

carboncalcpcf.com

Product Carbon Footprint Dashboard

Detailed analysis for product: **qgiiznvznd**

Total PCF: 107.98 kgCO₂e per unit

Total Footprint

107.98 kgCO₂e

per functional unit

Carbon Intensity

134.97 kgCO₂e/kg

based on 0.8kg material weight

Top Material Hotspot

Plastic Casing

1.25 kgCO₂e of BOM emissions

Primary Emission Scope

Scope 3

Accounts for ~95.2% of total emissions

Lifecycle Stage Breakdown

Use Phase	99.75 kgCO2e (91.9%)
Manufacturing	5.13 kgCO2e (4.7%)
Materials Acq.	3.25 kgCO2e (3.0%)
Outbound Transport	0.30 kgCO2e (0.3%)
Inbound Transport	0.07 kgCO2e (0.1%)

Note: End-of-Life Treatment results in a net carbon reduction of -0.524 kgCO2e due to recycling benefits.

Material Carbon Impact (BOM)

Plastic Casing	1.25 kgCO2e (38.5%)
Metal Component	1.00 kgCO2e (30.8%)
Circuit Board	1.00 kgCO2e (30.8%)

Key Insights & Highlights

- The **Use Phase** is the most significant emission hotspot, contributing approximately 92% of the total positive lifecycle emissions for qgiiznvznd.
- **Scope 3 emissions** dominate the product's footprint, accounting for roughly 95.2% of the overall PCF, underscoring the importance of value chain engagement.
- **End-of-Life activities**, specifically recycling, provide a net reduction of -0.524 kgCO₂e, demonstrating the benefits of circularity.

Recommendations for Emission Reduction

1. **Optimize Use Phase Energy Efficiency:** Redesign qgiiznvznd for significantly lower energy consumption during its operational lifespan.
2. **Increase Renewable Energy in Manufacturing:** Invest further in renewable energy procurement or on-site generation for production facilities.
3. **Material Optimization:** Explore lightweighting and the use of materials with lower embedded carbon and high recycled content.
4. **Strengthen Circularity Programs:** Leverage and expand the "Product Refurbishment Program" to extend product life and reduce new production demand.
5. **Promote Renewable Energy Adoption by Users:** While challenging, encourage end-users to power the product with renewable energy where feasible.