February 28, 2020

Technical Documentation for EU Regulation 2019/424 laying down ecodesign requirements for servers and data storage product pursuant to Directive 2009/125/EC

The following information is based on IBM's knowledge as of the date of this document, which may be based on its records and information from third parties. This documentation applies to finished products that IBM newly puts into service in the European Union and other jurisdictions which require this Technical Documentation as of the above date.

Product Information		
Machine Type(s)	**Part Number**	**Product Type**
Rack Mount Server	5019S-W4TR	Enterprise Class Server

Entity putting product into service (Manufacturer for purposes of regulation) registered trade name and trade address:

Year of Deployment
2020

Power Supply Unit (PSU) efficiency, power factor and rated power output:

Rated Output Power -500W	PSU Efficiency				Power Factor
% of Rated Load	**10%**	**20%**	**50%**	**100%**	**50%**
Single Output	86.2%	91.8%	94.1%	92.6%	0.97

Idle State Power at high-end configuration (Watts rounded to the first decimal place)
59.9W

Idle State Power at low-end configuration (Watts rounded to the first decimal place)
52.9W

List of components for additional idle power allowances for high-end configuration

- **17.8 additional watts for Xeon KabyLake E3-1270-V6-Quadcore performance**
- **10 additional watts for an additional PWS-504P-1R PSU**
- **10 additional watts for two Micron 5200 MAX TCG-E SSDs**
- **10.8 additional watts for 64 GB of memory**
- **30 additional watts for ports 3 and 4 of of Onboard 10Gb NIC**

Total allowed idle power for high-end configuration
103.6W

List of components for additional idle power allowances for low-end configuration

- **17.3 additional watts Xeon KabyLake E3-1270-V6-Quadcore performance**
- **10 additional watts for an additional PWS-504P-1R PSU**
- **10 additional watts for two Seagate ST1000NM0033 HDDs**
- **2.2 additional watts for 16 GB of memory**
- **30 additional watts for ports 3 and 4 of Onboard 10Gb NIC**

Total allowed idle power for low-end configuration
94.5W

Maximum power at high-end configuration (Watts rounded to the first decimal place)
146.6W

Maximum power at low-end configuration (Watts rounded to the first decimal place)
133.7W

Declared operating condition class (same for high and low-end configurations for any socket population configuration)
A2 (10-35°C)

Idle state power at the higher boundary temperature of the declared operating condition class at high-end configuration
61.1W

Idle state power at the higher boundary temperature of the declared operating condition class at low-end configuration
52W

Active state efficiency and performance in active state at high-end configuration
19.1

Active state efficiency and performance in active state at low-end configuration
15.8

Product configurations
The possible configurations for this product family will be the combination of these components that are selected by the individual client when they purchase the server.

Secure data functionality URL:
https://www.supermicro.com/en/about/policies/

IBM Cloud will securely sanitize physical media intended for reuse prior to such reuse, and will destroy physical media not intended for reuse, consistent with National Institute of Standards and Technology, United States Department of Commerce (NIST), guidelines for media sanitization.

Data deletion of storage devices installed in IBM Cloud servers is performed via our automation platform. Upon cancellation, the server is moved to a reclaim network for a set hold time. Once the reclaim process begins the server will be loaded into a provisioning OS where data on all installed storage devices is wiped using Department of Defense (DOD) 5220.22-M algorithms. Progress is tracked throughout the process by means of the serial number associated with the storage devices.

Data deletion on active systems will be performed by IBM Cloud only at the customer's request. This typically involves scheduling a maintenance window at which time an IBM Cloud data center technician will power down the system, remove the requested drives and replace them with empty, unformatted drives of the same make/model. The original drives containing the data to be deleted will be installed into an internal utility server where the same data sanitization process described above will be performed.

The 'end of life' process is initiated when a storage device malfunctions, once the total power-on-hours exceeds the expected life of the device, or when support for a specific model ends. When any of these conditions occur, an offending storage device will be flagged and set to end-of-life. The storage device is wiped using the same data sanitization process described above, after which the device is physically destroyed onsite by breaking, crushing, or shredding the device. The physical destruction process is tracked by the serial number of the storage device.

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Material efficiency Requirements:
Disassembly for repair or reuse purposes
Weight range of specified critical raw materials

Product information for return and recycling can be found at:
https://www.ibm.com/ibm/environment/products/recycling.shtml

Complete product information for repair or reuse of components can be found at:
https://www.supermicro.com/en/about/policies/

No Cobalt content is expected for all the individual battery types used in equipment and thus, the applicable indicative weight range as provided by the EU Regulation 2019/434 is “Less than 5 grams”.

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