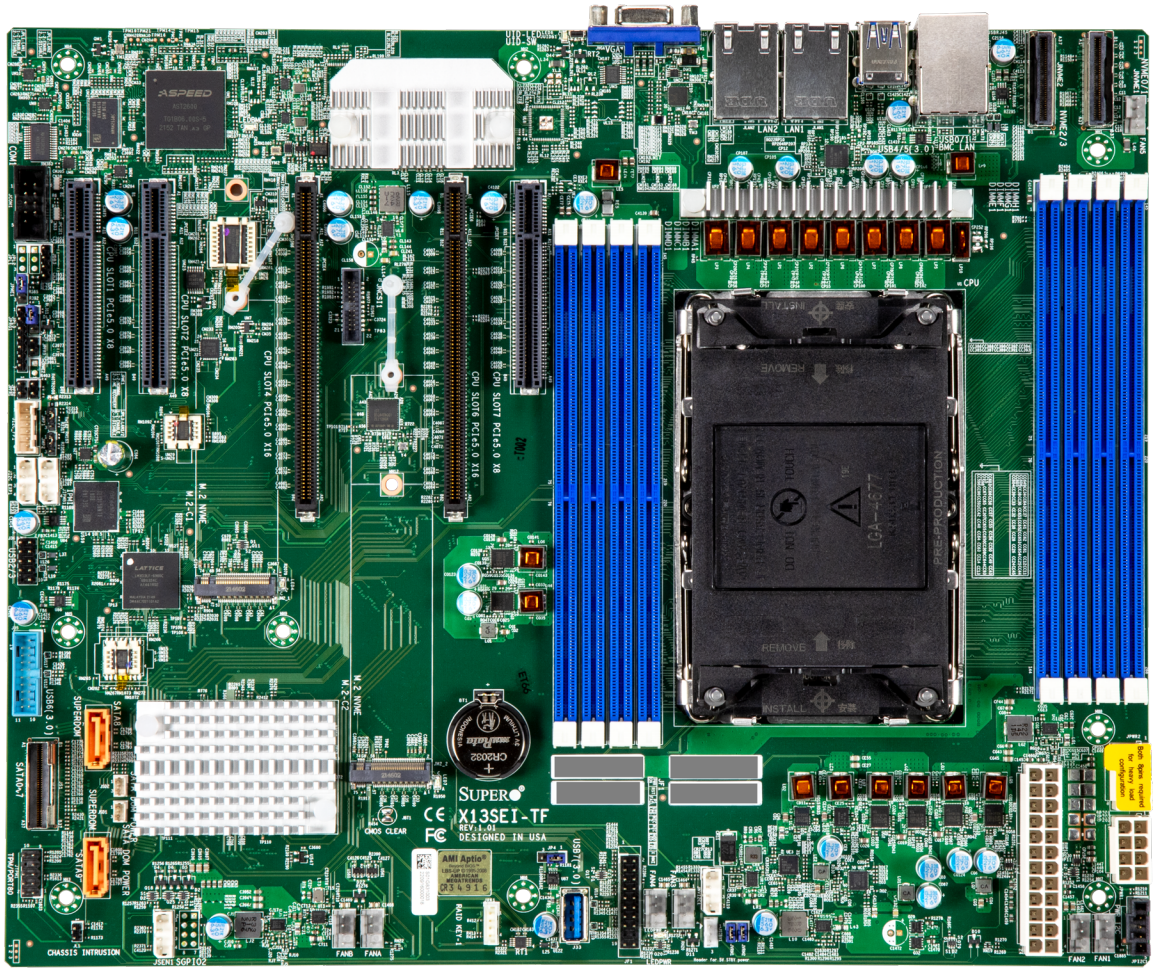
X13SEI-TF/-F

USER'S MANUAL

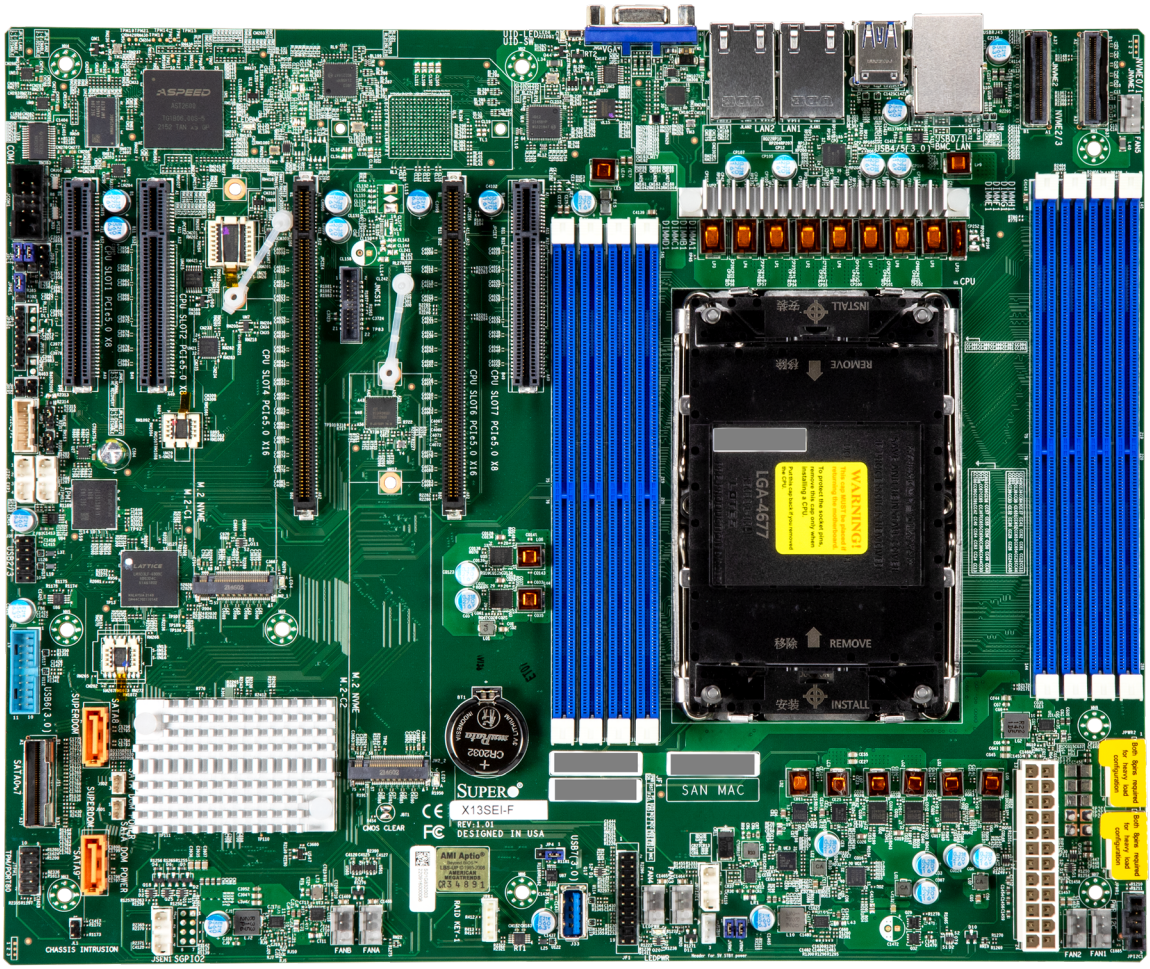
Revision 1.2

Figure 1-1. X13SEI-TF Motherboard Image



Note: All graphics shown in this manual were based upon the latest PCB revision available at the time of publication of the manual. The motherboard you received may or may not look exactly the same as the graphics shown in this manual.

