



## **Driving Mission-Critical Technology with Rugged Edge Innovation**

Achieve Unmatched Defense Performance  
with DFI's Embedded IoMDT Lineup

# Your Trusted Leader in Embedded IoMDT Platforms

Over 40 years of embedded expertise & Edge AIoT for defense



In the critical domain of defense, AI is transforming technology, redefining mission effectiveness, and boosting operational precision for the future. The defense sector faces rising demands for robust, dependable, and long-lasting technologies that can endure extreme environments and operate seamlessly under mission-critical conditions.

With over 40 years of expertise, DFI is a trusted provider of agile edge AI computing platforms, offering one-stop ODM services and commercial off-the-shelf products tailored for defense applications. Our diverse product lineup includes ruggedized systems, compact high-performance small-form-factor devices, and VPX-based architectures, ensuring adaptability across various deployment scenarios.

Built for strict compliance, seamless interoperability, and uncompromising durability, DFI's advanced capabilities empower defense applications to drive technological evolution and embrace open innovation. Strengthened by a strategic partner network and state-of-the-art technologies, DFI continues to lead the way in advancing next-generation mission-critical infrastructure.

## DFI's Comprehensive Portfolio of Defense

### Real-time Tactical Systems Design Experience

I/O-optimized, rugged, and designed for real-time edge AI computing, processing LiDAR and sensor data for unmanned vehicles.



### VPX Design Experience

Extensive VPX design expertise, focusing on meeting the weight, size, and power requirements for military applications.



### Single Board Computers (SBCs)

Wide-range defense form factors (4", 3.5", 2.5", 1.8", PICMG 1.3) with compact size and rich I/O for seamless integration.



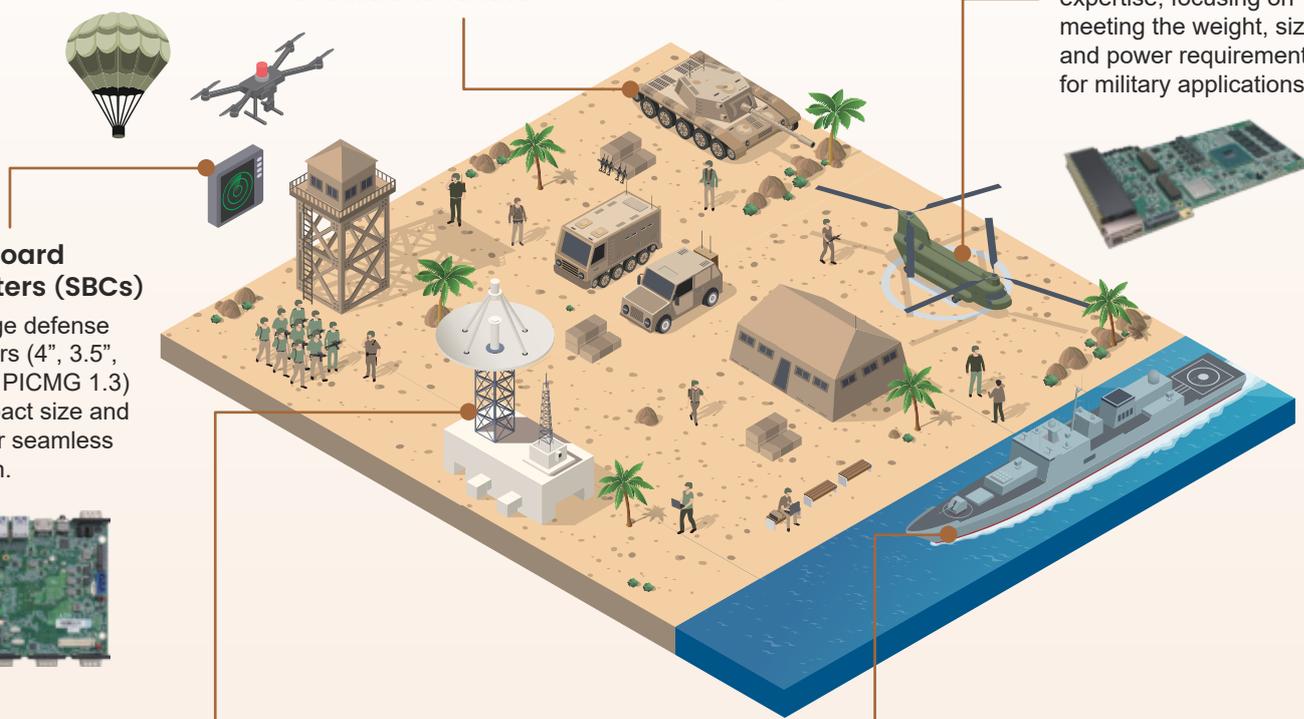
### System-on-Modules (SoMs)

