

STANDARD OPERATING PROCEDURE FOR CERTIFICATION AND VERIFICATION OF PRODUCTS TO ENERGY STAR® SPECIFICATIONS Version 5.0

Updated November 16, 2022

This document is intended to guide certification bodies (CBs) through the process of certifying and verifying products for ENERGY STAR. The U.S. Environmental Protection Agency (EPA) reserves the right to change any ENERGY STAR specification should technological and/or market changes affect its usefulness to consumers, industry, and/or the environment. The applicable ENERGY STAR specifications, available at www.energystar.gov/specifications, should remain the primary reference for determining product certification. Additional resources are available at www.energystar.gov/CBresources.

CERTIFICATION REQUIREMENTS:

GENERAL CERTIFICATION REQUIREMENTS	Applicant/Partner satisfies requirement? (Yes/No)	Comments
Does the ENERGY STAR Brand Owner Applicant/Partner have a valid ENERGY STAR Organization ID (OID) as verified in MESA?		
Has all of the information required for the EPA data submission been provided with the test data/laboratory report? <ul style="list-style-type: none"> Have all applicable test report(s) been provided?¹ Is there enough information about the product and testing such that all EPA-required fields can be completed? 		
Does the ENERGY STAR Brand owner Applicant/Partner own the brand for the model being certified or have approval from EPA as a brand licensee? ²		
Does the ENERGY STAR Brand Owner Applicant/Partner program and area of participation status in MESA allow for certification of the model? ³		
Has the ENERGY STAR Brand Owner Applicant/Partner provided contact information for the purposes of verification testing? ⁴		
Was the model tested in an EPA-recognized laboratory with a valid OID as verified in MESA? ⁵		
Is the laboratory EPA-recognized for the product category for which it has conducted testing? ⁶		

¹ If the applicant/partner can document the product is a privately labeled version of another ENERGY STAR qualified model, only one test report is required.

² The CB must ensure that the organization it lists as the "ENERGY STAR Manufacturing Partner" is the model's brand owner. For the brand owner's convenience, EPA will permit a third party to work with the CB to certify a model on the brand owner's behalf. The CB should contact EPA for any questions regarding brand owner license agreements.

³ EPA uses organization roles and statuses to indicate appropriate privileges for ENERGY STAR brand owner partners or applicants, such as whether a CB may certify the brand owner's products as ENERGY STAR. A complete list of these roles and statuses is available in MESA.

⁴ If a third party such as the original equipment manufacturer (OEM) worked directly with the CB to certify the product on the brand owner's behalf, the brand owner still needs to facilitate verification testing with the CB.

⁵ Laboratories that participate in a CB's witnessed or supervised manufacturer's testing laboratory (W/SMTL) program are provided an OID when the WMTL or SMTL is submitted to EPA. A CB may accept data only from a W/SMTL that participates in the CB's own W/SMTL program and may not enroll a W/SMTL without conducting its own assessment of the laboratory.

⁶ The online directory of recognized laboratories is available here: http://www.energystar.gov/index.cfm?fuseaction=recognized_bodies_list.show_RCB_search_form.

GENERAL CERTIFICATION REQUIREMENTS	Applicant/Partner satisfies requirement? (Yes/No)	Comments
If the tested model(s) is a member of a product family and product family qualification is permitted under the specification, is the appropriate product family documentation provided (e.g., test report for representative model, explanation of variations within family, up-to-date list of models included in the family)?		
If product family qualification is permitted under the specification, has documentation been provided to confirm that all models in the family would meet ENERGY STAR requirements given any acceptable product variations?		
Is the product intended for sale or distribution in the United States (U.S.) or Canada? ⁷		

⁷ A list of ENERGY STAR's international country partners is available at https://www.energystar.gov/partner_resources/international_partners. In order to be qualified or labeled as ENERGY STAR, a model must be intended for commerce in the U.S. or a partner country. However, a model may be certified as meeting the ENERGY STAR eligibility criteria regardless of its sales destination, as long as the certification does not imply that the model is ENERGY STAR qualified. EPA will only collect data from CBs for products sold in the U.S. or Canada. Select Information Technology (IT) equipment may also include markets for Taiwan, Switzerland or Japan as applicable.

