



# Soluciones para aplicaciones de Tráfico y Transporte

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Helping  
Innovation

- **Introducción a las aplicaciones de tráfico y transporte:**
  - Una visión general de la industria del transporte
  - Nuevas tecnologías y la movilidad sostenible
  - Empresas involucradas: Axiomtek, iWave, VIA, MeiG, Planet, Teltonika
- **Soluciones para Aplicaciones de Tráfico y Transporte:**
  - Exploración de soluciones para control de accesos y seguridad
  - Sistemas de ticketing y vending: eficiencia y comodidad para los usuarios
  - Gestión y control del tráfico: optimización de la movilidad urbana
- **Equipamiento Embarcado en Transporte Público:**
  - Cómo la tecnología mejora la experiencia del usuario en el transporte público
  - Ejemplos de innovación en sistemas de información y entretenimiento a bordo
  - Sistemas de mejora de la seguridad del transporte
- **Aplicaciones Ferroviarias y la Norma EN 50155:**
  - Soluciones específicas para cumplir con los estándares más exigentes.
- **Q&A**

## Tráfico y Transporte

Hoy en día, la sociedad no puede funcionar sin transporte, ya sea por ferrocarril, puerto, aire, tierra o mar. La cara cambiante de la industria del transporte está influenciada por las nuevas tecnologías y la creciente necesidad de encontrar formas mejores y más seguras de desplazarse y transportar.

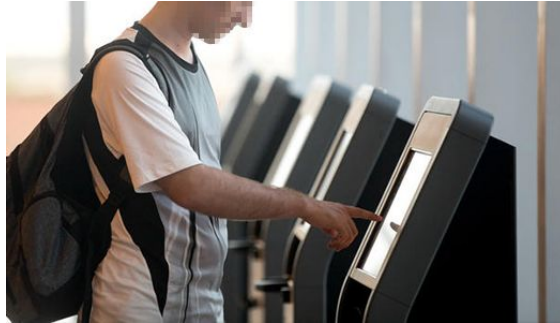
- **Digitalización, datos y visibilidad**
  - Sistemas Basados en la Nube
- **Transporte sostenible y normativa medioambiental**
  - Optimizar recursos y reducción de las emisiones
- **Automatización**
  - IA y Aprendizaje Automático
- **Vehículos más Seguros**
  - Sistemas que mejoran la seguridad a bordo











## ITC211

21.5" FHD TFT LCD Slim Bezel Modular Panel PC with Intel® Smart Display Module (SDM) CPU Card



## RTL276



27" Open Frame Rear Mount Touchmonitor



### Features

- 21.5" FHD TFT LCD
- 16:9 aspect ratio; 250 nits brightness
- Diamond-cut slim bezel under 46.3 mm thickness
- Projected capacity touch supported (10-point touch)
- Swappable Intel® SDM CPU card
- Modular design for various applications
- Supports an add-on RFID reader, barcode scanner, and camera modules (optional)
- Supports a thermal printer (optional)
- Supports desktop stand, floor stand, and wall mount (optional)



1. Antenna reserved holes
2. Power Button  
Reset Button
3. LAN
4. 2 x USB3.0
5. Status LED



- 27"
- PCAP
- Fácil integración y bajo mantenimiento
- Excelente rendimiento, precisión y fiabilidad
- Protección anti-rayaduras





## OTL101



10.1 Inch Open Frame Touch Monitor



- 10.1"
- PCAP
- 500 nits
- Excelente rendimiento, precisión y fiabilidad
- Protección anti-rayaduras

## IC0120-E3350



DIN-Rail Fanless Embedded System with Intel® Celeron® Processor N3350, COM/CAN/DIO, 2 LAN, 2 USB, HDMI, WT



▲ Front view



▲ Rear view

### Features

- Extreme cost-effective with fanless and cableless design
- Intel® Celeron® processor N3350, reliable F1 stepping version CPU
- COM/CAN/DIO, 2 USB, and 2 GbE LAN
- Wide operating temperature range from -40°C to +70°C
- 9 to 36 VDC wide range power input (typical: 12-24 VDC)
- OVP, UVP, OCP, RPP power protection design
- eAPI for intelligent remote monitoring software integration



## OTL101



10.1 Inch Open Frame Touch Monitor

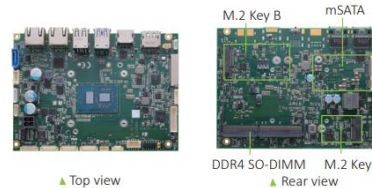
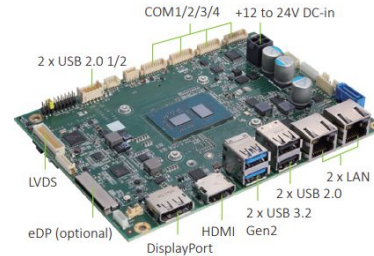


- 10.1"
- PCAP
- 500 nits
- Excelente rendimiento, precisión y fiabilidad
- Protección anti-rayaduras

