

## P802.11bq

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**Type of Project:** Amendment to IEEE Standard 802.11-2020

**Project Request Type:** Initiation / Amendment

**PAR Request Date:** 23 Oct 2024

**PAR Approval Date:** 11 Dec 2024

**PAR Expiration Date:** 31 Dec 2028

**PAR Status:** Active

**Root Project:** 802.11-2020

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**1.1 Project Number:** P802.11bq

**1.2 Type of Document:** Standard

**1.3 Life Cycle:** Full Use

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**2.1 Project Title:** IEEE 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 Wireless LAN

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**3.1 Working Group:** Wireless LAN Working Group(C/LAN/MAN/802.11 WG)

**3.1.1 Contact Information for Working Group Chair:**

**Name:** Robert Stacey

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**3.1.2 Contact Information for Working Group Vice Chair:**

**Name:** Jon Rosdahl

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

**3.2.1 Contact Information for Standards Committee Chair:**

**Name:** James Gilb

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**3.2.2 Contact Information for Standards Committee Vice Chair:**

**Name:** David Halasz

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**3.2.3 Contact Information for Standards Representative:**

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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:** Jul 2026

**4.3 Projected Completion Date for Submittal to RevCom:** Mar 2027

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**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 several 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 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 contingent 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.

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## **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:**