Meeting Minutes

Group: *IEEE P802.3ca 100G-EPON Task Force*

Event: Interim meeting

Date: **From**: *21 May 2018* **To**: *23 May 2018*

Location: *Mighty. Beautiful. Pittsburgh PA USA*

Opening

5/21/2018 1:00 PM The meeting was called to order by the Chair. Duane Remein volunteered to serve as recording secretary. The Chair gave the opening report (tf_opening_3ca_1_0518.pdf).

Motion # 1	
Approve the agenda for 802.3ca May 2018 Task Force meeting as shown in file agenda_3ca_1a_0518.pdf.	
Moved: Duane Remein	Second: Phil Miguelez
Procedural (>50%)	Motion Passed by Voice without opposition

Motion # 2	
Approve the Minutes of 802.3ca Task Force meeting held March 2018, in Chicago, IL as shown in minutes_unapproved_3ca_0318.pdf and post the approved minutes as minutes_approved_3ca_0318.pdf	
Moved: Marek Hajduczenia	Second: Phil Miguelez
Procedural (>50%)	Motion Passed by Voice without opposition

The chair reviewed the Task Force Web site / password, IEEE rules & process, and IEEE patent policy.

5/21/2018 1:19 PM The Chair made a call for patents, no response was made.

After reviewing the IEEE Participation guidelines the chair took the future meeting polls.

All presentations are in the following format:
Presentation # #
Title **Presenter** **affiliation**
Comments
Filename: filename.pdf

Comment Resolution

5/21/2018 1:26 PM The Task Force moved into comment resolution. During comment resolution several presentations were given.

Presentation # 1
802.3ca PHY Names **Glen Kramer** Broadcom
This reviewed past naming in EPON and proposed a new naming convention for 100G-EPON.
Filename: kramer_3ca_4_0518.pdf

5/21/2018 6:30 PM Recessed for the day

5/22/2018 8:00 AM Reconvened, continued comment resolution

Presentation # 2

PHY naming including future 50G **John Johnson** Broadcom

This presentation suggested an alternative naming convention for PMDs.

Filename: johnson_3ca_3_0518.pdf

Motion # 3		
Only the following combinations of upstream wavelength are supported for 2x25G: UW0 (1270nm) + UW1 (1300nm); and UW1 (1300nm) + UW2 (1320nm). The combination of UW0 (1270n) and UW2(1320nm) is not supported for 2x25G.		
Moved: Glen Kramer		Second: Frank Effenberger
For: 19	Against: 0	Abstain: 4
Technical (≥75%)		Motion Passed

5/22/2018 12:00 PM Recessed for lunch. Reconvened at 1:00 PM continuing comment resolution

Presentation # 3

Optical Fiber and Cable Characteristics **Earl Parsons** CommScope

This presentation reviewed the current state of fiber standards (G.652.B, G.652.D, G.657.A, G.657.B, IEC 6079302-50, etc.). The presentation included proposed text and tables to effect changes to the draft. The Task Force expressed appreciation for the information but did not agree that making the suggested changes was a good idea.

Filename: parsons_3ca_1a_0518.pdf

Presentation # 4

Gain Control of SOA Preamplifier **Glen Kramer** Broadcom

This presentation described a mechanism to handle ONUs with very large differences in received optical power, from the perspective of the OLT, by varying the gain of an optical pre-amplifier. The mechanism proposed changes to the Discovery message. The mechanism was adopted as recorded in Comment #9.

Filename: umeda_3ca_1_0518pdf

5/22/2018 4:05 PM Comment resolution was suspended and the Task Force resumed discussion of PHY Naming (see presentations # 1 & 2).

Straw Poll # 1	
I prefer kramer_3ca_4a_0518.pdf slide 18	
Count: Option 1:	8
Option 2:	15

Motion # 4		
Adopt the naming conventions as outlined in Option #2 on slide 17 of kramer_3ca_4a_0518.pdf.		
Moved: Glen Kramer		Second: Frank Effenberger
For: 23	Against: 0	Abstain: 4
Technical (≥75%)		Motion Passed

Presentation # 5

Arguments for keeping 4 channels at MPRS/PCS

Glen Kramer Broadcom

This presentation suggested that we maintain the number of channels in the draft at 4 by creating a dual fiber PON architecture.

