

# Lenovo MIIX 320-10ICR Hardware Maintenance Manual

**Note:**

Before using this information and the product it supports, be sure to read the general information under “Notices” on page 54.

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# Contents

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|                                                                         |           |                                          |           |
|-------------------------------------------------------------------------|-----------|------------------------------------------|-----------|
| <b>About this manual .....</b>                                          | <b>iv</b> | 1100 LTE module (on select models) ..... | 42        |
| <b>Safety information .....</b>                                         | <b>1</b>  | 1110 System board .....                  | 43        |
| General safety .....                                                    | 2         | <b>Locations .....</b>                   | <b>45</b> |
| Electrical safety .....                                                 | 3         | Tablet front view .....                  | 45        |
| Safety inspection guide .....                                           | 5         | Tablet rear view .....                   | 46        |
| Handling devices that are sensitive to<br>electrostatic discharge ..... | 6         | Keyboard dock .....                      | 47        |
| Grounding requirements .....                                            | 6         | <b>Parts list .....</b>                  | <b>48</b> |
| Safety notices: multilingual translations .....                         | 7         | Overall .....                            | 49        |
| Laser compliance statement .....                                        | 14        | Screws .....                             | 53        |
| <b>Important service information .....</b>                              | <b>16</b> | <b>Notices .....</b>                     | <b>54</b> |
| Strategy for replacing FRUs .....                                       | 16        | Trademarks .....                         | 55        |
| Important notice for replacing a system<br>board .....                  | 17        |                                          |           |
| Important information about replacing<br>RoHS compliant FRUs .....      | 18        |                                          |           |
| <b>General checkout .....</b>                                           | <b>19</b> |                                          |           |
| What to do first .....                                                  | 20        |                                          |           |
| Power system checkout .....                                             | 21        |                                          |           |
| Checking the AC adapter .....                                           | 21        |                                          |           |
| Checking operational charging .....                                     | 21        |                                          |           |
| <b>Related service information .....</b>                                | <b>23</b> |                                          |           |
| Restoring the factory contents by using<br>the Recovery system .....    | 23        |                                          |           |
| Restore of factory default .....                                        | 23        |                                          |           |
| Passwords .....                                                         | 24        |                                          |           |
| Power-on password .....                                                 | 24        |                                          |           |
| Supervisor password .....                                               | 24        |                                          |           |
| Power management .....                                                  | 25        |                                          |           |
| Screen blank mode .....                                                 | 25        |                                          |           |
| Sleep (standby) mode .....                                              | 25        |                                          |           |
| <b>Lenovo MIIX 320-10ICR .....</b>                                      | <b>26</b> |                                          |           |
| Specifications .....                                                    | 26        |                                          |           |
| Status indicators .....                                                 | 27        |                                          |           |
| Function key combinations (located on<br>the keyboard dock) .....       | 28        |                                          |           |
| FRU replacement notices .....                                           | 29        |                                          |           |
| Screw notices .....                                                     | 29        |                                          |           |
| Removing and replacing an FRU .....                                     | 30        |                                          |           |
| 1010 Micro SD/Nano SIM card tray .....                                  | 31        |                                          |           |
| 1020 Base cover .....                                                   | 32        |                                          |           |
| 1030 LCD cable .....                                                    | 35        |                                          |           |
| 1040 Pogo cable .....                                                   | 36        |                                          |           |
| 1050 Pogo bracket .....                                                 | 37        |                                          |           |
| 1060 Front camera and rear camera .....                                 | 38        |                                          |           |
| 1070 Power board .....                                                  | 39        |                                          |           |
| 1080 Speakers .....                                                     | 40        |                                          |           |
| 1090 Audio board .....                                                  | 41        |                                          |           |

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## About this manual

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This manual contains service and reference information for the following Lenovo product:

**Lenovo MIIX 320-10ICR**

Use this manual to troubleshoot problems.

The manual is divided into the following sections:

- The common sections provide general information, guidelines, and safety information required for servicing computers.
- The product-specific section includes service, reference, and product-specific parts information.

**Important:**

This manual is intended only for trained servicers who are familiar with Lenovo products. Use this manual to troubleshoot problems effectively.

Before servicing a Lenovo product, make sure to read all the information under “Safety information” on page 1 and “Important service information” on page 16.

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## **Safety information**

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This chapter presents the following safety information that you need to get familiar with before you service a Lenovo MIIX 320-10ICR computer:

- “General safety” on page 2
- “Electrical safety” on page 3
- “Safety inspection guide” on page 5
- “Handling devices that are sensitive to electrostatic discharge” on page 6
- “Grounding requirements” on page 6
- “Safety notices: multilingual translations” on page 7
- “Laser compliance statement” on page 14

## General safety

Follow these rules below to ensure general safety:

- Observe a good housekeeping in the area where the machines are put during and after the maintenance.
- When lifting any heavy object:
  1. Make sure that you can stand safely without slipping.
  2. Distribute the weight of the object equally between your feet.
  3. Use a slow lifting force. Never move suddenly or twist when you attempt to lift it.
  4. Lift it by standing or pushing up with your leg muscles; this action could avoid the strain from the muscles in your back. Do not attempt to lift any object that weighs more than 16 kg (35 lb) or that you think is too heavy for you.
- Do not perform any action that causes hazards to the customer, or that makes the machine unsafe.
- Before you start the machine, make sure that other service representatives and the customer are not in a hazardous position.
- Place removed covers and other parts in a safe place, keeping them away from all personnel, while you are servicing the machine.
- Keep your toolcase away from walk areas so that other people will not trip it over.
- Do not wear loose clothing that can be trapped in the moving parts of the machine. Make sure that your sleeves are fastened or rolled up above your elbows. If your hair is long, fasten it.
- Insert the ends of your necktie or scarf inside clothing or fasten it with the nonconductive clip, about 8 centimeters (3 inches) from the end.
- Do not wear jewelry, chains, metal-frame eyeglasses, or metal fasteners for your clothing.

**Attention:** Metal objects are good electrical conductors.
- Wear safety glasses when you are hammering, drilling, soldering, cutting wire, attaching springs, using solvents, or working in any other conditions that may be hazardous to your eyes.
- After service, reinstall all safety shields, guards, labels, and ground wires. Replace any safety device that is worn or defective.
- Reinstall all covers correctly before returning the machine to the customer.
- Fan louvers on the machine help to prevent the overheating of internal components. Do not obstruct fan louvers or cover them with labels or stickers.

## Electrical safety

Observe the following rules when working on electrical equipments.

### Important:

Use only approved tools and test equipments. Some hand tools have handles covered with a soft material that does not insulate you when working with live electrical currents.

Many customers have rubber floor mats near their machines that contain small conductive fibers to decrease electrostatic discharges. Do not use such kind of mat to protect yourself from electrical shock.

- Find the room emergency power-off (EPO) switch, disconnecting the switch or electrical outlet. If an electrical accident occurs, you can then operate the switch or unplug the power cord quickly.
- Do not work alone under hazardous conditions or near the equipment that has hazardous voltages.
- Disconnect all power before:
  - Performing a mechanical inspection
  - Working near power supplies
  - Removing or installing main units
- Before you start to work on the machine, unplug the power cord. If you cannot unplug it, ask the customer to power-off the wall box that supplies power to the machine, and to lock the wall box in the off position.
- If you need to work on a machine that has exposed electrical circuits, observe the following precautions:
  - Ensure that another person, familiar with the power-off controls, is near you.
 

**Attention:** Another person must be there to switch off the power, if necessary.
  - Use only one hand when working with powered-on electrical equipment; keep the other hand in your pocket or behind your back.
 

**Attention:** An electrical shock can occur only when there is a complete circuit. By observing the above rule, you may prevent a current from passing through your body.
  - When using testers, set the controls correctly and use the approved probe leads and accessories for that tester.
  - Stand on suitable rubber mats (obtained locally, if necessary) to insulate you from grounds such as metal floor strips and machine frames.

Observe the special safety precautions when you work with very high voltages; instructions for these precautions are in the safety sections of maintenance information. Be extremely careful when you measure the high voltages.

- Regularly inspect and maintain your electrical hand tools for safe operational condition.
- Do not use worn or broken tools and testers.
- Never assume that power has been disconnected from a circuit. First, check it to make sure that it has been powered off.

- Always look carefully for possible hazards in your work area. Examples of these hazards are moist floors, nongrounded power extension cables, power surges, and missing safety grounds.
- Do not touch live electrical circuits with the reflective surface of a plastic dental mirror. The surface is conductive; such touching can cause personal injury and machine damage.
- Do not service the following parts with the power on when they are removed from their normal operating places in a machine:
  - Power supply units
  - Pumps
  - Blowers and fans
  - Motor generatorsand similar units. (This practice ensures correct grounding of the units.)
- If an electrical accident occurs:
  - Caution: do not become a victim yourself.
  - Switch off the power.
  - Send the victim to get medical aid.

## **Safety inspection guide**

The purpose of this inspection guide is to assist you in identifying potential unsafe conditions. As each machine was designed and built, required safety items were installed to protect users and service personnel from injury. This guide addresses only those items. You should use good judgment to identify potential safety hazards according to the attachment of non-Lenovo features or options not covered by this inspection guide.

If any unsafe conditions are present, you must determine how serious the apparent hazard could be and whether you can continue without first correcting the problem.

Consider these conditions and the safety hazards they present:

- Electrical hazards, especially primary power (primary voltage on the frame can cause serious or fatal electrical shock)
- Explosive hazards, such as a damaged CRT face or a bulging capacitor
- Mechanical hazards, such as loose or missing hardware

To determine whether there are any potential unsafe conditions, use the following checklist at the beginning of every service task. Begin the checks with the power off, and the power cord disconnected.

Checklist:

1. Check exterior covers for damage (loose, broken, or sharp edges).
2. Turn off the computer. Disconnect the power cord.
3. Check the power cord for:
  - a. A third-wire ground connector in good condition. Use a meter to measure third-wire ground continuity for 0.1 ohm or less between the external ground pin and the frame ground.
  - b. The power cord should be the type specified in the parts list.
  - c. Insulation must not be frayed or worn.
4. Check for cracked or bulging batteries.
5. Remove the cover.
6. Check for any obvious non-Lenovo alterations. Use good judgment as to the safety of any non-Lenovo alterations.
7. Check inside the unit for any obvious unsafe conditions, such as metal filings, contamination, water or other liquids, or signs of fire or smoke damage.
8. Check for worn, frayed, or pinched cables.
9. Check that the power-supply cover fasteners (screws or rivets) have not been removed or tampered with.

