

Unapproved Minutes
IEEE802.3aq - 10GBASE-LRM Plenary Meeting
November 16 – 18, 2004
San Antonio, TX

Prepared by: Abhijit Shanbhag

Meeting convened at 8:30am, November 16, 2004

Agenda/ Housekeeping Issues

Introductions

Review of IEEE Patent policy, Standards process, Task Force Objectives, Project Timeline, Meeting Goals.

Agenda presented by David Cunningham: Accepted by acclamation.

Review of Minutes from September Meeting

- Correction to Minutes
 - Bullet point in Questions & Discussion for the contribution: “Feasibility Demonstration Towards 300m and Beyond over FDDI Grade Fiber for 10GBASE-LRM” amended to the following
 - Q: L. Thon: Is line 2 minus line 3 equal to the implementation loss?
 - Yes (relative to a PIE-D ideal implementation). Because PIE-D metric is current metric for link budget development
- Corrected Minutes approved by acclamation.

Presentations¹

Report from Task 1 Group

Richard Penty

Report from Task 2 Group

Jonathan King

Discussion:

Some concerns about the specific numbers indicated within the vibration experiments, such as –8dB amplitude variation at 10Hz. However, do not affect Task 2 recommendations.

Experiments on Time Variation due to polarization and MMF shaking and Initial results

Jonathan King

¹ Only discussions leading to what might be required follow-on steps are included.

Detailed Study on impulse response fluctuation induced by polarization variation
Stephen Ralph

Improvements to Modal noise penalty calculations

Petar Pepeljugoski

Discussion:

How would these penalties vary with DFB or LW-VCSEL's? Not significantly, addressed in one of Petar's papers.

Report from Task 4 group

Yu Sun

Variation in multimode fiber response: summary of experimental results

Joerg Kropp

Observed variation of received waveforms in multimode fiber

David Cunningham

Report of TP2 conf calls

Tom Lindsay

Relationship between TP2 and TP3 tests and budget (update)

Tom Lindsay

Signal metrics for 10GBASE-LRM

Piers Dawe

Preliminary TP2 waveform study results

Tom Lindsay

Test metrics for TP2

Greg Lecheminant

Alternative proposal to TP2 testing

Jan Peters Weem

Report of TP3 con-calls

Mike Lawton

Fiber modeling resolution and assumption analysis, data and recommendations

Steve Ralph

Discussion:

Differences in PIE results for 108-fiber model relative to Cambridge results. Comments from Cambridge relating to the different scaling procedure and MPD assumptions in this work relative to recommended outline from Cambridge. PIE metric in GATech work sensitive to small changes in assumptions.

Monte Carlo update: PIE Metric results, Further benchmarking to fiber data

John Abbott

Updated results of PIE metrics calculations

Yu Sun

Discussion:

Results for the OM1 fiber presented need to be computed with $20\mu\text{m} \pm 3\mu\text{m}$ OSL to be compliant with 1000BASE-LX launch specifications (data presented was with $17 \pm 3\mu\text{m}$ OSL).

108-fiber and Gen54YY delay sets: comparison with spreadsheet model

John Ewen

PIE metric comparison: 108-fiber and GEN54YY delay sets

John Ewen

Discussion:

Distribution of connector offsets modeled differently for 108-fiber and GEN54YY as specified in contribution.

10GBASE –LRM specification philosophy

Paul Kolesar

Comment Review (all of Nov 17, 2004)

Nick Weiner, Editor

Several comments were resolved (accepted, rejected or withdrawn). These have been provided in the Editor's Report. The Straw Polls that were carried out during the comment resolution phase provided below.

Straw Poll #	1			
	Change the 62.5um operating range to: "0.5 to 300m"			
Moved	John Jaeger			
Seconded	Abhijit Shanbhag			
Technical	Yes (Task Force)	No (Task Force)	Abstain (Task Force)	Result (Task Force)
	50	0	8	Passes
Technical	Yes (802.3)	No (802.3)	Abstain (802.3)	Result (802.3)
	25	0	4	Passes

Straw Poll #	2			
	ACCEPT. Remove EF information from Table 68-3 & change first sentence of Section 68.6.4.2 referring to EF to "The optical launch measurement .." & remove EF references in Figure 68-5. Duplicate row in Table 68-3 for 50um. One row for center launch. The other for study. Change title of 68.6.4.2 to "Measurement of optical launches"			
Moved	N/A			
Seconded	N/A			
Technical	Yes	No	Abstain	Result
	32	4	8	Passes

