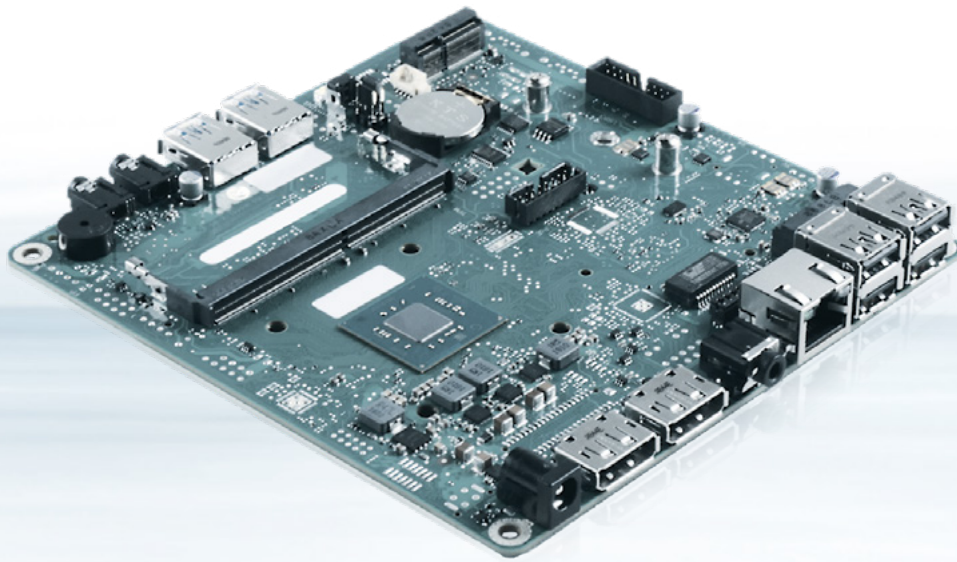


D3544-H mSTX

Extended Lifecycle Series



Intel® Celeron® Processor J4005

- ▶ Dual DP V1.2a
- ▶ M.2 SSD & M.2 WLAN Slots onboard
- ▶ Single GbE LAN onboard
- ▶ 19 V DC Power Supply
- ▶ Designed for Fanless Operation

POSSIBILITIES START HERE



D3544-H mITX

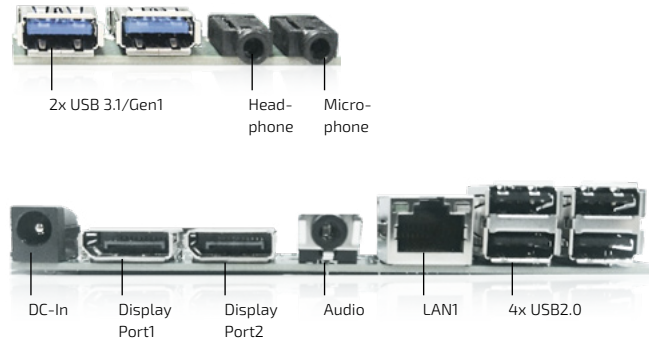
Extended Lifecycle Series

The Extended Lifecycle Motherboard D3544-H mSTX supports the Intel® Celeron® Processor J4005. Despite the small form factor, the D3544-H mSTX provides best graphic performance with DP

connectors for up to 4K displays. It supports 8/5 operation mode and an operating temperature range from 10 °C to 50 °C on low power consumption.

▶ PRODUCT HIGHLIGHTS

- ▶ Intel® UHD Graphics 600 (within SoC)
- ▶ 2x DisplayPort V1.2a
- ▶ HD Audio onboard
- ▶ USB 2.0 and USB 3.1 (gen1) onboard
- ▶ Onboard support for M.2 SSD (SATA/PCIe)
- ▶ Onboard support for M.2 WLAN/Bluetooth module
- ▶ Single GbE LAN onboard
- ▶ Intel® integrated TPM V2.0 onboard



