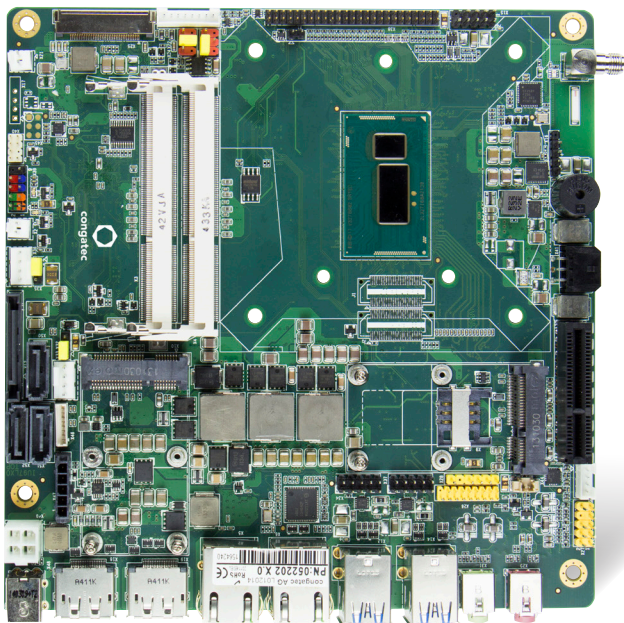


PROFESSIONAL THIN MINI-ITX

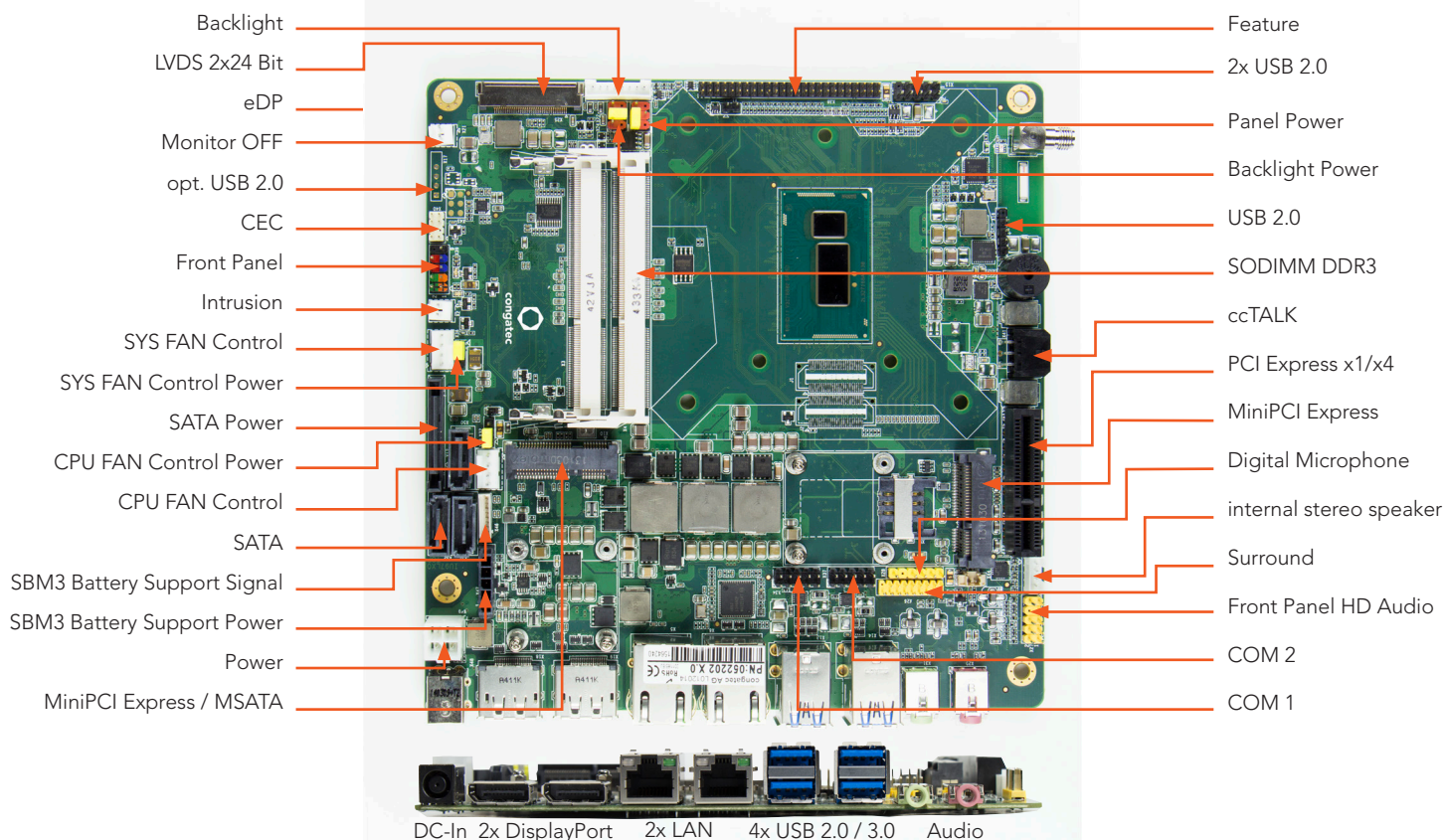
conga-IC87



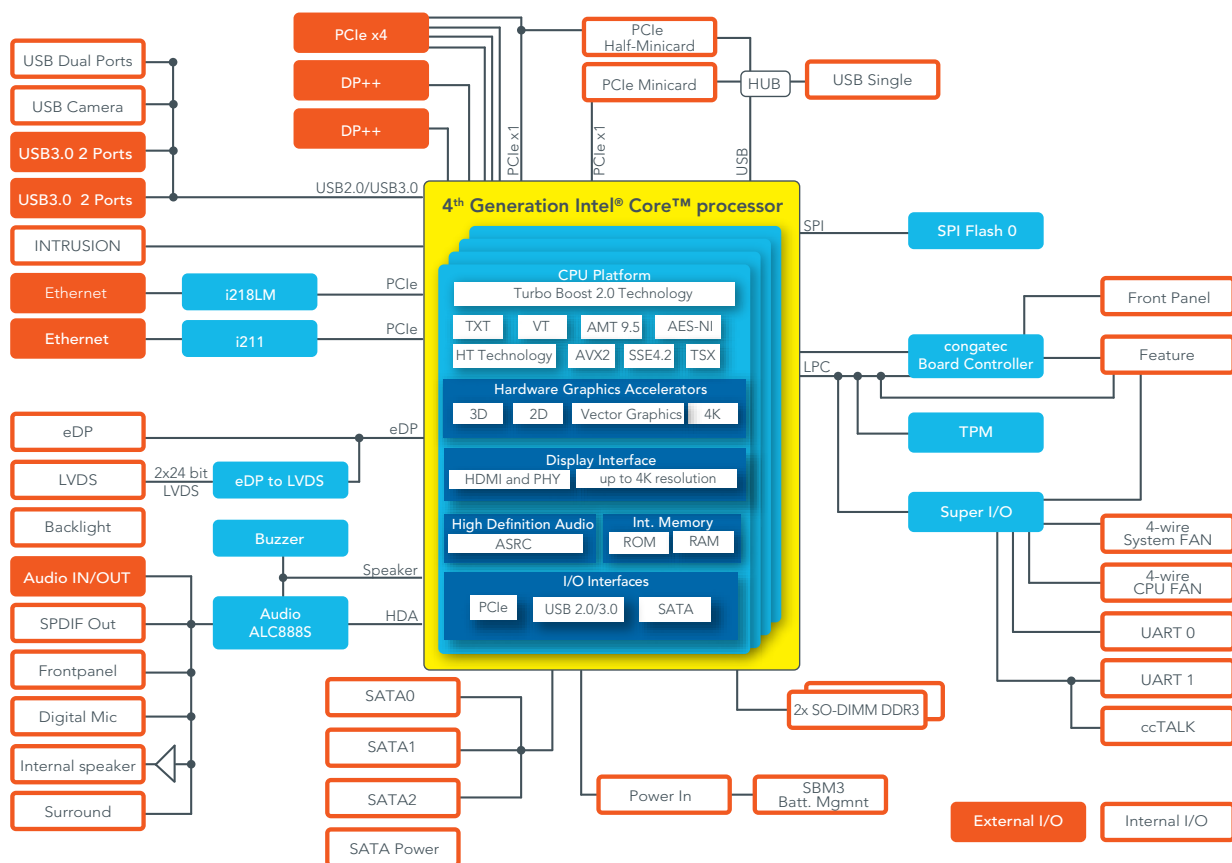
- Highest Performance Thin Mini-ITX board
- 4th Generation Intel® Core™ Mobile SOC U-Processors
- Wide Range Power Input 12-24 Volt
- congatec embedded Board Controller Features