## CAPA322



3.5" Embedded SBC with Intel® Celeron® Processor N6210/J6412 or Intel Atom® x6413E Processor, HDMI, LVDS, DisplayPort, Optional eDP, and Dual 2.5GbE LAN



### Features

- Intel® Celeron® processor N6210/J6412 or Intel Atom® x6413E processor
- 1 DDR4 SO-DIMM for up to 32GB
- 4 USB 2.0 and 2 USB 3.2 Gen2
- 1 PCI Express Mini Card slot with mSATA supported
- 1 M.2 Key E and 1 M.2 Key B



## Gestión del Tráfico



Sistemas  
Edge AI



Sistemas  
fanless



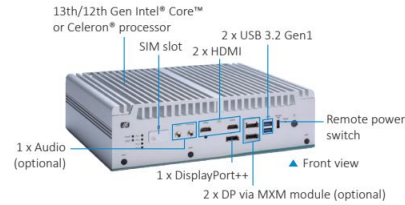
Sistemas  
Comunicación



## eBOX671B

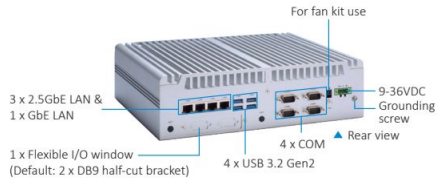


Fanless Embedded System with LGA1700 Socket 13th/12th Gen Intel® Core™ i9/i7/i5/i3 or Celeron® Processor, Intel® R680E, 2 HDMI, 1 DisplayPort, 6 USB, 4 LANs, MXM 3.1 Type A, and 9 to 36 VDC



### Features

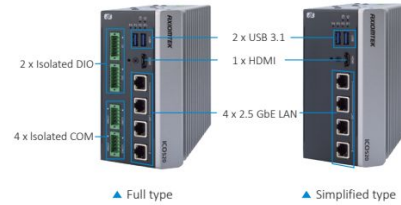
- 13th/12th Gen Intel® Core™ i9/i7/i5/i3 and Celeron® processors with Intel® R680E chipset (Alder Lake S)
- Dual DDR5 SO-DIMM for up to 64GB of memory
- 4 LAN with optional PoE supported
- Dual 2.5" SATA HDD drive bays with RAID 0 & 1
- Supports MXM 3.1 Type A, up to 5 display outputs
- -40 °C to +65 °C wide operating temperatures
- Wide range power input from 9 to 36 VDC
- Flexible I/O window supported via mPCIe modules



## IC0520



DIN-Rail Fanless Embedded System with 12th Gen Intel® Core™ i7/i5/i3 or Celeron® Processor, 4 2.5GbE LAN, 2 HDMI, 4 USB, 4 Isolated COM, and Isolated DIO (8-in/8-out)



### Features

- High performance with fanless and DIN-rail design
- 12th Gen Intel® Core™ i7/i5/i3 or Celeron® processor (Alder Lake-P)
- 4 isolated COM, isolated DIO (8-in/8-out), 4 2.5 GbE LAN
- Wide operating temperature range from -40°C to +70°C
- 9 to 36 VDC, typical 12-24V power input with OVP, UVP, OCP, RPP
- Supports TPM 2.0
- Supports cold boot at -40°C



## IGS-6329-8UP2S2X



Industrial L3 8-Port 10/100/1000T 802.3bt PoE + 2-Port 1G/2.5G SFP + 2-Port 10G SFP+ Managed Ethernet Switch



- 8 puertos PoE++ (95 watts)
- 2 puertos SFP+
- Protocolos L2 y L3
- Seguridad avanzada
- Alta fiabilidad