## Handling devices that are sensitive to electrostatic discharge

Any computer part containing transistors or integrated circuits (ICs) should be considered sensitive to electrostatic discharge (ESD). ESD damage can occur when there is a difference in charge between objects. Protect against ESD damage by equalizing the charge so that the machine, the part, the work mat, and the person handling the part are all at the same charge.

### Notes:

1. Use product-specific ESD procedures when they exceed the requirements noted here.
2. Make sure that the ESD protective devices you use have been certified (ISO 9000) as fully effective.

When handling ESD-sensitive parts:

- Keep the parts in protective packages until they are inserted into the product.
- Avoid contact with other people.
- Wear a grounded wrist strap against your skin to eliminate static on your body.
- Prevent the part from touching your clothing. Most clothing is insulative and retains a charge even when you are wearing a wrist strap.
- Use the black side of a grounded work mat to provide a static-free work surface. The mat is especially useful when handling ESD-sensitive devices.
- Select a grounding system, such as those listed below, to provide protection that meets the specific service requirement.

### Note:

The use of a grounding system to guard against ESD damage is desirable but not necessary.

- Attach the ESD ground clip to any frame ground, ground braid, or green-wire ground.
- When working on a double-insulated or battery-operated system, use an ESD common ground or reference point. You can use coax or connector-outside shells on these systems.
- Use the round ground prong of the ac plug on ac-operated computers.

## Grounding requirements

Electrical grounding of the computer is required for operator safety and correct system function. Proper grounding of the electrical outlet can be verified by a certified electrician.

## Safety notices: multilingual translations

The safety notices in this section are provided in English, French, German, Hebrew, Italian, Japanese, and Spanish.

### Safety notice 1

Before the computer is powered on after FRU replacement, make sure all screws, springs, and other small parts are in place and are not left loose inside the computer. Verify this by shaking the computer and listening for rattling sounds. Metallic parts or metal flakes can cause electrical shorts.

Avant de remettre l'ordinateur sous tension après remplacement d'une unité en clientèle, vérifiez que tous les ressorts, vis et autres pièces sont bien en place et bien fixées. Pour ce faire, secouez l'unité et assurez-vous qu'aucun bruit suspect ne se produit. Des pièces métalliques ou des copeaux de métal pourraient causer un court-circuit.

Bevor nach einem FRU-Austausch der Computer wieder angeschlossen wird, muß sichergestellt werden, daß keine Schrauben, Federn oder andere Kleinteile fehlen oder im Gehäuse vergessen wurden. Der Computer muß geschüttelt und auf Klappergeräusche geprüft werden. Metallteile oder-splitter können Kurzschlüsse erzeugen.

לפני הפעלת המחשב לאחר החלפת FRU יש לוודא שכל הברגים, הקפיצים, וחלקים קטנים אחרים נמצאים במקומם ואינם חופשיים לזוז בתוך המחשב. כדי לוודא זאת, יש לטלטל את המחשב ולהקשיב לגילוי קולות שקשוק. חלקי או שבבי מתכת עלולים לגרום לקצרים חשמליים.

Prima di accendere l'elaboratore dopo che é stata effettuata la sostituzione di una FRU, accertarsi che tutte le viti, le molle e tutte le altri parti di piccole dimensioni siano nella corretta posizione e non siano sparse all'interno dell'elaboratore. Verificare ciò scuotendo l'elaboratore e prestando attenzione ad eventuali rumori; eventuali parti o pezzetti metallici possono provocare cortocircuiti pericolosi.

FRUの交換後、コンピュータの電源を入れる前に、ねじ、バネ、その他の小さな部品がすべて正しい位置にあり、またコンピュータの内部で緩んでいないことを確認してください。これを確認するには、コンピュータを振って、カチャカチャと音がしないか確かめます。金属部品や金属破片はショートの原因になることがあります。

Antes de encender el sistema despues de sustituir una FRU, compruebe que todos los tornillos, muelles y demás piezas pequeñas se encuentran en su sitio y no se encuentran sueltas dentro del sistema. Compruébelo agitando el sistema y escuchando los posibles ruidos que provocarían. Las piezas metálicas pueden causar cortocircuitos eléctricos.

## Safety notice 2

### **⚠ DANGER**

Some standby batteries contain a small amount of nickel and cadmium. Do not disassemble a standby battery, recharge it, throw it into fire or water, or short-circuit it. Dispose of the battery as required by local ordinances or regulations. Use only the battery in the appropriate parts listing. Use of an incorrect battery can result in ignition or explosion of the battery.

Certaines batteries de secours contiennent du nickel et du cadmium. Ne les démontez pas, ne les rechargez pas, ne les exposez ni au feu ni à l'eau. Ne les mettez pas en court-circuit. Pour les mettre au rebut, conformez-vous à la réglementation en vigueur. Lorsque vous remplacez la pile de sauvegarde ou celle de l'horloge temps réel, veillez à n'utiliser que les modèles cités dans la liste de pièces détachées adéquate. Une batterie ou une pile inappropriée risque de prendre feu ou d'exploser.

Die Bereitschaftsbatterie, die sich unter dem Diskettenlaufwerk befindet, kann geringe Mengen Nickel und Cadmium enthalten. Sie darf nicht zerlegt, wiederaufgeladen, kurzgeschlossen, oder Feuer oder Wasser ausgesetzt werden. Bei der Entsorgung die örtlichen Bestimmungen für Sondermüll beachten. Beim Ersetzen der Bereitschafts- oder Systembatterie nur Batterien des Typs verwenden, der in der Ersatzteilliste aufgeführt ist. Der Einsatz falscher Batterien kann zu Entzündung oder Explosion führen.

סוללות המתנה מסוימות מכילות כמות קטנה של ניקל וקדמיום. אין לפרק סוללת המתנה, לטעון אותה מחדש, להשליך אותה לאש או למים או לקצר אותה. יש לשלוק את הסוללה כנדרש על ידי התקנות והחוקים המקומיים. יש להשתמש רק בסוללה המופיעה ברשימת החלקים המתאימה. שימוש בסוללה לא מתאימה עלול לגרום להצתה או התפוצצות של הסוללה.

Alcune batterie di riserva contengono una piccola quantità di nichel e cadmio. Non smontarle, ricaricarle, gettarle nel fuoco o nell'acqua né cortocircuitarle. Smaltirle secondo la normativa in vigore (DPR 915/82, successive disposizioni e disposizioni locali). Quando si sostituisce la batteria dell'RTC (real time clock) o la batteria di supporto, utilizzare soltanto i tipi inseriti nell'appropriato Catalogo parti. L'impiego di una batteria non adatta potrebbe determinare l'incendio o l'esplosione della batteria stessa.

予備バッテリーの中には少量のニッケルとカドミウムが含まれているものがあります。したがって、予備バッテリーの分解、再充電、火または水の中への投棄、またはショートさせることは決して行わないでください。バッテリーを廃棄する場合は地方自治体の条例に従ってください。適切なパーツ・リストにあるバッテリーだけを使用してください。誤ったバッテリーを使用すると、バッテリーが発火したり、爆発したりすることがあります。

Algunas baterías de reserva contienen una pequeña cantidad de níquel y cadmio. No las desmonte, ni recargue, ni las eche al fuego o al agua ni las cortocircuite. Deséchelas tal como dispone la normativa local. Utilice sólo baterías que se encuentren en la lista de piezas. La utilización de una batería no apropiada puede provocar la ignición o explosión de la misma.

### Safety notice 3

#### DANGER

The battery pack contains small amounts of nickel. Do not disassemble it, throw it into fire or water, or short-circuit it. Dispose of the battery pack as required by local ordinances or regulations. Use only the battery in the appropriate parts listing when replacing the battery pack. Use of an incorrect battery can result in ignition or explosion of the battery.

La batterie contient du nickel. Ne la démontez pas, ne l'exposez ni au feu ni à l'eau. Ne la mettez pas en court-circuit. Pour la mettre au rebut, conformez-vous à la réglementation en vigueur. Lorsque vous remplacez la batterie, veillez à n'utiliser que les modèles cités dans la liste de pièces détachées adéquate. En effet, une batterie inappropriée risque de prendre feu ou d'exploser.

Akkus enthalten geringe Mengen von Nickel. Sie dürfen nicht zerlegt, wiederaufgeladen, kurzgeschlossen, oder Feuer oder Wasser ausgesetzt werden. Bei der Entsorgung die örtlichen Bestimmungen für Sondermüll beachten. Beim Ersetzen der Batterie nur Batterien des Typs verwenden, der in der Ersatzteilliste aufgeführt ist. Der Einsatz falscher Batterien kann zu Entzündung oder Explosion führen.

מארו הסוללה מכיל כמות קטנה של ניקל  
וקדמיים. אין לפרק את מארו הסוללה, להשליך  
אותו לאש או למים או לקצר אותו. יש לסלק את  
מארו הסוללה הסוללה כנדרש על ידי התקנות  
והחוקים המקומיים. יש להשתמש רק בסוללה  
המופיעה ברשימת החלקים המתאימה בזמן החלפת  
מארו הסוללה. שימוש בסוללה לא מתאימה עלול  
לגרום לתוצאה או התפוצצות של הסוללה.

La batteria contiene piccole quantità di nichel. Non smontarla, gettarla nel fuoco o nell'acqua né cortocircuitarla. Smaltirla secondo la normativa in vigore (DPR 915/82, successive disposizioni e disposizioni locali). Quando si sostituisce la batteria, utilizzare soltanto i tipi inseriti nell'appropriato Catalogo parti. L'impiego di una batteria non adatta potrebbe determinare l'incendio o l'esplosione della batteria stessa.

バッテリー・パックには少量のニッケルが含まれています。バッテリー・パックを分解したり、火または水の中に投げ込んだり、ショートさせないでください。バッテリー・パックの廃棄にあたっては、地方自治体の条例または規則に従ってください。バッテリー・パックを交換するときは、適切なパーツ・リストにあるバッテリーだけを使用してください。誤ったバッテリーを使用すると、バッテリーが発火したり、爆発したりすることがあります。

Las baterías contienen pequeñas cantidades de níquel. No las desmonte, ni recargue, ni las eche al fuego o al agua ni las cortocircuite. Deséchelas tal como dispone la normativa local. Utilice sólo baterías que se encuentren en la lista de piezas al sustituir la batería. La utilización de una batería no apropiada puede provocar la ignición o explosión de la misma.

#### **Safety notice 4**

##### **⚠ DANGER**

The lithium battery can cause a fire, an explosion, or a severe burn. Do not recharge it, remove its polarized connector, disassemble it, heat it above 100°C (212°F), incinerate it, or expose its cell contents to water. Dispose of the battery as required by local ordinances or regulations. Use only the battery in the appropriate parts listing. Use of an incorrect battery can result in ignition or explosion of the battery.

