EOL / EOS / EOM Archive

This is the archive of end-of-life, end-of-sales, and end-of-maintenance products. For some of the UD models, it includes hardware manuals and disassembly guides.

UD2

UD3

UD6

UD7

UD9

IGEL

Graphics on Legacy IGEL Devices

This document provides an overview of the graphics-related characteristics of the following legacy IGEL devices: UD3 model M340C, UD6 model H830C, and UD7 model H850C.

	UD3	**UD6**	**UD7**
	M340C (see page 76)	H830C (see page 125)	H850C (see page 177)
Chipset	AMD Radeon™ R5E	Intel HD Graphics	AMD Radeon™
Additional graphics card	-	-	optional
Ports	1x DisplayPort 1.2 1x DVI-I	1x DisplayPort 1.1a 1x DVI-I	4x DisplayPort 1.2 (Note: 1x DisplayPort 1.2 via optional graphics card (see page 186))
Max. supported resolutions (standard)	3840 x 2160 @60 Hz (DisplayPort) 1920 x 1200 @60 Hz (DVI)	2560 x 1600 @60 Hz (DisplayPort) 1920 x 1200 @60 Hz (DVI)	With optional graphics card: 2x max. 3840 x 2160 @60 Hz 2x max. 2560 x 1600 @60 Hz Without optional graphics card: 2x max. 3840 x 2160 @60Hz 1x max. 2560 x 1600 @60Hz
Max. supported resolutions (incl. hardware-accelerated video decoding)	1x WUXGA (1920 x 1200)	1x 4K	1x 4K (Note: When the optional external graphics card is used, this resolution is available on its DisplayPort)
Supported video compression standard	H.264	H.264	H.264 H.265 (HEVC)
Multistream support (daisy chain)	depends on configuration (official support is not provided)	-	depends on configuration (official support is not provided)
Type of DisplayPort-to-DVI adapter	passive	passive	_* (see page 3)

*

> ✅ **Tip**
> For UD7 devices H850C, IGEL recommends the following adapters:
> – for connecting a monitor that requires a DVI port:
> - DisplayPort to HDMI Active Adapter from Plugable[1] (requires an additional HDMI-to-DVI adapter cable)
>
> At lower resolutions (up to 1920 x 1200 @60 Hz), a passive DisplayPort-to-DVI adapter can also be used.

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1 https://plugable.com/products/dp-hdmi/

IGEL

D220

- **Disassembly Guide** (see page 6)
- **Manual** (see page 32)

The List of UD2 Devices D220

- UD2-LX 40
- IZ2-HDX 40
- IZ2-RFX 40
- IZ2-Horizon 40

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Disassembly Guide

This step by step guide shows you how to skillfully disassemble IGEL UD2 model D220.

Pay attention to Safety Instructions (see page 7)!

⚠	**WARNING**
	• The disassembly of the device must only be carried out by an electrically qualified person.
	• Touching live parts can cause danger to life and limb from electric shock.
	• Disconnect the device from the power supply before the disassembly.
	• Disconnect all peripherals from the device before the disassembly.
	• Use only insulated tools for the disassembly.

Read this guide carefully and in full and perform the steps in the given sequence.

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Safety Instructions

⚠	**WARNING** • The disassembly of the device must only be carried out by an electrically qualified person. • Touching live parts can cause danger to life and limb from electric shock. • Disconnect the device from the power supply before the disassembly. • Disconnect all peripherals from the device before the disassembly. • Use only insulated tools for the disassembly.

> ❗ **CAUTION!** Note on industrial safety: Use suitable gloves to protect against injury.

Please read the following safety instructions in full before starting with the disassembly of the device.

> ❗ Read these instructions carefully and save them for future reference.

- All cautions and warnings on the equipment should be noted.
- Lay this equipment on a stable surface during set up. A drop or fall could cause damage.
- The warranty will be invalidated if the device is damaged during installation or replacement of system expansions.
- Use the original power adapter and power cord only.
- Make sure the power adapter and power cord are laid so that people do not step on them. Do not place anything over the power adapter or power cord.
- Disconnect this equipment from the main supply before cleaning. Do not use liquid or spray detergent to clean. Clean only with a wipe or cloth.
- Before opening the device, first, switch it off and then disconnect the power plug. Observe the specification in the user manual.
- If the equipment is not used for a long time, disconnect the equipment from the main electric supply to avoid damage by transient overvoltage.
- Make sure that no liquids leak into the device (danger of electric shock, fire, short circuit).
- Do not insert foreign objects into the device (danger of electric shock, fire, short circuit).
- If one of the following situations occurs, have the equipment checked by service personnel:
    - The power adapter, power cord or plug is damaged.
    - The equipment has been exposed to moisture.
    - The equipment does not work well, or you cannot get it working according to the user manual.
    - The equipment has been dropped or damaged.
    - The equipment has obvious signs of breakage.
- Do not leave this equipment in an unconditioned environment. Storage temperature below -20 °C (-4 °F) or above 60 °C (140 °F) may cause damage to the equipment.
- Do not use this equipment in an unconditioned environment. Unless otherwise stated in the technical specifications, operational conditions may not exceed the following limits, it may damage the equipment:

- Vertical usage:
  Temperature: 0 °C to 35 °C, 32 °F to 95 °F
  Humidity: 20 % to 80 %, non-condensing
- Horizontal usage (only with optional rubber feet, no VESA mount):
  Temperature: 0 °C to 35 °C, 32 °F to 95 °F
  Humidity: 20 % to 80 %, non-condensing
- To avoid overheating in the horizontal position, use the optional rubber feet and tilt the device to the left so that the power button is on the left-hand side.
- Note that even in closed rooms local temperatures may increase, for instance in case the device is exposed to strong sun radiation. Protect the device from external heat sources.
- Ensure that air is free to circulate through the product. Do not use in a poorly ventilated place. Do not cover it with a cloth or place it on soft ground. Objects surrounding the device may block the airflow. Keep a minimum distance of 20 cm around the device for sufficient ventilation.

Lithium Battery Caution

- The lithium battery (button cell) installed in the device may only be replaced by authorized, specially trained personnel.
- Contact your supplier or the manufacturer for servicing and repairs.
- Danger of explosion if the battery is incorrectly replaced. The lithium battery may only be replaced with a battery identical or equivalent to the one recommended by the manufacturer.
- Dispose of used batteries according to the manufacturer's instructions.

Excessive Sound Pressure

Excessive sound pressure from ear-/headphones can cause hearing damage/hearing loss. Adjustment of the volume control as well as the equalizer to other settings than the center position may increase the ear-/headphones output voltage and therefore the sound pressure level. The use of factors influencing the ear-/headphones output other than those specified by the manufacturer (e.g. operating system, equalizer software, firmware, driver) may increase the ear-/headphones output voltage and therefore the sound pressure level.

UL 62368

This equipment must be grounded. The power cord for the equipment must only be connected to socket-outlets providing earthing connection.

> (i) For the latest product information, visit www.igel.com[2].

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2 https://www.igel.com/

Tools and Equipment

Set up the following tools before you begin with the disassembly:

- Hammer
- Phillips screwdriver, slotted screwdriver
- Cutting pliers, pliers or similar
- Stanley knife or similar

> ⬥ **CAUTION!** Note on industrial safety: Use suitable gloves to protect against injury.

In the following image, you see the examples of the appropriate tools for disassembly:

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Positioning the Device
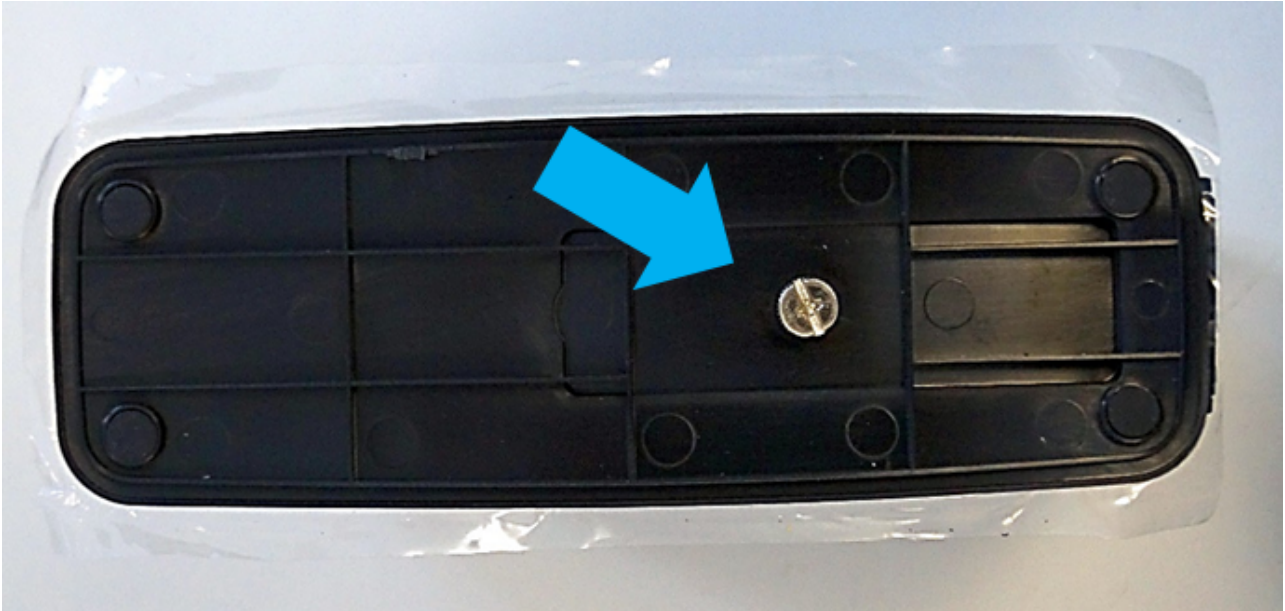
▶ Place the device on a soft and slip-resistant surface.

DVI-VGA-Adapter

▶ Remove the DVI-to-VGA adapter from the DVI port and discard.

Foot Stand

▶ Loosen the screw on the foot stand to detach it from the device.

Rubber Feet

The rubber feet are glued to the device.

▶ Bend the rubber feet in one direction to detach them.

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Back Panel

1. Loosen the screw on the back panel to detach it from the device.

2. Remove the back panel.

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Upper Cover

▶ Push the upper cover backwards to release it from the device casing.

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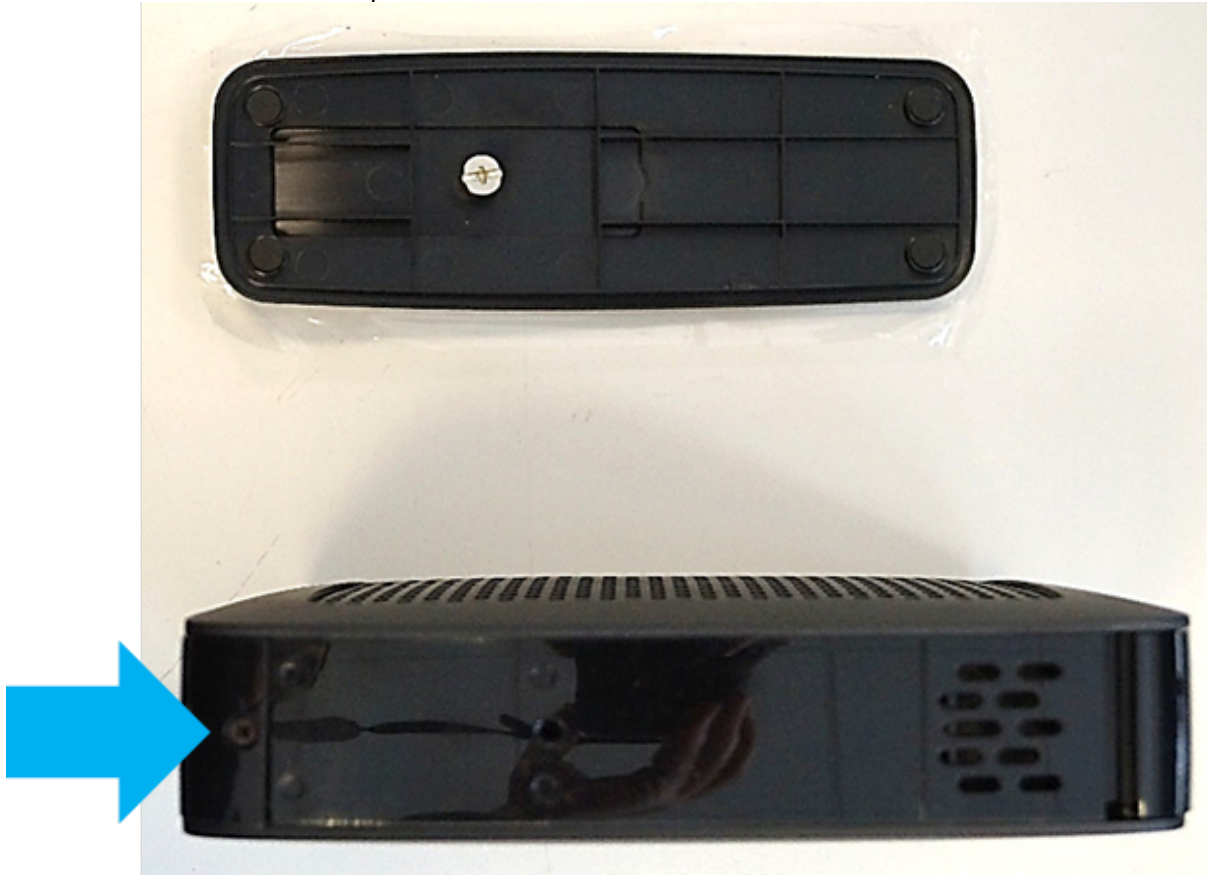
Metal Panel

▶ Lever the metal panel in the middle to detach it from the upper cover.

Bottom Cover and Chassis

1. Plug out the tactile sensor cable (1) and thread the cable through the opening in the chassis.
2. Remove the memory (2).
3. Remove the storage (3).
4. Loosen four screws (4) and separate the bottom cover from the chassis.
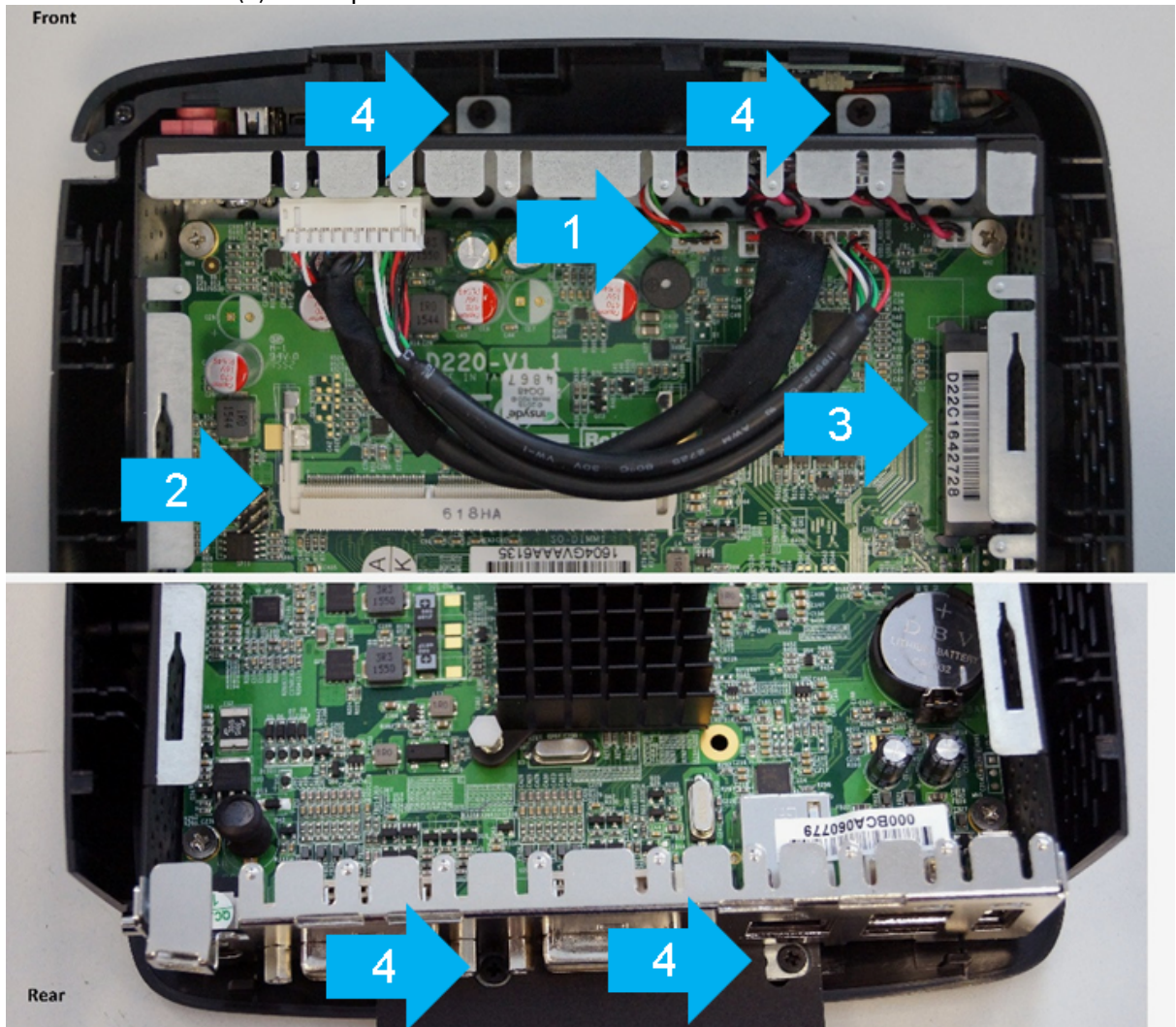
IGEL

Tactile Sensor, LED and Front Cover

1. Pull the tactile sensor (1) up and out.
2. Pull the LED (2) out of the socket.
3. Loosen the two screws (3) to remove the front cover.

![IGEL logo]

Rear Outer Casing

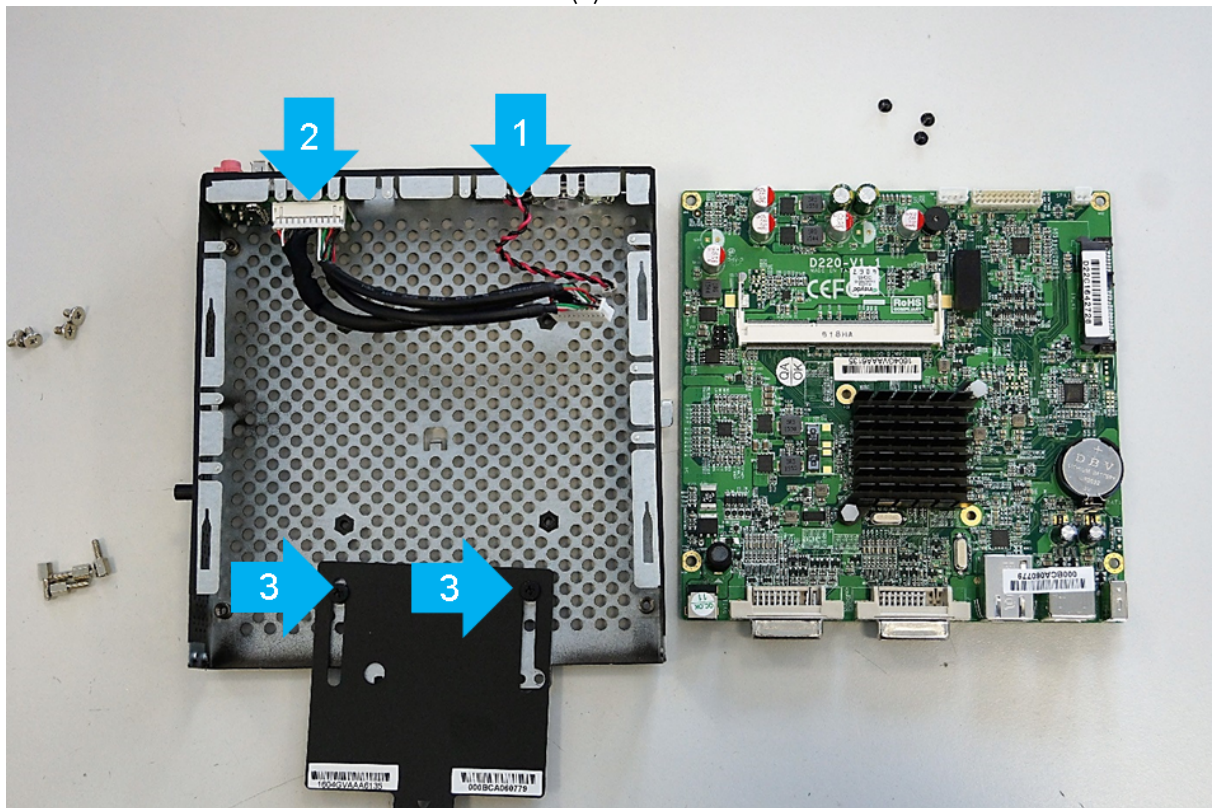▶ Loosen six screws to remove the rear outer casing, as per the image below.
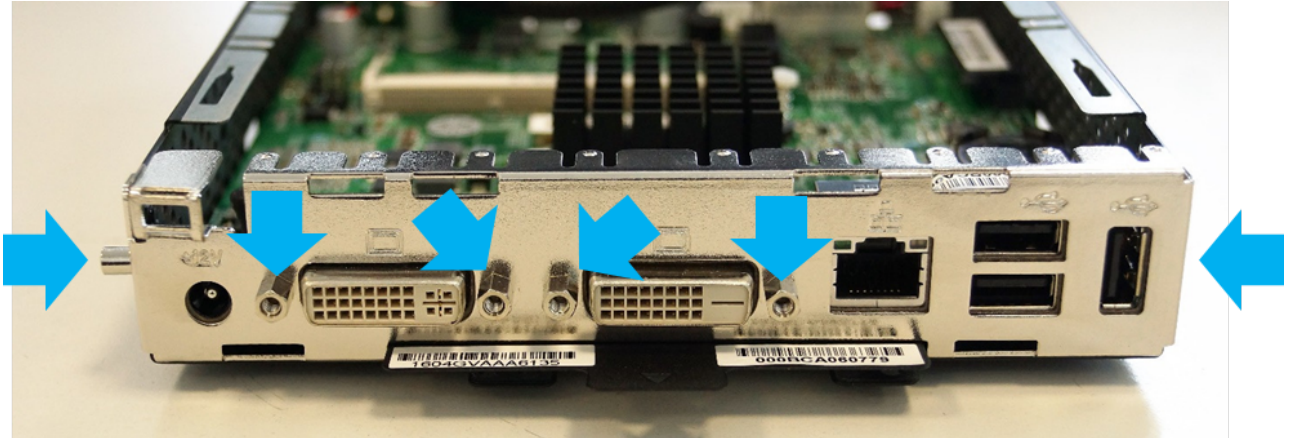
IGEL

Mainboard

1. Pull out the cable plug (1).
2. Loosen four screws (2) to remove the mainboard.
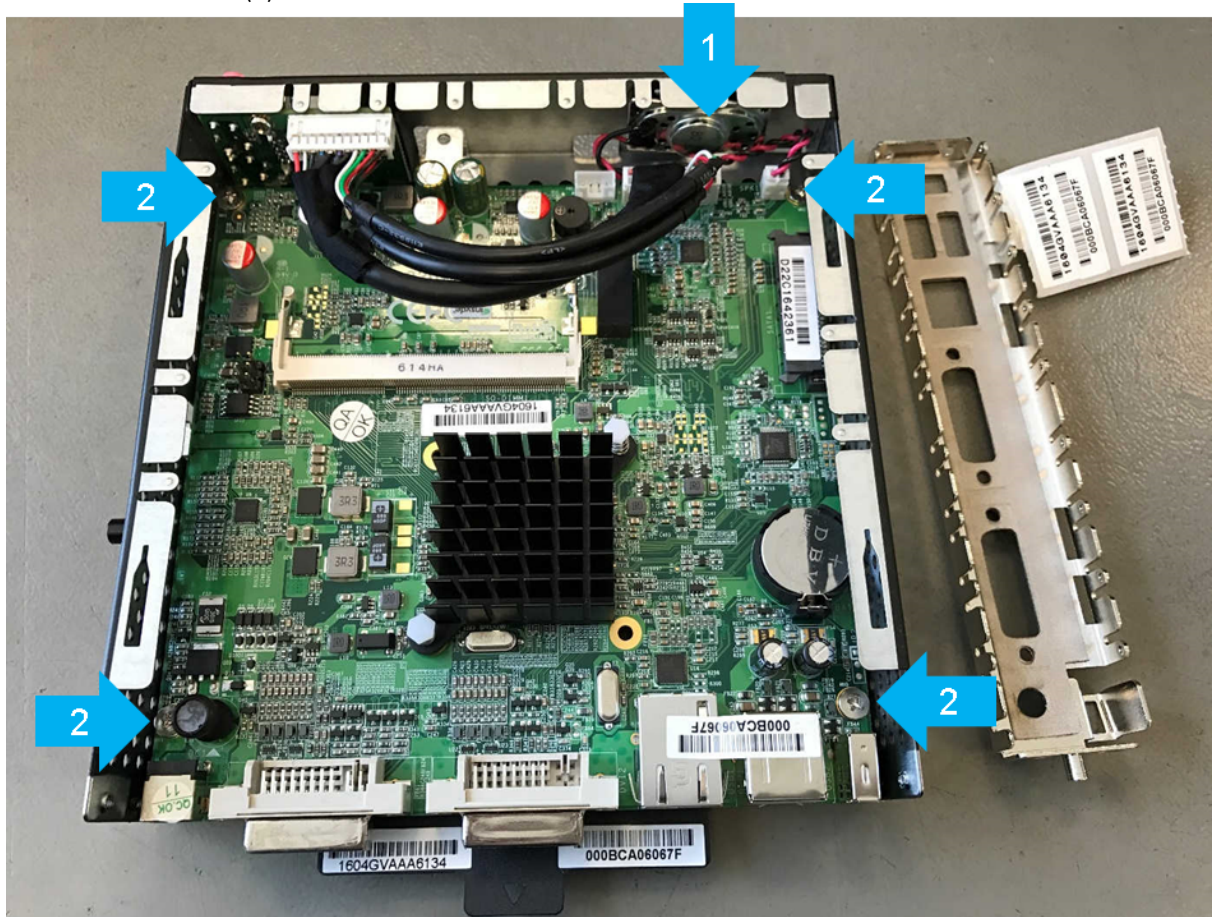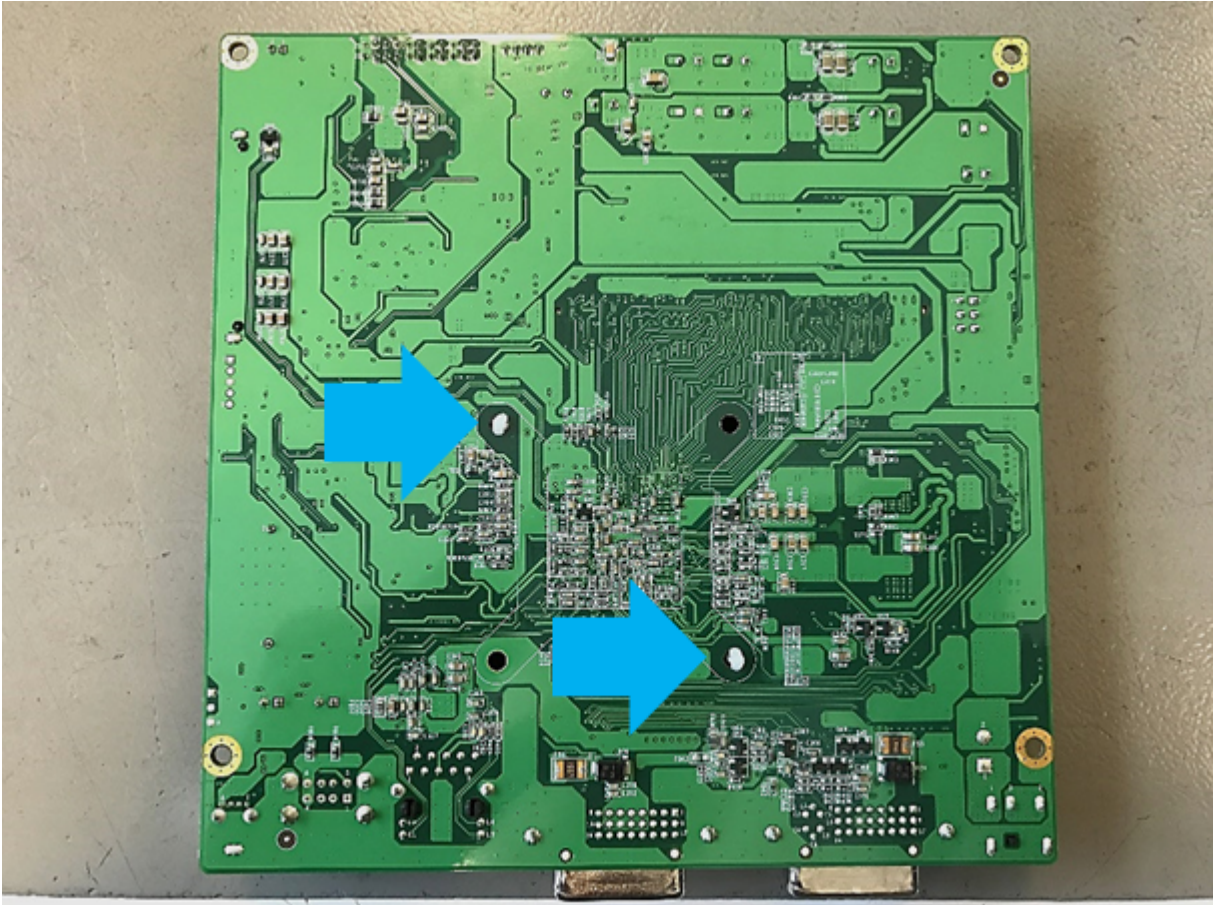
Speaker and USB Board

1. Loosen two screws to remove the speaker (1).
2. Loosen two screws to remove the USB board (2).
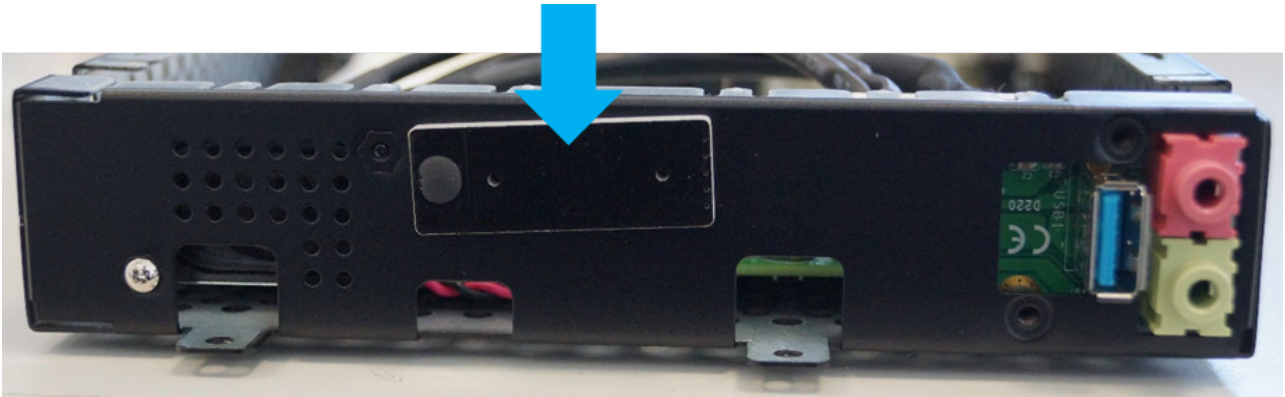3. Loosen two screws to remove the label holder (3).

