

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



**Doc. No.:** T11/04-050v2  
**Date:** Feb 02, 2004  
**Project:** FC0 FC-MJSQ ad hoc  
**Reply to:** Bill Ham  
Allen Kramer

To: Membership of T11.2

From: Bill Ham, 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  
December 08, 2003

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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, Ham
9. New discussions/presentations
  - 9.1 Jitter optimized sampling oscilloscope, Greg LeCheminant, Agilent
10. Old discussions / presentations
11. Editing of MJSQ sections
  - 11.1 Comments resolutions
  - 11.2 General status, Ham
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

Dennis Petrich, chair, led the meeting. He opened the meeting at 9:00 AM and thanked the host, Dave Demming of Solution Technology, for hosting the meeting. Al Kramer, vice-chair took minutes until Bill Ham, secy, arrived at the meeting (late due to severe weather affecting airline schedules).

## 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
Ali Ghiasi	Broadcom	408.922.4723
David Lewis	E2OCommunications, Inc	(818) 466-2832
Greg McSorley	EMC	(508) 382-5928
Alan Jovanovich	Emulex	(425) 806-4520
Hossein Hashemi	EMULEX	714-513-8226
Kim Gray	Emulex	(425) 806-4012
Frank Barber	eSilicon Corporation	(610) 439-6850
Nabil Osman	Fujikura Technology America Corp.	(408) 748-6991
Bill Ham	HP	508-841-2629
Schelto van Doorn	Intel Corporation	408.398.2441
Eric Borisch	JDS Uniphase	507.322.9204
Michael Jenkins	LSI Logic	408-433-7901
Jay Neer	MOLEX	561-447-2907 x3889
Nigel Alvares	PMC-Sierra	
Yuriy Greshishchev	PMC-Sierra	(613) 271-4034
Greg Casey	Qlogic	952.932.4095
Allen Kramer	SEAGATE	612-402-2624
Bill Pagano	Seagate	719.268.5610
Vit Novak	Sun Microsystems	510.936.3284
Sephen Spencer	Texas Instruments Incorporated	214.480.4023
Tom Lindsay	UI Technologies	(425) 775-7013
Scott Killmeyer	Vitesse Semiconductop	(805) 384-2515
Dennis Petrich	Wavecrest	408-436-9000
Mike LI	Wavecrest	(408) 436-9000
Tom Palkert	Xilinx	952.401.7997
Michael Dearman	Xyratex	+44 (0) 23 9249 6303
Paul Levin	XYRATEX	310.372.7352
Total: 28 attendees		

## 3. Approve agenda

Dennis 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 12.0.

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 Dennis 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**

No report

### **8.2 Labeling project in SFF committee, Ham**

No report

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

### **9.1 Jitter optimized sampling oscilloscope, Greg LeCheminant, Agilent**

[need document reference]

Greg presented material relating to a jitter optimized sampling oscilloscope method. This material, suitably modified was proposed for inclusion in MJSQ as another method for capturing a CDF. Basically, this method is a high bandwidth sampling oscilloscope that only captures data in the part of the signal that is of interest to jitter at a specific time in the bit period. By focusing the data acquisition on only this part of the signal orders of magnitude improvement is achieved in the data acquisition time @ E-12.

As this was the first time that this method had been seen by the group and a voltage to time conversion is required with the presently described methodology, the group was reluctant to accept the method for MJSQ as presently written.

Greg is actioned to produce a white paper on the method and to establish the validity of the voltage to time conversion scheme.

Additional presentations are expected in February.

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

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

## 11.1 Comments resolutions

Using the latest copy of the comments resolution document that Dennis has comments made by folks who were present were addressed. The result of these resolutions are contained in document 04-007v0. Specifically comments 123, 124, 125 and 146, 148, and 151 were addressed.

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

## 11.2 General status, Ham

The next version of the MJSQ document put on the web site will be rev 13 that captures the comments resolutions from the T11 letter ballot through the January 26, 2004 con call.

## 12. Old Business

### 12.1 Strategy for completing MJSQ

The present strategy is to complete the T11 letter ballot comments resolutions via aggressive telecoms. As of this meeting approximately 2/3 of the technical comments have been resolved. At this stage it appears that all comments will be resolved before the next meeting in February.

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 was the strategy before this meeting.

However, with the significant restructuring of the document and some important technical changes that resulted from the letter ballot it was the sense of the group that another T11 letter ballot should be conducted on rev 13 prior to forwarding to INCITS for publication. This is planned for rev 13 with a T11 letter ballot to be requested at the February 2004 meeting.

If comments against rev 13 are not extensive, the document will be forwarded to INCITS in April, 2004.

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

[no changes to this list at this meeting]  
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 February 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

Mark Marlett: to do network analyzer sweeps on instruments, use a third method eg. Spectrum analyzer, and determine if test equipment used a differential input  
Status: carried over with progress

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

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

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

The next working group meeting will be requested for Monday February 02, 2004, in Dana Point, CA from 9 AM to 5:30 PM.

#### **16. Adjourn**

Motion Kramer/Ham to adjourn. Passes unanimously.

The meeting adjourned at 5:30PM.