Eco Mark Product Category No.119

"Personal Computers Version 2.10" Certification Criteria

Established: August 3, 2006
Revised: April 1, 2015
Expiration date: August 31, 2016

Japan Environment Association
Eco Mark Office

NOTE: This document is a translation of the criteria written in Japanese. In the event of dispute, the original document should be taken as authoritative.

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1. Purpose of Establishing Certification Criteria

The personal computer ("PC") market in Japan is large and still growing. According to the Japan Electronics and Information Technology Industries Association, domestic PC shipments in fiscal 2004 (ended March 31, 2005) totaled more than 13,039,000 units, for an annual growth rate of approximately 10%.

Some of the characteristics that typify PCs are an international distribution and a short product cycle that is hastened by factors such as rapid advances in PC-related technologies and high upgrade demand.

Society has been moving to address the environmental aspects of PCs. Over the past five years, for example, the Japanese government has led an initiative to begin collecting and recycling end-of-life PCs in accordance with the Japanese Law for the Promotion of Effective Utilization of Resources. The government has also spearheaded an initiative to further advance PC energy efficiency in accordance with the Energy Conservation Law (Law Concerning the Rational Use of Energy). Internationally, measures are being promoted to restrict the use of harmful substances under the EU RoHS Directive and to examine eco-design requirements under the EuP Directive. In Japan, it was a period of significant advances. For example, standards on marking that contains certain specified substances were established within Japanese Industrial Standards; and, moreover, in September 2005 voluntary industry guidelines on PC volatile organic compound (VOC) emissions were drafted. The certification criteria for PCs have been completely revised to make them consistent with these social imperatives. The criteria describe environmentally considerate PCs based on the latest knowledge and information, and new criteria for VOC emissions have been added and a checklist for 3R design has been optimized.

PCs are distributed internationally. Accordingly, when undertaking a revision of certification criteria, consideration must be paid to cooperation with interested organizations around the world. Japan, a member of GEN (the Global Ecolabelling Network, an international association with 27 member organizations from the U.S., Germany, the Nordic countries, South Korea and more), is strengthening and promoting cooperation with overseas eco-labeling programs implemented by third-party certification organizations, and common global certification criteria for PCs have been established in the past. In addition, Japan, China and South Korea are cooperating on eco-labeling, and cooperation among the various interested organizations is moving forward, with, for example, the organizations launching an investigation into establishing common

certification criteria.

This product category was established on September 10, 2000, as a new product category for eco mark certification after being selected along with copiers and other office equipment for eco mark eligibility with the introduction of the product life cycle concept in the 1996 revision of the Guidelines for Eco Mark Program Implementation. Five years have passed since the certification criteria were established. Accordingly, the product category criteria were revised pursuant to "6. Discontinuance of Product Categories and Revision of Certification Criteria" in Chapter II of "Guidelines for Eco Mark Program Implementation." The goal in revising the criteria is to promote the spread of environmentally considerate PCs. Toward that end, care was taken to make the application process easier by, for example, alleviating the complicated and troublesome procedures associated with certificates and other evidentiary documentation, which were one of the factors hindering the spread of Eco Mark certified products.

2. Applicable Products

This Eco Mark product category applies to notebook PCs, desktop PCs, all-in-one PCs (a PC with integrated monitor), CRT monitors, LCD monitors, keyboards, and mouse devices.

This product category also includes thin clients[*1] and tablet PCs[*2].

[*1] Thin client: A terminal that is attached to an organization's information system network. Thin clients offer enhanced security because client PCs possess only the essential functions, while application software, files and other assets are managed by a server.

Normally, thin clients do not have an internal magnetic disk or other means of storage.

[*2] Tablet PC: A personal computer that emphasizes features such as portability and viewing ease for business applications and that is treated as a type of notebook PC.

3. Terminology

Housing	Refers primarily to outer covers that form the external appearance of the product. A housing protects the device from environmental effects and maintains user safety. Displays, key tops, FDDs/ODD, connectors, LEDs, power switches, slide pads and other objects exposed on the surface of a housing are not considered part of the housing.
Housing appurtenance	A small object weighing less than 25g that is attached to a housing, such as a connector cover and option cover.
Copolymer	A polymer consisting of two or more types of monomers. (Examples include ABS, etc.)

Reused part	A part that has previously been used and that is reused in a product.
Recycled plastic raw material	Plastic raw material composed of post-consumer material and pre-consumer material.
Pre-consumer material	Material or rejected product generated from a disposal route in a product manufacturing process, excluding those that are generated in a material manufacturing process and that are reused as raw materials within the same process (plant).
Post-consumer material	Materials or products disposed of after they have been used as goods.
Minimum retention period	The shortest period of time that a manufacturer shall keep a performance part in question after discontinuing production of a product that uses the part.
Chassis	A frame that is provided inside a housing and that is needed to support the housing and main parts of a PC. When a housing also serves as a chassis, as in a notebook PC, its external appearance function takes precedence and it is treated as a housing.
Prescribed constituent	A material component added for the intended purpose of giving certain characteristics to a product. Impurities that are technically unavoidable in the manufacturing process are not included.
Sub-assembly:	Assembly consisting of at least two components that are joined together in a force- or positive-fit manner.
Electrical/electronic sub-assembly:	Assembly that includes at least one electronic or electric part.
Batteries	Refers to both primary batteries and secondary batteries. A primary battery discharges only once, while a secondary battery can be recharged for repeated use.
Instruction manual (user manual):	Documentation that is primarily intended to describe the use and handling of the equipment. This does not include documentation that provides information on subjects other than the use and handling of the equipment in question. In this product category “instruction manual” shall be construed to include CD-ROMs, websites and other electronic media.
Homopolymer	Single polymer. Polymer consisting of one type of monomer. (Examples include PS, PC, PP, etc.)
Polymer	High molecular material that is the main constituent of plastic.
Polymer alloy (Polymer blend)	General name of multi-component polymers obtained by mixing or chemically binding the polymers of more than two

	components. A polymer blend is a physical blending of different types of polymers. (Examples include PC/ABS, etc.)
Life cycle assessment	One of the techniques used to objectively assess the environmental impacts of a product or service (referred collectively to as "product" below) throughout its entire life-cycle, from the extraction of resources through to the manufacture, use, recycling, disposal and distribution of the product.
Recycling	Materials recycling only; energy recovery (thermal recycling) is not included.