La pile de sauvegarde contient du lithium. Elle présente des risques d'incendie, d'explosion ou de brûlures graves. Ne la rechargez pas, ne retirez pas son connecteur polarisé et ne la démontez pas. Ne l'exposez pas à une température supérieure à 100°C, ne la faites pas brûler et n'en exposez pas le contenu à l'eau. Mettez la pile au rebut conformément à la réglementation en vigueur. Une pile inappropriée risque de prendre feu ou d'exploser.

Die Systematterie ist eine Lithiumatterie. Sie kann sich entzünden, explodieren oder schwere Verbrennungen hervorrufen. Batterien dieses Typs dürfen nicht aufgeladen, zerlegt, über 100 C erhitzt oder verbrannt werden. Auch darf ihr Inhalt nicht mit Wasser in Verbindung gebracht oder der zur richtigen Polung angebrachte Verbindungsstecker entfernt werden. Bei der Entsorgung die örtlichen Bestimmungen für Sondermüll beachten. Beim Ersetzen der Batterie nur Batterien des Typs verwenden, der in der Ersatzteilliste aufgeführt ist. Der Einsatz falscher Batterien kann zu Entzündung oder Explosion führen.

סוללת הליתיום עלולה לגרום לשריפה, להתפוצצות או לכוויות קשות. אין לטעון אותה מחדש, לסלק את המחבר המקוטב שלה, לפרק אותה או לחמם אותה בטמפרטורה העולה על 100 מעלות צלזיוס. אין לשרוף את הסוללה ואין לחשוף את תוכן התא למים. יש לסלק את הסוללה בנדרש בתקנות ובחוקים המקומיים. יש להשתמש רק בסוללה המומינה ברשימת החלקים המתאימים. שימוש בסוללה אחרת עלול לגרום לשכנת שריפה או התפוצצות.

La batteria di supporto è una batteria al litio e può incendiarsi, esplodere o procurare gravi ustioni. Evitare di ricaricarla, smontarne il connettore polarizzato, smontarla, riscaldarla ad una temperatura superiore ai 100 gradi centigradi, incendiarla o gettarla in acqua. Smaltirla secondo la normativa in vigore (DPR 915/82, successive disposizioni e disposizioni locali). L'impiego di una batteria non adatta potrebbe determinare l'incendio o l'esplosione della batteria stessa.

リチウム・バッテリーは、火災、爆発、または重症のやけどを引き起こすことがあります。バックアップ・バッテリーの充電、その極性コネクタの取り外し、バッテリー本体の分解、100℃(212°F)以上の加熱、焼却、電池の中身を水に浸すことはしないでください。バッテリーを廃棄する場合は地方自治体の条例に従ってください。適切なパーツ・リストにあるバッテリーだけを使用してください。誤ったバッテリーを使用すると、バッテリーが発火したり、爆発したりすることがあります。

La batería de repuesto es una batería de litio y puede provocar incendios, explosiones o quemaduras graves. No la recargue, ni quite el conector polarizado, ni la desmonte, ni caliente por encima de los 100°C (212°F), ni la incinere ni exponga el contenido de sus celdas al agua. Deséchela tal como dispone la normativa local.

### Safety notice 5

If the LCD breaks and the fluid from inside the LCD gets into your eyes or on your hands, immediately wash the affected areas with water at least for 15 minutes. Seek medical care if any symptoms caused by the fluid are present after washing.

Si le panneau d'affichage à cristaux liquides se brise et que vous recevez dans les yeux ou sur les mains une partie du fluide, rincez-les abondamment pendant au moins quinze minutes. Consultez un médecin si des symptômes persistent après le lavage.

Die Leuchtstoffröhre im LCD-Bildschirm enthält Quecksilber. Bei der Entsorgung die örtlichen Bestimmungen für Sondermüll beachten. Der LCD-Bildschirm besteht aus Glas und kann zerbrechen, wenn er unsachgemäß behandelt wird oder der Computer auf den Boden fällt. Wenn der Bildschirm beschädigt ist und die darin befindliche Flüssigkeit in Kontakt mit Haut und Augen gerät, sollten die betroffenen Stellen mindestens 15 Minuten mit Wasser abgespült und bei Beschwerden anschließend ein Arzt aufgesucht werden.

אם מסך הנביש הנוזלי (LCD) נשבר והנוזל מתוך המסך בא במגע עם עיניים או ידיים, שטפו את האזורים הנגועים מיד במים במשך 15 דקות לפחות. פנו לקבלת עזרה רפואית אם תסמינים הנובעים מהמגע עם הנוזל נמשכים לאחר השטיפה.

Nel caso che caso l'LCD si dovesse rompere ed il liquido in esso contenuto entrasse in contatto con gli occhi o le mani, lavare immediatamente le parti interessate con acqua corrente per almeno 15 minuti; poi consultare un medico se i sintomi dovessero permanere.

LCD が破損し、LCD 中の液体が目に入ったり、手に触れたりした場合は、液体が触れた部分を少なくとも 15 分間洗い流してください。洗い流した後に、液体によって何らかの症状が現れた場合は、医師の治療を受けてください。

Si la LCD se rompe y el fluido de su interior entra en contacto con sus ojos o sus manos, lave inmediatamente las áreas afectadas con agua durante 15 minutos como mínimo. Obtenga atención medica si se presenta algún sintoma del fluido despues de lavarse.

### Safety notice 6

#### DANGER

To avoid shock, do not remove the plastic cover that protects the lower part of the inverter card.

Afin d'éviter tout risque de choc électrique, ne retirez pas le cache en plastique protégeant la partie inférieure de la carte d'alimentation.

Aus Sicherheitsgründen die Kunststoffabdeckung, die den unteren Teil der Spannungswandlerplatine umgibt, nicht entfernen.

כדי למנוע התחשמלות, אין להסיר את מכסה הפלסטיק המגן על חלקו התחתון של הכרטיס ההפוך.

Per evitare scosse elettriche, non rimuovere la copertura in plastica che avvolge la parte inferiore della scheda invertitore.

感電を防ぐため、インバーター・カードの下部を保護しているプラスチック・カバーを外さないでください。

Para evitar descargas, no quite la cubierta de plástico que rodea la parte baja de la tarjeta invertida.

### Safety notice 7

#### DANGER

Though the main batteries have low voltage, a shorted or grounded battery can produce enough current to burn personnel or combustible materials.

Bien que le voltage des batteries principales soit peu élevé, le court-circuit ou la mise à la masse d'une batterie peut produire suffisamment de courant pour brûler des matériaux combustibles ou causer des brûlures corporelles graves.

Obwohl Hauptbatterien eine niedrige Spannung haben, können sie doch bei Kurzschluß oder Erdung genug Strom abgeben, um brennbare Materialien zu entzünden oder Verletzungen bei Personen hervorzurufen.

אף שהסוללות הראשיות הן בעלות מתח נמוך, סוללה מקוצרת או מוארזת עלולה להפיק זרם מספיק לגרימת כוויות או להצתת חומרים דליקים.

Sebbene le batterie di alimentazione siano a basso voltaggio, una batteria in corto circuito o a massa può fornire corrente sufficiente da bruciare materiali combustibili o provocare ustioni ai tecnici di manutenzione.

メイン・バッテリーの電圧は低くても、ショートしたり、接地したバッテリーが、作業者にやけどを負わせたり、可燃物を燃やすだけの電流を発生させる場合があります。

Aunque las baterías principales tienen un voltaje bajo, una batería cortocircuitada o con contacto a tierra puede producir la corriente suficiente como para quemar material combustible o provocar quemaduras en el personal.

## Safety notice 8

### DANGER

Before removing any FRU, turn off the computer, unplug all power cords from electrical outlets, remove the battery pack, and then disconnect any interconnecting cables.

Avant de retirer une unité remplaçable en clientèle, mettez le système hors tension, débranchez tous les cordons d'alimentation des socles de prise de courant, retirez la batterie et déconnectez tous les cordons d'interface.

Die Stromzufuhr muß abgeschaltet, alle Stromkabel aus der Steckdose gezogen, der Akku entfernt und alle Verbindungskabel abgenommen sein, bevor eine FRU entfernt wird.

לפני סילוק FRU כלשהו, יש לכבות את המחשב, לנתק את כל כבלי החשמל משקעי החשמל, להוציא את מארז הסוללה, ואז לנתק כבלי חיבור אחרים אם יש כאלה.

Prima di rimuovere qualsiasi FRU, spegnere il sistema, scollegare dalle prese elettriche tutti i cavi di alimentazione, rimuovere la batteria e poi scollegare i cavi di interconnessione.

FRU を取り外す前に、ThinkPad の電源を切って、すべての電源コードをコンセントから外してください。次に、バッテリー・パックを外し、相互接続ケーブルを外してください。

Antes de quitar una FRU, apague el sistema, desenchufe todos los cables de las tomas de corriente eléctrica, quite la batería y, a continuación, desconecte cualquier cable de conexión entre dispositivos.

## Laser compliance statement

Some models of Lenovo computer are equipped from the factory with an optical storage device such as a CD-ROM drive or a DVD-ROM drive. Such devices are also sold separately as options. If one of these drives is installed, it is certified in the U.S. to conform to the requirements of the Department of Health and Human Services 21 Code of Federal Regulations (DHHS 21 CFR) Subchapter J for Class 1 laser products. Elsewhere, the drive is certified to conform to the requirements of the International Electrotechnical Commission (IEC) 825 and CENELEC EN 60 825 for Class 1 laser products.

If a CD-ROM drive, a DVD-ROM drive, or another laser device is installed, note the following:

### CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein might result in hazardous radiation exposure.

O uso de controles, ajustes ou desempenho de procedimentos diferentes daqueles aqui especificados pode resultar em perigosa exposição à radiação.

**凡未在这里指明的任何控制用法、调整、行为，都会导致严重后果。**

Pour éviter tout risque d'exposition au rayon laser, respectez les consignes de réglage et d'utilisation des commandes, ainsi que les procédures décrites.

Werden Steuer- und Einstellelemente anders als hier festgesetzt verwendet, kann gefährliche Laserstrahlung auftreten.

Az itt előírt eljárásoktól, beállításoktól és vezérlésektől eltérni a lézersugárzás veszélye miatt kockázatos!

L'utilizzo di controlli, regolazioni o l'esecuzione di procedure diverse da quelle specificate possono provocare l'esposizione a.

Использование элементов настройки и выполнение процедур иных, чем указано здесь, может привести к опасному радиационному облучению.

Použitie kontrol, úprav alebo iných vykonaní od iných výrobcov, ako je v tomto špecifikované, mohlo by mať za následok nebezpečenstvo vystavenia sa vyžiarovaniu.

