Elektronika Sales Pvt Ltd

Solution support

Advance VTS [TCU] – IMX

Basic VTS – LPC1768

Karthikeyan [Design Manager]
+91- 9894963645
karthi@eletronikasales.com

Kandavel [Product Manager]
+91- 9884016425
vel@eletronikasales.com

Elektronika Sales - Head Office:

Plot No. 31-A, Ambit Park Road, Ambattur Industrial Estate(South), Ambattur,

Chennai - 600 058, Tamil Nadu, India.

Phone+91 44-26251290/26251291/26251415

Email : info@elektronikasales.com

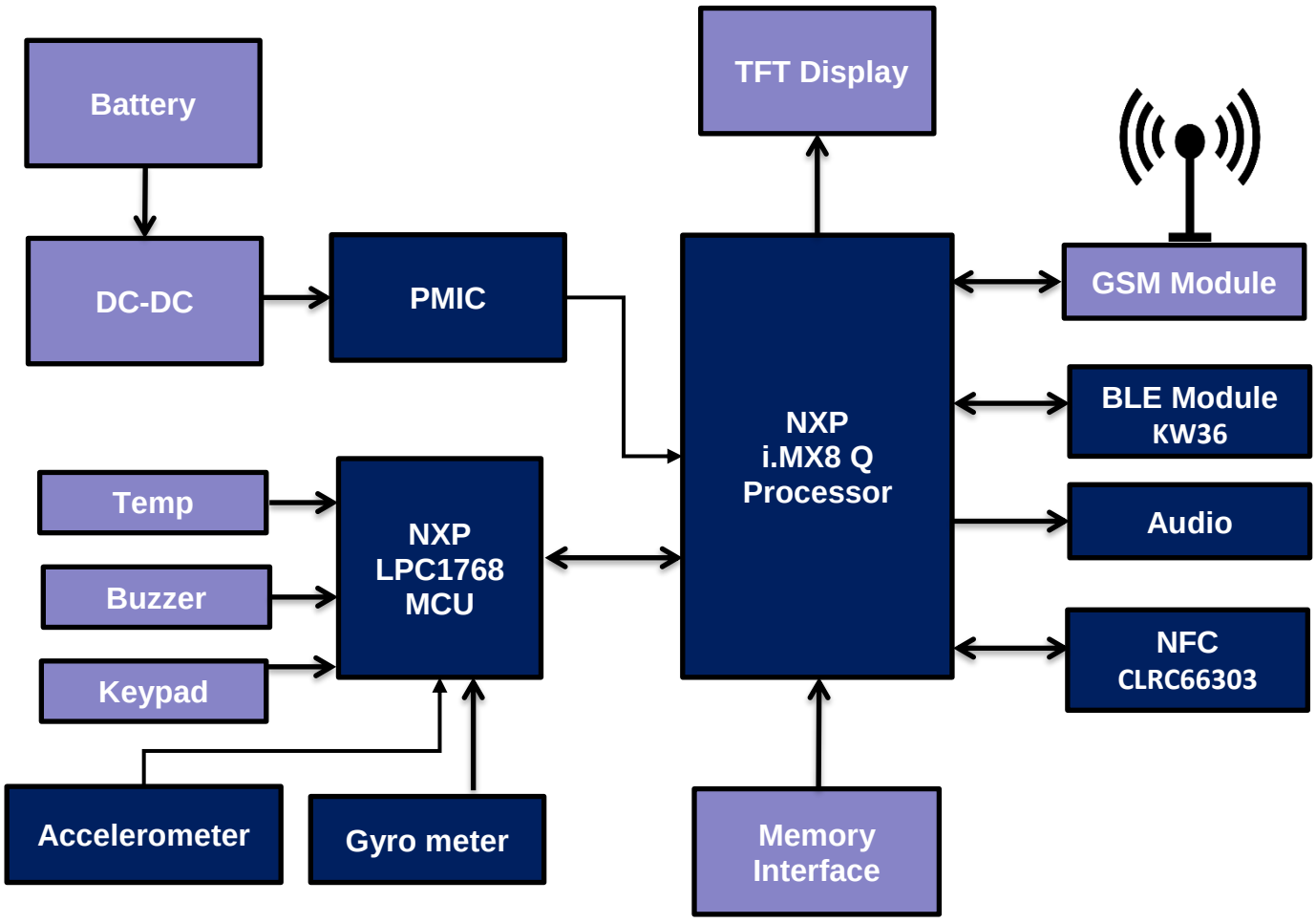
Website | Line Card | Corporate Video

Advanced – VTS [TCU]

A vehicle tracking system is an electronic device installed in a vehicle to enable the owner or a third party to track the vehicle's location. Telematics solutions can support the driver by collecting and pre-processing information about the car, route and traffic situation. This can be achieved by linking sensors, navigation data, motor and power train ECUs together with external and infrastructure information.

With NXP's portfolio of transceivers, sensors and PowerMOS, much of this is already in place with advanced transmission, stop-start and EPS systems. Providing the integral link is NXP's Automotive telematics onboard unit platform (ATOP). A highly integrated cost efficient telematics system, it has been optimized on cost, form-factor, in-car connectivity and power-consumption, with completely integrated standard software and GSM pre-certification. Multi-service capable, it can serve applications in parallel like eCall, intelligent traffic management and Car-2-Infrastructure communication.

In the most complex stage such an Eco-Telematics system supports the driver with control applications actively to operate and manage the car and driving patterns. Depending on route profile and road conditions the control appliance will optimize the driving route, acceleration and deceleration for the lowest consumption, dynamically managing shift points and motor operating range. Charging and recuperation cycles for hybrid cars could also be managed by such systems.



i.MX 8M Features

The i.MX 8 series of applications processors is a feature- and performance-scalable multicore platform that includes single-, dual-, and quad-core families based on the Arm® Cortex® architecture—including combined Cortex-A72 + Cortex-A53, Cortex-A35, Cortex-M4, and Cortex M7-based solutions for advanced graphics, imaging, machine vision, audio, voice, video, and safety-critical applications.

The i.MX 8M family of applications processors based on Arm® Cortex®-A53 and Cortex-M4 cores provide industry-leading audio, voice and video processing for applications that scale from consumer home audio to industrial building automation and mobile computers.

- Video quality with full 4K UltraHD resolution and HDR (HDR10 and HLG)
- Highest levels of pro audio fidelity with more than 20 audio channels each @384KHz
- DSD512 audio capability
- Optimized for fanless operation, low thermal system cost and long battery life
- Flexible memory options
- The newest high-speed interfaces for flexible connectivity

Features

- **Multicore Processing**
  Quad Arm Cortex-A53; Cortex-M4F
- **GPU : OpenGL® ES 3.1, OpenGL® 3.0, Vulkan®, Open CL™ 1.2**
- **Dual independent display interfaces**
  MIPI-DSI (4-lanes); HDMI 2.0a
- **Video Playback**
  4Kp60 with High Dynamic Range (h.265, VP9), 4Kp30 (h.264), 1080p60 (MPEG2, MPEG4p2, VC1, VP8, RV9, AVS/AVS+, h.263, DiVX), MJPEG - 8x8
- **Audio**
  6x I2S/SAI (20+ channels, each 32-bits @384 kHz); S/PDIF Tx/Rx; DSD512
- **Dual Camera Interfaces : MIPI-CSI (4-lanes each)**
- **External Memory Interfaces**
  LPDDR4, DDR4, DDR3L; Quad SPI with XIP
- **USB : Dual USB 3.0 Type C with PHY**
- **PCIe : Dual PCIe with L1 substates for fast wake-up from low-power mode**
- **Ethernet : Gigabit Ethernet controller supporting AVB and EEE**
- **Operating Systems**
  Linux® OS, Android™, Windows 10 IoT Core, FreeRTOS®
- **Temperature : Consumer (0°C to 95°C Tj); Industrial (-40°C to 105°C Tj)**
- **Package**
  FCBGA, 0.65 mm pitch

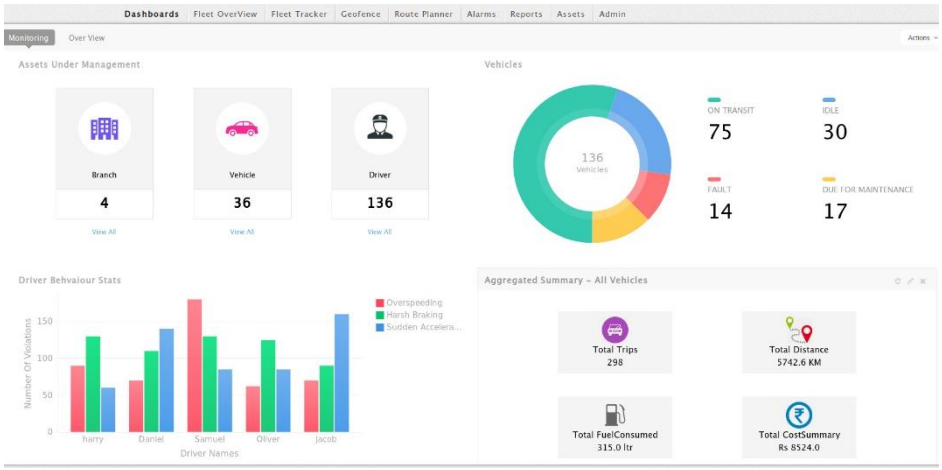
Basic – VTS [AIS140]

