## **P802.15.xx**

Submitter Email: cpowell@ieee.org
Type of Project: Revision to IEEE Standard 802.15.13
PAR Request Date: 17-September-2025
PAR Approval Date:PAR Expiration Date:Status: Unapproved PAR, PAR for an Amendment to an existing IEEE Standard

1.1 Project Number: P802.15.xx
1.2 Type of Document: Standard
1.3 Life Cycle: Full Use

2.1 Title: Draft PAR for FSO Task Group.

3.1 Working Group: IEEE 802.15
Contact Information for Working Group ChairName: Clinton Powell
Email Address: cpowell@ieee.org
Contact Information for Working Group Vice-ChairName: Phil Beecher
Email Address: pbeecher@wi-sun.org

3.2 Sponsoring Society and Committee: IEEE Computer Society/LAN/MAN Standards Committee (C/LM)
Contact Information for Standards Committee ChairName: James Gilb
Email Address: gilb\_ieee@tuta.com
Contact Information for Standards Committee Vice ChairName: David Halasz
Email Address: dave.halasz@ieee.org

Contact Information for Standards Representative

Name: George Zimmerman
Email Address: george@cmephyconsulting.com

4.1 Type of Ballot: Individual
4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: July 2028
4.3 Projected Completion Date for Submittal to RevComNote: Usual minimum time between initial sponsor ballot and submission to Revcom is 6 months.: Feb. 2029

5.1 Approximate number of people expected to be actively involved in the development of this project: 20
**5.2.** This standard defines FSO communication system for UAV-to-Ground or UAV-to-UAV networks. The communications and networking standard is independent of the type of network (Wireless or Cellular or other) and is applicable to manned and unmanned, small and large, and civil and commercial aircraft systems. 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. The communication link distance is applicable for short-range (UAV-to Ground) and long-range (UAV-to-UAV) connections. The standard is capable to transmit data at high-mobility situations such as UAV-to-Ground or UAV-to-UAV networks. The standard utilizes Acquisition, Pointing, and Tracking (ATP) system to provide reliable link communication. The ATP is integrated into the FSO system in a lightweight design to support UAV mobility and efficiency.

5.3 Is the completion of this standard dependent upon the completion of another standard: No.

5.4 Purpose: The purpose of this standard is to define FSO for UAV-to-Ground or UAV-to-UAV network specifications in optically transparent media enabling high mobility communication environment among end points. The standard is 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 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 radio frequency (RF) interference and which does not overload existing RF spectrum or necessarily require additional hardware, has never been greater. As of now, there are no standards available for UAV-to-Ground or UAV-to-UAV FSO communications and aerial networking. However, stakeholders agree on the need and benefits of aerial networks. The need for self-organized aerial networks standard of the high-mobility and UAV-to-Ground or UAV-to-UAV FSO communication systems.

5.6 Stakeholders for the Standard: Air mobility or Automotive manufacturers, locomotive manufacturers, ship manufacturers, drone and aircraft manufacturers, robot manufacturers, logistics companies, industrial devices manufacturers, system integrators, medical equipment manufacturers, lighting manufacturers, silicon providers, chemical manufacturers, networking equipment manufacturers, and academic researchers.

Intellectual Property6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?: No
6.1.b. Is the Sponsor aware of possible registration activity related to this project?: No

We didn’t create any new registry regarding the RAC, therefore, the answer is “No”.

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

8.1 Additional Explanatory Notes: