

# Channel Modeling ad hoc report

IEEE P802.3bq 40GBASE-T Task Force

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# Channel Modeling ad hoc charter and scope/deliverables

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- Define a set of channel models for PHY complexity evaluation, including host channel model
- Provide early feedback on key parameters to cabling bodies (Can a parameter be improved? Is a relaxation a cost benefit?)

# Channel Modeling ad hoc activity since September 2013

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- Four well attended channel modeling ad hoc calls – September 18<sup>th</sup>, October 2<sup>nd</sup>, October 16<sup>th</sup> and October 29<sup>th</sup>
- Meeting minutes and contributions are available at the 40GBASE-T website [channel modeling ad hoc area](http://www.ieee802.org/3/bq/public/channelmodeling/index.html)  
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# Channel Modeling ad hoc activity since September 2013

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- Meeting highlights
  - MDI-to-MDI channel subteam has completed their primary work for the channel modeling effort
    - S-parameter data (s16p) is available for six Category 8 channels representing three different channel topologies
  - PCB transmission line and noise subteam is augmenting the current channel model PCB segment
    - Stability, causality and passivity have been evaluated for the 2 inch and 8 inch channel data sets; developing channel data for 90 ohm and 110 ohm target impedances
  - MDI and isolation path subteam has provided the 1<sup>st</sup> set of ICM s16p data
    - Based on a backwards-compatible module with >160uH OCL that meets IEEE hipot requirements
  - Channel scaling methodologies have been reviewed and are continuing to be evaluated
- A basic set of elements for an end-to-end channel is available at the P802.3bq task force [channel data](#) area (Hurrah!)
  - <http://www.ieee802.org/3/bq/public/channeldata/index.html>

# Channel Modeling ad hoc next steps

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- Further work
  - Continue to refine cable channel definitions and share results
  - Review and refine PCB transmission line & noise models
  - Expand MDI and isolation path data set
  - Develop, evaluate and deliver PHY-to-PHY models, i.e. a complete end-to-end channel
- Next meetings
  - Are held (generally) every other Wednesdays at 8:00AM PST
  - Next ad hoc Tuesday, November 26<sup>th</sup>, 2013
- Thanks to all ad hoc contributors and participants
  - You can be a contributor, too!

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# Thank You!