

HWiNFO64 v7.10-4540

Creation Time 06.09.2021 14:51

Content:

- CPU
- Motherboard
- Memory
- Bus
- Video
- Monitor
- Drives
- Audio
- Network
- Ports

DESKTOP-5TN5PRD

[Current Computer]

Computer Name: DESKTOP-5TN5PRD
Computer Brand Name: bluechip Computer AG bluechip BUSINESSline individu

[Operating System]

Operating System: Microsoft Windows 10 Professional for Education (x64) Build 19043.1110 (21H1)
UEFI Boot: Present
Secure Boot: Disabled

Central Processor(s)

[CPU Unit Count]

Number Of Processor Packages (Physical): 1
Number Of Processor Cores: 6
Number Of Logical Processors: 12

Intel Core i5-11400

[General Information]

Processor Name: Intel Core i5-11400
Original Processor Frequency: 2600.0 MHz
Original Processor Frequency [MHz]: 2600

CPU ID: 000A0671
CPU Brand Name: 11th Gen Intel(R) Core(TM) i5-11400 @ 2.60GHz

| | |
|---|--|
| CPU Vendor: | GenuineIntel |
| CPU Stepping: | B0 |
| CPU Code Name: | Rocket Lake-S |
| CPU Technology: | 14 nm |
| CPU S-Spec: | SRKP0 |
| CPU Thermal Design Power (TDP): | 65.0 W |
| CPU Power Limits (Max): | Power = Unlimited, Time = Unlimited |
| CPU Power Limit 1 - Long Duration: | Power = 50.00 W, Time = 28.00 sec [Unlocked] |
| CPU Power Limit 2 - Short Duration: | Power = 60.00 W, Time = 2.44 ms [Unlocked] |
| CPU Max. Junction Temperature (Tj,max): | 100 °C |
| CPU Type: | Production Unit |
| CPU Platform: | Socket H (LGA1200) |
| Microcode Update Revision: | 40 |
| Favored Cores List: | 1 |
| Number of CPU Cores: | 6 |
| Number of Logical CPUs: | 12 |

[Operating Points]

| | |
|-------------------------------------|---|
| CPU LFM (Minimum): | 800.0 MHz = 8 x 100.0 MHz |
| CPU HFM (Base): | 2600.0 MHz = 26 x 100.0 MHz |
| CPU Turbo Max: | 4400.0 MHz = 44 x 100.0 MHz [Unlocked] |
| Turbo Ratio Limits - IA/SSE, Fused: | 44x (1-2c), 43x (3-4c), 42x (5-6c) |
| Turbo Ratio Limits: | 44x (1-2c), 43x (3-4c), 42x (5-6c) |
| CPU Current: | 2593.7 MHz = 26 x 99.8 MHz @ 0.8228 V |
| LLC/Ring Maximum: | 3700.0 MHz = 37.00 x 100.0 MHz |
| LLC/Ring Current: | 2294.4 MHz = 23.00 x 99.8 MHz |
| CPU Bus Type: | Intel Direct Media Interface (DMI) v2.0 |

[IA Overclocking]

| | |
|---------------------|---------------|
| Voltage Offset: | Supported |
| Voltage Override: | Supported |
| Ratio Overclocking: | Not Supported |
| Fused Ratio Limit: | 44x |
| OC Ratio Limit: | N/A |
| Voltage Mode: | Interpolative |
| Voltage Offset: | 0 mV |
| IccMax: | 175.00 A |

[GT (Slice) Overclocking]

| | |
|---------------------|---------------|
| Voltage Offset: | Supported |
| Voltage Override: | Supported |
| Ratio Overclocking: | Not Supported |
| Fused Ratio Limit: | 26x |
| OC Ratio Limit: | N/A |
| Voltage Mode: | Interpolative |
| Voltage Offset: | 0 mV |
| IccMax: | 54.00 A |

[CLR (CBo/LLC/Ring) Overclocking]

| | |
|---------------------|---------------|
| Voltage Offset: | Supported |
| Voltage Override: | Supported |
| Ratio Overclocking: | Not Supported |

| | |
|--------------------|---------------|
| Fused Ratio Limit: | 37x |
| OC Ratio Limit: | N/A |
| Voltage Mode: | Interpolative |
| Voltage Offset: | 0 mV |
| IccMax: | 175.00 A |

[Uncore/SA Overclocking]

| | |
|---------------------|---------------|
| Voltage Offset: | Supported |
| Voltage Override: | Supported |
| Ratio Overclocking: | Not Supported |
| Fused Ratio Limit: | N/A |
| OC Ratio Limit: | N/A |
| Voltage Mode: | Interpolative |
| Voltage Offset: | 0 mV |
| IccMax: | 22.00 A |

| | |
|-----------------------------|--------------------|
| IA Domain Loadline (AC/DC): | 1.700 / 1.100 mOhm |
| GT Domain Loadline (AC/DC): | 4.000 / 4.000 mOhm |

[Cache and TLB]

| | |
|------------------|--|
| L1 Cache: | Instruction: 6 x 32 KBytes, Data: 6 x 48 KBytes |
| L2 Cache: | Integrated: 6 x 512 KBytes |
| L3 Cache: | 12 MBytes |
| Instruction TLB: | 4KB/2MB/4MB Pages, 8-way set associative, 1 set |
| Unified TLB: | 4KB/2MB/4MB Pages, 8-way set associative, 128 sets |

[Standard Feature Flags]

| | |
|--|-------------|
| FPU on Chip | Present |
| Enhanced Virtual-86 Mode | Present |
| I/O Breakpoints | Present |
| Page Size Extensions | Present |
| Time Stamp Counter | Present |
| Pentium-style Model Specific Registers | Present |
| Physical Address Extension | Present |
| Machine Check Exception | Present |
| CMPXCHG8B Instruction | Present |
| APIC On Chip / PGE (AMD) | Present |
| Fast System Call | Present |
| Memory Type Range Registers | Present |
| Page Global Feature | Present |
| Machine Check Architecture | Present |
| CMOV Instruction | Present |
| Page Attribute Table | Present |
| 36-bit Page Size Extensions | Present |
| Processor Number | Not Present |
| CLFLUSH Instruction | Present |
| Debug Trace and EMON Store | Present |
| Internal ACPI Support | Present |
| MMX Technology | Present |
| Fast FP Save/Restore (IA MMX-2) | Present |
| Streaming SIMD Extensions | Present |
| Streaming SIMD Extensions 2 | Present |
| Self-Snoop | Present |
| Multi-Threading Capable | Present |
| Automatic Clock Control | Present |
| IA-64 Processor | Not Present |
| Signal Break on FERR | Present |
| Virtual Machine Extensions (VMX) | Present |

| | |
|--|-------------|
| Safer Mode Extensions (Intel TXT) | Not Present |
| Streaming SIMD Extensions 3 | Present |
| Supplemental Streaming SIMD Extensions 3 | Present |
| Streaming SIMD Extensions 4.1 | Present |
| Streaming SIMD Extensions 4.2 | Present |
| AVX Support | Present |
| Fused Multiply Add (FMA) | Present |
| Carryless Multiplication (PCLMULQDQ)/GFMUL | Present |
| CMPXCHG16B Support | Present |
| MOVBE Instruction | Present |
| POPCNT Instruction | Present |
| XSAVE/XRSTOR/XSETBV/XGETBV Instructions | Present |
| XGETBV/XSETBV OS Enabled | Present |
| Float16 Instructions | Present |
| AES Cryptography Support | Present |
| Random Number Read Instruction (RDRAND) | Present |
| Extended xAPIC | Present |
| MONITOR/MWAIT Support | Present |
| Thermal Monitor 2 | Present |
| Enhanced SpeedStep Technology | Present |
| L1 Context ID | Not Present |
| Send Task Priority Messages Disabling | Present |
| Processor Context ID | Present |
| Direct Cache Access | Not Present |
| TSC-deadline Timer | Present |
| Performance/Debug Capability MSR | Present |
| IA32 Debug Interface Support | Present |
| 64-Bit Debug Store | Present |
| CPL Qualified Debug Store | Present |

[Extended Feature Flags]

| | |
|---|-------------|
| 64-bit Extensions | Present |
| RDTSCP and TSC_AUX Support | Present |
| 1 GB large page support | Present |
| No Execute | Present |
| SYSCALL/SYSRET Support | Present |
| Bit Manipulation Instructions Set 1 | Present |
| Bit Manipulation Instructions Set 2 | Present |
| Advanced Vector Extensions 2 (AVX2) | Present |
| Advanced Vector Extensions 512 (AVX-512) | Present |
| AVX-512 Prefetch Instructions | Not Present |
| AVX-512 Exponential and Reciprocal Instructions | Not Present |
| AVX-512 Conflict Detection Instructions | Present |
| AVX-512 Doubleword and Quadword Instructions | Present |
| AVX-512 Byte and Word Instructions | Present |
| AVX-512 Vector Length Extensions | Present |
| AVX-512 52-bit Integer FMA Instructions | Present |
| Secure Hash Algorithm (SHA) Extensions | Present |
| Software Guard Extensions (SGX) Support | Not Present |
| Supervisor Mode Execution Protection (SMEP) | Present |
| Supervisor Mode Access Prevention (SMAP) | Present |
| Hardware Lock Elision (HLE) | Not Present |
| Restricted Transactional Memory (RTM) | Not Present |
| Memory Protection Extensions (MPX) | Present |
| Read/Write FS/GS Base Instructions | Present |
| Enhanced Performance String Instruction | Present |
| INVPCID Instruction | Present |
| RDSEED Instruction | Present |
| Multi-precision Add Carry Instructions (ADX) | Present |
| PCOMMIT Instructions | Not Present |
| CLFLUSHOPT Instructions | Present |

| | |
|---|-------------|
| CLWB Instructions | Not Present |
| TSC_THREAD_OFFSET | Present |
| Platform Quality of Service Monitoring (PQM) | Not Present |
| Platform Quality of Service Enforcement (PQE) | Not Present |
| FPU Data Pointer updated only on x87 Exceptions | Present |
| Deprecated FPU CS and FPU DS | Present |
| Intel Processor Trace | Present |
| PREFETCHWT1 Instruction | Not Present |
| AVX-512 Vector Bit Manipulation Instructions | Present |
| AVX-512 Vector Bit Manipulation Instructions 2 | Present |
| AVX-512 Galois Fields New Instructions | Present |
| AVX-512 Vector AES | Present |
| AVX-512 Vector Neural Network Instructions | Present |
| AVX-512 Bit Algorithms | Present |
| AVX-512 Carry-Less Multiplication Quadword (VPCLMULQDQ) | Present |
| AVX-512 Vector POPCNT (VPOPCNTD/VPOPCNTQ) | Present |
| User-Mode Instruction Prevention | Present |
| Protection Keys for User-mode Pages | Present |
| OS Enabled Protection Keys | Not Present |
| Wait and Pause Enhancements (WAITPKG) | Not Present |
| Total Memory Encryption | Not Present |
| Key Locker | Not Present |
| 57-bit Linear Addresses, 5-level Paging | Not Present |
| Read Processor ID | Present |
| Cache Line Demote | Not Present |
| MOVDIRI: Direct Stores | Not Present |
| MOVDIR64B: Direct Stores | Not Present |
| ENQCMD: Enqueue Stores | Not Present |
| SGX Launch Configuration | Not Present |
| Protection Keys for Supervisor-Mode Pages | Not Present |
| Control-Flow Enforcement Technology (CET) Shadow Stack | Not Present |
| AVX-512 4 x Vector Neural Network Instructions Word Variable Precision | Not Present |
| AVX-512 4 x Fused Multiply Accumulation Packed Single Precision | Not Present |
| Fast Short REP MOV | Present |
| User Interrupts | Not Present |
| AVX-512 VP2INTERSECT Support | Not Present |
| AVX-512 FP16 | Not Present |
| MD_CLEAR Support | Present |
| SERIALIZE | Not Present |
| Hybrid Processor | Not Present |
| TSX Suspend Load Address Tracking | Not Present |
| Platform Configuration (PCONFIG) | Not Present |
| Indirect Branch Restricted Speculation (IBRS), Indirect Branch Predictor Barrier (IBPB) | Present |
| Single Thread Indirect Branch Predictors (STIBP) | Present |
| L1D_FLUSH Support | Present |
| IA32_ARCH_CAPABILITIES MSR | Present |
| IA32_CORE_CAPABILITIES MSR | Not Present |
| Speculative Store Bypass Disable (SSBD) | Present |
| Control-Flow Enforcement Technology (CET) Indirect Branch Tracking | Not Present |
| Advanced Matrix Extensions (AMX) Tile Architecture | Not Present |
| Advanced Matrix Extensions (AMX) bfloat16 Support | Not Present |
| Advanced Matrix Extensions (AMX) 8-bit Integer Operations | Not Present |

| | |
|--|-------------|
| AVX (VEX-encoded) Vector Neural Network Instructions | Not Present |
| AVX-512 BFLOAT16 Instructions | Not Present |
| Fast Zero-Length MOVSB | Not Present |
| Fast Short STOSB | Not Present |
| Fast Short CMPSB, SCASB | Not Present |
| History Reset | Not Present |
| Linear Address Masking | Not Present |

