

Late comments on Test Method for Determining Imaging Equipment Energy
Use Draft 2, Rev. March-2018

April 27, 2018

JBMIA Printer/MFD Technology WG
JEITA Printer Energy-Saving WG

1. General

Test method of Professional Imaging Products should basically build on ISO 21632. However, it should be customized for ENERGY STAR where it is necessary. As ISO 21632 covers a wide range of products beyond Professional Imaging Products, such as wide format digital press, there are some inappropriate test condition provisions, if they are adopted for Professional Imaging Products.

2. 4.1 General Test Setup

(1) B) Ac Input Power

We support the current ENERGY STAR specification for Professional Imaging Products.

[reason]

Line 111 Note describes the difference from ISO 21632, which covers not only Professional Imaging Products with one-phase power connection but also e.g. large digital presses with three-phase power connection. Since power test of three-phase connection has special conditions as compared to that of one-phase connection, those products with three-phase power connection should be out of the scope for Professional Imaging Products. This matches the provision of eligibility criteria.

(2) D) Ambient Temperature

E) Relative Humidity

Regarding temperature/humidity condition, we support the current ENERGY STAR provisions. Also, we agree with the EPA's proposal not to identify the energy consumption by air-conditioning equipment, which is necessary for the operation of Professional Imaging Products and is considered in ISO 21632.

[reason]

Line 157 Note points that the environmental condition is more stringent than that of ENERGY STAR. However, if products with three-phase power connection are out of the scope, as proposed in the previous item, the current ENERGY STAR environmental condition is deemed enough.

(3) F) Power Meter

1) Minimum Frequency Response

Regarding the sampling rate of power meters, we support ENERGY STAR condition.

[reason]

In Line 166 the EPA points that ISO 21632 sampling rate is not more stringent than that of ENERGY STAR and additionally points that the difference is not conspicuous for generally available power meters. We agree with this comment.

2) Minimum Resolution

Regarding minimum resolution, we support ENERGY STAR condition.

[reason]

The provision of four significant figure, which Line 160 points, has been revised to two significant figures in the latest ISO 21632 draft.

(4) G) Measurement Uncertainty

The description of "3% for Professional Imaging Products" is deemed unnecessary.

[reason]

Line 190 describes that the measurement accuracy $\pm 3\%$ of ISO 21632 is not more stringent than that of ENERGY STAR. Corresponding to this recognition, the EPA has proposed to change the measurement uncertainty from 2% to 3%. This change is deemed unnecessary, provided that the large equipment with three-phase power connection is out of the scope for Professional Imaging Products.

1) Paper Specifications

We propose to add standard test paper of Professional Imaging Products in Table 4. Also, we recommend the weight of standard paper for Professional Imaging Products to be 127.9g/m², 85lb or equivalent.

[reason]

Line 203 describes that ISO 21632 specifies two test combinations, namely BQ and BP. However, there is no specification for standard test paper. On the other hand, we believe that one test combination, i.e. BQ/BP, can be adopted for ENERGY STAR Professional Imaging Products, (ISO 21632 specifies one test combination BQ/BP for products, for which determining two separate combinations, i.e. BQ and BP, is practically difficult.) Therefore, it is deemed necessary to specify a standard test paper for the accurate comparison of power consumption of devices. We agree with the EPA's proposal regarding this point.

3. 5.1 General Configuration

(1) A) As-shipped Condition

The proposed provision 1) is deemed unnecessary.

[reason]

Line 227 describes that EPA permits changes to the as-shipped condition for Professional Imaging Products. However, similar to the above comment for line 203, ENERGY STAR Professional Imaging Products can be tested with one combination BQ/BP, making the tests with two combinations BQ and BP unnecessary. Therefore, there is no need to specify 1) for Professional Imaging Products.

(2) B) Product Speed for Calculations and Reporting

Regarding product speed, we support ENERGY STAR condition.

[reason]

Line 256 Note points that the product speed is measured/calculated as productivity in print production mode test in ISO 21632, which differs from the ENERGY STAR provision. We think the product speed should be defined based on the similar concept as that of ENERGY STAR, not based on productivity.

(3) C) Color

We propose to test Color Professional Imaging Products with the default (as shipped) setting.

[reason]

Line 276 Note points that ISO 21632 requires testing BQ and BP combinations, where all colorants of the system must be used for BQ combination. For ENERGY STAR Professional Imaging Products, testing with one combination BQ/BP is possible and there is no need to define the number of colors for each combination. Further, since it is a general practice to use default four colors, test should be done with the default (as shipped) setting.

(4) D) Network Connections

Regarding network connection, we support ENERGY STAR condition

[reason]

Regarding Line 308 Note, since there is no need to set a special individual provision for the network configuration of Professional Imaging Products, we agree with the EPA's proposal.

(5) E) Service/Maintenance Modes

We propose to test Professional Imaging Products with default setting. If automatic adjustment of e.g. color or registration is incorporated in the default setting, we propose to test as default, without disabling the function.

And we propose that the daily maintenance, which involves human acts, should not be counted into the energy consumption amount.

[reason]

It is deemed unnecessary for ENERGY STAR Professional Imaging Products to conduct daily maintenance, which involves human activity, However, the automatic adjustment of e.g. color or registration (=a part of Service/Maintenance Modes) is especially important function for Professional Imaging Products. Thus, we propose enabling automatic adjustment function for Professional Imaging Products, although it shall be disabled for Non-Professional Imaging Products (=Office Imaging Products).

4. 6.1 General Initialization

(1) a) Product Speed for Testing for Professional Imaging Products

This provision is deemed unnecessary.

[reason]

Regarding Line 387 Note, similar to the comment for Line 203 Note, ENERGY STAR Professional Imaging Products can be tested with one combination BQ/BP and there is no need to test two combinations BQ and BP. Thus, testing with different speeds for BQ and BP combinations is unnecessary. As a result, there is no need of the provision a).

(2) 5) Pre-conditioning a)

Regarding preconditioning time, we agree with applying 2 hours or more also for Professional Imaging Products.

[reason]

Line 397 Note points that ISO 21632 specifies one hour or more for pre-conditioning, which differs from ENERGY STAR provision. Since ISO 21632 covers equipment other than electro-photographic equipment, it is specified as one hour or more.

As we consider electro-photographic products, which constitute ENERGY STAR Professional Imaging Products, we agree to maintain the current provision.

5. 9.1 Testing in Accordance with ISO 21632

Referring to the test method of ISO 21632, we propose the test method for Professional Imaging Products as shown in separate diagram and table. (See the attached material.)

[reason]

As we explained in the above comments, we don't think we should keep what is specified in ISO 21632 as it is. As we consider the practical test method of ENERGY STAR Professional Imaging Product, we think, a streamlined test procedure is necessary, keeping main provisions of ISO 21632.

END