

msiTM

innovation with style

True Gen3 Mainboards

Product Marketing EU
Dennis Achterberg

version 1.03eu

Gen3 in Press release

PRESS RELEASE

WEEK 27

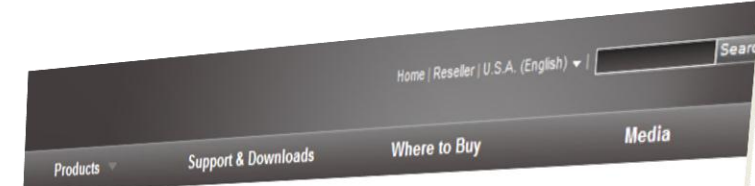
MSI innovation with style

MSI launches the world's first PCI Express Gen 3 mainboard

and exclusive Click BIOS II with unified interface



MSI, the world-renowned mainboard and graphics card manufacturer, officially launches the Z68A-GD80 (G3), featuring world's first large bandwidth PCI Express Gen 3 mainboard, and the latest UEFI technology: Click BIOS II which features a homogenous interface both under Windows and the UEFI interface. Conforming to Intel's latest design standard, the MSI Z68A-GD80 (G3) with PCI Express Gen 3 provides a data transfer rate that is 200% faster than PCI Express Gen 2, enhancing the performance of graphics cards without bandwidth limitations. Click BIOS II, allows simple and intuitive system adjustments in both Windows and the UEFI interface! In addition, Z68A-GD80 (G3) utilizes MIL-810STD Certified Military Class II components and are equipped with OC Genie II technology which increases the performance of hard drive up to 457%. The MSI Z68A-GD80 (G3) enables next generation superior performance with PCI Express Gen 3 and OC Genie II, superb stability with certified Military Class II components and an extreme user-friendly Click BIOS II interface both in Windows and in the UEFI BIOS.



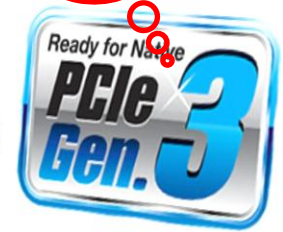
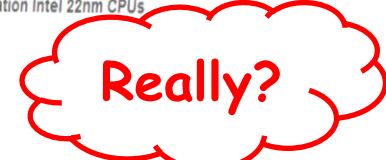
News

GIGABYTE Announces Entire 6 Series Ready to Support Native PCIe Gen. 3

Future Proof Your Platform for Next Generation Intel 22nm CPUs



2011/08/08



Taipei, Taiwan, August 8, 2011 - GIGABYTE TECHNOLOGY Co., Ltd, a leading manufacturer of motherboards, graphics cards and computing hardware solutions today announced their entire range of 6 series motherboards are ready to support the next generation Intel 22nm CPUs (LGA1155 Socket) as well as offer native support for PCI Express Gen. 3 technology, delivering maximum data bandwidth for future discrete graphics cards.

Wanting to provide maximum upgradeability to customers, GIGABYTE has enabled native support for PCI Express Gen. 3 across the entire range of GIGABYTE 6 series motherboards, including the recently launched G1.Sniper 2 motherboard, when paired with Intel's next generation 22nm CPUs. By installing the latest BIOS for their 6 series motherboards today, users can be assured they are ready to take advantage of all the performance enhancements tomorrow's technologies have to offer.

To future proof your GIGABYTE 6 series motherboard, please download and install the [latest BIOS update](#) for your motherboard model from the GIGABYTE website: <http://www.gigabyte.us/>

True vs. Fake

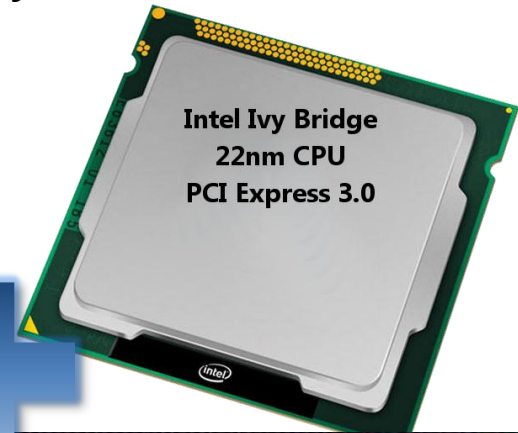
Intel Ivy Bridge CPUs with PCI Express Gen3 offer double the bandwidth, but ONLY on true Gen3 mainboards...

