

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

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™*

Computer



Internet



Mobility



Wire-less
Connectivity



AI, Deep Learning, Faster Connectivity.....



Period

1950~

1980

Industrial
Revolution3.0

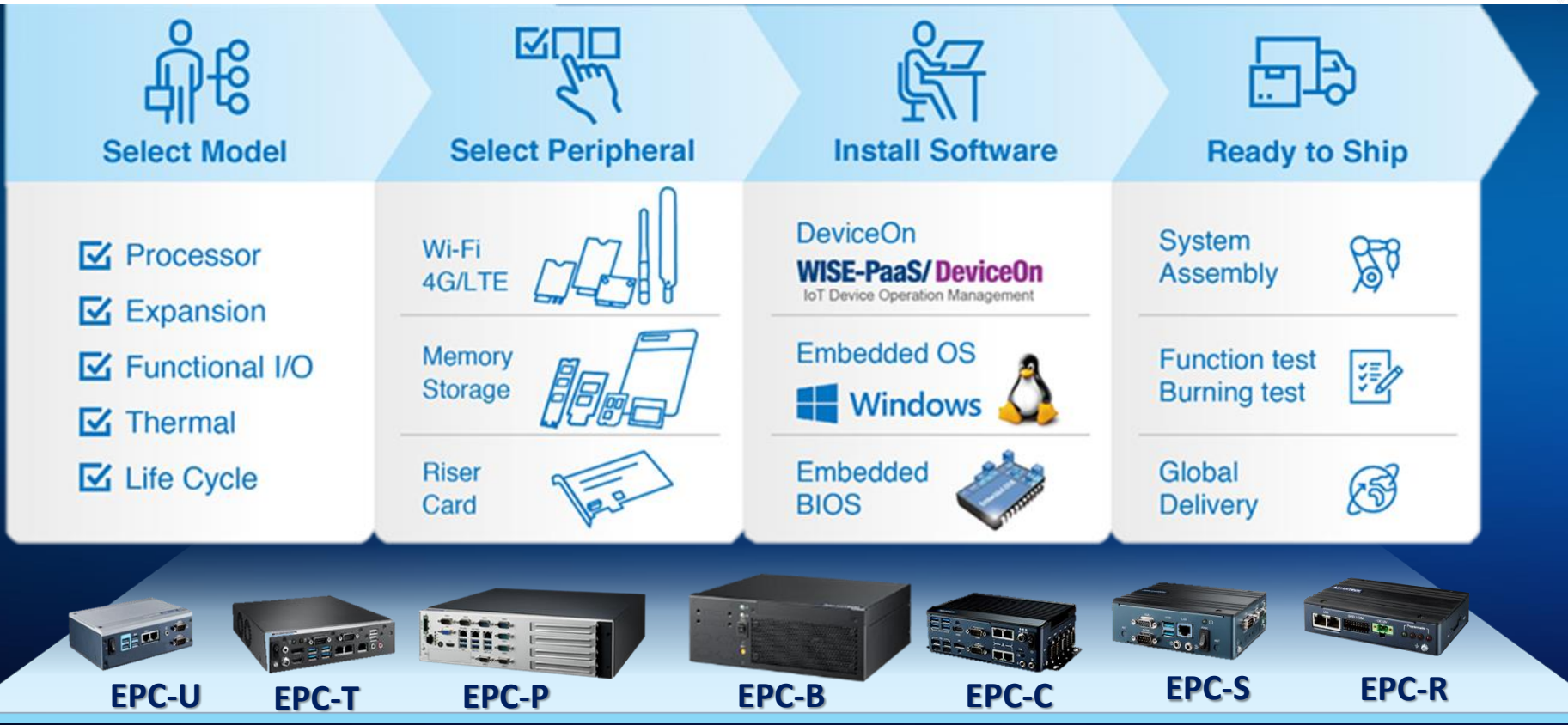
1980~

2000

2000~Present

Industrial
Revolution4.0

Embedded PCs: 30-Day Configuration to Order Services



Full Range Industrial Motherboard



Entry

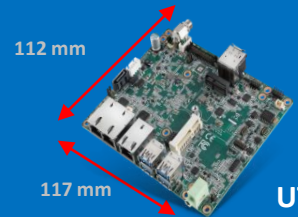
Mobile

Desktop

Server Grade

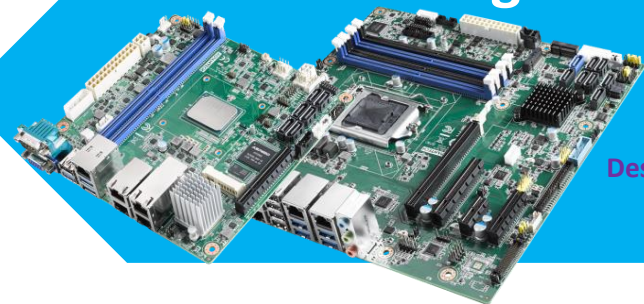
AMD   IoT Solutions Alliance Premier

Smaller Form Factor



UTX (Palm-sized)

Higher Performance



Mini-ITX / Micro ATX
Desktop / Multi-Core WS

Solid Process to Validate all Configurations

Comprehensive
Verifications in
NPI Phase



CPU & IC

Storage

Memory

Connectivity

Time Expansion

