ACCESSORY
WLAN Kit
WLN-M1

UNIVERSAL WLAN-AX/BLUETOOTH KIT WITH M.2 CARD

The Shuttle Accessory WLN-M1 is a wireless LAN kit consisting of an Intel AX200 M.2-2230 card, two antennas and appropriate cables. The WLN-M1 is intended for certain Shuttle XPC barebones to equip them with the wireless LAN standard according to IEEE 802.11n/ac/ax at 2.4 / 5 GHz. At the same time, his combo device also supports Bluetooth 5.2.

CONTENTS

- M.2-2230 (NGFF) WLAN card: Intel Wireless-6 AX200NGWG.NV
- 2 antenna cables for XPCs slim, length: 21 and 29 cm
- 2 antenna cables for XPCs cube, length: 53 cm
- 2 dipole antennas
- Quick Guide (English, German, French)

Note: device drivers are not included.

COMPATIBILITY

Compatible with the following Shuttle products:

- **Shuttle XPC nano Barebone PCs:** NC02Ux series, NC03Ux series, NC10Ux series
- **Shuttle XPC slim Barebone PCs:** DH110(SE), DH270, DH310(S), DH310V2, DH370, DH410(S), DH470, DH610(S), DH670, XH110(V), XH110G, XH270, XH310(V), XH310R(V), XH410G, XH510G(2), XH610(V), XC60J, DX30, DL10J, DL20N(6), DH02Ux
- **Shuttle XPC cube Barebone PCs:** SH110R4, SZ170R8V2, SZ270R8, SZ270R9, SH310R4(V2), SH370R6(V2)(Plus), SH370R8, SH510R4, SH570R6 (Plus), SH570R8, SW580R8
- **Shuttle Edge:** EN01J3, EN01J4, EN01E, EN01B (in combination with Shuttle Accessory LN007)
- **Supported operating systems**

Windows 10, Windows 11, Linux (64-bit)
Windows driver download: go.shuttle.eu/drivers

ADAPTER CARD

- Model: Intel Wireless-6 AX200NGWG.NV (non vPro)
- M.2-2230, A-E-Key (NGFF) extension card
- Host interface: PCI-Express for WLAN, USB for Bluetooth
- Dimensions: 30 x 22 x 2,4 mm (LWH)
- Temperature Range: 0~80°C (Operating)

WLAN STANDARD

- Wi-Fi certification: WiFi 6 (802.11ax)

Supports WiFi IEEE 802.11b/g/n/ac/ax in the 2.4 / 5 GHz band, 2T2R

- Supported security standards

64-bit WEP, 128-bit AES, 128-bit WEP, 256-bit AES, AES-CCMP, AES-GCMP, EAP-AKA, EAP-SIM, EAP-TLS, EAP-TTLS, MSCHAPv2, PEAP, TKIP, WPA2, WPA3, WPS

- Maximum PHY data rate: Supports Wifi 6 (WLAN 802.11ax) 2x2 with 1024QAM and 160 MHz band width

Maximum data transfer rate: 2400 Mbps

BLUETOOTH STANDARD

Supports Bluetooth 5.2 in the 2.4 GHz band

ANTENNA CABLES

Vier WLAN Verbindungskabel mit verschiedenen Längen:
21, 29, 53, 53 cm

- Connectors:

1) RP-SMA Pigtail male
2) MHF IV (I-PEX4), HSC MXHP32 (Murata) compatible

- Antennas: two external dipole antennas

Frequency range: 2.4 / 5 GHz band, omnidirectional
Total length: 108 mm, diameter: 7.8~10.0 mm

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Photo: Shuttle XPC slim and XPC cube with WLN-M1 installed

Quick Installation Guide

Please install with reference to the following Steps.

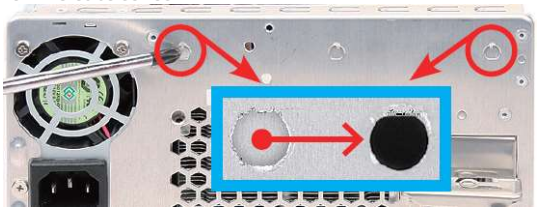
Due to safety reasons, please turn off your computer completely first and unplug it from the power supply.

1. Unfasten two screws on the back panel and remove the cover.

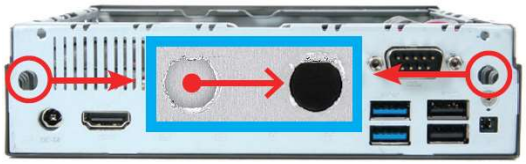
2. Use a 6mm screwdriver to puncture the perforated hole on the back panel from the outside in. Once the screwdriver passes through the perforation, carefully remove the metal tag.

