ENVIRONMENTAL PRODUCT DECLARATION

FlexScan® EV3451X

LCD MONITOR



The EIZO Group is aware that one of our key responsibilities is to conduct business taking the environment into consideration. We strive to contribute to the sustainable development of our society by being conscious of the impact our business has on the environment.

In product development, we endeavor to meet the legal requirement and standards as well as to enhance the environmentally sound quality of our products including compliance with the legal requirement and standards, industry trends and social conditions.

In addition, we conduct product environmental assessments in accordance with our own Environmental Compliance Standards to measure the environmental soundness of products.

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This declaration is an environmental product declaration (EPD) in accordance with ISO 14025. EPDs rely on Life Cycle Assessment (LCA) to provide information on a number of environmental impacts of products over their life cycle. Exclusions: EPDs do not indicate that any environmental or social performance benchmarks are met, and there may be impacts that they do not encompass. LCAs do not typically address the site-specific environmental impacts of raw material extraction, nor are they meant to assess human health toxicity. EPDs can complement but cannot replace tools and certifications that are designed to address these impacts and/or set performance thresholds – e.g. Type 1 certifications, health assessments and declarations, environmental impact assessments, etc. Accuracy of Results: EPDs regularly rely on estimations of impacts, and the level of accuracy in estimation of effect differs for any particular product line and reported impact. Comparability: EPDs are not comparative assertions and are either not comparable or have limited comparability when they cover different life cycle stages, are based on different product category rules or are missing relevant environmental impacts. EPDs from different programs may not be comparable.

PROGRAM OPERATOR	UL Solutions www.spot.ul.com
DECLARATION HOLDER	EIZO
DECLARATION NUMBER	4792306223.101.1
DECLARED PRODUCT	FlexScan EV3451X
REFERENCE PCR	EPD PCR 019 Monitor 2024 KEITI
DATE OF ISSUE	September 18th, 2026
PERIOD OF VALIDITY	5 Years
CONTENTS OF THE DECLARATION	Product definition and information about building physics Information about basic material and the material's origin Description of the product's manufacture Indication of product processing Information about the in-use conditions Life cycle assessment results Testing results and verifications

The PCR review was conducted by:	KEITI PCR Review Panel Keiti.re.kr
This declaration was independently verified in accordance with ISO 14025 by Underwriters Laboratories ☐ INTERNAL ☒ EXTERNAL	Cooper McCollum, UL Solutions
This life cycle assessment was independently verified in accordance with ISO 14044 and the reference PCR by:	Kun Chen, UL Solutions

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Product information

Product description

This 34.1-inch ultrawide, curved monitor features a UWQHD resolution (3440 x 1440 pixels) with a 21:9 aspect ratio, delivering 2.4 times the resolution of Full HD (1920 x 1080 pixels). It provides an expanded workspace for flexible arrangement of multiple applications without the obtrusive bezels characteristic of multi-monitor setups.



Application

This product is suitable for document creation, viewing multimedia content, and other general-purpose applications.

Product Environmental Information

EV3451X was certified EPA ENERGY STAR Ver.8.0, EPEAT Gold with Climate+, TUV/Ergonomie, TUV/GS, RCM, CE, UKCA, CB, cTUVus, FCC-B, CAN ICES-3 (B), TUV/S, PSE, VCCI-B, RoHS, WEEE.

Company Environmental Activities

Although global environmental standards such as TCO Certified and EPEAT are not legal regulations, we have actively participated and adapted from the beginning of the standard to improve the environmental performance of our products.

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Technical Data

The below table shows the decpription of product technical specification.

Table 1: Technical specification

Panel	Type	IPS
	Backlight	LED
	Size	34.1" / 86.7 cm
	Native Resolution	3440 x 1440
	Viewable Image Size (H x V)	799.8 mm x 334.8 mm
	Pixel Pitch	0.233 mm x 0.233 mm
	Display Colors	16.77 million
	Viewing Angles (H / V, typical)	178° / 178°
	Brightness (typical)	350 cd/m2
	Response Time (typical)	14 ms (gray-to-gray)
Video Signals	Input Terminals	DisplayPort (HDCP 1.3/2.3), HDMI (HDCP 1.4/2.3)
	Digital Scanning Frequency (H / V)	DisplayPort: 31 - 152 kHz / 29 - 101 Hz
		HDMI: 31 - 152 kHz / 29 – 101 Hz
USB	Upstream	USB Type-B x 1, Type-C x 1
	Downstream	USB Type-A x 3, Type-C x 1
Audio	Speakers	2.0 W + 2.0 W
Power	Power Requirements	AC 100 - 240 V, 50 / 60 Hz
	Typical Power Consumption	14 W
	Maximum Power Consumption	204 W
	Standby Mode / Off Mode	0.3 W typ. / 0.2 W typ.
Physical Specifications	Dimensions (Landscape, W x H x D)	816.0 mm x 382.7 – 577.7 mm x 242.6 - 250.2 mm
	Net Weight	11.9 kg
	Packaging Weight	17.3 kg
Environmental Requirements	Operating Temperature	5 - 35 °C
	Operating Humidity (R.H., non-condensing)	20 - 80 %

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Assembly of LCD Monitor

The below tables show the weight composition by compnent or material in a product and package. Less than 5% of cumulative mass of the product/packagge are excluded.

