# ECGEA Computing Solutions

Accelerating AI Transformation in Embedded Markets



**Enabling an Intelligent Planet** 

# EdgeAl Computing Solutions

**Accelerating AI Transformation in Embedded Markets** 

# Table of Contents

#### **EdgeAl in Perspective**

AI Is Driving Cross-Dimensional Edge Success	0:
Bridging AI Technologies and Applications	04
Co-Create a Thriving EdgeAI Ecosystem	0
AI Technology, Now & for the Future	0
Shaping the Future of EdgeAI	
EdgeAI Computing Solutions	0
AI-Ready Edge Systems	09
Al on Modules & Boards	11
Al Acceleration Modules	1:
Al Performance Benchmarks	1
Your Guide to Optimal EdgeAl Solutions	10
EdgeAl Software Architecture	1
Rapid AI SDK Development Toolkit	18
EdgeAI Computing Design-In Services	19
Advantech is Your Best EdgeAl Partner	20

#### **Case Studies**

Application 1: Turkey Deploys AI-Assisted Traffic Surveillance and Analysis	21
Application 2: Enhancing PCB Quality with an AI Defect Detection System	22

23

#### **Product Selection Guide**

# AI Is Driving Cross-Dimensional Edge Success

#### Minimize Resources

Al handles redundant or repetitive tasks, allowing human resources to focus on more strategic roles

#### **Enhance Data Processing**

Accurate analysis and predictions enhance decision-making, reveal opportunities, and drive innovation

#### **Maximize Efficiency**

Reduce manual intervention for quicker responses and better service personalization

#### Swift Disease Diagnosis



From Hands to AI Minds

### Cross-Dimensional Competitive Advantage

*Application Value*  AI Computing Power **Traffic-Free Tomorrow** 

**Lights-Out Manufacturing** 

# **Bridging AI Technologies and Applications**



**Standardized Platform** 

**Enabling quick adoption and minimizing upgrade effort** with 20+ form factors for various AI performance needs.



Always offering suitable products for any application by integrating diverse AI technologies, AI power, size or specifications required.

## Open Ecosystem

ю

**Unlocking Edge possibilities to accelerate AI growth and creating greater value** through an open EdgeAI ecosystem that connects leading partners.

# intel

With Advantech, we enhance performance and accessibility for Al inference deployment anywhere.

- René Torres,

Vice President, Sales, Marketing and Communications Group General Manager, Network & Edge Solution Sales

### 

NVIDIA will continue to deepen our collaboration with Advantech and provide AI applications from edge to cloud, realizing AI in various applications.

- Eunice Chiu, NVIDIA VP and GM Taiwan

### Qualcom

By collaborating with Advantech, we drive innovation in shaping a new IoT world, ensuring seamless AI connectivity, efficiency, and privacy.

- Dev Singh, VP & GM of Industrial, Qualcomm



Axelera AI and Advantech are working together to make AI more accessible and impactful across our society.

— Fabrizio Del Maffeo, CEO and Co-Founder, Axelera Al

# **Co-Create a Thriving EdgeAl Ecosystem**

Diverse AI technologies and inconsistent interfaces complicate customer decisions and slow AI deployment progress. Advantech addresses this by uniting top-tier partners and leveraging our design capabilities to foster a thriving and open AI ecosystem.

# 

Advantech and AMD work together to empower Edge applications with Al-enhanced experiences.

- Gaur, Rajneesh, Embedded BU head and CVP, AMD

# HVILO

With Advantech's expertise in edge computing and Hailo's cuttingedge technology, we are providing our customers with best-in-class AI solutions for edge applications.

- Orr Danon, Hailo CEO

# 

By partnering with Advantech, we jointly drive innovation and security services to empower a wide range of edge applications, transforming our vision into reality.

*— Robert Thompson,* Director of Edge Processing Ecosystems, NXP

# **PHISON**

We're partnering with Advantech to implement and popularize generative Al applications on-premises through EdgeAl devices and technology.

