



HOCHSCHULE
HANNOVER
UNIVERSITY OF
APPLIED SCIENCES
AND ARTS

Dell Latitude

Zielgruppe: Techniker mit den Kenntnissen, Erfahrungen und Werkzeugen
für die Reparatur elektronischer Geräte

Überarbeitung als Mockup anhand der ITR-Empfehlungen

Globale Struktur

G1-G4– Deckblatt (Original)

Latitude 7440

Service Manual

**Regulatory Model: P174G/P176G/P175G
Regulatory Type: P174G001/P176G001/P175G001
March 2023
Rev. A00**

G1-G4 – Inhaltsverzeichnis (Überarbeitung)

Latitude 7440

Service Manual



Bild hinzugefügt

Regulatory Model: P174G/P176G/P175G
Regulatory Type: P174G001/P176G001/P175G001
March 2023
Rev. A00

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G5 – Inhaltsverzeichnis (Original)

Auszug

Contents

Chapter 1: Working inside your computer.....	6
Safety instructions.....	6
Before working inside your computer.....	6
Safety precautions.....	7
Electrostatic discharge—ESD protection.....	7
ESD field service kit	8
Transporting sensitive components.....	9
After working inside your computer.....	9
BitLocker.....	9
 Chapter 2: Removing and installing components.....	 10
Recommended tools.....	10
Screw list.....	10
Major components of Latitude 7440.....	11
NanoSIM-card tray.....	13
Removing the nanoSIM-card tray	13
Installing the nanoSIM-card tray	13
Base cover.....	14
Removing the base cover	14
Installing the base cover	16
Solid-state drive.....	18
Removing the M.2 2230 solid-state drive.....	18
Installing the M.2 2230 solid-state drive.....	19
.....	22

G5 – Inhaltsverzeichnis (Überarbeitung)

Auszug

Contents

Chapter 1: Working inside your computer.....	6
Safety instructions.....	6
Before working inside your computer.....	6
Safety precautions.....	7
Electrostatic discharge—ESD protection.....	7
ESD field service kit	8
Transporting sensitive components.....	9
After working inside your computer.....	9
BitLocker.....	9
 Chapter 2: Removing and installing components.....	10
Recommended tools.....	10
Screw list.....	10
Major components of Latitude 7440.....	11
NanoSIM-card tray.....	13
Removing the nanoSIM-card tray	13
Installing the nanoSIM-card tray	13
Base cover.....	14
Removing the base cover	14
Installing the base cover	16
Solid-state drive.....	18
Removing the M.2 2230 solid-state drive.....	18
Installing the M.2 2230 solid-state drive.....	19
...	20
Chapter XY: Disposal	20

Entsorgung
hinzugefügt

G6 – Sicherheitshinweise (Original)

Nur ein Auszug
aus dem Kapitel!

1

Working inside your computer

Safety instructions

Use the following safety guidelines to protect your computer from potential damage and to ensure your personal safety. Unless otherwise noted, each procedure included in this document assumes that you have read the safety information that shipped with your computer.

WARNING: Before working inside your computer, read the safety information that is shipped with your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

WARNING: Disconnect your computer from all power sources before opening the computer cover or panels. After you finish working inside the computer, replace all covers, panels, and screws before connecting your computer to an electrical outlet.

CAUTION: To avoid damaging the computer, ensure that the work surface is flat, dry, and clean.

CAUTION: To avoid damaging the components and cards, handle them by their edges, and avoid touching the pins and the contacts.

CAUTION: You should only perform troubleshooting and repairs as authorized or directed by the Dell technical assistance team. Damage due to servicing that is not authorized by Dell is not covered by your warranty. See the safety instructions that is shipped with the product or at www.dell.com/regulatory_compliance.

CAUTION: Before touching anything inside your computer, ground yourself by touching an unpainted metal surface, such as the metal at the back of the computer. While you work, periodically touch an unpainted metal surface to dissipate static electricity which could harm internal components.

CAUTION: When you disconnect a cable, pull it by its connector or its pull tab, not the cable itself. Some cables have connectors with locking tabs or thumbscrews that you must disengage before disconnecting the cable. When disconnecting cables, keep them evenly aligned to avoid bending the connector pins. When connecting cables, ensure that the ports and the connectors are correctly oriented and aligned.

