

Communication Gateway

(with NXP i.MX6 ARM Cortex application processor)

VPC100

Communication Gateway

VPC300

Communication Gateway

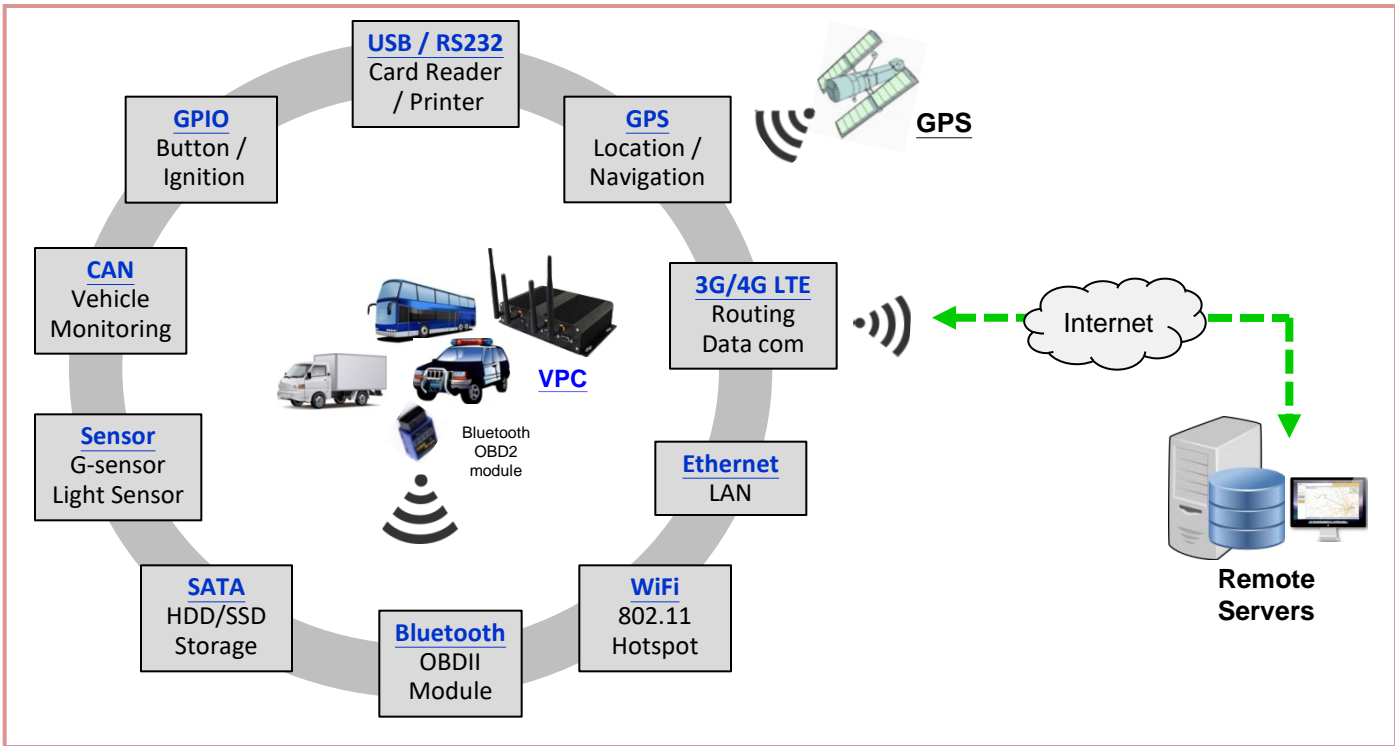


This flyer contains information on pre-production products. Specifications and information are subject to change without notice.