[Vulnerability Mitigation Mechanisms]

| | |
|--|-----------------|
| Rogue Data Cache Load (RDCL) | Not Susceptible |
| Speculative Store Bypass (SSB) | Susceptible |
| Microarchitectural Data Sampling (MDS) | Not Susceptible |
| MCE on modifying code page size without TLB invalidation | Not Susceptible |
| Transactional Asynchronous Abort (TAA) | Affected |
| Indirect Branch Restriction Speculation (IBRS) | Supported |
| RSB Alternate | Not Supported |
| L1D Flush on VM Entry Not Needed | Supported |

[Enhanced Features]

| | |
|--|---------------------|
| Thermal Monitor 1: | Supported, Enabled |
| Thermal Monitor 2: | Supported, Enabled |
| Enhanced Intel SpeedStep (GV3): | Supported, Disabled |
| Bi-directional PROCHOT#: | Enabled |
| Extended Auto-HALT State C1E: | Enabled |
| MLC Streamer Prefetcher | Supported, Enabled |
| MLC Spatial Prefetcher | Supported, Enabled |
| DCU Streamer Prefetcher | Supported, Enabled |
| DCU IP Prefetcher | Supported, Enabled |
| Intel Dynamic Acceleration (IDA) Technology: | Not Supported |
| Intel Dynamic FSB Switching: | Not Supported |
| Intel Turbo Boost Technology: | Supported, Disabled |
| Programmable Ratio Limits: | Supported, Disabled |
| Programmable TDC/TDP Limits: | Supported, Disabled |
| Hardware Duty Cycling: | Supported, Enabled |
| Intel Speed Select: | Not Supported |

[CPU SKU Features]

| | |
|---------------------------------------|-------------------|
| NVME: | Not Supported |
| DMI x4 Width: | Supported |
| DRAM ECC: | Not Supported |
| VT-d: | Supported |
| DMI in Gen2 Mode: | Supported |
| PEG in Gen2 Mode: | Supported |
| 1N Mode DDR Timings: | Supported |
| Camarillo (DTT) Device: | Supported |
| 2 DIMMs per Channel: | Supported |
| X2APIC: | Supported |
| Dual Memory Channel: | Supported |
| Integrated GPU (IGD): | Enabled |
| DDR Overclocking: | Enabled |
| Maximum Memory Size per Channel: | 64 GB (unlimited) |
| DDR Frequency 100 MHz RefClk Support: | Not Supported |
| IMGU Device: | Not Supported |
| Intel Processor Trace (Northpeak): | Supported |
| Overclocking: | Disabled |
| Hyper-Threading (SMT): | Supported |
| Additive Graphics: | Supported |
| Additive Graphics: | Enabled |
| PCIe Gen 3: | Supported |

| | |
|-----------------------------------|---------------|
| DMI Gen 3: | Supported |
| HDCP: | Supported |
| L Technology: | 1LM |
| VMD: | Not Supported |
| PCIe Gen 4: | Supported |
| BCLK OC Limit: | 100 MHz |
| DDR4: | Supported |
| LPDDR4: | Not Supported |
| Maximum Supported DDR4 Frequency: | 1600 MHz |
| Software Guard Extension (SGX): | Not Supported |

SVID Status: Enabled

[Voltage Regulator (SVID)]

| | |
|--------------------|-----------------------|
| VCC VR: | ON Semi (0x14), IMVP8 |
| VR Thermal Sensor: | Supported |

[Memory Ranges]

| | |
|--------------------------------|---------------------|
| Maximum Physical Address Size: | 39-bit (512 GBytes) |
| Maximum Virtual Address Size: | 48-bit (256 TBytes) |

[MTRRs]

| | |
|---|------------------|
| Range C0000000-100000000 (3072MB-4096MB) Type: | Uncacheable (UC) |
| Range A0000000-C0000000 (2560MB-3072MB) Type: | Uncacheable (UC) |
| Range 9C000000-A0000000 (2496MB-2560MB) Type: | Uncacheable (UC) |
| Range 2000000000-4000000000 (131072MB-262144MB) Type: | Uncacheable (UC) |
| Range 1000000000-2000000000 (65536MB-131072MB) Type: | Uncacheable (UC) |
| Range 800000000-1000000000 (32768MB-65536MB) Type: | Uncacheable (UC) |
| Range 400000000-800000000 (16384MB-32768MB) Type: | Uncacheable (UC) |
| Range 4000000000-8000000000 (262144MB-524288MB) Type: | Uncacheable (UC) |

Motherboard

[Computer]

Computer Brand Name: bluechip Computer AG bluechip BUSINESSline individu

[Motherboard]

Motherboard Model: ASUS PB62
Motherboard Chipset: Intel B560 (Rocket Lake PCH-H)
 Motherboard Slots: 1xPCI Express x4
 PCI Express Version Supported: v4.0
 USB Version Supported: v3.2

[BIOS]

BIOS Manufacturer: ASUSTeK COMPUTER INC.
 BIOS Date: 07/09/2021
 BIOS Version: 9911
 UEFI BIOS: Capable

Super-IO/LPC Chip:

SMSC LPC47B27x

Trusted Platform Module (TPM) Chip:

Hardware TPM, version v2.0

ACPI Devices

Motherboard resources

Device Name: Motherboard resources

[Assigned Resources]

I/O Port: 1854 - 1857

[Alternative 1]

I/O Port: 1854 - 1857

Trusted Platform Module 2.0

Device Name: Trusted Platform Module 2.0

[Assigned Resources]

Memory Location: FED40000 - FED44FFF

[Alternative 1]

Memory Location: FED40000 - FED44FFF

Programmable interrupt controller

Device Name: Programmable interrupt controller

[Assigned Resources]

I/O Port: 0020 - 0021

I/O Port: 0030 - 0031

I/O Port: 00A0 - 00A1

I/O Port: 00B0 - 00B1

IRQ: 1114369

IRQ: 1114369

IRQ: 1114369

IRQ: 1114369

[Alternative 1]

I/O Port: 0020 - 0021

| | |
|-----------|-------------|
| I/O Port: | 0024 - 0025 |
| I/O Port: | 0028 - 0029 |
| I/O Port: | 002C - 002D |
| I/O Port: | 0030 - 0031 |
| I/O Port: | 0034 - 0035 |
| I/O Port: | 0038 - 0039 |
| I/O Port: | 003C - 003D |
| I/O Port: | 00A0 - 00A1 |
| I/O Port: | 00A4 - 00A5 |
| I/O Port: | 00A8 - 00A9 |
| I/O Port: | 00AC - 00AD |
| I/O Port: | 00B0 - 00B1 |
| I/O Port: | 00B4 - 00B5 |
| I/O Port: | 00B8 - 00B9 |
| I/O Port: | 00BC - 00BD |
| I/O Port: | 04D0 - 04D1 |

System timer

Device Name: System timer

[Assigned Resources]

I/O Port: 0040 - 0043
DMA: 0

[Alternative 1]

I/O Port: 0040 - 0043
I/O Port: 0050 - 0053
IRQ: 0

High precision event timer

Device Name: High precision event timer

[Assigned Resources]

Memory Location: FED00000 - FED003FF

[Alternative 1]

Memory Location: FED00000 - FED003FF

Kommunikationsanschluss

Device Name: Kommunikationsanschluss

[Assigned Resources]

I/O Port: 03F8 - 03FF

[Alternative 1]

I/O Port: 03F8 - 03FF
 IRQ: 4

PCI Express Root Complex

Device Name: PCI Express Root Complex

[Assigned Resources]

I/O Port: 0000 - FFFFFFFF
 Memory Location: 000A0000 - 000BFFFF
 Memory Location: 000E4000 - 000E3FFF
 Memory Location: 000EC000 - 000EFFFF

[Alternative 1]

I/O Port: 0000 - 0CF7
 I/O Port: 0D00 - FFFF
 Memory Location: 000A0000 - 000BFFFF
 Memory Location: 000E0000 - 000E3FFF
 Memory Location: 000E4000 - 000E7FFF
 Memory Location: 000E8000 - 000EBFFF
 Memory Location: 000EC000 - 000EFFFF
 Memory Location: A0800000 - DFFFFFFF

Motherboard resources

Device Name: Motherboard resources

[Assigned Resources]

Memory Location: FED10000 - FED17FFF
 Memory Location: FED20000 - FED7FFFF

[Alternative 1]

Memory Location: FED10000 - FED17FFF
 Memory Location: FEDA0000 - FEDA0FFF
 Memory Location: FEDA1000 - FEDA1FFF
 Memory Location: E0000000 - EFFFFFFF
 Memory Location: FED20000 - FED7FFFF
 Memory Location: FED90000 - FED93FFF
 Memory Location: FED45000 - FED8FFFF
 Memory Location: FEE00000 - FEEFFFFFFF

Motherboard resources

Device Name: Motherboard resources

[Assigned Resources]

I/O Port: 002E - 002F
I/O Port: 0065
I/O Port: 0000 - 006F
I/O Port: 0092
IRQ: 1114369

[Alternative 1]

I/O Port: 002E - 002F
I/O Port: 004E - 004F
I/O Port: 0061
I/O Port: 0063
I/O Port: 0065
I/O Port: 0067
I/O Port: 0070
I/O Port: 0080
I/O Port: 0092
I/O Port: 00B2 - 00B3
I/O Port: 0680 - 069F

Motherboard resources

Device Name: Motherboard resources

[Assigned Resources]

Memory Location: FD6A0000 - FD6AFFFF
IRQ: 14

[Alternative 1]

Memory Location: FD6E0000
Memory Location: FD6D0000 - FD6DFFFF
Memory Location: FD6B0000
Memory Location: FD6A0000
Memory Location: FD690000
IRQ: 14

Motherboard resources

Device Name: Motherboard resources

[Assigned Resources]

I/O Port: 2000 - 20FE

[Alternative 1]

I/O Port:

2000 - 20FE

Motherboard resources

Device Name:

