



# 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: WFA90450**

## Product Info

Date of Certification	June 28, 2019
Company	HMD Global Oy
Product Name	Mobile Phone
Product Model Variant	2019-06-28 (WFA90450 - merged)
Model Number	TA-1181
Category	Phones
Sub-category	Smartphone

## Summary of Certifications

CLASSIFICATION	CERTIFICATION
Access	Wi-Fi Protected Setup™
Connectivity	2.4 GHz Spectrum Capabilities 5 GHz Spectrum Capabilities Wi-Fi CERTIFIED™ a Wi-Fi CERTIFIED™ ac Wi-Fi CERTIFIED™ b Wi-Fi CERTIFIED™ g Wi-Fi CERTIFIED™ n Wi-Fi Direct®
Optimization	WMM®
Security	Protected Management Frames WPA2™-Enterprise 2018-04 WPA2™-Personal 2018-04



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Role: Access Point

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## Wi-Fi Components

### Wi-Fi Component Operating System

Android, version:9

### Wi-Fi Component Firmware

WLAN.HL.1.0.1.c2-00590-QCAHLSWMTPLZ-1

### RF Architecture

Bands Supported	Transmit (Tx)	Receive (Rx)
2.4 GHz	1	1
5 GHz	1	1

## Certifications

### 2.4 GHz Spectrum Capabilities

20 MHz Channel Width in 2.4 GHz

### Wi-Fi CERTIFIED™ ac (continued)

Short Guard Interval

### 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

### Wi-Fi CERTIFIED™ b

### Wi-Fi CERTIFIED™ g

### Wi-Fi CERTIFIED™ n

Short Guard Interval

A-MPDU Tx

### Protected Management Frames

### WMM®

### WPA2™-Personal 2018-04

### 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



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Role: Station

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### RF Architecture

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## Certifications

### 2.4 GHz Spectrum Capabilities

20 MHz Channel Width in 2.4 GHz  
40 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™-Enterprise 2018-04

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

### WPA2™-Personal 2018-04

### Wi-Fi CERTIFIED™ a

### Wi-Fi CERTIFIED™ ac

Extended 5 GHz Channel Support  
A-MPDU with A-MSDU  
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



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Role: Station

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Wi-Fi Direct®

Wi-Fi Protected Setup™

PIN

Pushbutton