



This certificate lists the features that have successfully completed Wi-Fi Alliance interoperability testing. Learn more: www.wi-fi.org

## **Certification ID: WFA113735**

## **Product Info**

**Date of Certification** October 4, 2021

Company Intel

Product Name Intel® Wi-Fi 6E AX411 (Gig+)

Product Model Variant Win 11 - 22.90

Model Number AX411

Category Computers & Accessories

Sub-category Internal Adapter

## **Summary of Certifications**

CLASSIFICATION CERTIFICATION

Access Wi-Fi Protected Setup™

Alternative topologies Wi-Fi Direct®

Network management WMM®

WMM®-Power Save Wi-Fi Agile Multiband™

Security Protected Management Frames

WPA2<sup>™</sup>-Enterprise 2018-04 WPA2<sup>™</sup>-Personal 2021-01 WPA3<sup>™</sup>-Enterprise 2020-02 WPA3<sup>™</sup>-Personal 2020-12 Wi-Fi Enhanced Open<sup>™</sup> 2021-01

Wi-Fi (MAC/PHY) 2.4 GHz Spectrum Capabilities

5 GHz Spectrum Capabilities 6 GHz Spectrum Capabilities

Spectrum & Regulatory Wi-Fi CERTIFIED 6® Wi-Fi CERTIFIED™ a Wi-Fi CERTIFIED™ ac Wi-Fi CERTIFIED™ b



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Summary of Certifications (continued)		Page 2 of 5
CLASSIFICATION	CERTIFICATION	
Wi-Fi (MAC/PHY)	Wi-Fi CERTIFIED™ g Wi-Fi CERTIFIED™ n	



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### Wi-Fi Components

#### **Wi-Fi Component Operating System**

Windows 11

#### Wi-Fi Component Firmware

22.90

### **RF Architecture**

Bands Supported	Transmit (Tx)	Receive (Rx)
2.4 GHz	2	2
5 GHz	2	2
6 GHz	2	2

#### Certifications

## 2.4 GHz Spectrum Capabilities

20 MHz Channel Width in 2.4 GHz 40 MHz Channel Width in 2.4 GHz

#### **5 GHz Spectrum Capabilities**

20 MHz Channel Width in 5 GHz

40 MHz Channel Width in 5 GHz

80 MHz Channel Width in 5 GHz

160 MHz Channel Width in 5 GHz

## 6 GHz Spectrum Capabilities

20 MHz Channel Width in 6 GHz

40 MHz Channel Width in 6 GHz

80 MHz Channel Width in 6 GHz

160 MHz Channel Width in 6 GHz

### **Protected Management Frames**

**Spectrum & Regulatory** 

#### **Spectrum & Regulatory (continued)**

802.11h

#### **WMM®**

#### **WMM®-Power Save**

Legacy Power Save
Unschedule auto PS

#### WPA2™-Enterprise 2018-04

EAP methods

**EAP TLS** 

**EAP TTLS** 

PEAPv0

#### WPA2™-Personal 2021-01

## WPA3™-Enterprise 2020-02

EAP methods



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#### WPA3™-Enterprise 2020-02 (continued)

**EAP TLS** 

**EAP TTLS** 

PEAPv0

192-bit security

192-bit security RSA 3K with the

TLS\_ECDHE\_RSA\_WITH\_AES\_256\_GCM\_SHA384

cipher suite

Fast Transition OTA on WPA3-Enterprise

Fast Transition OTA on WPA3-Enterprise transition mode

Server Certificate Validation

#### WPA3™-Personal 2020-12

**Beacon Protection** 

#### Wi-Fi Agile Multiband™

Beacon Report Measurement Active Mode

Beacon Report Measurement Passive Mode

Fast Transition OTA on WPA2-Enterprise

#### Wi-Fi CERTIFIED 6®

A-MPDU with A-MSDU

Beamforming sounding

BSRP Trigger frame

Compressed Block Ack Rx (buffer size 256)

Compressed Block Ack Tx (buffer size 256)

DL MU-MIMO

HE NDP

Individual Target Wake Time

LDPC Rx

LDPC Tx

MCS 8-9 Rx

MCS 8-9 Tx

#### Wi-Fi CERTIFIED 6® (continued)

MCS 10-11 Rx

MCS 10-11 Tx

MU EDCA Parameter Set element

MU-BAR Trigger frame

MU-RTS Trigger frame

M-BSSID

Operating mode control field

Operating mode subfield in A-Control field

Operating mode indication

SU beamformee

SU-MIMO

**UL OFDMA** 

Wi-Fi 6E

#### Wi-Fi CERTIFIED™ a

#### Wi-Fi CERTIFIED™ ac

Extended 5 GHz Channel Support

A-MPDU with A-MSDU

DL MU-MIMO

LDPC Rx

MCS 8-9 Rx

Short Guard Interval

STBC

LDPC Tx

SU beamformee

#### Wi-Fi CERTIFIED™ b

Wi-Fi CERTIFIED™ g

Wi-Fi CERTIFIED™ n



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Wi-Fi CERTIFIED™ n (continued)

STBC

A-MPDU Tx
OBSS on Extension Channel
Power Management
Short Guard Interval

Wi-Fi Direct®

Wi-Fi Enhanced Open™ 2021-01

Wi-Fi Protected Setup™

PIN
Pushbutton