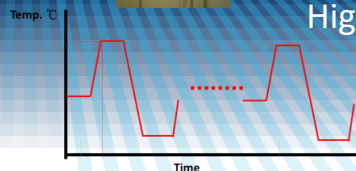
Human Display



Safety Test



EMI / EMS Test



High / Low Temp. Test

Ingress Protection Test

Vibration & Drop Test



Complete Testing
Items in DQA
Phase

COMPATIBILITY

RELIABILITY

Efficiency and Reliability Enhancement on EPC

WISE-PaaS/ DeviceOn

IoT Device Operation Management

Remote BIOS Update

Remote Update & Recovery



Reduced Update Effort

Remote I/O Control

Remote Re-boot USB device



Reduced Maintenance Cost

Real Time Monitoring

Early Alert for Unusual Activities



Enhanced Reliability



EPC-P Series – Up to 4 PCIe Expansion Slots



Intel 8th / 9th Gen CORE-i Platform

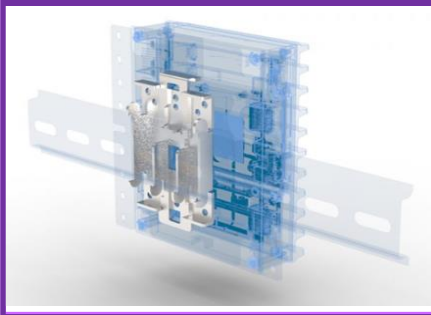
EPC-P3066 with C246 PCH

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

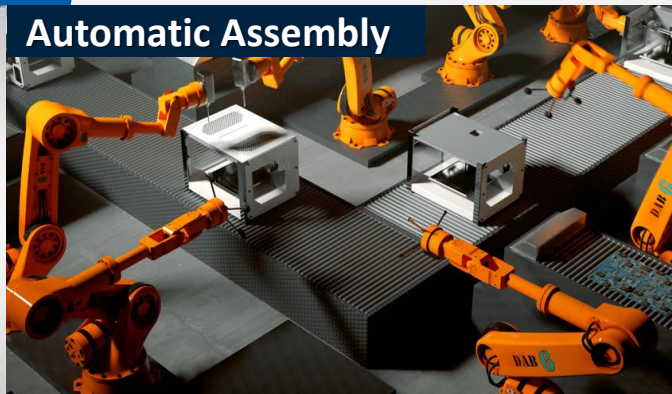
- *Video Data Collection*
- *Video Analysis*
- *Robotic Control*



