Integrated Services to Speed Up Applications Time-to-Market
Configurable Embedded PC x Industrial Storage & Display

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Challenges of Integration and Validation
How to Configure Dedicated Edge Computers

IT Solutions

Period

1950~
1980

1980~
2000

2000~Present

Computer
Internet
Mobility
Wire-less Connectivity
AI, Deep Learning, Faster Connectivity..........

125 Billion - IoT Device
Number of connected IoT devices will surge to 125 Billion by 2030, IHS

6.72 Billion - Edge Computing
Edge computing market size is expected to rise to USD 6.72 Billion by 2022, MarketsandMarkets™
Embedded PCs: 30-Day Configuration to Order Services

Select Model
- Processor
- Expansion
- Functional I/O
- Thermal
- Life Cycle

Select Peripheral
- Wi-Fi 4G/LTE
- Memory Storage
- Riser Card

Install Software
- DeviceOn WISE-PaaS/DeviceOn
- Windows
- Embedded BIOS

Ready to Ship
- System Assembly
- Function test Burning test
- Global Delivery

Options:
- EPC-U
- EPC-T
- EPC-P
- EPC-B
- EPC-C
- EPC-S
- EPC-R
Full Range Industrial Motherboard

Smaller Form Factor

- UTX (Palm-sized)
- Mini-ITX / Micro ATX
- Desktop / Multi-Core WS

Entry

Mobile

Desktop

Server Grade

Higher Performance
Solid Process to Validate all Configurations

Comprehensive Verifications in NPI Phase

- CPU & IC
- Storage
- Memory
- Connectivity

Complete Testing Items in DQA Phase

- Safety Test
- EMI / EMS Test
- High / Low Temp. Test
- Ingress Protection Test
- Vibration & Drop Test

Compatibillity

Reliability
Efficiency and Reliability Enhancement on EPC

- Remote BIOS Update
- Remote I/O Control
- Real Time Monitoring

- Reduced Update Effort
- Reduced Maintenance Cost
- Enhanced Reliability

Remote Update & Recovery
Remote Re-boot USB device
Early Alert for Unusual Activities

WISE-PaaS/DeviceOn
IoT Device Operation Management

USB

CPU / RAM Usage
EPC-P Series – Up to 4 PCIe Expansion Slots

Intel 8th / 9th Gen CORE-i Platform
EPC-P3066 with C246 PCH
EPC-P3086 with H310 PCH

For Various Industrial Environments

DIN Rail

2U Rack Mount

Up to 50°C

Up to 50 degree
Operating temp. with CORE-I CPU

12 ~ 24V DC-In

12V~24V DC input
EPC-P Series – Machine Vision

Up to 4 PCIe Expansions
Multi-tasking EPC
- Video Data Collection
- Video Analysis
- Robotic Control

Product Inspection
Automatic Assembly
Robotic Control
EPC-T4000 Series – The Most Compact EPC for Mini-ITX

High Performance
Intel 9th CORE-I CPU up to 65W
Compact Size
188 x 188 x 44mm

To Fit in Slim & Stylish Housing Designs

Remote power switch
Remote power switch cable by Jack
USB
COM
Power Button
Sensor
Receipt Printer
Card Reader
Credit Card Reader
Cash Dispenser
Keyboard Pad

<table>
<thead>
<tr>
<th>270mm</th>
<th>T3000</th>
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<tbody>
<tr>
<td>225mm</td>
<td>T2000</td>
</tr>
<tr>
<td>210mm</td>
<td>T1000</td>
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<tr>
<td>188mm</td>
<td>T4000</td>
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<tr>
<td>250mm</td>
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<tr>
<td>330mm</td>
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EPC-T Series – 1U THIN Chassis

**Compact**

- **T2000**
  - DIM: 250 x 44 x 225 mm
  - Desktop CORE-I (Up to 65W)
  - AMD V Series (Up to 25W)
  - ULT CORE-I (Up to 15W)
  - Intel ATOM (Up to 10W)

- **T1000**
  - DIM: 250 x 44 x 210 mm
  - Coffee Lake – R (Up to 65W)

- **T4000**
  - DIM: 188 x 44 x 188 mm
  - Compact

**Extension**

- **T5000**
  - Two 2.5” Bay
  - Easy Installation Design for Dual Storages

- **T3000**
  - PCIe Expansion
  - DIM: 330 x 44 x 270 mm
  - One Full Height PCIe Slot
EPC-U2233 Palm-Sized PC

