X3T9.2/92-236r0

TO: X3T9.2 Committee

FROM: D.W. Bill Spence

SUBJECT: Test Procedure -- Maximum Signal Capacitance (Section 7.1.4)

DATE: December 7, 1992

The objective of this procedure is to determine the lumped capacitance imposed on each signal conductor of the bus proper by an SCSI device connected thereto. The model for this procedure assumes the bus in ribbon cable form passing through an insulation-displacement SCSI connector, the mating part of which is mounted on an SCSI device controller printed-wire board. The bus connector is removed from the device, along with every source of power.

One or more device connector circuit-common pins are connected together to form an effective circuit-common node. An R-F admittance bridge (or equivalent), operation at 1,0 Mhz, is connected successively to each signal pin in the device connector, with reference to the circuit-common node.

The signal applied during measurement shall have no d-c component and shall not exceed in amplitude 0,4 volt peak to peak.

The characteristics shall be determined in terms of a parallel combination of a conductance and a capacitive susceptance. The corresponding capacitance thus determined is the maximum signal capacitance referred to in clause 7.1.4.

Notes

1 SCSI signals contain a wide range of frequency components, so that it is not practical to "tune" a bus conductor by loading it with shunt inductance. Consequently, this procedure must be performed without any inductive element connected.

2 If it should be desired to perform this procedure on a differential SCSI device a differential bridge must be used and this procedure modified accordingly.