IEEE 802 **IEEE 802.3 CSMA/CD (Ethernet) Working Group**

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Cc: Alan Flatman; IEEE 802.3 Liaison (a_flatman@compuserve.com)
Paul Nikolich; Chair, IEEE 802 (p.nikolich@ieee.org)
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Re: IEEE P802.3an Update

The IEEE 802.3 Working Group is pleased to announce that the Project Approval Request (PAR) of the 10GBASE-T Study Group has been approved by the IEEE Standards Association and the Study Group has become the IEEE P802.3an Task Force.

Based on investigation to date, the P802.3an Task Force has adopted the following cabling objectives as the basis of the formation of a baseline link segment (channel) model:

Model #	Insertion loss	ANEXT Intercept (X1)
1	100m Class F $1.05\times(1.8\sqrt{f} + 0.01\times f + 0.2/\sqrt{f}) + 4\times0.02\times\sqrt{f}$	60
2	55m Class E $(55/100)\times1.05\times(1.82\sqrt{f} + 0.0169\times f + 0.25/\sqrt{f}) + 4\times0.02\times\sqrt{f}$	47
3	100m Class E $1.05\times(1.82\sqrt{f} + 0.0169\times f + 0.25/\sqrt{f}) + 4\times0.02\times\sqrt{f}$	62
4	55-100m Class E $(L/100)\times1.05\times(1.82\sqrt{f} + 0.0169\times f + 0.25/\sqrt{f}) + 4\times0.02\times\sqrt{f}$	Given by formula*

ANEXT limit line model:
1 MHz ≤ f ≤ 100 MHz X1 -10*Log10 (f/100)
100 MHz < f ≤ 625 MHz X1 -15*Log10 (f/100)
ANEXT average level (of ripple) to assume in simulations
1 MHz ≤ f ≤ 100 MHz X1+2.5 -10*Log10 (f/100)
100 MHz < f ≤ 625 MHz X1+2.5 -15*Log10 (f/100)
ANEXT intercept X1 as a function of cable length, L

- IL(L) is Class E insertion loss for length L in meters at 250MHz
- Use following formula for ANEXT:

* X1 = 62-((IL(100)-IL(L))*15/15.6)

As a starting point, all other parameters have been extrapolated to an upper frequency of 625 MHz.

IEEE 802.3 requests feedback and guidance on the parameters that have been selected. The next meetings of the IEEE P802.3an Task Force will be the week of May 24, 2004 and the week of July 12, 2004.

IEEE 802.3 would also like to make you aware that the URL for the IEEE P802.3an Task Force has been changed from http://www.ieee802.org/3/10GBT/ to http://www.ieee802.org/3/an/.

IEEE 802.3 thanks you for providing the EM performance data as per your liaison letter 3N685.

Sincerely,

Robert M. Grow
Chair, IEEE 802.3 Working Group