Desktop ROG Strix G13CH

Service Manual

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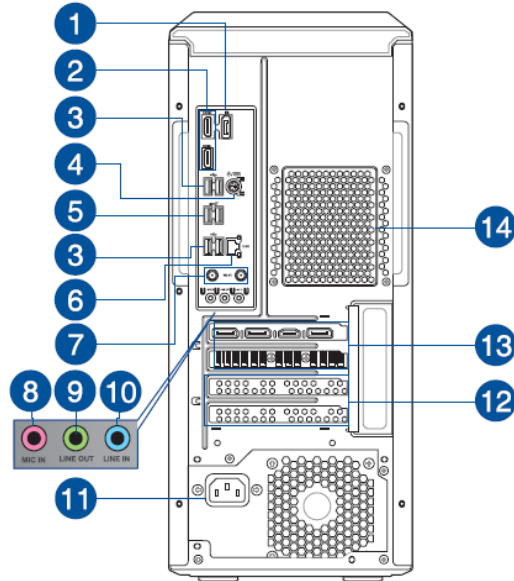
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ASUS Desktop ROG Strix G13CH Overview

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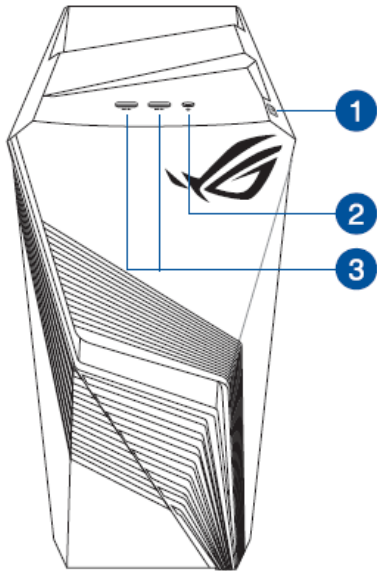
1. Power button
2. Audio port
3. USB 3.2 Gen 1 port

Rear Panel View

1. DisplayPort
2. HDMI™ port
3. USB 2.0 ports
4. PS/2 keyboard/mouse combo port
5. USB 3.2 Gen 2 ports
6. LAN (RJ-45) port
7. Wi-Fi ports
8. Microphone port (pink)
9. Line Out port (lime)
10. Line in port (light blue)
11. Power connector
12. Expansion slot brackets
13. ASUS Graphics CARDs (on selected models only)
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Components Top View

- **VGA CARD**
  (RTX3070-8GD6)

  (PH-RTX3050-8G,
  PH-RTX3060-12G)

- **DDR**

- **SSD**

- **WIFI CARD**

- **TH BRACKET**

- **G16CH M2 SSD SINK**

- **M2 PAD 25X20X7**

- **9CM SYS FAN**

- **SPRING SCREW COOLER**

- **POWER SUPPLY**

- **PD500TC M2 SSD SINK**

ITEM	DESCRIPTION	QTY
03	PAD: GRHoe	1QTY
02	HEAT SINK	1QTY
01	M2 SCREW	2QTY
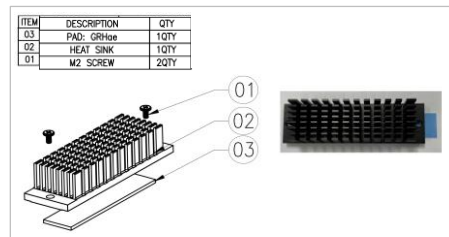
- **HDD**

- **CPU FAN 12CM**

- **FIO USB CABLE(USB3.0)**

- **CABLE USB2.0 CRB TO MB**

- **POWER SW CABLE**

- **HDD SATA CABLE**

- **SIDE BD CABLE**

- **AUDIO CABLE**

- **SIDE LED CABLE**

- **RFCABLE ASSEMBLY SMA**

- **POWER SWITCH HOLDER**

- **FFC CABLE 14P 0.5MM**

- **FFC CABLE 20P 0.5MM**

- **G16CH B760M IO:6USB/2HDMI/DP/PS2**

- **SHIELDING FOR Z690 WIFI**

- **DIPOLE ANTENNA 2T2R RSMA**

- **VGA BKT SLOT1**
  (for PH-RTX3050-8G, PH-RTX3060-12G VGA CARD)

- **VGA SUPPORT BKT**
  (for Turbo RTX3070 VGA CARD)

- **SPNL SCREW PACKAGE**

- **MAIN BOARD**
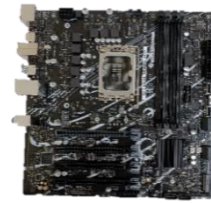
- **WIRE SADDLE*2pcs**
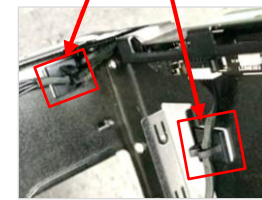
- **FIOL ODD OPPENING SHIEL**
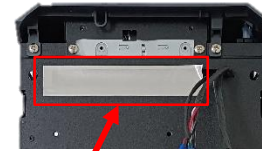
- **SIDE DOOR PLATE SHADOW BLACK**

- **USB CABLE ACETATE TAPE**

- **FRONT IO BD**

  USB CONN GASKET

- **LED BD (CR)**

- **LED BD (DOWN)**

- **LED BD (UP)**
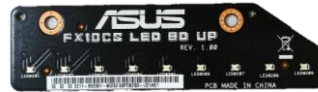
- **LED BD (SIDE UP)**

- **LED BD (SIDE DOWN)**

Components Bottom View

♦ LED BD UP

♦ LED BD DOWN

♦ LED CR BD

♦ SIDEDOWN LED BD

♦ SIDEUP LED BD

♦ PD500TC M2 SSD SINK

♦ G16CH M2 SSD SINK

♦ POWER SWITCH HOLDER

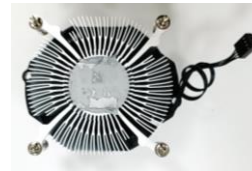♦ MAIN BOARD

COOLER BACK PLATE

♦ SPRING SCREW COOLER

Appropriate Tools

Please prepare and select the appropriate tools to disassemble/assemble for the **ROG Strix (G13CH)** desktop.

♦ **Screwdriver**

Please accord to different screw specification to choose different screwdriver and head.

#1   #2

♦ **Plastic Blade**

♦ **Plastic Tweezers**

Use a pair of tweezers to remove/insert/tidy cables.

♦ **Alcohol 95%**

♦ **Glove**

♦ **Dust-free Cloth**

♦ **Cable Tie (Local Buy)**

♦ **Needle nose pliers**

Disassembly Notice   Please be sure to pull out AC POWER CORD.

Step 1 : Remove screws *4pcs.
Step 2 : Pull the side doors *2pcs.

Screws	QTY	Spec	Torque (kgf-cm)
🔩⭕	4	SCREW #6-32*6.3L (7.3,2.45)	8.0±0.5

❶

❷

Pull

Pull

SLIDE DOOR (L)

SLIDE DOOR (R)
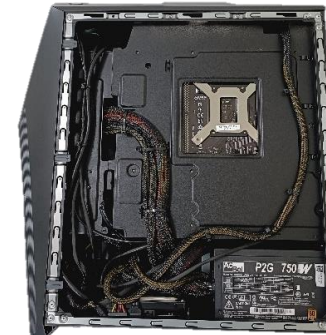
SLIDE DOOR

Assembly Notice

⚠ Please follow the instructions below to assemble SPNL SCREW and SIDE DOOR PLATE SHADOW BLACK.

SPNL SCREW PACKAGE

X4

X4
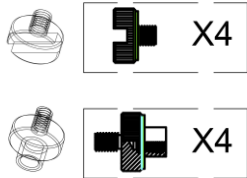
SIDE DOOR PLATE SHADOW BLACK

Step-1 Assemble screws*4pcs.

X4
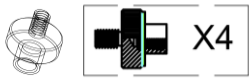
Step-2 Assemble SIDE DOOR PLATE SHADOW BLACK to CHASSIS

Step-3 Assemble screws*4pcs.

X4
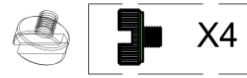
VGA CARD

Disassembly Notice — Please be sure to pull out AC POWER CORD.

Step 1 : Disconnect cable (Yellow mark).
Step 2 : Open the case and remove screws *4pcs (Red and Blue mark).
Step 3 : Press and unlock the VGA CARD (Green mark).
Step 4 : Take out the VGA CARD, then remove screws *2pcs, remove VGA SUPPORT BKT from VGA CARD(side).

Screws	QTY	Spec	Torque(kgf-cm)
🔴	2	SCREW M3*4L (6.3,2.05) (B) #2	6.0±0.5
🔵	2	SCREW M2.5*4L(4.5,1.8) (P) #1	3.0±0.5
🟢	2	SCREW #6-32*L6 (B)B-NI-ZN NY	6.0±0.5

❶ Disconnect Cables (Yellow mark).

❷ Open the case and unscrew (Red and Blue mark).

❸ Press (Green Mark)