If the metal tag still does not detach, carefully bend it by pushing down from the inside of the chassis.

for XPC cube series:

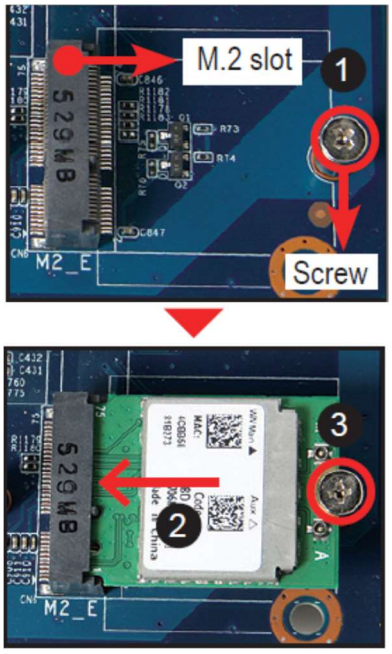


for XPC slim series:



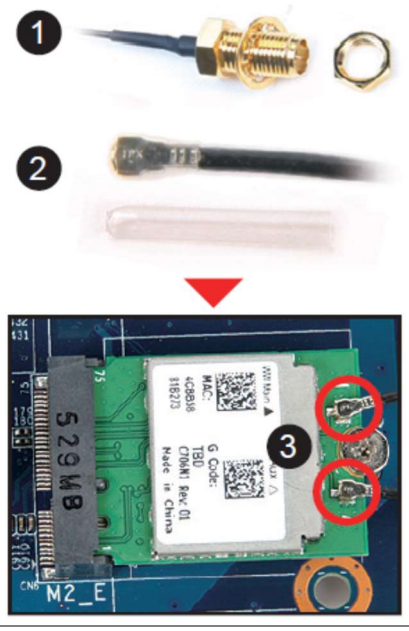
3. Take the wireless kit out of its box.

4. As shown, unfasten the screw first. Install the M.2 card into the M.2 slot and affix it with a screw.



5. Take out the two antenna cable connectors and remove the locks and protective sleeves. Then connect them to the M.2 card.

Attention: the small MHF IV (I-PEX4) connectors for the antenna cables on the WLAN adapter can easily be damaged. It is recommended to work with a magnifying glass and good lighting.

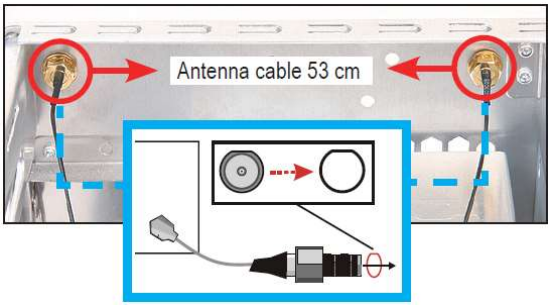


6. Install the antenna cable connectors through the appropriate opening at the back of the chassis.

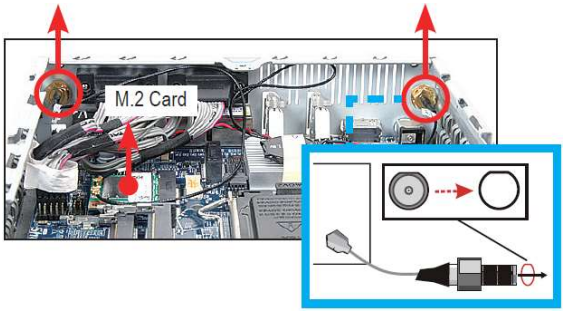
When leading the cable connector through the opening, check the socket alignment and only push horizontally. DO NOT turn or twist the cable.

Should any difficulties occur, make sure the surface is clean. Finally, check the alignment again and carefully apply more force.

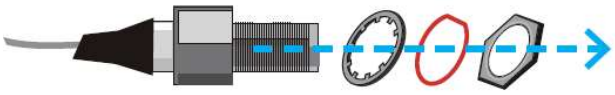
for XPC cube series:

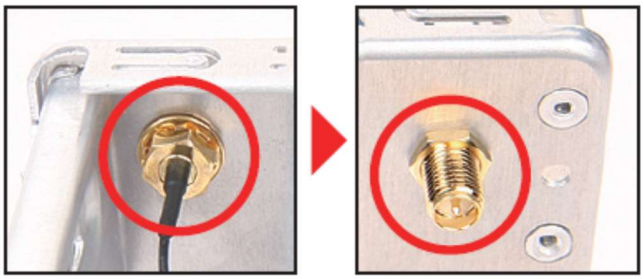


for XPC slim series:



7. Use the lock to affix the antenna from the outside.





8. Replace the case cover and fasten its screws.

9. Screw the antenna into position as pictured.
Make sure it is aligned vertically to achieve the best possible signal reception.

Make sure the two antennas are aligned in the correct direction.

Note: What are the advantages of WLN-M1 over a conventional WLAN USB stick?

1. The M.2 card sits in the case and is better protected from tampering and theft.
2. The integrated solution is more appealing.
3. For the best possible efficiency the antenna should be at least 6cm long (half a wavelength at 2.4 GHz) which is a big advantage over the USB stick.
4. This WLAN card is a Combo card which supports both WLAN and Bluetooth.
5. The transmission protocol of the PCI-Express interface is less complex as compared to USB which helps keep processor load lower.