

SMARTCASE™ S520 & Motherboards D3654-B / D3664-B

▶ SMARTCASE™ S520 & D3654 / D3664 - ASSEMBLY INSTRUCTIONS

Delivery Kit & Accessories: Screw Overview	3
Step 1 Preparing the Chassis	4
Step 2 Inserting additional Modules (Memory / M.2 / ...)	5
Step 3: Processor Assembly	7
Step 4 Installing the Heatsink	8
Step 5 Motherboard Assembly	9
Installing HDD Carrier (optional)	10
Installing WLAN Antennas (optional)	11
Step 6 Closing the Chassis	12
Step 7 Adding Stands	13

Technical data are subject to change without prior notice. Kontron accepts no responsibility with regards to technical or editorial mistakes or omissions.

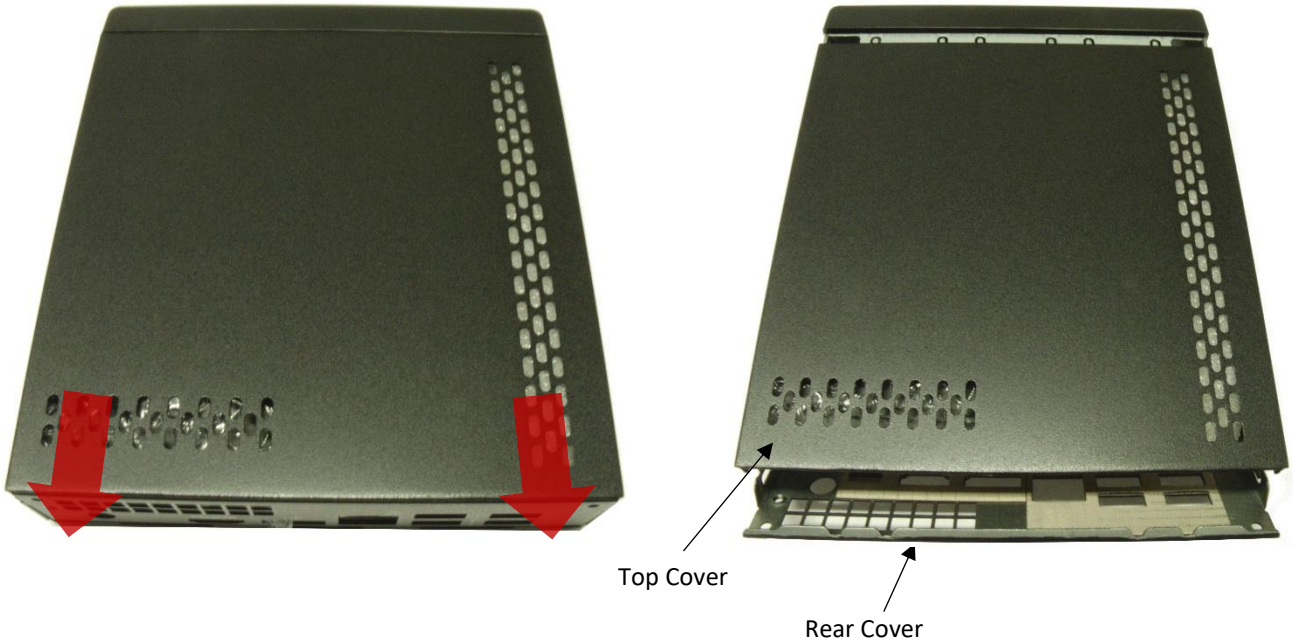
Delivery Kit & Accessories: Screw Overview

Assembly Screws

Type	Amount	Mandatory Assembly Torque	Note
M2.5 x 6mm	2	0.4Nm	for desk stand (vertical position) assembly (delivered in plastic bag)
	2	0.4Nm	for chassis rear cover (delivered in plastic bag)
M3 x 4.5mm	4	0.6Nm	for motherboard assembly (delivered in plastic bag)
	2	0.6Nm	for HDD carrier assembly (optional) (delivered in plastic bag)
M3 x 5mm	4	0.4Nm	for rubber feet (horizontal position) assembly (delivered in plastic bag)
M3 x 3.5mm	4	0.25Nm	for 2.5" drive assembly (optional) (delivered in plastic bag)
M3 x 3.2mm	2	0.2Nm	Screw for M.2 SSD/WLAN module assembly (pre-installed on motherboard)

Step 1 Preparing the Chassis

Open the chassis with two hands by putting some pressure on your thumbs to push the cover reverse.

