



Cooling X

FCC | CE

Operational Description

December 6 2023

1 Usage

Cooler Master Cooling X is a plug and play complete liquid cooled PC that utilizes the side panels as a reservoir and a heatsink simultaneously. It utilizes a proprietary liquid cooling solution that is very unique. It allows to dissipate the heat semi passively and keep the size of the PC very compact and noise levels to a minimum. It is a pre-build PC and it is prohibited to open it an upgrade or alternate components. In case users ignore this, the warranty will be void.

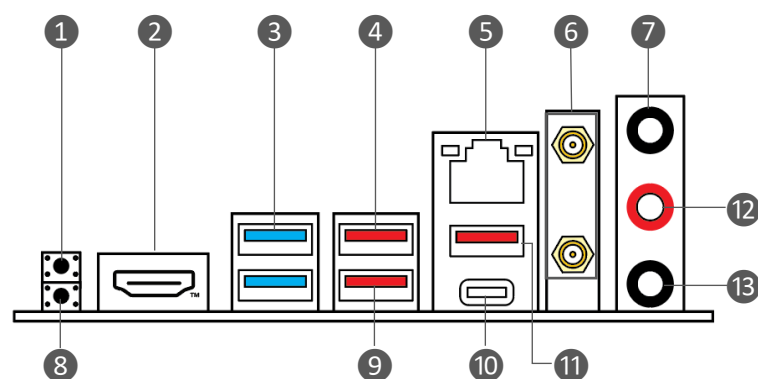
2 Hardware

2.1 Component include Xtal

- CPU: AMD Ryzen® 9 7959X3D
- Motherboard: MSI B650I Edge WiFi
- GPU: NVIDIA GeForce RTX™ 4080
- Graphic Card: Zotac Gaming GeForce RTX 4080 16GB Trinity Black Edition
- RAM: 2 x 32GB dual channel DDR5-5600
- Storage: 2 x 2TB M2 PCIe4.0 NVMe SSD
- Power Supply: Cooler Master V850 SFX Gold

2.2 IC Reader Port, Magnetic Port, Contactless I/O Interface

2.2.1 Motherboard



- | | |
|------------------------------------|--|
| 1) Clear CMOS button | 7) Line-In Jack |
| 2) HDMI port | 8) Flash BIOS button |
| 3) USB3.2 Gen1 5Gbps Type-A ports | 9) USB3.2 Gen2 10Gbps Type-A port |
| 4) USB3.2 Gen2 10Gbps Type-A ports | 10) USB3.2 Gen2x2 (20Gbps) Type-C port |
| 5) 2.5Gbps LAN jack | 11) USB3.2 Gen2 10Gbps Type-A port |
| 6) WiFi Antenna Connector | 12) Line-Out Jack |
| | 13) Line-In Jack |

13) *Mic-In Jack*

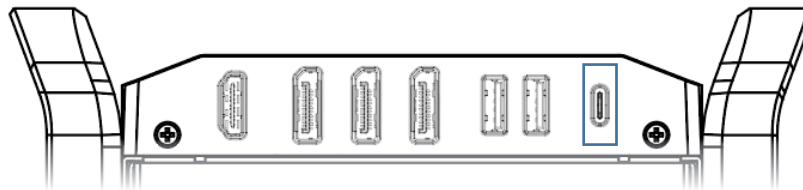
2.2.2 Graphics Card

NVIDIA GeForce RTX 4080 16GB GPU

- 9728 CUDA cores
- 16GB GDDR6X memory
- 256-bit memory bus
- Engine boost clock: 2520 MHz
- Memory clock: 22.4 Gbps
- PCI Express 4.0 16x

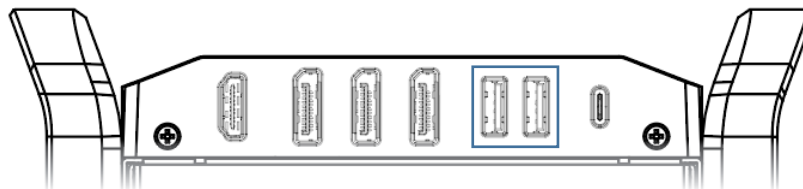
USB Gen2.2 20Gbps Type-C Rear Panel Connector

This connector allows to connect USB Type-C connector at the rear panel. The connector possess a foolproof design. When connecting the cable, be sure to connect it with the corresponding orientation.