CAUTION: Press and eject any installed card from the media-card reader.

CAUTION: Exercise caution when handling Lithium-ion batteries in laptops. Swollen batteries should not be used and should be replaced and disposed properly.

NOTE: The color of your computer and certain components may appear differently than shown in this document.

Before working inside your computer

Steps

1. Save and close all open files and exit all open applications.
2. Shut down your computer. For Windows operating system, click **Start** > **Power** > **Shut down**.

NOTE: If you are using a different operating system, see the documentation of your operating system for shut-down instructions.

G6 – Sicherheitshinweise (Überarbeitung)


Nur ein Auszug
aus dem Kapitel!

1

Working inside your computer


Safety instructions


Use the following safety guidelines to protect your computer from potential damage and to ensure your personal safety. Unless otherwise noted, each procedure included in this document assumes that you have read the safety information that shipped with your computer.


 **WARNING:** Death is possible


 **CAUTION:** Serious Harm is possible


Erklärung der
Warnungen
hinzugefügt


 **WARNING:** Before working inside your computer, read the safety information that is shipped with your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.


 **WARNING:** Disconnect your computer from all power sources before opening the computer cover or panels. After you finish working inside the computer, replace all covers, panels, and screws before connecting your computer to an electrical outlet.

 **CAUTION:** To avoid damaging the computer, ensure that the work surface is flat, dry, and clean.

 **CAUTION:** To avoid damaging the components and cards, handle them by their edges, and avoid touching the pins and the contacts.

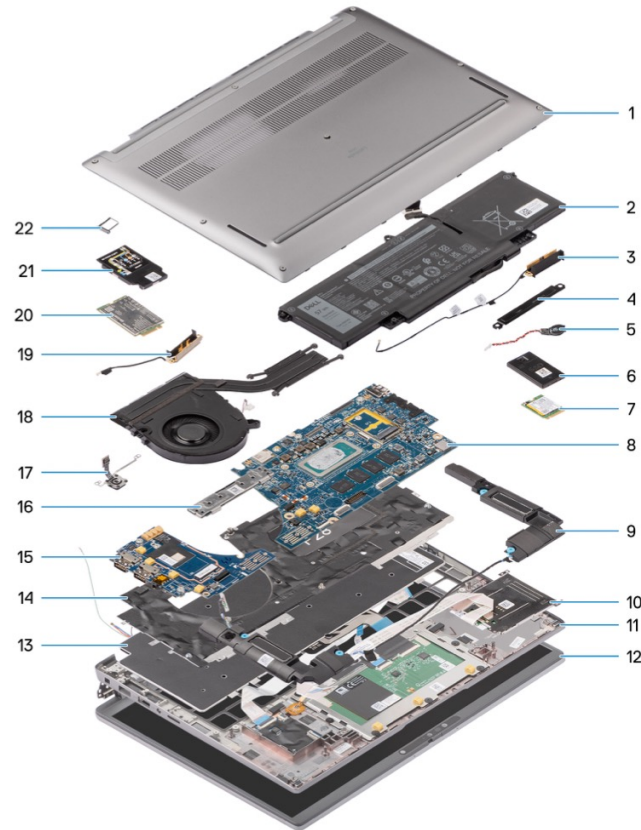
 **CAUTION:** You should only perform troubleshooting and repairs as authorized or directed by the Dell technical assistance team. Damage due to servicing that is not authorized by Dell is not covered by your warranty. See the safety instructions that is shipped with the product or at www.dell.com/regulatory_compliance.

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 **CAUTION:** Press and eject any installed card from the media-card reader.

G8 – Produktübersicht (Original) (keine Änderungen)



1. Base cover
3. Right antenna
5. Coin-cell battery
7. Solid-state drive
9. Right speaker
11. Palm-rest and keyboard assembly
13. Keyboard
15. IO Daughterboard
17. Fingerprint reader
19. Left antenna
21. WWAN card

2. Battery
4. Bracket
6. Solid-state drive shield
8. System board
10. Smartcard reader
12. Display assembly
14. Keyboard bracket
16. System board connector
18. Thermal module
20. WWAN card shield
22. SIM card tray

G9 – Allgemeine Werkzeugliste (Original)

Recommended tools

The procedures in this document may require the following tools:

- Phillips screwdriver #0
- Phillips screwdriver #1
- Plastic scribe

G9 – Allgemeine Werkzeugliste (Überarbeitung)

Nur ein Auszug
aus dem Kapitel!

