

Attendance:

Mr. Paul von Stamwitz	AMCC
Mr. Greg McSorley	Amphenol
Mr. Mickey Felton	EMC
Mr. Douglas Wagner	FCI
Mr. Barry Olawsky	Hewlett Packard Co.
Mr. Rob Elliott	Hewlett Packard Co.
Mr. Dan Colegrove	Hitachi Global Storage Tech.
Mr. Harvey Newman	Infineon Technologies
Dr. Mark Seidel	Intel Corp.
Mr. Steven Sanders	LeCroy
Mr. Michael Jenkins	LSI Corp.
Mr. Galen Fromm	Molex Inc.
Mr. Guillaume Fortin	PMC-Sierra
Mr. Gourgen Oganessyan	Quellan Inc.
Mr. Joseph Chen	Samsung
Mr. Alvin Cox	Seagate Technology
Mr. Allen Kramer	Seagate Technology
Mr. Gerald Houlder	Seagate Technology
Mr. Thomas Skaar	Seagate Technology
Mr. Bruce Johnson	Seagate Technology
Mr. Benoit Mercier	STMicroelectronics
Mr. Bent Hessen-Schmidt	Synthesys Research, Inc.
Mr. Michael Fogg	TycoElectronics
Mr. Larry McMillan	WDC
Mr. Ramya Dissanayake	WDC

25 in attendance

Agenda:

1. White paper on existing SCSI low power modes [Houlder]

<http://www.t10.org/ftp/t10/document.08/08-100r0.pdf>

Gerry reviewed this proposal that incorporates phy states of partial and slumber used by SATA in combination with existing SCSI power states to provide power savings in SAS. The proposal suggests adding recovery times to the SCSI power states to make them easier to incorporate.

2. Mike Jenkins: Request for clarification on Table 72 in SAS-2 Draft Spec. (Our characterization group cannot resolve some apparent inconsistencies and ambiguities in the requirements. We will submit ballot comments, of course, but if we can get a little consensus within the working group first on how to interpret and/or modify things, it would undoubtedly make comment resolution much simpler.)

Bounded uncorrelated jitter number appears to be unrealistic. 0.033 UI is found in another spec. Link dispersion penalty is not defined and already accounted for in the next line. There is an editor's note concerning this.

Alvin was to check on the amplitude line. The following is from the previous minutes at the January meeting. "Instead of specifying both the received eye opening and the launch voltage, the proposal was revised to provide a minimum and maximum eye opening while removing the launch voltage."

Mike will take other issues and concerns offline with Kevin Witt and post results to the reflector.

3. StatEye Status [Newman, Sanders]

<http://www.t10.org/ftp/t10/document.08/08-106r0.pdf>

Harvey feels that slight adjustments in numbers will fix the couple of failing channels are very close.

Relaxing limits slightly would be an easier approach than having to revamp existing implementations.

Suggests that the sum of the DFE coefficients must be greater than 50% of the maximum specified tap settings rather than the link dispersion penalty.

4. Active cable spec proposal [Oganessyan]

Proposal for SAS 2.x Specification to Enable Support for Active Cables [Oganessyan]

<http://www.t10.org/ftp/t10/document.08/08-052r1.pdf>

Proposal provides background data supporting the feasibility of 08-103. We reviewed this proposal, but not 08-103.

Active Copper Cables for SAS-2.x (supporting presentation for 08-052r1 proposal) [Oganessyan]

<http://www.t10.org/ftp/t10/document.08/08-103r0.pdf>

2W at 3.3V. This is twice the power that his particular implementation requires, but provides flexibility for alternate implementations. Need to defining keying so that new does not plug into old but old plugs into new.

5. SAS-2 Mini SAS 8i connectors and cable assemblies [Elliott]

<http://www.t10.org/ftp/t10/document.07/07-449r0.pdf>

No update at this time.

6 New items:

6.1 Strawman Proposal for 12G SAS Reference TX & RX. [Jenkins]

<http://www.t10.org/ftp/t10/document.08/08-109r0.pdf>

Transmitter precursor is a significant issue and the receiver requires 8 tap DFE
Review Harvey's original training proposal from SAS-2 for transmitter adaptation possibilities.
Check StatEye version 5 for precursor capability that was in version 4.

Would it be possible with 4 or 5 tap DFE and more precursor taps?

Problem: More noise in the transmit waveform, proprietary content in adaptation made public.

The strawman proposal includes the following based on the 10-meter iPass reference channel:

Reference TX:

- 1 post-cursor & 1 precursor tap FFE
- Possible need for back-channel to adapt

Reference RX:

- At least 8-tap DFE

6.2 STA plugfest

STA plugfest in June originally hoped to be for 6G. Would there be interest in a 6G "component plugfest" for lower level interoperability testing.

No additional conference calls scheduled before the March meeting in North Carolina.