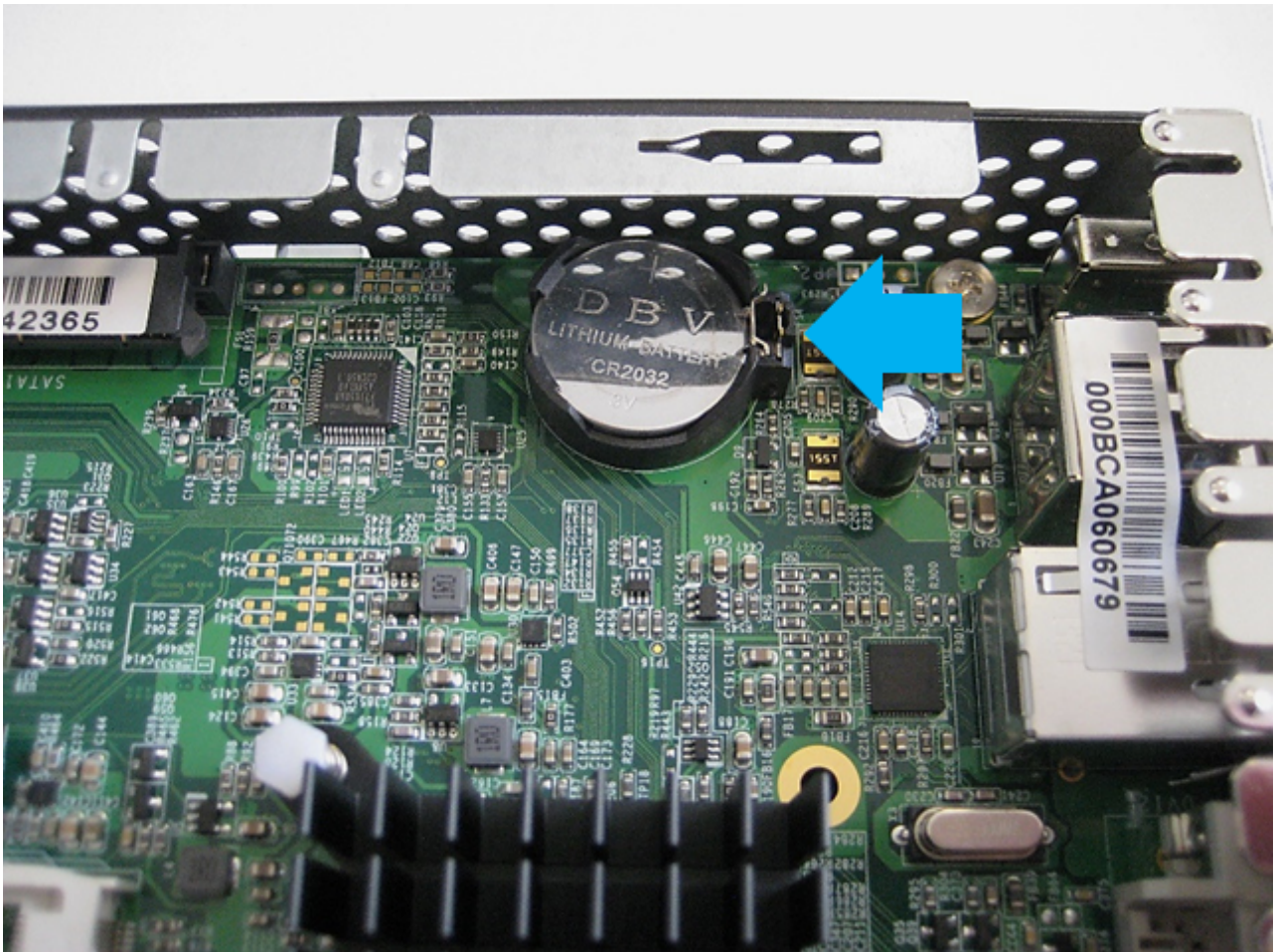# Heat Sink

▶ Loosen two push pins to remove the heat sink.

Transponder

▶ Remove the transponder from the chassis.

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Battery

▶ Lever the battery out of the bracket.

Power Supply Cable

▶ Remove the attached cable from the adapter and discard.
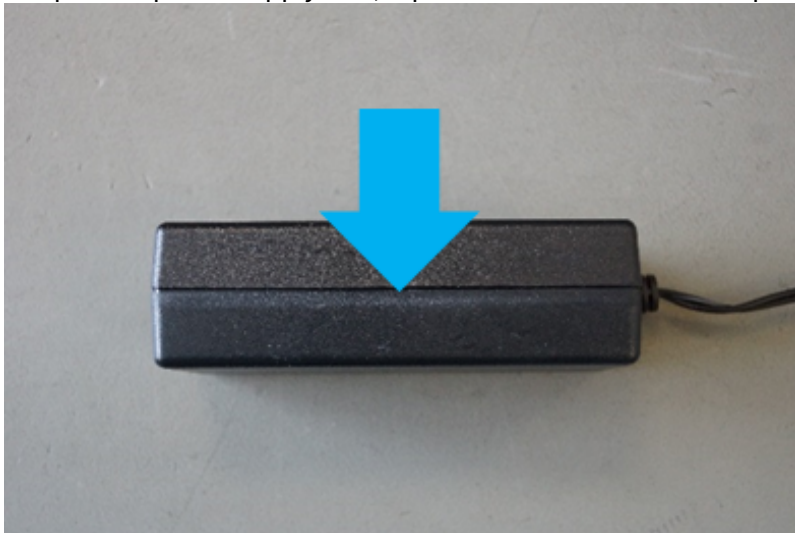
![IGEL logo]

Power Supply Unit

> ⚠️ These instructions are intended solely for recycling organizations for disposal purposes only! After opening the power supply unit, it must no longer be used.

	WARNING
⚡	• The disassembly of the device must only be carried out by an electrically qualified person. • Touching live parts can cause danger to life and limb from electric shock. • Disconnect the device from the power supply before the disassembly. • Disconnect all peripherals from the device before the disassembly. • Use only insulated tools for the disassembly.

1. To open the power supply unit, tap the seal on the side of the plastic outer cover with a hammer.
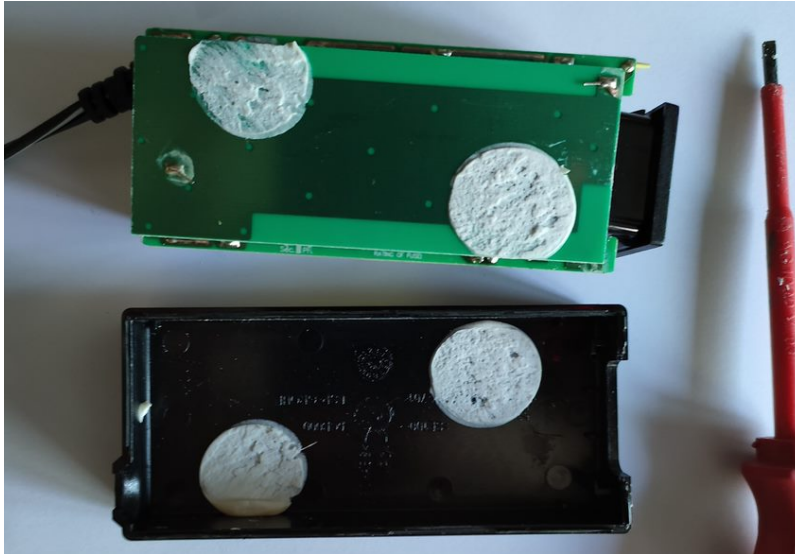

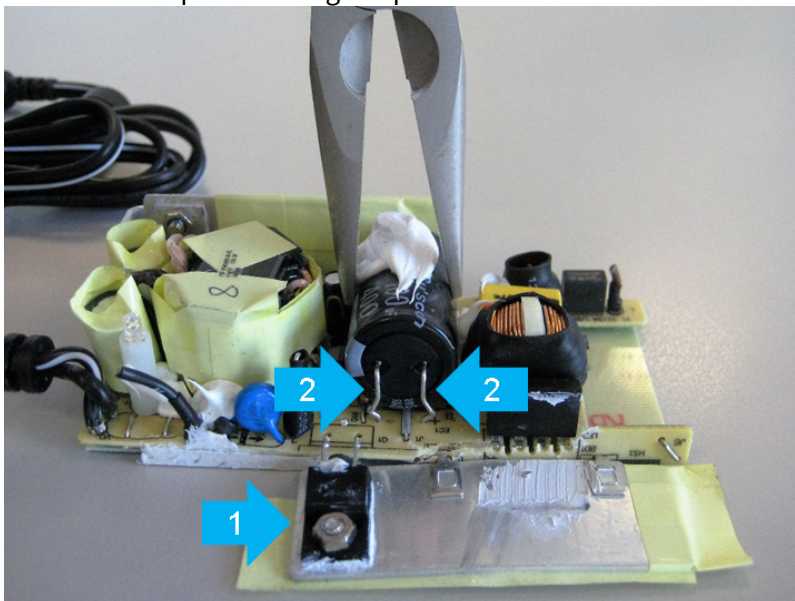Once the power supply unit is open, the electrolyte capacitor is accessible.

2. To remove the PCB from the housing, drive a slotted screwdriver between the PCB and the housing. Pry the PCB out.

3. Press down the side cover (1) of the inner shell.

4. Release two metal legs (2) on the capacitor with pliers.

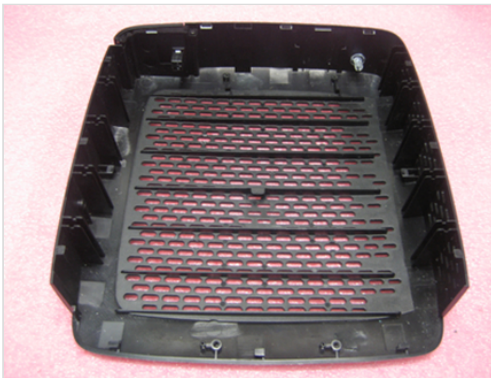5. Remove the capacitor using flat pliers.

> ⚠ Discard the plastic housing, the capacitor, and the board separately and in an environmentally friendly way.

Disposal

After you have disassembled the device completely, carefully dispose of the individual parts.

The following parts must be disposed of separately.

Plastic Parts over 25g

	bottom cover
	upper cover
	back panel

	foot stand

Electronic Parts

> ⚠ Electronic components require special handling. Please dispose of in an environmentally friendly way.

Manual

The datasheet:

D220_Datasheet_2018-02-26.pdf

Information

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Disclaimer

This manual and the information contained herein only serve for information purposes. IGEL Technology GmbH reserves the right to modify, delete or alter any data and information contained herein.
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IGEL

Safety Instructions

> ⚠️ Read these instructions carefully and save them for future reference.

- All cautions and warnings on the equipment should be noted.
- Lay this equipment on a stable surface during set up. A drop or fall could cause damage.
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- Use the original power adapter and power cord only.
- Make sure the power adapter and power cord are laid so that people do not step on them. Do not place anything over the power adapter or power cord.
- Disconnect this equipment from the main supply before cleaning. Do not use liquid or spray detergent to clean. Clean only with a wipe or cloth.
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- If the equipment is not used for a long time, disconnect the equipment from the main electric supply to avoid damage by transient overvoltage.
- Make sure that no liquids leak into the device (danger of electric shock, fire, short circuit).
- Do not insert foreign objects into the device (danger of electric shock, fire, short circuit).
- If one of the following situations occurs, have the equipment checked by service personnel:
    - The power adapter, power cord or plug is damaged.
    - The equipment has been exposed to moisture.
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    - The equipment has obvious signs of breakage.
- Do not leave this equipment in an unconditioned environment. Storage temperature below -20 °C (-4 °F) or above 60 °C (140 °F) may cause damage to the equipment.
- Do not use this equipment in an unconditioned environment. Unless otherwise stated in the technical specifications, operational conditions may not exceed the following limits, it may damage the equipment:
    - Vertical usage:
      Temperature: 0 °C to 35 °C, 32 °F to 95 °F
      Humidity: 20 % to 80 %, non-condensing
    - Horizontal usage (only with optional rubber feet, no VESA mount):
      Temperature: 0 °C to 35 °C, 32 °F to 95 °F
      Humidity: 20 % to 80 %, non-condensing
- To avoid overheating in the horizontal position, use the optional rubber feet and tilt the device to the left so that the power button is on the left-hand side.
- Note that even in closed rooms local temperatures may increase, for instance in case the device is exposed to strong sun radiation. Protect the device from external heat sources.
- Ensure that air is free to circulate through the product. Do not use in a poorly ventilated place. Do not cover it with a cloth or place it on soft ground. Objects surrounding the device may block the airflow. Keep a minimum distance of 20 cm around the device for sufficient ventilation.

Lithium Battery Caution

- The lithium battery (button cell) installed in the device may only be replaced by authorized, specially trained personnel.
- Contact your supplier or the manufacturer for servicing and repairs.
- Danger of explosion if the battery is incorrectly replaced. The lithium battery may only be replaced with a battery identical or equivalent to the one recommended by the manufacturer.
- Dispose of used batteries according to the manufacturer's instructions.

Excessive Sound Pressure

Excessive sound pressure from ear-/headphones can cause hearing damage/hearing loss. Adjustment of the volume control as well as the equalizer to other settings than the center position may increase the ear-/headphones output voltage and therefore the sound pressure level. The use of factors influencing the ear-/headphones output other than those specified by the manufacturer (e.g. operating system, equalizer software, firmware, driver) may increase the ear-/headphones output voltage and therefore the sound pressure level.

UL 62368

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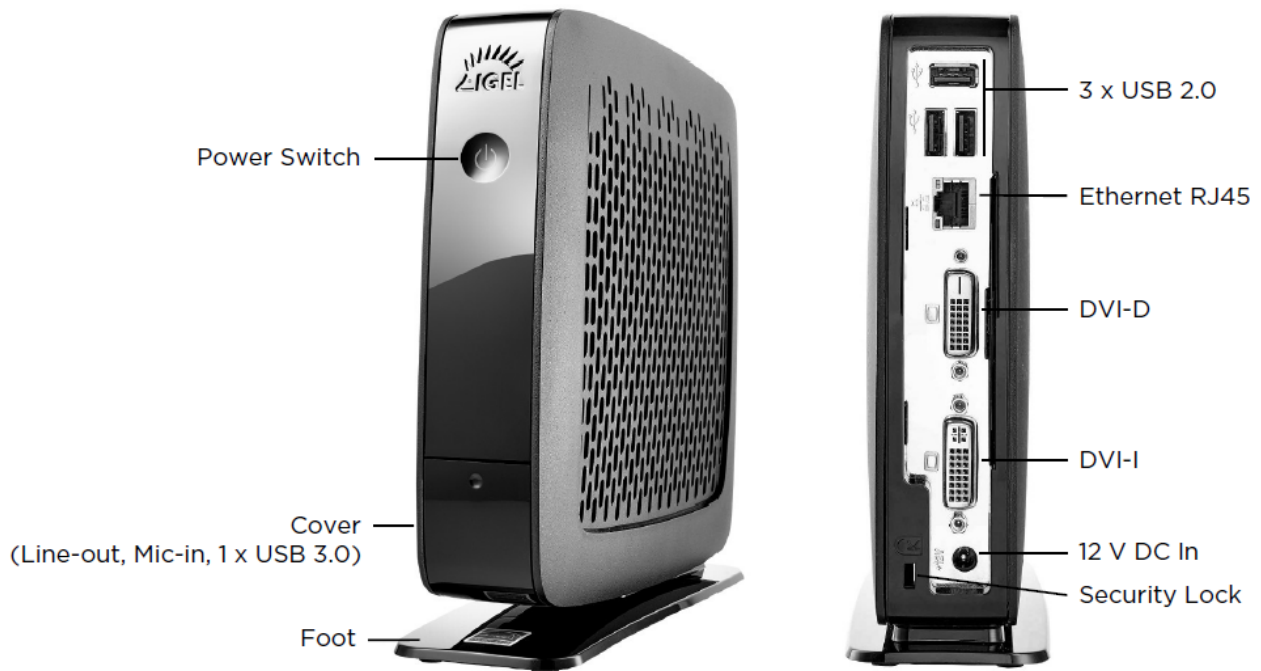
> ⓘ For the latest product information, visit www.igel.com[4].

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4 https://www.igel.com/

Technical Specification

Connections

Power Switch

Cover
(Line-out, Mic-in, 1 x USB 3.0)

Foot

3 x USB 2.0

Ethernet RJ45

DVI-D

DVI-I

12 V DC In

Security Lock

Part List

- Endpoint device
- Foot stand
- Power supply with integrated DC cable
- AC power cord
- DVI-VGA adapter

> ⚠ **CAUTION!** Strictly follow the power connection note below:
> 1. Connect all accessories, e.g. mouse, keyboard, screen (not part of the equipment), and Ethernet.
> 2. Connect the AC power cord with the receptacle of the power supply.
> 3. Connect the DC cable with the DC in receptacle on the rear side of the device.
> 4. Connect the other end of the AC power cord with a suited mains socket.
> 5. Switch on the device with the touch sensor on the front side.

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Technical Specifications

System

Available operating systems	IGEL OS 11
Management	IGEL Workspace Edition, registration required
Processor	Intel Atom E3815 1.46 GHz (Single-Core), system on a chip (SoC)

Memory

RAM	2 GB (DDR3L)
Storage	4 GB

Graphics

Chipset	Intel HD Graphics
Video memory	64 – 256 MB shared memory
Ports	1x DVI-I, 1x DVI-D
Supported resolutions	1920 x 1200 (dual view)

Network

Ethernet	10/100/1000 Base-T (RJ-45 connector)

Audio

Chipset	High Definition Audio
Ports	1x line-out (TRS), 1x mic-in
Speakers	1x internal

Interfaces

USB 3.0	1x front
USB 2.0	3x rear
Ethernet	1x rear
DVI-I	1x rear
DVI-D	1x rear

12 V DC in	1x rear
Line-out	1x front
Mic-in	1x front
Security lock	1x rear

Dimensions and Weight

Device (DxWxH), upright	205 x 63 x 194 mm (with foot stand) 200 x 48 x 182 mm (without foot stand)
Device weight	0.9 kg (without foot stand) 1.31 kg (with foot stand and external adapter)
Packaging (DxWxH), horizontal	275 x 95 x 260 mm
Packaging weight	0.29 kg

Environmental Conditions

> ⊗ Strictly follow safety instructions and respect environmental conditions!

Cooling	fanless convection
Operating temperature	vertical: 0 °C – 40 °C, 32 °F – 104 °F horizontal (with optional rubber feet only): 0 °C – 35 °C, 32 °F – 95 °F
Operating humidity	20 % – 80 %, non-condensing

Electrical Data

Power supply	external
Power supply AC input	100 – 240 V / 50 – 60 Hz
Power supply DC output	12 V / 3 A External Power Adapter (Au1361203n or A140-1120300N)
Power consumption	5 W (idle) / 0.5 W (sleep) / < 0.6 W (off) (@230 V, 50 Hz)

Typical Energy Consumption
(ENERGY STAR, 7.0)

E_{TEC}	22.6 kWh (per year)

$E_{TEC, max}$	62.0 kWh (per year)

Options for Device Mounting

VESA mount	for mounting on the back of a monitor vertical mounting only!
Rubber feet	for horizontal placement of the device

Optional Accessories

VESA mount	for mounting on the back of a monitor
Rubber feet	for horizontal placement of the device
USB-to-serial adapter	for connecting peripherals that require a serial port
USB-to-parallel adapter	for connecting peripherals that require a parallel port

Regulatory Compliance Information

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Shielded interface cables must be used in order to comply with emission limits.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

TÜV-GS Statement

This device is not intended for use in the direct field of view at visual display workplaces. To avoid incommoding reflexions at visual display workplaces, this device must not be placed in the direct field of view.

ENERGY STAR Note

IGEL Thin Clients with a preinstalled operating system support ENERGY STAR® Power Management configuration upon shipment. The power-saving mode for the display is managed via local setup. By default, it is activated after 10 minutes of inactivity. Reactivation from standby mode can be done by moving the mouse or pressing a key on the keyboard, while off mode can be controlled via the Ethernet connection (Wake-On-LAN).

ENERGY STAR Program

Power managing your ENERGY STAR qualified thin client can save up to 100 kWh annually or 25 € ($28) per year. These energy savings are equivalent to a preventing of over 60 kg (132 lbs) CO_2 emissions per year.
To learn more about Power Management for your workplace, please go to https://energystar.gov/powermanagement[5].
ENERGY STAR is the government-backed program that helps us all save money and protect our environment with energy-efficient products and practices. Go to https://energystar.gov[6].

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5 https://www.energystar.gov/products/low_carbon_it_campaign/put_your_computers_sleep
6 https://www.energystar.gov/

WEEE and Battery Waste Note

In accordance with EU directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE) and Directive 2006/66/EC for waste batteries, customers and manufacturers are responsible for returning and recycling their old equipment and batteries. Based on this, all IGEL thin clients (including the battery) labelled with a WEEE and battery waste seal will be taken back and disposed of at no charge by IGEL Technology. The Customer is obliged to delete personal and business data on the devices before using this Collection Service.

Contact our Collection Service by filling out the RMA form on https://support.igel.com/csm. An IGEL service employee will contact you to arrange a collection date for the unit.

For US customers, IGEL offers options to recycle unwanted IGEL thin clients. More information can be found on our website https://www.igel.com/terms-conditions.

IGEL

Relevant Documents

Directive 2009/125/EC Ecodesign Requirements

D220_ErP_Report_20150629.pdf

M340C

- Disassembly Guide (see page 44)
- Manual (see page 76)

The List of UD3 Devices M340C

- UD3-LX 50, 51
- IZ3-HDX 50, 51
- IZ3-RFX 50, 51
- IZ3-Horizon 50, 51
- UD3-W7+ 50
- UD3-W10 50, 51

Disassembly Guide

This step by step guide shows you how to skillfully disassemble IGEL UD3 model M340C.

Pay particular attention to the Safety Instructions !

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IGEL

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  Temperature: 0 °C to 35 °C, 32 °F to 95 °F
  Humidity: 20 % to 80 %, non-condensing
- Horizontal usage (only with optional rubber feet, no VESA mount):
  Temperature: 0 °C to 35 °C, 32 °F to 95 °F
  Humidity: 20 % to 80 %, non-condensing
- To avoid overheating in the horizontal position, use the optional rubber feet and tilt the device to the left so that the power button is on the left-hand side.
- Note that even in closed rooms local temperatures may increase, for instance in case the device is exposed to strong sun radiation. Protect the device from external heat sources.
- Ensure that air is free to circulate through the product. Do not use in a poorly ventilated place. Do not cover it with a cloth or place it on soft ground. Objects surrounding the device may block the airflow. Keep a minimum distance of 20 cm around the device for sufficient ventilation.

Lithium Battery Caution

- The lithium battery (button cell) installed in the device may only be replaced by authorized, specially trained personnel.
- Contact your supplier or the manufacturer for servicing and repairs.
- Danger of explosion if the battery is incorrectly replaced. The lithium battery may only be replaced with a battery identical or equivalent to the one recommended by the manufacturer.
- Dispose of used batteries according to the manufacturer's instructions.

Excessive Sound Pressure

Excessive sound pressure from ear-/headphones can cause hearing damage/hearing loss. Adjustment of the volume control as well as the equalizer to other settings than the center position may increase the ear-/headphones output voltage and therefore the sound pressure level. The use of factors influencing the ear-/headphones output other than those specified by the manufacturer (e.g. operating system, equalizer software, firmware, driver) may increase the ear-/headphones output voltage and therefore the sound pressure level.

UL 62368

This equipment must be grounded. The power cord for the equipment must only be connected to socket-outlets providing earthing connection.

> ⓘ For the latest product information, visit www.igel.com[7].

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[7] https://www.igel.com/

Tools and Equipment

Set up the following tools before you begin with the disassembly:

- Hammer
- Phillips screwdriver, slotted screwdriver
- Cutting pliers, pliers or similar
- Stanley knife or similar

> ⬥ **CAUTION!** Note on industrial safety: Use suitable gloves to protect against injury.

In the following image, you see the examples of the appropriate tools for disassembly:

IGEL

Positioning the Device
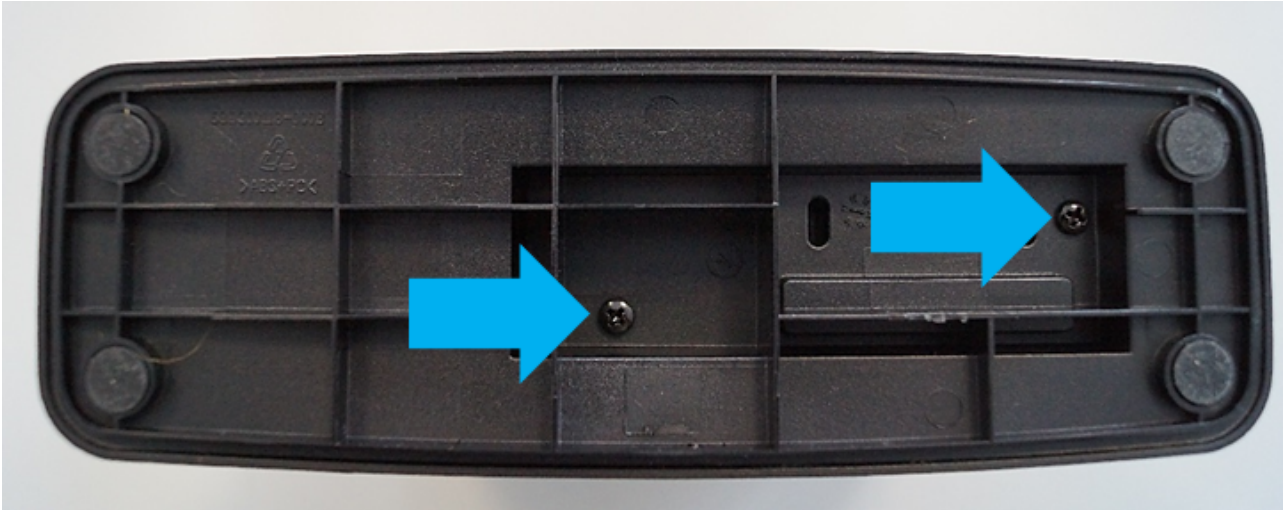
▶ Place the device on a soft and slip-resistant surface.

DVI-VGA-Adapter

▶ Remove the DVI-to-VGA adapter from the DVI port and discard.

IGEL

Foot Stand

▶ Loosen the screws on the foot stand to detach it from the device.

Rubber Feet

The rubber feet are glued to the device.

▶ Bend the rubber feet in one direction to detach them.

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Connectivity Bar (If Available)

ⓘ   This section is only relevant when a connectivity bar is installed on the device.