本書で指定された内容以外のお客様による整備、調整、または手順を行った場合、レーザー光の放射の危険があります。

El uso de controles o ajustes o la ejecución de procedimientos distintos de los aquí especificados puede provocar la exposición a radiaciones peligrosas.

Opening the CD-ROM drive, the DVD-ROM drive, or any other optical storage device could result in exposure to hazardous laser radiation. There are no serviceable parts inside those drives. **Do not open.**

A CD-ROM drive, a DVD-ROM drive, or any other storage device installed may contain an embedded Class 3A or Class 3B laser diode. Note the following:

** DANGER**

Emits visible and invisible laser radiation when open. Do not stare into the beam, do not view directly with optical instruments, and avoid direct exposure to the beam.

Radiação por raio laser ao abrir. Não olhe fixo no feixe de luz, não olhe diretamente por meio de instrumentos óticos e evite exposição direta com o feixe de luz.

开启时会有激光发射时，请勿直视激光束，请勿直接查看视觉仪器，并且避免直接接触在激光束之中。

Rayonnement laser si carter ouvert. Évitez de fixer le faisceau, de le regarder directement avec des instruments optiques, ou de vous exposer au rayon.

Laserstrahlung bei geöffnetem Gerät. Nicht direkt oder über optische Instrumente in den Laserstrahl sehen und den Strahlungsbereich meiden.

Kinyitáskor lézersugár ! Ne nézzen bele se szabad szemmel, se optikai eszközökkel. Kerülje a sugárnyalábbal való érintkezést!

Apriendo l'unità vengono emesse radiazioni laser. Non fissare il fascio, non guardarlo direttamente con strumenti ottici e evitare l'esposizione diretta al fascio.

Открывая, берегитесь лазерного излучения.  
Не смотрите на луч, не разглядывайте его  
с помощью оптических инструментов, а также  
избегайте прямого воздействия лазерного луча.

Keď je laserová jednotka otvorená. Vyhňte sa priamemu  
pohľadu a nehľadte priamo s optickými nástrojmi do lúča  
a vyhňte sa priamemu vystaveniu lúčov.

開けるとレーザー光が放射されます。光線を見つめたり、光学機械を使って直接見たりしないでください。

Radiación láser al abrir. No mire fijamente ni examine con instrumental óptico el haz de luz. Evite la exposición directa al haz.

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## Important service information

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This chapter presents the following important service information:

- “Strategy for replacing FRUs” on page 16
  - “Important notice for replacing a system board” on page 17
- “Important information about replacing RoHS compliant FRUs” on page 18

### **Important:**

BIOS and device driver fixes are customer-installable. The BIOS and device drivers are posted on the customer support site:  
<http://support.lenovo.com>.

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## Strategy for replacing FRUs

### **Before replacing parts:**

Make sure that all software fixes, drivers, and BIOS downloads are installed before replacing any FRUs listed in this manual.

After a system board is replaced, ensure that the latest BIOS is loaded to the system board before completing the service action.

To download software fixes, drivers, and BIOS, follow the steps below:

1. Go to <http://support.lenovo.com>.
2. Enter a serial number or select a product or use Lenovo smart downloading.
3. Select the BIOS/Driver/Applications and download.
4. Follow the directions on the screen and install the necessary software.

Use the following strategy to prevent unnecessary expense for replacing and servicing FRUs:

- If you are instructed to replace an FRU, but the replacement does not solve the problem, reinstall the original FRU before you continue.
- Some computers have both a processor board and a system board. If you are instructed to replace either of them, and replacing one of them does not solve the problem, reinstall that board, and then replace the other one.
- If an adapter or a device consists of more than one FRU, any of the FRUs may be the cause of the error. Before replacing the adapter or device, remove the FRUs one by one to see if the symptoms change. Replace only the FRU that changed the symptoms.

**Attention:** The setup configuration on the computer you are servicing may have been customized. Running Automatic Configuration may alter the settings. Note the current configuration settings (using the View Configuration option); then, when service has been completed, verify that those settings remain in effect.

## **Important notice for replacing a system board**

Some components mounted on a system board are very sensitive. Improper handling can cause damage to those components, and may cause a system malfunction.

**Attention:** When handling a system board:

- Do not drop the system board or apply any excessive force to it.
- Avoid rough handling of any kind.
- Avoid bending the system board and hard pushing to prevent cracking at each BGA (Ball Grid Array) chipset.

## Important information about replacing RoHS compliant FRUs

**RoHS, The Restriction of Hazardous Substances in Electrical and Electronic Equipment Directive (2002/95/EC)** is a European Union legal requirement affecting the global electronics industry. RoHS requirements must be implemented on Lenovo products placed on the market after June 2006. Products on the market before June 2006 are not required to have RoHS compliant parts. If the original FRU parts are non-compliant, replacement parts can also be non-compliant. In all cases if the original FRU parts are RoHS compliant, the replacement part must also be RoHS compliant.

**Note:** RoHS and non-RoHS FRU part numbers with the same fit and function are identified with unique FRU part numbers.

Lenovo plans to transit to RoHS compliance well before the implementation date and expects its suppliers to be ready to support Lenovo's requirements and schedule in the EU. Products sold in 2005 and 2006 will contain some RoHS compliant FRUs. The following statement pertains to these products and any product Lenovo produces containing RoHS compliant FRUs.

RoHS compliant FRUs have unique FRU part numbers. Before or after the RoHS implementation date, failed RoHS compliant parts must always be replaced with RoHS compliant ones, so only the FRUs identified as compliant in the system HMM or direct substitutions for those FRUs may be used.

| Products marketed before June 2006 |                 | Products marketed after June 2006 |                 |
|------------------------------------|-----------------|-----------------------------------|-----------------|
| Current or original part           | Replacement FRU | Current or original part          | Replacement FRU |
| Non-RoHS                           | Can be Non-RoHS | Must be RoHS                      | Must be RoHS    |
| Non-RoHS                           | Can be RoHS     |                                   |                 |
| Non-RoHS                           | Can sub to RoHS |                                   |                 |
| RoHS                               | Must be RoHS    |                                   |                 |

**Note:** A direct substitution is a part with a different FRU part number that is automatically shipped by the distribution center at the time of the order.

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## General checkout

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This chapter presents the following information:

- “What to do first” on page 20
- “Power system checkout” on page 21

Before you go to the checkout, make sure to read the following important notes:

**Important notes:**

- **Only certified trained personnel can service the computer.**
- **Before replacing any FRU, read the entire page on removing and replacing FRUs.**
- **Carefully remove screws for reuse when replacing FRUs.**
- **Be extremely careful during such write operations as copying, saving, or formatting.** Drives in the computer that you are servicing sequence might have been altered. If you select an incorrect drive, data or programs might be overwritten.
- **Replace an FRU only with another FRU of the correct model.** When you replace an FRU, make sure that the machine model and the FRU part number are correct by referring to the FRU parts list.
- **An FRU should not be replaced just because of a single, unreproducible failure.** Single failures can occur for a variety of reasons that have nothing to do with a hardware defect, such as cosmic radiation, electrostatic discharge, or software errors. Consider replacing an FRU only when a problem recurs. If you suspect that an FRU is defective, clear the error logs and run the test again. If the error does not recur, do not replace the FRU.
- **Be careful not to replace a nondefective FRU.**

## What to do first

When you do return an FRU, you must include the following information in the parts exchange form or parts return form that you attach to it:

1. Name and phone number of servicer
2. Date of service
3. Date on which the machine failed
4. Date of purchase
5. Procedure index and page number in which the failing FRU was detected
6. Failing FRU name and part number
7. Machine type, model number, and serial number
8. Customer's name and address

**Note for warranty:** During the warranty period, the customer may be responsible for repair costs if the computer damage was caused by misuse, accident, modification, unsuitable physical or operating environment, or improper maintenance by the customer.

The following is a list of some common items that are not covered under warranty and some symptoms that might indicate that the system was subjected to stress beyond normal use.

Before checking problems with the computer, determine whether the damage is covered under the warranty by referring to the following list:

### **The following are not covered under warranty:**

- LCD panel cracked from the application of excessive force or from being dropped
- Scratched (cosmetic) parts
- Distortion, deformation, or discoloration of the cosmetic parts
- Plastic parts, latches, pins, or connectors that have been cracked or broken by excessive force
- Damage caused by liquid spilled into the system
- Damage caused by the improper insertion of a PC Card or the installation of an incompatible card
- Improper disc insertion or use of an optical drive
- Diskette drive damage caused by pressure on the diskette drive cover, foreign material in the drive, or the insertion of a diskette with multiple labels
- Damaged or bent diskette eject button
- Fuses blown by attachment of a nonsupported device
- Forgotten computer password (making the computer unusable)
- Sticky keys caused by spilling a liquid onto the keyboard
- Use of an incorrect AC adapter on laptop products

### **The following symptoms might indicate damage caused by nonwarranted activities:**

- Missing parts might be a symptom of unauthorized service or modification.
- If the spindle of a hard disk drive becomes noisy, it may have been subjected to excessive force, or dropped.

## Power system checkout

To verify a symptom, follow the steps below:

1. Turn off the computer.
2. Connect the AC adapter.
3. Make sure that power is supplied when you turn on the computer.
4. Turn off the computer.
5. Disconnect the AC adapter.
6. Make sure that the battery pack supplies power when you turn on the computer.

If you suspect a power problem, see the appropriate one of the following power supply checkouts:

- “Checking the AC adapter” on page 21
- “Checking operational charging” on page 21

### Checking the AC adapter

You are here because the computer fails only when the AC adapter is used.

- If the power-on indicator does not turn on, check the power cord of the AC adapter for correct continuity and installation.
- If the computer does not charge during operation, go to “Checking operational charging”.

To check the AC adapter, follow the steps below:

1. Unplug the AC adapter cable from the computer.
2. Measure the output voltage at the plug of the AC adapter cable. See the following figure:



| Pin | Voltage (V DC) |
|-----|----------------|
| 1   | +5             |
| 2   | 0              |

**Note:** Output voltage for the AC adapter pin No. 2 may differ from the one you are servicing.

3. If the voltage is not correct, replace the AC adapter.
4. If the voltage is acceptable, do the following:
  - Replace the system board.
  - If the problem continues, go to “Lenovo MIIX 320-10ICR” on page 26.

**Note:** Noise from the AC adapter does not always indicate a defect.

### Checking operational charging

To check whether the battery charges properly during operation, use a discharged battery pack or a battery pack that has less than 50% of the total power remaining when installed in the computer.

Perform operational charging. If the battery status indicator or icon does not light on, remove the battery pack and let it return to room temperature. Reinstall the battery pack. If the charge indicator or icon is still off, replace the battery pack.

If the charge indicator still does not light on, replace the system board. Then reinstall the battery pack.

