DFI Desire For Innovation

Revolutionizing Transportation

Exploring Cutting-Edge Technologies and Innovations Shaping the Way We Move

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On-Board and Wayside Systems for Advanced Railway Surveillance and Monitoring

In the railway industry, ensuring the safety and efficiency of operation is paramount. Our extensive product portfolio—including on-board surveillance and monitoring systems, wayside control systems, gateways, and UPS units—is thoughtfully designed to meet a wide array of application needs, providing dependable and adaptable offerings for any railway setting.

Railway Wayside

Control

EC622-RPS

- 14th/13th/12th Generation Intel® Core™ with Intel® R680E
- Supports DDR5 SODIMM up to 64GB
- Rich I/O connectivity: 2 2.5GbE, 6 GbE(or 4 GbE, 2 PoE), 10 COM, 5 USB 3.2(Gen2x1), 1 USB Type-C, 1 VGA, 1 DP++
- Multiple Expansion: 5 M.2 slots, 2 PCIe slot
- Support 5G Communication
- Operating Temperature: -20 to 70°C

Railway On-board

Surveillance / Monitoring

RC300-CS

EN50155

- 8th/9th Generation Intel® Core™ Processors
- 4 x M12 X-coded PoE ports at 15.4W
- AI accelerated: up to 115W GPU MXM module supported
- Multiple expansion slots for 4G/5G cellular, Wireless and function modules
- UPS Battery: Supports at least 5 mins nonstop operation
- 9-36Vdc and 77-137.5Vdc wide voltage input
- 4 x Swappable 2.5" 7mm SSD storage bays
- 15-Year CPU Life Cycle Support Until Q2' 34 (Based on Intel IOTG Roadmap)

Railway On-board

Gateway

RC700-ASL

- Intel Atom Amston Lake x7835RE 8-core 1.3GHz/3.6GHz, 12W
- 4GB/8GB LPDDR5 5200 Memory down
- Build-in OOB to support remote management
- Supports multiple connectivity of 5G, WiFi 6 and GNSS
- Supports 3x 1GbE M12 LAN (1 share with OOB), Isolated 2KV of DIO/COM/CAN, 1x USB 2.0 M12 A code (option), 1x USB 3.2, 1x HDMI 1.4
- Wide range 24-110VDC power input with ignition (EN50155, class S2, C1)

Railway On-board

Surveillance / Monitoring

RC300-BTS

EN50155

- Intel® Bartlett Lake-S Core™ i7/i5/i3 CPU
- 8 x 802.3af PoE via M12 or 2x10G
- AI accelerated: up to 115W GPU MXM module supported
- Wide range 14.4-160VDC power input with ignition
- 1 miniPCIe and 4 M.2 slots for CAN bus/MVB/LTE/5G/WiFi/Storage modules
- 2KV Isolated 16bits DIO ports
- Supports M.2 B key 3042/3052 5G-NR module with dual SIM
- EN50155 compliance

Railway UPS

UPS

UPS-IP300

- EN50155 compliant battery based Uninterruptible Power Backup system
- 110Vdc (77VDC~137.5VDC) power input and 9~12.6Vdc power output
- 3S2P 3900mAh Lion battery integrated, max. 300W continuous output
- Backup time >10min at 300W
- 80 watt-hour (7.4Ah*10.8V) capacity
- Discharge operation temperature: -20°C~60°C
- Storage 3 months at 45°C storage temperature (Recovery 90% after storage)
- 9-pin input power connector, 2x 8-pin output power connectors

