C2M Preliminary Draft Report

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P802.3ck Task Force
May 2019

Agenda

- Review preliminary draft of Annex 120H “Chip-to-module 100 Gb/s one-lane Attachment Unit Interface (100GAUI-1 C2M), 200 Gb/s two-lane Attachment Unit Interface (200GAUI-2 C2M), and 400 Gb/s four-lane Attachment Unit Interface (400GAUI-4 C2M)”
- Identify areas requiring further baseline input.

Introduction

- Annex 120H created based on baseline adopted at March 2019 Plenary meeting.
  - http://www.ieee802.org/3/ck/public/19_03/sun_3ck_04b_0319.pdf
- The table below shows Annex 120H relative to the other new clauses and annexes.

#	Clause/Annex Subject	Potential Source
120F	100G/200G/400G C2C-long AUI	Annex 120D (base)
120G	100G/200G/400G C2C-short AUI	Annex 120D (base)
120H[1]	100G/200G/400G C2M AUI	Annex 120E (base)
161	New 100G FEC	Clause 91 (base)
162	100G/200G/400G CR PMD	Clause 136 (3cd)
161A	100G/200G/400G CR test points, budget, etc.	Annex 136A (3cd)
161B	100G/200G/400G CR test fixtures	Annex 136B (3cd)
161C	100G/200G/400G CR MDIs	Annex 136C (3cd)
161D	100G/200G/400G CR CA form factors	Annex 136D (3cd)
163	100G/200G/400G KR PMD	Clause 137 (3cd)

Missing information #1

- 120H.1 Overview
  - allocation of channel loss budget amongst host, connector, and module.
- 120H.3.1 Host output characteristics
  - test system measurement bandwidth
  - ESMW (eye symmetry mask width)
  - Eye height, differential
  - Vertical eye closure (max)
  - Effective return loss (min)
  - Transition time (min, 20% to 80%)
- 120H.3.1.3 Host output ERL
  - Location and/or values of remaining ERL parameters
- 120H.3.1.6 Host output eye width, eye height, and VEC
  - Cross-talk amplitude and transition time
  - Reference receiver

Missing information #2

- 120H.3.2 Module output characteristics
  - Near-end ESMW (Eye symmetry mask width) 120E.4.2 TBD UI
  - Near-end Eye height, differential (min) 120E.4.2 TBD mV
  - Far-end ESMW (Eye symmetry mask width) 120E.4.2 TBD UI
  - Far-end Eye height, differential (min) 120E.4.2 TBD mV
  - Far-end pre-cursor ISI ratio 120H.3.2.1.2 TBD %
  - Effective return loss (min)
  - Transition time (min, 20% to 80%)
- 120H.3.2.1 Module output eye width, eye height, vertical eye closure, and pre-cursor ISI ratio
  - Crosstalk amplitude and transition time
  - Reference receiver

Missing information #3

- 120H.3.3 Host input characteristics
  - Effective return loss
  - Host stressed input
    - Far-end ESMW (Eye symmetry mask width)
    - Far-end Eye width
    - Far-end Eye height
    - Output jitter profile
    - Crosstalk amplitude and transition time
- 120H.3.4 Module input characteristics
  - Effective return loss
  - Module stressed input
    - Far-end ESMW (Eye symmetry mask width)
    - Far-end Eye width
    - Far-end Eye height
    - Output jitter profile
    - Crosstalk amplitude and transition time
    - Reference receiver limitations for high-loss and low-loss channels

Missing information #4

- 120H.4.2 HCB/MCB characteristics
  - MCB characteristics
  - HCB characteristics
  - Mated compliance board characteristics
  - *Note that for each of these there is a pointer to Annex 162B which defines the MCB/HCB characteristics for CR and AUI.*

Potential errors in baseline

- On slide 12…
  - For ERL, the following parameters are specified with target values:
    - Transmitter steady-state voltage, vf (min.)
    - Transmitter steady-state voltage, vf (max.)
    - Linear fit pulse peak (min.)
  - The parameters might need to be measured if the ERL specification is a function of these parameters, but otherwise values for these parameters need not be specified.