1. Loosen the screw (1) to detach the connectivity bar from the device.
2. Loosen the screw (2) to remove the plastic cover.
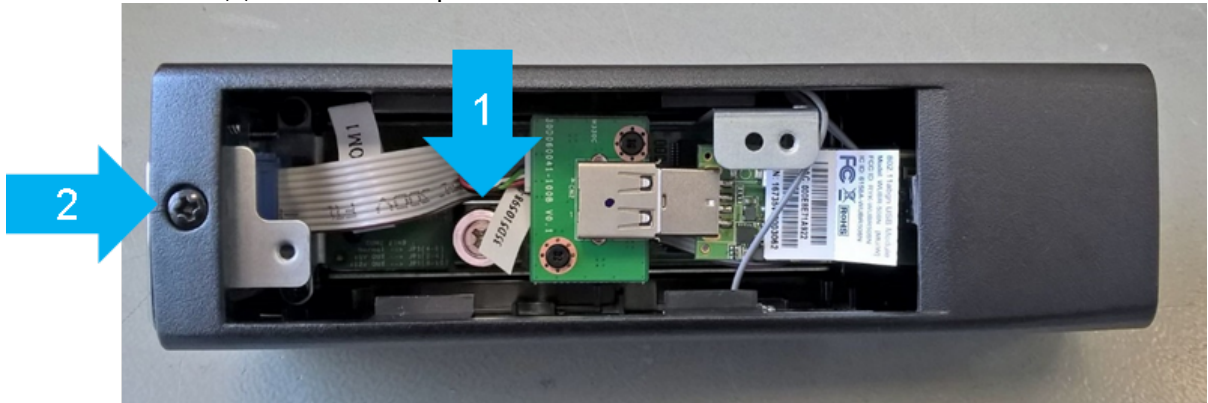
3. Disconnect the WiFi module from the USB port (1).
4. Disconnect the antennas from the WiFi module (2).
5. Detach the antennas from the inside of the plastic cover (3).

6. Pull out the cable (1).
7. Loosen two screws (2) and remove the USB board from the main board.
8. Pull off the serial port ribbon cable (3) from the main board.
9. Loosen the bolts (4) to remove the serial port.
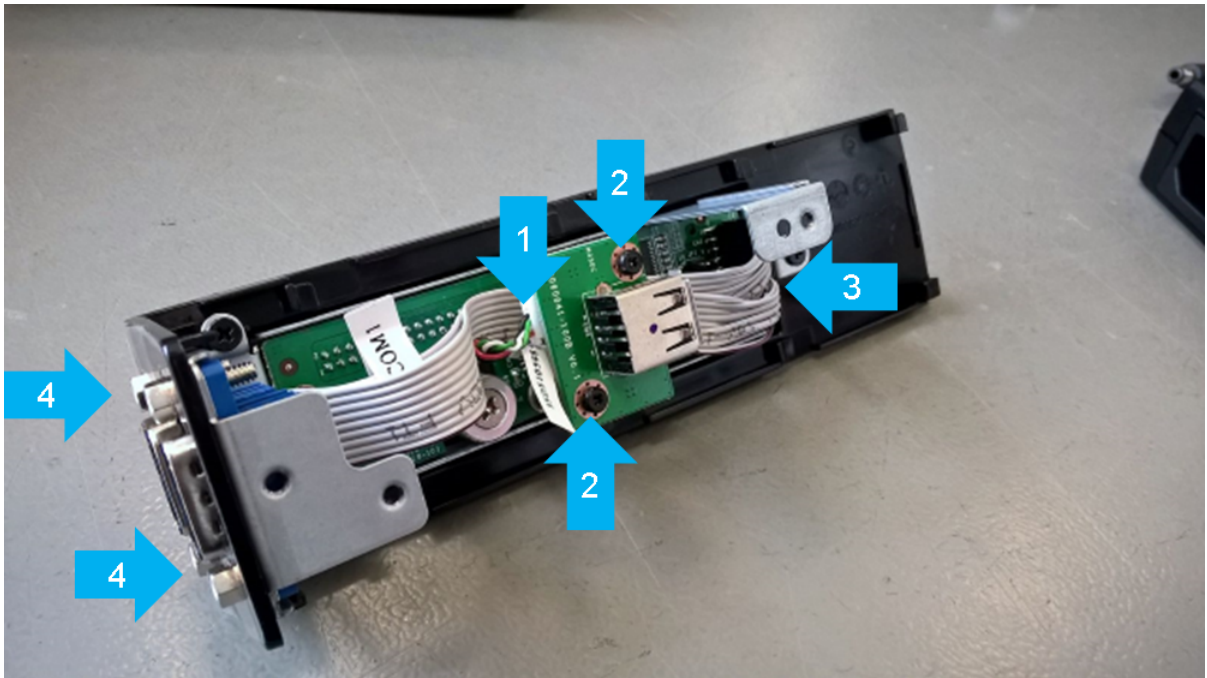
10. Loosen two screws (1).
11. Loosen the spacer bolts (2) and remove the main board.
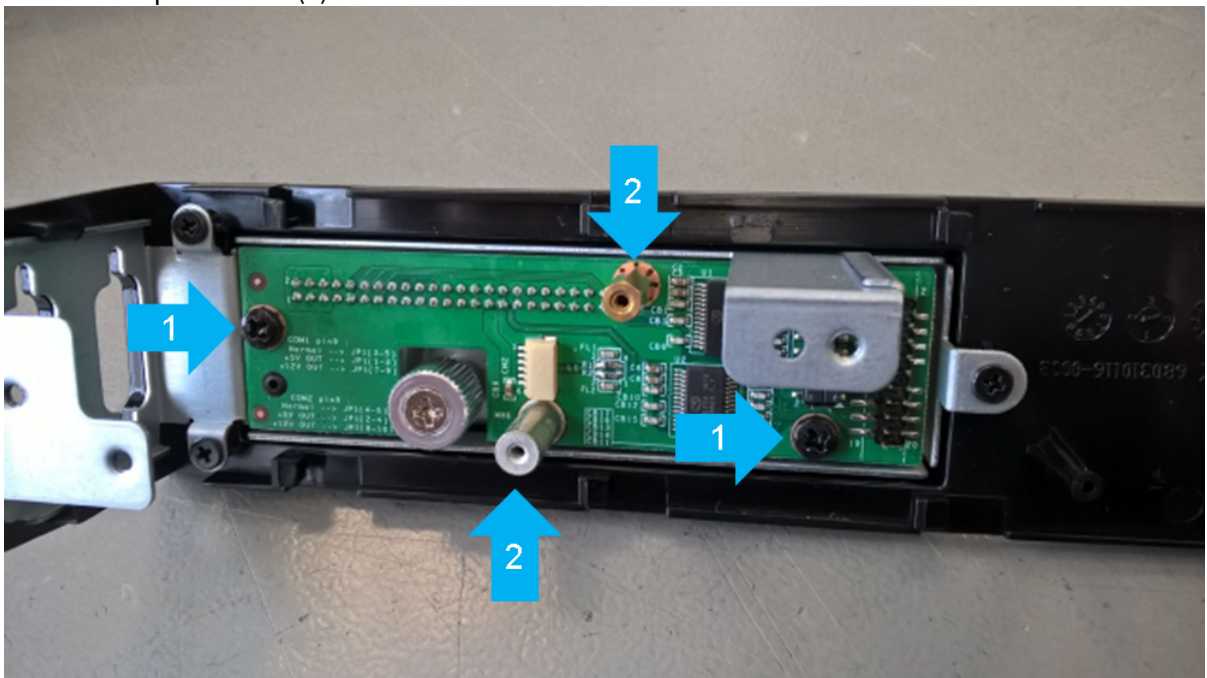
12. Loosen three screws, as per the image, and remove the metal base plate from the plastic cover.

Back Panel

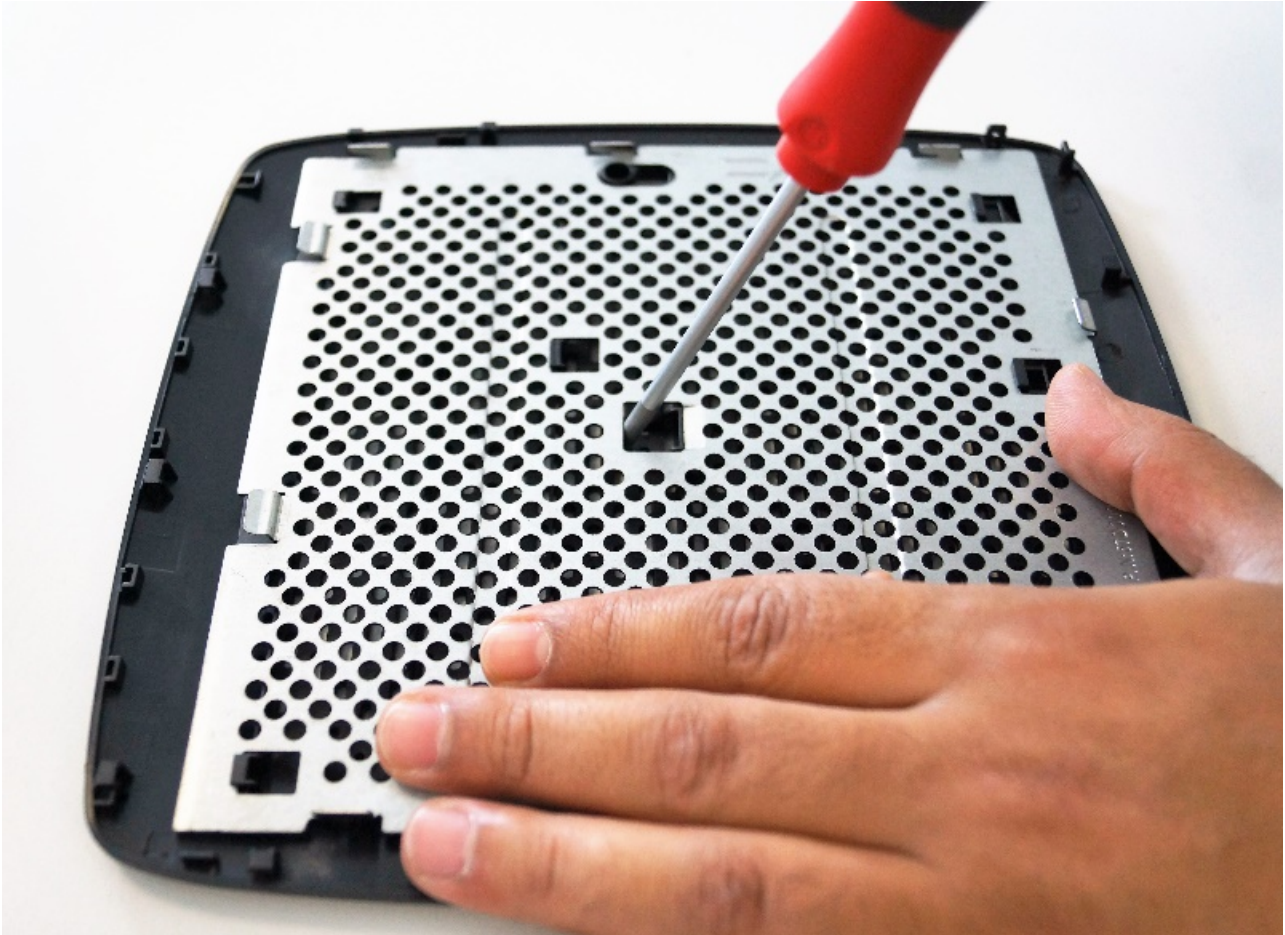1. Loosen the screw on the back panel to detach it from the device.

2. Remove the back panel.

Upper Cover

▶ Push the upper cover backwards to release it from the device casing.

IGEL
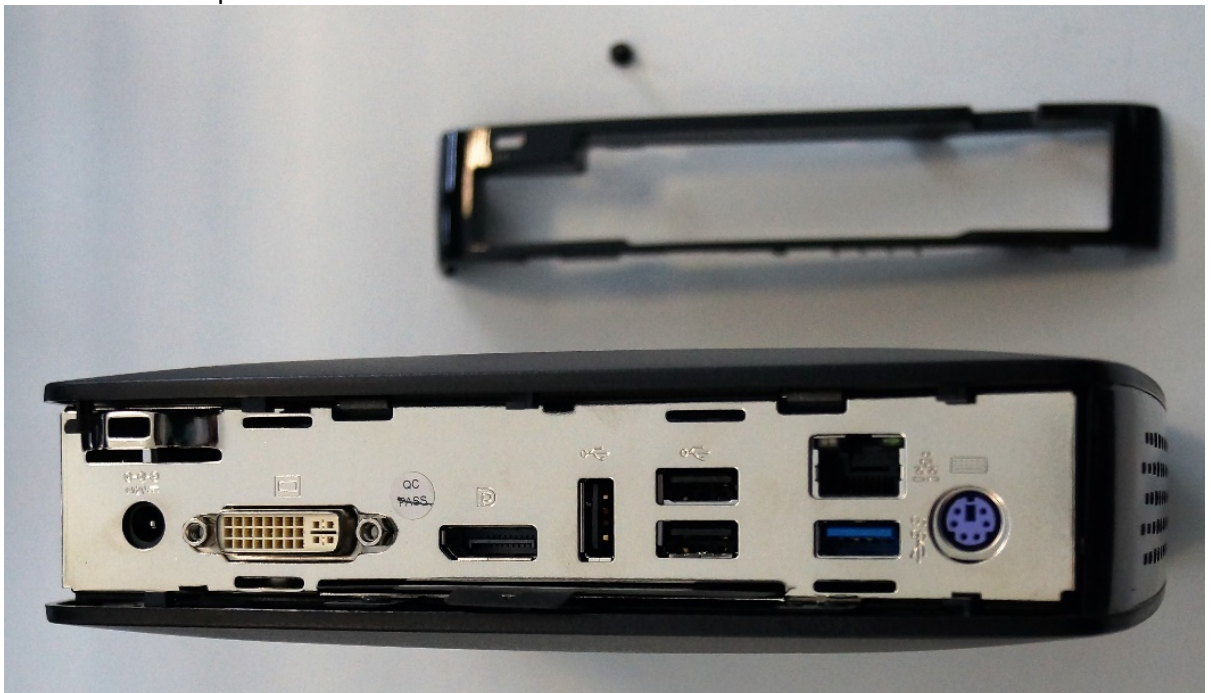
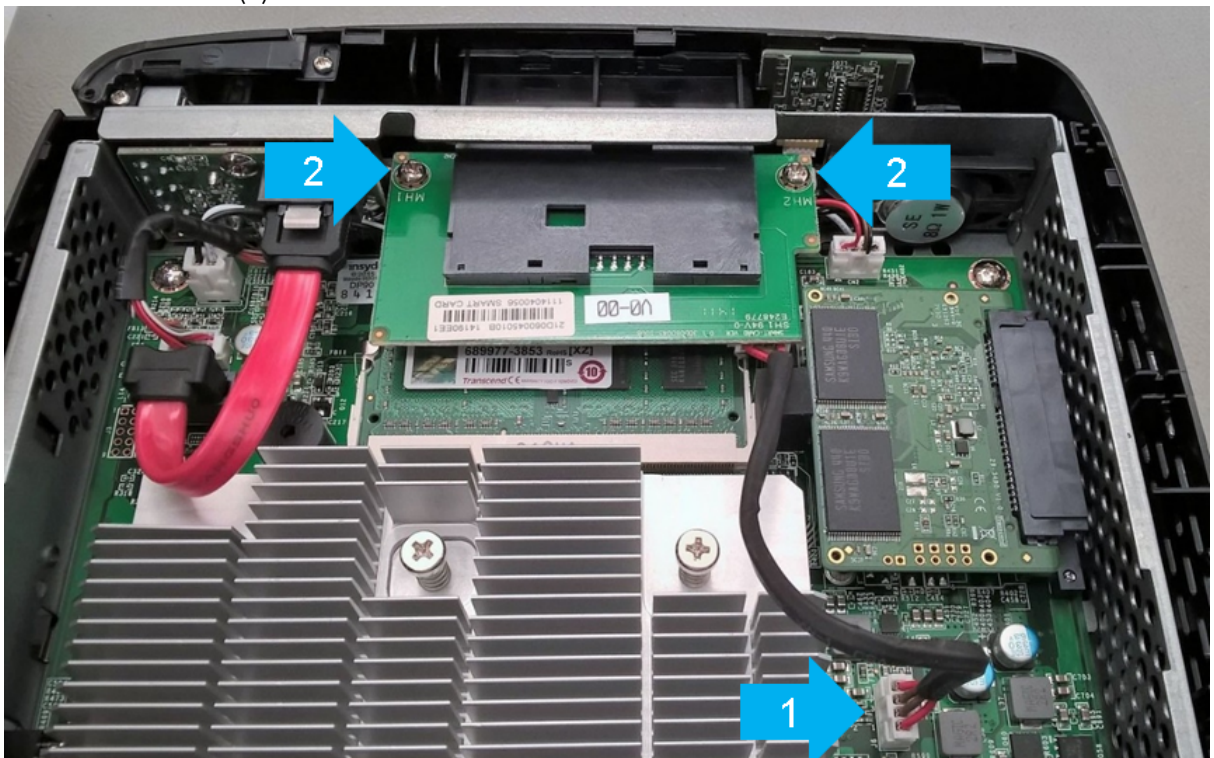## Metal Panel

▶ Lever the metal panel in the middle to detach it from the upper cover.

Card Reader (If Available)

ⓘ This section is only relevant when the card reader is installed in the device.

1. Pull the cable plug (1) of the card reader out of the mainboard.
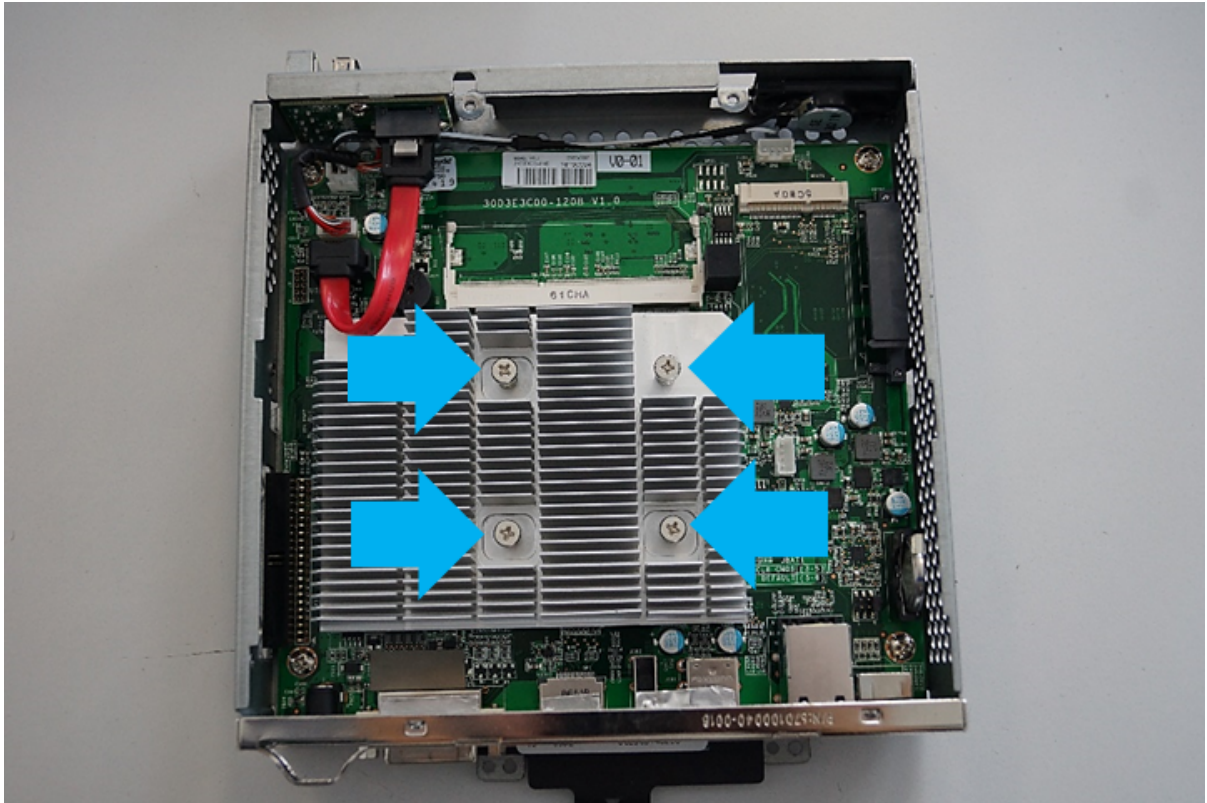2. Loosen two screws (2) to remove the card reader.

Bottom Cover and Chassis

1. Plug out the tactile sensor cable (1) and thread the cable through the opening in the chassis.
2. Remove the memory (2).
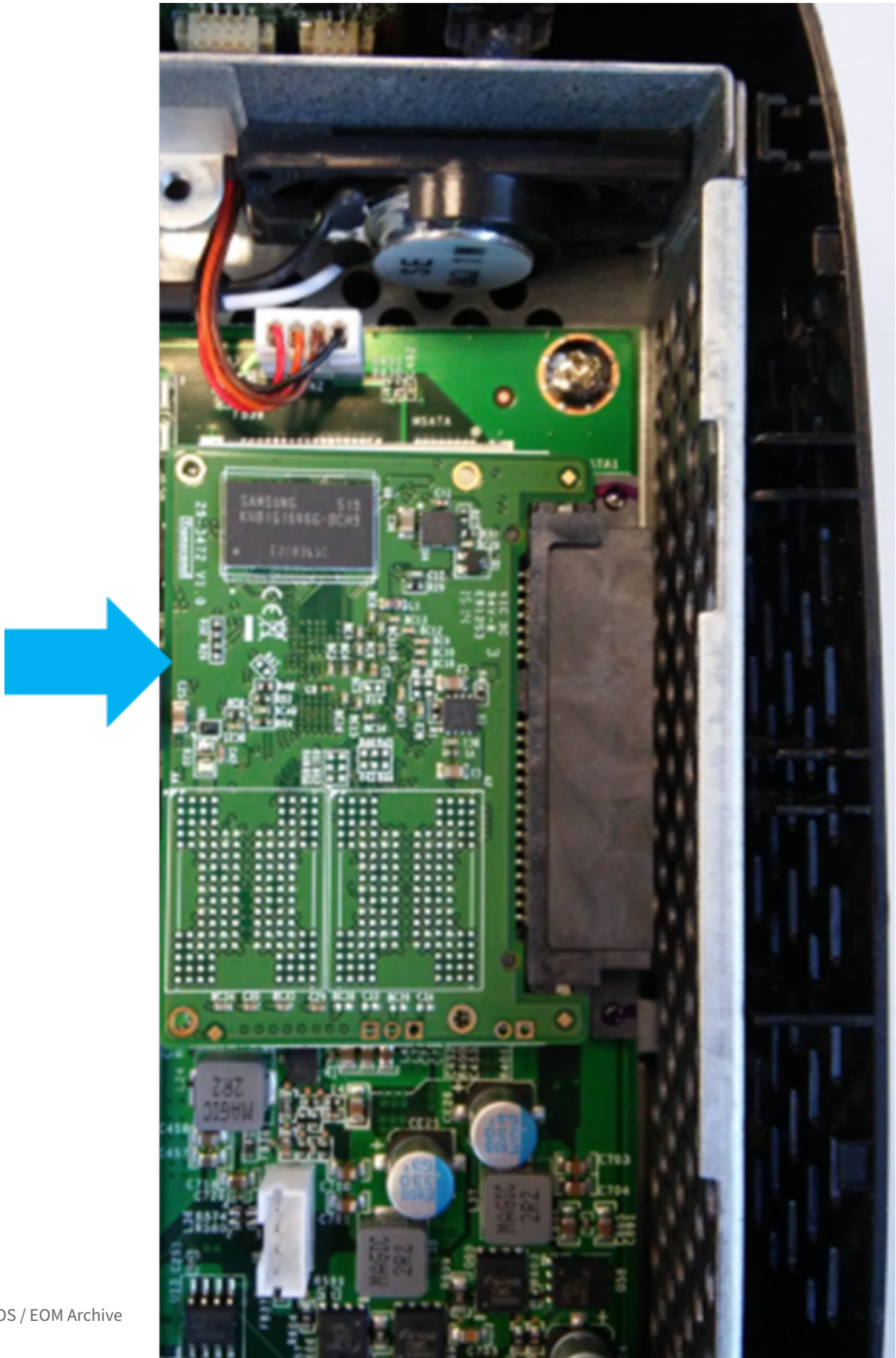3. Loosen four screws (3) and detach the bottom cover from the chassis.

