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Product Carbon Footprint: sdelefsysi

18.03 kgCO₂e

Total Carbon Footprint (per unit)

Key Metrics

Total Footprint

18.03 kgCO₂e

Carbon Intensity

18.03 kgCO₂e/unit

Top Material Hotspot

Electronics (PCB) (1.00 kgCO₂e)

Primary Emission Scope

Scope 3 (88.0%)

Lifecycle Stage Breakdown

Materials Acquisition & Pre-processing	14.6%
Manufacturing Energy	12.0%
Transportation	3.3%
Use Phase	69.3%
End-of-Life Treatment	0.7%

Key Insights & Hotspots

Use Phase Dominance: The product's energy consumption during its 5-year lifespan contributes a significant 69.3% of the total carbon footprint.

Material Impact: Materials acquisition, especially electronics and ABS plastic, accounts for 14.6% of emissions, highlighting the need for sustainable sourcing.

Scope 3 Importance: A substantial 88.0% of emissions fall under Scope 3, emphasizing the critical role of value chain engagement in decarbonization efforts.

Recommendations for Reduction

1. **Optimize Use Phase:** Invest in R&D for more energy-efficient designs and explore lower-carbon energy options for end-users.
2. **Supply Chain Decarbonization:** Engage with suppliers to source lower-carbon materials and prioritize those with transparent data and renewable energy commitments.
3. **Enhance Manufacturing Efficiency:** Increase renewable energy usage at the China manufacturing facility beyond the current 30% and invest in energy-efficient machinery.
4. **Strengthen Circularity:** Expand the existing take-back program to increase refurbishment rates and improve collection for high-quality recycling.
5. **Data Quality Improvement:** Initiate efforts to collect more primary (supplier-specific) data for emission factors to enhance report accuracy.