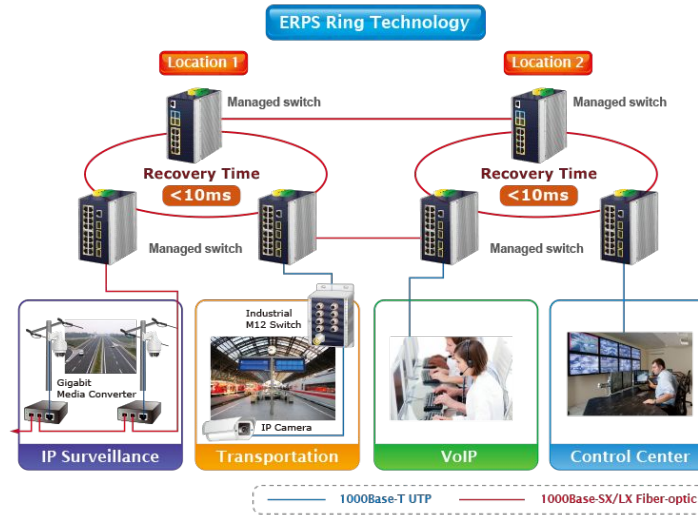
## TRB500



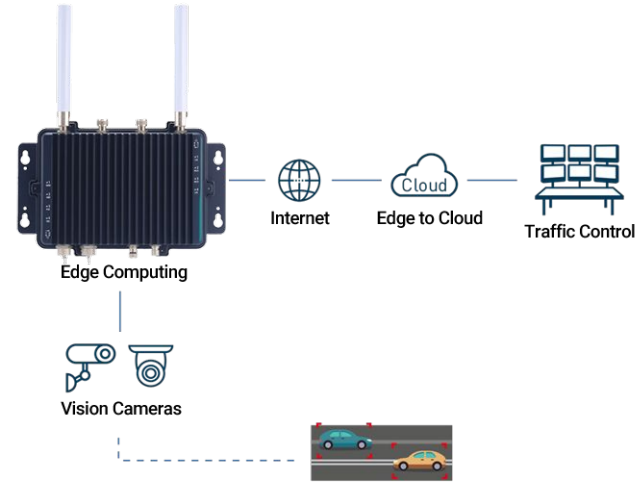
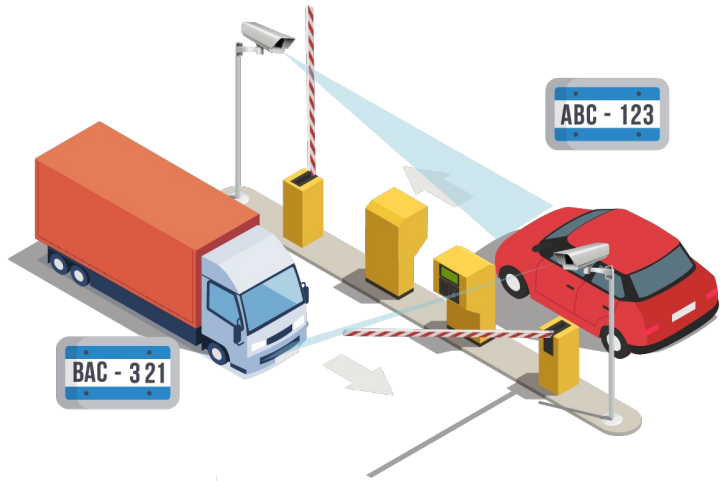
Compact, energy-efficient 5G gateway for ultra-fast data transmission with ultra-low latency



- Gateway 5G compacto
- Soporta redes 5G NSA y SA
- Retrocompatible 4G y 3G
- 1 puerto Gigabit Ethernet
- 2 entradas/salidas configurables







## AIE800-904-FL



Rugged IP67-rated Fanless Edge AI System with NVIDIA® Jetson Xavier™ NX, 1 HDMI, 1 GbE PoE, 1 USB and 100 to 240 VAC Power Input

### Features

- IP67-rated design, specifically for outdoor environments
- NVIDIA® Jetson Xavier™ NX with Volta™ GPU architecture with 384 NVIDIA CUDA® cores
- High AI computing performance for GPU accelerated processing
- -30°C to +50°C operating temperature range
- 100 to 240 VAC wide range power input with 10kV surge protection
- 4 N-jack antenna openings with water proof design
- Features M12 lockable I/Os
- 1 IEEE 802.3at GbE PoE (30W)



## SLM828

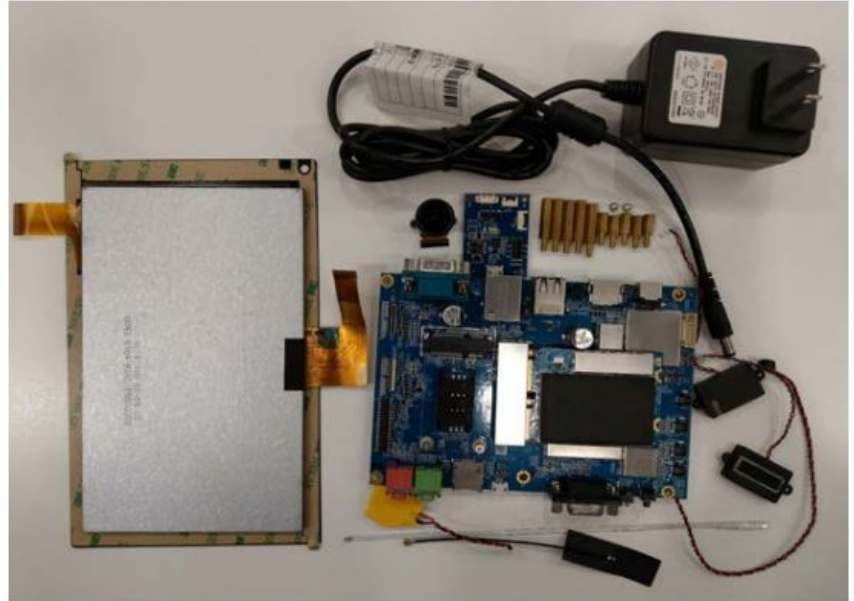
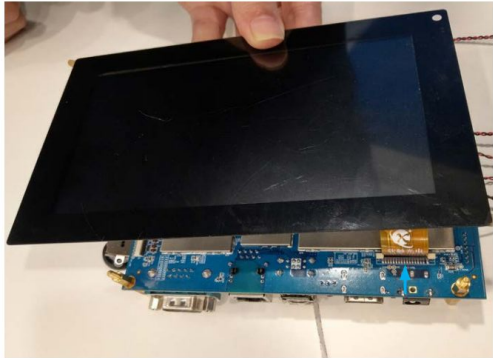


