ecma INTERNATIONAL

Technical Report

ECMA TR/70

3rd Edition / June 2004

Ecma Product-related Environmental Declaration

Rue du Rhône 114 CH-1204 Geneva T: +41 22 849 6000 F: +41 22 849 6001

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IW Tr-70.doc 28.07.2004 15:43

Brief history

Increased interest of public and institutional customers in environmental information stimulated the definition of product-related environmental attributes. The Ecma General Assembly of December 1995 established Technical Committee 38 (TC38) to this end. TC38 membership includes experts from Information, and (tele) Communication Technology (ICT) and Consumer Electronics (CE) companies and organisations.

This Technical Report catalogues product parameters related to the ENVIRONMENT. Product data declarations and specifications should contain these parameters.

This edition addresses comments from users and users' organisations, as well as recent regulatory changes.

Annex A lists, for a range of products, attributes that a declaration should contain, and a template declaration.

Annex B shows a spreadsheet version of Annex A and is available here on the Ecma International website.

In fond memory, Ecma dedicates the 3rd edition of this TR to Mr. Tony Ellerton who sadly passed away during its development. With great passion for the subject and with a perfectly aligned skill set, Mr Ellerton was instrumental in drafting this and previous editions.

This Ecma Technical Report has been adopted by the General Assembly of June 2004.

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1 Scope

This Technical Report (TR) presents the terms and format of the *Ecma Product-related Environmental Declaration*. SUPPLIERS use this standardised format to declare environmental attributes of products to customers. This TR identifies and describes environmental attributes and associated measurement methods related to information and communication technology and consumer electronic products according to known regulations, standards, guidelines and currently accepted practices. The report is also applicable to products used as subassemblies, components, accessories and/or optional parts.

The report addresses product-related attributes, not the manufacturing processes and logistic aspects.

The environmental attributes include, but are not limited to data on:

- power consumption;
- emissions;
- materials;
- product packaging;
- batteries; and
- end of life management.

Although the attributes are listed without differentiation between product categories, it should be recognized that not all attributes necessarily apply to each product category.

The documented sample declarations in Annex A may serve as guidance for the proper application of this Technical Report.

2 References

2.1 Ecma International

ECMA-74	Measurement of Airborne Noise Emitted by Information Technology and Telecommunications Equipment, 8th edition (ISO 7779) (2003)
ECMA-109	Declared Noise Emission Values of Information Technology and Telecommunications Equipment, 4th edition (ISO 9296) (1996)
ECMA-328	Detection and Measurement of Chemical Emissions from Electronic Equipment (2001)
ECMA-341	Environmental design considerations for electronic products (2002)

2.2 ISO

ISO 3741:1999	Acoustics -- Determination of sound power levels of noise sources using sound pressure -- Precision methods for reverberation rooms
ISO 3744:1994	Acoustics -- Determination of sound power levels of noise sources using sound pressure -- Engineering method in an essentially free field over a reflecting plane
ISO 3745:2003	Acoustics -- Determination of sound power levels of noise sources using sound pressure -- Precision methods for anechoic and hemi-anechoic rooms
ISO 7779:2002	Acoustics -- Measurement of airborne noise emitted by information technology and telecommunications equipment, the 2002 edition is aligned with ECMA-74 7th edition. ISO 7779:2004 will be the equivalent of ECMA-74 8th edition, 2003
ISO 9296:1988	Acoustics -- Declared noise emission values of computer and business equipment
ISO 11469:2000	Plastics -- Generic identification and marking of plastics products
ISO 11690:1996	Acoustics -- Recommended practice for the design of low-noise workplaces containing machinery
ISO 14001:1996	Environmental management systems -- Specification with guidance for use

2.3 IEC

IEC 62087:2002	Methods of measurement for the power consumption of audio, video and related equipment

2.4 CEN/CENELEC

EN 50392:2004	Generic standard to demonstrate compliance of electronic and electrical apparatus with the basic restrictions related to human exposure to electromagnetic fields (0 Hz – 300 GHz)

2.5 European Union (EU)

89/336/EEC	EMC Directive
91/157/EEC	Directive on batteries and accumulators
93/86/EEC	Marking of batteries
94/62/EEC	Packaging Directive
97/129/EC	Council Decision on establishing the identification system for packaging material
98/101/EC	Amendment to the battery Directive
2002/96/EC	Directive on Wastes from Electric and Electronic Equipment (WEEE)
2002/95/EC	Directive on the restriction of use of hazardous substances (RoHS)