❹ Take out

VGA SUPPORT BKT

RTX3070-8GD6
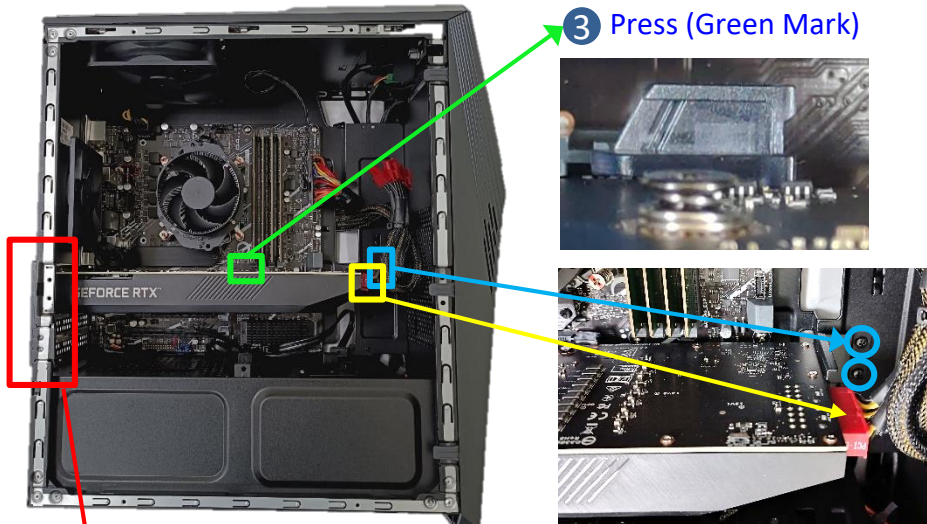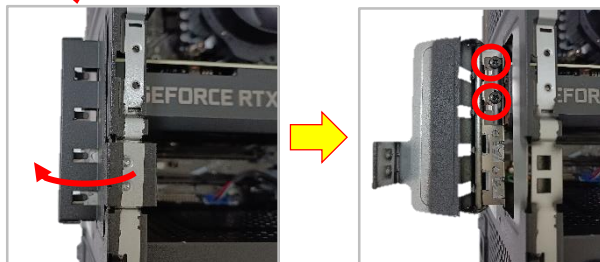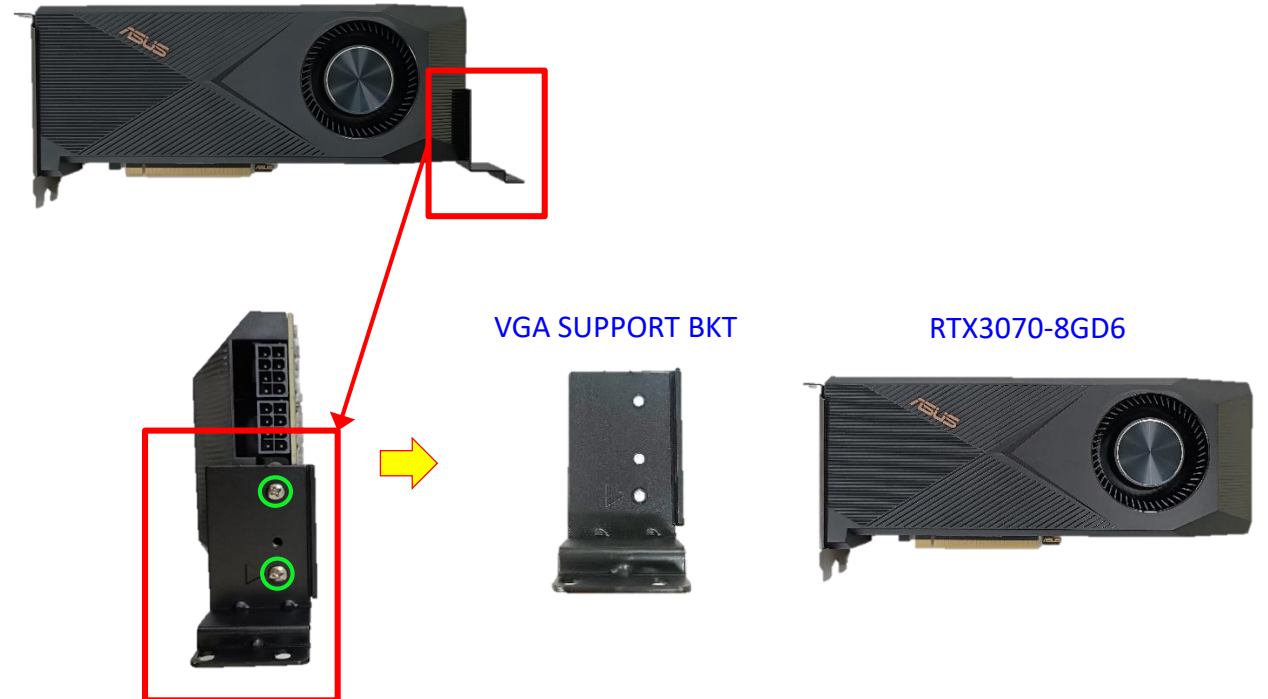
VGA CARD

Assembly Notice ⚠️ Please follow the below steps to assemble PH-RTX3050-8G, PH-RTX3060-12G VGA CARD.

Step-1 Assemble the VGA BKT SLOT1 on the side of the VGA CARD.

VGA BKT SLOT1

PH-RTX3050-8G, PH-RTX3060-12G VGA CARD

SCREW #6-32*6.3L (7.3,2.45)(B)*2pcs

Step-2 Assemble the STAND OFF on the MB.

STAND OFF #6-32*12H*5D

Step-3 Assemble the VGA CARD on the MB and screws*3pcs.

SCREW #6-32*6L(7.1,2.3) (B) #2

SCREW #6-32*6.3L (7.3,2.45)(B)*2pcs

Disassembly Notice Please be sure to pull out AC POWER CORD.

Step 1 : Press down and unlock DDR, then remove DDR *4pcs.
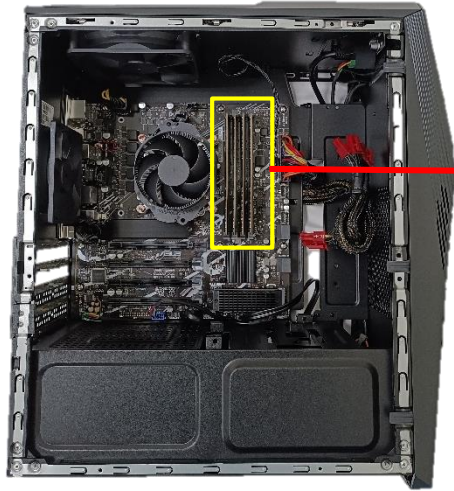
① Press down and unlock
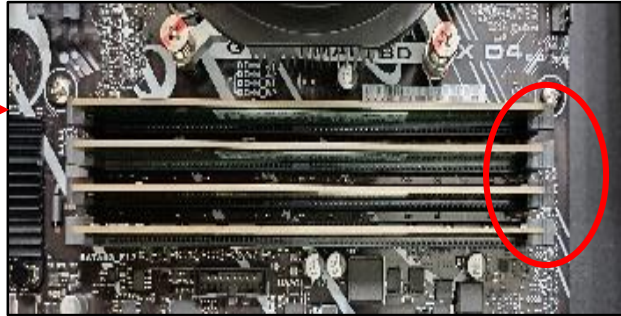
(*4pcs)

Assembly Notice

⚠ Please follow the below order to use DDR slot.

(DDR *1pc)　　　(DDR *2pcs)　　　(DDR *3pcs)

DIMM_A2*

DIMM_A2*
DIMM_B2*

DIMM_A1
DIMM_A2*
DIMM_B1
DIMM_B2*

SPRING SCREW COOLER
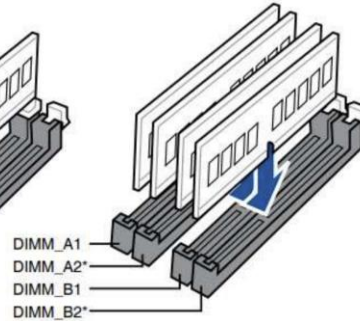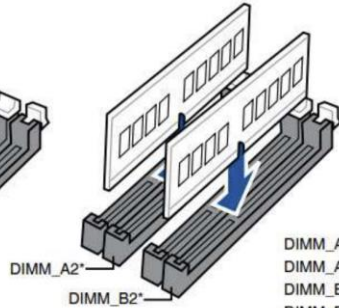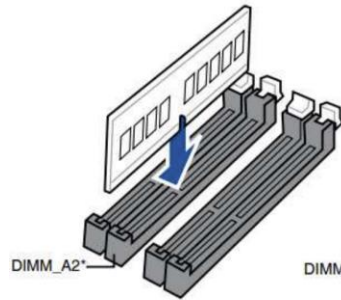
Disassembly Notice   Please be sure to pull out AC POWER CORD.

Step 1 : Release 4 screws (green mark) holding on the SPRING SCREW COOLER, then disconnect the cable connector(red mark).
Step 2 : Take out SPRING SCREW COOLER.

❶ Release and disconnect   ❷ Take out

SPRING SCREW COOLER

⚠ If the CPU COOLER is hard to disassemble,
please move the COOLER left and right to separate.

9CM SYS FAN
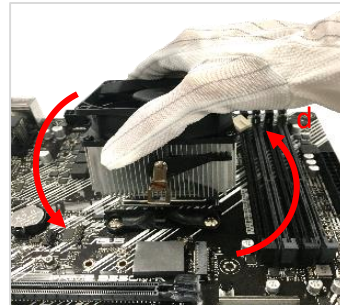
Step 1 : Disconnect FAN connector *1pc. (yellow mark)
Step 2 : Remove screws *4pcs on the outside of iron grid.
Step 3 : Take out the Fan *1pc.

Screws	QTY	Spec	Torque (kgf-cm)
⭕	4	M5*10L (K) B-NI TAPPING	8.0±0.5
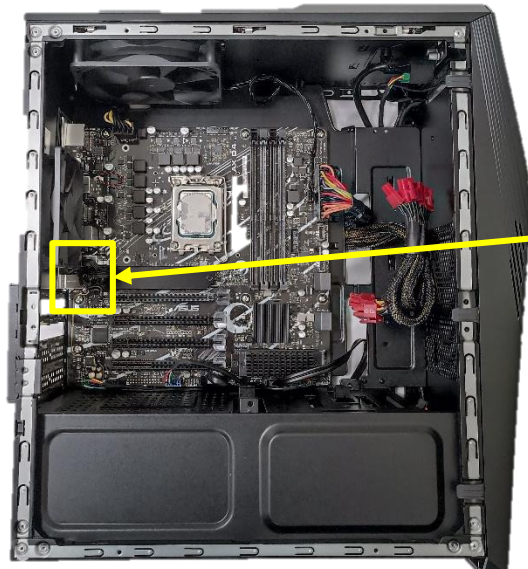
❶ Disconnect (yellow mark)　　❷ Remove　　❸
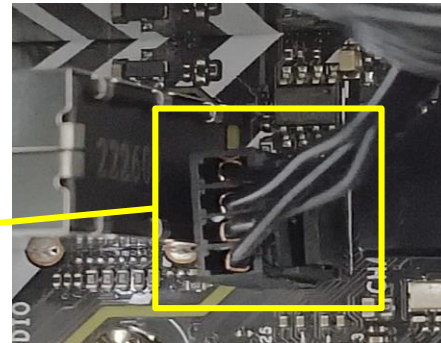
9CM SYS FAN

Disassembly Notice Please be sure to pull out AC POWER CORD.

Step 1 : Pull the latch (green mark) to release and open FRONT BEZEL.
Step 2 : Disconnect the (yellow mark) connectors and remove FRONT BEZEL .
Step 3 : Remove screws *7pcs then remove LED COVER.
Step 4 : Disconnect and remove FFC *2pcs.
Step 5 : Remove screws *7pcs then remove board *3pcs.