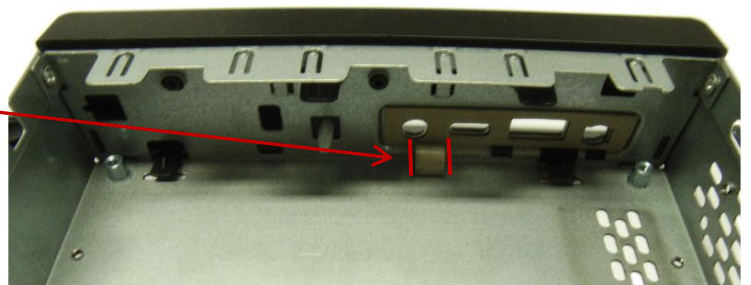


Remove top cover and unpack the accessories.



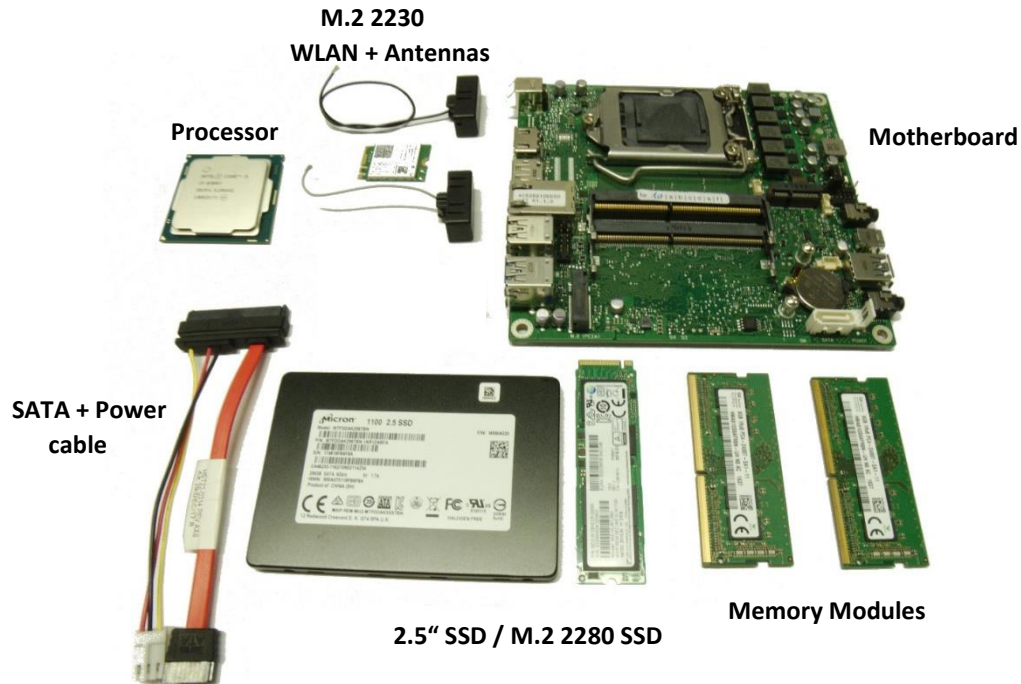
Remove the tape (transportation lock) of the **Thermal Pad** carefully!
Pad assembly position is marked in chassis.
Note: Thermal pad had been implemented as running change, it was not included in the very first shipments!

Verify position of the additional small square **EMI Gasket** as marked in the chassis.
Note: This EMI gasket had been implemented as running change, it was not included in the very first shipments!



Step 2 Inserting additional Modules (Memory / M.2 / ...)

The following picture shows several possible components



Attention: Do not touch any pins! Touch the memory at the outer edges only.
Do not stick a barcode onto any modules!

