

## NAGASAKI IPC Technology

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### NASA-P404VLLA

Full size P4 PICMG bus SBC card with VGA/ Dual LAN/ S-ATA/ CF / Audio on board

NAGASAKI NASA-P404 SBC (Single Board Computer) is an all-in-one industrial full-size PICMG (PCI/ISA)-bus CPU card based on Intel mPGA478 [Pentium 4](#) architecture. With Intel 82865G series chipset, NASA-P404 offers the value solution with [Intel NetBurst micro-architecture](#), 400/533/800 MHz of FSB, 2 GB DDR SDRAM, Supports bandwidth up to 3.2GB/s(DDR400) for Single Channel mode and 6.4GB/s (DDR400) in Dual Channel mode. Supports non ECC DIMMs, Intel 82865G GMCH built-in 256bit 3D VGA controller, share memory up to 64MB, Supports one external D-sub 15-pin connector & one internal 15-pin header , On board Intel 82547EI to support Gigabit Ethernet LAN, Optional Intel 82562ET 10/100Mb LAN and Hi-Speed USB 2.0 high speed I/O interfaces.

Based on Intel's long term supply chipset, NASA-P404 should be the ideal solution for long life industrial applied computing platform with high computing capacity and cost effect. The onboard Intel PRO/100+ LAN and PRO/1000+ LAN, M-systems CompactFlash SSD (Solid State Disk), and ISA 64mA high drive capacity also make NASA-P404 be the value Pentium 4 DDR platform for :

- **Value Industrial Computing Platform:** Intel mPGA478 Pentium 4 / Celeron CPU with 400/533/800 MHz FSB and 2 GB DDR SDRAM, Supports bandwidth up to 3.2GB/s(DDR400) for Single Channel mode and 6.4GB/s (DDR400) in Dual Channel mode. Supports non ECC DIMMs, NASA-P404 offer the high-end industrial computing platform with low cost Intel integrated solution. The long term support, onboard SSD, dual Intel LAN (with 1 Giga LAN) and

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ISA 64mA high drive capacity also make NASA-P404 be the ideal solution for industrial server and workstation, CTI (Computer Telephony Integration), VoIP (Voice over IP), and other high-end applications.

- **Low Cost Multi-media Solution:** Intel 865G series chipset built-in [Intel Extreme Graphics 2](#) with 256-bit internal path offering 2D/3D graphics and video performance improvements over its predecessor graphics architecture and, optimized the efficiency of AGP dynamic video memory by increasing its size of Video RAM allocation to **64MB**. The result is an increase in total system performance. offers the value solution for the low cost multi-media computing platform. Such as VoD (video on demand), DVR (Digital Video Recorder), digital video broadcasting (DVB), streaming, surveillance, compression (MPEG), interaction server, workstation and terminal appliances.
- **Hyper Network Performance:** On board Intel 82547EI to support [Gigabit Ethernet LAN](#), Optional Intel 82562ET 10/100Mb Fast Ethernet interfaces for redundant LAN (high reliability), external / internal networking applications.
- **High Speed USB 2.0 Interface:** Intel ICH5 built-in Hi-Speed USB 2.0 controller let NASA-P404 offer the Hi-Speed USB 2.0 interface with up to 480 Mbps of data transfer rate. It makes NASA-P404 be the platform to link with Hi-Speed USB 2.0 devices including digital camera, USB hard disk, and other USB 2.0 based peripherals.
- **Series ATA interface:** Supports two Serial ATA connectors, data transfer rates up to 150MB/s.
- **Ultra320 SCSI Interface:** On Board LSI53C1030 to support Dual Channel Ultra-320 SCSI. The first Channel is supported with one 68-pin wide SCSI connector. The Second channel is supported with one 68-pin & one 50-pin SCSI connectors.
- **Mini AGP port Expend solution:** Provide the capable of driving an ADD card to support LVDS/TMDS/TV/HDTV devices. Provide the capable of drive an Mini-AGP card to support AGP 8X/4X graphic card.

