

# ***TIA TR-42 Liaison to IEEE***

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**Vice-Chair, TR-42.7**

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**San Francisco, CA**

# ***TIA TR-42.7 Meeting***

- **June 6 - 10, 2005**
- **Montreal, Quebec, CAN**
- **Reviewed IEEE 802.3an 10GBASE-T cabling needs**
- **Addressed revisions to TSB-155 and addendum 10 to '568-B.2 (augmented category 6)**

# ***Summary of TIA TR-42 Output***

- **Liaison Letter**
- **Draft 2.0 of TSB-155: legacy category 6 cabling from 250 MHz up to 500 MHz**
- **Draft 2.0 of TIA-568-B.2-10: augmented category 6 cabling**
- **Update on proposed TIA-568-B.2-11**

# ***TR-42.7 Liaison Letter***

**The purpose of this letter is to:**

- 1) provide information concerning the impact of cable bundling on the alien crosstalk performance as well as**
- 2) respond to the measurement noise floor proposal embodied in the 802.3an D2 comment resolution numbered 687**

## ***TR-42.7 Liaison Letter, cont.***

- **Preliminary contributions based on lab measurements using category 6 cables tightly bundled together indicate that the AXT can exceed the link segment specifications of IEEE 802.3an draft 2.**
- **Results show that unbundling these cables significantly improves the alien crosstalk. Other mitigation steps will further improve alien crosstalk.**

# ***TR-42.7 Liaison Letter, cont.***

- **Augmented category 6 cabling WILL NOT require this AXT mitigation and will be designed to meet all of the link segment specifications of IEEE 802.3an draft 2 for distances up to 100 meters.**

## ***TR-42.7 Liaison Letter, cont.***

- **One priority action item is to focus on category 6 mitigation methods, including unbundling cables and replacing cords. We will provide more complete information on the mitigation methods that are required to ensure compliance with 10GBASE-T alien crosstalk requirements for installed category 6 cabling in a future liaison.**

## ***TR-42.7 Liaison Letter, cont.***

- **Regarding the effect of noise floor on PSAELFEXT measurements, both field testing and laboratory specifications need to be considered. This item was discussed during the June 6th TR 42.7 meeting and will be studied further with an expected response to be developed during the TR-42.7 interim meeting in August 2005.**

## ***TR-42.7 Liaison Letter, cont.***

- **Both TSB-155 and TIA 568 B.2-10, are now being circulated for committee ballot.**
- **We appreciate the close cooperation between IEEE 802.3an and TIA TR-42 in the development of the 10GBASE-T link segment requirements.**

# ***Status of TSB-155; balloting***

## **PN-3-0134 (proposed TSB155): Additional Requirements for 4-Pair 100Ω Category 6 Cabling, draft 2.0**

- No shall statements
- Channel and permanent link requirements only
- Insertion loss, NEXT/PSNEXT loss, ELFEXT/PSELFEXT loss, return loss
- No pair-to-pair ANEXT loss or AELFEXT limits
- PSANEXT loss and Average PSANEXT loss
- PSANEXT loss Adjustment
- PSAELFEXT and Average PSAELFEXT

# ***Status of TSB-155; balloting***

## **PN-3-0134 (proposed TSB155): Additional Requirements for 4-Pair 100Ω Category 6 Cabling, draft 2.0**

- **Annex A: Field measurement procedures**
  - PSANEXT loss and PSAELFEXT measurements
  - General test strategies
- **Annex B: Level III accuracy requirements**
- **Annex C: Alien crosstalk mitigation**
  - Separating, unbundling, reducing adjacency
- **Annex D: Alien crosstalk test environment**

# ***Status of '568-B.2-10; balloting***

## **PN-3-4426-AD10 (augmented category 6): Additional Requirements for 4-Pair 100Ω Augmented Category 6 Cabling, draft 2.0**

- Cabling and component requirements
- Insertion loss, NEXT/PSNEXT loss, ELFEXT/PSELFEXT loss, return loss, balance (ELTCTL and TCL)
- No pair-to-pair ANEXT loss or AELFEXT limits
- PSANEXT loss and Average PSANEXT loss
- PSAELFEXT and Average PSAELFEXT
- Augmented category 6 may be referred to as “Category 6A”

# ***Status of '568-B.2-10; balloting***

## **PN-3-4426-AD10 (augmented category 6): Additional Requirements for 4-Pair 100Ω Augmented Category 6 Cabling, draft 2.0**

- Annex A: Cabling measurement requirements
- Annex B: Cable ANEXT and AFEXT test methods
- Annex C: Connector ANEXT and AFEXT test methods
- Annex D: Cabling ANEXT and AFEXT test methods
- Annex E: Field AXT test methods
- Annex F: Modeling configurations
- Annex G: Mod plug cord test procedure

# ***Status of '568-B.2-10; balloting***

## **PN-3-4426-AD10 (augmented category 6): Additional Requirements for 4-Pair 100Ω Augmented Category 6 Cabling, draft 2.0**

- **Annex H: Connector measurement procedures**
  - **Test plug qualification**
- **Annex I: Impedance controlled test fixture**

# ***Status of '568-B.2-7; balloting***

## **SP-3-4426-AD11 Specification for Increased Diameter of 4-Pair UTP and ScTP Cables, draft 2.0**

**“ The requirement in clause 4.3.3.4 of TIA/EIA-568-B.2 shall be revised as follows:**

**The diameter of the completed cable shall be less than 9.0 mm (0.354 in)\*.”**

**\* previously 6.35 mm (0.25 in.)**

# ***Next TIA Meeting***

**August 8 - 10, 2005**

**Seattle, WA**

**[www.tiaonline.org](http://www.tiaonline.org)**

***Thank you***

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