USB Gen2 10Gbps Type-A Rear Panel Connectors

These connectors allow to connect USB Type-A connectors at the rear panel. The connector's possess foolproof design. When connecting the cable, be sure to connect it with the corresponding orientation.



2.2.3 LAN Port LED Status Table

LAN Port LED Status Table

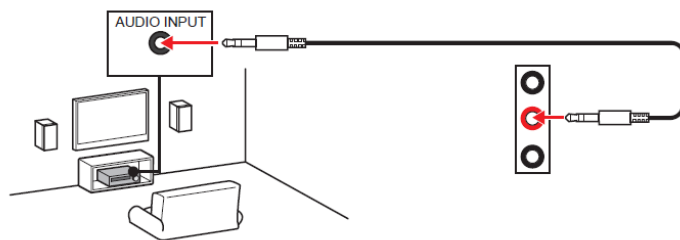
Link/ Activity LED			Speed LED	
Status	Description		Status	Speed
Off	No link		Off	10 Mbps
Yellow	Linked		Green	100/ 1000 Mbps
Blinking	Data activity		Orange	2.5 Gbps

Audio Jacks Connection

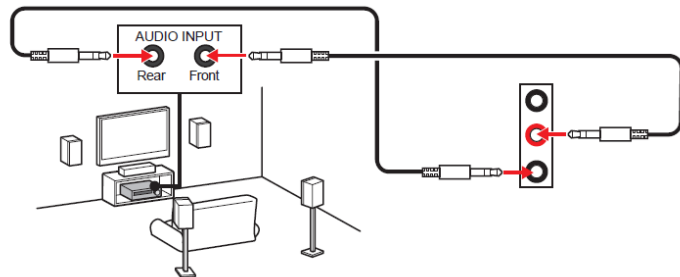
Audio jacks to headphone and microphone diagram