▶ TECHNICAL INFORMATION

SYSTEM	PROCESSOR CHIPSET MEMORY	Intel® Celeron® Processor J4005 (DC @2.0 GHz/2.7 GHz) SoC (System on Chip) 1x SO DIMM Socket (1.2 V), max. 16 GByte, 1x DDR4 2400 SDRAM (SO-DIMM)
VIDEO	GRAPHICS	Integrated Intel® UHD Graphics 600
AUDIO	AUDIO CODEC AUDIO INTERFACE	Realtek ALC671 5.1-channel, High Definition Audio Codec
NETWORK CONNECTION	ETHERNET	1x Realtek RTL8111G with 10/100/1000 MBit/s
PERIPHERAL CONNECTION	USB	4x USB 2.0 2x USB 3.1 Gen1, 2x USB 3.1 Gen1 (by header)
STORAGE & EXPANSION	SATA/PCIe	1x M.2 Key-B socket (2242; SATA or PCIe x1) 1x M.2 Key-E (2230; WLAN/Bluetooth)
POWER	CONNECTOR INPUT VOLTAGE	External DC-in, 19 V Onboard SoC and system voltage regulators (high efficiency)
FIRMWARE	BIOS	AMI Aptio 5.x (UEFI) BIOS modified and adapted by Fujitsu Technology Solutions; Recovery BIOS, SM-BIOS (DMI), BIOS and CPU Microcode Update, Quick Boot, Logo Boot, Quiet Boot, Plug & Play, Automatic DRAM Configuration, BIOS Support for S.M.A.R.T., Advanced Power Management, ACPI S3/S4, Wake on time from S5. Boot support for M.2 SSD (AHCI / NVME) No legacy OS support, no MBR installation (UEFI only due to Intel restrictions)
	REAL TIME CLOCK TPM	Integrated Intel® integrated, TPM V2.0

▶ TECHNICAL INFORMATION

SYSTEM CONTROL	FP HEADER SECURITY	1x Header for Reset button, HDD LED, Power button, Power LED Recovery BIOS, System and BIOS Password, Boot Sequence Control, USB- Port Access Protection, Write Protection for Flash BIOS, EraseDisk (BIOS Feature), Intel integrated TPM V2.0
COOLING	FANLESS	Fanless heatsink
SOFTWARE	OS SUPPORT	MS Windows 10 Linux-64
MECHANICAL	DIMENSIONS (L x W)	Mini-STX: 5.5" x 5.8" (140 x 148 mm)
CERTIFICATION	EMC & SAFETY	cTÜVus acc. IEC62368-1 (upon request), CE Class B

▶ MOTHERBOARD VERSIONS

	PROCESSOR (SoC)	GRAPHICS	MEMORY	GRAPHICS
D3544-H1	Intel® Celeron® J4005 (Dual Core) 2.0 GHz / 2.7 GHz*	Intel® UHD 600 12EUs; max. 8 GByte 250 MHz / 700 MHz**	DDR4 / 2400 one sockets max. 16 GByte	2x DP V1.2 max. 4096 x 2160 @60 Hz 2x independent display

*) CPU Base Frequency / Burst Frequency

**) Graphics Base Frequency / max. Dynamic Frequency

▶ POWER SUPPLY REQUIREMENTS

SOURCE	VOLTAGE RANGE	MIN. PS LOAD	MAX. VOLTAGE TOLERANCE	TYP. MOTHERBOARD INPUT POWER*	MAX. MOTHERBOARD INPUT POWER**
DC-IN	19 V	0 A	± 5 %	5 W - 15 W	40 W

*) Motherboard incl. Memory and M.2 SATA SSD (MS Windows 10 Idle Mode / Full Load)