4. Certification Criteria and Certification Procedure

[Partial Mutual Recognition among Chinese Environmental Labeling and Korea Eco-Labeling]

If the applying product is already certified by Chinese Environmental Labeling (HJ/T 313-2006 Microcomputers and displays: January 2007) or Korea Eco-Labeling (EL144. Personal Computers & Monitors [EL144-1999/4/2005-68]), JEA will consider common items shown in Appendix 1 are complied with above labeling programs' certification.

4-1. Environmental Criteria and Certification Procedure

(1) The product shall conform to Attachment 1, "PC 3R Design Checklist."

[Certification Procedure]
The applicant shall fill out and submit Attachment 1, "PC 3R Design Checklist."

(2) The product shall conform to Attachment 2, "PC Substance Checklist."

[Certification Procedure]
The applicant shall fill out and submit Attachment 2, "PC Substance Checklist."

(3) The product shall conform to Attachment 3, "Efforts in PC Manufacturing Plant."

[Certification Procedure]
The responsible person or the manager of the plant that manufactures the product shall fill out and submit Attachment 3, "Efforts in PC Manufacturing Plant."

(4) The applicant shall perform a product life-cycle assessment (LCA), strive to reduce the amount of energy consumed during manufacture, and provide information to equipment users.

[Certification Procedure]
Submit an Attached Certificate that indicates the following:
a. Whether an LCA has been performed (or is planned) for the representative model

b. Whether you have or plan to provide information on the LCA results for the representative model
c. The means (website, catalog, etc.) that you use or plan to use to provide information.
d. Whether there are past PC LCA results
An application can be submitted for a PC series. In this case, one or more models in the series may be considered representative models. To be considered representative, a model must have the highest energy consumption in the series, and LCA results for that model must be submitted along with information on the model and its specifications.

(5) The product shall conform to Attachment 4, "Energy-Saving PC Design Checklist." However, this item does not apply to thin clients, keyboards and mouse devices.

[Certification Procedure]
The applicant shall fill out and submit Attachment 4, "Energy-Saving PC Design Checklist."

(6) The product's A-weighted emission sound pressure level (dB) per item 3.2.5 in ISO 9296 shall not exceed 40 dB in idle mode. In operating mode (when accessing a hard disk or optical disk), it shall not exceed 45 dB. However, this item does not apply to keyboards and mouse devices.

[Certification Procedure]
The applicant shall submit test records for a representative model. An application can be submitted for a PC series. In this case, the highest A-weighted emission sound pressure level value in the series shall be considered the test record of the representative model.

(7) The product shall conform to Attachment 5, "Checklist for Providing PC Information."

[Certification Procedure]
The applicant shall fill out and submit Attachment 5, "Checklist for Providing PC Information."

(8) The product shall conform to Attachment 6, "PC Packaging Materials Checklist." (This does not apply to items that are issued beyond the applicant's control, such as CD-ROM cases and instruction manuals for basic software.)

[Certification Procedure]
The applicant shall fill out and submit Attachment 6, "PC Packaging Materials Checklist."

(9) The product shall not use antimicrobial agents (including fungicides) as far as possible.

In the case of the use, the product shall be certified by the SIAA Mark of Society of Industrial technology for Antimicrobial Articles, etc.

[Certification Procedure]
In the case of using antibacterial agents, documents certifying SIAA Mark of Society of Industrial technology for Antimicrobial Articles, etc. shall be submitted.

4-2. Quality Criteria and Certification Procedure

(10) Products shall conform to safety standards that are in accordance with IEC 60950 (published by the International Electrotechnical Commission).

[Certification Procedure]
The applicant shall submit a certificate providing evidence that the product conforms to safety standards that are in accordance with IEC 60950.

5. Considerations

In manufacturing products, it is desirable to consider the following, although they are not requirements for certification. The conformance to the individual criteria item shall be indicated in Attached Certificates.

(1) Instruction manuals (user manuals) provided to users shall conform to the following "a." to "c."

a. The binding method shall not impede waste paper recycling. A hot-melt adhesive used to bind a manual shall be one of a modified non-dispersive EVA hot-melt adhesive, a polyurethane hot-melt adhesive and a water-soluble hot-melt adhesive. However the use of other hot-melt adhesives is permitted for manuals printed outside Japan.

b. Chlorine gas shall not be used in the bleaching process of waste paper pulp.

c. The percentage of waste paper in the pulp mixture shall be over 70%.
However, this item is not applied to the manuals printed outside Japan.

6. Product Classification, Labeling, etc.

(1) The product classification (application unit) shall be either a model or a series. Products shall not be classified by color or size.
A single application can be used to apply for multiple models in the same series, but each model or device in the series shall satisfy the respective criteria.
In the product classification, a separate application can be submitted for accessory equipment included in desktop PC and all-in-one PC configurations. For products that are sold primarily as a part of a system, a CRT monitor, LCD monitor, keyboard and mouse devices may be included along with the computer itself in the same

application. In this case each piece of equipment shall satisfy the respective criteria.

(2) The environmental information shown below shall be indicated below the mark. However, the indication of Eco Mark and certification information (Type B indication) can be allowed by following "Guide to Eco Mark usage" (enforced on March 1, 2011). The location and details of the Eco Mark to be indicated shall be submitted when applying for Eco Mark product certification and use.
The environmental information shall be indicated as "3R & energy-saving design" on the first line and enclosed in a rectangular box.
For the products certified under Eco Mark No.119 "Personal Computers", it is approved to indicate the same environmental information below Eco Mark and certification number as those used under previous product category in the indication below Eco Mark based on this product category as in the past.

A sample Eco Mark is shown below.