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### Key Feature

- Powerful computing capacity with Intel mPGA478 Pentium 4 / Celeron CPU at 400/533/800 MHz of FSB with [Intel NetBurst micro-architecture](#)
- High memory capacity with 2 GB DDR SDRAM, Supports bandwidth up to 3.2GB/s(DDR400) for Single Channel mode and 6.4GB/s (DDR400) in Dual Channel mode. Supports non ECC DIMMs
- High reliability / high compatibility / long term supply Intel 82845GV/GE GMCH and 82801DB ICH5 solution
- Integrated one Intel 82547EI to support [Gigabit Ethernet LAN](#), Optional Intel 82562ET 10/100Mb Fast Ethernet interfaces for redundant LAN (high reliability), external / internal networking applications.
- Intel 82865G GMCH built-in [Intel Extreme Graphics 2](#) with 256-bit 2D/3D engine and dynamic video memory up to 64MB
- [Intel 82801EB ICH5](#) built-in Hi-Speed USB 2.0 with up to 480 Mbps of data transfer rate
- Supports two Serial ATA connectors, data transfer rates up to 150MB/s.
- Provide the capable of driving an ADD card to support LVDS/TMDS/TV/HDTV devices. Provide the capable of drive an Mini-AGP card to support AGP 8X/4X graphic card.
- ISA high drive capacity with enhanced 64mA on data and address bus. Drive capacity up to over 20 pieces of ISA-based add-on cards for CTI, VoIP or other applications with multiple ISA-based peripheral cards

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### Specification

<b>Form Factor</b>	Full-size PICMG-bus CPU Card / Slot PC, Supports PICMG version 1.0 (Rev. 2.0) PCI version 2.0 compliant, Support ISA 64mA high drive capacity with TI 245 buffer
<b>CPU</b>	Supports Intel Pentium 4 Northwood/Prescott CPU with 400/533/800Mhz FSB frequency, Support <b>Intel Hyper-Threading Technology</b>
<b>Memory</b>	2x184 pin DDR DIMMs to support up to 2.0GB DDR SDRAM Supports bandwidth up to 3.2GB/s(DDR400) for Single Channel mode and 6.4GB/s (DDR400) in Dual Channel mode. Supports non ECC DIMMs
<b>Chipset</b>	Intel 82865G & 82801EB
<b>Watchdog Timer</b>	256-level generates NMI or system reset programmable watchdog timer
<b>Real Time Clock</b>	Intel ICH5 integrated RTC with onboard lithium battery
<b>Power Manegement</b>	ACPI 1.0 compliant, supports power saving mode with ATX PSU
<b>Serial ATA</b>	Supports two Serial ATA connectors, data transfer rates up to 150MB/s
<b>PCI Enhanced IDE</b>	Supports two IDE channels & up to four IDE drivers, Supports "Ultra DMA 33/66/100"
<b>VGA Interface</b>	Intel 82865G GMCH built-in 256bit 2D/3D VGA controller, Dynamic video memory up to 64MB, Supports one external D-sub 15-pin connector & one internal 15-pin header
<b>LAN Interface</b>	On board Intel 82547EI to support Gigabit Ethernet LAN, Optional Intel 82562ET 10/100Mb LAN
<b>Audio Interface</b>	Intel ICH5 built-in AC97 3D audio controller with ALC201A, with CD in, Line in, Mic. In, Speaker out
<b>Multi-I/O Port</b>	1 Floppy connector, 1 Printer port, 2 RS232 port, 1 SIR connector, 4 USB 2.0 1 Y-type cable to support PS2 Keyboard & PS2 mouse, 1 AT keyboard connector
<b>Mini AGP port</b>	Provide the capable of driving an ADD card to support LVDS/TMDS/TV/HDTV devices

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	Provide the capable of drive an Mini-AGP card to support AGP 8X/4X graphic card
<b>Solid State Disk</b>	Onboard Compact Flash Type-II socket on IDE1
<b>Environment</b>	+5V & +12V DC input from PICMG backplane One AT 4-pin power connector, Additional +12V on 4-pin connector for Pentium 4 PSU Board Dimension: 338 x 122 mm (L x W) Operation Temperature: 0 ~ 60oC (32 ~ 140oF)