Railway Wayside

Surveillance / Monitoring

ECX700-ADP

IP67/IP69K

- Waterproof and dustproof design certified to IP67 and IP69K
- Ruggedized design with vibration/shock resistance and wide operating temperature -20°C to 70°C
- 12th Gen. Intel® Processor i5-1245UE/ i7-1265UE
- Support DDR4 8GB memory onboard and one DDR4 SODIMM (up to 32GB)
- Rich waterproof I/O including 2x GbE, 4x USB3.2, 1x HDMI, 6x Antenna, 1x Combo port(2 COM & 2 CANBUS) and 1x IP67 Vent
- Multiple expansion slots for WiFi/BT, 4G/LTE/5G cellular, NVMe SSD and function modules
- Wide voltage:9V~36V DC-IN
- Typically supports 10-Year CPU Life Cycle Until Q1' 32 (Based on Intel IOTG Roadmap)

Railway Wayside

Control

EC633D-RPS

- 14th/13th/12th Generation Intel® Core™ with Intel® R680E
- Supports DDR5 SODIMM up to 64GB
- Rich I/O connectivity: 2 2.5GbE, 4 GbE, 5 USB3.2 Gen2, 1 USB type-C, 1 VGA, 1 HDMI, 1 DP++, 9 com port
- Multiple Expansion: 5 M.2 slots, 1 mini-PCIe slot (full size), 3PCIe slots
- Support 5G Communication
- Operating Temperature: -20 to 70°C