MSI true Gen3 series



Gen3
32GB/s

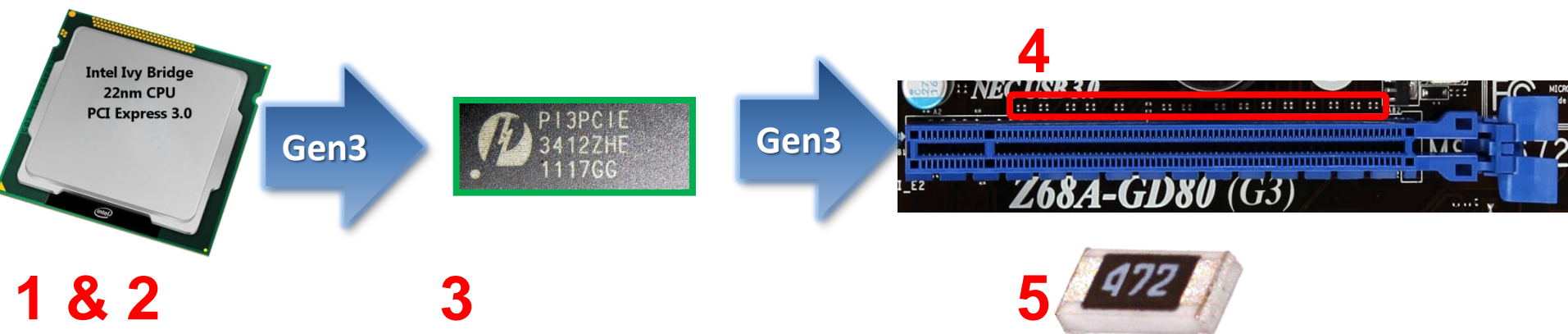
Gigabyte Fake "Gen3" series



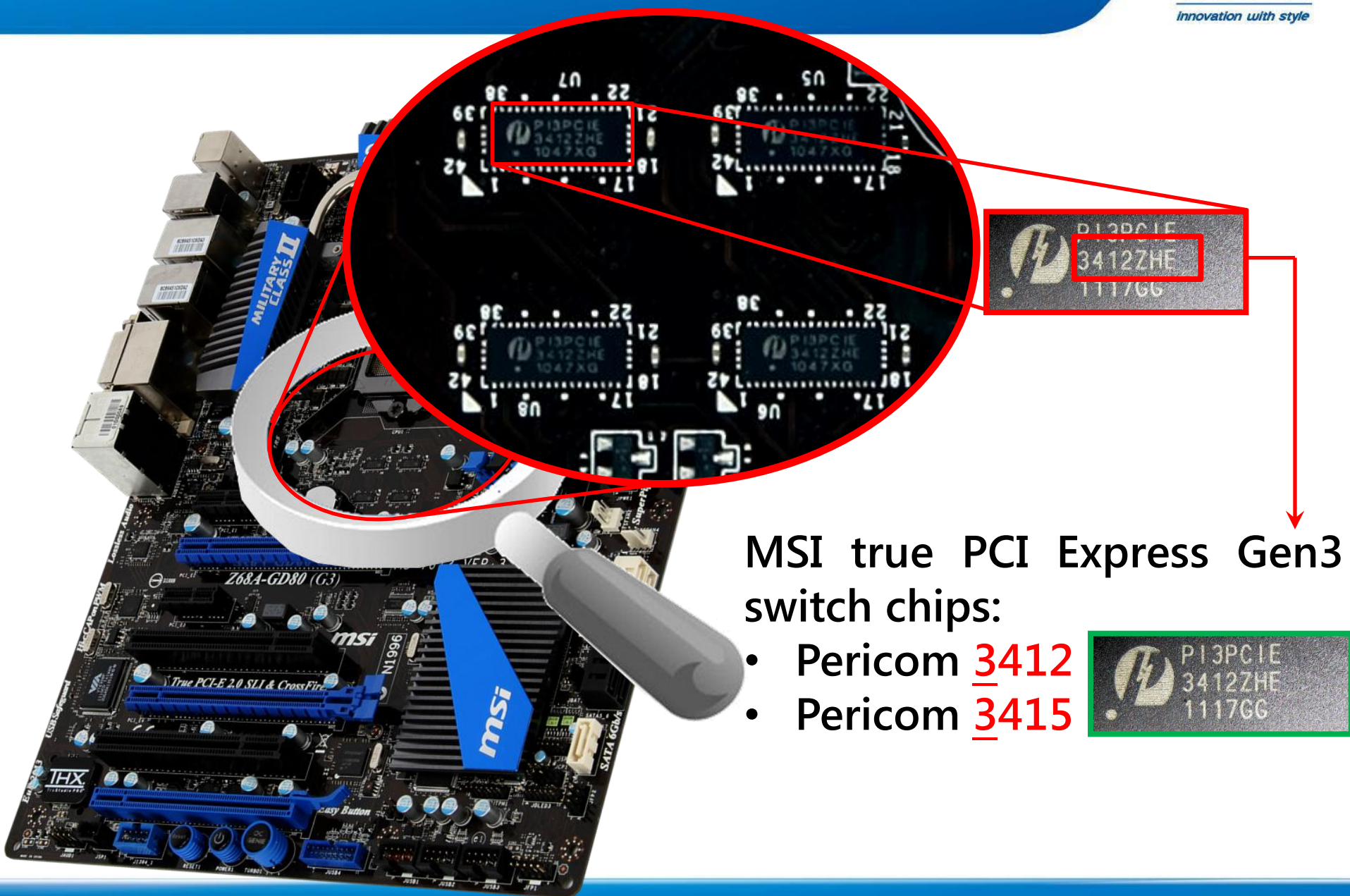
Gen2
16GB/s

Intel Gen3 Specifications

Component	MSI true Gen3 Series	Gigabyte Fake "Gen3"
1 Gen3 CPU Select (BIOS)	✓	X
2 Gen3 CPU Voltage (BIOS)	✓	X
3 Gen3 Switch Chips	✓	X
4 Gen3 Spec Capacitors (220μF)	✓	X (100μF)
5 Gen3 Spec Resistors (4k7Ω)	✓	X (1KΩ)