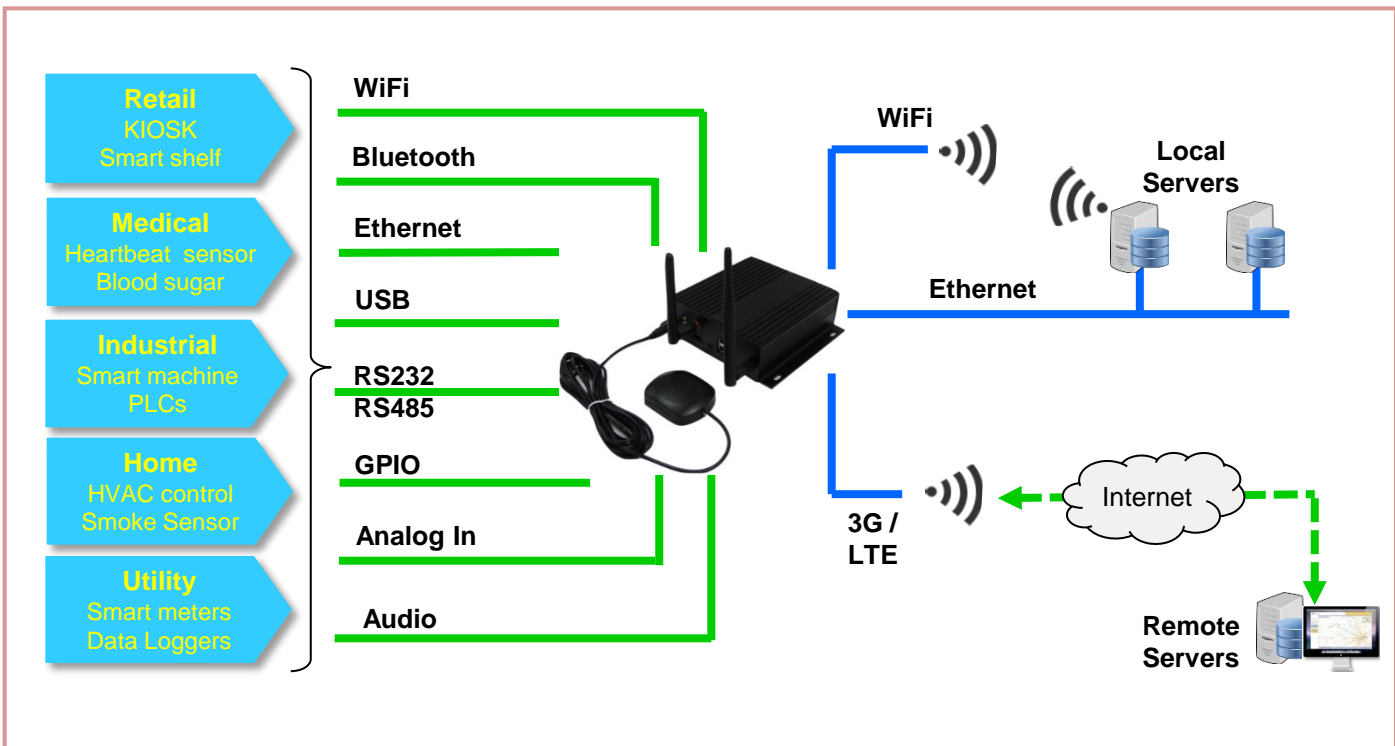
Typical Applications

- Vehicle Tracking
- Fleet Management
- Asset Tracking
- IOT (Internet of Things) Gateway

