



# 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: WFA120000**

## Product Info

|                       |                                     |
|-----------------------|-------------------------------------|
| Date of Certification | January 23, 2023                    |
| Company               | Zebra Technologies                  |
| Product Name          | TC53                                |
| Product Model Variant | 2023-01-20                          |
| Model Number          | TC53                                |
| Category              | Phones                              |
| Sub-category          | Phone, multi-mode (Wi-Fi and other) |

## Summary of Certifications

| CLASSIFICATION         | CERTIFICATION   |
|------------------------|---|
| Access                 | Passpoint® Release 3  |
| Alternative topologies | Wi-Fi Direct®   |
| Network management     | WMM®<br>WMM®-Admission Control<br>WMM®-Power Save<br>Wi-Fi Agile Multiband™<br>Wi-Fi Optimized Connectivity™ 2020<br>Wi-Fi QoS Management™                              |
| Performance            | Voice-Enterprise  |
| Security               | Protected Management Frames<br>WPA2™-Enterprise 2018-04<br>WPA2™-Personal 2021-01<br>WPA3™-Enterprise 2020-02<br>WPA3™-Personal 2020-12<br>Wi-Fi Enhanced Open™ 2021-01 |
| Wi-Fi (MAC/PHY)        | 2.4 GHz Spectrum Capabilities<br>5 GHz Spectrum Capabilities<br>6 GHz Spectrum Capabilities   |

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## Summary of Certifications (continued)

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### CLASSIFICATION

Wi-Fi (MAC/PHY)

### CERTIFICATION

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

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Role: Station

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## Wi-Fi Components

### Wi-Fi Component Operating System

Android, version:11

### Wi-Fi Component Firmware

1.1.2.0.461.0

### 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

802.11h

### Voice-Enterprise

### WMM®

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## WMM®-Admission Control

## WMM®-Power Save

Legacy Power Save  
Unschedule auto PS

## WPA2™-Enterprise 2018-04

EAP methods  
EAP TLS  
EAP TTLS  
PEAPv0  
PEAPv1

## WPA2™-Personal 2021-01

## WPA3™-Enterprise 2020-02

EAP methods  
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  
Fast Transition OTA on WPA3-Enterprise transition mode  
Fast Transition OTDS on WPA3-Enterprise  
Server Certificate Validation

## WPA3™-Personal 2020-12

Fast Transition OTA on WPA3-Personal  
Fast Transition OTA on WPA3-Personal transition mode

## WPA3™-Personal 2020-12 (continued)

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®

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  
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

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## Wi-Fi CERTIFIED 6® (continued)

SU beamformee  
SU-MIMO  
UL OFDMA  
Wi-Fi 6E  
Multiple M-BSSID

## 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

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

## Wi-Fi Direct®

## Wi-Fi Enhanced Open™ 2021-01

## Wi-Fi Optimized Connectivity™ 2020

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

## Wi-Fi QoS Management™

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