

Life Cycle Assessment: Western Digital Ultrastar® DC SN630 Solid State Drive (SSD)

Product Description:

Model	OTS1755
Product Type	Enterprise SSD
Product Weight	101.4 gm
Packaging Weight	97.6 gm
Storage Capacity	3,840 Gigabyte ⁱ
Technology	Very Read Intensive (VRI)
Form Factor	U.2 2.5" drive
Application	Enterprise data center applications



LCA Calculation Basis:

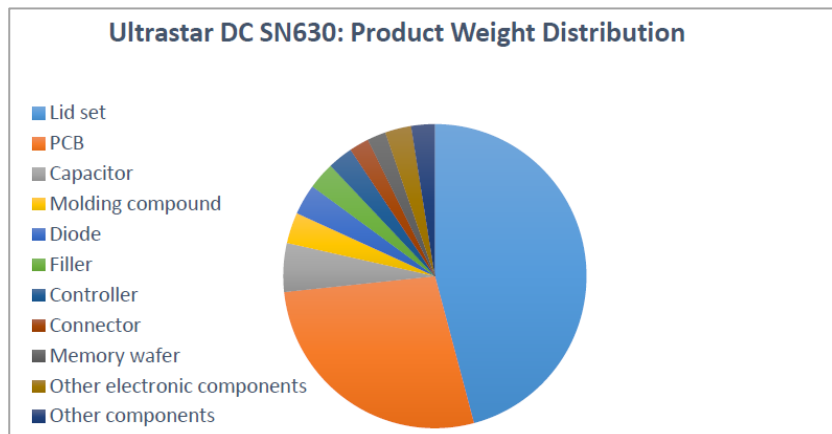
Standard	ISO 14040:2006 and 14044:2006
LCA Software	GaBi ts [Version 9]
Impact Assessment Method	Life cycle impact assessment classification and characterization factors according to the Intergovernmental Panel on Climate Change (IPCC) 5th Assessment Report for Global Warming Potential (GWP), with 100 years of time horizon for kg CO ₂ equivalent (carbon footprint)
Database	GaBi 2020 LCI and ecoinvent 3.6
System Boundary	<p>The system boundaries include:</p> <ul style="list-style-type: none"> • Manufacturing (extraction of raw materials, upstream material preparation, component manufacturing, subassembly manufacturing and final assembly of product) • Distribution to customer located in USA • Five years of product use • End-of-life treatment according to waste management statistics in the customer country
Validation of Study	Validated through 3rd party critical review (Aspire Sustainability, LLC)

ⁱ One gigabyte (GB) is equal to one billion bytes. Actual user capacity may be less due to operating environment.

ⁱⁱ *Absolute climate change impact values & contribution details for each phase will be available upon request

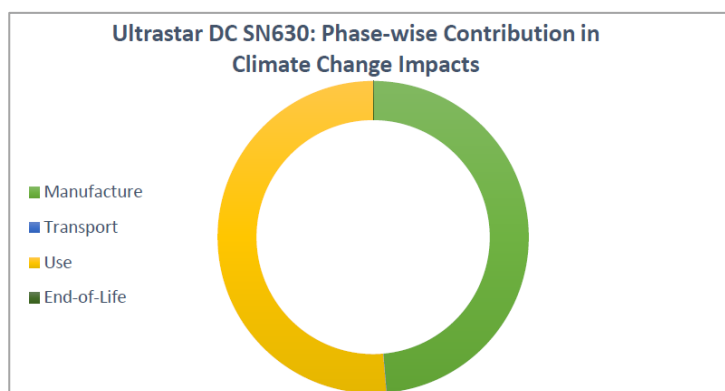
Components Used:

The pie chart shows weight contribution of various components of the SSD. Lid set contributes 46% of the weight, followed by Printed Circuit Board (PCB) [27%], Connector [5%], Molding compound [3%], Diode [3%], Filler [3%], Other electronic components [3%], Other components [3%] and Memory wafer [2%]. Connector and Controller weight is less than 1%.



Breakdown of Carbon Footprint by Life Cycle Stagesⁱⁱ:

Climate change impacts are dominated by the device use phase [51%], followed by manufacturing [49%], distribution [<1%] and end-of-life [<1%]. Use phase impacts are primarily attributable to energy consumed by the product during its useful life. Manufacturing impacts are driven largely by resource consumption during wafer fabrication processes, which distribution phase impacts are focused on transportation of the product from the manufacturing location to the customer location.



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