IEEE SA STANDARDS ASSOCIATION

IEEE

P802.3cz

Type of Project: Amendment to IEEE Standard 802.3-2018
Project Request Type: Modify / Amendment
PAR Request Date:
PAR Approval Date:
PAR Expiration Date:
PAR Status: Draft
Root PAR: P802.3cz
Root PAR Approved on: 02 Jun 2020
Root Project: 802.3-2018

1.1 Project Number: P802.3cz
1.2 Type of Document: Standard
1.3 Life Cycle: Full Use

2.1 Project Title: Standard for Ethernet
Amendment: Physical Layer Specifications and Management Parameters for multi-gigabit optical Ethernet using graded-index glass optical fiber for application in the automotive environment
Change to Title: Standard for EthernetAmendment: Physical Layer Specifications and Management Parameters for ~~Multi~~ multi ~~Gigabit~~ gigabit ~~Optical Automotive~~ optical Ethernet using graded-index glass optical fiber for application in the automotive environment

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3.1 Working Group: Ethernet Working Group(C/LM/802.3 WG)
3.1.1 Contact Information for Working Group Chair:
Name: David Law
Email Address: david_law@ieee.org
3.1.2 Contact Information for Working Group Vice Chair:
Name: Adam Healey
Email Address: adam.healey@broadcom.com
3.2 Society and Committee: IEEE Computer Society/LAN/MAN Standards Committee(C/LM)
3.2.1 Contact Information for Standards Committee Chair:
Name: Paul Nikolich
Email Address: p.nikolich@ieee.org
3.2.2 Contact Information for Standards Committee Vice Chair:
Name: James Gilb
Email Address: gilb@ieee.org
3.2.3 Contact Information for Standards Representative:
Name: James Gilb
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4.1 Type of Ballot: Individual
4.2 Expected Date of submission of draft to the IEEE SA for Initial Standards Committee Ballot: Nov 2022
Change to Expected Date of submission of draft to the IEEE SA for Initial Standards Committee Ballot: ~~Mar~~ Nov 2022
4.3 Projected Completion Date for Submittal to RevCom: Jun 2023
Change to Projected Completion Date for Submittal to RevCom: ~~Oct~~ Jun ~~2022~~ 2023

5.1 Approximate number of people expected to be actively involved in the development of this project: 40
5.2.a Scope of the complete standard: This standard defines Ethernet local area, access and metropolitan area networks. Ethernet is specified at selected speeds of operation; and uses a common media access control (MAC) specification and management information base (MIB). The Carrier Sense Multiple Access with Collision Detection (CSMA/CD) MAC protocol specifies shared medium (half duplex) operation, as well as full duplex operation. Speed specific Media Independent Interfaces (MIIs) provide an architectural and optional implementation interface to selected Physical Layer entities (PHY). The Physical Layer encodes frames for transmission and decodes received frames with the modulation specified for the speed of operation, transmission medium and supported link length. Other specified capabilities include: control and management protocols, and the provision of power over selected twisted pair PHY types.
5.2.b Scope of the project: Specify additions to and appropriate modifications of IEEE Std 802.3 to add

Physical Layer specifications and management parameters for multi-gigabit optical Ethernet using graded-index glass optical fiber for application in the automotive environment.
Change to scope of the project: Specify additions to and appropriate modifications of IEEE Std 802.3 to add Physical Layer specifications and management parameters for multi-gigabit optical Ethernet using graded-index glass optical fiber for application in the automotive environment.

5.3 Is the completion of this standard contingent upon the completion of another standard? No
5.4 Purpose: This document will not include a purpose clause.
5.5 Need for the Project: Applications in automotive industries have begun the transition of legacy automotive networks to Ethernet to support Advanced Driver Assist Systems. This has generated a need for data rates greater than 1 Gb/s in the automotive environment. Optical fiber has been used in automotive applications both for Ethernet and other protocols. This project will complement existing IEEE Std 802.3 Electrical Automotive Ethernet specifications for electrical media operation at rates up to 10 Gb/s, as well as proposed specifications for electrical media operation at rates greater than 10 Gb/s in the automotive environment. The number of cameras in vehicles is increasing as is the camera data rate with movement to higher resolution video. Optical data links are applicable to both the vehicle network backbone as well as connection of selected devices where location or other factors favor using an optical link.
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5.6 Stakeholders for the Standard: End-users, vendors, automotive Original Equipment Manufacturers, Tier x suppliers, system integrators, and providers of systems and components (e.g., sensors, actuators, test and measurement equipment, harnesses and harness components, software, silicon, and control units) for automotive applications.

6.1 Intellectual Property

6.1.1 Is the Standards Committee aware of any copyright permissions needed for this project? No

6.1.2 Is the Standards Committee aware of possible registration activity related to this project? No

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7.1 Are there other standards or projects with a similar scope? No
7.2 Is it the intent to develop this document jointly with another organization? No

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8.1 Additional Explanatory Notes: General -- It became apparent to the IEEE 802.3 Working Group that the state of technology for graded-index glass and plastic fiber are different, and that a faster timeline for a graded-index glass fiber only project is achievable. Hence, changes to 2.1 Title, 5.2.b project scope, and 5.5 Need of this modified PAR reflect addressing graded-index glass optical fiber only.
5.6 -- Tier x refers to the various levels of suppliers to Original Equipment Manufacturers (e.g., car manufacturer). A Tier 1 supplier for example supplies components or subsystems directly to the OEM.
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