Screws	QTY	Spec	Torque (kgf-cm)
	14	M3*8L	3.0±0.5

❶ Pull the Latch (blue mark)

❷ Disconnect

SIDE LED CABLE
CABLE USB2.0
SATA CABLE

❸ Remove

❹ Disconnect and remove

FFC CABLE 14P 0.5MM

FFC CABLE 20P 0.5MM

❺ Remove

LED BD UP

LED CR BD

LED BD DOWN
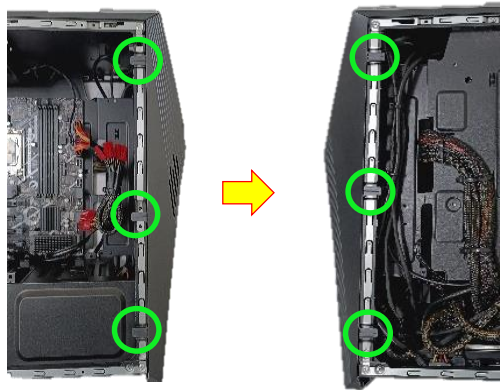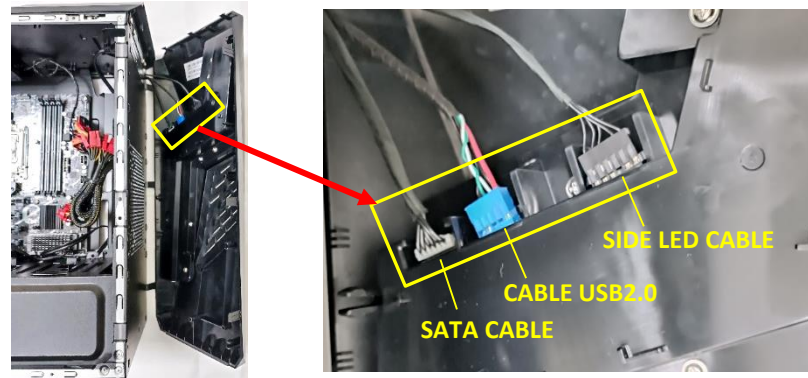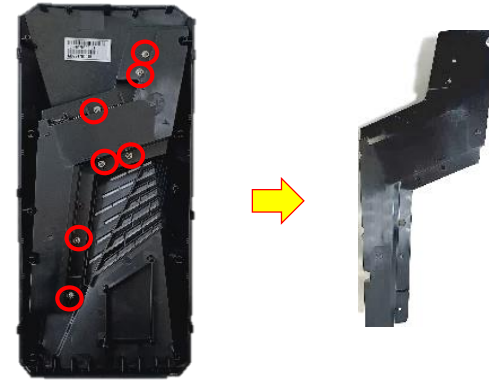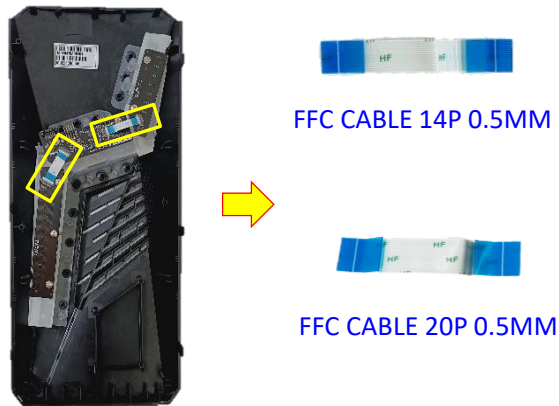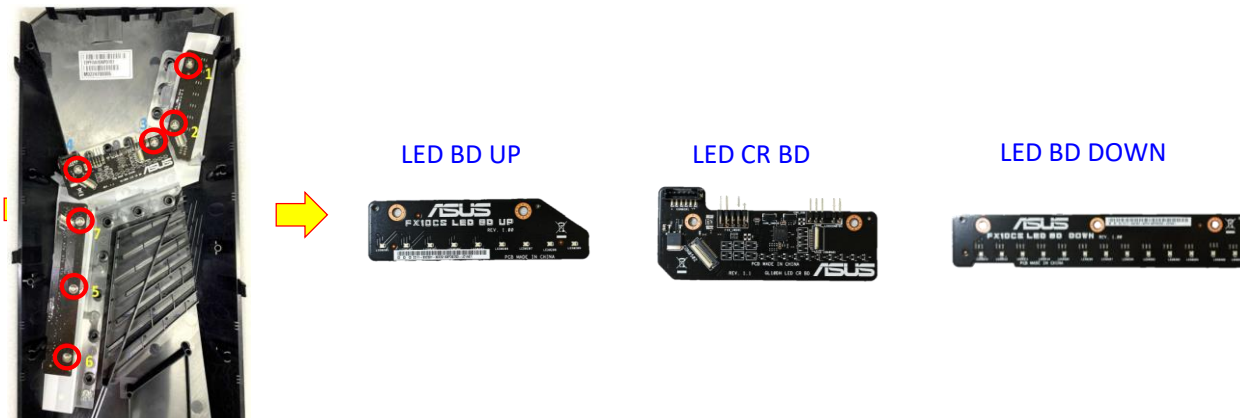
Assembly Notice

⚠️ Before assemble cable on LED CR BD, please follow below steps to paste PINHEADER ACETATE FABRIC.

QTY	Spec
2	G35CA PINHEADER ACETATE FABRIC

Step1-1 : PIN HEADER cannot exceed ACETATE FABRIC.

Step1-2 : Align the FPC CONNECTOR and the white wire with the ACETATE FABRIC.

Step2 : Take another ACETATE FABRIC and align it with the first ACETATE FABRIC and paste tightly to adhere.

PIN HEADER不可超過醋酸布

取醋酸布切齊FPC CONNECTOR及白線

再取醋酸布切齊第一片醋酸布並壓緊貼實

17
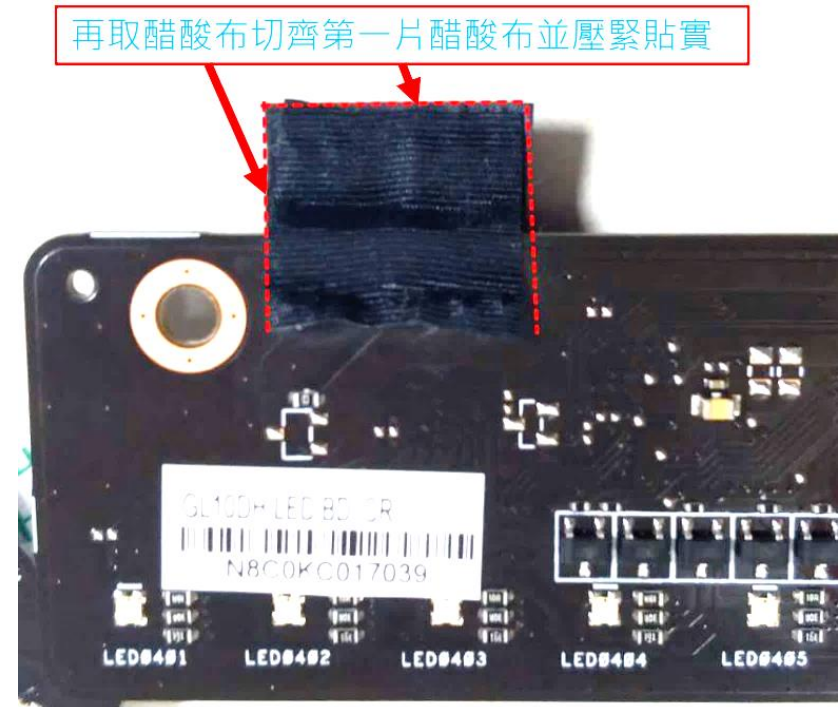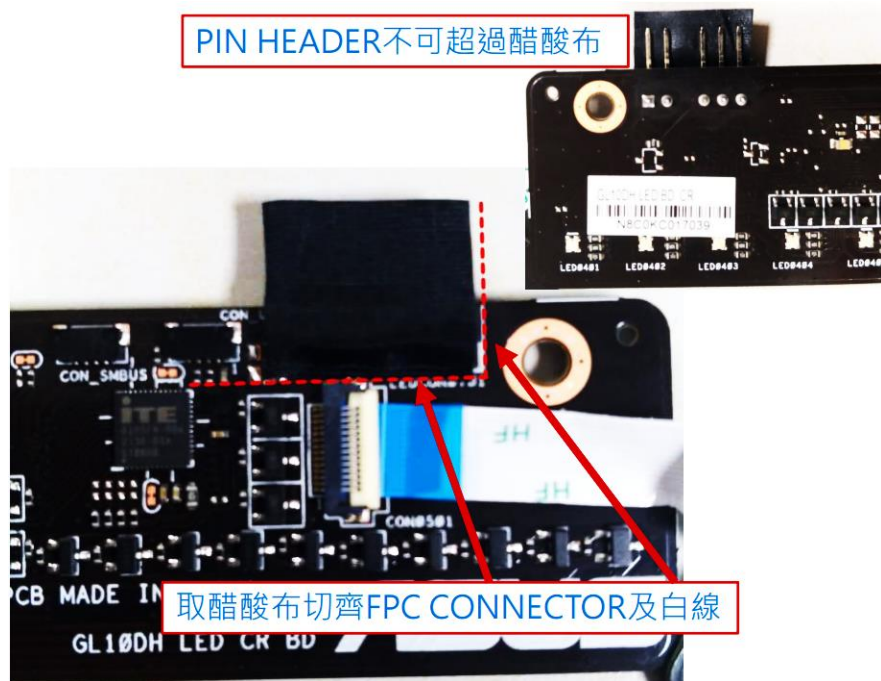
Assembly Notice

⚠️ Before assemble two cables, please follow below to paste ACETATE TAPE.

QTY	Spec
2	G15DK USB CABLE ACETATE TAPE

Step1-1 : Winding the two cables with ACETATE TAPE to increase the insulation layer.

Step1-2 : Double arrow (angle between 70~80mm)

Note: The two cables are GL10DH SATA CABLE 15P F/P 430MM and CABLE USB2.0 CRB TO MB L750.