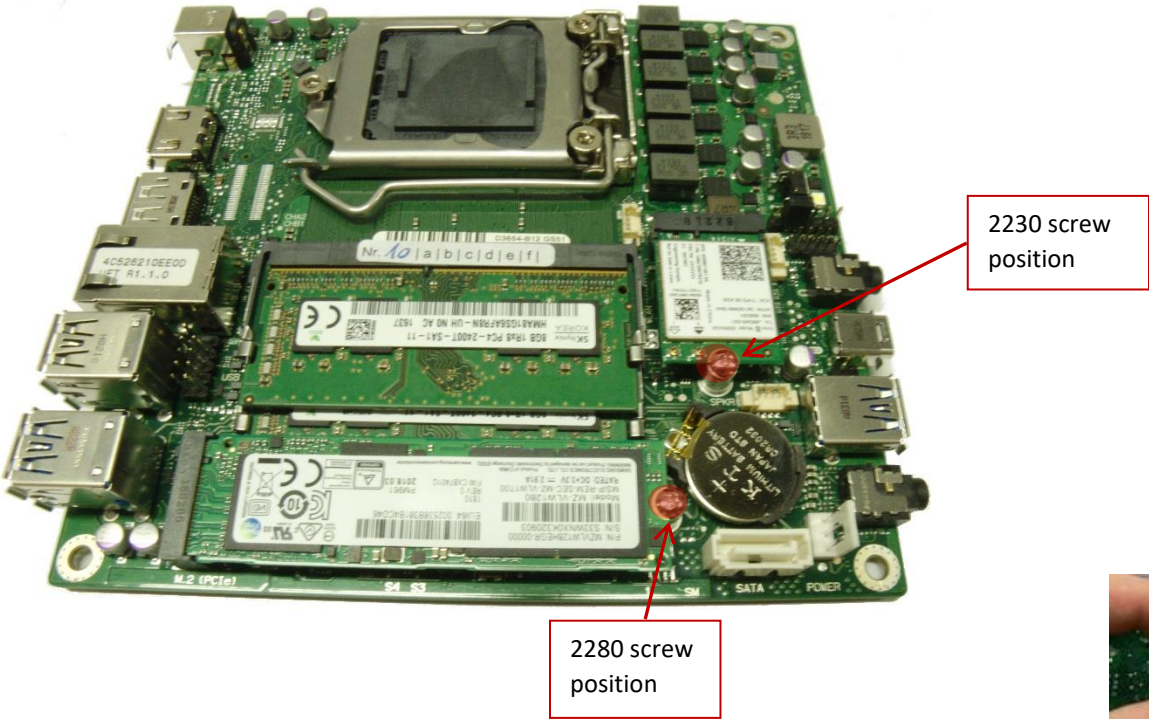
The following procedure is recommended in order to ensure secure electrical contact:

1. First insert the lower memory angular and pay attention to the notch!
2. Remove the memory again completely from the DIMM socket!
3. Insert memory again
4. Press down the memory until it fits
5. Do not press in the middle of the memory, but press down on the outer edges only
6. Install the upper memory in the same way as the lower one



WLAN Module / M.2 Module Assembly

First remove the M.2 mounting screws.



Pay attention to the notch

Insert M.2 modules angular into the socket (while paying attention to the coding / notch).

Both modules, as shown in the picture, have to be touched on the outer edges only.

For the M.2 Key M SSD (2280) and M.2 Key E WLAN/BT (2230), the assembly nuts and screws are pre-installed.

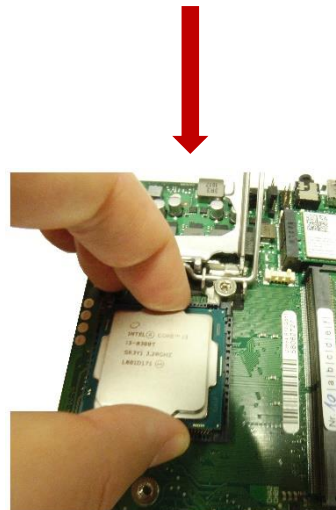
Mandatory torque for the M.2 screw is 0.2Nm.