IGEL
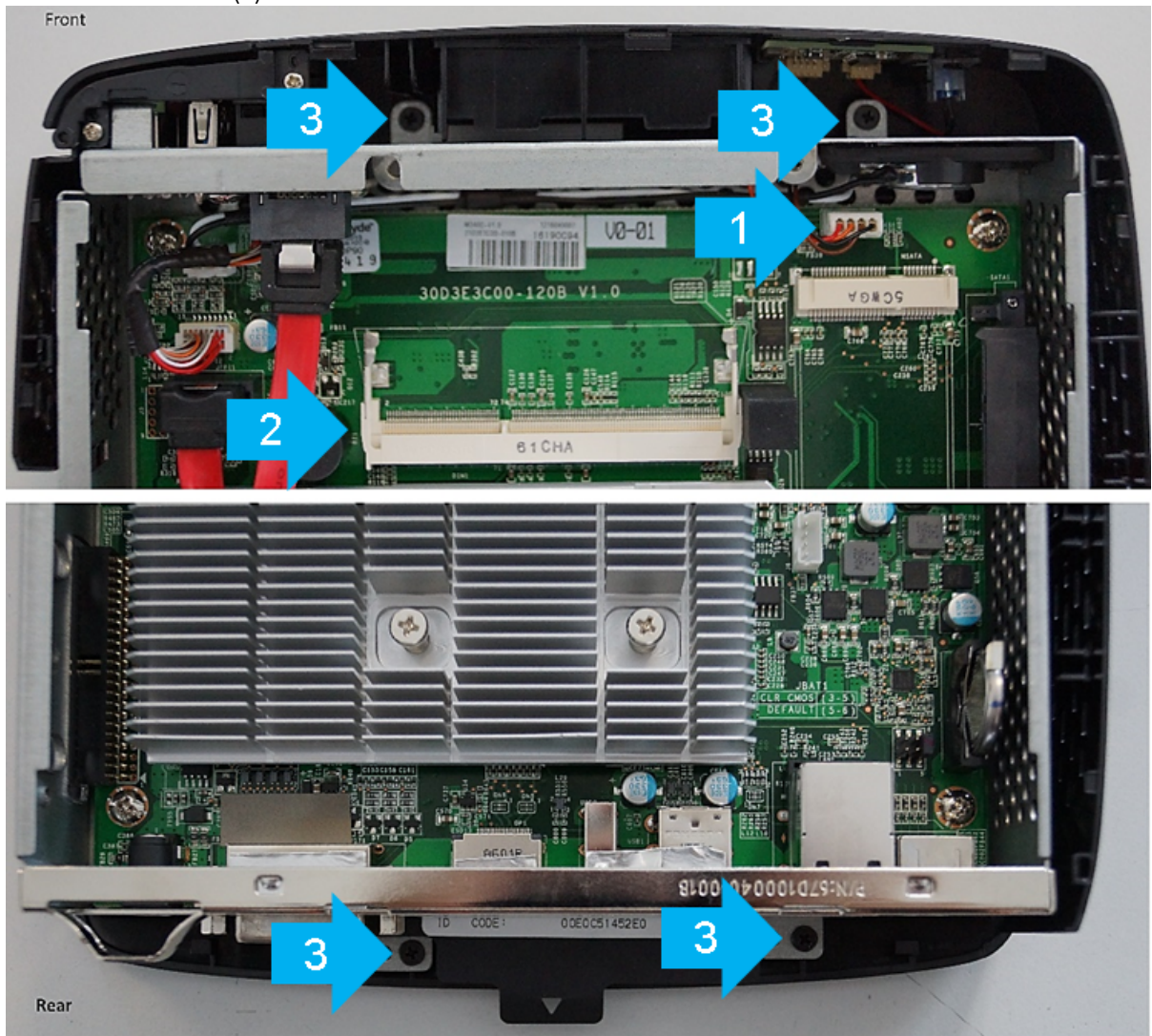
Storage and Heat Sink

1. Loosen the four screws and remove the heat sink.
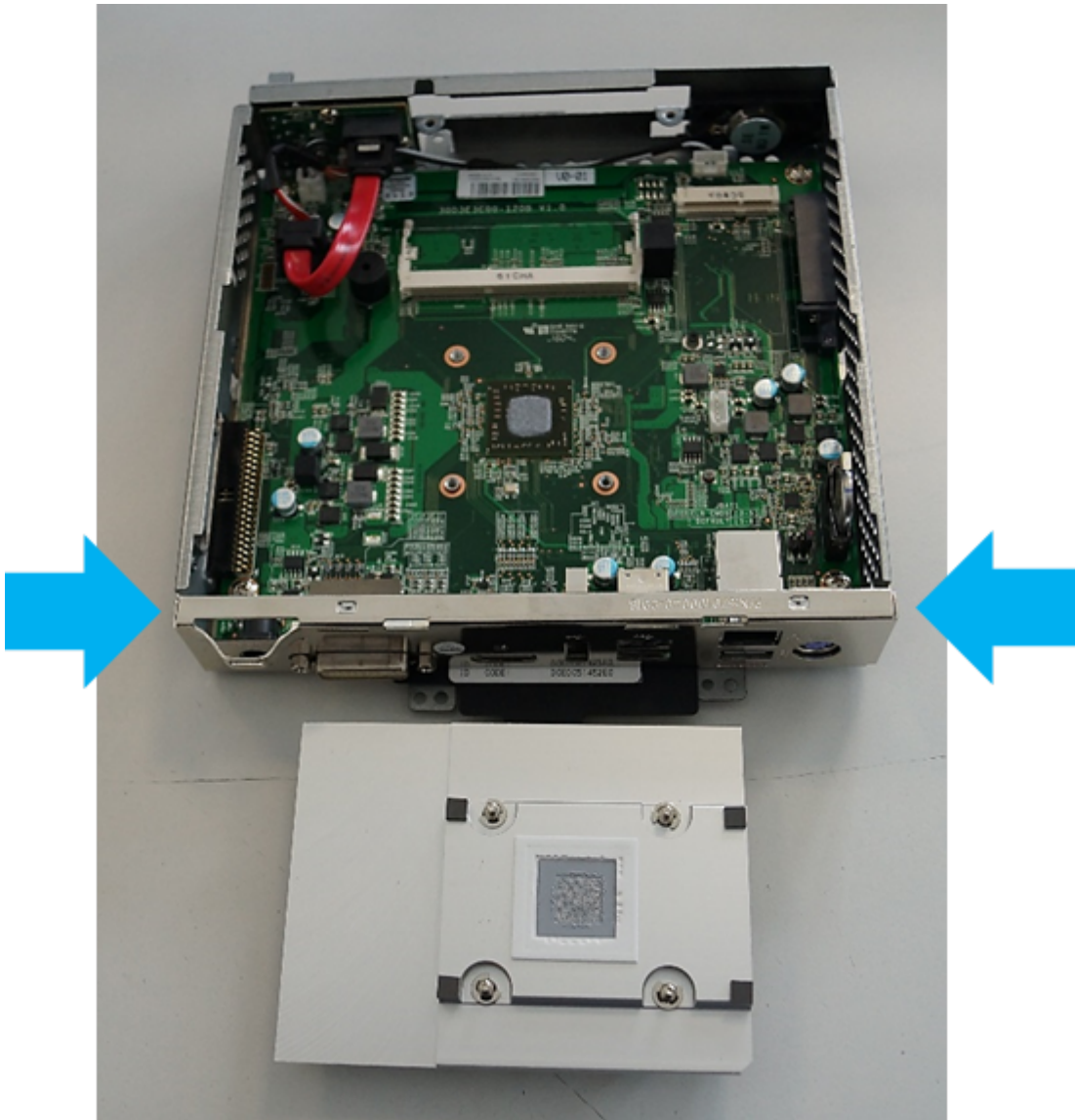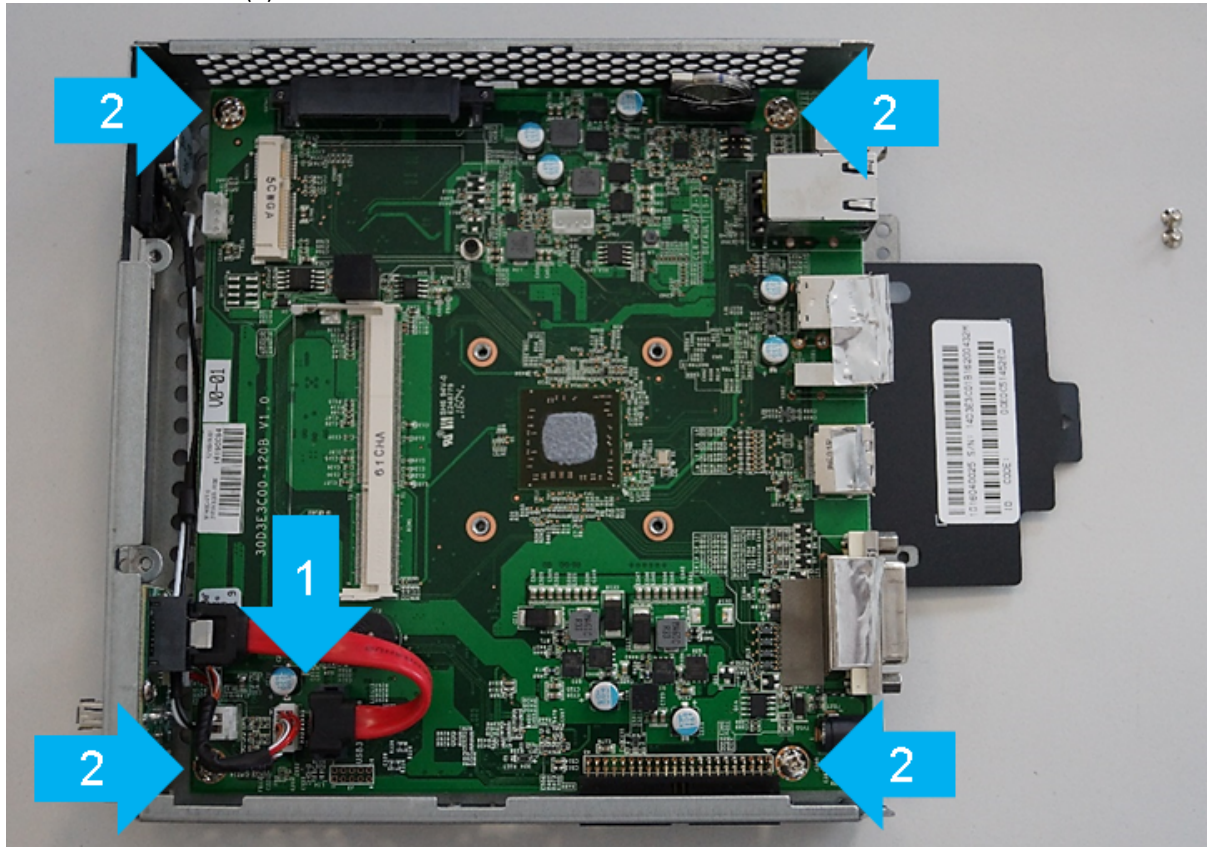

2. Remove the storage.

M340C

Rear Outer Casing

▶ Loosen the screws to remove the rear outer casing, as per the image below.
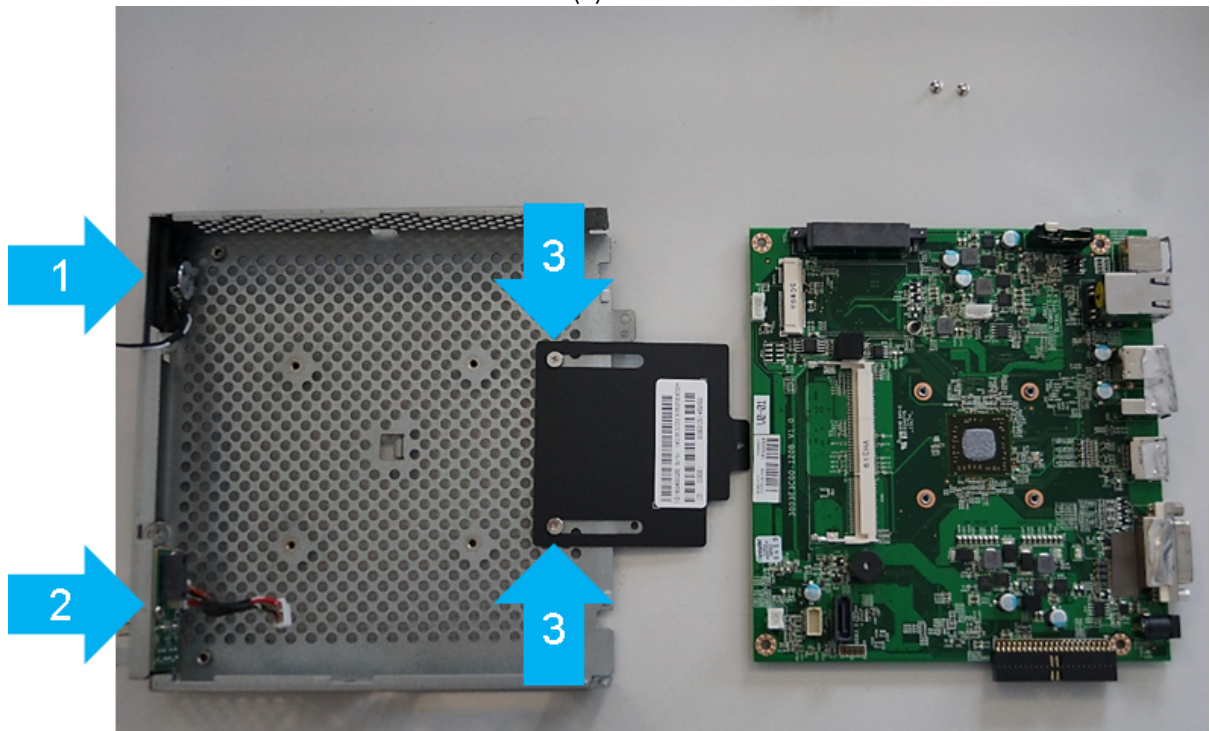
Mainboard

1. Pull out the cable plug (1).
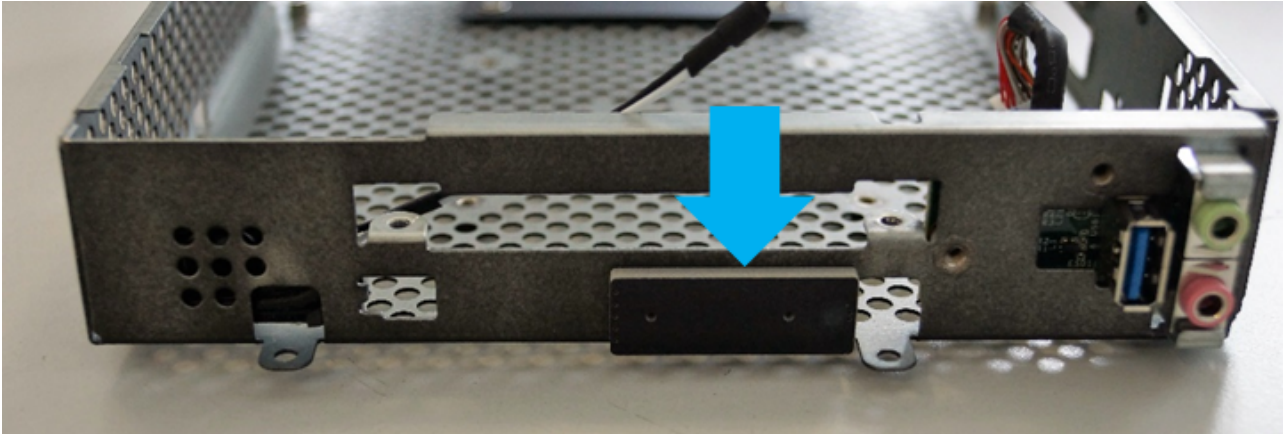2. Loosen four screws (2) to remove the mainboard.

Speaker and USB Board

1. Loosen two screws to remove the speaker (1).
2. Loosen two screws to remove the USB board (2).
3. Loosen two screws to remove the label holder (3).

Transponder

▶ Remove the transponder from the chassis.

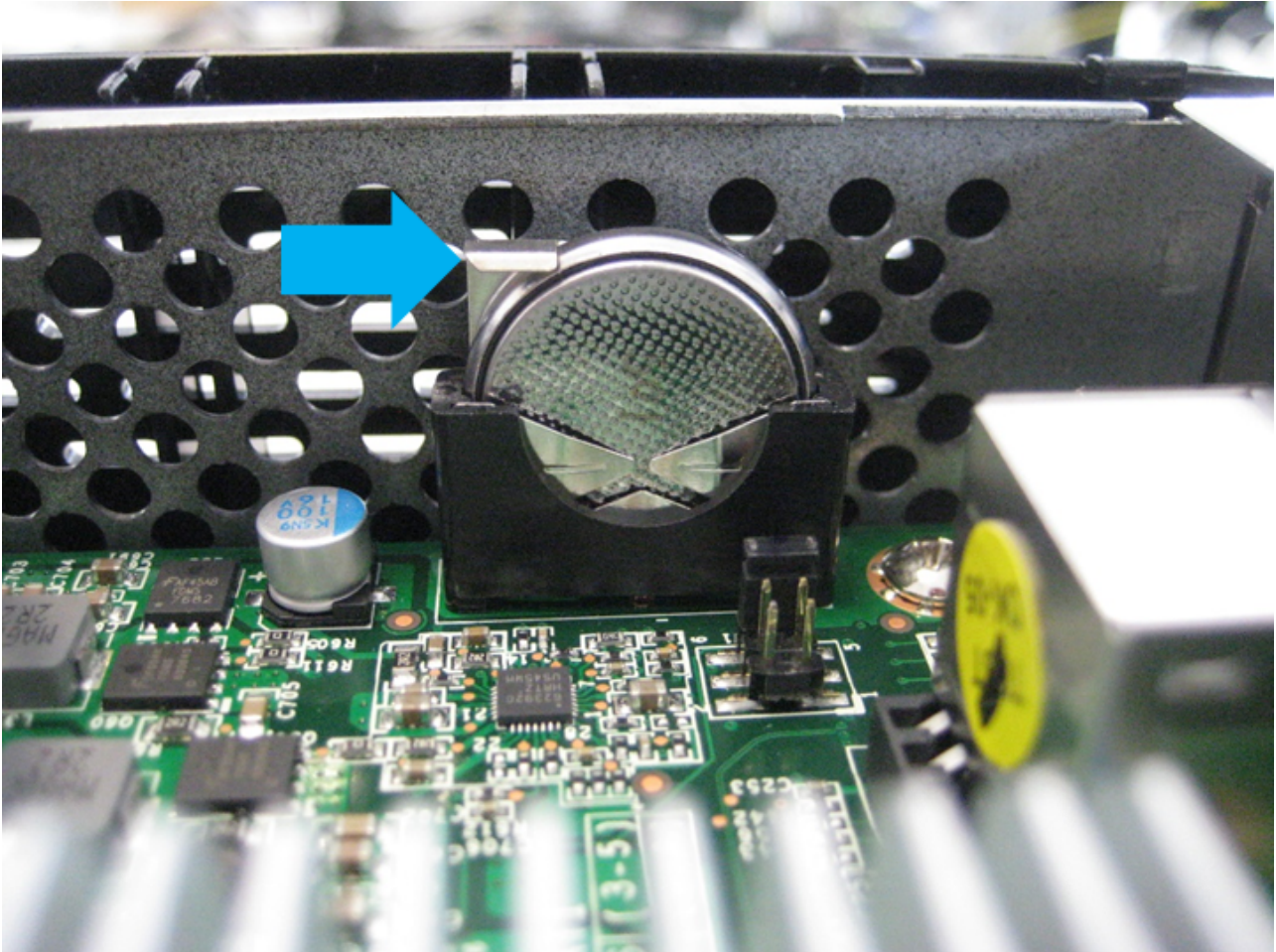## Tactile Sensor, LED and Front Cover

1. Pull the tactile sensor (1) up and out.
2. Pull the LED (2) out of the socket.
3. Loosen the two screws (3) to remove the front cover.

Battery

▶ Bend the metal hinges to release the battery from the bracket.

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Power Supply Cable

▶ Remove the attached cable from the adapter and discard.
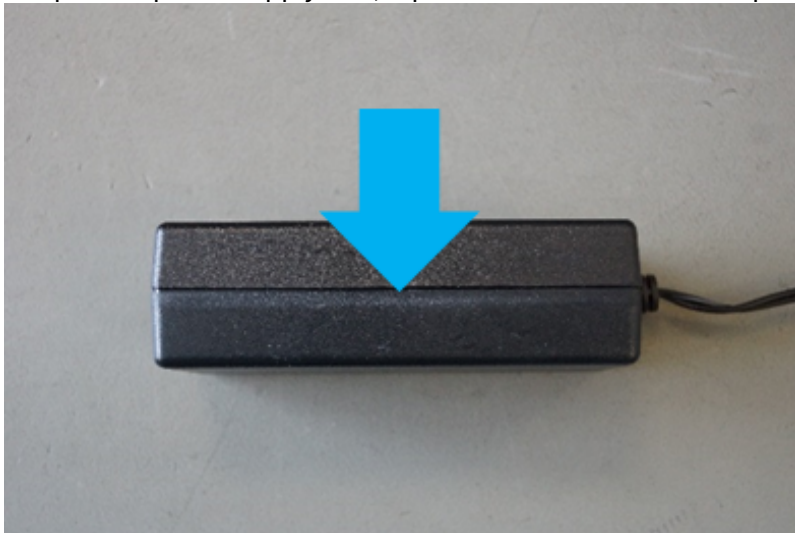
IGEL

Power Supply Unit

> ⚠ These instructions are intended solely for recycling organizations for disposal purposes only! After opening the power supply unit, it must no longer be used.

⚡	**WARNING**
	• The disassembly of the device must only be carried out by an electrically qualified person.
	• Touching live parts can cause danger to life and limb from electric shock.
	• Disconnect the device from the power supply before the disassembly.
	• Disconnect all peripherals from the device before the disassembly.
	• Use only insulated tools for the disassembly.

1. To open the power supply unit, tap the seal on the side of the plastic outer cover with a hammer.
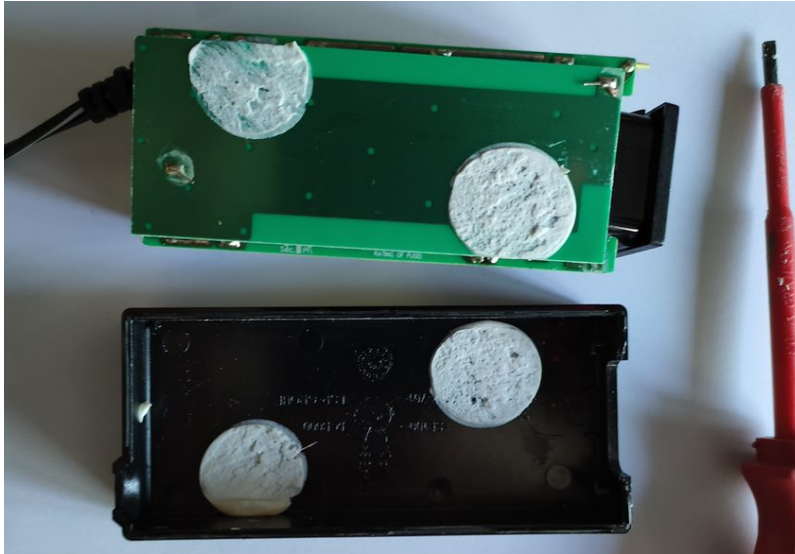

Once the power supply unit is open, the electrolyte capacitor is accessible.
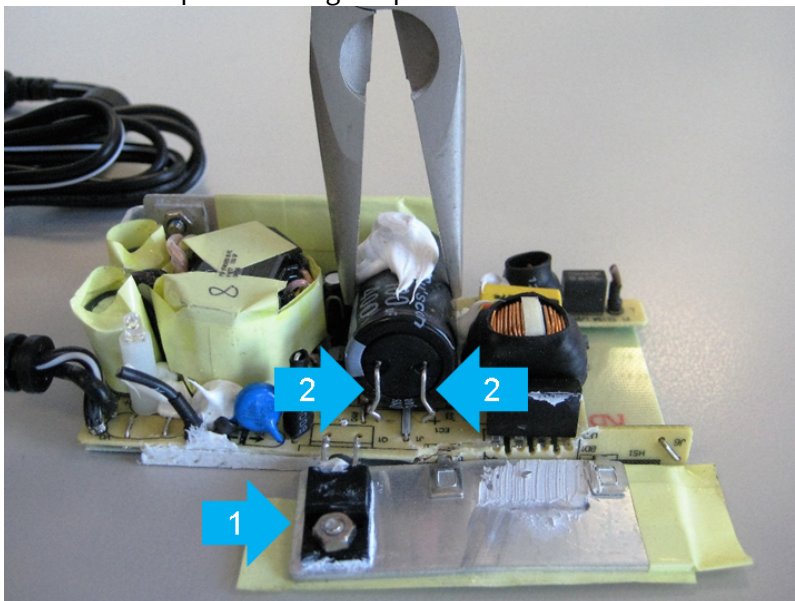
2. To remove the PCB from the housing, drive a slotted screwdriver between the PCB and the housing. Pry the PCB out.

3. Press down the side cover (1) of the inner shell.

4. Release two metal legs (2) on the capacitor with pliers.

5. Remove the capacitor using flat pliers.

> ⚠ Discard the plastic housing, the capacitor, and the board separately and in an environmentally friendly way.

Disposal

After you have disassembled the device completely, carefully dispose of the individual parts.

The following parts must be disposed of separately.

Plastic Parts over 25g

	upper cover
	bottom cover
	foot stand

| | connectivity bar 1 (if applicable) |
| | connectivity bar 2 (if applicable) |

Electronic Parts

> ⚠️ Electronic components require special handling. Please dispose of in an environmentally friendly way.

Manual

- Information (see page 77)
- Safety Instructions (see page 78)
- Technical Specification (see page 80)
- Regulatory Compliance Information (see page 85)
- Relevant Documents (see page 87)

The datasheet:

UD3_M340C_EN.pdf

Information

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Disclaimer

This manual and the information contained herein only serve for information purposes. IGEL Technology GmbH reserves the right to modify, delete or alter any data and information contained herein.
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Safety Instructions

> ⚠️ Read these instructions carefully and save them for future reference.

- All cautions and warnings on the equipment should be noted.
- Lay this equipment on a stable surface during set up. A drop or fall could cause damage.
- The warranty will be invalidated if the device is damaged during installation or replacement of system expansions.
- Use the original power adapter and power cord only.
- Make sure the power adapter and power cord are laid so that people do not step on them. Do not place anything over the power adapter or power cord.
- Disconnect this equipment from the main supply before cleaning. Do not use liquid or spray detergent to clean. Clean only with a wipe or cloth.
- Before opening the device, first, switch it off and then disconnect the power plug. Observe the specification in the user manual.
- If the equipment is not used for a long time, disconnect the equipment from the main electric supply to avoid damage by transient overvoltage.
- Make sure that no liquids leak into the device (danger of electric shock, fire, short circuit).
- Do not insert foreign objects into the device (danger of electric shock, fire, short circuit).
- If one of the following situations occurs, have the equipment checked by service personnel:
    - The power adapter, power cord or plug is damaged.
    - The equipment has been exposed to moisture.
    - The equipment does not work well, or you cannot get it working according to the user manual.
    - The equipment has been dropped or damaged.
    - The equipment has obvious signs of breakage.
- Do not leave this equipment in an unconditioned environment. Storage temperature below -20 °C (-4 °F) or above 60 °C (140 °F) may cause damage to the equipment.
- Do not use this equipment in an unconditioned environment. Unless otherwise stated in the technical specifications, operational conditions may not exceed the following limits, it may damage the equipment:
    - Vertical usage:
      Temperature: 0 °C to 35 °C, 32 °F to 95 °F
      Humidity: 20 % to 80 %, non-condensing
    - Horizontal usage (only with optional rubber feet, no VESA mount):
      Temperature: 0 °C to 35 °C, 32 °F to 95 °F
      Humidity: 20 % to 80 %, non-condensing
- To avoid overheating in the horizontal position, use the optional rubber feet and tilt the device to the left so that the power button is on the left-hand side.
- Note that even in closed rooms local temperatures may increase, for instance in case the device is exposed to strong sun radiation. Protect the device from external heat sources.
- Ensure that air is free to circulate through the product. Do not use in a poorly ventilated place. Do not cover it with a cloth or place it on soft ground. Objects surrounding the device may block the airflow. Keep a minimum distance of 20 cm around the device for sufficient ventilation.

Lithium Battery Caution

- The lithium battery (button cell) installed in the device may only be replaced by authorized, specially trained personnel.
- Contact your supplier or the manufacturer for servicing and repairs.
- Danger of explosion if the battery is incorrectly replaced. The lithium battery may only be replaced with a battery identical or equivalent to the one recommended by the manufacturer.
- Dispose of used batteries according to the manufacturer's instructions.

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Excessive sound pressure from ear-/headphones can cause hearing damage/hearing loss. Adjustment of the volume control as well as the equalizer to other settings than the center position may increase the ear-/headphones output voltage and therefore the sound pressure level. The use of factors influencing the ear-/headphones output other than those specified by the manufacturer (e.g. operating system, equalizer software, firmware, driver) may increase the ear-/headphones output voltage and therefore the sound pressure level.

UL 62368

This equipment must be grounded. The power cord for the equipment must only be connected to socket-outlets providing earthing connection.
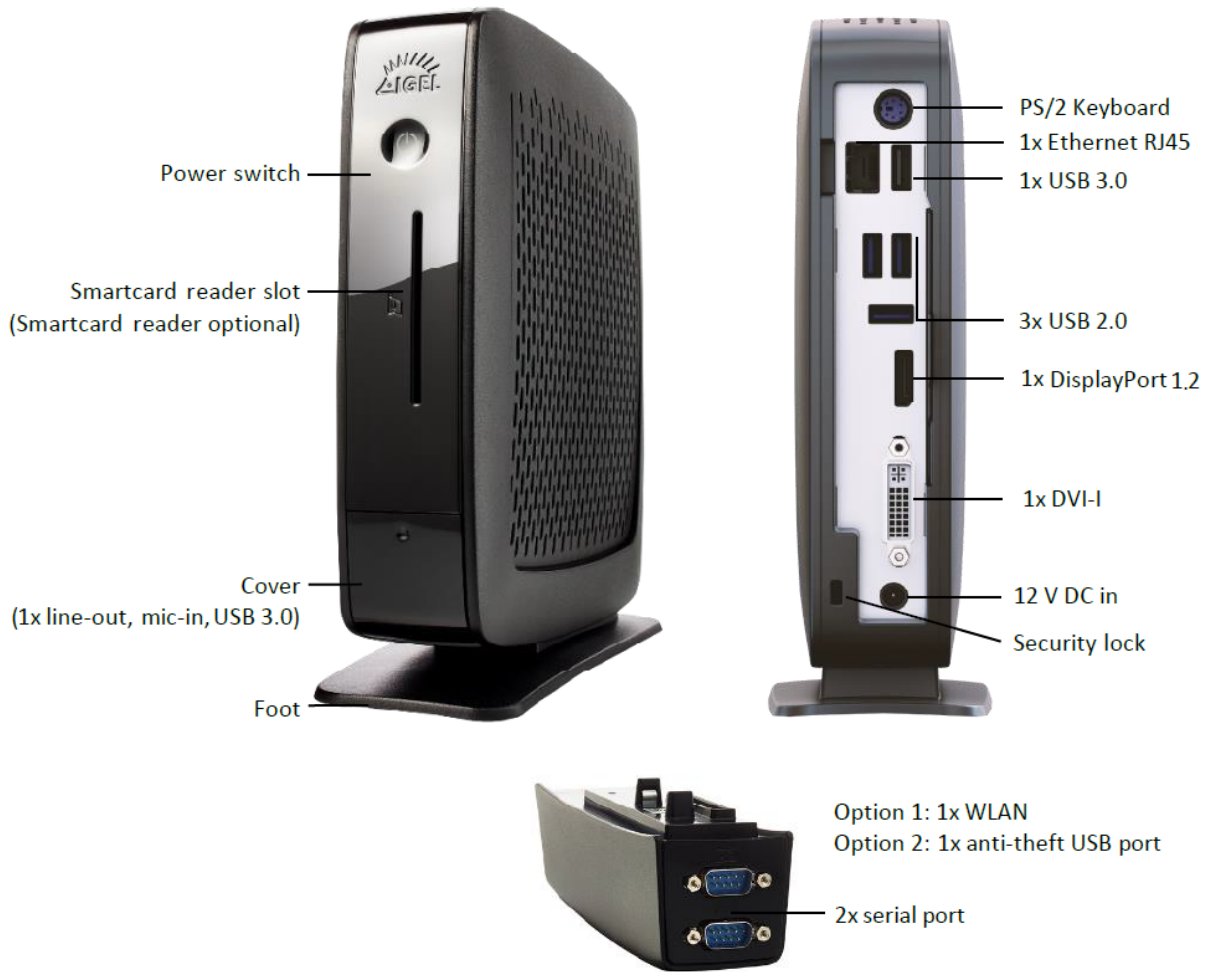
> ⓘ For the latest product information, visit www.igel.com[9].

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9 https://www.igel.com/

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Technical Specification

Connections

Power switch

Smartcard reader slot
(Smartcard reader optional)

Cover
(1x line-out, mic-in, USB 3.0)

Foot

PS/2 Keyboard
1x Ethernet RJ45
1x USB 3.0

3x USB 2.0

1x DisplayPort 1.2

1x DVI-I

12 V DC in
Security lock

Option 1: 1x WLAN
Option 2: 1x anti-theft USB port

2x serial port

Part List

- Endpoint device
- Foot stand
- Power supply with integrated DC cable
- AC power cord
- DVI-VGA adapter
- Optional: connectivity bar

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> ⚠ **CAUTION!** Strictly follow the power connection note below:
> 1. Connect all accessories, e.g. mouse, keyboard, screen (not part of the equipment), and Ethernet.
> 2. Connect the AC power cord with the receptacle of the power supply.
> 3. Connect the DC cable with the DC in receptacle on the rear side of the device.
> 4. Connect the other end of the AC power cord with a suited mains socket.
> 5. Switch on the device with the touch sensor on the front side.