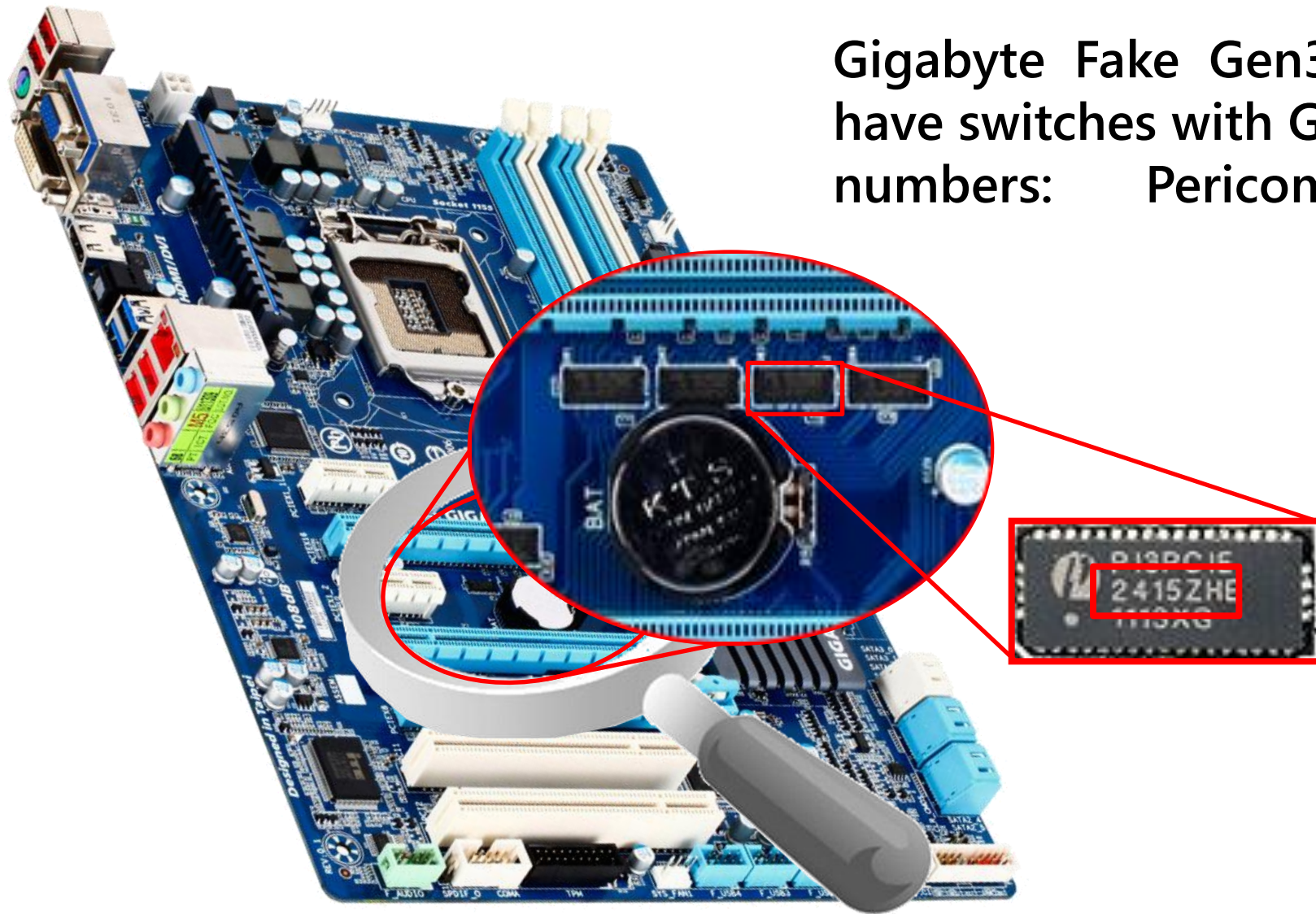


MSI: True Gen3 Switches



Gigabyte Fake Gen3 switch

