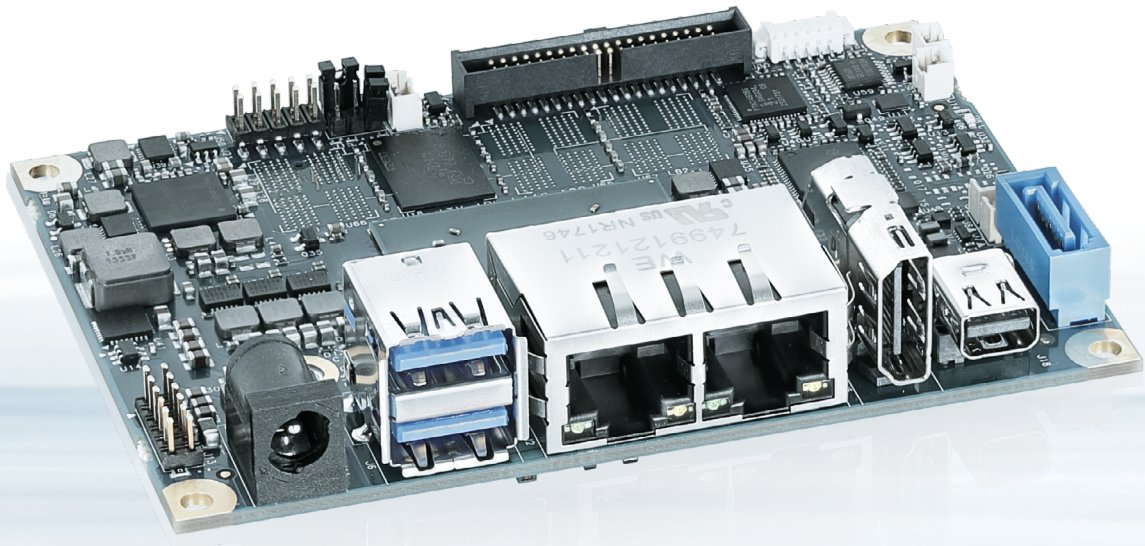


pITX-APL V2.0



Embedded pITX Single Board Computer with Intel Atom® E39xx series and Celeron® N3350/J3455 SOC CPUs

- ▶ Intel Atom® E39xx and Celeron® N3350/J3455 SOC CPUs (2 or 4 cores), TDP: 6-13 W
- ▶ 1x M.2 Key-B (2242) Slot for SATA or PCIe Devices
- ▶ Soldered LPDDR4 memory (up to 8 GByte)
- ▶ mDP 1.2a/eDP 1.3 and HDMI 2.0a
- ▶ 2x Gigabit Ethernet

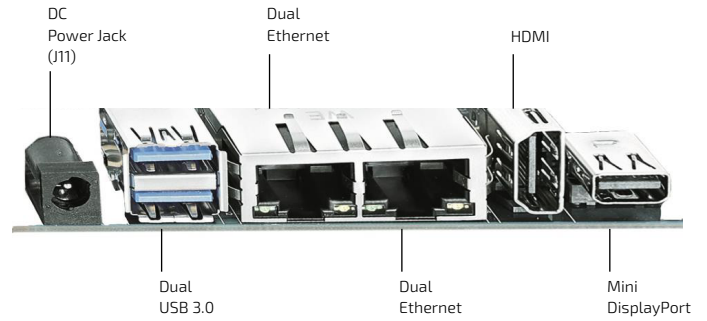
POSSIBILITIES START HERE



pITX-APL V2.0

Typical Applications

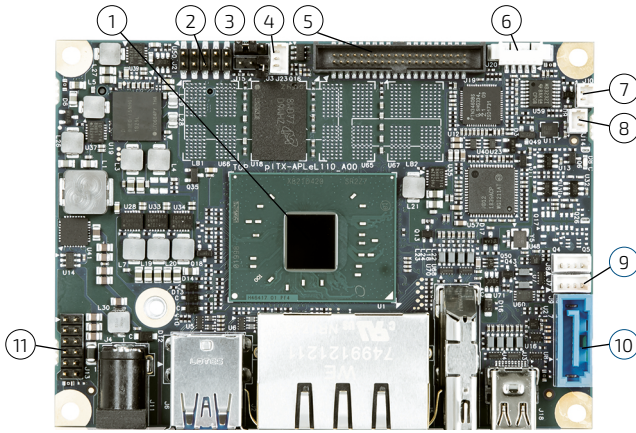
- ▶ POS/POI: Higher Graphics and CPU core performance, multi display support
- ▶ Medical/Connectivity: Higher Graphics and CPU core performance
- ▶ Industrial Automation: Wide range of I/Os, longevity
- ▶ Digital signage: Multi display support, low power, wide range of I/Os
- ▶ Future-oriented Devices: Display Port and LVDS, compact size



