
HVAC-R Demand Response Services

OpenADR and ANSI/CTA-2045/EcoPort testing and certification

As the global demand for energy continues to grow, lawmakers, consumers and industry stakeholders are placing increased emphasis on resource allocation. As a result, manufacturers of appliances and heating, ventilation, air conditioning and refrigeration (HVAC-R) equipment face evolving regulatory requirements for connectivity, interoperability, energy efficiency and other impacts on environmental sustainability.

Open Automated Demand Response

To meet the shifting requirements, manufacturers must consider the technology their products use to communicate with utility companies and power grids. Smart energy meters send utility usage data to utility companies, which use this data to assess whether to shed or shift loads to level out demand and prevent supply shortages at peak times. The Open Automated Demand Response (OpenADR) Alliance is working to standardize this communication with an open, highly secure two-way information exchange model for utilities. OpenADR is a demand response interface through which a utility company can remotely communicate with consumer devices to adjust power loads and reduce grid stress.

ANSI/CTA-2045 and EcoPort

ANSI/CTA-2045 specifies the standard technology that energy management signals and messages use to reach modular communications interfaces (MCIs). MCIs facilitate communications with energy management applications and transmissions between the power grid and residential devices, allowing consumers to reduce their electricity usage during peak times and take advantage of potential cost savings by shifting usage to off-peak times. ANSI/CTA-2045 enables HVAC-R equipment and appliance manufacturers to add a simple interface that can connect to any means of communication via plug-in modules. EcoPort is the brand name for devices that successfully tested to ANSI/CTA-2045 requirements.

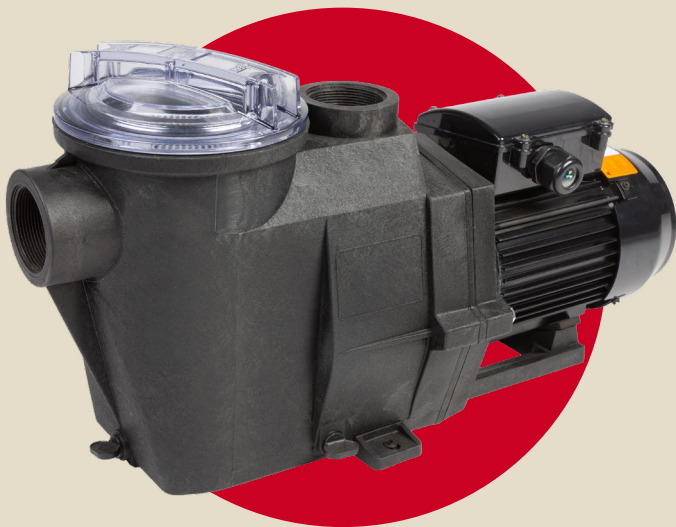
UL Solutions demand response testing and certification services

Regulatory bodies have increasingly implemented regulations to require OpenADR- and/or ANSI/CTA-2045-compliant interfaces on appliances and HVAC-R equipment to incentivize the use of smart heating, cooling and hot water equipment integrated with the electric grid to reduce demand during peak usage:

- The 2021 Washington State Energy Code requires CTA-2045-compliant interfaces, effective Jan. 1, 2022.
- Chicago has adopted a new energy code based on the International Code Council's 2021 International Energy Conservation Code, effective Nov. 1, 2022, for new building permits.
- More areas of the U.S. — including California, New England and New Jersey — have begun discussions regarding OpenADR and/or ANSI/CTA-2045 certification.
- The federal government has released optional criteria for demand response testing for appliances such as refrigerators and water heaters, which includes compliance with OpenADR and/or ANSI/CTA-2045.

These regulatory trends highlight the importance of testing and certifying your products to OpenADR and ANSI/CTA-2045/EcoPort specifications.

At UL Solutions' testing laboratory in Newton, Iowa, we apply our deep technical knowledge and experience to offer OpenADR and ANSI/CTA-2045/EcoPort testing and certification services for appliances and HVAC-R equipment, including water heaters and pool pumps.



UL Solutions demand response testing and certification process

We use test harnesses to test products' capabilities. We run the specific test cases needed for the product and check to see if the product passes or fails. Upon successful completion of testing, the product becomes eligible for certification. We provide a formal report and raw results files to the customer. If the customer opts for full certification, we can prepare all compliance documents, send them to the customer to sign, and submit the signed compliance documents to the OpenADR Alliance to certify the results. Certified products are listed on the OpenADR Alliance website.

Learn more at [UL.com/services/demand-response-testing](https://www.ul.com/services/demand-response-testing).



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