Motherboard resources

[Assigned Resources]

Memory Location:

FE000000 - FE01FFFF

Memory Location:

FE200000 - FE7FFFFF

[Alternative 1]

I/O Port:

1800 - 18FE

Memory Location:

FE000000 - FE01FFFF

Memory Location:

FE04C000 - FE04FFFF

Memory Location:

FE050000

Memory Location:

FE0D0000

Memory Location:

FE200000

Memory Location:

FF000000

Memory Location:

FD000000

Memory Location:

FD6C0000

Memory Location:

FD6F0000

Numeric data processor

Device Name:

Numeric data processor

[Assigned Resources]

I/O Port:

00F0

[Alternative 1]

I/O Port:

00F0

IRQ:

13

Microsoft ACPI-Compliant Embedded Controller

Device Name:

Microsoft ACPI-Compliant Embedded Controller

[Assigned Resources]

I/O Port:

0062

[Alternative 1]

I/O Port:

0062

I/O Port:

0066

SMBIOS DMI

BIOS

| | |
|---------------------|-----------------------|
| BIOS Vendor: | ASUSTeK COMPUTER INC. |
| BIOS Version: | 9911 |
| BIOS Release Date: | 07/09/2021 |
| BIOS Start Segment: | F000 |
| BIOS Size: | 32 MBytes |

| | |
|----------------------|-------|
| System BIOS Version: | 99.11 |
|----------------------|-------|

| | |
|--|-------------|
| ISA Support: | Not Present |
| MCA Support: | Not Present |
| EISA Support: | Not Present |
| PCI Support: | Present |
| PC Card (PCMCIA) Support: | Not Present |
| Plug-and-Play Support: | Not Present |
| APM Support: | Not Present |
| Flash BIOS: | Present |
| BIOS Shadow: | Present |
| VL-VESA Support: | Not Present |
| ESCD Support: | Not Present |
| Boot from CD: | Present |
| Selectable Boot: | Present |
| BIOS ROM Socketed: | Present |
| Boot from PC Card: | Not Present |
| EDD Support: | Present |
| NEC PC-98 Support: | Not Present |
| ACPI Support: | Not Present |
| USB Legacy Support: | Present |
| AGP Support: | Not Present |
| I2O Boot Support: | Not Present |
| LS-120 Boot Support: | Not Present |
| ATAPI ZIP Drive Boot Support: | Not Present |
| IEE1394 Boot Support: | Not Present |
| Smart Battery Support: | Not Present |
| BIOS Boot Specification Support: | Present |
| Function key-initiated Network Service Boot Support: | Not Present |
| Targeted Content Distribution Support: | Present |
| UEFI Specification Support: | Present |
| Virtual Machine: | Not Present |

System

System Manufacturer: bluechip Computer AG
Product Name: bluechip BUSINESSline individu
Product Version:
Product Serial Number: 1959932
UUID: {86591DC2-A990-AC27-394A-FC349797D499}
SKU Number: 551090
Family: BUSINESSline individ

Mainboard

Mainboard Manufacturer: ASUSTeK COMPUTER INC.
Mainboard Name: PB62
Mainboard Version: To be filled by O.E.M.
Mainboard Serial Number: To be filled by O.E.M.
Asset Tag: Default string
Location in chassis: Default string

System Enclosure

Manufacturer: Default string
Case Type: Mini PC
Version: Default string
Serial Number: 6608277 1959932
Asset Tag Number:

On Board Device

Device Description: To Be Filled By O.E.M.
Device Type: Video Adapter
Device Status: Enabled

OEM Strings

Default string
AEMS00000000000000000000000000000000021002100
90MR00HA110040010000E3243000110000000000
210499239900748
Default string

Default string
Default string
Default string

System Configuration Options

Default string

System Boot Information

Boot Status: No error occurred

Management Device

Device Description: LM78-1
Device Type: National Semiconductor LM78
Device Address: I/O: 0

Voltage Probe

Description: LM78A
Location: Motherboard
Status: OK
Maximum Value: Unknown
Minimum Value: Unknown
Resolution: Unknown
Tolerance: Unknown
Accuracy: Unknown

Management Device Threshold Data

Management Device Component

Temperature Probe

| | |
|----------------|-------------|
| Description: | LM78A |
| Location: | Motherboard |
| Status: | OK |
| Maximum Value: | Unknown |
| Minimum Value: | Unknown |
| Resolution: | Unknown |
| Tolerance: | Unknown |
| Accuracy: | Unknown |

Management Device Threshold Data

Management Device Component

Cooling Device

| | |
|--------------|------------------|
| Type: | Power Supply Fan |
| Description: | Cooling Dev 1 |
| Status: | OK |

Management Device Threshold Data

Management Device Component

Cooling Device

| | |
|--------------|------------------|
| Type: | Power Supply Fan |
| Description: | |
| Status: | OK |

Management Device Threshold Data

Management Device Component

Electrical Current Probe

| | |
|----------------|-------------|
| Description: | ABC |
| Location: | Motherboard |
| Status: | OK |
| Maximum Value: | Unknown |
| Minimum Value: | Unknown |
| Resolution: | Unknown |
| Tolerance: | Unknown |
| Accuracy: | Unknown |

Management Device Threshold Data

Management Device Component

Voltage Probe

| | |
|----------------|------------|
| Description: | LM78A |
| Location: | Power Unit |
| Status: | OK |
| Maximum Value: | Unknown |
| Minimum Value: | Unknown |
| Resolution: | Unknown |
| Tolerance: | Unknown |
| Accuracy: | Unknown |

Temperature Probe

| | |
|--------------|------------|
| Description: | LM78A |
| Location: | Power Unit |
| Status: | OK |

| | |
|----------------|---------|
| Maximum Value: | Unknown |
| Minimum Value: | Unknown |
| Resolution: | Unknown |
| Tolerance: | Unknown |
| Accuracy: | Unknown |

Cooling Device

| | |
|--------------|------------------|
| Type: | Power Supply Fan |
| Description: | Cooling Dev 1 |
| Status: | OK |

Electrical Current Probe

| | |
|----------------|------------|
| Description: | ABC |
| Location: | Power Unit |
| Status: | OK |
| Maximum Value: | Unknown |
| Minimum Value: | Unknown |
| Resolution: | Unknown |
| Tolerance: | Unknown |
| Accuracy: | Unknown |

System Power Supply

| | |
|----------------------|------------------------|
| Location: | To Be Filled By O.E.M. |
| Device Name: | To Be Filled By O.E.M. |
| Manufacturer: | To Be Filled By O.E.M. |
| Serial Number: | To Be Filled By O.E.M. |
| Asset Tag Number: | To Be Filled By O.E.M. |
| Model Part Number: | To Be Filled By O.E.M. |
| Revision Level: | To Be Filled By O.E.M. |
| Power Supply Status: | Present |
| Power Supply Type: | Switching |
| Power Status: | OK |
| Hot replaceable: | No |
| Unplugged from wall: | No |

Unknown

TPM

| | |
|----------------------------|-------|
| TPM Specification Version: | 2.0 |
| TPM Vendor: | Intel |
| TPM Description: | INTEL |

Firmware Version Information

| | |
|----------------------|------------|
| Reference Code - CPU | 11.1.45.32 |
| uCode Version | 0.0.0.64 |
| TXT ACM version | |

Firmware Version Information

| | |
|---------------------|--------------|
| Reference Code - ME | 11.1.45.32 |
| MEBx version | 15.0.0.2 |
| ME Firmware Version | Consumer SKU |

Firmware Version Information

| | |
|-------------------------|------------|
| Reference Code - PCH | 11.1.45.32 |
| PCH-CRID Status | Disabled |
| PCH-CRID Original Value | 0x11 |
| PCH-CRID New Value | 0x11 |
| OPROM - RST - RAID | |
| PCH Hsio Version | 4.0.0.0 |

Firmware Version Information

| | |
|--|------------|
| Reference Code - SA - System Agent | 11.1.45.32 |
| Reference Code - MRC | 0.4.97.98 |
| SA - PCIe Version | 11.1.45.32 |
| SA-CRID Status | Disabled |
| SA-CRID Original Value | 0.0.0.1 |
| SA-CRID New Value | 0.0.0.1 |
| OPROM - VBIOS | |
| IO Manageability Engine FW Version | |
| PHY Build Version | |
| Thunderbolt(TM) FW Version | |
| System Agent Manageability Engine FW Version | 1.1.1.0 |

Firmware Version Information

FSP Binary Version 4.0.0.0

L1 Cache

Socket Designation: L1 Cache
Cache State: Enabled
Cache Location: Internal
Cache Type: L1 Data
Cache Scheme: Write-Back
Supported SRAM Type: Synchronous
Current SRAM Type: Synchronous
Cache Speed: Unknown
Error Correction Type: Parity
Maximum Cache Size: 288 KBytes
Installed Cache Size: 288 KBytes
Cache Associativity: 12-way Set-Associative

L1 Cache

Socket Designation: L1 Cache
Cache State: Enabled
Cache Location: Internal
Cache Type: L1 Instruction
Cache Scheme: Write-Back
Supported SRAM Type: Synchronous
Current SRAM Type: Synchronous
Cache Speed: Unknown
Error Correction Type: Parity
Maximum Cache Size: 192 KBytes
Installed Cache Size: 192 KBytes
Cache Associativity: 8-way Set-Associative

L2 Cache

Socket Designation: L2 Cache
Cache State: Enabled
Cache Location: Internal
Cache Type: L2 Unified
Cache Scheme: Write-Back

| | |
|------------------------|-----------------------|
| Supported SRAM Type: | Synchronous |
| Current SRAM Type: | Synchronous |
| Cache Speed: | Unknown |
| Error Correction Type: | Single-bit ECC |
| Maximum Cache Size: | 3072 KBytes |
| Installed Cache Size: | 3072 KBytes |
| Cache Associativity: | 8-way Set-Associative |

L3 Cache

| | |
|------------------------|------------------------|
| Socket Designation: | L3 Cache |
| Cache State: | Enabled |
| Cache Location: | Internal |
| Cache Type: | L3 Unified |
| Cache Scheme: | Write-Back |
| Supported SRAM Type: | Synchronous |
| Current SRAM Type: | Synchronous |
| Cache Speed: | Unknown |
| Error Correction Type: | Multi-bit ECC |
| Maximum Cache Size: | 12288 KBytes |
| Installed Cache Size: | 12288 KBytes |
| Cache Associativity: | 16-way Set-Associative |

Processor

| | |
|--------------------------|---|
| Processor Manufacturer: | Intel(R) Corporation |
| Processor Version: | 11th Gen Intel(R) Core(TM) i5-11400 @ 2.60GHz |
| External Clock: | 100 MHz |
| Maximum Clock Supported: | 4400 MHz |
| Current Clock: | 2574 MHz |
| CPU Socket: | Populated |
| CPU Status: | Enabled |
| Processor Type: | Central Processor |
| Processor Voltage: | 0.8 V |
| Processor Upgrade: | Unknown (1) |
| Socket Designation: | LGA1200 |

