

html

carboncalpcf.com

uqwzuwhdlg

kmyrjpyvjo Carbon Footprint Report

Total PCF: 65.03 kg CO₂e / unit

TOTAL CARBON FOOTPRINT

65.03 kg CO₂e

per 1.0 unit

CARBON INTENSITY

65.03 kg CO₂e

per unit

TOP MATERIAL HOTSPOT

Aluminum Housing

3.50 kg CO₂e

PRIMARY EMISSION SCOPE

Scope 3

61.53 kg CO₂e

Lifecycle Stage Breakdown

Materials	5.41 kg CO2e (8.32%)
Production Energy (Scope 2)	3.50 kg CO2e (5.38%)
Transportation	7.24 kg CO2e (11.13%)
Use Phase	50.00 kg CO2e (76.89%)
End-of-Life Treatment	-1.12 kg CO2e (-1.72%)

Percentages are based on the total net PCF (65.03 kg CO2e).

Material Composition vs Carbon Impact

Aluminum Housing	3.50 kg CO2e (64.69%)
Circuit Board	1.00 kg CO2e (18.48%)
Plastic Casing	0.75 kg CO2e (13.86%)
Packaging (Cardboard)	0.16 kg CO2e (2.96%)

Percentages are based on Total Material Emissions (5.41 kg CO2e).

Highlights & Hotspots

- **Use Phase Dominance:** The product's use phase accounts for the largest portion of its footprint (76.89%) due to energy consumption over its lifespan.
- **Material Impact:** Raw material acquisition and processing, especially for aluminum, are significant contributors to upstream emissions.
- **Logistics Contribution:** Last-mile delivery (Downstream Transportation) is a notable hotspot, suggesting opportunities for optimized logistics.

Recommendations for Reduction

1. **Enhance Product Energy Efficiency:** Focus on design improvements to reduce energy consumption during the use phase and integrate renewable energy options.
2. **Sustainable Material Sourcing:** Invest in lower-carbon materials or increase recycled content for components like aluminum housing and plastic casing.
3. **Optimize Logistics:** Evaluate and optimize transportation routes and modes for both upstream and downstream, favoring more efficient and lower-emission options.
4. **Strengthen Circular Economy Initiatives:** Expand take-back and recycling programs, exploring innovative technologies to increase recyclability.
5. **Supplier Engagement:** Collaborate with suppliers to collect primary GHG data and drive decarbonization efforts throughout the supply chain.