Audio jacks to stereo speakers diagram







Audio jacks to 4-channel speakers diagram

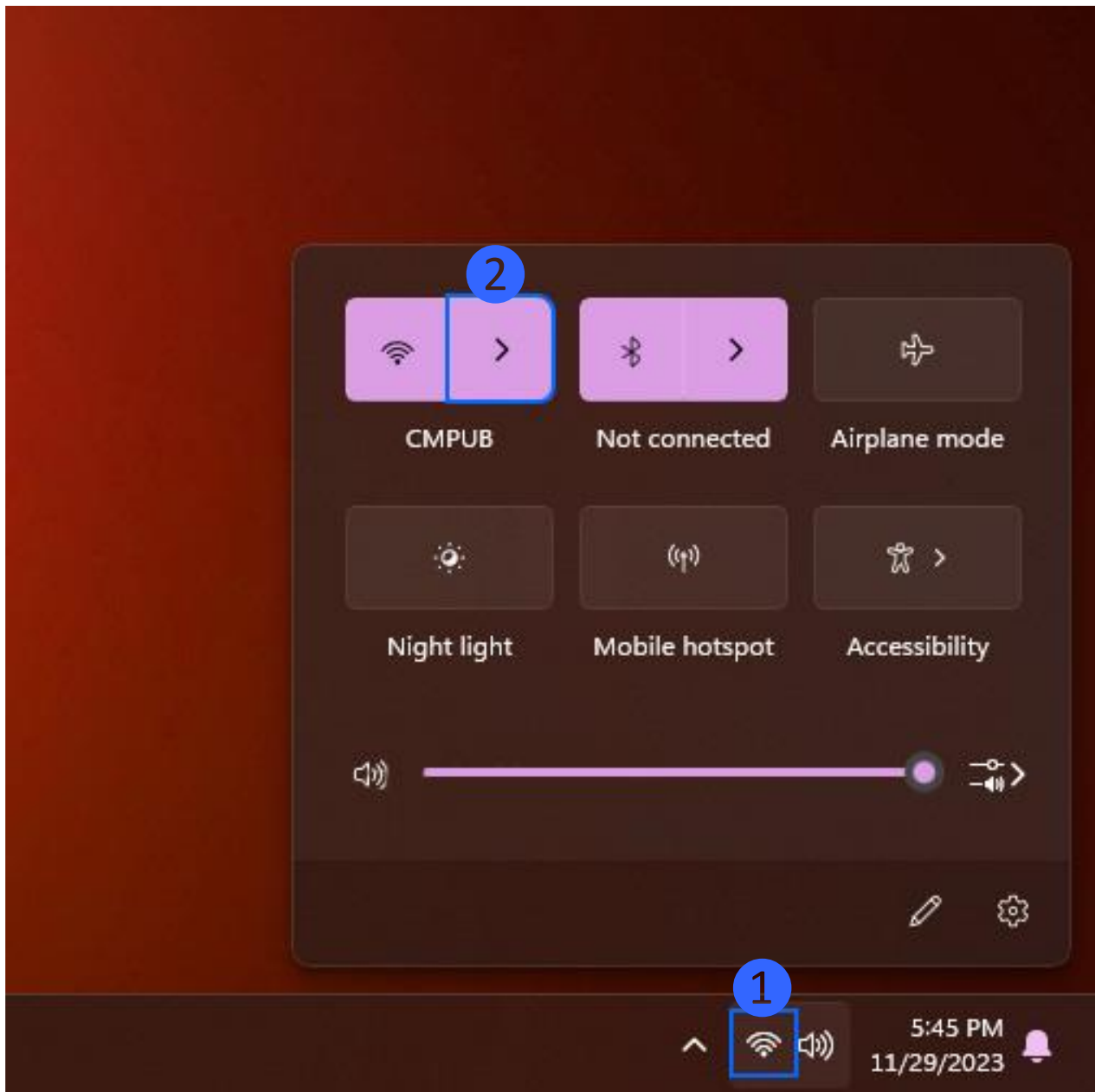


2.3 Window 11 Wi-Fi Wireless Network Access To The Internet

Windows 11 Operating System

1. Click the network  icon on the taskbar **1** and then click  icon to manage the Wi-Fi connections **3**.

The icon display will be different depending on your current