This information is for Stage Prior to Manufacturing - Collecting Raw Materials.

Table 2: Components/Materials in a Product

Component/Material	Weight (%)	Notes
UNIT-LCD	36.7%	Inclusion
ASSY-STAND	21.3%	Inclusion
ASSY PCB POWER	11.3%	Inclusion
MLD-REAR-COVER	8.1%	Inclusion
ASSY-PCB-MAIN	7.0%	Inclusion
MLD-MID-COVER	2.8%	Inclusion
MTL-PANEL-BRACKET	2.5%	Inclusion
CORD-AC	1.8%	Inclusion
MLD-CONNECTOR-COVER	1.2%	Inclusion
HDMI CABLE	0.9%	Inclusion
DP CABLE	0.9%	Inclusion
MTL-VESA-PLATE	0.8%	Inclusion
USB CABLE	0.8%	Exclusion
MTL-MT-COVER	0.7%	Exclusion
CABLE	0.6%	Exclusion
AH	0.4%	Exclusion
Others	2.2%	Exclusion

Table 3: Components/Materials in a Package

Component/Material	Weight (%)	Notes
ASSY-PACK-34W-3-CB	78.4%	Inclusion
CUSHION-34W-A-R-PM	20.3%	Inclusion
SHEET-SET-M	0.8%	Exclusion
PACKING-BAG-ACS-3	0.3%	Exclusion
Others	0.2%	Exclusion

Manufacturing Location

Table 4: Manufacturing Location

Factory	Address
EIZO Corporation	153 Shimokashiwano, Hakusan, Ishikawa 924-8566 Japan
EIZO MS Corporation (Unit board)	37-9-Re Jike, Hakui, Ishikawa 925-8566 Japan

The manufacturing process including assembling, inspection, and packaging at these factories are covered at Stage of Manufacturing – Manufacturing. And the input of energies and output of emissions/wastes through the manufacturing processes are also covered at Stage of Manufacturing – Manufacturing.

Transportation

This section describes the transportation of finished products from the manufacturing site to domestic destinations.

Table 5: Trasportation information from a factory to a customer site

Path	Geographical information		Volume (ton)	Distance (km)
	Departure	Arrival		
10t truck	Hakusan, Ishikawa	Tokyo	96.24	600
4t truck	Hakusan, Ishikawa	Tokyo	81.82	600
10t truck	Hakusan, Ishikawa	Osaka	11.46	450
4t truck	Hakusan, Ishikawa	Osaka	41.73	450
10t truck	Hakusan, Ishikawa	Nagoya	11.58	400
4t truck	Hakusan, Ishikawa	Nagoya	7.06	400
10t truck	Hakusan, Ishikawa	Fukuoka	20.77	900
4t truck	Hakusan, Ishikawa	Fukuoka	340	900

Use Phase

In Use phase, the total power consumption during the lifetime was calculated according to EPD PCR 019:2024(00):202402, Monitor as below.

Table 6: Usage Condition

Usage time (hours/day)			Lifetime (year)	Usage day (days/year)
On mode	Sleep mode	Off mode		
9.6 (40%)	10.8 (45%)	3.6 (15%)	4	365

Power consumption (W)			Total Power Consumption (kWh)
On mode	Sleep mode	Off mode	
14 W	0.3 W	0.2 W	202.0 kWh

Disposal Stage

The below table show the waste treatment by material according to the data from Japan Plastic Waste Management Instituten, Association for Electric Home Appliances, Paper Recycling Promotion Center.

Table 7: Disposal treatment

Material	Weight (%)	Recycle	Incineration	Landfill
Plastic	17.6%	86%	8%	6%
Iron	38.0%	86%	–	14%
Paper	25.7%	95%	5%	–
Glass	4.7%	–	–	100%
Aluminum	6.3%	86%	–	14%

Copper	1.5%	86%	–	14%
Other material	5.7%	–	–	100%
Other metal	0.5%	–	–	100%

LCA Rules

Functional Unit

The functional unit is defined as one unit of 34.1-inch LCD monitor and using it daily for 4 years.

System Boundary

The system boundary includes all life cycle stages includes Collecting Raw Materials, Manufacturing, Distribution, Use and Disposal. This is a cradle-to-grave study and this LCA study is not comparative assertion.

