

**Date – 1/19/2015**

**Attendees:** CJ Clark, Adam Ley, Bill Tuthill, Bob Gottlieb, Brian Turmelle, Dharma Konda, Dwayne Burek, Frans de Jong, Gobinathan Athimolom, Jon Colburn, Josh Ferry, Marc Hutner, Steve Sunter, Tapan J Chakraborty, Kathryn Bennett,

**Absent with Excuse:** Craig Stephan,

**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, Zahi Abuhanmdeh, Mike Ricchetti, Saman Adham, Teresa McLaurin, Philippe Lebourg, Ismed Hartanto, Gurgun Harutyunyan,

**Agenda:**

- 1) Patent Slide
- 2) Review of Draft 51
  - a. New figures in Clause 5
  - b. Updates to Clause 9
- 3) New Business

**Meeting Called to order at 11:05 am EST**

**Minutes:**

Review Patent Slide – Slides Presented to the Group.

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

No other responses noted.

Figure 5-2 was added.

Detail showing the reset implementation for TRST10\* and RESET10\*

Figure 5-3. Example 1149.1 TDR for enabling compliance.

Example TDR bit designed to enable p1149.10 compliance via the IEEE 1149.1 TAP

Updated examples for packet map to match new grammar in example 6.6.1

Grammar now focuses on allowing you to have the data size coupled with the attributes.

Data\_Size location in map was moved and PACK was added.

Pack and Data\_Size now defined.

7.3.1

Expanded on the Data\_Size. Provided equations to determine what the Data\_Size is.

Based on what works for the PEDDA that you are designing. 2 Equations were added to the Data\_Size description. 1 for when packing is true and one for when packing is false. Added Key word PACK to indicate if you are skipping channels or not. When the interleave value becomes an odd number it was not as clear how the software tools should clear the data. This should help that.

#### Section 9. PDL

Do we need a set of rules?

Do we need anything extra?

-export is option ??

Symantec check on PDL?

Restrictions on the PDL?

Think about these and have some suggestions for the next working group meeting.

#### Section 7.3

Round Robin handling of the data must fit in the bit size of Data\_Size.

If PACK is False - Data\_Size has a min value of INTERLEAVE\_SIZE multiplied by the number of scan channels in SCAN\_GROUP.

If PACK is true - DATA\_SIZE is the INTERLEAVE\_SIZE multiplied by the largest number scan channels in a SCAN\_GROUP enabled simultaneously.

#### Example 6.6.3

Figure6-13

Added PACK = TRUE to example.

Channels will be next to each other.

All 4 can be active at the same time though. If you wanted that the Data\_Size would need to be bigger to support the INTERLEAVE\_SIZE of 4 multiplied by the number of SCAN\_GROUPS. You would need a DATA\_SIZE of 16.

Frans - Channel Select is on 9

Is it possible to change the channel select words and have other channels? You have channels 0 and 3. Can you change on the fly to 1 and 2?

CJ – that is why there are 4 channels in one scan\_group. Expect to run 2 channels as a test strategy. Channels 0 and 3 and the next 1 and 2.

CJ – PACK true means that we are not skipping.

If you wanted to support all 4 channels at the same time we would need a Data\_Size that is larger.

Call for New Business

No New Business

Send any New Business requests to the reflector

## IEEE 1149.10 High Speed JTAG Working Group Minutes

Please use reflector to review what is in the latest version of the draft. Please send any comments on the new material to the reflector. This will let us get a start on the material before the meeting. Please include anything that needs to be updated or anything you would like discussed

**Motion to Adjourn: Bob**  
**Seconded: Bill**  
**Meeting adjourned: 12:00pm EST**

**Next Meeting:**  
Jan 26<sup>th</sup>, 2015 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*~~

Call for Essential Patent notes

Adam Ley 12/1/2014

PN, TTL, AN

7348796, METHOD AND SYSTEM FOR NETWORK-ON-CHIP AND OTHER INTEGRATED CIRCUIT ARCHITECTURES, DAFCA INC.

Steve Sunter 11/17/2014

1. US 7610532 "Serializer/de-serializer bus controller interface" Avago, granted 2009
2. US 7739567 "Utilizing serializer-deserializer transmit and receive pads for parallel scan test data" Avago, granted 2010
3. US 8543876 "Method and apparatus for serial scan test data delivery" Altera, granted 2014

NOTES:

## IEEE 1149.10 High Speed JTAG Working Group Minutes

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