Reduced Twisted Pair Gigabit Ethernet PHY Study Group

Objectives

MODIFIED P802.3BP (January 22, 2014)

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- **Preserve the IEEE 802.3/Ethernet frame format at the MAC client service interface.**
- **Preserve minimum and maximum frame size of the current IEEE 802.3 standard.**
- **Support full duplex operation only.**
- **Support a speed of 1 Gb/s at the MAC/PLS service interface.**
- **Maintain a bit error ratio (BER) of less than or equal to 10^-10 at the MAC/PLS service interface**
- **Support 1 Gb/s operation in automotive & industrial environments (e.g. EMC, temperature).**
- **Define optional Energy-Efficient Ethernet**

Objectives

- **Define the performance characteristics of an automotive link segment and a PHY to support point-to-point operation over this link segment with ~~less than three~~ a single twisted pair~~s~~ supporting up to four inline connectors using balanced copper cabling for at least 15m for the automotive link segment.**

- **Define the performance characteristics of optional link segment(s) for the above PHY for industrial controls and/or automation, transportation (aircraft, railway, bus and heavy trucks) applications with a goal of at least 40m reach**
- **Define optional startup procedure which enables the time from power_on=FALSE to valid data to be less than 100ms**