

# Data Sheet

## FUJITSU Mainboard D3544-H Mini-STX

### Extended Lifecycle

Intel® embedded Gemini Lake SoC (System on Chip, 10W TDP) for DDR4 2400 SDRAM Memory  
Enhanced operating temperature range from 10°C to 50°C



#### Processors (SoC):

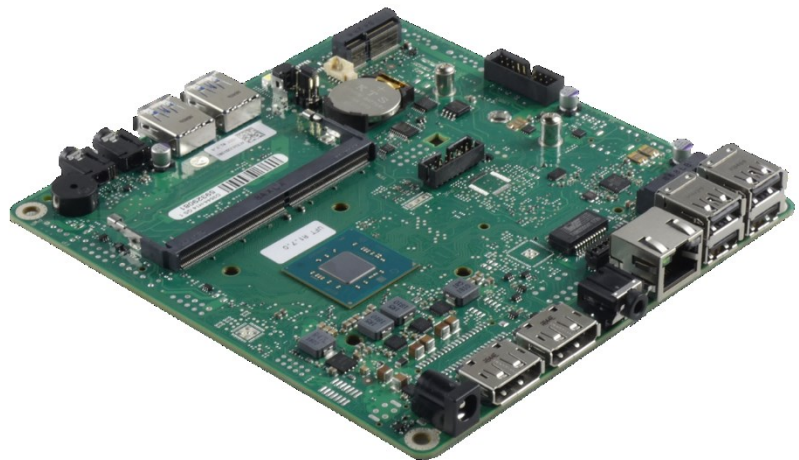
Intel® Celeron® Processor J4005 (DC @2.0GHz / 2.7GHz), integrated Intel® UHD Graphics 600 (12EUs @700MHz)  
10W TDP

#### Memory:

DDR4 2400 SDRAM (SO-DIMM)

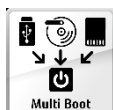
#### Product Features:

- 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



(upon request)

(upon request)



# Features and benefits

**Board Size** Mini-STX: 5.5" x 5.8" (140 x 148 mm)

<b>Mainboard Version</b>	<b>D3544-H1</b>	<b>Processor (SoC)</b>	<b>Graphics</b>	<b>Memory</b>	<b>Graphics</b>
		Intel® Celeron® J4005 (Dual Core) 2.0GHz / 2.7GHz <sup>1)</sup>	Intel® UHD 600 12EUs; max. 8GB 250MHz / 700MHz <sup>2)</sup>	DDR4 / 2400 one socket max. 16GB	2 x DP V1.2 max. 4096 x 2160 @60Hz  max. 2 x independent display

1) CPU Base Frequency / Burst Frequency 2) Graphics Base Frequency / max. Dynamic Frequency

**Memory** 1 x SO DIMM Socket (1.2V), max. 16GB, DDR4 - 2400 (CL17) / 2133 (CL15) SDRAM, unbuffered, non-ECC

**Power Specification** External DC Input 19V (40W max.)  
Onboard SoC and system voltage regulators (high efficiency)

**Power Supply Requirements**

Source	Voltage Range	Min. PSU Load	Max. Voltage Tolerance	typ. Mainboard Input Power <sup>1)</sup>	max. Mainboard Input Power <sup>2)</sup>
DC-IN	19V	0A	± 5 %	5W - 15W	40W

- 1) Mainboard incl. Memory and M.2 SATA SSD (MS Windows 10 Idle Mode / Full Load)
- 2) Mainboard incl. Memory, M.2 SSD, M.2 WLAN, and any USB Devices

**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)  
BIOS integrated HW Diagnostic Tool  
**No legacy OS support, no MBR installation** (UEFI only due to Intel restrictions)

**Security Features** Recovery BIOS, System and BIOS Password, Boot Sequence Control, USB- Port Access Protection, Boot Sector Virus Warning, Write Protection for Flash BIOS, EraseDisk (BIOS Feature), Intel integrated TPM V2.0