XXXX (contractor for the Eco Mark)

Eco Mark Certification No. XXXXXXXX
(allowable with numbers only)

August 3, 2006	Version 2.0 established
October 19, 2006	Revised Version 2.1
April 13, 2007	Revised Version 2.2
Feb. 14, 2008	Revised Version 2.3
August 21, 2008	Revised Version 2.4
April 28, 2009	Extension of Expiration date
March 1, 2011	Revised Version 2.5
April 1, 2011	Revised Version 2.6
October 1, 2011	Revised Version 2.7
August 1, 2012	Revised Version 2.8
August 1, 2013	Revised Version 2.9
April 1, 2015	Revised Version 2.10
August 31, 2016	Expiration date

The certification criteria for this product category shall be revised as appropriate.

Appendix 1. Corresponding table to common items among Chinese Environmental Labeling and Korea Eco-Labeling

Eco Mark No.119 Personal Computer Ver.2	China Environmental Labeling HJ/T 313-2006 Microcomputers and displays	Korea Eco-Labeling EL144. Personal Computers EL145. Notebook Computers EL147. Monitor for Personal Computers
4-1.(1)		
Attachment 1 No.1	-	-
Attachment 1 No.2	5.2.2 (4)	-
Attachment 1 No.3	-	-
Attachment 1 No.4	5.2.2 (3)	-
Attachment 1 No.5	-	-
Attachment 1 No.6	-	-
Attachment 1 No.7	-	-
Attachment 1 No.8	-	-
Attachment 1 No.9	-	-
Attachment 1 No.10	5.2.2 (1)	3.1.5.1
Attachment 1 No.11	5.2.1 (2)	3.1.5.2 b)
Attachment 1 No.12	-	-
Attachment 1 No.13	-	-
Attachment 1 No.14	-	-
Attachment 1 No.15	-	-
Attachment 1 No.16	-	-
Attachment 1 No.17	5.2.1 (3)	3.1.5.2 c)
Attachment 1 No.18	-	-
Attachment 1 No.19	-	-
Attachment 1 No.20	-	-
Attachment 1 No.21	-	-
4-1.(2)		
Attachment 2 No.1	-	3.1.3.3
Attachment 2 No.2	-	-
Attachment 2 No.3	-	-
Attachment 2 No.4	-	-
Attachment 2 No.5	-	-
Attachment 2 No.6	-	-
Attachment 2 No.7	-	3.1.3.1, 3.1.3.2, 3.1.3.3
Attachment 2 No.8	-	-
4-1.(3)		
Attachment 3 No.1	5.4.6 (1)	-
Attachment 3 No.2	-	-

Eco Mark No.119 Personal Computer Ver.2	China Environmental Labeling HJ/T 313-2006 Microcomputers and displays	Korea Eco-Labeling EL144. Personal Computers EL145. Notebook Computers EL147. Monitor for Personal Computers
Attachment 3　No.3	5.4.6 (2)	-
4-1.(4)	-	-
4-1.(5)		
Attachment 4　1. No.1	-	-
Attachment 4　1. No.2	5.1.3	-
Attachment 4　1. No.3	-	-
Attachment 4　2. No.1	-	-
4-1.(6)	-	-
4-1.(7)		
Attachment 5　No.1	-	-
Attachment 5　No.2	-	-
Attachment 5　No.3	-	-
Attachment 5　No.4	-	-
Attachment 5　No.5	-	-
4-1.(8)		
Attachment 6　No.1	-	-
Attachment 6　No.2	-	-
Attachment 6　No.3	5.4.5	3.1.4.2 c)
Attachment 6　No.4	-	-
4-2.(9)	-	-
4-2.(10)	-	-

※If the cell of Chinese Environmental Labeling or Korea Eco-Labeling is filled in above chart, there will be no need to submit documents for Eco Mark's application in case the applying product is certified by each labeling program.

Attachment 1: PC 3R Design Checklist [corresponds to item 4-1.(1) of certification criteria]

《Category》
M: Requirement that must be met　　S: Requirement that should be met
On this checklist, all "M" items must be answered "Yes."

Date of Issue:
Issued by (Company name)

(1) Grey column for "Requirement Applicability":- Compliance must be indicated for all items in the "Compliance" column.
(2) Optional:
- Check whether the requirement is applicable to the applying product, and if it is applicable, indicate in the "Compliance" column whether the product is compliant. If the item is not applicable, provide the reason.
(Example of a non-applicable item: No. 1 (1) For equipment that does not have metal-inserted molded parts, check "Not applicable" and write "no metal insert molding" as the reason.
- For "S" category requirements that were not implemented, check "Not applicable" and write "Not implemented" as the reason.
- If the product does not contain the applicable part, check "Not applicable," and write "No such part" as the reason.

Applicable products: notebook PCs, desktop PCs, all-in-one PCs (PCs with integrated monitor), CRT monitors, LCD monitors, keyboards, and mouse
Please provide answers in the areas enclosed by the bold line.

List No.	Category	Requirement	Applicable Part	Requirement Applicability	Compliance
Ease with which part can be reused or recycled					
1	M	For parts, the same types of metal materials and plastic materials are used as long as functionality is not impaired.	Plastic parts, housing, housing parts, chassis	□ Applicable □ Not applicable [Reason:]	□ Yes □ No
2	M	Metals in molded parts with metal inserts shall be separable by cutting, pulverizing or otherwise breaking down the part. "	Plastic parts	□ Applicable □ Not applicable [Reason:]	□ Yes □ No
3	M	Plastic parts made of thermoplastics that are inseparable with common tools due to bonding, welding, crimping or other fastening technique shall be compatible with one another according to Table 1 "Compatibility of thermoplastics".	Plastic parts	□ Applicable □ Not applicable [Reason:]	□ Yes □ No
4	M	Plastic parts shall be made from a single homopolymer or copolymer. Polymer blends (polymer alloys), however, may be used.	Plastic parts	□ Applicable □ Not applicable [Reason:]	□ Yes □ No
5	M	Plastic parts shall be composed of up to two types of mutually separable polymers or polymer blends.	Plastic parts	□ Applicable □ Not applicable [Reason:]	□ Yes □ No

