802.3ck D1.3
Cable Assembly min IL
Comments #173, #174, #221, and #17

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Purpose

- **Comments #173, #221, #17**
  - **Cable assembly min IL shape and frequency range**

Cl **162** *SC* **162.11.2** *P* **157** *L* **8** # 173

Haser, Alex — Molex

Comment Type **TR** *Comment Status* **D** *CA IL*

The minimum IL is too strict to allow 0.5m 30awg cables (see support slide); need to relax min IL limit

SuggestedRemedy

More work needed to determine what the mask should be

Proposed Response *Response Status* **W**

PROPOSED REJECT.

The remedy is not sufficiently complete to implement changes to the draft.

Cl **162** *SC* **162.11.2** *P* **157** *L* **10** # 174

Haser, Alex — Molex

Comment Type **TR** *Comment Status* **D** *CA IL*

Fill in TBD. Low freqeuncy cable loss can't vary wildly if the cable works at higher freuqencies; no need to over-spec

SuggestedRemedy

Replace TBD with 0.05GHz

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

[Editor's note: Addresses incomplete specification.]
Resolve using the response to comment #17.

Cl **162** *SC* **162.11.2** *P* **157** *L* **26** # 221

Dawe, Piers — Nvidia

Comment Type **TR** *Comment Status* **D** *CA IL*

This minimum loss curve bends the wrong way at high frequencies

SuggestedRemedy

Change the limit (Eq 162-10) so it becomes flatter at high frequencies

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Resolve using the resonse to comment #173.

Cl **162** *SC* **162.11.2** *P* **157** *L* **10** # 17

DiMinico, Christopher — MC Communications

Comment Type **TR** *Comment Status* **D** *CA IL*

Replace TBD

SuggestedRemedy

Replace TBD with 0.05

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

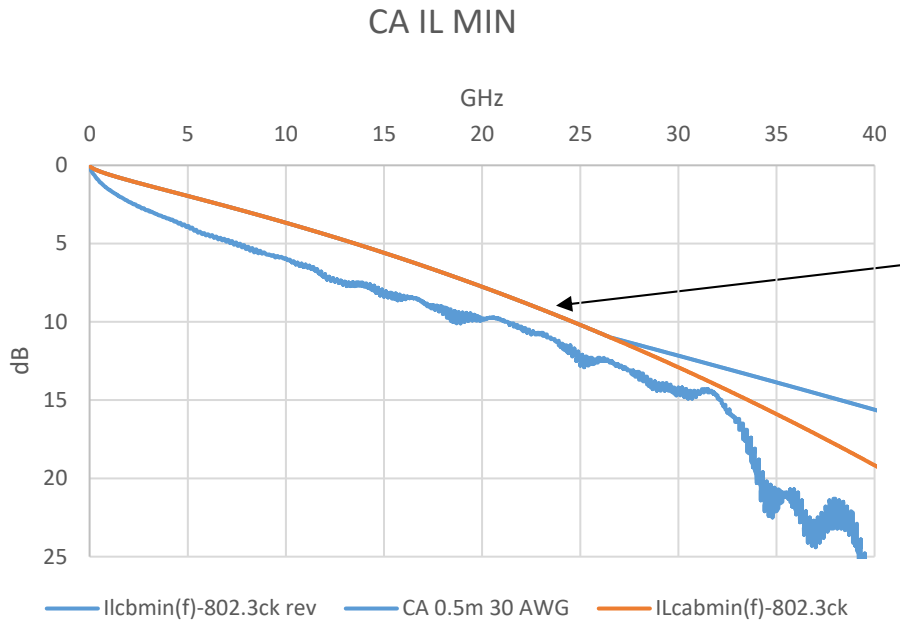
[Editor's note: Addresses incomplete specification.]
Implement suggested remedy.

Supporters

- **Alex Haser, Molex**

Proposal

- **Comments #173, #221, #17**
  - **Cable assembly min IL shape, frequency range**



$$IL_{min}(f) \geq 0.418\sqrt{f} + 0.177f + 0.0059f^2 \qquad (162\text{–}8)$$

for TBD $\leq f \leq$ 40 GHz

where

ILmin(f) is the minimum cable assembly insertion loss in dB

f is the frequency in GHz

Table 162–16—Cable assembly characteristics summary

Description	Reference	Value	Unit
Maximum insertion loss at 26.56 GHz	162.11.2	19.75	dB
Minimum insertion loss at 26.56 GHz	162.11.2	11	dB

*ILmin(f)=0.418*SQRT(fGHz)+0.177*fGHz+0.0059*fGHz^2 0.05 GHz ≤ f ≤ 26.56 GHz*
*ILmin(f)=1.222*SQRT(fGHz)+0.138*fGHz+0.0015*fGHz^2 26.56 GHz < f ≤ 40 GHz*