

P802.15.13

Submitter Email:

Type of Project: New IEEE Standard

Project Request Type: Modify / New

PAR Request Date:

PAR Approval Date:

PAR Expiration Date:

PAR Status: Draft

Root PAR: P802.15.13

Root PAR Approved on: 23 Mar 2017

1.1 Project Number: P802.15.13

1.2 Type of Document: Standard

1.3 Life Cycle: Full Use

2.1 Project Title: Standard for Multi-Gigabit per Second Optical Wireless Communications (OWC), with Ranges up to 200 meters, for both stationary and mobile devices

Change To Title: Standard for Multi-Gigabit per Second Optical Wireless Communications (OWC) with Ranges up to 200 meters [for both stationary and mobile devices](#)

3.1 Working Group: Wireless Personal Area Network (WPAN) Working Group(C/LM/802.15 WG)

3.1.1 Contact Information for Working Group Chair:

Name: Robert Heile

Email Address: bheile@ieee.org

3.1.2 Contact Information for Working Group Vice Chair:

Name: PATRICK KINNEY

Email Address: pat.kinney@kinneyconsultingllc.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

Email Address: gilb@ieee.org

4.1 Type of Ballot: Individual

4.2 Expected Date of submission of draft to the IEEE SA for Initial Standards Committee Ballot:

Jun 2020

Change to Expected Date of submission of draft to the IEEE SA for Initial Standards Committee

Ballot: ~~Nov 2018~~ Jun 2020

4.3 Projected Completion Date for Submittal to RevCom: Jan 2021

Change to Projected Completion Date for Submittal to RevCom: ~~May 2019~~ Jan 2021

5.1 Approximate number of people expected to be actively involved in the development of this project: 15

5.2 Scope of proposed standard: This standard defines a Physical (PHY) and Media Access Control (MAC) layer using light wavelengths from 10 000 nm to 190 nm

in optically transparent media for optical wireless communications. The standard is capable of delivering data rates up to 10 Gb/s at distances

in the range of 200 m unrestricted line of sight. It is designed for point to point and point to multi point communications in both

non-coordinated and coordinated topologies. For coordinated topologies with more than one peer coordinator there will be a master

coordinator. The standard includes adaptation to varying channel conditions and maintaining connectivity while moving within the range of a

single coordinator or moving between coordinators.

5.3 Is the completion of this standard contingent upon the completion of another standard? No

5.4 Purpose: The purpose of this standard is to define OWC specifications in optically transparent media enabling high data rate transfer among end points at rates up to 10 Gb/s and ranges up to 200 m unrestricted line of site and which are capable of meeting the needs of industrial and similar classes of applications requiring, secure, high performance, high data rate communications which are non-interfering with existing Radio Frequency (RF) systems

5.5 Need for the Project: Given the growing expectation of ubiquitous wireless connectivity in industrial environments, the need for unlicensed, high bandwidth, easy-to-use wireless communications technology, immune to RF interference and which does not overload existing RF spectrum or necessarily require additional hardware, has never been greater. This standard specifically addresses these needs. In particular, optical wireless based solutions to this problem address a significant opportunity, extending to billions of existing industrial devices, to provide secure, non RF based communications between industrial devices and/or between industrial devices and fixed infrastructure on a one to one, or one to many or many to one basis at acceptable data rates. Potential applications include control of mobile robots in manufacturing cells or on assembly lines, automated guided vehicle systems, small cell backhaul, security monitoring in petrochemical plants, secure communications in nuclear facilities and hospitals, etc. There is also a similar emerging need in commercial/business settings, especially in environments requiring high data rates and high levels of security.

5.6 Stakeholders for the Standard: Industrial devices manufactures, system integrators, aircraft and transportation manufactures, medical equipment manufacturers, lighting manufacturers, silicon providers, networking equipment manufacturers, and academic researchers

6.1 Intellectual Property

6.1.1 Is the Standards Committee aware of any copyright permissions needed for this project?

Yes

Explanation: This standard is expected to specify the use of OUI, CID, and EUI-48

6.1.2 Is the Standards Committee aware of possible registration activity related to this project?

No

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

8.1 Additional Explanatory Notes : 2.1: For improved clarity and ease of seeing what is in the Standard , the Task Group felt the two main classes of application should be explicitly mentioned in the titleLine
5.2: The standard may include Multiple Input Multiple Output (MIMO), and mechanisms enabling heterogeneous operation, ie operation with both OWC and existing RF wireless data communications standards in the same network.

Line 7.1 Technically there are no standards or projects with a similar scope, but ITU-T defines a new recommendation for visible light

communications (i.e. no Infra Red (IR) and Ultra Violet (UV)) and is currently in a process to align its objectives according to work done

previously in IEEE 802.15.7. There is also an Interest Group activity in 802.11 looking at where OWC might fit as part of 802.11.

Changes to Additional Explanatory Notes : ~~Line 2.1: For improved clarity and ease of seeing what is in the Standard , the Task Group felt the two main classes of application should be explicitly mentioned in the titleLine~~

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