

Product Carbon Footprint: fpkddkutni

**94.86 kgCO<sub>2</sub>e**

Total Carbon Footprint (1 unit)

Powered by [carboncalcpcf.com](https://carboncalcpcf.com)

Total PCF (per unit)

**94.86** kgCO<sub>2</sub>e

Carbon Intensity

**94.86** kgCO<sub>2</sub>e/unit

Top Emission Hotspot

**Use Phase** (96.2%)

Primary Emission Scope

**Scope 3** (Upstream & Downstream)

## Lifecycle Stage Breakdown

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### Contribution to Total Carbon Footprint

Use Phase	96.2%
Raw Material Acquisition & Processing	3.0%
Manufacturing (Scope 2)	0.7%
Logistics (Inbound & Outbound)	0.6%
End-of-Life (Net Credit)	-0.5%

### Illustrative Material Impact (within Raw Material Stage)

Circuit Board Assembly	1.50 kgCO <sub>2</sub> e
Plastic Casing	1.25 kgCO <sub>2</sub> e
Copper Wiring	0.10 kgCO <sub>2</sub> e

## Key Insights & Highlights

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- ✓ The **\*\*Use Phase accounts for over 96%\*\*** of fpkddkutni's total carbon footprint, making it the most critical area for intervention and energy-efficient design.
- ✓ **\*\*Raw Material Acquisition & Processing\*\*** is the second largest positive contributor, highlighting the importance of sustainable sourcing and material selection.
- ✓ The product benefits from a **\*\*net carbon credit at End-of-Life\*\*** due to effective recyclability (70%) and circular programs, though disposal emissions still occur for unrecycled portions.

### Context & Scope

- ✓ **Product:** fpkddkutni
- ✓ **Quantity:** 1.0 unit
- ✓ **System Boundary:** factory\_gate (extended to full lifecycle)
- ✓ **Production Country:** China
- ✓ **Standard:** GHG Protocol (including 2026 LSR update)

## How to Reduce fpkddkutni's Carbon Footprint

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- **Optimize Use Phase Energy:** Implement strategies to significantly reduce energy consumption during the product's active life, such as energy-efficient design, software optimization, and consumer education for responsible usage.
- **Enhance Sustainable Material Sourcing:** Prioritize gathering high-quality primary data for raw materials and components, and continuously explore lower-carbon alternatives in the Bill of Materials.
- **Improve Logistics Efficiency:** Optimize transport routes, modes (e.g., shifting to lower-emission options), and load factors for both inbound and outbound logistics.
- **Strengthen Circularity:** Further leverage and expand existing circular/take-back programs to maximize material recovery and re-incorporation into new products.
- **Primary Data Collection Enhancement:** Focus on collecting accurate primary data for manufacturing energy consumption and specific emission factors to refine future assessments.

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