SFF-TA-1023 Outline

Chapter 1 – Methodology (Air cooled systems)

* Introduction
  + Briefly talk about the different elements of the spec and how they are used.
    - Test fixture and how it is used to generate the different charts
    - Airflow Impedance (AIF) Level chart
    - Thermal Performance chart.
* Term definition
  + Airflow Impedance Level (AFI)
  + Maximum Thermal Level (MaxTherm)
  + Degraded Thermal Level (DTherm)
  + Maximum Approach Ambient Temperature (MaxAmbient)
  + Warning Temperature Limit (WCTEMP)
  + Critical Temperature Limit (CCTEMP)
* Airflow Impedance Level chart
  + Use CFM/device
  + Baseline impedance defined by three 1x (7.5mm) devices at a 9.3mm pitch
    - Minimum of 3 devices and 4 air gaps
  + Define 3 impedance levels above (2x devices with a higher impedance than 2 1x devices)
    - Highest impedance level is a solid body 16.8mm device
  + Define 3 impedance levels below (2x devices with a lower impedance than 2 1x devices)
  + Airflow impedance characterized with no carriers (raw devices)
  + Airflow impedance characterized without backplane or cables (unpowered)
* Thermal Performance Chart
  + Airflow vs Ambient Temperature curves
  + Measured with three devices powered up and under I/O stress
  + Describe workload for I/O stress
    - Workload provided by device vendor to put device in max thermal condition
    - Vendor supplies expected power draw at max I/O stress (need to define power)
    - Define a common tool for I/O testing
    - Device must be in a steady state condition (SSDs must be pre-conditioning)
      * Possibly point to SNIA definition of pre-conditioning?
* Basic Characterization Flow chart
  + Describe the flowchart and procedures vendor will follow to generate necessary data
  + Power modes (do we want to test at each power mode setting?)

Chapter 2 – E3 Test Fixture Definition

* Provide detailed mechanical design for an E3 test fixture that supports the following
  + Support for 1x or 2x devices (and a mix of 1x and 2x devices)
  + Support for unpowered devices (impedance testing)
  + Support for powered devices (thermal performance testing)
* Provide detailed description of how the devices are connected to a system
* Provide Airflow Impedance Level charts appropriate E3 data
* Provide Thermal Performance Charts with appropriate E3 data
* Provide guidance on expected airflow as a function of the Airflow Impedance Level

Chapter 3 – E1 Test Fixture Definition

* Provide detailed mechanical design for an E1 test fixture that supports the following
  + ???
* Provide detailed description of how the devices are connected to a system