

Date – 12/16/2013

Attendees: CJ Clark, Adam Ley, Bill Tuthill, Bob Gottlieb, Brian Turmelle, Craig Stephan, Dave_Armstrong, Dharma Konda, Frans de Jong, Gurgen Harutyunyan, Gobinathan Athimolom, Ismed Hartanto, Jon Colburn, Marc Hutner, Philippe Lebourg, Steve Sunter, Tapan J Chakraborty, Zahi Abuhanmdeh,

Absent with Excuse: Teresa McLaurin,

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

Missing: Kent Ng, Tom Waayers, Bill Huott, Saman Adham, Jim Wilson, Carol Pyron, Dwayne Burek, Josh Ferry, Kevin Gorman, Mike Ricchetti,

Agenda:

- 1) Patent Slides
- 2) Affiliation record. Still need to get announced affiliation of several members
- 3) Further discussion on slides
 - a. Re-arranged Scan packet format
- 4) Cancel meetings for 12/23rd and 12/30th due to holidays???
- 5) New Business

Meeting Called to order at 11:00 am EST

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

Affiliations

Gobi and Philippe announced their affiliation

Zahi also announced his.

Zahi – affiliation with both SiliconDFX and AMD.

Adam L – believes if there is an equal influence a multiple affiliation should be declared.

CJ – Will note both affiliations.

Scan packet format.

Revised on slide 29 to help with efficiency.

Packets on 16 bit boundaries

Scan ID introduced.

Help align the 16 bits.

Help with debug

Frans – could you generate some different examples?

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A few examples might help

CJ – Agreed. Also need to define acronyms.

CJ – Xon/Xoff needs to be rapid response so adding a CRC32 might not add any benefit

Xon and Xoff differ by 1 value (0x85 to 0x86)

Philippe – what are the risks by having the Xoff being mistaken by another packet?

CJ – errors on the channel.

Philippe – There is no correction for this error? It could it kill the communication between target and the tester.

CJ – any bit that is incorrect will stop the test.

Steve – if we drop the CRC32 we should have some sort of redundancy perhaps.

CJ – we would have to do detection. Packet would not be correct. Maybe it's not worth dropping the CRC32.

Steve – Is not suggesting we add it back, just that any time we don't have the crc32 we should have another measure to compensate.

CJ – agreed but not sure what that is other than putting the crc32 back in

CJ – if you get the Xoff the tester could respond immediately to the packet before the crc32 and then based on the crc32 being correct it would know to stop.

Steve – what is the purpose of this sequence?

CJ – Xoff is telling tester to stop sending data.

Steve – the chip is initiating this?

CJ – yes.

Steve – how about a parity bit

CJ – it would be an easier calculation. It is a possibility.

Steve – this gets converted to 10bits on the wire anyway.

CJ – correct. You can detect it.. It could however make diagnostics difficult.

Steve – Makes a general observation. Since this is a frame and going to be converted to 8b/10b and the bit error rate needs to be 10^{-12} so the chance of getting a bit error in this sequence is 1 in a billion. So it might not matter. Very small chance of getting a single bit error.

Philippe – since this one particular thing cuts off communication with the tester and target and has a special role, it deserves special measures. The chance is not low enough for this possibility to not happen.

Bob – how does the tester know at what point it needs to restart?

CJ – it's not restarting it just means to stop sending.

Bob – just shouldn't send anything new until receiving an Xon?

CJ – If it got this message in the middle of a packet than it would stop sending data.

Bob – would use this in different package configurations. Would need to make sure that it is accurate from a timing perspective so the tester would know when to stop.

Steve – the turnaround time is important. You need storage on the chip to store data until Xoff is recognized.

CJ – The tester can respond at the moment of getting the Xoff instruction and not wait until the CRC32 comes in. Can check the CRC32 after the fact. And validate the Xoff.

The Xoff interrupts the packet. Will generate an IDLE packet until Xon. Once you get the Xon you can resume your packet.

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Marc- would data get resent?

CJ – no you would continue from where you are.

Bob – how does the tester and chip keep in sync as to when the data stopped?

Philippe – System should know to send Xoff early enough so nothing overflows.

CJ – transmitter needs to know where it left off.

Sees this as a problem area. Proper way to handle this is to format the data with idles early enough. .

Meetings for 12/23 and 12/30

Philippe – wont' be able to attend on those days.

CJ – does anyone object to canceling the meetings?

Philippe made motion to canceling the meetings on 12/23 and 12/30.

Bob – seconded.

CJ asks for objections. No one responded.

Motion is unanimously accepted.

Meetings are canceled and Jan 6th is next meeting.

CJ asked again for the Announcement of Affiliations for those that were missed at the beginning of the meeting.

Tapan – Qualcomm

Ismed – Xilinx

Philippe motion to adjourn

Marc Seconded

Meeting adjourned: 12:04 EST

Next Meeting:

January 7th, 2014 11:00am

Motion Summary

1 motion

Motion to cancel meetings on 12/23/2013 and 12/30/13 due to the holiday.

Motion passes.

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.*~~

NOTES:

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

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