<b>Special Features</b>	System Guard	tbd
	Recovery BIOS	Restores a corrupted BIOS
	Desk Update	Simple driver update with Driver & Utilities DVD
	Multi Boot	Comfortable boot from any boot device
	HDD Password	Access protection for disk drives
	Always On	Reliable power-on whenever voltage is connected
	CSA / UL Compliance	Upon request: cTÜVus acc. IEC62368-1
	FCC Compliance	Upon request: FCC-B verified

Operating Systems	OS	"Runnable"	"Tested/Released by Fujitsu"
	MS Windows 10-64 RS1 / RS2 <sup>1</sup>	X	
	MS Windows 10-64 RS3	X	X
	MS Windows 10-64 RS4 / RS5	X	
	Linux-64	X	
	<b>Important Note:</b> Legacy OS / MBR installation (DOS, MS Windows 7, ...) is not supported due to Intel restrictions		
Graphics	Integrated <b>Intel® UHD Graphics 600</b> 2 x DisplayPort V1.2a Supports up to 2 x independent display		
Audio	Realtek ALC671 5.1-channel, High Definition Audio Codec		
LAN	1 x <b>Realtek RTL8111G</b> with 10/100/1000 MBit/s, Wake-on-LAN (WoL) by interesting Packets, Link Status Change and Magic Packet™, PXE support, BIOS MAC Address Display Optional PoE 802.11at Support		
Drives / Modules	1 x M.2 Key B socket (2242) for following applications: <ul style="list-style-type: none"> <li>• SATA based M.2 SSD modules (recommended for best M.2 SSD performance)</li> <li>• PCIe based M.2 SSD modules (one PCI lane)</li> </ul> Boot support: AHCI / NVME		
WLAN / Bluetooth	1 x M.2 Key E socket (WLAN / Bluetooth), mechanical support for 2230 Supports M.2 modules with PCIe x1 (Gen2) and / or USB 2.0 interface		

<sup>1</sup> Long-term driver update support for RS1 (LTSB) and RS2 is not guaranteed by Intel

