

# Product Environmental Aspects Declaration



Interphone (PSC No.AX-03)

**VL-SW250K**

No. AX-08-021

**Panasonic**

<http://panasonic.jp/door/>

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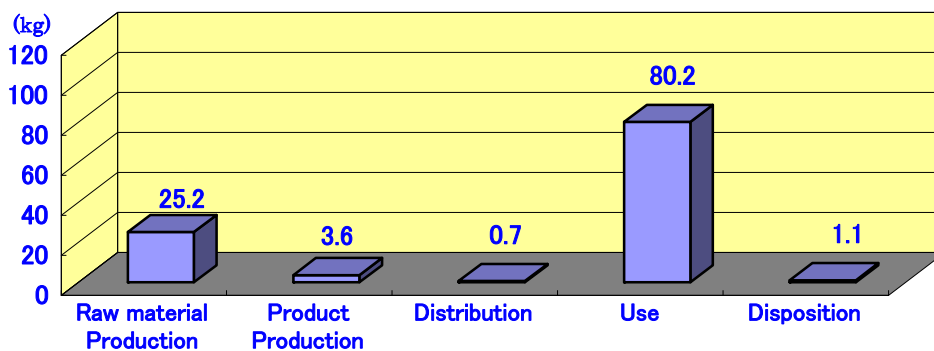
## Product Specification

- Personal use
- Hand free mutual telephone call
- With a camera function
- Main monitor station mass<sub>[catalogue]</sub> 0.735 kg
- Door station mass<sub>[catalogue]</sub> 0.20 kg
- Wireless monitor station mass<sub>[catalogue]</sub> 0.175 kg (Contain the Battery Pack)
- the intercom 1set, and the color monitor 1set and the wireless monitor 1set

## Life Cycle Impacts

|  | Total,all stage |
|--|-----------------|
| Global warming(CO <sub>2</sub> equivalent) | 110.8 kg        |
| Acidification(SO <sub>2</sub> equivalent)  | 0.145 kg        |
| Energy Consumption                         | 2,324 MJ        |

Global warming Impact (CO<sub>2</sub> equivalent)



The manuals, accessories, packing material, and the set box are contained in the range of this declaration. The environmental burden of use stage is calculated using assumption of seven years-usage and 30minutes/day-operation.

Notes:

1. Original LCA data is available on "PEIDS", Product Environmental Information Declaration Sheet, and "PDS",Product Data Sheet.
2. Unified rules and requirements for EcoLeaf LCA, for intended product category, are available as a PSC: Product Specification Criteria. Visit EcoLeaf website under JEMAI homepage at [http://www.jemai.or.jp/ecoleaf\\_e/](http://www.jemai.or.jp/ecoleaf_e/) for details.
3. Although this product is manufactured in Vietnam, Japanese data have been used as EcoLeaf generic data, instead of Vietnam data that have not been developed.

### [Supplemental environmental information]

Main assembly production of this is manufactured at the factory certified by ISO 14001.  
Specific brominated flame retardants,PBB and PBDE are not obtained in plastic console material.  
Pb-free solder is used for the main circuit board.  
A chrome free steel plate which avoided hexavalent chromium is used for thos product.

# Product Environmental Information Data Sheet (PEIDS)



|                          |                                    |
|--------------------------|------------------------------------|
| Document control no.     | F-02As-02                          |
| Product vendor           | Panasonic System Networks Co.,Ltd. |
| EcoLeaf registration no. | AX-08-021                          |

|                                    |      |
|------------------------------------|------|
| Unit Function DB version           | v2.1 |
| Characterization Factor DB version | v2.1 |

|          |            |                     |              |              |      |                   |      |
|----------|------------|---------------------|--------------|--------------|------|-------------------|------|
| PSC name | Interphone |                     | Product type | VL-SW250K    |      |                   |      |
| PSC code | AX-03      | Product weight (kg) | 1.36         | Package (kg) | 1.05 | Weight total (kg) | 2.41 |

