

Appliance Standards Awareness Project
Consumer Federation of America

January 19, 2021

Mr. Bryan Berringer
U.S. Department of Energy
Office of Energy Efficiency and Renewable Energy
Building Technologies Office, EE-5B
1000 Independence Avenue SW
Washington, DC 20585

RE: Docket Number EERE–2020–BT–TP–0029/RIN 1904-AF03: Request for Information for Test Procedures for Portable Air Conditioners

Dear Mr. Berringer:

This letter constitutes the comments of the Appliance Standards Awareness Project (ASAP) and Consumer Federation of America (CFA) on the request for information (RFI) for test procedures for portable air conditioners (ACs). 85 Fed. Reg. 70508 (November 5, 2020). We appreciate the opportunity to provide input to the Department.

We continue to encourage DOE to investigate a load-based test procedure for portable ACs. In our comments on LG’s petition for a test procedure waiver for certain basic models of portable ACs with variable-speed compressors, we explained how a load-based test would better reflect how all portable AC units actually operate and would thus provide better information to consumers.¹ While the test procedure waiver granted to LG provides a method for crediting the potential energy savings associated with variable-speed compressors, it does not reflect how variable-speed units actually operate in the field. Specifically, by fixing the compressor speeds, the alternate test procedure does not capture the impact of a unit’s control strategy for adjusting the compressor (and potentially fan) speeds in response to varying conditions, which can have a significant impact on efficiency performance. A load-based test would capture not only the benefits of variable-speed compressors, but also other important factors that affect efficiency performance including cycling losses and control strategies for both single-speed and variable-speed units.

We appreciate the investigative load-based testing that DOE conducted for the test procedures NOPR for room ACs,² and we continue to encourage DOE to investigate the potential for adopting a load-based test procedure for both portable ACs and room ACs.

We encourage DOE to work to harmonize the test procedures for portable ACs and room ACs. Portable ACs and room ACs can often be used for the same applications, and it would therefore be valuable for consumers to be able to compare the efficiency ratings of the two products. However, the current test procedures do not provide a fair comparison between portable ACs and room ACs. Most importantly, while the test procedure for portable ACs includes measurements at two outdoor temperature

¹ <https://www.regulations.gov/document?D=EERE-2018-BT-WAV-0007-0005>.

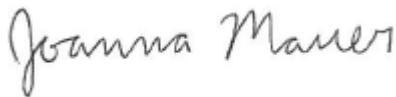
² 85 Fed. Reg. 35700 (June 11, 2020).

conditions (95°F and 83°F) and calculates a weighted-average efficiency value,³ the room AC test procedure measures efficiency only at 95°F. Since efficiency typically decreases with increasing outdoor ambient temperature, the efficiency ratings of portable ACs are thus inflated relative to those of room ACs. As we described in our comments on the test procedures NOPR for room ACs, testing all room AC units at multiple outdoor conditions (similar to how portable ACs are tested) would better represent real-world efficiency.⁴ Future harmonized load-based test procedures for portable ACs and room ACs based on performance at multiple outdoor conditions would better represent how all units perform in the field and provide consumers with the necessary information to make good purchasing decisions.

We encourage DOE to incorporate a measurement of network mode power consumption in the portable AC test procedure. Portable ACs with connected functionality are widely available.⁵ In the test procedures NOPR for room ACs, DOE noted that network functions “may operate continuously during all operating modes, and therefore may impact the power consumption in all operating modes.”⁶ We encourage DOE to incorporate a measurement of the standby power consumed when a portable AC with network functions is connected to a network to ensure that the efficiency ratings are providing accurate information to consumers.

Thank you for considering these comments.

Sincerely,



Joanna Mauer
Technical Advocacy Manager
Appliance Standards Awareness Project



Mel Hall-Crawford
Energy Projects Director
Consumer Federation of America

³ The weighting factors are 0.2 and 0.8 for the 95°F and 83°F outdoor conditions, respectively.

⁴ <https://www.regulations.gov/document?D=EERE-2017-BT-TP-0012-0015>.

⁵ See, for example: <https://www.homedepot.com/b/Heating-Venting-Cooling-Air-Conditioners-Portable-Air-Conditioners/Wi-Fi-Enabled/N-5yc1vZc4m4Z1z183rj?NCNI-5&storeSelection=>; <https://www.lowes.com/pl/Smart-compatible--Portable-air-conditioners-Room-air-conditioners-Air-conditioners-fans-Heating-cooling/2830525945?refinement=4246655709>.

⁶ 85 Fed. Reg. 35729-30.