

IEC 62443 Certification Service

WISE-Edge+

Alex Lai, BDM alex.lai@advantech.com



Cyber Resilience Act (CRA)

The European Parliament has passed the Cyber Resilience Act



News
European Parliament

Cyber Resilience Act: MEPs adopt plans to boost security of digital products

Press Releases PLENARY SESSION ITRE 12-03-2024 - 14:02

- More robust cybersecurity for all products with digital elements
- Covers everyday products like connected doorbells, baby monitors and Wi-Fi routers
- Security updates to be applied automatically when technically feasible

On Tuesday, Parliament approved new cyber resilience standards to protect all digital products in the EU from cyber threats.

When non-compliance is found

1. Require manufacturers to bring non-compliance to an end and eliminate risk
2. To prohibit/restrict the making available of a product or to order that the product is withdrawn/recalled
3. Impose penalties (fines up to **15,000,000 EUR** or up to **2.5 % of worldwide turnover**)

How close between CRA & IEC 62443

The CRA also closely resembles existing cybersecurity standards as the IEC 62443



Cyber Resilience Act Requirements Standards Mapping

	Security requirements relating to the properties of products with digital elements													Vulnerability handling requirements								
	1	2	3a	3b	3c	3d	3e	3f	3g	3h	3i	3j	3k	1	2	3	4	5	6	7	8	
EN IEC 62443-3-2	X										X											
EN IEC 62443-4-1	X	X													X		X				X	X
EN IEC 62443-4-2				X	X	X		X		X		X	X									

IEC 62443 is

- *General-purpose standard developed*
- *For industrial automation and control systems*
- *Has been widely accepted by different segments.*



Energy Power System

IEC 62351
TC57



Medical

IEC 80001, IEC 60601
SC62A



Smart Manufacturing

IEC 63283-3
TC65



Process

IEC TR 63069
TC65



Semiconductor

SEMI E187
SEMI



Nuclear

IEC 62645, IEC 62859
IEC 63096, SC45A



RED

Harmonised, Standards
CEN-CENELEC



Lifts, Escalators

ISO 8102-20
ISO/TC 178



Marine

UR E27
IACS



Railway

TS 50701, EN 50159
TC9X, DIN VDE, 8031-104

Why Need Advantech



Regulation Mandatory

- Many industrial regulations are referred to IEC 62443
- Coming CRA regulation is based on IEC 62443



It's not Working Solo

- Entire process of certification is complicated, need partner to do so.
- Working with powerful vendor BV, reduce the unnecessary effort



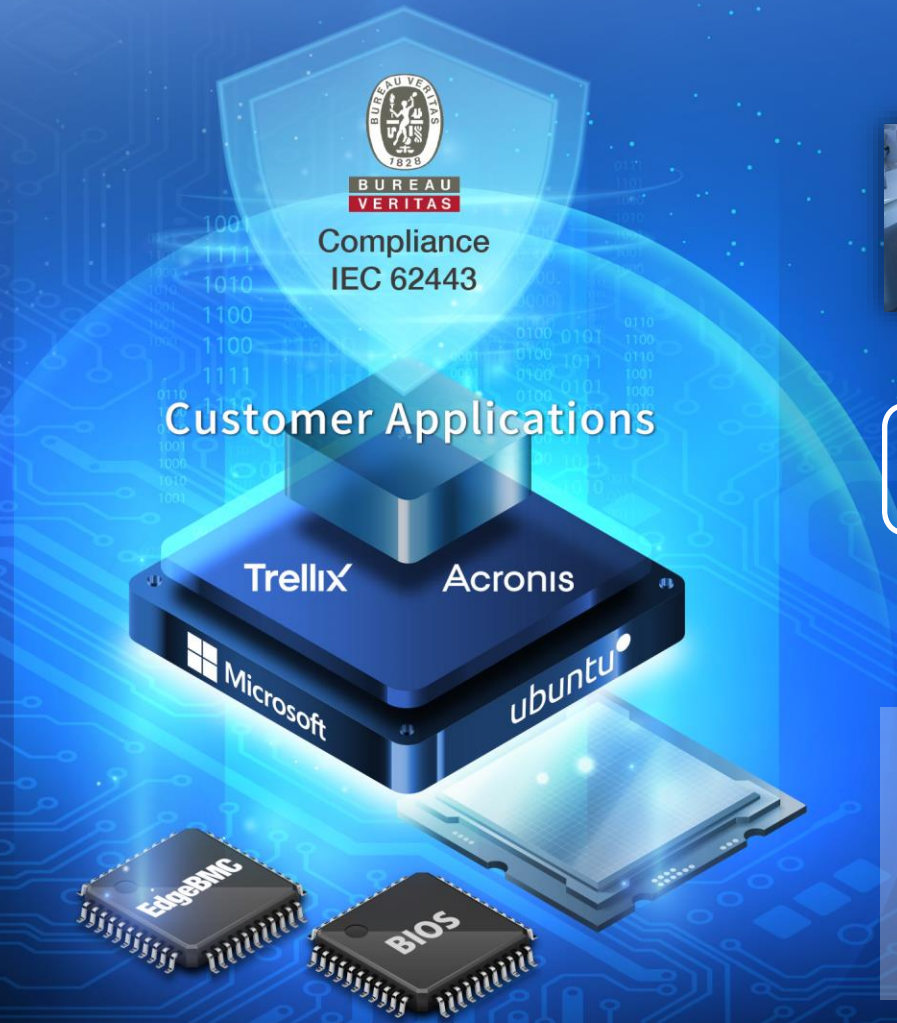
Well-Prepared

- By early preparation of golden image, speed up the certified time
- Reduce the certified cost