Intel vPro

| | |
|--------------------|---------------|
| CPU VT-x Support: | Supported |
| CPU VT-x Status: | Enabled |
| CPU VT-x2 Support: | Not Supported |
| CPU VT-x2 Status: | Disabled |
| CPU TXT Support: | Not Supported |
| CPU TXT Status: | Disabled |

| | |
|---------------------------------------|------------------------------|
| CPU VMX Status: | Enabled |
| CPU SMX Status: | Disabled |
| Intel ME Status: | Enabled |
| Intel OST Firmware Support: | Not Supported |
| Intel ASF Firmware Support: | Not Supported |
| Intel AMT Pro Firmware Support: | Not Supported |
| Intel AMT Basic Firmware Support: | Not Supported |
| Intel TPM Firmware Support: | Not Supported |
| Intel Castle Peak Support: | Not Supported |
| Intel WoX Support: | Not Supported |
| Intel Virtualization Engine Support: | Not Supported |
| Intel Anti-Theft Technology Support: | Not Supported |
| TPM On-board: | Not Supported |
| Intel Anti-Theft Technology Enrolled: | Not Supported |
| Intel ME Version: | v15.0, Build 1549, Hotfix 21 |
| BIOS VT-x Support: | Not Supported |
| BIOS VT-d Support: | Supported |
| BIOS TXT Support: | Not Supported |
| BIOS TPM Support: | Not Supported |
| BIOS ME Support: | Not Supported |
| BIOS VA Extensions Support: | Supported |
| Intel AT PBA For Recovery Support: | Not Supported |
| Intel AT WWAN Support: | Not Supported |

On Board Device

| | |
|---------------------|-----------------|
| Device Description: | Onboard - Other |
| Device Type: | Unknown |
| Device Status: | Enabled |

On Board Device

| | |
|---------------------|-----------------|
| Device Description: | Onboard - Video |
| Device Type: | Video Adapter |
| Device Status: | Enabled |

On Board Device

| | |
|---------------------|-----------------|
| Device Description: | Onboard - Other |
| Device Type: | Unknown |
| Device Status: | Enabled |

On Board Device

| | |
|---------------------|-----------------|
| Device Description: | Onboard - Other |
| Device Type: | Unknown |
| Device Status: | Enabled |

On Board Device

| | |
|---------------------|-----------------|
| Device Description: | Onboard - Other |
| Device Type: | Unknown |
| Device Status: | Enabled |

On Board Device

| | |
|---------------------|-----------------|
| Device Description: | Onboard - Other |
| Device Type: | Unknown |
| Device Status: | Enabled |

On Board Device

| | |
|---------------------|-----------------|
| Device Description: | Onboard - SATA |
| Device Type: | SATA Controller |
| Device Status: | Enabled |

On Board Device

| | |
|---------------------|-----------------|
| Device Description: | Onboard - Other |
| Device Type: | Unknown |
| Device Status: | Enabled |

On Board Device

| | |
|---------------------|-----------------|
| Device Description: | Onboard - Sound |
| Device Type: | Audio Device |
| Device Status: | Enabled |

On Board Device

| | |
|---------------------|-----------------|
| Device Description: | Onboard - Other |
| Device Type: | Unknown |
| Device Status: | Enabled |

On Board Device

| | |
|---------------------|-----------------|
| Device Description: | Onboard - Other |
| Device Type: | Unknown |
| Device Status: | Enabled |

On Board Device

| | |
|---------------------|--------------------|
| Device Description: | Onboard - Ethernet |
| Device Type: | Ethernet Adapter |
| Device Status: | Enabled |

Firmware Version Information

| | |
|--------------------------------|-------------|
| Lan Phy Version | 0.0.0.166 |
| Sensor Firmware Version | |
| Debug Mode Status | Disabled |
| Performance Mode Status | Disabled |
| Debug Use USB(Disabled:Serial) | Disabled |
| ICC Overclocking Version | 0.0.0.0 |
| UNDI Version | |
| EC FW Version | 0.0 |
| GOP Version | 0.23.0.4178 |
| Royal Park Version | |
| Platform Version | 0.7.0.0 |

System Boot Information

Boot Status: No error occurred

BIOS Language

en|US|iso8859-1 <Active>
fr|FR|iso8859-1
zh|TW|unicode
zh|CN|unicode
ja|JP|unicode
de|DE|iso8859-1
es|ES|iso8859-1
ru|RU|iso8859-5
ko|KR|unicode

Group Associations

Group Associations

Memory Devices

Physical Memory Array

| | |
|-------------------------|---------------|
| Array Location: | System board |
| Array Use: | System memory |
| Error Detecting Method: | None |
| Memory Capacity: | 32 GBytes |
| Memory Devices: | 2 |

Memory Array Mapped Address

| | |
|-------------------|------------|
| Starting Address: | 00000000 |
| Ending Address: | 007FFFFFFF |
| Partition Width: | 1 |

Memory Device

| | |
|---------------------|----------------------------|
| Total Width: | 64 bits |
| Data Width: | 64 bits |
| Device Size: | 8192 MBytes |
| Device Form Factor: | SODIMM |
| Device Locator: | Controller0-ChannelA-DIMM0 |
| Bank Locator: | BANK 0 |
| Device Type: | DDR4 |
| Device Type Detail: | Synchronous |
| Memory Speed: | 2667 MHz |
| Manufacturer: | Kingston |
| Serial Number: | AA62FDA8 |
| Part Number: | 9905711-038.A00G |
| Asset Tag: | 9876543210 |

Memory Device

| | |
|---------------------|----------------------------|
| Total Width: | 0 bits |
| Data Width: | 0 bits |
| Device Size: | 0 MBytes |
| Device Form Factor: | Unknown |
| Device Locator: | Controller0-ChannelB-DIMM0 |
| Bank Locator: | BANK 1 |
| Device Type: | Unknown |
| Device Type Detail: | |
| Manufacturer: | |
| Serial Number: | |
| Part Number: | |
| Asset Tag: | |

Memory Device Mapped Address

| | |
|-------------------------|-----------------|
| Starting Address: | 00000000 |
| Ending Address: | 007FFFFF |
| Partition Row Position: | Unknown |
| Interleave Position: | Non-interleaved |
| Interleave Data Depth: | 0 |

Port Connectors

USB

Port Type: USB
Internal Reference: U32G2_12
Internal Connector Type: None
External Reference: U32G2_12
External Connector Type: Access Bus (USB)

USB

Port Type: USB
Internal Reference: U32G2_34
Internal Connector Type: None
External Reference: U32G2_34
External Connector Type: Access Bus (USB)

USB

Port Type: USB
Internal Reference: U32G1_1
Internal Connector Type: None
External Reference: U32G1_1
External Connector Type: Access Bus (USB)

USB

Port Type: USB
Internal Reference: U32G1_C
Internal Connector Type: None
External Reference: U32G1_C
External Connector Type: Access Bus (USB)

Network Port

Port Type: Network Port
Internal Reference: LAN
Internal Connector Type: None
External Reference: LAN
External Connector Type: RJ-45

Audio Port

| | |
|--------------------------|------------|
| Port Type: | Audio Port |
| Internal Reference: | AUDIO |
| Internal Connector Type: | None |
| External Reference: | AUDIO |
| External Connector Type: | Unknown |

Port Connector

| | |
|--------------------------|---------|
| Port Type: | Unknown |
| Internal Reference: | DP0 |
| Internal Connector Type: | None |
| External Reference: | DP0 |
| External Connector Type: | Unknown |

Port Connector

| | |
|--------------------------|---------|
| Port Type: | Unknown |
| Internal Reference: | DP1 |
| Internal Connector Type: | None |
| External Reference: | DP1 |
| External Connector Type: | Unknown |

Port Connector

| | |
|--------------------------|---------|
| Port Type: | Unknown |
| Internal Reference: | BTB_VGA |
| Internal Connector Type: | None |
| External Reference: | BTB_VGA |
| External Connector Type: | Unknown |

Port Connector

| | |
|--------------------------|---------|
| Port Type: | Unknown |
| Internal Reference: | DC_IN |
| Internal Connector Type: | None |
| External Reference: | DC_IN |
| External Connector Type: | Unknown |

USB

| | |
|--------------------------|------------------|
| Port Type: | USB |
| Internal Reference: | USB12 |
| Internal Connector Type: | None |
| External Reference: | USB12 |
| External Connector Type: | Access Bus (USB) |

SATA

| | |
|--------------------------|--------------------------|
| Port Type: | SATA |
| Internal Reference: | SATA6G |
| Internal Connector Type: | SAS/SATA Plug Receptacle |
| External Reference: | |
| External Connector Type: | None |

Port Connector

| | |
|--------------------------|----------------|
| Port Type: | Unknown |
| Internal Reference: | M.2_1(SOCKET3) |
| Internal Connector Type: | Unknown |
| External Reference: | |
| External Connector Type: | None |

Port Connector

| | |
|--------------------------|---------|
| Port Type: | Unknown |
| Internal Reference: | CPU_FAN |
| Internal Connector Type: | Unknown |
| External Reference: | |
| External Connector Type: | None |

Port Connector

| | |
|--------------------------|---------|
| Port Type: | Unknown |
| Internal Reference: | PWRTN |
| Internal Connector Type: | Unknown |
| External Reference: | |
| External Connector Type: | None |

Port Connector

| | |
|--------------------------|-----------|
| Port Type: | Unknown |
| Internal Reference: | M.2(WIFI) |
| Internal Connector Type: | Unknown |
| External Reference: | |
| External Connector Type: | None |

Network Port

| | |
|--------------------------|--------------|
| Port Type: | Network Port |
| Internal Reference: | LAN_CON |
| Internal Connector Type: | RJ-45 |
| External Reference: | |
| External Connector Type: | None |

Port Connector

| | |
|--------------------------|-------------|
| Port Type: | Unknown |
| Internal Reference: | M2_CARD_CON |
| Internal Connector Type: | Unknown |
| External Reference: | |
| External Connector Type: | None |

Port Connector

| | |
|--------------------------|----------------|
| Port Type: | Unknown |
| Internal Reference: | M.2_2(SOCKET3) |
| Internal Connector Type: | Unknown |
| External Reference: | |
| External Connector Type: | None |

Intel ME

[Intel Manageability Engine Features]

| | |
|----------------------------------|------------------------------|
| Intel ME Version: | 15.0, Build 1549, Hot Fix 21 |
| Intel ME Recovery Image Version: | 15.0, Build 1549, Hot Fix 21 |
| Intel ME FITC Version: | 15.0, Build 1549, Hot Fix 21 |

[ME Firmware Capabilities]

| | |
|---------------------------------------|-------------|
| Full Network Manageability: | Not Capable |
| Standard Network Manageability: | Not Capable |
| Manageability (AMT): | Not Capable |
| Small Business Advantage: | Not Capable |
| Intel Integrated Touch: | Not Capable |
| Intel Anti-Theft: | Not Capable |
| Capability Licensing Service: | Not Capable |
| Virtualization Engine: | Not Capable |
| Intel Sensor Hub (ISH): | Not Capable |
| ICC Over Clocking: | Not Capable |
| Protected Audio Video Path (PAVP): | Capable |
| Network Frame Forwarder (NFF): | Not Capable |
| Remote PC Assist (RPAT): | Capable |
| IPV6: | Not Capable |
| KVM Remote Control: | Not Capable |
| Outbreak Containment Heuristic (OCH): | Not Capable |
| Dynamic Application Loader (DAL): | Capable |
| Cipher Transport Layer (TLS): | Capable |
| Wireless LAN (WLAN): | Not Capable |
| Platform Trust Technology (PTT): | Capable |
| Near Field Communication (NFC): | Not Capable |