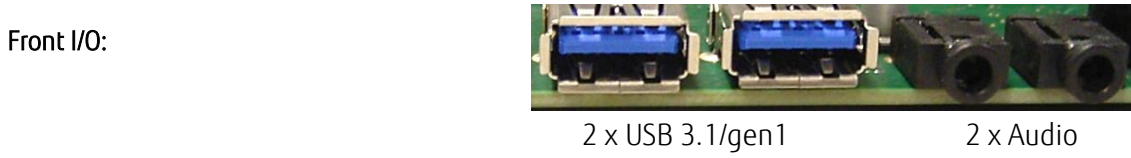
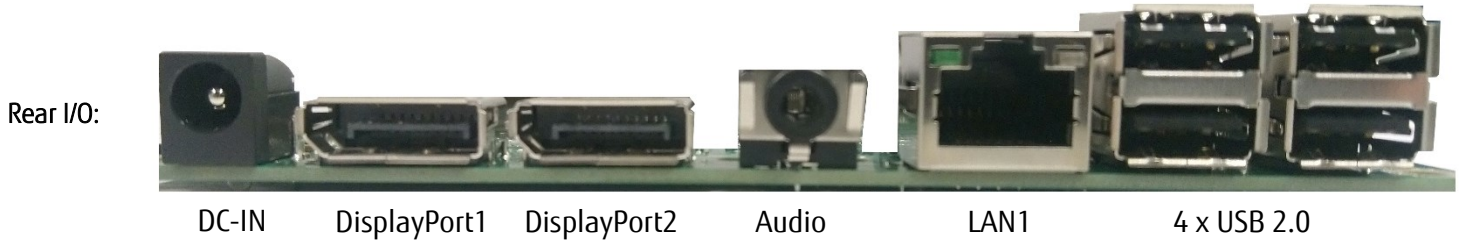
<b>Features</b> D3544-H (Mini-STX)	Chipset	Intel Gemini Lake SoC
	DP V1.2a / 2 <sup>nd</sup> DP V1.2a / LVDS / eDP V1.4 / HDMI / DVI / VGA	✓ / ✓ / - / - / - / - / - / -
	Buzzer / int. Speaker Support (mono) <sup>2</sup> / 5.1 Multichannel Audio	✓ / ✓ / -
	LAN Gbit / 100 Mbit / 10 Mbit / WoL / PXE / M.2 2230 WLAN-BT	✓ / ✓ / ✓ / ✓ / ✓ / ✓ / ✓
	iAMT-vPro / Intel Standard Manageability / DASH V1.1	- / - / -
	SATA / M.2 (SATA) / M.2 PCIe (1 lane) / eSATA-Support / RAID / mSATA	- / ✓ / ✓ / ✓ / ✓ / - / -
	USB 2.0 / USB 3.1 (gen1) / FireWire™	✓ / ✓ / -
	FAN monitored & controlled PSU / CPU / AUX1 / AUX2	- / - / - / -
	TEMP monitored CPU / onboard sensors / external sensor	✓ / ✓ / -
<b>Special Features</b> D3544-H	COM interface support for RS-232 / RS-485 / RS-422	-
	Silent Fan / System Guard / Silent Drives	- / tbd / -
	Recovery BIOS / Desk Update / Multi Boot	✓ / ✓ / ✓
	HDD Password / EraseDisk <sup>3</sup> / 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
	<b>Internal Connectors</b> D3544-H	SO DIMM Sockets (DDR4 2400)
SATA-600 / M.2 SSD / M.2 WLAN-BT / mSATA		- / 1 / 1 / -
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) <sup>4</sup>		1
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		1 / - / -
Front Panel (Power Switch, Reset Switch, LEDs, Intel 10 pin header)		-
SATA Drive Power Connector (5V/12V) / DC-In Connector 19V (4 pin)		- / -
Power over Ethernet (PoE)		✓ (optional)
<b>External Connectors</b> D3544-H	DisplayPort V1.2a / HDMI / DVI / VGA	2 / - / - / -
	Audio Mic. In / Line in / Line out (or driver configuration) / HP out	1 / - / 1 / 1
	LAN (RJ-45) / PS-2 Keyboard / PS-2 Mouse	1 / - / -
	USB 2.0 / USB 3.1 gen1	4 / 2
	DC-In connector (external input) 19V @ 40W max.	1

