

html

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qdizjoqqdp Carbon Footprint Dashboard

Total PCF (1.0 unit)

26.30 kgCO₂e

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Total Product Footprint

26.30 kgCO₂e

Carbon Intensity

26.30 kgCO₂e/unit

Top Material Hotspot

Aluminum Alloy Housing (7.5 kgCO₂e)

Primary Emission Scope

Scope 3 (Use & Materials)

Lifecycle Emissions Breakdown

Emissions by Lifecycle Stage

Use Phase	15.00 kgCO2e (56.01%)
Materials Acquisition & Pre-processing	10.40 kgCO2e (38.83%)
Production (Energy)	0.94 kgCO2e (3.51%)
Transport	0.44 kgCO2e (1.64%)
End-of-Life (Net Benefit)	-0.48 kgCO2e

Net Recycling Benefit

Material Carbon Impact (from 10.40 kgCO2e total materials)

Aluminum Alloy Housing	7.5 kgCO2e (72.1%)
Printed Circuit Board (PCB)	2.0 kgCO2e (19.2%)
Recycled ABS Plastic Casing	0.6 kgCO2e (5.8%)
Copper Wiring	0.25 kgCO2e (2.4%)
Recycled Cardboard Packaging	0.05 kgCO2e (0.5%)

Key Highlights & Insights

- **Use Phase Dominance:** The product's Use Phase accounts for approximately 57% of the total carbon footprint, making it the most significant emission hotspot.
- **Material Impact:** Materials Acquisition & Pre-processing contribute roughly 40%, with Aluminum Alloy Housing being a major contributor to embedded emissions.
- **Circular Economy Benefit:** The End-of-Life phase demonstrates a net carbon benefit (-0.48 kgCO₂e) due to high recyclability (80%) and active producer responsibility schemes.

Recommendations for Emission Reduction

- ✓ **Optimize Use Phase:** Implement design improvements for enhanced energy efficiency and promote user education on energy-saving practices.
- ✓ **Enhance Material Circularity:** Increase recycled content, explore low-carbon alternative materials, and design for easier disassembly and material recovery.
- ✓ **Engage Supply Chain:** Collaborate with upstream suppliers to reduce embedded carbon in components and encourage their transition to renewable energy sources.
- ✓ **Improve Logistics Efficiency:** Optimize transportation routes, investigate lower-emission modes (e.g., rail), and maximize load factors for all shipments.
- ✓ **Strengthen EoL Systems:** Further develop and actively promote take-back and recycling programs to maximize material recovery and minimize waste generation.