Huge Capacity in Small Footprint Housing
Up to CORE i7-8665UE Inside
170 x 117 x 62.6 mm

**Industrial Level**
- IEC Level4 ESD Protection
- Fan-less Operations
- 12 ~24V DC-In

**Connectivity**
- M.2 Expansion for WiFi / BT / LTE / 5G
- Pole Type Antenna Support

**AI Add-on**
- Support M.2 E-Key Movidius module
- Feasible thermal design for VPN operations

**High Speed SSD**
- M.2 NVMe PCIe x4
- Feasible thermal design for high speed SSD Read/Write.
EPC-U/UTX Series Palm-Sized PC

UTX
- Gateway
- Fan-less Operation
- DIM: 128 x 152 x 37 mm

EPC-U2 Entry
- Automation
- Fan-less Operation
- -20~60 Operating Temp.

EPC-U2 CORE
- Performance
- Fan-less Operation
- M.2 NVMe / E-Key / B-Key

Bay Trail/
Apollo Lake

Apollo Lake

Whiskey Lake
CORE-I
EPC - Full Coverage of Edge Computing

U series
Palm-sized

T series
THIN

B series
Fast Built-up

P series
Machine Vision

AI Algorithm
Content Management
Automatic Control
Data Analytics
Network Coordination
Meeting Industrial Standard and Beyond

**Security Built-in**
- Data security enhancement
- Emergency erase
- McAfee Drive Encryption

**Wide Temperature**
- -40-85°C operating temperature
- Original industrial grade IC
- 100% quality screening

**Ruggedized Design**
- Conformal coating/underfill
- Complete power protection
- Anti-vibration

[Image of the SQFlash Extreme products and industrial environments]
SQFlash Designed For Various Industrial Applications

3D NAND
Cost-effective and Large Capacity

MLC, Ultra MLC and SLC (Planar NAND)
High Endurance and Reliable Performance

Gaming  Data Center  Automation  Transportation  Aerospace

Comprehensive selection  Advanced thermal solution

0~55 °C  0~70 °C  -10~70 °C  -40~70 °C  -40~85 °C
Semi-industrial  Embedded  Industrial  Ruggedized

Advanced thermal solution

SQFlash Designed For Various Industrial Applications

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Advanced thermal solution
First Market Proven Wide Temperature 8TB NVMe SSD

Server Grade Performance with Ultimate Reliability for Industrial Applications

Wide Temp.

Thermal Solution

Design-in Service

Self-management

SQFlash 920 Series
Leading position – 8TB wide temp. NVMe U.2 SSD

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<tr>
<td>NAND Flash</td>
<td>ES</td>
<td>CS</td>
<td>MP</td>
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Advantech EXCLUSIVE!

SQF 920 NVMe

NAND Flash Early Access  VIP Partner Design-in  MP with silicon vendor
Advantech Industrial Grade Thermal Solution

Unique Heatsink
Largest fin surface with precise mechanical design

Flexible Thermal Grease
Optimized gap filling and avoid the risk of physical damage

Dynamic Thermal Throttling
Maintain the highest possible performance

Result with 30 °C lower temperature
“SQ”rity enabled SQFlash

SQFlash Security Management Tool

Third-party Value-added Integration

McAfee

Acronis
SQFlash – TCG-OPAL Compliant with EFI Support

Lock SQFlash with corresponding platform or user / password authentication

EFI management interface with BIOS integration supported

SQFlash AES-256 enabled SSD with TCG compliance self-encryption disk (SED)
Industrial Storage Design-in Services – SQ-DTOS

**DTOS implementation:** from component to solution

**Software solution integration:** provide add-on value

**Value-added Software**
- WISE-PaaS/DeviceOn Ready
- Management Utility and API service
- 3rd Party Software deep integration

**Storage Total Solution**
- Thermal Simulation
- Mechanical Design
- FPGA IP Integration
- Design Verification

**Target Markets**
- Machine Vision
- Surveillance
- Cloud AI Server
- Image Processing
SQFlash
High Reliability, 360-Degree Security, and Design-In Service