Wide-range form factors for defense: COMe Mini, Compact, Basic, COM HPC, SMARC, Qseven, OSM.



### Ruggedized Systems

IP67/69K-rated, I/O-optimized, and rugged mechanical design, making it ideal for extreme maritime environments such as unmanned surface vessels.



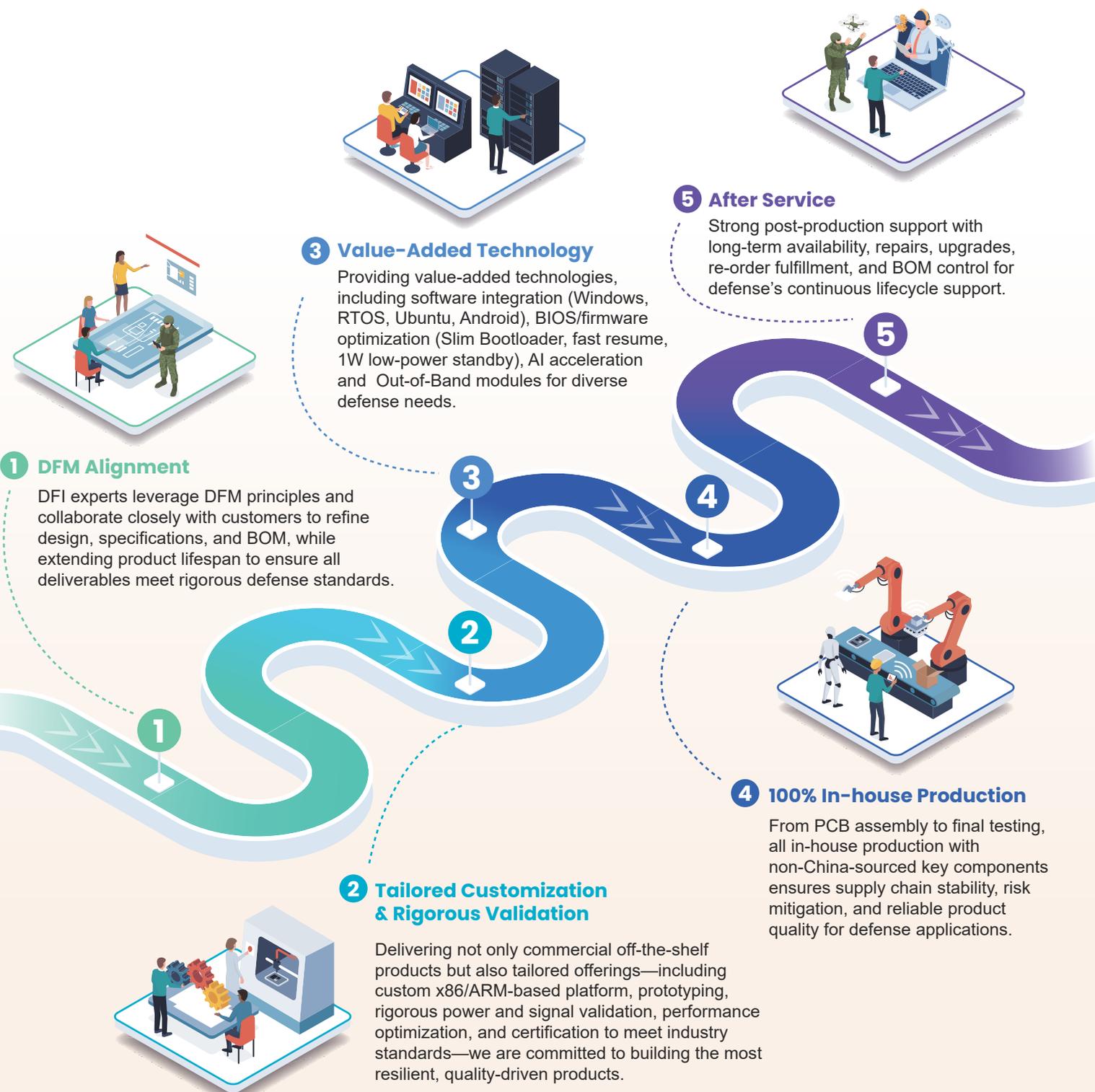
# Comprehensive One-Stop Solution for Defense Needs

