P802.3 Static Discharge in Copper Cables Ad hoc
Unconfirmed minutes

Dan Dove called the meeting to order at 7:00PM in the Embassy meeting room at the Hyatt Regency Irvine, Irvine, CA.

Dan reviewed the problem of Cable Discharge found at his company. Category 6 cable seemed to be able to store higher charge. The discharge happens as first one pin then another makes contact. This effect causes a large differential voltage to be developed.

This effect has be observed to cause both degradation as well as failure.

He went on to outline that the purpose of the AdHoc was to understand what the Cable Discharge really is.

Steve Carlson - What is the coupling method ?

Dan Dove - Appears to be differential but with greater than 2KV it may just jump across the transformer isolation.

Steve Carlson - What kind of pulse shape has been observed ?

Dan Dove - Basically the transient response of the cable

Terry Cobb - experienced this problem with cable testers. The problem had been solved on the PCB of the tester. He believed that humidity can have a huge effect - in some very dry environments he has seen 8 to 10KV discharge and that was not from Category 6.

Chris DiMinico - Seen similar problems with cable testers.

Steve Carlson - Within the entertainment industry he has seen discharges of 15KV from RS232 cables.

Dan Dove - The issue may be getting worse as Si geometry is reduced. Need to go to the TIA to get information about the characteristics of cable charge.

Terry Cobb - Can supply some information about cable charge in relation to humidity and time.

Steve Carlson - From experience found that making equipment survive 15KV fixes the problem.

Dan Dove - Concerned that a static discharge gun has a rather undefined discharge. We need good measurement procedures and good product test procedures. Need to establish the discharge levels, shape, etc. This is also not a simple voltage effect - also relates to energy.

Action Items;

1) David will establish a reflector and post the minutes of this meeting.
2 Terry/Chris will contact TIA with regards to obtaining information about static charge buildup and discharge on cables.
3) Terry will provide data on cable charge vs humidity and cable type
4) Dan will provide data on test methods and results performed at HP.

Meeting adjourned.

Attendance

| | | |
|---|---|---|
| David Law | 3Com | David_Law@3Com.com |
| Steve Carlson | ESTA | scarlson@hspdesign.com |
| Robert Muir | Intel | robert.muir@Intel.com |
| Pat Kelly | Intel | pat.kelly@Intel.com |
| Chris DiMinico | CDT | cd@Mohawk-CDT.com |
| Terry Cobb | Lucent | tcobb@ixpres.com |
| Anand Injeti | ST Microelectronics | anand.injeti@st.com |
| Bob Leonowich | Agere | leonowich@lucent.com |
| Dan Dove | HP | dan_dove@hp.com |
| Darin Kincaid | ST Microelectronics | Darin.Kincaid@st.com |
| Brian Griggs | Hitachi Cable | Bgriggs@hcm.hitachi.com |