— Pua Khein Seng, CEO of Phison Electronics Crop

# AI Technology, Now & for the Future



# **EdgeAl** Computing Solutions



Al-on-Modules



QSR Self Service Kiosk

e Kiosk

**Medical Imaging** 

Al Acceleration Modules

Inference Systems

Robot

Edge Al SDK

Edge Al Enterprise SSD

Al Servers

1 4 A

TJ3-JIA

Edge AI applications span a wide range of industries, including manufacturing, smart cities, retail, and healthcare. Advantech offers standard platforms from low-power to high-performance EdgeAI computers and AI software development environments, efficiently handling diverse AI workloads and accelerating Edge AI deployment.



# **AI-Ready Edge Systems**

Advantech's AI-Ready Edge Systems offer a variety of solutions to meet customers' Edge AI Inference application needs in terms of CPU performance, AI computing power, thermal management, and application-specific I/O requirements. These solutions help customers quickly integrate their applications with AI computing capabilities.

### **EdgeAl Server**

壑 NVIDIA, aiDAPTIV CERTIFIED

#### AIR-500/700 series

- Server-grade computing • Multiple GPU AI cards
- Fan-based

#### **AI Enabled Application System**

#### AIR-300 series

- High-performance computing
- GPU / NPU AI card
- Fan-based

#### **AIR-100 series**

- Power-efficient computing
- Integrated NPU / NPU AI card
- Fanless

#### **AI Gateway** 📀 NVIDIA. NGC

#### **AIR-000 Series**

- Light computing
- Integrated NPU
- Fanless

# Star Products





Phase In 2024 Q2 Longevity 2034 Q1

#### Mobile-Grade Platform with NPU Acceleration

- 13<sup>th</sup> Gen Intel<sup>®</sup> Core<sup>TM</sup> 15W CPU
- 26 TOPs powered by Hailo-8 AI module

#### Comprehensive I/Os with NPU Toolkits

- LAN, USB, COM, DIO, CAN bus ports for Industrial Edge applications
- Easily deploy pre-trained AI applications with HAILO TAPPAS



1.5U Slim EdgeAl System AIR-310

Phase In 2024 Q3 Longevity 2034 Q1

#### Desktop-Grade Platform with Slim GPU Acceleration

- Intel<sup>®</sup> Core<sup>™</sup> 14<sup>th</sup> Gen 65W CPU
- 8.64 TFLOPs powered by the RTX A2000 MXM AI card

#### Comprehensive I/Os with Inference Toolkits

- LAN, USB, COM, DIO, CAN bus ports for Industrial Edge applications
- Rapid evaluation and deployment of inference models with Edge AI SDK



G

### **4U EdgeAl Server** AIR-520

Phase In 2024 Q3 Longevity 2028 Q2

#### Server-Grade Platform with Multi-GPU Acceleration

문국 Learn Mo

- AMD EPYC<sup>™</sup> 7003 series 225W CPU
- 182 TFLOPs powered by 2 x RTX 6000 Ada PCIe AI cards

#### Connectivity and AI Model Training

- Built-in 10GbE LAN and BMC for remote access and management
- LLM fine-tune training with aiDAPTIV+ solution

# AI on Modules & Boards

Advantech's AI on Modules & Boards offer exceptional design flexibility, reducing development time and accelerating the integration process. These comprehensive form factors serve various Edge inference applications with corresponding AI performance and software solutions.

### **EdgeAl Server Board**

- 20+ Core Server-Grade Computing
- Multiple GPU Cards
- High-Bandwidth Connectivity



OPEN STANDARD MODULE

COM Express

SMARC

COM+HPC

**Micro-ATX** 

AI on Module

- Low Latency & Power-Saving Computing
- Integrated NPU
- Flexible & Easy Migration



### AI Application Board

AI-Accelerated Computing
Extendable GPU / NPU Card
Application-Aligned I/O



AOM

3.5" SBC

PICO-ITX

Mini-ITX

## Star Products



Unleashing On-Device Al ROM-2860

Phase In 2024 Q3 Longevity 2034 Q3

#### **Tiny Yet High-Performance Processing**

- Qualcomm<sup>®</sup> QCS6490, 8 cores & LPDDR5 memory
- Integrated NPU, performance up to 12 TOPs