1999/519/EC	Council Recommendation on the limitation of exposure of the general public to electromagnetic fields (0Hz to 300GHz)

2.6 International agreements

The 1987 Montreal Protocol on Substances that deplete the Ozone Layer (September 1997 version)

2.7 Sweden

MPR II 1990:8/10	Statens Mät och Provningsråd. (Swedish measurement and test council) The Sveriges Ackrediteringsanstalt (SWEDAC) (the Swedish Board for Technical Accreditation) is the currently responsible for this activity
TCO	Swedish Confederation of Professional Employees, TCO or Tjänstemännens Central Organisation
ICNIRP	International Commission on Non-Ionizing Radiation Protection supported by World Health Organization of the United Nations

2.8 United States Environmental Protection Agency (US EPA)

Energy Star MOU	Memoranda of Understanding for energy efficient products

3 Definitions

For the purposes of this Technical Report the following definitions apply.

3.1 Chemical emissions

Chemical substances released from a product and measured under predefined testing conditions as defined in ECMA-328.

3.2 Environment

Surroundings in which an organisation operates, including air, water, land, natural resources, flora, fauna, humans and their interrelation. (ISO 14001)

3.3 Energy using modes

3.3.1 Operational mode

A state in which the device performs its normal duties.

3.3.2 Inactive modes (energy saving modes)

Inactive modes such as sleep, idle, deep sleep and stand-by are states in which the equipment is connected to an electrical supply and is ready to resume operational mode through the use of remote control or another external or internal signal.

3.3.3 OFF mode

The mode with the lowest power consumption when the device is connected to an electrical supply.

3.3.4 No load mode

The mode in which external power supplies or chargers are connected to an electrical supply, but are not connected to electrical or electronic equipment for which they have been designed.

3.4 Hazardous substances and preparations

Substances and preparations which are explosive, oxidising, extremely flammable, highly flammable, flammable, very toxic, toxic, harmful, corrosive, irritant, carcinogenic, mutagenic, toxic to reproduction, sensitising or dangerous to the ENVIRONMENT (as governed by existing national, regional and international legislation).

3.5 Noise emissions

Airborne sound radiated into the ENVIRONMENT from a defined source (machine or equipment) (ISO 11690).

3.6 Supplier

The party that supplies the product, process or service. It may be a manufacturer, distributor, importer, assembler, service organisation, etc.

3.7 Upgradeability

The capability of increasing the capacity of existing features in the product.

4 Acronyms

CFC	chlorofluorocarbons
CRT	cathode ray tube
EMC	electromagnetic compatibility
EPS	expanded polystyrene
HCFC	hydrogenated chlorofluorocarbons
ICNIRP	International Commission on Non-Ionising Radiation Protection
LCD	liquid crystal display
MPR	Statens Mät och Provningsråd. (Swedish measurement and test council)
PBB	polybrominated biphenyl
PBDE	polybrominated diphenyl ether
PCB	polychlorinated biphenyl
PCN	polychlorinated naphtalene
PCT	polychlorinated terphenyl
TBT	Tributyl Tin
TBTO	Tributyl Tin Oxide
TCO	Swedish Confederation of Professional Employees, Tjänstemännens Central Organisation (TCO)
VCR	video cassette recorder
VOC	volatile organic compounds

5 Information to customers and users

The following information should be included in a suppliers declaration, as far as this is relevant to the specific product categories. A set of examples is given in Annex A, but this does not limit the scope of this Technical Report.

5.1 Product information/description

The following, at the minimum, should be provided where applicable:

- type of product;
- brand name;
- model number;
- supplier;
- weight and dimensional characteristics (e.g. metric units).

Where applied, the appropriate environmental policies, management systems and/or environmental programmes should be declared.

5.2 Extension of product lifetime

The design considerations of the basic unit, which allow the product features and product capability/profile to be enhanced, should be listed.

The following should be declared:

- UPGRADEABILITY (as defined in clause 3.7);
- availability of spare parts for the product after end of production in years;
- availability of service for the product after end of production in years.

The service warranty/policy offered by the supplier should be listed.