Filename: kramer_3ca_5_0518.pdf

Presentation # 6

Why not 100G MAC **Ed Harstead** Nokia

This presentation argued against defining 4x25G 100G dual fiber PON architecture.

Filename: harstead_3ca_3_0518.pdf

During the discussion following the above two presentations there was a general consensus to make the entire MPRS specification channel independent (i.e., upper number of channels unspecified) and make a formal requirement that for P802.3ca PHYs, the number of channels shall be equal to either 1 or 2.

5/22/2018 4:05 PM The Task Force resumed comment resolution.

Presentations

5/22/2018 4:40 PM The Task Force transitioned into presentations leaving 2 open comments (excluding "bucket" comments).

Presentation # 7

Reducing Ton and Toff maximum values **Ed Harstead** Nokia

This presentation suggested tightening up the values for Ton and Toff.

Filename: harstead_3ca_2a_0518.pdf

Motion # 5		
Change Ton and Toff maximum values from 512 ns to 128 ns.		
Moved: Ed Harstead		Second: Hanhyub Lee
For: 25	Against: 0	Abstain: 1
Technical (≥75%)		Motion Passed

5/22/2018 5:55 PM Recessed for the day.

5/23/2018 8:00 AM Reconvened, continued presentations.

Presentation # 8

FEC Codeword Format and Alignment Mechanism

Glen Kramer Broadcom

Prior to giving this presentation the presenter showed a few slides from kramer_3ca_1_0318.pdf which was given at the previous meeting. This presentation addressed block alignment within the FEC codeword and included the current state diagrams in the draft and associated results of simulations of the state diagrams for a FEC alignment delimiter of 10 bits.

Filename: kramer_3ca_1_0518.pdf

Presentation # 9

Grant Spacing Signaling at the ONU **Glen Kramer** Broadcom

This presentation discussed proposed changes to the MPCP and MPRS needed to allow for proposed PCS state diagrams (included in remein_3ca_3a_0518.pdf).

Filename: kramer_3ca_2a_0518.pdf

Presentation # 10

PCS SD **Duane Remein** Huawei

This presentation proposed state diagrams for the PCS.

Filename: remein_3ca_3a_0518.pdf

Presentation # 11

ER Dependency of APD Receiver Sensitivity

John Johnson Broadcom

This presentation, given by Mr. Johnson but authored by Umeda san affiliated with Sumitomo Electric, discussed the sensitivity of APDs and its dependence on the extinction ratio of the input optical signal.

Filename: umeda_3ca_2a_0518.pdf

Presentation # 12

OMA sensitivity ER dependency **Frank Effenberger** Huawei

This presentation, given by Mr. Effenberger but authored by Dekun Liu of Huawei and Richard Goodson of Adtran, discussed OMAs dependence on the extinction ratio of the input optical signal.

Filename: liu_3ca_2_0518.pdf

Presentation # 13

25G EPON PR20 loss budget **Ed Harstead** Nokia

This presentation suggested values for the PR20 optical budget PMD tables.

Filename: harstead_3ca_1_0518.pdf

Presentation # 14

Populating 25G-EPON PR30 PMD Tables

John Johnson Broadcom

This presentation suggested values for the PR30 optical budget for 25G PMD tables. Also included were some potential optimizations for how we specify the optical values.

Filename: johnson_3ca_1a_0518.pdf

Presentation # 15

50G-EPON Power Budget Proposal **John Johnson** Broadcom

This presentation suggested values for the PR30 optical budget for 25G PMD tables, concluding that nearly the same values can be used for both 2x25G and 25G PMDs.

Filename: Johnson_3ca_2_0518.pdf

Presentation # 16

Receiver sensitivity of 50G-EPON ONU **HanhyubLee** ETRI

This presentation discussed the receiver sensitivity specifications for the 2x25G ONUs.

Filename: lee_3ca_1_0518.pdf

5/23/2018 12:10:00 PM Recessed for lunch. Reconvened at 1:17PM

Presentation # 17

Multiple PMDs per PON Rate? **Eugene (Yuxin) Dai** Cox

This presentation suggested that multiple PMDs for the 50G (2x25 or 1x50) rate PON should be avoided and the 2x50G PMD should only use 1300nm & 1320nm +-2nm.

Filename: dai_3ca_1a_0518.pdf

The Task Force completed comment resolution.

Motions & Straw Polls

Motion # 6

Move to accept all proposed comment resolutions with topic "bucket" in 802d3ca_d1_0_proposed.pdf.