ELIGIBILITY FOR ENERGY STAR CERTIFICATION	Model satisfies requirement? (Yes/No/NA)	Comments
Is the model an Included Product per the applicable ENERGY STAR specification? ⁸		
Is the model absent from the List of Ineligible Products? ⁹ If on the list of ineligible products, has EPA been notified?		
Does the model meet all of the qualification criteria as outlined in the specification?		
Does the model meet the qualification criteria using the appropriate significant digits and rounding?		
ELIGIBILITY FOR ENERGY STAR CERTIFICATION	Model satisfies requirement? (Yes/No/NA)	Comments
Are all calculations for the model performed correctly (e.g. typical energy consumption (TEC) calculations)?		
Was the model tested using the appropriate test method(s) and appropriate publication version of the test method according to the specification?		
Was the model tested at the relevant input voltage/frequency combination appropriate for the North American market and each market in which it will be labeled as ENERGY STAR?		
Were the type of model(s) and number of units tested correctly given the appropriate product sampling requirements? ¹⁰		
If a model has a U.S. Department of Energy (DOE) waiver for special conditions, has the Federal Register notice of a waiver been provided? ¹¹		

⁸ A list of Included and Excluded products is detailed in the applicable ENERGY STAR specification (typically Section 2) at www.energystar.gov/specifications. If the model submitted for certification is not an included product, CBs should report the model to Certification@energystar.gov using the [Ineligible Products Form](#).

⁹ The List of Ineligible Products is available in MESA and outlines models reported by CBs that do not meet the requirements of ENERGY STAR. CBs should not necessarily reject products on the list, but should proceed with an understanding of why a given product was rejected from a previous attempt at certification. In certain cases, products may be certified after consultation with EPA.

¹⁰ For details, see [Directive 2011-04, "ENERGY STAR Verification Testing for Certification Bodies -Test Sample Sizes and Determining Testing Failures \(Non-Lighting Products\)."](#)

¹¹ Models that have a DOE waiver for special test conditions are published in the Federal Register. CBs must track this Federal Register notice of the waiver in their certification records for these models.

EPA-RECOGNIZED LABORATORY CERTIFICATION TEST REPORT REQUIREMENTS ¹²	Test report satisfies requirement? (Yes/No/NA)	Comments
Was the test report issued by an EPA-recognized laboratory?		
Does the test report list the appropriate test method(s) and appropriate publication version of the test method per the specification?		
Does the test report include test data for all ENERGY STAR product markets where the product is intended for commerce?		
Does the test report list the date(s) of testing?		
Does the test report list the model number(s) for the unit(s) tested, if applicable?		
Does the test report include a description and photographs of the sample (i.e., pictures that allow proper identification of all units tested)?		

EPA-RECOGNIZED LABORATORY CERTIFICATION TEST REPORT REQUIREMENTS	Test report satisfies requirement? (Yes/No/NA)	Comments
Does the test report reflect the model information (partner name and model number) of the tested model? ¹³		
Has the appropriate sampling plan been documented so the model will be tested appropriately during verification testing? Was the partner informed about the option for testing multiple units where applicable and the implication for verification testing per Directive 2011-04 .		
Does the test report list the environmental conditions observed during testing (e.g., temperature and humidity)?		
Have any relevant special test conditions been documented so the model will be tested appropriately during verification testing?		
Does the test report include the names and signatures (paper or electronic) of the test engineer(s) and witness(es) (as applicable)?		
Are test results organized by applicable test method, with a clear indication of which results are relevant to ENERGY STAR?		
Has the CB confirmed all test report calculations for accuracy, as applicable?		
If test reports are provided from multiple laboratories, does each test report meet the above requirements?		

¹² The test report requirements listed here do not apply to IES LM-80 laboratory test reports. Specific requirements for IES LM-80 test reports are included in the [ENERGY STAR Program Guidance Regarding LED Package, LED Array and LED Module Lumen Maintenance Performance Data Supporting Qualification of Lighting Products](#) (otherwise known as "Lumen Maintenance Guidance").

¹³ All test reports and test articles generated for the purposes of ENERGY STAR shall reflect the model information (partner name and model number) of the tested model and cannot be revised or changed to cite a different model number. Rebranded products may still utilize laboratory reports that do not include the rebranded model information for the purposes of certification, so long as the partner can demonstrate to the CB through separate documentation that the products are identical besides the model number.

