



IGEP™ SMARC™ iMX6

OVERVIEW

SOLO/DUAL/LITE/DUAL/QUAD ARM CORTEX-A9 CPU UP TO 1200MHZ

The IGEP™ SMARC™ iMX6 is an industrial low power computer module based on Single, DualLite, Dual or Quad core ARM Cortex-A9 at speeds up to 1200MHz by Freescale Semiconductor iMX6 processor.

This is one of ISEE's computer platforms designed according to SMARC™, one of the first form factor standards defined from SGET, with fixed dimensions and the same connection system in all manufacturers, allowing a full compatibility between different trademarks. These modules enable system architects to use a fully passive cooled development, ideal for portable and stationary embedded devices.

As a complementary product, it's also available an expansion board (IGEP™ SMARC™ EXPANSION) to help the user to develop his final application in an easy way.

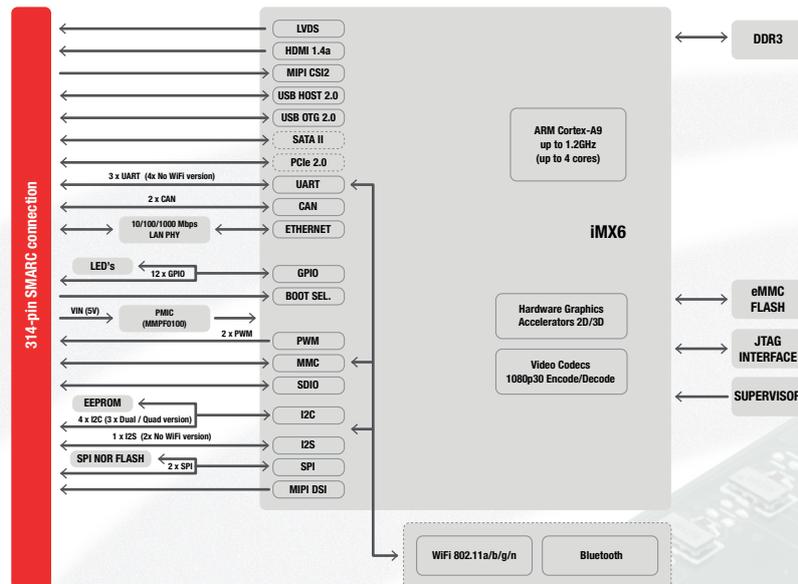
LIST OF MODELS

MODEL	PROCESSOR	FREQUENCY (MHZ)	WIFI / BLUETOOTH	GRAPHICS	RAM MEMORY	FLASH MEMORY
IGEP™ SMARC™ iMX6 Quad	iMX6 Quad	800 MHz	Yes ⁽¹⁾	3D graphics	2 GB	8 GB
IGEP™ SMARC™ iMX6 Dual	iMX6 Dual	800 MHz	Yes ⁽¹⁾	3D graphics	2 GB	8 GB
IGEP™ SMARC™ iMX6 DualLite	iMX6 DualLite	800 MHz	Yes ⁽¹⁾	3D graphics	1 GB	4 GB
IGEP™ SMARC™ iMX6 Solo	iMX6 Solo	800 MHz	Yes ⁽¹⁾	3D graphics	512 MB	4 GB

- Notes:**
1. Also available without WiFi/Bluetooth function under request.
 2. Other RAM / Flash Memory available under request.



BLOCK DIAGRAM



TECHNICAL SPECIFICATIONS

	IGEP™ SMARC™ iMX6 WIFI	IGEP™ SMARC™ iMX6 WIFI NO WIFI
Processor	iMX6 Solo/DualLite/Dual/Quad, by NXP Semiconductors Up to 4 x ARM Cortex-A9 MPCore NEON SIMD Coprocessor Frequency speed up to 1200 MHz (depending on model)	
3D/2D Accelerator	Vivante GC2000,GC880 (depending on model), GC355 and GC320, providing 2D/3D acceleration with OpenGL-ES2.0 and OpenVG 1.1 support	
Video	Video acceleration: H.264, H.263, MPEG-2 and MPEG-4	
Memory	RAM: 512 MB, 1 GB or 2 GB DDR3 eMMC Flash: 4 GB or 8 GB eMMC	SPI Flash (optional) EEPROM
Ethernet	10/100/1000 Mbps Ethernet PHY Interface	
USB 2.0	1 x USB 2.0 Host 1 x USB 2.0 OTG	
Display	1 x LVDS (4 lanes) 1 x HDMI 1.4a (with audio) 1 x DSI (2 lanes)	
Image Capture Interface	1 x MIPI CSI2 interfaces (4 lanes Dual/Quad version, 2 lanes Solo/DualLite version)	
Wireless	WiFi IEEE 802.11 b/g/n (Access Point: Yes) Bluetooth v4.0 (BLE)	
Antenna	1 x Internal WiFi/Bluetooth antenna 1 x U.FL connector for external antenna	
Additional Interfaces	3 x UART 4 x I2C 1 x MMC	1 x I2S 2 x SPI 1 x PWM 2 x CAN 1 x SDIO 12 x GPIO JTAG Interface 1 x SATA II 1 x PCIe v2.0 (1 lane)
SW Support	Linux	
Power Supply	Power from expansion connectors: From 4,7V to 5,25V	
Power Consumption		
Thermal	Commercial temperature: 0°C to +60°C Industrial temperature: -40°C to +85°C	
Form Factor	82,00mm x 50mm	
Humidity	93% relative Humidity at 40°C, non-condensing (according to IEC 60068-2-78)	
MTBF	> 100000 hours	

