Proposed Recognition Criteria
Non-Ducted Split Air Conditioners and Heat Pumps

Scope

Included products: Residential single-split, multiple-split, and multi-head mini-split air conditioners and heat pumps with non-ducted indoor units, as defined below, are eligible for ENERGY STAR® Most Efficient recognition in 2022. The unit may be of a modular design that allows for combining multiple outdoor coils and compressors to create one overall system. Non-ducted systems eligible for ENERGY STAR Most Efficient are all split systems

Central air conditioner or central air conditioning heat pump[1]: A product, other than a packaged terminal air conditioner or packaged terminal heat pump, which is powered by single phase electric current, air cooled, rated below 65,000 Btu per hour, not contained within the same cabinet as a furnace, the rated capacity of which is above 225,000 Btu per hour, and is a heat pump or a cooling unit only.

A central air conditioner or central air conditioning heat pump may consist of: A single-package unit; an outdoor unit and one or more indoor units; an indoor unit only; or an outdoor unit with no match. In the case of an indoor unit only or an outdoor unit with no match, the unit must be tested and rated as a system (combination of both an indoor and an outdoor unit).

Non-ducted indoor unit[1]: An indoor unit that is designed to be permanently installed, mounted on room walls and/or ceilings, and that directly heats or cools air within the conditioned space.

Single-split system[1]: A split system that has one outdoor unit and one indoor unit connected with a single refrigeration circuit.

Multiple-split (or multi-split) system[1]: A split system that has one outdoor unit and two or more coil-only indoor units and/or blower coil indoor units connected with a single refrigerant circuit. The indoor units operate independently and can condition multiple zones in response to at least two indoor thermostats or temperature sensors. The outdoor unit operates in response to independent operation of the indoor units based on control input of multiple indoor thermostats or temperature sensors, and/or based on refrigeration circuit sensor input (e.g., suction pressure).

Multi-head mini-split system[1]: A split system that has one outdoor unit and that has two or more indoor units connected with a single refrigeration circuit. The indoor units operate in unison in response to a single indoor thermostat.

Excluded products: The following products are not eligible for ENERGY STAR Most Efficient recognition in 2022 under this specification:

- Units that run on three-phase power.
- Units rated for more than 65,000 Btu/h of cooling.

[1] 10 CFR Part 430, Subpart B, Appendix M - Uniform Test Method for Measuring the Energy Consumption of Central Air Conditioners and Heat Pumps.

- Ducted and packaged units are eligible for ENERGY STAR Most Efficient 2022 recognition with different requirements under the Central Air Conditioners, Heat Pumps, and Geothermal Heat Pumps recognition criteria.

Recognition Criteria

1) Product must be ENERGY STAR certified consistent with applicable ENERGY STAR Partner Commitments and the requirements set forth in the latest version of the ENERGY STAR Program Requirements Product Specification for Residential Air Source Heat Pump and Central Air Conditioner, Version 5.0. Products certified early to Version 6.0 of the Central Air Conditioners and Heat pumps specification may also be recognized as Most Efficient 2022. Product performance must be certified by a certification body recognized by the U.S. Environmental Protection Agency (EPA).

2) Products must meet the following cooling and heating performance levels:

Product type	SEER	EER	HSPF
Ductless CAC	20	12.5	
Ductless HP	20	12.5	10.0
Ductless Cold Climate HP	18	11.5	10.0

A. To be recognized as ENERGY STAR Most Efficient Cold Climate, heat pumps must be certified as cold climate heat pumps under Version 6.0 of the Central Air Conditioners and Heat pumps specification.
B. CAC/HP products that certify early to Version 6.0 may elect to certify via the Appendix M1 compliance pathway. These products must meet the following criteria:

Product type	SEER2	EER2	HSPF2
Ductless CAC	18.7	12.0	
Ductless HP	18.7	12.0	8.5
Ductless Cold Climate HP	16.9	11.0	8.5

3) Products must be able to provide cooling (and heating if applicable) at two or more capacity levels.

4) Products must meet the system status and messaging requirements as specified below.

A. **Unit setup information:** Units certified to the Version 5.0 Central Air Conditioners and Heat pumps specification shall be able to send to and receive information from at least one system controller to automatically configure settings appropriate to the controlled equipment, such as airflow for heating and cooling. This may include prompting an installer through configuration of HVAC system settings and desired comfort settings, and a test sequence at turn-on. The controller may be a thermostat, mobile application, or an on-board controller designed to coordinate operation of an entire HVAC system. Units certified to the Version 6.0 Central Air Conditioners and Heat Pumps specification, even if they are two-stage, must meet the installation capability requirements of Section 3.C. in that specification.

B. **Fault History:** Service personnel shall be able to access a log displaying fault history on an alphanumeric display, which may show plain text or error codes. This log shall contain at least the past ten (10) faults that have not been cleared by a service professional. The product may enable access through any mechanism, for example: 1) a text-based display (e.g. LED) permanently incorporated into the unit, 2) at least one thermostat available on the market, 3) a diagnostic tool available on the market which can be brought to the work site by the service personnel. Other equivalent mechanisms are also acceptable.

C. **Resident Alerts in Plain Text:** Units shall facilitate display, in plain text, of messages to residents, without assuming that the resident knows much about their system. At a minimum, these messages shall clearly recommend a specific action for the resident to take if the air filter needs to be checked, changed, or cleaned, and if the unit needs professional service. This may be through display on the thermostat or other control device in occupied space in the home, or through any other system that can reach residents directly (e.g., mobile application). Displays on a unit inside a closet, basement or attic, or outside of conditioned space, will not be sufficient. An LED on a remote or thermostat, with static text beside it, is acceptable.

D. **Maintenance Capabilities:** Units shall be capable of directly notifying service personnel of required servicing, at the discretion of the resident.

Recognition Period

Upon review and approval of applications received from ENERGY STAR Partners, EPA will add qualifying models to the ENERGY STAR Most Efficient 2022 product list for non-ducted air conditioners and heat pumps from January 1, 2022 through December 31, 2022. The ENERGY STAR Most Efficient 2022 designation may be used in association with models recognized during this period for as long as the model remains on the market.