

html

carboncalpcf.com

Product Carbon Footprint Dashboard

Product: fzzoqqofmn

106.91 kg CO₂e

Total Estimated Carbon Footprint per Functional Unit

Key Metrics

Total Footprint

106.91 kg CO2e

Carbon Intensity

106.91 kg CO2e/unit

Primary Emission Hotspot

Use Phase

Primary Emission Scope

Scope 3

Emissions Breakdown

Lifecycle Stage Contribution

Materials Acquisition & Pre-processing	9.50 kg CO2e (8.89%)
Manufacturing / Production (Electricity)	0.41 kg CO2e (0.38%)
Transportation & Distribution (Up/Downstream)	0.34 kg CO2e (0.32%)
Use Phase	100.00 kg CO2e (93.53%)
End-of-Life (Net Credit)	-3.34 kg CO2e (3.12% offset)

Note: Percentages above are based on the total net footprint of 106.91 kg CO2e, with EoL showing as a credit.

Material Impact (from Materials Acquisition)

Aluminum Alloy Enclosure	6.40 kg CO2e (67.37%)
Circuit Board (PCBA)	2.25 kg CO2e (23.68%)
Recycled ABS Plastic Components	0.75 kg CO2e (7.89%)
Packaging (Recycled Cardboard)	0.10 kg CO2e (1.05%)

Note: Percentages above are relative to the total "Materials Acquisition & Pre-processing" emissions of 9.50 kg CO2e.

Highlights & Insights

- The **Use Phase** is the overwhelming carbon hotspot, contributing approximately 93.5% of the total product carbon footprint.
- **Material Acquisition** is the second most significant contributor, with the Aluminum Alloy Enclosure being the primary material impact.
- The implemented **Advanced Take-back and Refurbishment Program** and high recyclability (80%) provide a notable net carbon credit in the End-of-Life stage.

Recommendations for GHG Reduction

1. **Optimize Use Phase Energy Efficiency:** Prioritize product redesign to drastically reduce energy consumption during its 5-year lifespan. This offers the largest reduction potential.
2. **Enhance Circularity:** Continue investing in and expanding the take-back/refurbishment program and design for easier disassembly to maximize material recovery and reuse benefits.
3. **Supply Chain Engagement:** Collaborate with suppliers to source lower-carbon materials, especially focusing on high-impact components like the Aluminum Alloy Enclosure.
4. **Renewable Energy Expansion:** Explore options to achieve 100% renewable energy for manufacturing operations in China, building on the current 75%.
5. **Logistics Optimization:** Investigate more efficient transport modes and routes for both inbound and outbound logistics to minimize freight emissions.