REPORTING CERTIFICATION DATA TO EPA	CB confirms requirement? (Yes/No/NA)	Comments
Has the CB confirmed that the ENERGY STAR brand owner Applicant/Partner name and brand names are reported consistently?		
Has the CB conducted a quality control review of the data submission to EPA (e.g. correct units, decimal places, and confirmation of any calculations)?		
If product family qualification is permitted under the specification, are all models submitted to the XML web service under Additional Models per the ENERGY STAR Qualified Product Exchange (QPX) documentation?		
Has the CB applied the same Certification ID to all models within a certified product family?		
REPORTING CERTIFICATION DATA TO EPA	CB confirms requirement? (Yes/No/NA)	Comments
If test reports from multiple laboratories are provided for qualification, has the CB confirmed all laboratory OID(s) are included in the information provided to EPA?		
Has CB reported the model(s) using the appropriate XML web service for the certified product's specification version? ¹⁴		
If the reported value differs from the measured value, has the CB confirmed both values meet the applicable ENERGY STAR specification? ¹⁵		

¹⁴ When transitioning from one specification version to the next, two specifications may be in effect at the same time.

¹⁵ EPA requires that reported values are not more efficient than the measured value. This includes calculations derived from reported values. For details, see [Directive 2011-05, "Measured versus Reported Values for ENERGY STAR Certification."](#)

VERIFICATION REQUIREMENTS: CBs are required to verify a portion of their active ENERGY STAR certifications each year to ensure products associated with the ENERGY STAR label continue to meet program requirements. The exact number of verification tests a CB conducts annually is related to the number of eligible certifications and the product category.¹⁶ The following is intended as a guide to assist CBs with the verification process of a single listed model, but does not supersede any ENERGY STAR program requirements, specifications or directives.

VERIFICATION TEST ELIGIBILITY AND SELECTION	Yes/No	Comments
Is the model currently certified by the CB and available for sale in the US?		
Has the CB checked that the model was not verified in the previous calendar year?		
Has the CB confirmed the partner is not included in a different CB's verification program or participating in an alternate verification approach where allowed ¹⁷ ?		
The model selected for verification was either nominated by EPA, or the CB selected the product based on instructions found in the Conditions and Criteria document ¹⁸ and Directive #2011-06 ¹⁹ ?		

¹⁶ For more details, see https://www.energystar.gov/partner_resources/products_partner_resources/third_party_cert/responsibilities.

¹⁷ For example, appliances partners participating in the AHAM verification program may not be required to be verified through the certifiers program. For commercial food service, options for component inspections in lieu of off the shelf testing are available for select categories.

¹⁸ https://www.energystar.gov/sites/default/files/asset/document/Conditions_and_Criteria_for_Recognition_of_Certification_Bodies.pdf

¹⁹ [Directive #2011-06, Revised December 2021, ENERGY STAR Verification Testing Supplement](#)

VERIFICATION TEST MODEL PROCUREMENT	Yes/No/N/A	Comments
Has the CB attempted to procure the model(s) from location(s) identified by the partner in their market availability response, if applicable? ²⁰		
The model is available for purchase online or in-person at a retail store? (If Yes, procure via this method)		
If the model is custom built or made to order, have all the steps been considered per the procurement method decision tree diagram in figure 1?		
If model can only be procured off-the-line, has the CB confirmed the product is within an eligible product category per Directive 2011-06 ²¹ or requested special accommodations from EPA?		

VERIFICATION TEST MODEL PROCUREMENT	Yes/No/N/A	Comments
Has the CB procured at least the minimum number of product samples necessary for testing per the relevant product specification and/or directive? ²²		
Has the CB confirmed with the partner whether the tested units will be returned or disposed of after testing is completed?		
Has the CB ensured that the choice of testing sample(s) was made impartially?		
Has the CB ensured samples will be tested in an EPA-recognized 3 rd party laboratory in North America, unless other allowances apply? ²³		

