



## Proposed Recognition Criteria Refrigerator-Freezers

### Scope

**Included products:** Full-size refrigerator-freezers are eligible for ENERGY STAR® Most Efficient recognition in 2015.

**Excluded products:** The following products are not eligible for ENERGY STAR Most Efficient recognition in 2015:

- Compact models. For products certified under Version 5.0: Any refrigerator or refrigerator-freezer with total volume less than 7.75 cubic feet (220 liters rated volume as determined in Appendix A of 10 CFR subpart B).
- Freezers. At the present time, freezers are not eligible for ENERGY STAR Most Efficient recognition.
- All-refrigerators. At the present time, all-refrigerators are not eligible for ENERGY STAR Most Efficient 2015 recognition.

### Recognition Criteria

1) Product must be ENERGY STAR certified consistent with applicable ENERGY STAR Partner Commitments and the requirements set forth in the ENERGY STAR Program Requirements Product Specification for Residential Refrigerators and Freezers, Version 5.0. Product performance must be certified by an EPA-recognized certification body.

2) Product must use less than or equal to 637 kWh per year and be at least 15% more efficient than federal requirements (see table below), as determined by the ENERGY STAR specified federal test procedure.

Product Class		Maximum Annual Energy Use (kWh/year)
1	Refrigerator-freezers and refrigerators other than all-refrigerators with manual defrost.	$AV \leq 65.6, E_{ann} \leq 6.79 \cdot AV + 191.3$ $AV > 65.6, E_{ann} \leq 637$
2	Refrigerator-freezers—partial automatic defrost.	$AV \leq 65.6, E_{ann} \leq 6.79 \cdot AV + 191.3$ $AV > 65.6, E_{ann} \leq 637$
3	Refrigerator-freezers—automatic defrost with top-mounted freezer without an automatic icemaker.	$AV \leq 63.9, E_{ann} \leq 6.86 \cdot AV + 198.6$ $AV > 63.9, E_{ann} \leq 637$
3-BI	Built-in refrigerator-freezer—automatic defrost with top-mounted freezer without an automatic icemaker	$AV \leq 63.9, E_{ann} \leq 6.86 \cdot AV + 198.6$ $AV > 63.9, E_{ann} \leq 637$
3I	Refrigerator-freezers—automatic defrost with top-mounted freezer with an automatic icemaker without through-the-door ice service.	$AV \leq 51.6, E_{ann} \leq 6.86 \cdot AV + 282.6$ $AV > 51.6, E_{ann} \leq 637$
3I-BI	Built-in refrigerator-freezers—automatic defrost with top-mounted freezer with an automatic icemaker without through-the-door ice service.	$AV \leq 51.6, E_{ann} \leq 6.86 \cdot AV + 282.6$ $AV > 51.6, E_{ann} \leq 637$
4	Refrigerator-freezers—automatic defrost with side-mounted freezer without an automatic icemaker.	$AV \leq 53.0, E_{ann} \leq 7.23 \cdot AV + 253.1$ $AV > 53.0, E_{ann} \leq 637$
4-BI	Built-In Refrigerator-freezers—automatic defrost with side-mounted freezer without an automatic icemaker	$AV \leq 53.0, E_{ann} \leq 7.23 \cdot AV + 253.1$ $AV > 53.0, E_{ann} \leq 637$
4I	Refrigerator-freezers—automatic defrost with side-mounted freezer with an automatic icemaker without through-the-door ice service.	$AV \leq 41.4, E_{ann} \leq 7.23 \cdot AV + 337.1$ $AV > 41.4, E_{ann} \leq 637$
4I-BI	Built-In Refrigerator-freezers—automatic defrost with side-mounted freezer with an automatic icemaker without through-the-door ice service.	$AV \leq 41.4, E_{ann} \leq 7.23 \cdot AV + 337.1$ $AV > 41.4, E_{ann} \leq 637$

Product Class		Maximum Annual Energy Use (kWh/year)
5	Refrigerator-freezers—automatic defrost with bottom-mounted freezer without an automatic icemaker	$AV \leq 48.8, E_{ann} \leq 7.52*AV + 269.5$ $AV > 48.8, E_{ann} \leq 637$
5-BI	Built-In Refrigerator-freezers—automatic defrost with bottom-mounted freezer without an automatic icemaker	$AV \leq 48.8, E_{ann} \leq 7.52*AV + 269.5$ $AV > 48.8, E_{ann} \leq 637$
5I	Refrigerator-freezers—automatic defrost with bottom-mounted freezer with an automatic icemaker without through-the-door ice service	$AV \leq 37.7, E_{ann} \leq 7.52*AV + 353.5$ $AV > 37.7, E_{ann} \leq 637$
5I-BI	Built-In Refrigerator-freezers—automatic defrost with bottom-mounted freezer with an automatic icemaker without through-the-door ice service	$AV \leq 37.7, E_{ann} \leq 7.52*AV + 353.5$ $AV > 37.7, E_{ann} \leq 637$
5A	Refrigerator-freezers—automatic defrost with bottom-mounted freezer with through-the-door ice service	$AV \leq 28.0, E_{ann} \leq 7.86*AV + 416.7$ $AV > 28.0, E_{ann} \leq 637$
5A-BI	Built-in refrigerator-freezer—automatic defrost with bottom-mounted freezer with through-the-door ice service	$AV \leq 28.0, E_{ann} \leq 7.86*AV + 416.7$ $AV > 28.0, E_{ann} \leq 637$
6	Refrigerator-freezers—automatic defrost with top-mounted freezer with through-the-door ice service	$AV < 41.5, E_{ann} \leq 7.14*AV + 340.2$ $AV > 41.5, E_{ann} \leq 637$
7	Refrigerator-freezers—automatic defrost with side-mounted freezer with through-the-door ice service	$AV \leq 35.3, E_{ann} \leq 7.26*AV + 380.5$ $AV > 35.3, E_{ann} \leq 637$
7-BI	Built-in refrigerator-freezers—automatic defrost with side-mounted freezer with through-the-door ice service	$AV \leq 35.3, E_{ann} \leq 7.26*AV + 380.5$ $AV > 35.3, E_{ann} \leq 637$
AV = Adjusted Volume (AV) shall be calculated in accordance with the DOE test procedure in 10 CFR 430 Subpart B, Appendix A.		

### Recognition Period

The U.S. Environmental Protection Agency will add eligible models to the ENERGY STAR Most Efficient 2015 product list for refrigerators from January 1, 2015 through December 30, 2015. The ENERGY STAR Most Efficient 2015 designation may be used in association with models recognized during this period for as long as the model remains on the market.