

ACCESSORY WLAN Kit WLN-M3

WLAN- KIT FOR THE SHUTTLE EDGE PC SERIES SPCELxx

The Shuttle Accessory WLAN-M3 is a Wireless LAN kit consisting of an Intel AX200 M.2-2230 card, two antennas and cables with 10 cm length. This kit allows Shuttle Edge PCs of the SPCELxx series to be equipped with a wireless LAN function according to IEEE 802.11n/ac/ax at 2.4 / 5 GHz. At the same time, this combo device also supports Bluetooth 5.2.



CONTENTS

- M.2-2230 (NGFF) WLAN card: Intel Wireless-6 AX200NGWG.NV
 - 2 antenna cables, length: 10 cm
 - 2 dipole antennas
 - Quick Guide (English, German, French)
- Note: device drivers are not included.

COMPATIBILITY

Compatible with the following Shuttle products:

- Shuttle Edge-PCs: SPCEL02, SPCEL02P, SPCEL03, SPCEL12

Note: If a M.2 WLAN module is installed in the Edge-PC SPCELxx Series, then the M.2-SSD card is limited to M.2-2242 format with 42 mm length (M.2-2280 with 80 mm length is then no longer supported)

Supported operating systems

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

WLAN 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)

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
- Security features: WPA2 Personal and Enterprise, WPA3, 64-bit and 128-bit WEP, TKIP, 128-bit AES-CCMP, 256-bit AES-GCMP
- Authentication Protocols: 802.1X EAP-TLS, EAP-TTLS/MSCHAPv2, PE-APv0 -MSCHAPv2 (EAP-SIM, EAP-AKA, EAP-AKA')
- 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

- Two WLAN cables with a length of 10 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



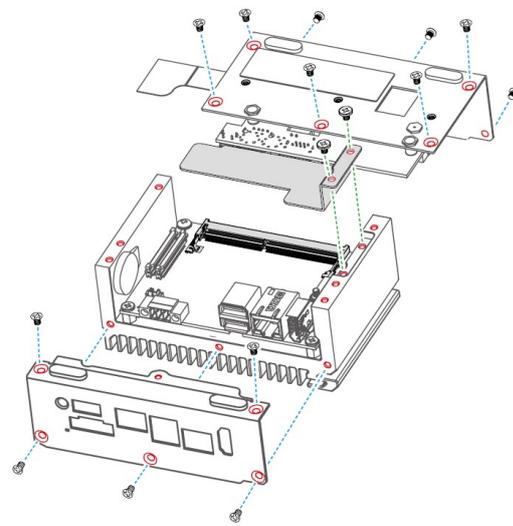
Photo: Shuttle Edge-PC SPCELxx Series with WLAN kit „WLN-M3“ installed

Quick Installation Guide

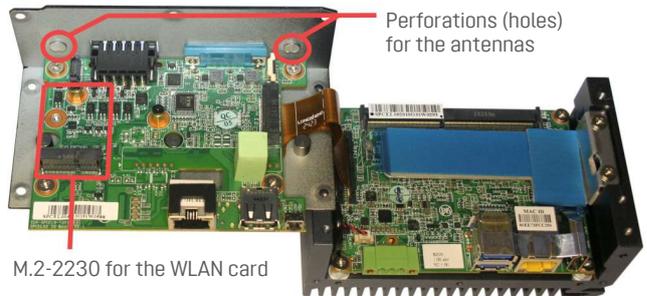
Please install with reference to the following Steps.

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

1. Open the housing of the Edge PC according to the enclosed quick guide.



2. There are two perforations for the antenna connectors on the back panel of the housing and the M.2-2230 slot for the WLAN card is located on the mainboard.



3. Use a 6mm screwdriver to puncture the two perforated holes 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.



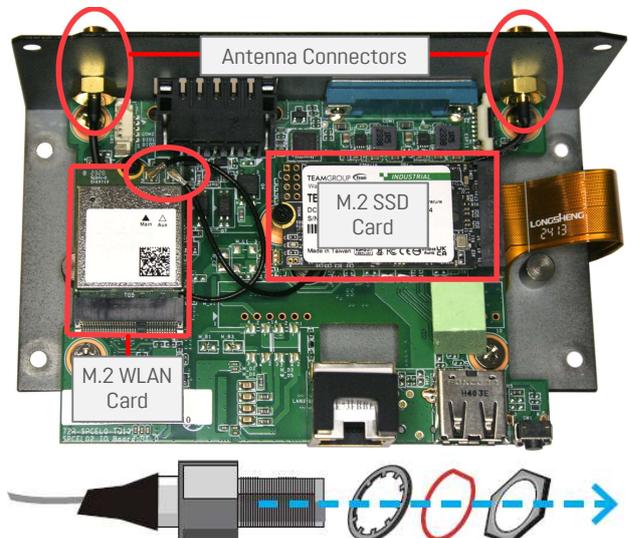
4. Take the WLN-M3 WLAN kit out of its box.

5. For the M.2-2230 slot, first unfasten the screws, then carefully insert the M.2 WLAN card into the slot and then affix it with the screw.

6. Install the antenna connectors from the inside through the appropriate opening at the back of the chassis. Use the lock to affix the antenna connectors from the outside.

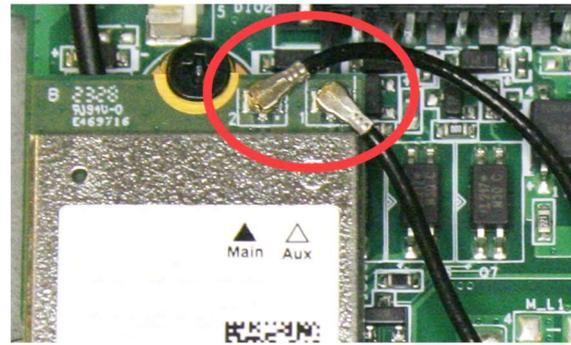
When leading the cable connector through the opening, check the socket alignment and only push horizontally. DO NOT turn or twist the cable. Should any difficulties occur, make sure the surface is clean. Finally, check the alignment again and carefully apply more force.

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7. There is a tiny plug at the end of the antenna cable. Connect both antenna cables to the corresponding connectors on the M.2 WLAN card (see photo).

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.



8. Once all components have been installed, reassemble the housing of the Edge PC according to the enclosed quick guide.



9. Screw the antenna into position as pictured.



Note: What are the advantages of WLN-M3 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.