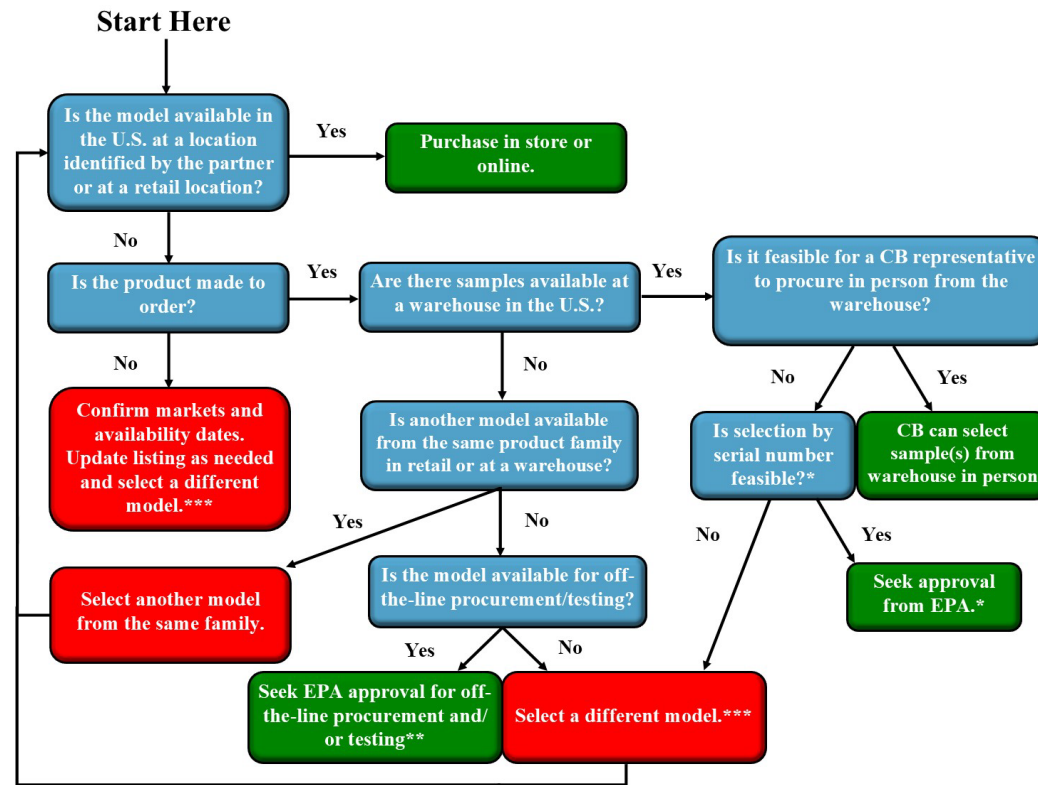
²⁰ Directive #2014-01, April 1, 2014 "[Responsibilities for Maintaining Product Certifications](#)"

²¹ [Ibid.](#)

²² For more information, refer to Directives [#2011-04](#), [#2012-01](#) and [#2015-01](#)

²³ Verification testing may only take place at a first party lab when witnessed by a certification body representative and allowed for by EPA's requirements. EPA allows for off-the-line procurement or witnessed testing when the product falls within a category eligible for off-the-line considerations per [Directive 2011-06](#). Otherwise, any testing in a first party laboratory must be pre-approved by EPA.

Figure 1. Verification Test Model Procurement Decision Tree



***Selection by Serial Number:** If approved by EPA, CB asks the partner for 5 serial numbers of the model selected for verification, along with photographs of the serial numbers to ensure they are permanently affixed (e.g., engraved). CB then selects a serial number at random and ships samples to the CB's testing facility within the U.S. CB ensures the testing facility confirms the serial number shipped matches the CB selection. If more than one sample is needed to perform verification (e.g. lighting products), seek guidance from EPA.

****Off-the-line Procurement and Testing:** Off-the-line procurement is defined as CB personnel obtaining verification test samples directly from a partner's production line. Off-the-line testing refers to testing a sample taken from the production line at a laboratory located within or very near the production facility. CBs do not need to request EPA approval for off-the-line procurement or witnessed testing when the product falls within a category eligible for off-the-line considerations per [Directive 2011-06](#). For all other product categories, CBs should seek EPA approval before obtaining or testing products off the line. In some instances, delaying procurement to a time when the model is being manufactured and asking the partner to add the appropriate number of units needed for verification testing into production is a viable option. When an order is prepared, the CB should work with the partner to randomly select the unit(s) to send to the CB's test facility.