LTE-A CAT6/12, 3G



- Chipset LTE-A de Qualcomm hasta CAT12
- Compatibilidad con USB 3.0
- GPS integrado/Glonass/Beidou
- Solución económica







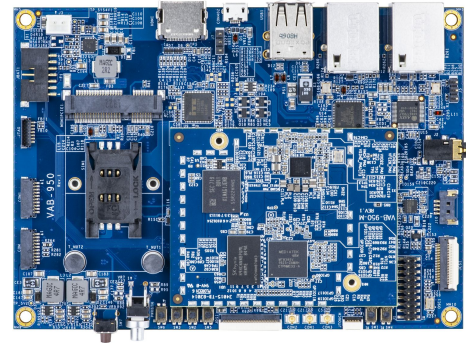
## System on Module (SoM):

- Son módulos que integran Procesador, Gráficos, RAM & EMMC.
- Dependen de tarjeta adicional y diseño (Carrier Board para tener funcionalidad).
- Time to Market más lento, pero alta customización y ahorro de costes.



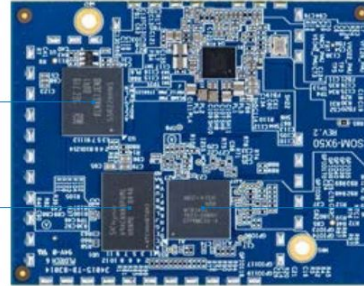
## Single Board Computer (SBC):

- Son plataformas que integran todo, Procesador, Gráficos, RAM, EMMC & Conexiones (USB, HDMI, MicroSD, LAN, Audio, COM etc...)
- No requieren de diseño electrónico.
- Time to Market rápido, pero sin posibilidad de customización.



## VIA SOM-9X50

Fanless low-power platform  
for AIoT applications with  
Octa-Core MediaTek Genio  
500 processor



eMMC

2GB LPDDR4 SDRAM

MediaTek Genio 500 Processor

### Specifications

<b>Model Name</b>	<b>SOM-9X50</b>
<b>Processor</b>	MediaTek Genio 500 Octa-Core Processor - Four Cortex-A73 @ 2.0GHz - Four Cortex-A53 @ 2.0GHz
<b>System Memory</b>	2GB LPDDR4 SDRAM / 4GB LPDDR4 SDRAM (optional)
<b>Storage</b>	16GB eMMC Flash memory
<b>Graphics</b>	ARM Mali-G72 high-performance GPU 3D graphics accelerator capable of processing 2400M pixel/sec @ 800MHz Graphics engine supporting OpenGL® ES 3.0, OpenCL ES 1.1, and Vulkan 1.0 hardware acceleration Supports H.265 and H.264 video decoding up to 1080p @ 30fps Supports Cadence Tensilica Vision P6 x2 DSP
<b>Supported I/O through IO connector</b>	1 HDMI port 1 MIPI DSI connector 1 MIPI CSI-2 connector 1 Multi-function pins for I <sup>2</sup> C, SPI, GPIO 1 JTAG
<b>Operating System</b>	Android 10, Yocto 2.6
<b>Operating Temperature</b>	0°C ~ 60°C
<b>Operating Humidity</b>	0% ~ 95% (relative humidity; non-condensing)
<b>Form Factor</b>	7cm x 5.5cm (70mm x 55mm, 2.75" x 2.2")



## VIA SOM-9X50

Fanless low-power platform  
for AIoT applications with  
Octa-Core MediaTek Genio  
500 processor

