

Accredited Standards Committee\*  
**INCITS, Information Technology**

**Doc. No.:** T11/04-382v1  
**Date:** June 07, 2004  
**Project:** FC0 FC-MJSQ ad hoc  
**Reply to:** Bill Ham  
Allen Kramer

**To:** Membership of T11.2  
**From:** Bill Ham, acting chair FC-MJSQ working group  
Allen Kramer, vice chair FC-MJSQ working group  
Bill Ham, secy FC-MJSQ working group  
**Subject:** Approved minutes of T11.2 FC0 FC-MJSQ working group on April  
05, 2004

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**Agenda**

1. Opening remarks and introductions
2. Attendance and membership
3. Approve agenda
4. Document distribution
5. Review minutes of previous meeting
6. Review old action items
7. Call for patents
8. Liaison reports
  - 8.1 T10 (SAS), Ham
  - 8.2 Labeling project in SFF committee (8082), Ham
  - 8.3 OIF / UXPI / STATISTICAL EYE DIAGRAM, Tom Palkert
9. New discussions/presentations
10. Old discussions / presentations
11. Editing of MJSQ sections
  - 11.1 Comments resolutions
12. Old Business
  - 12.1 Strategy for completing MJSQ
  - 12.2 Additional topics for future consideration (MJSQ-2)
13. New Business
  - 13.1 MJSQ-2 project proposal
14. Review action items
  - 14.1 Old action items from past meetings
  - 14.2 New action items from this meeting
15. Next meetings
16. Adjourn

**Results of Meeting**

- 1. Opening remarks and introductions**

Bill Ham, acting chair, led the meeting. He opened the meeting at 9:00 AM and thanked the host, Bob Snively of Brocade, for hosting the meeting. He then led a round of introductions. Bill Ham, secy, took these minutes

## 2. Attendance and membership

Attendance at plenary meetings does count toward minimum attendance requirements for T11.2 membership. Working group meetings are open to any person or organization directly and materially affected by T11.2's scope of work but do not count toward minimum attendance for T11.2 membership.

The following people attended the meeting:

Name	Company	Tel
Greg LeCheminant	Agilent	707.577.6524
Greg McSorley	EMC	(508) 382-5928
Frank Barber	eSilicon Corporation	(610) 439-6850
Nabil Osman	Fujikura Technology America Corp.	(408) 748-6991
Mike Fitzpatrick	FUJITSU AMERICA	405-820-5809
Bill Ham	HP	508-841-2629
Richard Johnson	Infineon	408.501.5657
Schelto van Doorn	Intel Corporation	408.398.2441
Eric Borisch	JDS Uniphase	507.322.9204
Michael Jenkins	LSI Logic	408-433-7901
Alan Pfeifer	LSI Logic Corporation	(316) 636-8898
Farooq Yousuf	Mindspeed Technologies	(949) 579-4052
Yuriy Greshishchev	PMC-Sierra	(613) 271-4034
Dean Wallace	QLOGIC	949-389-6480
Allen Kramer	SEAGATE	612-402-2624
Vit Novak	Sun Microsystems	510.936.3284
Rajeev Jain	Texas Instruments Incorporated	(214) 480-2778
Tom Lindsay	UI Technologies	(425) 775-7013
Bob Rumer	VITESSE	805-445-2290
Mike LI	Wavecrest	(408) 436-9000
Tom Palkert	Xilinx	952.401.7997
Paul Levin	XYRATEX	310.372.7352
Total: 22 attendees		

## 3. Approve agenda

Ham moved that the agenda as shown above be approved. The motion passed without objection.

## 4. Document distribution

This section describes the availability of draft documents that are intended to be published as a result of work by the MJSQ committee.

Document distribution is now being done over the web. Documents relating to MJSQ work can be found on the T11 web site ([www.t11.org](http://www.t11.org)) by going to "documents" and searching on the key words "jitter" and/or "MJSQ".

The only active document in this working group is the MJSQ technical report presently at rev 13.0.

