TIA TR-42 Liaison to IEEE 802.3

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Vice Chair, TIA TR-42 Telecommunications Cabling Systems Engineering Committee

Vice Chair, TIA TR-42.7 Copper Cabling Subcommittee

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Geneva, Switzerland
Introduction to TIA

- Telecommunications Industry Association
- www.tiaonline.org
- TR-42: Defines mechanical and transmission requirements for copper twisted-pair, optical fiber, and coaxial cabling and components
- Chris DiMinico is outgoing liaison from IEEE 802.3 to TIA TR-42
Agenda and Meeting Overview

• June 10 - 14 in Portland, OR
• Review TR-42 subcommittee activities
  • 10 subcommittees met
• Update on project development
• ➡️ This symbol highlights key points of interest
**TR-42 Activities**

- **TR-42.1 (Commercial Building Cabling):**
  - New project: ANSI/TIA-4966, “Telecommunications Infrastructure for Educational Buildings and Spaces” circulating for industry ballot
TR-42 Activities

• TR-42.1 (Commercial Building Cabling), cont:

  – New project: ANSI/TIA-568.0-D, “Generic Telecommunications Cabling for Customer Premises” circulating for committee ballot

TR-42 Activities

- TR-42.1 (Commercial Building Cabling), cont.:
  - Requirements for “Places of Assembly” under study
  - Requirements for “Distributed Antenna Systems” under study
TR-42 Activities

• TR-42.1 (Commercial Building Cabling), cont.:
  – Requirements for “Network Security” under study

• TR-42.3 (Pathways and Spaces):
  – Errata, “Revision to Foreword text describing differences between TIA-569-B and TIA-569-C” approved for publication
TR-42 Activities

• TR-42.5 (Terms and Symbols):
  – Definitions, acronyms, units of measure, and symbols maintained in a working document

• TR-42.6 (Infrastructure Administration):
  – No new project status updates
**TR-42 Activities**

- **TR-42.7 (Copper Cabling):**
  - New project: TSB-1197, “Mode Conversion Parameters for Balanced Twisted-Pair Cabling” under final editorial review
  - New project: ANSI/TIA-568-C.2-1, “Balanced Twisted-Pair Telecommunications Cabling and Components Standard, Addendum 1: Specifications for 100Ω Category 8 Cabling” under development
TR-42 Activities

- TR-42.7 (Copper Cabling), cont.:
  - Strawman draft 0.8 under development
  - Significant improvements to channel return loss have been made

<table>
<thead>
<tr>
<th>Frequency (MHz)</th>
<th>Return loss (dB)</th>
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<tbody>
<tr>
<td>100Ω Category 8</td>
<td></td>
</tr>
<tr>
<td>1 ≤ f &lt; 10</td>
<td>19.0 (TBD)</td>
</tr>
<tr>
<td>10 ≤ f &lt; 40</td>
<td>24-5*log(f) (TBD)</td>
</tr>
<tr>
<td>40 ≤ f &lt; 130</td>
<td>16 (TBD)</td>
</tr>
<tr>
<td>130 ≤ f &lt; 1000</td>
<td>35-9*log(f) (TBD)</td>
</tr>
<tr>
<td>1000 ≤ f &gt; 2000</td>
<td>8 dB (TBD)</td>
</tr>
</tbody>
</table>
TR-42 Activities

- TR-42.7 (Copper Cabling), cont.:
  - 2-connector, 30-meter channels are currently defined
  - Upper frequency bandwidth specification remaining at 2 GHz
  - Subcommittee members agreed to, “Accept the concept of adding Class II performance criteria and create a task group to work on those limits”
TR-42 Activities

• TR-42.7 (Copper Cabling), cont.:
  – New project: ANSI/TIA-1152-A, “Requirements for Field Test Instruments” under development
  – New project: ANSI/TIA-568.4-D, “Broadband Coaxial Cabling and Components Standard” under development
TR-42 Activities

• TR-42.7 (Copper Cabling), cont.:
  ➜ New project: ANSI/TIA-568.2-D, “Balanced Twisted-Pair Telecommunications Cabling and Components Standard” opened (development to begin after ANSI/TIA-568-C.2.1 publishes)
TR-42 Activities

• TR-42.9 (Industrial Infrastructure):
  – Noise induced on cabling carrying 1000BASE-T in E2 and E3 environments under study

• TR-42.10 (Sustainable Information Communications Technology)
  – New project: ANSI/TIA-4994, “Standard for Sustainable Information Communications Technology” circulating for industry ballot
**TR-42 Activities**

- TR-42.11 (Optical Fiber Systems):
  - New project: TSB-4979: "Practical Considerations for Implementation of Multimode Launch Conditions in the Field“ circulating for committee ballot
  - New project: ANSI/TIA-568.3-D: "Optical Fiber Cabling Components Standard “ circulating for committee ballot
TR-42 Activities

- TR-42.12 (Optical Fibers and Cables):
  - TIA-455-204-A/FOTP-204, “Multimode Bandwidth, adoption of IEC 60793-1-41” approved for publication
  - TIA-598-D, “Cable Color Coding” approved for publication
  - New project: TIA-455-7/FOTP-7, “Numerical Aperture” circulating for committee ballot
TR-42 Activities

- TR-42.12 (Optical Fibers and Cables), cont.:
  - New project: TIA-455-28/FOTP-28, “Dynamic Tension” circulating for committee ballot
  - New project: TIA-455-80/FOTP-80, “Patch Cord Wavelength” circulating for committee ballot
TR-42 Activities

- TR-42.12 (Optical Fibers and Cables), cont.:
  - New project: TIA-455-177/FOTP-177, “Graded-index MMF (adoption of IEC 60793-1-31)” circulating for reaffirmation ballot
  - New project: TIA-455-58/FOTP-58, “Core Size (adoption of IEC 60793-1-20)” circulating for reaffirmation ballot
TR-42 Activities

- TR-42.12 (Optical Fibers and Cables), cont.:
  - 20+ additional documents circulating for reaffirmation ballot
TR-42 Activities

- TR-42.13 (Passive Optical Devices and Metrology):
  - Did not meet

- TR-42.16 (Grounding and Bonding):
  - ANSI/TIA-607-B-2, “Structural Metal” approved for publication
Upcoming TIA Meetings

TR-42.7 Interim Meeting
July 30 - 31, 2013
Cambridge, MA

TR-42 Plenary Meetings
October 7 - 11, 2013
Philadelphia, PA

www.tiaonline.org
Thank you

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