Objectives for considerations 2.5G/5G Ethernet Backplane & Copper

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Objectives ("foundational")

- Support MAC data rates of 2.5 Gb/s and 5 Gb/s
- Support full duplex operation only
- Preserve the 802.3 Ethernet frame format utilizing the 802.3 MAC
- Preserve minimum and maximum Frame Size of current 802.3 standard
- Support Auto Negotiation (Clause 73)
- Support optional Energy Efficient Ethernet operation.

Objectives ("project-specific")

- Support a BER better than or equal to 10E-12 at the MAC/PLS service interface (or the frame loss ratio equivalent)
- Define a single-lane 2.5 Gb/s PHY for operation over printed circuit board backplane consistent with
  - The 10GBASE-KX4 interconnect characteristics specified in IEEE 802.3 Annex 69B or TBD.
- Define a single-lane 5 Gb/s PHY for operation over printed circuit board backplane
  - Interconnect characteristics TBD
- Define a single-lane 2.5 Gb/s and 5 Gb/s PHY for operation over links consistent with copper 24 AWG Mini SAS cables, with reach up to 10 meters or TBD.