From zero to one, covering all edge IoT military domains to meet the needs of defense



DFI's rugged embedded computing portfolio supports a wide range of defense applications, including aircraft failure prediction, mission safety enhancement, and real-time data sharing. Designed with environmental and security considerations in mind, these technologies are always built to meet specific requirements and standards.

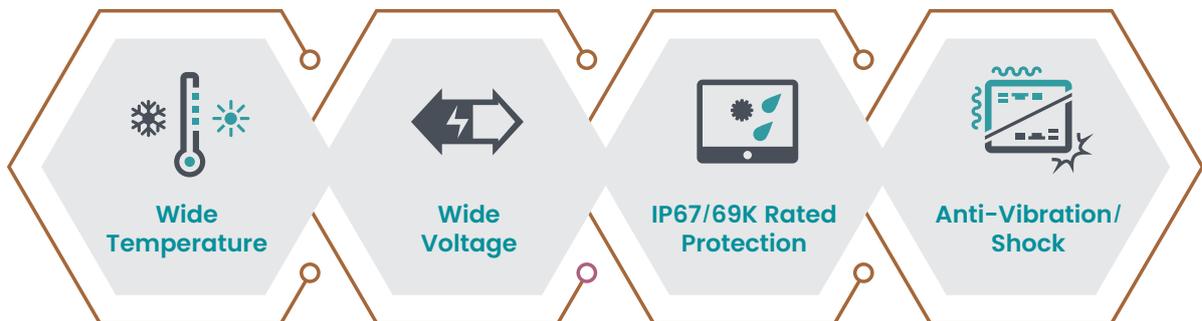
As the defense industry demands more durable and reliable equipment for harsh environments, DFI leads with agile edge AI computing, offering a comprehensive one-stop service to address the evolving needs of the sector.



# Flexibility, Ruggedization and Custom Designed Experiences

Rugged and fueled by unparalleled flexibility, agility, and unwavering reliability

DFI understands the importance of durability and continuous productivity in challenging environments. We offer rugged, customizable options for defense applications, providing reliable capabilities for data collection and communication. Whether for unmanned vehicles, armored vehicles, or radar systems, DFI offers a variety of rugged features and customization options with flexible connectivity based on high quality. Our product defect rate is consistently below 1,000 dppm, proudly the lowest in the industry. Our products are rigorously tested to withstand harsh conditions and can be certified to customer specifications. With durable products, customers benefit from long-lasting performance, reducing TCO over time.