Recommended tools

The procedures in this document may require the following tools:

- Phillips screwdriver #0
- Phillips screwdriver #1
- Plastic scribe

You can buy these tool here: <https://www.toolshop.com>

Kaufmöglichkeit
verlinken







G10 –Ersatzteilliste (Original) (keine Änderungen)

Nur ein Auszug
aus dem Kapitel!

Screw list

- ① **NOTE:** When removing screws from a component, it is recommended to note the screw type, the quantity of screws, and then place them in a screw storage box. This is to ensure that the correct number of screws and correct screw type is restored when the component is replaced.
- ① **NOTE:** Some computers have magnetic surfaces. Ensure that the screws are not left attached to such surfaces when replacing a component.
- ① **NOTE:** Screw color may vary with the configuration ordered.

Table 1. Screw list

Component	Screw type	Quantity	Screw image
Base cover	Captive screw	8	
Solid-state drive	M2x4	1	
M.2 SSD shielding cover	M2x4	1	
WWAN card	M2x2.5	1	
4-cell battery	Captive screw	4	
Heat sink	M2x4 Captive screw	2	
SIM-card tray bracket	M2x2	1	
WLAN-antenna module	M1.6x2.5	4	







G10 –Ersatzteilliste (Überarbeitung)

Nur ein Auszug
aus dem Kapitel!

Screw list

- ① **NOTE:** When removing screws from a component, it is recommended to note the screw type, the quantity of screws, and then place them in a screw storage box. This is to ensure that the correct number of screws and correct screw type is restored when the component is replaced.
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Heat sink	M2x4 Captive screw	2	
SIM-card tray bracket	M2x2	1	
WLAN-antenna module	M1.6x2.5	4	

Kaufmöglichkeit
verlinken

You can buy screws here: <https://www.screwshop.com>

Aufgabenspezifische KAPITELSTRUKTUR

K1 bis K13 – Kapitel: Systemboard (Original)

Nur ein Auszug
aus dem Kapitel!

System board

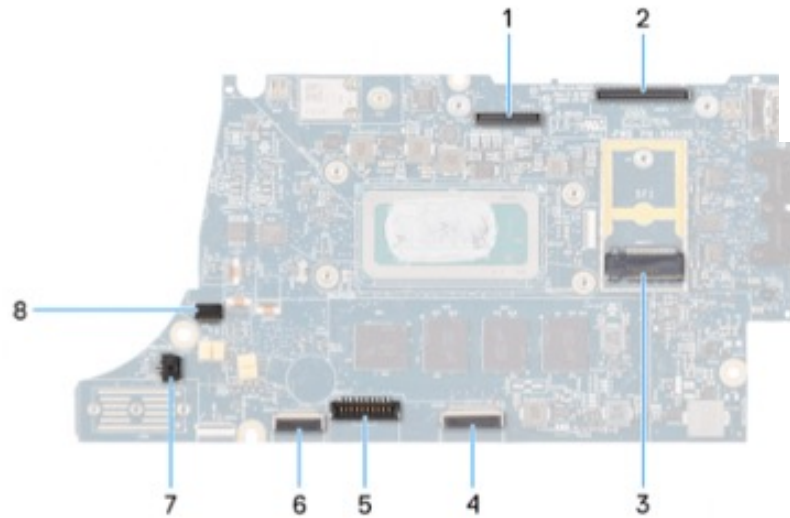
Removing the system board

Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [base cover](#).
3. Remove the [M.2 2230 solid-state drive](#).
4. Remove the [2-cell battery](#) or the [3-cell battery](#), whichever is applicable.
5. Remove the [heat-sink](#).

About this task

The following image indicates the connectors on your system board.



