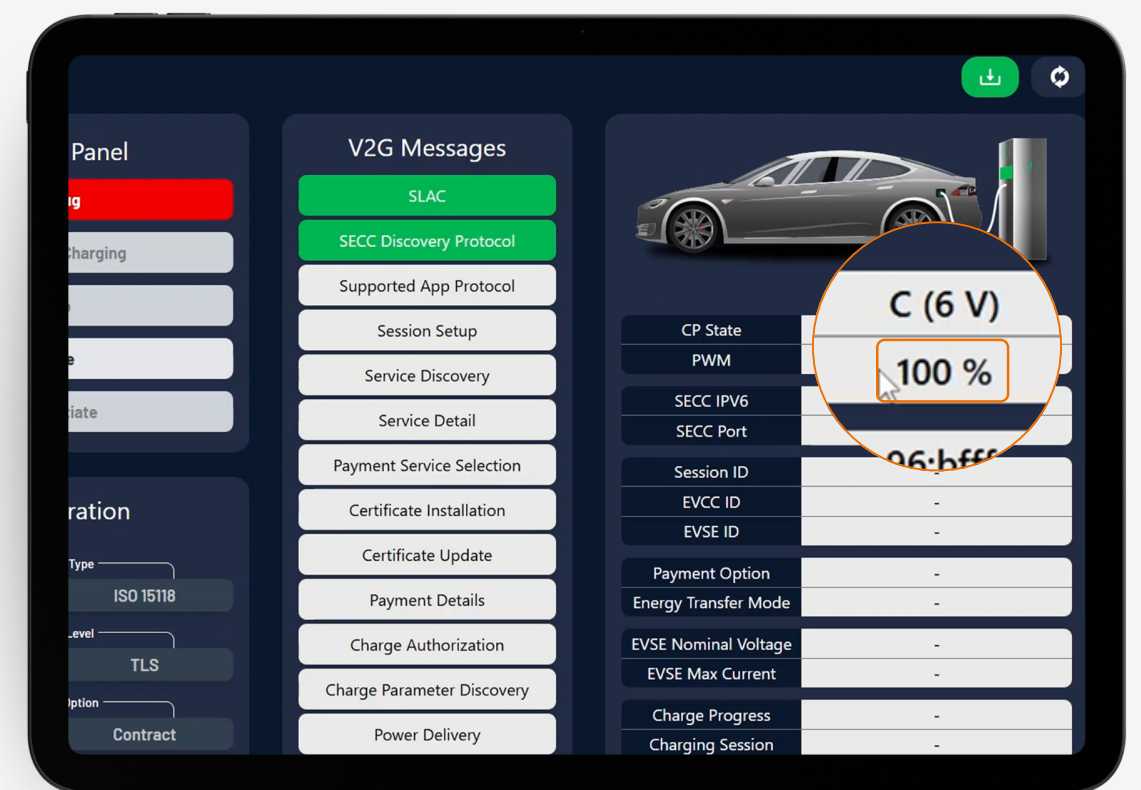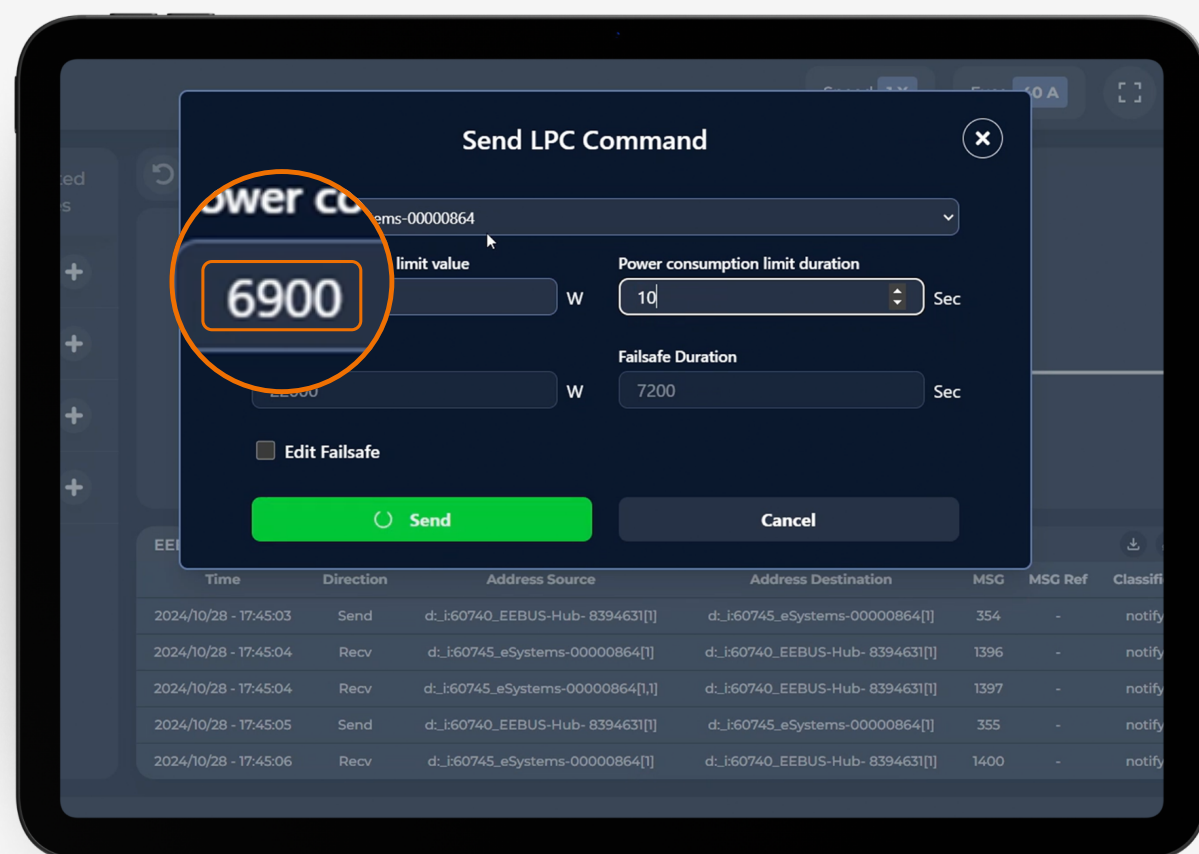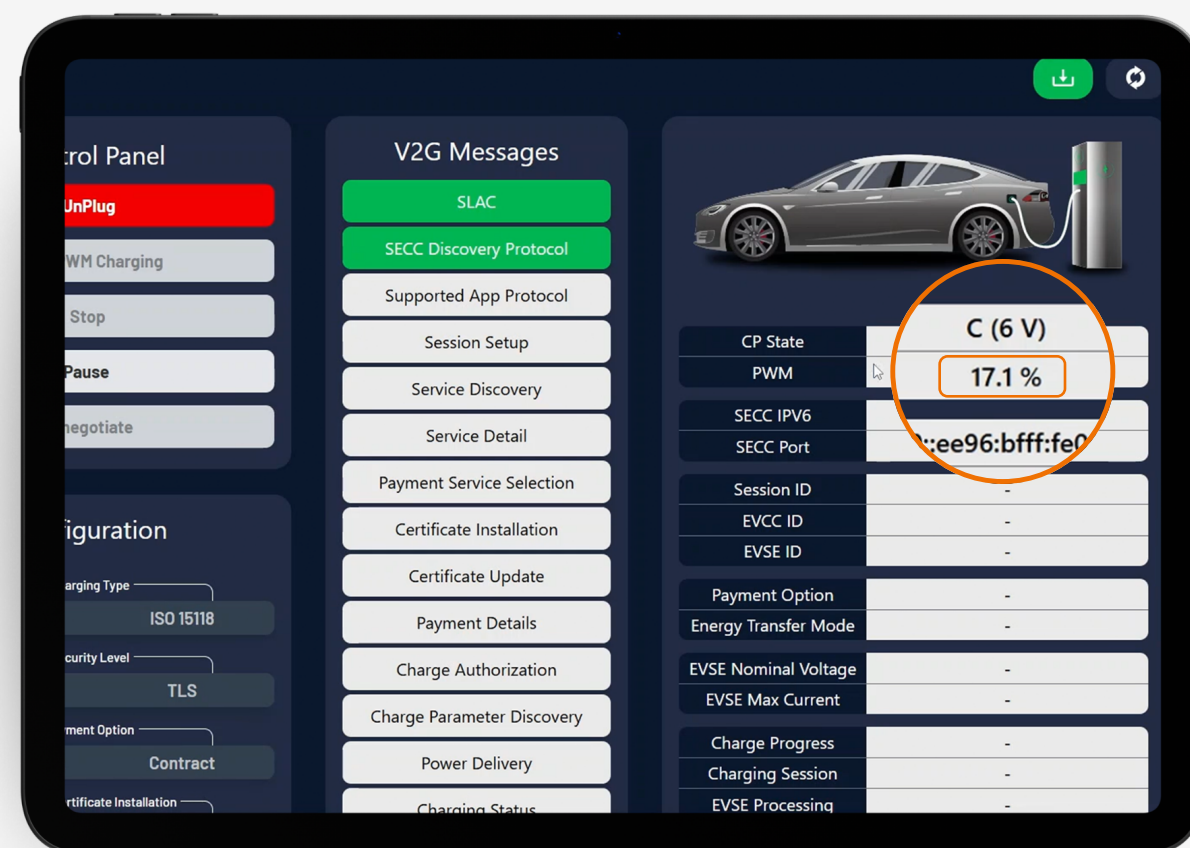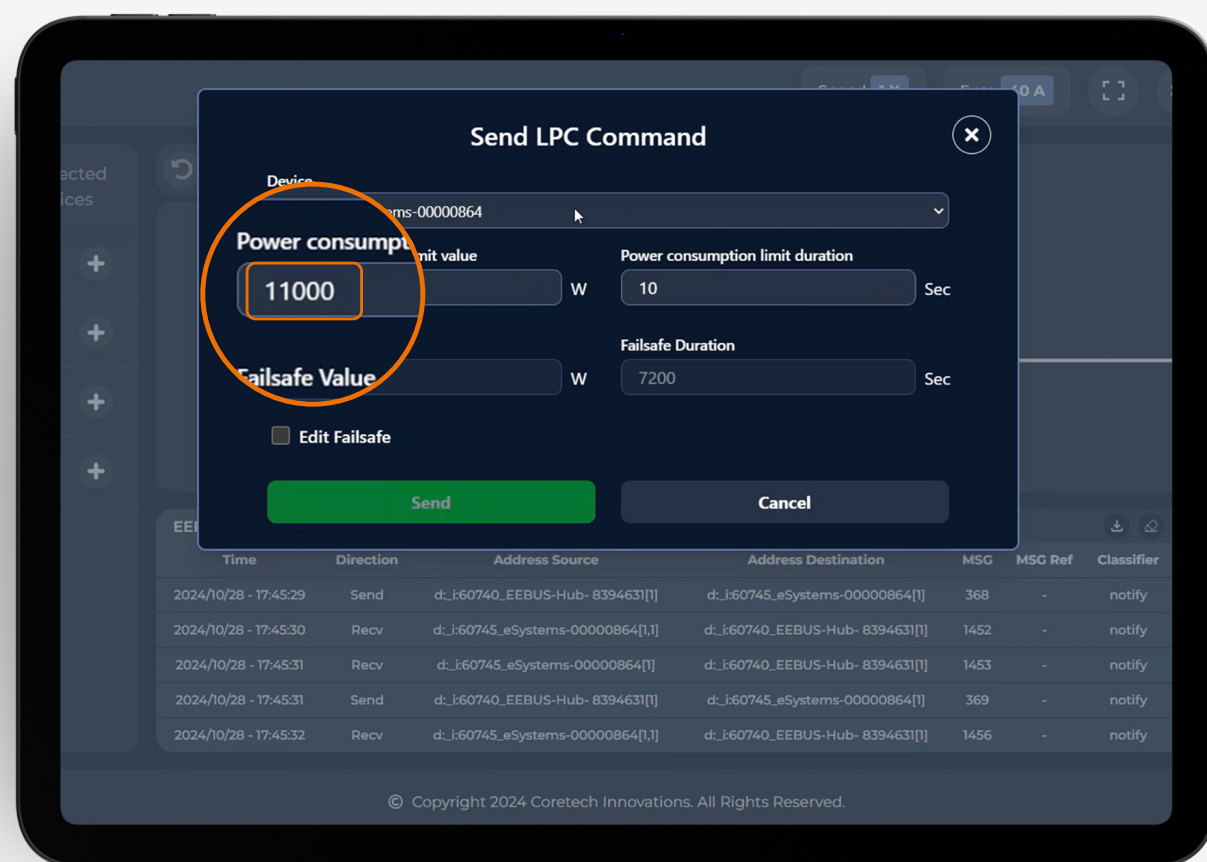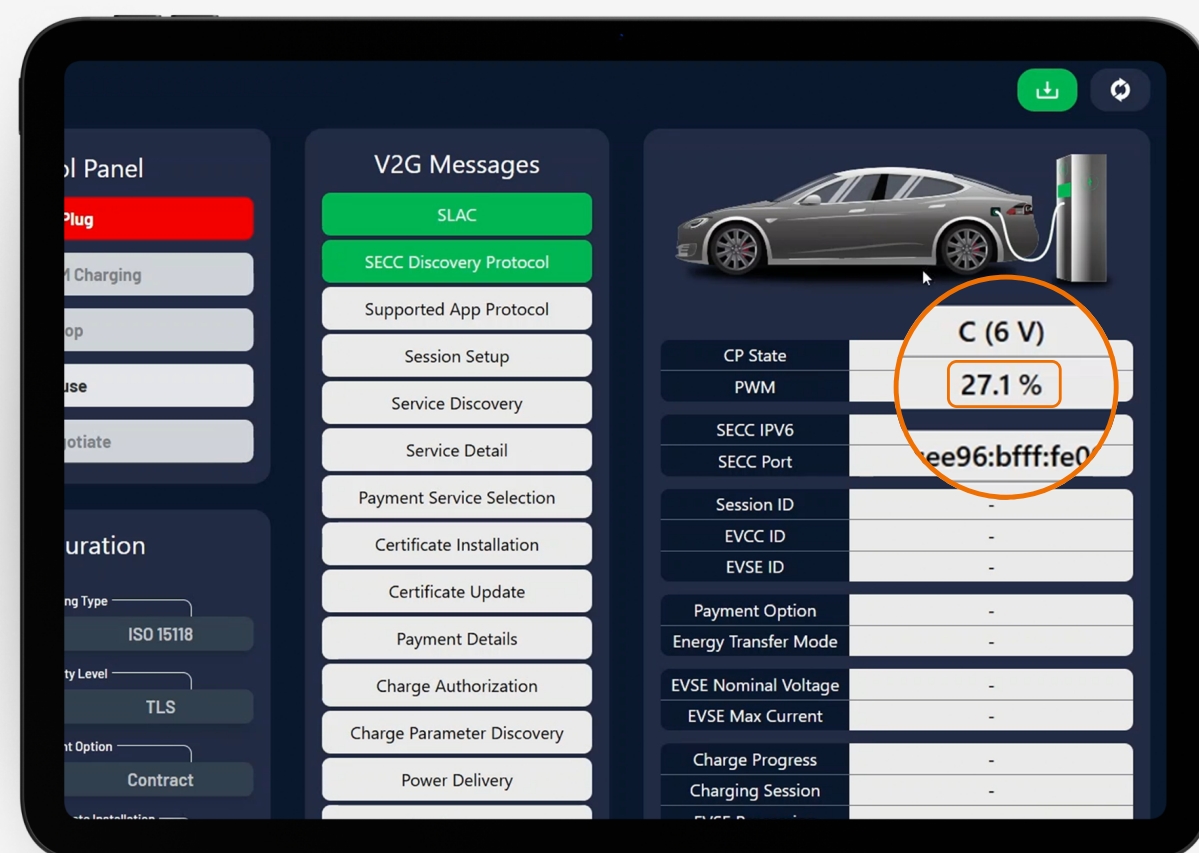|	
CP State	C (6 V)
PWM	17.1 %
SECC IPV6	
SECC Port	::ee96:bfff:fe0
Session ID	-