- -40°C~85°C Durability
- Optimized Thermal Solution

- 9-36V DC Input
- Over Current Protection

- Dust/Particles Protection
- Water Protection

- Stable/Reliable Performance
- IEC60068
- Frequent Vibration/ Shock Resistance



- Parylene/ Conformal Coating
- Excellent Adhesion
- Corrosion Resistance

- IEC60945
- Power isolation Anti-noisy
- High radiation

- Fast Boot Capability
- HALT Test

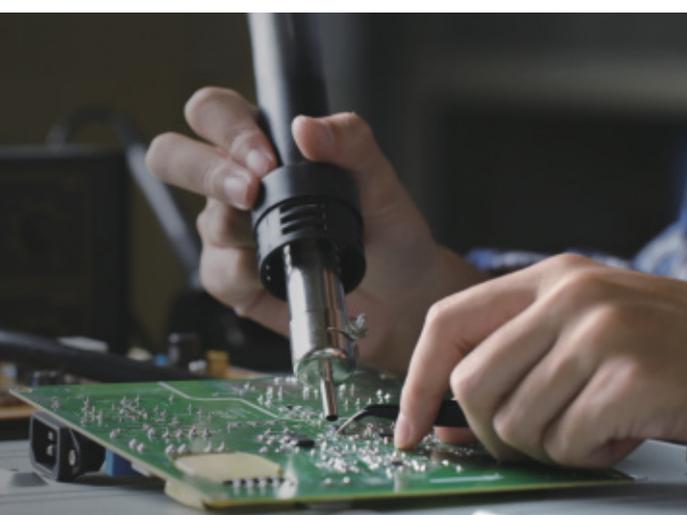
- Exceed 100,000-hour MTBF

- ISO 9001, IPC J-STD-001, IPC-A-610, MIL-STD, CE, UL, FCC-Class B, IEC62443-4-1, ISO27001 and more

## Quality-In Design

### Holistic Robustness in Design Phase

- Schematics Circuit Simulation
- Thermal Simulation
- Non-China Key Components
- 8kv/15kv ESD Protection
- 100% Component De-rating
- Design for Regulation/Compliance
- Auto Power On/Off Sequence Measurement



# Unmanned Surface Vessels' IoT Gateway: Real-Time Monitoring, and Control



Explore More  
DFI Industrial  
Computers



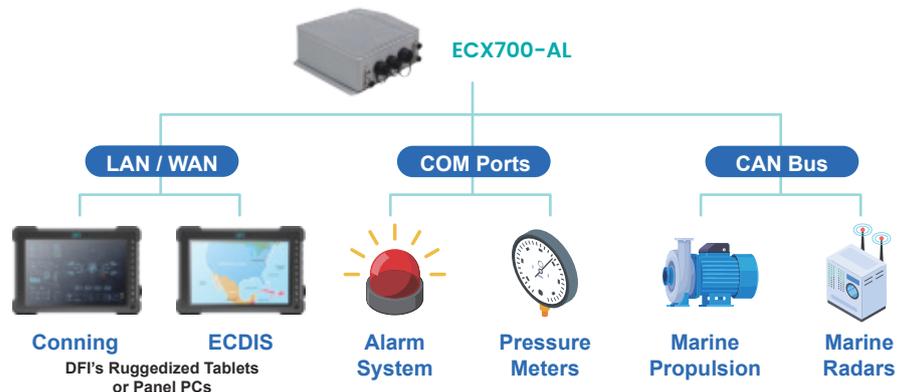
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DFI Industrial  
Panel PCs &  
Displays



## Challenges

The maritime environment is extremely harsh, and DFI's ruggedized systems have successfully entered the western markets, being deployed in defense unmanned vessel projects.

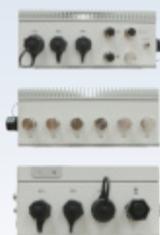
## Use Case



### ECX700-AL | Ruggedized System

- Intel® Atom® Processor E3900 Series Apollo Lake Quad Core CPU
- Intel® Gen9 Graphic Performance
- Extreme Ruggedized design to IEC 60068-2-64 & -40°C~70°C wide temperature
- Rich I/O help integrators meet the demand for various applications
- To fulfill wireless transmission, an external SIM slot reduces the difficulties to change SIMs, and the high gain antenna ensures the quality of the signal
- Various applications: Industrial automation, Outdoor application
- Waterproof & Dustproof design conforming to IP67/ IP69K
- Long-term Promise of 15-Year CPU Life Cycle Until Q4' 31 (Based on Intel IOTG Roadmap)

## Related Models



### ECX700-ADP | Ruggedized System

- Intel® Alder Lake-P Processor i5-1245UE/ i7-1265UE
- Intel® Iris® Xe Graphic Performance
- Extreme Ruggedized design to IEC 60068-2-64 & -20°C~70°C wide temperature
- Rich I/O help integrators meet the demand for various applications
- To fulfill wireless transmission, an external SIM slot reduces the difficulties to change SIMs, and the high gain antenna ensures the quality of the signal
- Various applications: Industrial automation, Outdoor application
- Waterproof & Dustproof design conforming to IP67



