

**Date – 10/06/2014**

**Attendees:** CJ Clark, Adam Ley, Bill Tuthill, Bob Gottlieb, Brian Turmelle, Craig Stephan, Dharma Konda, Frans de Jong, Gobinathan Athimolom, Jon Colburn, Marc Hutner,

**Absent with Excuse :**

**Not Present for  $\frac{3}{4}$  of meeting:**

**Missing:** Bill Huott, Carol Pyron, Jim Wilson, Kent Ng, Kevin Gorman, Tom Wayers, Heiko Ehrenburg, Dave Armstrong, Roger Sowada, Dwayne Burek, Zahi Abuhanmdeh, Mike Ricchetti, Saman Adham, Gurgen Harutyunyan, Teresa McLaurin, Ismed Hartanto, Philippe Lebourg, Josh Ferry, Steve Sunter, Tapan J Chakraborty,

**Agenda:**

- 1) Patent Slide
- 2) Review of draft 39. I have not posted to the website, yet. We have very few comments so I believe we are close now to voting Clause 7 up or down in the coming weeks. (I apologize my output is reduced due to our pending newborn. Six more weeks! Then you might predict, I will have even less time. Ha!)
- 3) Action Item for Steve Sunter – re-draw 7-2
- 4) Continue discussion of providing open standard vs IEEE standard
- 5) Action Item for Adam - Invite someone from IEEE to speak on IEEE benefits of standardization at WG meeting.

**Meeting Called to order at 11:07 am EDT**

**Minutes:**

Review Patent Slide – Slide Presented to the Group.

Solicited input from anybody who is aware of patents that might read on our standard.

No Response

Update to section 5.1.1

Added text to make section clearer

Section 7.4.1

Align\_char pattern used to de-skew incoming data.

One character may be all we need.

This is lane to lane de-skew

Section 7.2.2

Alignment string <align\_string>.

Missing rules that say you need to send character across all lanes as well as ordering

<Phy\_string\_list> was added a while ago but might be missing packet to describe channel bonding. Might need to go back to clause 6 to add packet for method of singling.

Not clear how the other channels would know which channels are in play even though they are described.

Bob – not sure we need capability to switch it on the fly. Would be more of a setup issue.

CJ – need a way to communicate to ATE which and how many channels are being used.

If I have a BSDL I'm going to describe all 4 channels in attribute and don't want a separate BSDL to only describe one channel. Not sure of method to be able to describe a single channel vs all 4 channels.

Bob – think is overkill to have a packet describe this. Still need to give information to ATE. Will be different modes to run in. do think that part of configuration we need to be able to select number of channels and deliver to the ATE.

CJ – need alignment. If you had all 4 channels to come up at once, the first thing to be sent to them is the alignment character.

Marc – need more rigid rules. Designing more flexibility into the chip will add extra complexity.

CJ – would be scary to have to bring up all 4 channels at the same time to get it to work first time. Channel bonding is optional anyway. But you need it for the bandwidth.

Don't have to make the packet mandatory. Can make it optional.

Marc – not sure a company would want to put the complexity into a DFT solution.

Bob - possibility adding more than we need to get out of it. Agree that we need to be able to bring up with a single channel. Makes more sense as a mode to run as a single.

One or Full. We don't switch on the fly to multiple different configurations.

Added example 4 with figure 7.-5 in section 7.4

See if it makes sense.

Bob – can we have a discussion about how much bandwidth we get off a single channel?

Is one channel enough bandwidth? Do we need multiple lanes to get the necessary bandwidth.

Marc – 2 points to look at.

1 ) understanding what data people want to load

2 ) how isolated would the PEDDAs be if they were in separate quadrants

of the chip.

Continue discussion of providing open standard vs IEEE standard

CJ – asked Adam if he could take up the action item as to invite someone from IEEE to speak on IEEE benefits of standardization, noting that a suitable meeting date would probably be sometime following the ITC Test Week (10/21-23)

Adam – replied affirmatively, noting that he would confer with CJ on logistics

Send New Business request to reflector

## IEEE 1149.10 High Speed JTAG Working Group Minutes

Please use reflector to review what is in the Draft.

Please send comments to reflector.

Anything that needs to be updated or you would like discussed

**Motion to Adjourn: Marc**

**Seconded: Frans**

**Meeting adjourned: 12:00 pm EDT**

**Next Meeting:**

Oct 13<sup>th</sup>, 2014 11:00am

### *Motion Summary*

*0 motions made*

### *Action Items*

~~*Bill Tuthill – 10-21-2013 – Add minutes and Attendance spreadsheet to the website.  
CJ – 11-11-2013 – Reach out to ATE industry and Probe Industry to get update on future of ATE equipment to see which data speeds and protocols they are heading towards.*~~

*Philippe – Look into alternative method to create control information (pause, start, terminate, etc.) rather than using K characters in packet.*

*Bob – create a case study to show use of Attributes*

*Frans – will start some block diagrams of a simple use case to help illustrate the current architecture*

~~*Dwayne – present to the group his ideas for a simplified scheme – Direct Interface.*~~

*Adam – invite someone from IEEE to speak on IEEE benefits of standardization at WG meeting*

### NOTES:

1149.10 working group website - <http://grouper.ieee.org/groups/1149/10/>

Here is the WebEx conference link.

<https://meetings.webex.com/collabs/meetings/join?uuid=MAG12PB7HN5W24AM2EOKIOM9KS-KERT>

You can use VOIP on your computer or dial-in using the phone number below.

Audio Connection

+1-415-655-0001

Access code: 194 196 960