Transportation of materials and components from suppliers to manufacturing sites is also included within the system boundary and has been modeled in the LCA. This includes both international and domestic transportation processes based on representative supply routes.

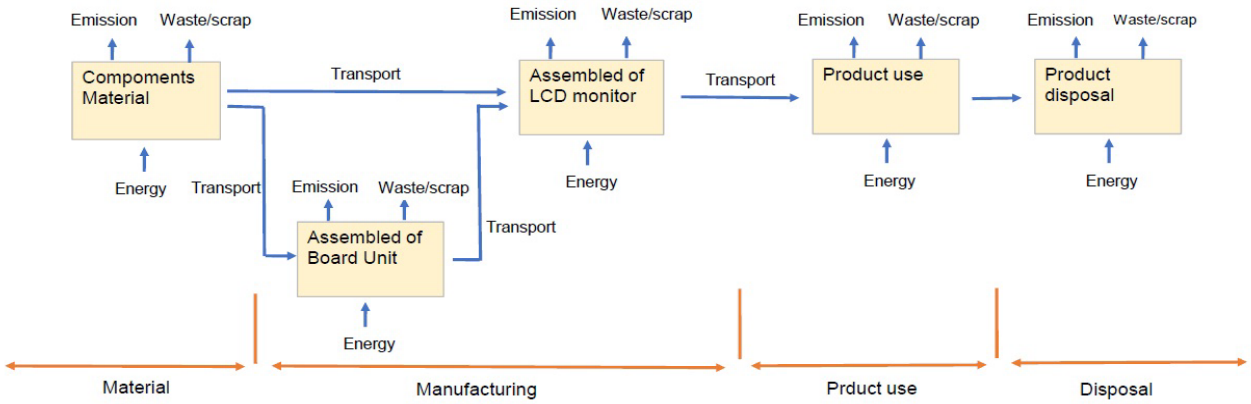
Table 8: System Boundary

Stage Prior to Manufacturing	Collecting Raw Materials	A1	X
Stage of Manufacturing	Manufacturing	A2	X
	Distribution	A3	X
Stage of Use	Use	B	X
Disposal Stage	Disposal	C	X

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Cut-off Rules

Material Inventory survey was conducted on 95 wt. % of material in each Product / Package.Disposal stage survey was conducted on 95 wt. % of material in each Product / Package.

LCA Data

For Life Cycle Assessment, SimaPro Craft release 10.3 software system has been used. Ecoinvent 3 datasets have been taken from SimaPro Craft release 10.3 software database.

EIZO collected the below data as the foreground data.

- Material inventory for Stage Prior to Manufacturing - Collecting Raw Materials
- Energy input for Stage of Manufacturing – Manufacturing
- Transportation volume and distance for Stage of Manufacturing – Distribution
- Power consumption for Stage of Use – Use
- Disposed materials for Stage of Scrapping – Disposal

The background data has been utilized at all stages according to the collected foreground data.

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Data Quality

All foreground data were collected at Hakusan and Hakui Plant Between April 2025 and March 2026 (One year average data).

Background data were used from ECOINVENT 3.11 database (The data version is 2024).

Allocation

The electric power used in the factory for manufacturing an EV3451X was calculated by allocating EV3451X weight from the total weight of the monitor produced in one year (monitor mass x number of production) of this factory.

The electric power used in the PCB board factory for manufacturing an EV3451X PCB board was allocated from the production ratio of small, medium, and large monitors for one year and its representative mass of the PCB board.

Product-specific manufacturing time data that could be consistently and verifiably applied across all products and printed circuit boards (PCBs) were not available for the manufacturing sites included in this study. Therefore, it was not practicable to directly apply the allocation method based on manufacturing time specified in PCR.

As an alternative, product weight and PCB weight were used as surrogate allocation parameters because they are objective and consistently available for all assessed products and PCBs.

To evaluate the influence of the allocation approach, a sensitivity analysis was conducted using unit-based allocation as an alternative scenario. Details of the sensitivity analysis are provided in Interpretation - Sensitivity.

Assumption and Limitation

Assumption

The on-mode power consumption when using this monitor was used the power consumption value of EIZO’s Typical Power Consumption specifications.

For transportation, EIZO picked up four major cities, Tokyo, Osaka, Nagoya and Fukuoka.

Glass and other materials/metals were assumed to be 100% landfilled.

Limitation

The study results are limited to a specific use scenario and real-world use of the monitor which may significantly change the result. Materials are represented by industry average data, not primary supplier data. To the extent that material/components suppliers may not be average, the results might significantly change.

Life Cycle Impact Assessment Results

The LCA was calculated using CML and developed by the Institute of Environmental Sciences Leiden University, the Netherlands. https://www.universiteitleiden.nl/en/science/environmental-sciences/tools-and-data#CML_IA

LCIA results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins or risks.

