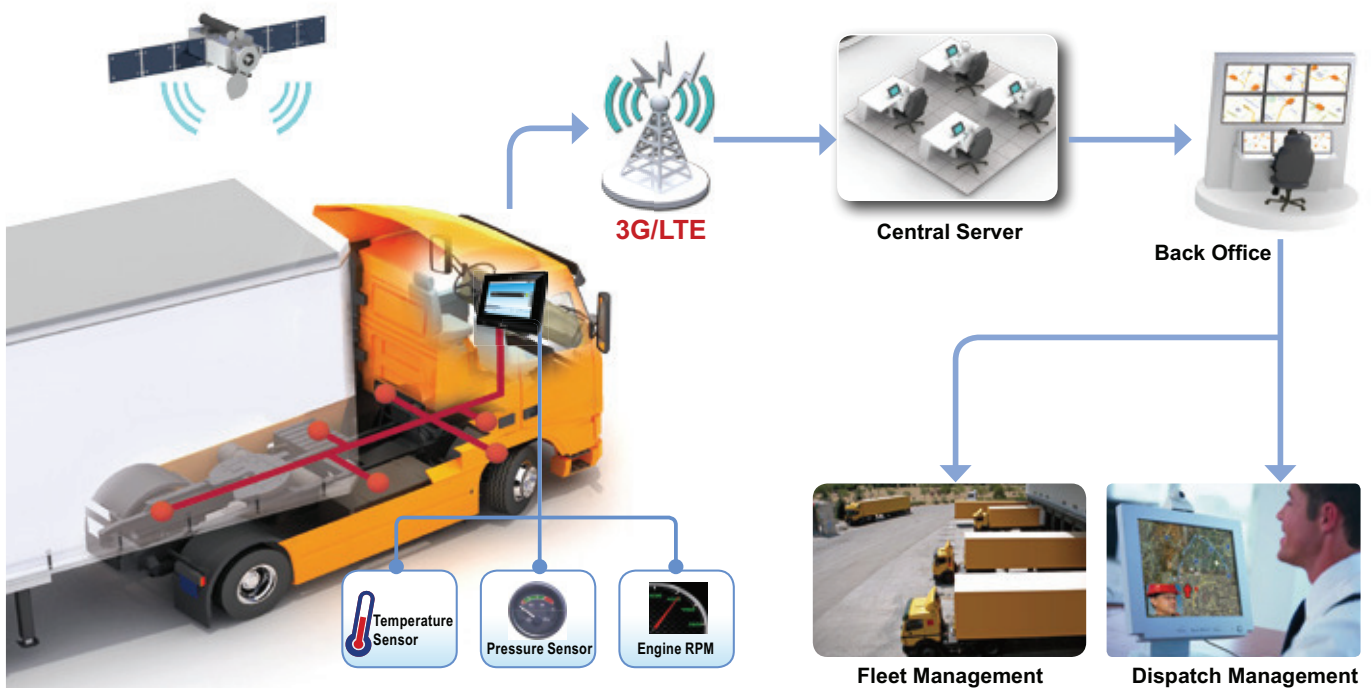# *iKarPC Lite*

Vehicle Computer Series

- 7" TFT sunlight readable TFT LCD with projective capacitive touchscreen
- TI ARM Cortex-A8 AM3715 1GHz
- Pre-installed Android 2.3.4 Operating System
- Built-in HSUPA/GPRS/GSM, Wi-Fi and Bluetooth
- Built-in GPS receiver
- Supports On-Board Diagnostics: one CAN 2.0B or OBD-II
- On-board RFID with antenna

| OBD-II | 3.75G/HSUPA | Bluetooth | Wi-Fi | Fanless | Operating Temperature | High Brightness | Touchscreen | Camera | android |

COMP-MALL GmbH - www.comp-mall.de

Applications

IEIMobile's new Android rugged infotainment car PC is pointing to dramatic changes in the field use of mobile devices thanks to the superior touch screen performance and integrated functionality.

3G/LTE   **Central Server**   **Back Office**

Temperature Sensor   **Pressure Sensor**   **Engine RPM**

Fleet Management   **Dispatch Management**

Power Saving and Trendy Platform

TI Cortex-A8 CPU

- TI's Sitara™ family of highly-integrated ARM9™ and ARM Cortex™-A8 microprocessor portfolio offers various combinations of high-performance and low power levels, providing the ability to create an array of products using a common hardware and software platform.
- Reduce system risks and accelerate time to market using standard and comprehensive ARM-based software development tools.
- TI is the largest ARM core licensee supporting all major high-level operating systems such as Android and Windows CE.