| In/Out items                 | Life Cycle Stage                                | Unit                                    | Production                |          | Distribution | Use      | Disposition | Total    |          |          |
|------------------------------|---|---|---------------------------|----------|--------------|----------|-------------|----------|----------|----------|
|                              |   |   | Raw material              | Product  |              |          |             |          |          |          |
| Energy Consumption           |   |   | MJ                        | 4.38E+02 | 7.72E+01     | 8.82E+00 | 1.80E+03    | 2.02E+00 | 2.32E+03 |          |
|                              |   |   | Mcal                      | 1.05E+02 | 1.84E+01     | 2.11E+00 | 4.29E+02    | 4.83E-01 | 5.55E+02 |          |
| Inventory analyses           | Impact by Resource Consumption                  | Energy resources                        | Coal                      | kg       | 2.16E+00     | 4.64E-01 | 2.06E-05    | 1.04E+01 | 8.88E-03 | 1.30E+01 |
|                              |   |   | Crude oil (for fuel)      | kg       | 5.14E+00     | 5.33E-01 | 1.93E-01    | 1.16E+01 | 2.76E-02 | 1.75E+01 |
|                              |   |   | LNG                       | kg       | 1.01E+00     | 2.32E-01 | 2.98E-03    | 5.09E+00 | 4.74E-03 | 6.34E+00 |
|                              |   |   | Uranium content of an ore | kg       | 1.22E-04     | 3.14E-05 | 1.40E-09    | 6.88E-04 | 6.00E-07 | 8.42E-04 |
|                              |   |   | Crude oil (for material)  | kg       | 7.97E-01     | 0        | 0           | 2.10E-02 | 0        | 8.18E-01 |
|                              |   |   | Iron content of an ore    | kg       | 2.29E-01     | 0        | 0           | 7.02E-02 | 0        | 2.99E-01 |
|                              |   |   | Cu content of an ore      | kg       | 8.29E-02     | 0        | 0           | 0        | 0        | 8.29E-02 |
|                              |   |   | Al content of an ore      | kg       | 1.57E-02     | 0        | 0           | 0        | 0        | 1.57E-02 |
|                              |   |   | Ni content of an ore      | kg       | 6.62E-03     | 0        | 0           | 1.44E-06 | 0        | 6.63E-03 |
|                              |   |   | C content of an ore       | kg       | 9.05E-03     | 0        | 0           | 2.61E-05 | 0        | 9.08E-03 |
|                              |   | Mn content of an ore                    | kg                        | 1.66E-02 | 0            | 0        | 7.20E-02    | 0        | 8.86E-02 |          |
|                              |   | Pb content of an ore                    | kg                        | 7.80E-03 | 0            | 0        | 5.36E-03    | 0        | 1.32E-02 |          |
|                              |   | Sn content of an ore                    | kg                        | -        | -            | -        | -           | -        | -        |          |
|                              |   | Zn content of an ore                    | kg                        | 7.68E-02 | 0            | 0        | 5.28E-02    | 0        | 1.30E-01 |          |
|                              |   | Au content of an ore                    | kg                        | -        | -            | -        | -           | -        | -        |          |
|                              |   | Ag content of an ore                    | kg                        | -        | -            | -        | -           | -        | -        |          |
|                              |   | Silica Sand                             | kg                        | 1.70E-01 | 0            | 0        | 1.28E-03    | 0        | 1.71E-01 |          |
|                              |   | Halite                                  | kg                        | 2.90E-01 | 0            | 0        | 1.70E-04    | 1.43E-03 | 2.91E-01 |          |
|                              |   | Limestone                               | kg                        | 2.00E-01 | 0            | 0        | 1.66E-02    | 9.27E-03 | 2.26E-01 |          |
|                              |   | Natural soda ash                        | kg                        | 1.51E-02 | 0            | 0        | 0           | 0        | 1.51E-02 |          |
