

# Measurement Ad Hoc Report

IEEE P802.3cg 10 Mbps Single Pair Ethernet  
Task Force

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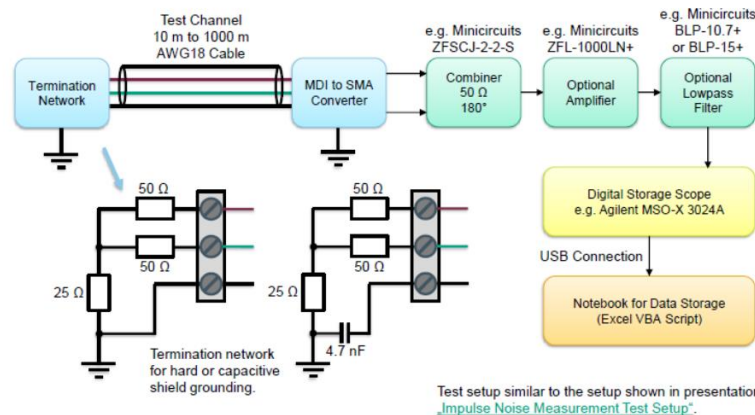
Vancouver, BC, Canada, March 16, 2017

# Overview

- 41 attendees
- The ad hoc began with slide 7 of Graber\_3cg\_01a\_0317.pdf as a reference measurement architecture:

## Impulsive Noise Measurement

- To be able to measure ambient noise, which is being coupled to a shielded 2-wire cable, the following test setup is being suggested:



IEEE P802.3cg 10 Mb/s Single Twisted Pair Ethernet Task Force

3/13/2017

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- Discussion was around what to document, what measurements to make and what additional requirements needed to be specified to enable measurements.

# Output: To document

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- Contributors should capture the type of application being measured. A brief description of the operating environment and sources of noise would be helpful. (e.g., process control, manufacturing, etc.)
- Contributors should document information about the channel, and field measurements are preferred, for example, IL, RL and balance measurements. Also descriptions of physical length, gauge, shielding and termination.
- Measurement system definition (beyond what is described in Graber):

# Output: Measurement System

(beyond Graber\_3cg\_01a\_0317)

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- Termination Network:
  - Termination network may be dictated by plant requirements. Please document which termination you are using, and how it relates to the application.
- Differential mode noise measurements are required, but common mode is desired as well
- For common mode:
  - Far end common mode impedance – suggest 150 ohms, but proceed according to the plant and application you are measuring
- Best would be to have this at the same time, but if not possible, then independent measurements also help.
- Frequency range: Upper Frequency no less than 15 MHz, Lower Frequency of no more than 50 kHz.

# Outputs: other

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- Measurement Environments:
  - Please email the reflector what type of plant and application you may be measuring for.
  - Additionally, it is useful to gather data based on the response to standardized tests (e.g., EFT) & MICE environments
    - We need to know, how the MICE levels look and have to compare this what is in real life applications.
- Timeframe: Target for first data is April 20. Contributors are encouraged to provide information via the reflector and ad hocs as soon as possible.
- Several members indicated willingness to make measurements based on these parameters, prior to the May meeting.

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# Thank You!