

Edge Intelligence Solution Guide

Edge+ Solutions Enabling the Future of AIoT



ADVANTECH
AIWireless
Advantech Industrial Wireless

ADVANTECH

Enabling an Intelligent Planet

Edge⁺

Edge+ Overview

Edge+ Solutions Enabling the Future of AIoT

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WISE-DeviceOn IoT Device Remote
Operation Management

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Edge+ Wireless Connectivity

Industrial Wireless Solutions

[Learn More >](#)

Wireless ePaper Solutions

[Learn More >](#)

Edge+ AI & Intelligence Solutions

Edge AI Solutions

[Learn More >](#)

AIoT Edge Computers

[Learn More >](#)

Edge to Cloud Solutions

[Learn More >](#)

Edge+ Domain-focus Solutions

Edge Visualization Solutions

[Learn More >](#)

Smart Transportation Solutions

[Learn More >](#)

Edge+ Solutions Enabling the Future of AIoT

Unleash Edge Intelligence with AI, 5G, and the Cloud

Advantech provides Edge+ platforms that incorporate domain-focused software, AI, wireless connectivity, and cloud integration. As a result, customers benefit from shortened development times and digital transformation.



AI Software and Inference

- Edge AI Suite
- FaceView AI Facial Recognition
- DevCloud for the Edge

Edge+



Edge Intelligence Software and Cloud

- Remote Device Management Software
- Domain-Focused Application Software
- Microsoft/ AWS/ Ali Cloud Integration



Wireless Connectivity

- 5G, 4G, Wi-Fi 6, Bluetooth, and GPS
- AIW Wireless Module Compatible
- Wireless Design-in Services



WISE-DeviceOn

IoT Device Remote Operation Management

Empowers Edge to Cloud Applications

The market demand for remote device management has grown in unison with the edge device market. Advantech's WISE-DeviceOn IoT remote management software and I.App series deliver real-time device and data management capabilities that meet these trends.



Plug and Play IoT Deployment

Flexible Business Integration



Star Product Selections

WISE-DeviceOn



WISE-DeviceOn Remote Management

- HW/SW/Peripherals management
- Real-time monitoring and control
- OTA Update and batch controls

DeviceOn/iEdge



DeviceOn/iEdge Protocol Conversion

- Support OPC-UA/Modbus/ODBC
- Real-time edge analytics
- Centralized remote management

DeviceOn/Kiosk+



DeviceOn/Kiosk+ Remote Kiosk Management

- Zero touch onboarding and remote monitoring
- Peripheral devices settings and control
- McAfee whitelisting and Acronis recovery

DeviceOn/ePaper



DeviceOn/ePaper ePaper Centralized Management

- Device management
- Image generator
- Firmware OTA



Edge AI Solutions

Edge AI Acceleration Modules and Inference Systems

Empowering Visual AI at the Edge

Advantech provides comprehensive edge AI solutions that enable deep learning for AGV robots, defect inspection, retail, medical imaging, traffic monitoring, and other diverse applications.



DevCloud for the Edge

- Remotely evaluate prototypes on Advantech's edge AI platform
- Reduce development time and costs



Edge AI Suite

- Integrated OpenVINO toolkit
- 100+ pretrained models
- Deployment wizard



FaceView AI Facial Recognition

- 99.7% high precision rate
- Face ID/face mask detection
- Historical dashboards



AI Acceleration Cards VEGA-300 Series



Compact Inference Systems AIR-020/100/200 Series



High Performance AI Systems AIR-300 Series



Star Product Selections



VEGA-340 AI Acceleration Card

- 4x/8x Intel® Movidius™ Myriad X VPUs
- PCIe x4, 28W power consumption
- 32 TOPS high performance



AIR-101 Din-Rail AI System

- 2 x Intel® Movidius™ Myriad X VPUs
- 12 ~ 28V wide-range power input
- Edge AI Suite and OpenVINO toolkit



AIR-020 High Performance AI System

- 6 core ARM v8.2 and NVIDIA Jetson™ Xavier embedded
- Supports 5G and Wifi6 connectivity
- Supports high speed & capacity NVMe SSD



FaceView Facial Recognition I.App

- 99.7% Accuracy rate
- Mask recognition
- Human temperature screening



Edge to Cloud Solutions

Integrated Solution with Software-enabled Services

Simplify IoT Deployment from Edge to Cloud

Advantech edge to cloud solutions facilitate IoT connectivity, light edge analytics, and cloud integration, thus simplifying IoT application deployment, visualization, and predictive maintenance. These servers provide an all-in-one solution packages that reduce waste in hardware and software integration.