Carrier Board for SOM-9X50



Carrier Board Front Panel I/O



Carrier Board Back Panel I/O



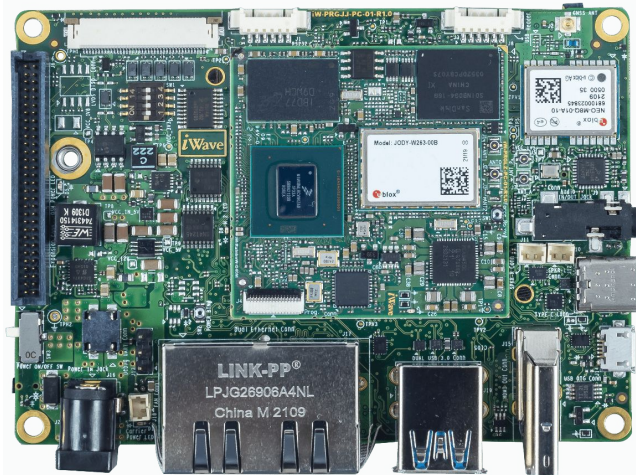
### Specifications

Model	Carrier Board for SOM-9X50
<b>Wireless Connectivity</b>	MediaTek MT7668 - 2x2 Dual-band Wi-Fi 802.11ac with MU-MIMO - Bluetooth 5.0
<b>Audio</b>	MediaTek MT6358
<b>HDMI</b>	ITE IT66121FN Digital Parallel Interface to HDMI 1.3a transmitter
<b>USB</b>	TI TS3USB21 High-speed USB 2.0 (480Mbps) 1:2 Multiplexer/Demultiplexer Switch With Single Enable Microchip LAN9514 USB 2.0 to USB hub and 10/100Mbps Ethernet controller
<b>LAN</b>	ASIX AX88772 USB 2.0 to Fast Ethernet controller
<b>Onboard I/O</b>	1 COM port (supports RS-232 TX/RX) 1 Debug port (supports RS-232 TX/RX) 1 JTAG connector 1 MIPI DSI connector 1 MIPI CSI-2 connector 1 Touch screen connector (includes I <sup>2</sup> C for capacitive touch) 1 SIM card slot 1 MiniPCIe slot (supports USB 2.0 connectivity for optional 4G module) 4 Keypad buttons 1 Mono speaker-out connector 1 Miscellaneous pin header (for 1 I <sup>2</sup> C pair, 1 SPI and 10 GPIOs) 1 Battery charger connector (supports I <sup>2</sup> C and Gas gauge) 3 IPEX connectors (for RF antennas for Wi-Fi and Bluetooth) 2 USB host/device jumpers 1 12V DC-in connector

<b>Front Panel I/O</b>	1 Power button with LED 1 Reset button
<b>Back Panel I/O</b>	1 HDMI port (supports 720p @ 60Hz) 1 USB 2.0 port 1 Micro USB 2.0 port (for OS image upload only) 2 10/100Mbps Ethernet ports
<b>Right Panel I/O</b>	1 Audio jack (supports Headphone and Mic-in)
<b>Power Supply</b>	12V DC-in
<b>Operating System</b>	Android 10, Yocto 2.6
<b>Operating Temperature</b>	0°C ~ 60°C
<b>Operating Humidity</b>	0% ~ 95% (relative humidity; non-condensing)
<b>Form Factor</b>	EPIC, 14cm x 10cm (140mm x 100mm, 5.51" x 3.94")

## iW-RainboW-G40S

### i.MX 8M Plus Pico ITX SBC



#### iW-RainboW-G40S HIGHLIGHTS

i.MX 8M Plus Q/QL/D CPU with 64-bit ARMv8 Architecture

NPU with up to 2.3 TOP/s Neural Network performance

Up to 8GB LPDDR4 Memory

Multi-OS Platform Support

10+ years of Product Longevity Program

IEEE 802.11a/b/g/n/ac/ax Wi-Fi (ax is optional) & Bluetooth 5.0

Dual 1000/100/10 Mbps Ethernet

+40°C to +85°C Operation

#### SPECIFICATIONS

##### CPU

**i.MX 8M Plus Quad** : 4 x Cortex-A53,  
1 x Cortex-M7, GPU, VPU

**i.MX 8M Plus Quad Lite** : 4 x Cortex-A53,  
1 x Cortex-M7 & GPU

**i.MX 8M Plus Dual** : 2 x Cortex-A53,  
1 x Cortex-M7, GPU, VPU

##### Memory & Storage

LPDDR4 -2GB (Expandable up to 8GB)

eMMC Flash - 16GB (Expandable up to 256GB)

Micro SD Slot

##### Network & Communication

Gigabit Ethernet x2 (Dual RJ45 Mag-jack  
Connector)

USB 3.0 x2 (Dual-stack Type-A Connector)

USB 2.0 OTG (micro AB Receptacle Connector)

IEEE 802.11 a/b/g/n/ac/ax Wi-Fi & BT 5.0  
(ax is optional)

GNSS receiver Module -GPS/GLONASS/Galileo/  
BeiDou

RS232 Header x 1

USB Header x 1

CAN Header x 1

##### Audio/Video Features

HDMI Output through HDMI (Type A)

LVDS Display Connector x 1

3.5mm Audio IN/OUT Jack

Speaker Out Header

5.5inch MIPI DSI Display

2 Lane MIPI DSI Display (Optional)

MIPI CSI Camera Connector

##### Miscellaneous Interfaces

Debug UART Connector

RTC Battery Connector

JTAG Header

M.2 Connector Key B

PCIe 3.0 x 1

USB 2.0 x 1

Nano SIM Connector

##### Expansion Connector Features

4 lane MIPI DSI x 1

UART x 1

8 bit SD (optional)

