

To: T10 Membership
From: Alvin Cox
Subject: Minutes of SAS PHY WG, July 15-16, 2002

Meeting was called to order at 1:10 pm MDT, Monday, July 15, 2002

Attendees:

The following attended all or part of the SAS PHY WG meeting.

Vince Bastiani	Adaptec Consultant
Richard McMillan	Adaptec, Inc.
Bernhard Laschinsky	Agere Systems
Michael Wingard	Amphenol Interconnect
James A. Lott, Jr.	Dallas Semiconductor
Douglas Wagner	FCI
Gene Whetstone	Foxconn Electronics
Barry Olawsky	HP
Randy Wasylak	Hitachi Cable Manchester
Mark Seidel	Intel Corp.
Frank Gasparik	LSI Logic
Jie Fan	Madison Cable Corp.
Russ Brown	Maxtor Corp.
Juzer Mogri	NEC Electronics
Henry Kuo	Qlogic Corp.
Vincent Duong	Rancho Technology, Inc.
John A. Fobel	Rancho Technology, Inc.
Randy Butcher	Ranoda Electronics
Alvin Cox	Seagate
Allen Kramer	Seagate
Michael Jenson	ST Microelectronics
Vit Novak	Sun Microsystems, Inc.
Paul D. Aloisi	Texas Instruments

23 people present.

Agenda:

1. Test load (Jenkins)
Review proposal T10 document 02-240r0

Determined that zero-length test loads need to be added to Figure 30. Allen Kramer will draft the figure additions. Discussion to continue on 7/22 conference call.

- 3a. OOB speed negotiation
Review proposal T10 document 02-198r5

Comments included on proposal and discussed during joint session with protocol group.

IC suppliers to provide feedback on 7/22 regarding need for more than 320ns for RCD. No response will be considered as not needing more than 320 ns (480 UI(OOB)).

Clarification identified for the Speed Negotiation Window figure.

Quiet time must drive to a common mode value rather than a high or low. The following definition was agreed to by the SAS PHY WG:

During idle time, the transmitter output shall meet the following requirements:

Differential voltage:

DC (offset) component shall be equal to the average differential voltage during the bursts +/- 25mV. AC component shall be less than 50mV p-p.

Common Mode voltage:

Equal to the average of common mode during bursts, +/- 50mV.

- 4. Jitter tolerance compliance points table review (Jenkins/Kramer) Status of review.

Updates noted on copy by Alvin Cox.

Unanimous approval to forward. Included in T10/02-289r0

- 5. Common Mode Shift Oxide Stress (Cable) Review proposal T10 document 02-247r0

Intel to revise simulation.

All: Is this simulation correct? What input does anyone have regarding experience with P-SCSI or FCAL.

- 6. 3.3V LED driver characteristics

Alvin to submit the following specification change for reviews on the T10 reflector:

Output characteristics of the READY LED signal (tested through the device mated connector)

State	Output current	Output voltage
Drive LED off	-100 µA < IOH < 100 µA	0 < VOH < 3.6 V
Drive LED on	IOL > 10 mA	0 < VOL < 0.15V

New items:

Test patterns

Allen Kramer, Russ Brown, and Bernhard Laschinsky to review FCAL test patterns and recommend application for SAS. Feedback required for conference call 7/29

Schedule:

07/22/02 TELECONFERENCE INFORMATION:

- * Start Date/Time: 07/22/02 MON 02:00 PM CDT
- * End Date/Time: 07/22/02 MON 04:00 PM CDT

PARTICIPANT INFORMATION:

- * PARTICIPANT CODE: 734444
- * Toll Free Dial In Number: (888)296-1938

Webex information:

Meeting Name: SAS PHY WG
Scheduled Time: 7/22/2002 at 1:45PM (GMT -05:00) Central Time, USA &
Canada (DayLight Time).

Meeting Number: 281652669

Any meeting attendee can use this number to join the meeting, at
<https://seagate.webex.com/join/>

Password: SASphy

Agenda:

RCD time requirement.

Test load.

Keying requirement for external 4x connector.

Common mode shift oxide stress.

Follow up conference call 07/29/02.

07/29/02 TELECONFERENCE INFORMATION:

- * Start Date/Time: 07/29/02 MON 02:00 PM CDT
- * End Date/Time: 07/29/02 MON 04:00 PM CDT

PARTICIPANT INFORMATION:

PARTICIPANT CODE: 441949

- * Toll Free Dial in Number: (877)214-6371
- * International Access/Caller Paid Dial In Number: (504)588-9086

Webex information to be posted on reflector.

Agenda:

Carryover items from 07/22 call.

Test Patterns.

New business.

The meeting was adjourned at 4:35 pm MDT, Tuesday, July 16, 2002