



IGEP™ COM MODULE

OVERVIEW

ARM CORTEX-A8 CPU UP TO 1000 MHz
DSP C64+ @800 MHz
2D/3D VIDEO ACCELERATOR

The IGEP™ COM MODULE is an industrial ultra low power embedded computer module based on ARM Cortex-A8 CPU by Texas Instruments.

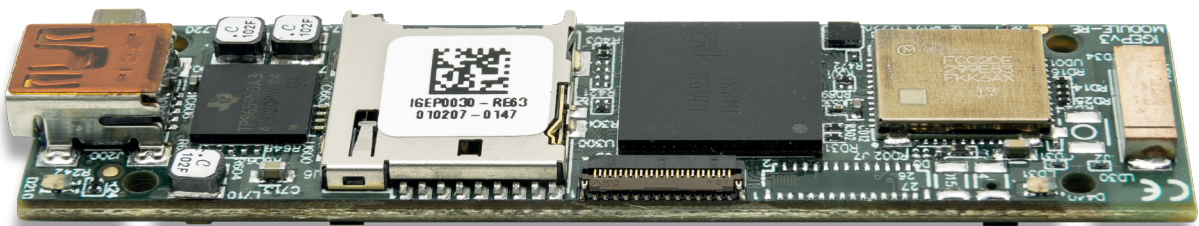
It's an industrial computer platform in a very low profile. The processor is scalable from AM3703 up to DM3730 (the standard model), adding graphic acceleration and C64+ DSP. It can be used as a computer-on-module for your products, and a wide range of peripherals and functionalities (USB Host and OTG, WiFi, Bluetooth...) allow an easy connection to the final application.

As complementary products, there are different carrier boards, to help the user to develop his final application, and cameras.

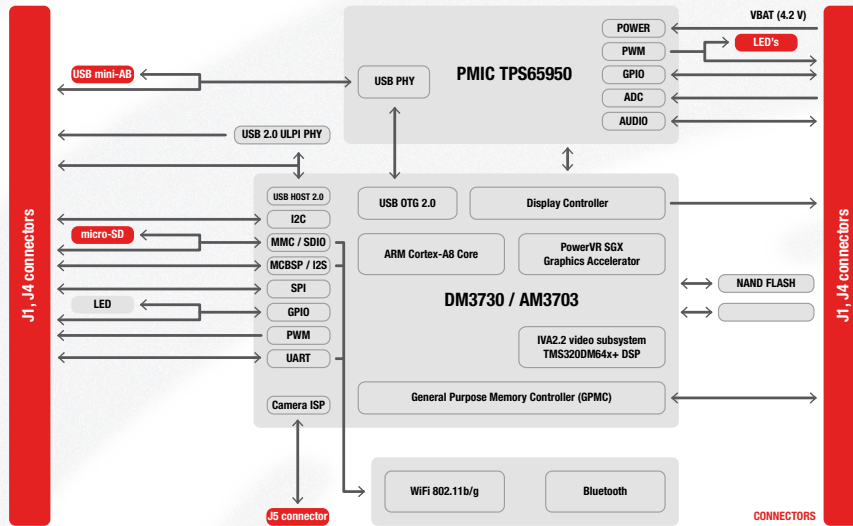
LIST OF MODELS

MODEL	PROCESSOR	FREQUENCY (MHZ)	DSP	WIFI BLUETOOTH	GRAPHICS	RAM MEMORY	FLASH MEMORY
IGEP™ COM MODULE DM3730 WIFI	DM3730	1000	C64+ @800 MHz	Yes ⁽¹⁾	3D graphics	512 MB	512 MB
Customized models							
IGEP™ COM MODULE AM3703 WIFI	AM3703	1000	No	Yes ⁽¹⁾	No	256 MB	512 MB

Notes: 1. Also available without WIFI/Bluetooth on request.