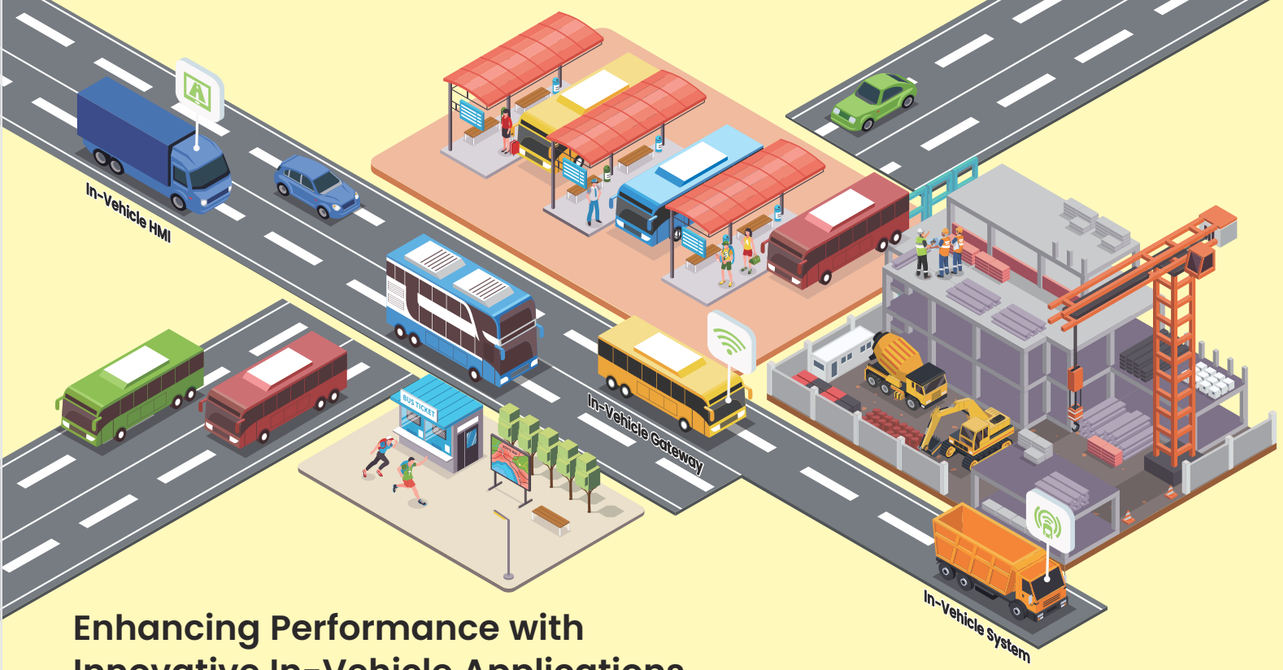
Railway Wayside

Gateway

ECX700-ASL

IP67/IP69K

- Waterproof and dustproof design certified to IP67 and IP69K
- Ruggedized design with vibration/shock resistance and wide operating temperature -40°C to 70°C
- Intel® Atom® Processor X7433RE/X7835RE Amston Lake CPU
- 8GB/16GB LPDDR5 4800 Memory down
- Rich securable and waterproof I/Os including 2x 2.5GbE, 2x USB 3.2, 1x HDMI, 4x antenna, 1x Combo port, and 1x IP67-rated vent
- Up to 3x M.2 slots for for Wifi/BT, 4G /5G cellular、NVMe SSD and function modules
- Wide voltage:9V~36V DC-IN
- Long-term Promise of 15-Year CPU Life Cycle Until Q4' 31 (Based on Intel IOTG Roadmap)



Enhancing Performance with Innovative In-Vehicle Applications

DFI's in-vehicle platforms combine IP-rated durability, E-Mark certification, and AI inference to ensure reliable performance in demanding automotive environments. Covering Edge AI computing, HMI, surveillance, gateways, and T-box, the portfolio supports seamless deployment across mobility applications. With wide-temperature resilience, robust mechanical design, and ITxPT membership, DFI delivers the reliability to drive future-ready intelligent transportation.

In-Vehicle HMI

HMI

VP101-M8M

- 10.1" driver HMI
- NXP i.MX 8M Dual/Quad Cortex
- IP65 Front Panel Protection
- High Brightness: 10.1" 1200 cd/m²
- Rich I/O: 1 GbE, 4 COM, 1 CAN Bus, 2 USB 3.1 Gen1
- Smart Power Ignition Control: Power delay and protection time setting
- E-Mark certified

In-Vehicle HMI

HMI

VP070-M8M

- 7" driver HMI
- NXP i.MX 8M Dual/Quad Cortex
- IP65 Front Panel Protection
- Rich I/O: 1 GbE, 2 COM, 1 CAN Bus, 2 USB 3.1 Gen1
- Smart Power Ignition Control: Power delay and protection time setting
- E-Mark certified

In-Vehicle System

Surveillance / Monitoring

VCX700-MTH

IP67/IP69K

- A ruggedized, IP67-rated, fanless in-vehicle system built for harsh environments.
- Intel® Core™ Ultra 7 processor integrated NPU up to 32 TOPs (CPU+GPU+NPU)
- 1x 2.5GbE &1x GbE Ethernet ports with OOB or 2 x 802.11af GbE PoE (By request)
- Rich securable and waterproof I/Os including 4x USB 3.2, 1x HDMI, 6x antenna, 1x Combo port (2 COM & 2 CAN FD), and 1x IP67-rated vent
- Build-in 9 axis sensor for driver detection within fleet management
- Wide voltage: 9~36V vehicle power input with ACC/IGN function
- Wide temperature up to -40°C ~ 70°C

Rugged In-Vehicle System

Surveillance / Monitoring

V6Xa-ORN

IP67

- A ruggedized, IP67-rated, Energy-efficient AI Inference system
- NVidia Orin Jetson NX/Nano 8/6-core Cortex A78, 34~157 TOPS
- 8x GMSL2 via Fakra Z code or 6x PoE 802.3af via M12 X code
- 2 x Isolated CAN FD via M12 A code
- 2x M20 USB 3.0 Type A
- 1x M12 GPIO & RS485 (4x GPI & 2x GPO & 1x RS485)
- Wide Range input 9~36V with Power Ignition Control
- E-Mark certified

In-Vehicle System

Surveillance

VC500-CMS

- High Performance Fan-less In-Vehicle System
- Supports 10th Gen Intel® Xeon/Core™/Pentium/Celeron Processors
- 4 x PoE or 2 x 10G SFP+ Ports
- 1 miniPCIe and 4 M.2 slots for CAN bus/LTE/5G/WiFi/Storage modules
- 2KV Isolated 16bits DIO ports
- Supports M.2 B key 3042/3052 5G-NR module with dual SIM
- OOB management support upon request
- E-Mark certified