#### Refined Yet Complete I/O

- Supports VPU, 1 x MIPI-DSI x4, 1 x DP & 1 x eDP1.4 flexible display, to fulfill image processing
- I/O options 2 x GbE, 1 x USB 3.2 Gen2, 2 x PCIe for essential connectivity



### Balanced AI Performance and Efficiency MIO-5377R

Phase In 2023 Q3 Longevity 2033 Q1

#### **Brilliant Computing Power**

- 13<sup>th</sup> Gen Intel<sup>®</sup> Core<sup>™</sup> Processor with up to 14 Cores & DDR5 memory
- dGPU Nvidia A4500 with MIOe-UMXM, FP32 performance of 17.66 TFLOPs

#### Flexible & Abundant Expansion

- 8 x USB, 4 x UARTs 3 x I2C, 2 x CAN bus for cameras & sensors under AI detection scenarios
- USB4 with PCIe, M.2 B-/E-/M-Key available to extend AI acceleration





### Driving Al Workload Breakthroughs AIMB-592

Phase In 2023 Q1 Longevity 2028 Q2

#### **Ultimate Computing Power**

- AMD Milan EPYC<sup>™</sup> 7003, 64 cores & DDR4 memory
- Accommodates double-deck NVIDIA RTX A6000 PCIe Al cards, RT core performance up to 151.2 TFLOPs

#### High-Throughput Connectivity

- Four PCIe Gen 4.0 x16 slots to maximize AI computing
- Dual 10GbE LAN high-bandwidth connectivity empowers big data cloud services

# **AI Acceleration Modules**

Advantech offers the EAI series, which features plug-in AI modules and GPU cards designed to expedite real-time inference on edge platforms. This series enables customers to swiftly integrate AI computing using standard form factors, offering highly flexible solutions that cater to diverse AI performance and power requirements.

### M.2 Modules

#### EAI-1000 series

- Power-Efficient Al
   Compact M.2 2242/2280
- AMR/AGV, license plate recognition

Space utility  $\star \star \star \star \star$ Power saving  $\star \star \star \star \star$ Performance  $\star \star \star \star \star \star$ 

### PCIe Cards

#### EAI-3000 series

High-Performance Al	
Standard PCIe x16/x8	
Traffic surveillance, AOI inspection	

Space utility ★★★☆☆ Power saving ★★☆☆☆ Performance ★★★★★



#### **MXM** Cards

#### EAI-2000 series

- Integrated AI
- Slim MXM Type A / B
- Medical analysis, robotics arms

Space utility  $\star \star \star \star \star$ Power saving  $\star \star \star \star \star \star$ Performance  $\star \star \star \star \star$ 

### intel. HAILO



# Star Products





Phase In 2024 Q3 Longevity 2029 Q4

#### **Power-Efficiency AI**

- 26 TOPS
- TDP up to 8.25W

#### **High Compatibility**

- x86/ARM-based platform
- -40 ~ 85°C working temp. support



Intel<sup>®</sup> Arc<sup>™</sup> A370M MXM Type A GPU Card EAI-2100

Phase In 2023 Q3 Longevity 2028 Q4

#### **Integrated AI**

- 4.2 TEL OPs
- TDP up to 40W

#### **Easy Integration**

- Wide range 9-20V input
- Optional heat spreader & fansink with a smart fan



Intel<sup>®</sup> Arc<sup>™</sup> A380E PCIe x16 GPU Card EAI-3101

Phase In 2023 Q3 Longevity 2028 Q4

#### **High-Performance AI**

- 5.02 TFLOPs
- TDP up to 85W

#### **Rapid AI Development**

- Edge AI SDK integration
- DirectX, OpenGL, OpenCL, Vulkan API support

# **AI Performance Benchmarks**

The use cases of Edge AI are highly diversified, making it difficult for customers to identify a suitable AI solution for different purposes and uses. This AI performance benchmark consists of major evaluation factors such as throughput, latency, and power/cost efficiency, which can help users find the most suitable AI solution for their application.



