

January 24-25, 2013  
Phoenix, AZ, USA

Prepared by George Zimmerman

IEEE 802.3bp Reduced Twisted Pair Gigabit Ethernet PHY Interim meeting convened at 09:00, Thursday, January 24, 2012 by David Law, 802.3 Working Group Chair

Attendance is listed in Appendix A

Administrative Matters

Mr. Law appointed George Zimmerman as recording secretary for this session

Mr. Law explained that the Working Group Chair appoints the Task Force Chair, and the Task Force would confirm the appointment. Mr. Law then reminded the group that he had announced his intention to appoint Steve Carlson Task Force Chair at the July Plenary, and he then appointed the Steve Carlson Task Force Chair.

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**Motion #1: To confirm Steve Carlson as Task Force Chair**

**M: John D'Ambrosia S: Val Maguire**

**Y: 42, N: 0, A: 0**

**MOTION PASSES ( $\geq 75\%$ )**

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Mr. Law turned the meeting over to the Chair, Mr. Carlson

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Presentation: agenda\_3bp\_0113.pdf

Presenter: Steve Carlson, Chair.

The Chair called for introductions and affiliations.

The Chair reviewed the agenda. Mr. Carlson turned to presentation agenda\_3bp\_0113.pdf and reviewed the agenda for the 2 day meeting

**Motion #2: to approve the agenda as shown on slide 2 of agenda\_3bp\_0113.pdf**

**M: Yair Darshan S: Dave Dwelley**

**Approved unanimously by acclamation (Procedural  $> 50\%$ )**

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**Motion #3: to approve the November Plenary minutes of the Study Group as posted.**

**M: Geoff Thompson S: motion was seconded, name was missed in minutes**

**Approved unanimously by acclamation (Procedural  $> 50\%$ )**

The Chair then resumed the presentation of agenda\_3bp\_0113.pdf.

- Mr. Carlson asked if anyone was attending from the press including those who would run a public blog on this meeting. None responded.
- Mr. Carlson noted that there should be no recording or photography without permission.

**Attendance,** Mr. Carlson advised the group of the IEEE meeting attendance tool and procedures, including both the attendance book and the web attendance tracking tool.

Mr. Carlson explained access to the reflector and website archive of the study group and Task Force materials, including IEEE-SA and 802 bylaws, rules and procedures.

**IEEE Patent Policy,** Mr. Carlson asked Geoff Thompson to read aloud the patent policy for Task Forces, who then read aloud the patent policy from agenda\_3bp\_0113.pdf, slides 1-3 (and the optional slide 0) from the IEEE-SA patent policy, sheets 9-12 of agenda\_3pb\_0113.pdf entitled “Instructions for the WG Chair”, “Participants, Patents, and Duty to Inform”, “Patent Related Links”, and “Call for Potentially Essential Patents” (09:20-09:39am).

When the call for patents was made, there was an affirmative response, by Mr. Thompson and Mr. Carlson (on the same patent issue). They further indicated that a request for an LOA had been submitted to the patent owner.

The Chair then concluded, reading the final slide of the patent policy, slide 4, entitled “Other Guidelines for IEEE WG Meetings” himself.

The Chair then resumed the presentation in agenda\_3bp\_0113.pdf.

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#### *ACTION ITEMS FROM LAST MEETING*

Mr. Carlson noted that the task force would continue technical work on automotive link segment performance characteristics and EMC.

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Mr. Carlson also noted issues with late submissions of presentations and outlined rules for handling late submissions and for file naming conventions in the future. (see presentation for details).

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The Chair called a break at 10:22AM and reconvened at 10:44 AM

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#### *LIAISON REPORTS –*

Mr. Carlson indicated that no liaisons had been received

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## PRESENTATIONS

The Chair then moved to the presentations for the meeting.

Presentation #1:     [adhoc\\_emc\\_3bp\\_01\\_0113.pdf](#) “EMC ad hoc report”

Presenter:     Gavin Parnaby, Marvell, co-chair EMC Ad Hoc

Discussion:     The presenter reviewed the ad hoc teleconferences held since the last meeting and items for further discussion.

Presentation #2:     [tazebay\\_3bp\\_01a\\_0113.pdf](#) “Modeling & Measurement Technique for RTPGE EMC Channel Analysis”

Presenter:     Mehmet Tazebay, Broadcom (also co-chair EMC Ad Hoc)

Discussion:     The presenter presented a method and measurement technique for EMC emissions. The presentation showed a test methodology, results indicating repeatability across cable samples and setups, and correlation suggesting that a TX mask existed for 1Gbps UTP cables.

Presentation #3:     [adhoc\\_link\\_3bp\\_01\\_0113.pdf](#) “Reduced Twisted Pair Gigabit Ethernet SG Channel Definitions Ad Hoc Report”

Presenter:     Chris DiMinico, MC Communications, co-chair Channel Definitions Ad Hoc

Discussion:     The presenter reviewed the ad hoc teleconferences held since the last meeting and items for further discussion. He presented some materials reviewed in the teleconferences which had been submitted by automotive manufacturers surveying automotive cabling and components.

There was discussion about progress on a standardized a test fixture connector.

