

### LTE/4G antennas for DL10J and EN01x

If you want integrated mobile network on your Shuttle XPC slim Barebone DL10J or Shuttle Edge EN01x, then you need the Shuttle XPC accessory WWN01 which includes two LTE/4G antennas with cables.

This kit also includes a riser adapter card which is required for DL10J only. It supports a LTE/4G module and a Nano SIM card for mobile network. The riser card is to be installed into the M.2-2230 slot of DL10J and replaces the pre-installed WLAN card.

### Shuttle XPC accessory **WWN01** LTE/4G expansion kit



Images for illustration purposes only.

Feature Highlights	
Contents	<ul style="list-style-type: none"> <li>M.2 adapter card LN004</li> <li>Fastening screw for LTE/4G card (two parts)</li> <li>2x LTE/4G antennas</li> <li>2x antenna cables with toothed lock washer and nut</li> <li>Quick Installation Guide</li> </ul>
Adapter card (for DL10J)	<p>Riser card for the M.2-2230 Key E slot Dimensions: 30 x 30 mm</p> <ul style="list-style-type: none"> <li>supports one LTE/4G module M.2-3042 Key B</li> <li>supports one SIM card in Nano format</li> </ul>
Two external antennas	<ul style="list-style-type: none"> <li>LTE/4G dipole omnidirectional antenna</li> <li>Multi-band: supports EU frequency bands (800, 1800, 2600 MHz) for GSM/UMTS/LTE and the following frequency ranges: 704~960, 1428~1575, 1720~2170, 2400~2690 MHz</li> <li>Colour: black</li> <li>Length overall: 135.7 mm</li> <li>Dimensions of the antenna body: 114.8 mm x 20.1 mm</li> <li>Impedance: 50 Ohm</li> <li>Voltage Standing Wave Ratio (VSWR): &lt;= 3.0</li> <li>Radiation: Omni</li> <li>Gain: 2 dBi</li> <li>Polarisation: vertical</li> <li>Connector: SMA</li> </ul>
Two antenna cables	<p>RF cable lengths: 20 cm. Connectors:</p> <ol style="list-style-type: none"> <li>SMA Pigtail female</li> <li>I-PEX MHF 4</li> </ol>
Compatibility	<p>The WWN01 can be used for</p> <ul style="list-style-type: none"> <li>Shuttle XPC slim DL10J</li> <li>Shuttle Edge EN01J3, EN01J4, EN01E (adapter card is not required)</li> </ul>
Not included	<p>Note that two more components are required for operation which are not included with WWN01 :</p> <ul style="list-style-type: none"> <li>LTE/4G module M.2-3042 Key B</li> <li>SIM card in Nano format</li> </ul> <p>Successfully tested LTE/4G modules:</p> <ul style="list-style-type: none"> <li>Sierra EM7455 (CAT 6, for Europa &amp; N-America)</li> <li>Sierra EM7430 (CAT 6, for APAC)</li> <li>Huawei ME906S (CAT 4, for EMEA and other)</li> <li>Quectel EM06-E (CAT 6, EMEA, Australia, Brazil)</li> </ul>



The installed riser card with additional LTE/4G card (top view) and SIM card (hidden). The pre-installed WLAN card and WLAN antenna must be removed before.



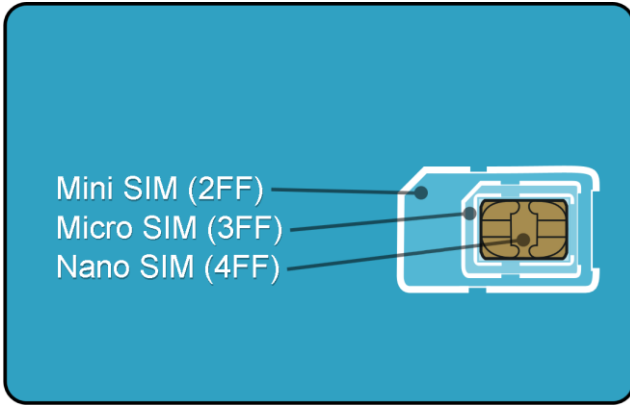
DL10J (see left) and EN01J4 (see right) with installed cellular antennas.

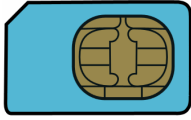




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### Compatible SIM cards

The SIM card is used to identify your mobile phone in a mobile network. SIM cards have been shrunk over the years: The Mini standard has been superseded by Micro and Nano. The Shuttle XPC accessory WWN01 only supports Nano format. A new SIM card usually comes perforated in three sizes (Mini, Micro and Nano) and simply requires the desired format to be pressed out.



