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Proposal for Alien Equivalent White Noise Level

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Current Text

- **55.5.8.4 Alien Crosstalk noise rejection**

  While receiving data from a transmitter specified in 55.5.3 through a link segment specified in 55.7 connected to all MDI duplex channels, a receiver shall operate with an LDPC frame error rate of less than 3.2x10-9 with four noise sources at the specified levels representing alien crosstalk, one connected to each of the four pairs. The noise sources shall be connected to each of the MDI inputs using Category 6 balanced cable of a maximum length of 0.5m. Each noise source should have a flat noise spectrum, with 3 dB bandwidth at least 10 MHz to 400 MHz and a power spectral density of ***TBD*** dBm/Hz. See Figure 55–24.

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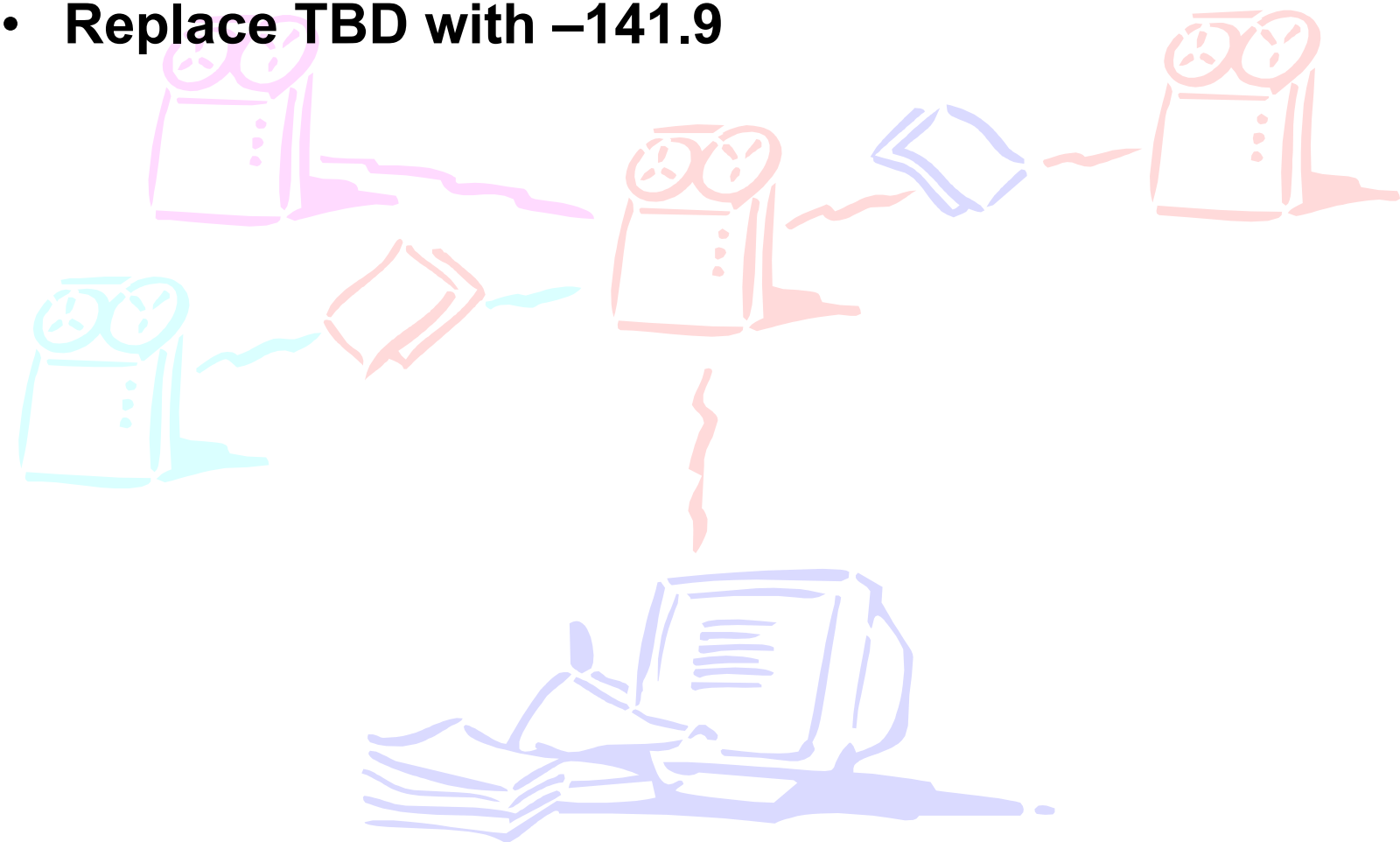
Proposal

- **Replace TBD with –141.9**



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Rationale

- **Method 1: Compute total ANEXT and AFEXT at MDI and average over 1-500MHz.**
  - **Result: -142.1 dBm/Hz**
- **Method 2: With ANEXT and AFEXT compute Salz margin on 100m. Turn off ANEXT and AFEXT and adjust AWGN level to produce same margin.**
  - **Result: -141.6 dBm/Hz**
- **-141.9 dBm/Hz determined by averaging two results**