

DOCKETED

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Submission of Comments on Low Power Mode Test Procedure Discussion Document

Dear Sir or Madam,

I am Kiyoshi SAITO, secretariat of Ecodesign WG for 4 Electrical and Electric Industry Associations in Japan.

Please find attached our comments on Docket Number 17-AAER-12, Low Power Mode Test Procedure Discussion Document.

We would appreciate your review of our comments and look forward to hearing your response.

Best regards,
Kiyoshi SAITO

Additional submitted attachment is included below.

17-AAER-12

Project Title: Low-Power Mode & Power Factor

TN #: 224264

Document Title:

**Notice of Extension of Comment Period for Low Power Mode Test
Procedure Discussion Document**

Description: New Comment Date: September 14, 2018

Filer: Soheila Pasha

Organization: California Energy Commission

Submitter Role: Commission Staff

Submission Date: 7/23/2018 3:32:02 PM

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**Japanese 4EE industrial associations comments on Docket Number
17-AAER-12, Low Power Mode Test Procedure Discussion Document**

13th September, 2018

Japanese 4EE industrial associations;

CIAJ (Communications and Information Network Association of Japan)

JBMIA (Japan Business Machine and Information System Industries
Association)

JEITA (Japan Electronics & Information Technology Industries Association)

JEMA (The Japan Electrical Manufacturers' Association)

We, Japanese electric and electronic industrial associations (CIAJ, JBMIA, JEITA and CIAJ) have been vigorously committed to complying with environmental regulations set by several countries and regions, including the U.S., EU, China, etc. We have become aware of Docket Number 17-AAER-12, Low Power Mode Test Procedure Discussion Document and have reviewed it thoroughly.

<https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=17-AAER-12>

From the point of view of "enhancing effectiveness", we would like to submit some comments in order to make the discussion better. We would appreciate your careful consideration of the following opinions.

General comments :

I. Conformity with Federal scheme

We understand that this draft test procedure will not be used because the product category currently covered by US federal testing procedure or the product category to be covered in the future will be preempted by the Federal Law. To avoid duplication and possibility of confusion, California Energy Commission should be clarified the relation with the federal testing procedure and applicable target products.

In fact, regarding the relation with federal testing procedure, consistency with regulation movement examined by US DOE should be considered. Testing procedure should be unified not within each state but also in the US for international integrity and to avoid tradable barrier of products distribution.

II. Target product

Since SNE and Edge device are greatly different in product characteristics and usage, test procedures (measurement methods) should be prescribed separately.

For example, the test procedures (testing standards) related to "SNE" and "Edge devices" are each exists, in Europe.

- Draft ETSI EN 303 423 V1.1.8 (2018-05) - Environmental Engineering (EE); Electrical and electronic household and office equipment - Measurement of networked standby power consumption of Interconnecting equipment
- EN 50643 :2018 - Electrical and electronic household and office equipment- Measurement of networked standby power consumption of edge equipment

In addition, definitions of SNE and Edge device should be defined, and the products subject to the test procedures (measurement methods) should be clarified.

III. Definition of terms

If you are refining IEC 62301, the terms used in "IEC 62301" and the definitions should be use in test procedures (measurement methods) standard of California.

IV. Comments on future discussion on possible energy Efficiency regulations on low power modes

If CEC consider the energy efficiency regulation of LPM using this test procedures (measurement method) in future, we would like to ask the products subject to the possible regulation to be decided separately from those covered by the measurement method. In future discussion on this issue, market trends and energy saving effects should be taken into consideration carefully.

In particularly, regarding the low power mode related to the network functions, implementing the network functions are also various types according to the product categories. Even in the same product category, the power consumption is significantly different between products which use functions such as routers and access points and other products. Therefore, if CEC consider the regulations to this matter in future, we strongly recommend that it appropriate to adopt a vertical approach rather than a horizontal approach.