| Wood                         | kg  | 1.59E+00                                | 0                         | 0        | 1.18E-01     | 0        | 1.71E+00    |          |          |          |
| Water                        | kg  | 3.11E+03                                | 3.52E+02                  | 1.56E-02 | 7.74E+03     | 7.32E+00 | 1.12E+04    |          |          |          |
| Inventory analyses           | Impact by Emission/Discharge to the environment | to Atmosphere                           | CO2                       | kg       | 2.46E+01     | 3.64E+00 | 6.26E-01    | 7.99E+01 | 1.06E+00 | 1.10E+02 |
|                              |   |   | Sox                       | kg       | 1.69E-02     | 2.77E-03 | 3.81E-04    | 6.28E-02 | 5.87E-04 | 8.34E-02 |
|                              |   |   | Nox                       | kg       | 3.06E-02     | 2.26E-03 | 2.98E-03    | 4.98E-02 | 1.74E-03 | 8.74E-02 |
|                              |   |   | N2O                       | kg       | 2.08E-03     | 4.45E-05 | 1.05E-04    | 9.64E-04 | 3.20E-06 | 3.20E-03 |
|                              |   |   | CH4                       | kg       | 3.26E-04     | 8.40E-05 | 3.73E-09    | 1.84E-03 | 1.61E-06 | 2.25E-03 |
|                              |   |   | CO                        | kg       | 3.20E-03     | 5.43E-04 | 7.93E-04    | 1.22E-02 | 4.50E-04 | 1.72E-02 |
|                              |   |   | NM VOC                    | kg       | 6.37E-04     | 1.65E-04 | 7.31E-09    | 3.60E-03 | 3.15E-06 | 4.41E-03 |
|                              |   |   | CxHy                      | kg       | 9.29E-04     | 1.15E-05 | 9.05E-05    | 2.14E-04 | 1.67E-05 | 1.26E-03 |
|                              |   |   | Dust                      | kg       | 2.87E-03     | 1.26E-04 | 2.81E-04    | 2.83E-03 | 1.13E-04 | 6.21E-03 |
|                              |   |   | BOD                       | kg       | -            | -        | -           | -        | -        | -        |
|                              |   | COD                                     | kg                        | -        | -            | -        | -           | -        | -        |          |
|                              |   | N total                                 | kg                        | -        | -            | -        | -           | -        | -        |          |
|                              |   | P total                                 | kg                        | -        | -            | -        | -           | -        | -        |          |
|                              |   | SS                                      | kg                        | -        | -            | -        | -           | -        | -        |          |
|                              |   | Unspecified Solid Waste                 | kg                        | 2.12E-01 | 2.01E-08     | 0        | 2.14E-01    | 1.79E+00 | 2.22E+00 |          |
| Slag                         | kg  | 3.23E-01                                | 0                         | 0        | 1.77E-01     | 0        | 5.00E-01    |          |          |          |
| Sludge                       | kg  | 3.37E-02                                | 0                         | 0        | 0            | 0        | 3.37E-02    |          |          |          |
| Low level radio-active waste | kg  | 8.55E-05                                | 2.19E-05                  | 9.76E-10 | 4.80E-04     | 4.19E-07 | 5.88E-04    |          |          |          |
| Impact assessment            | by Res  | Energy resources (crude oil equivalent) | kg                        | 8.74E+00 | 1.37E+00     | 1.96E-01 | 3.00E+01    | 4.39E-02 | 4.04E+01 |          |
|                              |   | Mineral resources (Iron ore equivalent) | kg                        | 3.33E+01 | 0            | 0        | 1.32E+01    | 0        | 4.64E+01 |          |
|                              |   | Global Warming (CO2 equivalent)         | kg                        | 2.52E+01 | 3.65E+00     | 6.55E-01 | 8.02E+01    | 1.06E+00 | 1.11E+02 |          |
|                              |   | Acidification (SO2 equivalent)          | kg                        | 3.83E-02 | 4.35E-03     | 2.46E-03 | 9.77E-02    | 1.81E-03 | 1.45E-01 |          |
|                              |   | Photochemical Oxidant                   | kg                        | 1.81E-03 | 1.26E-04     | 1.51E-04 | 2.77E-03    | 5.46E-05 | 4.91E-03 |          |

