Unconfirmed Meeting Minutes:
IEEE P802.3bq 40GBASE-T Task Force IEEE 802.3 25GBASE-T Study Group
May 18-19, 2015
Pittsburgh, PA, USA
Prepared by George Zimmerman and Jon Lewis

Joint meeting of the IEEE P802.3bq 40GBASE-T Task Force and IEEE 802.3 25GBASE-T Study Group meeting convened at 10:00 AM, Monday, May 18, 2015 by David Chalupsky, 802.3bq Task Force/25GBASE-T Study Group Chair

Attendance is listed in Appendix A

ADMINISTRATIVE MATTERS
Presentation: agenda_3bq-and-25gbtSG_01_0515.pdf
Presenter: Dave Chalupsky, Chair.

The Chair called for introductions and affiliations, the participants introduced themselves, and the Chair then proceeded with the agenda.

The Chair reviewed the agenda. Mr. Chalupsky turned to presentation agenda_3bq-and-25gbt_01_0515.pdf and reviewed the schedule of presentations for the meeting.

Motion #1:   Approve the agenda from **agenda_3bq-and-25gbtSG_01_0515.pdf**
M: Pete Cibula   S: Theo Brillhart
Approved by voice vote without objection (Procedural > 50%)

Motion #2:   Approve the minutes from the March 2015 P802.3bq, NGEABT SG, and 25GBASE-T SG joint meeting

M: Pete Cibula   S: Paul Vanderlaan
Approved by voice vote without objection (Procedural > 50%)

The Chair then resumed the review of the agenda presentation:

- Mr. Chalupsky asked if anyone was attending from the press including those who would run a public blog on this meeting – there were no indications from the group.
- Mr. Chalupsky noted that there should be no recording or photography without permission.

Mr. Chalupsky reviewed the goals for the meeting, access to the reflector and website, and ground rules.

Mr. Chalupsky then continued review of the presentation, including the objectives for the projects and Big Ticket items for this meeting.

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

IEEE Patent Policy, at **10:23 AM**, Mr. Chalupsky showed slides 0 through 4 patent policy from agenda_3bq-and-25gbtSG_01_0515.pdf. Mr. Chalupsky showed slide 0 and read aloud slides 1 through 4. Mr. Chalupsky made the call for potentially essential patents at **10:26 AM**, and none responded. Mr. Chalupsky then completed the reading of slide #4.

Mr. Chalupsky then continued review of the presentation, discussing that the group had entered the "Working Group Ballot" phase where we would be primarily comment driven.

LIAISONS
The Chair moved to liaisons, and noted no new liaisons had been received for the Task Force this meeting.

The Chair completed review of the presentation noting the project objectives for each group which were unchanged from the prior meeting.

PRESENTATIONS

The Chair then moved to the presentations for the meeting. (Secretary's note – where significant group discussion occurred, particularly involving future actions, a summary of any follow-on points is provided. Abstracts are given as a guide to the presentation material, where possible, these are as provided by authors.)

Ad Hoc Reports

Title:	P802.3bq Receiver Common Mode Noise Rejection Ad Hoc Report (cibula_3bq_01_0515.pdf)
Abstract:	The presenter described the status and next steps for the ad hoc organized to investigate the receiver common mode noise rejection (aka "cable clamp") test, and develop corresponding text for 802.3bq to adopt for clause 113.5.4.3. The ad hoc had held 2 telephonic meetings since the March Task Force meeting. Meetings were focused on providing potential material for an informative annex describing the procedure. Meetings are scheduled for every other Wednesday with the goal of providing text to refine details of implementation as suggested in the Editor's note.
Presenter:	Pete Cibula, Intel, Chair 802.3bq RxCMNR ad hoc

Discussion: Questions were asked whether any new technical requirements were planned, and the ad hoc chair answered there were none.

