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ASRock Z890 TAICHI OCF

ASRock Z890 Taichi OCF Motherboard User Manual

Model: Z890 TAICHI OCF

1. INTRODUCTION

This manual provides detailed instructions for the installation, configuration, and operation of your ASRock Z890 Taichi OCF ATX Motherboard. Designed for Intel Core Ultra Processors (Series 2) with an LGA1851 socket, this motherboard offers advanced features for high-performance computing and overclocking. Please read this manual thoroughly before beginning the installation process to ensure proper setup and to maximize the performance and stability of your system.



Figure 1.1: ASRock Z890 Taichi OCF Motherboard, retail packaging, and included WiFi antenna.

2. KEY FEATURES

The ASRock Z890 Taichi OCF motherboard is engineered with several advanced features to support demanding applications and overclocking:

- **Processor Support:** Compatible with Intel Core Ultra Processors (Series 2) utilizing the LGA1851 socket.
- **Power Delivery:** Features a robust 22+1+2+1+1 Power Phase design with 110A SPS for VCore, ensuring stable power delivery for extreme overclocking.
- **Memory Configuration:** Equipped with 2 x DDR5 DIMM slots, supporting Dual Channel memory up to 10133+ (OC) and a maximum capacity of 128 GB. This 1-DIMM per channel configuration is optimized for superior memory overclocking headroom.
- **Graphics Output:** Includes 2 Thunderbolt 4 Type-C ports for high-speed data transfer and display connectivity.
- **Overclocking Tools:** Integrates BIOS Flashback for easy firmware updates, Memory OC Shield for enhanced memory stability, 20K Capacitors with 1000uF capacitance for durability, and a Professional Overclocking Toolkit.
- **Advanced Cooling:** Features a hybrid VRM heatsink, multi-layer M.2 heatsinks, and a chipset heatsink for efficient thermal management of critical components.

- **Connectivity:** Supports multiple M.2 sockets for high-speed storage, 5Gbps LAN, and WiFi 7 for advanced wireless networking.



Figure 2.1: Detailed top-down view of the ASRock Z890 Taichi OCF Motherboard, highlighting component layout.

メモリOCパフォーマンス



DDR5 XMP & EXPOサポート

このマザーボードは高品質な基板、特注スロットを使用しており、メモリプロファイルを有効にすることで、DDR5メモリのオーバークロックし、性能を飛躍的に向上させることもできます。

メモリOCシールド (特許出願中)

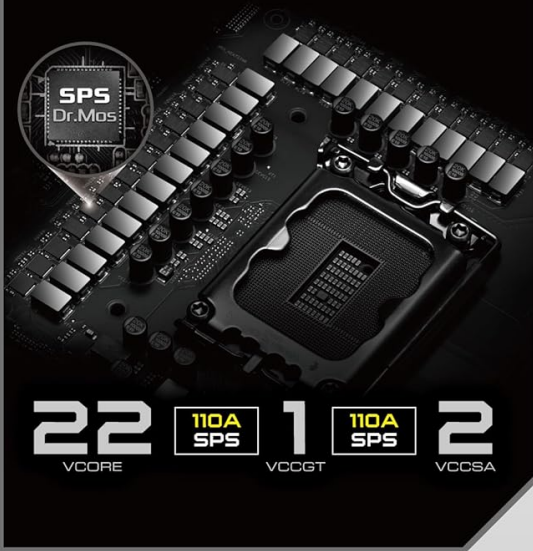
ASRock 独自の Memory OC Shield は EMI ノイズを効果的に吸収し、メモリのオーバークロック性能と信号安定性を高めます。

Figure 2.2: Illustration of the motherboard's memory overclocking capabilities, supporting DDR5 up to 10133 MHz.

効率と品質の良い回路設計

CPUの力を 最大限発揮する電源回路

22+1+2 Power Phase, 110A SPS



最高品質基板採用

Server Grade Ultra Low-Loss
10L PCB 2oz inner Layer PCB

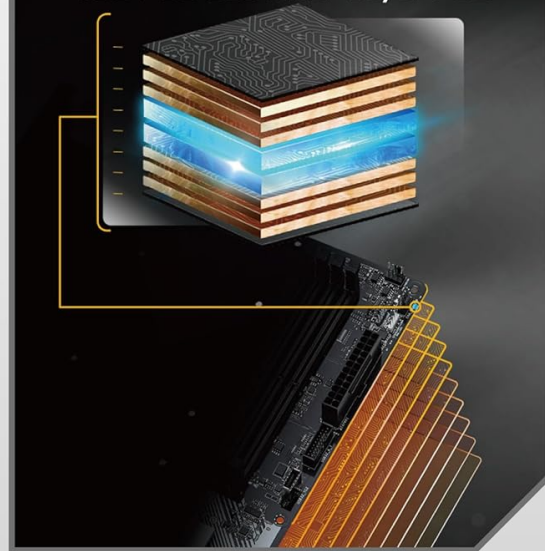


Figure 2.3: Visual representation of the motherboard's robust power delivery system and high-quality PCB construction.