GL10DH SATA CABLE 15P
CABLE USB2.0 CRB TO MB L750

取
GL10DH SATA CABLE 15P F/P 430MM &
CABLE USB2.0 CRB TO MB L750
長度在70~80mm間

CABLE USB2.0 CRB TO MB L750此段有
醋酸布就不須加纏醋酸布
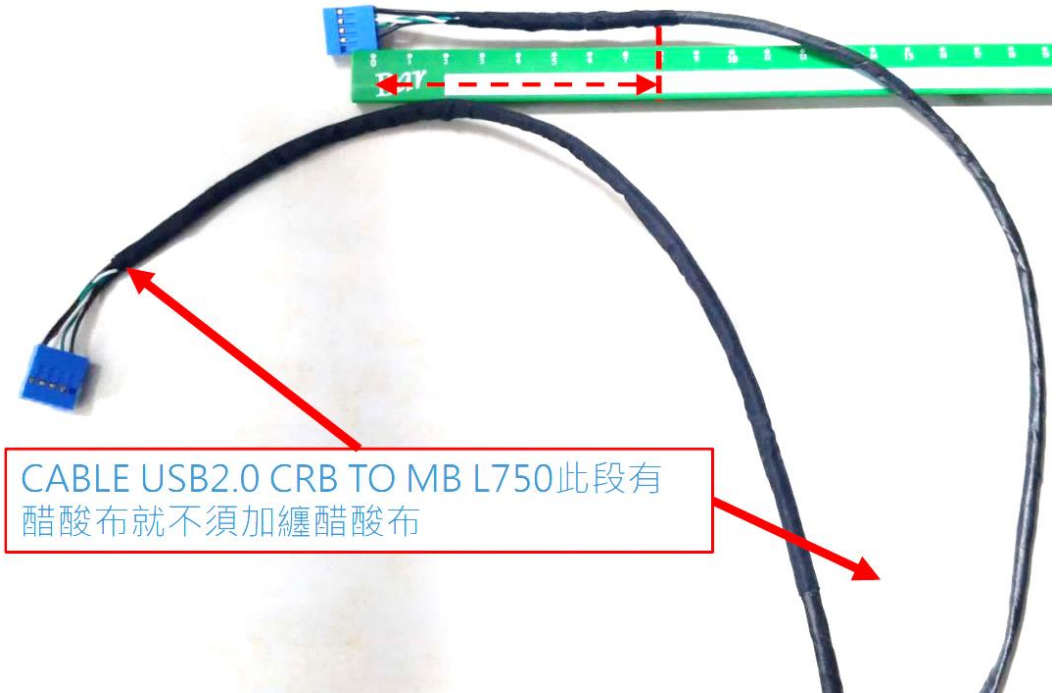
TOP COVER

Disassembly Notice   Please be sure to pull out AC POWER CORD.

Step 1 : Remove screws *2pcs.
Step 2 : Pull the latch to release and remove TOP COVER.

❶ Remove

❷ Pull the Latch (green mark)
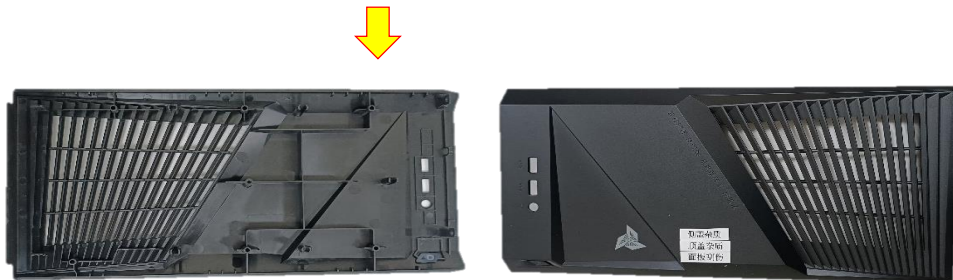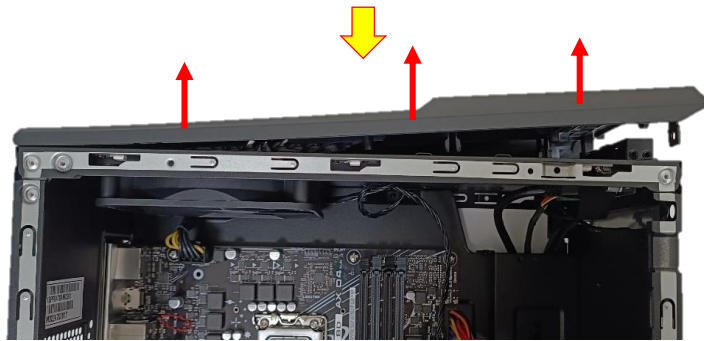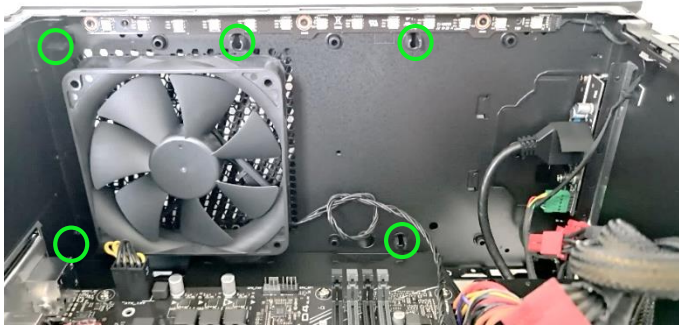
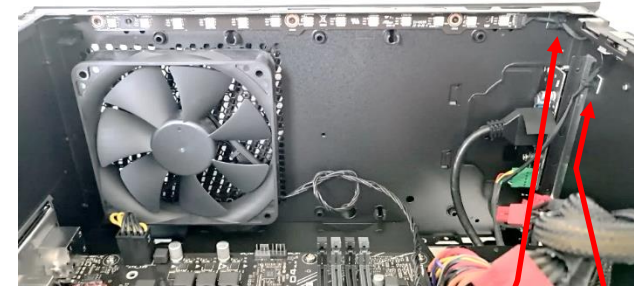| Screws	QTY	Spec	Torque (kgf-cm)
⬡ ⭕	2	SCREW #6-32*6L(7.1,2.3) (B) #2	8.0±0.5

Assembly Notice

⚠️ Please according to below image to Tidy up the cables.

SIDE BD CABLE

WIRE SADDLE*2pcs

SIDE LED CABLE

CPU FAN 12CM
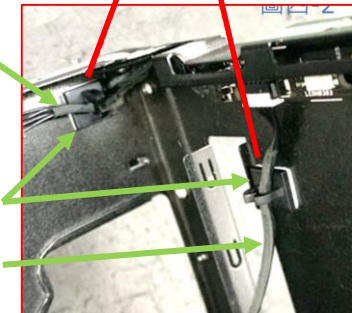
Disassembly Notice	Please be sure to pull out AC POWER CORD.

Step 1 : Disconnect (yellow mark) FAN connector *1pc.
Step 2 : Remove screws *4pcs on the outside of iron grid.
Step 3 : Take out the Fan*1 pcs.

Screws	QTY	Spec	Torque (kgf-cm)
⭕	4	M5*10L (K) B-NI TAPPING	8.0±0.5

❶ Disconnect (yellow mark)

❷ Remove

❸
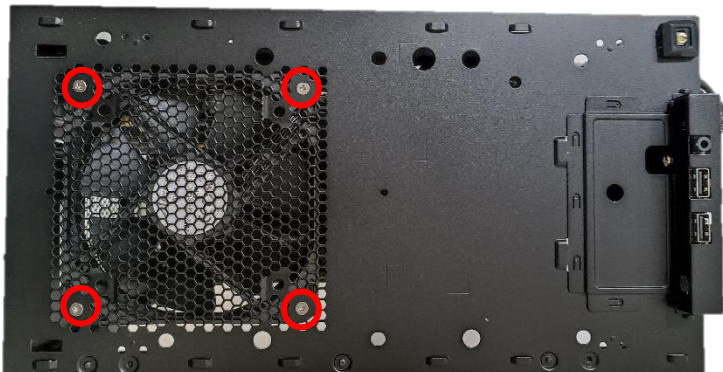
CPU FAN 12CM

Assembly Notice

⚠ Please follow the below criteria to assemble FAN.
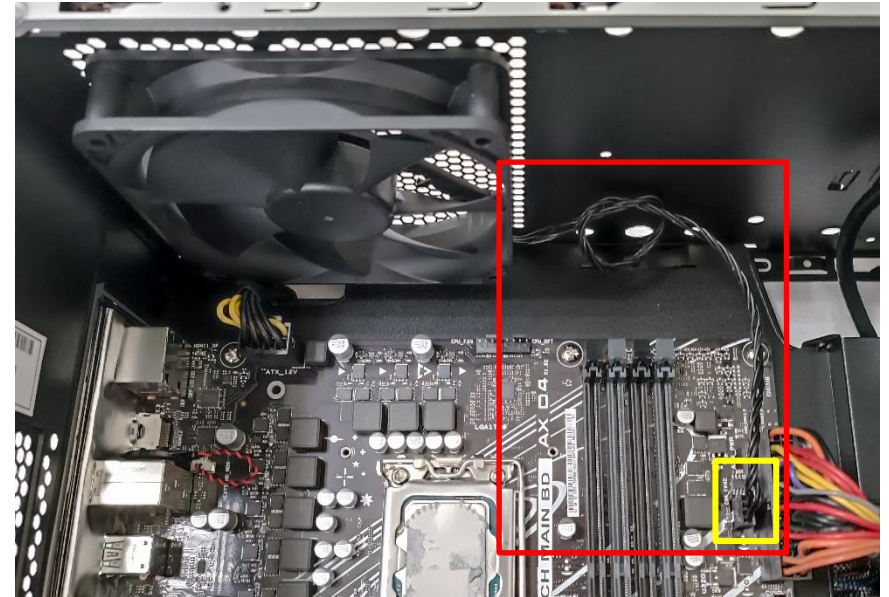
FRONT IO BOARD

Disassembly Notice   Please be sure to pull out AC POWER CORD.

