# Proposal for 10SPE Automotive Objectives

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**Mehmet Tazebay, Ahmad Chini**

**Broadcom Limited**

# Supporters

Bernd Körber, FTZ Zwickau

Bert Bergner, TE Connectivity

Dan Dove, Dove Networking

Dave Dwelley, Linear Technology

Dinh Thuyen, Pulse

Dongok Kim, Hyundai

Eric DiBiaso, TE Connectivity

Hideki Goto, Toyota

Farid Hamidy, Pulse

Jens Wülfing, TE Connectivity

Jinhwa Yun, Hyundai

John Hess, Bel Fuse

Josetxo Villanueva, Renault

Kirsten Matheus, BMW

Larry Matola, Delphi

Michael Rucks, Delphi

Nobukatsu Kitajima, Renesas

Richard Mei, Commscope

Stefan Buntz, Daimler AG

Sterling Vaden, Surtec Industries

# Proposed Objectives for 10SPE Automotive

- Support 10 Mb/s operation in automotive environments (e.g. EMC, temperature) over a single balanced twisted pair.

- 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 10Mbit/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.

- 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.

# Proposed Objectives for 10SPE Automotive (cntd.)

- Support fast-startup operation using predetermined configurations which enables the time from power_on**=FALSE to a state capable of transmitting and receiving valid data to be less than 100ms.

- Do not preclude the ability to survive automotive fault conditions (e.g. shorts, over voltage, EMC, ISO16750).

- Support optional operation with run-time configuration, that specifies a maximum allowable time from power_on **=FALSE to a state capable of transmitting and receiving valid data.

- Support optional bus topology for applications up to 15 m.

- Support optional low power mode (e.g., Energy Efficient Ethernet).

- Support optional Power over Data Line.

- The resulting standard will not preclude single pair auto-negotiation.

# Thank You!

IEEE 802.3 10SPE  Study Group – September 2016 Interim