<sup>2</sup> Mono speaker support; max. 2.2W @4Ω / 1.3W @8Ω

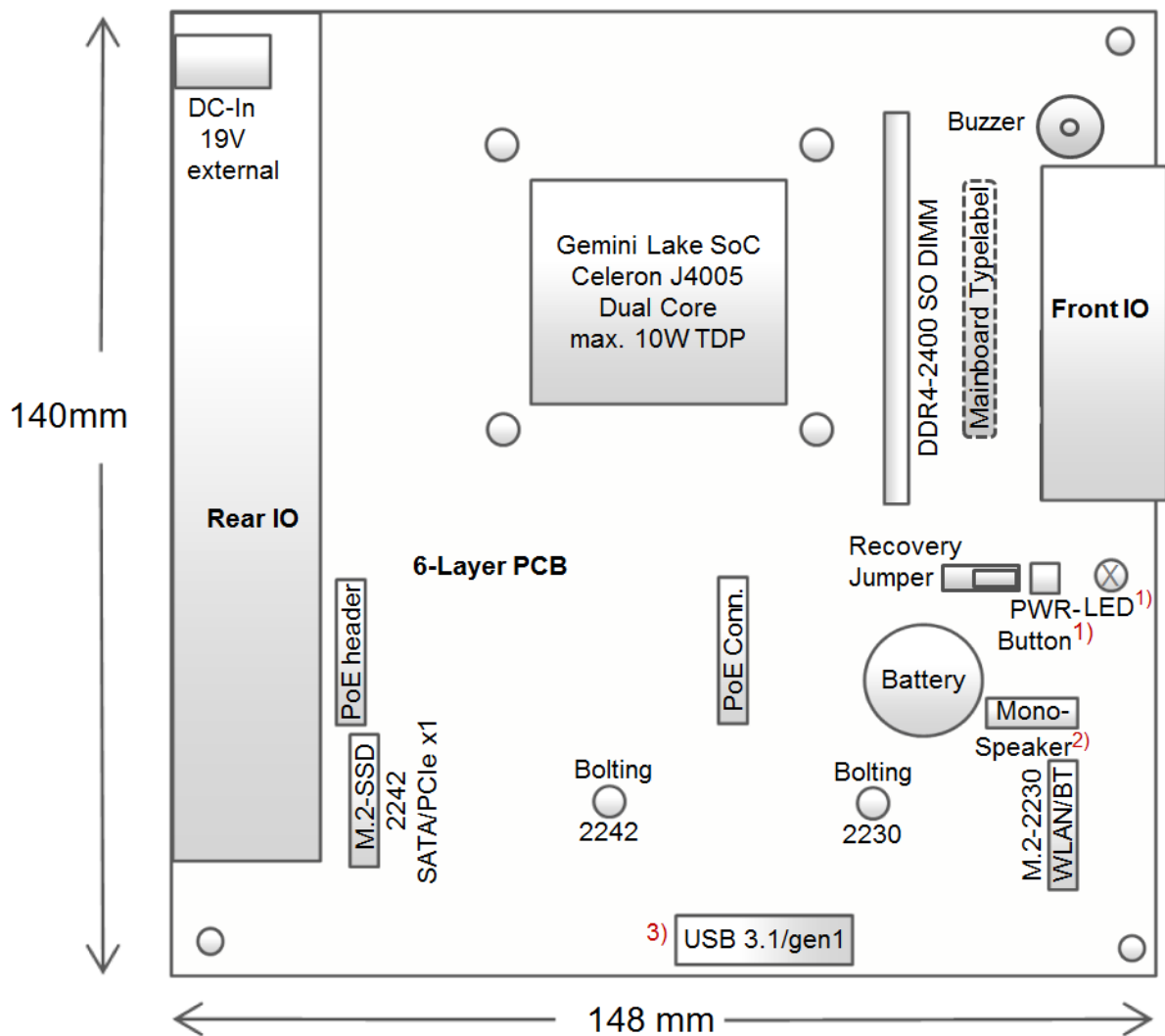
<sup>3</sup> Planned for factory shipments from 06/2019

<sup>4</sup> USB3 connector includes separate USB2.0 signal pins (2 channels)

External Connectors




Connector / Socket Diagram



- 1) Onboard power button (push button) and power LED are designed for usage in Fujitsu Futro chassis
- 2) Optional speaker kit available upon request for STX chassis kit
- 3) Optional USB Type-C extension cable (USB 3.1/gen1) for STX chassis kit

Accessories

	(Ordercode)	
Futro S5xx Chassis for D3544-H	F5000-J004*	
AC Adapter 19V / 40W	F5000-P5 (E622)	
AC Adapter 19V / 65W	F5000-P3 (E623)	
Fanless Heatsink + Backplate	F5000-C10	
USB-C Rear Extension Cable (USB 3.1/gen1)	F5000-K8	
WLAN Module Intel 9260 (M.2 2230)	F5000-W3	
WLAN Module Intel 9260 (M.2 2230) incl. Dual WLAN Antenna for Futro S5xx	F5000-W2	
Mono Speaker Kit for Futro S5xx	F5000-K9	
PoE Module D3547	on request	

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

Further industrial products offered by Fujitsu

- Connectors
- KVM Switches
- Relays
- Touch Panels
- Thermal Printers
- Wireless Modules



24 Volt Kiosk Printers



Multi-Input Touch Panels

Contact:

Fujitsu Components Europe, B.V.  
Tel.: +31 (0)23 556 0910  
Fax: +31 (0)23 556 0950  
Website: [emea.fujitsu.com/components](http://emea.fujitsu.com/components)  
Address: Diamantlaan 25  
2132 WV Hoofddorp  
Netherlands

# More information

## Fujitsu products, solutions & services

### Products

[www.fujitsu.com/global/products/](http://www.fujitsu.com/global/products/)

In addition to the Fujitsu mainboards, Fujitsu offers a full portfolio of other computing products.