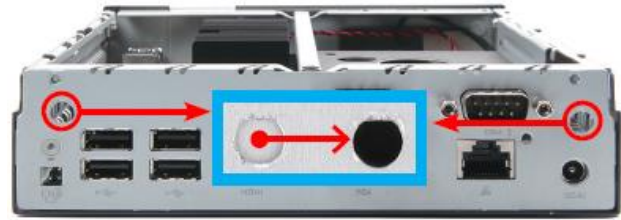
SIM format	Image	Supported by WWN01?
<b>Mini SIM</b> 25 x 15 mm		No
<b>Micro SIM</b> 15 x 12 mm		No
<b>Nano SIM</b> 12.3 x 8.8 mm		Yes

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## Quick Installation Guide for WWN01 with DL10J

**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.



3. When installing a nano SIM card, please push the cover to the side and lift it, then carefully insert the SIM card.

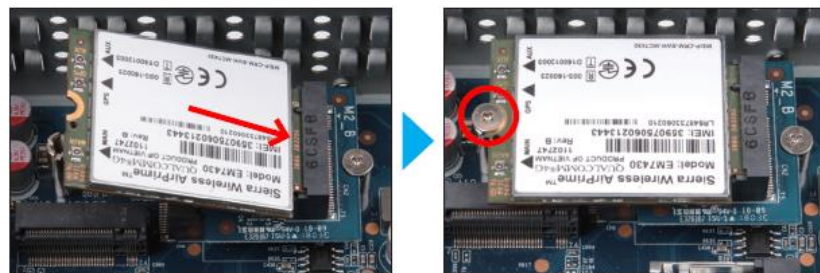


4. Please install the LTE adapter board into the M.2 E-Key slot interface as shown and affix it by tightening the screw with bolt firmly.

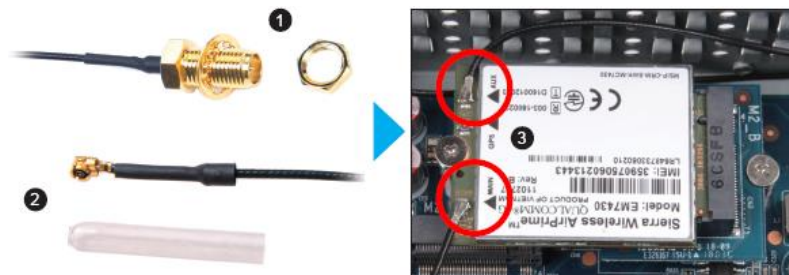


5. Please apply the bolt and tighten it firmly.

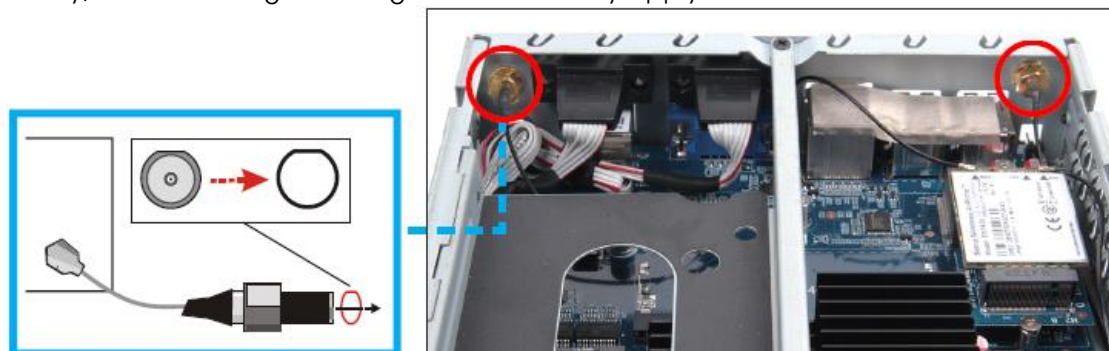
6. Please install the LTE module in the daughter-board, then tighten the screw with bolt firmly.



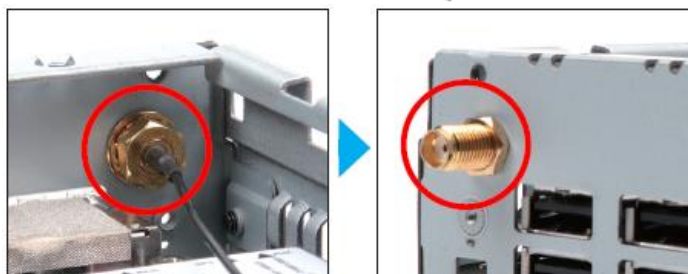
7. Take out the two antenna cable connectors and remove the locks and protective sleeves. Then connect them to the LTE module.



8. 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.



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



10. Replace the case cover and fasten its screws.

11. Screw the antennas into position as pictured. Make sure they are aligned vertically to achieve the best possible signal reception. Make sure the two antennas are aligned in the correct direction.



11. Check the following BIOS setting to ensure that the LTE module will be recognized correctly:

**Advanced – Onboard Device Configuration – E-Key Device Select = USB**

