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carboncalcpcf.com

Product Carbon Footprint for retzfhllkm

Total PCF: 27.43 $kgCO_2e$ per unit

Company: lvkixslgnj | Standard: GHG Protocol | Production: China | Boundary: Cradle-to-Grave

27.43 $kgCO_2e$

Total Carbon Footprint

27.43 $kgCO_2e$/unit

Carbon Intensity (1 unit)

Raw Material Acquisition

Top Hotspot Stage (50.0%)

Scope 3

Primary Emission Scope (93.2%)

Key Highlights & Hotspots

- **Raw Material Acquisition (50.0%):** The production of materials, particularly the Aluminum Casing (6.0 kgCO_2e) and Silicon Chip (5.0 kgCO_2e), contributes significantly to the total footprint.
- **Use Phase (31.0%):** Energy consumption during the product's 5-year lifespan is a major contributor, indicating opportunities for improving energy efficiency.
- **End-of-Life (Net Benefit of -6.7%):** Strong recyclability (80%) and a manufacturer-led take-back program contribute to a positive net impact, reducing the overall footprint.

Recommendations for Carbon Reduction

- **Material Optimization:** Explore alternative materials with lower embedded carbon or enhance design for material efficiency. Engage with suppliers for transparency on material-specific emission data.
- **Energy Efficiency in Use:** Invest in R&D to reduce the product's energy consumption during its use phase. Provide users with guidance on energy-saving practices or smart energy management features.
- **Logistics Decarbonization:** Investigate opportunities for optimizing shipping routes, utilizing lower-emission freight options (e.g., increasing sea freight efficiency, shifting to rail), and exploring regionalized supply chains to reduce transport distances.
- **Circular Economy Integration:** Continue to enhance existing recycling and take-back programs. Explore product longevity and repairability to further reduce End-of-Life impacts and potentially generate greater carbon credits.
- **Renewable Energy Adoption:** While 75% renewable energy usage in production is commendable, striving for 100% will eliminate the remaining Scope 2 emissions.