4 lane LVDS x 1 Channel

SPI x 1 Port

PWM x 1

CAN x1 Port

##### OS Support

Linux 5.4.70

##### General Features

##### Power Input:

7V to 24V

##### Form Factor:

100mm x 72mm

##### Operating Temperature:

-40°C to +85°C

##### Environment Specification:

REACH & RoHS3 Compliant

## ICG-2515-NR



Industrial 5G NR Cellular Gateway with 5-Port 10/100/1000T



- Gateway 5G industrial
- Soporta redes 5G NSA y SA
- Retrocompatible con redes 4G y 3G
- 5 puertos Ethernet
- Puerto serial
- DI y DO

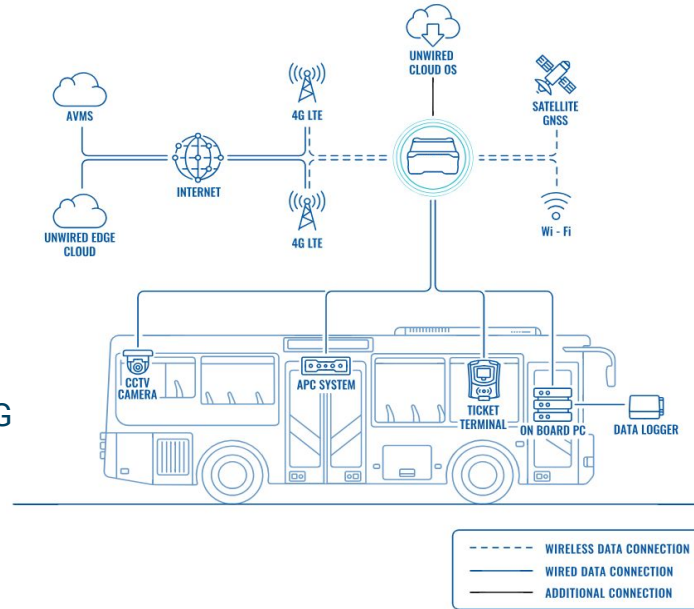
## RUT901



Industrial Cellular Router 4G LTE (Cat 4), 3G, 2G, Dual Sim, Wifi

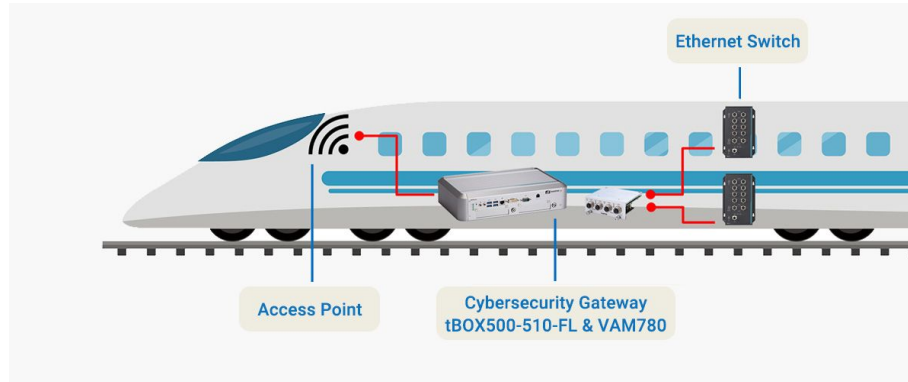
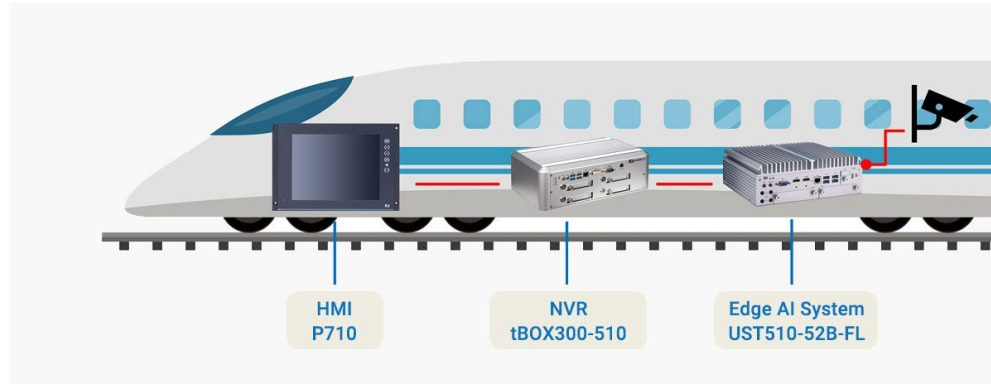


- Router industrial 4G LTE
- Conectividad 4G LTE Cat 4
- Dual SIM
- 4 puertos Ethernet
- Wi-Fi 802.11b/g/n
- GNSS





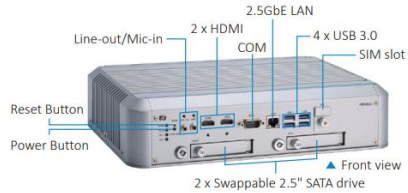




## tBOX520

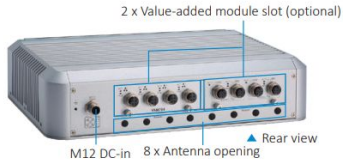


Fanless Embedded System with 12th Gen Intel® Core™ i7/i5/i3 Processor for Railway