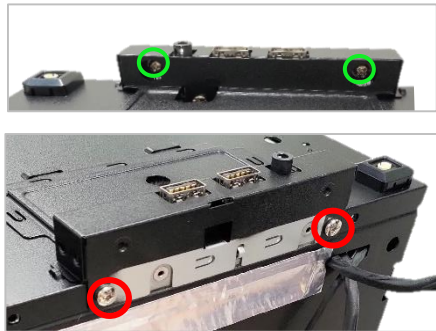Step 1 : Remove screws *4pcs.(Red and green mark)
Step 2 : Flip up the bracket and remove screw *1pc, then separate the FRONT IO BOARD and bracket.
Step 3 : Disconnect Audio cable, remove tape from FIO USB CABLE(USB3.0) cable connector, then disconnect it.
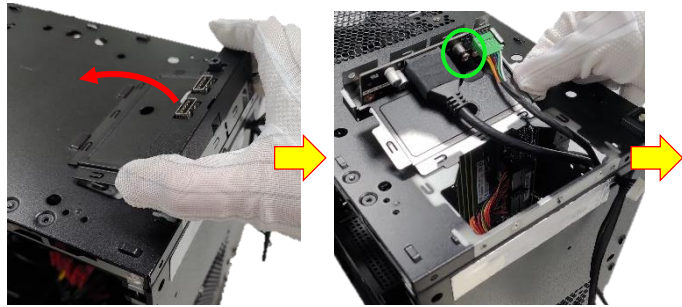
Screws	QTY	Spec	Torque (kgf-cm)
⭕	2	#6-32*6L(7.1,2.3) (B) #2	8.0±0.5
⭕	3	M3*4L (6.3,2.05) (B) #2	6.0±0.5

❷ Flip up the bracket and remove screw*1pc

Separate the IO BOARD and bracket

Bracket   FRONT IO BOARD

❶ Unscrew

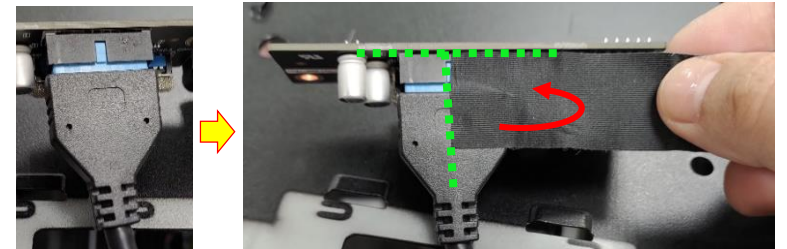❸ Disconnect   Remove ACETATE TAPE
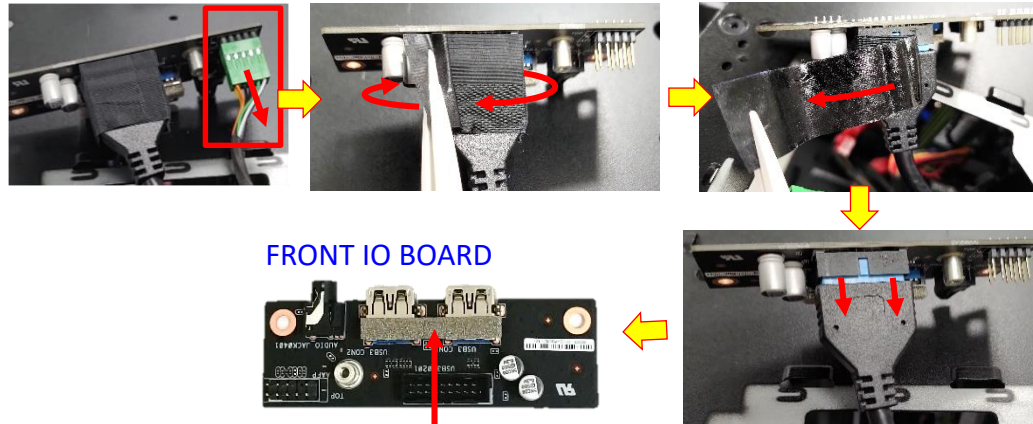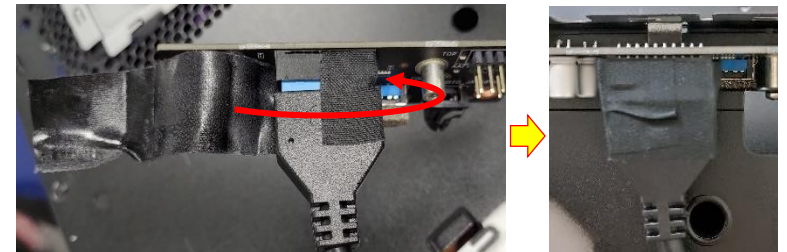
FRONT IO BOARD

USB CONN GASKET

Assembly Notice

⚠ When assemble FIO USB cable on FRONT IO BOARD, please follow below steps to paste USB CABLE ACETATE TAPE.

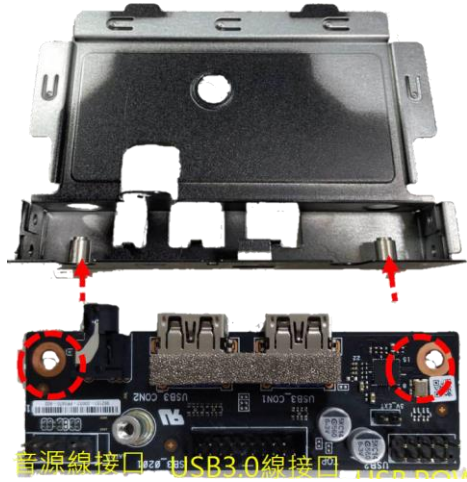**Step1,** USB CABLE ACETATE TAPE align the centerline and parallel to the IO BOARD.

Step2, Winding it parallel the connector.

NEW FRONT IO BOARD

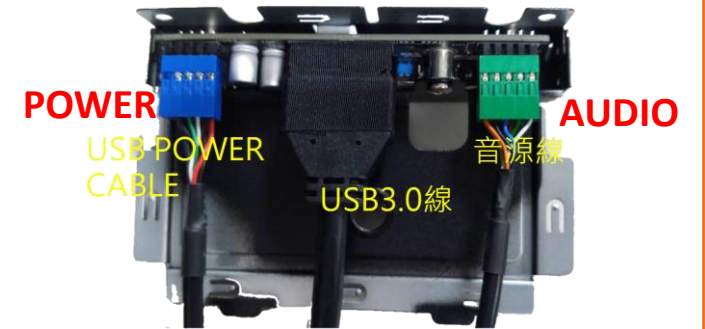## Assembly Notice ⚠️ Please follow the below steps to assemble FRONT IO BOARD.

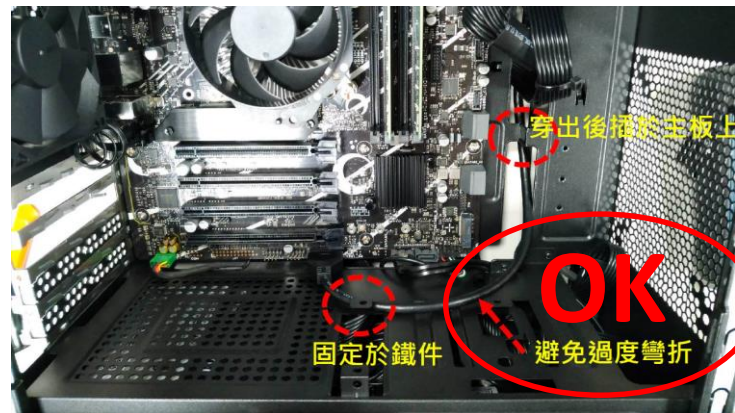**Step-1 FIO bracket and small card, corresponding hole assembly.**

Step-2 Assemble the STAND OFF on the MB.

Step-3 Assemble the cables*3pcs.

SCREW M3*4L (6.3,2.05) (B) #2*3pcs

音源線接口 USB3.0線接口

POWER
USB POWER CABLE

AUDIO
音源線

USB3.0線

Step-4 Assemble the USB3.0 CABLE on the MB.

穿出後插到主板上

固定於鐵件 OK 避免過度彎折

不可此樣過度彎折

Set in iron piece.

Avoid excessive bending

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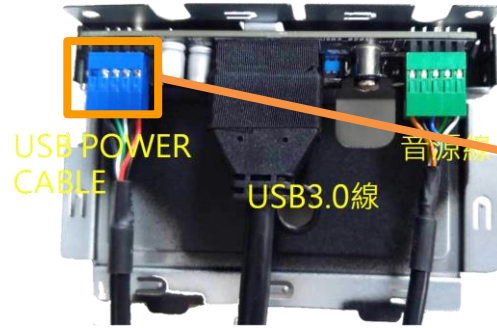**Assembly Notice** ⚠️ Please follow the below image to assemble NEW/OLD FRONT IO BOARD.
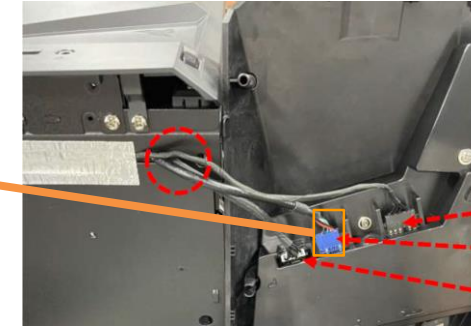
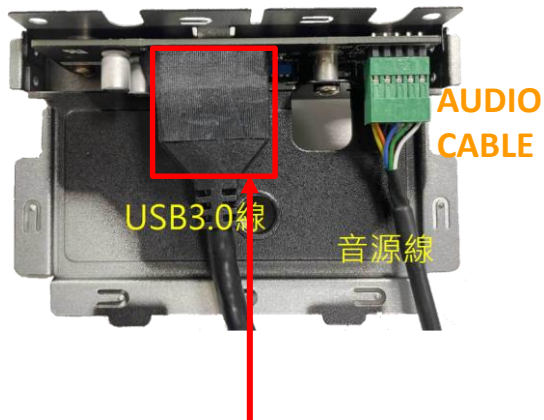Step-1 If you use the NEW FRONT IO BOARD

CABLE USB2.0
CRB TO MB

FRONT BEZEL

USB POWER CABLE

USB3.0線

AUDIO CABLE

音源線

SIDE LED CABLE
USB POWER CABLE
SATA POWER CABLE
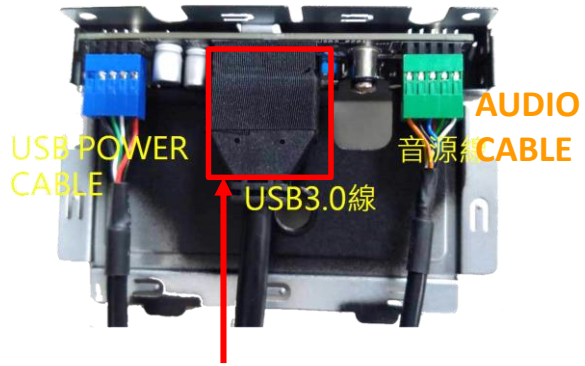
NEW FRONT IO BOARD use CABLE USB3.0 FIO TO MB L600

Step-2 If you use the OLD FRONT IO BOARD

FRONT BEZEL

CABLE USB2.0
CRB TO MB

USB3.0線

AUDIO CABLE

音源線

AUDIO CABLE
CABLE USB2.0
CRB TO MB
FIO USB CABLE
(USB3.0)
HDD SATA CABLE
POWER SW CABLE

SIDE LED CABLE
USB POWER CABLE
SATA POWER CABLE
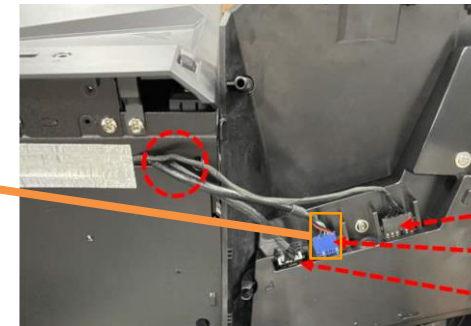
OLD FRONT IO BOARD use CABLE USB3.0 FIO TO MB L500

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SSD

Disassembly Notice — Please be sure to pull out AC POWER CORD.

