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carboncalcpcf.com

Product Carbon Footprint Dashboard

Product: **vnjddkjnjh** (1.0 unit) | Production Country: China

TOTAL PCF

23.25

kg CO2e

Overall Footprint

23.25

kg CO2e

Primary Hotspot

Use Phase

18.62 kg CO2e

Top Material Impact

PCB (1.25 kg CO2e)

from Materials (2.10 kg CO2e)

Emissions Breakdown

Lifecycle Stage Contribution

Use Phase	18.62 kg CO2e (80.09%)
Purchased Goods & Services (Materials)	2.10 kg CO2e (9.03%)
Production Energy (Scope 2)	2.17 kg CO2e (9.33%)
End-of-Life	0.20 kg CO2e (0.86%)
Transportation & Logistics	0.17 kg CO2e (0.73%)

Material Carbon Impact

Printed Circuit Board (PCB)	1.25 kg CO2e (59.62% of material)
Lithium-ion Battery	0.45 kg CO2e (21.48% of material)
Plastic Casing (ABS)	0.38 kg CO2e (18.04% of material)
Copper Wire	0.02 kg CO2e (0.96% of material)

Highlights: Key Emissions Hotspots

- The **Use Phase** dominates the product's carbon footprint, accounting for over 80% of total emissions (18.62 kg CO2e).
- **Purchased Goods and Services**, specifically the Printed Circuit Board (PCB) and Lithium-ion Battery, are significant material hotspots contributing 2.10 kg CO2e.
- **Production Energy (Scope 2)**, largely due to China's grid emission factor, contributes 2.17 kg CO2e despite 30% renewable energy use.

Action Plan: Recommendations for Reduction

- **Reduce Use Phase Impact:** Prioritize design for energy efficiency during the product's operational lifespan and educate users on sustainable usage.
- **Optimize Material Sourcing:** Collaborate with suppliers to identify lower-carbon and recycled alternatives, especially for PCBs and batteries.
- **Increase Renewable Energy in Production:** Further increase the share of renewable energy in manufacturing facilities beyond the current 30% to significantly cut Scope 2 emissions.
- **Enhance Circularity:** Strengthen existing take-back programs to maximize material recovery and explore closed-loop systems for end-of-life products.