A summary of the presently active policy to document distribution is included for reference.

All presentations are posted electronically at the approved ftp within two weeks after the meeting. Format must be an approved electronic file format. While we are still paper based, a paper copy must also be given to the secretary at the working group meeting.

(Presentations are defined as material shown publicly in the Plenary or authorized working group meetings.)

Submission of Documents for T11 Document Numbers:

A online system is now available to provide document numbers and accept the submission of documents. The system is accessed via the t11 web page at <http://www.t11.org>. Follow the "docs" link in the left-hand frame, or at the bottom, and fill in a form giving details about the document. In order to complete the form, it will be necessary to enter a password. The password is given out at T11 meetings, or can be obtained from the T11 Chair. Instructions will then be given about uploading the file to the ftp site at <ftp.t11.org>.

We now use all electronic document distribution.

A T11.2 reflector is operational over the T11 site.

The committee forms its agenda by the following:

1. A call (reminder) for presentations by the chair 3 weeks in advance
2. Those wanting to be on the agenda submit request including:  
title  
presenter  
time required  
abstract
3. Chair creates agenda and posts 2 weeks in advance of the meeting
4. At the meeting it is the chair's discretion to allow additional presentations

## 5. Review minutes of previous meeting

The minutes of the last MJSQ working group were reviewed with some minor editorial changes. Motion Ham that the minutes as modified be accepted. Motion passed without objection. The amended minutes will be posted to the ftp site.

Action item: Ham will get the document number and do the posting.

## 6. Review old action items

The old action items were reviewed and the status was updated.

## 7. Call for patents

Below is the formal call for patents which was issued by Dennis at the meeting:

### **PATENTS**

- A call is hereby issued for the existence of patents required to implement the results of any & all T11 projects to be disclosed  
It is necessary for the holders to agree to license those patents in conformance with the ANSI patent policy if the project on which they read is to proceed  
T11.2 is not involved in this process @ all!
- The contact @ ANSI is the General Counsel, Ms. Amy Marasco -(212)642-4954 or amarasco@ansi.org
- Patent policy description @ [www.ansi.org/proctbl.html](http://www.ansi.org/proctbl.html), section 1.2.11
- IBM has declared that it has patents which apply to the practice of FC & SBCON. The contact is:  
Tom Slattery, Program Director, IBM Corporation, North Castle Drive, Armonk, New York 10504  
Tel: (914) 765-4351, Fax: (914) 765-4390, Email: tmslatt@us.ibm.com  
Thanks to Stuart Berman of Vixel for tracking down this new contact

There was some discussion about whether this call for patents needs to be made in ad hoc groups. It was noted that formal statements of specific patent policy compliance issues from individual companies are to made at the T11 (main) plenary, not working groups, or sub plenary groups (i.e. T11.2).

Discussions on cross licensing pricing are not appropriate at any level. See T11 web site for more details.

Technical discussions are acceptable.

There was no response to this call for patents.

## **8. Liaison reports**

### **8.1 T10 (SAS), Ham**

A document T10/04-090r0 was posted. A special jitter study group was held with the informal agreement to adopt MJSQ methods formally in SAS. Details of this will be worked out in the May SAS Phy working group.

### **8.2 Labeling project in SFF committee (8082), Ham**

Document is on SFF web site. Publication is expected soon substantially in the form now available.

### **8.3 OIF / UXPI / STATISTICAL EYE DIAGRAM, Tom Palkert**

Tom noted that some work in OIF based on statistical eye diagrams was going on. This is expected to become a work item for MJSQ-2.

## **9. New discussions/presentations**

## **10. Old discussions / presentations**

## **11. Editing of MJSQ sections**

### **11.1 Comments resolutions**

Using the latest copy of the comments resolution document from the second T11 letter ballot a number of technical comments were addressed..

Additional telecons are to be scheduled before the next meeting to complete the comments resolutions.

