



## IGEP™ COM AQUILA

### OVERVIEW

#### ARM CORTEX-A8 CPU UP TO 1000MHZ

The IGEP™ COM AQUILA AM335x is an industrial ultra low power computer module based on ARM Cortex-A8 at speeds up to 1000MHz by Texas Instruments Sitara AM335x family of processors.

It's an industrial computer platform in a very low profile. The standard model is based on the AM3354 processor, but it can be customized with other of the same family. Furthermore, with different combinations of RAM and Flash memory, a complete list of interfaces and peripherals, and with the possibility to have a 3D graphics accelerator, it can be the base for any complex industrial equipment or any other kind of application.

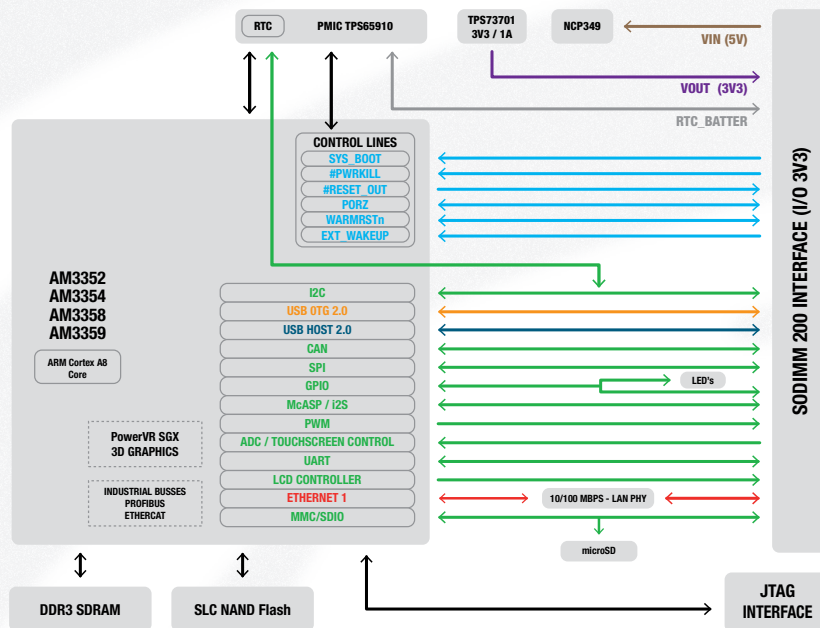
As a complementary product, it's also available a carrier board (IGEP™ AQUILA EXPANSION) to help the user to develop his final application in a easy way.

### LIST OF MODELS

MODEL	PROCESSOR	FREQUENCY (MHZ)	GRAPHICS	RAM MEMORY	FLASH MEMORY
IGEP™ COM AQUILA AM3354	AM3354	800 / 1000	3D graphics	256 MB	128 MB
Customized models					
IGEP™ COM AQUILA AM3352	AM3352	800 / 1000		128 MB up to 512 MB	128 MB up to 512 MB
IGEP™ COM AQUILA AM3358	AM3358	800 / 1000	3D graphics		
IGEP™ COM AQUILA AM3359	AM3359	800	3D graphics		