Technical Specifications

System

Available operating systems	IGEL OS 11 (LX) Optional: Microsoft Windows 10 IoT (W10)
Management	IGEL Workspace Edition, registration required
Processor	AMD GX-424CC 2.4 GHz (Quad-Core), system on a chip (SoC)

Memory

RAM (DDR3L)	2 GB (LX) or 4 GB (W10)
Storage	4 GB (LX) or 32 GB (W10), larger SSD modules on request

Graphics

Chipset	AMD Radeon R5E
Video memory	128 – 1024 MB shared memory
Ports	1x DVI-I, 1x DisplayPort 1.2 Multistream support (daisy chain) depends on configuration (official support is not provided).
Supported resolutions	1920 x 1200 @60 Hz (DVI) 3840 x 2160 @60 Hz (DisplayPort) Accelerated video decoding support for resolutions up to 1x WUXGA (1920 x 1200)
Supported video compression standard	H.264

Network

Ethernet	10/100/1000 Base-T (RJ-45 connector)
WLAN	optional: via connectivity bar, 802.11 a/b/g/n

Audio

Chipset	Realtek ALC662-VD0-GR
Ports	1x line-out (TRS), 1x mic-in
Speakers	1x internal

Interfaces

PS/2	rear: 1x keyboard
USB 3.0	1x front, 1x rear
USB 2.0	3x rear
DVI-I	1x rear
Ethernet	1x rear
DisplayPort 1.2	1x rear
12 V DC in	1x rear
Line-out	1x front
Mic-in	1x front
Security lock	1x rear
Smartcard reader	optional: 1x front

Dimensions and Weight

Device (DxWxH), upright	210 x 69 x 207 mm (with foot stand) 210 x 51 x 196 mm (without foot stand)
Device weight	1.19 kg (without foot stand) 1.60 kg (with foot stand and external adapter)
Packaging (DxWxH), horizontal	325 x 110 x 280 mm
Packaging weight	0.35 kg

Environmental Conditions

> ⚠ Strictly follow safety instructions and respect environmental conditions!

Cooling	fanless convection
Operating temperature	vertical: 0 °C – 35 °C, 32 °F – 95 °F horizontal (with optional rubber feet only): 0 °C – 35 °C, 32 °F – 95 °F
Operating humidity	20 % – 80 %, non-condensing

Electrical Data

Power supply	external
Power supply AC input	auto sensing 100 – 240 V / 50 – 60 Hz
Power supply DC output	12 V / 3 A External Power Adapter (A140-1120300N & FSP036-RHAN2)
Power consumption	4.7 W (idle) / 0.4 W (sleep) / < 0.3 W (off) (@230 V, 50 Hz)

Typical Energy Consumption
(ENERGY STAR, 7.0)

E_{TEC}	16.41 kWh (per year, @230 V) 16.60 kWh (per year, @115 V)
$E_{TEC, max}$	33.0 kWh (per year, @230 / 115 V)

Options for Device Mounting

VESA mount	for mounting on the back of a monitor (VESA75, VESA100) vertical mounting only!
Rubber feet	for horizontal placement of the device

Connectivity Bar

Option 1	2x serial port and 1x anti-theft USB 2.0 port
Option 2	2x serial port and 1x 802.11a/b/g/n WLAN

Optional Accessories

Integrated smartcard reader	for secure smartcard-based authentication
VESA mount	for mounting on the back of a monitor
Rubber feet	for horizontal placement of the device
DisplayPort-to-DVI adapter	for connecting a monitor that requires a DVI port
USB-to-serial adapter	for connecting peripherals that require a serial port
USB-to-parallel adapter	for connecting peripherals that require a parallel port
Connectivity bar	1) for secure USB connection and for connecting peripherals that require a serial port, or 2) for WLAN option and for connecting peripherals that require a serial port

Regulatory Compliance Information

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Shielded interface cables must be used in order to comply with emission limits.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

TÜV-GS Statement

This device is not intended for use in the direct field of view at visual display workplaces. To avoid incommoding reflexions at visual display workplaces, this device must not be placed in the direct field of view.

ENERGY STAR Note

IGEL Thin Clients with a preinstalled operating system support ENERGY STAR® Power Management configuration upon shipment. The power-saving mode for the display is managed via local setup. By default, it is activated after 10 minutes of inactivity. Reactivation from standby mode can be done by moving the mouse or pressing a key on the keyboard, while off mode can be controlled via the Ethernet connection (Wake-On-LAN).

ENERGY STAR Program

Power managing your ENERGY STAR qualified thin client can save up to 100 kWh annually or 25 € ($28) per year. These energy savings are equivalent to a preventing of over 60 kg (132 lbs) CO_2 emissions per year.
To learn more about Power Management for your workplace, please go to https://energystar.gov/powermanagement[10].
ENERGY STAR is the government-backed program that helps us all save money and protect our environment with energy-efficient products and practices. Go to https://energystar.gov[11].

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[10] https://www.energystar.gov/products/low_carbon_it_campaign/put_your_computers_sleep
[11] https://www.energystar.gov/

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WEEE and Battery Waste Note

In accordance with EU directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE) and Directive 2006/66/EC for waste batteries, customers and manufacturers are responsible for returning and recycling their old equipment and batteries. Based on this, all IGEL thin clients (including the battery) labelled with a WEEE and battery waste seal will be taken back and disposed of at no charge by IGEL Technology. The Customer is obliged to delete personal and business data on the devices before using this Collection Service.

Contact our Collection Service by filling out the RMA form on https://support.igel.com/csm. An IGEL service employee will contact you to arrange a collection date for the unit.

For US customers, IGEL offers options to recycle unwanted IGEL thin clients. More information can be found on our website https://www.igel.com/terms-conditions.

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Relevant Documents

IGEL Smelter List

Smelter_List_M340C.pdf

Directive 2009/125/EC Ecodesign Requirements

Eco design Direc...40C GX-424CC.pdf

H830C

- **Disassembly Guide** (see page 89)
- **Manual** (see page 125)

The List of UD5/6 Devices H830C

- UD6-LX 51
- UD6-W7 51
- UD6-W7+ 51
- UD6-W10 51
- UD5-LX 50
- UD5-W7 50
- UD5-W7+ 50
- UD5-W10 50

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Disassembly Guide

This step by step guide shows you how to skillfully disassemble IGEL UD5/6 model H830C.

Pay particular attention to the Safety Instructions (see page 90)!

⚠	**WARNING**
	• The disassembly of the device must only be carried out by an electrically qualified person.
	• Touching live parts can cause danger to life and limb from electric shock.
	• Disconnect the device from the power supply before the disassembly.
	• Disconnect all peripherals from the device before the disassembly.
	• Use only insulated tools for the disassembly.

Read this guide carefully and in full. Perform the steps in the given order.

Safety Instructions

> ⚠️ **WARNING**
>
> - The disassembly of the device must only be carried out by an electrically qualified person.
> - Touching live parts can cause danger to life and limb from electric shock.
> - Disconnect the device from the power supply before the disassembly.
> - Disconnect all peripherals from the device before the disassembly.
> - Use only insulated tools for the disassembly.

> ❗ **CAUTION!** Note on industrial safety: Use suitable gloves to protect against injury.

Please read the following safety instructions in full before starting with the disassembly of the device.

> ❗ Read these instructions carefully and save them for future reference.

- All cautions and warnings on the equipment should be noted.
- Lay this equipment on a stable surface during set up. A drop or fall could cause damage.
- The warranty will be invalidated if the device is damaged during installation or replacement of system expansions.
- Use the original power adapter and power cord only.
- Make sure the power adapter and power cord are laid so that people do not step on them. Do not place anything over the power adapter or power cord.
- Disconnect this equipment from the main supply before cleaning. Do not use liquid or spray detergent to clean. Clean only with a wipe or cloth.
- Before opening the device, first, switch it off and then disconnect the power plug. Observe the specification in the user manual.
- If the equipment is not used for a long time, disconnect the equipment from the main electric supply to avoid damage by transient overvoltage.
- Make sure that no liquids leak into the device (danger of electric shock, fire, short circuit).
- Do not insert foreign objects into the device (danger of electric shock, fire, short circuit).
- If one of the following situations occurs, have the equipment checked by service personnel:
    - The power adapter, power cord or plug is damaged.
    - The equipment has been exposed to moisture.
    - The equipment does not work well, or you cannot get it working according to the user manual.
    - The equipment has been dropped or damaged.
    - The equipment has obvious signs of breakage.
- Do not leave this equipment in an unconditioned environment. Storage temperature below -20 °C (-4 °F) or above 60 °C (140 °F) may cause damage to the equipment.
- Do not use this equipment in an unconditioned environment. Unless otherwise stated in the technical specifications, operational conditions may not exceed the following limits, it may damage the equipment:

- Vertical usage:
  Temperature: 0 °C to 35 °C, 32 °F to 95 °F
  Humidity: 20 % to 80 %, non-condensing
- Horizontal usage (only with optional rubber feet, no VESA mount):
  Temperature: 0 °C to 35 °C, 32 °F to 95 °F
  Humidity: 20 % to 80 %, non-condensing
- To avoid overheating in the horizontal position, use the optional rubber feet and tilt the device to the left so that the power button is on the left-hand side.
- Note that even in closed rooms local temperatures may increase, for instance in case the device is exposed to strong sun radiation. Protect the device from external heat sources.
- Ensure that air is free to circulate through the product. Do not use in a poorly ventilated place. Do not cover it with a cloth or place it on soft ground. Objects surrounding the device may block the airflow. Keep a minimum distance of 20 cm around the device for sufficient ventilation.

Lithium Battery Caution

- The lithium battery (button cell) installed in the device may only be replaced by authorized, specially trained personnel.
- Contact your supplier or the manufacturer for servicing and repairs.
- Danger of explosion if the battery is incorrectly replaced. The lithium battery may only be replaced with a battery identical or equivalent to the one recommended by the manufacturer.
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Excessive sound pressure from ear-/headphones can cause hearing damage/hearing loss. Adjustment of the volume control as well as the equalizer to other settings than the center position may increase the ear-/headphones output voltage and therefore the sound pressure level. The use of factors influencing the ear-/headphones output other than those specified by the manufacturer (e.g. operating system, equalizer software, firmware, driver) may increase the ear-/headphones output voltage and therefore the sound pressure level.

UL 62368

This equipment must be grounded. The power cord for the equipment must only be connected to socket-outlets providing earthing connection.

> ⓘ For the latest product information, visit www.igel.com[12].

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12 https://www.igel.com/

Tools and Equipment

Set up the following tools before you begin with the disassembly:

- Hammer
- Phillips screwdriver, slotted screwdriver
- Cutting pliers, pliers or similar
- Stanley knife or similar

> **CAUTION!** Note on industrial safety: Use suitable gloves to protect against injury.

In the following image, you see the examples of the appropriate tools for disassembly:

IGEL

Preparation

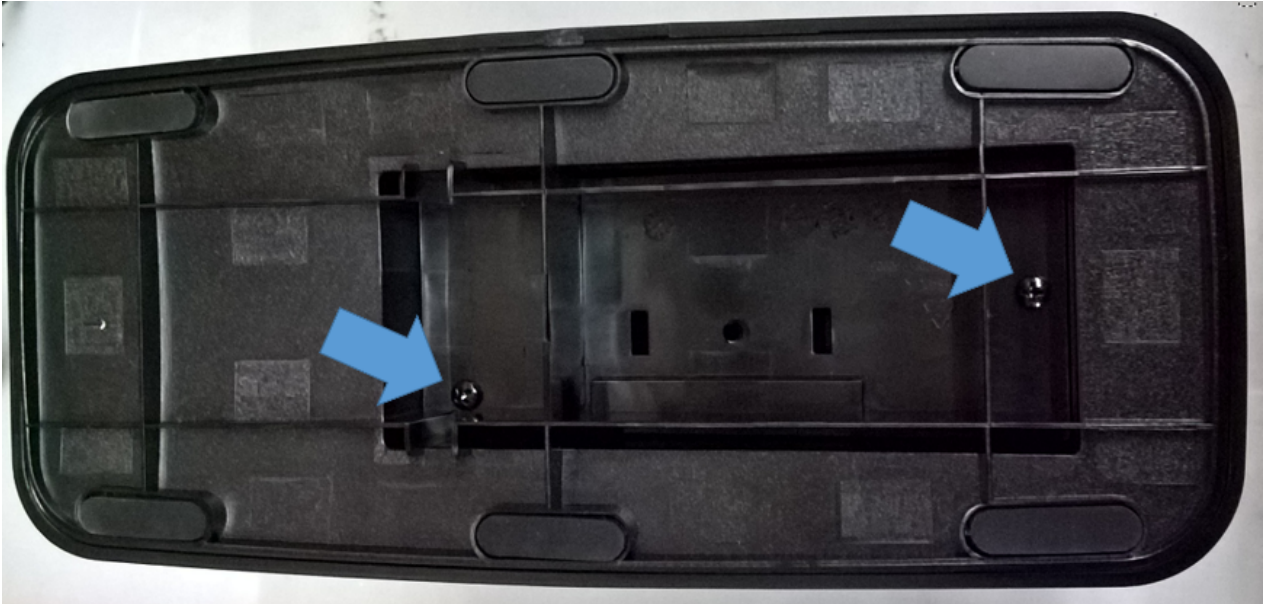▶ Place the device on a soft and slip-resistant surface.

IGEL

DVI-VGA-Adapter

▶ Remove the DVI-to-VGA adapter from the DVI port and discard.

Foot Stand

▶ Loosen two screws on the foot stand to detach it from the device.

IGEL

Rubber Feet

The rubber feet are glued to the device.

▶ Bend the rubber feet in one direction to detach them.

Connectivity Bar (If Available)

> ⓘ This section is only relevant when a connectivity bar is installed on the device.

1. Loosen the screw (1) to detach the connectivity bar from the device.
2. Loosen the screw (2) to remove the plastic cover.

3. Disconnect the WiFi module from the USB port (1).
4. Disconnect the antennas from the WiFi module (2).
5. Detach the antennas from the inside of the plastic cover (3).

6. Pull out the cable (1).
7. Loosen two screws (2) and remove the USB board from the main board.
8. Pull off the serial port ribbon cable (3) from the main board.

9. Loosen two screws (1) and remove the parallel interface.
10. Loosen three screws (2).
11. Loosen two spacer bolts (3) and remove the main board.

12. Loosen three screws and remove the metal base plate from the plastic cover.

Back Panel

1. Remove the screw the back panel is fixed with.

2. Remove the back panel.

Upper Cover

▶ Push the upper cover backwards to release it from the device casing.

![IGEL logo]

Metal Panel

▶ Lever the metal panel in the middle to detach it from the upper cover.

Card Reader (If Available)

ⓘ This section is only relevant when the card reader is installed in the device.

1. Pull the cable plug (1) of the card reader out of the mainboard.
2. Loosen two screws (2) to remove the card reader.

IGEL

Bottom Cover and Chassis

1. Plug out the tactile sensor cable (1) and thread the cable through the opening in the chassis.
2. Remove the random-access memory (2).
3. Remove the storage (3).
4. Loosen four screws (4) and detach the bottom cover from the chassis.
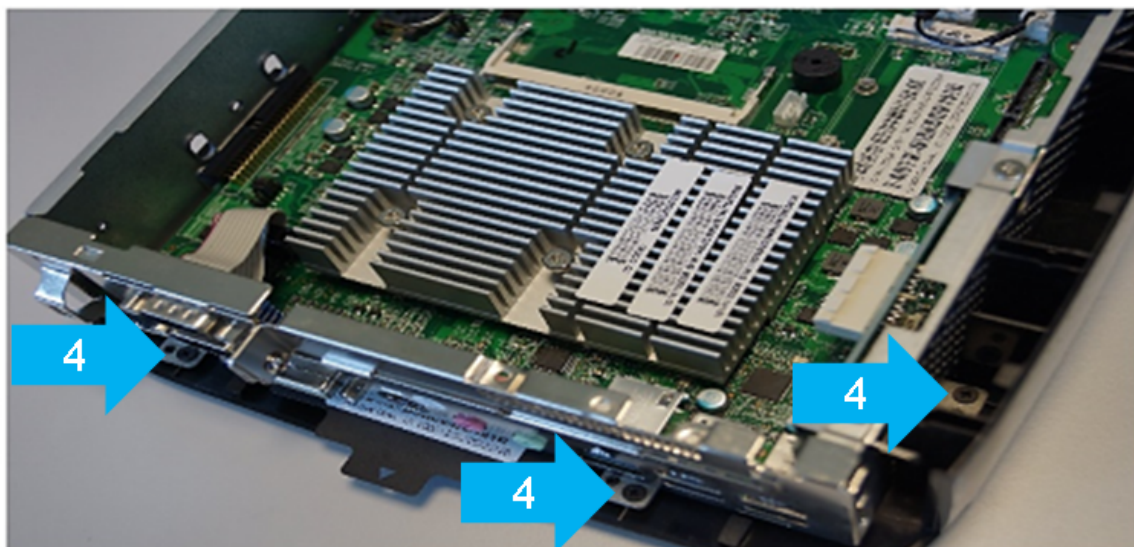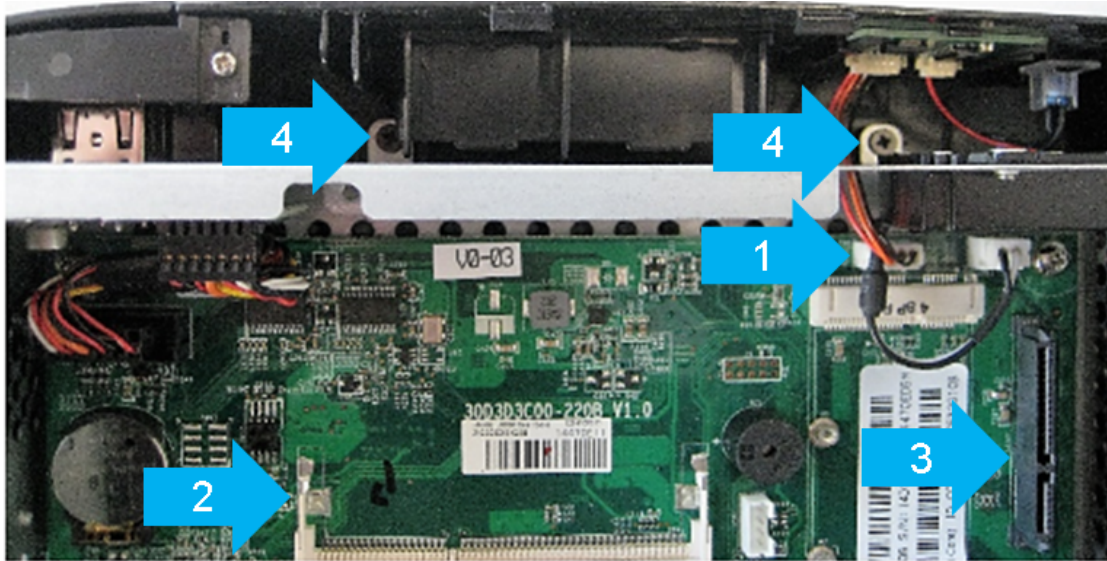
IGEL

Heat Sink

▶ Loosen four screws and remove the heat sink.

Rear Outer Casing

1. Pull out the cable(1).
2. Loosen the screws (2) to remove the rear outer casing.
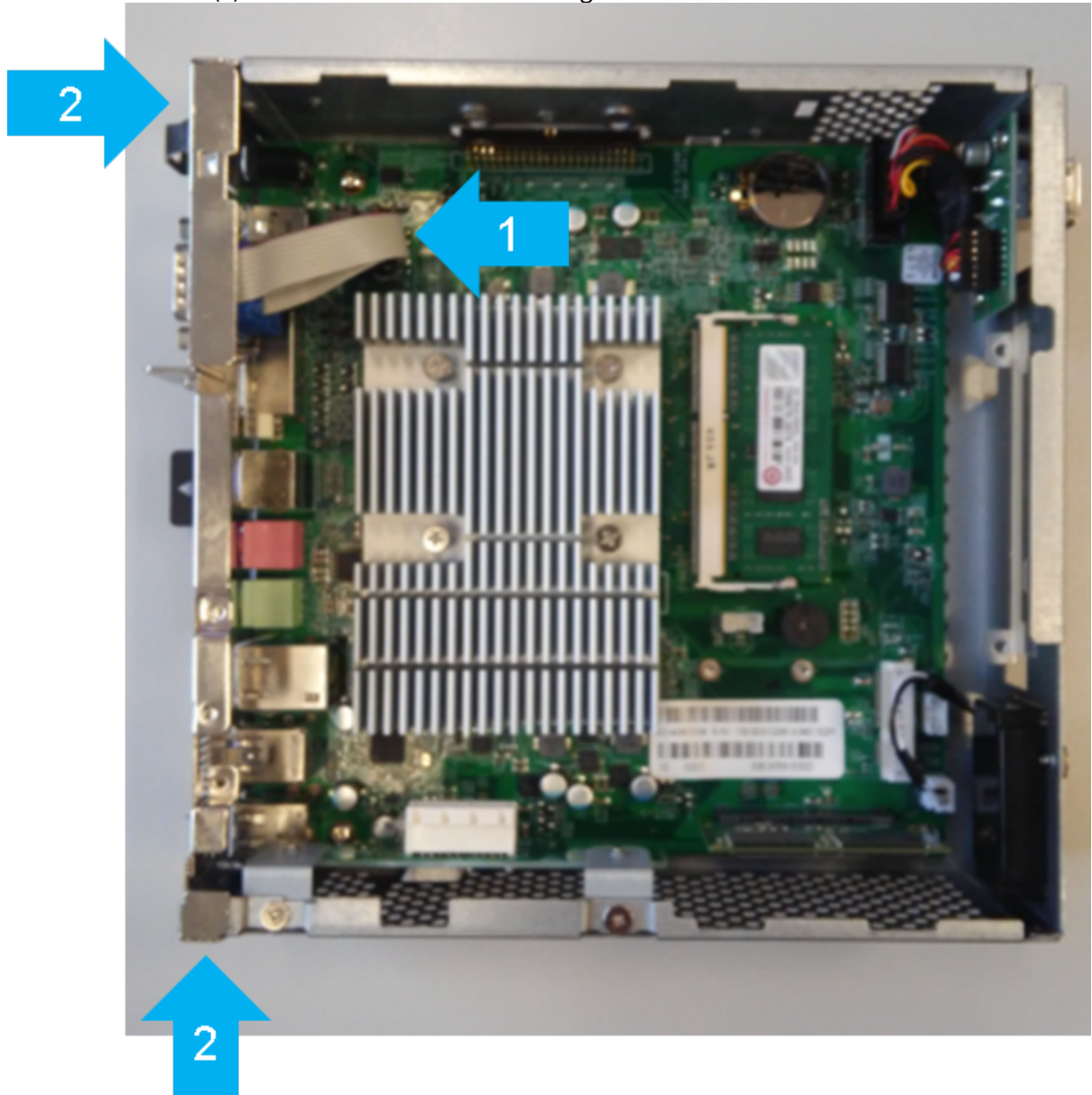
IGEL

PCIe Connector Board

▶ Loosen two screws, as per the image, and pull off the board interface.

IGEL
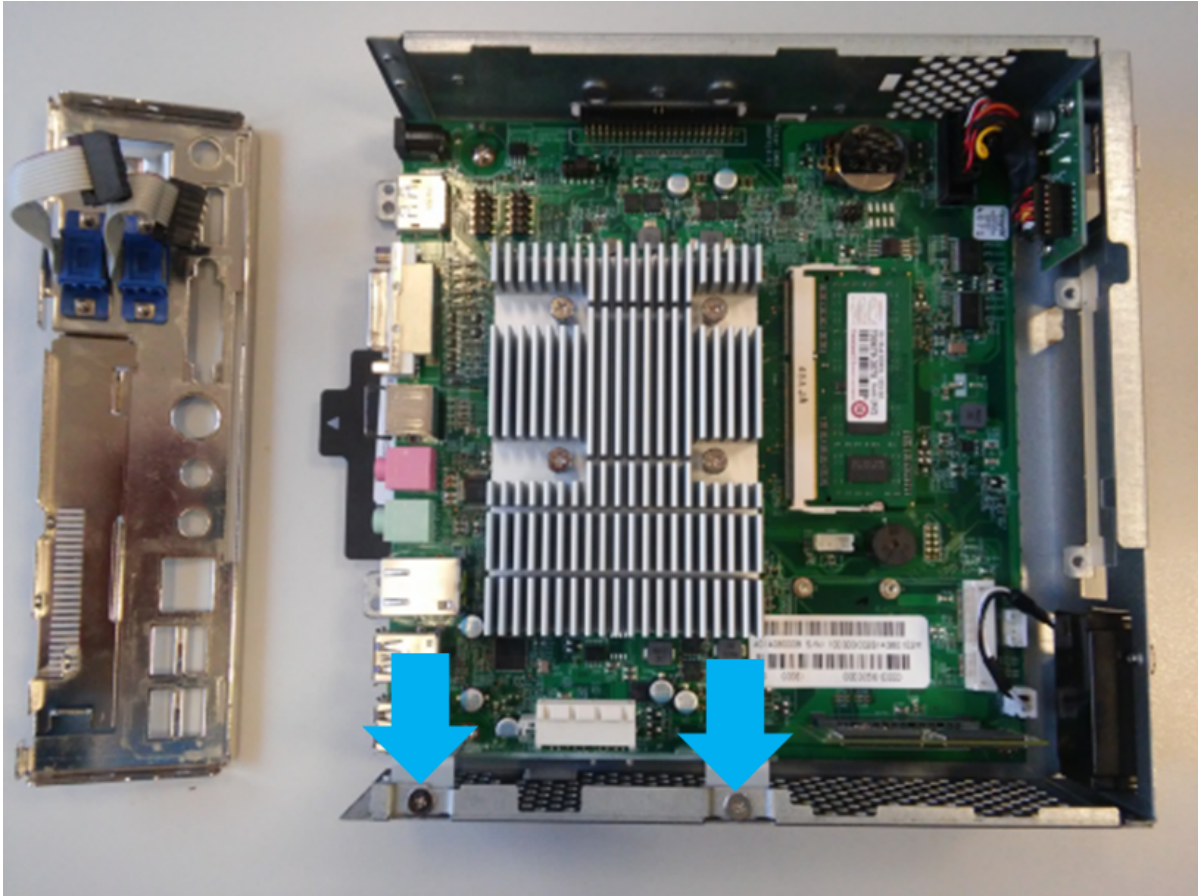
Mainboard

1. Pull out the cable plugs (1).
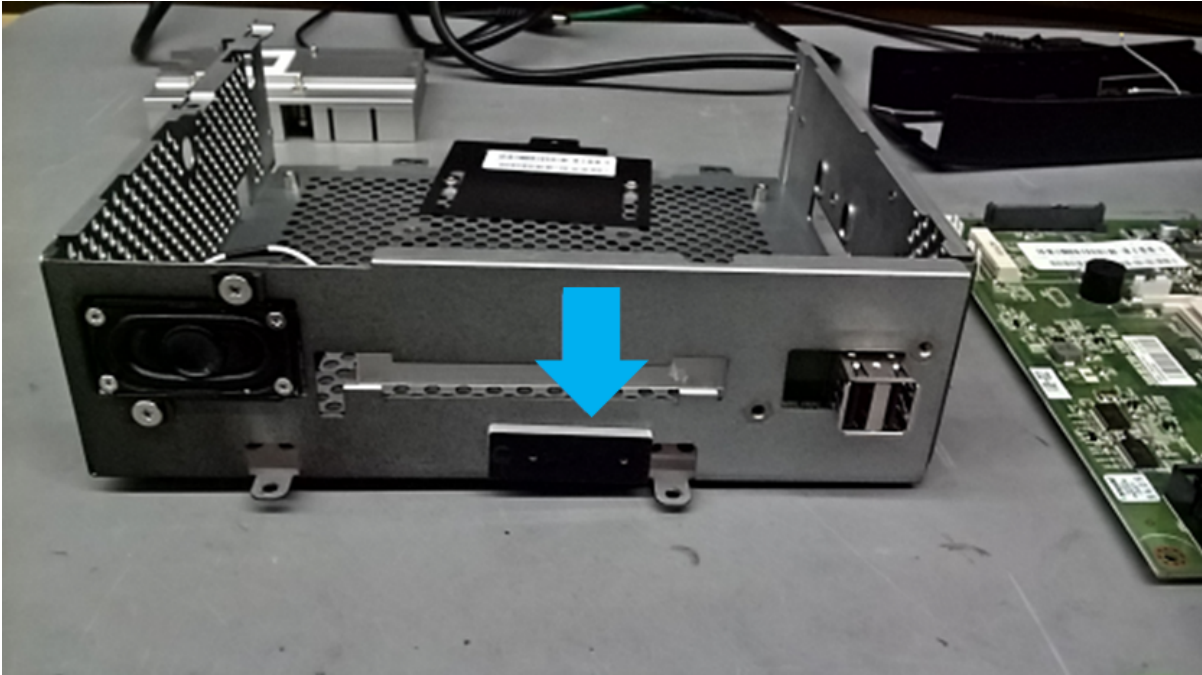2. Loosen the screws (2) to remove the mainboard.
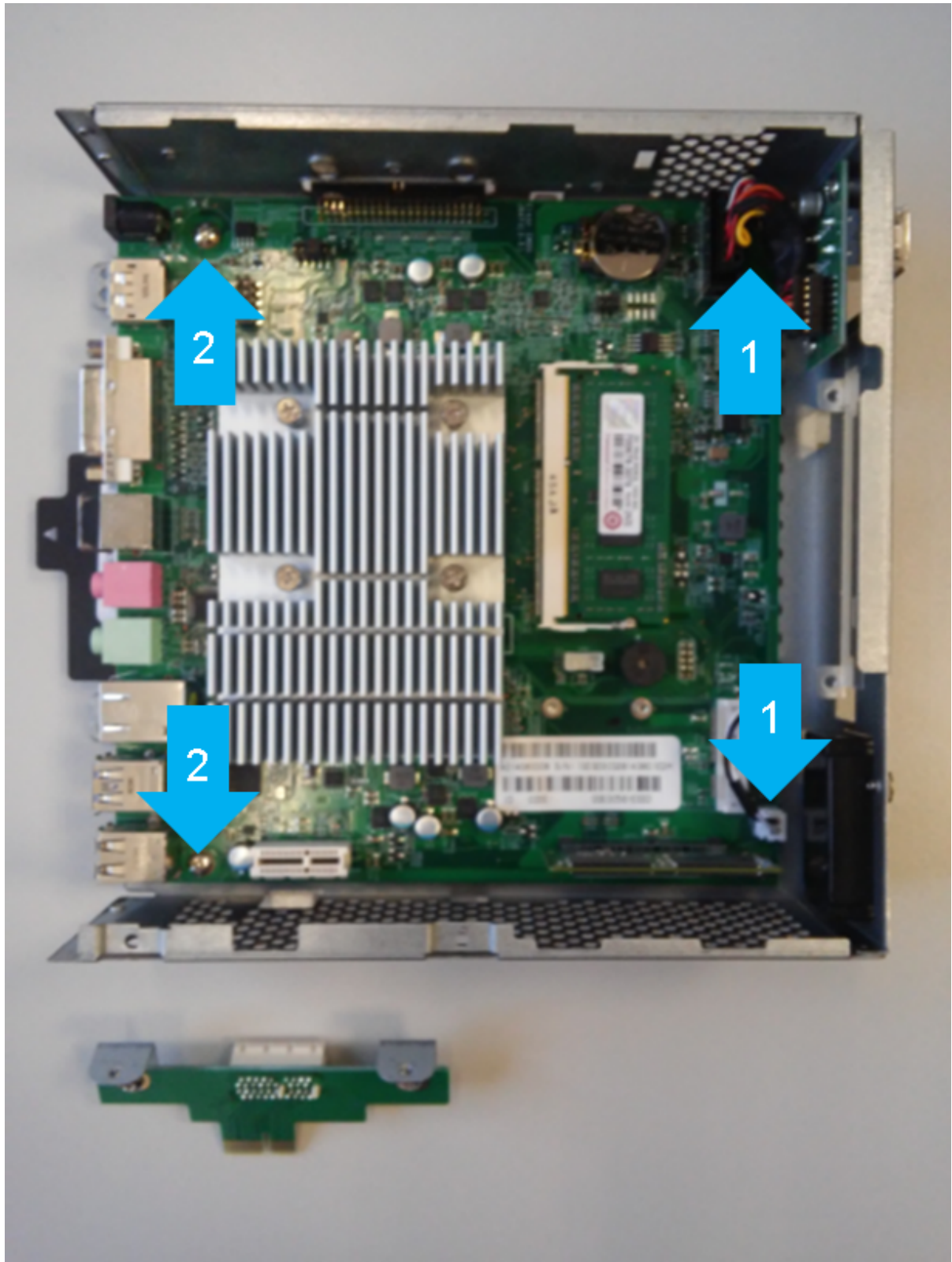
Speaker and USB Board

