Product Carbon Footprint for vuzvofxpmw

Report by svrnjttdew - Generated May 20, 2026

17.26 kg CO2e

Total Product Footprint

Key Metrics

Total Footprint

17.26 kg CO2e

Carbon Intensity

17.26 kg CO2e/unit

Top Material Hotspot

Li-ion Battery

(1.20 kg CO2e)

Primary Emission Scope

Scope 3 (Use Phase)

(12.50 kg CO2e)

Lifecycle Emissions Breakdown

Emissions by Lifecycle Stage

Use Phase	12.50 kg CO2e (72.42% of Total)
Materials Acquisition & Pre-processing	3.31 kg CO2e (19.18% of Total)
Manufacturing / Production	2.10 kg CO2e (12.17% of Total)
Transportation (Upstream & Downstream)	0.10 kg CO2e (0.58% of Total)
End-of-Life	-0.25 kg CO2e (Net Avoided)

Note: End-of-Life shows net avoided emissions due to effective recycling programs, reducing the overall footprint.

Material Composition vs. Carbon Impact (Top Contributors)

Lithium-ion Battery	1.20 kg CO2e (36.25% of Material Total)
Printed Circuit Board (PCB)	1.00 kg CO2e (30.21% of Material Total)
ABS Plastic Casing	0.70 kg CO2e (21.15% of Material Total)
Aluminium Heat Sink	0.24 kg CO2e (7.25% of Material Total)

Based on a total material emission of 3.31 kg CO2e.

Highlights & Insights

- The **Use Phase** is the dominant contributor to the product's carbon footprint, accounting for approximately **72.42%** of total emissions.
- **Materials Acquisition**, particularly the Lithium-ion Battery and PCB, represents a significant **19.18%** of the total footprint.
- The **End-of-Life phase demonstrates net avoided emissions (-0.25 kg CO2e)** due to a high recyclability percentage, indicating effective circular economy initiatives.

Action Plan for Reduction

1. **Optimize Use Phase Energy Efficiency:** Focus on designing 'vuzvofxpmw' for ultra-low power consumption during operation and standby, and explore smart energy management features.
2. **Enhance Renewable Energy Procurement in Manufacturing:** Increase the percentage of renewable energy used at the China production facility beyond 30% through direct procurement or Renewable Energy Certificates (RECs).
3. **Sustainable Material Sourcing:** Investigate opportunities to source lower-carbon intensity materials, especially for high-impact components like batteries and PCBs, and increase recycled content for plastics and metals.
4. **Strengthen Circular Programs:** Further develop 'Circular/Take-back Programs' to exceed the current 60% recyclability rate and explore product-as-a-service models to maximize material value and minimize waste.