If spare part and service availability is restricted, restrictions should be listed.

5.3 Power consumption

Power consumption in watts (rms) for ENERGY USING MODES (as defined in clause 3.3) appropriate to the product shall be documented in the declaration.

Some example modes are: off mode, no load, inactive modes and operational modes.

If a product allows multiple levels of energy saving modes, these should be listed in the product declaration.

Measurement should be performed using the procedure specified by the Energy Star® programme for the appropriate product. IEC 62087:2002 should be used for TV sets.

When suppliers do not follow the above-mentioned protocols, they shall identify the applied test protocols in the designated section of the product declaration.

5.4 Electromagnetic emissions

The declaration should include a statement of compliance with emission requirements, listing the applicable legislation and standards referring to human exposure to electromagnetic fields for example:

- ICNIRP levels as documented in European council recommendation on the limitation of exposure of the general public to electromagnetic fields 1999/519/EC;

- prEN 50392 ‘Generic standard to demonstrate compliance of electronic and electrical apparatus with the basic restrictions related to human exposure to electromagnetic fields (0 Hz – 300 GHz)’

NOTE
The standard that details the related measuring methods is in preparation.

Public perception and increased requests from customers related to electromagnetic field emissions which emanate from CRT type computer monitors led to the Swedish guideline MPR II - 1990:8 for Band I and II ranges in both electric and magnetic fields, as well as electrostatic fields.

A declaration should be made, as appropriate, to electromagnetic near-field emissions which emanate from CRT type computer monitors are referring to human exposure to electromagnetic fields. Limits are defined, for example, in MPR II or TCO.

5.5 Noise emissions

NOISE EMISSION *(as defined in clause 3.5) information for relevant products shall be provided as* ***declared A-weighted sound power levels,*** L_{WAd} *and A-weighted* ***emission sound pressure levels,*** L_{pAm} *for the operational and idle modes, and the modes should be specified.*

L_{WAd} *is a statistical maximum value to account for product variation and lab-to-lab variations and is typically about 0,3 - 0,4 bels greater than the average A-weighted sound power level,* L_{WA}*. ECMA-109 and ISO 9296 specify how to determine and verify* L_{WAd}*. For the sound pressure level, whether the location is operator or bystander position shall be declared. The position of the unit – whether table-top or floor standing, shall be declared.*

Sound power measurements should be made according to standards ISO 3741, ISO 3744 or ISO 3745. If a specific standard for the product is available, this standard should be used for measurements, e.g. for IT and telecommunication equipment, ECMA-74 (ISO 7779). The results shall be declared according to ECMA-109 (ISO 9296:1988).

5.6 Chemical emissions

Chemical emissions rates (VOC and ozone) and dust emissions rates shall be reported in mass per time unit for all products based on the electrostatic process (e.g. printer, copier, fax). Measurements shall be made according to standard ECMA-328 (2001).

5.7 Hazardous substances and preparations

A declaration of the absence / presence (for concentrations exceeding the natural background levels) shall be made for at least the following HAZARDOUS SUBSTANCES AND PREPARATIONS (as defined in clause 3.4):

a) substances and preparations covered by general limitations

- asbestos;
- azo Colorants - for textiles and leather in skin contact;
- mercury and mercury compounds – with the exception of discharge lamps that require mercury for proper operation;
- CFCs, HCFCs;
- PCBs; PCTs and PCNs.

b) substances and preparations covered by limitations in plastic mechanical parts and housings

- cadmium and cadmium compounds;
- short chain chlorinated paraffines;
- lead or lead compounds;
- PBB, PBDE.

c) substances and preparations covered by limitations in paints, coatings or colouring agents

- cadmium and cadmium compounds;
- TBT and TBTO;
- hexavalent chromium compounds;
- lead or lead compounds.

NOTE
Substances and preparations covered by limitations in batteries and packaging are defined in clauses 5.8 and 5.9.

Determination of the material composition should be conducted in accordance with accepted industry practices.

For the applicability of any restrictions for the above listed substances, the appropriate legislation must be consulted.

When substances and/or preparations in products in the scope of this report, become banned or restricted, they shall also be reported. For example the substances, lead, mercury, cadmium, chromium-VI, PBB and PBDE restricted by the 2002/95/EC directive as per 1 July 2006, must be declared latest at this time.

