



# 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: WFA133507**

## Product Info

<b>Date of Certification</b>	November 13, 2024
<b>Company</b>	Zebra Technologies
<b>Product Name</b>	EM45
<b>Product Model Variant</b>	2024-11-13
<b>Model Number</b>	EM45
<b>Category</b>	Phones
<b>Sub-category</b>	Smartphone

## Summary of Certifications

CLASSIFICATION	CERTIFICATION
<b>Access</b>	Passpoint® Release 3
<b>Applications &amp; Services</b>	Voice-Enterprise
<b>Connectivity</b>	2.4 GHz Spectrum Capabilities 5 GHz Spectrum Capabilities 6 GHz Spectrum Capabilities Wi-Fi CERTIFIED 6® Release 2 Wi-Fi CERTIFIED™ a Wi-Fi CERTIFIED™ ac Wi-Fi CERTIFIED™ b Wi-Fi CERTIFIED™ g Wi-Fi CERTIFIED™ n Wi-Fi Direct® Wi-Fi Enhanced Open™ 2023-12
<b>Optimization</b>	WMM® WMM®-Admission Control WMM®-Power Save Wi-Fi Agile Multiband™ Wi-Fi Optimized Connectivity™ 2020 Wi-Fi QoS Management™

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## Summary of Certifications (continued)

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### CLASSIFICATION

### CERTIFICATION

#### Security

Protected Management Frames  
WPA2™-Enterprise 2018-04  
WPA2™-Personal 2021-01  
WPA3™-Enterprise 2022-12  
WPA3™-Personal 2023-12

#### Spectrum & Regulatory Features

Spectrum & Regulatory

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Role: Station

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## Wi-Fi Components

### Wi-Fi Component Operating System

Android, version:13

### Wi-Fi Component Firmware

1.1.2.0.1230.1

### 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

### 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

### Passpoint® Release 3

Display and input method

Display of HS2.0 indication

NAI Home Realm Query element

### Passpoint® Release 3 (continued)

Operating Class Indication

SIM credentials

USIM Credentials

Network Icon support

Network Information in network selection

Online Sign Up and Policy provisioning

Fast Transition OTA on WPA2-Enterprise

ANQP-element for OSU provider selection

Online Sign Up using single SSID

Venue Information

Terms and Conditions

Roaming Consortium Selection

### Protected Management Frames

### Spectrum & Regulatory

802.11d

802.11h

### Voice-Enterprise

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## WMM®

### WMM®-Admission Control

### WMM®-Power Save

Legacy Power Save

Unschedule auto PS

## WPA2™-Enterprise 2018-04

EAP methods

- EAP AKA
- EAP AKA Prime
- EAP SIM
- EAP TLS
- EAP TTLS
- PEAPv0
- PEAPv1

## WPA2™-Personal 2021-01

## WPA3™-Enterprise 2022-12

EAP methods

- EAP AKA
- EAP AKA Prime
- EAP SIM
- EAP TLS
- EAP TTLS
- PEAPv0
- PEAPv1

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

## WPA3™-Enterprise 2022-12 (continued)

Fast Transition OTA on WPA3-Enterprise transition mode

Fast Transition OTDS on WPA3-Enterprise

Server Certificate Validation

## WPA3™-Personal 2023-12

Fast Transition OTA on WPA3-Personal

Fast Transition OTA on WPA3-Personal transition mode

Fast Transition OTDS on WPA3-Personal

## Wi-Fi Agile Multiband™

ANQP

ANQP-based Neighbor report

Beacon Report Measurement Active Mode

Beacon Report Measurement Passive Mode

BTM Query

Fast Transition OTA on WPA2-Personal

Fast Transition OTA on WPA2-Enterprise

## Wi-Fi CERTIFIED 6® Release 2

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

LDPC Tx

LDPC Rx

Individual Target Wake Time

MCS 10-11 Rx

MCS 10-11 Tx

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## Wi-Fi CERTIFIED 6® Release 2 (continued)

MCS 8-9 Rx  
MCS 8-9 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  
    Multiple M-BSSID  
Wi-Fi 6 Release 2 features  
    UL MU-MIMO  
    UL MU Control  
    Target Wake Time information frames  
    Broadcast Target Wake Time  
    M-BSSID control frames

## Wi-Fi CERTIFIED™ a

## Wi-Fi CERTIFIED™ ac

Extended 5 GHz Channel Support  
RTS with BW Signaling  
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

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

## Wi-Fi Direct®

## Wi-Fi Enhanced Open™ 2023-12

## Wi-Fi Optimized Connectivity™ 2020

Active Scan  
Fast Transition OTA on WPA2-Enterprise  
Pushbutton  
Probe Deferral and Suppression

## Wi-Fi QoS Management™

Default DSCP to UP mapping  
DSCP QoS Map  
DSCP Policy  
Mirrored Stream Classification Service  
    MSCS setup at association  
Stream Classification Service

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