[ME Firmware Feature State]

| | |
|---------------------------------------|-------------|
| Full Network Manageability: | Disabled |
| Standard Network Manageability: | Disabled |
| Manageability (AMT): | Disabled |
| Small Business Advantage: | Not Capable |
| MEI3: | Not Capable |
| Intel Anti-Theft: | Disabled |
| Capability Licensing Service: | Disabled |
| Virtualization Engine: | Disabled |
| Intel Sensor Hub (ISH): | Disabled |
| ICC Over Clocking: | Disabled |
| Protected Audio Video Path (PAVP): | Enabled |
| Network Frame Forwarder (NFF): | Not Capable |
| Remote PC Assist (RPAT): | Enabled |
| IPV6: | Disabled |
| KVM Remote Control: | Disabled |
| Outbreak Containment Heuristic (OCH): | Disabled |
| Dynamic Application Loader (DAL): | Capable |
| Cipher Transport Layer (TLS): | Enabled |
| Wireless LAN (WLAN): | Disabled |
| Platform Trust Technology (PTT): | Enabled |
| Near Field Communication (NFC): | Disabled |

[ME Firmware Platform Type]

| | |
|-----------------------------|-----------------------|
| Platform Target Usage Type: | Desktop |
| SKU: | Regular SKU |
| ME Firmware Image Type: | Consumer SKU Firmware |
| Platform Brand: | None |

Host ME Region Flash Protection Override (HMRFP0) Status: Locked

Memory

[General information]

Total Memory Size: 8 GBytes
 Total Memory Size [MB]: 8192

[Current Performance Settings]

Maximum Supported Memory Clock: 1600.0 MHz
 Current Memory Clock: 1330.1 MHz
 Current Timing (tCAS-tRCD-tRP-tRAS): 19-19-19-43
 Memory Channels Supported: 2
 Memory Channels Active: 1

Command Rate: 2T
 Read to Read Delay (tRDRD_SG/TrdrdScL) Same Bank Group: 8T
 Read to Read Delay (tRDRD_DG/TrdrdScDlr) Different Bank Group: 4T
 Read to Read Delay (tRDRD_SD) Same DIMM: 10T
 Read to Read Delay (tRDRD_DD) Different DIMM: 12T
 Write to Write Delay (tWRWR_SG/TwrwrScL) Same Bank Group: 8T
 Write to Write Delay (tWRWR_DG/TwrwrScDlr) Different Bank Group: 4T
 Write to Write Delay (tWRWR_SD) Same DIMM: 10T
 Write to Write Delay (tWRWR_DD) Different DIMM: 10T
 Read to Write Delay (tRDWR_SG/TrdwrScL) Same Bank Group: 12T
 Read to Write Delay (tRDWR_DG/TrdwrScDlr) Different Bank Group: 12T
 Read to Write Delay (tRDWR_SD) Same DIMM: 14T
 Read to Write Delay (tRDWR_DD) Different DIMM: 14T
 Write to Read Delay (tWRRD_SG/TwrrdScL) Same Bank Group: 34T
 Write to Read Delay (tWRRD_DG/TwrrdScDlr) Different Bank Group: 28T
 Write to Read Delay (tWRRD_SD) Same DIMM: 8T

| | |
|---|------|
| DIMM: | |
| Write to Read Delay (tWRRD_DD) Different DIMM: | 8T |
| RAS# to RAS# Delay (tRRD): | 9T |
| Row Cycle Time (tRC): | 62T |
| Refresh Cycle Time (tRFC): | 467T |
| Four Activate Window (tFAW): | 40T |

Row: 0 [BANK 0/Controller0-ChannelA-DIMM0] - 8 GB PC4-21300 DDR4 SDRAM Kingston 9905711-038.A00G

[General Module Information]

| | |
|--------------------------------|---|
| Module Number: | 0 |
| Module Size: | 8 GBytes |
| Memory Type: | DDR4 SDRAM |
| Module Type: | SO-DIMM |
| Memory Speed: | 1333.3 MHz (DDR4-2666 / PC4-21300) |
| Module Manufacturer: | Kingston |
| Module Part Number: | 9905711-038.A00G |
| Module Revision: | 0.0 |
| Module Serial Number: | 2835178154 (AA62FDA8) |
| Module Manufacturing Date: | Year: 2021, Week: 19 |
| Module Manufacturing Location: | 1 |
| SDRAM Manufacturer: | Micron |
| DRAM Stepping: | 4.5 |
| Error Check/Correction: | None |

[Module Characteristics]

| | |
|---|--|
| Row Address Bits: | 17 |
| Column Address Bits: | 10 |
| Module Density: | 16384 Mb |
| Number Of Ranks: | 1 |
| Number Of Bank Groups: | 2 |
| Device Width: | 16 bits |
| Bus Width: | 64 bits |
| Die Count: | 1 |
| Module Nominal Voltage (VDD): | 1.2 V |
| Minimum SDRAM Cycle Time (tCKAVGmin): | 0.75000 ns (1333 MHz) |
| Maximum SDRAM Cycle Time (tCKAVGmax): | 1.60000 ns |
| CAS# Latencies Supported: | 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20 |
| Minimum CAS# Latency Time (tAAmin): | 13.750 ns |
| Minimum RAS# to CAS# Delay (tRCDmin): | 13.750 ns |
| Minimum Row Precharge Time (tRPmin): | 13.750 ns |
| Minimum Active to Precharge Time (tRASmin): | 32.000 ns |

Supported Module Timing at 1333.3 MHz: 19-19-19-43

Supported Module Timing at 1200.0 MHz: 17-17-17-39

Supported Module Timing at 1066.7 MHz: 15-15-15-35
 Supported Module Timing at 933.3 MHz: 13-13-13-30
 Supported Module Timing at 800.0 MHz: 11-11-11-26
 Supported Module Timing at 666.7 MHz: 10-10-10-22

Minimum Active to Active/Refresh Time (tRCmin): 45.750 ns
 Minimum Refresh Recovery Time Delay (tRFC1min): 350.000 ns
 Minimum Refresh Recovery Time Delay (tRFC2min): 260.000 ns
 Minimum Refresh Recovery Time Delay (tRFC4min): 160.000 ns
 Minimum Four Activate Window Delay Time (tFAWmin): 30.000 ns
 Minimum Active to Active Delay Time - Different Bank Group (tRRD_Smin): 5.300 ns
 Minimum Active to Active Delay Time - Same Bank Group (tRRD_Lmin): 6.400 ns
 Minimum CAS to CAS Delay Time - Same Bank Group (tCCD_Lmin): 5.000 ns

[Features]

Module Temperature Sensor (TSOD): Not Supported
 Module Nominal Height: 29 - 30 mm
 Module Maximum Thickness (Front): 1 - 2 mm
 Module Maximum Thickness (Back): 1 - 2 mm
 Address Mapping from Edge Connector to DRAM: Standard

Bus

PCI Bus #0

Intel Rocket Lake-S 6c/4c - Host Bridge/DRAM Controller

[General Information]

| | |
|---|--|
| Device Name: | Intel Rocket Lake-S 6c/4c - Host Bridge/DRAM Controller |
| Original Device Name: | Intel Rocket Lake-S 6c/4c - Host Bridge/DRAM Controller |
| Device Class: | Host-to-PCI Bridge |
| Revision ID: | 1 |
| PCI Address (Bus:Device:Function) Number: | 0:0:0 |
| PCI Latency Timer: | 0 |
| Hardware ID: | PCI\VEN_8086&DEV_4C53&SUBSYS_86941043&REV_01 |

[System Resources]

| | |
|-----------------------|----------|
| Interrupt Line: | N/A |
| Interrupt Pin: | N/A |
| Memory Base Address 3 | 20000000 |

[Features]

| | |
|---------------------------------|-------------|
| Bus Mastering: | Enabled |
| Running At 66 MHz: | Not Capable |
| Fast Back-to-Back Transactions: | Capable |

[Driver Information]

| | |
|----------------------|--|
| Driver Manufacturer: | INTEL |
| Driver Description: | Intel(R) Host Bridge/DRAM Registers - 4C53 |
| Driver Provider: | INTEL |
| Driver Version: | 10.1.41.5 |
| DeviceInstanceID | PCI\VEN_8086&DEV_4C53&SUBSYS_86941043&REV_01\3&11583659&4&00 |
| Location Paths | PCIROOT(0)#PCI(0000) |

Intel Rocket Lake-S GT1 - Integrated Graphics [B0]**[General Information]**

| | |
|---|---|
| Device Name: | Intel Rocket Lake-S GT1 - Integrated Graphics [B0] |
| Original Device Name: | Intel Rocket Lake-S GT1 - Integrated Graphics [B0] |
| Device Class: | VGA Compatible Adapter |
| Revision ID: | 4 [B0] |
| PCI Address (Bus:Device:Function) Number: | 0:2:0 |
| PCI Latency Timer: | 0 |
| Hardware ID: | PCI\VEN_8086&DEV_4C8B&SUBSYS_88271043&REV_04 |

[PCI Express]

| | |
|---|----------------------------------|
| Version: | 2.0 |
| Current Link Width: | Not negotiated |
| Maximum Link Speed: | 5.0 GT/s |
| Device/Port Type: | Root Complex Integrated Endpoint |
| Slot Implemented: | No |
| Emergency Power Reduction: | Not Supported |
| Active State Power Management (ASPM) Support: | None |
| Active State Power Management (ASPM) Status: | Disabled |
| L0s Exit Latency: | < 64 ns |
| L1 Exit Latency: | < 1 us |
| Maximum Payload Size Supported: | 128 bytes |
| Maximum Payload Size: | 128 bytes |
| Resizable BAR Support: | Not Supported |

[System Resources]

| | |
|-----------------------|------------|
| Interrupt Line: | N/A |
| Interrupt Pin: | INTA# |
| Memory Base Address 0 | 6000000000 |

| | |
|-----------------------|------------|
| Memory Base Address 2 | 4000000000 |
| I/O Base Address 4 | 3000 |

[Features]

| | |
|---------------------------------|-------------|
| Bus Mastering: | Enabled |
| Running At 66 MHz: | Not Capable |
| Fast Back-to-Back Transactions: | Not Capable |

[Driver Information]

| | |
|----------------------|--|
| Driver Manufacturer: | Intel Corporation |
| Driver Description: | Intel(R) UHD Graphics 730 |
| Driver Provider: | Intel Corporation |
| Driver Version: | 30.0.100.9684 |
| Driver Date: | 09-Jul-2021 |
| DCH/UWD Driver: | Not Capable |
| DeviceInstanceId | PCI\VEN_8086&DEV_4C8B&SUBSYS_88271043&REV_04\3&11583659&4&10 |
| Location Paths | PCIROOT(0)#PCI(0200) |

Intel Rocket Lake - PCI Express Root Port (X4)**[General Information]**

| | |
|---|---|
| Device Name: | Intel Rocket Lake - PCI Express Root Port (X4) |
| Original Device Name: | Intel Rocket Lake - PCI Express Root Port (X4) |
| Device Class: | PCI-to-PCI Bridge |
| Revision ID: | 1 |
| PCI Address (Bus:Device:Function) Number: | 0:6:0 |
| PCI Latency Timer: | 0 |
| Hardware ID: | PCI\VEN_8086&DEV_4C09&SUBSYS_00000000&REV_01 |

[PCI Express]

| | |
|---|---------------------------------------|
| Version: | 4.0 |
| Maximum Link Width: | 4x |
| Current Link Width: | 4x |
| Maximum Link Speed: | 16.0 GT/s |
| Current Link Speed: | 8.0 GT/s |
| Device/Port Type: | Root Port of PCI Express Root Complex |
| Slot Implemented: | Yes |
| Hot-Plug: | Not Capable |
| Hot-Plug Surprise: | Not Capable |
| Slot Power Limit: | 75.000 W |
| Emergency Power Reduction: | Not Supported |
| Active State Power Management (ASPM) Support: | None |
| Active State Power Management (ASPM) Status: | Disabled |
| L0s Exit Latency: | 512 ns - 1 us |
| L1 Exit Latency: | 8 - 16 us |
| Maximum Payload Size Supported: | 256 bytes |
| Maximum Payload Size: | 256 bytes |
| Resizable BAR Support: | Not Supported |