Step 1 : (SSD1) Release screws *2pcs and take out the SSD HEAR SINK.
Step 2 : (SSD1) Remove SSD *1pc.
Step 3 : (SSD2) Remove screws *2pcs and take out the M2 SSD SINK.
Step 4 : (SSD2) Remove screw *1pc and take out the SSD with TH BRACKET.
Step 5 : Take out the SSD from the TH BRACKET.

| Screws	QTY	Spec	Torque (kgf-cm)
○ (red)	2	G16CH SSD HEAR SINK(WITH SCREW)	2.0±0.2
○ (orange)	2	PD500TC M2 SSD SINK(WITH SCREW) (M2*0.4,L=5mm)	2.0±0.2
○ (green)	1	SCREW M2*7.5L (4.5,0.8) #1	2.0±0.5

SSD1
SSD2

❶ G16CH SSD HEAR SINK

❷

❸ PD500TC M2 SSD SINK
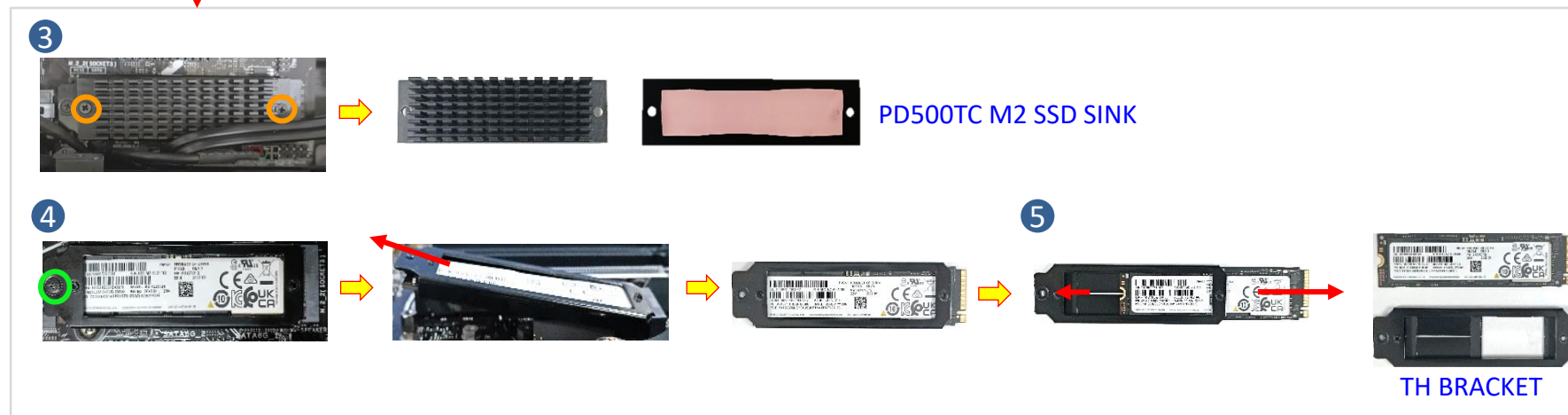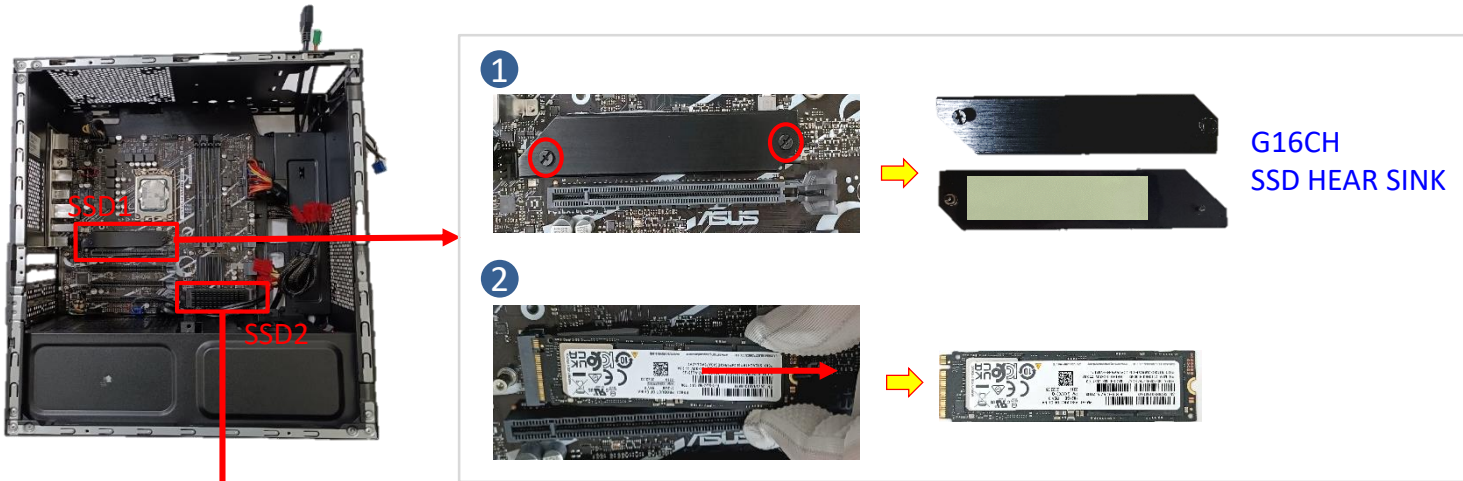
❹ ❺ TH BRACKET

Assembly Notice

⚠ Please according to below image to assemble D700TA M2 PAD 25X20X7 & STAND OFF.

● SSD1 location

STAND OFF
D700TA M2 PAD 25X20X7
M2_1

● SSD2 location

STAND OFF
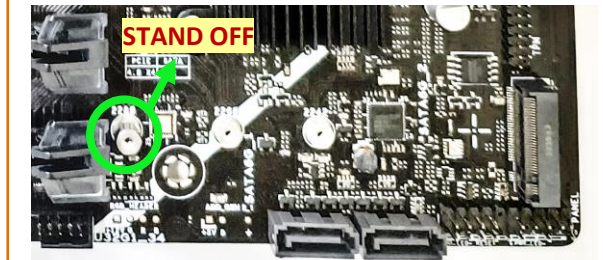
● SSD2 with TH BRACKET module (Rear)

D700TA M2 PAD 25X20X7

MAIN BOARD & CPU

Step 1 : Disconnect (yellow mark) connectors *6pcs.
Step 2 : Remove screws *8pcs (Red and green mark).
Step 3 : Take out the Main Board.
Step 4 : Release and remove the CPU.

Screws	QTY	Spec	Torque (kgf-cm)
⭕	2	M3*4L (6.3,2.05) (B) #2	8.0±0.5
⭕	6	#6-32*6L(7.1,2.3) (B) #2	8.0±0.5

❶ Disconnect (yellow mark)

❷ Unscrew (Red and Green mark)
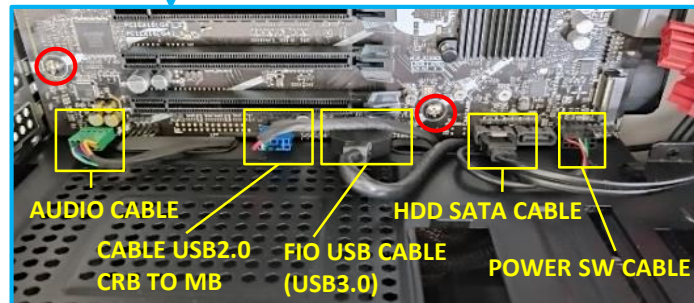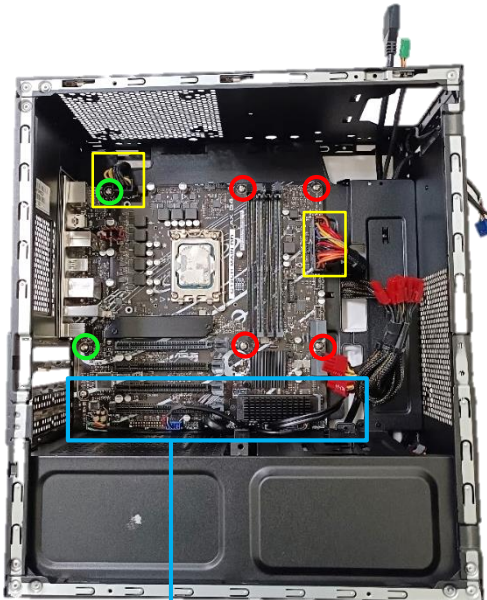
❸ Take out Main Board

❹ Release and remove the CPU

lift the cover
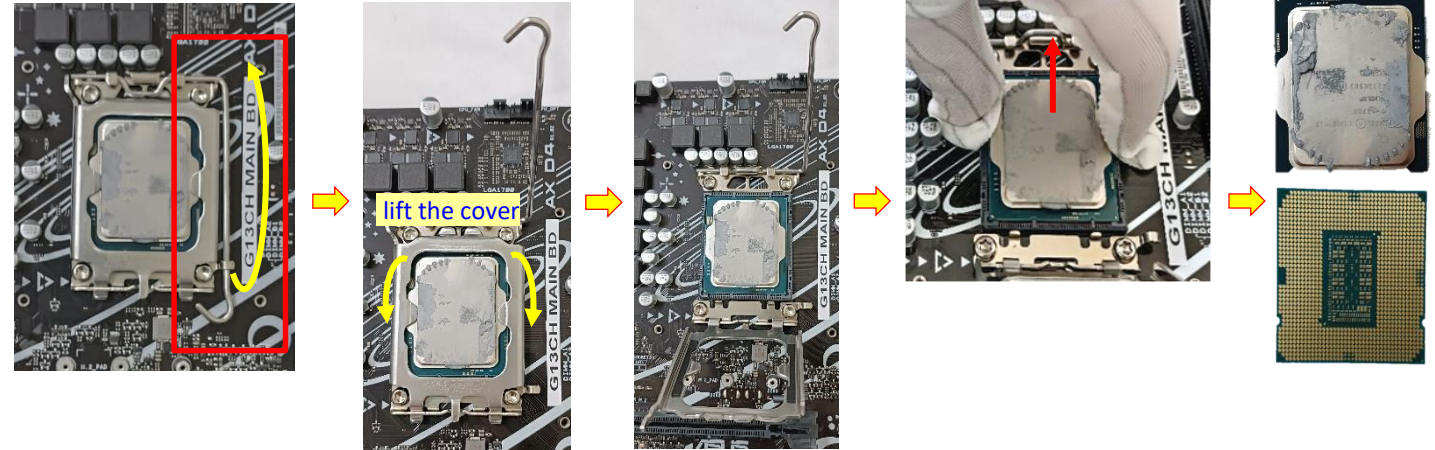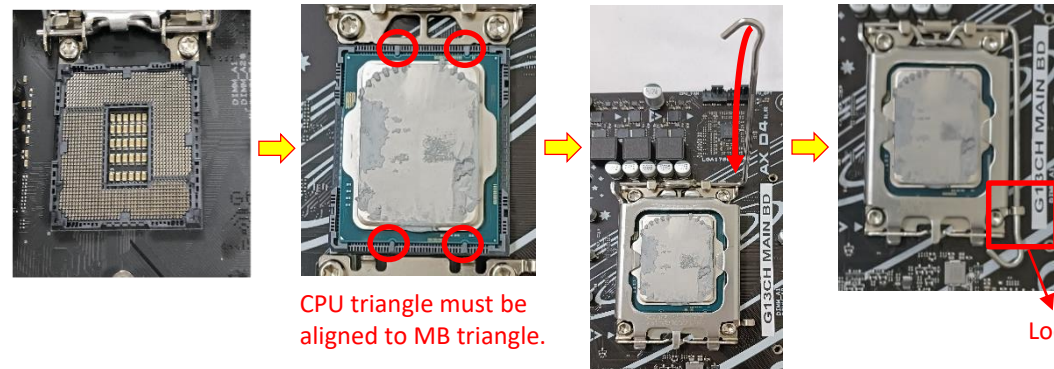
Assembly Notice   ⚠ Please follow the instructions to assemble the CPU.