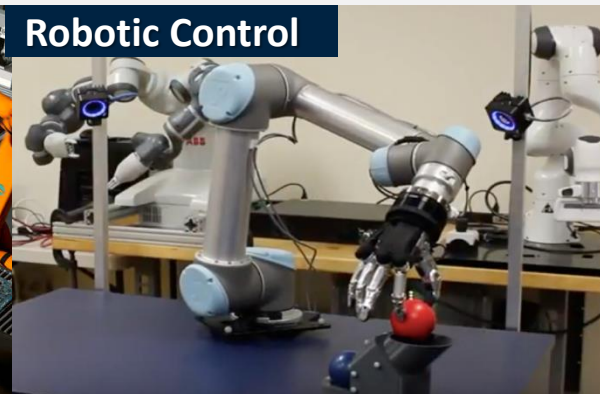
Product Inspection



Automatic Assembly



Robotic Control



EPC-T4000 Series – The Most Compact EPC for Mini-ITX



High Performance

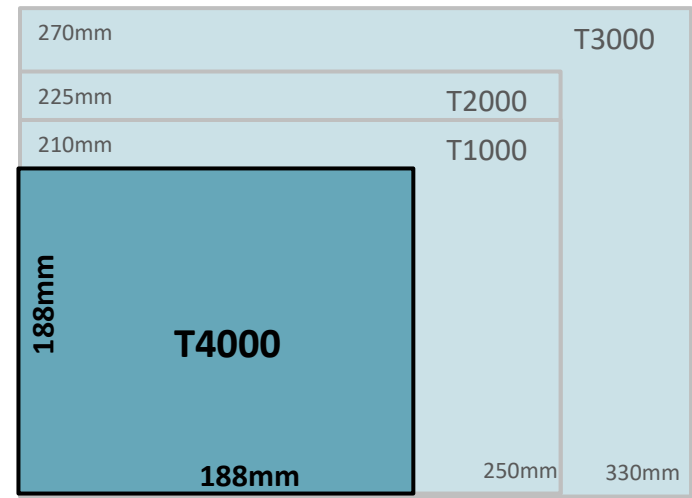
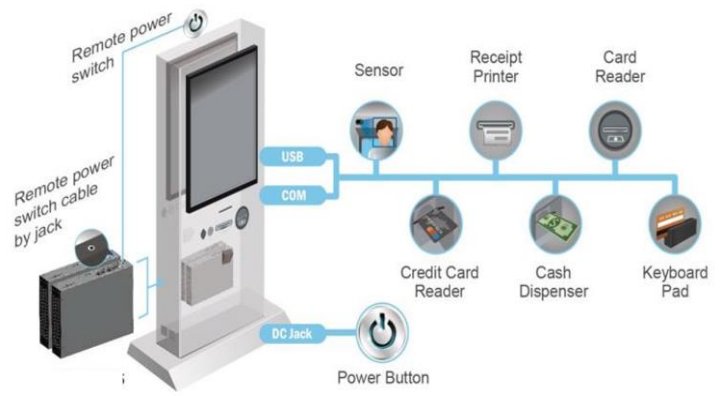
Intel 9th CORE-I CPU up to 65W

Compact Size

188 x 188 x 44mm



To Fit in Slim & Stylish Housing Designs



EPC-T Series – 1U THIN Chassis

Compact

Extension



T2000

DIM: 250 x 44 x 225 mm



T4000

DIM: 188 x 44 x 188 mm
Coffee Lake – R (Up to 65W)



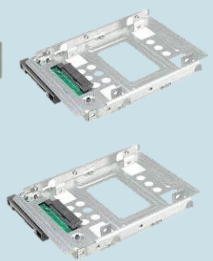
T1000

DIM: 250 x 44 x 210 mm



T5000

Two 2.5" Bay



Easy Installation Design for Dual Storages



T3000

PCIe Expansion

DIM: 330 x 44 x 270 mm



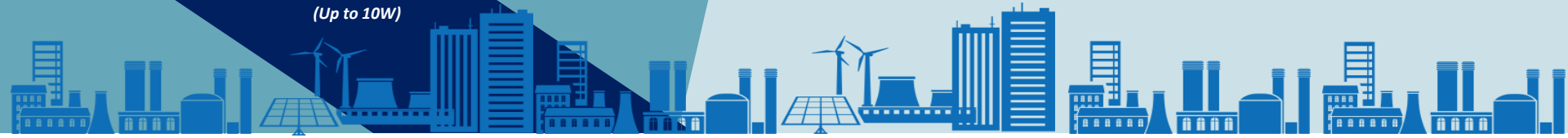
One Full Height PCIe Slot

Desktop CORE-I
(Up to 65W)

AMD V Series
(Up to 25W)

ULT CORE-I
(Up to 15W)

Intel ATOM
(Up to 10W)