EVCC ID	-
EVSE ID	-
Payment Option	-
Energy Transfer Mode	-
EVSE Nominal Voltage	-
EVSE Max Current	-
Charge Progress	-
Charging Session	-
EVSE Processing	-

Setting Power Limit and Interval (**Example 3**)

Apply power limit **15000** W for **10** sec **21.73** A per phase
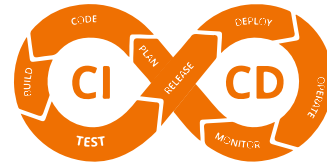
EV-Simulator displays PWM of **27.1%,** which indicates the EV-Sim is charging with almost the maximum power for **10** sec

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How Can We Help You with your EEBUS Product?

EEBUS Stack Integration Support

CICD Pipelines Setup
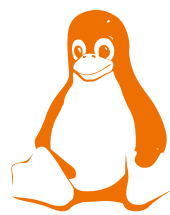
EEBUS Compliance Testing
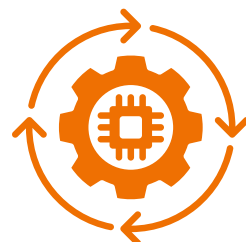
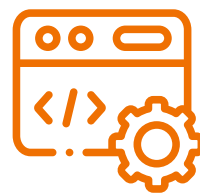### Tooling & Automation

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