

Attendance:

Mr. Bryan Kantack	Agilent Technologies, Inc.
Mr. Charles Hill	Alta Engineering
Mr. Paul von Stamwitz	AMCC
Mr. Jesse Jaramillo	Amphenol
Mr. Mickey Felton	EMC
Mr. Ramez Rizk	Emulex
Mr. Barry Olawsky	Hewlett Packard Co.
Mr. Dan Colegrove	Hitachi Global Storage Tech.
Mr. Harvey Newman	Infineon Technologies
Dr. Mark Seidel	Intel Corp.
Mr. Pankaj Kumar	Intel Corp.
Mr. Michael Jenkins	LSI Corp.
Mr. Jacky Chow	Marvell Semiconductor, Inc.
Mr. Galen Fromm	Molex Inc.
Mr. Hock Seow	NEC Electronics America, Inc
Mr. Rick Hernandez	PMC-Sierra
Mr. Guillaume Fortin	PMC-Sierra
Mr. Yuming Tao	PMC-Sierra
Mr. Tim Symons	PMC-Sierra
Mr. Joseph Chen	Samsung
Mr. Alvin Cox	Seagate Technology
Mr. Daniel Smith	Seagate Technology
Mr. Benoit Mercier	STMicroelectronics
Mr. Bent Hessen-Schmidt	Synthesys Research, Inc.
Mr. Dan Gorenc	TycoElectronics
Mr. Mahbulul Bari	Vitesse Semiconductor
Mr. Larry McMillan	WDC
Mr. Ramya Dissanayake	WDC

28 in attendance

Agenda:

1. Test illustrations/descriptions [Felton]

<http://www.t10.org/ftp/t10/document.07/07-377r0.pdf>

RTTL figure shows that there is trace between the connector and the measurement point.

The Molex fixture has 2" of micro strip traces on each side.

Annex B may mention the trace existence with regards to measurement. Since the traces are included in the S-parameter file, Galen and Mickey will work on including the information in the explanation file associated with the s-parameter postings and determine if a general figure can be included in Annex B (or elsewhere) in the standard as informative.

Mini SAS test fixture description (07-383) [Fromm]

<http://www.t10.org/ftp/t10/document.07/07-383r0.pdf>

The inclusion of the board losses are considered additional margin that is included in the reference channel. Mickey and Galen will mention this in the appropriate places. It is a good idea to include the information in the reference channel pdf file.

- Use a consistent format for graphs and provide equations. Jenkins and Witt have supplied the figures. The table entries may be sufficient to provide the “equations” for the editor (Elliott) to draw in his preferred format.
- Alvin to look at “repeating pattern” usage.
Updates included in 07-339r4.
- Mickey and Alvin to review references to figures.
07-339r3 included the corrected references.
- Alvin to talk to STA about adding a strong statement regarding compatibility with SATA at 6Gbps. Fitzpatrick will support as needed.
Comment included in the TxRx connection section of 07-339r4. The comment was made that it should be more specific on where to find rather than just “see SATA”. This is difficult since the SATA 6G spec does not exist yet. Previous references used “ see SATA 2”.

2. Receiver test delivered signal [Newman, Hessen-Schmidt, Witt, Jenkins]

Harvey shared initial data and has posted the information. It has been posted:

SAS-2 De-emphasis + iPass (07-385r0) [Newman]

<http://www.t10.org/ftp/t10/document.07/07-385r0.pdf>

He discussed testing done with Agilent equipment which included a VCHA, BERT, and a de-emphasis module (N4916A). There is a substantial difference between results with CJTPAT versus a PRBS7 pattern. As expected, 6 dB of de-emphasis produces an open eye. Mike Jenkins got on his de-emphasis soapbox regarding the possible problems that de-emphasis can give certain receiver equalization implementations.

The TWDP software used in the equipment is based on the FCAL optical channel rather than the SAS channel model. Harvey indicated that the TWDP is for testing the transmitter rather than determining a signal to provide the receiver delivered signal. Harvey also indicated that the 2dB to 3 dB de-emphasis change results in about a 20% difference in the delivered signal eye opening. The TWDP model still has IP issues holding back the availability of a SAS version.

3. Cable specification update [Olawsky, Fromm, Wingard]

Still waiting on information from Amphenol. Jesse will help check on the status.

4. Common mode voltage limit [Jenkins + anyone who can help]

Straight line was not accepted. Need data to determine how to change the graph.

5. StatEye updates [Newman]

No update since last week.

6. Appendix material for JTF tuning [Cox]

Alvin is working on the initial proposal version and will work with Chuck to post it next week.

7. Updated 07-339 per meeting input [Cox]

r4 posted:

<http://www.t10.org/ftp/t10/document.07/07-339r4.pdf>

8. New items

a. Should the scrambler be required to turn off during TRAIN and TRAIN_DONE primitives or can it increment during primitive transmission times in SNW-3 since the dwords are not in a frame. General opinion is that the dwords are to be treated the same as in a frame so that the data can be recovered and the same training pattern is sent by every transmitter device.

b. Although not discussed during the call, should the common mode return loss be dropped from the specification and just limit it to differential return loss and differential to common mode conversion?

Next conference call: 9/13/07

Toll Free Dial in Number: (877)810-9442

International Access/Caller Paid Dial In Number: (636)651-3190

PARTICIPANT CODE: 3243413

Webex information:

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

Topic: SAS-2 PHY WG

Date: Thursday

Time: 10:00 am, Central Daylight Time (GMT -05:00, Chicago)

Meeting number: 826 515 680

Meeting password: 6gbpsSAS