

From: Gerry Houlder, Seagate Technology <gerry.houlder@seagate.com>
Subj: SAS-2: Remove restrictions for SSC
Date: Dec. 12, 2007

Overview

It has been noted that there are some conflicting statements in SAS-2 about when Spread Spectrum Clocking (SSC) is allowed or prohibited. Seagate would like to see these statements resolved so that SSC is allowed at all times but may be enabled (if there is prior agreement from both ends) or disabled at any time.

This is to accommodate implementations that may use the same PLO/ SSC circuits to supply clocking for multiple SAS ports. For example, if one port is running with SSC enabled and another port requests SSC disabled then SSC would have to be disabled for all ports supplied with the same PLO/ SSC circuit. SAS-2 should be written to allow this behavior.

I am aware that there are concerns that this might be OK for target end devices because they typically will connect to expanders that are already designed to tolerate SSC, but it might not be OK to apply these rules to expanders because they might connect to devices that do not support SSC and those devices might be confused if SSC is occurring during SNW-1 or SNW-2. The need (or not) for different rules for different devices is a point of discussion.