lenovo

Lenovo TAB 2 A10-30

Hardware Maintenance Manual

Lenovo TB2-X30F
Lenovo TB2-X30L
Lenovo TB2-X30M

Note:

Before using this information and the product it supports, be sure to read the general information under “Notices” on page 82.

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About this manual

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

- **Lenovo TB2-X30F** (WiFi)
- **Lenovo TB2-X30L** (LTE data)
- **Lenovo TB2-X30M** (LTE voice)

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.

Note:
The information provided in this manual is applicable to both product versions mentioned above, unless otherwise specified.

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.

Safety information

This chapter presents the following safety information that you need to get familiar with before you service a Lenovo 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 for 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 generators

  and 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.

Notes:
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 לסלק 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.

מארז הסוללה מכיל כמות קטנה של ניקל וקדמיום. אין לפרק את מארז הסוללה, להשליך אותו לאש או למים או לקצר אותו. יש לסלק את מארז הסוללה הסוללה כנדרש על ידי התקנות והחוקים המקומיים. יש להשתמש רק בסוללה המופיעה ברשימת החלקים המתאימה בזמן החלפת מארז הסוללה. שימוש בסוללה לא מתאימה עלול לגרום להצתה 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 temperature 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 Systembatterie ist eine Lithiumbatterie. 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 לטענן אותה מחדש, לסלק את המחבר המקוטב שלה, לפרק אותה או לחמם אותה לטמפרטורה העולה על 100 מעלות צלזיוס. אין לשרוף את הסוללה ואין לחשוף את תוכן התא למים. יש לסלק את הסוללה כנדרש בתקנות ובחוקים המקומיים. יש להשתמש רק בסוללה המופיעה ברשימת החלקים המתאימים. שימוש בסוללה אחרת עלול לגרום לסכנת שריפה או התפוצצות.

La batteria di supporto e una batteria al litio e puo 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、その極性コネクターの取り外し、バッテリー本体の分解、
100 ℃ (212 °F) 以上への加熱、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 הגביש הנוזלי (LCD) נשבר והנוזל מתוך המסך בא במגע עם עיניכם או ידיכם, 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 の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

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 מוארקת 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 kontrôl, 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，请勿盯视激光光束，请勿直接查看
视觉仪器，并且避免直接接触在激光光束之中。

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!

Aprendo 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. Vyhnite sa priamemu pohľadu a nehľadte priamo s optickými nástrojmi do ľúča a vyhnite sa priamemu vystaveniu ľúčov.

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.

Important service information

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://consumersupport.lenovo.com/.

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://consumersupport.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.

General checkout

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.**
- **When you replace FRUs, use new nylon-coated screws.**
- **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 disk 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. Remove the battery pack.
3. Connect the AC adapter.
4. Make sure that power is supplied when you turn on the computer.
5. Turn off the computer.
6. Disconnect the AC adapter and install the charged battery pack.
7. 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:

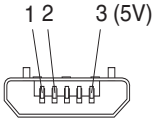
- "Checking the Computer AC Charger" on page 21
- "Checking the internal battery status" on page 22

Checking the Computer AC Charger

When you use the computer AC Charger to charge the tablet but no power is charged, see the instructions in this topic to check the computer AC Charger.

To check the computer AC Charger, do the following:

1. Disconnect the micro-USB cable from the tablet.
2. Measure the output voltage across the connector marked B of the micro-USB cable. Refer to the following figure:



Pin	Voltage (V dc)
1	Ground
2	0
3	+5

Note: The output voltage across pin 3 of the micro-B connector might be different from the one you are servicing.

3. If the voltage is not correct, replace the micro-USB cable.
4. If the voltage is acceptable, replace the system board.

Checking the internal battery status

To check the battery status of the tablet, do either of the following:

- **Approximate information about the battery status**

  Get the approximate status of the battery at any time by checking the battery status icon on the system bar in the upper-right corner of the screen. The shorter the green bar is, the less the battery power remains.

- **Accurate information about the battery status**

  To get the accurate information about the battery status of the tablet, do the following:

  1. Open the Android Settings screen.

     To open the Android Settings screen, do either of the following:

     – From the main Home screen, touch the Android Settings icon on Lenovo Launch Zone. The Android Settings screen is displayed.

     – Pull down the application icon from the action bar and then touch Settings. The Android Settings screen is displayed.

  2. Touch Battery in the Device section on the Android Settings screen.
  3. The accurate percentage of the remaining battery power is shown on the screen.

Related service information

This chapter presents the following information:

- "Security" on page 23
- "Power management" on page 23

Security

Security settings include: SCREEN SECURITY, SIM CARD LOCK (LTE version only), PASSWORDS, DEVICE ADMINISTRATION and CREDENTIAL STORAGE.

Power management

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

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

Activating/Deactivating the Display

With the display deactivated, press the Power button on the computer to activate the display. The computer display will then illuminate, indicating that it has been activated.

If you do not need to use your computer temporarily, you can press the Power button to deactivate the display. Your computer will then enter standby mode to save power.

Lenovo TAB 2 A10-30

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

- "Specifications" on page 24
- "Components location" on page 26
- "Parts list" on page 28
- "FRU replacement notices" on page 33
- "Removing and replacing an FRU" on page 34

Specifications

The following table lists the specifications of the Lenovo TAB 2 A10-30.

Note:
The listed technical data is applicable to all versions of the product, i.e. the WiFi version (Lenovo TB2-X30F),the LTE data version (Lenovo TB2-X30L) and the LTE voice version (Lenovo TB2-X30M), unless otherwise specified.

Table 1. Specifications

Feature	Description
Size & Weight	
Size	• 247mm x 171mm x 8.95mm
Weight	• 520g ~ 529g
System	
CPU	• 1.3GHz, 32-bit
Hardware Platform	• Qualcomm® Snapdragon™ APQ8009 (Lenovo TB2-X30F) • Qualcomm® Snapdragon™ MSM8909 (Lenovo TB2-X30L/M)
RAM	• 1GB
Storage Capacity	• 16GB
LCD	• 10.1", 1,280 x 800 pixels
Integrated Camera	• Rear camera, 5.0Mega pixels, Auto Focus • Front camera, 2.0Mega pixels, Fixed Focus
Battery	• Li-ion battery, 7,000mAh
Operating System	
	• Android 5.1 (upgradable to new OS version)
Network	
	• GSM/WCDMA/LTE

Ports	
	• Micro-USB (USB 2.0), 5-pin • Audio Jack, 3.5mm (support Audio and Microphone) • Micro SIM card slot (Lenovo TB2-X30L/M) • Micro-SD card slot (support external Micro-SD card up to 64GB)
Communication	
	• WiFi: 802.11b/g/n, 2.4GHz • GSM/EDGE: B2/3/5/8 • WCDMA: B1/2/5/8 (Lenovo TB2-X30L/M) • LTE:B1/3/40/41(Lenovo TB2-X30L/M), China market only • LTE:B1/3/7/8/20 (Lenovo TB2-X30L/M), ROW • Bluetooth 4.0 • A-GPS (support GPS+Beidou for PRC) • A-GPS (support GPS+Glonass for other countries) • Voice call (Lenovo TB2-X30M) • FM radio
Others	
	• Speaker (Dual) • Microphone • Gravity sensor • Vibration • Dolby audio system (DAX2) • WiFi Direct • Hall sensor

Components location

Front view

1 Front camera
2 Microphone

Rear view

3 Audio Jack
4 Right speaker
5 Rear camera
6 Left speaker
7 Power key
8 Volume key
9 Micro-USB connection
10 Micro-SD card slot
11 Micro SIM card slot (Lenovo TB2-X30L/M)

Parts list

This section presents the following service parts:

- "FRUs list" on page 28
- "Screws list" on page 32

Note:
The listed technical data is applicable to all versions of the product, i.e. the WiFi version (Lenovo TB2-X30F),the LTE data version (Lenovo TB2-X30L) and the LTE voice version (Lenovo TB2-X30M), unless otherwise specified.