DeviceOn/iEdge



Star Product Selections



EIS-D620 Low Power Edge Intelligence System

- RISC-based Rockchip RK3399
- Debian with 2GB/ 16GB eMMC
- Support Wi-Fi and 4G wireless connectivity



Ei-52 High Performance Edge Intelligence System

- 11th Gen Intel® Core™ i5/i3/Celeron
- Pre-installed Edge X with data acquisition API
- Compatible with AI and 5G modules for AIoT applications



EIS-S230 On-premise Edge Cloud

- Intel® Xeon® E3-1275 V6
- Multiple DB connections
- Built in Kubernetes and on-demand microservices

DeviceOn/iEdge



DeviceOn/iEdge Protocol Conversion I.App

- Support OPC-UA/Modbus/ODBC
- Real-time Edge Analytics
- Centralized Remote Management



AIoT Edge Computers

Empowerd Edge Computing Solutions

Advantech's ARK Fanless Intelligent Edge Computers provide hardware and software integrated solutions that support multiple I/O and expansions — including AI analytics, wireless connections, and peripheral devices. These computers accommodate factory automation, self-service kiosk, equipment connectivity, computer vision, and other AIoT applications.

WISE-DeviceOn

Real-time devices/peripherals and software monitoring and control

DeviceOn/iEdge

Industrial protocols and data integration in smart automation

DeviceOn/Kiosk⁺

Kiosk remote management in multiple locations

 **OpenVINO**
AI model deployment and performance optimization



Wireless Connectivity

- 5G, LTE, Wifi, BT, GPS
- Certified wi-fi kit available (Selected models)



Scalable, Expand

- Motion/vision/frame grabber cards
- Industrial cameras



AI Analytics Built-in

- Supports NVIDIA GPU cards
- Supports Intel Movidius VPUs & OpenVINO toolkit

Star Product Selections



ARK-1220 Din Rail

- One side I/O — 2 x GbE, 2 x COM, and 4 x USB
- 12 ~ 28V wide range power input
- Supports -30 ~ 70 °C/-22 ~ 158 °F operating temperatures
- Supports VEGA-320/330 edge AI modules



ARK-1551 Ultra Slim

- 8th Gen Intel® Core™ i ULV CPU
- Up to 2 x GbE, 4 x USB, 4 x COM, and 12 ~ 24VDC power input
- Supports VEGA-320/330 edge AI modules



ARK-3531 Diverse I/O

- 9th Gen Intel® Core™ i 35W CPU
- Up to 4 x GbE, 8 x USB, 8 x COM, 9 ~ 36VDC power input
- Supports VEGA-320/330 edge AI modules



ARK-3532 High Performance

- 10th Gen Intel® Xeon® and Core™ i3/i5/i7/i9 65W
- Supports 23+ I/O connections
- Supports up to 4 x PCI/PCIe slot expansions



Industrial Wireless Solutions

Certified Wireless Kit, 5G, Wi-Fi 6, and Design-in services

Meet the Next Generation of Wireless Technology

Advantech delivers performance and reliability to industrial applications. Our solutions meet industrial application requirements, and adhere to RF certifications for industrial wireless communication antennas.



Flexible Logistic Supply



Longevity Support



Reliable and Secure



Industrial Grade



Wireless Design-in Services

FC CE RoHS PTCRB GCF



Wi-Fi 5 / Wi-Fi 6

AIW 100 Series



GNSS / GPS

AIW 200 Series



LTE Cat. 1/4G/5G

AIW 300 Series



BLE 5.0/ BLE 5.1

AIW 400 Series

Star Product Selections



AIW-165 Wi-Fi 6 Wireless Module

- Wi-Fi 6 802.11AX and Bluetooth 5.0
- M.2 2830
- 2T2R MU-MIMO antenna
- Operating temperature -40 ~ 70 °C (-40 ~ 158 °F)



AIW-355 5G Wireless Module

- 5G NR/LTE/WCDMA
- Ultra compact 30 x 52 mm (1.18 x 2.04 in) M.2 B key
- USB 3.1 bus interface
- GNSS: GPS/GLONASS/Beidou/Galileo