Title: 802.3bq PHY Baseline Ad Hoc Report (zimmerman_3bq_01a_0515.pdf)
Abstract: The presenter described the status and next steps for the 802.3bq PHY Baseline Ad Hoc. The ad hoc had held one telephonic meeting since the March Task Force meeting, focused on contributions related to comments.
Presenter: George Zimmerman, CME Consulting/Aquantia & Broadcom, Chair 802.3bq PHY Baseline Ad Hoc ad hoc
Discussion: There were no questions

THE GROUP BROKE FOR COFFEE AT 10:40AM, TO RESUME AT 10:50AM

At 10:52 am, Mr. Lewis assumed the duties of secretary so Mr. Zimmerman could present and resolve comments as Chief Editor. Decisions during comment resolution were made by consensus, except where noted that motions were taken.

Title: 802.3bq Editor's Report (zimmerman_3bq_02_0515.pdf)
Abstract: The editor reported on the status and comments received of the draft 2.0, along with a proposed agenda for comment resolution.
Presenter: George Zimmerman, CME Consulting / Aquantia & Commscope, Chief Editor IEEE 802.3bq
Discussion:
The Chief Editor presented his report, including the present status of the draft, a summary of comments received against D 2.0.

Motion #3:   **Move that the Task Force consider the late comments submitted by Matt Brown in conjunction with comments on similar topics**
M: George Zimmerman   S: Pete Cibula
Motion Passes with voice vote without opposition (Procedural >50%)

The Editor outlined the comments by topic, and reminded participants that the comments had been posted by topic on the website, with the Editor reminding the group via reflector to review the EZ bucket, as this group was intended to be approved by a single motion.

Mr. Zimmerman presented the Proposed Comment Resolution Agenda and asked the group if there were objections or modifications to the agenda. None heard.

The editor then asked the group if anyone wished to view the EZ bucket comments on the screen; no request was made and the comments were not displayed. The Editor then asked the group that if anyone wished to remove a comment from the EZ bucket, they do so now. The following comments were requested to be removed from the EZ bucket.

Comment 394 removed to MGMT.
Comments 244 & 245 requested to be removed from the EZ bucket by the submitter.

The Editor then presented the following motion:

Motion #3:   Approve the proposed resolution of all EZ comments, marked with the EZ Topic in http://www.ieee802.org/3/bq/comments/p802.3bq_d2.0_proposed_Topic.pdf , with the following exceptions: 394, 244 & 245.

The Task Force chair asked if there was any discussion of the motion; none was offered by participants.

M: George Zimmerman   S: Jon Lewis
Y: 32
N: 0
A: 2
MOTION PASSES (Technical >= 75%)

George (the Editor) reviewed Comments 244 & 245 to remove them from the EZ bucket. They were not marked EZ in the database so no action was required.

Comment 116 was reviewed. Chief Editor recommends removing the objectives to resolve this comment. Comment 483 was reviewed to show the impact of removing the objectives from the draft.

The Editor reviewed a summary of the remaining topics and the comment resolution agenda.

At this time, the editor's report was concluded and comment resolution began.

COMMENT RESOLUTION

Comment resolution began at 11:17AM. Resolution of comments by consensus or motion is listed in the comment database. Procedural events and significant motions are below:

 At 12:32, the Editor asked the consent of the group to modify the comment resolution agenda, moving resolution of Training and AN comments to after lunch ~3:00pm due to the primary commenters not available at this time. No concerns were voiced in the room.

On topic xGBASE-T: comments were heard on the acceptance of the proposed modification of the nomenclature. Concerns included how to specify 1000BASE-T. An informative poll was taken to help narrow down the nomenclature fields: xGBASE-T, nGBASE-T and MULTIBASE-T.

Motion #4:   Resolve comment 6 as:

Move: Resolve Comment 6 as:

- Definition of MultiGBASE-T added to the definitions section, to specifically include 40GBASE-T and 10GBASE-T. References on lines 13 thru 15 changed to "1000BASE-T and MultiGBASE-T".
- Change references to MultiGBASE-T Technology Message Code to be "MultiGBASE-T and 1000BASE-T Technology Message Code"
- Editor to review draft and change all references from xGBASE-T to MultiGBASE-T.

M: Shadi AbuGhazaleh   S: Hossein Sederat

The Task Force chair asked if there was any discussion of the motion; none was offered by participants.