FRUs list

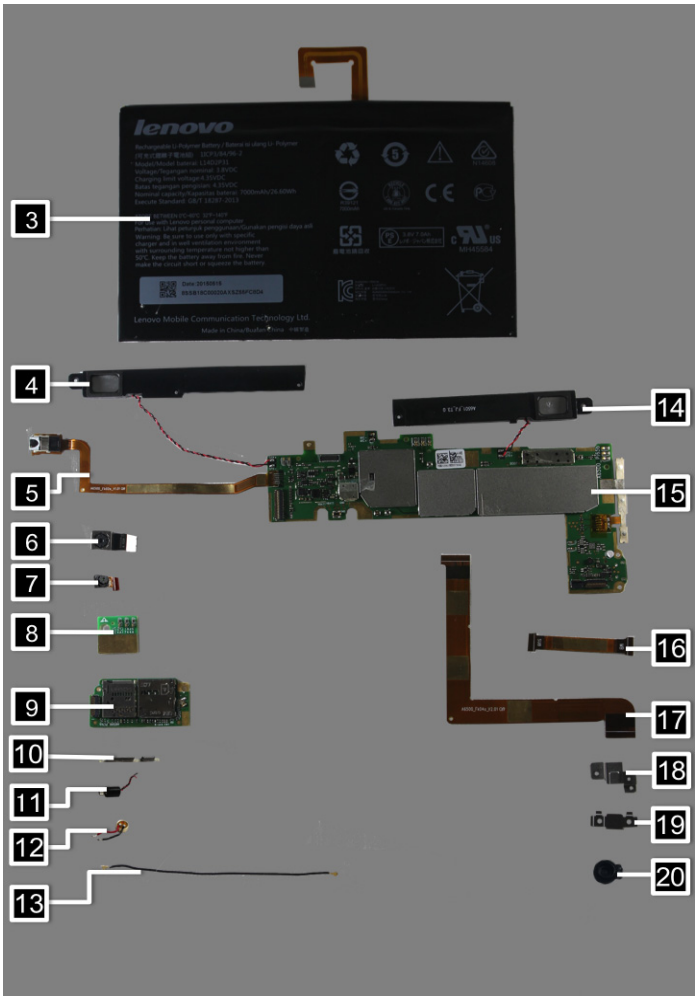

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Table 1. FRUs list—Overall

No.	FRU	FRU No.	CRU ID
1	Lenovo TAB 2 A10-30 rear cover	Lenovo TB2-X30F: 5S58C03677 (blue) 5S58C04084 (white) Lenovo TB2-X30L/M 5S58C04086 (blue), except India market 5S58C04090 (blue), India market only 5S58C04088 (white)	N
2	Lenovo TAB 2 A10-30 front module (TP LCM assembly)	Lenovo TB2-X30F: 5D68C03676 (blue) 5D68C04083 (white) Lenovo TB2-X30L/M: 5D68C04085 (blue) 5D68C04087 (white)	N
3	Lenovo TAB 2 A10-30 battery pack	SB18C03763	N
4	Lenovo TAB 2 A10-30 right speaker	5SB8C03646 5SB8C03647	N
5	Lenovo TAB 2 A10-30 audio jack FPC	5F78C03698 5F78C03699	N
6	Lenovo TAB 2 A10-30 rear camera	SC29A6N34V	N
7	Lenovo TAB 2 A10-30 front camera	5C28C03642 5C28C03643	N
8	Lenovo TAB 2 A10-30 antenna PCB (LTE versions only)	5P68C04081	N
9	Lenovo TAB 2 A10-30 sub board	Lenovo TB2-X30F: 5P68C03674 Lenovo TB2-X30L/M: 5P68C04080	N
10	Lenovo TAB 2 A10-30 side key	5B68C03654 (blue) 5B68C04076 (white)	N
11	Lenovo TAB 2 A10-30 vibrator motor	5M78C03640 5M78C03641	N
12	Lenovo TAB 2 A10-30 microphone	5M49A4673F 5M48C03649	N
13	Lenovo TAB 2 A10-30 antenna cable (LTE versions only)	5C18C04079	N
14	Lenovo TAB 2 A10-30 left speaker	Lenovo TB2-X30F: 5SB8C03644 5SB8C03645 Lenovo TB2-X30L/M: 5SB8C04075	N

15	Lenovo TAB 2 A10-30 main board assembly (with with left speaker, right speaker, audio jack FPC, and side key FPC)	Lenovo TB2-X30F: 5B28C03675 (16G) Lenovo TB2-X30L/M: 5P68C04089 (16G), India market only 5P68C04082 (16G)	N
16	Lenovo TAB 2 A10-30 main FPC	5F78C03652 5F78C03653	N
17	Lenovo TAB 2 A10-30 LCD FPC	5F78C03650 5F78C03651	N
18	Lenovo TAB 2 A10-30 metal piece for fixing the audio jack FPC	5M88C03656	N
19	Lenovo TAB 2 A10-30 metal piece for fixing the battery FPC	5M88C03655	N
20	Lenovo TAB 2 A10-30 rubber seat	5MO8C03671	N

Screws list

Table 2. Parts list—Screw

FRU	P/N	CRU ID
Phillips cross head screw, M1.4 × 2.0	5M88C03673	N
Phillips cross head screw, M1.4 × 3.5	5M89A462AV	N

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 Lenovo computers, 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.
- Each one should be used only once.

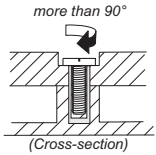
Do the following when you service this machine:

- Keep the screw kit in your tool bag.
- Always use new screws.
- Use a torque screwdriver if you have one.

Tighten screws as follows:

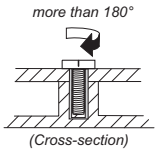
- **Plastic to plastic**

  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. **Never use a screw that you removed. Use a new one. 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 33.
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 section that describes the detailed removing and replacing procedure for the failing FRU. Remove them in the order in which they are listed.
4. Follow the correct sequence in the steps to remove the FRU, while referring to figures provided in the procedure.
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 "Components location" on page 26.
8. When replacing an FRU, use the correct screw as specified in the procedures.

> **⚠ DANGER**
> Before removing any FRU, turn off the computer, unplug all power cords from electrical outlets, remove the battery pack, 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 Rear cover and side key

1. Hold the tablet in one hand and use a triangle paddle to unlock the rear cover from the tablet along the joint line as shown in the figure below.

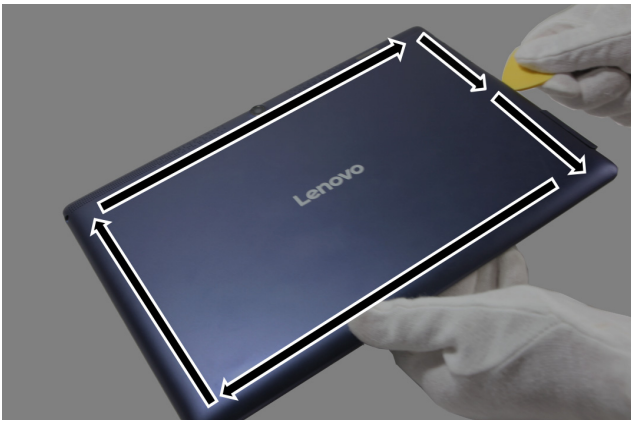


Figure 1-1. Unlocking the rear cover from the front module (along the joint line)

2. Slowly remove the rear cover.

Figure 1-2. The removed rear cover with side key

3. Remove the side key from the rear cover using a pair of pointed tweezer.

Figure 1-3. Removing the side key

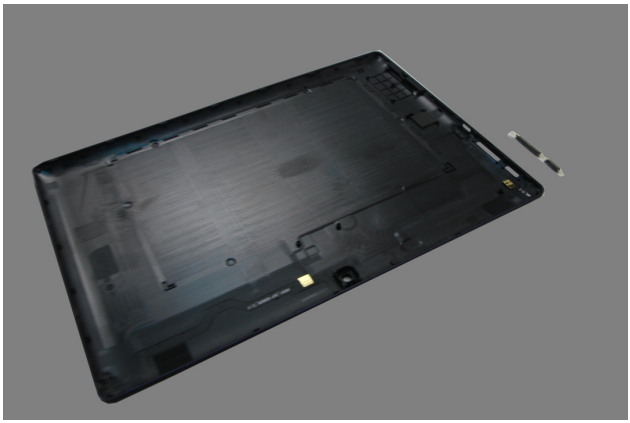


Figure 1-4. The removed rear cover and side key

1020 Battery pack

For access, detach the following FRU:

- Rear cover assembly (see Step 1 on page 35 to Step 2 on page 35 in "1010 Rear cover and side key")

Rechargeable Battery Notice

⚠ CAUTION:

Risk of explosion if the battery is replaced with an incorrect type.

When replacing the lithium battery, use only the same or an equivalent type that is recommended by the manufacturer. The battery contains lithium and can explode if not properly used, handled, or disposed of.