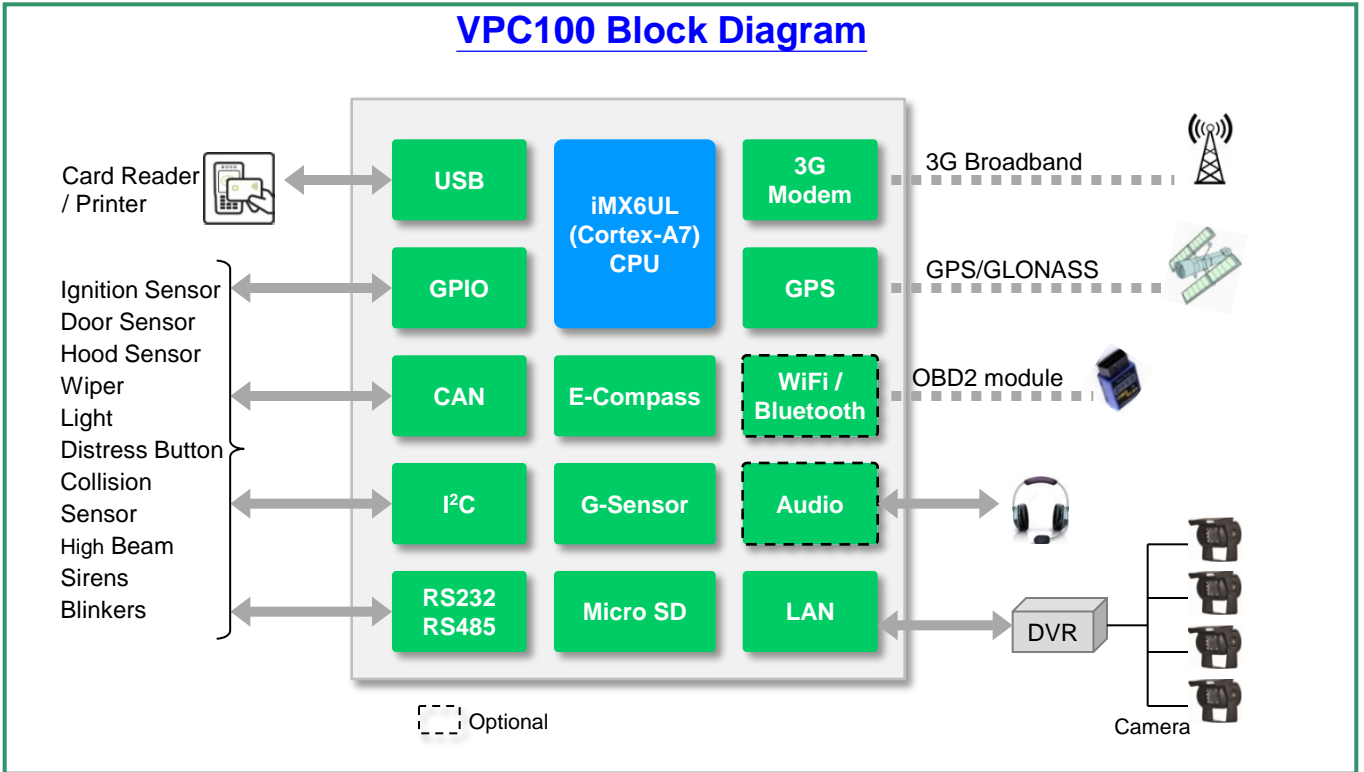
Application: In-Vehicle Computer



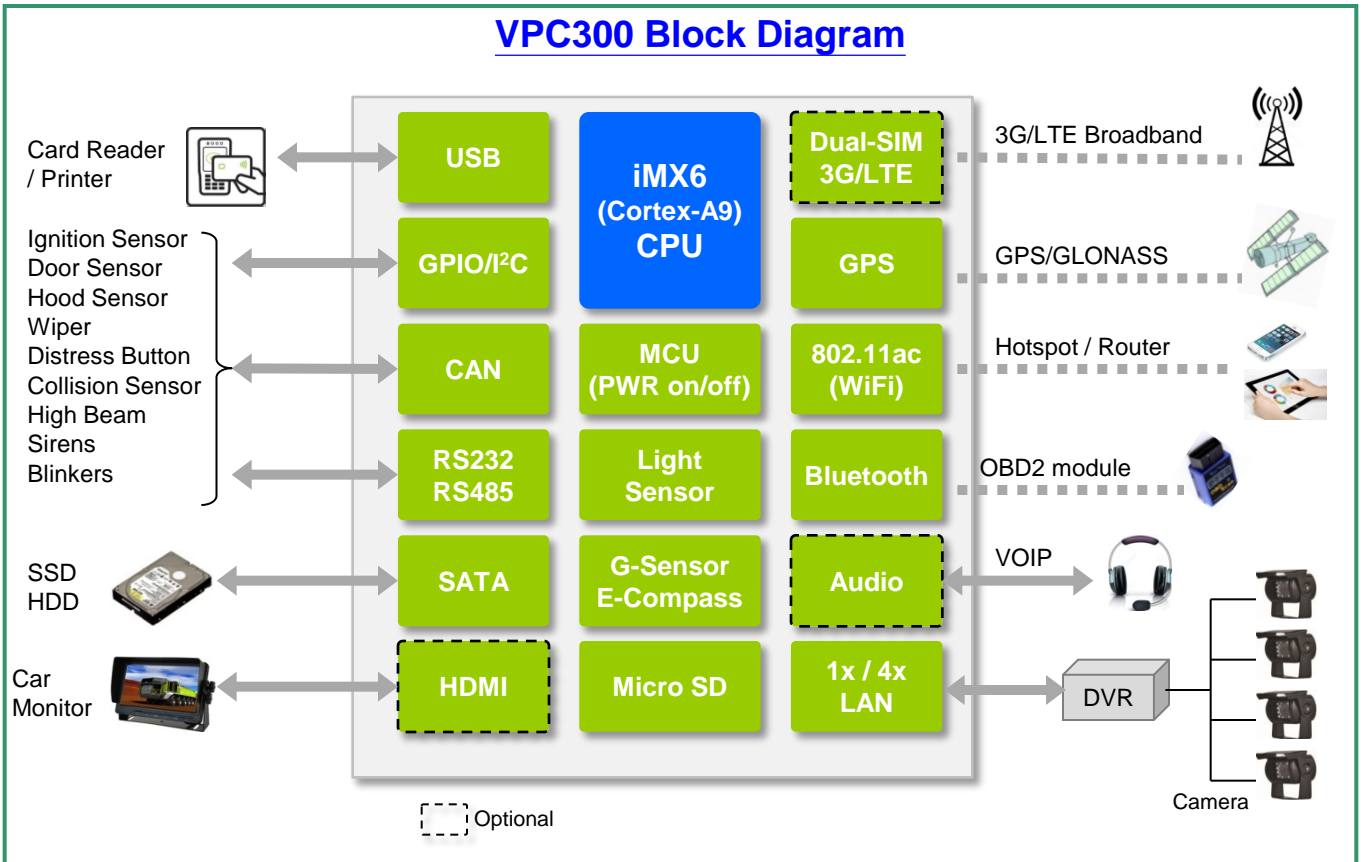
Application: IOT Gateway



VPC100 Block Diagram



VPC300 Block Diagram



VPC100



VPC300



VPC100		VPC300
NXP iMX6UL (Ultra Lite) ARM Cortex™-A7 @ 500MHz	CPU	NXP iMX6 Solo/Dual/Quad-core ARM Cortex™-A9 @ 1GHz
256MB RAM / 512MB Flash	Memory	1GB (Solo/Dual) ; 2GB (Quad) RAM / 4GB Flash
Linux 3.14 (Yocto 1.8)	OS	Linux 3.10 (Yocto 1.6) / Android 6.0 (and newer)
Built-in (3G modem only) Quad Band UMTS/HSPA Speed: HSPA: 5.76Mbps (UL) / 14.4Mbps (DL) SIM card slot: single / Antenna: external	3G/4G Modem	Optional (3G or LTE modem) Quad Band UMTS/HSPA: Speed: HSPA: 5.76Mbps (UL) / 14.4Mbps (DL) SIM card slot: dual / Antenna: external
ublox UBX-G7020 Chip GNSS Engine: GPS / GLONASS	GPS	ublox UBX-G7020 Chip GNSS Engine: GPS / GLONASS
3-axis motion tracking sensor	G-Sensor	3-axis motion tracking sensor