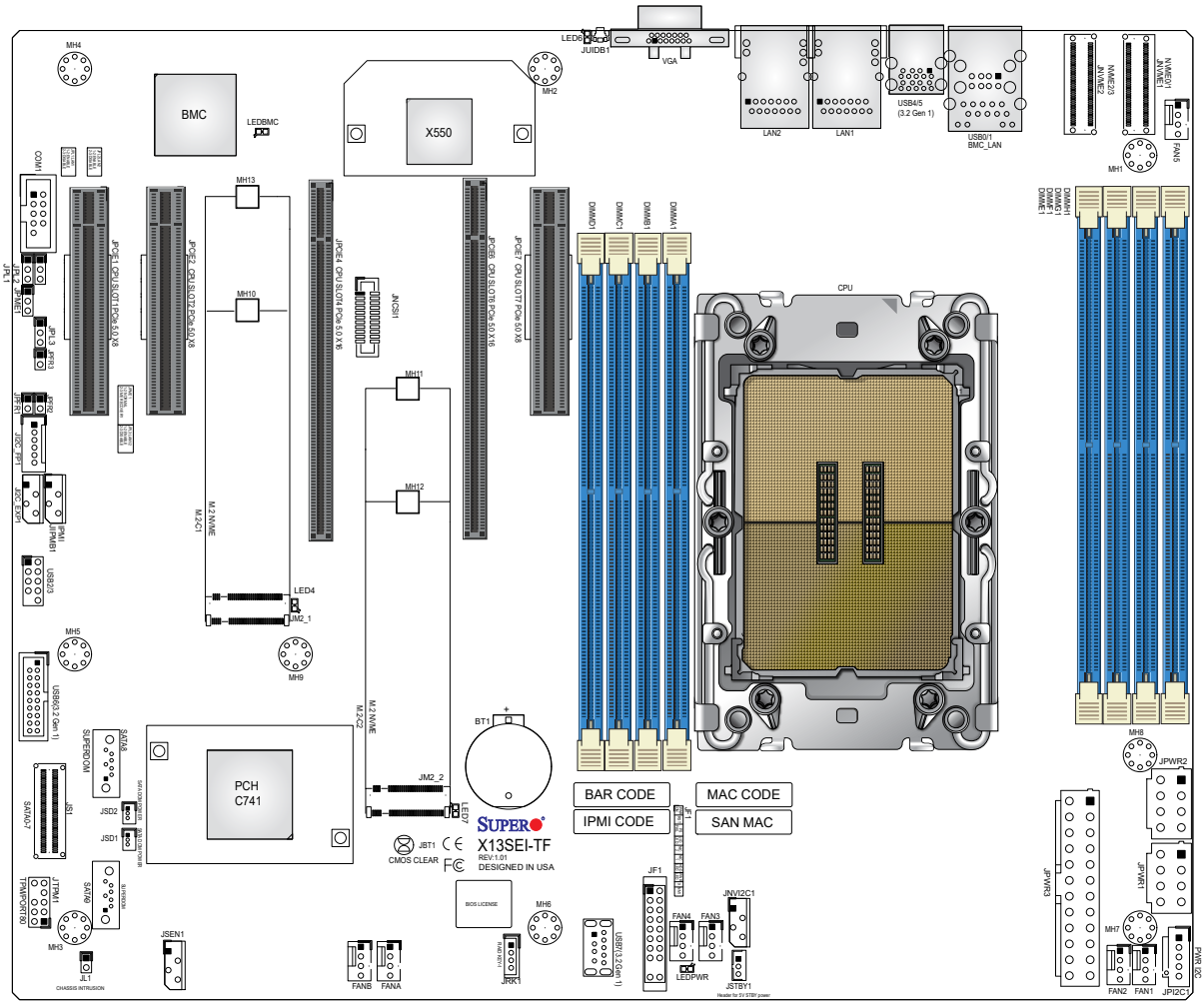
Figure 1-2. X13SEI-F Motherboard Image



Note: All graphics shown in this manual were based upon the latest PCB revision available at the time of publication of the manual. The motherboard you received may or may not look exactly the same as the graphics shown in this manual.

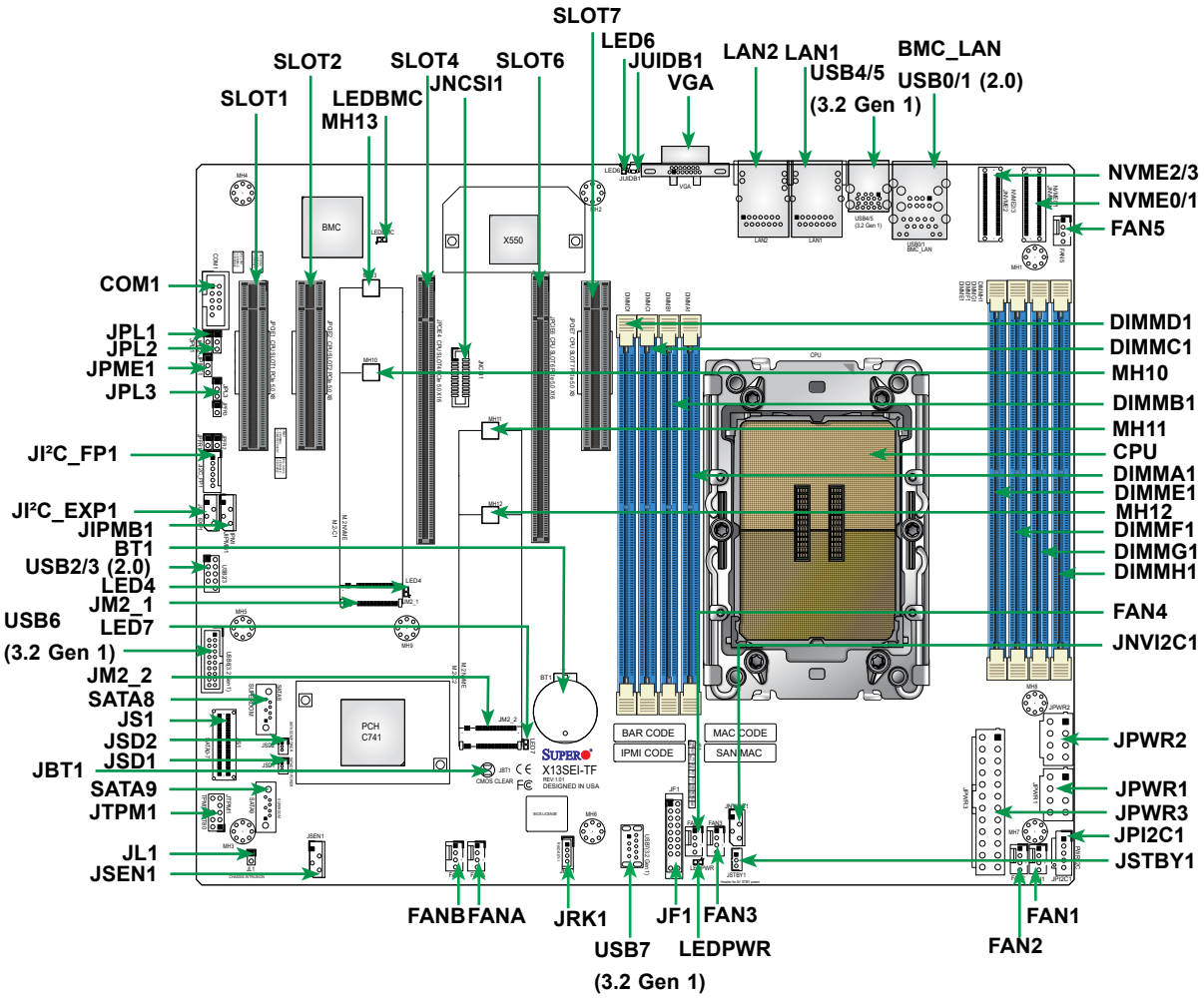
Figure 1-3. X13SEI-TF Motherboard Layout

(not drawn to scale)



Note: Components not documented are for internal testing only.

Quick Reference



Notes:

- See Chapter 2 for detailed information on jumpers, I/O ports, and JF1 front panel connections.
- "▪" indicates the location of Pin 1.
- Jumpers/LED indicators not indicated are used for testing only.
- Use only the correct type of onboard CMOS battery as specified by the manufacturer. Do not install the onboard battery upside down to avoid possible explosion.

Quick Reference Table

Jumper	Description	Default Setting
JBT1	CMOS Clear	Open (Normal)
JPL1	LAN1 Enable/Disable (I210, X13SEI-F only)	Pins 1-2 (Enabled)
JPL2	LAN2 Enable/Disable (I210, X13SEI-F only)	Pins 1-2 (Enabled)
JPL3	LAN 1/2 Enable/Disable (X550, X13SEI-TF only)	Pins 1-2 (Enabled)
JPME1	ME Recovery Mode	Pins 1-2 (Normal)

LED	Description	Status
LEDBMC	BMC Heartbeat	Blinking Green: Device Working
LEDPWR	Onboard Power LED	Solid Green: Power On
LED4	M.2 LED	Blinking Green: Device Working
LED6	Unit Identifier LED	Solid Blue: Unit Identified
LED7	M.2 LED	Blinking Green: Device Working

Connector	Description
BMC_LAN	Dedicated BMC LAN Port
BT1	Onboard Battery
COM1	COM Header
FAN1–FAN5, FANA, FANB	CPU/System Fan Headers (FAN1: CPU Fan)
JF1	Front Control Panel Header
JI²C_EXP1	SMBus I²C for Expander
JI²C_FP1	SMBus I²C for LCD Devices
JIPMB1	System Management Bus Header (for IPMI only)
JL1	Chassis Intrusion Header
JM2_1, JM2_2	M.2 PCIe 5.0 x4 Slots from CPU, one in 22110/2280
JNCSI	NC-SI Header for IPMI Support
JNVI²C1	Non-volatile Memory (NVMe) I²C Header or VPP Header for NVMe Add-on Cards
JPI²C1	Power I²C System Management Bus (Power SMB) Header
JPWR1, JPWR2	8-pin 12 V CPU Power Connectors
JPWR3	24-pin ATX Power Connector (Required)
JRK1	Intel RAID Key Header
JS1 (SATA0-7)	SATA 3.0 ports supported by Intel PCH
JSD1, JSD2	SATA DOM Power Connectors
JSEN1	Inlet Sensor Header
JSTBY1	Standby Power Header
JTPM1	Trusted Platform Module/Port 80 Header
JUIDB1	Unit Identifier Button

Note: Table is continued on the next page.

Connector	Description
LAN1, LAN2	LAN (RJ45) Ports
MH10–MH13	M.2 Mounting Holes
NVME0/1, NVME2/3	MCIO PCIe 5.8 x8 Connectors
SATA8, SATA9	SATA 3.0 Ports with SATA DOM Power
SLOT1	PCIe 5.0 x8 Slot
SLOT2	PCIe 5.0 x8 Slot
SLOT4	PCIe 5.0 x16 Slot
SLOT6	PCIe 5.0 x16 Slot
SLOT7	PCIe 5.0 x8 Slot
USB0/1	Rear Accessible USB 2.0 Ports
USB2/3	Front Accessible 2.0 Header
USB4/5	Rear Accessible USB 3.2 Gen 1 Ports
USB6	Front Accessible USB 3.2 Gen 1 Header
USB7	Front Accessible USB 3.2 Gen 1 Type-A Header
VGA	VGA Port

Motherboard Features

Motherboard Features
Processor
• Supports the 4th/5th Generation Intel Xeon Scalable Processors (LGA 4677 in Socket E) with up to 60 cores (4th Generation) or 64 cores (5th Generation) and a thermal design power (TDP) of up to 350 W
Memory
• Up to 2 TB of 3DS RDIMM ECC DDR5 memory • Memory speeds of up to 4800 MT/s in eight memory slots (4th Generation Intel Xeon) • Memory speeds of up to 5600 MT/s in eight memory slots (5th Generation Intel Xeon)
DIMM Size
• RDIMM: 16 GB, 24 GB, 32 GB, 48 GB, 64 GB, 96 GB, 128 GB • 3DS RDIMM: 128 GB, 256 GB **Note:** For the latest CPU/memory updates, refer to our website at http://www.supermicro.com/products/motherboard.
Chipset
• Intel PCH C741
Expansion Slots
• Two PCIe 5.0 x16 slots • Three PCIe 5.0 x8 slots • Two M.2 PCIe 5.0 x4 from CPU Slots, in 22110/2280
Baseboard Management Controller
• Aspeed AST2600 BMC
Network
• Intel Dual 1 GbE (X13SEI-F, i210) LAN ports • Intel Dual 10 GbE (X13SEI-TF, X550) LAN ports
Graphics
• Graphics controller via Aspeed AST2600 BMC
I/O Devices
• Two MCIO PCIe 5.0 x8 connectors for four NVMe SSDs • Ten SATA3 ports (eight via Slimline SAS) • One COM port (via header) • One TPM header • Two SMC SSD-DOM connector (yellow color) • One RAID key header

Note: The table above is continued on the next page.

Motherboard Features

Peripheral Devices

- Two rear accessible USB 3.2 Gen 1 ports
- One front accessible USB 3.2 Gen 1 header (one port only)
- One USB 3.2 Gen 1 Type-A header
- Two rear accessible USB 2.0 ports
- One front accessible USB 2.0 header

BIOS

- 256 Mb AMI BIOS® SPI Flash BIOS
- ACPI 6.0, Plug and Play (PnP), riser card auto detection support, and SMBIOS 3.0 or later

Power Management

- ACPI power management
- Power button override mechanism
- Power-on mode for AC power recovery
- Wake-on-LAN
- Power supply monitoring

System Health Monitoring

- Onboard voltage monitoring for +3.3 V, +5 V, +12 V, +3.3 V Stb, +5 Vstb, Vcore, Vmem, CPU temperature, PCH temperature, system temperature, peripheral temperature, and memory temperature
- CPU thermal trip support
- Platform Environment Control Interface (PECI)/TSI

Fan Control

- Low-noise fan speed control
- Seven 4-pin fan headers

System Management

- Trusted Platform Module (TPM) support
- Chassis intrusion header and detection
- Server Platform Service

LED Indicators

- CPU/system overheat LED
- Power/suspend-state indicator LED
- Fan failed LED
- UID/remote UID
- HDD activity LED
- LAN activity LED

Dimensions

- 12.3" x 10.3" (312.42 mm x 261.62 mm) (L x W), EATX

Note 1: The CPU maximum thermal design power (TDP) is subject to chassis and heatsink cooling restrictions. For proper thermal management, check the chassis and heatsink specifications for proper CPU TDP sizing.

Note 2: For IPMI configuration instructions, refer to the Embedded IPMI Configuration User's Guide available at http://www.supermicro.com/support/manuals/.