5.8 Batteries

The following items should be declared for all batteries or accumulators contained in the product:

- The type of battery or accumulator (e.g. nickel-cadmium) used;
- compliance to international, regional and national regulations, concerning:
  a) restrictions on HAZARDOUS SUBSTANCES AND PREPARATIONS (as defined in clause 3.4) such as defined in the 98/101/EC directive;
  b) labelling requirements such as defined in the 93/86/EEC directive;
  c) installation and removal;
  d) take back and recycling schemes.

5.9 Product packaging

The following should be declared:

- type and weight of packaging materials (e.g. wood, paper/cardboard, plastic, etc.);
- compliance to international, regional and national regulations, concerning:
  a) restrictions on hazardous substances and preparations such as defined in the EU Directive 94/62/EEC (requiring that the sum of the concentrations of lead, cadmium, mercury, chromium-VI does not exceed 100 ppm by weight);
  b) labelling requirements; and
  c) take back and recycling schemes.
- marking of packaging materials (e.g. according to ISO 11469:2000 or EU Council Decision 97/129/EC);
- supplier specific take-back programme for used packaging.

5.10 Documentation materials handling

5.10.1 Paper

The percentage range of recycled content should be declared. The paper bleaching method should be specified.

5.10.2 Other media

The disposal method for other media such as magnetic tapes, CD's, and DVD's should be declared.

5.11 End of life information

5.11.1 Product take back information

Compliance with applicable product take-back and recycling legislation shall be declared.

Information on take-back systems for products and consumables should be declared.

5.11.2 Disassembly

The declaration should list, as appropriate, any design feature that has been included in the product to facilitate disassembly, separation and/or recycling by professionals.

For example:

- Parts that have to be separately treated are declared to be separable, in compliance with international regional and national regulations;
- Disassembly down to the module level is possible using only commonly available tools;
- Reduction of the number of steps necessary for disassembly;
- Reduction of number of tools necessary for disassembly;
- Reduction of variety and number of connections;
- Marking of mechanical plastic parts according to ISO11469:2000 as applicable.

5.12 Additional information sources

Further sources of additional information such as an URL, telephone number and/or other contact information should be declared.

Annex A
(informative)

Declaration of product environmental attributes

This Annex contains a template for eco-declarations, intended to help in the application of this Technical Report. The scope of this TR is not limited to the examples in table A.1.

Alternative media (electronic files, electronic transfer, other) and identification technologies (bar-codes, identification units, other) may be used for automated transfer and exchange of the data in these declarations.

Table A.1 – Overview of attributes to be declared for example product categories

Declaration item and clause	PC	Monitor	TV	VCR/ DVD	Mobile phone	Note-book	Cam-corder	Hi-fi	Printer/ copier
Product Information/description - 5.1	√	√	√	√	√	√	√	√	√
Environmental programme	√	√	√	√	√	√	√	√	√
Extension of product lifetime - 5.2									
Service availability	√	√	√	√	√	√	√	√	√
Upgradeability	√	N/A	*√	N/A	√	√	N/A	√	√
Extendibility	√	N/A	*√	N/A	√	√	√	√	√
Power consumption - 5.3									
Data for applicable modes	√	√	√	√	√	√	√	√	√
Electromagnetic emissions - 5.4									
ICNIRP	√	√	√	√	√	√	√	√	√
MPR/TCO	N/A	√🖬	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Noise emissions - 5.5	√	**N/A	N/A	√	N/A	√	√	√	√
Chemical emissions - 5.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	√***
Hazardous Substances and preparations - 5.7	√	√	√	√	√	√	√	√	√
Batteries - 5.8 -	√	√	√	√	√	√	√	√	√
Product packaging – 5.9	√	√	√	√	√	√	√	√	√
Documentation materials handling – 5.10	√	√	√	√	√	√	√	√	√
Paper	√	√	√	√	√	√	√	√	√
Other media	√	√	√	√	√	√	√	√	√
End of life information - 5.11	√	√	√	√	√	√	√	√	√
Product take back information -	√	√	√	√	√	√	√	√	√
Disassembly	√	√	√	√	√	√	√	√	√
Additional information sources - 5.12	√	√	√	√	√	√	√	√	√

*: *√ applies to digital and Internet TV only, N/A applies to all other types of TV*
**: *√ if equipped with a fan*
***: *As specified in clause 5.6, this applies only to products using the electrostatic process*

Attributes which are not applicable or where nothing can be declared should be left out.

