



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: WFA109500

Product Info

Date of Certification	December 10, 2020
Company	Ruckus Wireless, Inc.
Product Name	Unleashed Ruckus R650
Product Model Variant	Unleashed Ruckus R650
Model Number	R650/Unleashed
Category	Routers
Sub-category	Enterprise/Service Provider Access Point, Switch/Controller or Router

Summary of Certifications

CLASSIFICATION	CERTIFICATION
Connectivity	2.4 GHz Spectrum Capabilities 5 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 Enhanced Open™ 2020-02
Optimization	WMM® Wi-Fi Agile Multiband™
Security	Protected Management Frames WPA2™-Enterprise 2018-04 WPA2™-Personal 2020-02 WPA3™-Enterprise 2020-02 WPA3™-Personal 2020-02
Spectrum & Regulatory Features	Spectrum & Regulatory



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Role: Access Point

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Wi-Fi Components

Wi-Fi Component Operating System

Linux

Wi-Fi Component Firmware

200.9.10.7.8

RF Architecture

Bands Supported	Transmit (Tx)	Receive (Rx)
2.4 GHz	4	4
5 GHz	8	8

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

Spectrum & Regulatory

802.11d

802.11h

WMM®

WPA2™-Enterprise 2018-04

EAP methods

WPA2™-Personal 2020-02

WPA3™-Enterprise 2020-02

EAP methods

192-bit security

WPA3™-Personal 2020-02

Wi-Fi Agile Multiband™

Automatically populate BSS Transition candidate list

Cellular Data aware

Fast Transition OTA on WPA2-Enterprise

Fast Transition OTA on WPA2-Personal

Wi-Fi CERTIFIED 6®

4 antenna support

A-MPDU with A-MSDU

Basic Trigger frame in HE MU PPDU

Beamforming sounding

BSRP Trigger frame

Compressed Block Ack Rx (buffer size 256)

Compressed Block Ack Tx (buffer size 256)

DL MU-MIMO

DL OFDMA



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Wi-Fi CERTIFIED 6® (continued)

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
Operating mode indication
SU beamformer
TXOP RTS Threshold
UL OFDMA

Wi-Fi CERTIFIED™ n (continued)

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

Wi-Fi Enhanced Open™ 2020-02

Wi-Fi CERTIFIED™ a

Wi-Fi CERTIFIED™ ac

RTS with BW Signaling
Extended 5 GHz Channel Support
A-MPDU with A-MSDU
DL MU-MIMO
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