*******If the original model selected by EPA or the CB is unavailable, the CB may select a new model from the same partner if available, or select a new model from a different partner in the same category if the partner has no other models available. The CB should notify certification@energystar.gov when no models are available across the entire product category.

EPA-RECOGNIZED LABORATORY VERIFICATION TESTING AND REPORT REQUIREMENTS	Test report satisfies requirement? (Yes/No/NA)	Comments
Does the test report list the appropriate test method(s) and publication version of the test method per the specification? ²⁴		
Does the test report list the date(s) of testing?		
Does the test report list the serial number(s) of the unit(s) tested?		
Does the test report include photographs and a description of the samples that allow proper identification of all units tested?		
Does the test report reflect the model information (partner name and model number) of the original tested? ²⁵		
Has the same sampling plan been conducted for verification as documented during certification per Directive 2011-04 ?		
Does the test report list the environmental conditions observed during testing (e.g., temperature and humidity)?		
Have relevant special test conditions been taken into account during verification that were documented during certification?		
Does the test report include the names and signatures (paper or electronic) of the test engineer(s) and witness(es) (as applicable)?		
Are test results organized by applicable test method, with a clear indication of which results are relevant to ENERGY STAR?		
Has the CB confirmed all test report calculations for accuracy, as applicable?		

VERIFICATION TEST REPORTING TO EPA	CB confirms requirement? (Yes/No/NA)	Comments
If the partner had an objection or noncompliance with testing, did the CB notify EPA within 5 business days of receiving notice from the partner?		
When test results indicate a failure to meet ENERGY STAR requirements, did the CB issue a final report within 20 business days of the lab report issuance?		
In the case of a testing failure, did the CB wait to notify the partner until after reporting to EPA?		
For verification test failures, did the CB send a notice to Enforcement@energystar.gov of the failure within two (2) business days of issuing the final report?		
Upon instruction from EPA to remove a certification, did the CB withdraw the product and additional products within the same family through the ENERGY STAR Qualified Product Exchange (QPX)?		

²⁴ Models should be verified against the same requirements used during initial certification. If there has been a change in DOE regulations or a test procedure change outside of a full specification revision, then the partner may opt to verify the model using the current test method(s) or seek guidance from EPA. Models certified through modeling or simulation are subject to physical testing when selected for verification.

²⁵ All test reports and test articles generated for the purposes of ENERGY STAR shall reflect the model information (partner name and model number) of the original tested model, and cannot be revised or changed to cite a different model number. Rebranded products may still utilize laboratory reports that do not include the rebranded model information for the purposes of certification, so long as the partner can demonstrate to the CB through separate documentation that the products are identical besides model number.

APPENDIX A: SUPPLEMENTAL PRODUCT-SPECIFIC GUIDANCE FOR CERTIFICATION AND VERIFICATION

U.S. Department of Energy (DOE)-covered Products

- Products should be tested using the ENERGY STAR referenced test method and in accordance with any applicable DOE-issued guidance, available on DOE's Public Test Procedure Guidance website, <https://www.energy.gov/eere/buildings/standards-and-test-procedures>.
- For most products, all models within a basic model group must have the same certified energy efficiency rating as per DOE [10 CFR 429](#), "Certification, Compliance, and Enforcement for Consumer Products and Commercial and Industrial Equipment."
- The certified energy efficiency rating on the partner's literature, the ENERGY STAR website, and the certification of compliance to DOE must be the ratings that are derived from the applicable sampling requirement per DOE's regulations in 10 CFR 429 (requirement to test no fewer than two units). This requirement must be met even if a single unit is used to qualify for ENERGY STAR.
- When using the 4-unit, multiple-sample approach for verification testing, all four units of a model selected for verification must be procured at one time per [Directive 2011-04](#). However, the supplemental units identified in case of a spot check failure on the first unit may be considered procured when they are tagged with tamper-proof packaging in the warehouse or other storage facility, provided that those units can be made available for verification testing at the laboratory within five business days after completion of the initial spot check.
- Alternative Efficiency Determination Methods (AEDMs): For products certified as ENERGY STAR through an AEDM **per 10 CFR 429.42(2)**, it is EPA's expectation that **verification test** sample(s) be procured and tested according to the test method listed in the current specification. For central heat pumps recognized as Cold Climate under the CAC/HP specification, this includes the [ENERGY STAR Cold Climate Heat Pump Controls Verification Procedure](#).