Straw Poll #	3			
	Use lindsay_1_1104 for TP2 specs and method for D0.2 comments.doc.			
Moved	Tom Lindsay			
Seconded	Jim McVey			
Technical	Yes	No	Abstain	Result
	17	5	13	Passes

Closing Session and Motions

Motion #	1			
	<p>To meet the time line of the 802.3aq task force and include the specific target of 300m for OM1 fiber, it is essential to solidify aspects of the channel modeling critical to link estimates.</p> <p>a. Based on modeling and analysis thus far completed, the task force estimates that channel models which show a PIE-D metric of 5dB or less simulate working links and those which show a PIE-D metric of 5dB or more simulate nonworking links. These bounds may change but will be used for estimating % of working/nonworking links for the January meeting.</p> <p>b. The task force solicits work from the TP-3 to quantify the gap between ideal equalizer estimates (PIE-D) and the results using finite equalizers, define a common method for calculating PIE-D, and define the PIE-D required to support 300m on installed 500 MHz-km rated MMF.</p>			

Moved	John Abbott			
Seconded	John George			
Technical	Yes	No	Abstain	Result
				(No vote, see below)

Motion # 1'				
Motion to divide between 1a and 1b				
Moved	John George			
Seconded	John Abbott			
Procedural (50%)	Yes	No	Abstain	Result
	21	5	16	Passes

Motion #	1a			
<p>•To meet the time line of the 802.3aq task force and include the specific target of 300m for OM1 fiber, it is essential to solidify aspects of the channel modeling critical to link estimates.</p> <p>•a. Based on modeling and analysis thus far completed, the task force estimates that channel models which show a PIE-D metric of 5dB or less simulate working links and those which show a PIE-D metric of 5dB or more simulate nonworking links. These bounds may change but will be used for estimating % of working/nonworking links for the January meeting.</p>				
Moved	John Abbott			
Seconded	John George			
Technical	Yes	No	Abstain	Result
	5	30	9	Fails

Motion #	1b			
<p>The task force solicits work from the TP-3 to quantify the gap between ideal infinite equalizer estimates (PIE-D) and the results using ideal finite equalizers, define a common method for calculating PIE-D, and define the PIE-D required to support 300m on installed 500 MHz-km rated MMF.</p> <p>Request that the channel ad hoc group provide OM2 models to complete this work by Jan interim.</p>				
Moved	John Abbott			
Seconded	John George			
Technical	Yes	No	Abstain	Result
	3	28	11	Fails

Motion #	2			
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<p>•Move that IEEE 802.3aq modify its link length objectives to align with Draft 1.0 of the 10 GBASE-LRM Standard from “Provide a Physical Layer specification which supports link distances of: •At least 220 meters on installed 500MHz*km multimode fiber •At least 300 meter on multimode fiber” to “Provide a Physical Layer specification which supports link distances of: •At least 300 meters on installed 500MHz*km multimode fiber”</p>				
Moved	Steve Swanson			
Seconded	John Abbott			
Technical	Yes (Task Force)	No (Task Force)	Abstain (Task Force)	Result (Task Force)
	3	22	17	Fails
Technical	Yes (802.3)	No (802.3)	Abstain (802.3)	Result (802.3)
	2	11	9	Fails

Motion #	3			
<p>Move that IEEE 802.3aq demonstrate a 10-12 BER over the rated distance on a specified channel (TBD) and show interoperability between PMD’s of at least three vendors for 10GBASE-LRM to support technical feasibility prior to sponsor ballot.</p>				
Moved	Steve Swanson			
Seconded	John George			
Technical	Yes	No	Abstain	Result
	35	1	0	Passes

Motion #	4			
<p>Motion: –In Table 68-4 (receive characteristics) »Adopt 40 MHz for Clock sinusoidal jitter frequency. »Adopt 0.05 UI peak-peak for Clock sinusoidal jitter amplitude.</p>				
Moved	Lew Aronson			
Seconded	Piers Dawe			
Technical	Yes	No	Abstain	Result
				(No vote, see below)

Motion #	5			
<p>Move passing Motion 4 to next meeting (Jan).</p>				
Moved	Ali Ghiasi			
Seconded	Paul Kolesar			
Procedural	Yes	No	Abstain	Result
	20	5	7	Passes

Motion #	6			
<ul style="list-style-type: none"> •10GBASE-LRM accepts changes and edits to D0.2 and directs editor to create draft D1.0. •The editor is given permission to address the comments that were agreed to be editorial. •D1.0 to be sent for 30 day TF review. 				
Moved	John Jaeger			
Seconded	Tom Lindsay			
Technical	Yes	No	Abstain	Result
	29	0	0	Passes

Motion to adjourn: Approved by acclamation