# Your Guide to Optimal EdgeAI Solutions



NPUs excel in low-latency, lightweight AI tasks; discrete GPUs handle heavy AI workloads Intel Arc GPU offers higher cost-efficiency; the Hailo-8 NPU provides power-efficiency





Unit: Yolov5n\_Throughput / wa Yolov5n\_Throughput / dollar

Testing conditions: Running popular object detection model such as Yolov5n, Yolov5m, Yolov5x by ONNX conversion under Ubuntu 22.04 (Kernel version: 5.15, Batch size=1, Data type=INT8, Image resolution: 640x640)

# **EdgeAl Software Architecture**

Advantech supports customers' Al projects with integrated hardware and software solutions. Our strategy includes providing Al development environments for various platforms, offering Al model training and inference tools, and enhancing scalability with cloud services. This approach ensures robust foundations, multi-platform support, relevant tools for all development stages, and continuous solution refinement through customer interaction.

AI Cloud Services		Azure OpenAl	Canonical MicroCloud				
Al Model Training		Enterprise-Grade Al Software Platform • NVIDIA RAPIDS™	<b>Edge AI</b> LLM Finetuning SDK of aiDAPTIV+	intel. Computer Vision GETI Al Platform			
& Inferencing	Al Enterprise	• NVIDIA NeMo • NVIDIA TensorRT™	<b>DeviceOn</b> Model Deployment & Management				
Al Runtime Environment	Edge Al SDK	Al Inference Framework & Tool Kits       NVIDIA CUDA & TensorRT / Intel OpenVINO / AMD ROCm / HailoRT / Qualcomm® Neural Processing SDK / NXP elQ / Media Tek NeuroPilot         • Runtime SDK       • Benchmark Tools         TensorRT       OpenVINO         ROCm       HailoRT         • Runtime SDK       • Benchmark Tools					
DeviceOn AloT Agent / Power Suite OS Add-ons / SUSI Driver & API / IEC62443 BV Cyber Tested							
Services	Windows	Windows IoT Windows on Arm	Ubuntu Ubuntu Pro				
		Quelcomma intol PHISON					

# **Rapid AI SDK Development Toolkit**

With Advantech's EdgeAI platforms and EdgeAI SDK, customers can start developing right away without the hassle of setup. The EdgeAI SDK ensures seamless compatibility, saving time and effort. The Benchmark Tool in the EdgeAI SDK integrates advanced AI inference engines, providing quick insights into AI processing capabilities with minimal R&D effort. The verified Runtime SDK and diverse AI models help jumpstart customers' AI application development promptly.



#### **Inference Benchmark Tool**

No-code GUI for rapid AI inference assessment

#### **Inference Runtime SDK**

Compatible installation on Advantech edge devices
TensorRT OpenVINO ROCM HailoRT elQ
Neural Processing SDK NeuroPilot

# Edge Al SDK

Unlock AI potential with a unified toolset for any inference platform





#### Inference Deployment Platform

Managing AI containers remotely with scalable updates

#### **Global Customer Support**

Inference computing and edge-to-cloud consulting services



# **EdgeAl Computing Design-In Services**

To create competitive advantages, AI must substantively contribute to application value. Advantech's EdgeAI Design-In Service offers optimized hardware platforms for CPU power and heat dissipation, along with compliance and security services. It provides comprehensive software support from AI model generation to deployment and integrates vision AI camera hardware and software, enabling quick AI integration for superior competitiveness.

#### **Application Value**

#### **Certification & Security**

- CE/FCC/UL/CCC/BSMI
- IEC-62443
- NVIDIA-Certified Systems<sup>™</sup>

🕺 NVIDIA.

CERTIFIED

#### Application Computing

Heterogeneous architecture :

- x86 platform
- Arm platform
- intel AMD NXP Qualcom

#### Power Stability •

- PDN simulation
- Bode plot & phase margin
- Derating & inrush management

#### Thermal Optimization

- Thermal design & simulation
- Balance of reliability & cost



#### **Al Integration**

#### **AI Dev. Environment**

- OS: Ubuntu, Windows
- Al runtime SDK
- AI model training & inferencing

EdgeAI SDK MIDIA AI Enterprise GeTi DeviceOn

#### **AI Computing Integration**

- Extension modules: M.2, MXM, PCIe
- Integrated NPU

Invidia. H∧IL□ intel. AMD, Qualcomm

#### **AI Enterprise SSD**



- SQ aiSSD with aiDAPTIV+ technology
- Local, offline, affordable LLM fine-turning