Dispose of the used battery according to the instructions. Do not:

- Throw or immerse into water
- Heat to more than 100°C (212°F)
- Repair or disassemble

1. Remove screws **1** on the metal piece for fixing the battery FPC.

Figure 2-1. The screws on the metal piece for fixing the battery FPC

Part No.	Screw (quantity)	Color	Torque
1	M1.4 × 2.0 (2)	Silver	N/A

2. Remove the metal piece.

Figure 2-2. Removing the metal piece

3. Disconnect the battery FPC from its connector on the main board.

Figure 2-3. Disconnecting the battery FPC

4. Detach the battery FPC from the main board (if applicable).

Figure 2-4. Detaching the battery FPC

5. Detach the battery pack from the front module of the tablet using a flat blade.

Figure 2-5. Detaching the battery pack

6. Remove the battery pack.

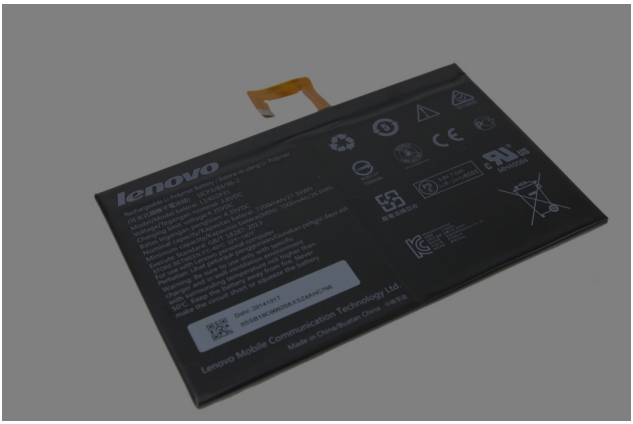


Figure 2-6. The removed battery pack

1030 Rear camera

For access, detach the following FRUs:

- Rear cover assembly (see Step 1 on page 35 to Step 2 on page 35 in “1010 Rear cover and side key”)
- Battery FPC (see Step 1 on page 37 to Step 3 on page 38 in “1020 Battery pack”)

1. Detach the connector of the rear camera FPC from the main board.

Figure 3-1. Detaching the connector of the rear camera FPC

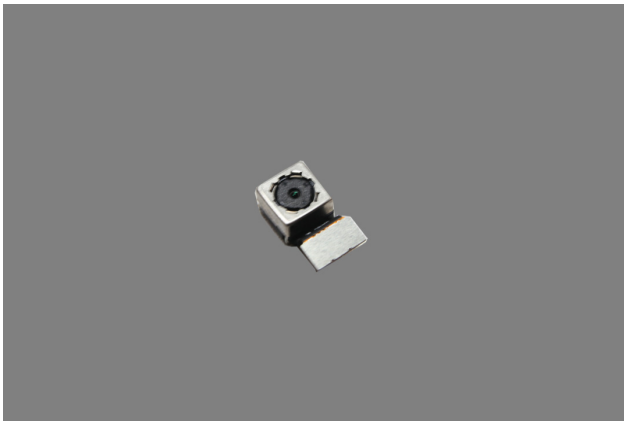


Figure 3-2. The removed rear camera

1040 Microphone

For access, detach the following FRUs:

- Rear cover assembly (see Step 1 on page 35 to Step 2 on page 35 in “1010 Rear cover and side key”)
- Battery FPC (see Step 1 on page 37 to Step 3 on page 38 in “1020 Battery pack”)

1. Desolder the wires of the microphone from their connecting points on the main board at the position shown in the figure below.

Figure 4-1. Position for desoldering the wires of the microphone

2. Remove the microphone from its rubber seat as shown in the figure below.

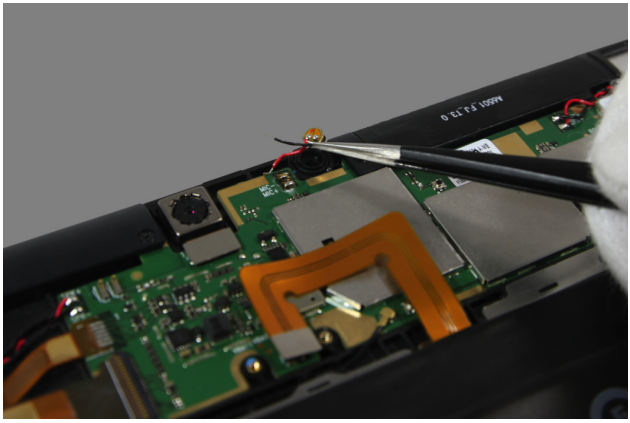


Figure 4-2. Removing the microphone

Figure 4-3. The removed microphone

1050 Vibrator motor

For access, detach the following FRUs:

- Rear cover assembly (see Step 1 on page 35 to Step 2 on page 35 in “1010 Rear cover and side key”)
- Battery FPC (see Step 1 on page 37 to Step 3 on page 38 in “1020 Battery pack”)

1. Desolder the wires of the vibrator motor from their connecting points on the main board at the position shown in the figure below.

Figure 5-1. Position for desoldering the wires of the vibrator motor

2. Remove the vibrator motor as shown in the figure below.

Figure 5-2. Removing the vibrator motor

Figure 5-3. The removed vibrator motor

1060 LCD FPC

For access, detach the following FRUs:

- Rear cover assembly (see Step 1 on page 35 to Step 2 on page 35 in “1010 Rear cover and side key”)
- Battery FPC (see Step 1 on page 37 to Step 3 on page 38 in “1020 Battery pack”)

1. Remove the mylar on the LCD FPC at the main board side as shown in the figure below.

Figure 6-1. Removing the mylar on the LCD FPC (main board side)

2. Unlock the connector of the LCD FPC on the main board using a triangle paddle.

Figure 6-2. Unlocking the connector of the LCD FPC (main board side)

3. Pull out the LCD FPC from its connector on the main board as shown in the figure below.

Figure 6-3. Pulling out the LCD FPC (from the main board side)

4. Detach the LCD FPC from the front module of the tablet as shown in the figure below.

Figure 6-4. Detaching the LCD FPC

5. Remove the mylar on the LCD FPC at the front module side as shown in the figure below.

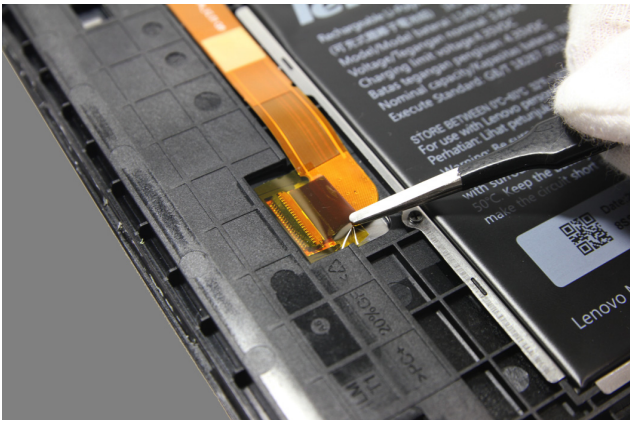


Figure 6-5. Removing the mylar on the LCD FPC (front module side)

6. Unlock the connector of the LCD FPC on the front module of the tablet using a triangle paddle.

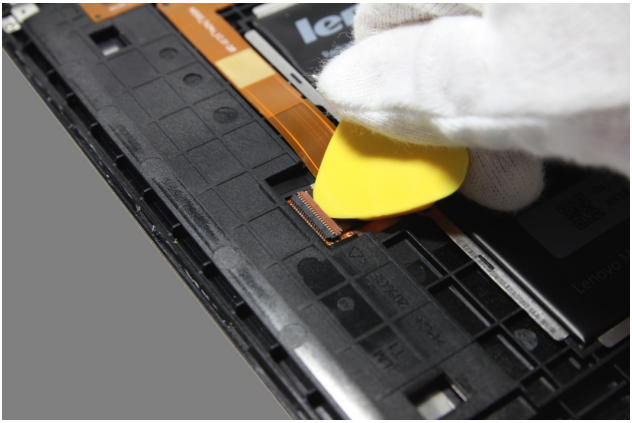


Figure 6-6. Unlocking the connector of the LCD FPC (front module side)