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

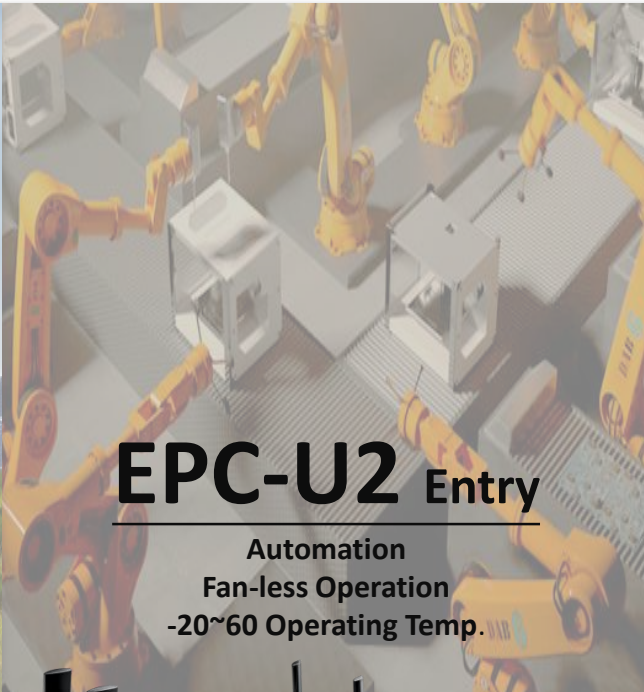


UTX

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



Bay Trail/
Apollo Lake



EPC-U2 Entry

Automation
Fan-less Operation
-20~60 Operating Temp.



Apollo Lake



EPC-U2 CORE

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



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

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

Semi-industrial

0~70 °C

Embedded

-10~70 °C

Industrial

-40~70 °C

Ruggedized

-40~85 °C

First Market Proven Wide Temperature 8TB NVMe SSD

Server Grade Performance with Ultimate Reliability for Industrial Applications



Wide Temp.