### Features

- CE, LVD, FCC, EN 50155, EN 45545-2 certified
- 12th gen Intel® Core™ i7/i5/i3 or Celeron® processor (Alder Lake-U)
- 24 to 110 VDC for Railway applications
- Value-added modules available for various I/O requirements (COM/LAN/DIO/PoE/CAN/BNC)
- Intelligent solution of power management (ACC ignition)
- 2 swappable 2.5" SATA drives



## IGS-5227X-4P2T



EN 50155 Industrial IP67-rated 4-Port 10/100/1000T 802.3at PoE+ 2-Port 10/100/1000T Managed Ethernet Switch



- Switch Industrial gestionable
- EN 50155
- Conectores M12
- 4 Puertos PoE+
- 2 Puertos Gigabit Ethernet
- Protocolos L2 y L3



## GOT715S

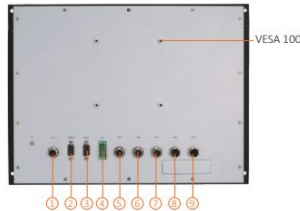


EN 50155 Compliant 15" XGA TFT LCD Railway Fanless Touchscreen Panel PC with Intel Atom® Processor E3845 1.91 GHz (-25°C to +70°C)



### Features

- Sunlight readable 15" XGA TFT LCD with 800 nits of high brightness
- Fanless with Intel Atom® processor E3845 1.91 GHz
- All lockable connectors design
- Auto-dimming for different environments
- -25°C to +70°C wide temperature range
- Typical 24 to 110 VDC power input range and EN 50155 Class S3 20ms power interruption protection compliant
- EN 50155 design compliance



1. DC power input
2. CANbus with isolation 1.5kV
3. Audio (line-in, mic-in, speaker-out or line-out)
4. DIO (6-in/2-out with isolation 1.5kV)
5. 2 x USB 2.0
6. 1 x RS-232/422/485 with isolation 1.5kV
7. 1 x RS-232/422/485 with isolation 1.5kV
8. 1 x GBE with isolation 1.5kV
9. 1 x GBE with isolation 1.5kV



▲ Side view

## P7180

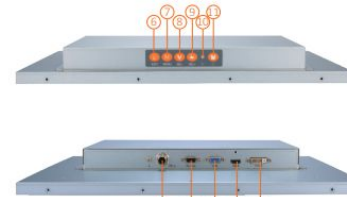


18.5" Full HD Open Frame Railway Monitor for Passenger Information System (PIS)



### Features

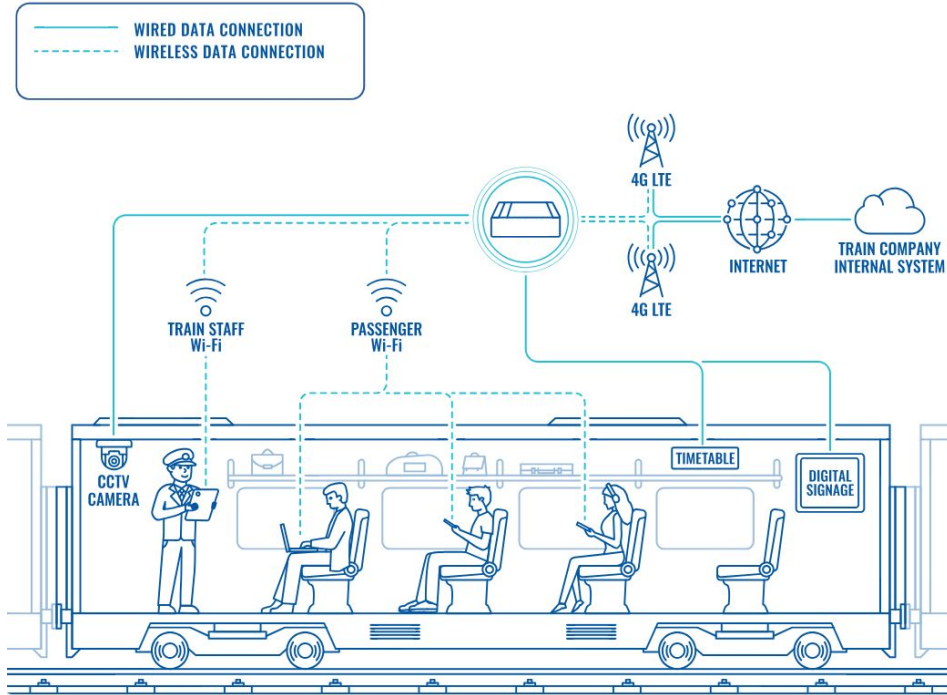
- EN 50155 compliance
- 18.5" Full HD TFT LCD
- Wide viewing angle and high brightness of 500 nits
- HDMI, DVI-D and VGA video inputs
- 24 to 110 VDC power input
- Supports VESA mount (100 x 100 mm)
- -25°C to +55°C wide operating temperature range
- Supports 5 OSD keys