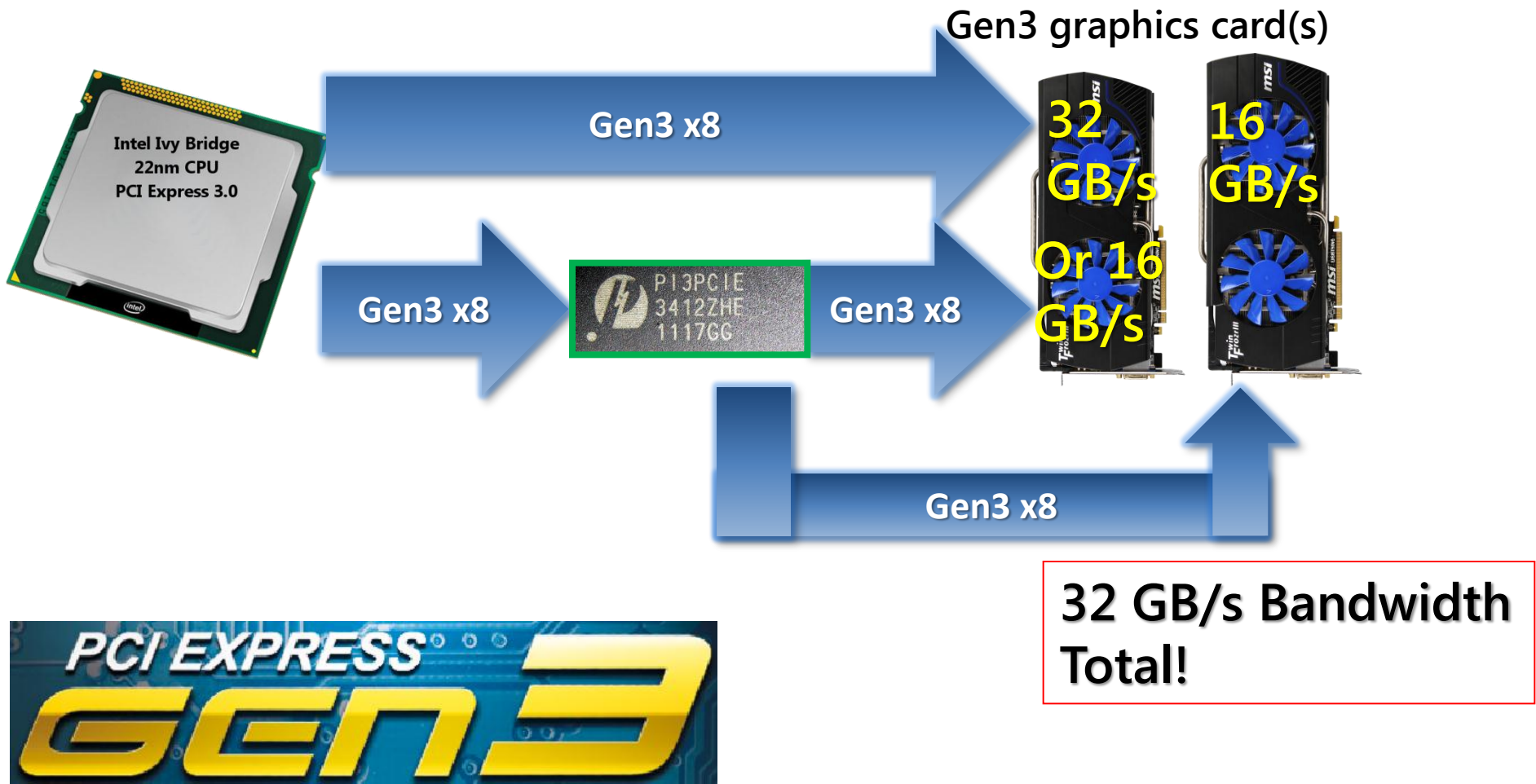
Gigabyte Fake Gen3 boards
have switches with Gen2 part
numbers: Pericom 2415