Thermal Solution



Design-in Service

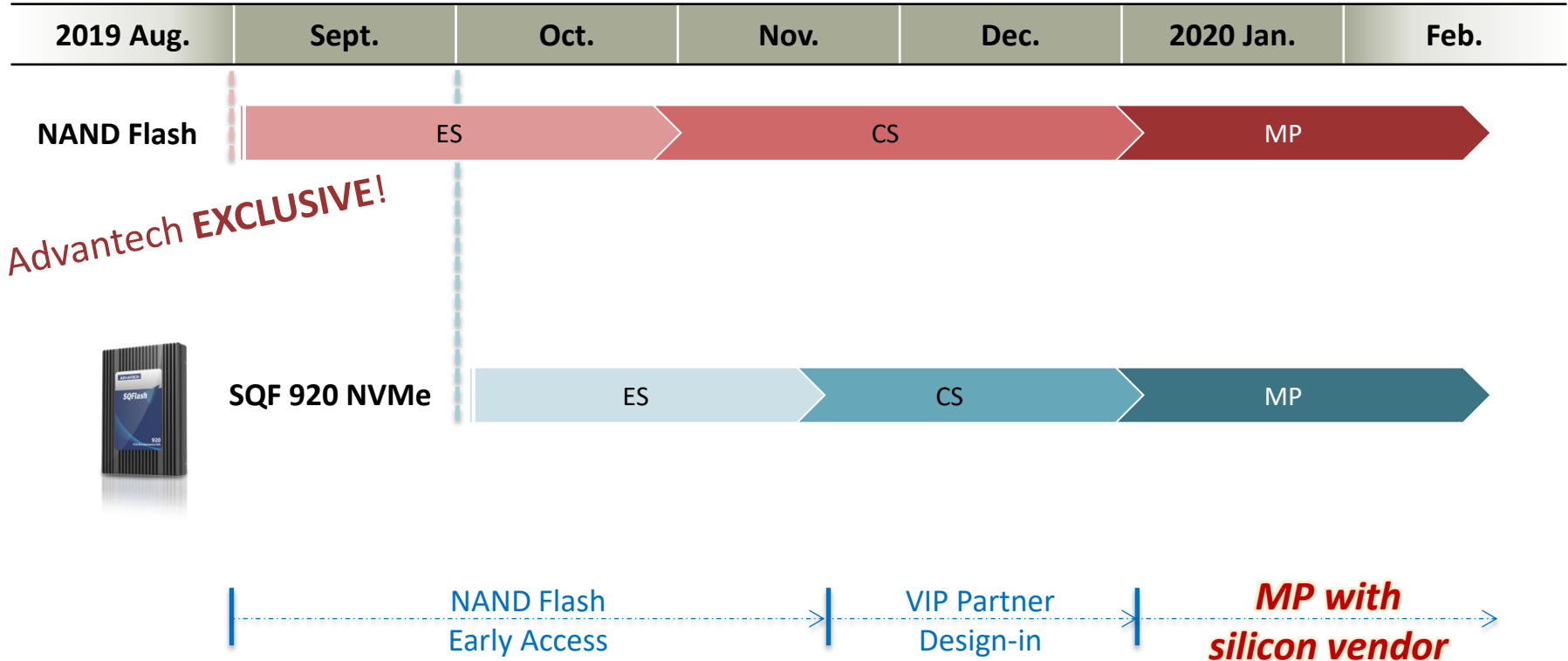


SQFlash 920 Series

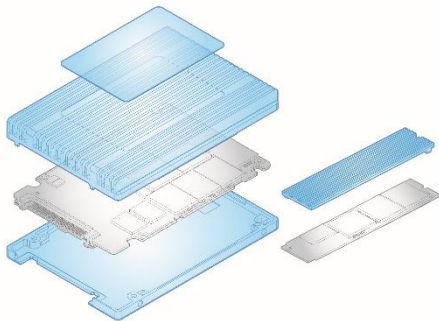


Self-management

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

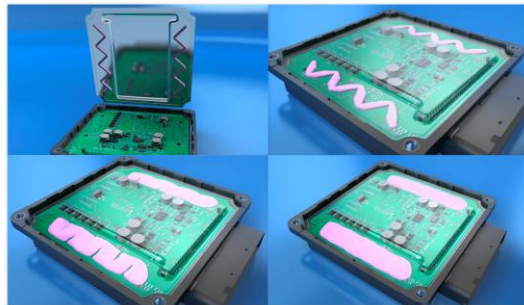


Advantech Industrial Grade Thermal Solution



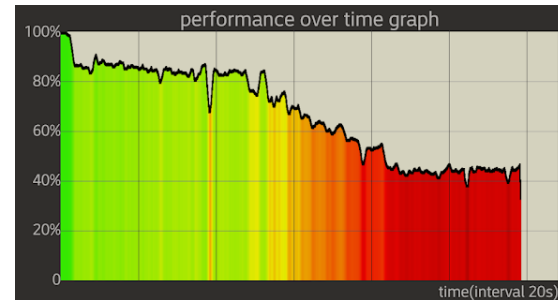
Unique Heatsink

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

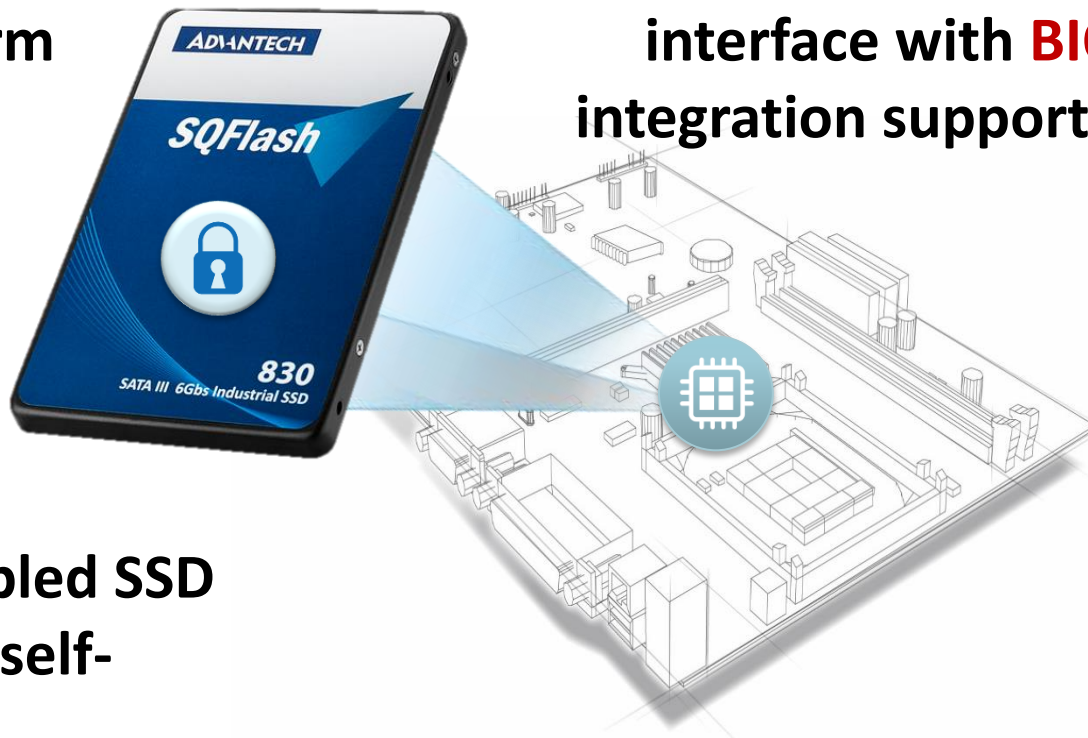


Acronis

SQFlash – TCG-OPAL Compliant with **EFI** Support

Lock **SQFlash** with
corresponding platform
or user / password
authentication

EFI management
interface with **BIOS**
integration supported

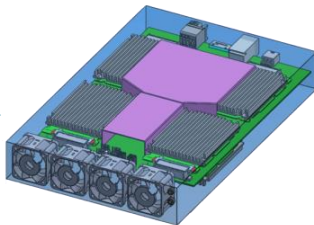


