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Product Carbon Footprint Analysis

For: dqmkzymjuy (1.0 unit)

36.67

kgCO₂e

Total Carbon Footprint

1.0 unit

FUNCTIONAL UNIT

24.13 kgCO₂e/kg

CARBON INTENSITY

Use Phase

PRIMARY EMISSION HOTSPOT

GHG Protocol

ACCOUNTING STANDARD

Detailed Impact Breakdown

Lifecycle Stage Emissions

Use of Sold Products	25.00 kgCO ₂ e (68.27%)
Purchased Goods & Services (Materials)	10.17 kgCO ₂ e (27.76%)
Purchased Energy (Scope 2)	2.52 kgCO ₂ e (6.87%)
Upstream Transportation	0.21 kgCO ₂ e (0.57%)
Downstream Transportation	0.25 kgCO ₂ e (0.68%)
End-of-Life Treatment	0.02 kgCO ₂ e (0.05%)
Direct Emissions (Scope 1)	0.00 kgCO ₂ e (0.00%)

Material Impact vs. Weight (for 10.17 kgCO₂e Total Material Impact)

Aluminum casing (0.8 kg)	6.00 kgCO ₂ e (59.00%)
Electronic board (0.15 kg)	2.25 kgCO ₂ e (22.12%)
Plastic components (0.5 kg)	1.50 kgCO ₂ e (14.75%)
Packaging (cardboard) (0.2 kg)	0.24 kgCO ₂ e (2.36%)
Copper wiring (0.05 kg)	0.10 kgCO ₂ e (0.98%)
Screws & Fasteners (0.02 kg)	0.08 kgCO ₂ e (0.79%)

Key Emission Highlights

- The **Use of Sold Products** dominates the footprint at 68.27%, largely due to energy consumption over the 5-year lifespan.
- **Material production** (Purchased Goods & Services) is the second major hotspot (27.76%), with aluminum casing and electronic board being significant contributors.
- Despite 75% renewable energy, **manufacturing energy (Scope 2)** still contributes 6.87%, indicating room for further decarbonization of the remaining non-renewable mix.

Recommended Action Plan

- **Prioritize Use Phase Optimization:** Innovate for significantly lower energy consumption or integrate user-side renewable solutions.
- **Strategic Material Sourcing & Design:** Explore reducing high-impact materials like aluminum and electronics, or sourcing certified lower-carbon alternatives and recycled content.
- **Enhance Renewable Energy Adoption:** Increase renewable energy procurement for manufacturing beyond 75% to reduce Scope 2 emissions further.
- **Engage Supply Chain for Primary Data:** Collaborate with suppliers to collect specific emissions data, aligning with 2026 GHG Protocol transparency requirements.
- **Expand Circularity:** Bolster the internal collection and refurbishment program to extend product life and maximize material recovery.