DOCKETED	
Docket Number:	17-AAER-12
Project Title:	Low-Power Mode
TN #:	260058
Document Title:	Toshihisa Yamanaka Comments - RFI and Feedback on Proposed Data Collection Procedure for Low-Power Mode Roadmap
Description:	N/A
Filer:	System
Organization:	Toshihisa Yamanaka
Submitter Role:	Public
Submission Date:	11/15/2024 1:41:49 AM
Docketed Date:	11/15/2024

Comment Received From: Toshihisa Yamanaka
Submitted On: 11/15/2024
Docket Number: 17-AAER-12

RFI and Feedback on Proposed Data Collection Procedure for Low-Power Mode Roadmap

Additional submitted attachment is included below.

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JBMIA Comments on Request For Information (RFI) and Feedback on Proposed Data Collection Procedure for Low-Power Mode Roadmap

November 14, 2024

JBMIA has been reviewing and revising energy conservation standards such as ENERGY STAR and Blue Angel. We understand the importance of energy conservation and promote energy conservation for Printers and Multi-function devices as the Japanese industry organization.

As Printer & MFD (Multi-function Devices) Group, we would like to comment on the guiding questions.

We will only comment on guide questions 1, 2, 6, 7, 11, 14 and 15. There will be no comments on the other questions.

Q1. What is your feedback regarding the scope of the DCP?

Comment 1-1: We request that Printers and Multi-function devices be excluded from the scope.

Reason: Printers and Multi-function devices are covered by ENERGY STAR and do not require new regulations as most products are compliant.

Comment 1-2: The scope of this standard should be defined as household electrical equipment.
Reason: According to the product groups shown in Appendix A, this standard is considered to apply to household electrical equipment.

Q2. Are there any in-scope product categories listed in Appendix A that may not be effectively tested using the CASE Team's proposed DCP V3?

Comment 2-1: Not effective for imaging equipment in this scope

Reason 1: Imaging equipment does not require the additional setup procedure proposed in this data collection method and a configuration according to IEC62301:2011 is sufficient.

- SLEEP mode is the only inactive mode in the restart standby state for household imaging equipment.
- Does not have functions that can be activated by voice or environmental monitoring
- Only one network connection in user usage

Therefore, the complicated settings in "4. Set up network connection" and the procedures in "5. Prepare test environment" and "6. UUT warmup" defined in TN248671 are not required.

Many imaging equipment are undergoing testing to qualify for "ENERGY STAR Product Specification for Imaging Equipment", including STEP, which measures inactive mode. For imaging equipment, it is more efficient to use this test method without the above procedure.

Reason 2: With this method, imaging equipment cannot know when to start measuring power.

TN248671, 7.3 states, "If one or more APD events are observed during the warm-up period, the test shall be continued for 60 minutes after the first APD event." However, in the case of an imaging equipment, the fixing

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heater is turned on to prepare for the next printing operation until it enters the sleep mode after printing, which is the main function. Since the heater power fluctuates until it is thermally saturated and the APD is not known, it is not possible to use the APD as a trigger to determine the timing to start measurement uniformly because the control differs depending on the device.
For example, it is necessary to determine conditions such as starting the measurement after the final paper is released and the motor stops. It is also necessary to determine the printing conditions before the final paper comes out because the power consumption depends on the type of printing that has been performed before the final paper comes out.

Q6. Do you think the proposed DCP is appropriate for the initial data collection for the LPM Roadmap? If not, why so?

Comment 6-1: Data collection by this DCP is not effective for imaging equipment.

Reason 1: As mentioned above, many imaging equipment are tested according to “ENERGY STAR Product Specification for Imaging Equipment”, including STEP in inactive mode. Therefore, it is more efficient to collect data from ENERGY STAR test method.
If different test methods are added, multiple numbers will exist for the same item, causing confusion among industry and users.
Therefore, the use of ENERGY STAR test data for imaging equipment should be allowed.

An excerpt of the ENERGY STAR test procedure is provided for your reference.

FINAL Version 3.0 ENERGY STAR Imaging Equipment Program Requirements
https://www.energystar.go.jp/document/pdf/Image_Equipment/3.0/IE30FINAL_testMethod_Dec18.pdf

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Table 8: TEC Test Procedure for Printers, Digital Duplicators with Print Capability, and MFDs with Print Capability

