Minutes of SAS PHY Working Group conference call May 1, 2008

Attendance:
Mr. Paul von Stamwitz  AMCC
Mr. Douglas Wagner  FCI
Mr. Barry Olawsky  Hewlett Packard Co.
Mr. Rob Elliott  Hewlett Packard Co.
Mr. Dan Colegrove  Hitachi Global Storage Tech.
Mr. James Rockrohr  IBM Corp.
Mr. Harvey Newman  Infineon Technologies
Mr. Michael Jenkins  LSI Corp.
Mr. Kevin Witt  Maxim Semiconductor
Mr. Mahbubul Bari  Maxim Semiconductor
Mr. Galen Fromm  Molex Inc.
Mr. Hock Seow  NEC Electronics America, Inc
Mr. Guillaume Fortin  PMC-Sierra
Mr. Yuming Tao  PMC-Sierra
Mr. Edward Chang  Samsung
Mr. Alvin Cox  Seagate Technology
Mr. Allen Kramer  Seagate Technology
Mr. Benoit Mercier  STMicroelectronics
Mr. Bent Hessen-Schmidt  Synthesys Research, Inc.
Mr. Michael Fogg  TycoElectronics
Mr. Larry McMillan  WDC
Mr. Andy Chen

22 in attendance

Agenda:

1. Electrical questions on SAS 2.0 to SAS 1.1 support?[Felton]
   http://www.t10.org/ftp/t10/document.08/08-188r0.pdf

   The proposal brought up some good questions with regards to how to test PHY’s at 1.5 and 3 Gbps if SNW3 is enabled. The assumption is made that these speed may use DFE, but no requirement is in the specification. It is likely that 1.5 Gbps will not enable DFE, but that 3 Gbps might. Since these lower speeds could be added to the stressed receiver testing, the specification needs to be reviewed to determine what need to be added to do so. Since many parameters are specified in UI, the pS conversion could be dropped, however, the pS values do add a convenience (and a sanity check), so it would be nice to have the pS value included for at least one identified speed.

2. Sinusoidal jitter added to stressed receiver testing

   A long discussion was had on this topic. It also carried over to the issue of including SSC testing on the stressed receiver test. The current table does not include SSC. Should the residual SSC jitter be included as part of the total BUJ specified? If SJ is specified, does that include the effect of SSC? What mix of SJ, RJ, BUJ, and SSC is required for a complete test?

3. SSC receiver capabilities

   Table 78 is unclear that SSC capability is optional for the receiver. From a practical standpoint, I doubt that any receiver outside of a captive market would not include SSC capability. Let’s revisit this optional status and determine if it should really be optional for the transmitter device and especially the receiver device. The thought is that if a system does not want to use SSC, it can disable it with SNW3, but that basically all transceiver devices will be SSC capable.