In fact, a vertical approach to regulating the power consumption of products where appropriate is preferred, and should identify product scope ensuring comprehensive studies (incl. effect on network):

- Identify product category specific requirements that may include separate limits, performance / capability adjustments (allowances) etc.
- Minimizes need for exemptions and avoids limits that are set too high, and maximizes efficiency savings.
- Vertical product standards approach when appropriate is more effective and can lead to greater energy savings potential.

Concrete proposals for improvement :

ATTACHMENT B

List of Questions for the Low Power Mode Test Procedure Problem Statement & Information Request

1. Provisioning the Product

- 1.1. Should the product be allowed to run for a specific amount of time, for example 24 hours, to allow the product to update and provision software before taking the LPM measurements? If so, what is the appropriate amount of time?

Comments/proposals :

Even if a specific amount of time before updating is set, updating of software, etc. may not be the newest status within the amount of time. Most important thing is that the test procedure has repeatability, and the necessity of updating of software, etc. should be specified (responsibility) by manufacturers. Also, regarding EN50643, when measuring result is unstable, it is determined to check the influence of external factors such as software update, etc.

2. Testing State

- 2.1. Is the approach outlined in section 2 of the test procedure an effective way to define the testing state for a broad range of products? If not, explain why.

Comments/proposals :

The relation between manual switching to LPM and a second measurement is not unknown. If it is for the stability of measurement result, several sampling methods have already been determined in IEC 62301 as a measure for unstable measurement result, not a second measurement.

If the product has the ability to manually enter LPM, place the product into LPM manually and conduct a second LPM power measurement along with IEC 62301.

- 2.2. Explain other approaches that would be preferable/superior to the approach described in section 2 for testing state that is applicable to a broad range of products.
- 2.3. How long should X (the time between discontinuation of user interaction and the beginning of the measurement) be?

Comments/proposals :

Time and conditions to become LPM status are different depending on equipment, so it should not be determined. It is a testing procedure, so the manufacturer should specify the amount of time to shift to LPM (the time to be APD), and should determine to confirm if consumption electricity is stable during LPM. In fact, at the start of measurement, it is necessary to start the measurement after sufficiently stabilizing.

3. Network Connections

A. Traffic content and levels:

- 3.1. To what extent does network and device data communication traffic need to be prescribed?
- 3.2. Is the Energy Commission's proposed approach in section 3A of the test procedure appropriate? What is an appropriate limit on the inbound traffic? Explain what modifications or additions need to be made.
- 3.3. Alternatively, is it better to prescribe specific network conditions, such as which network services are present, similar to the ENERGY STAR's approach? If so, what modifications, if any, need to be made to the ENERGY STAR's network conditions?

Comments/proposals :

Regarding the definition of Network Connections, it should be consistent with EN 50643 :2018. Please refer to the following definition.

3.1.3 network

communication infrastructure with a topology of links, an architecture,

including the physical components, organisational principles, communication procedures and formats (protocols)

3.1.5 network port

wired or wireless physical interface of the network connection located on the equipment through which the equipment can be remotely activated

3.1.6 networked equipment

equipment that can connect to a network and has one or more network ports

3.1.7 networked standby

condition in which the equipment is able to resume a function by way of a remotely initiated trigger from a network connection

A network is only present when at least two devices or two single functional units are connected to one another. A single functional unit is similar to an apparatus as defined in the EMC directive. This means that the network cannot exist only within a single apparatus.

Examples:

A remote control which is shipped with a device does not create a network between the remote control and the device.

B. Configuration requirements

i. Wired Connections

- 3.4. Are the instructions described in section 3.B.i of the test procedure complete and appropriate? What other configurations or conditions need to be specified?

Comments/proposals :

Regarding external network connection such as WAN, it should be consistent with the following requirements of EN50643 :2018.

Reference, EN 50643

5.1 Common requirements

In order to restrict influence of external factors, the reactivation trigger shall be initiated within a local test network without external network connections. In the case that a network connection external to the local test network is necessary for remote activation, this external network connection shall be established and maintained during testing so that the reactivation trigger can be received; where identified in the information provided by the manufacturer (see Clause 4), the stability of this external network connection may be checked or monitored.

EXAMPLE 1 External factors can be maintenance, information/software update or a denial of service attack.