[System Resources]

Interrupt Line: N/A
 Interrupt Pin: N/A

[Features]

Bus Mastering: Enabled
 Running At 66 MHz: Not Capable
 Fast Back-to-Back Transactions: Not Capable

[Driver Information]

Driver Manufacturer: INTEL
 Driver Description: Intel(R) PEG60 - 4C09
 Driver Provider: INTEL
 Driver Version: 10.1.41.5
 DeviceInstanceID: PCI\VEN_8086&DEV_4C09&SUBSYS_00000000&REV_01\3&11583659&4&30
 Location Paths: PCIROOT(0)#PCI(0600)

PCI Express x4 Bus #1**Samsung NVMe PCIe SSD Controller****[General Information]**

Device Name: Samsung NVMe PCIe SSD Controller
Original Device Name: Samsung Electronics NVMe PCIe SSD Controller
Device Class: NVMe Controller
 Revision ID: 0
 PCI Address (Bus:Device:Function) Number: 1:0:0
 PCI Latency Timer: 0
 Hardware ID: PCI\VEN_144D&DEV_A808&SUBSYS_A801144D&REV_00

[PCI Express]

Version: 3.0
 Maximum Link Width: 4x
 Current Link Width: 4x
 Maximum Link Speed: 8.0 GT/s
 Current Link Speed: 8.0 GT/s
 Device/Port Type: PCI Express Endpoint
 Slot Implemented: No
 Emergency Power Reduction: Not Supported
 Active State Power Management (ASPM) Support: L1
 Active State Power Management (ASPM) Status: Disabled
 L0s Exit Latency: >4 us
 L1 Exit Latency: 32 - 64 us
 Maximum Payload Size Supported: 256 bytes

Maximum Payload Size: 256 bytes
 Resizable BAR Support: Not Supported

[System Resources]

Interrupt Line: N/A
 Interrupt Pin: INTA#
 Memory Base Address 0: A0800000

[Features]

Bus Mastering: Enabled
 Running At 66 MHz: Not Capable
 Fast Back-to-Back Transactions: Not Capable

[Driver Information]

Driver Manufacturer: Standardmäßiger NVM Express-Controller
 Driver Description: Standardmäßiger NVM Express-Controller
 Driver Provider: Microsoft
 Driver Version: 10.0.19041.844
 Driver Date: 21-Jun-2006
 DeviceInstanceId: PCI\VEN_144D&DEV_A808&SUBSYS_A801144D&REV_00\4&11A46907&0&0030
 Location Paths: PCIROOT(0)#PCI(0600)#PCI(0000)

Intel Rocket Lake - Gaussian Mixture Model (GNA)

[General Information]

Device Name: Intel Rocket Lake - Gaussian Mixture Model (GNA)
Original Device Name: Intel Rocket Lake - Gaussian Mixture Model (GNA)
Device Class: Unknown Peripheral Device
 Revision ID: 1
 PCI Address (Bus:Device:Function) Number: 0:8:0
 PCI Latency Timer: 0
 Hardware ID: PCI\VEN_8086&DEV_4C11&SUBSYS_86941043&REV_01

[System Resources]

Interrupt Line: N/A
 Interrupt Pin: INTA#
 Memory Base Address 0: 7FFFEFA000

[Features]

Bus Mastering: Disabled
 Running At 66 MHz: Not Capable
 Fast Back-to-Back Transactions: Not Capable

[Driver Information]

Driver Manufacturer: Intel Corporation
 Driver Description: Intel(R) GNA Scoring Accelerator module
 Driver Provider: Intel Corporation
 Driver Version: 2.0.0.1097
 Driver Date: 30-Oct-2020
 DeviceInstanceId: PCI\VEN_8086&DEV_4C11&SUBSYS_86941043&REV_01\3&11583659&4&40
 Location Paths: PCIROOT(0)#PCI(0800)

Intel Tiger Lake PCH-H - USB 3.2 Gen 2x1 (10 Gb/s) xHCI Host Controller [B1]

[General Information]

| | |
|---|---|
| Device Name: | Intel Tiger Lake PCH-H - USB 3.2 Gen 2x1 (10 Gb/s) xHCI Host Controller [B1] |
| Original Device Name: | Intel Tiger Lake PCH-H - USB 3.2 Gen 2x1 (10 Gb/s) xHCI Host Controller [B1] |
| Device Class: | USB xHCI Controller |
| Revision ID: | 11 [B1] |
| PCI Address (Bus:Device:Function) Number: | 0:20:0 |
| PCI Latency Timer: | 0 |
| Hardware ID: | PCI\VEN_8086&DEV_43ED&SUBSYS_86941043&REV_11 |

[System Resources]

| | |
|-----------------------|------------|
| Interrupt Line: | N/A |
| Interrupt Pin: | INTA# |
| Memory Base Address 0 | 6001100000 |

[Features]

| | |
|---------------------------------|-------------|
| Bus Mastering: | Enabled |
| Running At 66 MHz: | Not Capable |
| Fast Back-to-Back Transactions: | Capable |

USB Version Supported: 3.2

[Driver Information]

| | |
|----------------------|--|
| Driver Manufacturer: | Generischer USB-xHCI-Hostcontroller |
| Driver Description: | USB-xHCI-kompatibler Hostcontroller |
| Driver Provider: | Microsoft |
| Driver Version: | 10.0.19041.1081 |
| Driver Date: | 07-Jun-2021 |
| DeviceInstanceId | PCI\VEN_8086&DEV_43ED&SUBSYS_86941043&REV_11\3&11583659&4&A0 |
| Location Paths | PCIROOT(0)#PCI(1400) |

USB Root Hub

[Port1] : No Device Connected

[Port2] : No Device Connected

[Port3] : No Device Connected

[Port4] : No Device Connected

[Port5] : No Device Connected

[Port6] : No Device Connected

[Port7] : CHERRY, PID=B091

[Device Information]

| | |
|------------------------|-----------------------|
| Device Manufacturer: | PixArt |
| Product Name: | USB Optical Mouse |
| Serial Number: | N/A |
| USB Version Supported: | 2.00 |
| USB Device Speed: | USB 1.1 Low-speed |
| Driver Description: | USB-Eingabegerät |
| Hardware ID: | USB\VID_046A&PID_000C |

[Driver Information]

| | |
|----------------------|--|
| Driver Manufacturer: | (Standardsystemgeräte) |
| Driver Description: | USB-Eingabegerät |
| Driver Provider: | Microsoft |
| Driver Version: | 10.0.19041.868 |
| Driver Date: | 21-Jun-2006 |
| DeviceInstanceId | USB\VID_046A&PID_000C\5&221E40A&0&7 |
| Location Paths | PCIROOT(0)#PCI(1400)#USBROOT(0)#USB(7) |

[Port8] : CHERRY Keyboard

[Device Information]

| | |
|----------------------|--------|
| Device Manufacturer: | Cherry |
|----------------------|--------|

| | |
|------------------------|-----------------------|
| Product Name: | USB keyboard |
| Serial Number: | N/A |
| USB Version Supported: | 2.00 |
| USB Device Speed: | USB 1.1 Low-speed |
| Driver Description: | USB-Verbundgerät |
| Hardware ID: | USB\VID_046A&PID_B090 |

[Driver Information]

| | |
|----------------------|--|
| Driver Manufacturer: | (Standard-USB-Hostcontroller) |
| Driver Description: | USB-Verbundgerät |
| Driver Provider: | Microsoft |
| Driver Version: | 10.0.19041.488 |
| Driver Date: | 21-Jun-2006 |
| DeviceInstanceId | USB\VID_046A&PID_B090\5&221E40A&0&8 |
| Location Paths | PCIROOT(0)#PCI(1400)#USBROOT(0)#USB(8) |

[Port9] : No Device Connected

[Port10] : No Device Connected

[Port11] : No Device Connected

[Port12] : No Device Connected

[Port13] : No Device Connected

[Port14] : No Device Connected

[Port15] : No Device Connected

[Port16] : No Device Connected

[Port17] : No Device Connected

[Port18] : Innostor, PID=0902

[Device Information]

| | |
|------------------------|-------------------------|
| Device Manufacturer: | IS918 |
| Product Name: | Intenso Speed Line |
| Serial Number: | 00518950 |
| USB Version Supported: | 3.10 |
| USB Device Speed: | USB 3.0 SuperSpeed |
| Driver Description: | USB-Massenspeichergerät |
| Hardware ID: | USB\VID_1F75&PID_0918 |

[Driver Information]

| | |
|----------------------|---|
| Driver Manufacturer: | Kompatibles USB-Speichergerät |
| Driver Description: | USB-Massenspeichergerät |
| Driver Provider: | Microsoft |
| Driver Version: | 10.0.19041.1081 |
| Driver Date: | 21-Jun-2006 |
| DeviceInstanceId | USB\VID_1F75&PID_0918\00518950 |
| Location Paths | PCIROOT(0)#PCI(1400)#USBROOT(0)#USB(18) |

[Port19] : Corsair, PID=1D0B

[Device Information]

| | |
|------------------------|-------------------------|
| Device Manufacturer: | Corsair |
| Product Name: | Slider 3.0 |
| Serial Number: | 22B1713451250058 |
| USB Version Supported: | 3.00 |
| USB Device Speed: | USB 3.0 SuperSpeed |
| Driver Description: | USB-Massenspeichergerät |
| Hardware ID: | USB\VID_1B1C&PID_1A06 |

[Driver Information]

| | |
|----------------------|-------------------------------|
| Driver Manufacturer: | Kompatibles USB-Speichergerät |
| Driver Description: | USB-Massenspeichergerät |
| Driver Provider: | Microsoft |
| Driver Version: | 10.0.19041.1081 |

| | |
|------------------|---|
| Driver Date: | 21-Jun-2006 |
| DeviceInstanceId | USB\VID_1B1C&PID_1A06\22B1713451250058 |
| Location Paths | PCIROOT(0)#PCI(1400)#USBROOT(0)#USB(19) |

[Port20] : No Device Connected

[Port21] : No Device Connected

[Port22] : No Device Connected

Intel Tiger Lake PCH-H - Shared SRAM [B1]

[General Information]

| | |
|---|--|
| Device Name: | Intel Tiger Lake PCH-H - Shared SRAM [B1] |
| Original Device Name: | Intel Tiger Lake PCH-H - Shared SRAM [B1] |
| Device Class: | RAM/Memory Controller |
| Revision ID: | 11 [B1] |
| PCI Address (Bus:Device:Function) Number: | 0:20:2 |
| PCI Latency Timer: | 0 |
| Hardware ID: | PCI\VEN_8086&DEV_43EF&SUBSYS_86941043&REV_11 |

[System Resources]

| | |
|-----------------------|------------|
| Interrupt Line: | N/A |
| Interrupt Pin: | N/A |
| Memory Base Address 0 | 6001114000 |
| Memory Base Address 2 | 600111A000 |

[Features]

| | |
|---------------------------------|-------------|
| Bus Mastering: | Disabled |
| Running At 66 MHz: | Not Capable |
| Fast Back-to-Back Transactions: | Not Capable |

