



# EMERALD vs. ENERGY STAR

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SNIA Emerald™ Training

*SNIA Emerald™ Power Efficiency  
Measurement Specification*

*Version 3.0*

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# EMERALD VS ENERGY STAR

- ENERGY STAR Data Center Storage uses the SNIA Emerald test specification.
  - ◆ Energy Star has tighter lab requirements.
  - ◆ Energy Star Taxonomy
  - ◆ Energy Star requires 80PLUS Silver or better power supplies in the storage systems under test.
  - ◆ Energy Star requires power reporting capability during operation.
  - ◆ Energy Star uses different reporting forms than the EMERALD TDR.

# TEST LAB REQUIREMENTS

- Energy Star Certified test labs must be ISO 17025 accredited test labs.
  - ◆ Company labs do not require ISO 17025, but must be observed by a Certified Test Lab or Certification Body representative.
- EMERALD has no restrictions on labs.
- Submissions for Energy Star can be tested or modeled.
  - ◆ Modeled results must have verified test results to prove accuracy.
- EMERALD does not allow modeled data.



# Emerald Taxonomy

Category Level	Online	Near-Online	Removable Media Library	Virtual Media Library
Consumer/ Component <sup>a</sup>	Online 1	Near- Online 1	Removable 1	Virtual 1
Low-end	Online 2	Near- Online 2	Removable 2	Virtual 2
Mid-range	Online 3	Near- Online 3	Removable 3	Virtual 3
	Online 4			
High-end	Online 5	Near- Online 5	Removable 5	Virtual 5
Mainframe	Online 6	Near- Online 6	Removable 6	Virtual 6

<sup>a</sup> Entries in this level of taxonomy include both consumer products and data-center components (e.g., stand-alone tape drives). Grey shaded areas are not in scope of Emerald Specification.

# Energy Star Taxonomy

Category Level	Online
Low-end	Online 2
Mid-range	Online 3
	Online 4

- Energy Star requires Online 2 to have a data protection scheme
- Emerald does not require Online 2 to have a data protection scheme.

## ➤ ENERGY STAR PSU

- ◆ Energy Star requires 80PLUS Silver or better power supplies in the storage systems.

## ➤ ENERGY STAR POWER REPORTING

- ◆ Energy Star requires that the storage system be able to report power consumption while in use.
  - Can be built in to system.
  - Can be through external PDU or other appliance sold with the system.

## ➤ EMERALD has no PSU or power reporting requirements.

## ➤ EMERALD

- ◆ EMERALD TDR

## ➤ ENERGY STAR

- ◆ Register as Energy Star Storage Partner
- ◆ CB input form (Usually a large spreadsheet)
- ◆ CB Test Configuration form