
Reduced Twisted Pair Gigabit Ethernet PHY

IEEE 802.3 Ethernet Working Group

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Reflector and Web

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- Task Force web page URL:

www.ieee802.org/3/bp/index.html

IEEE P802.3bp Task Force

January 2013

- Met in Phoenix Thursday and Friday, January 24 and 25, 2013
- ~50 people in the room
- First Task Force meeting
- Confirmed Steve Carlson as IEEE P802.3bp TF Chair
- Channel ad hoc
 - Conference calls December and January
 - Survey data on all cable types used in vehicles
 - Working with UNH-IOL to establish test procedures
- EMC ad hoc
 - Conference calls December and January
 - Created EMC work plan
 - Establish limits
- Channel and EMC ad hoc co-ordinate work

IEEE P802.3bp Task Force

January 2013

- **Modeling and measurement technique for EMC**
 - Mehmet Tazebay, Broadcom and 28 supporters
 - Emission transfer functions defined with a stripline test setup compliant with CISPR 25, Ed. 3
 - The emission transfer function depends on the channel (cable, connector etc.)
 - It is independent of particular modulation and detector type (peak, quasi peak or average) which allows a fair comparison of various modulation schemes using the same channel.
 - A differential TX spectral mask is obtained based on emission transfer function mask and emission limit line. The most limiting emission level of 15dBuV was considered for this analysis.
 - **TX Mask suggests that 1Gbps solutions exist for UTP cables.**

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January 2013

- Other presentations
 - Alien XTALK and channel balance
 - Scenarios from automotive side
 - Measurement and analysis from 802.3 side
 - Impact of 1-pair vs. 2-pair (non PHY)
 - Multi-pin connector pin assignments
 - Echo-cancelation power
 - Echo-cancelation power for 10GBASE-T four-pair at 100m is ~**3W**
 - Echo-cancelation power for 1Gb/s, single-pair at 15m is ~**10mW**.

Goals for the week

- Meet Tuesday, Wednesday 9:00AM – 6:00PM and Thursday morning (if needed)
 - Automotive link segment ad hoc
 - EMC ad hoc
- Presentations on channel, channel test fixtures, EMC
- Plan for next meeting

Thank you!