Moved: Marek Hajduczenia Second: Duane Remein

Technical (≥75%) Motion Passed by Voice without opposition

Motion # 7

Accept state diagrams and function definitions as presented on slides 9-13 of kramer_3ca_2a_0518.pdf.

Moved: Glen Kramer Second: Duane Remein

For: 20 Against: 0 Abstain: 1

Technical (≥75%) Motion Passed

Motion # 8

Move to accept the state diagrams, and definitions on slides 6-12 of remein_3ca_3a_0518.pdf and instruct the Editor to include in the draft 1.1.

Moved: Duane Remein Second: Glen Kramer

For: 23 Against: 0 Abstain: 0

Technical (≥75%) Motion Passed

Motion # 9

Populate these tables from D1.0 as follows:
Table 141-7—OLT PR20 Transmit Characteristics, 25GBASE-PR20-D, Average launch power, each channel (min) = 2.5 dBm.
Table 141-7—OLT PR20 Transmit Characteristics, 25GBASE-PR20-D, Extinction ratio (min) = 8 dB.
Table 141–9—OLT PR20 Receive Characteristics, 25GBASE-PR20-D, Receiver sensitivity (OMA), each channel (max) = -22 dBm
Table 141–11—ONU PR20 Transmit Characteristics, 25GBASE-PR20-U, Average launch power, each channel (min) = 4 dBm
Table 141–11—ONU PR20 Transmit Characteristics, 25GBASE-PR20-U, Extinction ratio (min) = 3.5 dB
Table 141–13—ONU PR20 Receive Characteristics, 25GBASE-PR20-U, Receiver sensitivity (OMA), each channel (max) = -23 dBm.

Moved: Ed Harstead		Second: Ed Walter
For: 23	Against: 0	Abstain: 0
Technical (≥75%)		Motion Passed

Motion # 10

Accept the following parameters for the ONU PCS Synchronization SD:
MatchTarget = 4
FecFailLimit = 3
Define the Compare function to return true in case of precise match, i.e., a match with the Hamming distance of zero.

Moved: Glen Kramer		Second: name
For: 21	Against: 0	Abstain: 2
Technical (≥75%)		Motion Passed

Motion # 11

IEEE P802.3ca Task Force instructs the editor to produce draft version D1.1 from current draft version D1.0 by incorporating changes as recorded in 802d3ca_D1_0_approved.pdf and any approved motions.

Moved: Marek Hajduczenia	Second: Alan Brown
Technical (≥75%)	Motion Passed by Voice without opposition

Motion # 12

Move to adjourn.

Moved: Frank Effenberger	Second: Mark Laubach
Procedural (>50%)	Motion Passed by Voice without opposition

5/23/2018 2:47 PM Adjourned

Attendance

Full Name	Affiliation	21-May	22-May	23-May
David Baran	Arris	x	x	x
Alan Brown	Adtran	x	x	x
Craig Carlson	Cavium	x		
Ayla Chang	Huawei		x	
Barry Colella	Source Photonics	x	x	
Eugene Dai	Cox Communication		x	x
Claudio Desanti	Google	x	x	x
Liang Du	Google	x	x	
Frank Effenberger	Huawei	x	x	x
Vincent Ferretti	Corning	x	x	x
Bo Gao	Huawei	x	x	x
Jonathan Goldberg	IEEE	x		
Marek Hajduczenia	Charter	x	x	x
Ed Harstead	Nokia / Nokia, Bell Labs	x	x	x
Vincent Houtsma	Nokia / Nokia, Bell Labs	x	x	x
Kenneth Jackson	Sumitomo		x	x
John Johnson	Broadcom	x	x	x
Curtis Knittle	CableLabs	x	x	x
Glen Kramer	Broadcom	x	x	x
Mark Laubach	Broadcom	x	x	x
Greg LeCheminant	Keysight Tech	x		
Hanhyub Lee	ETRI	x	x	x
Jacob Meachen	Semtech	x	x	
Phil Miguelez	Comcast	x	x	x
Kevin Noll	Tibit Communication	x	x	x
Earl Parsons	CommScope			x
Bill Powell	Nokia	x	x	x
Duane Remein	Huawei	x	x	x
Alexander Umnov	Corning		x	x
Edward Walter	AT&T	x	x	x
Richard (Yujia) Zhou	Charter		x	x