

Appliance Standards Awareness Project
American Council for an Energy-Efficient Economy
Consumer Federation of America
Natural Resources Defense Council

February 7, 2022

Mr. Jeremy Dommu
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-0012/RIN 1904-AE49: Notice of Proposed Rulemaking for Test Procedure for Battery Chargers

Dear Mr. Dommu:

This letter constitutes the comments of the Appliance Standards Awareness Project (ASAP), American Council for an Energy-Efficient Economy (ACEEE), Consumer Federation of America (CFA), and Natural Resources Defense Council (NRDC) on the notice of proposed rulemaking (NOPR) for the test procedure for battery chargers. 86 Fed. Reg. 66878 (November 23, 2021). We appreciate the opportunity to provide input to the Department.

We appreciate the work DOE has put into updating the test procedures for battery chargers. We believe the proposed updates to the test procedure are practical and appropriate for the rapidly transforming battery charger market. We strongly support DOE's proposal to expand the scope of the test procedures to cover a wider variety of wireless chargers. Additionally, we believe that the proposed amendment to replace the unit energy consumption metric with three separate metrics for active mode, standby mode, and off mode will increase representativeness of the test procedure. Below, we provide our comments on these and other issues addressed within the NOPR on which DOE seeks feedback.

We strongly support DOE's proposal to include all fixed-location wireless chargers less than 100 Wh in appendix Y1. The current test procedure only covers wet-environment inductive wireless chargers that have a battery energy of less than or equal to 5 Wh (e.g., chargers used for wireless toothbrushes and electric shavers).¹ Wireless charging technology has advanced considerably since the previous test procedure rulemaking in 2016 and has become a widespread feature in new consumer products. Expanding the scope of DOE test procedures and standards to cover additional wireless chargers has the potential to result in significant energy savings. Fixed-location wireless chargers have an established position at which the

¹ 86 Fed. Reg. 66882.

receiver must align with the transmitter, and these chargers can be tested using the current DOE test method. We therefore strongly support DOE's proposal to define and include fixed-location wireless battery chargers that are less than 100 Wh in the test procedure.

We agree with the proposal to require testing of no-battery mode power consumption of open-placement wireless chargers. Unlike fixed-location wireless chargers, open-placement wireless chargers do not have a physical locating feature for the receiver. Because of the potentially large charging area and variety of potential end use devices, establishing representative test procedures for the active mode energy consumption of open-placement wireless chargers presents challenges. DOE is currently working with industry to develop an active mode test procedure but is still lacking data. Test procedures for no-battery mode energy consumption for these products do not face the same challenges. Therefore, DOE is proposing to require that open-placement wireless chargers be tested in no-battery mode according to IEC 62301 Ed. 2.0. We support this proposal and DOE's continued investigation into active mode test procedures for these devices. In addition, we encourage DOE to consider expanding the scope of these products to include dual-purpose open-placement chargers (e.g., alarm clocks and table lamps with embedded wireless chargers), which are becoming increasingly common.²

We agree with DOE's general approach to external power supply (EPS) selection but believe the Department can be more specific in its methodology. In the current test procedure, battery chargers are only required to be tested with an EPS if the EPS comes with the battery charger or the manufacturer sells or recommends one.³ It has become common to see battery chargers that are operated with an EPS by the consumer without a pre-packaged EPS. In this NOPR, DOE is proposing more explicit instructions for battery chargers that do not come with a pre-packaged EPS but require one for use. Specifically, if the manufacturer does not sell or recommend an EPS, DOE is proposing to have testing be performed using any commercially available EPS that is minimally compliant and satisfies the criteria specified by the battery charger manufacturer. Testing with an approved EPS will improve the representativeness of the energy consumption measurement. However, we believe that specificity is needed on the definition of "minimally compliant." We encourage DOE to consider specifying an appropriate efficiency range for the EPS, which would help improve reproducibility and maintain a level playing field.

We strongly support DOE's proposal to replace the battery charger usage profiles and the associated unit energy consumption (UEC) calculation with three separate metrics for active mode, standby mode, and off mode energy use. The current energy use metric for battery chargers is UEC, which is a combination of active mode, standby mode, and off mode energy use. In the current test procedure, the calculation of UEC depends on usage profiles for each battery charger product class, which reflect the amount of time spent in each mode of

² See <https://www.lenovo.com/us/en/p/smart-devices/smart-home/smart-home-series/smart-clock-gen-2/wmd00000485> and <http://ihomecases.com/highlight-lamp>.

³ 86 Fed. Reg. 66884-66885.

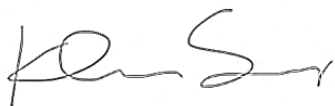
operation. As DOE explains in the NOPR, the battery charger market continues to change, which means that the representativeness of the current test method will likely decrease if usage profiles are not continuously updated.⁴ Additionally, with the constant development of new product types and changes in consumer usage patterns, developing accurate usage profiles will likely become more difficult. DOE is proposing to remedy this situation by replacing the single UEC metric with separate metrics for active mode, standby mode, and off mode energy consumption. A similar approach is used for EPS efficiency standards, and we believe this is a more representative method to determining energy use for battery chargers. Therefore, we strongly support DOE's proposal to adopt a multi-metric approach.

We support DOE's proposal to capture no-battery mode and maintenance mode within the definition of standby mode. Currently, standby mode only captures no-battery mode, where a battery charger is connected to the main electricity supply but the battery itself is not connected. Maintenance mode describes the mode in which a battery charger is connected to the main power supply and a fully charged battery. During this period, the battery charger continuously monitors battery charge and provides some limited charging in order to keep the battery fully charged.⁵ We agree with DOE that maintenance mode should be captured in the definition of standby mode.

We support DOE's proposal to maintain the current approach for disabling power to non-battery-charging related functions. DOE previously granted a waiver to Dyson, Inc., which provided alternate methods to disabling certain non-battery-charging functions during testing. As DOE notes in the NOPR, products that would be subject to this waiver are no longer available on the market.⁶ Therefore, it is reasonable for DOE to terminate the existing Dyson waiver and exclude any instructions regarding disabling non-battery-charging functions that are not consumer controllable from the proposed test procedure.

Thank you for considering these comments.

Sincerely,



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⁴ 86 Fed. Reg. 66887.

⁵ 86 Fed. Reg. 66888.

⁶ 86 Fed. Reg. 66889-66890.



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