

# 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

# Certification ID: WFA120000

# **Product Info**

Date of Certification	September 12, 2023
Company	Zebra Technologies
Product Name	TC53
Product Model Variant	2023-08-31
Model Number	TC53
Category	Phones
Sub-category	Phone, multi-mode (Wi-Fi and other)

# **Summary of Certifications**

CLASSIFICATION Access Applications & Services	CERTIFICATION Passpoint® Release 3 Voice-Enterprise
Connectivity	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™ 2021-01
Optimization	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)		Page 2 of 5
CLASSIFICATION	CERTIFICATION	
Security	Protected Management Frames WPA2 <sup>™</sup> -Enterprise 2018-04 WPA2 <sup>™</sup> -Personal 2021-01 WPA3 <sup>™</sup> -Enterprise 2022-12 WPA3 <sup>™</sup> -Personal 2022-06	
Spectrum & Regulatory Features	Spectrum & Regulatory	



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# **Role: Station**

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Wi-Fi Components				
Wi-Fi Component Operating System	<b>RF Architecture</b>			
Android, version:13	Bands Supported	Transmit (Tx)	Receive (Rx)	
Wi-Fi Component Firmware	2.4 GHz	2	2	
1.1.2.0.000.5	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<sup>™</sup>-Enterprise 2018-04

EAP methods EAP TLS EAP TTLS PEAPv0 PEAPv1

#### WPA2<sup>™</sup>-Personal 2021-01

#### WPA3<sup>™</sup>-Enterprise 2022-12

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<sup>™</sup>-Personal 2022-06

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

#### WPA3<sup>™</sup>-Personal 2022-06 (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® 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 DL MU PPDU multi-tone HE NDP LDPC Tx LDPC Rx Individual Target Wake Time MCS 10-11 Rx MCS 10-11 Tx MCS 8-9 Rx MCS 8-9 Tx MU EDCA Parameter Set element MU-BAR Trigger frame **MU-RTS** Trigger frame Operating mode control field Operating mode subfield in A-Control field Operating mode indication



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

SU beamformee SU-MIMO UL OFDMA UL TB PPDU multi-tone 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™ n (continued)

A-MPDU Tx

OBSS on Extension Channel Short Guard Interval STBC

#### 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 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

#### Wi-Fi QoS Management™

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