Wi-Fi CERTIFIED® Certificate

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

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

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

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