

Product Carbon Footprint for senrxphwxf

Total PCF: 39.08 kg CO2e

Product

senrxphwxf

kgkdmzxdod

Carbon Intensity

39.08

kg CO2e / unit

Primary Emission Scope

Scope 3

(83.8%)

Top Material Hotspot

Aluminum Casing

(5.0 kg CO2e)

Lifecycle Stage Breakdown

Materials Acquisition	32.8%
Manufacturing	16.2%
Transport & Logistics	1.3%
Use Phase	64.1%
End-of-Life (Net)	-1.3%

Material Carbon Impact

Aluminum Casing	5.0 kg
Plastic Housing	2.8 kg
Circuit Board	2.0 kg
Battery Pack	3.0 kg

Highlights & Hotspots

- **Use Phase (64.1%):** The most significant contributor to the product's carbon footprint is the energy consumed during its 5-year lifespan. This highlights a critical area for design intervention, focusing on energy efficiency.
- **Materials Acquisition & Pre-processing (32.8%):** The choice of materials and their associated manufacturing processes have a substantial impact. Aluminum and battery components, in particular, show high individual footprints.
- **Manufacturing/Production (16.2%):** While smaller than the use phase, electricity consumption in the production facility is notable. Further transitioning to 100% renewables would significantly reduce this scope.

Action Plan: How to Reduce Impact

- **Energy Efficiency in Use Phase:** Invest in R&D to significantly reduce the product's energy consumption during its operational life.
- **Sustainable Material Sourcing:** Explore lower-carbon alternatives for aluminum and battery components, or work with suppliers to reduce the footprint of existing materials.
- **Renewable Energy Transition:** Accelerate the transition to 100% renewable energy for manufacturing operations in China to further reduce Scope 2 emissions.
- **Expand Circularity:** Further enhance take-back and recycling programs, exploring opportunities for repair, refurbishment, and remanufacturing.