Formfactor	Professional Thin-Mini-ITX, 170 x 170 mm					
CPU	Intel® Core™ i7-4650U	1.7 GHz Dual Core	Turbo Boost 3.3 GHz	4 MB Cache	TDP 15W	
	Intel® Core™ i5-4300U	1.9 GHz Dual Core	Turbo Boost 2.9 GHz	3 MB Cache	TDP 15W	
	Intel® Core™ i3-4010U	1.7 GHz Dual Core		3 MB Cache	TDP 15W	
	Intel® Celeron® 2980U	1.6 GHz Dual Core		3 MB Cache	TDP 15W	
	Intel® Turbo Boost Technology, Intel® Hyper-Threading Technology (Intel® HT Technology), Intel® Advanced Vector Extensions 2.0 (Intel® AVX2), Intel® Advanced Encryption Standard New Instructions (Intel® AES-NI), Integrated dual channel memory controller, up to 25.6 GByte/sec. memory bandwidth, Integrated Intel® HD Graphics 5000 series with dynamic frequency up to 1.1 GHz, Intel® Clear Video HD Technology, Intel® Virtualization Technology (Intel® VT), Intel® Trusted Execution Technology (Intel® TXT), Intel® Streaming SIMD Extensions 4.2 (Intel® SSE4.2), PCLMULQDQ Instruction, Intel® Secure Key, Intel® Transactional Synchronization Extensions (Intel® TSX)					
DRAM Memory	Support for 2x SO DIMM Socket (dual channel DDR3L up to 1600 MT/s), max. 16GB					
Ethernet	Dual LAN Gbit / 100 Mbit / 10 Mbit; 1x Intel Gigabit Ethernet PHY i218LM (with AMT support); 1x Intel Gigabit Ethernet Controller i210/i211					
Sound	High Definition Audio Interface, Realtek ALC 888S, 7.1-channel					
Graphics	Next Generation Intel® HD Graphics with OpenCL 1.2, OpenGL 4.0 and DirectX11.1 support; up to three independent displays: HDMI 1.4, DVI, DisplayPort 1.2; High performance hardware MPEG-2 decoding, WMV9 (VC-1) and H.264 (AVC) support Blu-ray support @ 40 MBit/s					
Graphic Interfaces	1x 24-bit Dual Channel LVDS Interface or eDP (x4) and 2x DisplayPort					
Internal Connectors	1x PCIe x4 Slot (Gen.2), 1x Full/Half-size Mini PCIe Slot shared with PCIe x1 slot, 1x Full/Half-size Mini PCIe Slot (shared with mSATA), 3x SATA (6G), 1x mSATA (SATA-III; 600), 1x SATA Power, 4x USB 2.0, 1x LVDS (2x24 bit), 1x Embedded DisplayPort (x4), 1x Backlight (Power, control), 1x Monitor OFF, 1x Surround, 1x Front Panel HD Audio, 1x Digital Microphone (SPDIF), 1x Internal stereo speaker, 1x Serial Port COM1 (opt. as ccTALK), 1x Serial Port COM2, 1x Feature connector - congatec custom (8 Bit General Purpose I/O), 1x Frontpanel (Power Switch, LEDs, Reset), 1x Intrusion (Case Open), 1x FAN CPU, 1x FAN System, 1x internal power header (12-19V), 1x opt. battery header signal + power (SBM3), 1x opt. CEC					
congatec embedded Controller	Multi-Stage Watchdog, non-volatile User Data Storage, Manufacturing and Board Information, Board Statistics, BIOS Setup Data Backup I²C bus (fast mode, 400 kHz, multi-master), Power Loss Control					
External Connectors (Frontpanel)	2x DisplayPort dp++, Audio In, Line Out, 2x LAN RJ45, 4x USB 3.0/2.0, 1x PCIe x4 (via extension card), 1x DC-In (external input)					
Embedded BIOS	AMI Aptio® 2.X (UEFI) BIOS; SM-BIOS, BIOS Update, Logo Boot, Quiet Boot, HDD Password					
Security	The conga-IC87 can be optionally equipped with a discrete "Trusted Platform Module" (TPM 1.2). It is capable of calculating efficient hash and RSA algorithms with key lengths up to 2,048 bits and includes a real random number generator. Security sensitive applications such as gaming and e-commerce will benefit also with improved authentication, integrity and confidence levels.					
Power Specification	Power Management , ACPI S3/S4/DeepSx, Wake on time from S5, Power Supply 12V - 19V (opt. 6-24V), 2 x FAN (CPU, system) monitored & controlled					
Operating Systems	Microsoft® Windows 8, Microsoft® Windows 7, Linux, Microsoft® Windows® 7/8 embedded Standard					
Power Consumption	Typ. application: tbd., see manual for full details					
Temperature:	Operating: 0 .. +60°C					
Humidity Operating:	Operating: 10 - 90% r. H. non cond.					
Size	170 x 170 mm (6.7" x 6.7")					