1. DC power input
2. 1 x RS-232 (remote control)
3. 1 x VGA
4. 1 x HDMI
5. 1 x DVI-D
6. Exit
7. Menu
8. SEL-
9. SEL+
10. Power LED
11. Power switch



VESA (100 x 100 mm)



## RUTX11



EN 50155 Industrial Cellular Router 4G LTE (Cat 4)



- EN 50155, EN 50121-3-2 y EN 50121-4
- Conectividad LTE Cat 4
- Dual SIM
- 4 puertos Ethernet
- Wi-Fi 802.11b/g/n
- GNSS

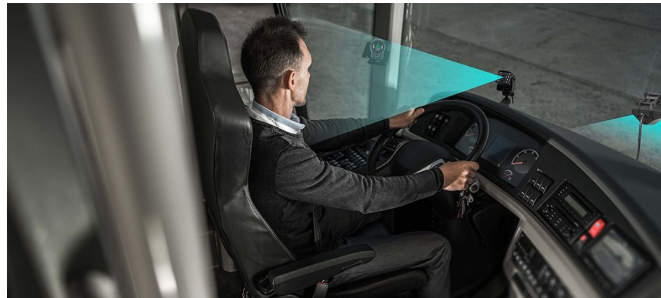




## VIA Mobile360 M800 Video Telematics System



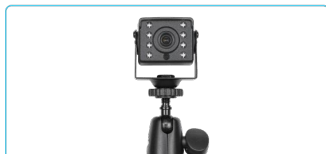
## VIA Mobile360 M800 Video Telematics System



## VIA Mobile360 M800 Video Telematics System



VIA Mobile360 M800 System



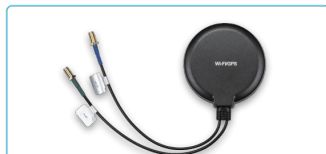
DSS Camera



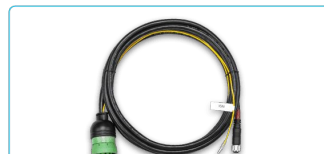
ADAS Camera



ADAS Display



2-in-1 Antenna Module



J1939 Cable

### Specifications

<b>Model Name</b>	<b>Mobile360 M800</b>
<b>Processor</b>	1.2GHz ARM Cortex-A7 dual-core SoC with Deep Learning Accelerator
<b>System Memory</b>	1 GB DDR3 SDRAM
<b>Storage</b>	512MB SPI NAND Flash ROM 1 MicroSD Card Slot
<b>LAN</b>	10/100Mbps Ethernet Controller
<b>Wireless Connectivity</b>	1 GPS/Beidou module 1 Wi-Fi 802.11b/g/n/ac Bluetooth 5.0 module
<b>Sensor</b>	1 6-Axis IMU
<b>Expansion I/O</b>	1 MiniPCIe slot for 4G module
<b>Front Panel I/O</b>	1 M12 Display avionic connector (for ADAS Display including microphone & speaker) 1 M12 DIO avionic connector (1 TX/RX for debugging) 1 M12 CAN/COM avionic connector (supports TX/RX for RS-232) 1 M12 LAN avionic connector (10/100Mbps Ethernet) 1 Micro SIM Card Slot 1 MicroSD Card Slot (Max 512 GB) 1 Power LED 1 Reset button
<b>Back Panel I/O</b>	3 M12 AHD camera avionic connectors 1 M12 9-36V, CAN with ACC/IGN avionic connector (supports OBDII/J1939 protocols) 4 Antenna connectors (4G x 2, Wi-Fi/ Bluetooth, GPS)
<b>Power Supply</b>	9-36V DC-in with ACC/IGN
<b>Operating System</b>	Embedded Linux
<b>Operating Temperature</b>	-20°C ~ 70°C
<b>Storage Temperature</b>	-30°C ~ 70°C
<b>Operating Humidity</b>	0-95% (non-condensing)
<b>Vibration Loading During Operation</b>	ISO-16750-3 Test VII compliance
<b>Shock During Operation</b>	ISO-16750-3 Test VII compliance
<b>Mechanical Construction</b>	Aluminum alloy top cover Metal chassis housing
<b>Dimensions</b>	178mm(W) x 53.8mm(H) x 194.6mm(D) (7.01" x 2.12" x 7.66")
<b>Weight</b>	1.43kg (3.15 lbs)
<b>Ingress Protection Rating</b>	IP67
<b>Compliance</b>	CE, FCC, BSMI, NCC, TELEC, SRRC, CTA, UKCA



## VIA Mobile360 M800 Video Telematics System



**Prevención  
de  
accidentes  
impulsada  
por IA**



**Detección  
del estado  
del  
conductor**



**Ajuste flexible**



**Integración  
acelerada en  
la nube de  
AWS**



**Sistema de  
telemetría**



Muchas gracias