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## Related service information

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This chapter presents the following information:

- “Restoring the factory contents by using the Recovery system” on page 23
- “Passwords” on page 24
- “Power management” on page 25

### Restoring the factory contents by using the Recovery system

#### Restore of factory default

The Lenovo MIIX 320-10ICR computers come with a pre-installed Recovery system. In order to save application files and the initial backed-up files of the system, the hard disk in a Lenovo computer includes a hidden partition when it is shipped. If you need to restore the system to the point of your first boot up, just enter the Recovery System (Push-button reset). For details of the Recovery system, see *the User Guide for Recovery system*.

**Note:** This will delete all the new data on the system partition (C drive), which is not recoverable. Make sure to back up your critical data before you perform this action.

## Passwords

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As many as two passwords may be needed for any Lenovo computer: the power-on password (POP) and the supervisor password (SVP).

If any of these passwords has been set, a prompt for it appears on the screen whenever the computer is turned on. The computer does not start until the password is entered.

**Exception:** If only an SVP is installed, the password prompt does not appear when the operating system is booted.

### Power-on password

A power-on password (POP) protects the system from being powered on by an unauthorized person. The password must be entered before an operating system can be booted.

### Supervisor password

A supervisor password (SVP) protects the system information stored in the BIOS Setup Utility. The user must enter the SVP in order to get access to the BIOS Setup Utility and change the system configuration.

**Attention:** If the SVP has been forgotten and cannot be made available to the servicer, there is no service procedure to reset the password. The system board must be replaced for a scheduled fee.

## Power management

**Note:** Power management modes are not supported for APM operating system.

To reduce power consumption, the computer has two power management modes: screen blank, sleep (standby).

### Screen blank mode

If the time set on the "Turn off monitor" timer in the operating system expires, the LCD backlight turns off.

To end screen blank mode and resume normal operation, press the Power button.

### Sleep (standby) mode

When the computer enters sleep (standby) mode, the following events occur in addition to what occurs in screen blank mode:

- The LCD is powered off.
- The hard disk drive is powered off.
- The CPU stops.

To enter sleep (standby) mode, To put the computer to sleep, do one of the following:

- Press the power button.
- Open the Charms and then select **Settings** → **Power** → **Sleep**.

In certain circumstances, the computer goes into sleep (standby) mode automatically:

- If a "suspend time" has been set on the timer, and the user does not do any operation with the keyboard, the hard disk, the parallel connector, or the diskette drive within that time.
- If the battery indicator is amber, indicating that the battery power is low.

To cause the computer to return from sleep (standby) mode and resume the operation, do one of the following:

- Press any key on the keyboard (located on the keyboard dock).
- Press the power button.

Also, in the following event, the computer automatically returns from sleep (standby) mode and resumes the operation:

- The time set on the resume timer elapses.

**Note:** The computer does not accept any input immediately after it enters sleep (standby) mode. Wait a few seconds before taking any action to reenter operation mode.

## Lenovo MIIX 320-10ICR

This chapter presents the following product-specific service references and product-specific parts information:

- “Specifications” on page 26
- “FRU replacement notices” on page 29
- “Removing and replacing an FRU” on page 30
- “Locations” on page 45
- “Parts list” on page 48

### Specifications

The following table lists the specifications of the Lenovo MIIX 320-10ICR:

Table 1. Specifications

| Feature                        | Description                                                                                                                                                                                                                                                                                     |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Processor                      | <ul style="list-style-type: none"><li>• To view the system properties of your computer: Open the <b>Control Panel</b>. Then select <b>System and Security</b> → <b>System</b>.</li></ul>                                                                                                        |
| Display                        | <ul style="list-style-type: none"><li>• 10.1", 16:10 (1,280 × 800 pixels / 1,920 × 1,200 pixels)</li></ul>                                                                                                                                                                                      |
| Standard memory                | <ul style="list-style-type: none"><li>• DDR3L / LPDDR3 (max 4 GB)</li></ul>                                                                                                                                                                                                                     |
| Storage                        | <ul style="list-style-type: none"><li>• 32 GB / 64 GB / 128 GB eMMC</li></ul>                                                                                                                                                                                                                   |
| I/O port                       | <ul style="list-style-type: none"><li>• Micro HDMI port × 1</li><li>• 2 in 1 slot × 1 (Micro SD/Nano SIM)</li></ul> <p><b>Note:</b> Select models may not have the Nano SIM card slot, please refer to the actual product.</p> <ul style="list-style-type: none"><li>• Type-C 3.0 × 1</li></ul> |
| Audio                          | <ul style="list-style-type: none"><li>• Combo audio jack × 1</li></ul>                                                                                                                                                                                                                          |
| Integrated camera              | <ul style="list-style-type: none"><li>• 2.0 MP (front camera)</li><li>• 5.0 MP (rear camera)</li></ul>                                                                                                                                                                                          |
| Battery                        | <ul style="list-style-type: none"><li>• 33 Whr, Li-ion battery pack</li></ul>                                                                                                                                                                                                                   |
| AC adapter                     | <ul style="list-style-type: none"><li>• 5 V, 20 W</li></ul>                                                                                                                                                                                                                                     |
| Pre-installed operating system | <ul style="list-style-type: none"><li>• Win 10 Pro</li><li>• Windows 10 Home PRC</li><li>• Windows 10 Home Entry Tablet</li></ul>                                                                                                                                                               |

## Status indicators

The system status indicators below show the computer status:



Table 2. Status indicators

| Symbol | Indicator | Indicator status | Meaning                      |
|--------|-----------|------------------|------------------------------|
| ■      | Power     | On (solid red)   | The tablet is powered on.    |
|        |           | On (solid amber) | The tablet is in sleep mode. |
|        |           | Off              | The tablet is powered off.   |

**Function key combinations (located on the keyboard dock)**

The following table shows the function of each combination of function key.

*Table 3. Fn key combinations (located on the keyboard dock)*

|                  |                                     |
|------------------|-------------------------------------|
| Fn + Esc :       | Mutes/unmutes the sound.            |
| Fn + ` :         | Closes the currently active window. |
| Fn + Delete :    | Enables/disables the touchpad.      |
| Fn + Backspace : | Enables/disables Airplane mode.     |
| Fn + PgUp :      | Activates the home key function.    |
| Fn + PgDn :      | Activates the end key function.     |
| Fn + ▲ :         | Increases the display brightness.   |
| Fn + ▼ :         | Decreases the display brightness.   |
| Fn + ◀ :         | Decreases the volume level.         |
| Fn + ▶ :         | Increases the volume level.         |
| Fn + Tab :       | Locks/unlocks the function keys.    |

## FRU replacement notices

This section presents notices related to removing and replacing parts. Read this section carefully before replacing any FRU.

### Screw notices

Loose screws can cause a reliability problem. In the Lenovo computer, this problem is addressed with special nylon-coated screws that have the following characteristics:

- They maintain tight connections.
- They do not easily come loose, even with shock or vibration.
- They are harder to tighten.

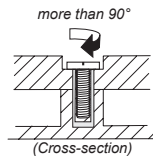
Do the following when you service this machine:

- Keep the screw kit in your tool bag.
- Carefully remove screws for reuse when replacing FRUs.
- Use a torque screwdriver if you have one.

Tighten screws as follows:

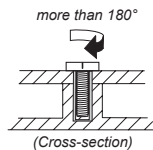
- **Plastic to plastic**

Turn an additional 90° after the screw head touches the surface of the plastic part:



- **Logic card to plastic**

Turn an additional 180° after the screw head touches the surface of the logic card:



- **Torque driver**

If you have a torque screwdriver, refer to the "Torque" column for each step.

- Make sure that you use the correct screws. If you have a torque screwdriver, tighten all screws firmly to the torque shown in the table. **Carefully remove screws for reuse when replacing FRUs. Make sure that all screws are tightened firmly.**
- Ensure torque screwdrivers are calibrated correctly following country specifications.

## Removing and replacing an FRU

This section presents exploded figures with the instructions to indicate how to remove and replace the FRU. Make sure to observe the following general rules:

1. Do not attempt to service any computer unless you have been trained and certified. An untrained person runs the risk of damaging parts.
2. Before replacing any FRU, review "FRU replacement notices" on page 29.
3. Begin by removing any FRUs that have to be removed before the failing FRU. Any of such FRUs are listed at the top of the page. Remove them in the order in which they are listed.
4. Follow the correct sequence in the steps to remove the FRU, as given in the figures by the numbers in square callouts.
5. When turning a screw to replace an FRU, turn it in the direction as given by the arrow in the figure.
6. When removing the FRU, move it in the direction as given by the arrow in the figure.
7. To put the new FRU in place, reverse the removal procedures and follow any of the notes that pertain to replacement. For information about connecting and arranging internal cables, see "Locations" on page 45.
8. When replacing an FRU, use the correct screw as shown in the procedures.

### **DANGER**

Before removing any FRU, turn off the computer, unplug all power cords from electrical outlets, and then disconnect any of the interconnecting cables.

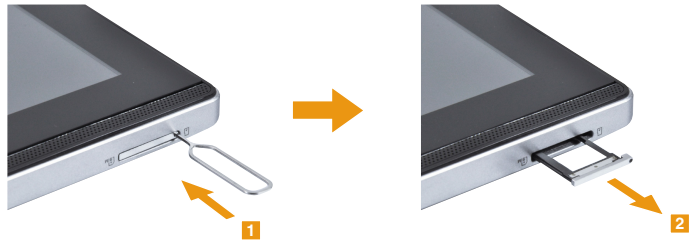
**Attention:** After replacing an FRU, do not turn on the computer until you have made sure that all screws, springs, and other small parts are in place and none are loose inside the computer. Verify this by shaking the computer gently and listening for rattling sounds. Metallic parts or metal flakes can cause electrical short circuits.

**Attention:** The system board is sensitive to, and can be damaged by, electrostatic discharge. Before touching it, establish personal grounding by touching a ground point with one hand or using an electrostatic discharge (ESD) strap (P/N 6405959) to remove potential shock reasons.

## 1010 Micro SD/Nano SIM card tray

*Figure 1. Removal steps of Micro SD/Nano SIM card tray*

Turn off the tablet, and disconnect the AC adapter and any cable(s) from the tablet. Then insert a prying pin into the tiny hole on the card tray in the direction shown by arrow **1**. Press firmly and push it straight in until the card tray pops out. Gently pull the card tray out of the card reader in the direction shown by arrow **2**.



## 1020 Base cover

For access, remove this FRU:

- “1010 Micro SD/Nano SIM card tray” on page 31

*Figure 2. Removal steps of base cover*

Insert a prying tool (Disassembling blade) between the base cover and the panel module and slide it around the tablet in the direction shown by arrows **1**, **2** and **3** to separate the base cover from the rest of the tablet.