## BLOCK DIAGRAM



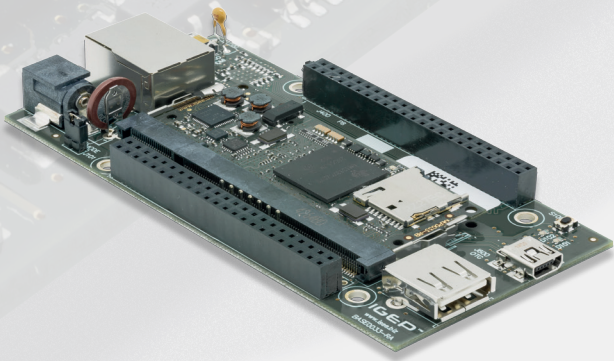
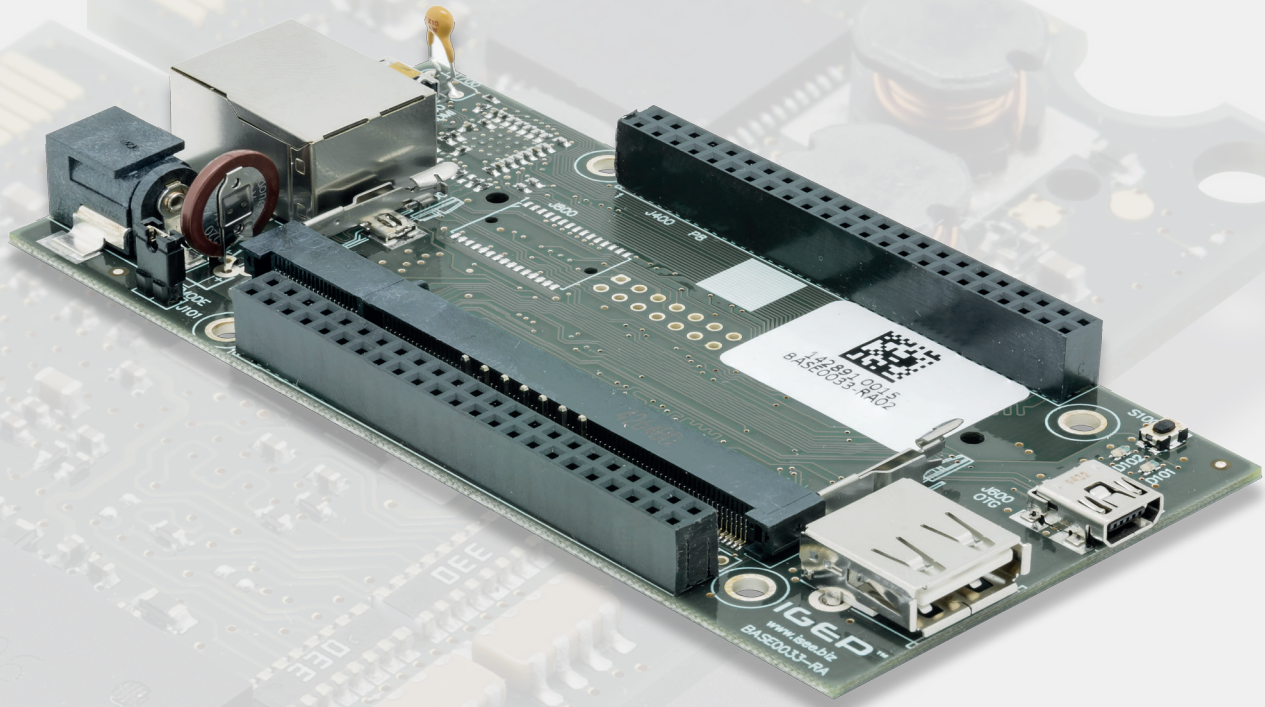
## TECHNICAL SPECIFICATIONS