The declaration items indicated with:

- *√ should be included in a product declaration according to ECMA TR/70;*
- ***N/A** are not applicable;*
- 🖬 *Are applicable to CRT monitors only.*

<company logo> <Model Name & No.>

Product environmental attributes declaration form
according to ECMA-TR/70

The Supplier: <name>
<address>

declares (based on product specification or test results obtained from sample testing), that the product

Product and Name:	<type of product and commercial name> *e.g. DVD-Player DVP-N1*
Model Number:	<model number> *e.g. DVX-4321-X1-US*
Weight:	<weight> kg (non-packaged system)
Dimension:	<h> cm x <w> cm x <d> cm (h x w x d, non-packaged system)

conforms to the following environmental programme requirements:

- <program name 1> *e.g. EnergyStar*
- <program name 2> *e.g. TCO'03*
- *...*

has been developed, manufactured and/or delivered under the following environmental management programmes:

- <system name 1> *e.g. ISO 14001*
- <system name 2> *e.g. EMAS*
-

conforms to the environmental specifications, as listed below:

Extension of Lifetime

The product is upgradeable as follows:

- <attribute1> up to <unit1> *(e.g. memory up to 512 MB)*
- <attribute2> up to <unit2>
- …

The manufacturer offers:

- spare parts availability <x> years after end of production
- service availability <y> years after end of production
- warranty <z> years

Power Consumption

For the product the following power consumption has been measured:

- <energy using mode 1>: <a> W as measured according to <standard> *e.g. Play*
- <energy using mode 2>: <b> W as measured according to <standard> *e.g. stand-by passive*
- … <c> W as measured according to <standard>
- OFF mode: <d> W as measured according to <standard>

Electromagnetic Emissions

The product complies with ICNIRP levels as documented in European Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 1999/519/EC.

The product complies with the limits defined in:

- <standard/program 1> *e.g. MPR II-1990:8*
- <standard/program 2> *e.g. TCO'99*
- …

Noise Emissions

declared **sound power level**		**sound pressure level** at <distance> distance	
operational mode 1:	<a> bel	operational mode 1:	<a> dB(A) *e.g. HDD access*
operational mode 2:	<b> bel	operational mode 2:	<b> dB(A)
…	<c> bel	…	<c> dB(A)
idle mode:	<d> bel	idle mode:	>d> dB(A)

Operational mode is defined as <description>.

Chemical Emissions

The following chemical emissions have been measured according to ECMA-328:

chemical emissions rates		**dust emissions rates**	
operational mode 1:	<a> µg/h	operational mode 1:	<a> µg/h *e.g. printing*
operational mode 2:	<b> µg/h	operational mode 2:	<b> µg/h

Hazardous Substances & Preparations

The above described product does not* contain:

a) substances and preparations covered by **general limitations**
- asbestos;
- azo Colorants - for textiles and leather in skin contact;
- mercury and mercury compounds – with the exception of discharge lamps that require mercury for proper operation;
- CFCs, HCFCs;
- PCBs, PCTs and PCNs.

b) substances and preparations covered by limitations in **plastic mechanical parts and housings**
- cadmium and cadmium compounds;
- short chain chloroparaffins;
- lead or lead compounds;
- PBB, PBDE.

c) substances and preparations covered by limitations in **paints, coatings or colouring agents**
- cadmium and cadmium compounds;
- TBT and TBTO;
- hexavalent chromium compounds;
- lead or lead compounds.

**: Is not present in concentrations exceeding the natural background levels.*

Batteries

The product or accessories contains the following batteries:

	Type	**Weight**	**Size**
<battery 1> *e.g. Main battery*	<type> *e.g. Li-ION*	<weight> g	<h> cm x <w> cm x <d> cm (cubic or diameter)
<battery 2> *e.g. Back-up battery*	<type> *e.g. NiCd*	<weight> g	<h> cm x <w> cm x <d> cm (cubic or diameter)
…			

The batteries are in conformance with international, regional and national regulations, concerning:

a) restrictions on hazardous substances & preparations such as defined in the 98/101/EC directive;

b) labelling requirements such as defined in the 93/86/EEC directive;

c) installation and removal; and

d) take back and recycling.

