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Product Carbon Footprint for piyiiuxsup

Report Overview | Generated: May 21, 2026

Total PCF (1 unit)

50.41

kg CO2e

Total Footprint

50.41

kg CO2e

Carbon Intensity

50.41

kg CO2e / unit

Top Material Hotspot

Aluminum Alloy

16.00 kg CO2e

Primary Emission Scope

Scope 3

Use Phase & Materials

Lifecycle Stage Breakdown

Raw Material Acquisition & Pre-processing	19.25 kg CO2e (38.2%)
Use Phase Energy Consumption	24.00 kg CO2e (47.6%)
Manufacturing (Production) Energy	5.40 kg CO2e (10.7%)
End-of-Life (Residual Waste)	1.19 kg CO2e (2.4%)
Inbound Transportation	0.32 kg CO2e (0.6%)
Outbound Last-Mile Delivery	0.25 kg CO2e (0.5%)

Material Impact Breakdown (from 19.25 kg CO2e)

Aluminum Alloy	16.00 kg CO2e (83.1%)
ABS Plastic	1.75 kg CO2e (9.1%)
Circuit Board	1.00 kg CO2e (5.2%)
Copper Wire	0.50 kg CO2e (2.6%)

Key Findings & Hotspots

- **Use Phase Dominance:** The most significant hotspot, contributing approximately 47.6% (24.00 kg CO₂e) of the total PCF. This underscores the need for energy-efficient product design and consumer energy choices.
- **Material Impact:** Raw Material Acquisition and Pre-processing is the second largest contributor, accounting for about 38.2% (19.25 kg CO₂e), with Aluminum Alloy being the single largest material hotspot.
- **Manufacturing Energy:** Contributes 10.7% (5.40 kg CO₂e), which is notably mitigated by the 40% renewable energy usage at the manufacturing facility in China.

Recommendations for Reduction

- **Enhance Use Phase Efficiency:** Prioritize design improvements and user education to reduce energy consumption during the product's lifespan.
- **Boost Renewable Energy:** Increase the adoption of renewable energy in manufacturing (China) and explore opportunities within the upstream supply chain.
- **Optimize Materials:** Investigate and implement alternative, lower-carbon materials or reduce overall material quantities without compromising product quality.
- **Strengthen Supplier Engagement:** Engage with key material and component suppliers to gather primary emissions data for more accurate Scope 3 reporting, especially considering upcoming 2026 GHG Protocol updates on Scope 3 coverage.

This report adheres to GHG Protocol standards, considering anticipated 2026 updates including the Land Sector and Removals (LSR) Standard and enhanced Scope 3 compliance.

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