[Driver Information]

| | |
|----------------------|--|
| Driver Manufacturer: | INTEL |
| Driver Description: | Intel(R) Shared SRAM - 43EF |
| Driver Provider: | INTEL |
| Driver Version: | 10.1.34.8 |
| DeviceInstanceId | PCI\VEN_8086&DEV_43EF&SUBSYS_86941043&REV_11\3&11583659&4&A2 |
| Location Paths | PCIROOT(0)#PCI(1402) |

Intel Tiger Lake PCH-H - Intel ME: HECI #1 [B1]

[General Information]

| | |
|---|--|
| Device Name: | Intel Tiger Lake PCH-H - Intel ME: HECI #1 [B1] |
| Original Device Name: | Intel Tiger Lake PCH-H - Intel ME: HECI #1 [B1] |
| Device Class: | Other Communication Device |
| Revision ID: | 11 [B1] |
| PCI Address (Bus:Device:Function) Number: | 0:22:0 |
| PCI Latency Timer: | 0 |
| Hardware ID: | PCI\VEN_8086&DEV_43E0&SUBSYS_86941043&REV_11 |

[System Resources]

| | |
|-----------------------|------------|
| Interrupt Line: | N/A |
| Interrupt Pin: | INTA# |
| Memory Base Address 0 | 7FFFEFB000 |

[Features]

| | |
|---------------------------------|-------------|
| Bus Mastering: | Enabled |
| Running At 66 MHz: | Not Capable |
| Fast Back-to-Back Transactions: | Not Capable |

[Driver Information]

| | |
|----------------------|--|
| Driver Manufacturer: | Intel |
| Driver Description: | Intel(R) Management Engine Interface #1 |
| Driver Provider: | Intel |
| Driver Version: | 2102.100.0.1044 |
| Driver Date: | 03-Jan-2021 |
| DeviceInstanceId | PCI\VEN_8086&DEV_43E0&SUBSYS_86941043&REV_11\3&11583659&4&B0 |
| Location Paths | PCIROOT(0)#PCI(1600) |

Intel Tiger Lake PCH-H - SATA Controller (AHCI) [B1]

[General Information]

| | |
|---|---|
| Device Name: | Intel Tiger Lake PCH-H - SATA Controller (AHCI) [B1] |
| Original Device Name: | Intel Tiger Lake PCH-H - SATA Controller (AHCI) [B1] |
| Device Class: | SATA AHCI Controller |
| Revision ID: | 11 [B1] |
| PCI Address (Bus:Device:Function) Number: | 0:23:0 |
| PCI Latency Timer: | 0 |
| Hardware ID: | PCI\VEN_8086&DEV_43D2&SUBSYS_86941043&REV_11 |

[System Resources]

| | |
|-----------------------|----------|
| Interrupt Line: | N/A |
| Interrupt Pin: | INTA# |
| Memory Base Address 0 | A0920000 |
| Memory Base Address 1 | A0923000 |
| I/O Base Address 2 | 3090 |

| | |
|-----------------------|----------|
| I/O Base Address 3 | 3080 |
| I/O Base Address 4 | 3060 |
| Memory Base Address 5 | A0922000 |

[Features]

| | |
|---------------------------------|---------|
| Bus Mastering: | Enabled |
| Running At 66 MHz: | Capable |
| Fast Back-to-Back Transactions: | Capable |

[SATA Host Controller]

| | |
|-----------------------------------|---------------|
| Interface Speed Supported: | Gen3 6.0 Gbps |
| Number Of Ports: | 4 |
| External SATA Support: | Not Capable |
| Aggressive Link Power Management: | Not Capable |
| Staggered Spin-up: | Not Capable |
| Mechanical Presence Switch: | Not Capable |
| Command Queue Acceleration: | Capable |
| 64-bit Addressing: | Capable |
| AHCI Status: | Enabled |
| AHCI Version: | 1.31 |
| Ports Implemented: | 2, 3, 4, 5 |

[SATA Port#2]

| | |
|---------------------|---------------------|
| Port Status: | Phy in offline mode |
| External SATA Port: | Not Capable |
| Hot Plug: | Not Capable |

[SATA Port#3]

| | |
|---------------------|---------------------|
| Port Status: | Phy in offline mode |
| External SATA Port: | Not Capable |
| Hot Plug: | Not Capable |

[SATA Port#4]

| | |
|---------------------|---------------------|
| Port Status: | Phy in offline mode |
| External SATA Port: | Not Capable |
| Hot Plug: | Not Capable |

[SATA Port#5]

| | |
|---------------------|---------------------|
| Port Status: | Phy in offline mode |
| External SATA Port: | Not Capable |
| Hot Plug: | Not Capable |

[Driver Information]

| | |
|----------------------|--|
| Driver Manufacturer: | Intel Corporation |
| Driver Description: | Intel(R) 500 Series Chipset Family SATA AHCI Controller |
| Driver Provider: | Intel Corporation |
| Driver Version: | 18.31.1.1033 |
| Driver Date: | 24-Nov-2020 |
| DeviceInstanceId | PCI\VEN_8086&DEV_43D2&SUBSYS_86941043&REV_11\3&11583659&4&B8 |
| Location Paths | PCIROOT(0)#PCI(1700) |

Intel B560 PCH - eSPI Controller [B1]

[General Information]

Device Name: Intel B560 PCH - eSPI Controller [B1]
Original Device Name: Intel B560 PCH - eSPI Controller [B1]
Device Class: PCI-to-ISA Bridge
Revision ID: 11 [B1]
PCI Address (Bus:Device:Function) Number: 0:31:0
PCI Latency Timer: 0
Hardware ID: PCI\VEN_8086&DEV_4387&SUBSYS_86941043&REV_11

[System Resources]

Interrupt Line: N/A
Interrupt Pin: N/A

[Features]

Bus Mastering: Enabled
Running At 66 MHz: Not Capable
Fast Back-to-Back Transactions: Not Capable

[Driver Information]

Driver Manufacturer: INTEL
Driver Description: Intel(R) LPC Controller (B560) - 4387
Driver Provider: INTEL
Driver Version: 10.1.34.8
DeviceInstanceID: PCI\VEN_8086&DEV_4387&SUBSYS_86941043&REV_11\3&11583659&4&F8
Location Paths: PCIROOT(0)#PCI(1F00)

Intel Tiger Lake PCH-H - cAVS (Audio, Voice, Speech) [B1]

[General Information]

Device Name: Intel Tiger Lake PCH-H - cAVS (Audio, Voice, Speech) [B1]
Original Device Name: Intel Tiger Lake PCH-H - cAVS (Audio, Voice, Speech) [B1]
Device Class: High Definition Audio
Revision ID: 11 [B1]
PCI Address (Bus:Device:Function) Number: 0:31:3
PCI Latency Timer: 32
Hardware ID: PCI\VEN_8086&DEV_43C8&SUBSYS_87681043&REV_11

[System Resources]

Interrupt Line: IRQ16
Interrupt Pin: INTA#
Memory Base Address 0: 7FFF0000
Memory Base Address 4: 7FFF0000

[Features]

Bus Mastering: Enabled
Running At 66 MHz: Not Capable
Fast Back-to-Back Transactions: Not Capable

[Driver Information]

Driver Manufacturer: Microsoft
Driver Description: High Definition Audio-Controller

| | |
|------------------|--|
| Driver Provider: | Microsoft |
| Driver Version: | 10.0.19041.1081 |
| Driver Date: | 08-Jun-2021 |
| DeviceInstanceId | PCI\VEN_8086&DEV_43C8&SUBSYS_87681043&REV_11\3&11583659&4&FB |
| Location Paths | PCIROOT(0)#PCI(1F03) |

Intel Tiger Lake PCH-H - SMBus Host Controller [B1]

[General Information]

| | |
|---|--|
| Device Name: | Intel Tiger Lake PCH-H - SMBus Host Controller [B1] |
| Original Device Name: | Intel Tiger Lake PCH-H - SMBus Host Controller [B1] |
| Device Class: | SMBus (System Management Bus) |
| Revision ID: | 11 [B1] |
| PCI Address (Bus:Device:Function) Number: | 0:31:4 |
| PCI Latency Timer: | 0 |
| Hardware ID: | PCI\VEN_8086&DEV_43A3&SUBSYS_86941043&REV_11 |

[System Resources]

| | |
|-----------------------|------------|
| Interrupt Line: | N/A |
| Interrupt Pin: | INTA# |
| Memory Base Address 0 | 6001118000 |
| I/O Base Address 4 | EFA0 |

[Features]

| | |
|---------------------------------|-------------|
| Bus Mastering: | Disabled |
| Running At 66 MHz: | Not Capable |
| Fast Back-to-Back Transactions: | Capable |

[Driver Information]

| | |
|----------------------|--|
| Driver Manufacturer: | INTEL |
| Driver Description: | Intel(R) SMBus - 43A3 |
| Driver Provider: | INTEL |
| Driver Version: | 10.1.34.8 |
| DeviceInstanceId | PCI\VEN_8086&DEV_43A3&SUBSYS_86941043&REV_11\3&11583659&4&FC |
| Location Paths | PCIROOT(0)#PCI(1F04) |

Intel Tiger Lake PCH-H - SPI (flash) Controller [B1]

[General Information]

| | |
|---|---|
| Device Name: | Intel Tiger Lake PCH-H - SPI (flash) Controller [B1] |
| Original Device Name: | Intel Tiger Lake PCH-H - SPI (flash) Controller [B1] |
| Device Class: | Other Serial Bus Controller |
| Revision ID: | 11 [B1] |
| PCI Address (Bus:Device:Function) Number: | 0:31:5 |
| PCI Latency Timer: | 0 |
| Hardware ID: | PCI\VEN_8086&DEV_43A4&SUBSYS_86941043&REV_11 |

[System Resources]

| | |
|-----------------------|----------|
| Interrupt Line: | N/A |
| Interrupt Pin: | N/A |
| Memory Base Address 0 | FE010000 |

[Features]

| | |
|---------------------------------|-------------|
| Bus Mastering: | Disabled |
| Running At 66 MHz: | Not Capable |
| Fast Back-to-Back Transactions: | Not Capable |

[Driver Information]

| | |
|----------------------|--|
| Driver Manufacturer: | INTEL |
| Driver Description: | Intel(R) SPI (flash) Controller - 43A4 |
| Driver Provider: | INTEL |
| Driver Version: | 10.1.34.8 |
| DeviceInstanceID | PCI\VEN_8086&DEV_43A4&SUBSYS_86941043&REV_11\3&11583659&4&FD |
| Location Paths | PCIROOT(0)#PCI(1F05) |

Intel Ethernet Connection I219-V

[General Information]

| | |
|---|--|
| Device Name: | Intel Ethernet Connection I219-V |
| Original Device Name: | Intel Ethernet Connection I219-V |
| Device Class: | Ethernet Adapter |
| Revision ID: | 11 |
| PCI Address (Bus:Device:Function) Number: | 0:31:6 |
| PCI Latency Timer: | 0 |
| Hardware ID: | PCI\VEN_8086&DEV_15FA&SUBSYS_86721043&REV_11 |

[System Resources]

| | |
|-----------------------|----------|
| Interrupt Line: | N/A |
| Interrupt Pin: | INTA# |
| Memory Base Address 0 | A0900000 |

[Features]

| | |
|---------------------------------|-------------|
| Bus Mastering: | Enabled |
| Running At 66 MHz: | Not Capable |
| Fast Back-to-Back Transactions: | Not Capable |

[Driver Information]

| | |
|----------------------|--|
| Driver Manufacturer: | Intel |
| Driver Description: | Intel(R) Ethernet Connection (14) I219-V |
| Driver Provider: | Intel |
| Driver Version: | 12.19.1.37 |
| Driver Date: | 10-Feb-2021 |
| DeviceInstanceID | PCI\VEN_8086&DEV_15FA&SUBSYS_86721043&REV_11\3&11583659&4&FE |
| Location Paths | PCIROOT(0)#PCI(1F06) |