7. Pull out the main FPC from its connector on the front module of the tablet as shown in the figure below.

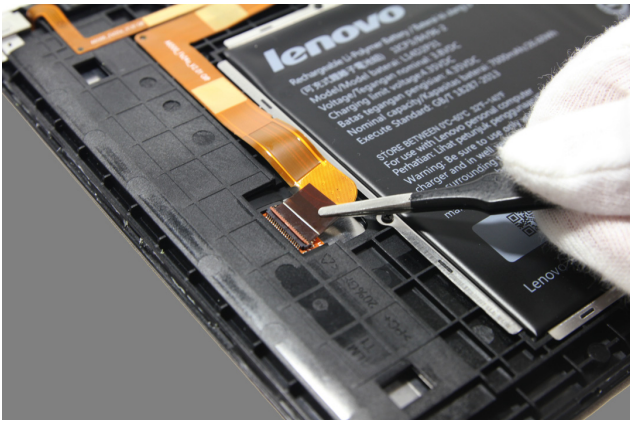


Figure 6-7. Pulling out the LCD FPC (from the front module side)

8. Detach the LCD FPC from the front module of the tablet as shown in the figure below.

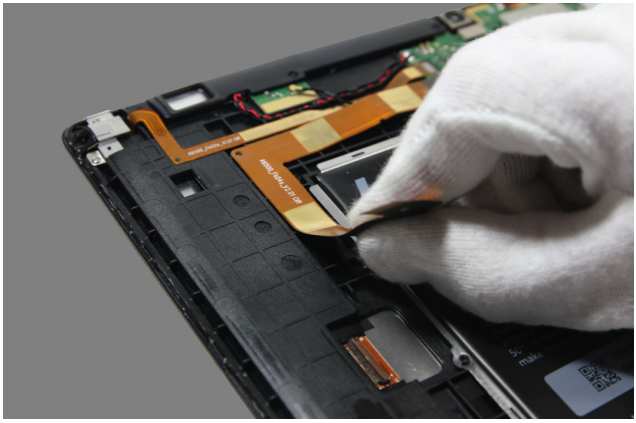


Figure 6-8. Detaching the LCD FPC

Figure 6-9. The removed LCD FPC

1070 Main FPC

For access, detach the following FRUs:

- Rear cover assembly (see Step 1 on page 35 to Step 2 on page 35 in “1010 Rear cover and side key”)
- Battery FPC (see Step 1 on page 37 to Step 3 on page 38 in “1020 Battery pack”)

1. Remove the mylar on the main FPC at the sub board side as shown in the figure below.

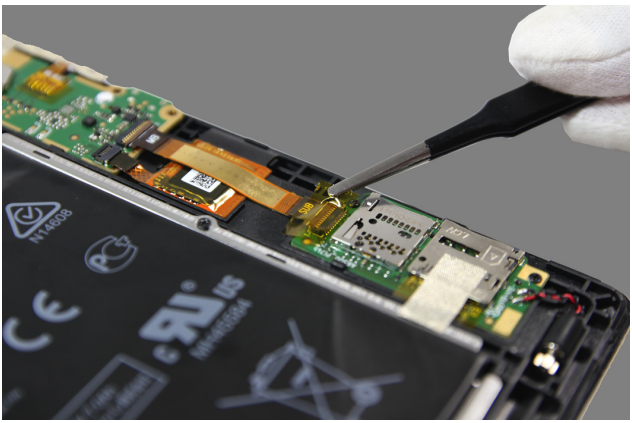


Figure 7-1. Removing the mylar on the main FPC (sub board side)

2. Unlock the connector of the main FPC on the sub board using a triangle paddle.

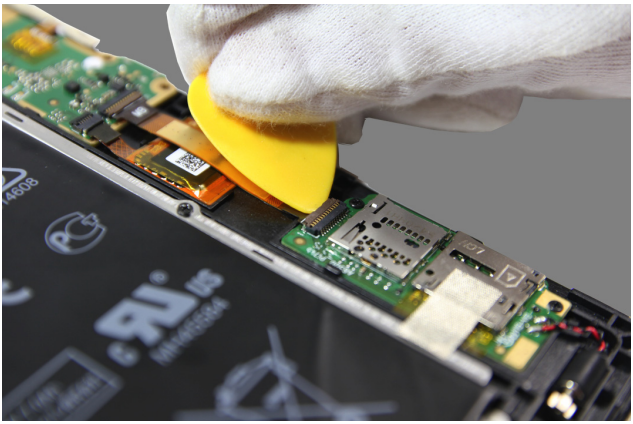


Figure 7-2. Unlocking the connector of the main FPC (sub board side)

3. Pull out the main FPC from its connector on the sub board as shown in the figure below.

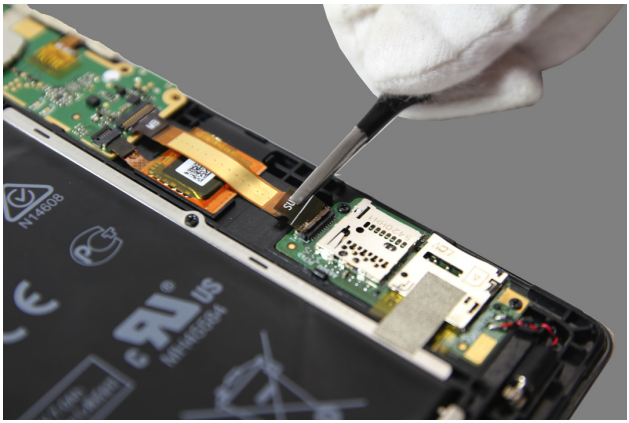


Figure 7-3. Pulling out the main FPC (from the sub board side)

4. Remove the mylar on the main FPC at the main board side as shown in the figure below.

Figure 7-4. Removing the mylar on the main FPC (main board side)

5. Unlock the connector of the main FPC on the main board using a triangle paddle.

Figure 7-5. Unlocking the connector of the main FPC (main board side)

6. Pull out the main FPC from its connector on the main board as shown in the figure below.

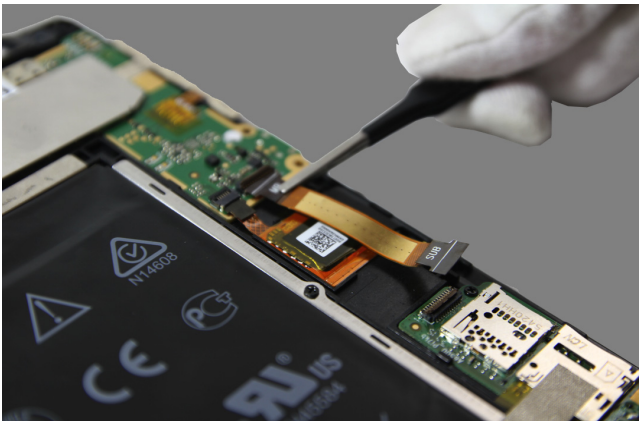


Figure 7-6. Pulling out the main FPC (from the main board side)

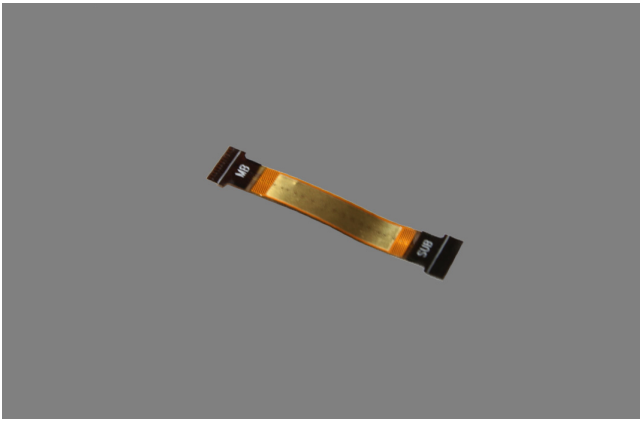


Figure 7-7. The removed main FPC

1080 Antenna PCB (LTE version only)

For access, detach the following FRUs:

- Rear cover assembly (see Step 1 on page 35 to Step 2 on page 35 in “1010 Rear cover and side key”)
- Battery FPC (see Step 1 on page 37 to Step 3 on page 38 in “1020 Battery pack”)