### JUR101-TGU | Ruggedized Tablet

- 11th Gen Intel® Core™ Processors
- High Brightness Sunlight-Readable 10.1 Screen
- ALL-DAY usability with hot swap capability (2 removable Li-Ion battery)
- Optical bonding enhances both visibility and strength
- Chemically-strengthened Dragontrail™ High Ion-Exchange (HIE™) cover glass for excellent impact and scratch resistance
- Adjustable LED backlit keys and 8x programmable function keys
- Ultra Rugged design to meet MIL-STD-810H (Full IP65)

# Core Computing for UAVs: Real-Time Capture and Communications



Explore More  
DFI System-On-  
Modules

## Challenges

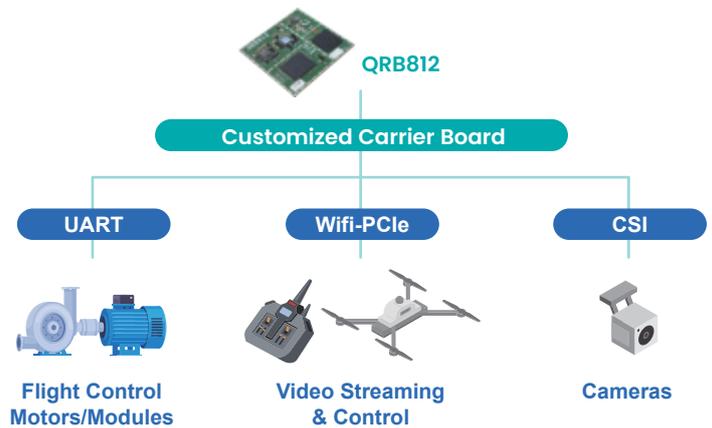
Drone endurance is crucial, requiring a low-power, high-performance system to maximize battery life. With using SoM, which ensures easy maintenance and future upgrades. Additionally, the system must be rugged and reliable, capable of operating in extreme temperatures, humidity, and vibrations for stable long-term performance.

## Use Case



### QRB812 | OSM

- Qualcomm QRB5165 Processor, 8x Kryo 585 2.84Ghz
- 8GB LPDDR5 memory down
- Dual Displays: 1 4-lane MIPI-DSI, 1 USB-C DP
- Multiple Expansion: 2 PCIe x2 (Gen3), 1 PCIe x1 (Gen3), 2 USB 3.1 Gen2, 6 MIPI-CSI
- Application: For Automation AMR, Robotic or Drone



## Related Models



### ASL9A2 | COMe Mini

- Intel® Atom® Processor Amston Lake Series
- Dual Channel LPDDR5 4800MHz up to 16GB
- 1 LVDS/eDP, 1 DDI (DP++) : Supports dual displays: DDI + LVDS/eDP
- Multiple expansions: 4 PCIe x1, 1 SMBus, 1 I2C, 1 eMMC
- Rich I/O: 2 USB 3.1, 8 USB 2.0
- High Speed Ethernet: Supports 100M/1000M/2.5Gbps



### MTH968 | COMe Compact

- Intel® Core™ Ultra Processor (Meteor Lake: U/H-series)
- Dual Channel DDR5 5600MHz SODIMM up to 96GB
- Multiple Displays: 1 VGA + 1 LVDS/eDP + 2 DDI
- Supports 4K / 2K resolution
- Multiple Expansion: 8 PCIe x1, 2 PCIe x4, 1 PCIe x8, 1 I2C, 1 SMBus, 1 LPC/eSPI, 2 UART
- Rich I/O: 1 Intel 2.5GbE, 2 USB 4.0, 4 USB 3.2, 8 USB 2.0, 2 SATA 3.0



### ICD970 | COMe Basic

- 3rd Gen Intel® Xeon® Processor D-1700 Family
- Default 2 260-pin DDR4 2666 SO-DIMM, dual channel mode up to 64GB, 3rd DIMM
- by request(SDPC mode by request to support DDR4 2933MHz)
- Support extended operating temperature: -40°C to 85°C
- 10GBASE-KR: Support up to 4 x 10GbE Mac ports
- Multiple Expansion: 1 PCIe x16 (Gen4), 2 PCIe x8 (Gen3), 1 SMBus, 1 I2C, 1 LPC, 2 UART (TX/RX)
- Rich I/O: 2 Intel GbE, 4 USB 3.0, 4 USB 2.0, 2 SATA 3.0
- 15-Year CPU Life Cycle Support Until Q1' 37 (Based on Intel IOTG Roadmap)