Step 3: Processor Assembly

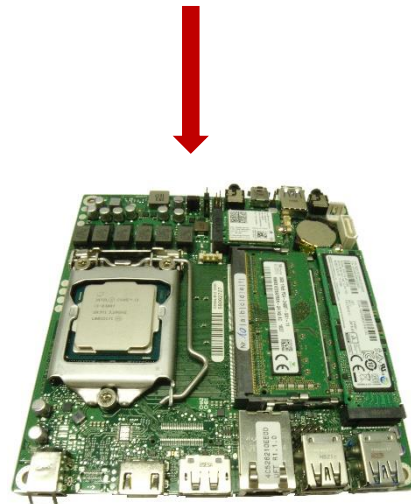
First open the CPU socket and remove the socket protection.



Then insert the CPU.
Consider the mechanical coding of the CPU.



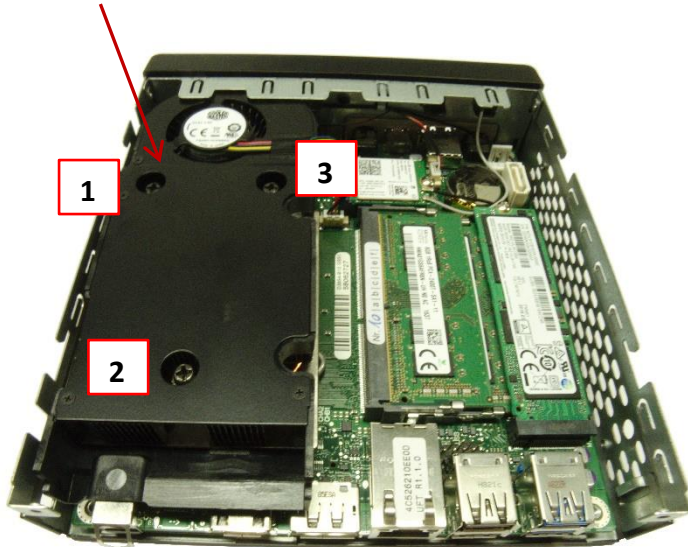
After installing the CPU close the socket carefully.



Step 4 Installing the Heatsink

Kontron provides an active heatsink solution for SMARTCASE S520.

Active Heatsink F5000-C012



- Hold the heatsink with one hand so that it doesn't tilt while installing the screws
- Assemble all 3 screws according to the order shown. Each screw can be tightened immediately!

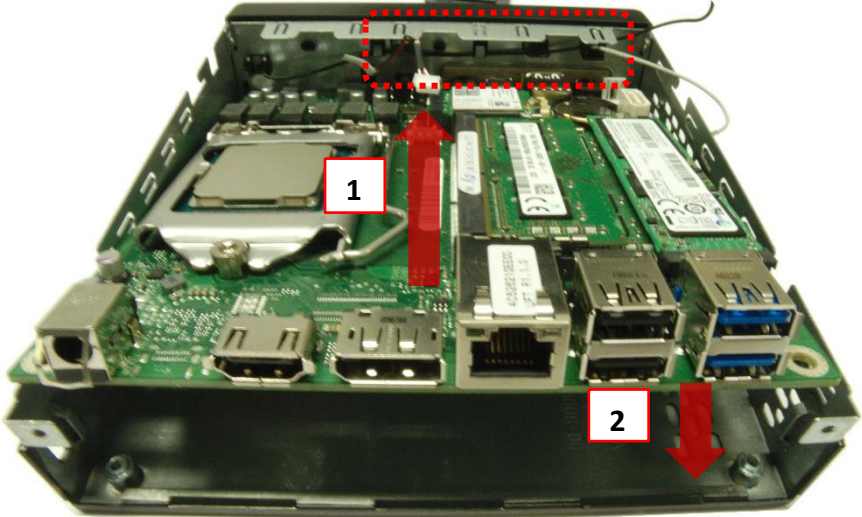
Recommended mounting torque for heatsink screws: 0.6Nm (max. 0.8Nm)

Active heatsink positioning:

Heatsink must be positioned according to the picture

Step 5 Motherboard Assembly

Note: Before assembling the motherboard into the chassis, it is recommended to install the optional onboard components like heatsink, memory, M.2 modules, etc.