1. Loosen two screws to remove the speaker (1).
2. Loosen two screws to remove the USB board (2).
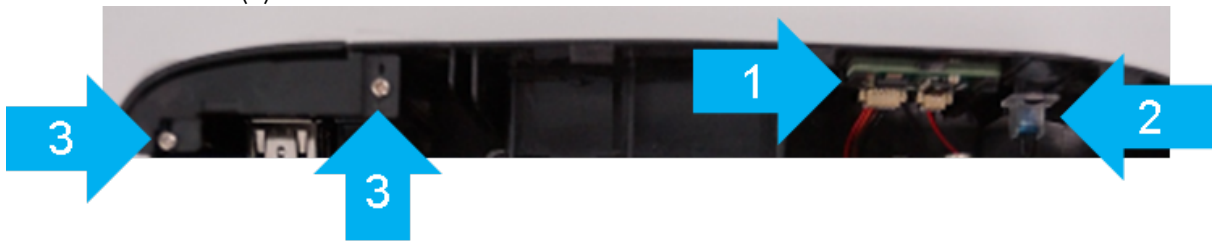3. Loosen two screws (3) to remove the label holder.
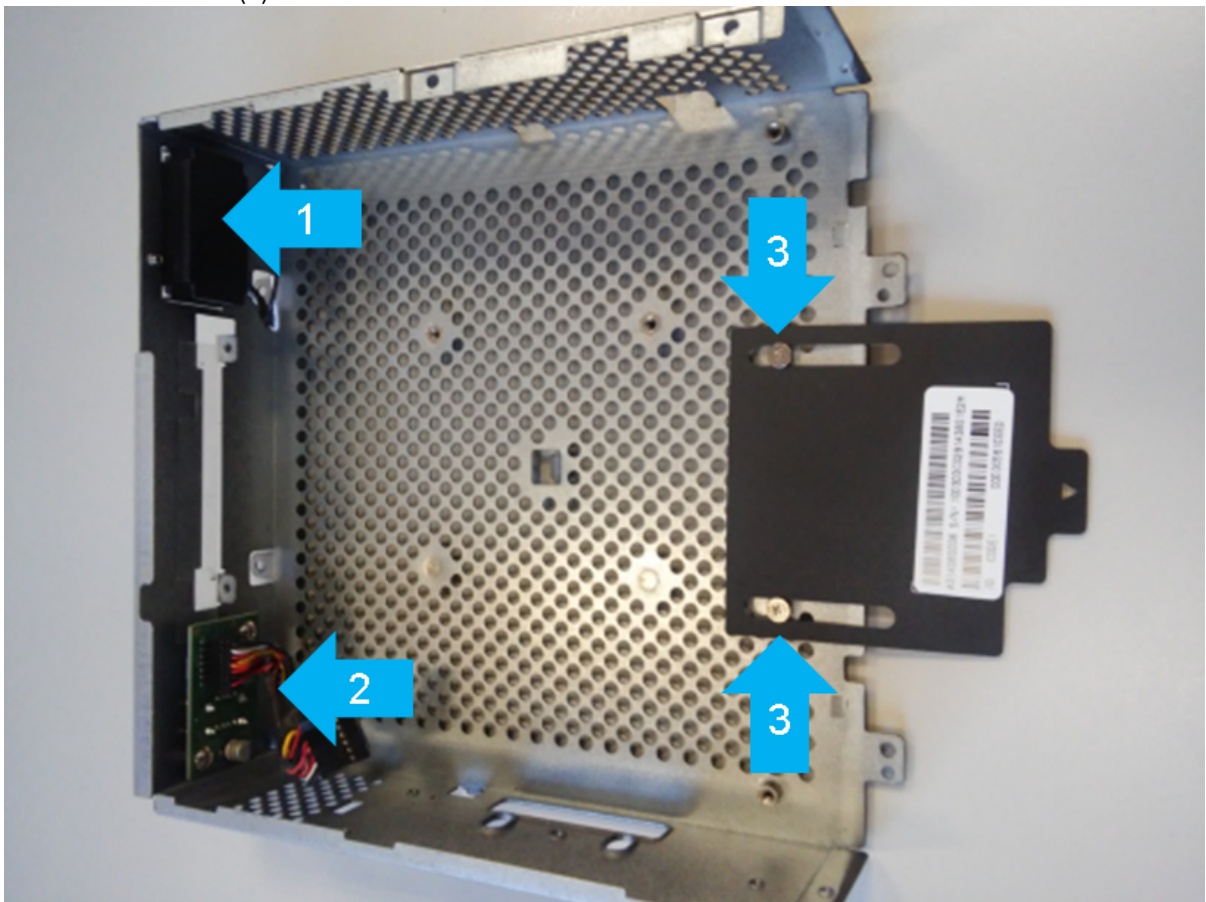
Transponder

▶ Remove the transponder from the chassis.

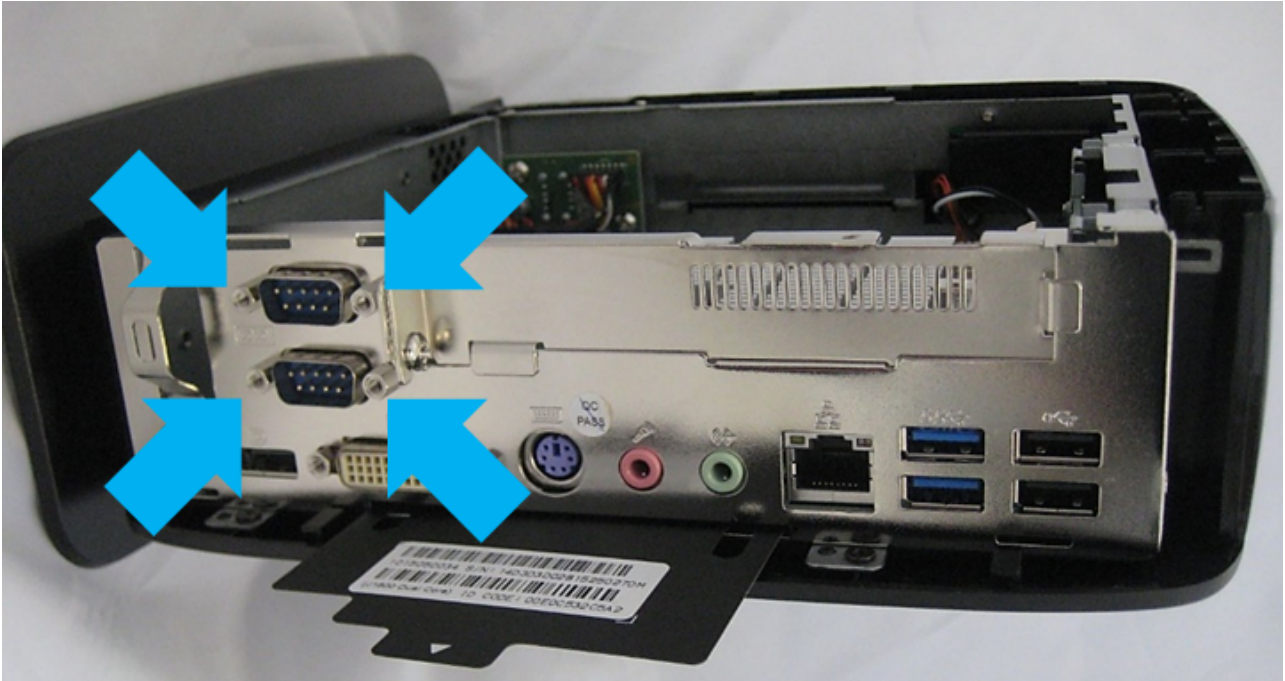## Tactile Sensor, LED and Front Cover

1. Pull the tactile sensor (1) up and out.
2. Pull the LED (2) out of the socket.
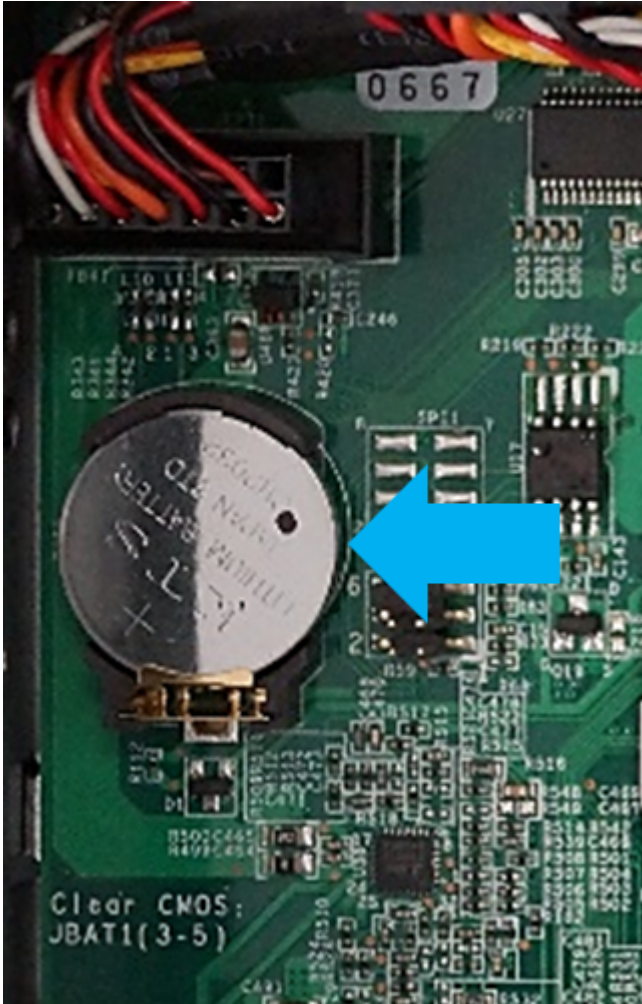3. Loosen two screws (3) to remove the front cover.

Serial Ports

▶ Loosen the bolts to remove the serial ports.

IGEL

Battery

▶ Lever the battery out of the socket.

Power Supply Cable

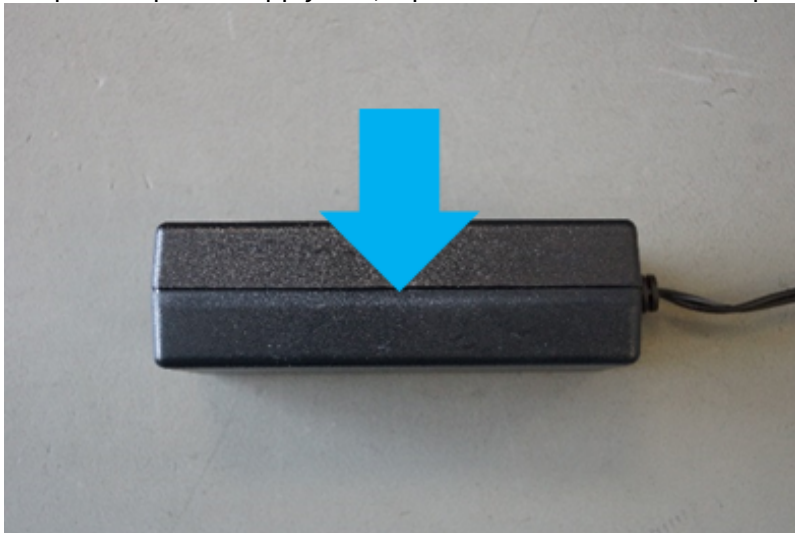▶ Remove the attached cable from the adapter and discard.

Power Supply Unit

> ⚠️ These instructions are intended solely for recycling organizations for disposal purposes only! After opening the power supply unit, it must no longer be used.

⚡	**WARNING**
	• The disassembly of the device must only be carried out by an electrically qualified person.
	• Touching live parts can cause danger to life and limb from electric shock.
	• Disconnect the device from the power supply before the disassembly.
	• Disconnect all peripherals from the device before the disassembly.
	• Use only insulated tools for the disassembly.

1. To open the power supply unit, tap the seal on the side of the plastic outer cover with a hammer.
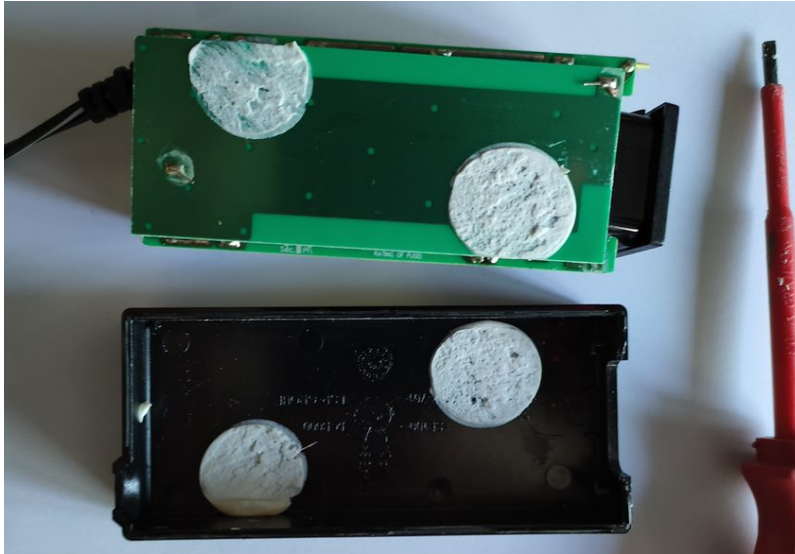

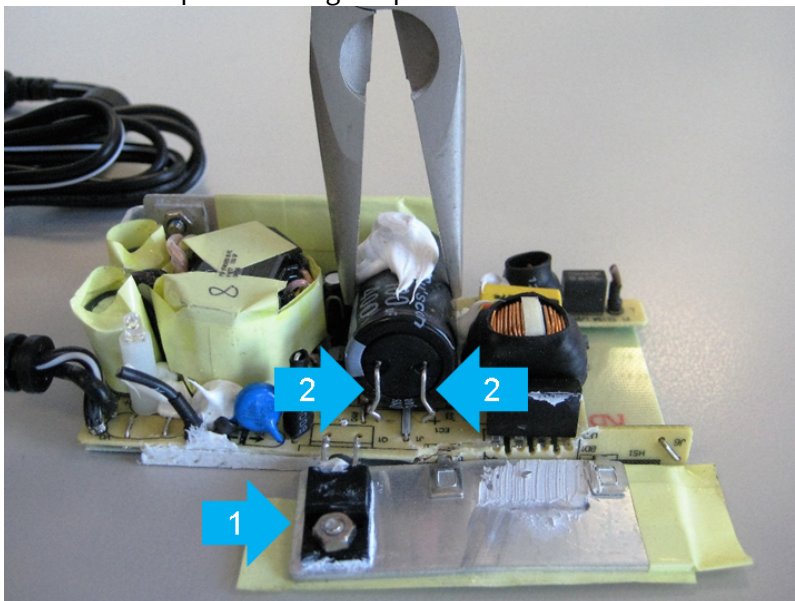Once the power supply unit is open, the electrolyte capacitor is accessible.

2. To remove the PCB from the housing, drive a slotted screwdriver between the PCB and the housing. Pry the PCB out.

3. Press down the side cover (1) of the inner shell.

4. Release two metal legs (2) on the capacitor with pliers.
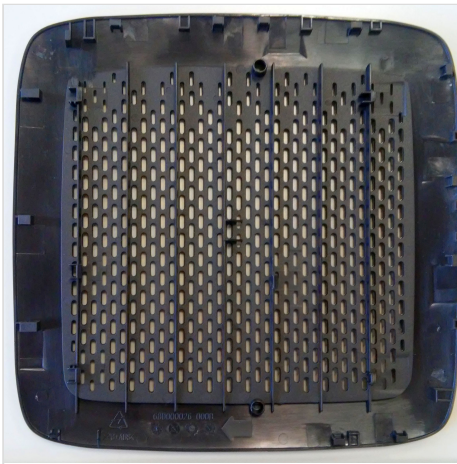
5. Remove the capacitor using flat pliers.

> ⚠ Discard the plastic housing, the capacitor, and the board separately and in an environmentally friendly way.

Disposal

After you have disassembled the device completely, carefully dispose of the individual parts.

The following parts must be disposed of separately.

Plastic Parts over 25g

	upper cover
	bottom cover

	foot stand
	connectivity bar 1
	connectivity bar 2

Electronic Parts

> ⚠ Electronic components require special handling. Please dispose of in an environmentally friendly way.

Manual

The datasheet:

H830C_Datasheet_EN_21-6-2.pdf

Information

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Disclaimer

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13 mailto:info@igel.com

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Safety Instructions

> ⚠ Read these instructions carefully and save them for future reference.

- All cautions and warnings on the equipment should be noted.
- Lay this equipment on a stable surface during set up. A drop or fall could cause damage.
- The warranty will be invalidated if the device is damaged during installation or replacement of system expansions.
- Use the original power adapter and power cord only.
- Make sure the power adapter and power cord are laid so that people do not step on them. Do not place anything over the power adapter or power cord.
- Disconnect this equipment from the main supply before cleaning. Do not use liquid or spray detergent to clean. Clean only with a wipe or cloth.
- Before opening the device, first, switch it off and then disconnect the power plug. Observe the specification in the user manual.
- If the equipment is not used for a long time, disconnect the equipment from the main electric supply to avoid damage by transient overvoltage.
- Make sure that no liquids leak into the device (danger of electric shock, fire, short circuit).
- Do not insert foreign objects into the device (danger of electric shock, fire, short circuit).
- If one of the following situations occurs, have the equipment checked by service personnel:
    - The power adapter, power cord or plug is damaged.
    - The equipment has been exposed to moisture.
    - The equipment does not work well, or you cannot get it working according to the user manual.
    - The equipment has been dropped or damaged.
    - The equipment has obvious signs of breakage.
- Do not leave this equipment in an unconditioned environment. Storage temperature below -20 °C (-4 °F) or above 60 °C (140 °F) may cause damage to the equipment.
- Do not use this equipment in an unconditioned environment. Unless otherwise stated in the technical specifications, operational conditions may not exceed the following limits, it may damage the equipment:
    - Vertical usage:
      Temperature: 0 °C to 35 °C, 32 °F to 95 °F
      Humidity: 20 % to 80 %, non-condensing
    - Horizontal usage (only with optional rubber feet, no VESA mount):
      Temperature: 0 °C to 35 °C, 32 °F to 95 °F
      Humidity: 20 % to 80 %, non-condensing
- To avoid overheating in the horizontal position, use the optional rubber feet and tilt the device to the left so that the power button is on the left-hand side.
- Note that even in closed rooms local temperatures may increase, for instance in case the device is exposed to strong sun radiation. Protect the device from external heat sources.
- Ensure that air is free to circulate through the product. Do not use in a poorly ventilated place. Do not cover it with a cloth or place it on soft ground. Objects surrounding the device may block the airflow. Keep a minimum distance of 20 cm around the device for sufficient ventilation.

Lithium Battery Caution

- The lithium battery (button cell) installed in the device may only be replaced by authorized, specially trained personnel.
- Contact your supplier or the manufacturer for servicing and repairs.
- Danger of explosion if the battery is incorrectly replaced. The lithium battery may only be replaced with a battery identical or equivalent to the one recommended by the manufacturer.
- Dispose of used batteries according to the manufacturer's instructions.

Excessive Sound Pressure

Excessive sound pressure from ear-/headphones can cause hearing damage/hearing loss. Adjustment of the volume control as well as the equalizer to other settings than the center position may increase the ear-/headphones output voltage and therefore the sound pressure level. The use of factors influencing the ear-/headphones output other than those specified by the manufacturer (e.g. operating system, equalizer software, firmware, driver) may increase the ear-/headphones output voltage and therefore the sound pressure level.

UL 62368

This equipment must be grounded. The power cord for the equipment must only be connected to socket-outlets providing earthing connection.

> ⓘ For the latest product information, visit www.igel.com[14].

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14 https://www.igel.com/

![IGEL logo]

Technical Specification

Connections

Power switch

Smartcard reader slot
(Smartcard reader optional)

Cover
(2x USB 2.0)

Foot

2x USB 2.0
2x USB 3.0
Ethernet RJ45
Line-out
Mic-in
PS/2 keyboard
PCIe slot
DVI-I
2x serial port
DisplayPort 1.1a
12 V DC in

Security lock

Option 1: WLAN
Option 2: anti-theft USB port

Parallel port

Part List

- Endpoint device
- Foot stand
- Power supply with integrated DC cable
- AC power cord
- DVI-VGA adapter
- Optional: connectivity bar

> ⬤ **CAUTION!** Strictly follow the power connection note below:
> 1. Connect all accessories, e.g. mouse, keyboard, screen (not part of the equipment), and Ethernet.
> 2. Connect the AC power cord with the receptacle of the power supply.

3. Connect the DC cable with the DC in receptacle on the rear side of the device.
4. Connect the other end of the AC power cord with a suited mains socket.
5. Switch on the device with the touch sensor on the front side.

Technical Specifications

System

Available operating systems	IGEL OS 11 (LX) Optional: Microsoft Windows 10 IoT (W10)
Management	IGEL Workspace Edition, registration required
Processor	Intel Celeron J1900 1.99 – 2.42 GHz (Quad-Core), system on a chip (SoC)
PCIe slot	1x Gen2 x2, for half-length / low-profile PCIe cards (with full-height bracket up to 120 mm)

Memory

RAM (DDR3L)	2 GB (LX) or 4 GB (W10)
Storage	4 GB (LX) or 32 GB (W10), larger SSD modules on request

Graphics

Chipset	Intel HD Graphics
Video memory	64 – 512 MB shared memory
Ports (supported resolutions)	1x DisplayPort 1.1a (max. 2560 x 1600 @60 Hz) 1x DVI-I (max. 1920 x 1200 @60 Hz) Accelerated video decoding support for resolutions up to 1x 4K
Supported video compression standard	H.264

Network

Ethernet	10/100/1000 Base-T (RJ-45 connector)
WLAN	optional: via connectivity bar, 802.11 a/b/g/n

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Audio

Chipset	Realtek High Definition Audio (ALC662)
Ports	1x line-out (TRS), 1x mic-in, 1x DisplayPort (Intel HD Audio)
Speakers	1x internal

Interfaces

PS/2	rear: 1x keyboard
USB 3.0	2x rear
USB 2.0	2x front, 2x rear
Ethernet	1x rear
DisplayPort 1.1.a	1x rear
DVI-I	1x rear
12 V DC in	1x rear
Line-out	1x rear
Mic-in	1x rear
Security lock	1x rear
Smartcard reader	optional: 1x front
Serial	2x rear

Dimensions and Weight

Device (DxWxH), upright	232 x 99 x 242 mm (with foot stand) 232 x 68 x 227 mm (without foot stand)
Device weight	1.47 kg (without foot stand) 2.07 kg (with foot stand and external power adapter)
Packaging (DxWxH), horizontal	297 x 366 x 125 mm
Packaging weight	0.58 kg

Environmental Conditions

> ⚠ Strictly follow safety instructions and respect environmental conditions!

Cooling	fanless convection

Operating temperature	vertical: 0 °C – 40 °C, 32 °F – 104 °F horizontal (with optional rubber feet only): 0 °C – 40 °C, 32 °F – 104 °F
Operating humidity	20 % – 80 %, non-condensing

Electrical Data

Power supply	external
Power supply AC input	auto sensing 100 – 240 V / 50 – 60 Hz
Power supply DC output	12 V / 4 A External Power Adapter (FSP048-RHAN2, FSP050-DBAE1, Au-799In, FSP065-REBN2, A160-1120400N)
Power consumption	7.12 W (idle) / 0.88 W (sleep) / < 0.82 W (off) (@230 V, 50 Hz)

Typical Energy Consumption
(ENERGY STAR, 7.0)

E_{TEC}	25.92 kWh (per year, @230 V) 25.2 kWh (per year, @115 V)
$E_{TEC, max}$	33.0 kWh (per year, @230 / 115 V)

Options for Device Mounting

VESA mount	for mounting on the back of a monitor vertical mounting only!
Rubber feet	for horizontal placement of the device

Connectivity Bar

Option 1	1x parallel port and 1x anti-theft USB 2.0 port
Option 2	1x parallel port and 1x 802.11a/b/g/n WLAN

Optional Accessories

Integrated smartcard reader	for secure smartcard-based authentication
VESA mount	for mounting on the back of a monitor
Rubber feet	for horizontal placement of the device

DisplayPort-to-DVI adapter	for connecting a monitor that requires a DVI port
USB-to-serial adapter	for connecting peripherals that require a serial port
USB-to-parallel adapter	for connecting peripherals that require a parallel port
Connectivity bar	1) for secure USB connection and for connecting peripherals that require a parallel port, or 2) for WLAN option and for connecting peripherals that require a parallel port

Regulatory Compliance Information

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Shielded interface cables must be used in order to comply with emission limits.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

ENERGY STAR Note

IGEL Thin Clients with a preinstalled operating system support ENERGY STAR® Power Management configuration upon shipment. The power-saving mode for the display is managed via local setup. By default, it is activated after 10 minutes of inactivity. Reactivation from standby mode can be done by moving the mouse or pressing a key on the keyboard, while off mode can be controlled via the Ethernet connection (Wake-On-LAN).

ENERGY STAR Program

Power managing your ENERGY STAR qualified thin client can save up to 100 kWh annually or 25 € ($28) per year. These energy savings are equivalent to a preventing of over 60 kg (132 lbs) CO_2 emissions per year.
To learn more about Power Management for your workplace, please go to https://energystar.gov/powermanagement[15].
ENERGY STAR is the government-backed program that helps us all save money and protect our environment with energy-efficient products and practices. Go to https://energystar.gov[16].

WEEE and Battery Waste Note

In accordance with EU directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE) and Directive 2006/66/EC for waste batteries, customers and manufacturers are responsible for returning and recycling their old equipment and batteries. Based on this, all IGEL thin clients (including the battery) labelled with a WEEE and

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15 https://www.energystar.gov/products/low_carbon_it_campaign/put_your_computers_sleep
16 https://www.energystar.gov/

battery waste seal will be taken back and disposed of at no charge by IGEL Technology. The Customer is obliged to delete personal and business data on the devices before using this Collection Service.

Contact our Collection Service by filling out the RMA form on https://support.igel.com/csm. An IGEL service employee will contact you to arrange a collection date for the unit.

For US customers, IGEL offers options to recycle unwanted IGEL thin clients. More information can be found on our website https://www.igel.com/terms-conditions.

Relevant Documents

Directive 2009/125/EC Ecodesign Requirements

Eco design Direc...c_IGEL-H830C.pdf

IGEL

H850C

- Disassembly Guide (see page 138)
- Manual (see page 177)

The List of UD7 Devices H850C

- UD7-LX 10, 11
- UD7-W10 10

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Disassembly Guide

This step by step guide shows you how to skillfully disassemble UD7 model H850C.

