

The meeting started at 2:00pm CDT, 9/23/02

Attendance:

Bernhard Laschinsky	Agere
Rob Elliott	HP
Barry Olawsky	HP
Dan Colegrove	IBM
Lou Fasano	IBM
George Penokie	IBM
Andrew Cable	Intel
Mike Jenkins	LSIL
John Lohmeyer	LSIL
Russ Brown	Maxtor
Ting Chan	Qlogic
Alvin Cox	Seagate
Al Kramer	Seagate

13 people in attendance.

Agenda:

1. LED driver requirements

Barry Olawsky's presentation concerning system level impact of 15mA current, 3.6V maximum was reviewed.

Alvin will write a proposal for 0 to 225mV at 15mA sink current and post Barry's presentation.

2. Test Patterns

It was determined that since there is a fixed 24 byte header, that the scrambling offset can be factored into the data pattern such that the CJTPAT can be accomplished by a fixed pattern, independent of the address. Aligns sent during the transmission could be negative on the test pattern effectiveness. A note should be added concerning aligns during this test pattern. Bernhard to revise pattern and work with Alvin to document.

A description of the CRPAT will be included but no instructions on how to achieve it on the wire.

Decided that CJTPAT will be used for all jitter tests since it provides a worst-case pattern and based on adoption of this methodology by other standards. Bernhard and Alvin to write proposal to refine notes and include the data to generate CJTPAT in the specification.

All participating on the call are to check with their safety agency experts to determine if a documented means of disabling scrambling requires the system to be tested in that mode.

No input, but determined that it does not matter without a standard way to disable and the decision to use CJTPAT for all tests.

3. Common mode specification

Russ is concerned that long cables may not allow the skew aspect to be covered by the common mode specification. He will perform additional tests and share results on the call.

Data verified concerns and skew will be kept as a separate specification item. Russ to prepare common mode specification draft for next call.

4. Test loads

Posting due 9/20 (Cox) Not posted yet. Review figures during call.

Figures reviewed and the equation for calculating the compliant channel will be added to the figure with the graph of the 3 Gbps characteristics as an example.

5. OOB transmission levels

Targets should transmit at SAS levels as they are keyed to not connect to SATA devices. Initiators and expanders should begin at SATA voltage levels since a SATA device may be attached to it. Voltage level may increase to SAS level if OOB is not completed.

During the meeting last week, it was noted that some areas of the OOB text do not properly describe the transition to idle time.

Cox to work with Penokie and Grieff on the OOB behavior. Transition to idle issues documented last week and sent to Penokie and Elliott.

6. Define conditions for "loss of signal"

Carryover. Not covered during call.

Based on the impact to the system, what defines a loss of signal? One bit? Voltage level loss? Etc.

All to review specification use of "loss of signal" and determine if necessary. Suspected carry-over from FCAL concerning optical connection rather than copper. Discuss on call.

7. Review what PHY group wants to count on the SMP REPORT PHY ERROR LOG.

Carryover. Not covered during call.

List below made initially by PHY working group. Is this what we want? What interactive errors stop counts on others?

PHY group suggested error report items in order of significance:

* Loss of signal

- * OOB signal detected but can't negotiate OOB (expander log)
- * Speed negotiation at each speed (count of successes for G1, G2, ?)
- * Disparity error count
- * Illegal character count
- * CRC error count
- * Loss of synchronization

PHY group to reconsider list as is currently proposed. Juzer has provided the following link that should be considered when evaluating the need for this log page.

www.reed.com/Papers/EndtoEnd.html

The paper presents a persuasive but heuristic argument of the end-to-end principle. The principle suggests that functions (like loss of signal and other error check functions) placed at low levels of a system may be redundant or of little value when compared with the cost of providing them at that level.

8. New items.

No new items.

9. Adjournment

The meeting adjourned at 4:22pm CDT, 9/23/02

10. Meeting schedule.

Next call:

SAS PHY Teleconference Monday, September 30, 2:00 pm - 4:00 pm CDT

PARTICIPANT INFORMATION:

All Participants should use the following information to reach the conference call:

Toll Free Dial in Number: (866) 279-4742

International Access/Caller Paid Dial In Number: (309) 229-0118

PARTICIPANT CODE: 3243413

Webex information:

Meeting Summary

Meeting Name: SAS PHY WG

Scheduled Time: 9/30/2002 at 1:45PM (GMT -05:00) Central Time, USA & Canada (DayLight Time).

Meeting Number: 281981011

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

Password: commonmode