Y: 28 N: 0   A: 5
MOTION PASSES (Technical >= 75%)

1:38PM…   In connection with comment #445, the following presentation was heard from Pete Cibula, Chair of the Receiver Common Mode Noise Rejection ad hoc.

Title: "On Comment #445" cibula_3bq_02_0515.pdf
Abstract: This contribution provides a proposed resolution to Comment 445 from D2.0, based on the results of the ad hoc work.
Presenter: Pete Cibula, Intel Corp.
Discussion: the group provided the following changes to the proposed text (sent to Pete)
        Page 10: change "plug terminated channel" to "cabling"
        Page 10: Add "For Example" in d) Test cable.
        Page 10: Add minimum bandwidth on the TME.
        Page 11: Change 2GHz to 2 000 MHz (3 places)
        Page 13: Change channel to cable
        Page 13: Change 2GHz to 2 000 MHz
        Page 13: Clean up image and remove color from figure

The proposed text, as modified, was accepted as a resolution to the comment.

THE GROUP BROKE FOR LUNCH AT 2:10PM, TO RESUME AT 3:10PM

THE GROUP RESUMED COMMENT RESOLUTION at 3:12PM AFTER LUNCH.

In connection with comments on Auto-Negotiation, the following presentation, heard in full in the PHY ad hoc, was summarized and considered.
Title: "xGBASE-T Auto-Negotiation Proposal" Lo_3bq_01a_0515.pdf

Abstract: This contribution provides a proposed resolution to Comment 80 from D2.0.
Presenter: William Lo, Marvell Semiconductor Inc.
Discussion: Discussion about the inclusion of EEE in Lo_3bq_01a_0515.pdf.

Additionally in connection with questions on the proposal, the Editor displayed the following contribution with textual changes associated with Mr. Lo's proposal.
Title: "text changes requested in comment 92" McClellan_3bq_01_0515.pdf
Abstract: This contribution provides a proposed resolution to Comment 92 from D1.2.
Presenter: Brett McClellan, Marvell Semiconductor Inc.
Discussion:

Straw Poll #1:

Accept As is 19
Accept in Principle without EEE 0
Reject & accept new XNP 4
Reject all 0

Motion #5: Motion to accept comment 92
M: Brett McClellan   S: Jon Lewis
The Task Force chair asked if there was any discussion of the motion; none was offered by participants.
Y: 24
N: 3
A: 10
MOTION PASSES (Technical >=75%)
4:14PM

In connection with Comments 107, 93 & 84 on requesting the PMA training to periodically reset, the following straw poll and motion were heard:

Straw Poll #2: Comments 107, 93 & 84

Allocate a new autoneg bit (U21) for 40GBASE-T LD PMA training reset request: 4
Remove the option to reset PMA training PRBS every frame in 40GBASE-T: 13

Motion #6: Move to remove the option to reset PMA training PRBS every frame in 40GBASE-T
M: Brett McClellan   S: William Lo
The Task Force chair asked if there was any discussion of the motion; none was offered by participants.
Y: 13 N: 6 A: 17
MOTION FAILS (Technical >=75%)

Following the comment, the resolution of comments 81, 84, 93 & 107 was postponed to Tuesday AM to allow time for reflection and consideration of the alternatives.

Connected with the resolution of comment #403, the following presentation was heard:
Title: "Improved Transcoding Scheme for 40GBASE-T Addressing Comment #403 to Draft 2.0" wangz_3bq_01_2015_05.pdf
Abstract: This contribution provides a proposed resolution to Comment403 from D2.0.
Presenter: Zhongfeng Wang, Broadcom Corporation
Discussion: Due to the nature of the proposed change, and the providing of detailed text to consider, it was requested that the discussions be postponed to Tuesday AM.

Comment 403 resolution postponed to Tuesday AM for consideration.