**SQFlash AES-256 enabled SSD
with TCG compliance self-
encryption disk (SED)**

Industrial Storage Design-in Services – SQ-DTOS

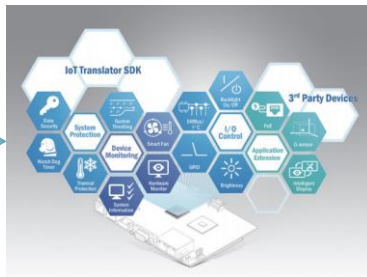


DTOS implementation:
from component to solution



Software solution integration:
provide add-on value

WISE-PaaS/ DeviceOn



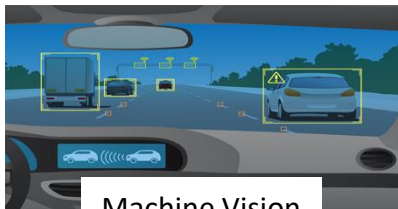
Storage Total Solution

- Thermal Simulation
- Mechanical Design
- FPGA IP Integration
- Design Verification

Value-added Software

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

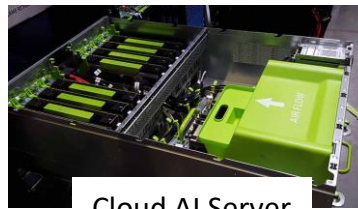
Target Markets



Machine Vision



Surveillance



Cloud AI Server

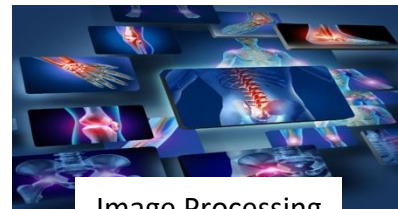
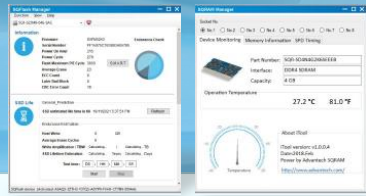
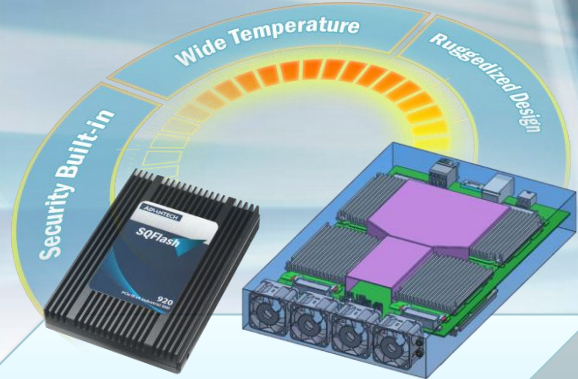