Video Adapter

Intel UHD Graphics 730

[Video chipset]

Video Chipset: Intel UHD Graphics 730
Video Chipset Codename: Rocket Lake-S GT1
Video Memory: 1024 MBytes

[Video Card]

Video Card: Intel Rocket Lake-S GT1 - Integrated Graphics [B0] [ASUS]
Video Bus: Integrated
Video RAMDAC: Internal

[Performance]

Graphics Processor Clock: 349.1 MHz
Graphics Memory Clock: 1330.0 MHz
Graphics Memory Bus Width: 64-bit
Number Of ALUs (cores): 256
Number Of EUs (Execution Units): 32

Resizable BAR Support: Not Supported

Hardware ID: PCI\VEN_8086&DEV_4C8B&SUBSYS_88271043&REV_04
PCI Location (Bus:Dev:Fnc): 0:02:0

[Driver Information]

Driver Manufacturer: Intel Corporation
Driver Description: Intel(R) UHD Graphics 730
Driver Provider: Intel Corporation
Driver Version: 30.0.100.9684
Driver Date: 09-Jul-2021
DCH/UWD Driver: Not Capable
DeviceInstanceId: PCI\VEN_8086&DEV_4C8B&SUBSYS_88271043&REV_04\3&11583659&4&10
Location Paths: PCIROOT(0)#PCI(0200)

Monitor

ASUS [Unknown Model: AUS2481]

[General information]

Monitor Name: ASUS [Unknown Model: AUS2481]
Monitor Name (Manuf): VA24DQLB
Serial Number: M5LMQS087918
Date Of Manufacture: Week: 20, Year: 2021

| | |
|-----------------------|-----------------|
| Monitor Hardware ID: | Monitor\AUS2481 |
| Max. Vertical Size: | 30 cm |
| Max. Horizontal Size: | 53 cm |
| Horizontal Frequency: | 85 - 85 kHz |
| Vertical Frequency: | 48 - 75 Hz |
| Maximum Pixel Clock: | 230 MHz |

[Advanced parameters]

| | |
|---|--------------------------|
| Input Signal: | Digital |
| Color Bit Depth: | 8 Bits per Primary Color |
| Digital Video Interface Standard Supported: | DisplayPort |
| Gamma Factor: | 2.20 |

[DPMS Modes]

| | |
|---------------------------------------|---------------|
| Standby: | Not Supported |
| Suspend: | Not Supported |
| Active Off: | Supported |
| Standard Colour Space (sRGB) Default: | Not Supported |
| Preferred Timing Mode: | Supported |
| Default GTF (Continuous Frequency): | Supported |
| DFP 1.x Compatible: | Yes |

[Supported Video Modes]

| | |
|-------------|--------------------------------------|
| 1152 x 864 | 75 Hz |
| 1280 x 1024 | 60 Hz |
| 1280 x 960 | 60 Hz |
| 1280 x 720 | 60 Hz |
| 1440 x 900 | 60 Hz |
| 1680 x 1050 | 60 Hz |
| 1920 x 1080 | 60 Hz |
| 1920 x 1080 | 75 Hz |
| 1920 x 1080 | 527 x 296 mm, Pixel Clock 148.50 MHz |

Drives

(S)ATA/ATAPI Drives

NVMe Drives

SAMSUNG MZVLB256HBHQ-00007

[General Information]

| | |
|--------------------------|-----------------------------------|
| Drive Controller: | NVMe (PCIe 4x 8.0 GT/s) |
| Host Controller: | Samsung NVMe PCIe SSD Controller |
| Drive Model: | SAMSUNG MZVLB256HBHQ-00007 |
| Drive Serial Number: | S4GHNX0R505611 |
| Drive Firmware Revision: | EXH7202Q |
| NVMe Version Supported: | v1.3 |
| Drive Capacity: | 244,198 MBytes (256 GB) |
| Drive Capacity [MB]: | 244198 |

[Capabilities]

| | |
|-------------------------------------|---------------|
| Volatile Write Cache: | Present |
| Compare Command: | Supported |
| Write Uncorrectable Command: | Supported |
| Dataset Management: | Supported |
| Write Zeroes: | Supported |
| Save field set to a non-zero value: | Supported |
| Reservations: | Not Supported |
| Timestamp: | Supported |
| Autonomous Power State Transitions: | Supported |

[Self-Monitoring, Analysis and Reporting Technology (S.M.A.R.T.)]

| | |
|--|-------------|
| Available Space Below Threshold: | OK |
| Temperature Exceeded Critical Threshold: | OK |
| Device Reliability Degraded: | OK |
| Media In Read Only Mode: | OK |
| Volatile Memory Backup Device Failed: | OK |
| | |
| Drive Temperature: | 56 °C |
| Warning Temperature Threshold: | 84 °C |
| Critical Temperature Threshold: | 85 °C |
| Time Above Warning Temperature Threshold: | 0 minutes |
| Time Above Critical Temperature Threshold: | 0 minutes |
| | |
| Spare Capacity Available: | 100% |
| Device Health: | 100% |
| Power Cycles: | 16 |
| Power On Hours: | 2 hours |
| Unsafe Shutdowns: | 5 |
| Media Errors: | 0 |
| Total Host Reads: | 2721 GBytes |
| Total Host Writes: | 55 GBytes |

Audio

Intel Tiger Lake PCH-H - cAVS (Audio, Voice, Speech) [B1]

Audio Adapter: Intel Tiger Lake PCH-H - cAVS (Audio, Voice, Speech) [B1]

Audio Controller
Hardware ID: PCI\VEN_8086&DEV_43C8&SUBSYS_87681043&REV_11

High Definition Audio Codec: RealTek

Audio Codec
Hardware ID: HDAUDIO\FUNC_01&VEN_10EC&DEV_0255&SUBSYS_10438768&REV_1000

[Driver Information]

Driver
Manufacturer: Realtek

Driver
Description: Realtek High Definition Audio

Driver Provider: Realtek Semiconductor Corp.

Driver Version: 6.0.9091.1

Driver Date: 28-Dec-2020

DeviceInstanceID HDAUDIO\FUNC_01&VEN_10EC&DEV_0255&SUBSYS_10438768&REV_1000\4&2792E143&0&0001

Network

Intel Ethernet Connection I219-V

[General information]

| | |
|----------------------------|---|
| Network Card: | Intel Ethernet Connection I219-V |
| Vendor Description: | Intel(R) Ethernet Connection (14) I219-V |
| MAC Address: | FC-34-97-97-D4-99 |

[Capabilities]

| | |
|-----------------------|--|
| Maximum Link Speed: | 1000 Mbps |
| Transmit Buffer Size: | 775168 Bytes |
| Receive Buffer Size: | 389632 Bytes |
| Hardware ID: | PCI\VEN_8086&DEV_15FA&SUBSYS_86721043&REV_11 |

[Driver Information]

| | |
|----------------------|--|
| Driver Manufacturer: | Intel |
| Driver Description: | Intel(R) Ethernet Connection (14) I219-V |
| Driver Provider: | Intel |
| Driver Version: | 12.19.1.37 |
| Driver Date: | 10-Feb-2021 |
| DeviceInstanceID | PCI\VEN_8086&DEV_15FA&SUBSYS_86721043&REV_11\3&11583659&4&FE |
| Location Paths | PCIROOT(0)#PCI(1F06) |

Ports

Serial Ports

COM1

USB

Intel(R) USB 3.20 eXtensible-Hostcontroller – 1.20 (Microsoft)

Root Hub

[Port1] : No Device Connected

[Port2] : No Device Connected

[Port3] : No Device Connected

[Port4] : No Device Connected

[Port5] : No Device Connected

[Port6] : No Device Connected

[Port7] : CHERRY, PID=B091

[Device Information]

| | |
|------------------------|-----------------------|
| Device Manufacturer: | PixArt |
| Product Name: | USB Optical Mouse |
| Serial Number: | N/A |
| USB Version Supported: | 2.00 |
| USB Device Speed: | USB 1.1 Low-speed |
| Driver Description: | USB-Eingabegerät |
| Hardware ID: | USB\VID_046A&PID_000C |

[Driver Information]

| | |
|----------------------|--|
| Driver Manufacturer: | (Standardsystemgeräte) |
| Driver Description: | USB-Eingabegerät |
| Driver Provider: | Microsoft |
| Driver Version: | 10.0.19041.868 |
| Driver Date: | 21-Jun-2006 |
| DeviceInstanceId | USB\VID_046A&PID_000C\5&221E40A&0&7 |
| Location Paths | PCIROOT(0)#PCI(1400)#USBROOT(0)#USB(7) |

[Port8] : CHERRY Keyboard

[Device Information]

| | |
|------------------------|-----------------------|
| Device Manufacturer: | Cherry |
| Product Name: | USB keyboard |
| Serial Number: | N/A |
| USB Version Supported: | 2.00 |
| USB Device Speed: | USB 1.1 Low-speed |
| Driver Description: | USB-Verbundgerät |
| Hardware ID: | USB\VID_046A&PID_B090 |

[Driver Information]

| | |
|----------------------|-------------------------------------|
| Driver Manufacturer: | (Standard-USB-Hostcontroller) |
| Driver Description: | USB-Verbundgerät |
| Driver Provider: | Microsoft |
| Driver Version: | 10.0.19041.488 |
| Driver Date: | 21-Jun-2006 |
| DeviceInstanceId | USB\VID_046A&PID_B090\5&221E40A&0&8 |

[Port9] : No Device Connected

[Port10] : No Device Connected

[Port11] : No Device Connected

[Port12] : No Device Connected

[Port13] : No Device Connected

[Port14] : No Device Connected

[Port15] : No Device Connected

[Port16] : No Device Connected

[Port17] : No Device Connected

[Port18] : Innostor, PID=0902

[Device Information]

Device Manufacturer: IS918
Product Name: Intenso Speed Line
Serial Number: 00518950
USB Version Supported: 3.10
USB Device Speed: USB 3.0 SuperSpeed
Driver Description: USB-Massenspeichergerät
Hardware ID: USB\VID_1F75&PID_0918

[Driver Information]

Driver Manufacturer: Kompatibles USB-Speichergerät
Driver Description: USB-Massenspeichergerät
Driver Provider: Microsoft
Driver Version: 10.0.19041.1081
Driver Date: 21-Jun-2006
DeviceInstanceId: USB\VID_1F75&PID_0918\00518950
Location Paths: PCIROOT(0)#PCI(1400)#USBROOT(0)#USB(18)

[Port19] : Corsair, PID=1D0B

[Device Information]

Device Manufacturer: Corsair
Product Name: Slider 3.0
Serial Number: 22B1713451250058
USB Version Supported: 3.00
USB Device Speed: USB 3.0 SuperSpeed
Driver Description: USB-Massenspeichergerät
Hardware ID: USB\VID_1B1C&PID_1A06

[Driver Information]

Driver Manufacturer: Kompatibles USB-Speichergerät
Driver Description: USB-Massenspeichergerät
Driver Provider: Microsoft
Driver Version: 10.0.19041.1081
Driver Date: 21-Jun-2006
DeviceInstanceId: USB\VID_1B1C&PID_1A06\22B1713451250058
Location Paths: PCIROOT(0)#PCI(1400)#USBROOT(0)#USB(19)

[Port20] : No Device Connected

[Port21] : No Device Connected

[Port22] : No Device Connected