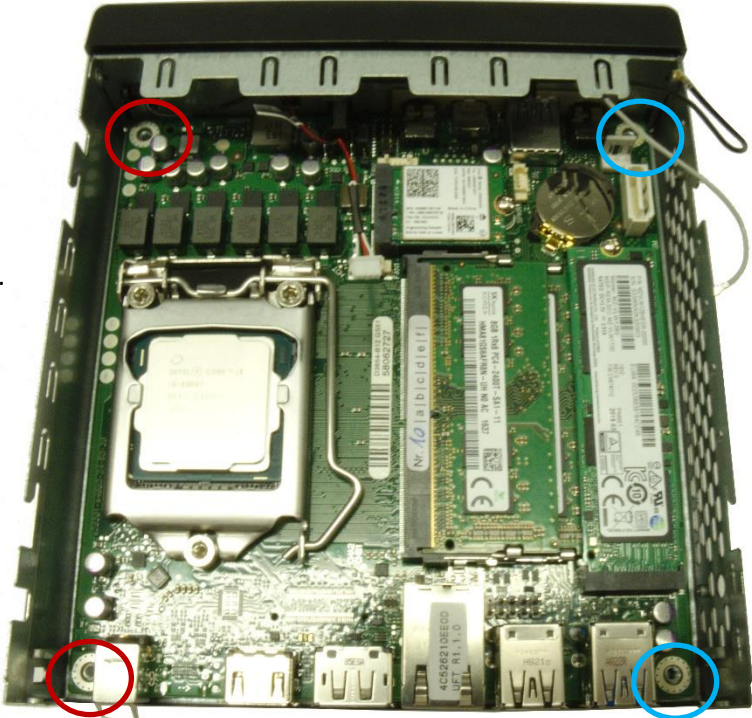


1. Slide in the motherboard carefully below the power button towards the front I/O apertures (red marking)
2. Move the motherboard carefully down to the final position

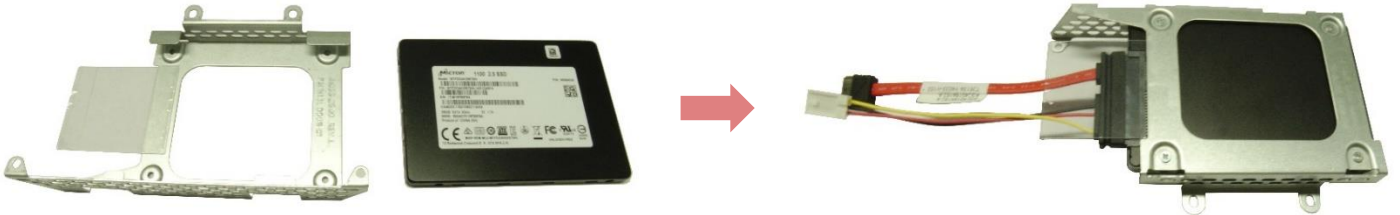
Take care that the thermal pad and the EMI gaskets stay in the correct position.

Push down the mainboard carefully while the four mounting holes fit onto the chassis nuts. Assemble only the red marked mounting screws if you intend to install the HDD carrier. Without HDD carrier, all four screws (M3x4.5) can be assembled immediately.