Image Processing

SQFlash

High Reliability, 360-Degree Security, and Design-In Service



McAfee **Acronis**

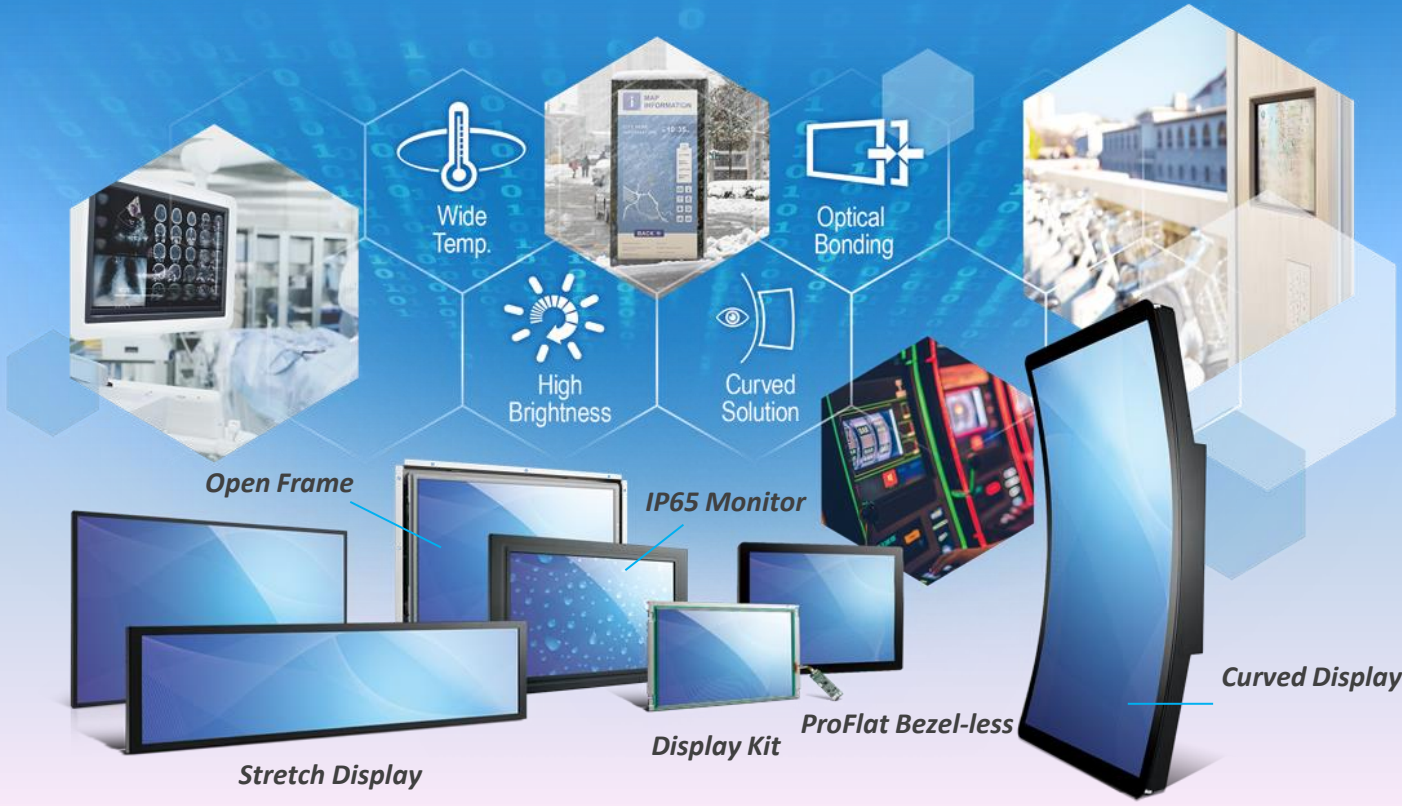
High data integrity



Complete product offering

Advanced Design-in service

Advantech Industrial Display Solutions



Gaming Display Solution

High Brightness

- 450nits 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



MP

CRV-430WP

43" C Type

Q1, 2020



CRV-430JP

43" J Type

Q4, 2020

CRV-550WP

55" C Type

13" Curved Touch Panel



**P-cap touch
integrated**



R600

**Slim & light weight
Design**

CRV-130WP

- 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

Gaming / Digital signage

Recommended Products



Proflat
IDP31 Series
10.4", 19", 21.5"



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



Large Format/Stretch
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 1920 x1080 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