Step	Initial State	Action	Record (at end of step)	Unit of Measure	Possible States Measured
1	Off	Connect the UUT to the meter. Ensure the unit is powered and in Off Mode. Zero the meter; measure energy over 5 minutes or more. Record both energy and time.	Off energy	Watt-hours (Wh)	Off
			Testing Interval time	Minutes (min)	
2	Off	Turn on unit. Wait until unit indicates it is in Ready Mode.	–	–	–
3	Ready	Print a job of at least one output image but no more than a single job per Table 11. Measure and record time to first sheet exiting unit.	Active0 time	Seconds (s)	–
4	Ready (or other)	Wait until the meter shows that the unit has entered its final Sleep Mode or the time specified by the manufacturer.	Default delay time to Sleep, $t_{DEFAULT}$	Minutes (min)	–
5	Sleep	Zero meter; measure energy and time for 1 hour. Record the energy and time.	Sleep energy, E_{SLEEP}	Watt-hours (Wh)	Sleep
			Sleep time, t_{SLEEP} (≤ 1 hr)	Minutes (min)	
6	Sleep	Zero meter and timer. Print one job (calculated above). Measure energy and time. Record time to first sheet exiting unit. Measure energy over 15 minutes from job initiation. The job must finish within the 15 minutes.	Job1 energy, E_{JOB1}	Watt-hours (Wh)	Recovery, Active, Ready, Sleep
			Active1 time	Seconds (s)	
7	Ready (or other)	Repeat Step 6.	Job2 energy, E_{JOB2}	Watt-hours (Wh)	Same as above
			Active2 time	Seconds (s)	
8	Ready (or other)	Repeat Step 6 (without Active time measurement).	Job3 energy, E_{JOB3}	Watt-hours (Wh)	Same as above
9	Ready (or other)	Repeat Step 6 (without Active time measurement).	Job4 energy, E_{JOB4}	Watt-hours (Wh)	Same as above
10	Ready (or other)	Zero meter and timer. Measure energy and time until meter and/or unit shows that unit has entered Sleep Mode or the final Sleep Mode for units with multiple Sleep modes, or the time specified by the manufacturer, if provided. Record energy and time.	Final energy, E_{FINAL}	Watt-hours (Wh)	Ready, Sleep
			Final time, t_{FINAL}	Minutes (min)	

Note: Steps 4 and 10: For those units that do not indicate when they have entered the Final Sleep Mode, manufacturers shall specify the time to Final Sleep Mode for testing purposes.

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STEP4:APD time(tAPD)

STEP 5:Pavg,Plast 15

Reason 2: The network connection priority is not correct. TN248671, Section 4.2, lists the priority order for network connections, but this order should be appropriate depending on the usage of each product. For example, in the case of imaging equipment, Ethernet is often used as a center unit in an office. ENERGY STAR's imaging equipment standards give Ethernet the top priority, reflecting general usage. Therefore, in the case of imaging equipment, the priority of Ethernet should be given first.

4.2 Excerpts:

For devices connected to an IP network: connect the UUT to a dedicated LAN to which no other devices are connected via the network technology listed first in the priority list below. Ensure that the connection allows the UUT to pass through the maximum data throughput possible via network technology.

1) Wi-Fi (IEEE 802.11), maximum frequency and bandwidth supported by UUT

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2) cellular phone
3) Ethernet (IEEE 802.3)
4) Wireless technology other than Wi-Fi or cellular that provides the maximum data throughput rate of the UUT

Q7. Is there anything else CEC should consider with regard to the DCP?

Comment 7-1: For Printers and Multi-function devices, we request consistency with the Energy Star test method.

Reason: Multiple regulations require different testing, which increases the burden on product development. Ensuring consistency in testing reduces the burden on developers.

Comment 7-2: Consistency with other standards should be considered. If there are inconsistencies, such as designing for energy conservation in one standard but not in another, manufacturers will not know what to aim for in designing for energy conservation.

Q11. Is there anything else CEC should consider with regards to using MAEDbS for DCP data collection?

Comment 11-1: At this time, we have not found any points that need to be considered, but if any points in data collection in the future arise, we would like you to fix them promptly. Also, we have no experience using the "MAEDbS platform" in our industry, so we cannot comment on its usefulness. However, they are concerned that using an unknown format may cause confusion during data collection.

Q14. Please provide your recommendations for the CEC to achieve high participation in data reporting.

Comment 14-1: We request that you reuse the ENERGY STAR test data.

In the imaging equipment industry, inactive mode testing is also conducted in accordance with ENERGY STAR. ENERGY STAR compliance is an important condition for public procurement and bidding. To increase the efficiency of data collection in the imaging equipment industry, it is important to allow the use of existing test data.

If you have any questions or need further clarification, please let us know and we will work with you.

Q15. Please share any known or possible barriers to high participation in data reporting, including details on the cost of compliance with the voluntary data reporting.

Comment 15-1: Data collection using new testing methods is undesirable for the industry and may present the following barriers:

- Confusion for the industry and users as two numbers are displayed by two test methods for the same operating mode.
- The addition of a new test method requires additional man-hours for the manufacturer.

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About JBMIA

The Japan Business Machinery and Information System Industries Association (JBMIA) is an industry group that aims to develop the Japanese economy and improve the office environment. Founded in 1960, it represents manufacturers and related companies in the business machinery and information systems industry. our association's mission is to promote the inclusive development and rationalization of these industries and to keep up with advances in digitalization and networking. The Printer & MFD (Multi-function Devices) Group promotes energy conservation and the 3Rs (Recycle, reuse and reduce), standardizes terminology and specification formats, examines easy-to-understand displays for users, and identifies, reviews, and appropriately processes problems related to distribution.

For more information on JBMIA and our association's activities, please visit our association website or contact us directly.
https://www.jbmia.or.jp/english/index.php