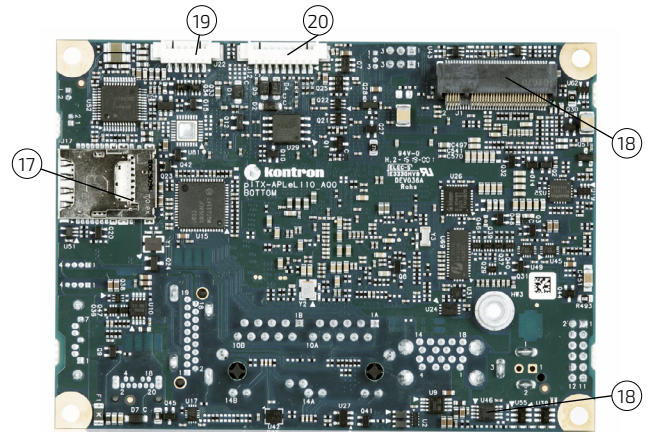
▶ TECHNICAL INFORMATION

SYSTEM	PROCESSOR	Intel Atom® E3xxx/Nxxx processor series - Intel Atom® x7 E3950 4C 2.0 GHz, 13 W - Intel Atom® x5 E3940 4C 1.8 GHz, 9.5 W - Intel Atom® x5 E3930 2C 1.8 GHz, 6.5 W - Intel® Celeron® N3350 2C 2.3 GHz, 6 W - Intel® Pentium® N4200 4C 2.3 GHz, 6 W Up to 8 GByte LPDDR4 3200 MTps soldered Memory Pigtail Battery: 3V / 190 mAh WTB 2 Pin header, 1.25 mm pitch
	MEMORY REAL TIME CLOCK	
VIDEO	GRAPHICS BOARD CONNECTORS	Intel® HD Graphics (pending on CPU SKU) 1x mDP, 1x HDMI
AUDIO	AUDIO CODEC AUDIO INTERFACE	Intel® HD Audio Internal Header: Mic-In, Line-In/Line-Out, SPDIF
NETWORK CONNECTION	ETHERNET	2x 10/100/1000 Gigabit Ethernet at rear I/O (Intel® I210)
PERIPHERAL CONNECTION	USB SERIAL GPIO CMOS CLEAR/AUTOSTART FRONT PANEL	2x USB 3.0 (RearI/O), 2x USB 2.0 (Internal Header) 1x RS232 8x GPIO by Internal Header 2x Pin Header (3pin) 1x Pin Header (5pin)
STORAGE & EXPANSION	M.2 OTHER I/O'S	Key-B 2242 (PCIe x1 Gen3) onboard microSD/microSIM combo connector 1x SATA Gen3
POWER	CONNECTOR INPUT VOLTAGE	Locking Barrel 12V DC +/- 10%
FIRMWARE	BIOS	AMI Aptio V
SYSTEM CONTROL	HARDWARE STATUS MONITOR	- CPU Temperature Monitoring - Voltages Level - Fan Control
	SECURITY POWER MANAGEMENT	TPM Infineon SLB9665XQ2.0 ACPI 5.0 support:
COOLING	FAN	1x PWM fan (optional) / WTB 3-Pin header, 1.25 mm pitch, 5V Input
SOFTWARE	OS-SYSTEM	- BSP1: Windows 10 IOT Enterprise 64 bit, eMMC Boot - BSP2: Windows 10 IOT Core, Redstone 64 bit - BSP3: Linux 64 bit, Yocto - BSP4: Linux Ubuntu - API: KEAPI 3 for BSP1 and BSP3
MECHANICAL	FORM FACTOR DIMENSIONS (L x W x H) OPERATION TEMPERATURE	Pico-ITX 100 mm x 72 mm x 41 mm Commercial Temp.: 0 °C - +60 °C Industrial Temp.: -25 °C - +75 °C -40 °C - +85 °C
	STORAGE TEMPERATURE	
CERTIFICATION	EMC & SAFETY	CE Class-B, FCC-B verified, RoHS II, REACH