Product Packaging

The following packaging is used:

	Type	**Weight**	
<packaging 1> *e.g. main carton*	<type> *e.g. carton*	<weight> g	
<packaging 2> *e.g. remote control bag*	<type> *e.g. PS*	<weight> g	
…			

The packaging is in compliance to international, regional and national regulations, concerning:

a) restrictions on hazardous substances and preparations such as defined in the EU Directive 94/62/EEC (requiring that individual sums of the concentrations of lead, cadmium, mercury, chromium-VI does not exceed 100 ppm by weight).

b) labelling requirements; and

c) take back and recycling.

The packaging materials are marked according to <standard> *e.g. ISO 11469:2000*

The supplier offers packaging take back and recycling services in many locations throughout the world. Public packaging recovery systems might also be used where possible. Customers are advised to contact their supplier representatives for additional information.

Documentation Materials

Paper: The documentation is made under use of recycled paper.
The recycled content: is <x>% to <y>%

The paper is bleached by the following method: <method>

Other media: The <media type e.g. CD's, tapes etc.> can be disposed in <system name or description>

Product End of Life

Take back: The supplier offers take back and recycling services for products and consumables in many locations throughout the world. Customers are advised to:

- contact their supplier representatives for additional information, or
- to check the products manual,

- or to visit the following web-page <URL>.
- …

The systems are in compliance with applicable product take-back and recycling.

Disassembly: The following design features have been included in the product to enable easy disassembly, separation and/or recycling by professionals:

- <feature 1> *e.g. parts that have to be separately treated are marked*
- <feature 2> *e.g. disassembly down to the module level is possible using only commonly available tools*
- <feature 3> *e.g. mechanical plastic parts are marked according to ISO11469:2000*
- …

Additional Information Sources

Further information sources are:

- <source 1> *e.g. URL*
- <source 2> *e.g. telephone number*
- <source 3> *e.g. contact postal or e-mail address*

Annex B

(informative)

Declaration of product environmental attributes

Please use the electronic form available at: http://www.ecma-international.org/publications/techreports/E-TR-070.htm

Product Category

☐ PC ☐ Monitor ☐ TV ☐ VCR ☐ Mobile Phone ☐ NoteBook ☐ Camcorder ☐ Hi-fi ☐ Printer/copier ☒ Others

☐ Monitor* ☐ TV** ☐ Printer/copier***

☐ Without fan

*CRT monitors **Digital and Internet TV ***Using the electrostatic process

e.g. DVD-Player

e.g. DVP-N1

e.g. DVX-4321-X1-US

Date of Issue : . .

Revision Date : . .

1 Product Information		
Brand		**Company Logo**
Type of Product		
Commercial Name		
Model Number	non-packaged system	
Weight	non-packaged system	
Dimension	<h> cm x <w> cm x <d> cm	
Supplier <Name>		
<Postal address>		
Postal code/City/Country		
e-mail		
<Contact person's name>		
e-mail	* incl. country code	
Telephone	* incl. country code	
Mobile phone	* incl. country code	
Fax		
Internet site (URL)		
Additional Information		

Environmental Programme Requirements conformed by the supplier	
Programme names	1
e.g. Energy Star	2
e.g. TCO 03	3

Environmental Management Systems under which the product has been developed, manufactured and / or delivered.	
System names	1
e.g. ISO 14001	2
e.g. EMAS	3