MSI True Gen3 support

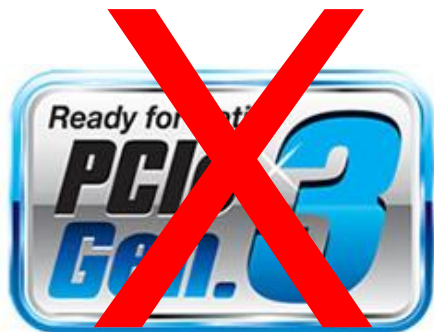
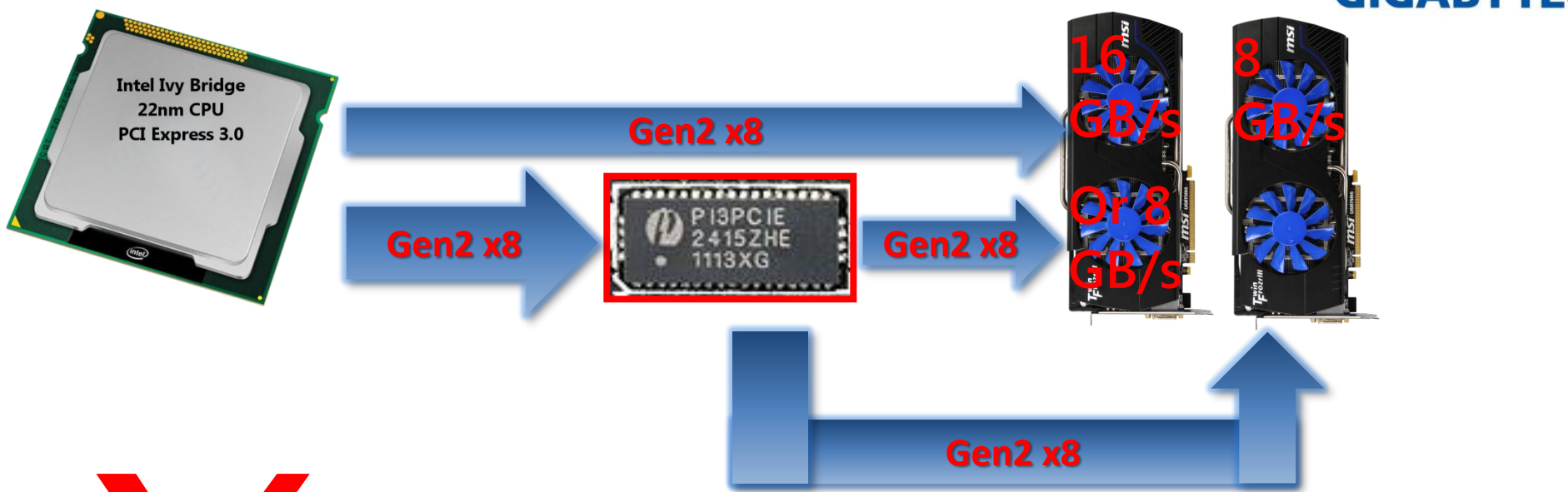
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Gigabyte Fake Gen3 support

If not all Gen3 components are available,
Gen3 will never be enabled!