connection status. (: Not currently connected to the network, : Connected to the Wi-Fi wireless network, : Connected to the wired network).



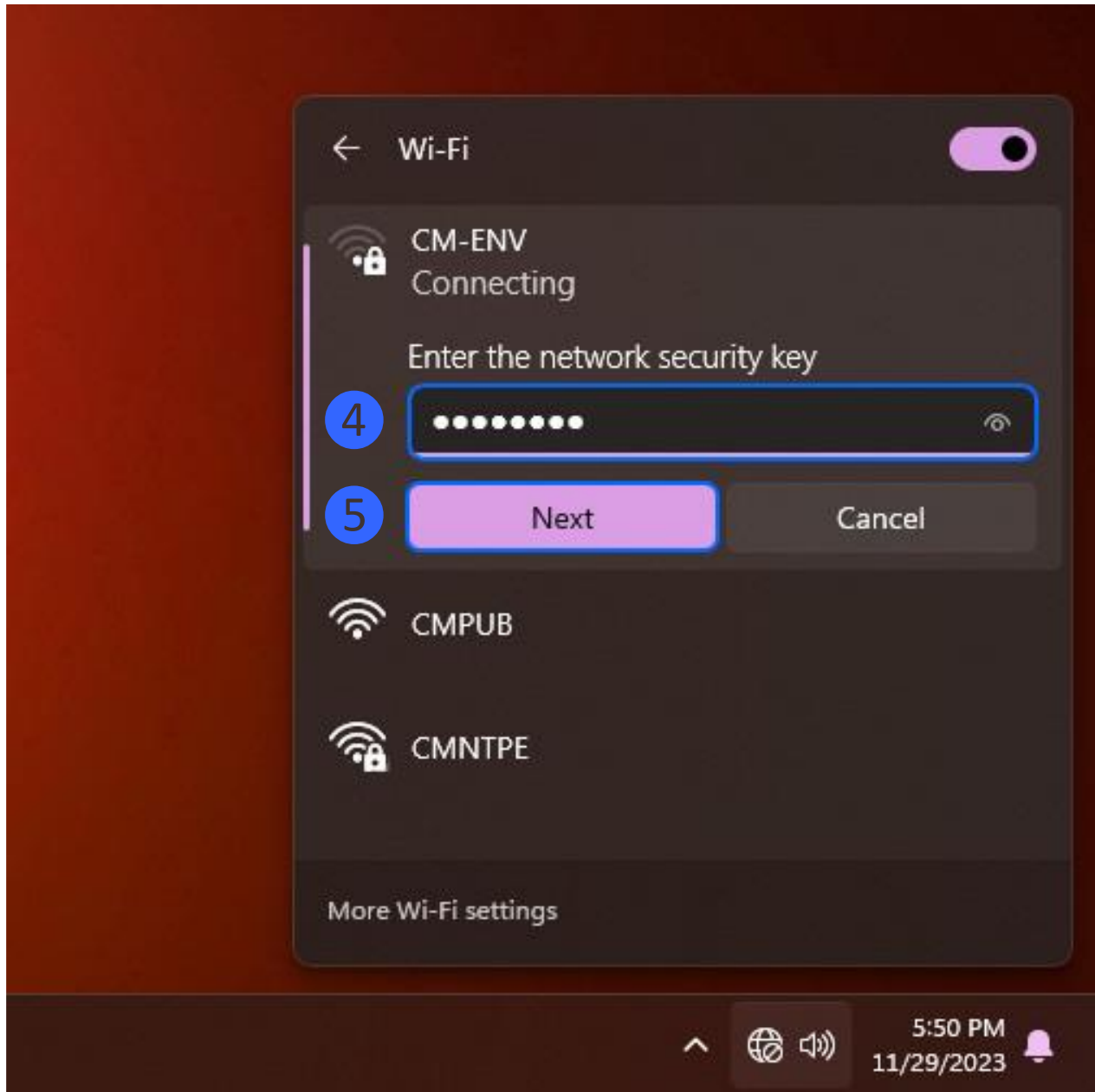
2. Select the wireless network you require and click [Connect] ③. If you check **Automatically connect**, your computer will automatically connect to the wireless network when it is in that network environment.