Sitara™ offers

Performance
- Up to 450MHz ARM9 to 1.5GHz Cortex-A8 devices
- Industry's first widely available Cortex-A8 devices - 2DMIPS per MHz
- Graphics acceleration up to 27M polygons/s performance for advanced user interface
- High speed DDR2 and DDR3 memory performance

Connectivity
- 10/100/1000 Mbps Ethernet
- CAN 2.0 and high speed USB interface
- Multiple serial port options per device
- **Cost effective** processor with SATA interface
- Flexible LCD controller for up to 720p displays and moving to 1080p in future devices
- Industrial peripheral support

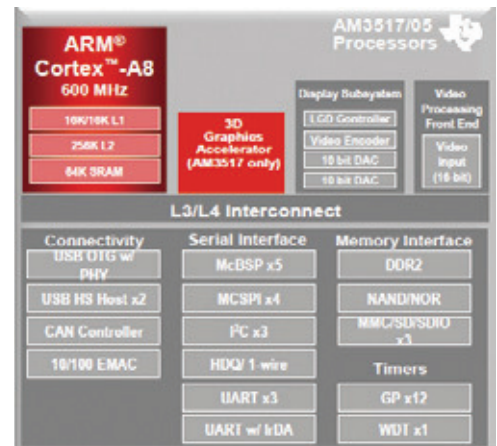### AM3517/05 Cortex™ -A8 based processors

Benefits
- Support OS such as Linux, Win CE, RTOS
- 10M polygons/second for robust GUIs
- Multi windows overlay for hardware accelerated user

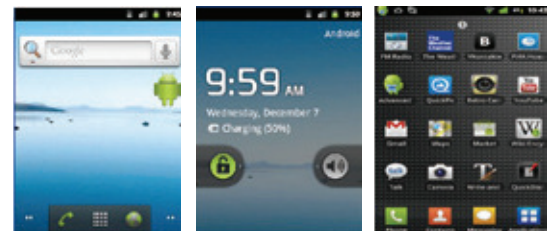**Power**
- Total Power: L700mW
- Standby Power: 12mW

Suggested Applications
- Industrial/Home automation
- Point of servi

Android 2.3.4 Operating System

- Android is an operating system for mobile devices such as smartphones and tablet computers. It is developed by the Open Handset Alliance led by Google.
- Android was listed as the best-selling smartphone platform worldwide in Q4 2010 by Canalys with over 200 million Android devices in use by November 2011.
- 2.3 Gingerbread refined the user interface, improved the soft keyboard and copy/paste features, improved gaming performance, added SIP support (VoIP calls), and added support for Near Field Communication.

The First Android Car PC

The iKarPC-Lite is one of the industry's first infotainment car PC operating on Android. This software platform has, no doubt, emerged as Microsoft's main competitor with regards to mobile solutions. IEIMobile has recognized this growing popularity of the Android solution in the market, and is ready to march ahead with its first Android-based Car PC.

Seamless Wireless Communication

The iKarPC-Lite excels on the wireless side. It has 802.11b/g/n Wi-Fi, Bluetooth version 2.1, a vehicle-specific GPS receiver providing communication capabilities and precisely positioning.

Local-Area Communication

Compliant with the 802.11 b/g/n. This feature allows fast data transfer for near field or ad-hoc data communication.

Peripheral Communication

Compliant with the Bluetooth 2.1+EDR specification. This feature ensures easy and quick access to nearby peripherals.

Wide-Area Mobile Communication

With up to 3.5G wireless technology, outfield workers can maintain and share constant contact with the back office.

Vehicle-specific GPS receive-Ublox LEA 6 series

High sensitivity, multi GNSS 1 receivers with low power consumption
- Standalone GNSS: no host integration required
- Highest accuracy in urban areas
- Jamming detection and elimination
- Meets demanding automotive requirements

Parameter	Specification	
Receiver type	50 chaneels GPS L1 frequency, C/A code GALILEO Open Service Capable GLONASS FDMA SBAS: WAAS, EGNOS, MSAS	
Tim-To-First-Fix	Cold Start (W/o Aiding) Warm Start (W/o Aiding) Hot Start (W/o Aiding) Aided Start	26s 26s 1s 1s
Sensitivity	Tracking & Navigation Reacquisition Cold Start (W/o Aiding)	-162 dBm -160 dBm -148 dBm

GNSS New Topic - eCall and ERA-Glonass Systems

Emergency response systems for road accidents in EU and Russia
- Emergency call generated following an accident using GSM service
- In-vehicle emergency system (IVS) creates emergency call (voice and data like position and car info) to the nearest Public Safety Answering Point (PSAP)
- Fundamentals of the two systems are the same
- Main differences are:
  - Positioning technology (GPS or Glonass)
  - SMS allowed as backup in ERA-Glonass system
- Both systems use 3GPP specified In-Band modem technology to send data and voice on the same channel
- Expected rollout
  - eCall: 2014
  - ERA-Glonass2013

I/O Expansions

Screwable USB connector for function expansion, ie. external barcode scanner, external smart card reader.

USB host provides more expansion capability.

