



# 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/programs](http://www.wi-fi.org/certification/programs)

**Certification ID: WFA121146**

## Product Info

Date of Certification	December 12, 2023
Company	HAN Networks Co., Ltd.
Product Name	HAN Access Point
Product Model Variant	add 160M in 6GHz
Model Number	AP451
Category	Routers
Sub-category	Enterprise/Service Provider Access Point, Switch/Controller or Router

## Summary of Certifications

CLASSIFICATION	CERTIFICATION
Access	Passpoint® Release 3
Connectivity	2.4 GHz Spectrum Capabilities 5 GHz Spectrum Capabilities 6 GHz Spectrum Capabilities Wi-Fi CERTIFIED 6® Wi-Fi CERTIFIED™ a Wi-Fi CERTIFIED™ ac Wi-Fi CERTIFIED™ b Wi-Fi CERTIFIED™ g Wi-Fi CERTIFIED™ n
Optimization	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 WPA™-Enterprise WPA™-Personal



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Role: Access Point

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## Wi-Fi Components

### Wi-Fi Component Operating System

Linux4.4

### Wi-Fi Component Firmware

SPF.11.4

### RF Architecture

Bands Supported	Transmit (Tx)	Receive (Rx)
2.4 GHz	4	4
5 GHz	8	8
6 GHz	4	4

## Certifications

### 2.4 GHz Spectrum Capabilities

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

### Passpoint® Release 3 (continued)

Venue Information  
Terms and Conditions

### 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

### Protected Management Frames

#### WMM®

#### WMM®-Power Save

Unschedule auto PS

### 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

### WPA2™-Enterprise 2018-04

EAP methods

### Passpoint® Release 3

Online Sign Up and Policy provisioning  
Online Sign Up using single SSID  
Roaming Consortium Selection

### WPA2™-Personal 2021-01

### WPA3™-Enterprise 2020-02

EAP methods



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### WPA3™-Personal 2020-12

### WPA™-Enterprise

### WPA™-Personal

### Wi-Fi Agile Multiband™

Automatically populate BSS Transition candidate list  
Cellular Data aware

### Wi-Fi CERTIFIED 6®

4 antenna support  
A-MPDU with A-MSDU  
Basic Trigger frame in HE MU PPDU  
Beamforming sounding  
BSRP Trigger frame  
Co-located BSS  
Compressed Block Ack Rx (buffer size 256)  
Compressed Block Ack Tx (buffer size 256)  
DL MU-MIMO  
DL OFDMA  
Individual Target Wake Time  
LDPC Rx  
LDPC Tx  
MCS 8-9 Rx  
MCS 8-9 Tx  
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 indication  
SU beamformer  
SU-MIMO

### Wi-Fi CERTIFIED 6® (continued)

TXOP RTS Threshold  
UL OFDMA  
Wi-Fi 6E  
Multiple M-BSSID

### Wi-Fi CERTIFIED™ a

### Wi-Fi CERTIFIED™ ac

A-MPDU with A-MSDU  
DL MU-MIMO  
LDPC Rx  
LDPC Tx  
MCS 8 Rx  
MCS 8-9 Rx  
Short Guard Interval  
STBC  
SU beamformer

### Wi-Fi CERTIFIED™ b

### Wi-Fi CERTIFIED™ g

### Wi-Fi CERTIFIED™ n

OBSS on Extension Channel  
Short Guard Interval  
STBC  
A-MPDU Tx