1. Disconnect the antenna cable from its connector on the antenna PCB at the position as shown in the figure below.

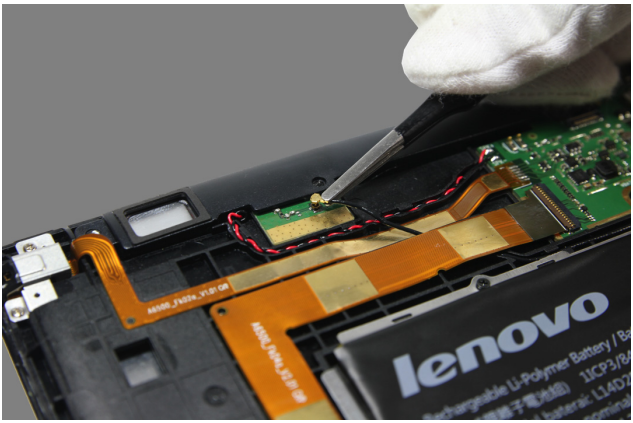


Figure 8-1. Positions for disconnecting the antenna cable (antenna PCB side)

2. Remove screws 1 on the right speaker as shown in the figure below.

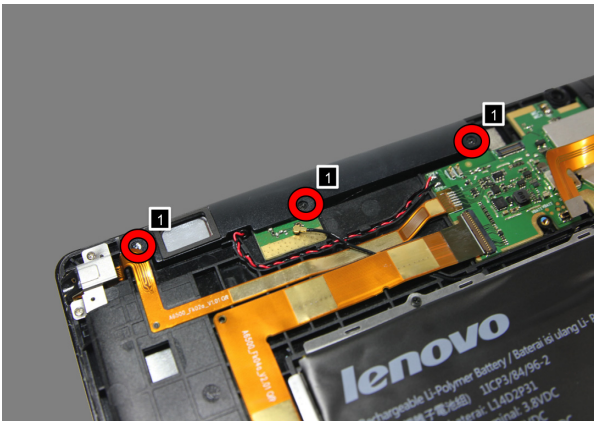


Figure 8-2. The screws on the right speaker

Part No.	Screw (quantity)	Color	Torque
1	M1.4 x 3.5 (3)	Black	N/A

3. Detach the right speaker from its seat, and remove the antenna PCB using a pair of tweezers as shown in the figure below.

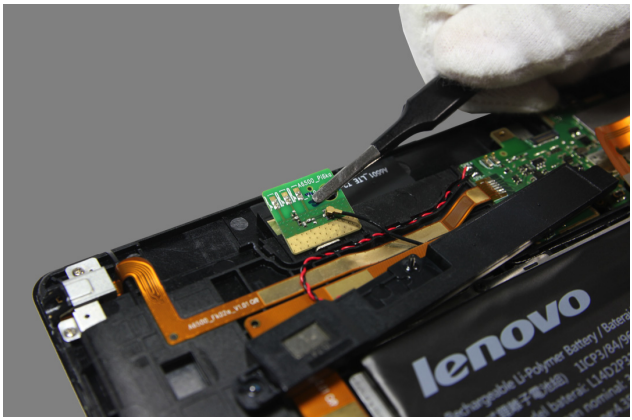


Figure 8-3. Removing the antenna PCB

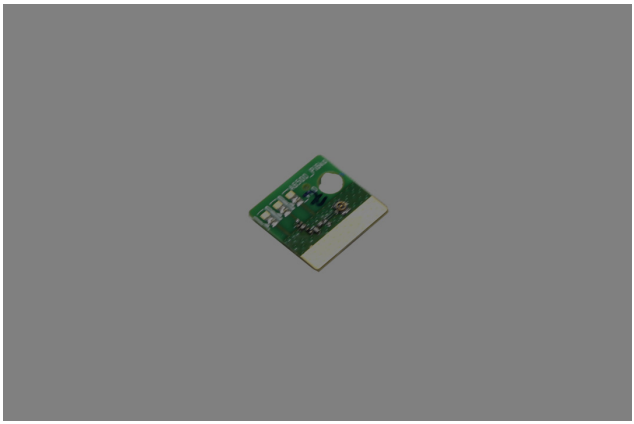


Figure 8-4. The removed antenna (LTE version only)

1090 Sub board

Important notices for handling PCB:

When handling PCB, bear the following in mind:

- Be careful not to drop the PCB onto a bench top that has a hard surface, such as surface made of metal, wood, or composite materials.
- Avoid rough handling of any kind.
- Make sure not to drop or stack the PCB in the whole process.
- Make sure to put the PCB only on surface covered with such materials as an ESD mat or conductive corrugated plate.

For access, detach the following FPCs and wire connections:

- Rear cover assembly (see Step 1 on page 35 to Step 2 on page 35 in “1010 Rear cover and side key”)
- Battery FPC (see Step 1 on page 37 to Step 3 on page 38 in “1020 Battery pack”)
- Vibrator motor wire connections (see Step 1 on page 44 in “1050 Vibrator motor”)

1. Remove the mylar on the main FPC at the sub board side as shown in the figure below.

Figure 9-1. Removing the mylar on the main FPC (sub board side)

2. Unlock the connector of the main FPC on the sub board using a triangle paddle.

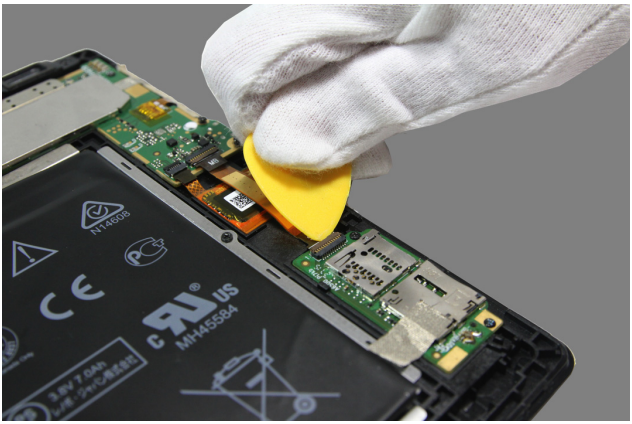


Figure 9-2. Unlocking the connector of the main FPC (sub board side)

3. Pull out the main FPC from its connector on the sub board as shown in the figure below.

Figure 9-3. Pulling out the main FPC (from the sub board side)