1x CAN bus / 1x I ² C 1x RS232 (or RS485) 2x Analog input 3x Photo-coupled digital output 9x Photo-coupled digital input	Inputs / Outputs	1x CAN bus / 1x I ² C bus 2x RS232 (or RS485) Analog input: N/A 3x Photo-coupled digital output 9x Photo-coupled digital input (5 – 24V)
2x Host (HS) / 1x OTG (HS)	USB port	2 x Host (HS) / 1x OTG (HS)
Optional (802.11 b/g/n and Bluetooth 4.0/BLE)	WiFi / Bluetooth	Built-in (802.11 b/g/n/ac and Bluetooth 4.0/BLE)
1x 10/100Mbps Ethernet	Ethernet	1x (default) / 4x (optional) Gigabit Ethernet
N/A	Display Interface	HDMI
Optional (Head-phone output; MIC input)	Audio Interface	Head-phone output; MIC input
DC 9 – 36V <TBD>	Power Input Consumption	DC 9 - 36V <TBD>
125 mm x 147 mm x 41 mm (L/W/H) <TBD>	Dimension Weight	121mm x 204mm x 50mm (L/W/H) <TBD>
Operating : -20 °C to 70 °C Storage : <TBD>	Temperature	Operating : -20 °C to 70 °C Storage : <TBD>
<TBD>	Shock/Vibration	<TBD>