CPU triangle must be aligned to MB triangle.

Lock

AUDIO CABLE

CABLE USB2.0 CRB TO MB

FIO USB CABLE (USB3.0)

HDD SATA CABLE

POWER SW CABLE

MAIN BOARD

Assembly Notice ⚠️ Please follow the below image to Add sponge *4pcs (red mark)on motherboard DIMM Area.
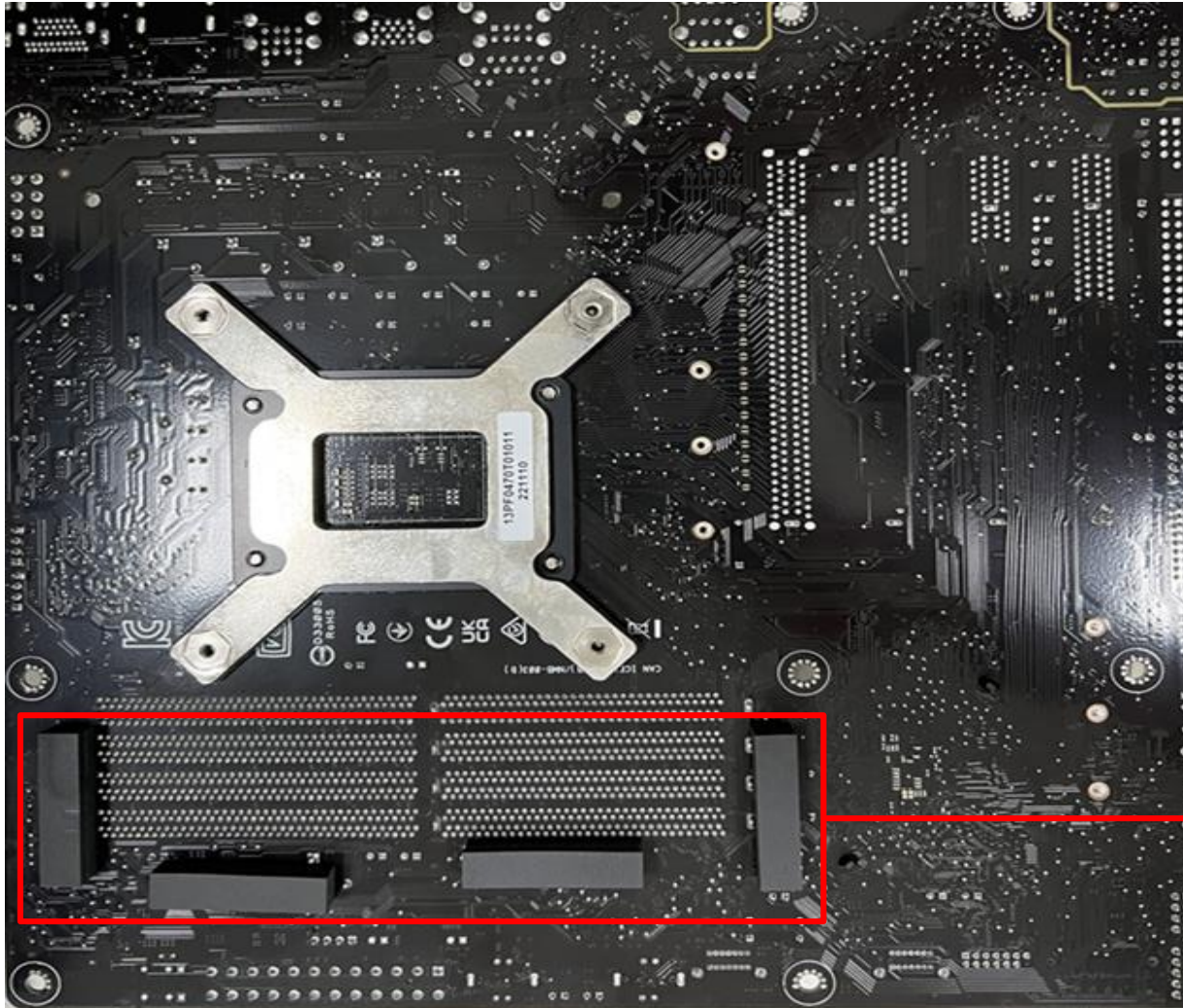
D700TD MB SPONGE L35 W8 T8//L35 W8 T8

WLAN CARD

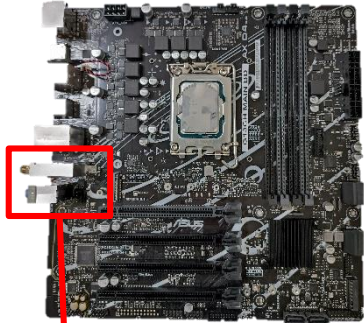## Disassembly Notice — Please be sure to pull out AC POWER CORD.

Step 1 : Remove screws *2pcs and take out SHIELDING FOR Z690 WIFI with WLAN CARD.
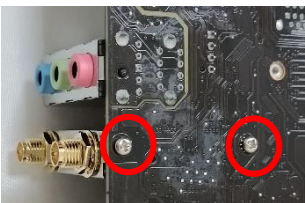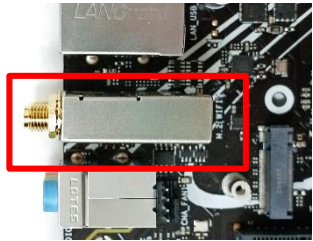Step 2 : Remove screw *1pc and SHIELDING FOR Z690 WIFI.
Step 3 : Disconnect RF cables*2pcs, remove screw *1pc and WLAN CARD.
Step 4 : Release nut and remove RF cable.

Screws	QTY	Spec	Torque (kgf-cm)
⭕	2	SCREW M2*4L	2.0±0.5
🟢	1	SCREW M2*3L	2.0±0.5
🔵	1	SCREW M2*3L	2.0±0.2

❶ Remove

❷ Remove

❸ Disconnect and remove

❹ Release nut and remove

nut
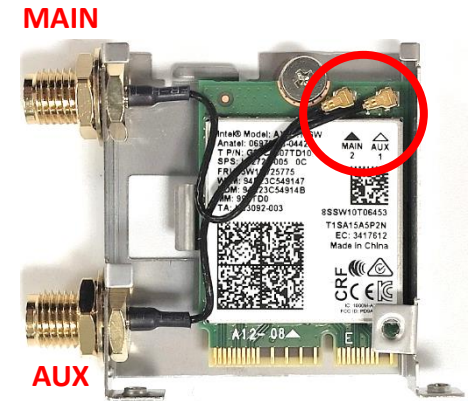washer

(Rear)

SHIELDING FOR
Z690 WIFI

SHIELDING FOR
Z690 WIFI
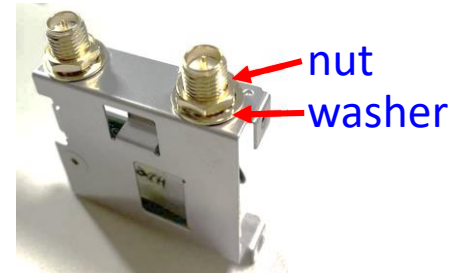
RFCABLE ASSEMBLY
SMA/MHF 42MM*2pcs

SHIELDING FOR
Z690 WIFI

Assembly Notice

⚠ Please according to below image to assemble RF cable.
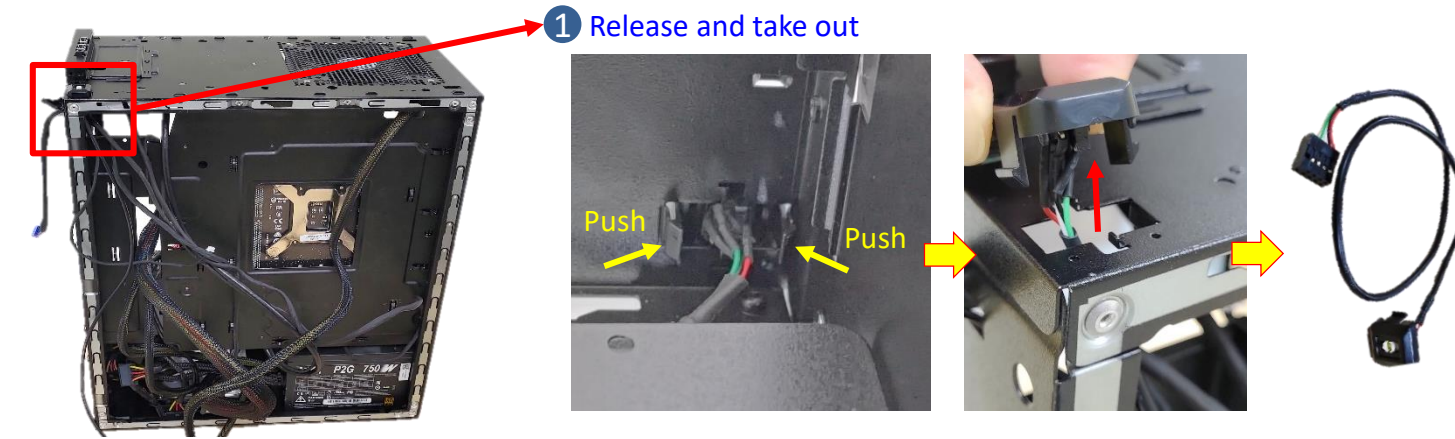
MAIN

AUX

POWER SWITCH

Disassembly Notice Please be sure to pull out AC POWER CORD.