#### Camera Integration

- MIPI-CSI, GMSL, FPD-Link, Ethernet, USB
- Partner ISP tuning and driver integration





#### Over 40 Years of Experience in the Embedded Market

In-depth understanding of embedded application requirements



#### Design-In Service for Platform and Application Integration

Thermal solutions, certifications, Edge AI SDK, Ubuntu

# Advancing EdgeAI for Competitive Leadership with Advantech ,,



#### Rich and Reliable Standard Product Portfolio

Al acceleration modules, Al on modules and boards, edge Al systems, Al server boards and systems, software



#### Deep Collaboration with AI Chipset Partners

NVIDIA, Intel, AMD, Qualcomm, NXP, MediaTek, Hailo, Axelera

## Use Case Turkey Deploys AI-Assisted Traffic Surveillance and Analysis

#### Introduction

Enhancing traffic efficiency to alleviate road congestion is crucial for the development of smart cities. Advantech's EAI-3100 AI module, the AIMB-289 motherboard powered by Intel<sup>®</sup> Core<sup>TM</sup> 14<sup>th</sup> Gen Desktop Processors, and ISSD's VIERO-AI Analysis system provide real-time traffic monitoring surveillance systems at 750 intersections across various cities in Turkey. This AI-accelerated analysis tracks vehicle count, density, and speed to enhance urban traffic flow and safety.

#### Challenges

- Traditional video processing units struggle with detailed road monitoring and analytics under bad ambient light conditions.
- Real-time traffic flow analytics require advanced image processing, recognition, and analytical capabilities.

#### Solutions

- AIMB-289, the latest high-performance THIN Mini-ITX for 1U systems with essential PCIe and multiple 2.5G LAN ports and the EAI-3100 with the Intel<sup>®</sup> Arc<sup>TM</sup> A370M GPU for complex AI inferencing
- A one-stop solution featuring SQF-SM8 SSD and SQR-SD4N DDR4



#### Use Case

# **Enhancing PCB Quality with an AI Defect Detection System**

#### Introduction

Traditional PCB manufacturers rely on rule-based machine vision algorithms for defect inspection, requiring skilled inspectors for rechecks. A leading PCB manufacturer with branches in Taiwan, China, and Japan aims to improve DIP and SMT yield rates using AI, as low contrast causes 70-80% underkill rates in automated visual inspections.

#### Challenges

- Long development time is required to switch from rule-based AOI to a deep learning CNN approach.
- Al model retraining at the production line is required for continuous accuracy improvement.

#### Solutions

- Powerful AIR-030 edge inference system with vertical I/O tailored to the application.
- AIR-520 with BMC server-grade manageability and dual GPU cards for re-training.
- Partnered with Phison's aiDAPTIV+ AOI service for customized fine-tuned models.



# Al Ready Edge Systems

RTX

# intel.



#### AIR-510

- Intel<sup>®</sup> Core<sup>™</sup> 14<sup>th</sup> Gen processors
- NVIDIA Certified with 1x RTX 6000 Ada
- Al performance up to 91 TFLOPs (FP32)



Intel<sup>®</sup> Core<sup>™</sup> 14<sup>th</sup> Gen processors

AIR-310

AIR-520

- 1x Intel Arc A370M/RTX A2000
- AI performance up to 8 TFLOPs (FP32)



#### HAILO

- 13<sup>th</sup> Gen Intel<sup>®</sup> Core<sup>™</sup> processors
- 1x Hailo-8 Al module

AIR-150

AIR-530

• AI performance up to 26 TOPs

**NVIDIA**.



#### HNILO

- Intel<sup>®</sup> Core<sup>™</sup> 14<sup>th</sup> Gen processors
- 1x Hailo-8 AI module

**AFE-R770** 

• AI performance up to 26 TOPs

### 



#### 

#### • AMD EPYC<sup>™</sup> 8004 series processor

• 4x Nvidia L40S GPU

AIR-770

• AI performance up to 366 TFLOPs (FP32)



#### 

- AMD EPYC<sup>™</sup> 7003 series processor
- NVIDIA Certified with 2x RTX 6000 Ada
- Al performance up to 182 TFLOPs (FP32)



NVIDIA IGX Orin processor

NVIDIA Certified with 1x RTX 6000 Ada

• Al performance total up to 1705 TOPs







- NVIDIA Jetson AGX Orin processor
- NVIDIA Ampere architecture GPU
- AI performance up to 275 TOPs

# AI on Modules and Boards

🕺 NVIDIA.