Only 16 GB/s
Bandwidth

Gigabyte Fake Gen3 BIOS

What happens when we take a Gigabyte "Gen3" Ready mainboard and test Future 22nm Gen3 capabilities?

GIGABYTE Announces Entire 6 Series Ready to Support Native PCIe Gen.3

Future Proof Your Platform for Next Generation Intel 22nm CPUs

08/08/2011



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GIGABYTE 22nm CPU and PCIe 3.0 Ready Motherboards

	GA-Z68A-D3H-B3	F10
	GA-Z68MA-D2H-B3	F8
P67/H67	GA-P67A-UD5-B3	F6
	GA-P67A-UD4-B3	F5
	GA-P67A-UD3P-B3	F5
	GA-P67X-UD3R-B3	F4
	GA-P67A-UD3R-B3	F5
	GA-P67X-UD3-B3	F5
	GA-P67A-UD3-B3	F5
	GA-P67A-D3-B3	F4
	GA-P67-DS3-B3	F2
	GA-PH67A-UD3-B3	F5
	GA-PH67-UD3-B3	F4
	GA-PH67-DS3-B3	F2
GA-PH67A-D3-B3	F4	

Download type: BIOS

Version	Size	Date	Download Here	Description
F5	1.6 Mb	22/07/2011	Asia China America Europe Europe(Russia): FTP / HTTP Asia China America	1. Support GIGABYTE TouchBIOS 2. Support Intel 22nm CPU

Gigabyte Fake Gen3 testing

Testing a Gigabyte "Gen3 Ready" board with a future 22nm PCI Express 3.0 CPU.

Result: Gigabyte P67A-UD4-B3 switches down to GEN1 x8!

The image displays three windows from the CPU-Z utility. The leftmost window, titled 'LANE STATUS', shows a table of lane configurations. A red box highlights the first row, indicating that lane 0 is in GEN-1 mode with 8 active lanes and 8 inactive lanes. The middle window shows the 'CPU' tab of CPU-Z, displaying processor information for an Intel Processor (Genuine Intel(R) CPU @ 2.20GHz) with 4 cores and 8 threads. The rightmost window shows the 'Mainboard' tab, identifying the motherboard as a Gigabyte P67A-UD4-B3. A red box highlights the BIOS information, showing the brand as Award Software International, Inc. and the version as F5. A red arrow points from the underlined text 'GEN1 x8!' in the main text to the 'GEN-1' entry in the Lane Status table.

Port	Port	Link	#Active	Inactive
0	Upstream	GEN-1	8	8
8	Dnstream	GEN-3	0	16
16	Dnstream	GEN-3	0	16

CPU-Z Version 1.58

CPU | Caches | Mainboard | Memory | SPD | Graphics | About

Processor
Name: Intel Processor
Code Name: Brand ID:

Package
Technology: Core Voltage: 0.900 V

Specification
Genuine Intel(R) CPU @ 2.20GHz
Family: 6 Model: A Stepping: 4
Ext. Family: 6 Ext. Model: 3A Revision:
Instructions: MMX, SSE (1, 2, 3, 3S, 4.1, 4.2), EM64T, VT-x, AES, AVX

Clocks (Core #0)
Core Speed: 2206.5 MHz
Multiplier:
Bus Speed:
Rated FSB:

Cache
L1 Data: 4 x 32 KBytes 8-way
L1 Inst: 4 x 32 KBytes 8-way
Level 2: 4 x 256 KBytes 8-way
Level 3: 8 MBytes 16-way

Selection: Processor #1 Cores: 4 Threads: 8

Mainboard | CPU | Caches | Memory | SPD | Graphics | About

Motherboard
Manufacturer: Gigabyte Technology Co., Ltd.
Model: P67A-UD4-B3 x.x

Chipset: Intel ID0150 Rev. 04
Southbridge: Intel P67 Rev. B3
LPCIO: ITE IT8728

BIOS
Brand: Award Software International, Inc.
Version: F5
Date: 07/22/2011

Graphic Interface
Version: PCI-Express
Link Width: x8 Max. Supported: x16
Side Band:

CPU-Z Version 1.58

MSI True Gen3 testing

Testing a MSI Z68 Gen3 series mainboard with future 22nm PCI Express Gen3 CPU

Result: MSI Z68A-GD65 (G3) switches to **Gen3 x16!**

LANE STATUS				
<input type="checkbox"/> Automatically poll for lane status				
Click to Refresh Lane Status				
Port	Port	Link	#Active	[Inactiv
0	Upstream	GEN-3	16	0
8	Dnstream	GEN-3	0	16
16	Dnstream	GEN-3	0	16

