IEEE 802.3 Greater than 10 Gb/s Automotive Ethernet Electrical PHYs Study Group DRAFT Objectives

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November 12, 2019

DRAFT Objectives B10G AUTO

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

Define optional startup procedure which enables the time from power_on=FALSE to a state capable of transmitting and receiving valid data to be less than 100ms

Support a BER better than or equal to 10^{-12} at the MAC/PLS service interface (or the frame loss ratio equivalent)

Support a data rate of 25 Gb/s, 50 Gb/s and 100 Gb/s at the MAC/PLS service interface.

Support optional Auto-Negotiation

Support optional Energy Efficient Ethernet optimized for automotive applications

Support operation in automotive environments (e.g., EMC, temperature)

Do not preclude meeting FCC and CISPR EMC requirements.

DRAFT Objectives B10GAUTO

Define the performance characteristics of an automotive link segment and an **electrical** PHY to support 25 Gb/s point-to-point operation over this link segment supporting up to 2 inline connectors for at least 11 m on at least one type of automotive cabling.

Define the performance characteristics of an automotive link segment and an **electrical** PHY to support 50 Gb/s point-to-point operation over this link segment supporting up to 2 inline connectors for at least 11 m on at least one type of automotive cabling.

Define the performance characteristics of an automotive link segment and an **electrical** PHY to support 100 Gb/s point-to-point operation over this link segment supporting up to 2 inline connectors for at least 11 m on at least one type of automotive cabling.

Support optional Clause 104 power over data lines on appropriate media.