**) Motherboard incl. Memory, M.2 SSD, M.2 WLAN, and any USB Devices

TECHNICAL INFORMATION

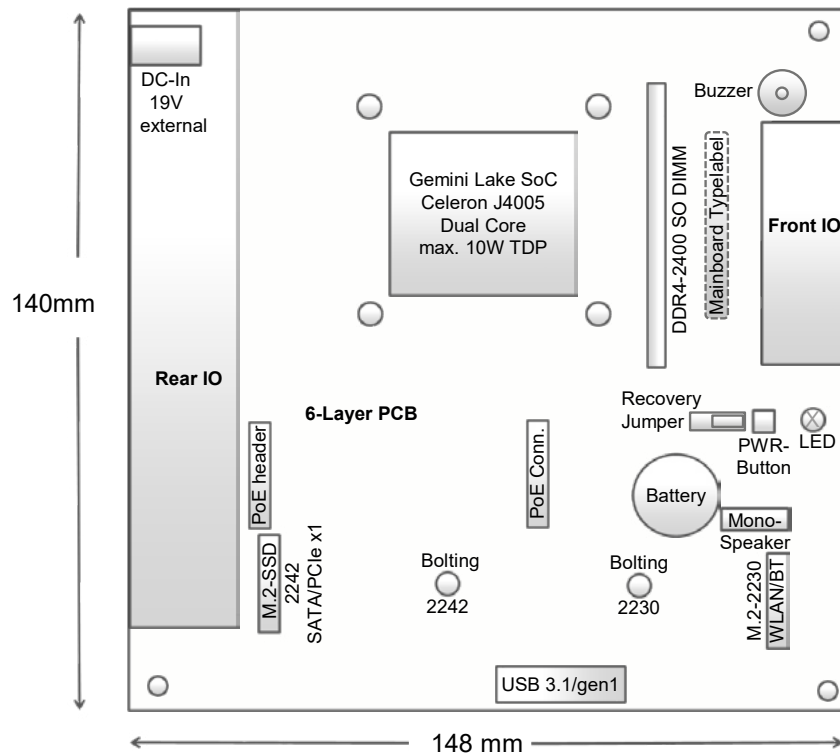
FEATURES	Chipset DP V1.2a / 2nd DP V1.2a / LVDS / eDP V1.4 / HDMI / DVI / VGA Buzzer / int. Speaker Support (mono)* / 5.1 Multichannel Audio LAN Gbit / 100 Mbit / 10 Mbit / WoL / PXE / M.2 2230 WLAN-BT iAMT-vPro / Intel Standard Manageability / DASH V1.1 SATA / M.2 (SATA) / M.2 PCIe (1 lane) USB 2.0 / USB 3.1 (gen1) / FireWire™ FAN monitored & controlled PSU / CPU / AUX1 / AUX2 TEMP monitored CPU / onboard sensors / external sensor	Intel Gemini Lake SoC + / + / - / - / - / - / - / - + / + / - / - + / + / + / + / + / + / + - / - / - / - - / + / + / - + / + / - / - / - / - / - + / + / - / -
SPECIAL FEATURES	COM interface support for RS-232 / RS-485 / RS-422 Silent Fan / System Guard / Silent Drives Recovery BIOS / Desk Update / Multi Boot HDD Password / EraseDisk** / TPM V1.2 / TPM V2.0 Logo Boot Option / Intel On Screen Branding BIOS POST- / BIOS Boot- / OS- HW Watchdog Operating Mode 24-7 / 8-5 (hrs per day - days per week) Mainboard operating temperature range (chassis inside)	- - / - / - / - + / + / + / + + / - / - / - / + + / + / + - / - / - / - - / + / - / - 10 °C - 50 °C
INTERNAL CONNECTORS	SO DIMM Sockets (DDR4 2400) SATA-600 / M.2 SSD / M.2 WLAN-BT / mSATA Front Panel Audio (9-Pin, HD Audio) / SP-DIF Out (Digital Audio) USB 2.0 pin header / USB Stick socket USB 3.1/gen1 pin header (provides 2 USB channels)*** Serial COM1 (RS-232 / -422 / -485; pin header 2mm pitch) Serial COM2 (RS-232; specific connector) / Parallel Port header LVDS / LVDS Backlight / Embedded DisplayPort FAN PSU / CPU (PWM) / AUX1 (PWM) Intrusion (Case Open) / GPIO (8Bit) / SMBus (Case Temp.) Mono Speaker header / Stereo Speaker header / Digital MIC header Front Panel (Power Switch, Reset Switch, LEDs, Intel 10 pin header) SATA Drive Power Connector (5V/12V) / DC-In Connector 19V (4 pin)	1 - / 1 / 1 / - / - - / - / - / - 1 - - / - / - / - - / - / - / - - / - / - / - 1 / - / - / - / - - / - / - / - - / - / - / -
EXTERNAL CONNECTORS	DisplayPort V1.2a / HDMI / DVI / VGA Audio Mic. In / Line in / Line out (or driver configuration) / HP out LAN (RJ-45) / PS-2 Keyboard / PS-2 Mouse USB 2.0 / USB 3.1 gen1 DC-In connector (external input) 19 V @ 40 W max.	2 / - / - / - / - 1 / - / 1 / 1 / - 1 / - / - / - / - 4 / 2 / - 1

*) Mono speaker support; max. 2.2 W @4Ω / 1.3 W @8Ω

**) For factory shipments from 06/2019

***) USB3 connector includes separate USB2.0 signal pins (2 channels)

CONNECTOR / SOCKET DIAGRAM



▶ ORDERING INFORMATION

ARTICLE	PART NO.	DESCRIPTION
D3544-H1 MSTX	F5120-V171	Intel® Celeron® J4005 Processor (DC/10 W TDP/2.7 GHz)
ACCESSORIES		
CHASSIS KIT	F5000-J4*	SMARTCASE™ S500
AC ADAPTER	F5000-P6	19 V/65 W
HEATSINK + BACKPLATE	F5000-C10	Fanless
USB-C REAR EXTENSION CABLE	F5000-K8	USB 3.1/gen1
WLAN MODULE	F5000-W3	Intel 9260 (M.2 2230)
WLAN MODULE KIT	F5000-W2	Intel 9260 (M.2 2230) F5000-W2 incl. Dual WLAN Antenna for SMARTCASE™ S500
MONO SPEAKER KIT	F5000-K9	SMARTCASE™ S500

* New H-version rear I/O-Shield necessary

▶ Global Headquarters

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