If you find the Wi-Fi is shown as **turned off**, please click the switch in the upper right corner to turn the Wi-Fi back on.







3. Enter the wireless network password ④ and click [Next] ⑤.



4. After the connection is successful, the wireless network will be displayed as connected and the network icon will change to .

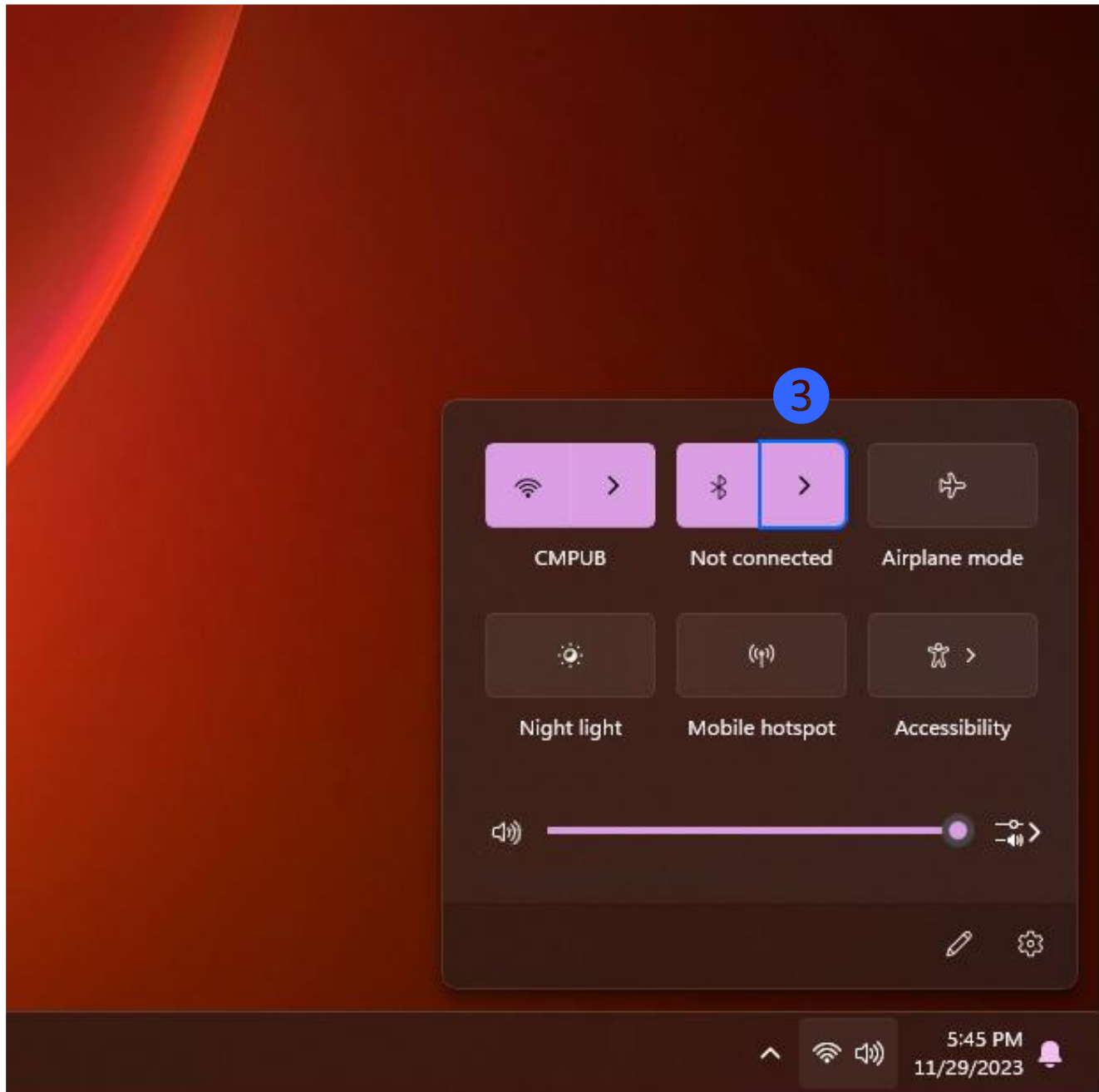


2.4 Enable Bluetooth

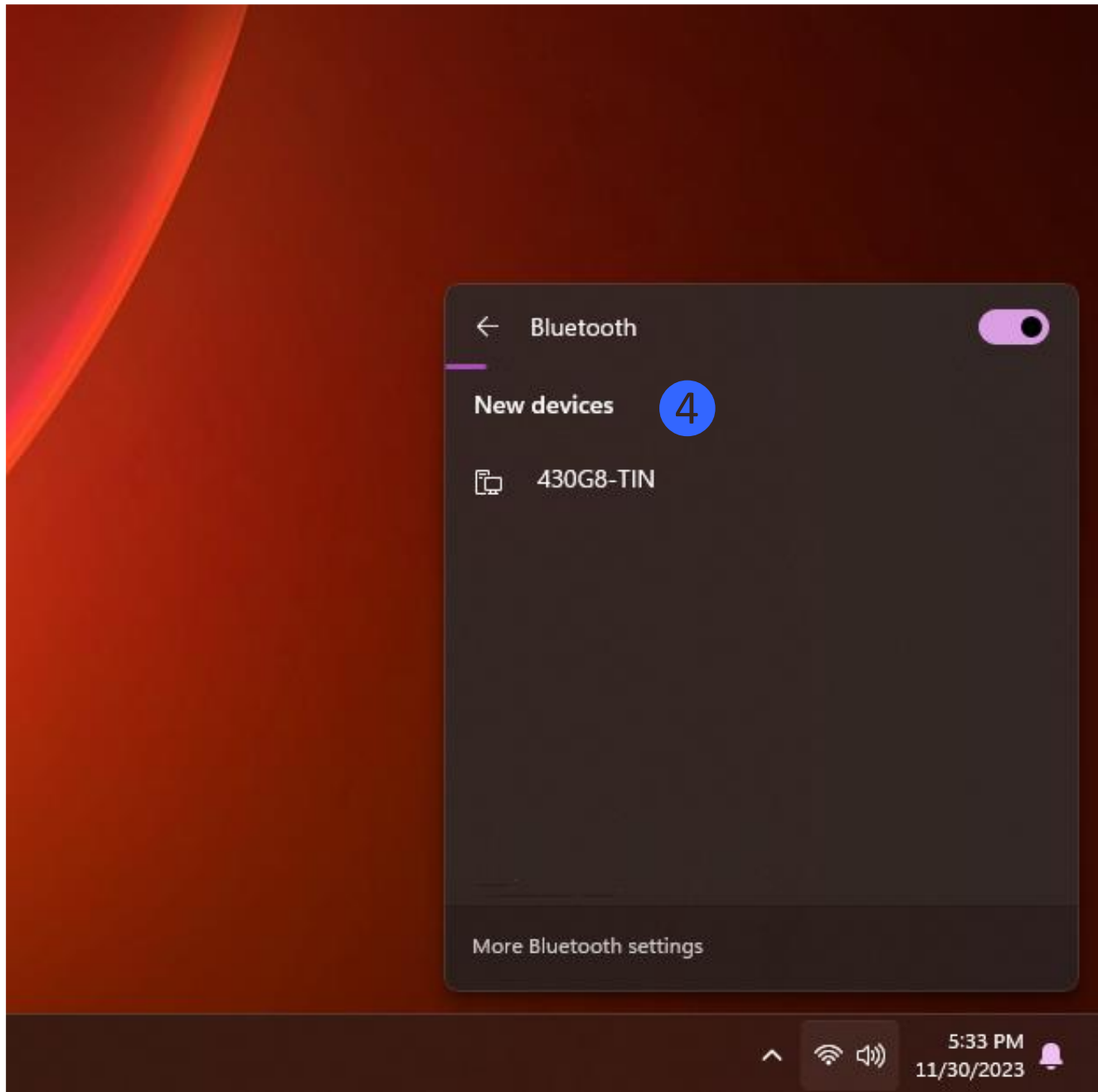
1. To connect to Bluetooth devices, click the network icon  icon on the taskbar **1** and then click  icon **2** to enable Bluetooth.



