IEEE P802.11
Wireless LANs

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| 802.11 IMMW Proposed PAR |
| Date: 2024-11-13 |
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Abstract

PAR draft document for IMMW.

# PAR

**P802.11**

**Submitter Email:**
**Type of Project:** Amendment to IEEE Standard 802.11
**PAR Request Date:**
**PAR Approval Date: July 2024
PAR Expiration Date: July 2028
Status:** Unapproved PAR, PAR for an amendment to an existing IEEE Standard

**1.1 Project Number:** P802.11bq
**1.2 Type of Document:** Standard
**1.3 Life Cycle:** Full Use

**2.1 Title:** Standard for Information technology--Telecommunications and information exchange between systems Local and metropolitan area networks--Specific requirements Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications-- Amendment: Enhancements for Integrated Millimeter Wave WLAN

**3.1 Working Group:** Wireless LAN Working Group (C/LM/WG802.11)

**Contact Information for Working Group Chair**

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**3.2 Sponsoring Society and Committee:** IEEE Computer Society/LAN/MAN Standards Committee (C/LM)

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**4.1 Type of Ballot:** Individual
**4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot:**July 2026
**4.3 Projected Completion Date for Submittal to RevCom:
Note: Usual minimum time between initial sponsor ballot and submission to Revcom is 6 months.:** March 2027

**5.1 Approximate number of people expected to be actively involved in the development of this project:** 200

**5.2.a. Scope of the complete standard:** The scope of this standard is to define one medium access control (MAC) and one physical layer (PHY) specifications for wireless connectivity for fixed, portable, and moving stations (STAs) within a local area.

**5.2.b. Scope of the project:**

This amendment defines standardized modifications to both the IEEE Std 802.11 physical layer (PHY) and the IEEE Std 802.11 Medium Access Control (MAC) that allows Wireless Local Area Network (WLAN) non-standalone operation in unlicensed bands between 42 GHz and 71 GHz using single-user (SU) Orthogonal Frequency Division Multiplexing (OFDM) based transmissions. The amendment requires that an IEEE 802.11 device supporting this amendment also supports at least one of the 2.4 GHz to 7.25 GHz (sub-7.25 GHz) unlicensed bands. The amendment expands the multi-link operation defined in the sub-7.25 GHz band specifications to support non-standalone operation in the unlicensed bands between 42 GHz and 71 GHz.

This amendment on PHY and MAC operation in unlicensed bands between 42 GHz and 71 GHz leverages or reuses existing PHY and MAC specifications defined for the operation in sub-7.25 GHz bands, e.g. SU transmission PHY Protocol Data Unit (PPDU) format and MAC frames, and defines bandwidth modes operating in non-overlapping channels.

This amendment provides coexistence mechanisms with legacy IEEE 802 devices operating in the unlicensed bands between 42 GHz and 71 GHz.

 **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 provide wireless connectivity for fixed, portable, and moving stations within a local area. This standard also offers regulatory bodies a means of standardizing access to one or more frequency bands for the purpose of local area communication.

**5.5 Need for the Project:**

Use of WLANs based on IEEE 802.11 technology continues to grow and diversify over many market segments including residential, enterprise, industrial. More stringent requirements are emerging to meet the demands of new applications (e.g. augmented and virtual reality, proximity ranging and sensing) both in terms of throughput, latency bounds and accuracy. The very large bandwidth available in the unlicensed bands between 42 GHz and 71 GHz, combined with the widely used 2.4, 5 and 6 GHz bands, is a great opportunity to help meet these requirements even in the densest environments. Enabling non-standalone operation in the unlicensed bands between 42 GHz and 71 GHz in a cost-effective manner is required so that many devices can benefit from it.

**5.6 Stakeholders for the Standard:**Manufacturers and users of semiconductors, personal computers, enterprise networking devices, consumer electronic devices, home networking equipment, mobile devices, and cellular operators.

**Intellectual Property:
6.1.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

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

**8.1 Additional Explanatory Notes (Item Number and Explanation):**

**References:**