RTX

# intel.



#### Mini-ITX AIMB-292

- Intel<sup>®</sup> Core<sup>TM</sup> 14<sup>th</sup> Gen processors
- NVIDIA RTX A4500 MXM GPU
- Al performance up to 17 TFLOPs (FP32)



RTX

3.5" SBC MIO-5377R

- 13<sup>th</sup> Gen Intel<sup>®</sup> Core<sup>™</sup> processors
- NVIDIA RTX A4500/A1000 MXM GPU
- AI performance up to 17 TFLOPs (FP32)



#### 3.5" SBC AFE-R360

- Intel<sup>®</sup> Core<sup>™</sup> Ultra processors
- NVIDIA A4500 MXM/Hailo-8 AI module
- AI performance up to 17 TFLOPs (FP32)



# COM HPC Client Size A SOM-A350

- Intel<sup>®</sup> Core<sup>™</sup> Ultra processors
- Integrated NPU in SoC
- Al performance up to 32 TOPs

# intel. –



#### COM Express Basic T6 SOM-5885

- Intel<sup>®</sup> Core<sup>™</sup> Ultra processors
- Integrated NPU in SoC
- Al performance up to 32 TOPs



Micro-ATX AIMB-592

- AMD EPYC<sup>™</sup> 7003 series processor
- 2x NVIDIA RTX A6000
- AI performance up to 151 TFLOPs (FP32)



Mini-ITX

#### AIMB-2210

- AMD Ryzen<sup>TM</sup> 8000 series processor
- Integrated XDNA NPU in SoC
- AI performance up to 39 TOPs



#### COM Express Compact T6 SOM-6873

- AMD Ryzen<sup>™</sup> 8000 series processor
- Integrated XDNA NPU in SoC
- AI performance up to 39 TOPs

# AI on Modules and Boards

### Qualconn -



#### AOM 1.0 AOM-7721

- Qualcomm X Elite processor
- Integrated Hexagon NPU in SoC
- AI performance up to 45 TOPs



#### OSM 1.1 ROM-2860

- Qualcomm QCS6490 processor
- Integrated Hexagon NPU in SoC
- Al performance up to 12 TOPs



Rockchip

#### AOM Nano

#### AOM-3411

- Rockchip RK3576 processor
- Integrated RKNN NPU in SoC
- Al performance up to 6 TOPs



#### SMARC 2.1

#### ROM-6881

- Rockchip RK3588 processor
- Integrated RKNN NPU in SoC
- AI performance up to 6 TOPs





#### AOM Nano

#### AOM-3511

- NXP i.MX95 processor
- Integrated NPU in SoC
- AI performance up to 2 TOPs



#### SMARC 2.1

#### ROM-5722

- NXP i.MX 8M Plus processor
- Integrated NPU in SoC
- Al performance up to 2.3 TOPS



#### OSM 1.1 ROM-2820

- NXP i.MX93 processor
- Integrated NPU in SoC
- Al performance up to 0.5 TOPs

# Al Acceleration Modules

# intel.



#### PCle EAI-3101

- Intel<sup>®</sup> Arc<sup>™</sup> A380E
- PCIe 4.0 x16 Riser Card
- AI performance up to 5 TFLOPs (FP32)



#### PCle

#### EAI-3100

- Intel<sup>®</sup> Arc<sup>™</sup> A370M
- PCIe 4.0 x16 Riser Card
- AI performance up to 4 TFLOPs (FP32)





MXM EAI-2100

- Intel<sup>®</sup> Arc<sup>™</sup> A370M
- MXM Type A 3.1
- AI performance up to 4 TFLOPs (FP32)