Integrated connectors

- 2 x D/I (3-pin)
- 2 x D/O (3-pin)
- 1 x OBD-II (7-pin)
- 2 x CAN2.0B (2-pin)
- USB (4-pin)
- CTS CSI-3584-2010

- 1 x Video in (2-pin)
- 1 x Ethernet (4-pin)
- 1 x RS-232 (9-pin)
- 1 x Audio out (R+L) (3-pin)
- 1 x Mic-in (3-pin)

- SD card slot for extra storage expansion
- SIM card -> easy installation

Ultimate Form Factor- Meet Vehicle Standard

Operating Temperature
-20°C ~ 50°C

Operating Temperature -20°C~50°C

The system can operate in a wide range of temperatures

Storage Temperature
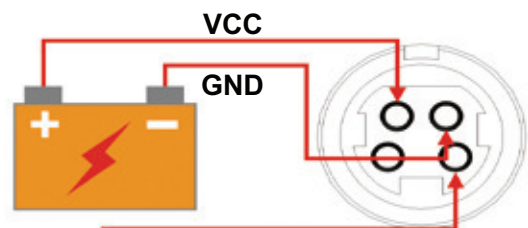**-30°C ~ 60°C**

Storage Temperature -30°C~60°C
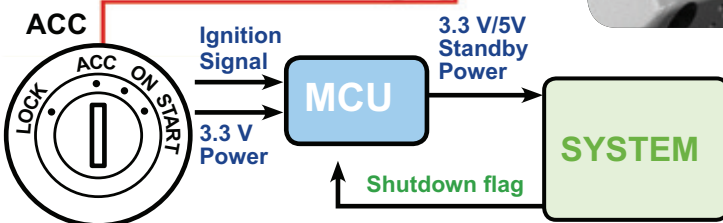
The system can be stored in a wide range of temperatures

IP 54 Rating

IP 54

Dust tight and protected against water splashed against the component from any direction

Vehicle Power Management

VCC

GND

ACC

LOCK ACC ON START

Ignition Signal

3.3 V Power

MCU

3.3 V/5V Standby Power

Shutdown flag

SYSTEM

4-pin power connector

- The special MCU enables system to automatically reboot or shutdown based on the adjustable delay time by detecting ACC status.

- Surge protection and low power consumption hardware design

Specifications

Model		iKarPC-Lite
Display	LCD Size	7" TFT LCD with LED backlight
	Brightness (cd/m²)	500 cd/m² high brightness
	Max Resolution	800 x 480 pixels WVGA
	Viewing Angle	60/70/70/70
	Touch Screen	5-wire projective capacitive type
System	CPU	TI ARM Cortex A8 AM3715 1GHz
	Operating System	Android 2.3.4
	Memory	4GB iNAND flash and 512 MB DDR SDRAM on board
	Storage	Built-in SD card slot (supports SD 2.0, max. 32GB)
Communication	Wireless LAN	Wi-Fi 802.11 b/g/n
	Bluetooth	Bluetooth® 2.1+ EDR (Class I)
	Data Rate	WCDMA/HSDPA or GPRS
	GPS	GPS w/ external antenna
Multimedia	Audio	1 x Audio out (R+L) (3-pin) 1 x Mic-in (3-pin)
Data Collection	RFID	13.56MHz ISO14443 A/B
	Camera	2 Megapixels CMOS Camera

LED Indicators & Buttons	Indicators	3.5G/Wi-Fi/BT/Power status LED
	Hot Keys & Buttons	4 x Function keys
I/O Interface	USB	2 x USB 2.0 Full Speed
	Serial	1 x OBD-II (7-pin) 1 x USB (4-pin) 1 x RS-232 (9-pin)
	LAN	1 x 10/100/1000 Mbps GbE (4-pin)
	CAN	1 x CAN2.0B (2-pin)
	Digital I/O	2-bit input (3-pin), 2-bit output (3-pin)
Power	Cigarette Lighter Power	Cigarette lighter power cable DC 9~36V
	ACC Power	ACC power on/off mode with software configurable delay time
Environment	Operating Temperature	-20ºC to +60ºC
	Storage Temperature	-30ºC to +70ºC
	Humidity	5%~95%, non-condensing
	Drop Survival	1M
	Environmental Protection	IP 64 compliant front panel (water, dust and splash resistant)
	Certifications	CE/FCC/e-MARK/ISO7637
Physical Characteristics	Dimensions (LxWxH) (mm)	210 x 154 x 28
	Net Weight	800g

Ordering Information

Part Number	Description
IKARPC-07A-A8-R10	7" 500 cd/m² In-Vehicle Panel PC with TI Cortex-A8 AM3715 Processor, 1GHz , 4GB iNAND flash, 512 MB DDR SDRAM, OBD-II, HSUPA , GPS, Wi-Fi b/g/n, BT 2.1, 2 Megapixels Camera, RoHS

Packing List

Item	Part Number	Q'ty
IKARPC-Lite	IKARPC-07A-A8-R10	1
3.75G+GPS Antenna	32503-000100-100-RS	1
ACC Power Cable	32002-000901-100-RS	1
Cigarette Lighter Power Cable	32002-001700-100-RS	1

Optional Accessory List

Item	Part Number	Description
Power Adapter	IVIPOWER-4PIN-R10	Power Adapter; 63000-FSP040DGAA1107-RS + Switching Cable 32002-005100-100-RS

Dimensions *(Unit: mm)*

210
28.100
154

Power Button
3 Megapixels Camera
Function Keys
USB 2.0
75 x 75 VESA Mount
SD Card Cover
USB 2.0
RFID
HSUPA Antenna
HSUPA Antenna
DC Input
I/O Connectors
Speaker