Advanced Design-in service

High data integrity

Complete product offering

High Reliability, 360-Degree Security, and Design-In Service
Advantech Industrial Display Solutions

Open Frame
IP65 Monitor
Curved Display
Stretch Display
Display Kit
ProFlat Bezel-less
Gaming Display Solution

High Brightness
- 450 nits after touch
- In-house backlight design
- Long backlight lifetime of 50K hours

EMC solution
- ESD solution of 3KV
- CE/FCC/CCC certificated

Touch Solution
- Strengthened glass
- 6H surface hardness
- 4mm thickness
- Projected capacitive touch

Multiple Interface
- HDMI x 2
- Display port x 1
- USB x 1 for touch
- 24V input
LED Strip Solution and Customization

- LED strip design with LED lighting behind
- Easy integration to cabinet
CRV Series - 4K Curved Display Roadmap

- Wide Viewing Angle
- Radius 1500 and 800
- Edge to Edge mechanical design
- Premium Color Performance

43” C Type
- CRV-430WP
- Q1, 2020

43” J Type
- CRV-430JP
- Q4, 2020

55” C Type
- CRV-550WP
- Q4, 2020
13” Curved Touch Panel

- 13.3”
- FHD 1920 x 1080
- Brightness of 500nits
- Long back light life time of 50Hrs
- eDP interface
- Radius 600 design
- Bottom deck monitor solution

P-cap touch integrated

Slim & light weight Design
Gaming / Digital signage

Recommended Products

**Proflat**
IDP31 Series
10.4”, 19”, 21.5”

**4K Curved**
CRV Series
43”, C/J type, 55”

**Large Format/Stretched**
DSD-3000/5000 Series
SDM monitor

Key Features

- Portrait & Landscape Modes
- Super Wide Ratio
- Triptic™ Function Built-in
SDM Signage Display

DSD-7055 series
55” Intel® Smart Display Module Compliant monitor
• FHD 1920x1080 resolution
• Slim design
• Multiple interface: DVI, DP, HDMI
• Speaker built-in 10W x2
• Seamless integration with Advantech DS-200 SDM-L module
Wide-Temp Display

**IDK-2112U**
- 12.1” 1024 x 768
- Thermal Impedance solution
- Intelligent AD board for controlling
- Wide temp. support
  - -40~85°C
- Ultra high brightness of 1200nits
- Fog free

**ADB-GF301**
- Temperature sensor
- Auto-on
- Intelligent AD board
- Working smoothly

**Advantech Industrial Display**
- -40~85°C

**General Industrial Display**
- -30~85°C

**VS**
- Motion blur due to LOW response time
IDK-1121MD series

- 21.5” FHD 1920 x1080 resolution
- IPS LCD with a DICOM Part14 compliant scaler board
- Supports VGA/DVI/DP interfaces
- Auto brightness sensors and RS-232 remote control (optional)
Your Industrial Display Expert
Display DTOS solution

Sunlight Readable

Optical Bonding/ IP65

Curved Technology

Wide Temp Solution

Color Adjustment
## Embedded Core Design-In Services

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<tr>
<th>Innovative Technology</th>
<th>Software Services</th>
<th>Integration Acceleration</th>
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<tbody>
<tr>
<td>Server Grade (COM-HPC)</td>
<td>WISE-PaaS/DeviceOn</td>
<td><strong>EPC CTOS</strong> (IMB, Chassis, Peripherals, OS)</td>
</tr>
<tr>
<td>MI/O Extension (2.5”/3.5”)</td>
<td>Embedded Feature API</td>
<td><strong>Rugged Design Services</strong> (Coating, Wide Temp., Anti-Vibration)</td>
</tr>
<tr>
<td>UIO40-Express (2.5”)</td>
<td>AIM-Linux / AIM-Android</td>
<td><strong>DTOS Services</strong> (Custom Board, I/O, 610G Class 3)</td>
</tr>
<tr>
<td>Quadro Flow Cooling System (QFCS)</td>
<td>Embedded BIOS</td>
<td><strong>Peripheral Integration</strong> (Wireless, Storage, Display)</td>
</tr>
</tbody>
</table>

- **COM**
- **SBC**
- **MI/O**
- **UTX**
- **Mini-ITX**
- **Arm-Based Module & SBC**
- **UIO**
- **Peripherals**
Co-Creating the Future of the IoT World