In-Vehicle System

Surveillance

VC500-CMS-MXM

- High Performance Fan-less Edge AI In-Vehicle System
- Supports 10th Gen Intel® Xeon/Core™/Pentium/Celeron Processors
- 4x M12/RJ45 802.11af PoE or 2x 10G SFP+ Ports
- Supports MXM GPU module with Four Display Ports
- 1 miniPCIe and 4 M.2 slots for CAN bus/LTE/5G/WiFi/Storage modules
- Supports M.2 B key 3042/3052 5G-NR module with dual SIM
- OOB management support upon request
- E-Mark certified

In-Vehicle System

Surveillance

VC70B-MTH

- Ultra-compact, stylish, and AI-powered in-vehicle system for smart mobility
- Intel® Core™ Ultra processor with LPDDR5-6400 soldered memory
- Remote Management: Supports Out of band control
- Build-in 9 axis sensor for driver detection within fleet management
- Triple Displays: 1 HDMI, 1 DP, 1 USB-C DP Alt. mode
- Multiple Expansion: 1 M.2 M Key, 1 M.2 B Key, 1 M.2 E Key
- Rich I/O: 2 2.5GbE, 1 GbE, 5 USB 3.2, 1 USB-C, 2 USB 2.0, 3 COM, 2 CAN FD

In-Vehicle System

Gateway

VC700-ASL

- Intel Atom® Amston Lake x7835RE 8-core 1.3GHz/3.6GHz 12W processor
- ITxPT certified in vehicle computing system with compact and fanless design
- Build-in OOB to support remote management
- Build-in 9 axis sensor for driver detection within fleet management
- 2 x Mini-PCIe and 3 M.2 sockets for CAN bus/GPS/LTE/5G/WiFi/Storage modules
- Build-in Audio Amp to driver 10W speaker
- 1.5KV Isolated 8bits DIO ports
- Wide voltage: 9~36V vehicle power input with ACC/IGN function

In-Vehicle System

Surveillance / Monitoring

VC300-CS

- 8th/9th Generation Intel® Core™ Processors
- 4 x 802.3af PoE ports
- AI accelerated: up to 150W GPU MXM module supported
- Multiple expansion slots for 5G cellular supported
- Extended operating temperature: -20°C ~ 70°C
- E-Mark certified

In-Vehicle System

T-box

VC900-M8M

- ARM-Based in-vehicle system: Support Yocto Linux 2.5 and Android 9.0
- NXP i.MX8M Dual/Quad Cortex
- 6 axis IMU (3 Accelerometer + 3 Gyroscope)
- Rich I/O: 1 GbE, 4 COM, 1 CAN Bus, 2 USB 3.1 Gen1, 1 Micro USB (OTG)
- Wide voltage: 9~36V vehicle power input with ACC/IGN function
- Wide temperature: -20°C~70°C operation without active fan
- E-Mark certified

Expansion Card

GNSS Module

M2-GNSS

- Form Factor: M.2 2230 E Key 22mm x 30mm
- Module: Ublox NEO-M9V
- Receiver Type: GPS/QZSS L1 C/A, GLONASS L10F, BeiDou B1I, Galileo E1B/C
- Input Interface: USB 2.0

Expansion Card

CAN Bus Module

M2-CAN
(2 or 4 Ports)

- Form Factor: M.2 3042 B-M Key 30 × 42 mm
- Output Interface: Dual CAN bus signals w/ 7 pins header
- Supports J1939 SDK & CAN OPEN SDK (Windows, Linux)
- Input Interface: PCIe gold finger &USB 2.0 gold finger or header

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, Gaming,Transportation, Energy, Mission-Critical, and Intelligent Retail.