6	S	Metal plated and conductively coated plastic parts shall be avoided. Is direct printing on plastic parts kept to the bare minimum (such as the manufacturer's name)?	Housing, housing parts	□ Applicable □ Not applicable [Reason:]	□ Yes □ No
		Plastic parts that have a surface coating over a large area must be processed to remove the coating for recycling. Laser marking and similar marking methods are not considered "printing" for these purposes. This item does not apply to plastic parts whose coating is made of the same material as the part.			
7	S	At least one part shall contain recycled plastic material or recycled magnesium alloy. Also, the recycled material content of parts containing these recycled materials shall be at least 5 wt%.	Housing, housing parts, chassis	□ Applicable □ Not applicable [Reason:]	□ Yes □ No
		The denominator of the content percent shall be the unit weight of a part containing recycled plastic or recycled magnesium alloy, and the numerator shall be the content weight of the recycled material. $\text{Recycled content (wt\%)} = \frac{\text{Recycled content by weight}}{\text{Unit weight of part with recycled content}}$			
		The use of recycled plastics containing specified brominated flame retardants (PBBs, PBDEs) or chlorinated paraffin shall be avoided.			
8	S	The weight of products shall not exceed 20 kg. Products that exceed 20 kg in weight shall have handles or design elements for safety during transport.	Notebook PCs, desktop PCs, all-in-one PCs, CRT monitors, LCD monitors	□ Applicable □ Not applicable [Reason:]	□ Yes □ No
		When applying for certification as a system that includes a computer and monitor, etc., no component shall exceed 20 kg.			

Ease of separation / disassembly (including ease of pulverization / incineration)

9	M	Can subassemblies such as printed circuit boards and optical drives be separated from the chassis, housing and other subassemblies? Also, can cojoined subassemblies that are made of a material listed in Table 1 be separated or they fastened together by an element that assists separation?	Housing parts, chassis, electronic subassemblies		□ Yes □ No
		The joints between a housing and a chassis and between a chassis and an electronic subassembly are important, and their separability is a prerequisite for 1) separating subassemblies and materials for reuse and recycling, and thus 2) for the safe and quick removal of parts that contain harmful substances. A "part that assists separation" refers to things such as break points in predetermined locations to facilitate the separation of subassemblies from one another with the minimum level of destruction.			
10	M	Can joints that should separate be easily found?	Housing, chassis		□ Yes □ No

		Joints that should separate during disassembly shall be such that they can easily and quickly be found. When screws are hidden by design, steps shall be taken to assist disassembly. For example, marks can be placed near locations where there are hidden joints that should be separated, and information on joints that should be separated can be provided to recyclers.			
11	M	Can disassembly for recycling be completed with common tools? Common tools" means to commonly available tools. Excludes wireless equipment defined by the Japan Radio Law and AC adapter housings.	Housing, chassis, electronic subassemblies		□ Yes □ No
12	M	Batteries shall be replaceable and removable by equipment users. This does not apply to batteries that are mounted to printed circuit boards or other components that are not supposed to be removed by equipment users. “Removable" means battery removal corresponding to items A, B or C in Table 2.	Primary batteries and secondary batteries	□ Applicable □ Not applicable [Reason:]	□ Yes □ No
13	S	Batteries that are mounted to printed circuit boards or other components that are not supposed to be removed by equipment users shall have a life of at least 10 years. These batteries shall be replaceable or removable at the end of the product's life or during repairs and so forth, without having to replace the entire printed circuit board or other component on which they are mounted. Batteries corresponding to items A through F in Table 2.	Primary batteries	□ Applicable □ Not applicable [Reason:]	□ Yes □ No

Ease of sorting parts, etc.

14	M	Large plastic parts shall carry markings that are in line with ISO 11469 (JIS K 6999), with material symbols that are compliant with ISO 1043 (JIS K 6899). This excludes light guides and optical sheets used in LCD displays.	Plastic parts weighing 25g or more or having a flat area of 200 mm2 or more.	□ Applicable □ Not applicable [Reason:]	□ Yes □ No

Use of recycled parts and recycled materials

15	S	Is it possible to install recycled subassemblies and so forth in the product? At the evaluation, check whether such parts can be used according to the specs. Preferably, manufacturers can install recycled parts in equipment as spare parts or as ETN (equivalent to new) parts. An "ETN part" means a reused part that is equivalent to a new part.	Computer subassemblies & parts	□ Applicable □ Not applicable [Reason:]	□ Yes □ No

Long use

16	M	Can system performance be upgraded?	Computer	□ Applicable	□ Yes

		Product life can be extended by upgrading system performance. Specifically, items such as CPUs, optical drives, HDDs, and main memory can be upgraded, and the system comes with expansion slots, etc. System upgradeability requires that specific conditions be met from the start.	subassemblies	□ Not applicable [Reason:]	□ No
17	M	Can the system be expanded with new functions? It should be possible to extend the life of a product by enabling functional expansion, i.e. the addition of other equipment (TV, facsimile) functions. At the examination, check the preconditions for enabling functional expansion. Example: Is there space for expansion slots.	Desktop PC subassemblies	□ Applicable □ Not applicable [Reason:]	□ Yes □ No
18	M	The applicant shall retain performance parts for equipment repairs for a minimum period of five years. ("Performance parts" means parts that are essential for maintaining the functioning of a product.)	Notebook PCs, desktop PCs, all-in-one PCs, CRT monitors, LCD monitors	□ Applicable □ Not applicable [Reason:]	□ Yes □ No
19	M	The applicant shall set up a repair service to repair Eco Mark certified equipment and shall perform repairs at the request of equipment users. The applicant shall provide the following:	Notebook PCs, desktop PCs, all-in-one PCs, CRT monitors, LCD monitors	□ Applicable □ Not applicable [Reason:]	□ Yes □ No

