Sandisk Technologies, Inc.
951 SanDisk Drive
Milpitas, CA 95035
1 (408) 801-1000
Sandisk.com

Life Cycle Assessment: Western Digital SN650 (Coffee Bay) Solid State Drive (SSD)

Product Description:

Model	0TS2411
Product Type	Enterprise SSD
Product Weight	182.53gm
Packaging Weight	136.35gm
Storage Capacity	16 Terabyte[1]
Technology	BiCS5
Form Factor	U.3
Application	Datacenters

LCA Calculation Basis:

Standard	ISO 14040:2006 and 14044:2006
LCA Software	LCA for Experts (previously Gabi ts) [Version 10.8]
Impact Assessment Method	Life cycle impact assessment classification and characterization factors according to the Intergovernmental Panel on Climate Change (IPCC) 6th Assessment Report for Global Warming Potential (GWP), with 100 years of time horizon for kg CO_2 equivalent (carbon footprint)
Database	LCA for Experts 2024 LCI and ecoinvent 3.7
System Boundary	The system boundaries include: • Manufacturing (extraction of raw materials, upstream material preparation, electronic 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 (EarthShift Global)

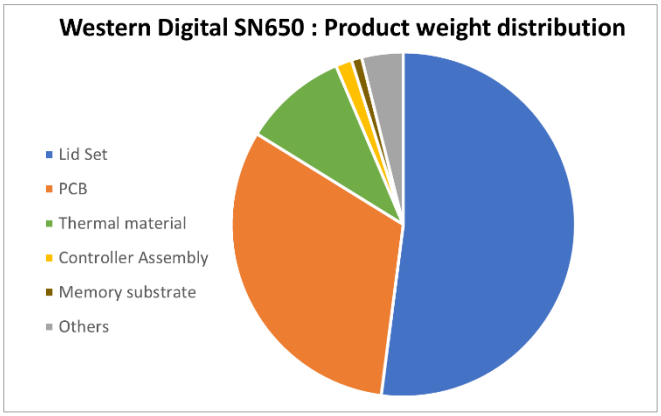
i One terabyte (TB) is equal to one trillion bytes. Actual user capacity may be less due to operating environment.
ii *Absolute climate change impact values & contribution details for each phase will be available upon request

Sandisk Technologies, Inc.
951 SanDisk Drive
Milpitas, CA 95035
1 (408) 801-1000
Sandisk.com

Sandisk Technologies, Inc.
951 SanDisk Drive
Milpitas, CA 95035
1 (408) 801-1000
Sandisk.com

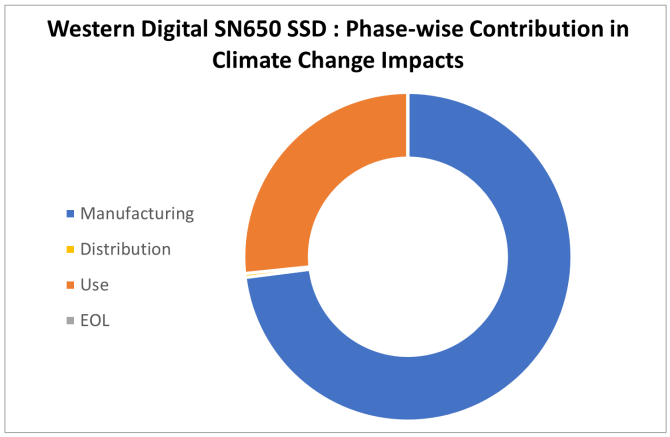
Components Used:

The pie chart shows weight contribution of various components of the WD SN650 SSD. Lid Set [52%], followed by Printed Circuit Board (PCB) [32%], Thermal Material [10%], Controller Assembly [2%], Memory substrate [1%]. Other components weight is less than 1%.



Breakdown of Carbon Footprint by Life Cycle Stages[ii]:

The Manufacturing phase has the highest contribution [73%], driven by product assembly and sub-assembly processes. The Use phase has the second highest impacts [27%], which is mainly attributed to energy consumed by the product during usage. The Distribution phase & End-of-Life phase of the products constitutes <1% of the total impact. The distribution phase impacts are focused on transportation of the product from the manufacturing location to the customer location.



i One terabyte (TB) is equal to one trillion 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

Sandisk Technologies, Inc.
951 SanDisk Drive
Milpitas, CA 95035
1 (408) 801-1000
Sandisk.com