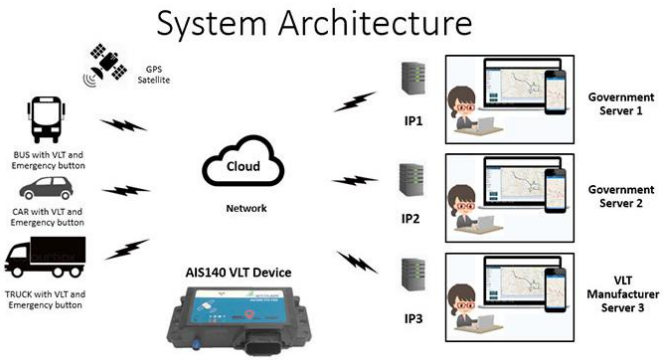
LPC1768 ARM cortex M3 MCU

The LPC1768 is a Cortex®-M3 microcontroller for embedded applications featuring a high level of integration and low power consumption at frequencies of 100 MHz. Features include 512 kB of flash memory, 64 kB of data memory, Ethernet MAC, USB Device/Host/OTG, 8-channel DMA controller, 4 UARTs, 2 CAN channels, 3 SSP/SPI, 3 I2C, I2S, 8-channel 12-bit ADC, 10-bit DAC, motor control PWM, Quadrature Encoder interface, 4 general purpose timers, 6-output general purpose PWM, ultra-low power Real-Time Clock with separate battery supply, and up to 70 general purpose I/O pins. The LPC1768 is pin-compatible to the 100-pin LPC2368 Arm7™ MCU

1	Operating Temp	-25 to +80
2	Analog I/O	3
3	Digital I/O	5
4	Frequency I/O	1
5	Serial Port RS232	2
6	Ignition Input	1
7	CAN	1
8	IP Rating	IP 67
9	OTA	OTA available
10	Battery Backup	Min 4 Hours as per AIS 140
11	SIM	Embedded SIM
12	Accelerometer / Gyroscope	Embedded
13	IRNSS	IRNSS Supported (Oct)
14	Antenna Compatibility	Internal
15	Data Transfer to 2 IP's	Currently 2 IP as per AIS 140

- Standard announced in 2016 India
  - Ministry of Road Transport and Highways
  - Commercial vehicles to enforce
  - Buses / Public travel / Rental cars / Taxis
- Access real-time location data GPS & satellite system GAGAN [India]
  - Digital/ Analog /Serial communication/ Vehicle diagnostics
  - Battery with at least four hours of backup power capabilities.
- Send information to at least two IP addresses standard
  - Company server & emergency [Government server]
- Emergency send location data to state transport services
- Emergency services via the use of an emergency button
- Customize the rate of data transmission [Five seconds & at least every 10 min]
- Contain a SIM device integrated into the GPS tracker.
  - E-SIM also enabled
- Store data transmission requests when off-network
- Send data as high priority when a connection becomes available**.**





CORPORATE OFFICE

ELEKTRONIKA SALES PRIVATE LTD

Plot No.31-A, Ambit Park Road ,
Ambattur Industrial Estate (South), Ambattur
Chennai - 600058, Tamil Nadu, India
Ph: +91 44 2625 1290 Telefax :+91 44 2625 1291

www.elektronikasales.com info@elektronikasales.com

REGIONAL OFFICES

Bangalore
S - 202,Second Floor,Excellency Building,
No.8,Papanna Street, St Marks Road,
Bangalore-560001,India.
Land line : 080-42029055 / 099020 67569

Hyderabad
28, Ground Floor, Minerva Complex
S.D.Road, Secunderabad 500 003,
Andhra Pradesh, India.
Landline : 040-40020833

Delhi
295 ,F.I.E .,
Patparganj Industrial Area
New Delhi, India.
Ph: 011-32213164

Mumbai
Navjeevan Commercial Premises,
Office No.21, 11th Floor
Lamington Road, Grant Road (East)
Mumbai – 400 008. Maharastra, India.
Ph : 020-23092236 / 098214 15482

Pune
Unit no.302,
Futuready Trade Tower, Morwa
Pimpri, Pune - 411 018
Maharashtra, India.
Ph: + 91 98214 15482

Vadodara
28, Shalin Complex
Near Vrajdham Mandir Road
Manjalpur, Vadodara - 390011
Gujarat, India.
Landline : +91 70434 23391
Ph: 93752 34498

Cochin:
Email: saleskerala@elektronikasales.com
www.elektronikasales.com

OVERSEAS OFFICE:
Singapore / Hongkong

info@elektronikasales.com

Our value Added Services

- World class warehouse facility / VMI & Logistic program
  Key OEM - Dedicated warehouse allocation
- Complete regional resource
  Accessibility / Flexibility Support
- Quote center - BOM Cost Optimization service
- USD & INR supply chain
- Design solution - FAE & Product team

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