

# Webinar Q&A

## Navigating IEEE 1547.1 & UL 1741 SB Certification for Inverters and V2G Technology

**On October 2, 2024, QualityLogic held a webinar to provide the latest updates on IEEE 1547.1 and UL 1741 SB certification and testing requirements as well as the company's 1547.1 test tools. These are answers to the questions that came up during the presentation.**

**Question: You mentioned the DER was tested with Modbus communication. But was that mapped to IEEE 2030.5 through a gateway or IoT device or was the DER just connected through Modbus?**

The inverter we used during the live demo supports SunSpec Modbus directly. Our test tool communicated by using Modbus. Other OEMs do have a gateway model which we also support by communicating through 2030.5 protocol and the gateway would convert the 2030.5 messages to another protocol the inverter understands, ex. modbus, proprietary, etc.

**Question: Is the 1547 test tool separate from a 2030.5 Server? Or if someone purchases the 2030.5 setup like the Client and Server from QualityLogic, do they also get the 1547 testing tool?**

Our IEEE 1547 test tool includes any of the 3 protocols and would be sufficient to cover 1547 certification. We also have a CA Rule 21 CSIP certification test tool which covers CSIP tests for CA Rule 21 and CSIP-Australia.

**Question: In the Inverter Lab Overview diagram, it shows the inverter is connected to the FTS directly. Does this mean that your inverter as IEEE 2030.5 Client is connected directly to the 2030.5 Server? Were there any issues about recognition of IEEE 2030.5 certification between the Client and Server since they are not from the same manufacturer?**

When using IEEE 2030.5 to the inverter, our test tool becomes the 2030.5 server which creates the 1547 functions in 2030.5 protocol and the inverter device would retrieve these messages and act upon it accordingly. Our 2030.5 test tool is also used in CA Rule 21 CSIP certification and is the only authorized test tool for such certification.

**Question: Does V2G standard contemplate DC connected chargers?**

Definitely. What we will be demonstrating at the V2G Forum is the testbed for certifying DC chargers to the UL 1741 SB standard required by utilities.

**Question: William is going so quickly... will this demo be available with a video recording later, so we can digest it?**

In addition to the recording now available on our website, we'd be happy to have a private webinar with you to review the test tool in more detail and answer any additional questions.

**Question: How does the physical test setup look like? Like grid simulator, hardware in loop box, and communication stack, load bank?**

Physical setup example is shown in the Inverter test lab diagram where various lab equipment pieces are procured by the customer from their preferred vendor. Our 1547 test tool manages the various test equipment as shown in the live demo session to execute the 1547.1 tests including automatic data analysis for MRA compliance.

**Question: What is V2L?**

V2L is Vehicle-to-Load

**Question: Can we add Matter protocol support for common protocol in home for all supplies and loads with ECC Matter security?**

From a utility DER perspective, the only recognized protocols in IEEE 1547 are IEEE 2030.5, SunSpec Modbus and DNP3. Adding another protocol requires approval by the IEEE 1547 work group and it is not a serious topic for the next revision. Utilities can certainly decide to do their own Matter requirements but they would be dealing with a vendor community that doesn't support it today.

**Question: Are you going to upgrade to support SAE 3400 connector and 3400\_1 adopters?**

From an interconnection V2G perspective, the connector is not an issue. That is between the EV and EVSE and the utility only cares about how the EVSE behaves in emergency situations. Further, J3400 uses the same communications protocols as CCS connectors do so from an interoperability and standards perspective for EVs as DERs, it is a non-issue.

**Question: Can the QL Server test tool be used to test the client capability to work with Intermediate CA?**

Our IEEE 1547 and 2030.5 test tool can be provisioned with any of the support 1,2,3, 4 cert chain which includes intermediate CA. Please contact our support for further assistance.

**Question: Can you provide a block diagram of your setup that we can look at in coordination with looking back over the recording?**

The inverter test lab diagram is the exact equipment we used during today's live demo. We would be happy to do a deeper live demo with you also.

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