conga-IC87 | Connectors



conga-IC87 | Block diagram



conga-IC87 | Order Information

Article	PN	Description
conga-IC87/i7-4650U	052201	Thin Mini-ITX board based on 4th Gen Intel® Core™ i7-4650U dual core processor with 1.7GHz, 4MB L2 cache and 1600MT/s dual channel DDR3L SODIMM memory interface
conga-IC87/i5-4300U	052202	Thin Mini-ITX board based on 4th Gen Intel® Core™ i5-4300U dual core processor with 1.9GHz, 3MB L2 cache and 1600MT/s dual channel DDR3L SODIMM memory interface
conga-IC87/i3-4010U	052203	Thin Mini-ITX board based on 4th Gen Intel® Core™ i3-4010U dual core processor with 1.7GHz, 3MB L2 cache and 1600MT/s dual channel DDR3L SODIMM memory interface
conga-IC87/2980U	052204	Thin Mini-ITX board based on Intel® Celeron® 2980U dual core processor with 1.6GHz, 2MB L2 cache and 1600MT/s dual channel DDR3L SODIMM memory interface
conga-IC87/i7-4650U KIT	052211	Thin Mini-ITX single kit box based on 4th Gen Intel® Core™ i7-4650U dual core processor with 1.7GHz, 4MB L2 cache and 1600MT/s dual channel DDR3L SODIMM memory interface. The single package kit includes IO shield, one SATA drive cable, one SATA power cable and a quick-start guide
conga-IC87/i5-4300U KIT	052212	Thin Mini-ITX single kit box based on 4th Gen Intel® Core™ i5-4300U dual core processor with 1.9GHz, 3MB L2 cache and 1600MT/s dual channel DDR3L SODIMM memory interface. The single package kit includes IO shield, one SATA drive cable, one SATA power cable and a quick-start guide
conga-IC87/i3-4010U KIT	052213	Thin Mini-ITX single kit box based on 4th Gen Intel® Core™ i3-4010U dual core processor with 1.7GHz, 3MB L2 cache and 1600MT/s dual channel DDR3L SODIMM memory interface
conga-IC87/2980U KIT	052214	Thin Mini-ITX single kit box based on Intel® Celeron® 2980U dual core processor with 1.6GHz, 2MB L2 cache and 1600MT/s dual channel DDR3L SODIMM memory interface. The single package kit includes IO shield, one SATA drive cable, one SATA power cable and a quick-start guide

Accessories

conga-IC87/Retention Frame	052255	Retention frame for standard cooling for conga-IC87
conga-IC87/IO Shield-Standard	052256	IO shield for conga-IC87 with Standard Mini-ITX height
conga-IC87/IO Shield - Thin	052257	IO shield for conga-IC87 with Thin Mini-ITX height
conga-IC97/CSA	052252	Active cooling solution for conga-IC87 and with 12V fan and Thin Mini-ITX height
conga-IC87/LGA115x Adapter	052258	Adapter to interface standard LGA115x cooling solutions to the BGA processor of the conga-IC87 (e.g. for CoolJag LGA115x coolers)
DDR3L-SODIMM-1600 (2GB)	068755	DDR3L SODIMM memory module with 1600 MT/s (PC3L-12800S) and 2GB RAM
DDR3L-SODIMM-1600 (4GB)	068756	DDR3L SODIMM memory module with 1600 MT/s (PC3L-12800S) and 4GB RAM
DDR3L-SODIMM-1600 (8GB)	068757	DDR3L SODIMM memory module with 1600 MT/s (PC3L-12800S) and 8GB RAM