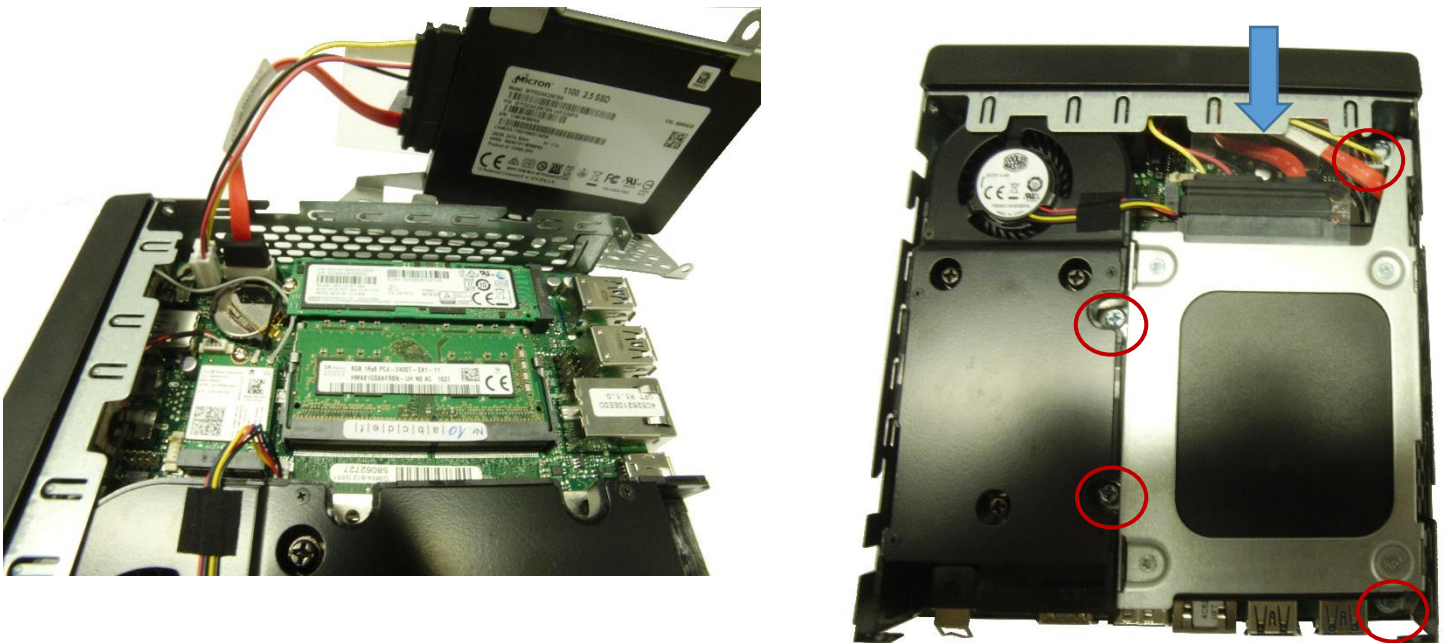
Mandatory torque = 0.6Nm



Installing HDD Carrier (optional)



Install the SSD into the carrier with four M3x3.5 screws (**Mandatory torque = 0.25Nm**) and plug in the SATA/Power connectors.



Plug the SATA and power cable to the onboard connectors. Then insert the HDD carrier carefully into the chassis, and assemble the four screws M3x4.5 (see red circles). **Mandatory torque = 0.6Nm**

NOTE: Consider the WLAN antenna cables (if available) when installing the HDD carrier. The protection foil of the HDD carrier has to be below the chassis metal (blue arrow) in order to protect the cables when closing the chassis.

Installing WLAN Antennas (optional)

Please check the color-coding of the antennas. On the chassis front side the antenna bays are marked *black* respectively *gray*.