The text changes to resolve the comment were provided to the Chair and posted to the website that afternoon: Text-comments-40G-T-transcoding.pdf

The meeting continued into the late evening. At 9:10PM, in connection with comment 404, requesting adoption of an alternative MDI connector (following significant discussion of the principle), and the following motion was made:

Motion #7: Add in 113.8.1 "Eight-pin connectors meeting the requirements of IEC 61076-3-110 (published) may be used as an alternative mechanical interface to the balanced cabling"
M: Valerie Maguire   S: Dave Hess
The Task Force chair asked if there was any discussion of the motion; no further was offered by participants.
Y: 9   N: 15 A: 3
MOTION FAILS (Technical >=75%)

At 9:21PM, in connection with comment 466, suggesting an optional MDIs, the following motion was heard:

Motion #8: Motion to implement suggested remedy (to comment 466) "If backward compatibility offered with IEC 60603-7-81 is not required, the interface specified in IEC 61076-3-110 or 60603-7-82 may be used."
M: Valerie Maguire   S: Yakov Belopolsky
The Task Force chair asked if there was any discussion of the motion:
The Editor mentioned that this was not implementable as written and more details would be required, at least where this would be placed in the text.
Y: 6   N: 16 A: 2
MOTION FAILS (Technical >=75%)

At the end of the evening, it was noted that there were now the two deferred sets of comments to be resolved. As the meeting was approaching reset, Mr. Flatman noted that he had thought comment 220 was to be addressed. The Editor, upon review, noted that comment 220 had be marked ACCEPT and was included in the EZ bucket, previously approved. There was brief discussion of reopening comment 220 on Tuesday morning.

The Chair stated that the start time for the conclusion of P802.3bq would be 9:00AM Tuesday, May 19th, 2015.

The joint meeting was recessed for the day at 9:43PM, Monday, May 18, 2015.

The joint meeting was called to order and resumed at 9:00AM Tuesday May 19, 2015.

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

The Task Force Chair called for introductions and affiliations, the participants introduced themselves, and the Chair then proceeded with the agenda.

The Chair reviewed the agenda. Mr. Chalupsky turned to presentation agenda_3bq-and-25gbt_01_0515.pdf and reviewed the schedule of presentations for the meeting.

IEEE Patent Policy, at **9:07 AM**, Mr. Chalupsky showed slides 0 through 4 patent policy from agenda_3bq-and-25gbtSG_01_0515.pdf. Mr. Chalupsky showed slide 0 and read aloud slides 1 through 4. Mr. Chalupsky made the call for potentially essential patents at **9:09 AM**, and none responded. Mr. Chalupsky then completed the reading of slide #4.

The Chair then resumed the review of presentation agenda_3bq_01_0515.pdf:

The Chair then turned the meeting over to George Zimmerman, Chief Editor, to resume comment resolution for those items deferred from Monday.

Motion #9: Move to reopen Comment 220
M: George Zimmerman S: Alan Flatman
PASSES BY VOICE WITHOUT OPPOSITION (PROCEDURAL >=50%)

Comments resolved by motion are listed in these minutes, with discussion of note related to specific comments included for reference:

Comment resolution continued, resolving comment 220 with modifications by consensus.

Resolution to comment 403 included the following straw poll in an attempt to reach consensus:

Straw Poll #3:
Make changes documented in Text-comments-40G-T-transcoding.pdf, with the following changes:
give Editor license to connect text edit (3) in "comments…" correctly to referenced 'above case with pure data blocks'.
Y: 8 N: 11

Seeing no consensus, the comment was resolved as REJECT for failure to reach consensus.
The remaining comments (81, 84, 93 & 107 – all related to training) were resolved by consensus.

With comment resolution completed, the Chair resumed leading the meeting.

THE GROUP BROKE AT 10:40AM, TO RESUME AT 10:50AM

THE GROUP RESUMED at 10:50AM.

The Chair then resumed the review of presentations not related to comments, summarized in the order presented.

