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## Product Carbon Footprint: eqyhkwozmn

**Total Footprint: 25.30 kg CO<sub>2</sub>e**

**Functional Unit:** 1.0 unit

**System Boundary:** Cradle-to-grave (focused on factory\_gate)

**Production Country:** China

**Standard:** GHG Protocol

**Report Date:** May 27, 2026

Total Footprint

**25.30** kg CO<sub>2</sub>e

Carbon Intensity

**25.30** kg CO<sub>2</sub>e/unit

Top Material Hotspot

**Aluminium Casing** (7.40 kg CO<sub>2</sub>e)

Primary Emission Scope

**Scope 3** (24.70 kg CO<sub>2</sub>e)

## Lifecycle Stage Breakdown

Material Acquisition & Pre-processing	10.05 kg CO2e (39.72%)
Manufacturing (Energy)	0.60 kg CO2e (2.37%)
Transport & Distribution	0.25 kg CO2e (0.99%)
Use Phase	15.00 kg CO2e (59.28%)
End-of-Life (Net)	-0.60 kg CO2e (-2.37%)

## Material Carbon Impact

Aluminium Casing	7.40 kg CO2e
Circuit Board	1.50 kg CO2e
Plastic Housing	1.10 kg CO2e
Packaging	0.05 kg CO2e

## Highlights: Key Impacts

- The **Use Phase** is the dominant emissions hotspot, contributing 59.28% of the total PCF due to product energy consumption over its 5-year lifespan.
- **Material Acquisition & Pre-processing**, particularly Aluminium Casing, accounts for a significant 39.72% of upstream emissions.
- **Scope 3 emissions** represent 24.70 kg CO<sub>2</sub>e, making up the vast majority of the product's carbon footprint, highlighting the importance of value chain engagement.

## Recommendations for Reduction

- **Optimize Use Phase Energy Efficiency:** Redesign for lower energy consumption, integrate smart energy management features.
- **Source Lower-Carbon Materials:** Investigate low-carbon aluminium (e.g., produced with renewable energy) or materials with higher recycled content.
- **Enhance Circularity:** Expand take-back schemes, design for disassembly, and continuously optimize material recovery programs.