[Notes for readers: EcoLeaf common rules]

I. Stage related

- A. "Production" stage is intended for two sub-stages listed below.
  - (1) "Raw material" production: consists of mining, transportation and raw material production.
  - (2) "Product" production: consists of the parts processing, assembly and installation.
- B. "Distribution" stage is intended for transportation of consumables and maintenance goods (e.g. replacement parts) for use of the product are included into "Use" stage.
- C. "Use" stage is intended for use of the product (active mode, standby mode, etc.) and production, transportation to disposal of consumables/maintenance goods (e.g. replacement parts).
- D. "Disposition" stage is intended for environmental impacts by product disposition.

II. Inventory analyses

- A. Data of mineral ore on "Exhaustible resources" are presented in weight of pure ingredients (e.g. iron, aluminum) in the ore.
- B. Data on energy resources are presented based on origin in calorific value. e.g. Data on uranium ore presents weight of uranium concentrate, which is available for use as an atomic fuel.
- C. Data of discharge to water system are in actual figure (not calculated using unit function in inventory analyses).

III Impact analyses

- Result of the "Impact analyses" is found in converting results of inventory analyses into total amount of a reference material (e.g. CO2 in case of "Global Warming").
- A. Impact "by resource consumption" represents magnitude of impacts to resource depletion.
- B. Impact "by emission/discharge to environment" represents magnitude of impacts to Atmosphere, Water and Soil system.

IV Data entry format

- A. Exponential notation, after the decimal point to two, should be used.
- B. Indicate "0" instead exponential notation, if the result of calculation or estimation is considered as "zero" or negligible in comparison to related results.
- C. Indicate "-" if calculation nor estimation can not be done, in order to differentiate to indicate "zero".
- D. Row total of the data is automatically calculated, excluding a row includes "-" item. Row total of such is presented as a blank (no data).  
(BGD for material production are for production from mineral ore. Those data do not include reclaiming processes like recovery from scrap.)(Refer to the list of Basic Unit at Ecoleaf website.)

[Notes for readers: Target product specific]

As a general rule, the generic data of materials are numerical data of material production from ores and do not include scraps.

## Product data sheet

(Input data and parameters for LCA)



|                          |                                    |
|--------------------------|------------------------------------|
| Document control no.     | F-03s-02                           |
| Product vendor           | Panasonic System Networks Co.,Ltd. |
| EcoLeaf registration no. | AX-08-021                          |

|                       |                            |                     |           |              |      |                   |      |
|-----------------------|----------------------------|---------------------|-----------|--------------|------|-------------------|------|
| PSC name              | Interphone (PSC-ID: AX-03) | Product type        | VL-SW250K |              |      |                   |      |
| LCA/LCIA in units of: | 1 set                      | Product weight (kg) | 1.36      | Package (kg) | 1.05 | Weight total (kg) | 2.41 |

### 1. Product information (per unit): parts etc. by material and by process/assembly method

| Product | Breakdown of primary materials |             |                         |             | Math breakdown of parts, which need to apply Processing / Assembly Base Units (Parts B, C) |             |              |             |
|---------|--------------------------------|-------------|-------------------------|-------------|--|-------------|--------------|-------------|
|         | Material name                  | Weight (kg) | Material name           | Weight (kg) | Process name   | Weight (kg) | Process name | Weight (kg) |
|         | Steel                          | 7.18E-02    | Paper                   | 7.29E-01    | Press molding:Iron (kg)  | 3.10E-01    |              |             |
|         | Electromagnetic steel plate    | 1.27E-01    | Assembled circuit board | 4.00E-01    | Press molding: Nonferrous metal (kg)   | 5.10E-01    |              |             |
|         | Stainless steel                | 4.19E-02    | Battery                 | 4.50E-02    | Injection molding (kg)   | 8.47E-01    |              |             |
|         | Copper                         | 9.16E-02    |                         |             |  |             |              |             |
|         | Aluminum                       | 1.48E-02    |                         |             |  |             |              |             |
|         | Glass                          | 6.13E-02    |                         |             |  |             |              |             |
|         | Thermoplastic resin            | 8.17E-01    |                         |             |  |             |              |             |
|         | Rubber                         | 1.49E-02    |                         |             |  |             |              |             |
|         | Subtotal                       | 1.24E+00    | Subtotal                | 1.17E+00    |  |             |              |             |
|         | Total                          | 2.41E+00    |                         |             | Subtotal   | 1.67E+00    | Subtotal     | 0.00E+00    |

Note Intercom, wireless monitor and color monitor are calculated in product weight.

Accessories, such as packing material and a handling description, are calculated for package weight.

### 2. Production site information (per unit): Consumption and discharge/emission for production/processing/assembly within the site.

