

Objectives

IEEE 802.3

10 Mbps Single Pair Ethernet Study
Group

George Zimmerman (Chair)

CME Consulting, Inc.

Fort Worth, Texas, USA, 13 Sept. 2016

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.

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