BLOCK DIAGRAM



TECHNICAL SPECIFICATIONS

	IGEP™ COM MODULE DM3730 ⁽¹⁾	IGEP™ COM MODULE AM3703
Processor	DM3730, by Texas Instruments ARM Cortex-A8 NEON SIMD Coprocessor Frequency speed 1000Mhz TMS320C64+ DSP 800 MHz (Only in DM3730 version)	AM3703, by Texas Instruments ARM Cortex-A8 Frequency speed 1000MHz
3D/2D Accelerator	PowerVR SGX GPU, providing graphics acceleration with OpenGL ES1.0, OpenGL ES2.0 and OpenVG support. (Only in DM3730 version)	
Video	Video acceleration: H.264, H.263, MPEG-4, MPEG-2, JPEG, WMV9 and additional codecs. Video encoder/decoder up to 720p. (Only in DM3730 version)	
Memory	RAM: Up to 512MB Mobile DDR ⁽²⁾ Flash: Up to 512MB ⁽⁴⁾ Onboard micro-SD card socket	
Ethernet	No	
USB 2.0	1 x USB 2.0 Host (connector not included) 1 x USB 2.0 OTG	
Display	1 x Digital Video/TFT interface Resolution 2048 x 2408 – 24 bits 1 x Analog S-Video interface ⁽⁵⁾	
Image Capture Interface	1 x CPI Interface (12 bits)	
Wireless⁽⁶⁾	WiFi IEEE 802.11 b/g/n (Access Point: Yes) Bluetooth v4.0 (BLE)	
Antenna⁽⁶⁾	1 x Internal WiFi/Bluetooth antenna 1 x U.FL connector for external antenna	
Additional Interfaces	4 x UART 1 x I2C 1 x MMC (no WiFi version) 1 x I2S 1 x GPMC 1 x Analog Audio In	1 x Audio Out 2 x SPI 76 x GPIO ⁽⁶⁾ 5 x Analog-to-Digital Converter 4 x PWM
SW Support	Linux Android	
Power Supply	Power from expansion connectors: From 3.5 V to 4.2 V DC Digital I/O voltage: 1,8 V	
Power Consumption	Typical 1 W (depending on software)	
Thermal	Commercial Temperature: 0°C to 60°C Industrial Temperature: -40°C to +85°C	
Form Factor	18mm x 68.5mm Gumstix™ compatible	
Humidity	93% relative Humidity at 40°C, non-condensing (according to IEC 60068-2-78)	
MTBF	> 100000 hours	

- Notes:**
- Standard model
 - Standard setup: 512 MB
 - Standard setup: 256 MB
 - Standard setup: 512 MB
 - Optional
 - Maximum number of GPIOs.

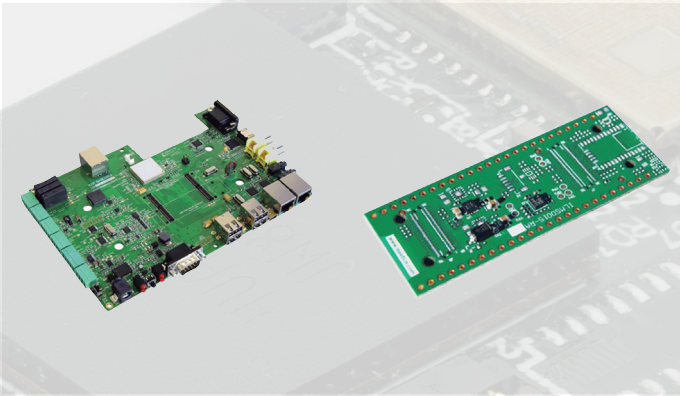
RELATED PRODUCTS

EXPANSION BOARDS

The expansion boards are baseboards designed to be used as a reliable test and development platform, and they can 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.

IGEP™ BERLIN

IGEP™ NEW YORK



CAMERA

The IGEP™ CAM BIRD are very compact cameras designed to work with IGEP™ COM MODULE and IGEP™ v2 DM370. They are based on Aptina MT9V034, 1/3-inch color Wide-VGA CMOS Digital Image Sensor. These cameras are the ideal complement for security systems or surveillance applications.