VPC100/VPC300 Overview

The VPC100/VPC300 is a communication gateway designed for in-vehicle applications or IOT (Internet of Things) applications.

The VPC offers some unique features, including an application processor, a 3G/LTE modem and a ublox GPS receiver.

With the latest Linux kernel, Android and tools, the VPC allows users to design and deploy custom software for various applications, such as vehicle tracking, fleet management and IOT communication gateway.

VPC100/VPC300 Key Features

● **ARM Cortex-A Application Processor**

The VPC incorporates the latest NXP iMX6 low power application processor, an ARM Cortex core @ 500M-1GHz.

● **Application development and deployment**

The VPC offers Linux kernel (Yocto), Android OS, tool chains, device drivers and sample application software. These resources enable users to quickly develop and deploy software on the VPC products.

● **Wide input-voltage range.**

The VPC operates over a wide input-voltage range of 9V~36V.

● **GPS receiver, G-sensor, E-Compass**

The VPC includes a ublox GPS receiver, a G-sensor and an E-Compass, allowing users to create applications for vehicle tracking, asset tracking and vehicle telemetry.

● **Isolated GPIO**

The GPIOs on VPC are photo-coupled input and output.

● **OpenGTS (Open GPS Tracking System) software**

A version of OpenGTS software is available for demonstration of GPS tracking system with the VPC. (* Note: OpenGTS is not part of the VPC product. It is for demonstration only).

● **Bluetooth OBD2 module (option)**

The optional OBD2 module transmits vehicle data (mileage, fuel usage, etc) to the VPC via Bluetooth. The VPC can report vehicle data to remote server for monitoring.

● **Customization Services**

We offer VPC hardware and software customization services. Please contact us for more information.

VPC100/VPC300 Software Specifications

OS

- VPC100 : Linux 3.14 (Yocto)
- VPC300: Linux 4.0 (Yocto) and Android 6.0

Device Drivers

- DDR3, Flash, USB, MicroSD, RS232, RS485, GPS, 3G/LTE, G-sensor, E-compass, CAN, GPIO, Analog input, LAN, WiFi, Bluetooth, Audio

Management

- Local and remote advanced configuration through http-based Device Manger program
- Report: CPU usage, frequency, temperature, DRAM size
- Support HTTP protocol
- Command Line Interface via TTY/SSH
- System power control, support suspend mode operation
- Li-on Battery DC power monitor

Routing Features

- IPv4
- DNS Server
- NAT
- Port forwarding Ethernet & WIFI both
- Routing function

OBD-II

- Bluetooth OBD-II connection function

GPS

- Support NMEA protocol
- Time sync with GPS

3G Network

- Support WCDMA/HSDPA network and routing
- 3G signal strength monitor

GPIO control

- Set/Read GPIO by local and remote http-based Device Manager

OpenGTS connection

- Demo program for connecting OpenGTS remote server

MQTT

- Demo program for MQTT function

Sensor

- Demo program for 3-AXIS
- Demo program for e-compass

Unique ID

- Demo program for reading board unique ID

The VPC is not a product for end customers. It is intended for software developers or system integrators to develop and deploy software for their end applications.