1. LCD connector
2. Touchscreen and IR-camera cable connector
3. M.2 solid-state drive connector
4. Clickpad FFC connector
5. Battery cable connector
6. USB daughter-board FFC connector
7. Coin-cell battery cable connector
8. Fan connector

NOTE: For computers shipped without a WWAN card, a 4G/5G WWAN shielding cover and WWAN bracket (for 4G WWAN card) is pre-installed to the computer. As a result, follow the steps in the WWAN card removal/installation section to remove the WWAN shielding cover and WWAN bracket before removing the system board.

The following images indicate the location of the system board and provide a visual representation of the removal procedure.

K1 bis K13 – Kapitel: Batterie (Überarbeitung)

Nur ein Auszug
aus dem Kapitel!

System board

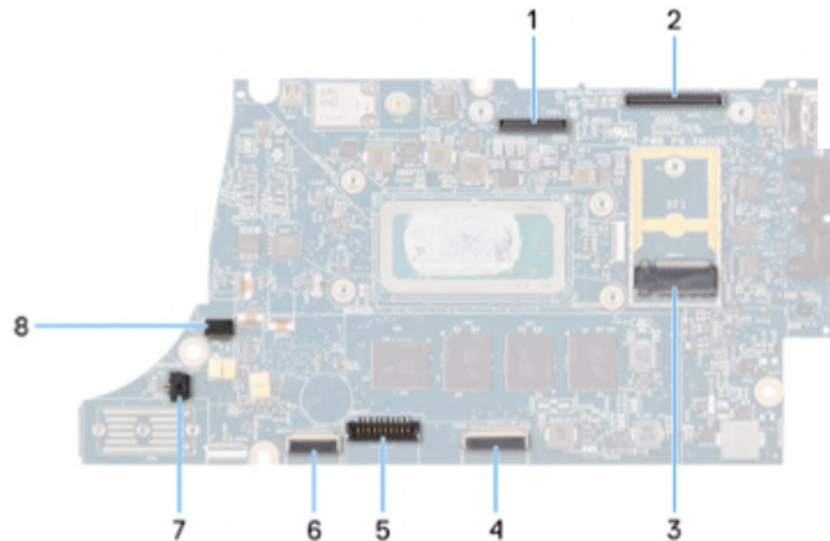
Removing the system board

Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [base cover](#).
3. Remove the [M.2 2230 solid-state drive](#).
4. Remove the [2-cell battery](#) or the [3-cell battery](#), whichever is applicable.
5. Remove the [heat-sink](#).

About this task

The following image indicates the connectors on your system board.



1. LCD connector
2. Touchscreen and IR-camera cable connector
3. M.2 solid-state drive connector
4. Clickpad FFC connector
5. Battery cable connector
6. USB daughter-board FFC connector
7. Coin-cell battery cable connector
8. Fan connector

NOTE: For computers shipped without a WWAN card, a 4G/5G WWAN shielding cover and WWAN bracket (for 4G WWAN card) is pre-installed to the computer. As a result, follow the steps in the WWAN card removal/installation section to remove the WWAN shielding cover and WWAN bracket before removing the system board.