Table 9: Life Cycle Impact Assessment Results

Environment Impact			
Impact Category	Units	A1-C	Model
Global warming (GWP)	kg-CO_2eq	5.52E+02	IPCC
Ozone depletion (ODP)	kg-CFC-11eq	2.63E-05	WMO
Eutrophication (EP)	kgPO_4^3-eq	2.43E+00	Heijungs et al.
Acidification potential (AP)	kg-SO_2eq	4.56E+00	Hauschild and Wenzel
Photo Chemical Ozone Creation (POCP)	kg-C_2H_4eq	6.22E-02	Jenkin and Hayman
Abiotic Depletion Potential (ADP)	Kg-Sbeq	2.55E-01	Guinee et al.

Impact Category	Units	Raw Material A-1	Manufacturing A-2	Transportation A-3	Use B	Disposal C
GWP	kg-CO_2eq	4.16E+02	1.29E+01	4.27E+00	1.17E+02	1.62E+00
ODP	kg-CFC-11eq	2.27E-05	3.07E-07	1.96E-07	3.14E-06	2.73E-08
EP	kgPO_4^{3-}eq	2.08E+00	3.31E-02	6.74E-03	3.10E-01	1.27E-03
AP	kg-SO_2eq	4.00E+00	4.96E-02	9.10E-03	5.01E-01	1.47E-03
POCP	kg-C_2H_4eq	5.98E-02	2.04E-04	1.53E-04	2.04E-03	2.25E-05
ADP	Kg-Sbeq	2.48E-01	2.07E-04	2.57E-04	6.16E-03	3.62E-05

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Interpretation

Completeness

A cut-off criterion of 5 wt.% was applied to the material inventory. The included materials cover approximately 95 wt.% of the total product mass and consist of the major components of the monitor, including the LCD panel, plastic housing, metal parts, and printed circuit board assemblies, which are expected to represent the majority of the product's environmental impacts.

The excluded materials mainly consist of small parts, labels, screws, cables, and other low-mass components. These excluded items are generally composed of materials similar to those already included in the inventory and are not considered to contain components that would disproportionately contribute to the overall environmental impacts of the product.

Therefore, the completeness of the study is considered sufficient for the intended application.

Sensitivity

The LCD panel was identified as the major hotspot, accounting for 71.5% of the raw material impact and 54.0% of the total life cycle GWP. A sensitivity analysis was performed by increasing the LCD panel impact by 10% to evaluate the influence of potential uncertainty in the hotspot inventory data. The results showed that the total life cycle GWP increased by 5.4%, corresponding to an increase of 29.8 kg CO_2 emissions. This result indicates that reasonable variations in the LCD panel impact do not significantly affect the overall conclusions of the study.

A sensitivity analysis was performed to evaluate the influence of the allocation method. For final assembly electricity consumption, the allocation ratio of EV3451X was 1.78% under weight-based allocation and 1.05% under unit-based allocation. For PCB manufacturing electricity consumption, the allocation ratio was 3.26% under weight-based allocation and 1.15% under unit-based allocation. The resulting difference in total life cycle GWP was approximately 1.9%, indicating that the influence of the allocation method on the overall study result is limited.

Consistency

The consistency of the study was evaluated by confirming that common system boundaries, cut-off criteria, allocation procedures, data sources, and impact assessment methodologies were applied consistently throughout the study.

The same 5 wt.% cut-off criterion was applied to all material inventories. Manufacturing electricity and waste were allocated using a consistent weight-based allocation method. The same ecoinvent database version and LCIA methodology were used throughout the study.

Therefore, the study is considered to be consistent in terms of methodology, assumptions, data sources, system boundaries, cut-off criteria, and allocation procedures.

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Representativeness

The materials and processes of this product are very common. So, most of selected data represents this model well. However, there are several kinds of cables/connectors in this product and we used only the following three datasets. These cables/connectors consist of 4.4% total product weight. This might have some small variances.

- Cable, three-conductor cable
- Electric connector, wire clamp
- Electric connector, peripheral type buss

There is a stand-free version as another form of EV3451X. In the case of the version without stand, the impact index for the no stand is reduced.

From the GWP impact, CO2 emissions from the stand are 2.0% of the raw material, which is 8.4kg. The total impact without a stand is a decrease of only 1.5%, and it can be considered that the standard product with stand can be regarded as representative data.

References

ISO 14025: Environmental labels and declarations - Type III environmental declarations -Principles and procedures

ISO 14040: 2006 - Environmental management – Life cycle assessment – Principles and framework

ISO 14044:2006 - Environmental management – Life cycle assessment – Requirements and guidelines

EPD PCR 019:2024(00):202402, Monitor

SimaPro Craft 10.3 / Ecoinvent 3.11:

CML-IA non-baseline V3.09 / the Netherlands, 1997