Process records

20	M	Were materials selected in accordance with items 1 through 5 of this checklist, and were records kept?	Housing, chassis	□ Applicable □ Not applicable [Reason:]	□ Yes □ No
21	M	Did the manufacturer perform a trial disassembly in accordance with items 9 through 13 of this checklist, and were records kept?	Total unit		□ Yes □ No

Table 1: Compatibilities prescribed in item No. 1 (2)

VDI 2243, Part 1, 30/42 Table 2: Compatibilities of thermoplastics [49;67]

		Additives											
	Important plastics for design	PE	PVC	PS	PC	PP	PA	POM	SAN	ABS	PBTP	PETP	PMMA
Base material	PE	1	4	4	4	1	4	4	4	4	4	4	4
	PVC	4	1	4	4	4	4	4	1	2	4	4	1
	PS	4	4	1	4	4	4	4	4	4	4	4	4
	PC	4	3	4	1	4	4	4	1	1	1	1	1
	PP	3	4	4	4	1	4	4	4	4	4	4	4
	PA	4	4	3	4	4	1	4	4	4	3	3	4
	POM	4	4	4	4	4	4	1	4	4	3	4	4
	SAN	4	1	4	1	4	4	4	1	1	4	4	1
	ABS	4	2	4	1	4	4	3	4	1	3	3	1
	PBTP	4	4	4	1	4	3	4	4	3	1	4	4
	PETP	4	4	3	1	4	3	4	4	3	4	1	4
	PMMA	4	1	3	1	4	4	3	1	1	4	4	1

1: Compatible
2: Compatible, with some limitations
3: Compatible in small amounts
4: Uncompatible

Table 2: Facility of disassembling a battery in item No.8

Designation		Item		Example of item evaluation
Range	Sign	Classification	Subclass	
Easy Removal of batteries Difficult	A	One-touch	One-touch	Power unit is off-line system, and battery (packing) can be taken out by one-touch
	B	Removal of cover by hand	One-touch	Removal of cover by hand is possible, and battery (packing) can be taken out by one-touch
			Connector removing	Removal of cover by hand is possible, and battery (packing) can be taken out by removing connector
	C	Removal of cover by screw	One-touch	Removal of cover by screw is possible, and battery (packing) can be taken out by one-touch
			Connector removing	Removal of cover by screw is possible, and battery (packing) can be taken out by removing connector
	D	Removal of cover by screw	Cutting	Removal of cover by screw is possible, and battery (packing) can be taken out by cutting the connection with nippers etc.
	E	Decomposition of the whole(screw removing)	Connector removing.	Decomposition of the whole by removing screw is possible and the battery (packing) can be taken out by removing the connector
	F	Decomposition of the whole (screw removing)	Cutting	Decomposition of the whole by removing screw is possible, and battery (packing) can be taken out by cutting the connection with nippers etc.
	G	Decomposition of the whole (dismantlement)	Connector removing	Dismantling the whole and the battery (packing) can be taken out by removing the connector
			Cutting	Dismantling the whole and battery (packing) can be taken out by cutting the connection with nippers etc.

Attachment 2: PC Chemical Substance Checklist [corresponds to item 4-1. (2) of the certification criteria]

On this checklist, all items must be answered "Yes," except where "Not applicable" is checked in the "Applicability of Requirement" column.

Date of Issue:

(Issuer: Company / plant name)

<<Requirement Applicability>>

(1) Grey column for "Requirement Applicability":

Compliance must be indicated for all items in the "Compliance" column.

(2) Optional in "Requirement Applicability":

If the product does not contain the applicable part, check "Not applicable," and write "No such part or region" as the reason.

Applicable products: notebook PCs, desktop PCs, all-in-one PCs (PCs with integrated monitor), CRT monitors, LCD monitors, keyboards, and mouse devices.

Please provide answers in the areas enclosed by the bold line.

List No.	Requirement	Applicable Part	Requirement Applicability	Compliance
1	Specified brominated flame retardants (PBBs, PBDEs) or short-chained chlorinated paraffin (with a carbon chain count of from 10 to 13 and a chlorine concentration of 50% or more, as in all discussions below) shall not be added as prescribed constituents. Printed circuit board means a bare printed circuit board that does not include semiconductor chips, etc.	Printed circuit boards		□ Yes □ No
2	Halogenated polymers and organic halogenated compounds shall not be added as prescribed constituents. This item does not apply, however, when the applicant takes back and either reuses or recycles the applicant's Eco Mark certified equipment under the Wide Area Certification System (Special exception system related to regional management of wastes based on the Waste Disposal and Public Cleaning Law, Article 9-9, and Article 15-4-3.). This excludes parts containing organic fluorine additives used to improve physical characteristics of plastic materials (such as anti-dripping agents with a content not exceeding 0.5 wt%) and parts weighing less than 25g.	Housing, housing parts	□ Applicable □ Not applicable [Reason:]	□ Yes □ No
3	Substances (level 1, 2A, and 2B) classified as carcinogenic by the IARC (International Agency for Research on Cancer) at the time the Eco Mark application is submitted for the equipment shall not be added as prescribed constituents. This does not apply, however, to titanium yellow, antimony trioxide and carbon black.	Housing, housing parts	□ Applicable □ Not applicable [Reason:]	□ Yes □ No