Title: **40G ICM Recommendations and Performance**
(sedio_3bq_01_0515.pdf)
Abstract:
1. Package proposal with rationale
2. Measured SI data
3. Measurements with cable
Presenter: Steve Sedio, Foxconn Interconnect Technology
Discussion: Discussion about how these results compared to previous FIT presentations. Questions were asked and answered, including:

  o Participants asked how the compensation was going to handle the differences between individually shielded pair cables and F/UTP cables.
  o Is the compensation dependent on variations in plug manufacturer design. It was noted that there are integrated specifications to use as the basis of understanding. There is also a jack plug specification.

Questions were asked and answered concerning other details in the presentation.

At 11:06, to ensure that necessary business would be concluded, presentations were briefly interrupted to hear the following motion:

Motion #10: **Generate Draft 2.1 for WG recirculation from Draft 2.0 and closed comments**
M: **George Zimmerman** **S: Alan Flatman**
Y: 36 N: 0   A: 3   MOTION PASSES

25GBASE-T Study Group Presentations
Having concluded the business of the 802.3bq working group ballot, the group focused on presentations related to the 25GBASE-T Study Group.

Title: The Road to 25GBASE-T: Editorial Considerations, Standards Dependencies, and Potential Timeline (zimmerman_25GBT_01_0515.pdf)
Presenter: George Zimmerman, CME Consulting/CommScope, Aquantia
Abstract: The presenter will discuss editorial work to produce a 25GBASE-T draft, dependencies with 802.3by, 802.3bz and cabling standards, as well as a potential timeline for the 802.3bq project to include 25GBASE-T.

Discussion: No discussions.

Title: Cabling Considerations for IEEE 802.3bq 25GBASE-T (shariff_3bq_01a_0515.pdf)
Presenter: Masood Shariff, CommScope
Abstract: The presenter discussed data and discussion related to the advantages of keeping a single link segment for 25G and 40G in a future 802.3bq specification incorporating 25G.
Discussion: Discussion about where the data has been published in support of this presentation. Some discussion around the concern on the applicability of 2 000 MHz cable for 1 200 MHz signalling bandwidths.

In the interest of time, several presenters requested to defer the following presentations until the July meeting:

Title: Size of the Category 7A Installed Base (maguire_25gbt_01a_0515.pdf)
Presenter: Valerie Maguire, The Siemon Company

Title: Comparison of Cat7/ Class F Channel Comparison of Cat7A / Class FA Channel and 802.3bq Link Segment Specification (rossbach_25gbt_01_0515.pdf)
Presenter: Martin Rossbach, Nexans Cabling Solutions

Title: Class FA (category 7A) Cabling for 25GBASE-T (belopolsky_25gbt_01_0515.pdf)
Presenter: Yakov Belopolsky, Stewart Connector

The following presentation was heard
Title: ISO/IEC 11801-1 standard cabling system characteristics (hess_25gbt_01_0515.pdf)
Presenter: Dave Hess, Cord Data

Abstract: ISO/IEC 11801-1 standard cabling system simulated SNR is calculated for Class-EA, Class-FA, Class-I, and Class-II, for various link segment distances, using the ISO/IEC 11801-9901 standard cabling system model. A comparison of the cabling system classes is illustrated using multiple views, e.g. margin-over-reach. A brief explanation of the analysis method is covered in the background data.
Discussion: Discussion included questions regarding the noise sources used in the analysis and how it was injected into the analysis.

Having completed the presentations and comment resolution business for the meeting, the Chair reviewed future meeting plans.

The Chair noted that the "PHY proposal ad hoc committee" is re-chartered as the "PHY ad hoc" with George Zimmerman continuing as Chair.

No further motions of business were offered.

Adjournment

Motion #11: To adjourn the meeting.
M: Pete Cibula   S: Peter Jones
MOTION PASSES by voice without opposition
The Meeting was adjourned at 11:50AM, Tuesday, May 18, 2015.