## Quality For Army Communication: Radar Control Systems, and More

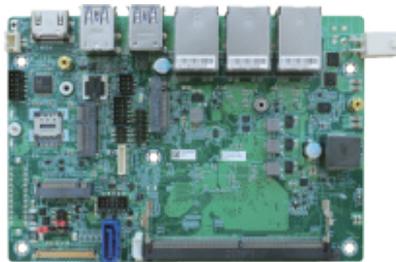


Explore More  
DFI Industrial  
Motherboards

### Challenges

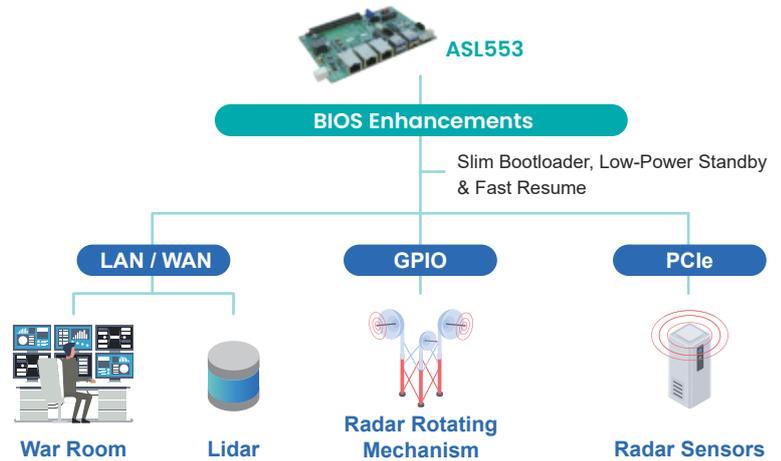
Any defense communication system must not only be compact and easy to integrate but also require fast recovery and startup while ensuring optimal power efficiency to meet the rapid advancements and urgent challenges in defense technology.

### Use Case



#### ASL553 | 3.5" SBC

- Intel® Atom® Amston Lake Processors 3.5" SBC
- 1 DDR5 SO-DIMM
- 4K High Resolution: Supports 4K/ 2K resolution
- Triple Display: 1 Type-C DP Alt. Mode, 1 LVDS/eDP(Opt.)
- Rich I/O Connectivity: 3 2.5GbE LAN, 4 USB 3.2, 2 USB 2.0, 1 SATA
- Multiple Expansion: 1 M.2 M Key, 1 M.2 B Key, 1 M.2 E Key
- Supports wide temperature up to -40°C~85°C



### Related Models



#### M93053 | 2.5" SBC

- NXP i.MX93 platform, target on entry level application
- Wide Voltage support 9~36VDC
- Two GbE Lan for automation application
- CAN bus support
- M.2 3042 support
- 15-Year CPU Life Cycle Support Until Q2' 38 (Based on NXP Roadmap)



#### RPP051 | 2.5" SBC

- Small form factor 2.5" Pico-ITX for space-limited applications
- 13th Generation Intel® Core™ Processors
- 1 DDR5 4800MHz SODIMM up to 32GB
- Supports 4K/2K resolution
- Dual Independent Displays: DP++ + eDP
- Multiple Expansion: 1 M.2 E key, 2 M.2 B key
- Rich I/O: 1 Intel 2.5G LAN, 1 COM, 2 USB 3.1 Gen 2, 2 USB 2.0



# DFI

Desire  
For  
Innovation

Founded in 1981, DFI is a global leading provider of high-performance computing technology across multiple embedded industries. With its innovative design and premium quality management system, DFI's industrial-grade solutions enable customers to optimize their equipment and ensure high reliability, long-term life cycle, and 24/7 durability in a breadth of markets including Industrial Automation, Medical, Infotainment, Transportation, Energy, Mission-Critical, and Intelligent Retail.