Objectives

IEEE 802.3

10 Mbps Single Pair Ethernet Study Group

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Noncontroversial Objectives

1. Preserve the IEEE 802.3/Ethernet frame format at the MAC client service interface.
2. Preserve minimum and maximum frame size of the current IEEE 802.3 standard.
3. Support full duplex operation
4. Support a speed of 10 Mb/s at the MAC/PLS service interface.
5. Do not preclude meeting FCC and CISPR EMC requirements
6. Support for optional single-pair Auto-Negotiation
7. Support optional Energy Efficient Ethernet
8. Support 10 Mb/s operation in automotive environments (e.g. EMC, temperature) over single balanced twisted-pair cabling.
9. Support 10 Mb/s operation in industrial environments (e.g. EMC, temperature) over single balanced twisted-pair cabling.

NOTE: Motion #11(amended) at the Sept 2016 Interim Study Group meeting, Objective #3 (“Support full duplex operation”) was excluded from adoption with the objectives on this slide

Objectives (need discussion)

- Define the performance characteristics of a link segment and a PHY to support point-to-point operation over this link segment with single twisted pair supporting up to four inline connectors using balanced cabling for at least 15 m reach.
- Support optional low power mode (e.g., Energy Efficient Ethernet).
- Maintain a bit error ratio (BER) of less than or equal to 10^-10 at the MAC/PLS service interface.
- Support optional power delivery over 10 Mb/s single twisted-pair data links