2. To see an overview of the available Bluetooth devices, click on the > icon ③ and the list ④ will be visible.



3. Select the Bluetooth device you like to contact to and wait till the connection is established.



2.5 Power Supply

Model	MPY-8501-SFHAGV-3XX
ATX Version	ATX3.0, SFX 12V Ver. 3.42
PFC	Active PFC
Input Voltage	100-240V
Input Current	12-6A
Input Frequency	50-60Hz
Dimensions (L x W x H)	100 x 125 x 63.5 mm
Fan Size	92 mm
Fan Bearing	FDB
Efficiency	90% @ Typical Load
80 PLUS Rating	80 PLUS Gold
ETA Rating	Gold
LAMBDA Rating	Standard+
ErP 2014 Lot 3	Yes
Operating Temperature	0-50°C
Power Good Signal	100 - 500 ms
Hold Up Time	16ms
MTBF	>100,000 Hours
Protections	OVP, OPP, SCP, OCP, UVP, OTP, Surge and Inrush Protection
Regulatory	TUV, cTUVus, CE, BSMI, FCC, CCC, EAC, RCM, CB, UKCA
ATX 24 Pin Connectors	1
EPS 4+4 Pin Connectors	1
EPS 8 Pin Connector	1
SATA Connectors	2
Peripheral 4 Pin Connectors	1
PCI-e 6+2 Pin Connectors	2
12VHPWR Connector	1
Series	V SFX Series
80 Plus	Gold
Modular	Full Modular
Wattage	Above 750W

2.5 RF Transmitters

Standard:

IEEE802.11a; IEEE802.11b; IEEE 802.11g; IEEE 802.11n; IEEE 802.11ac;

IEEE802.11ax; IEEE802.11d; IEEE802.11e; IEEE802.11h; IEEE802.11i;

BT v2.1+EDR/3.0/4.0/4.1/4.2/5.0

Bus Interface:

Complies with PCI Express for WLAN

Complies with USB for BT

Form Factor:

M.2 2230-AE

Data Rate:

802.11b: 11, 5.5, 2, 1 Mbps;

802.11g: 54, 48, 36, 24, 18, 12, 9, 6 Mbps

802.11a: 54, 48, 36, 24, 18, 12, 9, 6 Mbps

802.11n:

HT20 mode: MCS0 to 15

HT40 mode: MCS0 to 15

802.11ac:

VHT20 mode: NSS1 MCS0 to 8; NSS2 MCS0 to 8;

VHT40 mode: NSS1 MCS0 to 9; NSS2 MCS0 to 9;

VHT80 mode: NSS1 MCS0 to 9; NSS2 MCS0 to 9;

VHT160 mode: NSS1 MCS0 to 9; NSS2 MCS0 to 9;

802.11ax:

HE20 mode: NSS1~2 MCS0 to 11; NSS2 MCS0 to 11;