Product Environmental Attributes - Legal Requirements

		Requirement met Yes	No	n.a.
4	**Electromagnetic Emissions**			
	The product complies with the following emission requirements, listing the applicable legislation and standards referring to human exposure to electromagnetic fields for example:			
4.1	**ICNIRP levels** as documented in European council recommendation on the limitation of exposure of the general public to electromagnetic fields **1999/519/EC**;	☐	☐	☐
4.2	**prEN 50392** 'Generic standard to demonstrate compliance of electronic and electrical apparatus with the basic restrictions related to human exposure to electromagnetic fields (0 Hz - 300 GHz)'	☐	☐	☐
8	**Batteries**			
	The batteries are in conformance with international, regional and national regulations, concerning:			
8.1<a>	Restrictions on hazardous substances and preparations such as defined in the **98/101/EC** directive.	☐	☐	☐
8.2<b>	Labelling requirements such as defined in the **93/86/EEC**.	☐	☐	☐
8.3<c>	Installation and removal.	☐	☐	☐
8.4<d>	Take back and recycling.	☐	☐	☐
9	**Product Packaging**			
	The packaging is in compliance to international, regional and national regulations, concerning:			
9.2<a>	Restrictions on hazardous substances and preparations such as defined in the EU Directive **94/62/EEC** (requiring that the sum of the concentration of lead, cadmium, mercury, chromium-VI does not exceed 100 ppm by weight);	☐	☐	☐
9.3<b>	Labelling requirements.	☐	☐	☐
9.4<c>	Take back and recycling.	☐	☐	☐
11	**Product End of Life**			
11.1.1	Product take back systems complies with the applicable legislations.			
Legislation names	1	☐	☐	☐
	2	☐	☐	☐
	3	☐	☐	☐
11.2	**Disassembly**			
11.2.1	Parts that have to be separately treated are declared to be separable, in compliance with international, regional and national regulations;			
Regulation names	1	☐	☐	☐
	2	☐	☐	☐
	3	☐	☐	☐

This product meets above listed legal requirements. ☐ ☐

Product Environmental Attributes - Market Requirements

2 Extension of Product Lifetime

2.1 The product is upgradable as follows; *e.g. memory up to 512 MB*

	<attribute>	up to	<unit>
1		up to	
2		up to	
3		up to	
4		up to	
5		up to	

The design considerations of the basic unit, which allow the product features and product capability/profile to be enhanced, should be listed.

9		up to	
10		up to	

2.2 The manufacturer offers spare parts availability ____ years after end of production.

2.3 The manufacturer offers service availability ____ years after end of production.

2.4 The manufacturer offers warranty ____ years

The service warranty / policy is as follows

1
2
3

2.5 Restrictions for spare parts and service availability are as follows (if they are restricted);

1
2
3

Measurement should be performed using the procedure specified by the Energy Star® programme for the appropriate product. IEC 62087:2002 should be used for TV sets.

3 Power Consumption

3.1 Power consumption in watts (rms) for ENERGY USING MODES

For the product the following power consumption has been measured:

	<mode> *e.g. Play, stand-by passive*	<standard / applied test protocol>	<power>	
1				[watts]
2				[watts]
3				[watts]
4				[watts]
5				[watts]
6				[watts]
7				[watts]

Some example modes are; operational modes, inactive modes, off mode and no load mode.

4 Electromagnetic Emissions

4.3 The product comlies with the limits defined in:

<standard / programme> *e.g. MPR II-1990:8, TCO'99*

1
2
3

5 Noise Emissions

5.1 declared sound

Sound power le

LWAd is a statistical maximum value to account for product variation and lab-to-lab variations and is typically about 0,3 - 0,4 bels greater than the average A-weighted sound power level, LWA. ECMA-109 and ISO 9296 specify how to determine and verify LWAd. For the sound pressure level, whether the location is operator or bystander position shall be declared. The position of the unit – whether table-top or floor standing, shall be declared.

L_{pAm}

Position of the unit

Distance [m]

<operational mode> *e.g. HDD access*	<description>	<level> L_{WAd}		<level> L_{pAm}	
			[bel]		[dB(A)]
			[bel]		[dB(A)]
			[bel]		[dB(A)]
			[bel]		[dB(A)]
			[bel]		[dB(A)]
					[dB(A)]

Sound power measurements should be made according to standards ISO 3741, ISO 3744 or ISO 3745. If a specific standard for the product is available, this standard should be used for measurements, e.g. for IT and telecommunication equipment, ECMA-74 (ISO 7779). The results shall be declared according to ECMA-109 (ISO 9296:1988).

Chemical emissions rates (VOC and ozone) and dust emissions rates shall be reported in mass per time unit for all products based on the electrostatic process (e.g. printer, copier, fax). Measurements shall be made according to standard ECMA-328 (2001).

shall be reported in mass per time unit for all products based on the electrostatic process (e.g. printer, copier, fax). Measurements shall be made according to standard ECMA-328 (2001).

