

Attendance:

Mr. Ken Paist	Agere Systems
Mr. Minchuan Wang	Dell
Mr. Kevin Marks	Dell
Mr. Gary Hsieh	Foxconn
Mr. Rob Elliott	Hewlett Packard Co.
Mr. Barry Olawsky	Hewlett Packard Co.
Mr. Harvey Newman	Infineon Technologies
Dr. Mark Seidel	Intel Corp.
Mr. Michael Jenkins	LSI Logic Corp.
Mr. Richard Uber	Maxtor Corp.
Mr. Galen Fromm	Molex Inc.
Mr. Michael Rost	Molex Inc.
Mr. Yuriy Greshishchev	PMC-Sierra
Mr. Henry Wong	PMC-Sierra
Mr. Rick Hernandez	PMC-Sierra
Mr. Alvin Cox	Seagate Technology
Mr. Doug Loree	Toshiba
Mr. Adrian Robinson	Vitesse

18 People Present

Agenda:

1. Comparison of Equalization Schemes for 6Gbps SAS Channels (06-049) [Caroselli, Malipatil]

<http://www.t10.org/ftp/t10/document.06/06-049r1.pdf>

The LSI presentation looks at peak vertical amplitude only, rather than width of the eye also.

<http://www.t10.org/ftp/t10/document.06/06-104r2.pdf>

Yuriy ran simulations to show how number of taps increases width of eye opening. Data included on Page 8 of r2.

Simulations for .5-meter cable verified with actual data taken by Vitesse that the range in pre-emphasis has minimal impact to the eye. Vitesse will have the data available for the next call in two weeks.

2. Spread spectrum clocking

a. Yuriy to present information on down-spreading versus symmetric.

<http://www.t10.org/ftp/t10/document.06/06-193r0.pdf>

Concern about power required to support receiver tolerance of SSC and jitter trade-off to SSC amount. Downspreading approach is common in industry. Don't expect to see any change.

b. Harvey to post a few notes on system clock impact.

<http://www.t10.org/ftp/t10/document.06/06-192r0.pdf>

Discussed system issues with SSC variations such as 5000 ppm and 2000 ppm transmission in the same system. Looked at common clock issues and discussed number of aligns that need to be inserted to support SSC. The SAS protocol would have to be changed to add more aligns. SATA will probably remain at 5000 ppm downspreading at G3 due to motherboard designs and backwards compatibility. Looked at some applications and may be able to keep SSC between an initiator and expander if both support SSC even though the expander had to shut off SSC due to a legacy device.

c. HP (Barry) to provide more data as available.

Hardware issues have been resolved and should have data soon, possibly for next call.

d. Backwards compatibility and other issues need to be discussed and resolved. Alvin has posted a considerations document:

<http://www.t10.org/ftp/t10/document.06/06-129r1.pdf>

3. Continued discussion on 6Gbps specification elements

TCTF definition: Rob and Barry to describe some issues that may lead to interoperability problems. Being pulled together but may not be available until next face-to-face.

4. New business

<http://www.t10.org/ftp/t10/document.06/06-169r1.pdf>

New update to 06-169. Revision 1 (3 April 2006) Added footnote c/d correction.

Schedule:

Next conference call April 20, 2006

PARTICIPANT INFORMATION:

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

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

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

PARTICIPANT CODE: 3243413

<https://seagate.webex.com/seagate>

Topic: SAS PHY working group

Date: Thursday April 20, 2006

Time: 10:00 am, Central Daylight Time (GMT -06:00, Chicago)

Meeting number: 822 135 571

Meeting password: 10meter

Agenda: Vitesse .5 meter test data, SSC discussion, TCTF, new items.