	Of the above substances enumerated by the IARC, the terms of inclusion described below in the seventh item shall take precedence for lead, cadmium, hexavalent chromium, mercury and specified brominated fire retardants (PBBs, PBDEs). This item shall not apply to substances to which the seventh item herein applies. The following examples describe the reasoning with regard to prescribed constituents. Formaldehyde, the raw material for polyoxymethylene resin (polyacetal resin: POM) used in housings, is a raw material for personal computer (PC) housings and not a substance intended for direct use in a PC. Since the resin produced by reacting the raw material is what is used for PC housings, and since formaldehyde itself is not used with the intention of serving as a PC housing, formaldehyde is not considered to be added as a prescribed constituent. Likewise, styrene monomer, the raw material for polystyrene resin, is not considered to be added as a prescribed constituent. The reasoning is that the resin produced by reacting the styrene monomer is used for PC housings, while the styrene monomer itself is not intended for use as a PC housing. Unreacted styrene monomer present in housings is also not considered to be added as a prescribed constituent."			
4	Display parts (panel materials such as glass, liquid crystal, and polarizers; and backlight materials such as fluorescent lamps, light-guides and optical sheets) shall not contain level 1, 2A, or 2B substances, which the IARC classifies as carcinogenic, as prescribed constituents. However, this item does not apply to mercury, antimony, arsenic and arsenic compounds.	Notebook PCs, all-in-one PCs, LCD monitors	□ Applicable □ Not applicable [Reason:]	□ Yes □ No
5	Cadmium, lead and mercury shall not be added as prescribed constituents. Applies to single-cell batteries. Does not apply to solder and so forth used to interconnect single-cell batteries.	Primary batteries and secondary batteries	□ Applicable □ Not applicable [Reason:]	□ Yes □ No
6	Secondary batteries shall be identified in accordance with the Battery Association of Japan's identification and labeling guidelines for small rechargeable batteries.	Secondary batteries	□ Applicable □ Not applicable [Reason:]	□ Yes □ No
7	The percentage content of lead, cadmium, hexavalent chromium, mercury, and specified brominated fire retardants (PBBs, PBDEs) shall not exceed the reference values enumerated for these specified substances in JIS C 0950, a Japanese Industrial Standard that specifies the method for indicating the content of specified substances contained in electrical and electronic equipment.	Product		□ Yes □ No

	If an applicable substance qualifies as an exception under content marking rules, the content information shall be disclosed on a website. This item applies to batteries that equipment users are not supposed to remove. This item does not apply to batteries that equipment users may remove.			
8	The rate of volatile organic compounds (VOC) emissions from the product shall not exceed the guideline values shown below in Table 1. The definition of VOC, measurement method, applicable substances and so forth are as provided in "VOC Guidelines for Personal Computers (PC-VOC-G-2005)," drafted by the Japan Electronics and Information Technologies Industries Association. If the Eco Mark application is submitted for a PC series, the VOC emissions shall be checked for one or more models that are expected to produce the highest level of emissions.	Product (This item does not apply when an application is submitted for keyboards and mouse devices alone.)	□ Applicable □ Not applicable [Reason:]	□ Yes □ No

Table 1: Guideline values for VOC emission rates provided for in List No. 8 Unit: micro-grams/(h x unit)

Substance	Notebook PC	All-in-one PC	Desktop PC	CRT/LCD monitor
Toluene	260	260	130	130
Xylene	870	870	435	435
Paradichlorobenzene	240	240	120	120
Ethylbenzene	3800	3800	1900	1900
Styrene	220	220	110	110
Formaldehyde	100	100	50	50
Acetaldehyde	48	48	24	24

Attachment 3 - "Efforts in PC Manufacturing Plant" Checklist [corresponds to item 4-1. (3) of certification criteria]

・Applicable products: notebook PCs, desktop PCs, all-in-one PCs, CRT monitors, LCD monitors, keyboards, mouse devices

Date of Issue:

Issuer: (Company / plant name)

Issuer: Name and title

(All of the three requirements below must be answered "yes") The issuer is the responsible person or manager of the plant that manufactures the product)

List No.	Requirement	Compliant	note
1	The plant that conducts final assembly of the product shall not use any of the five specified types of CFCs, other CFCs, carbon tetrachloride or trichloroethane listed in Table 1, nor shall the plant emit any of the replacement CFCs ("HCFCs") listed in the table. This does not include plant equipment that is not directly related to the product manufacturing process, such as air-conditioners and refrigerators.	□ Yes □ No"	
2	In manufacturing the applied product, related environmental laws and regulations and pollution control agreement (hereinafter referred to as the "Environmental Laws, etc.") must be followed with respect to air pollution, water contamination, noise, offensive odor, and emission of hazardous substances in the area where the plant performing the final manufacturing process is located. However, this item does not apply to soil contamination that occurred prior to the institution of controls on the polluting substances in question.	□ Yes □ No"	The applicants shall report whether there is any violation in the past five years, including a violation subject to administrative punishment or administrative guidance, and if there is, the following documents in a and b must be submitted: a. With respect to the fact of violation, guidance documents from administrative agencies (including order of correction and warning) and copies of written answers (including those reporting causes and results of correction) to such documents (clearly indicating a series of communication); b. Following materials (copies of recording documents, etc.) concerning the management system for compliance with the Environmental Laws, etc. in 1)-5): 1) List of the Environmental Laws, etc. related to the area where the plant is located; 2) Implementation system (organizational chart with roles, etc.);
	The state of compliance with the Environmental Laws, etc. for the past five years from the date of application (whether there is any violation) must be reported. If there is any violation, proper remedies and preventive measures shall have been already taken, and the related Environmental Laws, etc. must thereafter be followed appropriately. However, this item does not apply to soil contamination that occurred prior to the institution of controls on the polluting substances in question.	□ We have not violated any related Environmental Laws, etc. for the past five years. □ We have not violated any related Environmental Laws, etc. since foundation of the Company in (year).	

	In the table in the lower right, list the names of environmental laws and regulations that are being observed. If the final assembly plant is new or has not been in operation for five years by the time an application is filed, the plant shall not have had any reportable violations since it began operations."	□ We violated related Environmental Laws, etc. in the past five years, have already taken proper remedies and recurrence prevention measures, and thereafter comply with the related Environmental Laws, etc. properly.	3) Bylaws stipulating retention of recording documents; 4)Recurrence prevention measures (future preventive measures); 5) State of implementation based on recurrence prevention measures (result of checking of the state of compliance, including the result of onsite inspection)
3	It is clearly evident that none of any of the specified five types of CFCs, other CFCs, carbon tetrachloride or trichloroethane listed in Table 1 is used in plants that manufacture parts used in the product. It is clearly evident that plants that manufacture parts used in the product are not emitting HCFCs or are working to reduce such emissions. This does not include plant equipment that is not directly related to the product manufacturing process, such as air-conditioners and refrigerators.	□ Yes □ No"	The person with responsibility for the application shall submit documentation of the materials required in plant's green purchasing, etc. as evidence that plants manufacturing parts used in the product do not use or emit any of the substances listed in Table 1.

