Lenovo Product Carbon Footprint (PCF) Information Sheet
Rack/Blade/Tower Server

Commercial Name	Lenovo ThinkSystem ST50/ST58 V2	**Lenovo.**
Model Number	7D8J, 7D8K, 7D8L	
Issue Date	2022,03,11	

Product Environmental Attributes	
(a) Product Carbon Footprint Value:	**5330 kg of CO_2e (see Note 1 below)**
(b) Product Picture:	**(c) Life Cycle Detail by Component & Life Stage (Pie Chart):**

Legend:
- Use
- Daughter-board(s)
- Mainboard
- Transport
- Solid State Drive(s)
- Enclosure
- Power Supply Unit(s)
- Fan(s)
- End of Life
- Assembly
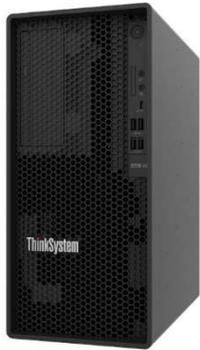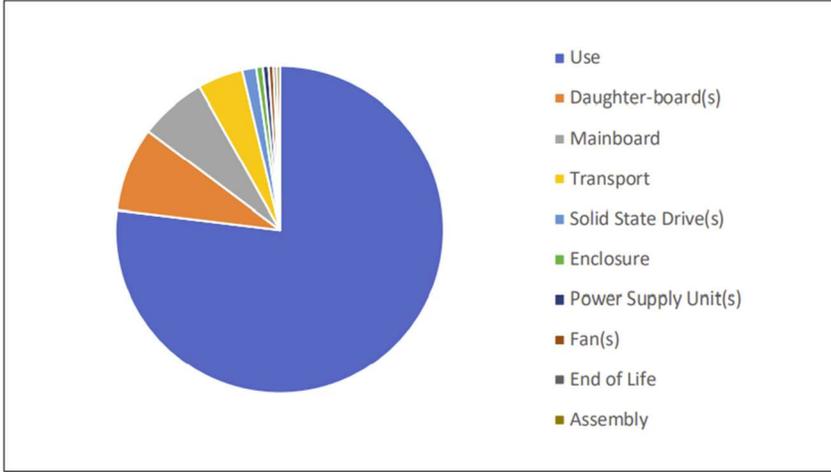
ote 1:
All estimates of carbon footprint are uncertain. Lenovo reports the 95th percentile of the carbon footprint estimate to reflect that uncertainty. For this product, that estimate has a mean of 4130 kg of CO_2e and standard deviation of 347 kg of CO_2e. For a quantity that follows a normal distribution, the 95th percentile value is equal to the mean plus the standard deviation multiplied by 1.64. Other organizations might report this value as 4130 +/- 347 kg of CO_2e. Results are for the server only. Datacenter values are not reported.

This PCF was generated using the Product Attribute to Impact Algorithm model, Version 1.3.1, Date: 2021-12-02 (Product Type: 7D8J, 7D8K, 7D8L), © Massachusetts Institute of Technology's Materials Systems Laboratory, August 2012. Please refer to the Intended Uses and Limitations of the PAIA Model, © Massachusetts Institute of Technology's Materials Systems Laboratory, March 2017 for further details. Link to Document

This calculation was based upon a Lenovo ThinkSystem ST50/ST58 V2 with the assumptions and configuration described in the calculation assumptions in the next page.

This pie chart provides the percent contribution of the mean value for each element of the analysis for the full life cycle CO_2e impacts of the product. Individual elements displaying 0% are less than 0.5%.

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Assumption Table					
Category	**Element**	**Unit**	**Input**	**Mean**	**COV**
Product Specifics	Product Weight	kg	9.40		
	Form Factor – Tower/Rack/Blade	no unit	Tower		
	If Blade server, number of servers sharing enclosure	number			
	If Blade server, number of PSUs	number			
	If Blade server, number of fans	number			
	If Tower server, number of PSUs	number	1		
	If Tower server, number of fans	number	3		
	If Rack server, number of servers sharing rack	number			
	If Rack server, number of PSUs	number			
	If Rack server, number of fans	number			
	If Rack server, are PSUs/fans dedicated or shared	no unit			
	Number of CPUs used by server	number	1		
	Number of HDDs used by server	number	0		
	Number of SSDs used by server	number	2		
	Product Lifetime	years	5		
Location	Assembly Location	no unit	Asia		
	Use Location	no unit	US		
Transportation from Assembly to Customer	To country of use: by air	fraction	0.25		
	To country of use: by ship	fraction	0.75		
	To country of use: by rail	fraction	0		
	To country of use: by truck	fraction			
	In country of use: by air	fraction	0.1		
	In country of use: by ship	fraction			
	In country of use: by rail	fraction	0.2		
	In country of use: by truck	fraction	0.7		
End of Life	Fraction Recycled (remainder to landfill)	fraction	0.8		
	Fraction Shredded Recycling (remainder to manual)	fraction	0.77		

The PCF value is calculated using the specific attributes above for assembly, use and transportation mode. If you need any other country specific information, please contact environment@lenovo.com.

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Notes:

Life cycle phases included in the streamlined Product Attribute to Impact Algorithm (PAIA) Life Cycle Analysis (LCA) can be grouped into four categories which include Manufacture, Transport, Use, and End of Life. Below is a brief description of each phase.

Manufacture: This life cycle phase captures emissions generated during the extraction, production, and transport of raw materials, the manufacture of components and subassemblies (including the product packaging) and product assembly.

Transport: Emissions included in the transport phase include all those generated during the air, ocean or land transport of finished or semi-finished Lenovo products between Lenovo facilities and from Lenovo facilities to customers.

Use: In use energy consumption is calculated in accordance with the U.S. Environmental Protection Agency's Energy Star® Typical Energy Consumption (TEC) methodology. Calculated energy consumption is then used in combination with average emissions factors for the designated country of use to calculate emissions.

End of Life: It is assumed that a designated portion of the product (see table above) is recycled at the end of the use period determined in the TEC methodology. It is also assumed that the balance of the product waste materials is disposed of by landfill. Emissions generated during the mechanical destruction, separation and transport of end of life materials are included in the calculation.

Product scope of this sheet includes desktop computer, integrated desktop computer, notebook computer, monitor and tablet.
This document is only valid in connection with "THE ECO DECLARATION" of the specific product.

The above results are for a single industry-average Tower **server.**

If tower: This tower server's chassis is included in the analysis under the category "Encasement/enclosure/rack/chassis."
If blade: This blade server is housed in a blade enclosure. The blade enclosure has   slots, and an equal allocation of enclosure is made to each server.
If rack: A rack mount   considered in this analysis.
If rack and mount is included: The rack mount has 10 filled slot/s, and this results in an allocation to each server of 1/10 amount of rack mount.
The datacenter PUE multiplier estimate is 2.