



# 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: WFA128160**

## Product Info

Date of Certification	October 23, 2023
Company	Samsung Electronics
Product Name	SM-S921U
Product Model Variant	2023-09-15
Model Number	SM-S921U
Category	Phones
Sub-category	Smartphone

## Summary of Certifications

CLASSIFICATION	CERTIFICATION
Applications & Services	Voice-Enterprise Wi-Fi Aware™
Connectivity	2.4 GHz Spectrum Capabilities 5 GHz Spectrum Capabilities 6 GHz Spectrum Capabilities Wi-Fi CERTIFIED 6® 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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# Wi-Fi CERTIFIED™ Certificate

Certification ID: WFA128160



## 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 2022-06

#### Spectrum & Regulatory Features

Spectrum & Regulatory

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# Wi-Fi CERTIFIED™ Certificate

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Role: Access Point

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## Wi-Fi Components

### Wi-Fi Component Operating System

Android 14.0

### Wi-Fi Component Firmware

2.0.0.0.1518.1

### RF Architecture

Bands Supported	Transmit (Tx)	Receive (Rx)
2.4 GHz	2	2
5 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

### Protected Management Frames

### WMM®

Max Throughput

### WPA2™-Personal 2021-01

### WPA3™-Personal 2022-06

### Wi-Fi CERTIFIED 6®

A-MPDU with A-MSDU

LDPC Rx

### Wi-Fi CERTIFIED 6® (continued)

LDPC Tx

MCS 8-9 Rx

MCS 8-9 Tx

MCS 10-11 Rx

MCS 10-11 Tx

SU beamformer

### Wi-Fi CERTIFIED™ a

### Wi-Fi CERTIFIED™ ac

A-MPDU with A-MSDU

LDPC Rx

LDPC Tx

MCS 8-9 Rx

Short Guard Interval

STBC

SU beamformer

### Wi-Fi CERTIFIED™ b

### Wi-Fi CERTIFIED™ g

### Wi-Fi CERTIFIED™ n

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# Wi-Fi CERTIFIED™ Certificate

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Role: Access Point

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## Wi-Fi CERTIFIED™ n (continued)

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

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# Wi-Fi CERTIFIED™ Certificate

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Role: Station

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## Wi-Fi Components

### Wi-Fi Component Operating System

Android 14.0

### Wi-Fi Component Firmware

2.0.0.0.1518.1

### 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

### Protected Management Frames

### Spectrum & Regulatory

802.11h

### Voice-Enterprise

#### WMM®

Max Throughput

#### 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

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### 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

Fast Transition OTA on WPA3-Enterprise transition mode

Fast Transition OTDS on WPA3-Enterprise

Server Certificate Validation

### WPA3™-Personal 2022-06

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
- Cellular Data capable
- Fast Transition OTA on WPA2-Personal
- Fast Transition OTA on WPA2-Enterprise

### Wi-Fi Aware™

#### Bluetooth® Low Energy

- Bluetooth® Low Energy - Browser
- Bluetooth® Low Energy - Provider
- Bluetooth® Low Energy - Seeker
- TCP/UDP NDP Initiator
- TCP/UDP NDP Responder

Device Ranging

Wi-Fi Aware pairing

Unsynchronized Service Discovery

### 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

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



# Wi-Fi CERTIFIED™ Certificate

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Role: Station

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

UL OFDMA  
Wi-Fi 6E  
Multiple M-BSSID  
Wi-Fi 6 Release 2 features  
UL Extended Range  
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 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 Direct with WPA2

## Wi-Fi Enhanced Open™ 2021-01

## Wi-Fi Optimized Connectivity™ 2020

Active Scan  
Fast Transition OTA on WPA2-Enterprise  
Pushbutton

## Wi-Fi QoS Management™

Default DSCP to UP mapping  
DSCP QoS Map  
Mirrored Stream Classification Service

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