

Technical specifications

Realtek 8822BE 802.11ac PCIe x1 Card



Part Number

3TK90AA

Introduction

Enjoy business-class, high-speed wireless and Bluetooth® connectivity on your desktop with the Realtek 8822BE 802.11ac PCIe x1 Card.¹

Intel® vPro™ not supported. WLAN requires separately purchased access point and Internet service. The specifications for the 802.11ac WLAN are draft specifications and are not final. If the final specifications differ from the draft specifications, it may affect the ability of the notebook to communicate with other 802.11ac WLAN devices.

Key Benefits

- Latest Realtek technology
- MU-MIMO
- 2x2 802.11AC Dual Band technology support
- Both WLAN and Bluetooth 4.2 support (Combo)

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Product dimensions (H x W x D)	0.86 x 1.18 x 0.09 in (2.2 x 3 x 0.24 cm)
Product weight	.01 lb (8.01gr)
Compatible operating systems	Windows 7, Windows 8.1, Windows 10
Wireless LAN Standards	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac
Interoperability	Wi-Fi certified

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Frequency Band	802.11b/g/n • 2.402 – 2.482 GHz 802.11a/n 4.9 – 4.95 GHz (Japan) 5.15 – 5.25 GHz 5.25 – 5.35 GHz 5.47 – 5.725 GHz 5.825 – 5.850 GHz
Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: MCS 0 ~ MCS 15, (20MHz, and 40MHz) 802.11ac : MCS0 ~ MCS9, (1SS, and 2SS) (20MHz, 40MHz, and 80MHz)
Modulation	Direct Sequence Spread Spectrum BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM
Security[3]	IEEE and WiFi compliant 64 / 128 bit WEP encryption for a/b/g mode only AES-CCMP: 128 bit in hardware 802.1x authentication WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES. WPA2 certification IEEE 802.11i Cisco Certified Extensions, all versions through CCX4 and CCX Lite WAPI
Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
Roaming	IEEE 802.11 compliant roaming between access points
Output Power[2]	802.11b : +14dBm minimum 802.11g : +12dBm minimum 802.11a : +12dBm minimum 802.11n HT20(2.4GHz) : +12dBm minimum 802.11n HT40(2.4GHz) : +12dBm minimum 802.11n HT20(5GHz) : +10dBm minimum 802.11n HT40(5GHz) : +10dBm minimum 802.11ac VHT80(5GHz) : +10dBm minimum
Power Consumption	Transmit mode 2.0 W Receive mode 1.6 W Idle mode (PSP) 180 mW (WLAN Associated) Idle mode 50 mW (WLAN unassociated) Connected Standby 10mW Radio disabled 8 mW
Power Management	ACPI and PCI Express compliant power management 802.11 compliant power saving mode
Receiver Sensitivity[3]	802.11b, 1Mbps : -93.5dBm maximum 802.11b, 11Mbps : -84dBm maximum 802.11a/g, 6Mbps : -86dBm maximum 802.11a/g, 54Mbps : -72dBm maximum 802.11n, MCS07 : -67dBm maximum 802.11n, MCS15 : -64dBm maximum 802.11ac, MCS0 : -84dBm maximum 802.11ac, MCS9 : -59dBm maximum
Antenna type	High efficiency antenna with spatial diversity, mounted in the display enclosure. Two embedded dual band 2.4/5 GHz antennas are provided to the card to support WLAN MIMO communications

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Form Factor	PCI-Express M.2 MiniCard
Dimensions	Type 2230 : 2.3 x 22.0 x 30.0 mm
Weight	Type 2230 : 2.8g
Operating Voltage	3.3v +/- 9%
Temperature	Operating: 14° to 158° F (-10° to 70° C) Non-operating: -40° to 176° F (-40° to 80° C)
Humidity	Operating: 10% to 90% (non-condensing) Non-operating: 5% to 95% (non-condensing)
Altitude	Operating: 0 to 10,000 ft (3,048 m) Non-operating: 0 to 50,000 ft (15,240 m)
LED Activity	LED Amber – Radio OFF; LED White – Radio ON
Country of origin	Made in China

What Is In The Box

Realtek 8822BE 802.11ac PCIe x1 Card
RF antenna
Antenna cable
Separate low profile bracket
Software CD and warranty

Compatibility

HP EliteDesk 800 G4 TWR, HP EliteDesk 800 G4 SFF, HP EliteDesk 705 G4 MT, HP EliteDesk 705 G4 SFF, HP ProDesk 600 G4 MT, HP ProDesk 600 G4 SFF, HP ProDesk 400 G5 MT, HP ProDesk 400 G5 SFF

Overview

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Change log

Date of change:	Version History:		Description of change:
June 4, 2018	From v1 to v2	Update	General update