

AUTOMATING 1547.1 COMPLIANCE

On May 14, 2026, QualityLogic held a webinar with Tektronix to discuss the latest updates to IEEE 1547 and UL 1741 SB mandates, plus demonstrate automated certification testing using Tektronix oscilloscope and power measurement equipment. This is the Q&A from that session.

Are there any pending updates to the 1547.1 test procedures that OEMs should be planning for now, even if they're not yet required?

Yes. The IEEE working group is currently going through revisions to 1547.1, though the draft is not publicly available yet. There are no big foundational changes expected; the updates are primarily procedural shifts (some rounds of testing may be added or removed) and clarifications. No groundbreaking control-system changes are anticipated, but OEMs should stay aware of the changes coming. As context, UL 1741 SB previously introduced its own clarifications and corrections, which OEMs should already be familiar with. QualityLogic's test tool already implements the SB-recommended changes and will implement the new 1547.1 revisions as they become concrete. Our multi-day technical workshop walks through all test procedures and will incorporate the upcoming 1547.1 changes as they solidify.

At what point in the product development cycle should an OEM start using the 1547.1 test tool? Is it primarily a pre-certification validation tool, or does it get used earlier in firmware development?

The biggest value of the test tool is during pre-compliance testing. It lets OEMs work out bugs, implementation issues, and communication issues before official certification. That said, the tool can also be used for official testing, as NRTLs accept data collected through QualityLogic's test tool as official data. Beyond pre-compliance, the tool benefits OEMs even earlier, during engineering and firmware development. We work with customers who are unfamiliar with 1547 functions, helping them understand those functions early through

both training and the test tool, so their development stays in sync with what's expected during both pre-certification and certification. How does the automated data analysis handle edge cases where the DER is technically within MRA tolerances but borderline? Does it flag those separately, or is it purely pass/fail?

The automated analysis takes the MRA (Measurement Required Accuracy) boundaries into account when producing the analysis. A failure is only flagged when the result falls outside the maximum clearing time plus MRA requirements.

Is the phase angle of the three phase system at the moment of the test step executes random? Can it be controlled?

For must-trip testing, the phase angles are set to the required phase angle for the inverter during initial setup. A 3-phase inverter is set accordingly, and a split-phase inverter has phases 180 degrees apart. QualityLogic does not manipulate the phase angle during the test; the test relies on the default settings configured at setup.

Does QualityLogic provide consulting or testing services?

QualityLogic provides consulting to help OEMs understand the grid code functions. We do not perform official testing because we are not an NRTL (Nationally Recognized Test Laboratory). While we could perform test services separately, we do not offer such services at this time. Instead we equip customers with both the knowledge and the test tool needed to come up to speed on what's expected for implementation and how to test it.