To: T10 Membership   T10/02-481r0
From: Alvin Cox
Subject: SAS PHY working group minutes, November 4-5, 2002

Meeting was called to order 1:35 pm on Monday 11/4/02.

Attendance:

The following were present for all or part of the meeting:

Ron Roberts   Adaptec Consultant
Richard McMillan   Adaptec, Inc.
Bernhard Laschinsky   Agere Systems
Titkwan Hui   Dallas Semiconductor
Bob Gannon   Electronica Pantera
Douglas Wagner   FCI
William Ham   HP
Barry Olawsky   HP
Robert Elliott   HP
Terry Enright   Honda Connectors
Richard Beckett   Intel
William Petty   LSI Logic
John Lohmeyer   LSI Logic
Russ Brown   Maxtor Corp.
Martin Czekalski   Maxtor Corp.
Jay Neer   Molex
Rich Ramos   MTI Technologies
Alvin Cox   Seagate
Allen Kramer   Seagate
Michael Jenson   ST Microelectronics
Vit Novak   Sun Microsystems, Inc.
Steve Hemmah   Texas Instruments

22 people present.

Agenda:

1. Common mode specification (Brown)

ftp://ftp.t10.org/t10/document.02/02-349r3.pdf

Russ will post a revision 4 that includes the following change:
Change to common characteristics table per SATA errata 030 to support
spread spectrum clocking number (+350 / -5 350).

Unanimous approval to include the updated version (r4) in the SAS
specification.
Vote: 7 Y, 0 N, 4 A

2. Test loads (Cox)

ftp://ftp.t10.org/t10/document.02/02-379r2.pdf

Combine the extensive review of the SAS PHY section related to test loads, compliance testing, and skew (agenda items 2, 3, and 4) in the update of 02-379 to r3. Update to include all changes to section 5.7 recorded during the meeting that are not covered by 02-349 and 02-380

Unanimous approval to incorporate 02-379r3 into the SAS specification.
Vote 6 Y, 0 N, 0 A

3. Skew specifications in transmit and receive tables.

Values are not reasonable based on other specifications. Realistic values needed.

Include in 02-379r3. Follow values as used in other similar specifications.

4. Eye mask figure review (Kramer/Cox)

Normalized figures will stay, but Y1 and Y2 values will be deleted from tables and reference made as an alternate method of measurement. Compliance channel testing will remain the primary test methodology for SAS. Need to review implications to text of latest SAS revision.

Include revisions in 02-379r3.

5. New business

5.1 OOB voltage levels (Cox)

Reviewed 02-380r0 and unanimous approval for the revised version (02-0380r1) to be included in the SAS specification.
Vote: 6 Y, 0 N, 4 A

5.2 ESD requirements related to hot plug (Olawsky)

Should ESD requirements be part of the specification? General concensus that should not be part of the interoperability specification. Item not to be considered at this time.

5.3 Internal cable

Define the use of a SATA signal connector on the initiator/expander side of the SAS internal cable with a pinout that is compatible with a SATA host. The power connector on the cable opposite the SAS target device is vendor specific. Cox to document the proposal.

Unanimous approval for inclusion in the SAS specification.
Vote: 12 Y, 0 N, 1 A

6. Page turner for PHY (section 5) completed as part of agenda items 2 - 4.

The meeting adjourned at 6:00pm Tuesday November 5, 2002.