

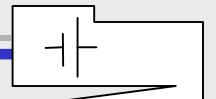
# Disconnect detection ad hoc meeting

- Attendees:

Chris Cullin, Fred , Roger, Dave, Yair, Steve,  
Dan Dove, Thong, Scott, Rich

March 11 - 15, 2002

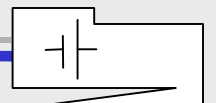
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- Scope of work
  - To demonstrate technical and economical feasibility of PSE based ac disconnect detection and determined if there is impact on previous functions in the draft.

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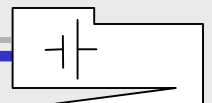


- Testing to be performed

- Define black box test set up parameters in which will be used by PD vendors to evaluate potential problems and will be reported to the ad hoc when found.
- eSend over the reflector to adhoc memebbers the standard circuit for all testing (Yair)
- (Yair,Dave,Thong)
- Tests will done in order to confirm Table 12 by checking min/max parameters
- Audio interference with existence phones, LCD – RF interference (Roger,Scott)  
(Resources: Phone, Single port PSE)
- Immunity tests (check specifically at line frequency) (Roger,Yair(high power PD))  
(Resources: Phone, Single port PSE)
- EFT test (2 port tests) (Roger)
- EN55024 (Scott), EN55022/CISPR22/FCC NB30/MPT 1570 (2 port tests) (Roger)  
(Resources: Phones, 4 ports PSE min)
  
- Sensitivity to line frequency and ringing interference with CAT 3 cable (Yair)  
(Use florescent turn on/turn off to test sensitivity)  
(Resources: Phones, Ring generators, 1 ports PSE min)
- To define the pulse spectrum of the ac signal (Yair)  
(Resources: Simulations, single port)
- Test how over-current affected by the ac disconnect pulses(Yair, Dave)  
(Resources: Simulations, Lab tests, single port)
- Evaluate the impact of two Midspan PSE's with ac disconnect scheme. (Dan Dove)  
**How port to port cross regulation, cross talk affected by the ac circuit. (Yair)**  
(Resources: Lab tests, 3 port min look at the centered one )
- Check Roger tasks for 1000BT (Roger to pass to Broadcom?)
- Effects of PD load transient. (Yair)  
(Resources: Lab test, single port)
- Effect on feedback loop of SMPS (Yair)  
(Resources: Simulations, single port)
- Asses the benefits of sampling the ac pulses on specific timings (Yair)
- **Implementation issue – no need to analyze**
- To analyze the PD input ac impedance without DC current (Yair, Dave,Fred)  
(Resources: Simulations, confirm with 2-3 phones, single port )
- To set the optimum probing frequency range (narrow the range) Yair, Fred, Thong  
(Resources: Simulations, confirm with 2-3 phones, single port )
- Test for PSE output voltage step.(Dave, Yair,Thong)  
(Resources: Simulations, single port )

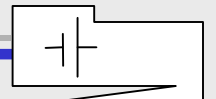
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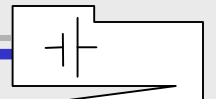
# Need to spec

- Table 5, Item 3: Specify ac amplitude min and max under no PD condition at the RJ45
- Disconnect detection ac voltage source min series impedance? Possibly the max too
- Specify the frequency and tolerance
- PSE port output voltage shall not exceed 60V during disconnect detection phase
- Disconnect threshold min =  $0.7 \times V_{open}$  ,  $0.8 \times V_{open}$  max.
- Disconnect detection time: as specified by TPMDO or 400ms max, when ac disconnect alternative is used.
- Min number of ac pulses above  $v_{th}$  before disconnect
- Spec pulse width, rise time, fall time, spectrum and tolerances
- Pulse behavior, (burst?, can be off at times, must turn off after disconnect? Here possibly non-numerical spec...
- Need to spec a test circuit schematics that emulates the PD max/min for must disconnect, and must remain powered conditions.



# Pd Spec

- $Z_{ac}$  max over a freq band and the dc bias it is tested at, we need this with 37v-57v spec This should take into account the min/max L, C per table 12.
- Consider zero dc condition (yair- not spec related)
- Define PSRR of the PD at the ac disconnect frequency. ?



# Cont.

- Agree on test methodology, set-ups
  - See above, post on the web as soon as we got results
  - Meet tomorrow to decide the test setup and mythology.
  - Steve to setup reflector disconnect ad-hoc
- Create testing timeline
  - Done by end of April or delay interim
- Sign-on – who will do the work?
  - See above
- Present results - work to be completed prior to May Interim Meeting
  - See “testing time line”

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