Pay particular attention to the Safety Instructions (see page 139)!

⚡	**WARNING**
	• The disassembly of the device must only be carried out by an electrically qualified person.
	• Touching live parts can cause danger to life and limb from electric shock.
	• Disconnect the device from the power supply before the disassembly.
	• Disconnect all peripherals from the device before the disassembly.
	• Use only insulated tools for the disassembly.

Read this guide carefully and in full. Perform the steps in the given order.

IGEL

Safety Instructions

⚠️	**WARNING** • The disassembly of the device must only be carried out by an electrically qualified person. • Touching live parts can cause danger to life and limb from electric shock. • Disconnect the device from the power supply before the disassembly. • Disconnect all peripherals from the device before the disassembly. • Use only insulated tools for the disassembly.

> ❗ **CAUTION!** Note on industrial safety: Use suitable gloves to protect against injury.

Please read the following safety instructions in full before starting with the disassembly of the device.

> ❗ Read these instructions carefully and save them for future reference.

- All cautions and warnings on the equipment should be noted.
- Lay this equipment on a stable surface during set up. A drop or fall could cause damage.
- The warranty will be invalidated if the device is damaged during installation or replacement of system expansions.
- Use the original power adapter and power cord only.
- Make sure the power adapter and power cord are laid so that people do not step on them. Do not place anything over the power adapter or power cord.
- Disconnect this equipment from the main supply before cleaning. Do not use liquid or spray detergent to clean. Clean only with a wipe or cloth.
- Before opening the device, first, switch it off and then disconnect the power plug. Observe the specification in the user manual.
- If the equipment is not used for a long time, disconnect the equipment from the main electric supply to avoid damage by transient overvoltage.
- Make sure that no liquids leak into the device (danger of electric shock, fire, short circuit).
- Do not insert foreign objects into the device (danger of electric shock, fire, short circuit).
- If one of the following situations occurs, have the equipment checked by service personnel:
    - The power adapter, power cord or plug is damaged.
    - The equipment has been exposed to moisture.
    - The equipment does not work well, or you cannot get it working according to the user manual.
    - The equipment has been dropped or damaged.
    - The equipment has obvious signs of breakage.
- Do not leave this equipment in an unconditioned environment. Storage temperature below -20 °C (-4 °F) or above 60 °C (140 °F) may cause damage to the equipment.
- Do not use this equipment in an unconditioned environment. Unless otherwise stated in the technical specifications, operational conditions may not exceed the following limits, it may damage the equipment:

- Vertical usage:
  Temperature: 0 °C to 35 °C, 32 °F to 95 °F
  Humidity: 20 % to 80 %, non-condensing
- Horizontal usage (only with optional rubber feet, no VESA mount):
  Temperature: 0 °C to 35 °C, 32 °F to 95 °F
  Humidity: 20 % to 80 %, non-condensing
- To avoid overheating in the horizontal position, use the optional rubber feet and tilt the device to the left so that the power button is on the left-hand side.
- Note that even in closed rooms local temperatures may increase, for instance in case the device is exposed to strong sun radiation. Protect the device from external heat sources.
- Ensure that air is free to circulate through the product. Do not use in a poorly ventilated place. Do not cover it with a cloth or place it on soft ground. Objects surrounding the device may block the airflow. Keep a minimum distance of 20 cm around the device for sufficient ventilation.

Lithium Battery Caution

- The lithium battery (button cell) installed in the device may only be replaced by authorized, specially trained personnel.
- Contact your supplier or the manufacturer for servicing and repairs.
- Danger of explosion if the battery is incorrectly replaced. The lithium battery may only be replaced with a battery identical or equivalent to the one recommended by the manufacturer.
- Dispose of used batteries according to the manufacturer's instructions.

Excessive Sound Pressure

Excessive sound pressure from ear-/headphones can cause hearing damage/hearing loss. Adjustment of the volume control as well as the equalizer to other settings than the center position may increase the ear-/headphones output voltage and therefore the sound pressure level. The use of factors influencing the ear-/headphones output other than those specified by the manufacturer (e.g. operating system, equalizer software, firmware, driver) may increase the ear-/headphones output voltage and therefore the sound pressure level.

UL 62368

This equipment must be grounded. The power cord for the equipment must only be connected to socket-outlets providing earthing connection.

> ⓘ For the latest product information, visit www.igel.com[17].

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17 https://www.igel.com/

Tools and Equipment

Set up the following tools before you begin with the disassembly:

- Hammer
- Phillips screwdriver, slotted screwdriver
- Cutting pliers, pliers or similar
- Stanley knife or similar

> ⬥ **CAUTION!** Note on industrial safety: Use suitable gloves to protect against injury.

In the following image, you see the examples of the appropriate tools for disassembly:
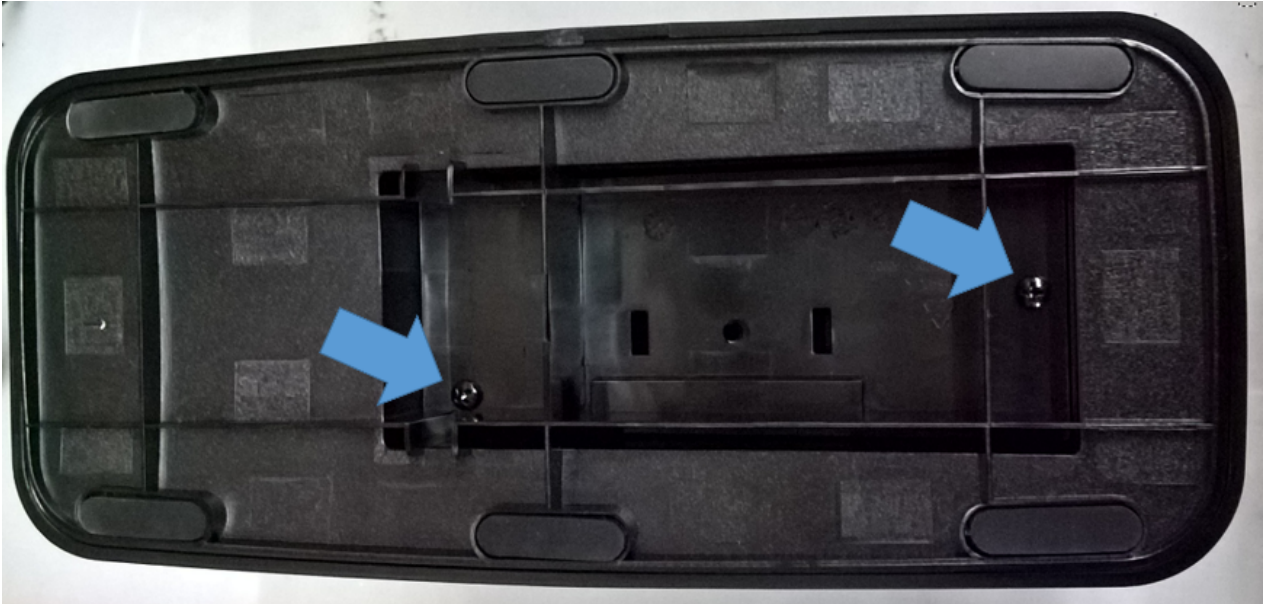
IGEL

Positioning the Device

▶ Place the device on a soft and slip-resistant surface.

![IGEL logo]

Foot Stand

► Loosen two screws on the foot stand to detach it from the device.

IGEL

Rubber Feet (If Available)

The rubber feet are glued to the device.

▶ Bend the rubber feet in one direction to detach them.

Connectivity Bar (if Available)

ⓘ This section is only relevant when a connectivity bar is installed on the device.

1. Loosen the screw (1) to detach the connectivity bar from the device.
2. Loosen the screw (2) to remove the plastic cover.

3. Disconnect the Wi-Fi module from the USB port (1).
4. Disconnect the antennas from the Wi-Fi module (2).
5. Detach the antennas from the inside of the plastic cover (3).

6. Pull out the cable (1).
7. Loosen two screws (2) and remove the USB board from the main board.
8. Pull off the serial port ribbon cable (3) from the main board.

9. Loosen two screws (1) and remove the parallel interface.
10. Loosen three screws (2).
11. Loosen two spacer bolts (3) and remove the main board.

12. Loosen three screws and remove the metal base plate from the plastic cover.

Back Panel
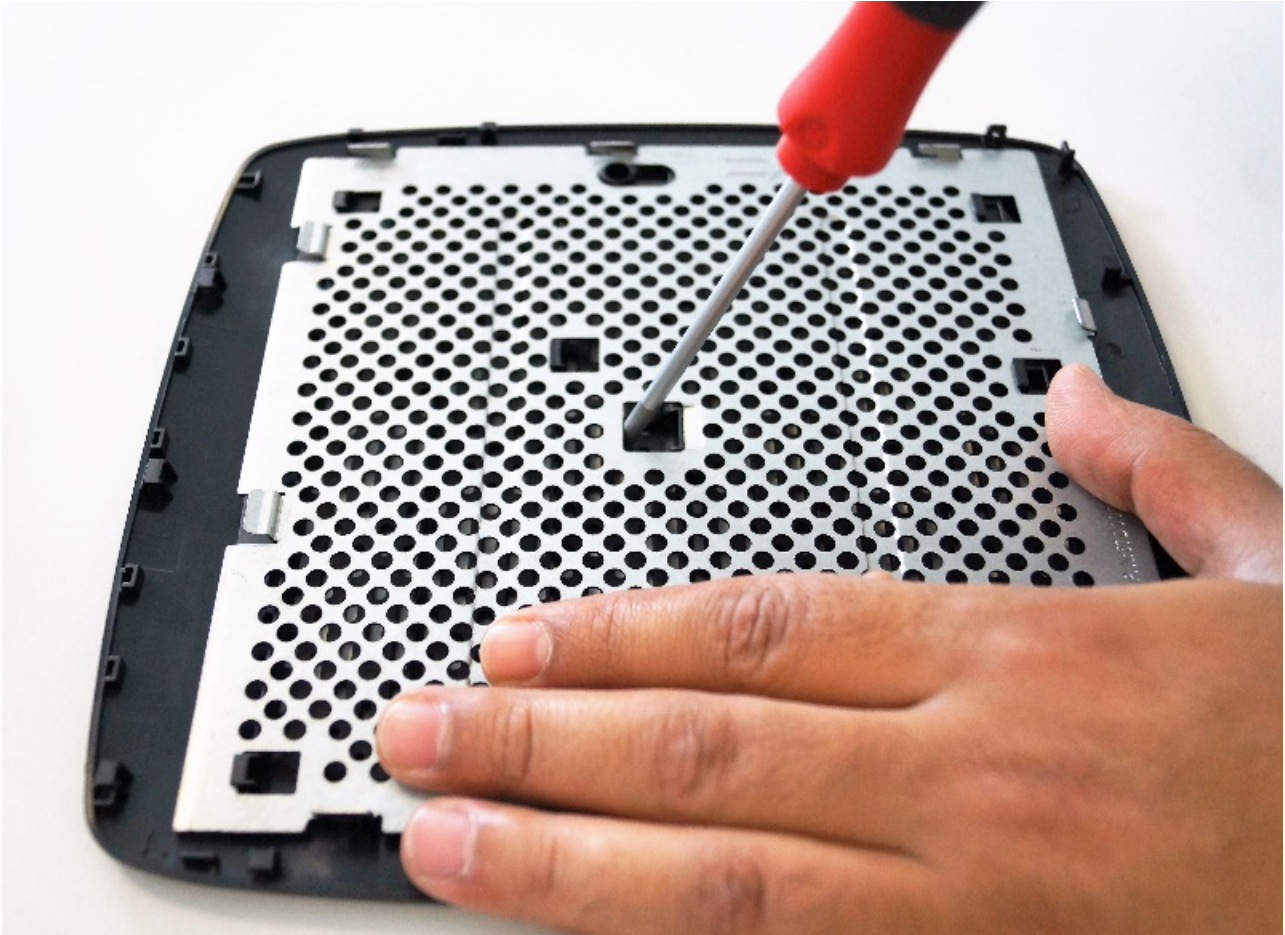
1. Remove the screw the back panel is fixed with.

2. Remove the back panel.

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Upper Cover

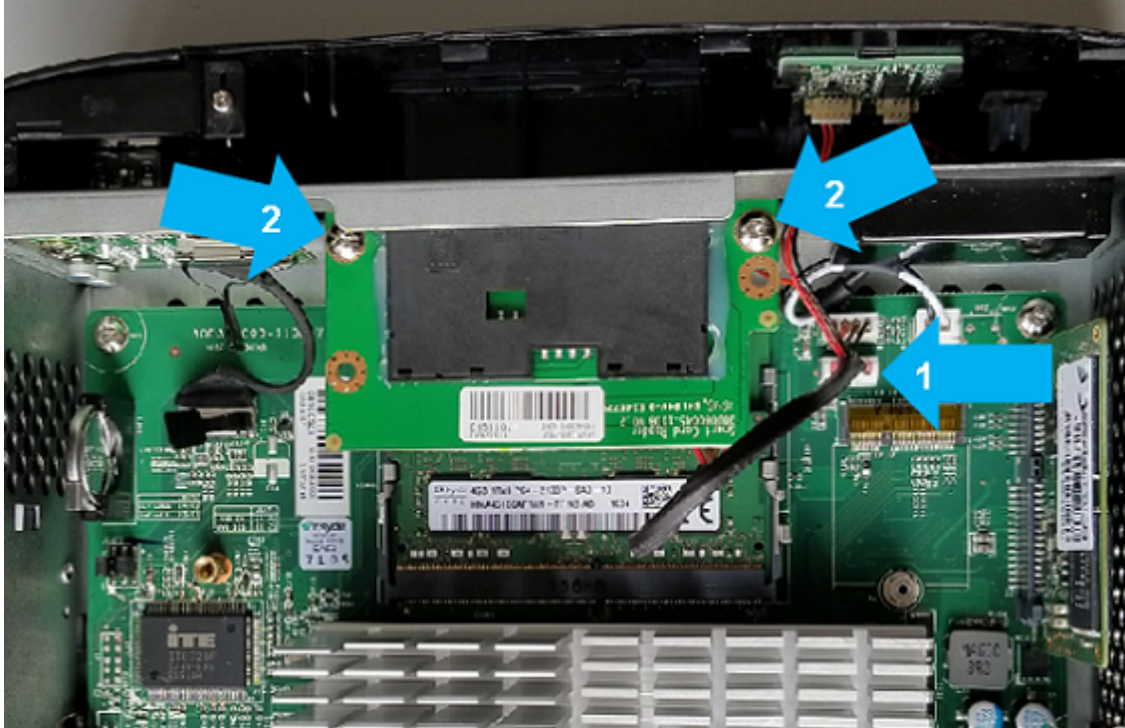▶ Push the upper cover backwards to release it from the device casing.

Metal Panel

▶ Lever the metal panel in the middle to detach it from the upper cover.

Card Reader (If Available)

ⓘ This section is only relevant when the card reader is installed in the device.

1. Pull the cable plug (1) of the card reader out of the mainboard.
2. Loosen two screws (2) to remove the card reader.

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WLAN and Bluetooth Module (If Available)

ⓘ This section is only relevant if your UD7 device has optional Intel® 9260 Wireless-AC WLAN and Bluetooth, which is installed ex-factory only.
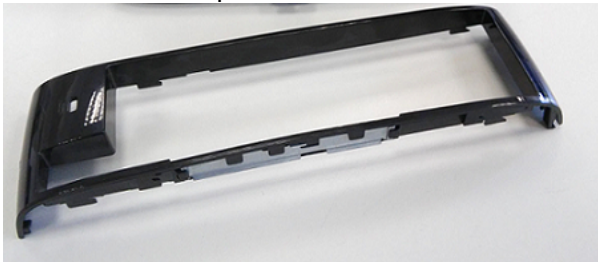
1. Remove the external antenna from the copper header of the external antenna cable.

2. Remove the screw the back panel is fixed with.

3. Remove the back panel.

4. Remove the upper cover.

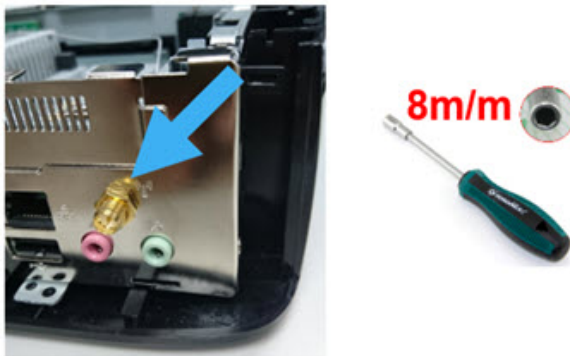5. Remove the screw the M.2 WLAN and Bluetooth module is fixed with.

6. Remove the plastic cover and the M.2 WLAN and Bluetooth module.

7. Disconnect the external antenna cable from the MAIN jack (2) and the internal PCB antenna cable from the AUX jack (1).

8. Loosen the washer screw on the rear outer casing that fixes the external antenna cable.

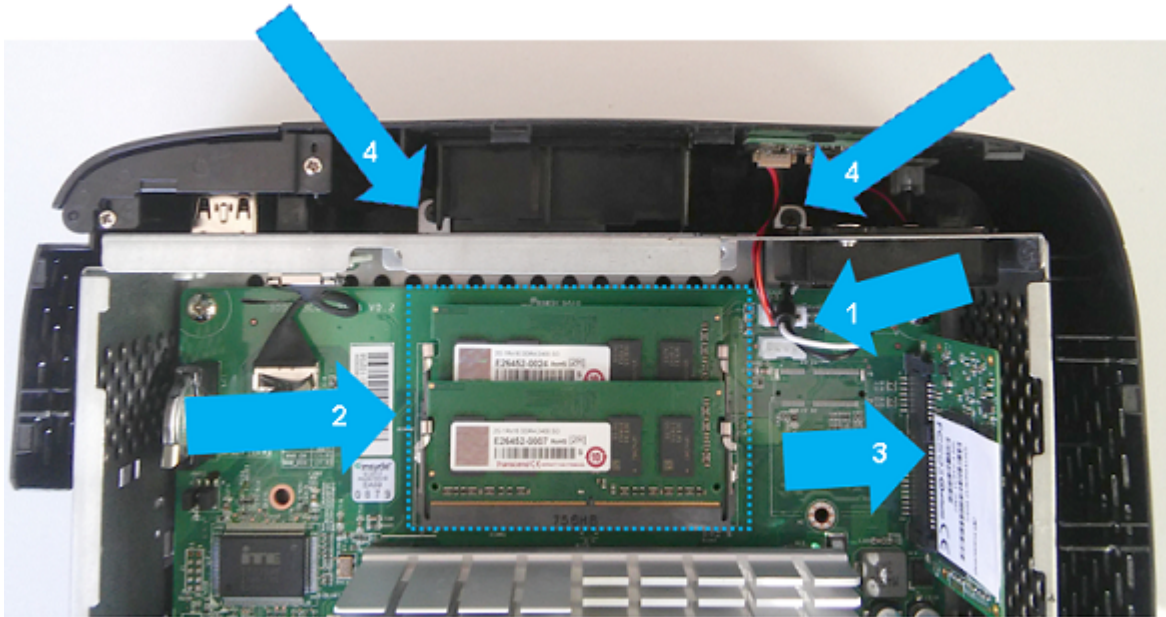9. Remove the external antenna cable and the washer placed on it.
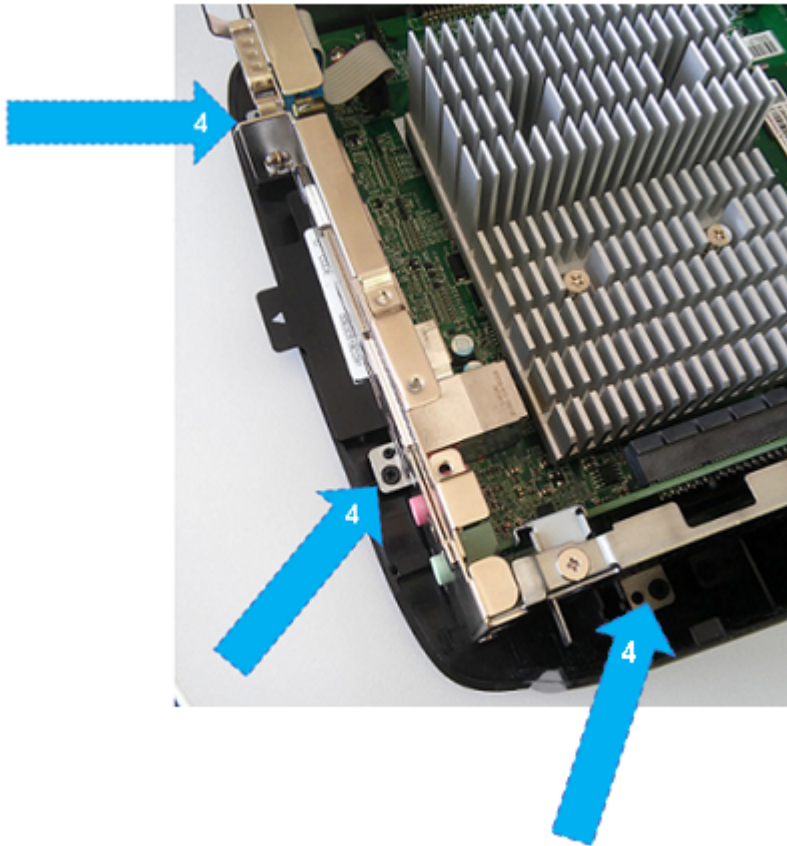
10. Remove the internal PCB antenna.

Bottom Cover and Chassis

1. Plug out the tactile sensor cable (1) and thread the cable through the opening in the chassis.
2. Remove the two random-access memory sticks (2).
3. Remove the storage (3).
4. Loosen the five screws (4) and detach the bottom cover from the chassis.
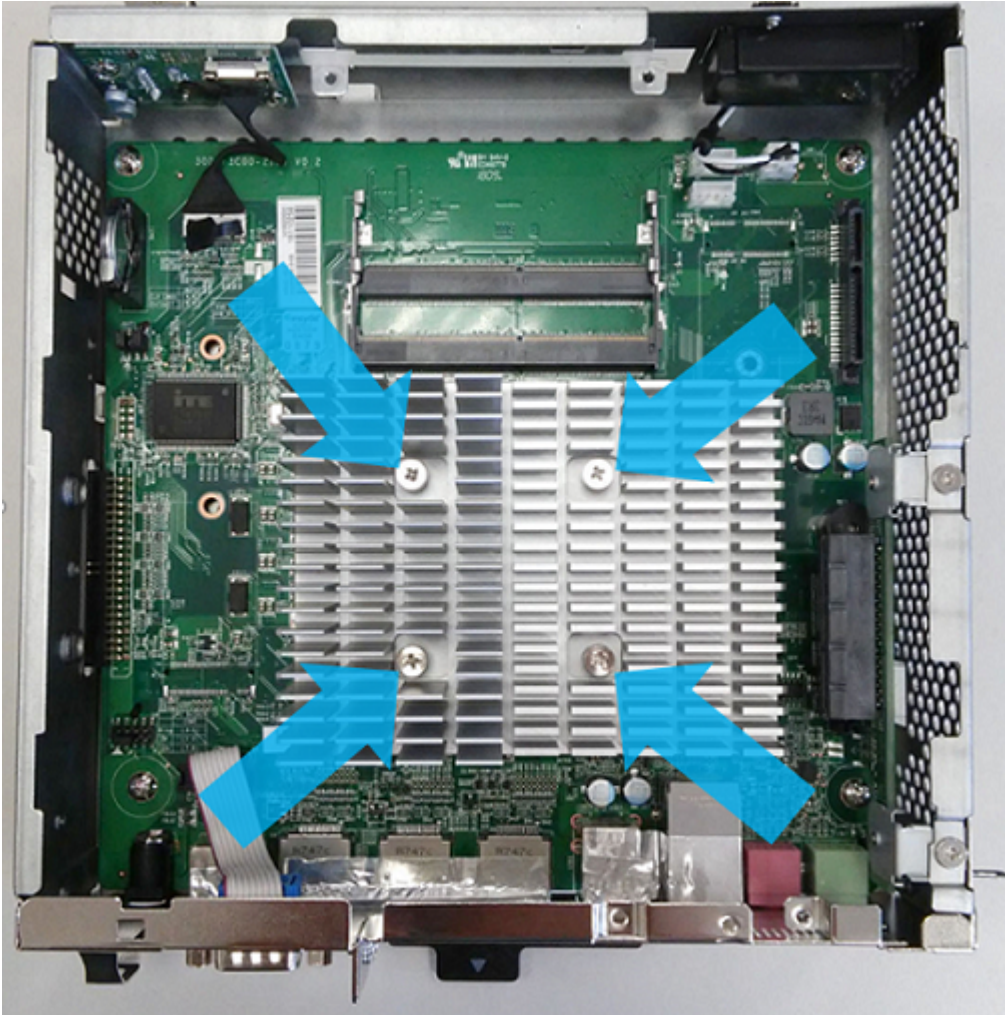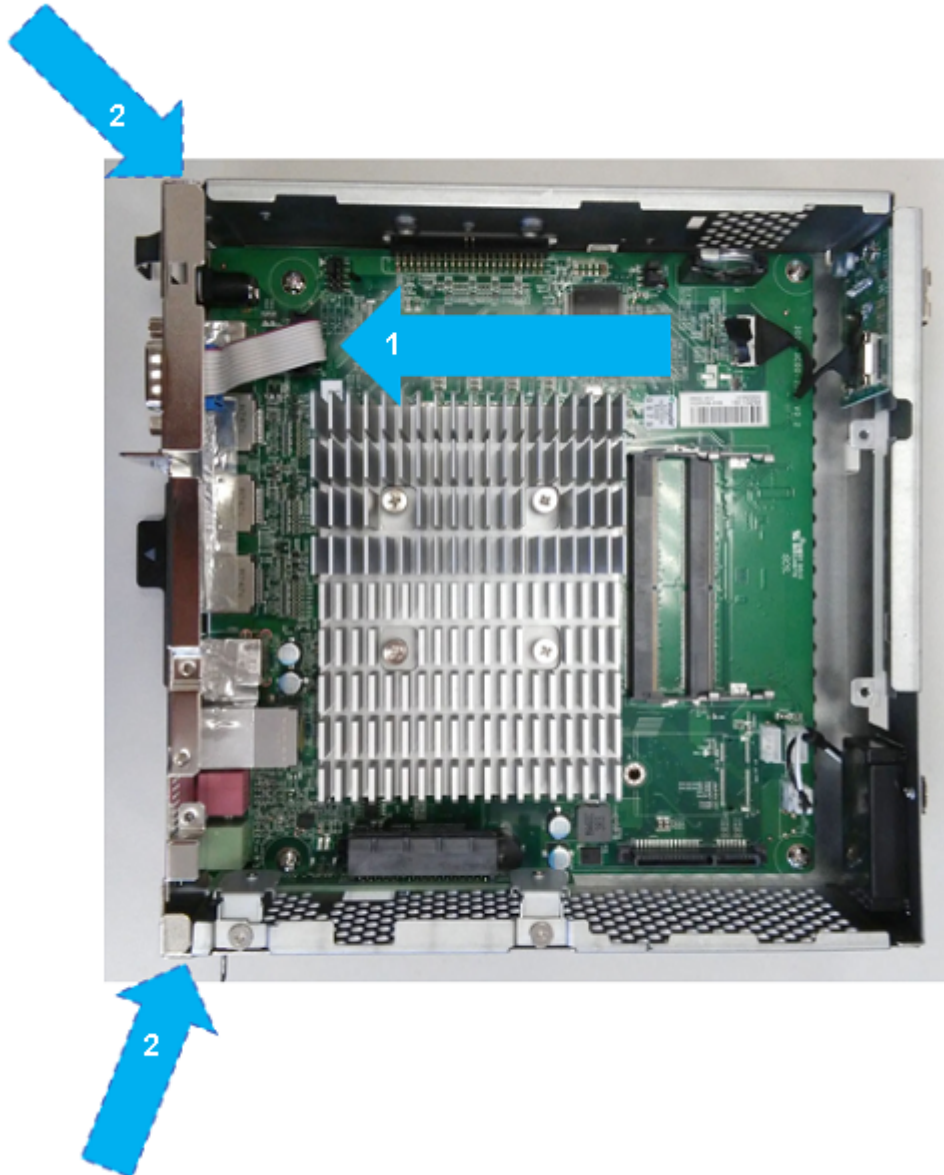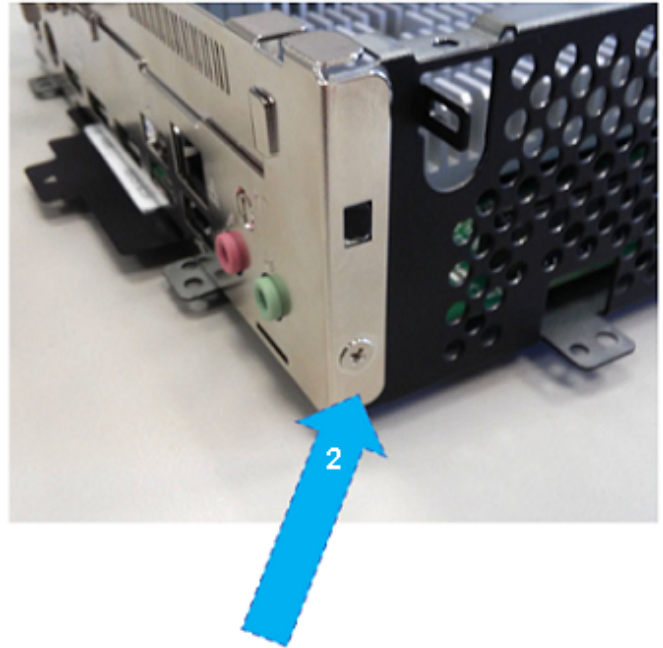
Heat Sink

▶ Loosen four screws and remove the heat sink.