Table 1 – CFCs, etc.

5 types of specified CFCs	Trichlorofluoromethane	Dichlorotetrafluoroethane
	Dichlorodifluoromethane	Chloropentafluoroethane
	Trichlorotrifluoroethane	
Other CFCs	Chlorotrifluoromethane	Pentachlorotrifluoropropane
	Pentachlorofluoromethane	Tetrachlorotetrafluoropropane
	Tetrachlorodifluoroethane	Trichloropentafluoropropane
	Heptachlorofluoropropane	Dichlorohexafluoropropane
	Hexachlorodifluorpropane	Chloroheptafluoropropane
	Carbon Tetrachloride	
	1,1,1-Trichloroethane	
HCFCs	Dichlorofluoromethane	Dichloropentafluoropropane
	Chlorodifluoromethane	Chlorohexafluoropropane
	Chlorofluoroethane	Pentachlorofluoropropane
	Tetrachlorofluoroethane	Tetrachlorodifluoropropane
	Trichlorodifluoroethane	Trichlorotrifluoropropane
	Dichlorotrifluoroethane	Dichlorotetrafluoropropane
	Chlorotetrafluoroethane	Chloropentafluoropropane
	Trichlorofluoroethane	Tetrachlorofluoropropane
	Dichlorodifluoroethane	Trichlorodifluoropropane
	Chlorotrifluoroethane	Dichlorotrifluoropropane
	Dichlorofluoroethane	Chlorotetrafluoropropane
	Chlorodifluoroethane	Trichlorofluoropropane
	Chlorofluroethane	Dichlorodifluoropropane
	Hexachlorofluoropropane	Chlorotrifluoropropane
	Pentachlorodifluoropropane	Dichlorofluoropropane
	Tetrachlorotrifluoropropane	Chlorodifluoropropane
	Trichlorotetrafluoropropane	Chlorofluoropropane

List the environmental laws and regulations that are being observed by the plants defined in No. 2.

Attachment 4-1: Energy-Saving PC Design Checklist [corresponds to item 4-1. (5) of certification criteria]

Date of Issue:

Issued by (Company name)

*Applicable products: Notebook PCs, desktop PCs, all-in-one PCs (PCs with integrated monitor), CRT monitors, LCD monitors. This item does not apply to thin clients.

* If simultaneously applying for both the computer and the monitor in a desktop PC, fill out both parts 1 and 2.

1. For notebook PCs, desktop PCs and all-in-one PCs, fill out the information below.
(All of the three requirements below must be answered "Yes".)

List No.	Requirement	Compliance
1	The PC shall satisfy either a) or b). a) The energy-saving standard achievement rate of the product calculated according to Table 1 shall be 200% or over. Table 1 indicates the applicable standard energy consumption efficiency for the 2011 fiscal year for "computers," designated equipment under “Japan's Law Concerning the Rational Use of Energy”. b) A product shall conform to the ENERGY STAR® “Product Specification for Computers: Eligibility Criteria” that is applied at the time of application.	□ Yes □ No (In caser of a), compliance shall be indicated above. In case of b), the applicant shall submit “a written notice on products using the ENERGY STAR® logo”, etc. for each model)
2	The PC shall be equipped with a power switch and power consumption in the off state shall be less than 1W. If the computer is required to operate other functions (functions to supply power to a clock, monitor modem or LAN wake signals, monitor battery charge, and illuminate LEDs to notify equipment users of equipment status, etc.) when the power switch off, power consumption shall not exceed 5W.	□ Yes □ No
3	The functions of the PC are not impaired even if the PC's power plug is removed from an electrical outlet and the PC is left unplugged for a relatively long period of time (at least four weeks). (The loss of date, time or other clock information is not considered to be an impairment	□ Yes □ No

List 1. Standard energy consumption efficiency for applying model

model	category	Standard energy consumption efficiency		
		standard value	notified value	energy-saving standard achievement rate
ex. EC22M/Y	P	0.31	0.22	

1. This refers to a numeric value measured by the method defined in 3(2) of"Criteria for Judgment of Manufacturer, etc. on Improvement of Performance of Computers”.

Table 1 Standard energy consumption efficiency per the Law

Category				Category	Standard energy consumption efficiency
Type of power source and the number of memory channels of client-electronic computer	Main Memory Capacity	Independent GPU	Monitor size		
Battery-driven computer whose number of memory channels is equal to or greater than 2	16 Gigabytes or more			M	2.25
	From 4 gigabytes to less than 16 gigabytes			N	0.34
	less than 4 gigabytes		17 or more	P	0.31
		equipped	less than 17	Q	0.21
		unequipped	from 12 to 17	R	0.15
			less than 12	S	0.21
Among computers other than battery-driven computers whose number of memory channels is equal to or greater than 2, those using an AC adapter as a power unit				T	0.29
Among computers other than battery-driven computers whose number of memory channels is equal to or greater than 2, those not using an AC adapter as a power unit	16 Gigabytes or more			U	2.25
	From 4 gigabytes to less than 16 gigabytes	equipped		V	0.51
		unequipped		W	0.64
	less than 4 gigabytes			X	0.53
Computer whose number of memory channels is less than 2				Y	0.51

Note)
1. "The number of memory channels" refers to that of physical channels of a bus interface to a main memory diverging from a memory controller.
2. A "battery-driven type" refers to a computer that can be used with a battery embedded in itself and without being supplied with electricity from a power line.
3. An "independent type GPU" refers to a computer having a dedicated local memory, of processors for image data processing.
4. "Screen size" refers to a numeric value to be obtained by dividing a numeric value representative of a diagonal outside diameter dimensions of a display screen in centimeters by 2.54 and rounding it to one decimal place.
5. A method for computing the energy consumption efficiency shall be according to"3 Method for Measuring Energy Consumption Efficiency (2)" of the Ministerial Announcement No. 74 (March 31, 2010) of the Ministry of Economy, Trade and Industry, which is based on Law Concerning the Rational Use of Energy.