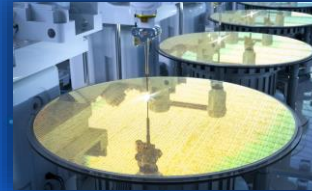
Certification Service



IEC 62443 Certification Service



Semiconductor
SEMI E187



Smart Manufacturing
IEC 62383-3, TC65



Medical
IEC 80001, IEC 62304, SC62A



Energy
IEC 62351, TC57



Customer Applications

Functional
Security

Verification of
Conformity

Formal
Certificate

Benefits: New Market Entry, Compliance, Security Protection

- ✓ **One stop shop** from product design to certification
- ✓ **Up to 50% cost reduced** by Advantech solutions
- ✓ **6+ months faster** based on proven methodology

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Security Application



Embedded Security Solution

- Configuration Toolkit
- Whitelist Protection
- No Need Virus Code

Windows' Bitlocker and Ubuntu's LUKS

- Full Disk Encryption
- Secure Key Management
- Centralized Management and Recovery
- Data Integrity and Authentication

Operation System

Advantech SUSI API



- Secure Update Mechanisms
- Secure Policy Compliance
- 10 years long-term support

BIOS Bootloader



- Secure Boot
- Boot Guard
- Trust Zone hardware architecture and Arm Secure Boot
- Failover-dual boot

HW (longevity)

- TPM 2.0
- SOFlash
- EdgeBMC

- Cryptographic Operations
- Cryptographic Key and Certificate Store
- Cryptographic Key Generation and Injection
- Residual Information Purging
- Secure (Encrypted) Storage

IEC 62443-4-2

Component Requirement (CR)


CR 1.2.x/CR 1.5.x/CR 1.8.x/CR 1.9.x/CR 1.14.x/CR 2.4.x/CR 2.12.x/CR 3.1.x/CR 3.4.x/CR 3.8.x/CR 3.9.x/CR 3.10.x /CR 3.11.x/CR 3.12.x/CR 3.13.x/CR 3.14.x/CR 4.1.x/CR 4.2.x/CR 4.3.x/CR 7.3.x

Embedded Device Requirement (EDR)

Host Device Requirements (HDR)

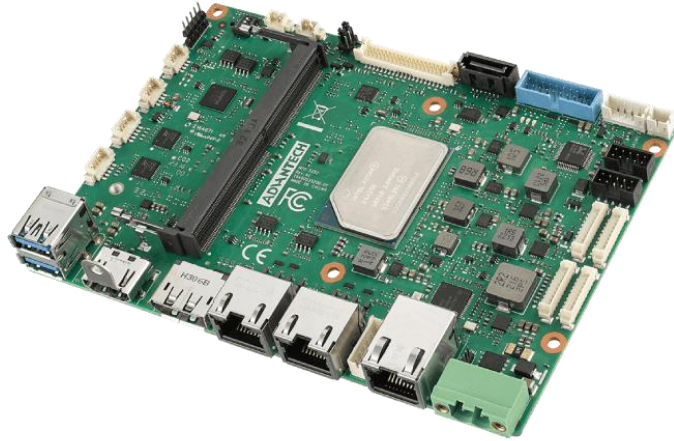
DR 2.4.x/DR 3.10.x/DR 3.11.x/DR 3.12.x/DR 3.13.x/DR 3.14.x

Levels and Prices of IEC 62443-4-2 Certification

	A	B	C	D	E
Certification	<i>Advantech VOC</i>	<i>BV entry VOC</i>	<i>BV extended VOC</i>	<i>BV enhanced VOC</i>	<i>BV CB</i>
Security Level					
Scope	Product/Computing Device				
- Security Functional Test (FR1-FR7)	v	v	v	v	v
- Customer Application			v	v	v
- Other components				v	v
- Vulnerability Testing (SVV3)				v	v
- Penetration Testing (SVV4)				v	v
- SVV1/2 Testing					v
Target Users	Brand Owner	Brand Owner	Brand Owner System Integrator	System Integrator	System Integrator Bidder

IEC 62443-4-2 Certification: Security Level 2

AFE-E350




- Atom® x6000E series and Intel® Celeron® J and N series with Quad/Dual Cores, TDP 6-12W
- 3 GbE support TSN & PoE
- 4x RS232/422/485, 6x USB, 2x CANBus, 1x I2C/SMBus

ARK-3534



- Support Intel® Core™ 12th & 13th Gen. i3/i5/i7/i9 processor
- DDR5 SO-DIMM memory support up to 64 GB
- Support up to 4GbE, 8USB, 8COM, 16bit DIO, 2CANBus, TPM2.0


BUREAU VERITAS


Verification of Conformity

Applicant's Name: Advantech Co. Ltd
Product Manufacturer: Advantech Co. Ltd
Scope: AFE-E350
Test Report No.: CYT-BEAD-WTW-P23120636-A0

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, declare that the system above has been tested in our facility and found compliance with the requirement limits of applicable standards. The test record, data evaluation and system configurations represented herein are true and accurate under the standards herein specified.

The pass requirements of IEC 62443-4-2:2019/COR1:2022 and Security Level 2 are as follows:

FR 1 - Identification and authentication control (AC) :	(9,2,22)
FR 2 - Use control (UC) :	(10,4,21)
FR 3 - System integrity (DI) :	(8,6,19)
FR 4 - Data confidentiality (DC) :	(3,0,5)
FR 5 - Restricted data flow (RDF) :	(1,3,4)
FR 6 - Timely response to events (TRE) :	(2,0,3)
FR 7 - Resource availability (RA) :	(9,1,11)
HDR - Host device requirements (HDR):	(0,0,22)


Hans Hsieh / Technical Manager
2024-06-27

Co-Creating the Future of the IoT World