4. Remove the conductive fabric tape as shown in the figure below.

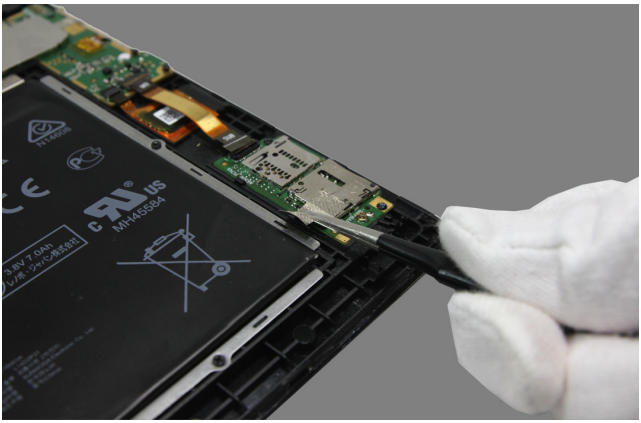


Figure 9-4. Removing the conductive fabric tape

5. Remove screws 1 on the sub board.

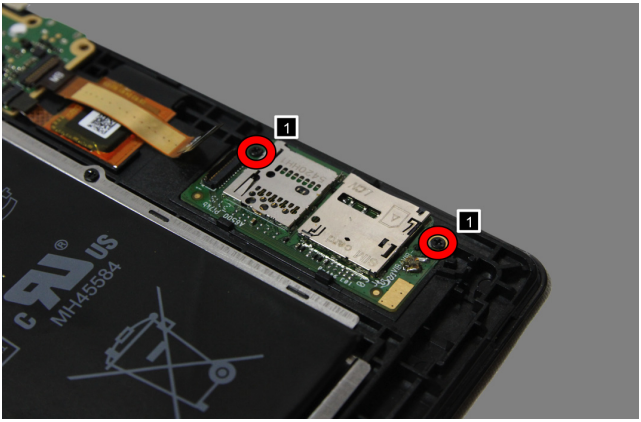


Figure 9-5. The screws on the sub board

Part No.	Screw (quantity)	Color	Torque
1	M1.4 × 3.5	Black	N/A

6. Remove the sub board from the tablet.

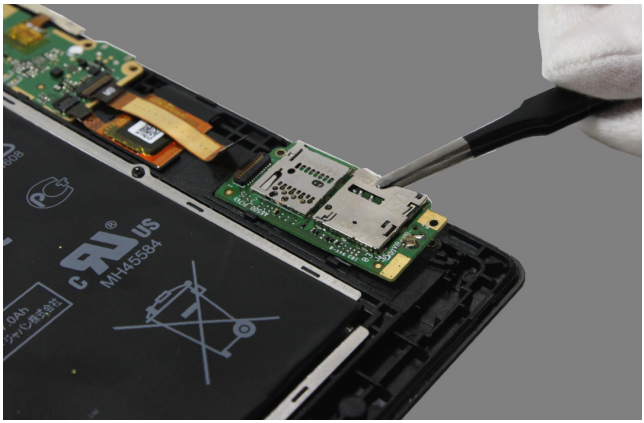


Figure 9-6. Removing the sub board

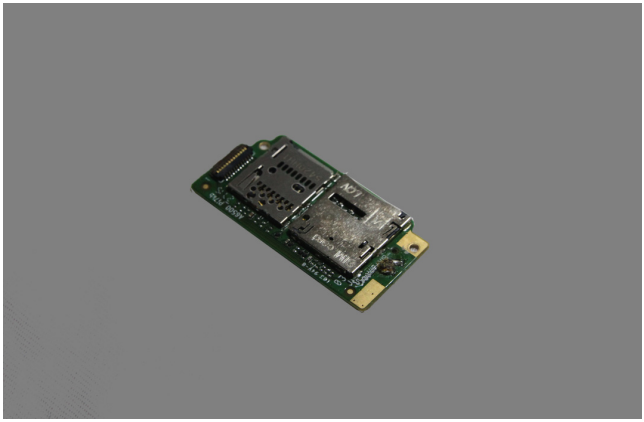


Figure 9-7. The removed sub board

1100 Left Speaker

For access, detach the following FRUs:

- Rear cover assembly (see Step 1 on page 35 to Step 2 on page 35 in “1010 Rear cover and side key”)
- Battery FPC (see Step 1 on page 37 to Step 3 on page 38 in “1020 Battery pack”)

1. Desolder the wires of the left speaker from their connecting points on the main board at the position shown in the figure below.

Figure 10-1. Position for desoldering the wires of the left speaker

2. Remove screws 1 on the left speaker as shown in the figure below.

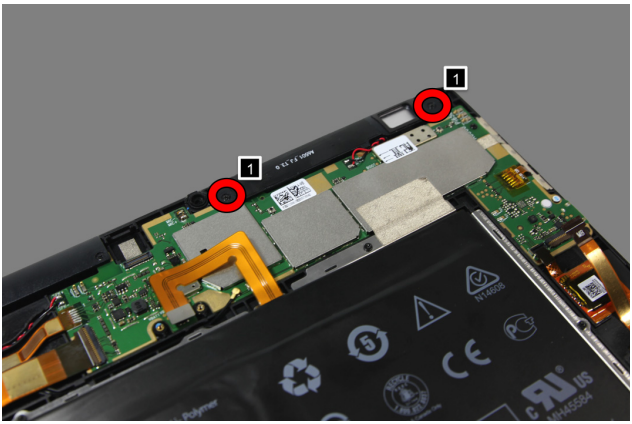


Figure 10-2. The screws on the left speaker

Part No.	Screw (quantity)	Color	Torque
1	M1.4 x 3.5 (2)	Black	N/A

3. Remove the left speaker from the tablet.

Figure 10-3. Removing the left speaker

Figure 10-4. The removed left speaker

1110 Right Speaker

For access, detach the following FRUs:

- Rear cover assembly (see Step 1 on page 35 to Step 2 on page 35 in “1010 Rear cover and side key”)
- Battery FPC (see Step 1 on page 37 to Step 3 on page 38 in “1020 Battery pack”)

1. Desolder the wires of the right speaker from their connecting points on the main board at the position shown in the figure below.

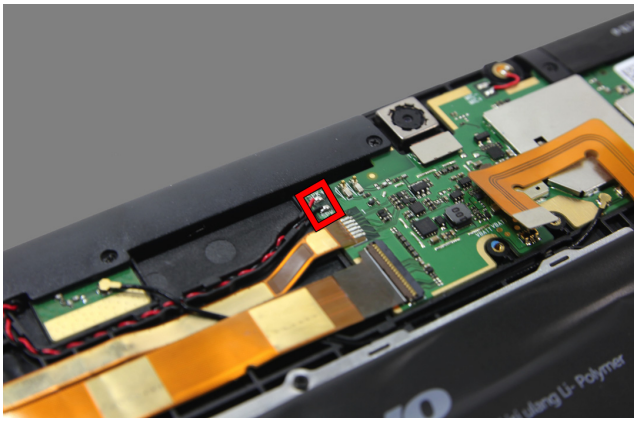


Figure 11-1. Position for desoldering the wires of the right speaker

2. Remove screws 1 on the right speaker as shown in the figure below.

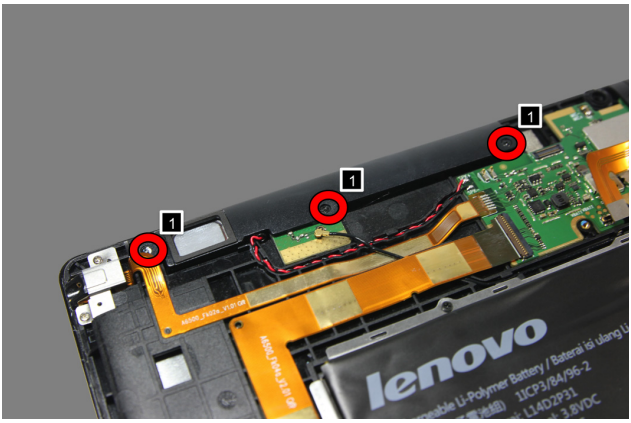


Figure 11-2. The screws on the right speaker

Part No.	Screw (quantity)	Color	Torque
1	M1.4 x 3.5 (3)	Black	N/A

3. Remove the right speaker from the tablet.

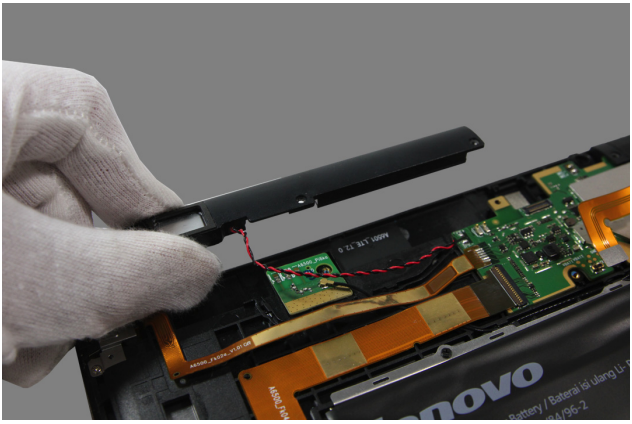


Figure 11-3. Removing the right speaker

Figure 11-4. The removed right speaker

1120 Main board assembly (with left and right speakers, audio jack FPC, and side key FPC)

Important notices for handling PCB:

When handling PCB, bear the following in mind:

- Be careful not to drop the PCB onto a bench top that has a hard surface, such as surface made of metal, wood, or composite materials.
- Avoid rough handling of any kind.
- Make sure not to drop or stack the PCB in the whole process.
- Make sure to put the PCB only on surface covered with such materials as an ESD mat or conductive corrugated plate.

For access, detach the following FRUs:

- Rear cover assembly (see Step 1 on page 35 to Step 2 on page 35 in “1010 Rear cover and side key”)
- Battery FPC (see Step 1 on page 37 to Step 3 on page 38 in “1020 Battery pack”)
- “1030 Rear camera” on page 41
- “1040 Microphone” on page 42
- LCD FPC (see Step 1 on page 46 to Step 3 on page 47 in “1060 LCD FPC”)
- Main FPC (see Step 4 on page 53 to Step 6 on page 54 in “1070 Main FPC”)

1. Peel off the conductive fabric tape on the main board as shown in the figure below (if applicable).

Figure 12-1. Peeling off the conductive fabric tape on the main board

2. Disconnect the antenna cable from its connector on the main board at the position as shown in the figure below (LTE version only).