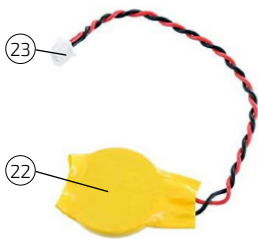
▶ BOARD OVERVIEW



- 1 CPU
- 2 Front Panel header (J21)
- 3 Load BIOS Default Jumper (J15, down)
Autostart Jumper (J3, up)
- 4 CPU fan (J23)
- 5 LVDS connector (J19)
- 6 RS232 connector (J20)
- 7 Pigtail battery (J10)
- 8 S/PDIF (J14)
- 9 USB internal or custom Y- cable for 2.5" SSD (J7, J8)
- 10 SATA connector (J9)
- 11 GPIO (8x GPIOs, 1x 3.3 V 2x GND, 1x ext Bat) (J13)



- 17 MicroSIM/MicroSD Combo adapter
- 18 M.2 B-Keyconnector for Z242 and 3042 modules
- 19 Front Panel Audio connector (J22)
- 20 BIOS recovery (J12)
- 21 Temperature Sensor (U46)



- 22 BR2032 battery
- 23 2-pin Header

▶ ORDERING INFORMATION

ARTICLE	PART NO.	DESCRIPTION
pITX-APL V2.0 N3350	44012-0200-23-2	pITX-APL V2.0 with Intel® Mobile Celeron® N3350; 2 Core; 2 GByte LPDDR4; 2.3 GHz; TDP=6 W; Com. temp 0 °C - 60 °C
pITX-APL V2.0 N4200	44012-0800-25-4	pITX-APL V2.0 with Intel® Pentium® N4200; 4 Core; 8 GByte LPDDR4; 1.1 GHz; 6 W TDP; Com. temp 0 °C - 60 °C
pITX-APL V2.0 E3930	44012-0200-18-2	pITX-APL V2.0 with Intel Atom® E3930; 2 Core; 2 GByte LPDDR4; 1.8 GHz; 6,5 W TDP; Ind. temp -25 °C - +75 °C
pITX-APL V2.0 E3940	44012-0400-18-4	pITX-APL V2.0 with Intel Atom® E3940 4 Core; 4 GByte LPDDR4; 1.8 GHz; 9,5 W TDP; Ind. temp -25 °C - +75 °C
pITX-APL V2.0 E3950	44012-0800-20-4	pITX-APL V2.0 with Intel Atom® E3950 4 Core; 8 GByte LPDDR4; 2.0 GHz; 13 W TDP; Ind. temp -25 °C - +75 °C
pITX-APL V2.0 J3455	44012-0800-15-4	pITX-APL V2.0 with Intel® Celeron® Processor* J3455; 8 GByte, LPDDR4; 1.5 GHz; TDP 10 W; Com. temp 0 °C - 60 °C, for Linux only
pITX-APL V2.0 J3455	44012-1600-15-4	pITX-APL V2.0 with Intel® Celeron® Processor* J3455; 16 GByte, LPDDR4; 1.5 GHz; TDP 10 W; Com. temp 0 °C - 60 °C

*suitable for Linux only

▶ ACCESSORY*

ACTIVE COOLING SOLUTION	1064-7834	Active Cooling Solution with integrated FAN (E-Series)
PASSIVE COOLING SOLUTION	1065-0044	Passiv Cooling Solutioin (N-Series, J-Series)
POWER SUPPLY – 12V	1067-1755	Lockable 12V, 60W Power Supply for pITX-APL V2.0 and pITX-imx8m
SERIAL DATA CABLE	1055-8059	Serial Data Cable – J20 Connector
CUSTOM Y-CABLE	1066-8838	SATA Power Cable Adaptor for 2.5" Drives (5V/GND)

*optional

▶ GLOBAL HEADQUARTERS

Kontron Europe GmbH

Gutenbergstraße 2
85737 Ismaning, Germany
Tel.: +49 821 4086-0
Fax: +49 821 4086-111
info@kontron.com

www.kontron.com