比類ないSSD冷却技術

ハイブリッドVRM ヒートシンク

XXLアルミヒートシンクとヒートパイプに加え冷却FANを組み合わせマザーボードの熱を取り除きます。

M.2ボトムヒートシンク

SSDの熱を高効率放熱可能基板により拡散し、システムのさらなる安定化とパフォーマンス発揮可能



ツールレスマルチレイヤー M.2ヒートシンク

最新の高性能M.2SSDを積層型アルミヒートシンクによって熱を持続的に放熱が可能

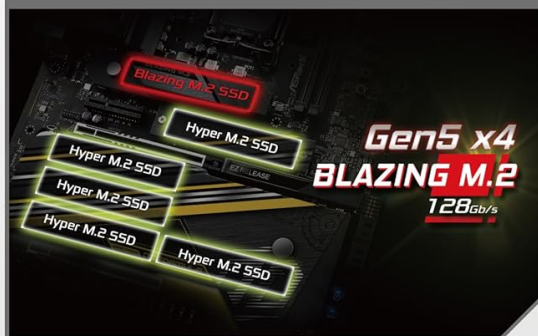
チップセットヒートシンク

ヒートシンクの構造を見直し、パフォーマンスの安定性向上

Figure 2.4: Overview of the motherboard's comprehensive SSD and VRM cooling solutions.

最新の各種インターフェース

M.2ソケット脅威の6基搭載



Thunderbolt™ 4 Type-Cポート2基搭載



チューニングされた5Gbps LANポート (特許出願中)



最新WiFi 7搭載

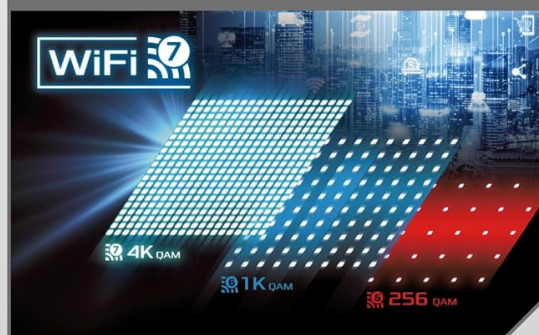


Figure 2.5: Display of the various high-speed interfaces available on the motherboard, including storage, wired, and wireless connectivity.

ユーザーに便利な機能

GPU EZ リリース



オーバークロックツールキット実装



超大容量高耐久20Kコンデンサ



BIOS Flashback

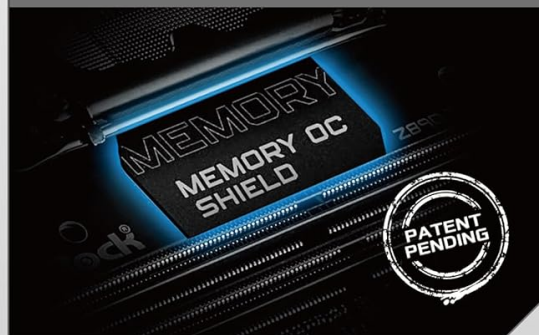


Figure 2.6: Illustration of user-friendly features such as GPU release mechanism, dedicated overclocking buttons, durable capacitors, and the BIOS Flashback function.

3. SETUP AND INSTALLATION

Before installing the motherboard, ensure your system case is compatible with the ATX form factor. Always handle the motherboard by its edges and wear an anti-static wrist strap to prevent electrostatic discharge (ESD) damage.

3.1. Installing the CPU

1. Locate the LGA1851 CPU socket on the motherboard.
2. Open the CPU socket lever and remove the protective cover.
3. Carefully align your Intel Core Ultra Processor (Series 2) with the socket, ensuring the gold triangle on the CPU matches the indicator on the socket.
4. Gently place the CPU into the socket without applying force.
5. Close the CPU socket lever to secure the processor.
6. Install your CPU cooler according to its manufacturer's instructions.

3.2. Installing DDR5 Memory

1. Locate the two DDR5 DIMM slots on the motherboard.
2. Open the clips at both ends of the memory slot.
3. Align the notch on the DDR5 memory module with the key in the DIMM slot.
4. Insert the memory module firmly into the slot until the clips snap into place. Ensure both clips are closed.

3.3. Installing M.2 SSDs

1. Identify the M.2 slots on your motherboard.
2. Remove the M.2 heatsink and stand-off screw from the desired slot.
3. Insert the M.2 SSD into the slot at a 30-degree angle.
4. Gently push down the SSD and secure it with the stand-off screw.
5. Reinstall the M.2 heatsink, ensuring proper contact for thermal dissipation.

