

html

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Product Carbon Footprint Dashboard

Product: **mghfqhumup** (1.0 unit, Factory Gate + Downstream)

33.83 kgCO₂e Total Lifecycle

Total Lifecycle Footprint

33.83 kgCO₂e

Factory-Gate Footprint

4.39 kgCO₂e

Primary Emission Hotspot

Use Phase

Top Material Impact

Printed Circuit Board

Lifecycle Stage Breakdown

Distribution of carbon emissions across product lifecycle stages (Total: 33.83 kgCO₂e).

| | |
|--|---|
| Materials Acquisition & Pre-processing | 1.98 kgCO₂e (5.85%) |
| Upstream Transportation | 0.08 kgCO₂e (0.24%) |
| Production (Scope 1 & 2) | 2.33 kgCO₂e (6.89%) |
| Use Phase | 28.83 kgCO₂e (85.22%) |
| End-of-Life | 0.61 kgCO₂e (1.80%) |

Material Carbon Impact

Contribution of materials to the total material carbon footprint (Total: 1.98 kgCO₂e).

| | |
|-----------------------|--|
| Printed Circuit Board | 0.80 kgCO₂e (40.40%) |
| Lithium-ion Battery | 0.50 kgCO₂e (25.25%) |
| ABS Plastic Casing | 0.44 kgCO₂e (22.22%) |
| Aluminum Heat Sink | 0.15 kgCO₂e (7.58%) |
| Packaging (Cardboard) | 0.05 kgCO₂e (2.53%) |
| Copper Wire | 0.04 kgCO₂e (2.02%) |

Key Insights & Hotspots

Dominant Use Phase Impact: The product's operational use accounts for 85.22% (28.83 kgCO₂e) of its total lifecycle footprint, primarily due to 20 kWh/year energy consumption over a 5-year lifespan.

Production Emissions Significant: Manufacturing processes, particularly purchased electricity in China, contribute 6.89% (2.33 kgCO₂e) to the total, despite 75% renewable energy usage.

Embedded Material Carbon: Materials acquisition and pre-processing represent 5.85% (1.98 kgCO₂e) of the total, with the Printed Circuit Board being the largest material contributor.

Recommendations for Emission Reduction

Optimize Use Phase Energy: Redesign for significantly lower energy consumption during the 5-year product lifespan.

Enhance Renewable Production: Aim for 100% renewable energy sourcing at the China manufacturing facility.

Material Innovation: Explore and integrate lower-carbon alternative materials or increase recycled content for key components.

Supply Chain Engagement: Collaborate with suppliers to identify and implement upstream emission reduction initiatives.

Strengthen Circularity: Maximize effectiveness of take-back programs and explore closed-loop recycling for critical components.

Product Carbon Footprint Report for mghfqhumup - Generated: May 27, 2026

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