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: WFA120585

Product Info

Date of Certification	October 5, 2022
Company	Google, Inc.
Product Name	GWKK3, GHL1X, G82U8
Product Model Variant	GWKK3
Model Number	GWKK3, GHL1X, G82U8
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™ 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™
Security	Protected Management Frames WPA2™-Enterprise 2018-04 WPA2™-Personal 2021-01

Wi-Fi CERTIFIED™ Certificate

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CLASSIFICATION	CERTIFICATION
Security	WPA3™-Enterprise 2020-02 WPA3™-Personal 2020-12
Spectrum & Regulatory Features	Spectrum & Regulatory

Wi-Fi CERTIFIED™ Certificate

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Wi-Fi Components

Wi-Fi Component Operating System

Android

Wi-Fi Component Firmware

lynx-userdebug 13 TD2A.220719.001 8843759 dev-keys

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®

WPA2™-Personal 2021-01

WPA3™-Personal 2020-12

Wi-Fi CERTIFIED 6®

A-MPDU with A-MSDU
Compressed Block Ack Rx (buffer size 256)
Compressed Block Ack Tx (buffer size 256)
LDPC Rx
LDPC Tx

Wi-Fi CERTIFIED 6® (continued)

MCS 8-9 Rx
MCS 8-9 Tx
MCS 10-11 Rx
MCS 10-11 Tx
SU-MIMO
TXOP RTS Threshold

Wi-Fi CERTIFIED™ a

Wi-Fi CERTIFIED™ ac

RTS with BW Signaling
A-MPDU with A-MSDU
LDPC Rx
LDPC Tx
MCS 8-9 Rx
Short Guard Interval
STBC

Wi-Fi CERTIFIED™ b

Wi-Fi CERTIFIED™ g

Wi-Fi CERTIFIED™ n

Wi-Fi CERTIFIED™ n (continued)

OBSS on Extension Channel

Short Guard Interval

STBC

A-MPDU Tx

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Wi-Fi Components

Wi-Fi Component Operating System

Android

Wi-Fi Component Firmware

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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

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

Protected Management Frames

Spectrum & Regulatory

802.11h

Voice-Enterprise

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 2020-02

WPA3™-Enterprise 2020-02 (continued)

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

Server Certificate Validation

WPA3™-Personal 2020-12

Fast Transition OTA on WPA3-Personal

Fast Transition OTA on WPA3-Personal transition mode

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™

Wi-Fi CERTIFIED 6®

Wi-Fi CERTIFIED 6® (continued)

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 PPDU multi-tone

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

Operating mode control field

Operating mode subfield in A-Control field

Operating mode indication

SU beamformee

SU-MIMO

UL OFDMA

UL TB PPDU multi-tone

Wi-Fi 6E

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

Wi-Fi CERTIFIED™ Certificate

Certification ID: WFA120585

Wi-Fi CERTIFIED™ ac (continued)

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