VPC100 will be available in November 2016.
VPC300 will be available in March 2017.

VPC100 Ordering Information

Part No.	Battery Kit	Over-voltage Protection	WiFi/BT	Common Specifications
VPC100-Q69	NO	NO	NO	iMX6UL Cortex™-A7 core @ 500MHz 256MB DDR / 512MB Flash 10/100 Ethernet x1 USB 2.0 host x2 / USB 2.0 OTG x1 / Micro SD card x1 Quad-band 3G (WCDMA) x1 GPS receiver x1 / G-sensor x1 / E-compass x1 RS485 port x1 / RS232 port x1 CAN bus x 1 / I ² C port x1 GP Input x 10 / GP Output x 2 / Analog input x 2
VPC100-Q69-V		YES		
VPC100-Q69-WB		NO	YES	
VPC100-Q69-WB-V		YES		
VPC120-Q69	2350mAh @ 3.7V	NO	NO	
VPC120-Q69-V		YES		
VPC120-Q69-WB		NO	YES	
VPC120-Q69-WB-V		YES		

(** Not all models are available. Contact our sales representative for more details.)

VPC100 3G Options (* -D72 and -D76 are custom versions requiring MOQ *)

3G modem order option			
Order Code	3G Bands (MHz)	2G Bands (MHz)	Suggested Area
-D72	900/2100	850/900/1800/1900	European , China
-D76	850/1900/2100	850/900/1800/1900	Asia, Latin America
-Q69	850/900/1900/2100	850/900/1800/1900	North America, WW

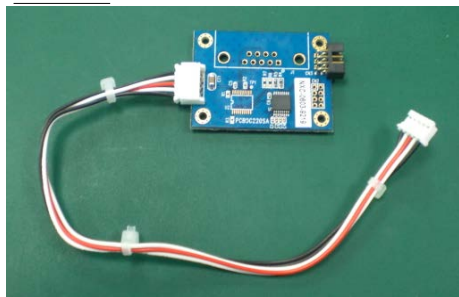
VPC100 Accessories

Part No.	Description
PWR-006-VPC	Power Adapter (+12V @ 2.5A or 3A)
ANT-01	GPS antenna
ANT-03	3G WCDMA antenna
C220 kit	VPC100 console/debug board and RS232 IDC cable

ANT-01



C220 kit

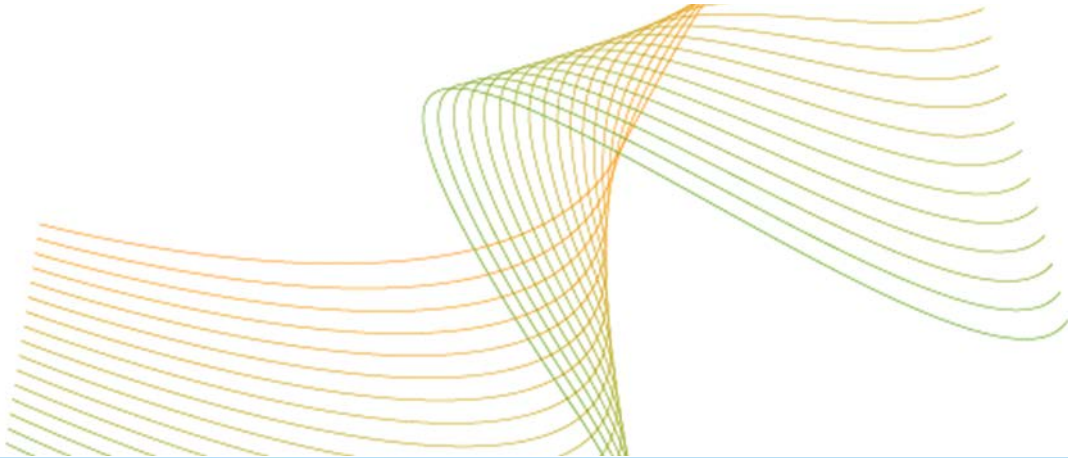


ANT-03



PWR-006-VPC





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All specifications are subject to change without further notice.