SOx and NOx should be indicated in SO<sub>2</sub>, NO<sub>2</sub> equivalent.

| Consumption        | Classification | Energy            | Energy        | Energy   | Material              | Material         | Consumption                 | Consumption             |
|--------------------|----------------|-------------------|---------------|----------|-----------------------|------------------|-----------------------------|-------------------------|
|                    | Distribution   | Electricity (kWh) | Gasoline (kg) | LPG (kg) | Industrial water (kg) | Clean water (kg) | Diesel truck: 4 ton (kg.km) | Freight by ship (kg.km) |
|                    | Quantity       | 6.40E+00          | 8.62E-05      | 5.00E-06 | 3.68E-04              | 3.78E-04         | 1.20E+01                    | 4.78E+02                |
|                    | Note           |                   |               |          |                       |                  |                             |                         |
| Emission/Discharge | Classification |                   |               |          |                       |                  |                             |                         |
|                    | Distribution   |                   |               |          |                       |                  |                             |                         |
|                    | Quantity       |                   |               |          |                       |                  |                             |                         |
|                    | Note           |                   |               |          |                       |                  |                             |                         |

Note The manufacturing stage consists of assembly of a LCD unit, a speaker unit and final assembly of main unit.

### 3. Distribution stage information (per unit): means, distance, loading ratio, consumptions and emissions/discharges.

| Distribution | Means of transportation | Consumption             | Consumption             | Consumption                  | Consumption                 |
|--------------|-------------------------|-------------------------|-------------------------|------------------------------|-----------------------------|
|              | Conditions              | Diesel oil as fuel (kg) | Freight by ship (kg.km) | Diesel truck: 10 ton (kg.km) | Diesel truck: 4 ton (kg.km) |
|              | Quantity                | 6.40E-03                | 9.27E+03                | 6.47E+02                     | 6.94E+02                    |
|              | Note                    |                         |                         |                              |                             |

Note The land transportation from overseas manufacturing site to Japan and marine transportation load are added up.

Moreover, domestic transportation distance is set to 500km.

### 4. Use stage (per unit): use condition (mode, term) including active mode, standby mode and maintenance.

#### 4.1 Product and accessories subject to this analysis

| Product | Classification | Consumption                  | Consumption                 | Consumption       | Consumption            | Consumption           | Consumption |                           |
|---------|----------------|------------------------------|-----------------------------|-------------------|------------------------|-----------------------|-------------|---------------------------|
|         | Distribution   | Diesel truck: 10 ton (kg.km) | Diesel truck: 4 ton (kg.km) | Electricity (kWh) | Alkaline-Manganese dry | Paper (Western style) | PET (kg)    | Corrugated cardboard (kg) |
|         | Quantity       | 1.64E+02                     | 1.34E+00                    | 1.89E+02          | 1.41E-01               | 4.37E-02              | 3.17E-02    | 8.33E-03                  |
|         | Note           |                              |                             |                   |                        |                       |             |                           |

Note Based on the PSC, usable period is 7 years and operating time is 30 minute / day.

Excepting the operating time, the product is in standby mode all day.

#### 4.2 Disposition/Recycle information on consumables and replacement parts

| Consumables | Classification | Consumption    | Discharge                              | Discharge                    |
|-------------|----------------|----------------|--|------------------------------|
|             | Distribution   | Shredding (kg) | Incineration to landfill (as ash) (kg) | Landfill: General waste (kg) |
|             | Quantity       | 2.80E-01       | 8.00E-02                               | 2.00E-01                     |
|             | Note           |                |  |                              |

Note Disposed affect of batteries consumed are added up in 7 years.

### 5. Disposition/Recycle stage information (per product): process method and scenarios

| Scenario | Classification | Consumption                 | Consumption    | Discharge                              | Discharge                    |
|----------|----------------|-----------------------------|----------------|--|------------------------------|
|          | Distribution   | Diesel truck: 4 ton (kg.km) | Shredding (kg) | Incineration to landfill (as ash) (kg) | Landfill: General waste (kg) |
|          | Quantity       | 4.82E+02                    | 2.41E+00       | 7.30E-01                               | 1.68E+00                     |
|          | Note           |                             |                |  |                              |

Note As wastes, combustibles are added up after crush and incineration and incombustibles are added up as reclamation.

### 6. Others