Rear Outer Casing

1. Pull out the cable (1).
2. Loosen two screws (2) to remove the rear outer casing.
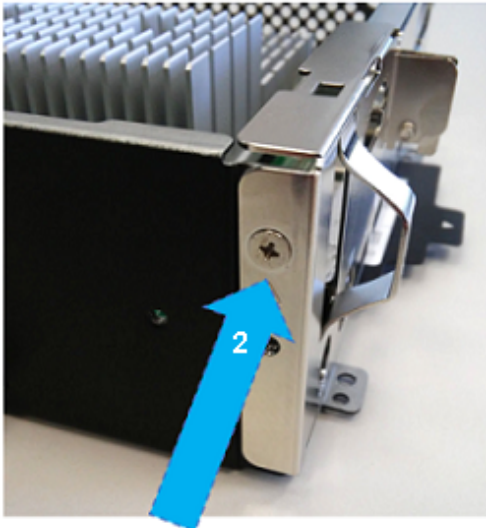
![IGEL logo]

PCIe Connector Board

▶ Loosen two screws, as per the image, and pull off the board interface.

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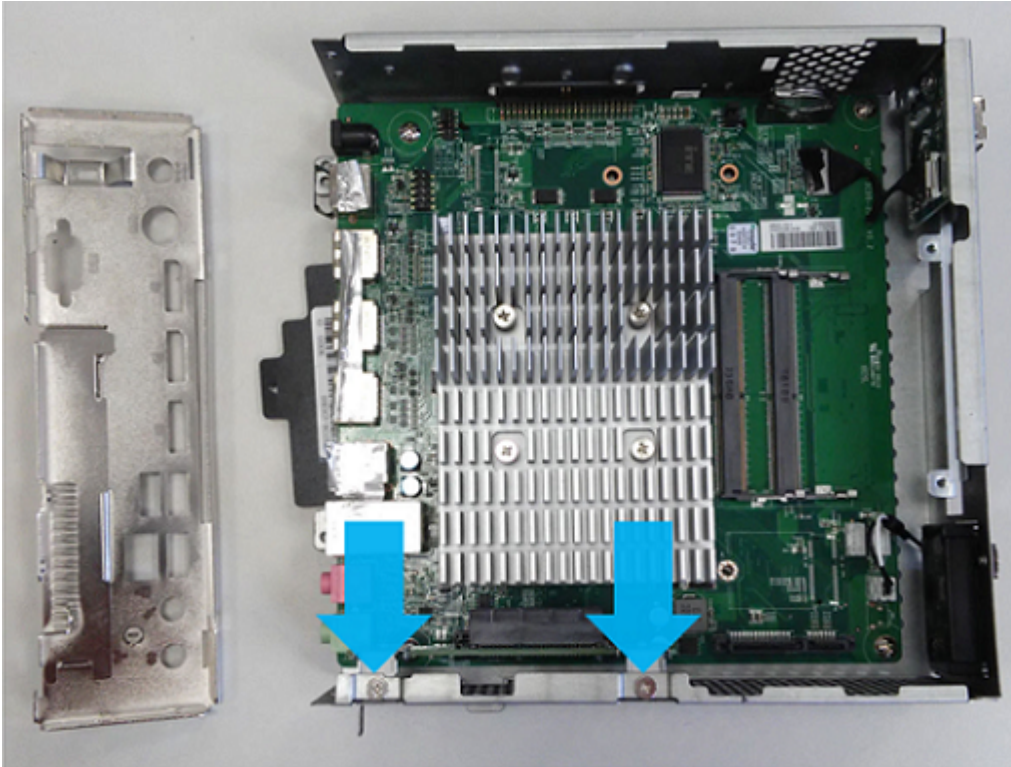
Mainboard

1. Pull out two cable plugs (1).
2. Loosen four screws (2) to remove the mainboard.
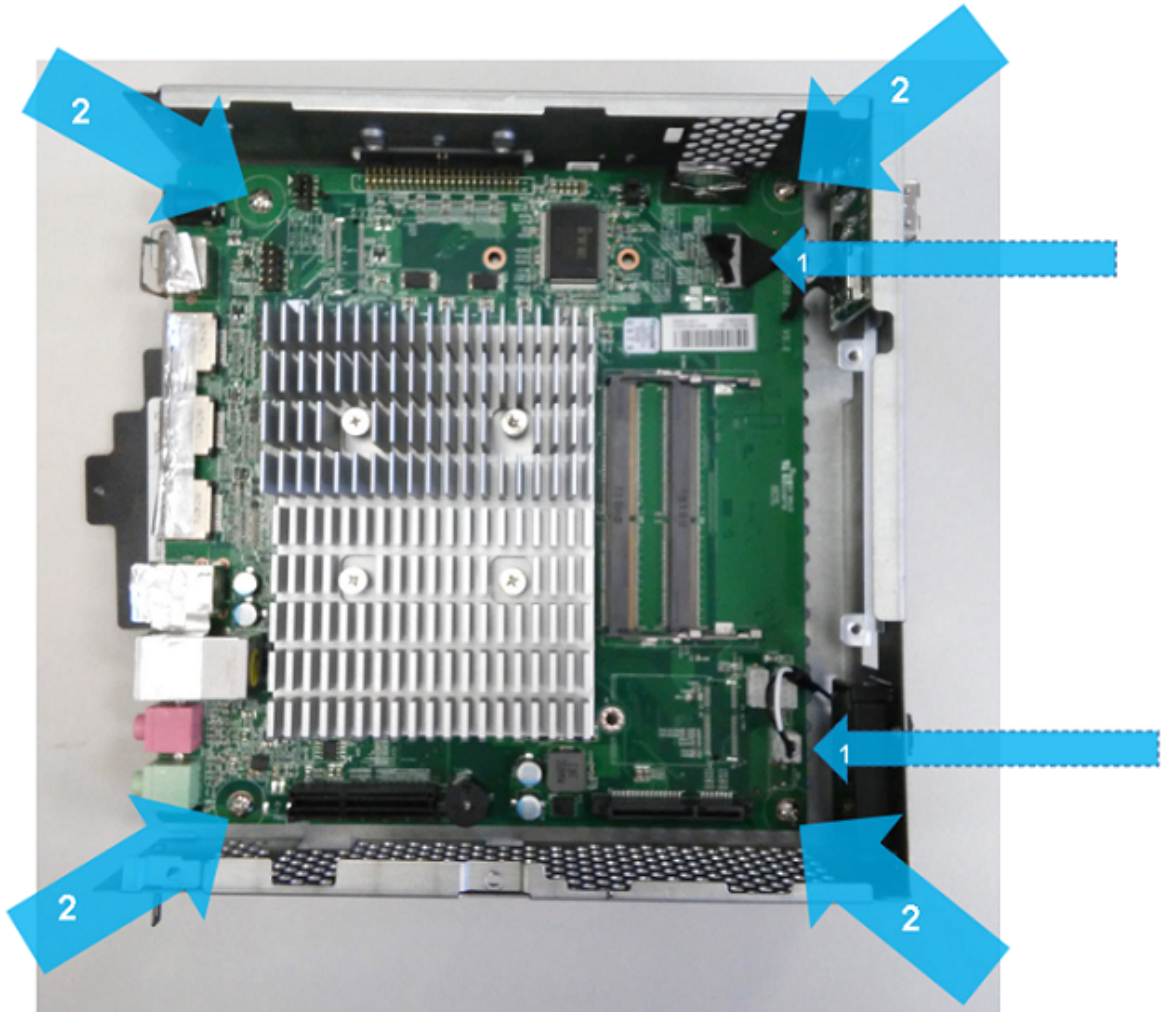
Speaker and USB Board

1. Loosen two screws to remove the speaker (1).
2. Loosen two screws to remove the USB board (2).
3. Loosen two screws (3) to remove the label holder.
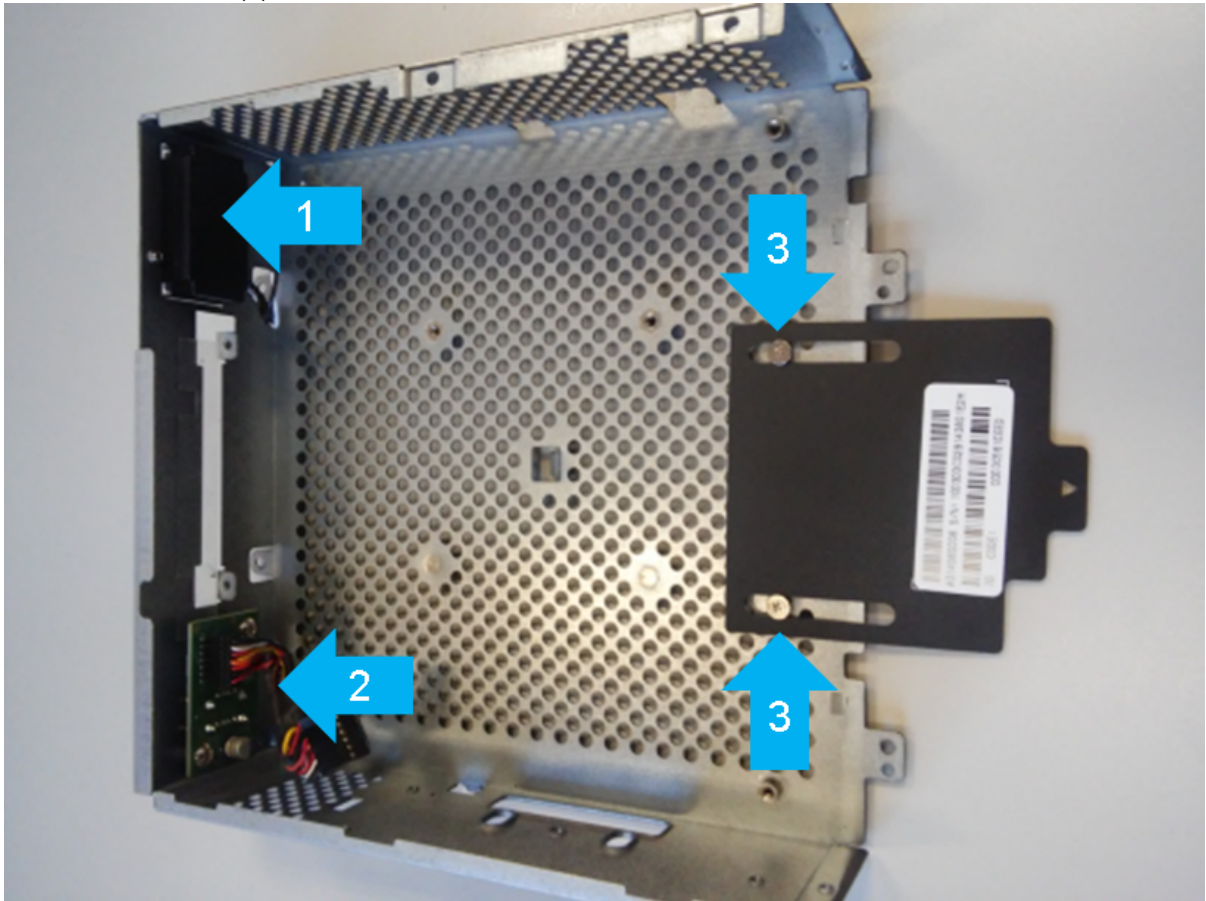
Transponder

▶ Remove the transponder from the chassis.
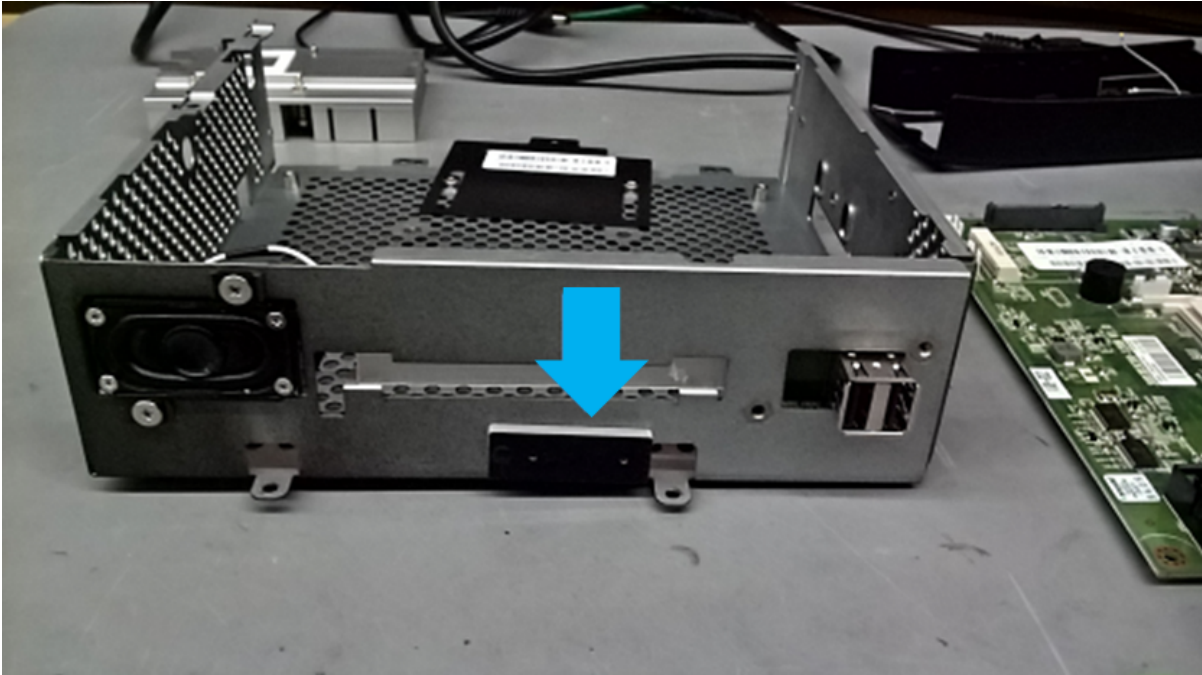
Tactile Sensor, LED and Front Cover

1. Pull the tactile sensor (1) up and out.
2. Pull the LED (2) out of the socket.
3. Loosen the two screws (3) to remove the front cover.
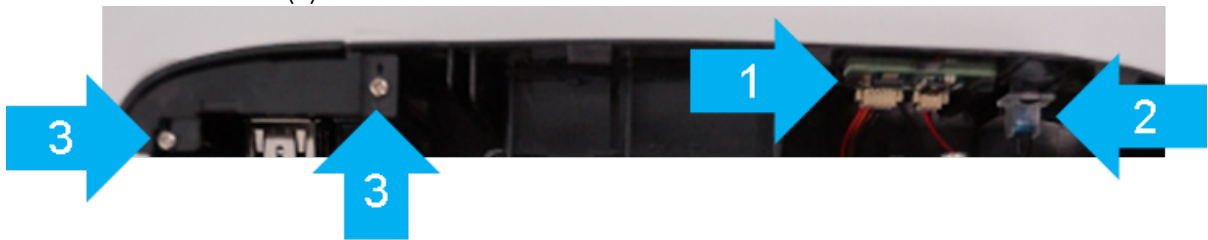
Serial Port

▶ Loosen the bolts to remove the serial port.

Battery

▶ Pull back the retaining clip and lift the battery out of the socket.

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Power Supply Cable

▶ Remove the attached cable from the adapter and discard.

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Power Supply Unit

> ⊘ These instructions are intended solely for recycling organizations for disposal purposes only! After opening the power supply unit, it must no longer be used.

⚡	**WARNING** • The disassembly of the device must only be carried out by an electrically qualified person. • Touching live parts can cause danger to life and limb from electric shock. • Disconnect the device from the power supply before the disassembly. • Disconnect all peripherals from the device before the disassembly. • Use only insulated tools for the disassembly.

1. To open the power supply unit, tap the seal on the side of the plastic outer cover with a hammer.

Once the power supply unit is open, the electrolyte capacitor is accessible.

2. To remove the PCB from the housing, drive a slotted screwdriver between the PCB and the housing. Pry the PCB out.

3. Press down the side cover (1) of the inner shell.

4. Release two metal legs (2) on the capacitor with pliers.

5. Remove the capacitor using flat pliers.

> ⚠ Discard the plastic housing, the capacitor, and the board separately and in an environmentally friendly way.

Disposal

After you have disassembled the device completely, carefully dispose of the individual parts.

The following parts must be disposed of separately.

Plastic Parts over 25g

	upper cover
	bottom cover

	foot stand
	connectivity bar 1
	connectivity bar 2

Electronic Parts

> ⚠ Electronic components require special handling. Please dispose of in an environmentally friendly way.

Manual

- Information _(see page 178)
- Safety Instructions _(see page 179)
- Technical Specification _(see page 181)
- Regulatory Compliance Information _(see page 187)
- Relevant Documents _(see page 190)

The datasheet:

UD7_Datasheet-EN-27-6-2.pdf

Information

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Disclaimer

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Safety Instructions

> ⚠️ Read these instructions carefully and save them for future reference.

- All cautions and warnings on the equipment should be noted.
- Lay this equipment on a stable surface during set up. A drop or fall could cause damage.
- The warranty will be invalidated if the device is damaged during installation or replacement of system expansions.
- Use the original power adapter and power cord only.
- Make sure the power adapter and power cord are laid so that people do not step on them. Do not place anything over the power adapter or power cord.
- Disconnect this equipment from the main supply before cleaning. Do not use liquid or spray detergent to clean. Clean only with a wipe or cloth.
- Before opening the device, first, switch it off and then disconnect the power plug. Observe the specification in the user manual.
- If the equipment is not used for a long time, disconnect the equipment from the main electric supply to avoid damage by transient overvoltage.
- Make sure that no liquids leak into the device (danger of electric shock, fire, short circuit).
- Do not insert foreign objects into the device (danger of electric shock, fire, short circuit).
- If one of the following situations occurs, have the equipment checked by service personnel:
    - The power adapter, power cord or plug is damaged.
    - The equipment has been exposed to moisture.
    - The equipment does not work well, or you cannot get it working according to the user manual.
    - The equipment has been dropped or damaged.
    - The equipment has obvious signs of breakage.
- Do not leave this equipment in an unconditioned environment. Storage temperature below -20 °C (-4 °F) or above 60 °C (140 °F) may cause damage to the equipment.
- Do not use this equipment in an unconditioned environment. Unless otherwise stated in the technical specifications, operational conditions may not exceed the following limits, it may damage the equipment:
    - Vertical usage:
      Temperature: 0 °C to 35 °C, 32 °F to 95 °F
      Humidity: 20 % to 80 %, non-condensing
    - Horizontal usage (only with optional rubber feet, no VESA mount):
      Temperature: 0 °C to 35 °C, 32 °F to 95 °F
      Humidity: 20 % to 80 %, non-condensing
- To avoid overheating in the horizontal position, use the optional rubber feet and tilt the device to the left so that the power button is on the left-hand side.
- Note that even in closed rooms local temperatures may increase, for instance in case the device is exposed to strong sun radiation. Protect the device from external heat sources.
- Ensure that air is free to circulate through the product. Do not use in a poorly ventilated place. Do not cover it with a cloth or place it on soft ground. Objects surrounding the device may block the airflow. Keep a minimum distance of 20 cm around the device for sufficient ventilation.

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Lithium Battery Caution

- The lithium battery (button cell) installed in the device may only be replaced by authorized, specially trained personnel.
- Contact your supplier or the manufacturer for servicing and repairs.
- Danger of explosion if the battery is incorrectly replaced. The lithium battery may only be replaced with a battery identical or equivalent to the one recommended by the manufacturer.
- Dispose of used batteries according to the manufacturer's instructions.

Excessive Sound Pressure

Excessive sound pressure from ear-/headphones can cause hearing damage/hearing loss. Adjustment of the volume control as well as the equalizer to other settings than the center position may increase the ear-/headphones output voltage and therefore the sound pressure level. The use of factors influencing the ear-/headphones output other than those specified by the manufacturer (e.g. operating system, equalizer software, firmware, driver) may increase the ear-/headphones output voltage and therefore the sound pressure level.

UL 62368

This equipment must be grounded. The power cord for the equipment must only be connected to socket-outlets providing earthing connection.

> ⓘ For the latest product information, visit www.igel.com[19].

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19 https://www.igel.com/

Technical Specification

Connections

Part List

- Endpoint device
- Foot stand
- Power supply with integrated DC cable
- AC power cord
- Optional: connectivity bar
- Optional: external WLAN antenna as a part of Intel® 9260 Wireless-AC WLAN and Bluetooth

> ⬥ **CAUTION!** Strictly follow the power connection note below:
> 1. Connect all accessories, e.g. mouse, keyboard, screen (not part of the equipment), and Ethernet.
> 2. Connect the AC power cord with the receptacle of the power supply.

3. Connect the DC cable with the DC in receptacle on the rear side of the device.
4. Connect the other end of the AC power cord with a suited mains socket.
5. Switch on the device with the touch sensor on the front side.

Technical Specifications

System

Available operating systems	IGEL OS 11 (LX) Optional: Microsoft Windows 10 IoT (W10)
Management	IGEL Workspace Edition, registration required
Processor	AMD RX-216GD 1.6 GHz (Dual-Core) up to 3.0 GHz (boost mode), system on a chip (SoC)
PCIe slot	1x Gen2 x2, for half-length / low-profile PCIe cards (with full-height bracket up to 111.6 mm)

Memory

RAM	4 GB (DDR4)
Storage	4 GB (LX) or 32 GB (W10), larger SSD modules on request

Graphics

Chipset	AMD Radeon graphics
Video memory	64 – 512 MB shared memory
Ports (supported resolutions)	Standard: 3x DisplayPort 1.2 (2x max. 3840 x 2160 @60Hz; 1x max. 2560 x 1600 @60Hz) With optional graphics card (see page 185): 4x DisplayPort 1.2 (2x max. 3840 x 2160 @60Hz; 2x max. 2560 x 1600 @60Hz) Multistream support (daisy chain) depends on configuration (official support is not provided). Accelerated video decoding support for resolutions up to 1x 4K. (Note: if the optional external graphics card is used, resolution is available on its DisplayPort)
Supported video compression standard	H.264 H.265 (HEVC)

Network

Ethernet	10/100/1000 Base-T (RJ-45 connector)
Wireless	optional: integrated Intel® 9260 Wireless-AC (802.11ac WLAN and Bluetooth 5.0) or external connectivity bar, 802.11 a/b/g/n

Audio

Chipset	Realtek High Definition Audio (ALC662)
Ports	1x line-out (TRS), 1x mic-in, 1x DisplayPort (Intel HD Audio)
Speakers	1x internal

Interfaces

USB 2.0	3x rear
USB 3.0	2x front
DisplayPort 1.2	3x rear
Smartcard reader	optional: 1x front
Ethernet	1x rear
PS/2	rear: 1x keyboard
12 V DC in	1x rear
Line-out	1x rear
Mic-in	1x rear
Security lock	1x rear
Serial	1x rear

Dimensions and Weight

Device (DxWxH), upright	232 x 99 x 242 mm (with foot stand) 232 x 68 x 227 mm (without foot stand)
Device weight	1.60 kg (with foot stand and external power adapter)
Packaging (DxWxH), horizontal	297 x 366 x 125 mm
Packaging weight	0.56 kg

Environmental Conditions

> ⚠ Strictly follow safety instructions and respect environmental conditions!

Cooling	fanless convection
Operating temperature	vertical (without VESA mount): 0 °C – 40 °C, 32 °F – 104 °F
	vertical (with VESA mount): 0 °C – 35 °C, 32 °F – 95 °F
	horizontal (with optional rubber feet only): 0 °C – 35 °C, 32 °F – 95 °F
	horizontal (with optional rubber feet and additional graphics card): 0 °C – 30 °C, 32 °F – 86 °F
Operating humidity	20 % – 80 %, non-condensing

Electrical Data

Power supply	external
Power supply AC input	auto sensing 100 – 240 V / 50 – 60 Hz
Power supply DC output	12 V / 3 A External Power Adapter (A140-1120300N & FSP036-RHAN2)
Power consumption	5.7 W (idle) / 1.2 W (sleep) / < 0.8 W (off) (@230 V, 50 Hz)

Typical Energy Consumption (ENERGY STAR, 7.1)

E_{TEC}	23.09 kWh (per year, @230 V) 22.08 kWh (per year, @115 V)
$E_{TEC, max}$	33.0 kWh (per year, @230 / 115 V)

Options for Device Mounting

VESA mount	for mounting on the back of a monitor (VESA75, VESA100) vertical mounting only!
Rubber feet	for horizontal placement of the device

Connectivity Bar

Option 1	1x parallel port and 1x anti-theft USB 2.0 port
Option 2	1x parallel port and 1x 802.11 a/b/g/n WLAN

Optional

Integrated smartcard reader	for secure smartcard-based authentication
VESA mount	for mounting on the back of a monitor
Rubber feet	for horizontal placement of the device
Additional graphics card (see page 186)	for the use of the fourth monitor via 1x DisplayPort 1.2 (max. 2560x1600)
USB-to-serial adapter	for connecting peripherals that require a serial port
USB-to-parallel adapter	for connecting peripherals that require a parallel port
Connectivity bar	1) for secure USB connection and for connecting peripherals that require a parallel port, or 2) for WLAN option and for connecting peripherals that require a parallel port
Integrated WLAN / Bluetooth (see page 155)	for wireless connectivity

> ✅ **Tip**
> For UD7 devices H850C, IGEL recommends the following adapters:
> – for connecting a monitor that requires a DVI port:
> - DisplayPort to HDMI Active Adapter from Plugable[20] (requires an additional HDMI-to-DVI adapter cable)
>
> At lower resolutions (up to 1920 x 1200 @60 Hz), a passive DisplayPort-to-DVI adapter can also be used.

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20 https://plugable.com/products/dp-hdmi/

Additional Graphics Card

With this optional graphics card for UD7 H850C, the simultaneous use of up to four digital monitors at 60 Hz by DisplayPort is possible, two in 4K and two in 2K.

Specifications

The AMD Embedded Radeon™ E9173 discrete GPU extends UD7 with the 4th DisplayPort (2560x1600) for configurations with 4 monitors.

> ⓘ The original graphics card AMD E9173 has 1x DisplayPort und 2x miniDP ports. Our model has an adapted slot bracket where the 2x miniDP ports are covered. They are also turned off electrically, so just one DisplayPort is usable.

General Information

• Multistream support (daisy chain) depends on configuration; official support is not provided.

• When using a DisplayPort-to-DVI adapter, only active adapters are supported.

Regulatory Compliance Information

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Shielded interface cables must be used in order to comply with emission limits.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Supplier's Declaration of Conformity

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

> ⓘ View the Supplier's Declaration of Conformity under https://kb.igel.com/hardware (see page 189).

TÜV-GS Statement

This device is not intended for use in the direct field of view at visual display workplaces. To avoid incommoding reflexions at visual display workplaces, this device must not be placed in the direct field of view.

ENERGY STAR Note

IGEL Thin Clients with a preinstalled operating system support ENERGY STAR® Power Management configuration upon shipment. The power-saving mode for the display is managed via local setup. By default, it is activated after 10 minutes of inactivity. Reactivation from standby mode can be done by moving the mouse or pressing a key on the keyboard, while off mode can be controlled via the Ethernet connection (Wake-On-LAN).

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ENERGY STAR Program

Power managing your ENERGY STAR qualified thin client can save up to 100 kWh annually or 25 € ($28) per year. These energy savings are equivalent to a preventing of over 60 kg (132 lbs) CO_2 emissions per year.
To learn more about Power Management for your workplace, please go to https://energystar.gov/powermanagement[21].
ENERGY STAR is the government-backed program that helps us all save money and protect our environment with energy-efficient products and practices. Go to https://energystar.gov[22].

WEEE and Battery Waste Note

In accordance with EU directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE) and Directive 2006/66/EC for waste batteries, customers and manufacturers are responsible for returning and recycling their old equipment and batteries. Based on this, all IGEL thin clients (including the battery) labelled with a WEEE and battery waste seal will be taken back and disposed of at no charge by IGEL Technology. The Customer is obliged to delete personal and business data on the devices before using this Collection Service.

Contact our Collection Service by filling out the RMA form on https://support.igel.com/csm. An IGEL service employee will contact you to arrange a collection date for the unit.

For US customers, IGEL offers options to recycle unwanted IGEL thin clients. More information can be found on our website https://www.igel.com/terms-conditions.

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21 https://www.energystar.gov/products/low_carbon_it_campaign/put_your_computers_sleep
22 https://www.energystar.gov/

IGEL

Supplier's Declaration of Conformity

SDoC_H850C_UD7.pdf

Relevant Documents

Directive 2009/125/EC Ecodesign Requirements

Eco design Direc...c_IGEL-H850C.pdf

TC215B

The datasheet:

UD9_TC215B_Datasheet.pdf

The List of UD9 Devices TC215B

- UD9-LX 40, 41 (Touch)
- UD9-W7 40c, 41c (Touch)
- UD9-W7+ 40c, 41c (Touch)
- UD9-W10 40c, 41c (Touch)

Directive 2009/125/EC Ecodesign Requirements

TC215B_ErP_Repo...1511136-044.pdf