Minutes SAS-1.1 PHY WG teleconference March 3, 2005 T10/05-099r0

Attendance:

Mr. Tim Symons	Adaptec
Mr. Henry Wong	Agilent
Mr. Paul von Stamwitz	AMCC
Mr. Kevin Marks	Dell
Mr. Neil Wanamaker	Finisar
Mr. Dan Colegrove	HGST
Mr. Barry Olawsky	HP
Mr. George Penokie	IBM
Mr. Bill Bissonette	Intel Corporation
Mr. Mike Jenkins	LSIL
Mr. Mark Evans	Maxtor
Mr. Dick Uber	Maxtor
Mr. Galen Fromm	Molex
Mr. Bill Lye	PMC-Sierra
Mr. Ting Chan	QLogic
Mr. Alvin Cox	Seagate Technology
Mr. Dan Smith	Seagate Technology
Mr. Bill Gintz	Sues
Mr. Dan Gorenc	Tyco
Mr. Don Schulte	Vitesse

20 People Present

Agenda:

1) T10/05-083r1 SAS-1.1 PHY transmitter and receiver electrical table updates [Cox]
http://www.t10.org/ftp/t10/document.05/05-083r1.pdf

Rev 1 removes and/or and restores symbols in the impedance note.

2) 05-062r0 SAS 1.1 Signal Performance Measurements Annex [Penokie]
http://www.t10.org/ftp/t10/document.05/05-062r1.pdf

Review will continue with additional editorial updates at Dana Point, primarily from Barry. Stopped update on line to address other issues.

3) 05-059r0 05-023r0 SAS-1.1 Connector figures [Allan]
http://www.t10.org/ftp/t10/document.05/05-059r0.pdf

Some reflector traffic on this. Decide at Dana Point.

4) 05-075r0 OOB Signal Transmitter Requirements [Wanamaker]
http://www.t10.org/ftp/t10/document.05/05-075r0.pdf

Proposal widens the transmitter window of the OOB signal burst and idle time.

3/3: Qlogic suggested that exception to UIOOB tolerance be applied to the first 4 intervals or bits and the rest of the unit intervals will be within tolerance. How is this tested? Is the initial issue

5) SATA pin P11 LED drive capability. [Cox]

Should a note be added to SAS concerning the SATA specification for P11? It has a maximum allowed voltage of 2.1V and a sink capability of 300uA compared to SAS requirements of a maximum allowed voltage of 3.6V and a sink capability of 15mA. Discussed with Rob Elliott after the call and he indicated that SATA has changed the definition of P11 and this has additional impacts to the SAS text.

6) 05-019r1 SAS 1.1 OOB For SAS/SATA Support [Bissonette]
http://www.t10.org/ftp/t10/document.05/05-019r1.pdf
White paper posted.
http://www.t10.org/ftp/t10/document.05/05-077r1.pdf

Bill Bissonette provided status concerning SATA-I/O review. He expects to have a yes/no type question to present to SATA and plans to propose an erratum concerning the SATA transient section to clarify the SAS implications.

7) T10/05-079r1 SAS-1.1 Minimum XR/IR Receiver Signal Level for 3Gb SATA Mode [Olawsky]
http://www.t10.org/ftp/t10/document.05/05-079r1.pdf

SATA eye opening requirements in transmit table concerns are being addressed by this proposal. Barry Olawsky is working on 3Gbps SATA simulation numbers and will have additional data posted prior to next week's face-to-face. He is leaning toward providing a 1-meter cable TCTF for SATA 3Gbps applications. In other words, for SATA 3G to work with the full range allowed by the SATA spec, the system loss needs to be limited to less than SAS will tolerate.

8) Review draft proposal concerning transients during OOB [Cox]
http://www.t10.org/ftp/t10/document.05/05-069r0.pdf

9) 05-084r0 SAS 1-1 Compact Connectors (Internal and External) [Neer]
http://www.t10.org/ftp/t10/document.05/05-084r0.pdf

Proposal posted 2/23/05. It does not include electrical performance requirements. Is this assumed to be the same as the existing tables? SATA I/O adopted the Molex versions as the plan of record on 3/2.
Rob Elliott has posted an addition item concerning the use of OOB pins.
http://www.t10.org/ftp/t10/document.05/05-100r0.pdf
Concerns over ability to resolve all issues before SAS 1.1 letter ballot. Rob has details on timing and concerns list.

10) SAS-1.1 rev 8 posted.
http://www.t10.org/ftp/t10/drafts/sas1/sas1r08.pdf

11) New item - Maximum intra-pair skew requirement for external cables.

Current specification is 20 pS. Is this number achievable? What can the cables be supplied to? What can the receiver devices tolerate?