EWM-W192K1/K2 Wi-Fi Wireless Kit

- Wi-Fi 5 and BT 5.0
- M.2 2230 Key AE
- Certification ready set included
- 1 x module, 2 x cables, and 2 x antenna



EWM-C186K1 LTE Wireless Kit

- LTE CAT16 + GNSS
- M.2 3042 Key B
- Certification ready set included
- 1x module, 3 x cables, and 3 x antennas



Wireless ePaper Solutions

Domain-focused Solution Suites and Integrated Software

Centralized Management Accelerates ePaper Implementation

This solution empowers smart factory, building, wardroom, and public signage applications. DeviceOn/ePaper software management system enables users to update information automatically improve efficiency, and reduce human errors.



Star Product Selections

2.9"



EPD-210/230/232 Digital Label

- 2.9" EPD in red/black/white
- Excellent roaming and transmission performance
- NFC/ZigBee-like technology

5.6"



EPD-332 Scheduling Card

- 5.6" EPD in red/ black/ white
- Excellent roaming and transmission performance
- ZigBee-like technology

13.3"



EPD-660/662 Clinic Information Board

- 13.3" EPD red/black/white
- Great power management: up to 8 months for 3 updates per day
- 2.4G Wi-Fi

DeviceOn/ePaper



DeviceOn/ePaper ePaper Management I.App

- Device management
- Image generator
- Firmware OTA



Edge Visualization Solutions

Visualize Your Applications

Advantech develops edge visualization solutions. Our products comprise 4K digital signage players, edge servers, and management software that accommodate applications in retail, transportation, quick-service restaurants, and education.



Star Product Selections



DS-085 Ultra Slim

- 11th Gen Intel® Core™ i3/i5/i7 and Celeron
- 4 x HDMI 2.0
- Supports DASH



DS-082 Ultra Slim

- AMD Ryzen V1000/R1000 CPU
- 4 x HDMI 2.0
- 19 mm thickness



DS-580 High Performance Graphics

- Integrated NVIDIA® GeForce® GT 1030 graphics
- Intel® E3950 processor
- 2 x HDMI 2.0 and 2 x HDMI 1.4



DS-211 Open Pluggable Specification(OPS)

- Powered by Rockchip RK3399
- Supports dual displays (UHD+FHD)
- Expandable via M.2 2230 E key and miniPCIe slot



Smart Transportation Solutions

Railway/ In-vehicle/ Roadside Surveillance

Real-time Remote Fleet Management

Transportation Solutions (TS) computers combine AI facial recognition with video and WISE-DeviceOn vehicle diagnostics, maximizing the usage rates of railway, in-vehicle, and roadside surveillance applications. These computers help produce analysis reports, and monitor vehicle/driver statuses in real-time.



Star Product Selections



TS-206 In-vehicle

- Intel® Core™ i7-6600U/i5-6300U
- EMARK, ISO 7637-2 certified
- Supports -20 ~ 60 °C/-4 ~ 140 °F operating temp
- Supports 4 x PoE function



ARK-2250R Rugged Railway

- Intel® Core™ i7-6822EQ/i5-6442EQ
- -40 ~ 70 °C/-40 ~ 158 °F EN50155 TX
- Extension 72 ~ 110V voltage range
- Stackable extension layers



ARK-2250V In-vehicle

- Intel® Core™ i7-6822EQ/i5-6442EQ
- EMARK, ISO 7637-2 certified
- Supports -20 ~ 70 °C/-4 ~ 158 °F operating temp
- Stackable extension layers

WISE-DeviceOn



WISE-DeviceOn Remote Control Software

- Real-time vehicle monitoring and tracking
- Remote vehicle diagnostics analysis
- Power delay control



Edge+ Solution High-lights



Edge Intelligence Software and Cloud

WISE-DeviceOn improves management, enables real-time remote access, and facilitates efficient operation. It leverages the Cloud and integrated domain-focused application software



AI Software and Inference

Empower AI at the edge and realize real-time intelligence in AGV/drones, defect inspection, traffic monitoring, and medical imaging applications



Wireless Connectivity

Demystify AIoT and leverage 5G/Wi-Fi 6 to enjoy faster speeds, millisecond latency, and reduced network congestion

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