

# ENERGY STAR® Power and Performance Data Sheet

HA8000 RS210xK1 and xL : NK1, CL model



## System Characteristics

Form Factor	1U
Available Processor Sockets	2
Available DIMM Slots / Max Memory Capacity	12slots / 24GB
ECC and/or Fully Buffered DIMMs	ECC DIMMs
Available Expansion Slots	2slots
Minimum and Maximum # of Hard Drives	Min 1, Max 6
Redundant Power Supply Capable?	Yes
Power Supply Make and Model	Delta Electronics DPS-770CB A
Power Supply Output Rating* (watts)	770
Minimum and Maximum # of Power Supplies	Min 1, Max 2
Input Power Range (AC or DC)	AC 100V/200V(for market condition)
Power Supply Efficiency at Specified Loadings*	80.28@10%, 88.58@20%, 92.16@50%, 90.09@100%
Power Supply Power Factor at Specified Loadings*	0.9092@10%, 0.9636@20%, 0.9873@50%, 0.9838@100%
Operating Systems Supported	WindowsServer@2008/2008 R2, RedhatEnterpriseLinux
Installed Operating System for Testing	Microsoft Windows Server® 2008 R2 Enterprise

\* Note: Power supply information is for a single power supply only

## System Configurations

	Minimum	Typical	Maximum
Configuration ID	GQ*211NK-*****	GQ*211NK-*****	GQ*211NK-*****
Processor Information	L5630	L5630	L5630
Memory Information	2GBx2=4GB	2GBx6=12GB	2GBx12=24GB
Internal Storage	146GBx1	146GBx3	146GBx6
I/O Devices	On board 1G LAN x2port	On board 1G LAN x2port, Add-in card 1G LAN x1port x1, SAS 6G x8portx1	On board 1G LAN x2port, Add-in card 1G LAN x2port x1, SAS 6G RAID x8portx1
Power Supply Number and Redundancy Configuration	1 / No redundancy	1 / No redundancy	2 / Redundant
Management Controller or Service Processor Installed?	Yes	Yes	Yes
Other Hardware Features / Accessories	-	-	-

## Power Data

	Minimum	Typical	Maximum
Idle Category (1S and 2S only)	Category D: Managed Dual Installed Processor (2P) Servers		
ENERGY STAR Idle Power Allowance (1S and 2S only)	150 W		286 W
Measured Idle Power (watts)	140.4		201.0
Power at Full Load* (watts)	168.5		236.0
Benchmark / Method Used for Full Load Test	Sandra 2011 Engineer		
Test Voltage and Frequency for Idle and Full Load Test	230.1 V / 60 Hz		
Range of Total Estimated Energy Usage ** (kWh/year)	2,460 to 2,952	0,000 to 0,000	3,522 to 4,135
Link to Detailed Power Calculator (if available)			

\* Note: Full load power represents the sustained, average power at 100% load of the given workload, and does not necessarily represent the absolute peak power or the highest average, sustained power possible for other workloads.

\*\* Note: Estimated kWh/year gives the absolute range of energy use a user could expect from continuous operation (24x7x365) and ranges from 100% Idle usage to 100% full load operation. The calculation also includes typical data center overhead at a ratio of 1 watt of overhead to every 1 watt of IT load (corresponding to a PUE of 2.0). Closer approximations may be found by using established power calculators and specific information about the intended operating environment (e.g., average time at Idle, data center PUE, etc.).

## Power and Performance for Benchmark #1

	Minimum	Typical	Maximum
Benchmark Used and Type of Workload	Sandra 2011 Engineer		
Avg. Power Measured During Benchmark Run			
Benchmark Performance Score			
Power Performance Ratio (perf score/avg. power)	#DIV/0!	#DIV/0!	#DIV/0!
Link to Full Benchmark Report (Where Available)	N/A	N/A	N/A

## Power and Performance for Benchmark #2 (optional)

	Minimum	Typical	Maximum
Benchmark Used and Type of Workload			
Avg. Power Measured During Benchmark Run			
Benchmark Performance Score			
Power Performance Ratio (perf score/avg. power)			
Link to Full Benchmark Report (Where Available)			

# ENERGY STAR Power and Performance Data Sheet

HA8000 RS210xK1 and xL : NK1, CL model

Page 2 of 3



Power Saving Features	Enabled on Shipment	End-User Enabling Required
Processor Dynamic Voltage and Frequency Scaling	Yes	
Processor or Core Reduced Power States	Yes (C1)	Yes (C3/C6)
Power Capping		Yes
Variable Speed Fan Control Based on Power or Thermal Readings	Yes	
Low Power Memory States		
Low Power I/O States		
Liquid Cooling Capability		
Other1:		
Other2:		
Other3:		
Other4:		

## Power and Temperature Measurement and Reporting

Input Power Available & Accuracy?	Yes, +/-10% under the operating power range
Input Air Temp Available & Accuracy?	Yes, +/-3degC
Processor Utilization Available?	Yes
Other Data Measurements Available & Accuracy?	
Compatible Protocols for Data Collection	Yes, IPMI
Averaging method and time period	Input power: Arithmetic average at 10ms-100ms interval, Register refresh rate 500ms Input Air Temp: 10s sampling(No averaging)

## Thermal Information \*

	Minimum	Typical	Maximum
Total Power Dissipation (watts)			
Delta Temperature at Exhaust at Peak Temp. (°C)			
Airflow at Maximum Fan Speed (CFM) at Peak Temp.			
Airflow at Nominal Fan Speed (CFM) at Nominal Temp.			

\* References: ASHRAE Extended Environmental Envelope Final August 1, 2008  
Thermal Guidelines for Data Processing Environments, ASHRAE, 2004, ISBN 1-931862-43-5  
Peak temperature is defined as 35 °C, Nominal Temperature is defined as 18 - 27 °C

## Notes

1. SPECpower\_ssj2008 is a registered trademark of the Standard Performance Evaluation Corporation (SPEC). Benchmark results stated above reflect results published on XX/XX/XX. For the latest SPECpower\_ssj2008 benchmark results, visit [http://www.spec.org/power\\_ssj2008](http://www.spec.org/power_ssj2008).

## ENERGY STAR Qualified Configurations

**Include specific information on ENERGY STAR Qualified SKUs or configurations**

All configurations of HA8000 RS210 NK1 and CL model  
(Configuration ID : GQ\*211NK-\*\*\*\*\*, GQ\*210CL-\*\*\*\*\*)

# ENERGY STAR Power and Performance Data Sheet

HA8000 RS210xK1 and xL : NK1, CL model

Page 3 of 3



## ENERGY STAR Qualified Configurations (Continued)

**Include specific information on ENERGY STAR Qualified SKUs or configurations**