### Computing products

- Storage systems: ETERNUS
- Server: PRIMERGY, PRIMEQUEST, Fujitsu SPARC M10, BS2000/OSD Mainframe
- Client Computing Devices: LIFEBOOK, STYLISTIC, ESPRIMO, FUTRO, CELSIUS
- Peripherals: Fujitsu Displays, Accessories
- Software
- Network

Product Support Services with different service levels agreements are recommended to safeguard each product and ensure smooth IT operation.

### Solutions

<http://www.fujitsu.com/global/solutions>

The Fujitsu solutions combine reliable Fujitsu products with the best in services, know-how and worldwide partnerships. Fujitsu's Solutions include parts of one or more activity groups (e.g., planning, implementation, support, management, and training services) and are designed to solve a specific business need.

**Infrastructure Solutions** are customer offerings created by bringing Fujitsu's best products, services and technologies together with those from partners to deliver benefit to our customers' businesses.

**Industry Solutions** are tailored to meet the needs of specific verticals.

**Business and Technology Solutions** provide a variety of technologies developed to tackle specific business issues such as security and sustainability, across many verticals.

### Services

[www.fujitsu.com/global/services/](http://www.fujitsu.com/global/services/)

Several customizable Fujitsu Service offerings ensure that IT makes a real difference and delivers true business value. We do this by leveraging our extensive experience in managing large, complex, transformational IT programs to help clients in planning, delivering and operating IT services in a challenging and changing business environment.

**Application Services** support the development, integration, testing, deployment and on-going management of both custom developed and packaged applications. The services focus on delivering business and productivity improvements for organizations.

**Business Services** respond to the challenge of planning, delivering and operating IT in a complex and changing IT environment.

**Managed Infrastructure Services** enable customers to deliver the optimal IT environment to meet their needs – achieving high levels of IT service quality and performance for data center and end user environments.

## Fujitsu green policy innovation

[www.fujitsu.com/global/about/environment/](http://www.fujitsu.com/global/about/environment/)

Fujitsu Green Policy Innovation is our worldwide project for reducing burdens on the environment. Using our global know-how, we aim to resolve issues of environmental energy efficiency through IT. Please find further information at:



## More information

Learn more about Fujitsu, please contact your Fujitsu sales representative, Fujitsu business partner, or visit our website.

[www.fujitsu.com/fts/mainboards/](http://www.fujitsu.com/fts/mainboards/)

## Copyright

© 2015 Fujitsu Technology Solutions GmbH. Fujitsu and the Fujitsu logo are trademarks or registered trademarks of Fujitsu Limited in Japan and other countries.

Intel Chipset C236, Xeon C3 and Intel Core i7 / i5 / i3 are trademarks or registered trademarks of Intel Corporation in America and other countries. Other company, product and service names may be trademarks or registered trademarks of their respective owners. All rights reserved, including intellectual property rights. Changes to technical data reserved. Delivery subject to availability. Any liability that the data and illustrations are complete, actual or correct is excluded.

## Disclaimer

Technical data subject to modification and delivery subject to availability. Any liability that the data and illustrations are complete, actual or correct is excluded. Designations may be trademarks and/or copyrights of the respective manufacturer, the use of which by third parties for their own purposes may infringe the rights of such owner.

## Contact

Fujitsu Technology Solutions GmbH  
OEM Mainboard Sales

Email: [oem-sales@ts.fujitsu.com](mailto:oem-sales@ts.fujitsu.com)

Website: <http://ts.fujitsu.com>  
2019-04-29

Copyright © Fujitsu Technology Solutions

All rights reserved, including intellectual property rights. Changes to technical data reserved. Delivery subject to availability. Any liability that the data and illustrations are complete, actual or correct is excluded. Designations may be trademarks and/or copyrights of the respective manufacturer, the use of which by third parties for their own purposes may infringe the rights of such owner.

For further information see [http://ts.fujitsu.com/terms\\_of\\_use.html](http://ts.fujitsu.com/terms_of_use.html)