TECHNICAL SPECIFICATIONS

	IGEP™ BERLIN	IGEP™ NEW YORK
Connectors	<ul style="list-style-type: none"> 1 x HDMI (DVI) Video Output 1 x DB25 VGA Video Output 2 x RCA Video Input 3 x RJ45 Ethernet 4 x USB 2.0 Type A receptacle 1 x USB 2.0 OTG mini-AB receptacle 1 x Jack Stereo Analog Audio In 1 x Jack Stereo Analog Audio Out 1 x DB9 RS232 1 x RS485 1 x CAN Interface 3 x Relay Outputs (250VAC/30VDC/5A) 2 x Digital Inputs (5V) 2 x Analog Inputs (1V8) 1 x TFT 1 x Resistive Touchscreen 1 x Main Battery connector 	Expansion connection interface
Features	<ul style="list-style-type: none"> 1 x GSM/GPRS Modem 1 x Buzzer 1 x EEPROM 2 x LED indicators 1 x User Switch 1 x RTC battery 	1 x 3-Axis Accelerometer
Dimensions	194 x 132 mm	68 x 26 mm

TECHNICAL SPECIFICATIONS

	IGEP™ CAM KESTREL COLOR
Camera Sensor	
Image Sensor	<ul style="list-style-type: none"> Aptina MT9P031I2STC 1/2,5-inch Color RGB 5Mp CMOS Digital Full resolution: 14fps VGA (640x480): 53fps 2592H x 1944V resolution Redout modes: skipping or binning Shutter types: Global reset release, Snapshot only, Electronic rolling shutter
Camera Interfaces	<ul style="list-style-type: none"> 12-bit parallel CMOS Imager Interface I2C Interface
Optical Lens	
Lens	3.6mm f/2.0 miniature 1/3"
Lens Holder	<ul style="list-style-type: none"> M12 PCB Lens holder CS-Mount Lens holder
Other Features	
Connectors	<ul style="list-style-type: none"> 1 x 0,3mm pitch 27-pin FPC connector 1 x 1,27mm pitch 2x15-pin header interface (not included)
Devices	<ul style="list-style-type: none"> 1 x I2C 12-bit parallel CMOS Imager Interface
Power	From FPC connector

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™ COM MODULE DM3730 WIFI	IGEP0030-RG60	Processor DM3730, 512 MB RAM memory, 512 MB NandFlash, with WiFi connectivity
IGEP™ COM MODULE DM3730 NO WIFI	IGEP0030-RG70	Processor DM3730, 512 MB RAM memory, 512 MB NandFlash, without WiFi connectivity
Customized models (minimum purchase order: 100 units)		
IGEP™ COM MODULE AM3703 WIFI	IGEP0030-RG2x	Processor AM3703, 256 MB RAM memory, 512 MB NandFlash, with WiFi connectivity
IGEP™ COM MODULE AM3703 NO WIFI	IGEP0030-RG8x	Processor AM3703, 256 MB RAM memory, 512 MB NandFlash, without WiFi connectivity
Related Products		
IGEP™ BERLIN	BASE0010-RB3	Expansion board for fast prototyping of user's projects
IGEP™ NEW YORK	ILMS0015-RA2	Expansion board for fast prototyping of user's projects
IGEP™ CAM BIRD	CAMR0010-RA10	Color camera for IGEP™ COM MODULE
IGEP™ CAM BIRD MONOCHROME	CAMR0010-RA20	Monochrome camera for IGEP™ COM MODULE
IGEP™ CAM KESTREL COLOR	CAMR0020-RA10	5 Megapixels color camera

All the IGEP™ COM MODULE models can be customized on request, respecting the minimum purchase order of 100 units. Contact with ISEE to consult the customizing possibilities. Moreover, ISEE can develop a complete system for the user's application. Please contact our Sales Department for further information.

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.