## **12. Old Business**

### **12.1 Strategy for completing MJSQ**

The present strategy is to complete the T11 letter ballot comments resolutions via aggressive telecons. As of this meeting approximately 10% of the technical comments have been resolved. At this stage it appears that all comments will be resolved before the next meeting in June.

Formally, a document that contains all the comments resolutions could be forwarded to INCITS since the T11 letter ballot passed and all comments have been resolved. That is the strategy at this point.

In order to forward in June the following needs to occur:

A rev 13.n document containing all the resolutions needs to be uploaded before May 24, 2004 in order to meet the two week rule for forwarding.

Several con calls are needed - Ham to host all:

4/16 Paul Levin focus 8:00-2:00 PDT  
4/23 TL focus 8:00 - 2:00 PDT  
4/27 Mike Li focus 8:30-2:00 PDT  
5/11 TL focus 9:00-2:00 PDT

A final opportunity for tweaks to rev 13.n will be in the June MJSQ meeting. A rev 14 document that contains all the tweaks will be prepared for approval by the T11.2 plenary and the T11 plenary.

## **12.2 Additional topics for future consideration (MJSQ-2)**

This is a running list of candidate topics for MJSQ-2

Traceable references for signal quality measurements  
Eye contour methods details (calculation and measurement)  
Phase noise vs. Jitter  
ref clock standard and specification  
jitter distribution issues  
further detail concerning compensation issues  
speed agility issues  
low population DJ (scrambling, 64/66 etc.)  
receiver bandwidth specifications  
more implementation examples  
receiver tolerance roadmaps  
compliance interconnect extensions (active, non-linear)  
common mode  
parallel-serial issues  
cross talk issues  
resonance issues  
test sample design

Improved compliance testing methods of FC systems

Enhancements to MJSQ to include interactions of:

- signal/noise
- slew rate
- receiver sensitivity
- component bandwidth
- transmission reflections

Additional methodologies as may be proposed

## 13. New Business

### 13.1 MJSQ-2 project proposal

With the heavy load of getting the comments resolved there was no need to proceed with this proposal at this meeting. This topic is deferred to at least June 2004.

## 14. Review action items

[Note: the following material describes the practice being used in the MJSQ-2 minutes for presenting and reporting status on the action items.]

This section contains the action items agreed during the meeting. Only action items with identified people who are responsible to do the action are recorded. Once an action item has been created there are two ways to get an action item removed from this list: (1) complete the action item - preferred method - and (2) the action item has become no longer relevant or appropriate because events have changed since the action item was created. It is possible for an action item to be transferred to another person but that will not remove it from the list and the new owner will be listed along with the record that the ownership has changed.

There are two divisions under this item: (1) old action items which were created in earlier meetings and (2) new action items which were created during this meeting. There is no tracking of the meeting where the action item was originally created (other than by looking back at previous minutes.)

All action items that were completed by the time the action items were reviewed are given the designation "done". The done action items will remain on the list in the draft and approved minutes for the meeting in which the action item was reported to have been completed. This is to ensure that the person responsible for the action item get the credit/blame for the work. Action items that were reported done in one meeting will be removed from the list for the minutes of the next meeting.

### 14.1 Old action items from past meetings

Status as of this meeting is shown:

Bill Ham to post the minutes to the web site.  
Status: done

Dean Vermeersch to investigate methods for accounting for test artifacts using TDW (formerly VTD) approaches.  
Status: carried over to MJSQ-2

Ham to request 4 telecons to continue work on the T11 letter ballot comments  
Status: done

Ham to produce rev 13 of MJSQ that contains the resolutions to the comments and request a second T11 letter ballot  
Status: done

#### **14.2 New action items from this meeting**

Ham to schedule telecons as necessary to complete letter ballot comment resolution.  
Status: new

#### **15. Next meetings**

The next working group meeting will be requested for Monday June 07, 2004, in Chicago, IL from 9 AM to 5:30 PM.

#### **16. Adjourn**

Motion Kramer/Ham to adjourn. Passes unanimously.

The meeting adjourned at 5:30PM.