

# **Methodologies for Jitter Specifications (MJS)**

## **Working group (Fibre Channel)**

### **December 08, 1997 Orlando, FL**

Radisson Hotel:

Steve Joiner and Schelto van Doorn lead the meeting. He thanked the host, DPT, for hosting the meeting. As usual, Bill Ham of Digital took the minutes. 26 people were present.

## **Agenda**

1. Introductions & Attendees:
2. Review agenda
3. Approval of Tucson minutes
4. Review outstanding action items
5. Call for patents:
6. Presentations:
  1. Dave Instone: performance of 500 ohm and 100K ohm probes between discontinuities
  2. Dave Instone (2): Review of TIA measurements with a sampling scope (annex D addition)
7. Document review: Working backwards from Annex B:
8. New Business:
  1. MJS-2 discussion
9. Review new action items:
10. Next meeting:
11. Adjourn:

## **Minutes**

The minutes from the Tucson meeting were not reviewed in detail due to logistical problems with the posting to Schelto's web page.

The Tuscon action items were reviewed and new action items were assigned to Scott Bruns and Mike Jenkins relating to data pattern specifications and annex d editing.

## **Presentations:**

Dave Instone made a presentation concerning the use of 500 ohm probes in a tap adapter configuration. He showed data from a simple test jig that had 50 ohm SMA connectors between otherwise 75 ohm regions.

The presence of the probes did not have much effect on the waveform transmitted but the waveform measured by the probe was quite different than that seen in the transmitted wave. This was clearly caused by reflections between the 50 ohm connectors which did not get "exported" to the external 75 ohm sections. The bottom line is that this type of measurement is highly sensitive to the details of the measurement scheme. (Which has been extensively discussed in previous meetings). An additional caution will be added to annex e (practical measurements) pointing out that probing intermediate points in real systems can be unreliable unless special cautions are implemented.

Dave's second presentation concerned revised wording for the annex D that relates to doing "TIA" type measurements with a sampling scope. This presentation captured the specific methods to be used to extract the sum of ISI and DCD. In addition, suggestions were made concerning how to extract more information from certain features of the data. The technique will be divided into two sections:

- (1) a section that documents the ISI + DCD measurement and
- (2) possible extensions to the analysis in certain cases to reveal the DCD content, the frequency modulation content, and some bounding parameters on the "fuzzy" part of the measurements (containing gaussian, bounded/uncorrelated, and sinusoidal components).

## **Call for patents:**

Schelto called for patents. There was no response.

Steve Joiner passed out paper and .pdf copies of rev 1.2 of the MJS document with the latest revisions.

This material is appropriate for new projects being discussed under separate SD3's.

Jim Tatum, Honeywell and others noted that the measurement techniques still allow considerable latitude for differences in results. This could form a significant portion of the MJS-2 effort.

## **Document Review:**

The following sections were reviewed in detail: Annex C, Annex B, Annex A, Annex D, Annex E, and Annex F.

Section editors:

- Annex A Jitter Model: TBD
- Annex B Test bit sequences: Scott Bruns

- Annex C Jitter tolerance methods: Bob Rumer
- Annex D Jitter output measurement methods: Mike Jenkins
- Annex E Practical measurements: Bill Ham
- Annex F Compliance points examples: Schelto

**Action Items:**

Outstanding action items and issues as of the end of the December 08, 1997 meeting:

1. Bill Ham to create SD3 for MJS-2  
Status: done but not yet discussed
2. Schelto to put action items onto reflector and his home page.  
Status: carried over
3. Action Item: Tom Lindsay to bring a revised CJTPAT to the next meeting that has a worst case low frequency pattern.  
Status: done - posted to reflector but not tested
4. Action Item: Scott Bruns to incorporate the revised CJTPAT into annex B  
Status: new
5. Action Item: Dave Instone took an action item to add this technique to the TIA section of Annex D (working with Mike Jenkins).  
Status: Dave Instone part done passed to Mike Jenkins as editor of annex D.

**Next meeting:**

February 9, 1998 (Monday) San Diego, CA at FC meeting site

9AM to 5PM

**Adjourn:**

The meeting adjourned at 5:50 PM

**Attendees:**

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