



PHY Modeling Ad Hoc

William Jones, Chair

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Overall Objective

- **Establish a common ground that multiple participants in the modeling ad hoc can use to identify and to evaluate multiple approaches to assessing technical feasibility of 10G on the UTP installed base.**

Near Term Objective

- **In preparation for May meeting:**
 - **Agree on evaluation metrics**
 - **Capacity and margin initial concern**
 - **Implementation a concern, but, lets address the fundamentals first**
 - **Define a set of validation test cases to sync up everyone's modeling capabilities**
 - **Identify the critical parameters for sensitivity analysis**
 - **ANEXT most concern**
 - **Establish ANEXT mitigation requirement**
 - **Identify other relevent parameters of interest**
 - **Transformer**
 - **Establish regular conference call to keep progress moving between meetings**

Cable Models

- **Use models determined in Cabling Ad Hoc**
 - **Cat5e and Cat6**
 - **2, 3, and 4 connector channels**
 - **Insertion Loss, NEXT, FEXT, Return Loss, ANEXT**
- **Expected to be based on scaled measurements**
- **Scaling to be defined within the Cabling Ad Hoc**

Other Noise Sources

- **Lower noise floor since ANEXT considered separately**
- **Proposal: -143 dBm/Hz noise floor**
- **Agreed to -140dBm/Hz**

Capacity

- **7 & 10 dBm launch power**
- **Transmit PSD**
 - Flat
- **Capacity test cases:**
 - **ANEXT+Background noise**
 - Vary ANEXT mitigation levels (0:2:30)
 - **All noise sources**
 - 40 & 60 dB NEXT
 - 50 & 70 dB Echo
 - 15 & 25 dB FEXT
 - 0, 5, 10, 15 dB ANEXT

Near Term Plan

- **Expect cable measurement models within two to three weeks**
- **Arrange conference call in about a month to discuss results of the capacity calculations**