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The Chair called a break for lunch at 11:50AM and the meeting reconvened at 1PM

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Presentation #4:     [matheus\\_3bp\\_01\\_0113.pdf](#) “1 pair or 2 pairs for RTPGE: Impact on System Other than the PHY Part 1: Weight & Space”

Presenter:     Kirsten Matheus, BMW

Discussion:     The presenter evaluated the impact of choosing 1 or 2 pairs for RTPGE cabling on automotive weight and space based on: topologies, ECU connections, Cable & Connector, and the automotive Ethernet use of multi-pin connectors.

Presentation #5:     [matheus\\_3bp\\_02\\_0113.pdf](#) “RTPGE Alien XTALK Scenarios”

Presenter:     Kirsten Matheus, BMW

Discussion:     The presenter discussed alien crosstalk configurations in different automotive use cases, and attempted to proposed a methodology on how to evaluate alien crosstalk for use in selecting baseline proposals. The presenter also discussed that a fully parallel, 15m link between two points never existed. The presenter requested alien crosstalk measurements focusing on a number of these scenarios. There was vigorous discussion on the impacts of the different cases. The presenter stressed that for the large majority of cases (90% or greater) fewer than 4m of cabling

would be bundled, and it would be undesirable if a topology that fit a very small set of cases drove cost parameters of the system.

Presentation #6:    [mei\\_3bp\\_01\\_0113.pdf](#) “Alien Crosstalk and Balance Measurement of RTPGE links”

Presenter:    Richard Mei, Commscope

Discussion:    The presenter discussed alien crosstalk measurements based on some of the topologies described in [matheus\\_3bp\\_02\\_0113.pdf](#) using 1 and 2 pair cabling based on the category 6a specification. The presenter suggested that the group’s progress might be aided by leveraging work done in existing cabling specifications, such as the Cat6a specification.

Group discussion focused on possible future measurements to add to knowledge about non-data “intermittent” interferes such as power and solenoids.

Presentation #7:    [mueller\\_3bp\\_01\\_0113.pdf](#) “Automotive Datalinks over Twisted Quad Cabling”

Presenter:    Thomas Müller, Rosenberger Hochfrequenztechnik GmbH & Co. KG

Discussion:    The presenter presented the characteristics of twisted quad cables, standardized IEEE 1394 interfaces, and EMC results on those cables, and discussed a triaxial tube method of measuring EMC properties.

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The Chair called a break at 3PM, the meeting reconvened at 3:20PM.

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Having completed the scheduled presentations for the day, the Chair advised the group that he had received a late presentation and asked the group if there was objection to hearing the presentation. The group agreed to hear the presentation by acclamation without opposition.

Presentation #8:    [bliss\\_3bp\\_01\\_0113.pdf](#) “Echo Cancelling Power For 1Gbps 1TP RTPGE with 15m Category cabling”

Presenter:    Will Bliss, Broadcom

Discussion:    The presenter presented a simple model for the power associated with echo cancellation, since the use of an echo canceller would be expected in a 1 twisted pair system, and might not be necessary in a 2 pair system. Category 6a specifications were used for the analysis. The presentation builds on analysis given earlier in the week to the NGBASE-T group in [grimwood\\_01a\\_0113\\_NGBT.pdf](#).

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Having completed the presentations for the meeting, the Chair discussed some administrative matters, reviewing [agenda\\_3bp\\_01\\_0113.pdf](#) at slide 29.

The Chair then proposed breaking the meeting tonight and reconvening the following morning at 11AM, with the ad hocs using the intervening time to work and possibly prepare anything for Task Force voting.

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The group recessed at 4:03PM, to reconvene at 11AM the following morning.

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The group reconvened at 11AM 25-January, 2013

The Chair asked the EMC ad hoc co-chair, Mehmet Tazebay, if the ad hoc would like to report or ask anything of the Task Force.

Mr. Tazebay reported that there had been an EMC ad hoc meeting, and that the consensus of the group was that the stripline methodology presented was sufficient, and the group is reviewing a proposal for noise modeling. This will result in ongoing work.

Mr. Tazebay also reported that there was not a channel ad hoc meeting during the recess, and would be a teleconference announced in the coming week.

The Chair then asked the group if they consented to hearing a late presentation on powering considerations for the channel from Mr. Yair Darshan of Microsemi. Hearing no objections, the presentation proceeded.

Presentation #8:    darshan\_3bp\_01\_0113.pdf "Power Capability vs. Wire Size and Cable Length"

Presenter:    Yair Darshan, Microsemi

Discussion: The presenter discussed the relationships between wire size, length and power delivery capability for 1 pair powering.

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Having completed the agenda, the Chair announced the next meeting would be at the March Plenary in Orlando, Florida.

## **Adjournment**

**Motion #4: To adjourn the meeting.**

**M: Mehmet Tazebay        S: Thomas Hogenmuller**

**MOTION PASSES by voice without opposition**

**The Meeting was adjourned at 11:35AM 25-January 2013**

*Appendix A: Attendees at the IEEE 802.3bp Reduced Twisted Pair Gigabit Ethernet  
PHY Task Force Interim Meeting, January 24-25, 2013*



# RTPGE Study Group Sign-In Sheet - THURSDAY, Jan. 29, 2013

Name	Company	Affiliation	Email (optional)	Th	Fri
STEVE CARLSON	HSD	HSD		SC	
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# RTPGE Study Group Sign-In Sheet - Thursday Jan 24, 2013

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