Step 1 : Push hooks then take out POWER SW CABLE with POWER SWITCH HOLDER from CHASSIS.
Step 2 : Push hooks then separate POWER SW CABLE and POWER SWITCH HOLDER.

❶ Release and take out

Push   Push

❷ Release and separate

Release

Take out

Release

POWER SW CABLE
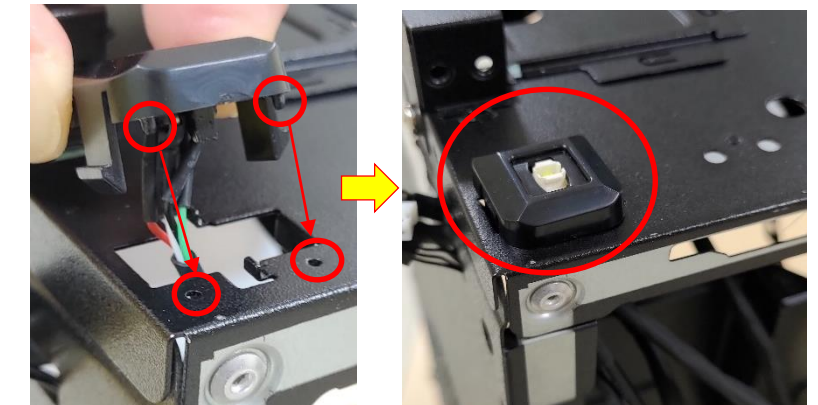
POWER SWITCH HOLDER

Assembly Notice

⚠ When need to reuse old POWER SWITCH HOLDER, please make sure the hooks no broken or deformation.

⚠ Please according to below image to assemble POWER SW CABLE and POWER SWITCH HOLDER.
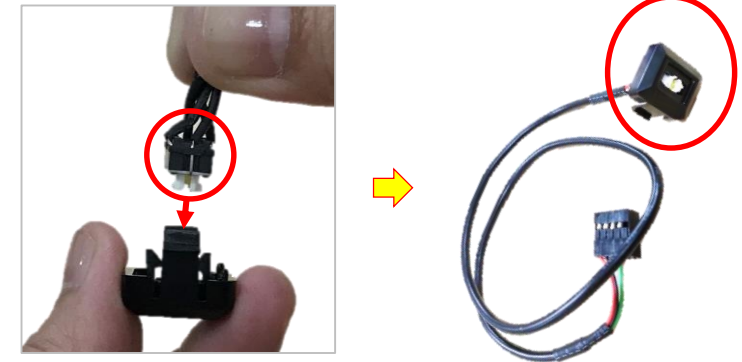
⚠ Please according to below image to assemble POWER SW CABLE(with HOLDER).

Disassembly Notice   Please be sure to pull out AC POWER CORD.

Step 1 : Remove screws *4pcs.
Step 2 : Disconnect the connectors *2pcs
Step 3 : Take out the HDD and cable.
Step 4 : Press and push the IO SHIELDING to remove it.

Screws	QTY	Spec	Torque (kgf-cm)
	4	SCREW #6-32*6.3L (7.3,2.45)(B) B-ZN #2	6.5±0.5
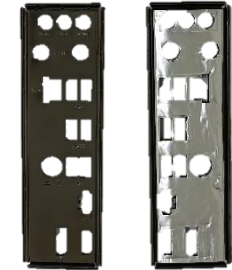
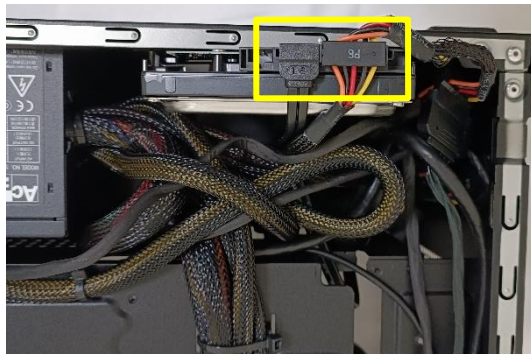❶ Unscrew

❷ Disconnect

❸

❹

Press and push

G16CH B760M
IO:6USB/2HDMI/DP/PS2

POWER SUPPLY

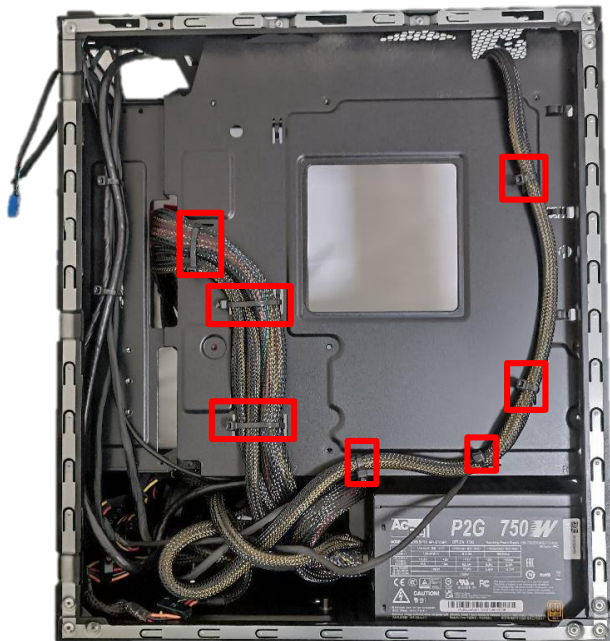**Disassembly Notice**   Please be sure to pull out AC POWER CORD. 🚫

Step 1 : Cut the cable ties *7pcs.
Step 2 : Remove screws *4pcs.
Step 3 : Disconnect the connector *1pc & take out the POWER SUPPLY.

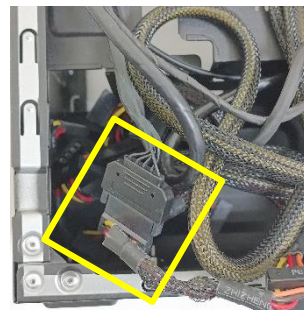| Screws	QTY	Spec	Torque (kgf-cm)
🔩 ⭕	4	SCREW #6-32*6.3L (7.3,2.45)(B) B-ZN #2	8.0±0.5

❶ Disconnect

❷ Unscrew

❸ Disconnect and take out
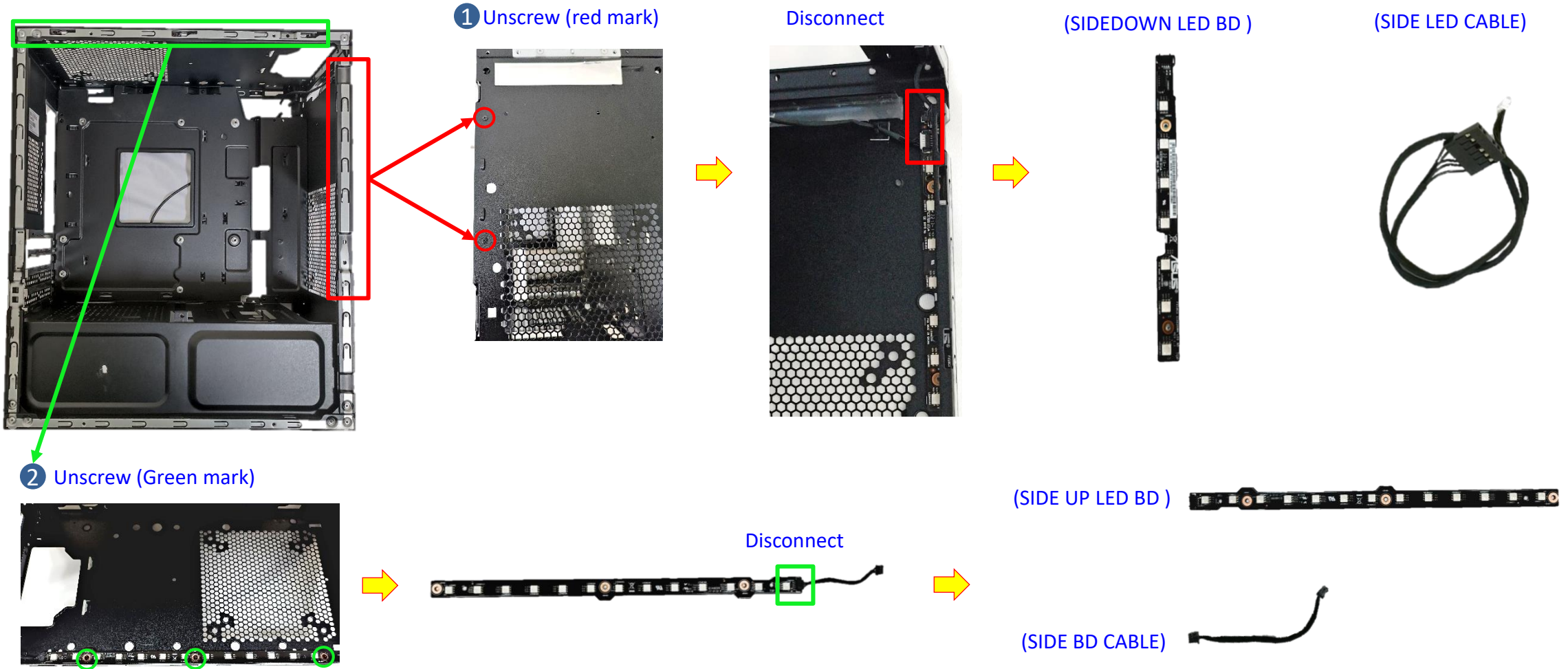
LED BOARD

Disassembly Notice Please be sure to pull out AC POWER CORD.

Step 1 : Remove screws *2pcs and then disconnect cables *2pcs.
Step 2 : Remove screws *3pcs and then disconnect cable *1pc.

Screws	QTY	Spec	Torque (kgf-cm)
🔴	2	SCREW M2.5*4L (K) B-ZN NY	2.5±0.2
🟢	3	SCREW M2.5*4L (K) B-ZN NY	2.5±0.2

❶ Unscrew (red mark)

Disconnect

(SIDEDOWN LED BD)

(SIDE LED CABLE)

❷ Unscrew (Green mark)

(SIDE UP LED BD)

Disconnect

(SIDE BD CABLE)

Assembly Notice ⚠️ Please according to below image to Tidy up the cables.