The XVB602 Single Board Computer (SBC) from GE Intelligent Platforms features the highly integrated Core i7 processor platform from Intel. Core i7 offers integrated graphics and memory controller plus dual core processing up to 2.53 GHz.

Coupled with the Mobile Intel QM57 Express Chipset this provides an unmatched level of I/O bandwidth for both on-board and off-board functions.

Features of the Core i7 processor:
- Intel Intelligent Power Technology allows processors to operate at optimal frequency and power.
- Intelligent performance on-demand with Intel Turbo Boost Technology
- Multi-level shared cache improves performance and efficiency by reducing latency to frequently used data
- Hyper-Thread Technology – 2 threads per core
- Streaming SIMD extensions 4.1/4.2

The XVB602 offers two on-board mezzanine expansion sites for enhanced system flexibility, one of which is PMC/XMC capable and one of which is PMC only.

The XVB602 provides further customer defined I/O capabilities with the board-to-board connector for the EXP237 XMC/PMC carrier/IO expansion board, which offers customers three additional PCI-X XMC/PMC expansion sites to utilize.
XVB602 Intel Core i7 Based VME Single Board Computer

Specifications (continued)

Serial Ports
- Two 16550 compatible full duplex async serial ports
- COM1 routed to front panel RJ45 (RS232/422/485)
- COM2 routed to P2 (RS232/422/485) requires transceivers (to convert from TTL) on RTM
- Ports feature independent 16-byte FIFO supporting baud rates up to 115 Kbaud

PMC/XMC Expansion
- Site 1 is PMC (PCI-X) up to 64 bit/133 MHz and XMC (x4 PCIe Gen 2, 2.5 GT/s) capable
- Site 2 is PMC (PCI-X) up to 64 bit/133 MHz capable
- Up to 3 additional mezzanine sites can be added via the EXP237 (see EXP237 data sheet.)

Video
- Provided via the integrated Intel Graphics Controller
- VGA on front panel with DVI-I routed to P2 (for use with ACC-0603 or ACC-0627)
- Any 2 ports can be used for dual display operation

SATA
- Two Gen 2 (3 GB/s) SATA ports to rear IO (P2)
- Two optional Gen 2 (3 GB/s) e-SATA ports to rear IO (P0) available when P0 option fitted

GPIO
- 8 GPIO pins available when P0 option fitted - software configurable

On-board hard drive
- 2.5” SATA hard drive or Flash disk can be optionally ordered (precludes use of PMC/XMC site 2)

Front Panel Options
- VME Standard
- 1101.10 front panel

Power Requirements
- +5V (+5/+2.5 percent); Core i7 @ 1.06 GHz: 5A (typical) to 8A (maximum); Core i7 @ 2.53 GHz: 8A (typical) to 12A (maximum)
- Plus ±12V if required by mounted PMC module

Watchdog/Timers/RTC/Temp sensors
- Two 16-bit timers and two 32-bit timers – software programmable and capable of generating PCI bus interrupts
- RTC 146818 compatible with Li
- CPU die and Chipset die, software readable

Transition Modules and Product Combinations
- ACC-0603
- ACC-0627
- EXP237 – Used via board-to-board connector (precludes use of on-board PMC)

Software
- Support for Windows, Linux, VxWorks

Environmental

<table>
<thead>
<tr>
<th></th>
<th>Level 1</th>
<th>Level B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooling Method</td>
<td>Convection</td>
<td>Convection</td>
</tr>
<tr>
<td>Conformal Coating</td>
<td>Optional</td>
<td>Standard</td>
</tr>
<tr>
<td>Operating Temp (for upper limit – please consult the manual)</td>
<td>0° to 55° C (300 ft/m)</td>
<td>-20° to 55° C (300 ft/m)</td>
</tr>
<tr>
<td>Random Vibration</td>
<td>0.002g²/Hz⁺⁺</td>
<td>0.002g²/Hz⁺⁺</td>
</tr>
<tr>
<td>Shock</td>
<td>20g**</td>
<td>20g**</td>
</tr>
</tbody>
</table>

*With a flat response to 1000 Hz, 6 dB/ Oct rolloff from 1000 to 2000 Hz
**Peak sawtooth 11 ms duration

About GE Intelligent Platforms

GE Intelligent Platforms, a General Electric Company (NYSE: GE), is an experienced high-performance technology company and a global provider of hardware, software, services, and expertise in automation and embedded computing. We offer a unique foundation of agile, advanced and ultra-reliable technology that provides customers a sustainable advantage in the industries they serve, including energy, water, consumer packaged goods, government and defense, and telecommunications. GE Intelligent Platforms is a worldwide company headquartered in Charlottesville, VA and is part of GE Home and Business Solutions. For more information, visit defense.ge-ip.com.

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