<b>Processor</b>	AM3354 <sup>(1)</sup> / AM3352 / AM3358 / AM3359, by Texas Instruments ARM Cortex-A8 NEON SIMD Coprocessor Frequency speed up to 1000 MHz (depending on model)
<b>3D/2D Accelerator</b>	PowerVR SGX GPU, providing graphics acceleration with OpenGL ES1.0, OpenGL ES2.0 and OpenVG support. (Depending on model.)
<b>Memory</b>	RAM: 128 MB up to 512 MB <sup>(2)</sup> FLASH: 128 MB up to 512 MB <sup>(3)</sup> Onboard micro-SD card socket
<b>Ethernet</b>	10/100 Mbps Ethernet PHY interface
<b>USB 2.0</b>	1 x USB 2.0 Host 1 x USB 2.0 OTG
<b>Display</b>	1 x Digital Video/TFT interface (24-bits)
<b>Additional Interfaces <sup>(4)</sup></b>	1 x I2C 1 x CAN 1 x SPI 14 x GPIOs 1 x McASP/I2S (Digital Serial Audio Interface) 1 x PWM 8 x ADC 3 x UART 2 x MMC (one used into onboard micro-SD socket) GPMC External Bus JTAG Interface
<b>SW Support</b>	Linux Android
<b>Power</b>	Power Supply: 5V Digital I/O voltage: 3.3 V
<b>Power Consumption</b>	Typical 1,2 W (depending on software) Maximum 1,5 W (depending on software)
<b>Thermal</b>	Commercial temperature: 0°C to +70°C Extended temperature: -20°C to +70°C Industrial temperature: -40°C to +85°C
<b>Form Factor</b>	67,60mm x 26,00mm Ka-Ro™ compatible
<b>Humidity</b>	93% relative Humidity at 40° C, non-condensing (according to IEC 60068-2-78)
<b>MTBF</b>	>100000 hours

- Notes:**
- Standard setup
  - Standard setup RAM Memory: 256 MB
  - Standard setup Flash Memory: 128 MB
  - AM335x processors use multiplexed I/O and other combinations are possible.



## IGEP™ AQUILA EXPANSION



The IGEP™ AQUILA EXPANSION is a fully equipped baseboard that access to all IGEP™ COM AQUILA functionalities. It has been designed to be used as a reliable test and development platform and it 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.

### TECHNICAL SPECIFICATIONS

Connectors	<ul style="list-style-type: none"> <li>+5VDC Power Supply</li> <li>1 x HDMI 1.4a output type D receptacle</li> <li>1 x 10/100Mbps base T Ethernet (RJ45)</li> <li>1 x USB 2.0 OTG mini-AB receptacle</li> <li>1 x USB 2.0 Host header</li> <li>1 x Serial debug 3V3 interface header</li> <li>1 x JTAG 14 pins header</li> <li>2 x Expansion 46 pins header</li> </ul>
Features	<ul style="list-style-type: none"> <li>4 x LED indicators</li> <li>1 x EEPROM</li> <li>1 x RESET pushbutton</li> <li>1 x RTC battery</li> <li>1 x 3-Axis accelerometer</li> <li>Up to 44 GPIOs</li> <li>1 x SPI</li> <li>2 x UART</li> <li>1 x I2C</li> <li>4 x PWM</li> <li>All DSS display interface</li> </ul>
Dimensions	112 x 54.61 mm

## 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 AQUILA AM3354	IGEP0033-RB1x	Processor: AM3354BZCZD80 / RAM Memory: 256 MB DDR3 SDRAM / Storage: 128 MB NANDFLASH
Customized models (minimum purchase order: 100 units)		
IGEP™ COM AQUILA AM3352	IGEP0033-RB2x	Processor: AM3352BZCZD80 / RAM Memory: 128 MB up to 512 MB DDR3 SDRAM / Storage: 128 MB up to 512 MB NANDFLASH
IGEP™ COM AQUILA AM3354	IGEP0033-RB3x	Processor: AM3354BZCZD80 / RAM Memory: 512 MB DDR3 SDRAM / Storage: 128 MB NANDFLASH
IGEP™ COM AQUILA AM3358	IGEP0033-RB4x	Processor: AM3358BZCZA80 / RAM Memory: 128 MB up to 512 MB DDR3 SDRAM / Storage: 128 MB up to 512 MB NANDFLASH
IGEP™ COM AQUILA AM3359	IGEP0033-RB5x	Processor: AM3359BZCZA80 / RAM Memory: 128 MB up to 512 MB DDR3 SDRAM / Storage: 128 MB up to 512 MB NANDFLASH
Related Products		
IGEP™ AQUILA EXPANSION	BASE0033-RA01	Designed for fast prototyping of user's projects.

## 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.