HE40 mode: NSS1~2 MCS0 to 11; NSS2 MCS0 to 11;

HE80 mode: NSS1~2 MCS0 to 11; NSS2 MCS0 to 11;

HE160 mode: NSS1~2 MCS0 to 11; NSS2 MCS0 to 11;

BT: 1Mbps for basic rate, 2Mbps/3Mbps for enhanced data rate

Modulation Techniques:

802.11b: CCK, DQPSK, DBPSK

802.11g: 64QAM, 16QAM, QPSK, BPSK

802.11a: 64QAM, 16QAM, QPSK, BPSK

802.11n: 64QAM, 16QAM, QPSK, BPSK

802.11ac: 256-QAM, 64-QAM, 16-QAM, QPSK, BPSK

802.11ax: Up to 1024QAM

BT: 8DPSK, $\pi/4$ -DQPSK, GFSK

Frequency Range:

- For CE

Wi-Fi: 2412~2472MHz, 5150~5350MHz, 5470~5850MHz, 5945~6425MHz

BT: 2402~2480MHz

- For FCC

Wi-Fi: 2412~2472MHz, 5150~5250MHz, 5250~5350MHz, 5470~5725MHz,
5725~5850MHz, 5925~7125MHz

BT: 2402~2480MHz

Operating Channel (see Appendix for Wi-Fi channelization):

Wi-Fi 2.4GHz:

Channels 1-11 with active scan

Channels 12-13 with passive scan,

Channels 14 with no scan

Wi-Fi 5GHz (This setting of ID support worldwide mode by default):

Band 1: CH36~CH48; Band 3: CH100~CH140;

Band 2: CH52~CH64; Band 4: CH149~CH165;

Wi-Fi 6GHz (This setting of ID support worldwide mode by default):

CH1~CH233;

BT: (CH0~78)

Support OS:

Win10 system on normal driver

Transmit Output Power for CE:

Radio Type / Description		Transmitter Frequency (MHz)	Maximum Output Power
Bluetooth	BR+EDR	2402 ~ 2480	12±1 dBm
	Low Energy	2402 ~ 2480	8±1 dBm
WLAN 2.4G	802.11b	2412 ~ 2472	15±1 dBm
	802.11g	2412 ~ 2472	16±1 dBm
	802.11ax 20	2412 ~ 2472	16±1 dBm
	802.11ax 40	2412 ~ 2472	16±1 dBm
WLAN 5G	802.11a	5150 ~ 5350	16±1 dBm
		5470 ~ 5725	16±1 dBm
		5725 ~ 5850	8±1 dBm
	802.11ac_20M	5150 ~ 5350	16±1 dBm
		5470 ~ 5725	16±1 dBm
		5725 ~ 5850	9±1 dBm
	802.11ac_40M	5150 ~ 5350	18±1 dBm
		5470 ~ 5725	18±1 dBm
		5725 ~ 5850	9±1 dBm
	802.11ac_80M	5150 ~ 5350	18±1 dBm
		5470 ~ 5725	18±1 dBm
		5725 ~ 5850	8±1 dBm
	802.11ac_160M	5150 ~ 5350	18±1 dBm
		5470 ~ 5725	18±1 dBm
WLAN 6G	802.11a	5945 ~ 6425	16±1 dBm
	802.11ax 20	5945 ~ 6425	18±1 dBm
	802.11ax 40	5945 ~ 6425	18±1 dBm
	802.11ax 80	5945 ~ 6425	18±1 dBm
	802.11ax 160	5945 ~ 6425	18±1 dBm

Antenna Type	Frequency
PIFA	2.2 dBi@ ANT1_2.4 GHz 3.29 dBi@ ANT1_5.15~5.895 GHz 4.19 dBi@ ANT1_5.925~6.425 GHz 3.99 dBi@ ANT1_6.425~6.525 GHz 4.18 dBi@ ANT1_6.525~6.875 GHz 3.9 dBi@ ANT1_6.875~7.125 GHz 1.85 dBi@ ANT2_2.4 GHz 3.4 dBi@ ANT2_5.15~5.895 GHz 3.95 dBi@ ANT2_5.925~6.425 GHz 3.91 dBi@ ANT2_6.425~6.525 GHz 4.18 dBi@ ANT2_6.525~6.875 GHz 4.01 dBi@ ANT2_6.875~7.125 GHz