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Product Carbon Footprint for jxekvoqnqg

Report Date: June 2, 2026 | Functional Unit: 1.0 unit

Total Carbon Footprint

23.72

kgCO₂e

Total PCF

23.72 kgCO₂e

per 1.0 unit

System Boundary

Cradle-to-Grave

Comprehensive lifecycle

Top Hotspot Stage

Raw Materials

43.22% of total

Primary Emission Scope

Scope 3

77.23% of total

Lifecycle Stage Breakdown

Raw Material Acquisition & Processing	10.25 kgCO ₂ e (43.22%)
Manufacturing (Purchased Electricity)	5.40 kgCO ₂ e (22.77%)
Use Phase	7.50 kgCO ₂ e (31.62%)
Upstream & Downstream Transportation	0.3455 kgCO ₂ e (1.46%)
End-of-Life Treatment	0.22 kgCO ₂ e (0.93%)

Material Carbon Impact

Electronic PCB Assembly	5.00 kgCO ₂ e
Aluminium Alloy	4.00 kgCO ₂ e
ABS Plastic Granules	1.05 kgCO ₂ e
Recycled Cardboard	0.20 kgCO ₂ e

*Percentages calculated relative to total Raw Material Acquisition & Processing (10.25 kgCO₂e).

Key Insights & Hotspots

- **Raw Material Acquisition:** This stage accounts for the largest portion (43.22%) of the PCF, primarily due to the energy-intensive production of materials like aluminium and electronic components.
- **Use Phase Emissions:** The energy consumed during the product's lifespan contributes significantly (31.62%) to the overall footprint, highlighting the importance of product energy efficiency.
- **Manufacturing Footprint:** Purchased electricity for production represents a substantial segment (22.77%), emphasizing the impact of the energy mix in the production country (China).

Recommended Action Plan

- **Material Optimization:** Focus on sourcing lower-carbon alternative materials and engaging suppliers for primary PCF data to drive more accurate reductions.
- **Manufacturing Decarbonization:** Increase renewable energy usage at the production facility in China and explore investments in on-site generation or renewable energy certificates.
- **Use Phase Efficiency:** Innovate product design to reduce energy consumption during its lifespan and educate consumers on energy-efficient usage and maintenance.
- **Logistics Optimization:** Review and optimize transportation routes and modes, prioritizing carriers with lower emission intensities and exploring consolidated shipments.
- **Circular Economy Initiatives:** Enhance existing circular/take-back programs and invest in advanced recycling technologies to maximize material recovery and minimize end-of-life emissions.