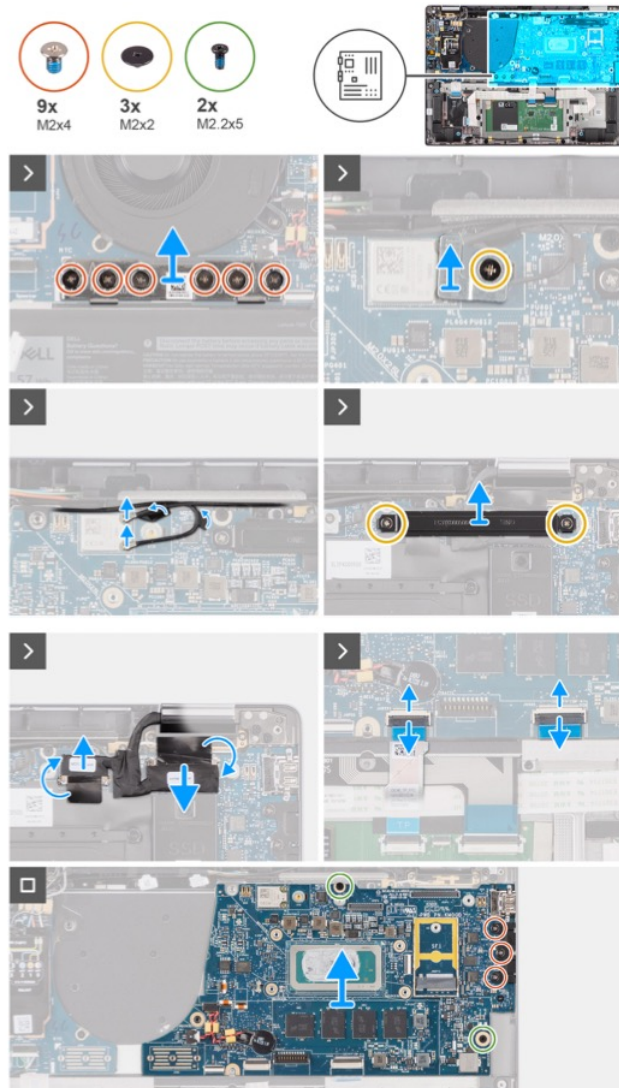
The following images indicate the location of the system board and provide a visual representation of the removal procedure.

Schwierigkeit: Mittel

Zeitaufwand: ca. 20 Minuten

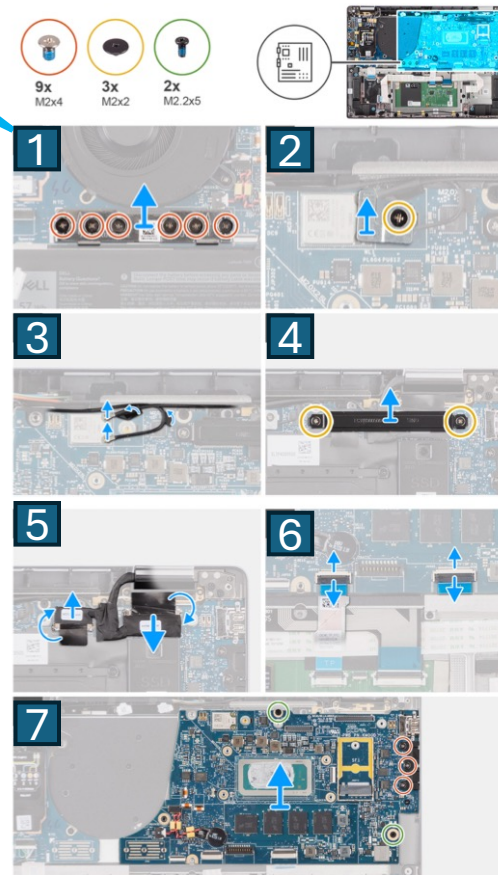
Schwierigkeit
und Zeitaufwand
hinzugefügt
(optional)

K1 bis K13 – Bilder (Original)



K1 bis K13 – Kapitel: Batterie (Überarbeitung)

Schrittfolge
nummerieren

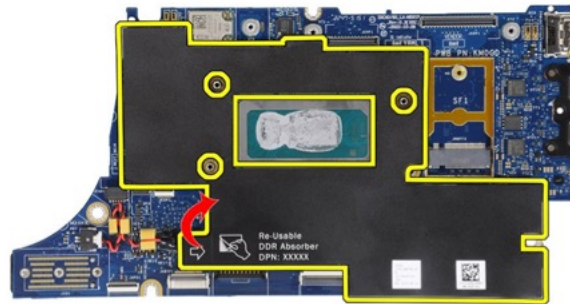


K14 bis K18 – Kapitel: Systemboard / Steps (Original)