EXAMPLE 2 External network connections can be WAN, cable network, satellite link, etc.

- 3.5. Does Ethernet cable's length significantly impact power draw in LPM, and should it be specified for the testing? If so, what is an appropriate length for the Ethernet cable used for the testing?

Comments/proposals :

The length of the network cable should be the same as the cable length standards described in Annex A, Test Condition - Connection types and test conditions of EN 50643: 2018.

ii. Wireless Connections

- 3.6. Do edge devices require different instructions from network devices? If so, specify which parts of the instructions should be different and how they should be.
- 3.7. What other test conditions besides those described in section 3.B.ii will impact LPM power draw? What additional test instructions are necessary to account for these impacts?

Comments/proposals :

Same comments as clause 3.4 (When measuring, it should not be affected by external network connection such as WAN).

- 3.8. How far should the device under test be from the network router?

Comments/proposals :

Distance between router and UUT should not be determined. However, the wireless communication output level between UUT and router should be set by default. And the minimum requirement should be that there is no problem after checking data communication quality before measurement.

- UUT not to search the router for reconnection after wireless communication becomes unstable.

iii. SNE-Specific Instructions

- 3.9. Are these setup instructions adequate to ensure reproducible results for testing SNE?

Comments/proposals :

It is unrealistic to determine all the electronic equipment with one procedure. For example, handling of "products with SNE function which is not the main function" needs to be determined.

Accordingly, it should be the content that "the measurer describes the setup information and the measuring procedures in the measurement report".

Also, ETSI EN 303 423 should be referred to for the matter which should be determined as a measuring method of SNE.

- 3.10. If not, what instructions should be added or modified?

Comments/proposals :

Same comments as clause 3.9

- 3.11. Should 3-phase input power requirements be added to the setup instructions?

Comments/proposals :

Same comments as clause 3.9

4. Sensors

- 4.1. Which sensors besides those listed in section 4 of the test procedure

(occupancy/motion, gesture, sound, voice recognition, ambient light, temperature, humidity, touch) need to be addressed in the test procedure?

- 4.2. Which sensors (for example, gesture recognition) must process environmental conditions to identify particular patterns (for example, a wave gesture)? How sensitive is power draw to ambient inputs (such as, sound for a voice recognition sensor or movement for a gesture sensor)?
- 4.3. What is the appropriate instruction to ensure that sensors do not cause the product to exit LPM during the test and also represent real life situations? No environmental input or no specific trigger?
- 4.4. What other ambient environmental inputs should be specified? For example, what type and level of background ambient noise should be used?

Comments/proposals :

For example, since the measurement value of the illuminance of the light in the measurement environment differs depending on the measurement method of the illuminance, sufficient consideration is required when specifying the illuminance at the time of measurement. Likewise, the condition of the noise level also largely depends on the method of measuring the noise level. Therefore, it is difficult to specify the condition under which the sensor does not react during the measurement of the power consumption of the LPM by the measuring method. So, rather than stipulating measurement conditions such as illuminance level and noise level, LPM measurement method specifies that the manufacturer shall clarify the influence of the sensor at the time of measurement and describes it and a method to prevent it from being affected in the test report.

- Regarding the measuring method of LPM, the measuring conditions should not be determined. It should be determined for manufacturer to specify (describe in the test report) the influence of sensor when measuring.

5. Charging, wired

- 5.1. Is the methodology described in section 5 of the test procedure a reasonable approach to evaluate the wired charging function to minimize its power impact when it is not being used?

Comments/proposals :

Even when a rechargeable additional product is attached, the measurement of LPM should be defined separately from the charge related mode (charge mode or maintenance mode). In other words, a dedicated measurement method to charge other devices by wire and wireless should be examined separately, and the LPM should be measured without connecting a rechargeable additional product.

Reference, IEC 62623

4) Notebook computers shall be connected to the mains power source using the EPS shipped with the product. Battery pack(s) shall be removed for all tests. For an EUT where operation without a battery pack is not a supported configuration, the test shall be performed with fully charged battery pack(s) installed, making sure to report this configuration in the test results.