**Note:** Be careful when separating the base cover. Do not force apart the base cover, otherwise the panel module could be damaged. Use caution when internal plastic tabs are met with the prying tool, excessive force may cause damage.

Remove the base cover in the direction shown by arrow **4**.



*Figure 2. Removal steps of base cover (continued)*

Detach the battery connector in the direction shown by arrow **5**.



**When installing:** Make sure the battery connector is attached firmly.

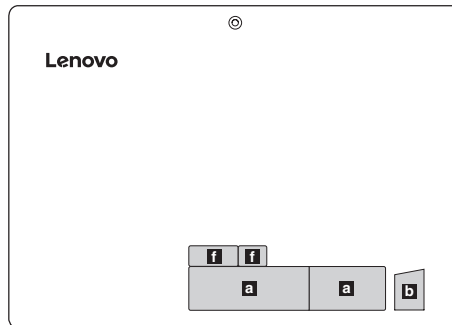
**Note: Applying labels to the base cover**

If you see the following labels on the base cover, it needs to be peeled off from the old base cover, and put on the new base cover.

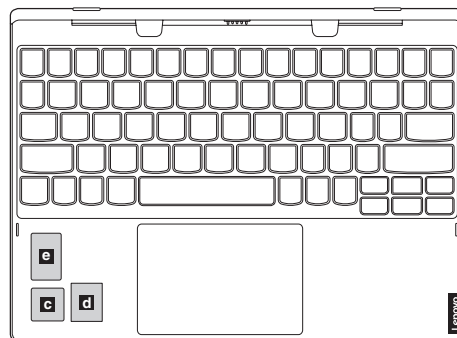
- a** Rating label
- b** Windows label
- c** Intel label
- d** Office label
- e** Service label
- f** INDONESIA label

For the location of each label, refer to the following figure:

**Tablet**



**Keyboard dock**



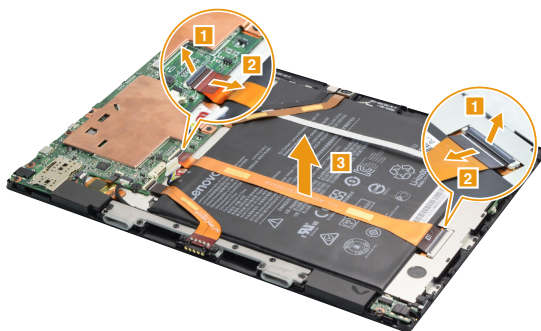
## 1030 LCD cable

For access, remove these FRUs in order:

- “1010 Micro SD/Nano SIM card tray” on page 31
- “1020 Base cover” on page 32

*Figure 3. Removal steps of LCD cable*

Detach the connectors in the directions shown by arrows **1** and **2**. Then remove the LCD cable in the direction shown by arrows **3**.



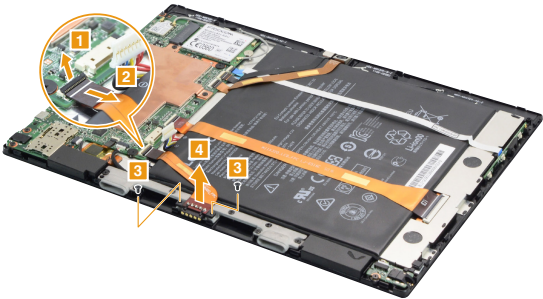
**When installing:** Make sure the connectors are attached firmly.

**1040 Pogo cable**

- For access, remove these FRUs in order:
- “1010 Micro SD/Nano SIM card tray” on page 31
  - “1020 Base cover” on page 32

*Figure 4. Removal steps of pogo cable*

Detach the pogo cable connector in the directions shown by arrows **1** and **2**. Remove the screws **3**. Remove the pogo cable in the direction shown by arrow **4**.



| Step | Screw (quantity)                                                  | Color | Torque       |
|------|-------------------------------------------------------------------|-------|--------------|
| 3    | M2 × 2.5, Phillips-head, nylok-coated, Hinge Board To Housing (2) | Black | 1.6~2 kgf*cm |

**When installing:** Make sure the connector is attached firmly.

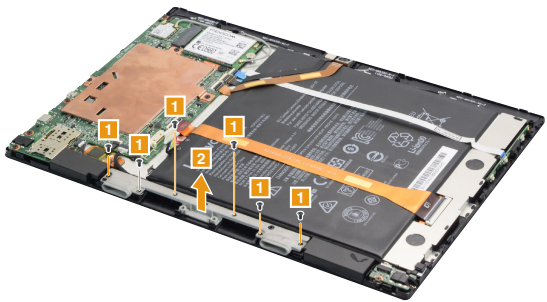
## 1050 Pogo bracket

For access, remove these FRUs in order:

- “1010 Micro SD/Nano SIM card tray” on page 31
- “1020 Base cover” on page 32

Figure 5. Removal steps of pogo bracket

Remove the screws ■, then remove the pogo bracket 2.



| Step | Screw (quantity)                                            | Color | Torque       |
|------|-------------------------------------------------------------|-------|--------------|
| ■    | M2 × 3.5, Phillips-head, nylok-coated, Hinge To Housing (6) | Black | 1.6~2 kgf*cm |

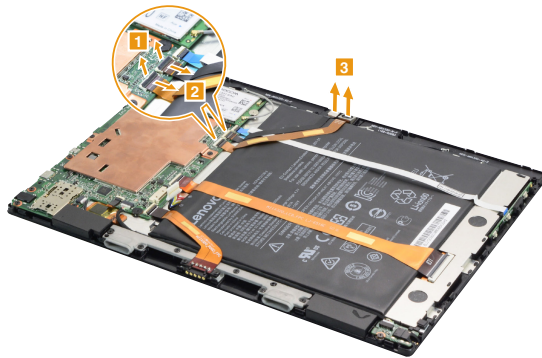
## 1060 Front camera and rear camera

For access, remove these FRUs in order:

- “1010 Micro SD/Nano SIM card tray” on page 31
- “1020 Base cover” on page 32

*Figure 6. Removal steps of front camera and rear camera*

Detach the camera connectors in the directions shown by arrows **1** and **2**.  
Remove the two cameras in the direction shown by arrows **3**.



**When installing:** Make sure the connectors are attached firmly.

## 1070 Power board

For access, remove these FRUs in order:

- “1010 Micro SD/Nano SIM card tray” on page 31
- “1020 Base cover” on page 32

*Figure 7. Removal steps of power board*

Detach the power board connector in the directions shown by arrows **1** and **2**. Then remove the power board **3**.



**When installing:** Make sure the connector is attached firmly.

## 1080 Speakers

For access, remove these FRUs in order:

- “1010 Micro SD/Nano SIM card tray” on page 31
- “1020 Base cover” on page 32
- “1040 Pogo cable” on page 36

*Figure 8. Removal steps of speakers*

Detach the speaker connector in the direction shown by arrow **1**. Release the cable from the cable guides, then remove the speakers **2**.



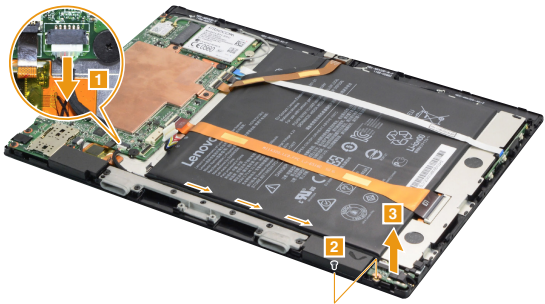
**When installing:** Make sure the connector is attached firmly.

1090 Audio board

- For access, remove these FRUs in order:
- “1010 Micro SD/Nano SIM card tray” on page 31
  - “1020 Base cover” on page 32
  - “1040 Pogo cable” on page 36

Figure 9. Removal steps of audio board

Unplug the connector in the direction shown by arrow **1**. Remove the screws **2**. Release the cable from the cable guides, then remove the power board in the direction shown by arrow **3**.



| Step | Screw (quantity)                                          | Color  | Torque       |
|------|-----------------------------------------------------------|--------|--------------|
| 2    | M2 × 3, Phillips-head, nylok-coated, Audio To B-cover (1) | Silver | 1.6~2 kgf*cm |

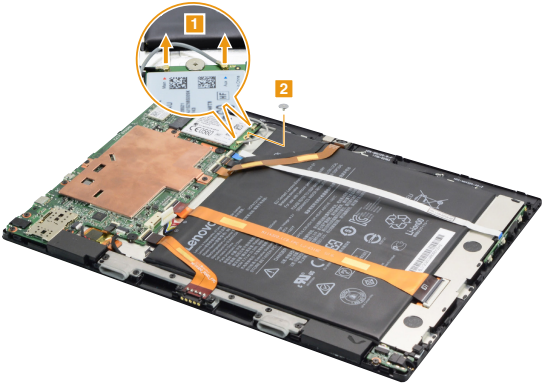
**When installing:** Make sure the connector is attached firmly.

**1100 LTE module (on select models)**

- For access, remove these FRUs in order:
- “1010 Micro SD/Nano SIM card tray” on page 31
  - “1020 Base cover” on page 32

*Figure 10. Removal steps of LTE module (on select models)*

Disconnect the two LTE cables (black, grey) ■, and then remove the screw ■.



| Step | Screw (quantity)                                              | Color  | Torque          |
|------|---------------------------------------------------------------|--------|-----------------|
| 2    | M1.6 × 1.5 mm, Phillips head, nylok-coated LTE To B-cover (1) | Silver | 1.5 - 2.5 kg_cm |

Remove the card in the direction shown by arrow ■.



**When installing:** In models with a LTE module that has two antenna connectors, plug the black cable (1st) (MAIN) into the jack labeled **MAIN**, and the grey cable (2nd) (AUX) into the jack labeled **AUX** on the card.

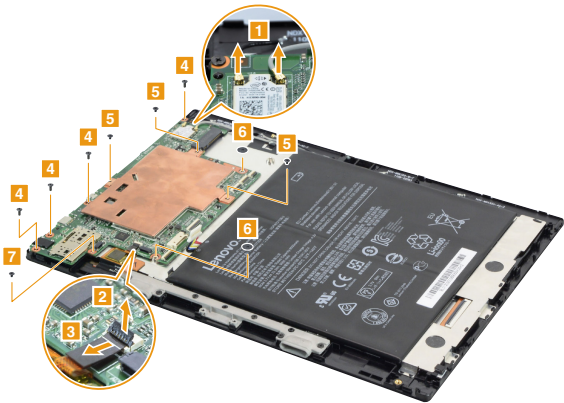
## 1110 System board

For access, remove these FRUs in order:

- “1010 Micro SD/Nano SIM card tray” on page 31
- “1020 Base cover” on page 32
- “1030 LCD cable” on page 35
- “1040 Pogo cable” on page 36
- “1060 Front camera and rear camera” on page 38
- “1070 Power board” on page 39
- “1080 Speakers” on page 40
- “1090 Audio board” on page 41
- “1100 LTE module (on select models)” on page 42

Figure 11. Removal steps of system board

Disconnect the antennas cable (black, grey) **1**. Disconnect the touch panel connector in the directions shown by arrows **2** and **3**. Remove the screws **4**, **5**, **6** and **7**.



