

IEEE802.3 4P Task Force  
Channel Pair To Pair Resistance Imbalance  
(End to End System Imbalance)  
Ad Hoc

Straw poll for determine preferred way to go for specifying CHANNEL Pair to Pair Resistance Unbalance  
WITH THE EFFECT OF TEMPERATURE ON THE WORST CASE RESULT.

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Yair Darshan  
Microsemi  
ydarshan@microsemi.com

# Objectives of the straw poll

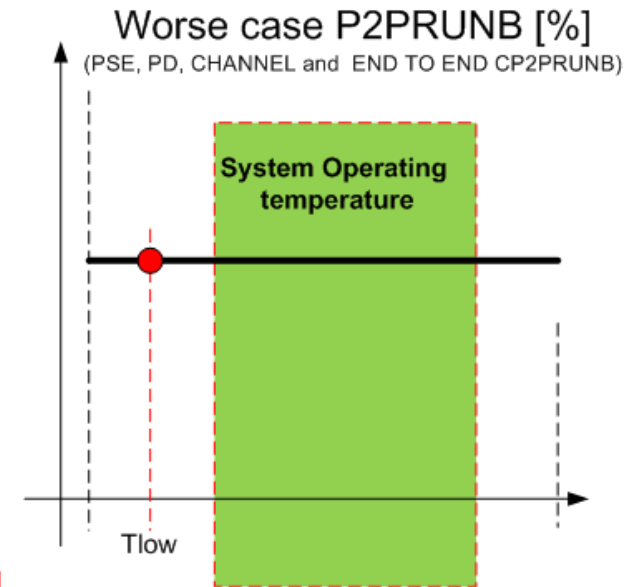
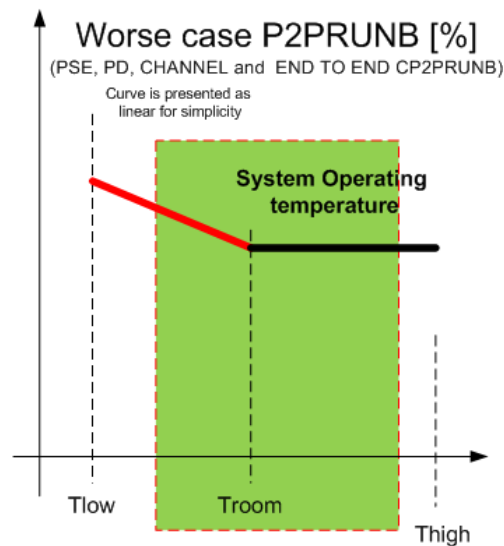
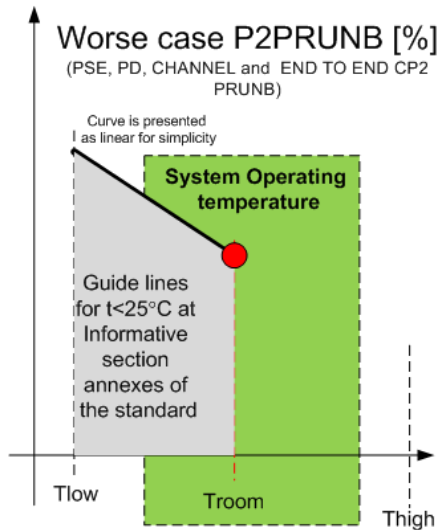
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- To get inputs for the rational of different approaches (select option and explain why you believe that option N is best).
- To focus on approach that address our concerns and recommend it for the Task force by the ad-hoc.

# Background: Our main concerns vs. Inputs/Remedies

- To ensure interoperability
  - Channel P2PRUNB is increasing when temperature is decreasing.
  - How PDs and PSEs with different operating range will work together?
- Not forcing overdesign on system vendor
- Having guidelines at the informative may create interpretation issues
- Simple spec.
- Specifying number at any Tlow / Troom will not ensure interoperability for any other T<Tlow, therefore addition data such temperature coefficient must be supplied in the mandatory section or informative section so as a result, option 1 and option 3 are the same..
- **Proposed Remedies:**
  - Like any other parameter in the spec, specify at e.g. 20°C, and add data for temperature coefficients. (See examples at ANSI/TIA 568-C.2 Annex G, Clause 6.4.7 )
  - Specify CP2PRUNB at some low temperature. For lower temperature follow 33.7.7. or add data for temperature coefficients.
  - Like some other parameters, specify at 20°C.
  - Specify CP2PRUNB at some low temperature. For lower temperature follow 33.7.7.
  - To define single point requirement i.e. one number.
  - Other?

# Options for CP2PRUNB vs Operating temperature



- Option 1
- Defining single point at e.g. Room=20°C and:
- (a) add information for  $T < T_{room}$  at the informative section **and/or**
- (b) follow Clause 33.7.7
- No Over Design since system vendor responsible to design their system to meet requirements.
- It may increase interoperability concerns???. This concern is valid in all options whenever there is no single worst case number that covers Tlow of 100% of use cases.
  - The remedy for it is specify the requirement and it is up to box designer to meet it over its operating temperature range.

- Option 2
- Defining curve from Tlow to Troom
- Tlow need to cover most of applications known to us.
- Prevents over design. (Allow system vendor to design for its operating temperature range)
- Tlow need to be investigated
- See interoperability concerns discussion in option 1

- Option 3
- Defining single point at Tlow which will be single worst case point.
- Tlow need to cover most of the applications min. temperature.
- This option may be overdesign for equipment with  $T > T_{low}$ . (To investigate)
- Equipment that need to work at  $T < T_{low}$  shall follow Clause 33.7.7
- See interoperability concerns discussion in option 1

# Straw Poll

- Select one option only.
- If possible, add rational for your selection, any concerns etc., new suggestions in the notes column.

| Name                         | Options |   |   | Notes  |
|------------------------------|---------|---|---|--|
|                              | 1       | 2 | 3 |  |
| Yair Darshan / Microsemi     | x       |   |   | Without having the informative part and using clause 33.7.7 instead (Option 1b or name it option 4)  |
| Fred Schindler / Seen Simply |         |   | x |  |
| Ken Bennett / Sifos          | x       |   |   |  |
| Yseboodt, Lennart / Philips  | x       |   |   |  |
| Jeff Heat / LT               |         |   |   | Accept suggested proposal for option (see his mail) which is similar to option 1b (to ask for email confirmation if I understood correctly). |
| Wendt, Matthias / Philips    | x       |   |   |  |
| Dave Dwelley / LT            | x       |   |   |  |
| Rimboim Pavlik / MSCC        | x       |   |   |  |
| ??                           |         |   |   |  |
| ??                           |         |   |   |  |
| ??                           |         |   |   |  |

Note: **Option 4** language from reflector email exchange (short summary): "use the P2PRUNB for PSE, PD and Channel number that was calculating (total sum=26.2%) at room temperature (or pick number at other temperature), set it as THE number to meet without saying at what temperature it is, and vendors will have to assure that they meet it at their operating temperature range spec. How they will do it, we don't care." The rest is per 33.7.7. This option is covered by 1b.