IGEP™ SMARC™ EXPANSION BOARD

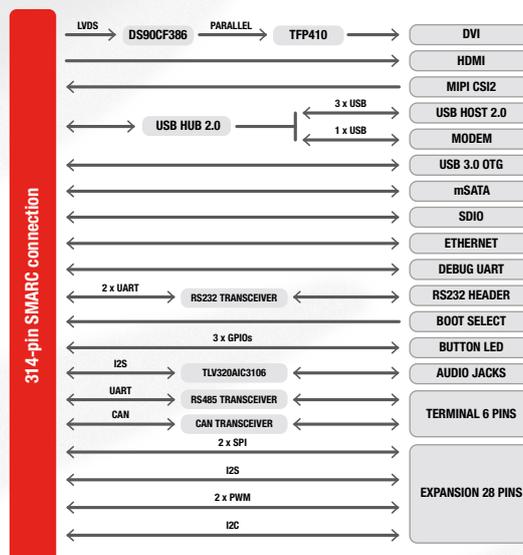


The expansion board is a fully equipped baseboard that access to almost all IGEP™ SMARC™ iMX6 functionalities. It has been designed to be used as the fastest way to develop and check the user's final application before building a prototype, saving costs and reducing time to market. This model can be used with all the IGEP™ SMARC™ series modules.

TECHNICAL SPECIFICATIONS

Connectors	<ul style="list-style-type: none"> 1 x SMARC™ connector +5V Power Supply 1 x 10/100/1000Mbps Ethernet PHY Interface 1 x HDMI 1.4a output type A receptacle 3 x USB 2.0 type A receptacle 1 x USB 3.0 type AB receptacle 1 x Serial RS232 3V3 expansion header 1 x Serial TTL 3V3 debug header 1 x Stereo Line mic in mini jack 1 x Stereo Line Audio Out mini jack 1 x Stereo Line Audio In mini jack 1 x DVI connector 1 x CSI connector (Rapsberry Pi camera compatible) 1 x Terminal 5 pins plug 1 x I/O Expansion 28 pins header 1 x Modem USB interface 1 x mSATA interface 1 x Micro-SD connector
Features	<ul style="list-style-type: none"> 1 x Button LED 3 x Boot jumpers 1 x PWM 1 x SPI 1 x I2C 1 x MMC 1 x CAN transceiver 1 x RS485 2 x RS232 1 x Audio codec
Dimensions of the Expansion Board (without case)	142 x 90 mm
Case dimensions	150 x 100 x 30 mm

BLOCK DIAGRAM



APPLICATIONS

Portable data terminals
Navigation
Auto Infotainment
Gaming

Medical imaging
Home automation
Human Interface
Industrial Control

Test and Measurement
Single board computers
Audio and image processing

ORDERING INFORMATION

MODEL	REFERENCE	DESCRIPTION
IGEP™ SMARC™ iMX6 Quad	IGEP- SMARC- iMX6Q-2G-8G-W-E	Processor iMX6, Quad Core, 2GB RAM, 8GB Flash, WIFI, Ethernet ^(*)
IGEP™ SMARC™ iMX6 Dual	IGEP- SMARC- iMX6D-2G-8G-W-E	Processor iMX6, Dual Core, 2GB RAM, 8GB Flash, WIFI, Ethernet ^(*)
IGEP™ SMARC™ iMX6 DualLite	IGEP- SMARC- iMX6DL-1G-4G-W-E	Processor iMX6, DualLite, 1GB RAM, 4GB Flash, WIFI, Ethernet ^(*)
IGEP™ SMARC™ iMX6 Solo	IGEP- SMARC- iMX6S-512M-4G-W-E	Processor iMX6, Single Core 512 MB RAM, 4GB Flash- WIFI, Ethernet ^(*)

Related Products

IGEP™ SMARC™ EXPANSION	BASE0040-RB10	Expansion board for fast prototyping of user's projects
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- (*):
1. No Wifi: NW – instead of W- available on request.
 2. Other Flash Memory available on request.
 3. No Ethernet available on request (NE)

ABOUT ISEE

ISEE is an Engineering company specialized in embedded-computer systems.

Our mission is to offer complete embedded solutions that help industries to improve their production level, reducing costs and time-to-market of their products, allowing to gain a competitive edge.

We are able to help our customers with our own products, standard or customized, or developing a concrete project according to the needs of that application.

Our services include technical support (hardware and firmware) to help the user along the project.

EVOLUTION OF THE COMPANY

2006

- ISEE starts its activity as Integration Software and Electric Engineering.
- The ISEE Engineers create the IGEP™ concept.

2007

- ISEE creates the IGEP™ Technology.
- ISEE releases the first IGEP™ Platform based on ARM9.

2009

- ISEE releases the second generation of IGEP™ Platform with IGEP™v2.
- ISEE develops the IGEP™v2 Expansion.
- ISEE develops IGEP™ Radar Technology.

2010

- IGEP™ COM MODULE arrives to the market.
- IGEP™ COM PROTON arrives to the market.
- ISEE releases the IGEP™ COM MODULE expansion family with IGEP™ BERLIN and IGEP PARIS.

2011

- IGEP™v2 and all Expansion boards goes open source and open hardware licensed under Creative Commons Attribution-Non Commercial-Share Alike 3.0 unported license.
- ISEE develops a new Module based on OMAP4 family processors.

2012

- ISEE develops IGEP™ COM AQUILA the Cortex-A8 low cost solution.
- ISEE develops the new Platform IGEP™v5 based on OMAP5 family.

2013

- ISEE releases IGEP™ COM AQUILA and IGEP™ AQUILA Expansion.
- ISEE releases the new Platform IGEP™v5.

2014

- ISEE develops new modules based on SMARC™ protocol.

2015

- ISEE releases its first SMARC™ modules: IGEP™ SMARC™ PXA2128 and IGEP™ SMARC™ iMX6.