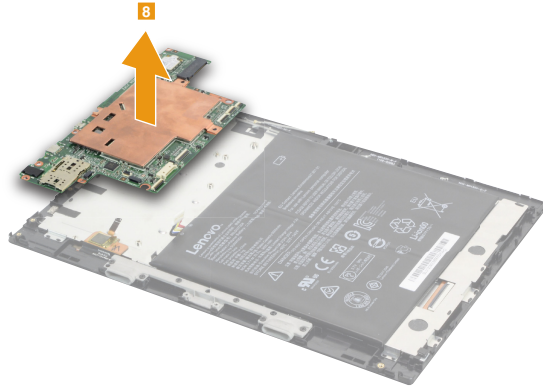
| Step     | Screw (quantity)                                               | Color  | Torque       |
|----------|----------------------------------------------------------------|--------|--------------|
| <b>4</b> | M1.6 × 3.5, Phillips-head, nylok-coated, PAD MB To B-cover (4) | Black  | 1.6~2 kgf*cm |
| <b>5</b> | M1.6 × 2.0, Phillips-head, nylok-coated, Thermol To B-cove (3) | Silver | 1.6~2 kgf*cm |
| <b>6</b> | M1.6 × 1.5, Phillips-head, nylok-coated, PAD MB To B-cover (2) | Silver | 1.6~2 kgf*cm |
| <b>7</b> | M1.6 × 1.5, Phillips-head, nylok-coated, PAD MB To B-cover (1) | Silver | 1.6~2 kgf*cm |

### When installing:

- In models with a wireless LAN card that has two antenna connectors, plug the black cable (1st) (MAIN) into the jack labeled **MAIN**, and the grey cable (2nd) (AUX) into the jack labeled **AUX** on the card.
- Make sure the connector is attached firmly.

Figure 11. Removal steps of system board (continued)

Remove the system board **8**.



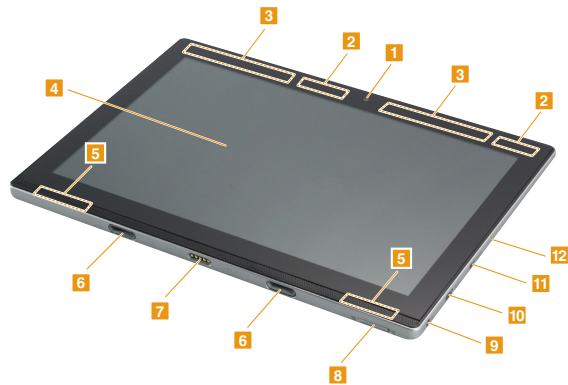
## Locations

### Tablet front view

- 1 Front camera
- 2 Wireless LAN antennas
- 3 Wireless WAN antennas (on select models)
- 4 Multi-touch screen
- 5 Speaker
- 6 Tablet-keyboard dock latch
- 7 Keyboard dock connector
- 8 Card reader

**Note:** Select models may not have the Nano SIM card slot, please refer to the actual product.

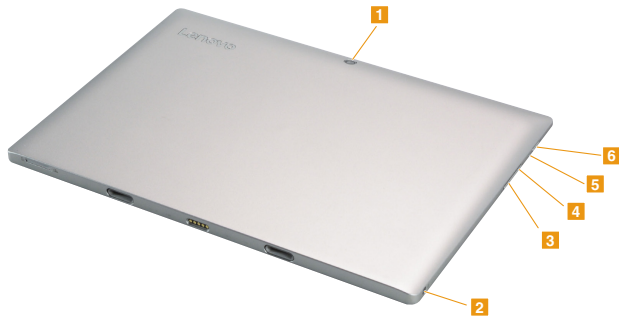
- 9 Built-in microphone
- 10 Micro HDMI port
- 11 Type-C port
- 12 AC power adapter jack



## Tablet rear view

- Rear camera
- 2 Combo audio jack
- 3 Volume down button
- 4 Volume up button
- 5 Power indicator
- 6 Power button

**Note:** For the description of each indicator, see “Status indicators” on page 27.



## Keyboard dock

- Tablet-keyboard dock latch
- 2 Keyboard dock connector
- 3 USB 2.0 port
- 4 Touchpad



## Parts list

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This section presents the following service parts:

- “Overall” on page 49
- “Screws” on page 53

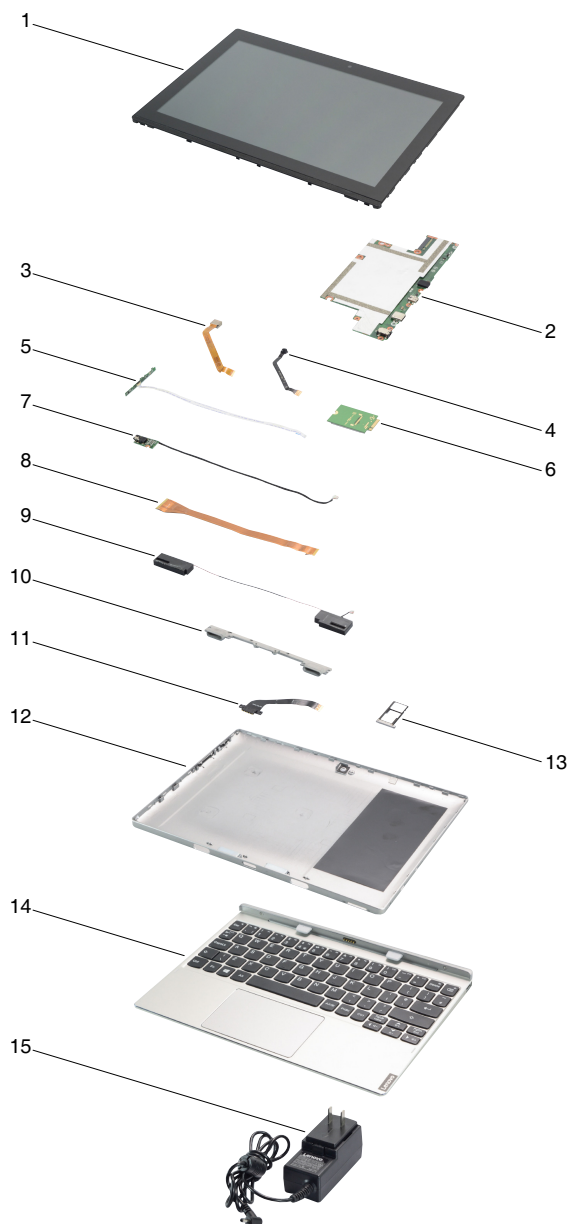
### **Note:**

Each FRU is available for all types or models, unless specific types or models are specified.

### **Attention:**

**Do not attempt to replace an FRU on your own. If an FRU is damaged, contact a Lenovo authorized servicer or a marketing representative for replacement or repair. Only qualified technicians can inspect or repair this product.**

## Overall



**Table 4. Parts list—Overall**

| No. | FRU                             | FRU no.    | CRU ID. |
|-----|---------------------------------|------------|---------|
| 1   | LCD Module(LTE) HD B 80XF       | 5D10N38141 | N       |
| 1   | LCD Module(LTE) FHD B 80XF      | 5D10N38138 | N       |
| 2   | MBB80XFZ83502G32GEMMCW1X1 WIN   | 5B20N38149 | N       |
| 2   | MBB80XFZ83502G32GEMMCW2X2 WIN   | 5B20N38166 | N       |
| 2   | MBB80XFZ83502G32GEMMCW1X1LTEWIN | 5B20N38145 | N       |
| 2   | MBB80XFZ83502G32GEMMCW2X2LTEWIN | 5B20N38164 | N       |
| 2   | MBB80XFZ83502G32GEMMCN1X1 WIN   | 5B20N38150 | N       |
| 2   | MBB80XFZ83502G32GEMMCN1X1LTEWIN | 5B20N38148 | N       |
| 2   | MBB80XFZ83502G64GEMMCW1X1 WIN   | 5B20N38157 | N       |
| 2   | MBB80XFZ83502G64GEMMCW2X2 WIN   | 5B20N38151 | N       |
| 2   | MBB80XFZ83502G64GEMMCW1X1LTEWIN | 5B20N38143 | N       |
| 2   | MBB80XFZ83502G64GEMMCW2X2LTEWIN | 5B20N38142 | N       |
| 2   | MBB80XFZ83502G64GEMMCN1X1 WIN   | 5B20N38153 | N       |
| 2   | MBB80XFZ83502G64GEMMCN1X1LTEWIN | 5B20N38159 | N       |
| 2   | MBB80XFZ83502G128EMMCW1X1 WIN   | 5B20N38162 | N       |
| 2   | MBB80XFZ83502G128EMMCW2X2 WIN   | 5B20N38134 | N       |
| 2   | MBB80XFZ83502G128EMMCW1X1LTEWIN | 5B20N38171 | N       |
| 2   | MBB80XFZ83502G128EMMCW2X2LTEWIN | 5B20N38130 | N       |
| 2   | MBB80XFZ83502G128EMMCN1X1 WIN   | 5B20N38169 | N       |
| 2   | MBB80XFZ83502G128EMMCN1X1LTEWIN | 5B20N38128 | N       |
| 2   | MBB80XFZ83504G32GEMMCW1X1 WIN   | 5B20N38175 | N       |
| 2   | MBB80XFZ83504G32GEMMCW2X2 WIN   | 5B20N38165 | N       |
| 2   | MBB80XFZ83504G32GEMMCW1X1LTEWIN | 5B20N38132 | N       |
| 2   | MBB80XFZ83504G32GEMMCW2X2LTEWIN | 5B20N38139 | N       |
| 2   | MBB80XFZ83504G32GEMMCN1X1 WIN   | 5B20N38147 | N       |
| 2   | MBB80XFZ83504G32GEMMCN1X1LTEWIN | 5B20N38152 | N       |
| 2   | MBB80XFZ83504G64GEMMCW1X1 WIN   | 5B20N38163 | N       |
| 2   | MBB80XFZ83504G64GEMMCW2X2 WIN   | 5B20N38156 | N       |
| 2   | MBB80XFZ83504G64GEMMCW1X1LTEWIN | 5B20N38135 | N       |
| 2   | MBB80XFZ83504G64GEMMCW2X2LTEWIN | 5B20N38131 | N       |
| 2   | MBB80XFZ83504G64GEMMCN1X1 WIN   | 5B20N38121 | N       |
| 2   | MBB80XFZ83504G64GEMMCN1X1LTEWIN | 5B20N38123 | N       |
| 2   | MBB80XFZ83504G128EMMCW1X1 WIN   | 5B20N38176 | N       |
| 2   | MBB80XFZ83504G128EMMCW2X2 WIN   | 5B20N38154 | N       |
| 2   | MBB80XFZ83504G128EMMCW1X1LTEWIN | 5B20N38126 | N       |
| 2   | MBB80XFZ83504G128EMMCW2X2LTEWIN | 5B20N38137 | N       |
| 2   | MBB80XFZ83504G128EMMCN1X1 WIN   | 5B20N38124 | N       |
| 2   | MBB80XFZ83504G128EMMCN1X1LTEWIN | 5B20N38125 | N       |
| 3   | Rear Camera B 5.0M B 80XF       | 5C20N38174 | N       |
| 4   | Front Camera 2.0M B 80XF        | 5C20N38168 | N       |
| 5   | Power Board(LTE) B 80XF         | 5C50N38127 | N       |
| 5   | Power Board(WiFi) B 80XF        | 5C50N91232 | N       |
| 6   | LTE L831-EAU CAT4 B 80XF        | 5W10N38170 | N       |
| 6   | LTE EM7455 CAT6 B 80XF          | 5W10N38146 | N       |
| 7   | Audio Board W/cable B 80XF      | 5A50N38136 | N       |
| 8   | LCD Cable HD B 80XF             | 5C10N38144 | N       |
| 8   | LCD Cable FHD B 80XF            | 5C10N61789 | N       |