Appendix A: Attendees at the joint IEEE P802.3bq Task Force/25GBASE-T Study Group Meeting, May 18-19, 2015

Total attended:	62		Daily # attended:	49	60
P802.3bq Task Force & 25GBASE-T study group				**5/18/15**	**5/19/15 am**
Last Name	**First Name**	**Employer**	**Affiliation**	**MONDAY 40G/25GbT**	**Tues am 40G/25GbT**
Abughazaleh	Shadi	Hubbell	Hubbell	x	x
Bains	Amrik	Cisco	Cisco	x	x
Belopolsky	Yakov	Bel Stewart	Bel Stewart	x	x
Bliss	Will	Broadcom	Broadcom		x
Brillart	Theo	Fluke Electronics	Fluke Electronics	x	x
Byrne	Joseph	Freescale	Freescale		x
Carty	Clark	Cisco	Cisco	x	x
Chacon Simon	Geoffrey	HP	HP	x	x
Chalupsky	David	Intel	Intel	x	x
Chuang	Keng Hua	HP	HP	x	x
Cibula	Pete	Intel	Intel	x	x
Cohen	Larry	Aquantia	Aquantia		x
Dalmia	Kamal	Aquantia	Aquantia	x	x
Deborde	William	Intel	Intel	x	x
DiMinico	Christopher	MC Communications	Panduit	x	x
Dinh	Thuyen	Pulse Electronics	Pulse Electronics		x
Donahue	Curtis	UNH - IOL	UNH - IOL	x	
Estes	Dave	Spirent	Spirent	x	x
Farjad	Ramin	Aquantia	Aquantia	x	x
Feyh	German	Broadcom	Broadcom	x	x
Flatman	Alan	LAN Technologies	LAN Technologies	x	x
Frazier	Howard	Broadcom	Broadcom	x	x
Freeburn	Paul	Avaya	Avaya	x	x
Graba	Jim	Broadcom	Broadcom	x	x
Hajduczenia	Marek	Bright House Networks	Bright House Networks		x
Hammond	Bernard	TE Connectivity	TE Connectivity	x	x
Hess	Dave	Cord Data	Cord Data	x	x
Hess	John	Bel Stewart	Bel Stewart		x
Horrmeyer	Bernd	Phoenix Contact	Phoenix Contact		x
Jones	Peter	Cisco	Cisco	x	x
Kim	Yong	Broadcom	Broadcom	x	x

Klempa	Mike	UNH-IOL	UNH-IOL	x	x
Lau	Evan	General Cable	General Cable	x	x
Lewis	Jon	Dell	Dell	x	x
Lo	William	Marvell	Marvell	x	
Maguire	Valerie	Siemon	Siemon	x	x
Maynes	Curt	3M	3M	x	x
Mei	Richard	Commscope	Commscope		x
Moffitt	Bryan	Commscope	Commscope	x	x
Nielsen	Allan	TE Connectivity	TE Connectivity	x	x
Porach	Stephen	Optical Cable Corp	Optical Cable Corp	x	x
Rabinovich	Rick	Alcatel-Lucent	Alcatel-Lucent		x
Renteria	Victor	Belfuse Inc	Belfuse Inc	x	x
Regev	Alon	Ixia	Ixia		x
Rossbach	Martin	Nexans	Nexans	x	x
Schicketanz	Dieter	Consultant	Leoni-Kerpen	x	x
Sedarat	Hossein	Aquantia	Aquantia	x	x
Sedio	Steve	Foxconn	Foxconn		x
Shariff	Masood	Commscope	Commscope	x	x
Shirani	Ramin	Aquantia	Aquantia	x	x
Souvignier	Tom	Broadcom	Broadcom	x	x
Sparrowhawk	Bryan	Leviton	Leviton		x
Su	Ching-Yao	Realtek	Realtek	x	x
Vaden	Sterling	Vaden Enterprises	Vaden Enterprises	x	x
Vanderlaan	Paul	Berk-Tek LLC	Berk-Tek LLC	x	x
Wagner	Bob	Panduit Corp.	Panduit Corp.	x	x
Wahn	Hazfez	Huawei	Huawei	x	x
Wang	Xiaofeng	Qualcomm	Qualcomm		x
Wang	Zhongfeng	Broadcom	Broadcom	x	x
Wang	Roy	Hewlett-Packard	Hewlett-Packard	x	x
Wu	Peter	Marvell	Marvell	x	x
Zimmerman	George	CME	Commscope, Aquantia	x	x