6. Charging, wireless

- 6.1. Is the methodology described in section 6 of the test procedure a reasonable approach to evaluate wireless charging function to minimize its power impact when it is not being used?

Comments/proposals :

Same comments as clause 5.1

7. DC Powering

- 7.1. What is the appropriate input voltage to supply during testing, particularly for products that specify a range of acceptable DC input voltages?
- 7.2. How should the measurement be made? Are the instructions in the ENERGY STAR display test procedure appropriate? Explain how the procedure should be modified, if the ENERGY STAR instructions are not

adequate.

8. Systems

- 8.1. Would the approach described in section 8 of the test procedure for systems that are powered separately from their system hub adequately represent system's power draw? If not, explain how to capture the actual power of products that need to connect to other products wired or wirelessly, in order to transfer data.

Comments/proposals :

For the measurement of end products receiving power supply, the second proposal is preferable to the first proposal. The first proposal is not desirable as a measurement method because the internal state of the hub product is not necessarily the same between the state where the edge device is connected and the state where it is not connected.

- 8.2. Does the test procedure described in section 8 for systems that are powered from their system hub apply to all products? Explain if and how this approach should be modified to be applicable for new technologies.
- 8.3. Are the test procedures described in section 8 reasonable approaches? Provide reasons and explain what needs to change.

9. Off Mode

- 9.1. Is the definition in section 9 an appropriate definition for the off mode? If not, what is an appropriate definition?

Comments/proposals :

Normally, Off Mode does not include a restorable mode by command such as network signal. For example, "IEC 62087- 1:2015, Audio, video, and related equipment – Determination of power consumption – Part 1: General" uses following definitions.

Reference, IEC 62087 Part-1:2015

Table 1 – General operating modes and functions

Off mode: The equipment is connected to an external power source

and provides no functions that depend on an external power source. The equipment cannot be switched into any other mode with the remote control unit, or an external or internal signal. Note that some power may be consumed if an EMC filter or other components exist on the source side of the power switch.

9.2. Are any other instructions beside those in section 9 needed to collect the off mode power measurement?

9.3. How might products that do not have hard or soft switches be turned off?

Comments/proposals :

Regarding the equipment which cannot be "off-mode" when power (DC or AC) is supplied, it should be excluded from off-mode measurement.

9.4. What proportion of products do not have an off mode?

10. General

10.1. Provide inputs on other gaps or issues not identified in the proposed test procedure.

Japanese electric and electronic (E&E) industrial associations are:

About CIAJ (Communications and Information Network Association of Japan)

Mission of Communications and Information network Association of Japan (CIAJ). With the cooperation of member companies, CIAJ is committed to the healthy development of info-communication network industries through the promotion of info-communication technologies (ICT), and contributes to the realization of more enriched lives in Japan as well as the global community by supporting widespread and advanced uses of information in socio-economic and cultural activities.

<https://www.ciaj.or.jp/en/>

About JBMIA (Japan Business Machine and Information System Industries Association)

Japan Business Machine and Information System Industries Association (JBMIA) is the industry organization which aims to contribute the development of the Japanese economy and the improvement of the office environment through the comprehensive development of the Japanese business machine and information system industries and rationalization thereof.

<http://www.jbmia.or.jp/english/index.php>

About JEITA (Japan Electronics & Information Technology Industries Association)

The objective of the Japan Electronics and Information Technology Industries Association (JEITA) is to promote the healthy manufacturing, international trade and consumption of electronics products and components in order to contribute to the overall development of the electronics and information technology (IT) industries, and thereby further Japan's economic development and cultural prosperity.

<http://www.jeita.or.jp/english/>

About JEMA (The Japan Electrical Manufacturers' Association)

The Japan Electrical Manufacturers' Association (JEMA) consists of major Japanese companies in the electrical industry including: power & industrial systems, home appliances and related industries. The products handled by JEMA cover a wide spectrum; from boilers and turbines for power generation to home electrical appliances.

<http://www.jema-net.or.jp/English/>

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