Table 4. Parts list—Overall (continued)

| No. | FRU                               | FRU no.    | CRU ID. |
|-----|-----------------------------------|------------|---------|
| 9   | Speaker B 80XF L+R                | 5SB0N38179 | N       |
| 10  | POGO BRACKET B 80XF               | 5B40N38129 | N       |
| 11  | POGO CABLE B 80XF                 | 5C10N38160 | N       |
| 12  | LCD Cover(WIFI) B 80XF PTN        | 5CB0N61795 | N       |
| 12  | LCD Cover(WIFI) B 80XF SW         | 5CB0N61803 | N       |
| 12  | LCD Cover+SAR Antenna B 80XF PTN  | 5CB0N89977 | N       |
| 12  | LCD Cover+SAR Antenna B 80XF SW   | 5CB0N89975 | N       |
| 13  | TF/SIM Socket B 80XF              | 5M20N38173 | N       |
| 14  | NB_KYB SLE W/Hinge/PD B 80XF PTN  | 5N20N61801 | *       |
| 14  | NB_KYB ARA W/Hinge/PD B 80XF PTN  | 5N20N61776 | *       |
| 14  | NB_KYB ITA W/Hinge/PD B 80XF PTN  | 5N20N61818 | *       |
| 14  | NB_KYB SW W/Hinge/PD B 80XF PTN   | 5N20N61812 | *       |
| 14  | NB_KYB TUR W/Hinge/PD B 80XF PTN  | 5N20N61768 | *       |
| 14  | NB_KYB UKR W/Hinge/PD B 80XF PTN  | 5N20N61809 | *       |
| 14  | NB_KYB BEL W/Hinge/PD B 80XF PTN  | 5N20N61765 | *       |
| 14  | NB_KYB USI W/Hinge/PD B 80XF PTN  | 5N20N61760 | *       |
| 14  | NB_KYB POR W/Hinge/PD B 80XF PTN  | 5N20N61790 | *       |
| 14  | NB_KYB LSP W/Hinge/PD B 80XF PTN  | 5N20N61788 | *       |
| 14  | NB_KYB SPA W/Hinge/PD B 80XF PTN  | 5N20N61793 | *       |
| 14  | NB_KYB RU W/Hinge/PD B 80XF PTN   | 5N20N61806 | *       |
| 14  | NB_KYB ID W/Hinge/PD B 80XF PTN   | 5N20N61769 | *       |
| 14  | NB_KYB US W/Hinge/PD B 80XF PTN   | 5N20N61767 | *       |
| 14  | NB_KYB FR-AR W/Hinge/PD B 80XFPTN | 5N20N61771 | *       |
| 14  | NB_KYB HEB W/Hinge/PD B 80XF PTN  | 5N20N61761 | *       |
| 14  | NB_KYB FR W/Hinge/PD B 80XF PTN   | 5N20N61787 | *       |
| 14  | NB_KYB HUN W/Hinge/PD B 80XF PTN  | 5N20N61766 | *       |
| 14  | NB_KYB UK W/Hinge/PD B 80XF PTN   | 5N20N61757 | *       |
| 14  | NB_KYB BUL W/Hinge/PD B 80XF PTN  | 5N20N61805 | *       |
| 14  | NB_KYB DUT W/Hinge/PD B 80XF PTN  | 5N20N61779 | *       |
| 14  | NB_KYB NOD W/Hinge/PD B 80XF PTN  | 5N20N61791 | *       |
| 14  | NB_KYB TC W/Hinge/PD B 80XF PTN   | 5N20N61794 | *       |
| 14  | NB_KYB KOR W/Hinge/PD B 80XF PTN  | 5N20N61783 | *       |
| 14  | NB_KYB GRE W/Hinge/PD B 80XF PTN  | 5N20N61802 | *       |
| 14  | NB_KYB CZ-SK W/Hinge/PD B 80XFPTN | 5N20N61807 | *       |
| 14  | NB_KYB CFEn W/Hinge/PD B 80XF PTN | 5N20N61786 | *       |
| 14  | NB_KYB JAP W/Hinge/PD B 80XF PTN  | 5N20N61817 | *       |
| 14  | NB_KYB THA W/Hinge/PD B 80XF PTN  | 5N20N61785 | *       |
| 14  | NB_KYB GE W/Hinge/PD B 80XF PTN   | 5N20N61796 | *       |
| 14  | NB_KYB SLE W/Hinge/PD B 80XF SW   | 5N20N61781 | *       |
| 14  | NB_KYB ARA W/Hinge/PD B 80XF SW   | 5N20N61815 | *       |
| 14  | NB_KYB ITA W/Hinge/PD B 80XF SW   | 5N20N61763 | *       |
| 14  | NB_KYB SW W/Hinge/PD B 80XF SW    | 5N20N61778 | *       |
| 14  | NB_KYB TUR W/Hinge/PD B 80XF SW   | 5N20N61797 | *       |
| 14  | NB_KYB UKR W/Hinge/PD B 80XF SW   | 5N20N61804 | *       |
| 14  | NB_KYB BEL W/Hinge/PD B 80XF SW   | 5N20N61758 | *       |
| 14  | NB_KYB USI W/Hinge/PD B 80XF SW   | 5N20N61777 | *       |
| 14  | NB_KYB POR W/Hinge/PD B 80XF SW   | 5N20N61774 | *       |

**Table 4. Parts list—Overall (continued)**

| <b>No.</b> | <b>FRU</b>                        | <b>FRU no.</b> | <b>CRU ID.</b> |
|------------|-----------------------------------|----------------|----------------|
| 14         | NB_KYB LSP W/Hinge/PD B 80XF SW   | 5N20N61770     | *              |
| 14         | NB_KYB SPA W/Hinge/PD B 80XF SW   | 5N20N61784     | *              |
| 14         | NB_KYB RU W/Hinge/PD B 80XF SW    | 5N20N61792     | *              |
| 14         | NB_KYB ID W/Hinge/PD B 80XF SW    | 5N20N61808     | *              |
| 14         | NB_KYB US W/Hinge/PD B 80XF SW    | 5N20N61762     | *              |
| 14         | NB_KYB FR-AR W/Hinge/PD B 80XF SW | 5N20N61811     | *              |
| 14         | NB_KYB HEB W/Hinge/PD B 80XF SW   | 5N20N61764     | *              |
| 14         | NB_KYB FR W/Hinge/PD B 80XF SW    | 5N20N61813     | *              |
| 14         | NB_KYB HUN W/Hinge/PD B 80XF SW   | 5N20N61773     | *              |
| 14         | NB_KYB UK W/Hinge/PD B 80XF SW    | 5N20N61775     | *              |
| 14         | NB_KYB BUL W/Hinge/PD B 80XF SW   | 5N20N61814     | *              |
| 14         | NB_KYB DUT W/Hinge/PD B 80XF SW   | 5N20N61816     | *              |
| 14         | NB_KYB NOD W/Hinge/PD B 80XF SW   | 5N20N61782     | *              |
| 14         | NB_KYB TC W/Hinge/PD B 80XF SW    | 5N20N61772     | *              |
| 14         | NB_KYB KOR W/Hinge/PD B 80XF SW   | 5N20N61819     | *              |
| 14         | NB_KYB GRE W/Hinge/PD B 80XF SW   | 5N20N61780     | *              |
| 14         | NB_KYB CZ-SK W/Hinge/PD B 80XF SW | 5N20N61800     | *              |
| 14         | NB_KYB CFEn W/Hinge/PD B 80XF SW  | 5N20N61810     | *              |
| 14         | NB_KYB JAP W/Hinge/PD B 80XF SW   | 5N20N61798     | *              |
| 14         | NB_KYB THA W/Hinge/PD B 80XF SW   | 5N20N61799     | *              |
| 14         | NB_KYB GE W/Hinge/PD B 80XF SW    | 5N20N61759     | *              |
| 15         | ADAPTER 20W 2P BK CHN B 80XF      | 5A10N38133     | *              |
| 15         | ADAPTER 20W 2P BK ARG B 80XF      | 5A10N38155     | *              |
| 15         | ADAPTER 20W 2P BK UK B 80XF       | 5A10N38161     | *              |
| 15         | ADAPTER 20W 2P BK ZAF B 80XF      | 5A10N38122     | *              |
| 15         | ADAPTER 20W 2P BK EU B 80XF       | 5A10N38167     | *              |
| 15         | ADAPTER 20W 2P BK US B 80XF       | 5A10N38177     | *              |
| 15         | ADAPTER 20W 2P BK KOR B 80XF      | 5A10N38178     | *              |
| 15         | ADAPTER 20W 2P BK AUS B 80XF      | 5A10N38158     | *              |

Screws

Table 5. Parts list—Screws

| FRU               | FRU no.    | CRU ID. |
|-------------------|------------|---------|
| Screw Pack B 80XF | 5S10N38172 | N       |

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