

IEEE 1149.10 High Speed JTAG Working Group Minutes

Date – 05/05/2014

Attendees: CJ Clark, Adam Ley, Bill Tuthill,, Bob Gottlieb, Brian Turmelle, Craig Stephan, Dharma Konda, Frans de Jong, Gobinathan Athimolom, Jon Colburn, Josh Ferry, Ismed Hartanto, Marc Hutner, Mike Ricchetti, Roger Sowada, Steve Sunter, Tapan J Chakraborty, Zahi Abuhanmdeh,

Absent with Excuse : Philippe Lebourg, Teresa McLaurin,

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

Missing: Bill Huott, Carol Pyron, Jim Wilson, Kent Ng, Kevin Gorman, Saman Adham, Tom Waayers, Heiko Ehrenburg, Gurgun Harutyunyan, Dwayne Burek, Dave Armstrong,

Agenda:

- 1) Patent Slide
- 2) Homework – review of SCAN packet definition
- 3) Old Business – Fran’s slide revisit
- 4) New business

Meeting Called to order at 11:00 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

Review of Scan Packet Definition

Discussion of p1149.10-draft_v12_Scan_packet.pdf that was sent to reflector on 5/2/2014 Scan Packet.

Depending on data protocol octet ordering on the wire can be different based on protocol. (byte 0 or byte 7 starting)

Bob – LSB always on the left?

CJ – remains to be the working group decision but should allow bit reversal.

Believe that LSB is predominant in the industry.

Most of the FPGAs allow you choose ordering LSB -> MSB or MSB ->

LSB

Frans – swapping should be in BSDL?

CJ – yes.. added attribute to PHY map to have TX ORDER

Can remove attribute if we don’t want to do it

If removed we run the risk that a PHY has an ordering built into it and

1149.10 would not allow that order.

Frans – figure 6-8 is a bit confusing.

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CJ – showing what is in register

CJ – trying to show what is psychically in the scan chain.

I is the flow closest to SO (first bit shifted in)

E is next

A is the last bit shifted in

CJ – dispense with table 6 and show the 4 shift results?

Tapan – This is uncompressed?

CJ – yes.

CJ – when we are talking about channels we are not talking about scan chains.

Decompressors can be on other side.

Tapan – ok than we have enough bits to address any practical design.

Comments on rules for Scan Packet.

Josh – what if you don't set any of the values?

CJ – ok.. should be a semantic check

Josh – Scan packet description (line 393) Scan Group should be 0 to 3

Frans- the rules are very readable. (i) should match drawings. No comment for the rules though

CJ – good point. (i) is describing packet format and not representative of the physical layer.

CJ - Would like to set as a goal to vote this up or down.. maybe in 3 to 4 weeks.

CJ – need to add a rule for alignment character.

Frans slides (revisit from last meeting)

Slide 5

Compliance Character should be Dashed

Option ways to enter into 1149.10 mode.

Orange blocks denote some activity.

Slide 6. State Diagram

Missing red arrow from Mission Mode to yellow box. (Enable 1149.10 operation)

Can always go from Mission mode to go to 1149.10.

Any state you are in a Reset will bring you back to mission mode.

Other arrows (gray) are the optional blocks from slide 5

Remove Dedicated Orange state and replace state with line from Mission Mode directly to HSTAP and PEDDA Enabled

CJ – if we have an INIT SETUP mode, perhaps there should be a routine supplied to bring you out of dot10 through the TAP.

Dharma – in the Yellow circle at bottom. You have PEDDA enabled. It shows you need a reset. Is there another way so you don't have to reset the whole chip?

Frans – only power off or system reset.

CJ – perhaps we want the TAP to be a method to disable the HSTAP and PEDDA

Dharama – is there a way for us to directly go to the mission mode after a test or do we need a reset?

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CJ – we could accommodate that by having a routine for the TAP to disable the HSTAP. Could have a compliance character to bring it back to mission mode.

Bob – if we give another option to leave 1149.10 mode would it clear the IDS numbers?

Bob – I think you would want to clear it. When you come back into 1149.10 you would have to re-setup the target again

Chairs audio cut out. Meeting was close to ending time and a motion to adjourn was called..

Call for New Business

No new business

Motion to Adjourn: Bob

Seconded: Frans

Meeting adjourned: 11:57 am EDT

Next Meeting:

May 12th, 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.~~

NOTES:

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

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