Advantech Industrial Display
-40~85°C

General Industrial Display
-30~85°C



Intelligent AD board

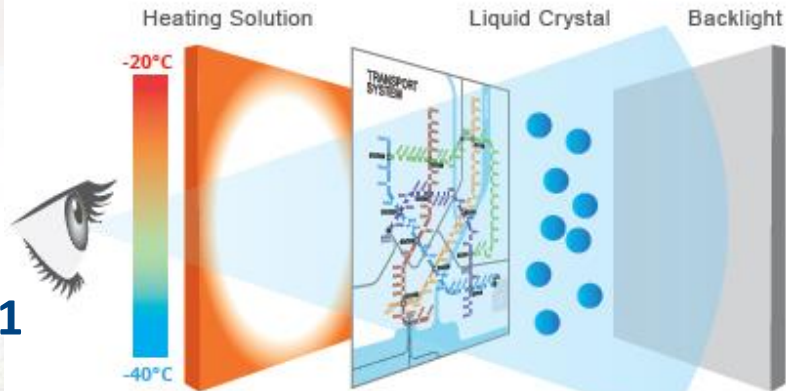


Working smoothly

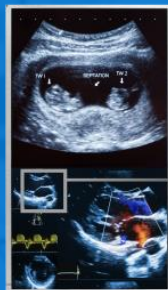
VS



Motion blur due to LOW response time



Medical Display



DICOM Part14 Compliance



6-Axis Color Adjustment

IDK-1121MD series

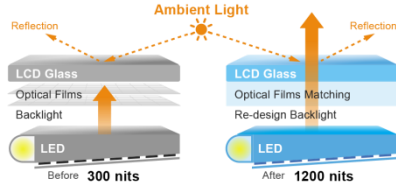
21.5" FHD 1920 x1080 resolution

- IPS LCD with a DICOM Part14 compliant scaler board
- Supports VGA/DVI/DP interfaces
- Auto brightness sensors and RS-232 remote control(optional)

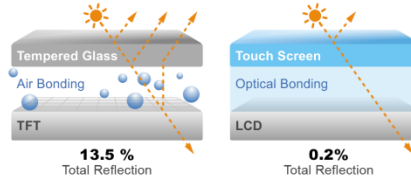
Your Industrial Display Expert

Display DTOS solution

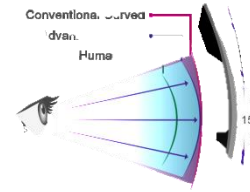
Sunlight Readable



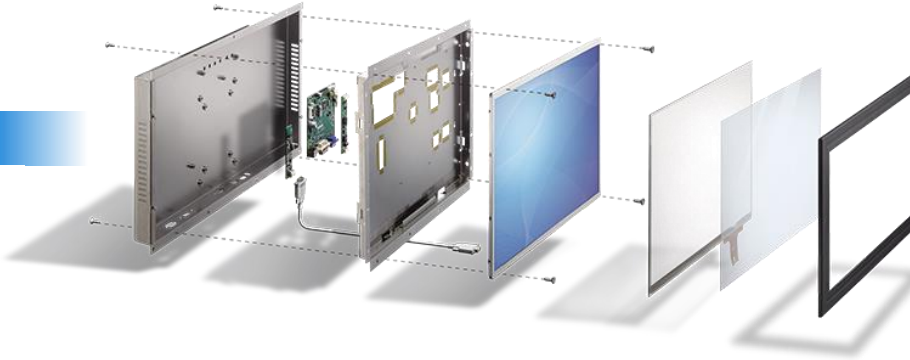
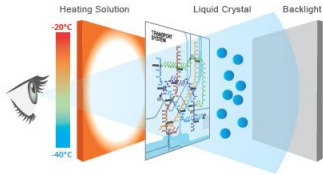
Optical Bonding/ IP65



Curved Technology



Wide Temp Solution



Color Adjustment



Embedded Core Design-In Services

Innovative Technology

Server Grade (COM-HPC)

MI/O Extension (2.5"/3.5")

UIO40-Express (2.5")

Quadro Flow Cooling System
(QFCS)

Software Services

WISE-PaaS/DeviceOn

Embedded Feature API

AIM-Linux / AIM-Android

Embedded BIOS

Integration Acceleration

EPC CTOS

(IMB, Chassis, Peripherals, OS)

Rugged Design Services

(Coating, Wide Temp., Anti-Vibration)

DTOS Services

(Custom Board, I/O, 610G Class 3)

Peripheral Integration

(Wireless, Storage, Display)



COM



SBC



MI/O



UTX



Mini-ITX



Arm-Based
Module & SBC



UIO



Peripherals

Co-Creating the Future of the IoT World

