



EMERALD vs. ENERGY STAR

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SNIA Emerald™ Training

*SNIA Emerald Power Efficiency
Measurement Specification,
for use in EPA ENERGY STAR®*

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EMERALD VS ENERGY STAR

- EPA ENERGY STAR Data Center Storage uses the SNIA Emerald test specification.
 - ◆ EPA has temperature and humidity requirements.
 - ◆ EPA has tighter power source requirements.
 - ◆ EPA has tighter lab requirements.
 - ◆ EPA requires 80PLUS Silver or better power supplies in the storage systems under test.
 - ◆ EPA requires power reporting capability during operation.
 - ◆ EPA requires additional reports beyond EMERALD TDR.

➤ Temperature and Humidity Requirements

	EMERALD	ENERGY STAR
Temperature	Record	Between 18 °C and 28 °C
Temperature Accuracy	No Requirement	+/- 0.5 °C
Temperature Reporting Resolution	0.1 °C	No Requirement
Temperature Reporting Frequency	1 per minute	4 per minute
Humidity	No Requirement	Between 15% and 80%
Humidity Accuracy	No Requirement	No Requirement

TEST REQUIREMENTS

➤ Power Source Requirements

	EMERALD	ENERGY STAR
Voltage (Power less than 1500 Watt)	200 – 240 VAC RMS	230V ac or 115V ac +/- 1%
Voltage (Power greater than 1500 Watt)	200 – 240 VAC RMS	230V ac or 115V ac +/- 5%
Frequency	47 – 63 Hz	50 Hz or 60 Hz +/- 1%
THD (Total Harmonic Distortion) (Power less than 1500 Watt)	Not Specified	2.0 %
THD (Total Harmonic Distortion) (Power greater than 1500 Watt)	Not Specified	5.0 %

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.

PSU AND POWER REPORTING

➤ 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 for listed system (1 per listing)

➤ ENERGY STAR

- ◆ Register as Energy Star Storage Partner
- ◆ EMERALD TDR for all test configurations (multiple)
- ◆ CB input form (Usually a large spreadsheet)
- ◆ CB Test Configuration form