Appliances

- Additional guidance on clothes washers and refrigerators-freezers is available at the following websites:
 - Clothes washers: <https://www.energy.gov/eere/buildings/appliance-and-equipment-standards-program>
 - Clothes washers with warm rinse cycles: <http://www.regulations.gov/#!documentDetail;D=EERE-2010-BT-TP-0021-0037>

Commercial Food Service (CFS) Equipment

- EPA offers an alternative approach to verification testing through recognized CBs known as the component inspection verification program, which may cover eligible models in specific CFS categories. For more information about the component inspection verification program, please visit https://www.energystar.gov/partner_resources/products_partner_resources/third_party_cert/responsibilities.
- For all electric Commercial Food Service Cooking Equipment testing, the CB should confirm that the tested voltage is within 2.5% of the operating voltage listed on the nameplate or as specified by the partner. If the product has the capability to operate under more than one voltage, the CB should confirm with the laboratory at which voltage the model was tested.

Decorative Light Strings (DLS)

- Due to the seasonal nature of DLS products, the verification testing cycle for DLS is July 1 – June 30th annually.
- CBs are required to verify a minimum percentage of each partner's DLS products

Electronics and Office Equipment

- The CB should report the “worst case scenario” test results for efficiency measurements to EPA.
- If the specification includes a power supply requirement, the CB should review the following documentation to determine acceptability of the power supply:
 - If the product uses an internal power supply, the partner must submit a certificate of compliance for the power supply from an EPA-recognized laboratory recognized for that product category. The CB must accept this certificate in lieu of a laboratory report.
 - If the product uses an external power supply covered by the International Efficiency Marking Protocol, the laboratory must confirm to the CB that the power supply bears the required Roman numeral V or higher. The CB must not require a full laboratory report or certificate of compliance from the partner.
 - If the product uses an external power supply with integral fan cooling, or a multi-output external power supply that does not bear Roman numeral VI or higher (Level V and below are not covered by the International Efficiency Marking Protocol), the CB may accept either a certificate of compliance for the external power supply or test reports that include testing of the external power supply from an EPA-recognized laboratory recognized for that product category.

Luminaires

- For information on the Certified Lighting Subcomponent (CSD), please visit www.energystar.gov/lightingsubcomponents.
- Subcomponents in this database **are not ENERGY STAR qualified** as a result of being listed. Subcomponents only tested and certified for purposes of the CSD:
 - May not carry any of the ENERGY STAR program's certification or promotional marks on the products, on product packaging, or in associated literature either printed or electronic.
 - May not be referred to as ENERGY STAR qualified, certified, rated, or approved.
- **Lifetime Testing:** The luminaires and lamps specification allows for initial (conditional) qualification of luminaires or lamps based on completion of minimum lamp lifetime testing requirements. This provision requires that full lamp lifetime testing be completed, and requirements met, for full qualification. Subsequent to an initial CSD listing of a lamp or an initial luminaire qualification, if a CB receives lifetime testing results indicating that the product fails to meet rated lifetime, the CB is required within two business days to report via the product failure form to Enforcement@energystar.gov.

Product Categories Eligible for Off-the-line Procurement (Verification Tests Only)

Per Directive [2011-06](#), the “ENERGY STAR Verification Testing Supplement,” the following ENERGY STAR product categories are eligible for off-the-line procurement and/or witnessed testing. Off-the-line procurement and/or witnessed testing in other product categories requires prior EPA approval.

- All Commercial Food Service products
- Imaging Equipment products with speeds greater than 50 ipm (images per minute)

- Laboratory Grade Refrigerators and Freezers
- Light Commercial HVAC
- Computer Servers
- Set-top Boxes with the exception of over-the-top (OTT) internet protocol (IP) products
- Telephony with Voice Over Internet Protocol (VoIP) capabilities
- Uninterruptible Power Supplies with output power >10,000 watts
- Variable-Speed Central Air Conditioners
- Vending Machines