Figure 12-2. Positions for disconnecting the antenna cable (main board side, LTE version only)

3. Detach the side key FPC from the front module of the tablet using a pair of tweezers.

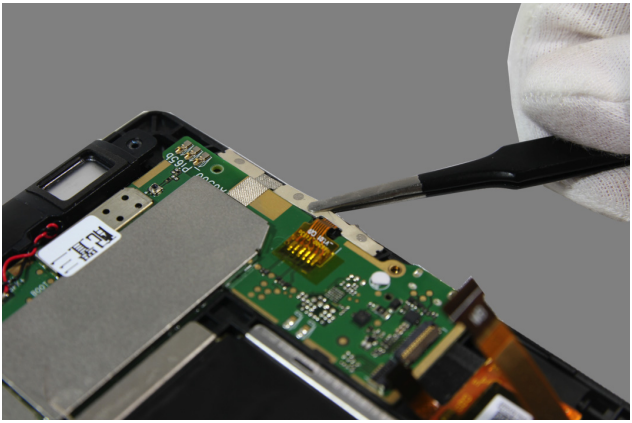


Figure 12-3. Detaching the side key FPC

4. Unlock the connector of the TP FPC on the main board using a triangle paddle as shown in the figure below.

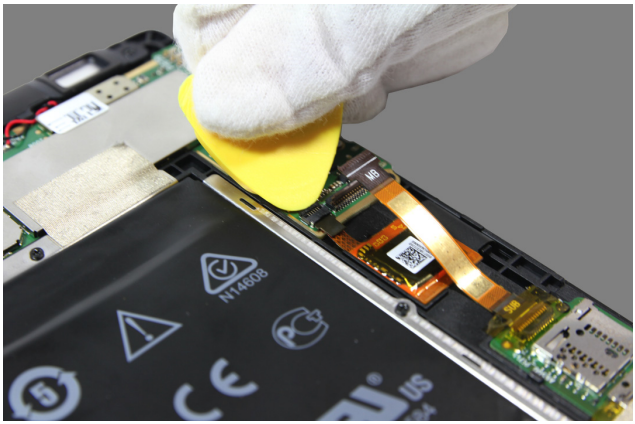


Figure 12-4. Unlocking the connector of the TP FPC

5. Pull out the TP FPC from its unlocked connector using a pair of tweezers as shown in the figure below.

Figure 12-5. Pulling out the TP FPC

6. Remove screws 1 and 2 at the positions as shown in the figures below.

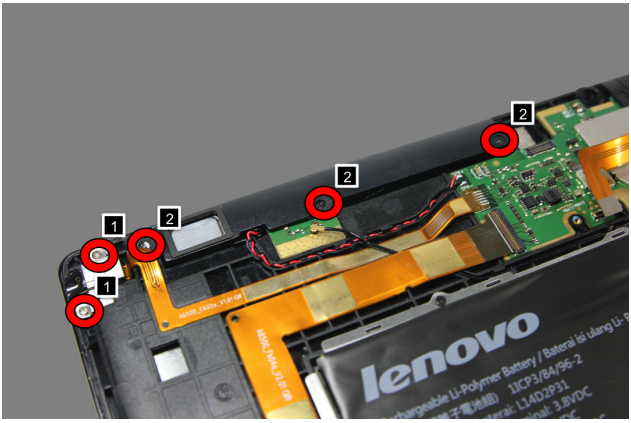


Figure 12-6. The screws on the audio jack and right speaker

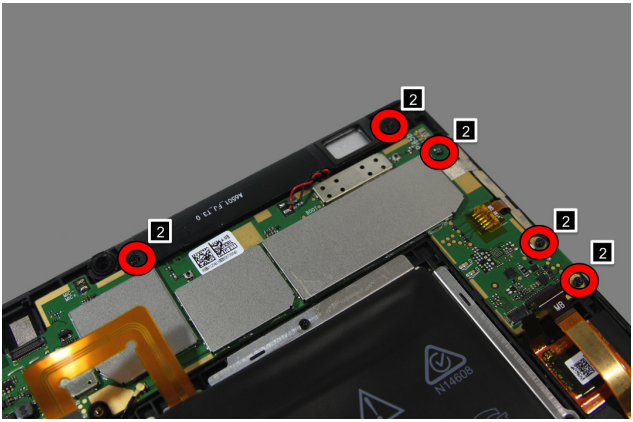


Figure 12-7. The screws on the main board and left speaker

Part No.	Screw (quantity)	Color	Torque
1	Phillips flat head screw, M1.4 × 2.0 (2)	Silver	N/A
2	Phillips flat head screw, M1.4 × 3.5 (8)	Black	N/A

7. Remove the metal piece for fixing the audio jack.

Figure 12-8. Removing the metal piece

8. Detach the audio jack FPC from the front module of the tablet.

Figure 12-9. Detaching the audio jack FPC

9. Remove the main board assembly from the front module of the tablet as shown in the figure below.

Figure 12-10. Removing the main board assembly from the front module of the tablet

10. Unlock the connector of the front camera FPC on the back side of the main board.

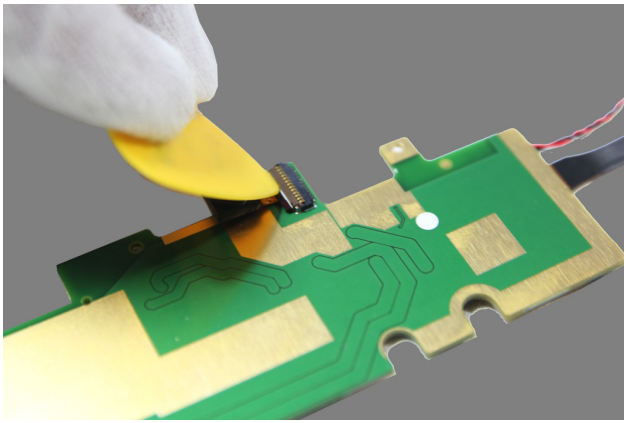


Figure 12-11. Unlocking the connector of the front camera FPC

11. Remove the front camera FPC from its connector on the back side of the main board.

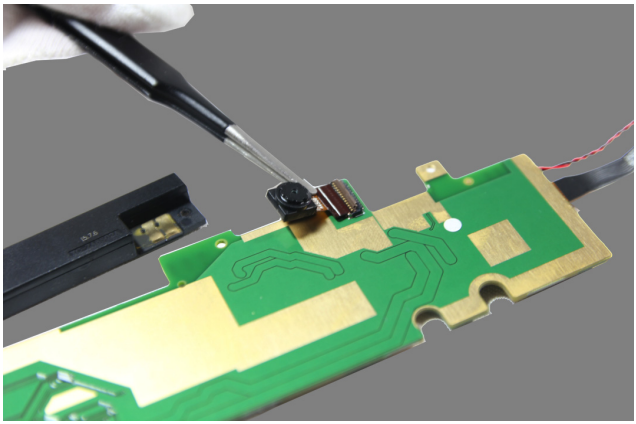


Figure 12-12. Removing the front camera FPC

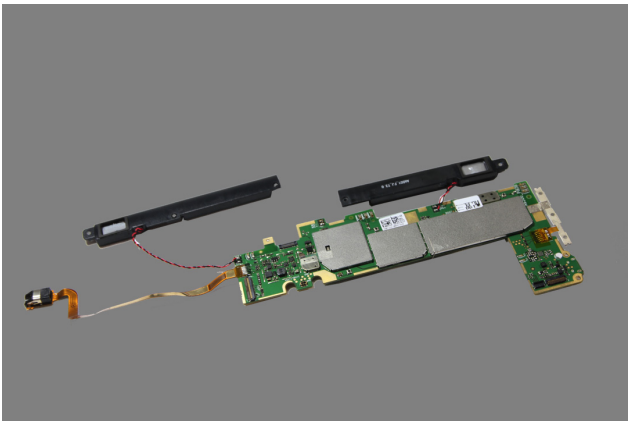


Figure 12-13. The removed main board assembly (with left and right speaker, audio jack FPC, and side key FPC)

1130 Front camera

Important notices for handling PCB:

When handling PCB, bear the following in mind:

- Be careful not to drop the PCB onto a bench top that has a hard surface, such as surface made of metal, wood, or composite materials.
- Avoid rough handling of any kind.
- Make sure not to drop or stack the PCB in the whole process.
- Make sure to put the PCB only on surface covered with such materials as an ESD mat or conductive corrugated plate.