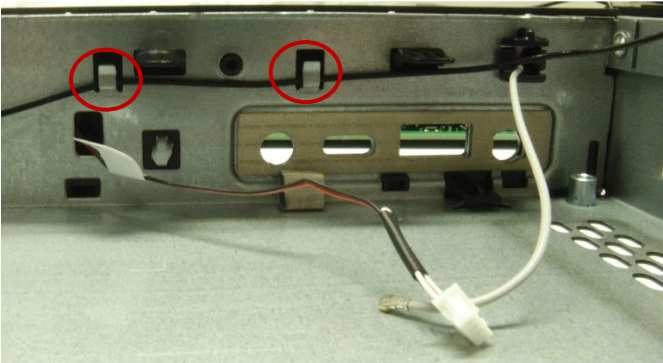
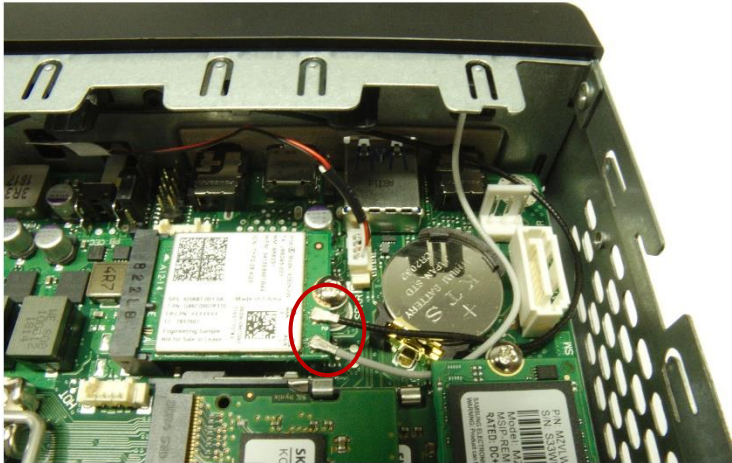
Please note that the plastic front bezel has to be removed first.



Push the antenna cables completely through the opening in the housing and pay attention to the antenna cable notch (see red circles).

Carefully install the WLAN antennas. The metal plate must not be bent.

Insert the black antenna cable in the hooks (see red circles), and then plug the black antenna cable to socket #1 of the M.2 WLAN module. Plug the gray antenna cable to socket #2.

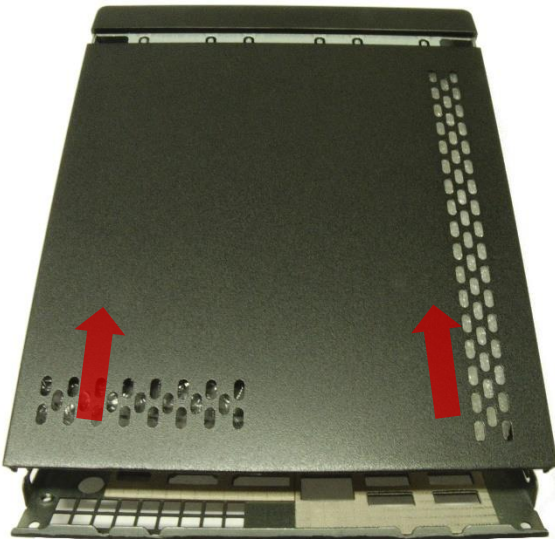


Note: Consider correct installation / positioning of the antenna cables in order to avoid possible collision with the SATA and SATA Power connector

Step 6 Closing the Chassis



Slide the cover on top of the chassis while pushing it forward. Some pressure may be required.



Close the chassis rear cover using the screws (M2.5 x 6) included in the SMARTCASE chassis kit.

Mandatory torque: 0.4Nm

Note:

As the motherboard D3664-B provides an additional rear USB type-C port, a different rear chassis wall is required for SMARTCASE S520.

This chassis wall (K1056-B520) is included in the D3664-B motherboard delivery kit.



Step 7 Adding Stands

The chassis kit includes a desk stand for vertical use and four rubber feet for horizontal use.



Assemble the two M2.5x6.0 screws (0.4Nm) for the desk stand (blue) or the four screws M3x5 (0.4Nm) for the rubber feet (red).

About Kontron

Kontron is a global leader in IoT/Embedded Computing Technology (ECT). As a part of technology group S&T, Kontron, together with its sister company S&T Technologies, offers a combined portfolio of secure hardware, middleware and services for Internet of Things (IoT) and Industry 4.0 applications. With its standard products and tailor-made solutions based on highly reliable state-of-the-art embedded technologies, Kontron provides secure and innovative applications for a variety of industries. As a result, customers benefit from accelerated time-to-market, reduced total cost of ownership, product longevity and the best fully integrated applications overall.

For more information, please visit: www.kontron.com



Global Headquarters

Kontron Europe GmbH

Gutenbergstraße 2
85737 Ismaning, Germany
Tel.: + 49 821 4086 0
Fax: + 49 821 4086 111
pcmb-sales@kontron.com