Attachment 4-2: Energy-Saving PC Design Checklist [corresponds to item 4-1. (5) of certification criteria]

・Applicable products: CRT monitors, LCD monitors
・If simultaneously applying for both the computer and the monitor in a desktop PC, fill out both parts 1 and 2.

Date of Issue:

Issued by (Company name)

2. For CRT / LCD monitors, fill out the information below.
(The requirement below must be answered "Yes.")

List No.	Requirement	Compliance	Attached Certificate
1	The monitor shall meet the criteria for displays (monitors) in the International Energy Star Program which applies at the time of application.	□ Yes □ No	Please attach Notification of Product (Display) Using International Energy Star Program Logo (Attachment 4-2A).

Remarks) The standards and measurement methods shall conform to International Energy Star Program Operational Regulations.

Attachment 5: Checklist for Providing PC Information [corresponds to item 4-1. (7) of the certification criteria]

On this checklist, all items must be answered "Yes," except where "Not applicable" is checked in the "Applicability of Requirement" column.

Date of Issue:

Issued by (Company name)

<<Requirement Applicability>>*

- Check whether the requirement is applicable to the applying product, and if it is applicable, indicate in the "Compliance" column whether the product is compliant. If the item is not applicable, provide the reason.
  (Example: No. 4 For equipment that does not have a secondary battery, check "Not applicable" and write "no secondary battery" as the reason.) Indicate whether the information is included in instruction manuals, on websites, and in catalogs by checking "Yes" or "No" as appropriate in every cell.
- If the applying product does not correspond to an applicable product, check "Not applicable," and write "Not applicable" as the reason.

Applicable products: Notebook PCs, desktop PCs, all-in-one PCs, CRT monitors, LCD monitors, keyboards, and mouse devices.

Please provide answers in the areas enclosed by the bold line.

List No.	Requirement	Applicable Product	Requirement Applicability	Compliance		
				Instruction Manual*1	Website product information*2	Catalog
1	Information shall be provided on the minimum retention period for performance parts used for repairs prescribed in item No. 18 of Certification Criteria Attachment 1, "PC 3R Design Checklist."	Notebook PCs, desktop PCs, all-in-one PCs, CRT monitors, LCD monitors	□ Applicable □ Not applicable [Reason:]	□ Yes □ No	□ Yes □ No	□ Yes □ No
2	Information shall be provided on compliance involving repairs prescribed in item No. 19 of Certification Criteria Attachment 1, "PC 3R Design Checklist."	All products	□ Applicable □ Not applicable [Reason:]	□ Yes □ No	□ Yes □ No	
3	Information on battery replacement shall be provided. This does not apply in instances where, for example, batteries are mounted to a printed circuit board or other component that is not supposed to be removed by equipment users.	All products	□ Applicable □ Not applicable [Reason:]	□ Yes □ No *3		
4	For equipment that has a secondary battery, information or labels shall be provided in accordance with the Law for the Promotion of Effective Utilization of Resources so as to (1) communicate that the equipment has a secondary battery, and (2) promote the use of secondary batteries as a recyclable resource.	All products	□ Applicable □ Not applicable [Reason:]	□ Yes □ No *3		□ Yes □ No

5	The maximum power consumption in operation and the power consumption in an idle state (the minimum power consumption in an operating state) shall be provided.	Notebook PCs, desktop PCs, all-in-one PCs, CRT monitors, LCD monitors	□ Applicable □ Not applicable [Reason:]	□ Yes □ No	□ Yes □ No	□ Yes □ No

*1 : The information required in instruction manuals may also be provided via a combination of different mediums, such as paper, the Web, a CD-ROM and so forth.
*2 : "Product information" means information on product characteristics, specifications, appearance and so forth.
*3 : This information may be provided by establishing links in online instruction manuals to product information on a website.

Attachment 6: PC Packaging Checklist [corresponds to item 4-1. (8) of the certification criteria]

Date of Issue:

Issued by (Company name)

On this checklist, all items must be answered "Yes."

Applicable products: Notebook PCs, desktop PCs, all-in-one PCs (PCs with integrated monitor), CRT monitors, LCD monitors, keyboards, and mouse devices

Please provide answers in the areas enclosed by the bold line.

List No.	Requirements	Compliance
1	Plastic materials used for packaging shall carry markings that are in line with ISO 11469 (corresponding to JIS K 6999: 2004), with material symbols that are compliant with ISO 1043: 1997 (corresponding to JIS K 6899: 2000). However, it shall be permissible to omit material labeling in compliance with identifying mark relating items such as "Plain containers and packaging" and "Unlabelable containers and packaging" in the Law for the Promotion of Effective Utilization of Resources.	□ Yes □ No
2	Efforts shall be made to facilitate packaging material resource conservation, reuse and recycling in compliance with guidelines for preparing manuals on product design pre-evaluations to help promote the use of recycled resources (July 1994 Waste Processing and Recycling Subcommittee of the Industrial Structure Council).	□ Yes □ No
3	None of the five specified types of CFCs, other CFCs, or HCFCs listed in Table 1 in Attachment 3 shall be used in packaging materials.	□ Yes □ No
4	Halogenated polymers and organic halogenated compounds shall not be added as prescribed constituents of plastic materials use in packaging.	□ Yes □ No

* Packaging material:

"Packaging material, material that is included with a product package at the time of shipping, is broadly divided into two types: (1) main unit shipping carton, a bag for wrapping the main unit, and main unit packing, including cushioning material; and (2) packaging for accessory items such as instruction manuals and power cords.

Examples of packaging materials include shipping paperwork, shipping labels, cover letters, wire-core plastic cable ties, bar code label for package tracking (consisting of paper, ink, and adhesive), warranty card bag, packaging tape, sealing tape, adhesives used inside cardboard boxes for packing, shrink pack, plastic handles that come with cardboard boxes, bundling bands, and so on.

This does not apply to items that are not issued by the applicant, such as packaging for basic software instruction manuals and CD-ROM cases. "