For access, detach the following FRUs:

- Rear cover assembly (see Step 1 on page 35 to Step 2 on page 35 in “1010 Rear cover and side key”)
- Battery FPC (see Step 1 on page 37 to Step 3 on page 38 in “1020 Battery pack”)
- “1030 Rear camera” on page 41
- “1040 Microphone” on page 42
- LCD FPC (see Step 1 on page 46 to Step 3 on page 47 in “1060 LCD FPC”)
- Main FPC (see Step 4 on page 53 to Step 6 on page 54 in “1070 Main FPC”)

1. Peel off the conductive fabric tape on the main board as shown in the figure below (if applicable).

Figure 13-1. Peeling off the conductive fabric tape on the main board

2. Disconnect the antenna cable from its connector on the main board at the position as shown in the figure below (LTE version only).

Figure 13-2. Positions for disconnecting the antenna cable (main board side, LTE version only)

3. Detach the side key FPC from the front module of the tablet using a pair of tweezers.

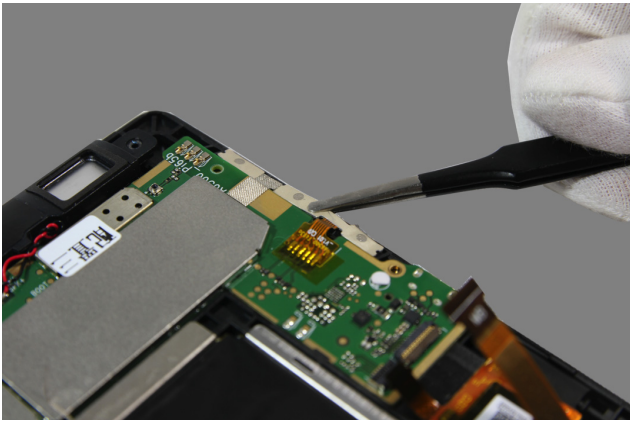


Figure 13-3. Detaching the side key FPC

4. Unlock the connector of the TP FPC on the main board using a triangle paddle as shown in the figure below.

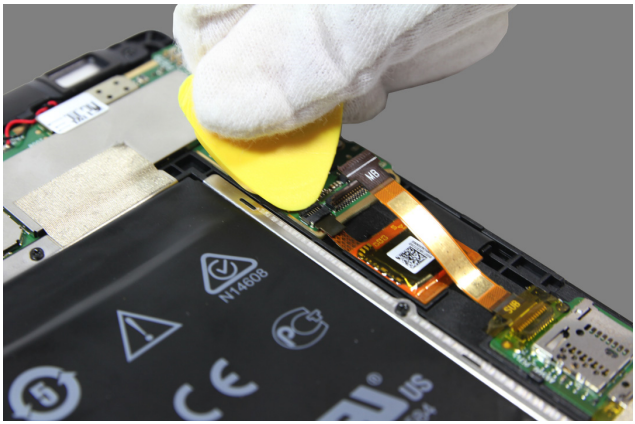


Figure 13-4. Unlocking the connector of the TP FPC

5. Pull out the TP FPC from its unlocked connector using a pair of tweezers as shown in the figure below.

Figure 13-5. Pulling out the TP FPC

6. Remove screws 1 and 2 at the positions as shown in the figures below.

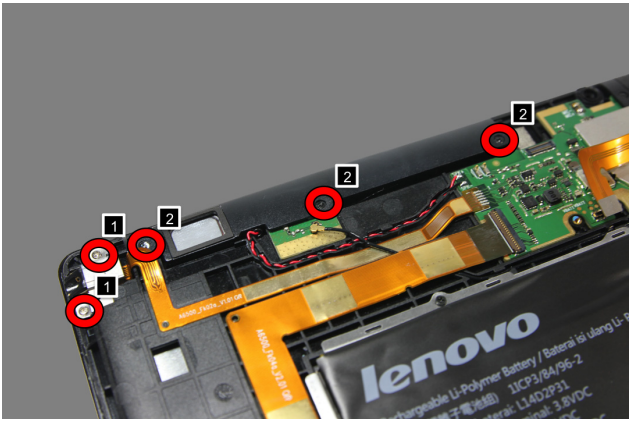


Figure 13-6. The screws on the audio jack and right speaker

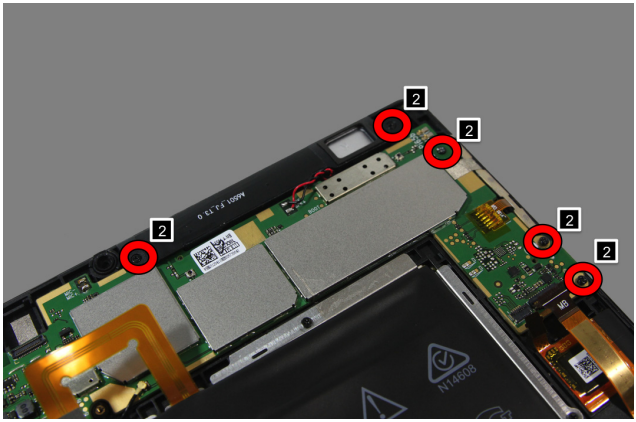


Figure 13-7. The screws on the main board and left speaker

Part No.	Screw (quantity)	Color	Torque
1	Phillips flat head screw, M1.4 × 2.0 (2)	Silver	N/A
2	Phillips flat head screw, M1.4 × 3.5 (8)	Black	N/A

7. Remove the metal piece for fixing the audio jack.

Figure 13-8. Removing the metal piece

8. Detach the audio jack FPC from the front module of the tablet.

Figure 13-9. Detaching the audio jack FPC

9. Remove the main board assembly from the front module of the tablet as shown in the figure below.

Figure 13-10. Removing the main board assembly from the front module of the tablet

10. Unlock the connector of the front camera FPC on the back side of the main board.

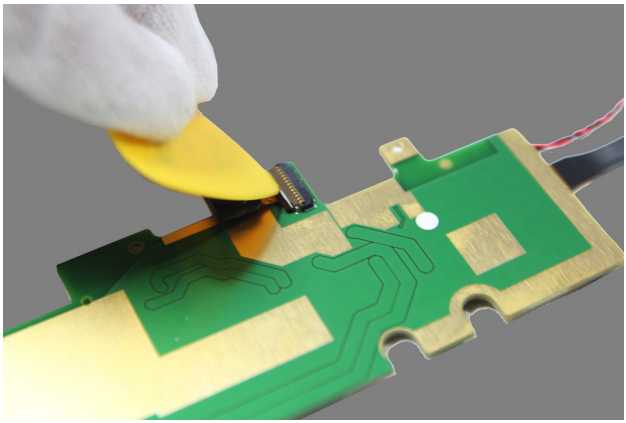


Figure 13-11. Unlocking the connector of the front camera FPC

11. Remove the front camera FPC from its connector on the back side of the main board.

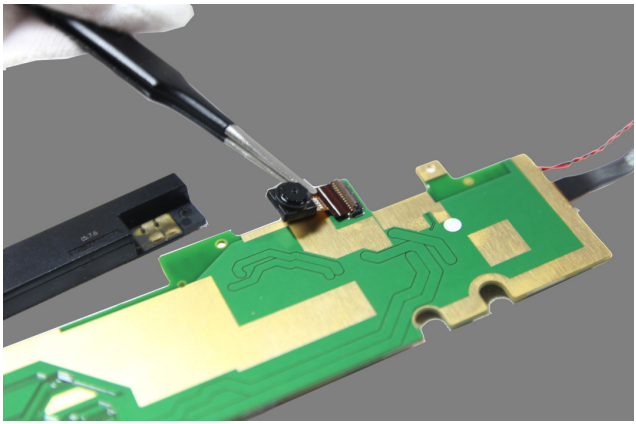


Figure 13-12. Removing the front camera FPC

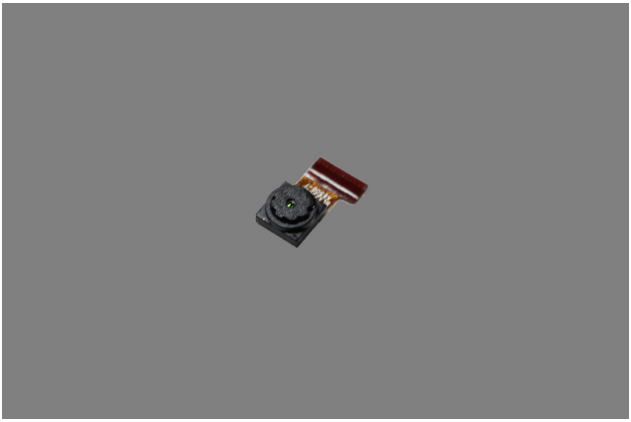


Figure 13-13. The removed front camera

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