IEEE 1149.1 Boundary Scan Working Group Minutes

Date – 11/16/2010

Attendees: CJ Clark, Bill Tuthill, Ken Parker, Carl Barnhart, Wim Driessen, Craig Stephan, Roland Latvala, Brian Turmelle, Francisco Russi, Adam Cron, Carol Pyron, Heiko Ehrenberg, Mike Richettie, Dave Dubberke,

Missing with pre-excuse Adam Ley,

Missing :   Lee Whetsel, Ted Eaton, Neil Jacobson, Bill Eklow,

Agenda:

1)   Required Patent Disclosure Slides

2)   Wrap up of clamp_hold/clamp_release

      a)   Thanks to Ken for his write-up and figures

      b)   Do we capture a bit of CLAMP_HOLD status?

3)   New Business, if any

Meeting Called to order at 11:08 am EST

Minutes:
Review of working group policies

Will be more diligent in displaying patent slide at beginning of meeting

Discussion of re-electing officers of group
      Will hold election to for officers

Voting.
      Does serve a purpose for record keeping
      Attendance does count. Must be present for 3 out of 5 recent meetings to be eligible for voting
      2 votes per company

Friday's Meetings
      Will not count against anyone's voting eligibility if they do not attend.

IEEE info on membership from Adam C:

      Working Group Membership:

      - New Working Groups grant membership to all attendees, automatically, upon request.
      (Suggest e-mail request by Chair when PAR is granted to establish initial WG membership.)

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- After initial membership established, new members must attend 2 consecutive meetings and request membership.
- Missing 2 consecutive meetings MAY lead to removal from WG

Voting
- Only WG members may vote
- Votes carry by simple majority
- Only up to 2 members of similar (corporate) affiliation may vote

Carl: Friday meetings people not able to meet on Tuesday meetings, we should offer people on Friday meetings their participation for eligibility on Tuesday meetings. Not advocating for votes on Fridays.

CJ : tough to schedule votes for a particular time and day. A call to vote could come at any point during the meeting. Will take off line and think if there is a fair solution available

CJ : no voting by proxy(voting over email). All voting will be done during Working Group Meeting

Clamp hold/ Clamp Release
Ken has created a document with rules describing ClampHold and ClampRelease. Has been sent out to working group.

KPP: ClampHold and ClampRelease will always be a pair. Can't have one without the other

KPP: ClampHold instruction creates a persistent clamped IO state for the pins of a device controlled by the contents of the boundary register.

CJ : ClampHold side effect .only blocked if supporting INTEST. Since most people don't support INTEST this may not be a problem

KPP: just to remind people that a device with master reset on it is not operable while in ClampHold instruction. IO pins do not respond to it as you would expect while device is in functional mode.

KPP: When sticky bit is set we inhibit reset on driver. This is against rule 11.6.1p of standard today.

CJ : selection of op code – op-code should not be all 0's or all 1's.

CJ : TRSTs are used between tests on board tests. IC resets would be good to be sprinkled in between internal chip test.

KPP: IC Reset/ClampRelease will release clamphold line (mode line) when instruction is displaced.   Device is still Clamped even though memory has been cleared.

Carl: IC reset itself exhibits clamp behavior?

KPP: IC reset is a test instruction

ClampHold Parameter Register
Used to govern future behavior with respect ot the de=assertion of the Clamp Sticky Bit memory.

Adam C: add IDCODE?

KPP: selected BYPASS because a long stream of 1's would eventually clear out Clamp

CJ : would like to remove E-4: does anyone have a benefit to having ICRESET clear sticky bit
KPP: Rule E-4 will be removed.

Any loaded opcode specifically identified to be BYPASS will satisfy this BYPASS option.
Just because BYPASS gets jammed in to the IR it may not be
Clamp Release – provides a means for directly de-asserting the Clamp Sticky Bit memory.
KPP: Require to pass through RTL to clear Sticky Bit.

Will make a few final edits and send to group and CJ for including in the
Roland : in addition to text are you going to retain an example figure for clamphold/clamprelease?
CJ: yes.. there will be a figure. Either Ken's or CJ's
        Will show picture like there was at Poster Session in opening of rules.
CJ : Roland or Carl do you offer a circuit or design to describe the rules?
Roland: will look at it
CJ : will put figure in and see what the objections are.

Meeting adjourned: 12:00 EST.

Next Meeting: 11/23/2010 11:00 AM EST

NOTES:

Action Item by Carl to elaborate on concerns that he has with OO s on power pins and any rules that would need to be added to the standard to address those concerns.

Current Issues listed and who will champion that issue.
1   Observe only. –   Ken and Carl
1. Directionality linkage. - CJ
2. Power Pins. - Heiko
3. Pairing power pins with functional I/O - CJ
4. Sample / Capture. – Carol (Freescale) & Roland
5. TRST included in PCB level diagram. – Adam L.
6. Slow to Fall/Rise signaling issue – CJ
7. "No Connect" – Ken and Francisco.
8. Device ID – Still needs work
9. Low-Voltage self observe shorts coverage problem – JJ & Intel
10. Init – Carol & Carl

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Action Items:
- CJ will post 1149.1 draft on website with line numbers to make it easier to refer to items in discussion
- Comment #10 CJ will take action to look at possibilities to add to the 1149.1WG website a document which shows which standards are based on 1149.1
- Comment #8 CJ will make changes to draft for observe only
- Comment #7 CJ will get in touch with Doug to get input regarding Comments
- Comment #5 CJ will Add a figure and little text to address TRST use with interconnection of components
- Comment #4 Adam L to add comment about TRST. Update figure 6.8
- Comment #3 Adam L will update language for any proposed change for this section.

Weekly 1149.1 Meeting coordinates

1. Please join my meeting.
https://www1.gotomeeting.com/join/172495048

United States: +1 516 453 0012
Meeting ID: 172-495-048
Audio PIN: Shown after joining the meeting

2. Other call in numbers
Australia: +61 (0) 8 6365 4094
Canada: +1 416 800 9290
Germany: +49 (0) 898 7806 6462
Netherlands: +31 (0) 208 080 380
Sweden: +46 (0) 852 503 470
United Kingdom: +44 (0) 203 051 4835