6.1 The following chemica

Chemical emission ra

<operational mode>

	e.g. printing	VOC		ozone		dust	
1			[micro-gr./hr]		[micro-gr./hr]		[micro-gr./hr]
2			[micro-gr./hr]		[micro-gr./hr]		[micro-gr./hr]
3			[micro-gr./hr]		[micro-gr./hr]		[micro-gr./hr]
4			[micro-gr./hr]		[micro-gr./hr]		[micro-gr./hr]
5			[micro-gr./hr]		[micro-gr./hr]		[micro-gr./hr]

7

For the applicability of any restrictions for the above listed substances, the appropriate legislation must be consulted. When substances and/or preparations in products in the scope of this report, become banned or restricted, they shall also be reported. For example the substances, lead, mercury, cadmium, chromium-VI, PBB and PBDE restricted by the 2002/95/EC directive as per 1 July 2006, must be declared latest at this time.

	not con-tain	con-tain	under survey	n.a.
7.1<a> **lin**- with the exception of discharge lamps that require mercury for proper operation	☐	☐	☐	
	☐	☐	☐	
	☐	☐	☐	
	☐	☐	☐	
PCBs, PCTs and PCN.	☐	☐	☐	

7.2<b> Substances and preparations covered by limitations in **plastic mechanical parts and housings**

cadmium and cadmium compounds;	☐	☐	☐	☐
short chain cholroparaffins;	☐	☐	☐	☐
lead or lead compounds;	☐	☐	☐	☐
PBB, PBDE.	☐	☐	☐	☐

7.3<c> Substances and preparations covered by limitations in **paints, coatings or colouring agents**

cadmium and cadmium compounds;	☐	☐	☐	☐
TBT and TBTO;	☐	☐	☐	☐
hexavalent chromium compound;	☐	☐	☐	☐
lead or lead compounds;	☐	☐	☐	☐

NOTE Substances and preparations covered by limitations in batteries and packaging are defined in clauses 5.8 and 5.9.

8 Batteries

The product { ☐ contains/ ☐ does not contain} batteries.

8.5 The product or accessory contains the following batteries:

	<battery or accumulator> *e.g. Main / Back-up battery*	<type> *e.g. Li-ion / NiCd*	<num.>	<total weight>		<size> <h> cm x <w> cm x <d> cm				
1					[g]		x		x	
2					[g]		x		x	
3					[g]		x		x	
4					[g]		x		x	
5					[g]		x		x	

9 Product Packaging

9.1 The following packaging is used:

	<packaging> *e.g. Main carton / remote control bag*	<type> *e.g. carton / PS*	<num.>	<total weight>	
1					[g]
2					[g]
3					[g]
4					[g]
5					[g]
6					[g]
7					[g]
8					[g]

	Requirement met Yes	No	n.a.
9.5 The packaging materials are marked according to a standard. Name of Standard *e.g. ISO 11469:2000*	☐	☐	☐
9.6 Specific packaging take back programme and recycling services are available. <describe>	☐	☐	☐

10 Documentation Materials

10.1 Paper

		Requirement met Yes	No	n.a.
10.1.1	The documentation is made under use of recycled paper.	☐	☐	☐
10.1.2	The recycled content: is		% to	%
10.1.3	The paper is bleached by the following method:			

10.2 Other Media

10.2.1	The media type is: *e.g. magnetic tapes, C*	
10.2.2	The disposal method is:	
	e.g. system name or description	

The supplier offers take back and recycling services for products and consumables in many locations throughout the world.

11 Product End of Life

11.1 Product Take Back Information

Regarding take-back systems for products and consumables,

		Requirement met Yes	No	n.a.
11.1.2	Customers are advised			
	to contact their supplier representatives for additional information;	☐	☐	☐
	to check the products manual;	☐	☐	☐
	to visit the following web page URL ;			
	other			

11.2 Disassembly

11.2.1	The following design features have been included in the product to enable easy disassembly, separation and / or recycling.			
	Disassembly down to the module level is possible using only commonly available tools;	☐	☐	☐
	Reduction of the number of steps necessary for disassembly;	☐	☐	☐
	Reduction of number of tools necessary for disassembly;	☐	☐	☐
	Reduction of variety and number of connections;	☐	☐	☐
	Marking of mechanical plastic parts according to **ISO11469:2000** as applicable.	☐	☐	☐

12 Additional Information Source

12.1 Further information sources are:

e.g. Manufacturer's URL, representative name and telephone number etc., except for sources indicated in 1st. page.

1
2
3