Steps

1. Remove the single screw (M2x2) screw securing the WLAN module bracket in place.
2. Remove the WLAN module bracket from the system.
3. Disconnect the WLAN Main and Aux antenna from the WLAN module.
4. Remove the two screws (M2x2) securing the display cable bracket on the system board.
5. Remove the display cable bracket from the system.
6. Remove the six screws (M2x4) securing the I/O daughter-board bridge connector board in place.
7. Remove the I/O daughter-board bridge connector board from the system.
 - ① **NOTE:** When re-installing the I/O daughter-board bridge connector board align the connector so that the arrows etched on the connector are pointed upward toward heat sink & fan assembly.
 - ① **NOTE:** When re-installing the I/O daughter-board bridge connector board secure the six screws (M2x4) in sequential order (1 > 2 > 3 > 4 > 5 > 6) marked on the FPC.
8. Disconnect the (1) camera cable, (2) display cable, (3) clickpad flexible flat cable, and (4) USH daughter board flexible flat cable (for models shipped with a USH daughter board) from the system board.
9. Remove the two screws (M2.2x5) and three screws (M2x4) securing the system board in place.
10. Remove the system board from the system.
 - ① **NOTE:**
 - For Latitude 7440 laptop models with a 5G WWAN card, if replacing the system board, peel off the CPU absorber sticker and transfer it over to the new system board.
 - For Latitude 7440 2-in-1 models with WLAN/WWAN configuration, if replacing the system board, peel off the CPU absorber sticker and transfer it over to the new system board.
11. Carefully lift and remove the system board away from the palm-rest and keyboard assembly.
 - ① **NOTE:** For the systems supporting 5G configuration, the CPU absorber sticker adhered to the system board must be peeled off and transferred over to the replacement system board.

CPU absorber

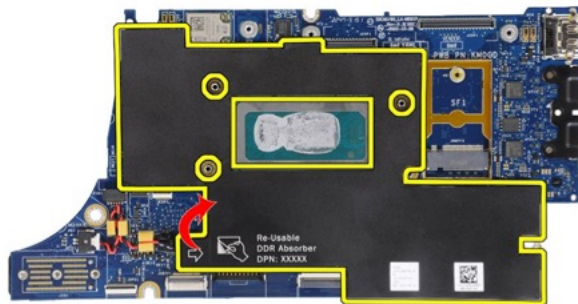


K14 bis K18 – Kapitel: Batterie (Überarbeitung)

Steps

1. Remove the single screw (M2x2) screw securing the WLAN module bracket in place.
2. Remove the WLAN module bracket from the system.
3. Disconnect the WLAN Main and Aux antenna from the WLAN module.
4. Remove the two screws (M2x2) securing the display cable bracket on the system board.
5. Remove the display cable bracket from the system.
6. Remove the six screws (M2x4) securing the I/O daughter-board bridge connector board in place.
7. Remove the I/O daughter-board bridge connector board from the system.
 - NOTE:** When re-installing the I/O daughter-board bridge connector board align the connector so that the arrows etched on the connector are pointed upward toward heat sink & fan assembly.
 - NOTE:** When re-installing the I/O daughter-board bridge connector board secure the six screws (M2x4) in sequential order (1 > 2 > 3 > 4 > 5 > 6) marked on the FPC.
8. Disconnect the (1) camera cable, (2) display cable, (3) clickpad flexible flat cable, and (4) USH daughter board flexible flat cable (for models shipped with a USH daughter board) from the system board.
9. Remove the two screws (M2.2x5) and three screws (M2x4) securing the system board in place.
10. Remove the system board from the system.
 - NOTE:**
 - For Latitude 7440 laptop models with a 5G WWAN card, if replacing the system board, peel off the CPU absorber sticker and transfer it over to the new system board.
 - For Latitude 7440 2-in-1 models with WLAN/WWAN configuration, if replacing the system board, peel off the CPU absorber sticker and transfer it over to the new system board.
11. Carefully lift and remove the system board away from the palm-rest and keyboard assembly.
 - NOTE:** For the systems supporting 5G configuration, the CPU absorber sticker adhered to the system board must be peeled off and transferred over to the replacement system board.

CPU absorber



Result: Systemboard is removed.

Resultat hinzugefügt
und Verknüpfung zur
Entsorgung

For the disposal of the systemboard look at the chapter: [disposal](#).

Quellenverzeichnis

Dell Technologies. "Dell Latitude 7440 Service Manual." Dell Latitude Service Manual, 2023.
<https://cdn.competec.ch/documents2/8/4/6/291806648/291806648.pdf>.