### HAILO



### EAI-3300

- 2x Hailo-8 Al Processer
- PCIe 3.0 x16 Riser Card
- Al performance up to 52 TOPs



M.2

#### 968DD00323

- Hailo-8 Al Processer
- M.2 Key B+M, 2242/2260/2280
- Al performance up to 26 TOPs



M.2

#### 968DD00322

- Hailo-8 Al Processer
- M.2 Key A+E, 2230
- Al performance up to 26 TOPs



#### 968DD00320

M.2

- Hailo-8 AI Processer
- M.2 Key M, 2242/2260/2280
- AI performance up to 26 TOPs

Regional Service and Customization Centers									
China Kunshan 86-512-5777-5	5666	Taiwan   Taipei 886-2-2	792-7818	Netherlar	nds Eindhoven 31-40-267-7000	P	oland   <sup>Warsaw</sup> 00800-2426-8080	L	<b>JSA</b>   Milpitas, CA   1-408-519-3898
Worldwide	Offices								
Asia Pacific	;	Asia Paci	ific			Europe			
Taiwan		Japan		Australia		Netherlands		Russia	
Toll Free Taipei & IoT Camp Taichung	0800-777-111 pus 886-2-2792-7818 886-4-2372-5058	Toll Free Tokyo Osaka	0800-500-1055 81-3-6802-1021 81-6-6267-1887	Toll Free Melbourne	1300-308-531 61-3-9797-0100	Eindhoven Breda	31-40-267-7000 31-76-523-3100	Moscow St. Petersburg	8-800-555-01-50 8-812-332-57-27 8-921-575-13-59
Kaohsiung <b>China</b>	886-7-392-3600	Nagoya Nogata	81-0800-500-1055 81-949-22-2890	<i>India</i> Bangalore Pune	91-94-4839-7300 91-94-2260-2349	Germany Toll Free Munich	00800-2426-8080/81 49-89-12599-0	<b>Czech Republic</b> Ústí nad Orlicí	420-465-524-421
Toll Free Beijing Shanghai	800-810-0345 86-10-6298-4346 86-21-3632-1616	Korea Toll Free Seoul	080-363-9494/5 82-2-3660-9255			Düsseldorf France	49-2103-97-855-0	<i>lreland</i> Galway	353-91-792444
Shenzhen Chengdu Hong Kong	86-755-8212-4222 86-28-8545-0198 852-2720-5118	Singapore Singapore	65-6442-1000			Paris Italy	33-1-4119-4666	Americas	
Middle Fasi	t and Africa	Malaysia Kuala Lumpur Penang	60-3-7725-4188 60-4-537-9188			Milan <i>UK</i> Newcastle	39-02-9544-961 44-0-191-262-4844	Toll Free Boston Chicago Cincinnati	1-888-576-9668 1-949-420-2531 1-888-576-9668 1-513-742-8895
Israel Turkey Turkey-Bursa	072-2410527 90-212-222-0422 90-224-413-3134	<b>Thailand</b> Bangkok	66-02-2488306-9			London <b>Spain</b> Madrid	44-0-870-493-1433 34-91-668-86-76	Irvine Milpitas Ottawa	1-949-420-2500 1-408-519-3898 1-815-433-5100
		<i>Vietnam</i> Hanoi Hochiminh	84-24-3399-1155 84-28-3836-5856			Sweden Stockholm	46-0-864-60-500	Toll Free São Paulo	0800-770-5355 55-11-5592-5367
		Indonesia Jakarta	62-21-751-1939			<b>Poland</b> Warsaw	48-22-31-51-100	<i>Mexico</i> Toll Free Mexico City	1-800-467-2415 52-55-6275-2777



**Enabling an Intelligent Planet** 

#### www.advantech.com

Please verify specifications before ordering. This guide is intended for reference purposes only. All product specifications are subject to change without notice. No part of this publication may be reproduced in any form or by any means, electronic, photocopying, recording or otherwise, without the prior written permission of the publisher. without prior written permission of the publisher. All brand and product names are trademarks or registered trademarks of their respective companies. © Advantech Co., Ltd. 2024