Z CPU-Z Processor tab. Processor Name: Intel Processor. Code Name: Brand ID. Package: Core Voltage: 0.856 V. Specification: Genuine Intel(R) CPU @ 2.20GHz. Family: 6, Model: A, Stepping: 4. Ext. Family: 6, Ext. Model: 3A, Revision: . Instructions: MMX, SSE (1, 2, 3, 3S, 4.1, 4.2), EM64T, VT-x, AES, AVX. Clocks (Core #0): Core Speed: 2195.1 MHz. Cache: L1 Data: 4 x 32 KBytes, 8-way; L1 Inst: 4 x 32 KBytes, 8-way; Level 2: 4 x 256 KBytes, 8-way; Level 3: 8 MBytes, 16-way. Selection: Processor #1, Cores: 4, Threads: 8. CPU-Z Version 1.58.

Z CPU-Z Mainboard tab. Motherboard Manufacturer: MSI. Model: Z68A-GD65 (MS-7681), Rev. 4.0. Chipset: Intel ID0150, Rev. 04. Southbridge: Intel ID1C44, Rev. 05. LPCIO: Fintek F71889A. BIOS Brand: American Megatrends Inc., Version: 4.6.5, Date: 08/25/2011. Graphic Interface: Version, Transfer Rate, Side Band, Max. Supported. CPU-Z Version 1.58.

Gigabyte's true Gen3 models



GIGABYTE 22nm CPU and PCIe 3.0 Ready Motherboards

Chipset	Model	BIOS
Z68	G1.Sniper 2	F3
	GA-Z68X-UD7-B3	F8
	GA-Z68XP-UD5	F3
	GA-Z68X-UD5-B3	F8
	GA-Z68XP-UD4	F3
	GA-Z68X-UD4-B3	F8
	GA-Z68XP-UD3P	F4
	GA-Z68X-UD3P-B3	F6
	GA-Z68XP-UD3R	F3
	GA-Z68X-UD3R-B3	F4
	GA-Z68X-UD3H-B3	F8
	GA-Z68XP-UD3	F4
	GA-Z68MX-UD2H-B3	F9
	GA-Z68A-D3H-B3	F10
	GA-Z68MA-D2H-B3	F8

Only 1 Model with Gen3

Chipset	Model	BIOS
P67/H67	GA-P67A-UD5-B3	F6
	GA-P67A-UD4-B3	F5
	GA-P67A-UD3P-B3	F5
	GA-P67X-UD3R-B3	F4
	GA-P67A-UD3R-B3	F5
	GA-P67X-UD3-B3	F5
	GA-P67A-UD3-B3	F5
	GA-P67A-D3-B3	F4
	GA-P67-DS3-B3	F2
	GA-PH67A-UD3-B3	F5
	GA-PH67-UD3-B3	F4
	GA-PH67-DS3-B3	F2
	GA-PH67A-D3-B3	F4
	GA-H67A-D3H-B3	F5b
	GA-H67M-D2-B3	F5a
	GA-H67N-USB3-B3	F6e

Chipset	Model	BIOS
H61	GA-H61M-D2P-B3	F6f
	GA-H61M-D2-B3	F7e
	GA-H61M-S2V-B3	F5g
	GA-H61M-USB3-B3	F8h
	GA-H61M-S2-B3	F2h
	GA-H61N-USB3	F2
	GA-HA65M-D2H-B3	F8o
	GA-P61-S3-B3	F4c
	GA-P61-DS3-B3	F3b
	GA-P61-USB3-B3	F8d
	GA-PA65-UD3-B3	F8c

**All other boards?
No Gen3 support!**



<http://www.gigabyte.us/press-center/news-page.aspx?nid=1048>

Future technology: now available

PCI EXPRESS GEN3

MSI Z68 Gen3 Mainboards:

- **Double Performance**
- **Next-gen performance, today**
- **Future proof, Backwards compatible**

MSI Gen3 line-up:

Z68A-GD80 (G3)

Z68A-GD65 (G3)

Z68A-GD55 (G3)

Z68A-G45 (G3)

Z68A-G43 (G3)

Only MSI has True
PCI Express Gen3

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