

# Type B link specification: some open ties

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# Summary link type A

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- Alien noise, unbalance
  - Limits specified
  - Qualification, methodology specified in Annex 97A, B
  - But reference in main body to annex B missing
- Coupling attenuation:
  - Not applicable
- Other values no issues

# Summary type B

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- Coupling attenuation:
  - Depending on local environment
  - Qualification referenced
- Alien noise
  - Limits specified but not related to environment
  - Qualification, measurements not specified neither referenced
- Unbalance: not applicable

# PSANEXT and PSAACRF

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- First the reference for the limits should be defined:
- Proposal:
  - 6 over 1 as per IEC 61156-1. With that no ambiguity is left. The values will be a little higher than for Type A were a special set up is proposed and 2 or 3 over 1 is used.
  - **It is tested as specified in IEC 61156-1**
    - **Add at line 48 page 145**

# PSANEXT and PSAACRF (2)

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- As for Type B three local environments are specified for coupling attenuation the related alien noise limits should be specified similarly.
- At the moment only one very stringent limit is specified without mentioning details.

# PSANEXT and PSAACRF (2a)

## 97.5.5.2.4 Coupling attenuation 97.5.5.2.4 Coupling attenuation

The coupling attenuation requirements of the type B link segment depend on the electromagnetic noise environment. The requirements in Table 97–12 shall be met based on the local environment as described by the electromagnetic classifications given in Table 97–13, E<sub>1</sub>, E<sub>2</sub>, or E<sub>3</sub>. The coupling attenuation is tested as specified in IEC 62153-4-14.

**Table 97–12—Coupling attenuation Type B link segment**

Frequency (MHz)	Minimum (dB)		
	E <sub>1</sub>	E <sub>2</sub>	E <sub>3</sub>
30 ≤ f ≤ 600	80 - 20log <sub>10</sub> (f) (Max 40 dB)	90 - 20log <sub>10</sub> (f) (Max 50 dB)	100 - 20log <sub>10</sub> (f) (Max 60 dB)

**Table 97–13—Electromagnetic classifications Type B link segment**

Electromagnetic	Minimum (dB)		
	E <sub>1</sub>	E <sub>2</sub>	E <sub>3</sub>

# PSANEXT and PSAACRF (3)

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- Proposal 1:
  - Define entry levels for environment  $E_1$  using the limits from link type A without short length get out.
  - Change the values to:
    - Equation 97-26
    - $PSANEXT = 60 - 10 \log(f/100)$  if  $f < 100$  MHz
    - $= 60 - 15 \log(f/100)$  if  $f \geq 100$  MHz
    - Equation 97-28
    - $PSAACRF = 41 - 20 \log(f/100)$

# PSANEXT and PSAACRF (4)

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- As proposal 1 could be seen as a major technical change at this stage:
- Proposal 2:
  - Leave the limits as they are but add a note:
    - This limits are defined for a local environment  $E_3$  with coupling attenuation of 60 dB at 100 MHz.
    - From table 97-12



Thank you