3.4. Connecting Power Supply

1. Connect the 24-pin ATX power connector from your power supply to the corresponding header on the motherboard.
2. Connect the 8-pin (or 4+4-pin) CPU power connector(s) to the CPU power headers near the CPU socket.

3.5. Installing the Motherboard into the Case

1. Install the I/O shield into the case's rear opening.
2. Carefully place the motherboard into the case, aligning the screw holes with the standoffs.
3. Secure the motherboard with screws. Do not overtighten.



Figure 3.1: The ASRock Z890 Taichi OCF Motherboard and its complete set of accessories, including cables and manuals.

4. OPERATING INSTRUCTIONS

4.1. Initial Boot and BIOS Access

After completing the hardware installation, connect your display, keyboard, and mouse. Power on your system.

- To enter the BIOS/UEFI setup utility, press the **Del** or **F2** key during the Power-On Self-Test (POST) phase.
- The BIOS allows you to configure system settings, boot order, and monitor hardware status.
- For advanced overclocking features, refer to the dedicated sections within the BIOS/UEFI interface.

4.2. Driver Installation

After installing your operating system, install the necessary drivers for the motherboard components. These typically include chipset drivers, LAN drivers, audio drivers, and WiFi/Bluetooth drivers. Drivers can be found on the ASRock support website for your specific motherboard model.

4.3. Thunderbolt 4 Connectivity

The motherboard features two Thunderbolt 4 Type-C ports. These ports support high-speed data transfer, display output, and power delivery. Ensure you use certified Thunderbolt 4 cables for optimal performance.



Figure 4.1: The rear input/output panel, showing various ports including USB, Thunderbolt 4 Type-C, Ethernet, and audio jacks.

5. MAINTENANCE

5.1. BIOS Updates

ASRock regularly releases BIOS updates to improve system stability, add new features, and enhance compatibility. It is recommended to keep your BIOS updated to the latest version.

- **BIOS Flashback:** This motherboard supports BIOS Flashback, allowing you to update the BIOS without a CPU, RAM, or graphics card installed. Download the latest BIOS file from the ASRock website, rename it as specified in the BIOS Flashback instructions, place it on a USB drive, and use the dedicated BIOS Flashback port and button on the rear I/O panel.
- **In-OS Update:** ASRock provides utilities for updating the BIOS directly from within your operating system.
- **Instant Flash:** You can also update the BIOS from within the BIOS/UEFI setup utility using a USB flash drive.

Caution: Incorrect BIOS updates can damage your motherboard. Follow ASRock's official instructions carefully.

5.2. Cleaning

Regularly clean your computer's interior to prevent dust buildup, which can lead to overheating and reduced performance. Use compressed air to remove dust from heatsinks, fans, and other components. Ensure the system is powered off and unplugged before cleaning.

6. TROUBLESHOOTING

This section provides solutions to common issues you might encounter.

6.1. No Power / No Boot

- Ensure all power cables (24-pin ATX, 8-pin CPU) are securely connected to the motherboard and power supply.
- Verify the power supply is switched on and connected to a working power outlet.
- Check front panel connections (power button, reset button) to ensure they are correctly plugged into the motherboard headers.
- Try clearing the CMOS (Complementary Metal-Oxide-Semiconductor) by removing the CMOS battery for a few minutes or using the CLR CMOS button/jumper if available.

6.2. No Display Output

- Confirm your monitor is connected to the correct graphics output (either integrated graphics on the motherboard or a dedicated graphics card).
- Reseat your graphics card and memory modules.
- Test with a single RAM stick in different slots.
- Ensure your display cable is securely connected at both ends.

6.3. Network Connectivity Issues (LAN/WiFi)

- **Wired LAN:** Check the Ethernet cable connection. Ensure LAN drivers are installed. Verify network settings in your operating system.
- **WiFi 7:** Ensure the WiFi antennas are securely connected to the rear I/O panel. Install the latest WiFi drivers. Check network settings and ensure you are connecting to the correct network.

7. SPECIFICATIONS

Feature	Specification
Brand	ASRock
Model Name	Z890 TAICHI OCF
CPU Socket	LGA 1851
Compatible Processors	Intel Core Ultra (Series 2)
Chipset Type	Intel Z890
RAM Memory Technology	DDR5
Memory Clock Speed	10133 MHz (OC)
Memory Storage Capacity	128 GB
Compatible Devices	Personal Computer
Platform	Windows 11
Product Dimensions	14 x 11 x 3 inches
Item Weight	4.4 pounds
Manufacturer	ASRock

8. WARRANTY AND SUPPORT

Your ASRock Z890 Taichi OCF Motherboard is covered by a manufacturer's warranty. For detailed information regarding warranty terms, conditions, and duration, please refer to the warranty card included with your product or visit the official ASRock website.

For technical support, driver downloads, BIOS updates, and frequently asked questions, please visit the

ASRock support page:

[ASRock Official Support](#)

When contacting support, please have your motherboard model (Z890 TAICHI OCF) and serial number ready.